rec 4/28/2020

Final

First Quarter 2020 - Quarterly Groundwater Monitoring Report

Red Hill Bulk Fuel Storage Facility
Joint Base Pearl Harbor-Hickam, Oʻahu, Hawaiʻi

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

April 2020

Naval Facilities Engineering Command
NAVFAC HAWAII

Contract Number N62742-17-D-1800, CTO 18F0126

This page intentionally left blank

Final

First Quarter 2020 - Quarterly Groundwater Monitoring Report

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

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

April 2020

Prepared for:

Department of the Navy
Naval Facilities Engineering Command, Hawaii
400 Marshall Road
JBPHH HI 96860-3139

Prepared by:

AECOM Technical Services, Inc.
1001 Bishop Street, Suite 1600
Honolulu, HI 96813-3698

Prepared under:

Contract Number N62742-17-D-1800, CTO 18F0126

This page intentionally left blank

EXECUTIVE SUMMARY

This groundwater monitoring report presents the results of the First Quarter 2020 groundwater monitoring event conducted during January 20–30, 2020, at the Red Hill Bulk Fuel Storage Facility (Facility), Joint Base Pearl Harbor-Hickam, Hawai‘i. The Facility is located in the south-central portion of the island of O‘ahu. The Facility contains 18 active and 2 inactive underground fuel storage tanks. The State of Hawai‘i Department of Health (DOH) Facility identification number is 9-102271. The DOH Release identification numbers are 990051, 010011, 020028, and 140010.

The groundwater sampling was conducted as part of the Red Hill groundwater long-term monitoring (LTM) program pursuant to the *Groundwater Protection Plan* (DON 2014) and performed under the Comprehensive Long-Term Environmental Action Navy V contract task order 18F0126. Data collected for this groundwater monitoring event also support Sections 6 and 7 of the *Administrative Order on Consent* [AOC] *in the Matter of Red Hill Bulk Fuel Storage Facility, EPA Docket No: RCRA 7003-R9-2015-01 and DOH Docket No: 15-UST-EA-01*, Attachment A, Statement of Work (EPA Region 9 and DOH 2015). The purpose of the sampling is to assess the condition of groundwater beneath the Facility and to ensure that the United States Department of the Navy (Navy) remains in compliance with DOH Underground Storage Tank release response requirements as described in Hawai‘i Administrative Rules Chapter 11-280.1, Subchapter 6, Release Response Action. The sampling was conducted in accordance with the Naval Facilities Engineering Command, Pacific Environmental Restoration Program *Project Procedures Manual* (DON 2015b), the DOH *Technical Guidance Manual for the Implementation of the Hawaii State Contingency Plan* (DOH 2018), and the AOC Statement of Work Sections 6 and 7 *Work Plan/Scope of Work* (DON 2017a). A *Sampling and Analysis Plan* and addenda (DON 2017b; 2017c; 2017d; 2018e) were also prepared for AOC Statement of Work Sections 6 and 7 that contain updated information for the groundwater sampling.

During the First Quarter 2020 groundwater monitoring event, AECOM Technical Services, Inc. personnel collected groundwater samples from 20 monitoring locations within the Red Hill groundwater monitoring network. These include: the sampling point at Red Hill Shaft (RHMW2254-01); 11 single-screen monitoring wells located within the Facility boundary (RHMW01 through RHMW10 and OWDFMW01); one deep monitor well located outside of the Facility at the Hālawa Correctional Facility (Hālawa Deep Monitor Well [HDMW2253-03]); four sampling zones at two multilevel monitoring wells (RHMW11 and RHMW14) located at the Hālawa Correctional Facility; and three sampling zones at one multilevel monitoring well (RHMW15) located within the Facility boundary. Of the multilevel monitoring well zones listed above, the following multilevel monitoring well zones were sampled during this event: RHMW11 Zone 5, RHMW14 Zones 1 to 3, and RHMW15 Zones 3 to 5. The following multilevel monitoring zones were not sampled in this sampling event: RHMW11 Zones 1 to 4 and RHMW15 Zones 1 to 2 due to lack of detections of chemicals of potential concern (COPCs) in previous monitoring events, and RHMW11 Zones 6 to 8 and RHMW14 Zones 4 to 8 due to the low hydraulic conductivity of the aquifer in these zones.

Primary and field duplicate samples were collected from sampling point RHMW2254-01, monitoring well RHMW02, and multilevel monitoring well RHMW14 Zone 3 (RHMW14-03). Analytical results from the sampling event were compared to the current LTM screening criteria. The LTM screening criteria were agreed upon by the AOC Parties and were presented in the February 4, 2016, AOC Statement of Work Sections 6 and 7 scoping completion letter (EPA Region 9 and DOH 2016). The LTM screening criteria were updated (as applicable) with the most current (Fall 2017) DOH Tier 1 groundwater environmental action levels for sites where groundwater is a potential or current drinking water resource and the nearest surface water body is greater than 150 meters from the release site (DOH 2017).

The analytical results for groundwater samples collected from RHMW01, RHMW02, and RHMW03 were also compared to the Site-Specific Risk-Based Levels (SSRBLs) for total petroleum hydrocarbons (TPH)-diesel range organics (TPH-d) (4,500 micrograms per liter [µg/L]) and benzene

(750 µg/L). The use of these screening SSRBLs was described in the Red Hill *Groundwater Protection Plan* (DON 2014) and later presented in the February 4, 2016, AOC Statement of Work Sections 6 and 7 scoping completion letter (EPA Region 9 and DOH 2016).

No detectable amounts of free product, sheen, or color were present in groundwater from any monitoring well. During the First Quarter (January) 2020 event, COPCs were detected at RHMW2254–01, RHMW01, RHMW02, RHMW03, RHMW04, RHMW05, RHMW07, RHMW09, and OWDFMW01, and no SSRBL exceedances were reported; no COPCs were detected in any other monitoring well or zone sampled during this event. Analytical results for the groundwater monitoring event are summarized as follows:

- *RHMW06, RHMW08, RHMW10, RHMW11-05, RHMW14-01, RHMW14-02, RHMW14-03 (primary and duplicate), RHMW15-03, RHMW15-04, RHMW15-05, and HDMW2253-03:* No COPCs were detected.
- *RHMW2254-01 (primary and duplicate):* TPH-d (100 and < 25 U µg/L) was detected at a concentration below the screening criterion (400 µg/L) in the primary sample but was not detected in the duplicate sample. However, the chromatogram displayed a chemical signature not indicative of hydrocarbons related to petroleum products used at the Facility. Evaluation of the sample, field quality control (QC), and laboratory QC chromatograms showed similar chromatographic signatures present in the groundwater samples, field QC samples, and laboratory method blanks, indicating laboratory artifacts contribution. The TPH-d with silica gel cleanup (SGC) analysis result was non-detect, suggesting that the non-SGC TPH-d result consists entirely of non-petroleum hydrocarbons.
- *RHMW01:* TPH-d (180 J µg/L) was detected at a concentration below the screening criterion (400 µg/L). The TPH-d with SGC analysis result was 39 J µg/L, suggesting that the non-SGC TPH-d result was mostly biodegradation by-products.
- *RHMW02 (primary and duplicate):* TPH-d (1,500 J and 1,700 µg/L), 1-methylnaphthalene (23 and 24 µg/L), 2-methylnaphthalene (23 and 23 µg/L), and naphthalene (52 and 57 µg/L) were detected at concentrations exceeding the respective screening criteria (400, 10, 10, and 17 µg/L). TPH-d was also detected in the SGC analysis, but at significantly lower concentrations (280 and 360 µg/L), suggesting that the majority of the non-SGC TPH-d results were biodegradation by-products. The concentrations of TPH-d did not exceed the SSRBL of 4,500 µg/L. TPH-gasoline range organics (58 and 49 µg/L) was detected at concentrations below the screening criterion (300 µg/L). No other COPCs were detected.
- *RHMW03:* TPH-d (260 µg/L) and TPH-o (250 µg/L) were detected at concentrations below the respective screening criteria (400 and 500 µg/L). The TPH-d and TPH-o with SGC analysis results were non-detect, suggesting that the non-SGC TPH-d result consists entirely of biodegradation by-products.
- *RHMW04, RHMW05, RHMW07, RHMW09, and OWDFMW01:* TPH-d and/or TPH-o were detected below their respective screening criteria (400 and 500 µg/L) in RHMW04 (120 and < 40 U µg/L), RHMW05 (93 and 92 µg/L), RHMW07 (120 and 84 µg/L), RHMW09 (100 and 98 µg/L), and OWDFMW01 (120 and 120 µg/L). Evaluation of the sample, field QC, and laboratory QC chromatograms indicated laboratory artifacts contribution. TPH-d and TPH-o with SGC analysis results were non-detect except for TPH-o with SGC in RHMW07 (39 J µg/L). These results suggest that the non-SGC TPH-d and TPH-o results consisted of non-petroleum hydrocarbons.

Analytical results of natural attenuation parameters (NAPs) suggest that biodegradation is occurring in the vicinity of RHMW02 based on depleted dissolved oxygen (DO), depleted nitrate and sulfate concentrations, and elevated dissolved methane concentrations. Concentrations of SGC TPH-d and polynuclear aromatic hydrocarbons (PAHs) also suggest that biodegradation is occurring at RHMW02. The depleted DO, dissolved methane, depleted nitrate, and reduced sulfate concentrations at RHMW01 and the depleted DO at RHMW03 indicate that biodegradation is likely occurring at these locations. Evaluation of COPC results and NAP concentrations at all other monitoring locations does not indicate biodegradation.

This page intentionally left blank

CONTENTS

Executive Summary iii

Acronyms and Abbreviations ix

1. Introduction 1

1.1 Site Description 1
1.2 Physical Setting 5
1.3 Background 6
1.3.1 Previous Groundwater Monitoring Results 6
1.3.2 Previous Reports 13

2. Groundwater Monitoring Activities 15

2.1 Groundwater Sampling 16
2.1.1 Single-Screen (Non-Multilevel) Monitoring Well Sampling 16
2.1.2 Multilevel Monitoring Well Sampling 17
2.2 Field Quality Assurance/Quality Control 20
2.3 Sample Handling and Analysis 20
2.4 Decontamination 21
2.5 Investigation-Derived Waste Management 21

3. Data Evaluation and Quality Assessment 21

3.1 Groundwater Level Measurements 21
3.2 Analytical Results 23
3.3 Groundwater Contaminant Concentrations 35
3.4 Data Validation and Assessment 36
3.5 Data Assessment and Usability Conclusions 40

4. Natural Attenuation Evaluation 41

4.1 Evaluation Using Natural Attenuation Parameters 43
4.1.1 Dissolved Oxygen and Oxidation-Reduction Potential 43
4.1.2 Nitrate 44
4.1.3 Ferrous Iron 44
4.1.4 Methane 44
4.1.5 Sulfate 44
4.1.6 Chloride 45
4.1.7 Alkalinity 45
4.1.8 TPH with Silica Gel Cleanup 45
4.1.9 Total Organic Carbon 47
4.2 NAP Concentrations 47

5. Summary, Conclusions, and Recommendations 48

5.1 Summary 48
5.2 Conclusions and Recommendations 49

6. References 49

APPENDIXES

A Cumulative Historical Monitoring Results

B Field Activity Documentation, First Quarter 2020 (on CD-ROM at end of document)

C Analytical Documentation, First Quarter 2020 (on CD-ROM at end of document)

FIGURES

1 Site Location Map 3

2 COPC Detections 29

3 Natural Attenuation Parameter Results 31

TABLES

1-1 Current Status of the Facility's Fuel Storage Tanks as of December 2019 2

1-2 Distance of Sampling Locations to South Hālawa Stream 6

1-3 Red Hill Groundwater LTM Program Analytical Laboratories 7

1-4 Summary Statistics of Cumulative Groundwater COPC Data as of the First Quarter 2020 Quarterly Ground water Monitoring Event 9

1-5 Previous Groundwater Monitoring Reports 14

2-1 Groundwater Sampling Program for the First Quarter 2020 Quarterly Monitoring Event 18

3-1 Groundwater Elevations 22

3-2 Groundwater and QC Sample Results for the First Quarter 2020 Quarterly Groundwater Monitoring Event 25

3-3 Field Duplicate Analyte RPDs 37

3-4 Nitrate Result Confirmation 39

4-1 Comparison of TPH Concentrations Without and With Silica Gel Cleanup 46

ACRONYMS AND ABBREVIATIONS

%R	percent recovery
µg/L	microgram per liter
AOC	Administrative Order on Consent
bgs	below ground surface
COPC	chemical of potential concern
CSM	conceptual site model
DL	detection limit
DO	dissolved oxygen
DoD	Department of Defense
DOH	Department of Health, State of Hawai‘i
EAL	environmental action level
EPA	Environmental Protection Agency, United States
F-76	Marine Diesel Fuel
Facility	Red Hill Bulk Fuel Storage Facility
HDMW	Hālawa Deep Monitor Well
ID	identification
IDW	investigation-derived waste
J	estimated value
JBPHH	Joint Base Pearl Harbor-Hickam
JP-5	Jet Fuel Propellant No. 5
LCS	laboratory control sample
LCSD	laboratory control sample duplicate
LOD	limit of detection
LOQ	limit of quantitation
LTM	long-term monitoring
mg/L	milligram per liter
MS	matrix spike
MSD	matrix spike duplicate
NAP	natural attenuation parameter
NAVFAC	Naval Facilities Engineering Command
Navy	Department of the Navy, United States
No.	number
ORP	oxidation-reduction potential
PAH	polynuclear aromatic hydrocarbon
PID	photoionization detector
ppm	part per million
QA	quality assurance
QC	quality control
RPD	relative percent difference
SAP	sampling and analysis plan
SGC	silica gel cleanup/cleaned
SIM	selected ion monitoring
SOW	scope of work
SSRBL	Site-Specific Risk-Based Level
TGM	Technical Guidance Manual

1	TOC	total organic carbon
2	TPH	total petroleum hydrocarbons
3	TPH-d	total petroleum hydrocarbons – diesel range organics
4	TPH-g	total petroleum hydrocarbons – gasoline range organics
5	TPH-o	total petroleum hydrocarbons – residual range organics (i.e., TPH-oil)
6	U	non-detect value
7	U.S.	United States
8	VOC	volatile organic compound
9	WP	work plan

1. Introduction

This groundwater monitoring report presents the results of the First Quarter 2020 groundwater monitoring event conducted during January 20–30, 2020, at the Red Hill Bulk Fuel Storage Facility (Facility), Joint Base Pearl Harbor-Hickam (JBPHH), O‘ahu, Hawai‘i (Figure 1). In accordance with the *Groundwater Protection Plan* (DON 2014), the purpose of the sampling is to (1) assess the condition of groundwater beneath the Facility with respect to chemical constituents associated with Jet Fuel Propellant and Marine Diesel Fuel (F-76), and (2) ensure that the United States (U.S.) Department of the Navy (Navy) remains in compliance with the State of Hawai‘i Department of Health (DOH) Underground Storage Tank release response requirements codified in Hawai‘i Administrative Rules Chapter 11-280.1, Subchapter 6, Release Response Action. The DOH Facility identification number (no.) for the Facility is 9-102271. The DOH Release identification nos. are 990051, 010011, 020028, and 140010.

The groundwater sampling was conducted under Naval Facilities Engineering Command (NAVFAC) Pacific Contract No. N62742-17-D-1800 as part of the long-term groundwater and soil vapor monitoring program at the Facility for Naval Supply Systems Command Fleet Logistics Center Pearl Harbor. Soil vapor monitoring at Red Hill is being conducted under another contract and reported separately. The groundwater sampling was conducted in accordance with the NAVFAC Pacific Environmental Restoration Program, *Project Procedures Manual* (DON 2015b); the DOH *Technical Guidance Manual for the Implementation of the Hawaii State Contingency Plan* (TGM) (DOH 2018); and the Administrative Order on Consent (AOC) Statement of Work Sections 6 and 7, *Work Plan/Scope of Work* (WP/SOW) (DON 2017a). A Sampling and Analysis Plan (SAP) and addenda (DON 2017b; 2017c; 2017d; 2018e) containing updated information for the groundwater sampling were also prepared for AOC Statement of Work Sections 6 and 7 (EPA Region 9 and DOH 2015).

This report presents the results for sampling activities conducted at groundwater monitoring locations both within and outside of the Facility boundaries. Cumulative historical monitoring results for the Red Hill groundwater monitoring network are presented in tables and charts in Appendix A. Field activity and analytical documentation for the monitoring event are presented in Appendix B and Appendix C, respectively.

1.1 Site Description

The Facility is located on Federal Government land (on land zoned by the City and County of Honolulu as a mix of F-1 Federal and Military and P-1 Restricted Preservation districts) in south-central O‘ahu, approximately 2.5 miles northeast of Pearl Harbor (Figure 1). It is located on a low ridge on the western edge of the Ko‘olau Mountain Range that divides Hālawa Valley and Moanalua Valley. The Facility occupies 144 acres of land, and the majority of the ground surface of the site lies at an elevation of approximately 200–500 feet above mean sea level. Proximate to the Facility lie Hālawa Industrial Park and Hālawa Correctional Facility to the north, preservation land to the northeast, residential neighborhoods in Moanalua Valley to the southeast, and additional residential neighborhoods and the U.S. Coast Guard reservation to the southwest. A quarry is located less than one-quarter mile to the northwest.

The Facility contains 18 active and 2 inactive underground fuel storage tanks that are operated by Naval Supply Systems Command Fleet Logistics Center Pearl Harbor. Each tank has a capacity of approximately 12.5 million gallons. The bottoms of the Facility’s tanks are located approximately 100 feet above the basal aquifer. The fuel storage tanks currently contain Jet Fuel Propellant No. 5 (JP-5), North Atlantic Treaty Organization-grade F-24 jet fuel, and F-76. The current status of each tank is summarized in Table 1-1.

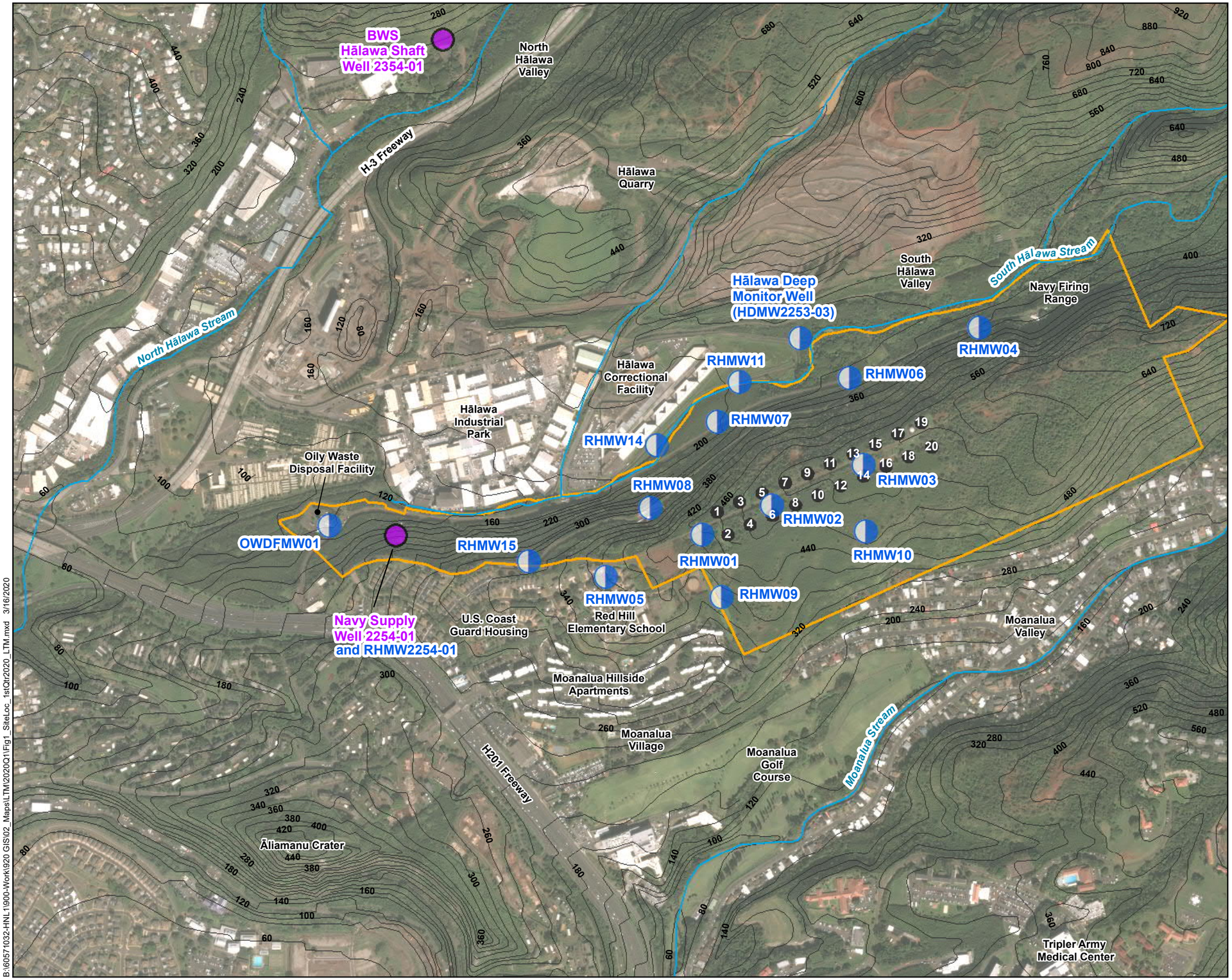
Table 1-1: Current Status of the Facility's Fuel Storage Tanks as of December 2019

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

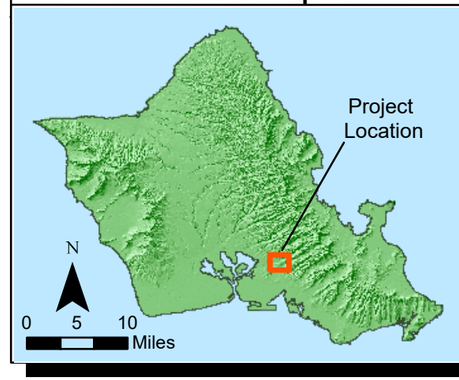
F-24 North Atlantic Treaty Organization-grade F-24 jet fuel
ID identification
[a] Active status indicates that a tank is currently available for use but does not necessarily indicate that the tank is currently filled. Inactive status indicates that a tank is currently not available for use.
[b] Tank capacity in this table is approximate and is not necessarily the tank-rated capacity or maximum allowable fill volume.

One sampling point at Red Hill Shaft (RHMW2254-01), 11 single-screen monitoring wells (RHMW01 to RHMW10 and OWDFMW01), and one multilevel monitoring well (RHMW15) are located within the Facility boundary. One single-screen monitoring well (HDMW2253-03) and two multilevel monitoring wells (RHMW11 and RHMW14) are located outside the Facility boundary.

Of the non-multilevel monitoring locations, RHMW01 to RHMW10 and OWDFMW01 are conventional monitoring wells with single screens typically installed across or near the water table. Sampling point RHMW2254-01 is located inside the shaft of Navy Supply Well 2254-01. HDMW2253-03 is a deep monitor well installed by the State of Hawai'i Department of Land and Natural Resources at the Hālawa Correctional Facility and has a solid casing installed to approximately 50 feet below the water table.



Location Map



Legend

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

Notes

1. Map projection: NAD 1983 UTM Zone 4N
2. Base Map: DigitalGlobe, Inc. (DG) and NRCS. Publication_Date: 2015

N

0 400 800 1,600 Feet

Figure 1
Site Location Map
1st Qtr 2020 Groundwater LTM Report
Red Hill Bulk Fuel Storage Facility
JBPHH, O'ahu, Hawai'i

B:\60571032-HNL1\900-Work\920 GIS\02_Maps\LTM\2020Q1\Fig1_SiteLoc_1stQtr2020_LTM.mxd 3/16/2020

This page intentionally left blank

RHMW11, RHMW14, and RHMW15 are multilevel monitoring wells that are screened at the water table and at other depths above and below the water table. RHMW11 has eight monitoring zones: one monitoring zone (Zone 8) near the groundwater table, two zones (Zones 6 and 7) below the groundwater table with sampling ports within the saprolite layer (the layer of heavily weathered and altered clay-rich basalts), and five zones (Zones 1 to 5) below the groundwater table with sampling ports within the basalt layer. RHMW14 also has eight monitoring zones: one monitoring zone (Zone 8) near the approximate elevation of the piezometric surface of the regional basal aquifer, four zones (Zones 4 to 7) below the approximate elevation of the piezometric surface of the regional basal aquifer with sampling ports within basalt with relatively lower hydraulic conductivity, and three zones (Zones 1 to 3) below the elevation of the piezometric surface of the regional basal aquifer with sampling ports in the relatively higher hydraulic conductivity portions of the unweathered basalt of the regional basal aquifer. RHMW15 has five monitoring zones all located within high-hydraulic-conductivity portions of unweathered basalt: one monitoring zone (Zone 5) near the approximate elevation of the regional basal aquifer and four zones (Zones 1 to 4) below the elevation of the regional basal aquifer.

1.2 PHYSICAL SETTING

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

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

The nearest drinking water supply well is Navy Supply Well 2254-01 (also known as Red Hill Shaft), located within the Facility's lower tunnel. Navy Supply Well 2254-01 is located approximately 2,600 feet topographically downgradient of the fuel storage tanks (Figure 1) and provides potable water to the JBPHH Water System, which serves approximately 65,200 military customers. NAVFAC Hawaii Utilities Energy Management Division operates Navy Supply Well 2254-01 and its associated water development tunnel.

The nearest surface water body is South Hālawa Stream, which is an ephemeral stream present along the north side of the Facility. Wells RHMW01 through RHMW03, RHMW05, RHMW09, RHMW10, and RHMW15 are located greater than 150 meters from any portion of South Hālawa Stream. Sampling point RHMW2254-01 and wells RHMW04, RHMW06 through RHMW08, RHMW11, RHMW14, HDMW2253-03, and OWDFMW01 are located within 150 meters of a portion of Hālawa Stream. The approximate distance from each well and sampling point to Hālawa Stream is presented in Table 1-2.

Table 1-2: Distance of Sampling Locations to South Hālawa Stream

Sampling Location	Approximate Closest Distance to South Hālawa Stream (meters)
RHMW2254-01	85
RHMW01	232
RHMW02	299
RHMW03	271
RHMW04	81
RHMW05	225
RHMW06	104
RHMW07	81
RHMW08	64
RHMW09	376
RHMW10	452
RHMW11	3 [a]
RHMW14	10 [a]
RHMW15	153
HDMW2253-03	20
OWDFMW01	143

[a] RHMW11 and RHMW14 are located alongside the concrete-lined portion of South Hālawa Stream.

Despite some wells being located within 150 meters of surface water (South Hālawa Stream), there are no indications of any complete pathways to nearby water bodies. Both South Hālawa Stream and Moanalua Stream (located in Moanalua Valley east of the Facility) are intermittent streams (USGS 2017) located approximately 100 feet or more above the water table of the basal aquifer. Moreover, the bottoms of the fuel tanks are located at least 50 feet below the bottom of the streams, and the segment of South Hālawa Stream between Red Hill and Hālawa Correctional Facility is concrete-lined. Thus, groundwater conditions do not affect the nearby stream, and analytical results for the long-term monitoring (LTM) program are therefore compared to the screening criteria based on DOH environmental action levels (EALs) Table D-1b (i.e., groundwater EALs for sites where "groundwater is a current or potential drinking water resource" and the nearest "surface water body is not located within 150 meters of release site") (DOH 2017).

1.3 BACKGROUND

The U.S. Government constructed the Facility in the early 1940s. Twenty tanks were constructed of reinforced concrete and lined with steel. The primary containment material is steel. The fueling system is a self-contained underground unit that was installed into native rock composed primarily of basalt with some interbedded tuffs and breccias (DON 2010). Each tank measures approximately 250 feet in height and 100 feet in diameter. The upper domes of the tanks lie at depths varying between 100 and 200 feet below ground surface (bgs). The tanks currently contain JP-5, North Atlantic Treaty Organization-grade F-24 jet fuel, and F-76. In the past, the tanks also stored Navy special fuel oil, Navy distillate, aviation gasoline, and motor gasoline (DON 2010).

1.3.1 Previous Groundwater Monitoring Results

Groundwater samples for the Red Hill groundwater LTM program have been analyzed by the various offsite laboratories listed in Table 1-3. The Red Hill groundwater LTM program results spanning from 2005 onward are summarized in Table 1-4.

Table 1-3: Red Hill Groundwater LTM Program Analytical Laboratories

Groundwater Monitoring Event	Analytical Laboratory
1st Qtr 2020	APPL
4th Qtr 2019	APPL (all COPCs and NAPs except TOC and DOC for select samples) ARI (TOC and DOC for select samples)
2nd Qtr 2019 – 3rd Qtr 2019	APPL
1st Qtr 2019	APPL (all COPCs and NAPs except TOC during the December 2018 event) ARI (TOC during the December 2018 event only)
3rd Qtr 2018 – 4th Qtr 2018	APPL (all COPCs and NAPs except TOC and DOC) ALS Environmental - Houston (TOC and DOC only)
4th Qtr 2016 – 2nd Qtr 2018	APPL (all COPCs and all NAPs except TOC) Eurofins Lancaster Laboratories (TOC only)
1st Qtr 2017 – 3rd Qtr 2017, 1st Qtr 2018, 3rd Qtr 2018 (split samples only)	EPA Region 9 Laboratory
2nd Qtr 2015 – 3rd Qtr 2016	ALS Environmental - Kelso
4th Qtr 2012 – 1st Qtr 2015	Calscience Environmental Laboratories, Inc. (currently Eurofins Calscience)
4th Qtr 2010 – 3rd Qtr 2012	APPL
1st Qtr 2008 – 3rd Qtr 2010	SGS Environmental Services, Inc. - Alaska Division
3rd Qtr 2006 [a] – 3rd Qtr 2007 [b]	Accutest Laboratories - Florida (currently SGS Accutest Laboratories Southeast)
1st Qtr 2005 – 4th Qtr 2005	Columbia Analytical Services, Inc. (currently ALS Environmental - Kelso)

APPL Agriculture & Priority Pollutants Laboratories, Inc.
ARI Analytical Resources, Inc.
DOC dissolved organic carbon
EPA Environmental Protection Agency, United States
NAP natural attenuation parameter
Qtr quarter
TOC total organic carbon

[a] Groundwater LTM samples were not collected during the First and Second Quarters 2006 due to Phase I and Phase II site investigation activities (DON 2007) occurring at that time.

[b] Groundwater LTM samples were not collected during the Fourth Quarter 2007.

Groundwater sampling locations are depicted on Figure 1. Detailed cumulative results of historical groundwater monitoring are tabulated in Appendix A.1, and concentration graphs of chemicals of potential concern (COPCs) over time are presented in Appendix A.2. All historical data are compared to the most recently updated (Fall 2017) DOH EALs (DOH 2017). Total petroleum hydrocarbons (TPH)-diesel range organics (TPH-d) and benzene are also compared to the Site-Specific Risk-Based Levels (SSRBLs), as discussed in the Red Hill *Groundwater Protection Plan* (DON 2014), as supplemented by the February 4, 2016, AOC Statement of Work Sections 6 and 7 scoping completion letter (EPA Region 9 and DOH 2016). Historical results indicate that the most, and generally the highest, detected concentrations of COPCs occur in monitoring well RHMW02.

This page intentionally left blank

Table 1-4: Summary Statistics of Cumulative Groundwater COPC Data as of the First Quarter 2020 Quarterly Groundwater Monitoring Event
Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i

		RHMW2254-01						Inside-Tunnel Wells							Outside-Tunnel Wells						
Analyte	DOH EAL (µg/L)	No. of Detects	No. of Non-detects	Percent Detected	Did Detects Exceed EALs?	Maximum Detected Concentration (µg/L)	Date Sampled of Max Concentration	No. of Detects	No. of Non-detects	Percent Detected	Did Detects Exceed EALs?	Location of Max Concentration	Maximum Detected Concentration (µg/L)	Date Sampled of Max Concentration	No. of Detects	No. of Non-detects	Percent Detected	Did Detects Exceed EALs?	Location of Max Concentration	Maximum Detected Concentration (µg/L)	Date Sampled of Max Concentration
TPH-d	400	13	104	11%	No	100	6-Mar-17	269	75	78%	**Yes**	RHMW02	6500	20-Jan-16	74	272	21%	**Yes**	OWDFMW01	3100	22-Jul-15
TPH-g	300	1	109	0.9%	No	14	4-Feb-09	91	213	30%	**Yes**	RHMW02	660	28-Jan-13	1	344	0.3%	No	HDMW2253-03	16	19-Oct-15
TPH-o	500	3	68	4.2%	No	59	8-Sep-05	55	100	35%	**Yes**	RHMW01	890	17-Feb-05	26	251	9%	No	OWDFMW01	390	22-Jul-15
Benzene	5	0	118	0%	—	—	—	20	311	6.0%	No	RHMW02	0.26	4-Feb-09	24	323	7%	No	OWDFMW01	1.3	19-Jul-12
Ethylbenzene	30	2	116	2%	No	1	8-Sep-05	52	279	16%	No	RHMW02	1.3	10-Jul-06	0	347	0%	—	—	—	—
Toluene	40	3	115	2.5%	No	0.71	22-Oct-12	11	320	3.3%	No	RHMW01	2.5	15-Jan-14	4	343	1.2%	No	HDMW2253-03	3.8	22-Oct-14
Xylenes, Total (p/m-, o-xylene)	20	2	116	2%	No	0.81	22-Oct-18	70	261	21%	No	RHMW02	1.4	6-Jul-17	2	345	0.6%	No	OWDFMW01	0.39	21-Apr-11
1-Methylnaphthalene	10	1	102	1.0%	No	0.0276	22-Oct-08	152	184	45%	**Yes**	RHMW02	142	10-Jul-06	11	335	3.2%	No	OWDFMW01	0.03	19-Jan-16
2-Methylnaphthalene	10	4	117	3.3%	No	0.038	6-Dec-05	160	193	45%	**Yes**	RHMW02	88.5	20-Sep-05	16	355	4.3%	No	OWDFMW01	0.02	19-Jan-16
Naphthalene	17	13	133	9%	No	0.099	23-Jul-13	228	212	52%	**Yes**	RHMW02	343	10-Jul-06	32	380	8%	No	RHMW09	1	8-Feb-17

Notes:
Bold and shaded text indicates analyte detected above DOH EAL.
RHMW2254-01 is the sampling point located inside the shaft of the Navy Supply Well 2254-01.
Inside Wells: RHMW01, RHMW02, RHMW03, RHMW05.
Outside Wells: RHMW04, RHMW06, RHMW07, RHMW08, RHMW09, RHMW10, RHMW11, RHMW14, RHMW15, HDMW2253-03, OWDFMW01.
As of the Third Quarter 2018 Groundwater Monitoring Report, the "No. of Detects" and "No. of Non-detects" includes all primary and replicate results; versions of this table previous to the Third Quarter 2018 report included only the maximum detected concentration between primary and replicate samples.
As of the Second Quarter 2019 Groundwater Monitoring Report, the "No. of Detects" and "No. of Non-detects" includes EPA Region 9 Laboratory split sampling data; versions of this table previous to the Second Quarter 2019 report included only data from Navy-contracted laboratories.
— = no data
% = percent
µg/L = microgram per liter
DOH = Department of Health, State of Hawai'i
EAL = Environmental Action Level
EPA = Environmental Protection Agency, United States
no. = number
TPH-d = total petroleum hydrocarbons-diesel range organics
TPH-g = total petroleum hydrocarbons-gasoline range organics
TPH-o = total petroleum hydrocarbons-residual range organics (i.e., TPH-oil)

This page intentionally left blank

No measurable amount of free product has ever been detected in any of the Red Hill monitoring wells. Of the 30 previously sampled monitoring locations (including non-multilevel wells and multilevel well monitoring zones) from 2005 to 2019, only five monitoring locations have ever had COPCs in concentrations exceeding the screening criteria (i.e., RHMW01, RHMW02, RHMW05, HDWMW2253-03, and OWDFMW01). No COPCs have ever exceeded screening criteria at the sampling point (RHMW2254-01) in the Red Hill Shaft. Of the three monitoring wells that the SSRBLs apply to (RHMW01, RHMW02, and RHMW03), only TPH-d in RHMW02 has exceeded the SSRBL. Sampling results analyzed by Navy-contracted laboratories from 2005 to 2019 are summarized below:

- *RHMW2254-01* is a sampling point located inside the shaft of Navy Supply Well 2254-01. Detections of TPH-gasoline range organics (TPH-g), TPH-d, TPH-residual range organics (TPH-o), and polynuclear aromatic hydrocarbons (PAHs) occurred occasionally during monitoring events between 2005 and October 2017, but no COPCs were detected above the screening criteria. Ethylbenzene, toluene, and total xylenes were detected below screening criteria during the Fourth Quarter (October) 2018 groundwater monitoring event but were non-detect during the subsequent monthly (November and December 2018) monitoring events; thus, the Fourth Quarter 2018 detections could not be verified. No COPCs have been detected since Fourth Quarter 2018.
- *RHMW01*, an inside-tunnel monitoring well located southwest of the tank farm, was installed in 2001 (DON 2002). TPH-d has consistently been detected at RHMW01 but has not exceeded the DOH screening criterion (400 micrograms per liter [µg/L]) since the First Quarter (January) 2016 monitoring event. TPH-d has never exceeded the SSRBL (4,500 µg/L). PAHs were periodically detected below the screening criteria. Sporadic detections of benzene and toluene below their respective screening criteria occurred in 2005, 2014, and 2017.
- *RHMW02*, an inside-tunnel monitoring well located next to Tank 6, was installed in 2005 (DON 2007). TPH-g was detected and exceeded the screening criterion (300 µg/L) during Fourth Quarter 2012 and First Quarter 2013 monitoring events. TPH-d has consistently been detected; concentrations exceeded the screening criterion (400 µg/L) in all monitoring events and exceeded the SSRBL in 2008, 2014, 2015, and 2016. TPH-o was detected below the screening criterion (500 µg/L) in most monitoring events from 2015 onward. Silica gel cleanup (SGC) TPH-d and TPH-o results showed reduced or non-detect concentrations compared to non-SGC TPH-d and TPH-o results, indicating that the majority of the reported non-SGC TPH mass is likely biodegradation by-products. PAHs regularly exceeded their screening criteria during monitoring events from 2005 onward. Ethylbenzene and total xylenes were also detected in most events between 2005 and 2018 at trace concentrations below the screening criteria. Benzene and toluene were also detected at trace concentrations below the screening criteria between 2008 and 2016 but less frequently than ethylbenzene and total xylenes.
- *RHMW03*, an inside-tunnel monitoring well located next to Tank 14, was installed in 2005 (DON 2007). TPH-d and TPH-o were frequently detected but at concentrations below the screening criteria. SGC TPH-d and TPH-o results were usually non-detect. TPH-g, toluene, and PAHs were occasionally detected at trace concentrations below screening criteria between 2005 and 2016. No COPCs have been detected above the screening criteria.
- *RHMW04*, an outside-tunnel monitoring well located northeast of the tank farm, was installed in 2005 as a background monitoring location (DON 2007). TPH-d, benzene, total xylenes, and PAHs were sporadically detected below screening criteria. No other COPCs have been detected.
- *RHMW05*, an inside-tunnel monitoring well located southwest of the tank farm and east of sampling point RHMW2254-01, was installed in 2009. TPH-d exceeded the screening

criterion during monitoring events in 2009 and 2010, but subsequent TPH-d detections were below the screening criterion. TPH-o, toluene, and PAHs were occasionally detected below screening criteria, but no COPCs have been detected after January 2016. Evaluations of historical TPH chromatograms suggested non-petroleum chemical signatures.

- *RHMW06 & RHMW07*, outside-tunnel monitoring wells located north of the tank farm, were installed in 2014 in response to the January 2014 release (DON 2015a). TPH-d, TPH-o, and PAHs were occasionally detected below screening criteria. No COPCs have ever been detected above screening criteria and no COPCs have been detected after March 2017.
- *RHMW08 & RHMW09*, outside-tunnel monitoring wells located west and south, respectively, of Tank 1, were installed in 2016 as part of the AOC Statement of Work Sections 6 and 7 investigation (DON 2017a). TPH-d and TPH-o have been detected below the screening criteria at RHMW08 from November 2016 to March 2017 but have not been detected since. The only COPC detected at RHMW09 was one detection of naphthalene at a concentration below the screening criterion by U.S. Environmental Protection Agency (EPA) Region 9 during the February 2017 split sampling event.
- *RHMW10*, an outside-tunnel monitoring well located south of Tank 14, was installed in April 2017 as part of the AOC Statement of Work Sections 6 and 7 investigation (DON 2017a). TPH-d and TPH-o were sporadically detected at concentrations below the screening criteria. No other COPCs have been detected.
- *RHMW11*, an outside-tunnel multilevel monitoring well located at the Hālawa Correctional Facility north of the tank farm, was installed in November 2017 as part of the AOC Statement of Work Sections 6 and 7 investigation (DON 2017a). Five of the eight multilevel monitoring zones (RHMW11 Zones 1 to 5) were sampled during the First, Second, and Third Quarter 2018 events. Sampling was discontinued for RHMW11 Zones 1 to 4 due to lack of COPC detections in groundwater samples collected from all five zones during the First Quarter 2018 through Third Quarter 2018. Groundwater samples continued to be collected from RHMW11 Zone 5 thereafter. RHMW11 Zone 7 (one of the three zones located in the saprolite formation with low hydraulic conductivity) was sampled during the Third Quarter 2019 monitoring event to collect general chemistry data from formation water within the saprolite formation. No COPCs have been detected in any of the RHMW11 multilevel monitoring zones that have been sampled.
- *RHMW14,* an outside-tunnel multilevel monitoring well located at the Hālawa Correctional Facility northwest of Tank 1, was installed in March 2019 as part of the AOC Statement of Work Sections 6 and 7 investigation (DON 2017a). RHMW14 has eight multilevel monitoring zones. Three of the eight zones (RHMW14 Zones 1 to 3) are in relatively higher hydraulic conductivity portions of the unweathered basalt formation, while the other five zones (RHMW14 Zones 4 to 8) are within relatively lower-hydraulic-conductivity portions of the basalt. Groundwater samples have been collected from six of eight multilevel monitoring zones (RHMW14 Zones 1 to 5 and Zone 7). No COPCs have been detected in any of the RHMW11 multilevel monitoring zones that have been sampled.
- *RHMW15*, an outside-tunnel multilevel monitoring well located between RHMW2254-01 and RHMW05 within the Facility boundaries, was installed in July 2019 as part of the AOC Statement of Work Sections 6 and 7 investigation (DON 2017a). RHMW15 has five multilevel monitoring zones. The five monitoring zones are located in relatively higher hydraulic conductivity portions of the unweathered basalt formation, with RHMW15 Zone 5 located near the basal aquifer water table. RHMW15 was initially sampled during the Third Quarter 2019 monitoring event. No COPCs have been detected in any of the RHMW15 multilevel

monitoring zones sampled during the Third Quarter 2019 (Zones 1 to 5) and Fourth Quarter 2019 (Zones 3 to 5) monitoring events.

- *HDMW2253-03*, an outside-tunnel well located north of the tank farm at the Hālawa Correctional Facility, was installed in 2000 by the State of Hawai'i Department of Land and Natural Resources below the groundwater table without a well screen. TPH-d was detected above the screening criterion during the First Quarter 2013 quarterly monitoring event, but no other COPCs have exceeded screening criteria, and no COPCs have been detected since the Third Quarter 2016 monitoring event. HDMW2253-03 was not sampled during quarterly and monthly monitoring events from April to July 2017 due to experimental testing conducted by the State of Hawai'i Department of Land and Natural Resources Commission on Water Resource Management and the University of Hawai'i.
- *OWDFMW01*, located at the former Oily Waste Disposal Facility west of Navy Supply Well 2254-01, was installed in 1998 (DON 2000). TPH-d exceeded the screening criterion during quarterly monitoring events in 2010, 2012, 2013, and 2015. No other COPCs have exceeded screening criteria. Evaluations of historical TPH chromatograms suggested that TPH detections have non-petroleum chemical signatures.

The TPH and PAH concentrations for the Second Quarter 2018 through Fourth Quarter 2018 monitoring events were higher than the reported results from the Fourth Quarter 2016 through First Quarter 2018 monitoring events. The increase in concentrations starting from the Fourth Quarter 2017 through Third Quarter 2018 are attributable to changes made to the Navy-contracted laboratory's extraction and analysis protocols in an effort to optimize the laboratory's EPA Method 8015 and EPA Method 8270 selected ion monitoring (SIM) standard operating procedures. The changes were prompted by the January–March 2017 split sampling and October 2017 TPH-d performance testing results conducted by the EPA Region 9 laboratory in Richmond, California, and the Navy-contracted laboratory (EPA Region 9 and DOH 2018; DON 2017e). The split sampling and performance testing results showed that the EPA Region 9 laboratory had higher TPH-d and PAH recoveries than the Navy-contracted laboratory for analytes present in groundwater samples at high concentrations (EPA Region 9 and DOH 2017a, 2018; DON 2018b). The differences in recoveries were due to the EPA Region 9 laboratory protocols' being more effective at recovering higher TPH-d and PAH concentrations, especially for samples with higher concentrations of polar hydrocarbons and metabolites. Changes made to the Navy-contracted laboratory's protocols include: using calibration standards identical to those used by the EPA Region 9 laboratory, sample acidification to pH less than 5 prior to extraction, switching extraction methodologies from EPA Method 3510C (separatory funnel liquid-liquid extraction) to EPA Method 3520C (continuous liquid-liquid extraction), using a rotary evaporator for extract condensation, and reduction of the field-collected sample volume for optimal extraction within the liquid-liquid extractor vessel. The Third Quarter 2018 split sampling event results indicated that TPH-d and PAH data generated by the Navy-contracted laboratory were approximately 12–37 percent lower than results reported by the EPA Region 9 laboratory (DON 2018a). The Navy-contracted laboratory's recoveries have significantly improved since the First Quarter 2017 split sampling event, during which recoveries were approximately 65 percent lower than the EPA Region 9 laboratory's results. After the method optimizations, there were no apparent increases in the TPH and PAH concentration trends. Evaluation of the split sampling data is presented in detail in the Third Quarter 2018 monitoring report (DON 2018a).

1.3.2 Previous Reports

The Red Hill groundwater LTM reports listed in Table 1-5 were prepared and submitted to DOH. Starting from the Fourth Quarter 2016 groundwater monitoring event, information for both the inside-tunnel and outside-tunnel monitoring locations has been combined into one report.

Table 1-5: Previous Groundwater Monitoring Reports

Year	Title	Sampling Period		Submittal Date	
Combined Reports for Inside- and Outside-Tunnel Wells					
2019	4th Qtr 2019 GW Monitoring Rpt	Oct to Nov		Feb 2020	
	3rd Qtr 2019 GW Monitoring Rpt	Jul to Aug		Nov	
	2nd Qtr 2019 GW Monitoring Rpt	April		Aug	
	1st Qtr 2019 GW Monitoring Rpt	Dec 2018 to Jan 2019		May	
2018	4th Qtr 2018 GW Monitoring Rpt	Oct to Nov		Mar 2019	
	3rd Qtr 2018 GW Monitoring Rpt	Jul to Aug		Nov	
	2nd Qtr 2018 GW Monitoring Rpt	Apr		Oct	
	1st Qtr 2018 GW Monitoring Rpt	Mar		Jul	
2017	4th Qtr 2017 GW Monitoring Rpt	Oct		Jan 2018	
	3rd Qtr 2017 GW Monitoring Rpt	May to Jul		Oct	
	2nd Qtr 2017 GW Monitoring Rpt	Feb to Apr		Jul	
	1st Qtr 2017 GW Monitoring Rpt	Nov 2016 to Jan 2017		Apr	
2016	4th Qtr 2016 GW Monitoring Rpt	Oct		Dec	
Separate Reports for Inside- and Outside-Tunnel Wells		Inside-Tunnel Wells		Outside-Tunnel Wells	
Year	Title	Sampling Period	Submittal Date	Sampling Period	Submittal Date
2016	3rd Qtr 2016 GW Monitoring Rpt	Jul	Oct	Jul	Oct
	2nd Qtr 2016 GW Monitoring Rpt	Apr	Jul	Apr	Jul
	1st Qtr 2016 GW Monitoring Rpt	Jan	Mar	Jan	Mar
2015	4th Qtr 2015 GW Monitoring Rpt	Oct	Jan 2016	Oct	Feb 2016
	3rd Qtr 2015 GW Monitoring Rpt	Jul	Nov	Jul	Nov
	2nd Qtr 2015 GW Monitoring Rpt	Apr	Aug	Apr	Aug
	1st Qtr 2015 GW Monitoring Rpt	Jan	Mar	Jan	Mar
	Draft Monitoring Well Installation Rpt for RHMW06 and RHMW07	—	—	—	Mar
2014	4th Qtr 2014 GW Monitoring Rpt	Oct	Jan 2015	Oct	Jan 2015
	3rd Qtr 2014 GW Monitoring Rpt	Jul	Sep	Jul	Sep
	GW Sampling Rpt for Tank 5 Release Response on June 23 and 24	Jun 23, 24	Jul	—	—
	GW Sampling Rpt for Tank 5 Release Response on May 27 and 28	May 27, 28	Jun	—	—
	2nd Qtr 2014 GW Monitoring Rpt	Apr	Jun	Apr	Jun
	GW Sampling Rpt for Tank 5 Release Response on Apr 7	Apr	Apr	—	—
	GW Sampling Rpt for Tank 5 Release Response on March 25 and 26	Mar 25, 26	Apr	—	—
	GW Sampling Rpt for Tank 5 Release Response on March 10	Mar 10	Mar	—	—
	GW Sampling Rpt for Tank 5 Release Response on March 5 and 6	Mar 5, 6	Mar	—	—
	GW Sampling Rpt for Additional Sampling (Inside-Tunnel)/GW Monitoring Rpt for Additional Sampling of HDMW2253-03 (Outside-Tunnel)	Jan	Jan	Jan	Feb
	1st Qtr 2014 GW Monitoring Rpt	Jan	Apr	Jan	Apr
2013	4th Qtr 2013 GW Monitoring Rpt	Oct	Jan 2014	Oct	Jan 2014
	3rd Qtr 2013 GW Monitoring Rpt	Jul	Sep	Jul	Sep
	2nd Qtr 2013 GW Monitoring Rpt	Apr	Jul	Apr	Jul
	1st Qtr 2013 GW Monitoring Rpt	Jan	Apr	Jan	Apr

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

— no data
GW groundwater
Qtr quarter
Rpt report

2. Groundwater Monitoring Activities

During the First Quarter 2020 monitoring event, groundwater samples were collected from 20 monitoring locations within the Red Hill groundwater monitoring network: RHMW2254-01; 11 monitoring wells located within the Facility boundary (RHMW01 through RHMW10 and OWDFMW01); 1 monitoring well located outside of the Facility at the Hālawa Correctional Facility (HDMW2253-03); 1 sampling zone at multilevel monitoring well RHMW11 and 3 sampling zones at multilevel monitoring well RHMW14, both located at the Hālawa Correctional Facility; and 3 sampling zones at RHMW15, located within the Facility boundary. The following multilevel monitoring well zones were sampled during this event: RHMW11 Zone 5, RHMW14 Zones 1 to 3, and RHMW15 Zones 3 to 5. The following multilevel monitoring zones were not sampled in this sampling event: RHMW11 Zones 1 to 4 and RHMW15 Zones 1 and 2 due to lack of detections of COPCs in previous monitoring events, and RHMW11 Zones 6 to 8 and RHMW14 Zones 4 to 8 due to low hydraulic conductivity at these zones.

All samples were collected in accordance with the AOC Statement of Work Sections 6 and 7 WP/SOW (DON 2017a), SAP (DON 2017b; 2017c), SAP Addendum 01 (DON 2017d), and SAP Addendum 03 (DON 2018e). The WP/SOW and SAP are consistent with DOH underground storage tank release response requirements (Hawai'i Administrative Rules, Chapter 11-280.1), NAVFAC Pacific Environmental Restoration Program Project Procedure I-C-3, *Monitoring Well Sampling* (DON 2015b), and the Red Hill *Groundwater Protection Plan* (DON 2014). Prior to purging and sampling, ambient and headspace vapor readings (volatile organic compounds [VOCs], oxygen, hydrogen sulfide, carbon monoxide, and lower explosive levels of vapors) were measured using a MultiRAE multi-gas monitor at all inside-tunnel sampling locations, and VOCs were measured using a MiniRAE 3000 photoionization detector (PID) at all outside-tunnel sampling locations. The depth to groundwater was measured using Heron oil/water interface probes and calibrated Solinst water level measuring tapes (see Appendix B.3 for tape correction factors). No free product or sheen was observed in any of the wells. Headspace PID detections occurred at RHMW2254-01, RHMW05, and OWDFMW01. Field measurements and observations are presented in the groundwater purge logs in Appendix B.1 and the field logbooks in Appendix B.2.

2.1 GROUNDWATER SAMPLING

2.1.1 Single-Screen (Non-Multilevel) Monitoring Well Sampling

Prior to collecting groundwater samples, the non-multilevel monitoring wells were purged of standing water in the well casings. These monitoring locations each contain a dedicated bladder pump, which was used to purge the well and collect samples. The groundwater wells were purged using low-flow sampling methodology at flow rates of approximately 0.10–0.30 liter per minute to minimize VOC loss and drawdown.

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

Water quality parameters were monitored on a periodic basis during well purging using an In-Situ Inc. smarTROLL multi-parameter handheld water quality meter. Parameters measured included total dissolved solids, pH, temperature, specific conductivity, dissolved oxygen (DO), turbidity, oxidation-reduction potential (ORP), and salinity. The water quality parameters were used to evaluate whether the natural characteristics of the aquifer formation water were present within the monitoring wells before the samples were collected. A minimum of five readings were collected at each well during the purging process. When feasible, water level measurements were collected and recorded during purging to detect indications of drawdown; if drawdown was detected approaching 0.2 foot, the rate of low-flow purging was reduced. Purging was considered complete when at least three consecutive water quality measurements stabilized within the specified range for each parameter noted in groundwater sampling logs (Appendix B.1) and in accordance with NAVFAC Pacific Environmental Restoration Program Project Procedure I-C-3, *Monitoring Well Sampling* (DON 2015b). The readings were recorded on the groundwater sampling logs (Appendix B.1). Field notes were recorded to document the monitoring event (Appendix B.2).

Once water quality parameters stabilized, groundwater samples were immediately collected from the wells using the bladder pumps. Groundwater samples from these non-multilevel monitoring wells were collected no more than 2.5 hours after purging was completed. Groundwater samples were collected in sampling containers that were pre-preserved (as necessary) and provided by the analytical

laboratory. Samples collected for ferrous iron analysis were filtered in the field using new, individual 0.45-micron filters attached at the end of the pump/probe discharge tubing.

2.1.2 Multilevel Monitoring Well Sampling

Due to the multilevel monitoring well design of RHMW11, RHMW14, and RHMW15, purging was not required immediately prior to collecting groundwater from the sampled monitoring zone since the measurement ports allow groundwater to flow directly from the surrounding formation and there is no filter pack. Groundwater was collected using sampling probes from the following multilevel monitoring zones:

- *RHMW11:* Zone 5 (located within the basalt layer at 285.3 feet bgs).
- *RHMW14:* Zone 1 (at 456.6 feet bgs), Zone 2 (at 415.3 feet bgs), and Zone 3 (at 325.1 feet bgs). These zones are within the relatively hydraulically conductive portions of the basalt formation.
- *RHMW15:* Zone 3 (at 410.5 feet bgs), Zone 4 (at 320.3 feet bgs), and Zone 5 (at 292.0 feet bgs). These zones are within the relatively hydraulically conductive portions of the basalt formation, and Zone 5 is located near the basal aquifer water table.

A string of four sealed 250-milliliter sample containers was connected to the sampling probe, which was lowered to each monitoring zone, and the containers filled with groundwater from the formation through a sampling port in the central casing of the well. Once sampling containers were filled, the sampling port was closed, and the probe and container string were brought to the surface. The groundwater was then transferred to the appropriate laboratory-supplied containers. For the collection of groundwater quality parameters, the sample containers were flushed with nitrogen to remove air from within the containers prior to the collection of groundwater. The nitrogen flush was performed to minimize DO enrichment due to high water pressure in the formation, which would have forced the air in the sample containers to mix into the groundwater collected. Groundwater quality parameters were collected at least three times during the sampling of each multilevel monitoring well zone and recorded in the groundwater sampling logs (Appendix B.1). Observations of groundwater DO enrichment were presented in the *First Quarter 2018 Groundwater Monitoring Report* (DON 2018f).

Groundwater samples were collected in sampling containers that were pre-preserved (as necessary) and provided by the analytical laboratory. Samples collected for ferrous iron were filtered in the field using new, individual 0.45-micron filters attached at the end of the pump/probe discharge tubing.

Groundwater sampling at multilevel monitoring well zones takes a few hours for each zone due to the limited volume (1 liter) collected from each deployment of the sample container string. During the Second Quarter 2019 monitoring event, a one-time evaluation was conducted to evaluate whether the groundwater geochemistry changes during the sampling duration. Three additional aliquots of groundwater (from run #2, run #7, and run #13) were collected from RHMW11-05 and analyzed for anions and alkalinity. The results indicated that the groundwater geochemistry is consistent during the four-hour sampling duration at RHMW11-05. Data related to these samples were presented in the *Second Quarter 2019 Groundwater Monitoring Report* (DON 2019c).

The analytical program for the First Quarter 2020 groundwater monitoring event is shown in Table 2-1.

Table 2-1: Groundwater Sampling Program for the First Quarter 2020 Quarterly Monitoring Event

Parameter	Analytical Method	Analyte(s) [a]	Screening Criterion (µg/L) [a]	RHMW2254-01	RHMW01	RHMW02	RHMW03	RHMW04	RHMW05	RHMW06	RHMW07	RHMW08	RHMW09	RHMW10	RHMW11-05	RHMW14-01	RHMW14-02	RHMW14-03	RHMW15-03	RHMW15-04	RHMW15-05	HDMW2253-03	OWDFMW01
TPH	EPA 8260	TPH-g	300	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	EPA 8015	TPH-d	400	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		TPH-o	500	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
TPH with SGC [c]	EPA 3630/8015	TPH-d	400	✓	✓	✓	✓	✓	✓	—	✓	—	✓	—	—	✓	✓	✓	—	—	✓	—	✓
		TPH-o	500	✓	✓	✓	✓	✓	✓	—	✓	—	✓	—	—	✓	✓	✓	—	—	✓	—	✓
VOCs	EPA 8260	Benzene	5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		Ethyl Benzene	30	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		Toluene	40	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		Total Xylenes	20	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
PAHs	EPA 8270 SIM	1-Methylnaphthalene	10	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		2-Methylnaphthalene	10	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		Naphthalene	17	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Fuel Additives	EPA 8270	Phenol	300	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Lab Procedure	2-(2-Methoxyethoxy)Ethanol	800 [b]	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Lead Scavengers [d]	EPA 8011	1,2-Dibromoethane	0.04	—	—	—	—	—	—	—	—	—	—	—	—	✓	✓	✓	✓	✓	✓	—	—
	EPA 8260	1,2-Dichloroethane	5	—	—	—	—	—	—	—	—	—	—	—	—	✓	✓	✓	✓	✓	✓	—	—
NAPs	Field parameter	DO, ORP	—	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	SM 3500-Fe	Ferrous Iron	—	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	RSK 175M	Methane	—	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	EPA 300.0	Nitrate, Sulfate, Chloride	—	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	EPA 353.2	Nitrate-Nitrite as Nitrogen	—	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	EPA 2320	Carbonate, Bicarbonate, and Total Alkalinity	—	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	EPA 9060A	TOC	—	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		DOC	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Chemistry [e]	EPA 300.0	Bromide, Fluoride	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	SM 4500-Si D	Total Silica and Dissolved Silica	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	EPA 6010	Total Calcium, Magnesium, Manganese, Potassium, and Sodium	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

— not available/not analyzed
✓ analyzed
DOC dissolved organic carbon
[a] COPCs and associated screening criteria were provided in the February 4, 2016, AOC Statement of Work Sections 6 and 7 scoping completion letter from the Regulatory Agencies (EPA Region 9 and DOH 2016) and updated with the most current DOH Tier 1 EALs in Table D-1b (DOH 2017) where appropriate.
[b] Screening criterion is from EPA Tap Water Regional Screening Levels, target hazard quotient = 1.0, November 2019 (EPA 2019).

[c] TPH-d and TPH-o with SGC were analyzed only on samples with positive detections of TPH-d and TPH-o without SGC.
[d] Lead scavengers are collected only from newly installed monitoring wells for at least 1 year of sampling, and may be discontinued if sample results are below the Groundwater Action Levels established in the February 4, 2016, scoping completion letter (EPA Region 9 and DOH 2016). Lead scavenger analysis was only performed for RHMW14 Zones 1 to 3 and RHMW15 Zones 3 to 5, which have not yet been sampled for 1 year. The lead scavenger requirement has been completed for all other monitoring locations as of the Fourth Quarter 2018 monitoring event.
[e] General groundwater chemistry parameters are collected during at least one sampling event for all monitoring wells in accordance with SAP Revision 01 (DON 2017c). General groundwater chemistry parameters for all monitoring locations have been sampled in previous monitoring events.

2.2 FIELD QUALITY ASSURANCE/QUALITY CONTROL

A quality assurance/quality control (QA/QC) program was implemented in the field in accordance with the NAVFAC Pacific *Project Procedures Manual* (DON 2015b), DOH TGM (DOH 2018), the project WP (DON 2015c), AOC Statement of Work Sections 6 and 7 WP/SOW (DON 2017a), SAP (DON 2017b; 2017c), SAP Addendum 01 (DON 2017d), and SAP Addendum 03 (DON 2018e) to support generating data of known and defensible quality. The QA/QC program was designed to minimize error, provide early identification and correction of potential problems, and evaluate the performance of the sampling program.

Field instruments were calibrated each morning prior to starting field activities. The PID was calibrated with 100 parts per million (ppm) isobutylene calibration gas. The multi-gas monitor was calibrated with 100 ppm isobutylene calibration gas and a multi-gas monitor calibration gas composed of 50 ppm carbon monoxide, 25 ppm dihydrogen sulfide, 19 percent oxygen, and 50 percent of the lower explosive limit of methane. The water quality meter was calibrated with an auto-calibration solution prior to recording measurements.

To assess the effectiveness of the equipment decontamination process, one equipment blank sample was collected from the reusable sample container used during the multilevel monitoring well zone sampling. The equipment blank sample was collected on site by pouring distilled water into the decontaminated multilevel well sample container string and then into the sample containers. A field blank sample was also collected to assess the quality of the locally sourced Menehune Water Company distilled water used to collect the equipment blank. The field blank was collected by pouring distilled water directly into sample containers. The field blank and equipment blank samples were analyzed for the same COPCs as the groundwater samples.

As all non-multilevel monitoring locations have dedicated bladder pumps installed, no field and equipment blanks were collected from non-multilevel monitoring locations.

To assess the precision of the data collection activity, including sampling and analysis, field duplicates were collected at the same approximate time as their respective primary samples. One field duplicate each was collected from RHMW2254-01, RHMW02, and RHMW14 Zone 3.

During the First Quarter 2020 event, one trip blank was used at each sampling location to accurately represent the condition of the samples in each shipment. The hermetically sealed trip blank samples were supplied pre-filled by the analytical laboratory and remained with the associated groundwater sample in the cooler during the field event and transported to and from the site.

2.3 SAMPLE HANDLING AND ANALYSIS

The samples were labeled and logged in accordance with NAVFAC Pacific Environmental Restoration Program Project Procedure III-E, *Record Keeping, Sample Labeling, and Chain-of-Custody Procedures* (DON 2015b). Immediately after collection, all samples were labeled, logged in the field logbooks, custody sealed, sealed with tape, and placed in a resealable plastic bag. To meet the recommended holding time for nitrate analysis, efforts were made to ship samples to the laboratory on the day of collection. Samples not shipped on the day of collection were stored in secure and controlled cold storage overnight and shipped the following day.

Prior to shipping, the samples were logged in a chain-of-custody form and loaded into a cooler with double-bagged wet ice. Packed coolers were sent by field personnel via express-courier overnight shipping in custody-sealed coolers to Agriculture & Priority Pollutants Laboratories, Inc. in Clovis, California. Sample transport and custody details are provided in the chain-of-custody records in the laboratory reports in Appendix C.1.

2.4 DECONTAMINATION

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

2.5 INVESTIGATION-DERIVED WASTE MANAGEMENT

IDW generated during the monitoring events consisted of purged groundwater from the monitoring wells and decontamination water. The IDW was handled, stored, and labeled in accordance with NAVFAC Pacific Environmental Restoration Program Project Procedure I-A-6, *Investigation-Derived Waste Management* (DON 2015b). Approximately 110 gallons of fluid from all wells were containerized in three clearly labeled, 55-gallon-capacity drums, covered with a tarp, and stored on site in an area designated by the Navy, pending disposal. Disposable personal protective equipment and sampling equipment and supplies were collected in plastic trash bags and disposed of as municipal waste.

3. Data Evaluation and Quality Assessment

Field observations and measurements and laboratory groundwater analytical results collected during the First Quarter 2020 groundwater monitoring event were evaluated along with available correction factors and historical groundwater concentrations. A data quality assessment consisting of a review of the overall groundwater sample collection and analysis process was performed to determine whether the analytical data generated met the quality objectives for the project. The data quality assessment was performed in accordance with the AOC Statement of Work Sections 6 and 7 WP/SOW (DON 2017a) and the SAP and addenda (DON 2017b; 2017c; 2017d; 2018e). The field QC program consisted of standardized sample collection and management procedures and the collection of field duplicate samples, matrix spike (MS) samples, and trip blank samples. The laboratory QA program consisted of the use of standard analytical methods and the preparation and analyses of MS/MS duplicate (MSD) samples, surrogate spikes, blanks, and laboratory control samples (LCSs)/LCS duplicates (LCSDs).

3.1 GROUNDWATER LEVEL MEASUREMENTS

Depths to groundwater were gauged from the notched and surveyed top of casing using calibrated water level measuring tapes at non-multilevel monitoring well locations prior to sampling (Table 3-1). Additionally, a Heron or Solinst oil/water interface probe was used to detect nonaqueous-phase liquid, which was measured if present.

The oil/water interface probe and water level measuring tapes were decontaminated between well measurements by washing with a non-phosphate detergent solution and rinsing with isopropyl alcohol and distilled water to prevent cross-contamination. Measuring points for all wells are detailed in three well elevation survey reports (DON 2019a) and presented in Table 3-1.

Table 3-1: Groundwater Elevations

Monitoring Well No.	Sampling Date	PID Reading at Wellhead (ppm)	Depth to Water (ft btoc) [a]	Measuring Tape Correction Factor [Tape ID] (ft) [b]	Well Horizontal Displacement Correction Factor (ft) [c]	Corrected Depth to Water (ft btoc)	Measuring Point Elevation (ft msl) [d]	Groundwater Elevation (ft msl)
RHMW2254-01	1/21/2020	0.1	— [h]	—	—	—	100.4501	—
RHMW01	1/20/2020	0.0	82.89	-0.02 [N-1]	—	82.87	101.9955	19.13
RHMW02	1/20/2020	0.0	85.59	-0.02 [N-1]	-0.06	85.51	104.5970	19.09
RHMW03 [e]	1/20/2020	0.0	101.81	-0.03 [N-1]	-0.04	101.74	120.8980	19.16
RHMW04	1/21/2020	0.0	293.32	-0.03 [N-2]	-0.02	293.27	312.1062	18.84
RHMW05	1/21/2020	0.1	82.27	-0.02 [N-1]	-0.01	82.24	101.3102	19.07
RHMW06 [f]	1/20/2020	0.0	240.28	-0.02 [N-2]	-0.01	240.25	259.1275	18.88
RHMW07 [f]	1/20/2020	0.0	197.5	-0.02 [N-2]	-0.01	197.47	220.4517	22.98
RHMW08 [f]	1/20/2020	0.0	291.61	-0.03 [N-2]	-0.03	291.55	310.4817	18.93
RHMW09 [f]	1/21/2020	0.0	376.82	-0.04 [N-2]	-0.24	376.54	395.4299	18.89
RHMW10 [f]	1/28/2020	0.0	477.02	-0.04 [N-2]	-0.09	476.89	495.6388	18.75
RHMW11-05 [g]	1/30/2020	0.2	—	—	-0.09	—	—	—
RHMW14-01 [g]	1/20/2020	0.0	—	—	— [i]	—	—	—
RHMW14-02 [g]	1/21/2020	1.3	—	—	— [i]	—	—	—
RHMW14-03 [g]	1/22/2020	0.0	—	—	— [i]	—	—	—
RHMW15-03 [g]	1/27/2020	0.0	—	—	— [i]	—	—	—
RHMW15-04 [g]	1/28/2020	0.0	—	—	— [i]	—	—	—
RHMW15-05 [g]	1/29/2020	0.0	—	—	— [i]	—	—	—
HDMW2253-03	1/23/2020	0.0	207.02	-0.02 [N-2]	-0.01	206.99	226.6812	19.69
OWDFMW01	1/22/2020	0.8	119.28	-0.03 [N-1]	-0.03	119.22	138.1361	18.92

— not applicable
btoc below top of casing
ft foot or feet
msl mean sea level

[a] Depth to water readings were taken using the calibrated water level measuring tapes.
[b] Water level measuring tape calibration information and correction factors are presented in Appendix B.3.
[c] Well horizontal displacement correction factor based on gyroscopic survey of the monitoring well's vertical plumbness. Correction factors are presented in the *Technical Memorandum, Gyroscopic Survey Results and Calculated Correction Factors for Groundwater Monitoring Network Wells at the Red Hill Bulk Fuel Storage Facility* (DON 2018d).
[d] *Well Elevation Survey Report, Red Hill Bulk Fuel Storage Facility* (DON 2018c).
[e] Particulates were noted during sampling causing variable groundwater turbidity.
[f] Depth to water is measured from the top of the gray plate at monitoring wells RHMW06, RHMW07, RHMW08, RHMW09, and RHMW10.
[g] Depth to water measurements are not applicable to the multilevel monitoring wells RHMW11, RHMW14, and RHMW15.
[h] Depth to water at the Red Hill Shaft sampling point was not measured due to safety concerns related to entering the shaft access manhole.
[i] The horizontal displacement correction factor for the zones in multilevel wells RHMW14 and RHMW15 are currently unavailable but will be published in a forthcoming deliverable.

Groundwater elevations beneath and near the site ranged from 18.84 to 22.98 feet above mean sea level during the First Quarter 2020 groundwater monitoring event. PID readings at the wellheads ranged from 0.0 to 1.3 ppm. No odor was noted during sampling at RHMW2254-01, RHMW05, RHMW11-05, RHMW14-02, and OWDFMW01. No sheen or nonaqueous-phase liquid was observed during the groundwater monitoring event. Graphs of cumulative historical depth to water readings are presented in Appendix A.4.

Because of safety concerns related to entering the Red Hill Shaft access manhole, depth to groundwater measurement at RHMW2254-01 is no longer collected starting from the Second Quarter 2019 groundwater monitoring event. Additionally, due to the design of the multilevel well monitoring zones, depths to groundwater were not measured at RHMW11, RHMW14, and RHMW15 zones.

3.2 ANALYTICAL RESULTS

The following chemicals were analyzed for during the monitoring event:

- TPH-d and TPH-o by EPA SW846 Test Method 8015B
- TPH-g, benzene, toluene, ethylbenzene, and xylenes by EPA Method 8260B
- 1-methylnaphthalene, 2-methylnaphthalene, and naphthalene by EPA Method 8270D SIM
- Phenol by EPA Method 8270D
- 2-(2-methoxyethoxy)-ethanol by a proprietary laboratory procedure
- Nitrate, chloride, and sulfate by EPA Method 300.0
- Nitrate-nitrite as nitrogen, methane, ferrous iron, and alkalinity by EPA 353.2, RSK175, SM 3500-Fe-B, and SM2320B, respectively
- Total organic carbon (TOC) by EPA Method 9060A

The chemicals analyzed and the respective analytical methods for each groundwater sample are identified in Table 3-2. Copies of the laboratory reports are presented in Appendix C.1. Copies of the third-party data validation reports are presented in Appendix C.2.

Analytical results were compared to the current LTM screening criteria as established by the February 4, 2016, AOC Statement of Work Sections 6 and 7 scoping completion letter (EPA Region 9 and DOH 2016) and updated with the most recent DOH (2017) Tier 1 EALs in Table D-1b (Section 1.2). The field and QC sample results of the First Quarter 2020 groundwater monitoring event are summarized in Table 3-2.

Figure 2 presents COPC detections, and Figure 3A and Figure 3B present the natural attenuation parameter (NAP) results at all monitoring locations. A description of laboratory data qualifiers and definitions and basic concepts of the terms detection limit (DL), limit of detection (LOD), and limit of quantitation (LOQ) are presented in the Department of Defense (DoD) Environmental Data Quality Workgroup Fact Sheet included as Appendix C.3.

This page intentionally left blank

Table 3-2: Groundwater and QC Sample Results for the First Quarter 2020 Quarterly Groundwater Monitoring Event
Red Hill Bulk Fuel Storage Facility, JBPHH, Oahu, Hawai'i

						Location	RHMW2254-01		RHMW01	RHMW02		RHMW03	RHMW04	RHMW05	RHMW06	RHMW07	RHMW08	RHMW09	RHMW10	RHMW11-05	RHMW14-01	RHMW14-02	RHMW14-03		RHMW15-03	RHMW15-04
						COC ID	ERH971	ERH972	ERH974	ERH976	ERH977	ERH979	ERH981	ERH983	ERH985	ERH987	ERH989	ERH991	ERH993	ERH1002	ERH1004	ERH1006	ERH1008	ERH1009	ERH1011	ERH1013
						Collection Date	2020-01-21	2020-01-21	2020-01-20	2020-01-20	2020-01-20	2020-01-20	2020-01-21	2020-01-21	2020-01-20	2020-01-20	2020-01-20	2020-01-21	2020-01-28	2020-01-30	2020-01-20	2020-01-21	2020-01-22	2020-01-22	2020-01-27	2020-01-28
						Sample Type	N	FD	N	N	FD	N	N	N	N	N	N	N	N	N	N	N	N	FD	N	N
						FD Parent Sample	—	ERH971	—	—	ERH976	—	—	—	—	—	—	—	—	—	—	—	—	ERH1008	—	—
Analyte	CAS No.	Method	Criteria	SSRBL[a]	Unit	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
Chemicals of Potential Concern																									
Benzene	71-43-2	8260B	5	750	µg/L	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U
Ethylbenzene	100-41-4	8260B	30	—	µg/L	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Toluene	108-88-3	8260B	40	—	µg/L	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U
Xylenes	1330-20-7	8260B	20	—	µg/L	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U
TPH-g (C6-C10)	PHCC6C10	8260B	300	—	µg/L	< 18.0 U	< 18.0 U	< 18.0 U	**58**	**49**	< 18.0 U	< 18.0 U	< 18.0 U	< 18.0 U	< 18.0 U	< 18.0 U	< 18.0 U	< 18.0 U	< 18.0 U	< 18.0 U	< 18.0 U	< 18.0 U	< 18.0 U	< 18.0 U	< 18.0 U	< 18.0 U
TPH-d (C10-C24)	PHCC10C24	8015B_E	400	4500	µg/L	**100**	< 25.00 U	**180 J**	**1500 J**	**1700**	**260**	**120**	**93**	< 25.00 U	**120**	< 25.00 U	**100**	< 25.00 U	< 25.00 U	< 160 U	< 130 U	< 25.00 UJ	< 25.00 UJ	< 25.00 U	< 25.00 U
TPH-d (C10-C24) with Silica Gel Cleanup	PHCC10C24SGC	8015B_E	400	—	µg/L	< 25.00 U	—	**39 J**	**280**	**360**	< 25.00 U	< 25.00 U	< 25.00 UJ	—	< 25.00 U	—	< 25.00 U	—	—	< 25.00 U	< 25.00 U	—	< 25.00 U	—	—
TPH-o (C24-C40)	PHCC24C40	8015B_E	500	—	µg/L	< 40.00 U	< 40.00 U	< 40.00 U	< 40.00 U	< 40.00 U	**250**	< 40.00 U	**92**	< 40.00 U	**84**	< 40.00 U	**98**	< 40.00 U	< 40.00 U	< 95 U	< 110 U	< 40.00 UJ	< 220 UJ	< 40.00 U	< 40.00 U
TPH-o (C24-C40) with Silica Gel Cleanup	PHCC24C40SGC	8015B_E	500	—	µg/L	< 40.00 U	—	< 40.00 U	< 40.00 U	< 40.00 U	< 40.00 U	< 40.00 U	< 40.00 UJ	—	**39 J**	—	< 40.00 U	—	—	< 45 U	< 40.00 U	—	< 74 U	—	—
1-Methylnaphthalene	90-12-0	8270DSIM	10	—	µg/L	< 0.10 U	< 0.10 U	< 0.10 U	**23**	**24**	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 UJ	< 0.10 U
2-Methylnaphthalene	91-57-6	8270DSIM	10	—	µg/L	< 0.10 U	< 0.10 U	< 0.10 U	**23**	**23**	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 UJ	< 0.10 U
Naphthalene	91-20-3	8270DSIM	17	—	µg/L	< 0.10 U	< 0.10 U	< 0.10 U	**52**	**57**	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 UJ	< 0.10 U
Fuel Additives																									
Phenol	108-95-2	8270D	300	—	µg/L	< 4.00 U	< 4.00 U	< 4.00 U	< 4.00 U	< 4.00 U	< 4.00 U	< 4.00 U	< 4.00 U	< 4.00 U	< 4.00 U	< 4.00 U	< 4.00 U	< 4.00 U	< 4.00 U	< 4.00 U	< 4.00 U	< 4.00 U	< 4.00 U	< 4.00 U	< 4.00 U
2-(2-Methoxyethoxy)-ethanol	111-77-3	8270D	800	—	µg/L	< 80.0 U	< 80.0 U	< 80.0 UJ	< 80.0 UJ	< 80.0 UJ	< 80.0 UJ	< 80.0 U	< 80.0 U	< 80.0 UJ	< 80.0 UJ	< 80.0 UJ	< 80.0 U	< 80.0 U	< 80.0 U	< 80.0 U	< 80.0 U	< 80.0 U	< 80.0 UJ	< 80.0 UJ	< 80.0 U
Lead Scavengers																									
1,2-Dibromomethane (Ethylene Dibromide)	106-93-4	8011	0.04	—	µg/L	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.019 U	< 0.019 U	< 0.019 U	< 0.019 U	< 0.019 U	< 0.019 U
1,2-Dichloroethane	107-06-2	8260B	5	—	µg/L	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U
Natural Attenuation Parameters																									
Methane	74-82-8	RSK175	—	—	µg/L	< 1.00 U	—	**230**	**8300**	—	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	—	< 1.00 U	< 1.00 U
Nitrate (As NO3)	14797-55-8_A	300.0	—	—	mg/L	**2.7**	—	< 0.18 U	**0.15 J**	—	**6.4 J**	**2.5**	**3.4 J**	**2.0**	**4.2 J**	**5.6**	**2.3 J**	**2.3**	< 0.18 U	**1.9 J**	**1.9 J**	**2.2 J**	—	**2.0**	**2.0 J**
Sulfate (As SO4)	14808-79-8	300.0	—	—	mg/L	**52.1**	—	**5.0**	**1.9**	—	**49.2**	**10.6**	**33.5**	**79.2**	**76.2**	**41.0**	**9.0**	**7.4**	**11.4**	**8.5**	**6.9**	**8.0**	—	**10.9**	**8.7**
Chloride (As Cl)	16887-00-6	300.0	—	—	mg/L	**88.6 J**	—	**39.8**	**39.3**	—	**47.4**	**74.4**	**132 J**	**359**	**390**	**131**	**54.8**	**38.2**	**45.7**	**50.6**	**46.6**	**44.1**	—	**73.7**	**49.4**
Nitrogen, Nitrate-Nitrite	NO3NO2N	353.2	—	—	mg/L	**0.56**	—	< 0.090 U	< 0.090 U	—	**1.5**	**0.51**	**0.76**	**0.63**	**1.1**	**1.3**	**0.45**	**0.46**	< 0.090 U	**0.35**	**0.29**	**0.33**	—	**0.41**	**0.41**
Bicarbonate	71-52-3	2320B	—	—	mg/L	**19.4**	—	**80.8**	**189**	—	**277**	**74.4**	**89.5**	**103**	**101**	**93.8**	**64.3**	**64.3**	**108**	**52.0**	**54.8**	**56.7**	—	**50.5**	**53.2**
Carbonate (As CO3)	3812-32-6	2320B	—	—	mg/L	< 1.70 U	—	< 1.70 U	< 1.70 U	—	< 1.70 U	< 1.70 U	< 1.70 U	< 1.70 U	< 1.70 U	< 1.70 U	< 1.70 U	< 1.70 U	< 1.70 U	< 1.70 U	< 1.70 U	< 1.70 U	< 1.70 U	—	< 1.70 U	< 1.70 U
Alkalinity, Total (As CaCO3)	ALK	2320B	—	—	mg/L	**19.4**	—	**80.8**	**189**	—	**277**	**74.4**	**89.5**	**103**	**101**	**93.8**	**64.3**	**64.3**	**108**	**52.0**	**54.8**	**56.7**	—	**50.5**	**53.2**
Iron, Ion (Fe2+)	15438-31-0	3500-FE-B	—	—	mg/L	< 0.32 U	—	**0.65 J**	**2.2**	—	< 0.32 U	**0.16 J**	< 0.32 U	< 0.32 U	< 0.32 U	< 0.32 U	< 0.32 U	< 0.32 U	< 0.32 U	< 0.32 U	< 0.32 U	< 0.32 U	—	< 0.32 U	**0.17 J**
Total Organic Carbon	TOC	9060A	—	—	mg/L	< 0.28 U	—	**0.77 J**	**3.6**	—	**1.4**	< 0.17 U	**0.30 J**	< 0.27 U	< 0.18 U	**0.73 J**	**0.14 J**	**0.21 J**	**12.0**	< 0.59 U	**2.5**	< 0.40 U	—	**11.7**	< 0.77 U
Dissolved Oxygen	—	Field	—	—	mg/L	**8.63**	—	**0.72**	**0.34**	—	**1.03**	**8.45**	**8.39**	**6.51**	**4.32**	**5.93**	**8.27**	**8.26**	**1.06**	**2.05**	**2.34**	**1.87**	—	**2.88**	**1.44**
Oxidation-Reduction Potential	—	Field	—	—	mV	**100.9**	—	**0.4**	**-5.4**	—	**58.2**	**85.4**	**118.7**	**121.3**	**122.3**	**114.3**	**90.6**	**128.5**	**101.5**	**156.2**	**120.5**	**147.5**	—	**101.7**	**96.7**

Table 3-2: Groundwater and QC Sample Results for the First Quarter 2020 Quarterly Groundwater Monitoring Event (cont'd)
Red Hill Bulk Fuel Storage Facility, JBPHH, Oahu, Hawai'i

						Location	RHMW15-05	HDMW2253-03	OWDFMW01	Multilevel Well QC		RHMW11-05	RHMW14-01	RHMW14-02	RHMW14-03	RHMW15-03	RHMW15-04	RHMW15-05	RHMW2254-01	RHMW01	RHMW02	RHMW03	RHMW04	RHMW05	RHMW06	RHMW07
						COC ID	ERH1015	ERH997	ERH995	ERH1000	ERH999	ERH1001	ERH1003	ERH1005	ERH1007	ERH1010	ERH1012	ERH1014	ERH970	ERH973	ERH975	ERH978	ERH980	ERH982	ERH984	ERH986
						Collection Date	2020-01-29	2020-01-23	2020-01-22	2020-01-21	2020-01-21	2020-01-30	2020-01-20	2020-01-21	2020-01-22	2020-01-27	2020-01-28	2020-01-29	2020-01-21	2020-01-20	2020-01-20	2020-01-20	2020-01-21	2020-01-21	2020-01-20	2020-01-20
						Sample Type	N	N	N	EB	FB	TB	TB	TB	TB	TB	TB	TB	TB	TB	TB	TB	TB	TB	TB	TB
						FD Parent Sample	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Analyte	CAS No.	Method	Criteria	SSRBL[a]	Unit		Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
Chemicals of Potential Concern																										
Benzene	71-43-2	8260B	5	750	µg/L		< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U
Ethylbenzene	100-41-4	8260B	30	—	µg/L		< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Toluene	108-88-3	8260B	40	—	µg/L		< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U
Xylenes	1330-20-7	8260B	20	—	µg/L		< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U
TPH-g (C6-C10)	PHCC6C10	8260B	300	—	µg/L		< 18.0 U	< 18.0 U	< 18.0 U	< 18.0 U	< 18.0 U	< 18.0 U	< 18.0 U	< 18.0 U	< 18.0 U	< 18.0 U	< 18.0 U	< 18.0 U	< 18.0 U	< 18.0 U	< 18.0 U	< 18.0 U	< 18.0 U	< 18.0 U	< 18.0 U	< 18.0 U
TPH-d (C10-C24)	PHCC10C24	8015B_E	400	4500	µg/L		< 220 U	< 25.00 UJ	**120**	< 120 UJ	**120**	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
TPH-d (C10-C24) with Silica Gel Cleanup	PHCC10C24SGC	8015B_E	400	—	µg/L		< 25.00 U	—	< 25.00 U	< 25.00 U	< 25.00 U	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
TPH-o (C24-C40)	PHCC24C40	8015B_E	500	—	µg/L		< 40.00 U	< 40.00 UJ	**120**	< 80 UJ	**75**	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
TPH-o (C24-C40) with Silica Gel Cleanup	PHCC24C40SGC	8015B_E	500	—	µg/L		< 40.00 U	—	< 40.00 U	< 46 U	**40**	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1-Methylnaphthalene	90-12-0	8270DSIM	10	—	µg/L		< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2-Methylnaphthalene	91-57-6	8270DSIM	10	—	µg/L		< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Naphthalene	91-20-3	8270DSIM	17	—	µg/L		< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Fuel Additives																										
Phenol	108-95-2	8270D	300	—	µg/L		< 4.00 U	< 4.00 U	< 4.00 U	< 4.00 U	< 4.00 U	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2-(2-Methoxyethoxy)-ethanol	111-77-3	8270D	800	—	µg/L		< 80.0 U	< 80.0 UJ	< 80.0 U	< 80.0 U	< 80.0 U	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Lead Scavengers																										
1,2-Dibromomethane (Ethylene Dibromide)	106-93-4	8011	0.04	—	µg/L		< 0.019 U	—	—	< 0.019 U	< 0.019 U	—	< 0.019 U	< 0.019 U	< 0.019 U	< 0.019 U	< 0.019 U	< 0.019 U	—	—	—	—	—	—	—	—
1,2-Dichloroethane	107-06-2	8260B	5	—	µg/L		< 0.30 U	—	—	< 0.30 U	< 0.30 U	—	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	—	—	—	—	—	—	—	—
Natural Attenuation Parameters																										
Methane	74-82-8	RSK175	—	—	µg/L		< 1.00 U	**0.78 J**	< 1.00 U	—	—	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	**0.69 J**	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U
Nitrate (As NO3)	14797-55-8_A	300.0	—	—	mg/L		**1.9 J**	**1.4**	**1.8**	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sulfate (As SO4)	14808-79-8	300.0	—	—	mg/L		**9.8**	**28.6**	**331**	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Chloride (As Cl)	16887-00-6	300.0	—	—	mg/L		**49.7**	**81.1**	**1050**	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Nitrogen, Nitrate-Nitrite	NO3NO2N	353.2	—	—	mg/L		**0.34 J**	**0.17**	**1.8**	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Bicarbonate	71-52-3	2320B	—	—	mg/L		**62.6**	**49.1**	**147**	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Carbonate (As CO3)	3812-32-6	2320B	—	—	mg/L		< 1.70 U	< 1.70 U	< 1.70 U	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Alkalinity, Total (As CaCO3)	ALK	2320B	—	—	mg/L		**62.6**	**49.1**	**147**	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Iron, Ion (Fe2+)	15438-31-0	3500-FE-B	—	—	mg/L		< 0.32 U	**1.2**	< 0.32 U	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total Organic Carbon	TOC	9060A	—	—	mg/L		**5.9**	< 1.3 U	**1.5**	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Dissolved Oxygen	—	Field	—	—	mg/L		**0.53**	**1.33**	**5.88**	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Oxidation-Reduction Potential	—	Field	—	—	mV		**112.8**	**51.4**	**89.6**	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Table 3-2: Groundwater and QC Sample Results for the First Quarter 2020 Quarterly Groundwater Monitoring Event (cont'd)
Red Hill Bulk Fuel Storage Facility, JBPHH, Oahu, Hawai'i

						Location	RHMW08	RHMW09	RHMW10	OWDFMW01	HDMW2253-03	Multilevel Well QC
						COC ID	ERH988	ERH990	ERH992	ERH994	ERH996	ERH998
						Collection Date	2020-01-20	2020-01-21	2020-01-28	2020-01-22	2020-01-23	2020-01-21
						Sample Type	TB	TB	TB	TB	TB	TB
						FD Parent Sample	—	—	—	—	—	—
Analyte	CAS No.	Method	Criteria	SSRBL[a]	Unit		Result	Result	Result	Result	Result	Result
Chemicals of Potential Concern												
Benzene	71-43-2	8260B	5	750	µg/L		< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U
Ethylbenzene	100-41-4	8260B	30	—	µg/L		< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Toluene	108-88-3	8260B	40	—	µg/L		< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U
Xylenes	1330-20-7	8260B	20	—	µg/L		< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U
TPH-g (C6-C10)	PHCC6C10	8260B	300	—	µg/L		< 18.0 U	< 18.0 U	< 18.0 U	< 18.0 U	< 18.0 U	< 18.0 U
TPH-d (C10-C24)	PHCC10C24	8015B_E	400	4500	µg/L		—	—	—	—	—	—
TPH-d (C10-C24) with Silica Gel Cleanup	PHCC10C24SGC	8015B_E	400	—	µg/L		—	—	—	—	—	—
TPH-o (C24-C40)	PHCC24C40	8015B_E	500	—	µg/L		—	—	—	—	—	—
TPH-o (C24-C40) with Silica Gel Cleanup	PHCC24C40SGC	8015B_E	500	—	µg/L		—	—	—	—	—	—
1-Methylnaphthalene	90-12-0	8270DSIM	10	—	µg/L		—	—	—	—	—	—
2-Methylnaphthalene	91-57-6	8270DSIM	10	—	µg/L		—	—	—	—	—	—
Naphthalene	91-20-3	8270DSIM	17	—	µg/L		—	—	—	—	—	—
Fuel Additives												
Phenol	108-95-2	8270D	300	—	µg/L		—	—	—	—	—	—
2-(2-Methoxyethoxy)-ethanol	111-77-3	8270D	800	—	µg/L		—	—	—	—	—	—
Lead Scavengers												
1,2-Dibromomethane (Ethylene Dibromide)	106-93-4	8011	0.04	—	µg/L		—	—	—	—	—	< 0.019 U
1,2-Dichloroethane	107-06-2	8260B	5	—	µg/L		—	—	—	—	—	< 0.30 U
Natural Attenuation Parameters												
Methane	74-82-8	RSK175	—	—	µg/L		< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	—
Nitrate (As NO3)	14797-55-8_A	300.0	—	—	mg/L		—	—	—	—	—	—
Sulfate (As SO4)	14808-79-8	300.0	—	—	mg/L		—	—	—	—	—	—
Chloride (As Cl)	16887-00-6	300.0	—	—	mg/L		—	—	—	—	—	—
Nitrogen, Nitrate-Nitrite	NO3NO2N	353.2	—	—	mg/L		—	—	—	—	—	—
Bicarbonate	71-52-3	2320B	—	—	mg/L		—	—	—	—	—	—
Carbonate (As CO3)	3812-32-6	2320B	—	—	mg/L		—	—	—	—	—	—
Alkalinity, Total (As CaCO3)	ALK	2320B	—	—	mg/L		—	—	—	—	—	—
Iron, Ion (Fe2+)	15438-31-0	3500-FE-B	—	—	mg/L		—	—	—	—	—	—
Total Organic Carbon	TOC	9060A	—	—	mg/L		—	—	—	—	—	—
Dissolved Oxygen	—	Field	—	—	mg/L		—	—	—	—	—	—
Oxidation-Reduction Potential	—	Field	—	—	mV		—	—	—	—	—	—

Notes:
Bold text indicates detected value.
Bold and shaded text indicates analyte exceeds the screening criterion.
— = not analyzed or not applicable
µg/L = microgram per liter
CAS = Chemical Abstracts Service
COC = chain-of-custody
EB = equipment blank (rinsate)
FB = field blank (source water)
FD = field duplicate
ID = identification
J = estimated value
mg/L = milligram per liter
mV = millivolt
N = normal (primary) sample
no. = number
QC = quality control
SSRBL = Site-Specific Risk-Based Level
TB = trip blank
TPH-d = total petroleum hydrocarbons-diesel range organics
TPH-g = total petroleum hydrocarbons-gasoline range organics
TPH-o = total petroleum hydrocarbons-residual range organics (i.e., TPH-oil)
U = nondetect value
[a] SSRBL applies to RHMW01, RHMW02, and RHMW03.

This page intentionally left blank

Location	RHMW02	RHMW02
Sample ID	ERH976	ERH977
Collection Date	1/20/2020	1/20/2020
Sample Type	N	FD
FD Parent Sample	—	ERH976

Analyte	Criteria	SSRBL	Unit	Result	Result
TPH-g (C6-C10)	300	—	µg/L	**58**	**49**
TPH-d (C10-C24)	400	4500	µg/L	**1500 J**	**1700**
TPH-d (C10-C24) with SGC	400	—	µg/L	**280**	**360**
1-Methylnaphthalene	10	—	µg/L	**23**	**24**
2-Methylnaphthalene	10	—	µg/L	**23**	**23**
Naphthalene	17	—	µg/L	**52**	**57**

Location	RHMW2254-01	RHMW2254-01
Sample ID	ERH971	ERH972
Collection Date	1/21/2020	1/21/2020
Sample Type	N	FD
FD Parent Sample	—	ERH971

Analyte	Criteria	SSRBL	Unit	Result	Result
TPH-d (C10-C24)	400	4500	µg/L	**100**	< 25.00 U
TPH-d (C10-C24) with SGC	400	—	µg/L	< 25.00 U	—

Location	RHMW07
Sample ID	ERH987
Collection Date	1/20/2020
Sample Type	N

Analyte	Criteria	SSRBL	Unit	Result
TPH-d (C10-C24)	400	4500	µg/L	**120**
TPH-d (C10-C24) with SGC	400	—	µg/L	< 25.00 U
TPH-o (C24-C40)	500	—	µg/L	**84**
TPH-o (C24-C40) with SGC	500	—	µg/L	**39 J**

Location	RHMW04
Sample ID	ERH981
Collection Date	1/21/2020
Sample Type	N

Analyte	Criteria	SSRBL	Unit	Result
TPH-d (C10-C24)	400	4500	µg/L	**120**
TPH-d (C10-C24) with SGC	400	—	µg/L	< 25.00 U

Location	OWDFMW01
Sample ID	ERH995
Collection Date	1/22/2020
Sample Type	N

Analyte	Criteria	SSRBL	Unit	Result
TPH-d (C10-C24)	400	4500	µg/L	**120**
TPH-d (C10-C24) with SGC	400	—	µg/L	< 25.00 U
TPH-o (C24-C40)	500	—	µg/L	**120**
TPH-o (C24-C40) with SGC	500	—	µg/L	< 40.00 U

Location	RHMW05
Sample ID	ERH983
Collection Date	1/21/2020
Sample Type	N

Analyte	Criteria	SSRBL	Unit	Result
TPH-d (C10-C24)	400	4500	µg/L	**93**
TPH-d (C10-C24) with SGC	400	—	µg/L	< 25.00 UJ
TPH-o (C24-C40)	500	—	µg/L	**92**
TPH-o (C24-C40) with SGC	500	—	µg/L	< 40.00 UJ

Location	RHMW01
Sample ID	ERH974
Collection Date	1/20/2020
Sample Type	N

Analyte	Criteria	SSRBL	Unit	Result
TPH-d (C10-C24)	400	4500	µg/L	**180 J**
TPH-d (C10-C24) with SGC	400	—	µg/L	**39 J**

Location	RHMW03
Sample ID	ERH979
Collection Date	1/20/2020
Sample Type	N

Analyte	Criteria	SSRBL	Unit	Result
TPH-d (C10-C24)	400	4500	µg/L	**260**
TPH-d (C10-C24) with SGC	400	—	µg/L	< 25.00 U
TPH-o (C24-C40)	500	—	µg/L	**250**
TPH-o (C24-C40) with SGC	500	—	µg/L	< 40.00 U

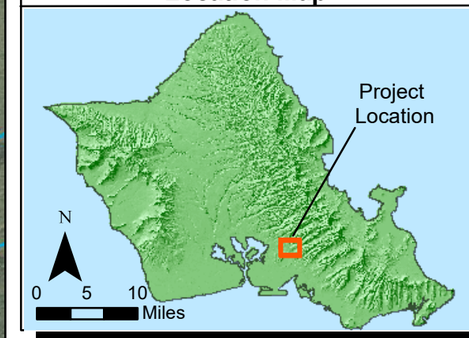
Location	RHMW09
Sample ID	ERH991
Collection Date	1/21/2020
Sample Type	N

Analyte	Criteria	SSRBL	Unit	Result
TPH-d (C10-C24)	400	4500	µg/L	**100**
TPH-d (C10-C24) with SGC	400	—	µg/L	< 25.00 U
TPH-o (C24-C40)	500	—	µg/L	**98**
TPH-o (C24-C40) with SGC	500	—	µg/L	< 40.00 U

Hālawa Deep Monitor Well (HDMW2253-03)
South Hālawa Valley
South Hālawa Stream
Navy Firing Range
Hālawa Correctional Facility
Hālawa Industrial Park
Quarry
Oily Waste Disposal Facility
Navy Supply Well 2254-01 and RHMW2254-01
U.S. Coast Guard Housing
Red Hill Elementary School
Moanalua Hillside Apartments
Moanalua Golf Course
RHMW04
RHMW11
RHMW06
RHMW14
RHMW07
RHMW02
RHMW03
RHMW08
RHMW10
RHMW01
RHMW15
RHMW05
RHMW09
OWDFMW01

N
0 400 800 1,600 Feet

Location Map



Legend

- Monitoring Well with Screening Criteria Exceedance(s)
- Existing Monitoring Well Location
- Existing Water Supply Well
- Red Hill Tank
- Stream
- Red Hill Installation Boundary

Notes

1. Map projection: NAD 1983 UTM Zone 4N
2. Base Map: DigitalGlobe, Inc. (DG) and NRCS. Publication_Date: 2015
3. Only analytes with detections and associated SGC data (if applicable) are shown.
4. COPC screening criteria is based on DOH Tier 1 groundwater environmental action levels for sites where groundwater is a potential or current drinking water resource and the nearest surface water body is greater than 150 meters from the release site.
5. Low-level TPH-d/o laboratory contamination affected most samples during this monitoring event.

ABBREVIATIONS:

FD	field duplicate sample
ID	identification
J	estimated value
N	primary (normal) sample
SGC	silica gel cleanup
SSRBL	site-specific risk based level
TPH	total petroleum hydrocarbon
TPH-d	TPH-diesel range organics
TPH-g	TPH-gasoline range organics
TPH-o	TPH-oil/residual range organics
U	non-detect value (reported as less than the limit of detection)
µg/L	microgram per liter
1300	Exceeds screening criterion

Bold text indicates detected value.

Figure 2
COPC Detections
1st Qtr 2020 Groundwater LTM Report
Red Hill Bulk Fuel Storage Facility
JBPHH, O'ahu, Hawai'i

B:\60571032-HNL\1900-Work\920 GIS\02_Maps\LTM\2020Q1\Fig2_Detections_1stQtr2020_LTM.mxd 3/16/2020

This page intentionally left blank

Location	RHMW07
Collection Date	1/20/2020
Analyte / Unit	Result
Methane µg/L	< 1.00 U
Nitrate mg/L	**4.2 J**
Sulfate mg/L	**76.2**
Chloride mg/L	**390**
Nitrogen, Nitrate-Nitrite mg/L	**1.1**
Alkalinity, Bicarbonate mg/L	**101**
Alkalinity, Carbonate mg/L	< 1.70 U
Alkalinity, Total mg/L	**101**
Ferrous Iron mg/L	< 0.32 U
Total Organic Carbon mg/L	< 0.18 U
DO mg/L	**4.32**
ORP mV	**122.3**

Sampling Port Depth	285.3 ft bgs
Location	RHMW11-05
Collection Date	1/30/2020
Analyte / Unit	Result
Methane µg/L	< 1.00 U
Nitrate mg/L	< 0.18 U
Sulfate mg/L	**11.4**
Chloride mg/L	**45.7**
Nitrogen, Nitrate-Nitrite mg/L	< 0.090 U
Alkalinity, Bicarbonate mg/L	**108**
Alkalinity, Carbonate mg/L	< 1.70 U
Alkalinity, Total mg/L	**108**
Ferrous Iron mg/L	< 0.32 U
Total Organic Carbon mg/L	**12.0**
DO mg/L	**1.06**
ORP mV	**101.5**

Location	HDMW2253-03
Collection Date	1/23/2020
Analyte / Unit	Result
Methane µg/L	**0.78 J**
Nitrate mg/L	**1.4**
Sulfate mg/L	**28.6**
Chloride mg/L	**81.1**
Nitrogen, Nitrate-Nitrite mg/L	**0.17**
Alkalinity, Bicarbonate mg/L	**49.1**
Alkalinity, Carbonate mg/L	< 1.70 U
Alkalinity, Total mg/L	**49.1**
Ferrous Iron mg/L	**1.2**
Total Organic Carbon mg/L	< 1.3 U
DO mg/L	**1.33**
ORP mV	**51.4**

Location	RHMW06
Collection Date	1/20/2020
Analyte / Unit	Result
Methane µg/L	< 1.00 U
Nitrate mg/L	**2.0**
Sulfate mg/L	**79.2**
Chloride mg/L	**359**
Nitrogen, Nitrate-Nitrite mg/L	**0.63**
Alkalinity, Bicarbonate mg/L	**103**
Alkalinity, Carbonate mg/L	< 1.70 U
Alkalinity, Total mg/L	**103**
Ferrous Iron mg/L	< 0.32 U
Total Organic Carbon mg/L	< 0.27 U
DO mg/L	**6.51**
ORP mV	**121.3**

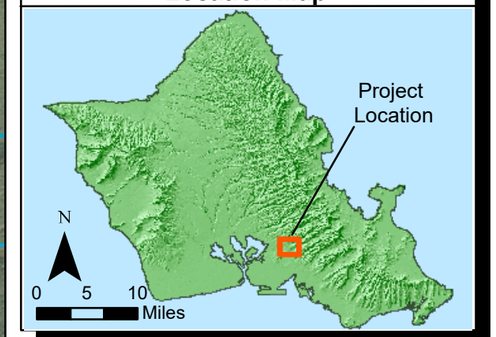
Location	RHMW04
Collection Date	1/21/2020
Analyte / Unit	Result
Methane µg/L	< 1.00 U
Nitrate mg/L	**2.5**
Sulfate mg/L	**10.6**
Chloride mg/L	**74.4**
Nitrogen, Nitrate-Nitrite mg/L	**0.51**
Alkalinity, Bicarbonate mg/L	**74.4**
Alkalinity, Carbonate mg/L	< 1.70 U
Alkalinity, Total mg/L	**74.4**
Ferrous Iron mg/L	**0.16 J**
Total Organic Carbon mg/L	< 0.17 U
DO mg/L	**8.45**
ORP mV	**85.4**

Location	OWDFMW01
Collection Date	1/22/2020
Analyte / Unit	Result
Methane µg/L	< 1.00 U
Nitrate mg/L	**1.8**
Sulfate mg/L	**331**
Chloride mg/L	**1050**
Nitrogen, Nitrate-Nitrite mg/L	**1.8**
Alkalinity, Bicarbonate mg/L	**147**
Alkalinity, Carbonate mg/L	< 1.70 U
Alkalinity, Total mg/L	**147**
Ferrous Iron mg/L	< 0.32 U
Total Organic Carbon mg/L	**1.5**
DO mg/L	**5.88**
ORP mV	**89.6**

Location	RHMW2254-01
Collection Date	1/21/2020
Analyte / Unit	Result
Methane µg/L	< 1.00 U
Nitrate mg/L	**2.7**
Sulfate mg/L	**52.1**
Chloride mg/L	**88.6 J**
Nitrogen, Nitrate-Nitrite mg/L	**0.56**
Alkalinity, Bicarbonate mg/L	**19.4**
Alkalinity, Carbonate mg/L	< 1.70 U
Alkalinity, Total mg/L	**19.4**
Ferrous Iron mg/L	< 0.32 U
Total Organic Carbon mg/L	< 0.28 U
DO mg/L	**8.63**
ORP mV	**100.9**

Sampling Port Depth	410.5 ft bgs	320.3 ft bgs	292.0 ft bgs
Location	RHMW15-03	RHMW15-04	RHMW15-05
Collection Date	1/27/2020	1/28/2020	1/29/2020
Analyte / Unit	Result	Result	Result
Methane µg/L	< 1.00 U	< 1.00 U	< 1.00 U
Nitrate mg/L	**2.0**	**2.0 J**	**1.9 J**
Sulfate mg/L	**10.9**	**8.7**	**9.8**
Chloride mg/L	**73.7**	**49.4**	**49.7**
Alkalinity, Bicarbonate mg/L	**0.41**	**0.41**	**0.34 J**
Alkalinity, Carbonate mg/L	**50.5**	**53.2**	**62.6**
Alkalinity, Total mg/L	< 1.70 U	< 1.70 U	< 1.70 U
Alkalinity, Carbonate mg/L	**50.5**	**53.2**	**62.6**
Ferrous Iron mg/L	< 0.32 U	**0.17 J**	< 0.32 U
Dissolved Organic Carbon mg/L	**11.7**	< 0.77 U	**5.9**
DO mg/L	**2.88**	**1.44**	**0.53**
ORP mV	**101.7**	**96.7**	**112.8**

Location Map



Legend

- Monitoring Well with Screening Criteria Exceedance(s)
- Existing Monitoring Well Location
- Existing Water Supply Well
- Red Hill Tank
- Stream
- Red Hill Installation Boundary

Notes

1. Map projection: NAD 1983 UTM Zone 4N
2. Base Map: DigitalGlobe, Inc. (DG) and NRCS. Publication_Date: 2015

ABBREVIATIONS:

bgs	below ground surface
DO	dissolved oxygen
ft	feet
J	estimated value
mg/L	milligrams per liter
mV	millivolts
NA	not analyzed or not applicable
ORP	oxidation-reduction potential
U	non-detect value (reported as less than the limit of detection)
µg/L	microgram per liter

Bold text indicates detected value.

N

0 400 800 1,600 Feet

Figure 3A
Natural Attenuation Parameter Results
1st Qtr 2020 Groundwater LTM Report
Red Hill Bulk Fuel Storage Facility
JBPHH, O'ahu, Hawai'i

B:\60571032-HNL\1900-Work\920 GIS\02_Maps\LTM\2020Q1\Fig3A_Nat_Attn\Para_1stQtr2020_LTM.mxd 3/16/2020

This page intentionally left blank

Sampling Port Depth		456.6 ft bgs	415.3 ft bgs	325.1 ft bgs
Location		RHMW14-01	RHMW14-02	RHMW14-03
Collection Date		1/20/2020	1/21/2020	1/22/2020
Analyte	Unit	Result	Result	Result
Methane	µg/L	< 1.00 U	< 1.00 U	< 1.00 U
Nitrate	mg/L	**1.9 J**	**1.9 J**	**2.2 J**
Sulfate	mg/L	**8.5**	**6.9**	**8.0**
Chloride	mg/L	**50.6**	**46.6**	**44.1**
Nitrogen, Nitrate-Nitrite	mg/L	**0.35**	**0.29**	**0.33**
Alkalinity, Bicarbonate	mg/L	**52.0**	**54.8**	**56.7**
Alkalinity, Carbonate	mg/L	< 1.70 U	< 1.70 U	< 1.70 U
Alkalinity, Total	mg/L	**52.0**	**54.8**	**56.7**
Ferrous Iron	mg/L	< 0.32 U	< 0.32 U	< 0.32 U
Total Organic Carbon	mg/L	< 0.59 U	**2.5**	< 0.40 U
DO	mg/L	**2.05**	**2.34**	**1.87**
ORP	mV	**156.2**	**120.5**	**147.5**

Location		RHMW08
Collection Date		1/20/2020
Analyte	Unit	Result
Methane	µg/L	< 1.00 U
Nitrate	mg/L	**5.6**
Sulfate	mg/L	**41.0**
Chloride	mg/L	**131**
Nitrogen, Nitrate-Nitrite	mg/L	**1.3**
Alkalinity, Bicarbonate	mg/L	**93.8**
Alkalinity, Carbonate	mg/L	< 1.70 U
Alkalinity, Total	mg/L	**93.8**
Ferrous Iron	mg/L	< 0.32 U
Total Organic Carbon	mg/L	**0.73 J**
DO	mg/L	**5.93**
ORP	mV	**114.3**

Location		RHMW03
Collection Date		1/20/2020
Analyte	Unit	Result
Methane	µg/L	< 1.00 U
Nitrate	mg/L	**6.4 J**
Sulfate	mg/L	**49.2**
Chloride	mg/L	**47.4**
Nitrogen, Nitrate-Nitrite	mg/L	**1.5**
Alkalinity, Bicarbonate	mg/L	**277**
Alkalinity, Carbonate	mg/L	< 1.70 U
Alkalinity, Total	mg/L	**277**
Ferrous Iron	mg/L	< 0.32 U
Total Organic Carbon	mg/L	**1.4**
DO	mg/L	**1.03**
ORP	mV	**58.2**

Location		RHMW10
Collection Date		1/28/2020
Analyte	Unit	Result
Methane	µg/L	< 1.00 U
Nitrate	mg/L	**2.3**
Sulfate	mg/L	**7.4**
Chloride	mg/L	**38.2**
Nitrogen, Nitrate-Nitrite	mg/L	**0.46**
Alkalinity, Bicarbonate	mg/L	**64.3**
Alkalinity, Carbonate	mg/L	< 1.70 U
Alkalinity, Total	mg/L	**64.3**
Ferrous Iron	mg/L	< 0.32 U
Total Organic Carbon	mg/L	**0.21 J**
DO	mg/L	**8.26**
ORP	mV	**128.5**

Location		RHMW05
Collection Date		1/21/2020
Analyte	Unit	Result
Methane	µg/L	< 1.00 U
Nitrate	mg/L	**3.4 J**
Sulfate	mg/L	**33.5**
Chloride	mg/L	**132 J**
Nitrogen, Nitrate-Nitrite	mg/L	**0.76**
Alkalinity, Bicarbonate	mg/L	**89.5**
Alkalinity, Carbonate	mg/L	< 1.70 U
Alkalinity, Total	mg/L	**89.5**
Ferrous Iron	mg/L	< 0.32 U
Total Organic Carbon	mg/L	**0.30 J**
DO	mg/L	**8.39**
ORP	mV	**118.7**

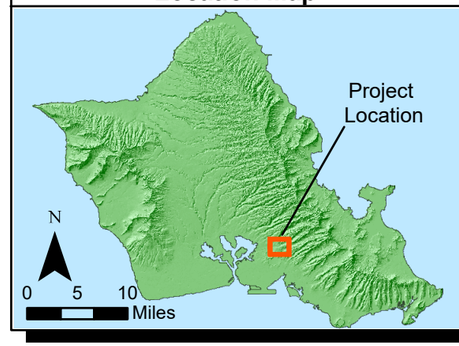
Sample ID		RHMW01
Collection Date		1/20/2020
Analyte	Unit	Result
Methane	µg/L	**230**
Nitrate	mg/L	< 0.18 U
Sulfate	mg/L	**5.0**
Chloride	mg/L	**39.8**
Nitrogen, Nitrate-Nitrite	mg/L	< 0.090 U
Alkalinity, Bicarbonate	mg/L	**80.8**
Alkalinity, Carbonate	mg/L	< 1.70 U
Alkalinity, Total	mg/L	**80.8**
Ferrous Iron	mg/L	**0.65 J**
Total Organic Carbon	mg/L	**0.77 J**
DO	mg/L	**0.72**
ORP	mV	**0.4**

Location		RHMW09
Collection Date		1/21/2020
Analyte	Unit	Result
Methane	µg/L	< 1.00 U
Nitrate	mg/L	**2.3 J**
Sulfate	mg/L	**9.0**
Chloride	mg/L	**54.8**
Nitrogen, Nitrate-Nitrite	mg/L	**0.45**
Alkalinity, Bicarbonate	mg/L	**64.3**
Alkalinity, Carbonate	mg/L	< 1.70 U
Alkalinity, Total	mg/L	**64.3**
Ferrous Iron	mg/L	< 0.32 U
Total Organic Carbon	mg/L	**0.14 J**
DO	mg/L	**8.27**
ORP	mV	**90.6**

Location		RHMW02
Collection Date		1/20/2020
Analyte	Unit	Result
Methane	µg/L	**8300**
Nitrate	mg/L	**0.15 J**
Sulfate	mg/L	**1.9**
Chloride	mg/L	**39.3**
Nitrogen, Nitrate-Nitrite	mg/L	< 0.090 U
Alkalinity, Bicarbonate	mg/L	**189**
Alkalinity, Carbonate	mg/L	< 1.70 U
Alkalinity, Total	mg/L	**189**
Ferrous Iron	mg/L	**2.2**
Total Organic Carbon	mg/L	**3.6**
DO	mg/L	**0.34**
ORP	mV	**-5.4**

BWS Hālawa Shaft Well 2354-01
Hālawa Quarry
South Hālawa Valley
Hālawa Deep Monitor Well (HDMW2253-03)
Navy Firing Range
RHMW04
Hālawa Correctional Facility
Hālawa Industrial Park
RHMW11
RHMW06
RHMW03
RHMW14
RHMW07
Oily Waste Disposal Facility
Navy Supply Well 2254-01 and RHMW2254-01
RHMW08
RHMW02
OWDFMW01
RHMW01
RHMW10
RHMW05
RHMW15
RHMW09
U.S. Coast Guard Housing
Red Hill Elementary School
Moanalua Valley
Moanalua Stream
Moanalua Golf Course
Moanalua Hillside Apartments
H201 Freeway

Location Map



Legend

- Monitoring Well with Screening Criteria Exceedance(s)
- Existing Monitoring Well Location
- Existing Water Supply Well
- Red Hill Tank
- Stream
- Red Hill Installation Boundary

Notes

1. Map projection: NAD 1983 UTM Zone 4N
2. Base Map: DigitalGlobe, Inc. (DG) and NRCS. Publication_Date: 2015

ABBREVIATIONS:

bgs	below ground surface
DO	dissolved oxygen
ft	feet
J	estimated value
mg/L	milligrams per liter
mV	millivolts
NA	not analyzed or not applicable
ORP	oxidation-reduction potential
U	non-detect value (reported as less than the limit of detection)
µg/L	microgram per liter

Bold text indicates detected value.

N
0 400 800 1,600
Feet

Figure 3B
Natural Attenuation Parameter Results
1st Qtr 2020 Groundwater LTM Report
Red Hill Bulk Fuel Storage Facility
JBPHH, O'ahu, Hawai'i

B:\60571032-HNL\1900-Work\920 GIS\02_Maps\LTM\2020Q1\Fig3B_Nat_AttnPara_1stQtr2020_LTM.mxd 3/16/2020

This page intentionally left blank

Analytical results for the First Quarter 2020 (January) groundwater monitoring event are summarized as follows:

- *RHMW06, RHMW08, RHMW10, RHMW11-05, RHMW14-01, RHMW14-02, RHMW14-03 (primary and duplicate), RHMW15-03, RHMW15-04, RHMW15-05, and HDMW2253-03:* No COPCs were detected.
- *RHMW2254-01 (primary and duplicate):* TPH-d (100 and < 25 U µg/L) was detected at a concentration below the screening criterion (400 µg/L) in the primary sample but was not detected in the duplicate sample. However, the chromatogram displays a chemical signature not indicative of hydrocarbons related to petroleum products used at the Facility. Evaluation of the sample, field QC, and laboratory QC chromatograms shows similar chromatographic signatures present in the groundwater samples, field QC samples, and laboratory method blanks, indicating laboratory artifacts contribution. The TPH-d with SGC analysis result was non-detect, suggesting that the non-SGC TPH-d result consists entirely of non-petroleum hydrocarbons.
- *RHMW01:* TPH-d (180 J µg/L) was detected at a concentration below the screening criterion (400 µg/L). The TPH-d with SGC analysis result was 39 J µg/L, suggesting that the non-SGC TPH-d result is mostly biodegradation by-products.
- *RHMW02 (primary and duplicate):* TPH-d (1,500 J and 1,700 µg/L), 1-methylnaphthalene (23 and 24 µg/L), 2-methylnaphthalene (23 and 23 µg/L), and naphthalene (52 and 57 µg/L) were detected at concentrations exceeding their respective screening criteria (400, 10, 10, and 17 µg/L). TPH-d was also detected in the SGC analysis but at significantly lower concentrations (280 and 360 µg/L), suggesting that the majority of the non-SGC TPH-d results are biodegradation by-products. The concentrations of TPH-d did not exceed the SSRBL of 4,500 µg/L. TPH-g (58 and 49 µg/L) was detected at concentrations below the screening criterion (300 µg/L). No other COPCs were detected.
- *RHMW03:* TPH-d (260 µg/L) and TPH-o (250 µg/L) were detected at concentrations below their respective screening criteria (400 and 500 µg/L). The TPH-d and TPH-o with SGC analysis results were non-detect, suggesting that the non-SGC TPH-d result consists entirely of biodegradation by-products.
- *RHMW04, RHMW05, RHMW07, RHMW09, and OWDFMW01:* TPH-d and/or TPH-o were detected below their respective screening criteria (400 and 500 µg/L) in RHMW04 (120 and <40 U µg/L), RHMW05 (93 and 92 µg/L), RHMW07 (120 and 84 µg/L), RHMW09 (100 and 09 µg/L), and OWDFMW01 (120 and 120 µg/L). Evaluation of the sample, field QC, and laboratory QC chromatograms indicate laboratory artifacts contribution. TPH-d and TPH-o with SGC analysis results were non-detect except for TPH-o with SGC in RHMW09 (39 J µg/L). These results suggest that the non-SGC TPH-d and TPH-o results consist of non-petroleum hydrocarbons.

Consistent with previous monitoring events, no free product, visible sheen, or color was observed in the groundwater collected from all monitoring locations for the duration of the sampling.

3.3 GROUNDWATER CONTAMINANT CONCENTRATIONS

A table of cumulative historical groundwater results is included as Appendix A.1. The historical groundwater COPC concentrations for TPH-g; TPH-d; TPH-o; benzene, toluene, ethylbenzene, and xylenes; 1-methylnaphthalene; 2-methylnaphthalene; and naphthalene are illustrated in Appendix A.2. Cumulative NAP measurements starting from the Fourth Quarter 2016 event are illustrated in Appendix A.3.1, and current NAP measurements are illustrated in Appendix A.3.2. The only detections

of lead scavengers and other fuel additives in groundwater samples were below-screening-criteria concentrations of 1,2-dichloroethane from April 2015 to January 2016 at OWDFMW01 and phenol (one detection) during a December 2016 sampling event at RHMW09. No graphs were created for analytes that are no longer included as COPCs for the Red Hill groundwater LTM program (EPA Region 9 and DOH 2016).

3.4 DATA VALIDATION AND ASSESSMENT

The analytical laboratory data for the First Quarter 2020 groundwater monitoring event were submitted to a third-party data validator (Laboratory Data Consultants, Inc.) for data validation and assessment. Analytical data from monitoring events from 2005 to Third Quarter 2016 underwent a limited data verification for all events where a third-party data validation was not performed (DON 2018a). Analytical data from Fourth Quarter 2016 onward were validated by a third-party data validator.

The objective of data validation is to provide data of known quality for project decisions. Data quality is judged in terms of precision, accuracy, representativeness, comparability, completeness, and sensitivity. Data validation is performed in accordance with the data validation procedures in the NAVFAC Pacific Environmental Restoration Program, *Project Procedures Manual* (DON 2015b), and consistent with the protocol in the DoD *Quality Systems Manual (QSM) for Environmental Laboratories* Version 5.1 (DoD and DOE 2017), as presented in the SAP and addenda (DON 2017b; 2017c; 2017d; 2018e). A number of factors may affect the quality of data, including sample collection methods; sample analysis methods; and adherence to established procedures for sample collection, preservation, management, shipment, and analysis. Data validation reports are presented in Appendix C.2.

Precision

Precision is defined as the reproducibility of replicate measurements. Precision is evaluated by the relative percent difference (RPD) of field duplicates, LCS/LCSD, and MS/MSD results. Field duplicate and MS/MSD samples were collected at a rate of approximately 10 percent of primary samples. Field duplicates were sent to the laboratory along with the primary samples. Primary and field duplicate RPDs are presented in Table 3-3. When COPCs were not detected in the primary and field duplicate samples, no RPDs could be calculated.

All primary and field duplicate samples RPDs were within the 50 percent measurement performance criteria (Table 3-3) except for the TPH-d results for RHMW2254-01. The criterion exceedance in RHMW2254-01 is due to a detection in the primary sample that was not replicated in the field duplicate. No other COPCs besides those listed in Table 3-3 were detected in the primary and field duplicate samples collected during the First Quarter 2020 groundwater monitoring event.

Table 3-3: Field Duplicate Analyte RPDs

Sampling Location [a]	Analyte	Screening Criterion (µg/L)	Sample ID	Concentration (µg/L)	RPD [b]
RHMW2254-01	TPH-d	400	ERH971	100	200%
			ERH972	< 25	
RHMW02	TPH-g	300	ERH976	58	17%
			ERH977	49	
	TPH-d	400	ERH976	1,500	13%
			ERH977	1,700	
	TPH-d w/SGC	400	ERH976	280	25%
			ERH977	360	
	1-Methylnaphthalene	10	ERH976	23	4%
			ERH977	24	
	2-Methylnaphthalene	10	ERH976	23	0%
			ERH977	23	
	Naphthalene	17	ERH976	52	9%
			ERH977	57	

% percent
NC not calculable
U non-detect value
[a] No COPCs were detected in the primary and field duplicate samples collected from RHMW14-03.
[b] Field duplicate RPD measurement performance criterion for groundwater is 50 percent in accordance with the criteria presented in Table 5-1 of the SAP (DON 2017b, 2018c) and Table 3-2 of the SAP addenda (DON 2017d, 2018g).

LCS/LCSD RPDs exceeded the 20 percent criterion (see criteria in SAP Appendix D [DON 2017b, 2018c] and SAP addenda Appendix C [DON 2017d, 2018g]) for TPH-d and TPH-o in three groundwater samples. LCS/LCSD RPDs also exceeded the criterion for 2-(2-methoxyethoxy)-ethanol in 11 samples. Associated results were qualified as non-detect estimated (UJ).

The MS/MSD RPD also exceeded criterion for one chloride result, leading to the result being flagged as estimated (J).

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

Accuracy

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

One chloride and one nitrate-nitrite as N results were flagged as estimated (J) due to high MS and MSD %Rs, indicating possible high bias.

One chloride result was flagged estimated (J) due to the low MSD %Rs, indicating possible low bias.

TPH-d results for two groundwater samples were flagged as estimated (J) due to high surrogate %Rs indicating possible high bias.

TPH-d with SGC and TPH-o with SGC results for one groundwater sample and 1-methylnaphthalene, 2-methylnaphthalene, and naphthalene results for one groundwater sample were flagged as non-detect estimated (UJ) due to low surrogate %R, indicating possible low bias.

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

Representativeness

Representativeness is the degree to which data accurately and precisely represent a characteristic of a population, parameter variations at a sampling point, or an environmental condition. Representativeness was achieved by conducting sampling in accordance with the sample collection procedures described in the AOC Statement of Work Sections 6 and 7 WP/SOW (DON 2017a) and the SAP (DON 2017b; 2017c; 2017d), including standardized sample collection methods identified in NAVFAC Pacific Environmental Restoration Program Project Procedure I-C-3, *Monitoring Well Sampling* (DON 2015b).

Representativeness is also evaluated through compliance with the method-recommended sample holding time and sample preservation methods and through the analysis of blank samples, including method blank, equipment blank, field blank, and trip blank samples. All sample holding times and sample preservation were evaluated in accordance with EPA SW-846 method recommendations and DoD Quality Systems Manual Version 5.1 (DoD and DOE 2017).

All samples were associated with a trip blank and laboratory blanks. Field and equipment blanks were collected and analyzed to demonstrate efficiency of field equipment decontamination. TPH-d, TPH-o, and TPH-o with SGC were detected in the field and equipment blanks associated with multilevel monitoring well sampling locations. Three TPH-d results, three TPH-o results, and two TPH-o with SGC results were flagged as non-detect (U) based on field and equipment blank contamination, indicating that sample detections are likely from field and/or laboratory artifacts. Notably, the laboratory method blanks also showed chromatographic signatures similar to those seen in the groundwater samples and field and equipment blanks.

TOC was detected in the laboratory method blank associated with eight groundwater samples. The results were qualified as non-detect (U) due to the laboratory method blank contamination.

Nine nitrate samples (RHMW03, RHMW05, RHMW07, RHMW09, RHMW14-01, RHMW14-02, RHMW14-03, RHMW15-04, and RHMW15-05) were analyzed beyond the method-recommended 48-hour holding time. These samples were analyzed between 51 and 58 hours from sample collection. The results were qualified as estimated (J). All groundwater samples were also analyzed for nitrate-nitrite as nitrogen, which can be used to confirm the nitrate results. Nitrate was recovered between 86 and 150 percent of the calculated equivalent nitrate concentration based on nitrate-nitrite as nitrogen results (Table 3-4). Of the nine detected results from samples analyzed for nitrate outside of the method-recommended holding time, the result for RHMW07 recovered below 90 percent of the calculated equivalent nitrate concentration, indicating possible low bias.

Table 3-4: Nitrate Result Confirmation

Location	Sample ID	Nitrate Result (mg/L)	Nitrate-Nitrite as Nitrogen Result (mg/L)	Calculated Equivalent Nitrate Concentration Based on Nitrate-Nitrite as Nitrogen Result (mg/L) [a]	%R
RHMW2254-01	ERH971	2.7	0.56	2.5	109%
RHMW01	ERH974	< 0.18 U	< 0.090 U	— [c]	— [c]
RHMW02	ERH976	0.15 J	< 0.090 U	— [c]	— [c]
RHMW03 [b]	ERH979	6.4 J	1.5	6.6	96%
RHMW04	ERH981	2.5	0.51	2.3	111%
RHMW05 [b]	ERH983	3.4 J	0.76	3.4	101%
RHMW06	ERH985	2.0	0.63	2.8	72%
RHMW07 [b]	ERH987	4.2 J	1.1	4.9	86%
RHMW08	ERH989	5.6	1.3	5.8	97%
RHMW09 [b]	ERH991	2.3 J	0.45	2.0	115%
RHMW10	ERH993	2.3	0.46	2.0	113%
RHMW11-05	ERH1002	< 0.18 U	< 0.090 U	— [c]	— [c]
RHMW14-01 [b]	ERH1004	1.9 J	0.35	1.6	123%
RHMW14-02 [b]	ERH1006	1.9 J	0.29	1.3	148%
RHMW14-03 [b]	ERH1008	2.2 J	0.33	1.5	150%
RHMW15-03	ERH1011	2.0	0.41	1.8	110%
RHMW15-04 [b]	ERH1013	2.0 J	0.41	1.8	110%
RHMW15-05 [b]	ERH1015	1.9 J	0.34 J	1.5	126%
HDMW2253-03	ERH997	1.4	0.17	0.75	186%
OWDFMW01	ERH995	1.8	1.8	8.0	23%

— not calculable
% percent
J estimated value
U non-detect value
[a] Nitrate-nitrite as nitrogen result converted to nitrate by multiplying nitrate-nitrite as nitrogen result by a factor of 4.43 (CalEPA 2011).
[b] Groundwater samples from these locations were extracted outside of the holding time for nitrate analysis.
[c] No equivalent nitrate concentration or %R was calculated due to the nitrate or nitrate-nitrite results reported as non-detect(s).

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

Completeness

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

Of the 689 results reported, none of the results were rejected. The completeness of the data (100 percent) met the 90 percent completeness goal.

Comparability

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

Samples collected from 2005 through the current monitoring event have been analyzed by multiple laboratories (Table 1-3). Data comparability is complicated by differences in analytical methods and extraction and analysis protocols used. For example, TPH-g and naphthalene have been reported using different EPA methods (either or both EPA 8260 and EPA 8270 SIM), and TPH-d and TPH-o have been reported using the same method (EPA 8015) but with differing carbon ranges over time (e.g., C10–C28, C10–C24 for reporting TPH-d) and different extraction methods (i.e., separatory funnel liquid-liquid extraction [EPA 3510] versus continuous liquid-liquid extraction [EPA 3520]) yielding different TPH concentrations.

Current analytical methods used are aimed to have laboratory limits lower than the current screening criteria. Starting from the Fourth Quarter 2016 event, analytical method DLs, LODs, and LOQs have been lower for most analytes than they had been during previous events. The method used to analyze TPH-g was also changed from EPA Method 8015 to EPA Method 8260 to improve sensitivity. The improved reporting limits should be considered when results are compared to data from earlier events. An evaluation of data reported between laboratories is presented in the AOC Statement of Work Sections 6 and 7 *Conceptual Site Model* (CSM) report (DON 2019b) as part of the AOC Statement of Work Sections 6 and 7 investigation.

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

Sensitivity

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

3.5 DATA ASSESSMENT AND USABILITY CONCLUSIONS

The precision, accuracy, representativeness, comparability, completeness, and sensitivity criteria were evaluated, and with some exceptions, the criteria were met. Results associated with QC data that failed acceptance criteria are discussed in Section 3.4. Data quality issues that need to be taken into account for project decisions are summarized below.

The LCS/LCSD RPD exceedances indicate indeterminate bias in the associated results: TPH-d and TPH-o (RHMW14-03 [primary and duplicate] and HDMW2253-03); and, 2-(2-methoxyethoxy)-ethanol (RHMW01, RHMW02 [primary and duplicate], RHMW03, RHMW06, RHMW07, RHMW08, RHMW14-03 [primary and duplicate], RHMW15-03, and HDMW2253-03). However, the above-mentioned results are non-detect; thus, the results are likely not affected by possible bias.

The MS/MSD RPD exceedance for chloride (RHMW2254-01) also indicate indeterminate bias. The results are likely unaffected by the bias as the chloride results are similar to results from the previous several monitoring events.

The high MS and MSD %Rs associated with one chloride (RHMW05) and one nitrate-nitrite as N (RHMW15-05) results indicate possible high bias. The low MSD %R associated with one chloride

result (RHMW2254-01) indicates possible low bias. Since the current monitoring event results are consistent with previous events' results, the results are likely not affected by the possible biases.

The high surrogate %Rs for two TPH-d results (RHMW01 and RHMW02 [primary sample]) indicate possible high bias. A comparison with previous events' results shows similar concentrations; thus the results are likely not affected by the bias.

The low surrogate %Rs for TPH-d with SGC and TPH-o with SGC (RHMW05) and 1-methylnaphthalene, 2-methylnaphthalene, and naphthalene (RHMW15-03) results indicate possible low bias. The RHMW05 TPH without SGC analysis had passing surrogate %Rs, and the non-SGC results are also attributable to laboratory artifacts based on the groundwater samples, field QC, and laboratory method blanks showing similar chromatographic signatures of non-petroleum-like hydrocarbons; thus the SGC results are likely not affected by the bias. Additionally, comparison with previous events' PAH results for RHMW15-03 show similar non-detect concentrations; thus, the results are likely not affected by the bias.

The TOC (RHMW2254-01 [primary sample], RHMW04, RHMW06, RHMW07, RHMW14-01, RHMW14-03 [primary sample], RHMW15-04, and HDMW2253-03) detections in the laboratory method blanks led to the sample results being qualified as non-detect (U). The TOC contamination does not present a significant impact since the TOC results are similar to previous events.

The TPH-d (RHMW14-01, RHMW14-02, and RHMW15-05), TPH-o (RHMW14-01, RHMW14-02, and RHMW14-03 [duplicate sample]), and TPH-o with SGC (RHMW14-01 and RHMW14-03 [duplicate sample]) results were qualified as non-detect (U). The sample detections are likely from laboratory artifacts based on the groundwater sample, field blank and equipment blank, and laboratory method blank sample chromatograms showing similar TPH signatures.

The holding time exceedances for nitrate indicate possible low bias for results from RHMW03, RHMW05, RHMW07, RHMW09, RHMW14-01, RHMW14-02, RHMW14-03, RHMW15-04, and RHMW15-05. A comparison of the nitrate and nitrate-nitrite as nitrogen results (Table 3-4) for these samples indicates that the RHMW07 result may be biased low based on the nitrate results recovering less than 90 percent of the calculated equivalent nitrate concentrations. The results were likely not affected by the bias since a comparison of the current RHMW07 results to previous monitoring events shows that the current results are consistent with historical nitrate values.

Additionally, though the OWDFMW01 nitrate sample was analyzed within the holding time, the nitrate result recovery was only 23 percent of the calculated equivalent nitrate concentration indicating possible low bias on the nitrate result. Current OWDFMW01 nitrate results are also lower than historical nitrate values. Additional nitrate data from OWDFMW01 from future monitoring events will be used to evaluate whether there is a decreasing trend in nitrate concentration at this location.

The third-party data assessment (Appendix C.2) concludes that all data generated during the monitoring events reported herein are usable for the intended purpose with the limitations described above.

4. Natural Attenuation Evaluation

The natural attenuation evaluation uses the following lines of evidence:

- The use of historical groundwater primary indicators (COPC data) to demonstrate contaminant concentration over time.

- The use of secondary lines of evidence (hydrogeologic and geochemical data) to evaluate whether natural attenuation processes are active at the site and the rate at which such processes can reduce contaminant concentrations to below screening levels.
- Comparison of TPH-d and TPH-o with and without SGC can be used to evaluate the degree of weathering of the dissolved fuel hydrocarbons based on the fraction of polar-weathered hydrocarbons and total recoverable hydrocarbons.

Two objectives for analyzing NAPs are to assess whether natural attenuation is occurring on site and to evaluate the potential for natural attenuation to reduce the concentrations of petroleum-related constituents in groundwater. Secondary lines of evidence for natural attenuation are based on additional information collected during the groundwater monitoring events and include DO, ORP, pH, specific conductance, dissolved ferrous iron, methane, nitrate, and sulfate.

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

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

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

Alkalinity is a general indicator of the buffering capacity of an aquifer system against pH changes due to attenuation processes in the groundwater. Production of carbon dioxide during biodegradation causes carbonate minerals to dissolve, increasing alkalinity concentrations in the groundwater. Alkalinity is used in conjunction with pH measurements to evaluate the groundwater's capacity to neutralize metabolic acids produced by biodegradation.

Both aerobic and anaerobic biodegradation may be occurring at the site. COPCs such as naphthalene are known to degrade both aerobically and anaerobically, and geochemical parameters indicative of biodegradation may vary with location and with time (Wiedemeier et al. 1999). A more detailed evaluation of natural attenuation at the Red Hill groundwater monitoring locations is presented in the AOC Statement of Work Sections 6 and 7 CSM report (DON 2019b).

The field water quality data parameters for the First Quarter 2020 groundwater monitoring event are included in the field sampling logs (Appendix B.1). Table 3-2 and Figure 3A and Figure 3B summarize DO, ORP, and other NAPs. Graphs of the DO, ORP, and NAP results are presented in Appendix A.3.

Unweathered petroleum contains hydrocarbons (non-polar) that, when weathered in the environment, create polar compounds as byproducts of biological sources and processes. SGC is commonly used to separate polar from nonpolar compounds. Polar compounds will preferentially adsorb to silica, while non-polar compounds will not. DOH TGM Section 9.3.1.2, Total Petroleum Hydrocarbons, discusses the use of SGC to separate out the polar TPH fraction and compare the remaining non-polar TPH fraction to the screening criteria: "*Comparison of data for groundwater samples tested with and without silica gel cleanup could be useful for assessing the state of natural biodegradation within a plume of petroleum-contaminated groundwater and optimizing remedial and monitoring actions*" (DOH 2018). Analysis of SGC TPH-d or SGC TPH-o was performed on samples with detected concentrations of TPH-d or TPH-o without SGC (see Section 4.1.8 for additional discussion).

4.1 EVALUATION USING NATURAL ATTENUATION PARAMETERS

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

4.1.1 Dissolved Oxygen and Oxidation-Reduction Potential

DO and ORP concentrations for the First Quarter 2020 groundwater monitoring event were generally consistent with previous measurements. The background (RHMW04) DO measurement for the monitoring event was 8.45 mg/L, which is consistent with literature values for O'ahu groundwater (Hunt Jr. 2004). Similar to previous events, the monitoring locations with consistent COPC detections had depressed DO measurements (0.34 to 1.03 mg/L at RHMW01, RHMW02, and RHMW03) and low ORP values (-5.4 to 85.4 millivolts).

In RHMW01, RHMW02, and RHMW03, the depleted DO in conjunction with the presence of dissolved-phase COPCs and other NAP results such as the dissolved methane concentrations (230 and 8,300 µg/L at RHMW01 and RHMW02, respectively) indicate that both aerobic and anaerobic respirations are likely occurring. The presence of dissolved-phase COPCs and the DO depletion at RHMW03 are indicative of aerobic biodegradation, but the absence of methane indicates that methanogenesis is likely not occurring at RHMW03.

RHMW11-05, RHMW14 (Zones 1 to 3), RHMW15 (Zones 3 to 5), and HDMW2253-03 also had low DO measurements (ranging from 0.53 to 2.88 mg/L), consistent with previous events. The consistently low DO, high ORP, and lack of COPC detections indicate that the low DO values are the baseline for these monitoring locations and are not related to attenuation of the COPCs.

Unlike RHMW11 (all sampled zones), RHMW14 (all sampled zones), and the deeper zones of RHMW15 (Zones 1 to 4), RHMW15-05 is located near the approximate elevation of the regional basal aquifer within high hydraulic conductivity portions of unweathered basalt. However, DO at RHMW15-05 is depleted compared to background (8.45 mg/L). Consistent low DO concentrations during the Fourth Quarter 2019 and First Quarter 2020 events (0.39 and 0.53 mg/L, respectively) indicate that the low DO may be inherent to the subsurface conditions at this zone, and may warrant additional evaluation.

4.1.2 Nitrate

Of the known anaerobic pathways for hydrocarbon biodegradation, nitrate is the most thermodynamically favored electron acceptor; decreased nitrate concentrations suggest that anaerobic respiration may be occurring. For the First Quarter 2020 monitoring event, RHMW01, RHMW02, and RHMW11-05 had non-detect or very low nitrate concentrations. These results are in line with previously measured nitrate concentrations at these locations. The low nitrate results in RHMW01 and RHMW02 in conjunction with the DO and ORP measurements suggest that anaerobic respiration is likely occurring at these two wells. Based on previous NAP measurements at RHMW11-05, the very low nitrate concentrations are baselines for these locations and not related to attenuation of the COPCs.

The remaining wells had nitrate at concentrations that were similar to or greater than the historical background nitrate levels for the site. Evaluation of the nitrate results at these locations in conjunction with the DO and ORP results suggest that attenuation is likely not occurring (for wells that show no TPH detections) or that aerobic conditions are likely occurring, such as at RHMW03 where DO was lower than background but nitrate was higher than background.

4.1.3 Ferrous Iron

Bacteria will typically break down ferric iron in soil once oxygen is depleted, which causes ferrous iron to be released to groundwater. Elevated levels of ferrous iron indicate that the groundwater environment has undergone iron reduction for anaerobic respiration. Ferrous iron was detected in: RHMW01 (0.65 J mg/L), RHMW02 (2.2 mg/L), RHMW04 (0.16 J mg/L), RHMW15-04 (0.17 J mg/L), and HDMW2253-03 (1.2 mg/L). When compared to the other monitoring locations and evaluated with other NAPs discussed above, the ferrous iron results for RHMW01 and RHMW02 also suggest that anaerobic biodegradation is likely occurring at these wells. Though ferrous iron was detected in the other locations, the COPC and other NAP results do not indicate anaerobic biodegradation at those locations.

4.1.4 Methane

An additional line of evidence for biological degradation of petroleum hydrocarbons includes the presence of methane, a reaction byproduct of fermentative biological reactions that can occur after oxygen is depleted by aerobic digestion. Methane was again detected in the samples from RHMW01 (230 µg/L) and RHMW02 (8,300 µg/L). These methane concentrations suggest that methanogenic biodegradation is occurring in these wells. Methane was not detected in any other location with the exception of very low concentrations in HDMW2253-03 (0.78 J µg/L).

4.1.5 Sulfate

Sulfate is normally consumed by bacteria only after DO, nitrate, and ferric iron have been depleted. Concentrations of sulfate lower than background concentrations, when evaluated in conjunction with depressed DO and nitrate concentrations, suggest that anaerobic activity is occurring. The concentration of sulfate in groundwater at RHMW01 and RHMW02 (5.0 and 1.9 mg/L, respectively) were much lower than the background sulfate concentrations in RHMW04 (10.6 mg/L). The sulfate results in RHMW01 and RHMW02 suggest that anaerobic activity is likely actively occurring there. The RHMW02 sulfate results are similar to historical results at this location, indicating that the high sulfate concentration during the Fourth Quarter 2019 event was anomalous and not representative of subsurface conditions.

Sulfate concentrations at RHMW09, RHMW10, RHMW14 (Zones 1 to 3), and RHMW15 (Zones 4 and 5) were also less than the background. Based on the consistently low historical sulfate concentrations, lack of TPH detections, and lack of other NAP results indicative of biodegradation,

the lower-than-background sulfate concentrations at these locations are the baseline for these monitoring locations.

4.1.6 Chloride

Chloride is a general water quality parameter, and background concentrations of chloride in the aquifer are a result of mineral dissolution. An evaluation of NAP data from the Fourth Quarter 2016 monitoring event onward and the groundwater geochemistry parameters indicates that the chloride concentrations at the site are due to the aquifer geochemistry and are not related to anaerobic dechlorination.

Chloride concentrations at RHMW01, RHMW02, RHMW03, RHMW09, RHMW10, RHMW11-05, RHMW14 (Zones 1 to 3), and RHMW15 (Zones 3 to 5) were below the background (RHMW04) concentration of 74.4 mg/L. All other locations had chloride concentrations higher than background.

4.1.7 Alkalinity

The alkalinity concentrations in RHMW01, RHMW02, RHMW03, RHMW05, RHMW06, RHMW07, RHMW08, RHMW11-05, and OWDFMW01 were greater than the background concentration (RHMW04) of 74.4 mg/L. The elevated alkalinity in RHMW01, RHMW02, and RHMW03 may be attributable to natural attenuation processes occurring at these locations; the elevated alkalinity at the other monitoring locations may be attributable to aquifer geochemistry, based on the lack of COPC detections and lack of other NAP results indicative of biodegradation.

4.1.8 TPH with Silica Gel Cleanup

SGC TPH-d and TPH-o results for RHMW01, RHMW02, and RHMW03 showed reduced or non-detect concentrations compared to non-SGC TPH-d and TPH-o results (Table 4-1). The SGC TPH-d and TPH-o results suggest that petroleum weathering is occurring at RHMW01, RHMW02, and RHMW03, especially when evaluated in conjunction with the other NAPs.

For RHMW02, the SGC TPH-d concentrations for the primary and field duplicate samples were 280 and 360 µg/L (with non-SGC TPH-d concentrations of 1,500 and 1,700 µg/L), respectively. The SGC TPH-d results indicate that biodegradation is occurring. The recoveries of SGC TPH-d to non-SGC TPH-d for RHMW02 have ranged from 14 to 57 percent, indicating that 43–86 percent of the reported non-SGC TPH mass is likely biodegradation by-products.

Non-SGC chromatograms for the RHMW02 sample show signal evidence of soluble components of degraded jet fuel, with a large portion of the mass showing a signature indicative of polar metabolites from petroleum degradation. The corresponding SGC chromatogram for RHMW02 is characteristic of dissolved aromatic hydrocarbons expected from jet fuel. Further evaluation of the SGC TPH results and natural attenuation, along with the potential role of other site-specific factors (e.g., complex geology, surface water recharge, infiltration rates), was included in the AOC Statement of Work Sections 6 and 7 CSM report (DON 2019b).

Table 4-1 presents a comparison of TPH-d and TPH-o concentrations without and with SGC for RHMW01, RHMW02, and RHMW03 from the Fourth Quarter 2016 monitoring event onward.

Table 4-1: Comparison of TPH Concentrations Without and With Silica Gel Cleanup, First Quarter 2020 Quarterly Groundwater Monitoring Event, Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i

Monitoring Well	Monitoring Event [a]	TPH-d (non-SGC) (µg/L)	TPH-d w/ SGC (µg/L)	Percent of Polar Compounds (SGC Result) in Non-SGC TPH-d Result	TPH-o (non-SGC) (µg/L)	TPH-o w/ SGC (µg/L)	Percent of Polar Compounds (SGC Result) in Non-SGC TPH-o Result
RHMW01	1st Qtr 2020	180 J	39 J	78%	< 40 U	< 40 U	—
	3rd Qtr 2019	210	< 25 U	100%	< 40 U	< 40 U	—
	2nd Qtr 2019	230	57	75%	< 40 U	< 40 U	—
	4th Qtr 2018	170 J	67 J	61%	< 40 UJ	< 40 UJ	—
	3rd Qtr 2018	350	< 25 U	100%	< 40 U	< 40 U	—
	1st Qtr 2018	150	< 25 U	100%	< 40 U	< 40 U	—
	4th Qtr 2017 [b]	86	< 25 U	100%	67	< 40 U	100%
	4th Qtr 2017 [b]	83	< 25 UJ	100%	59	< 40 UJ	100%
	3rd Qtr 2017	110	< 25 U	100%	< 40 U	< 40 U	—
	Jun 2017	98	36	63%	< 40 U	< 40 U	—
	May 2017	110	< 51 U [c]	100%	< 40 U	< 40 U	—
	4th Qtr 2016	120	< 25 U	100%	< 40 U	< 40 U	—
RHMW02	1st Qtr 2020 [b]	**1,500 J**	**280**	81%	< 40 U	< 40 U	—
	1st Qtr 2020 [b]	**1,700**	**360**	79%	< 40 U	< 40 U	—
	4th Qtr 2019 [b]	**1,700**	**520**	69%	200	< 40 U	100%
	4th Qtr 2019 [b]	**1,800**	**430**	76%	190	< 40 U	100%
	3rd Qtr 2019 [b]	**2,400**	**690**	71%	190	< 40 U	100%
	3rd Qtr 2019 [b]	**2,600**	**480**	82%	200	< 40 U	100%
	2nd Qtr 2019 [b]	**2,300**	**430**	81%	< 40 U	< 40 U	—
	2nd Qtr 2019 [b]	**2,200**	**440**	80%	< 40 U	< 40 U	—
	1st Qtr 2019 [b]	**2,400**	**420**	83%	< 40 U	< 40 U	—
	1st Qtr 2019 [b]	**2,700**	**430**	84%	< 40 U	< 40 U	—
	4th Qtr 2018 [b]	**2,000 J**	**370 J**	82%	< 40 UJ	< 40 UJ	—
	4th Qtr 2018 [b]	**2,100 J**	**430 J**	80%	< 40 UJ	< 40 UJ	—
	3rd Qtr 2018 [b]	**2,100**	**580**	72%	< 40 U	< 40 U	—
	3rd Qtr 2018 [b]	**1,500**	260	83%	< 40 U	< 40 U	—
	2nd Qtr 2018 [b]	**2,700**	**510**	81%	< 40 U	< 40 U	—
	2nd Qtr 2018 [b]	**2,800**	**420**	85%	< 40 U	< 40 U	—
	1st Qtr 2018 [b]	**1,900**	**640**	66%	< 40 U	< 40 U	—
	1st Qtr 2018 [b]	**1,800**	**460**	74%	< 40 U	< 40 U	—
	4th Qtr 2017 [b]	**1,300 J**	230	82%	< 40 U	< 40 U	—
	4th Qtr 2017 [b]	**1,600**	230	86%	< 40 U	< 40 U	—
	3rd Qtr 2017	**1,000**	250	75%	< 40 U	< 40 U	—
	Jun 2017	**1,000**	**570**	43%	< 40 U	< 40 U	—
	May 2017	**1,000**	**< 480 U [c]**	100%	< 40 U	< 40 U	—
	4th Qtr 2016	**1,300 J**	300	77%	< 40 U	< 40 U	—
RHMW03	1st Qtr 2020	260	< 25 U	100%	250	< 40 U	100%
	4th Qtr 2019	150	< 25 U	100%	230	< 40 U	100%
	3rd Qtr 2019	300	< 25 U	100%	270	< 40 U	100%
	2nd Qtr 2019	300	< 25 U	100%	190	< 40 U	100%
	1st Qtr 2019	380	< 25 U	100%	310	< 40 U	100%
	4th Qtr 2018	220 J	< 25 UJ	100%	190 J	< 40 UJ	100%
	3rd Qtr 2018	300	< 25 U	100%	140	< 40 U	100%
	2nd Qtr 2018	160	< 25 U	100%	110	< 40 U	100%
	1st Qtr 2018	190	< 25 U	100%	180	< 40 U	100%
	4th Qtr 2017 [b]	160	< 25 U	100%	160	< 40 U	100%
	4th Qtr 2017 [b]	210	< 25 U	100%	200	< 40 U	100%
	3rd Qtr 2017	49	< 25 U	100%	46	< 40 U	100%
	Jun 2017	46	50	0%	36 J	34	6%
	May 2017	50	< 25 U	100%	46	< 40 U	100%
	4th Qtr 2016	65	< 25 U	100%	59	< 40 U	100%

Note: **Bold text** indicates concentrations exceeding the TPH-d screening criterion of 400 µg/L.

% = percent

µg/L = microgram per liter

TPH-d = total petroleum hydrocarbons – diesel range organics

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

Qtr = quarter

SGC = silica gel cleanup

J = estimated value

U = non-detect value

[a] Table presents only quarterly and monthly monitoring events during which TPH with SGC is analyzed.

[b] Primary and field duplicate samples.

[c] Result was flagged as non-detect during data validation due to laboratory method blank contamination.

4.1.9 Total Organic Carbon

TOC concentrations in groundwater samples include all volatile, non-volatile, soluble, and insoluble forms of carbon present in the sample. TOC concentrations are useful especially for samples with known high concentrations of polar hydrocarbons and metabolites, which are not efficiently extracted and analyzed using the TPH-d and TPH-o analysis. However, as the TOC method (EPA 9060) does not discriminate between petroleum and non-petroleum hydrocarbons, TOC must be evaluated in conjunction with TPH and other NAP results to determine if the TOC concentrations found in groundwater samples may be contributed by petroleum constituents in groundwater.

TOC results in RHMW01, RHMW02, and RHMW03 are in line with historical TPH, SGC TPH, and NAP data, indicating that petroleum constituents and petroleum biodegradation by-products are present at these wells, contributing to TOC concentrations. Additionally, the TOC concentrations were higher than corresponding TPH concentrations (e.g., for RHMW02, TOC was 3.6 mg/L and TPH-d was 1.5 mg/L [1,700 µg/L]), confirming that the TPH method does not capture all polar hydrocarbons and metabolites present in the groundwater and supporting evidence of natural attenuation occurring at these locations. Additionally, the TOC concentrations at other locations may also indicate the presence of polar hydrocarbons and metabolites that are not captured in the TPH extraction; however, NAP concentrations at these locations do not indicate that biodegradation is currently occurring at these locations and, instead, suggest a non-petroleum source of carbon.

4.2 NAP CONCENTRATIONS

Graphs of cumulative groundwater NAP results are presented in Appendix A.3.1, and graphs of NAP results for the First Quarter 2020 are presented in Appendix A.3.2. Evaluation of the NAP data from the Fourth Quarter 2016 monitoring event onward indicates there is no evidence that seasonal variations (i.e., wet- and dry-season effects) influence NAP concentrations (and thus biodegradation) in the groundwater at the Red Hill monitoring well network.

The NAP concentrations at RHMW01, RHMW02, and RHMW03 indicate that aerobic or anaerobic biodegradation may be occurring at these locations. This is confirmed by the SGC TPH results, which generally present a relatively low ratio of non-biodegraded (non-polar) hydrocarbons to biodegradation by-product hydrocarbons (polar hydrocarbons and metabolites). However, evaluation of NAPs along with TPH trends (based on numerical TPH results alone) must be conducted with caution. The variability of TPH-d procedures and results from one laboratory to another precludes reliable trend analyses, such that higher or lower results over time may be due not to changing conditions in the groundwater at the Facility but rather to changes in the laboratory's TPH extraction and analysis protocols. Nonetheless, the RHMW03 NAP results (i.e., depleted DO and relatively high concentrations of other electron acceptors) indicate that continuous aerobic biodegradation is occurring at this location, possibly due to an influx of oxygenated water at this location providing sufficient DO that anaerobic biodegradation is not evident. Similarly, continuous aerobic and anaerobic biodegradation is occurring at RHMW01 and RHMW02 based on the depleted electron acceptors and presence of dissolved methane. Notably, methane concentrations at RHMW01 and RHMW02 have generally decreased over time, which may be an indicator of reduced available biodegradable fuel at the subsurface from various natural source-zone depletion processes and natural attenuation.

Additional evaluation of the 2014 fuel release, natural source-zone depletion, and natural attenuation at the Facility is discussed in the AOC Statement of Work Sections 6 and 7 CSM report (DON 2019b).

5. Summary, Conclusions, and Recommendations

5.1 SUMMARY

During the First Quarter 2020 groundwater monitoring event, AECOM Technical Services, Inc. personnel collected groundwater samples from 20 monitoring locations within the Red Hill groundwater monitoring network. These include: the sampling point at Red Hill Shaft (RHMW2254-01); 11 single-screen monitoring wells located within the Facility boundary (RHMW01 through RHMW10 and OWDFMW01); 1 deep monitor well located outside of the Facility at the Hālawa Correctional Facility (Hālawa Deep Monitor Well [HDMW2253-03]); 1 sampling zone at multilevel monitoring well RHMW11 and 3 sampling zones at multilevel monitoring well RHMW14, both located at the Hālawa Correctional Facility; and 3 sampling zones at multilevel monitoring well RHMW15, located within the Facility boundary. Multilevel monitoring well zones sampled during this event were RHMW11 Zone 5, RHMW14 Zones 1 to 3, and RHMW15 Zones 3 to 5. The following multilevel monitoring zones were not included in this monitoring event: RHMW11 Zones 1 to 4 and RHMW15 Zones 1 and 2 due to lack of detections of COPCs in previous monitoring events, and RHMW11 Zones 6 to 8 and RHMW14 Zones 4 to 8 due to the low hydraulic conductivity of the aquifer in these zones. This groundwater sampling event was conducted as part of the Red Hill groundwater LTM program.

A table of cumulative historical groundwater results is presented in Appendix A.1, and historical groundwater COPC concentration graphs are presented in Appendix A.2. No detectable amounts of free product, sheen, or color were present in groundwater from any monitoring well. During the First Quarter (January) 2020 event, COPCs were detected at RHMW2254–01, RHMW01, RHMW02, RHMW03, RHMW04, RHMW05, RHMW07, RHMW09, and OWDFMW01, and no SSRBL exceedances were reported; no COPCs were detected in any other monitoring well or zone sampled during this event. Analytical results for the groundwater monitoring event are summarized as follows:

- *RHMW06, RHMW08, RHMW10, RHMW11-05, RHMW14-01, RHMW14-02, RHMW14-03 (primary and duplicate), RHMW15-03, RHMW15-04, RHMW15-05, and HDMW2253-03:* No COPCs were detected.
- *RHMW2254-01 (primary and duplicate):* TPH-d (100 and < 25 U µg/L) was detected at a concentration below screening criterion (400 µg/L) in the primary sample but was not detected in the duplicate sample. Evaluation of the sample, field QC, and laboratory QC chromatograms indicate laboratory artifacts contribution. The TPH-d with SGC analysis result was non-detect, suggesting that the non-SGC TPH-d result consists entirely of non-petroleum hydrocarbons.
- *RHMW01:* TPH-d (180 J µg/L) was detected at a concentration below the screening criterion (400 µg/L). The TPH-d with SGC analysis result was 39 J µg/L, suggesting that the non-SGC TPH-d result is mostly biodegradation by-products.
- *RHMW02 (primary and duplicate):* TPH-d (1,500 J and 1,700 µg/L), 1-methylnaphthalene (23 and 24 µg/L), 2-methylnaphthalene (23 and 23 µg/L), and naphthalene (52 and 57 µg/L) were detected at concentrations exceeding their respective screening criteria (400, 10, 10, and 17 µg/L). TPH-d was also detected in the SGC analysis but at significantly lower concentrations (280 and 360 µg/L), suggesting that the majority of the non-SGC TPH-d results are biodegradation by-products. The concentrations of TPH-d did not exceed the SSRBL of 4,500 µg/L. TPH-g (58 and 49 µg/L) was detected at concentrations below the screening criterion (300 µg/L). No other COPCs were detected.
- *RHMW03:* TPH-d (260 µg/L) and TPH-o (250 µg/L) were detected at concentrations below their respective screening criteria (400 and 500 µg/L). The TPH-d and TPH-o with SGC

analysis results were non-detect, suggesting that the non-SGC TPH-d result consists entirely of biodegradation by-products.

- *RHMW04, RHMW05, RHMW07, RHMW09, and OWDFMW01:* TPH-d and/or TPH-o were detected below their respective screening criteria (400 and 500 µg/L) in RHMW04 (120 and < 40 U µg/L), RHMW05 (93 and 92 µg/L), RHMW07 (120 and 84 µg/L), RHMW09 (100 and 98 µg/L), and OWDFMW01 (120 and 120 µg/L). Evaluation of the sample, field QC, and laboratory QC chromatograms indicate laboratory artifacts contribution. TPH-d and TPH-o with SGC analysis results were non-detect except for TPH-o with SGC in RHMW07 (39 J µg/L). These results suggest that the non-SGC TPH-d and TPH-o results consist of non-petroleum hydrocarbons.

The NAP and SGC TPH data present evidence of aerobic and anaerobic biodegradation occurring in the vicinity of RHMW02 based on depleted DO, elevated dissolved methane concentrations, depleted nitrate and sulfate concentrations, high alkalinity concentrations compared to other monitoring wells in the network, and SGC TPH-d concentrations indicating that the majority of the reported non-SGC TPH mass is likely biodegradation by-products. The concentrations of NAPs and depressed SGC TPH at RHMW01 and RHMW03 suggest that biodegradation is also occurring there.

5.2 CONCLUSIONS AND RECOMMENDATIONS

During the First Quarter 2020 groundwater monitoring event, TPH-d was detected in the primary sample (but not the field duplicate sample) at sampling point RHMW2254-01 inside the shaft of Navy Supply Well 2254-01, and evaluation of chromatograms of all groundwater, field QC, and laboratory QC samples indicated that the detection was due to contribution from laboratory artifacts. Additionally, no SSRBL exceedances occurred at RHMW01, RHMW02, and RHMW03, and screening criteria exceedances (TPH-d, 1-methylnaphthalene, 2-methylnaphthalene, and naphthalene only) occurred only at RHMW02.

Based on the groundwater monitoring results, pursuant to the *Groundwater Protection Plan* (DON 2014), and in accordance with AOC Statement of Work Sections 6 and 7 (EPA Region 9 and DOH 2015), groundwater monitoring at locations within the Red Hill groundwater monitoring network will continue.

It is recommended that the Red Hill groundwater LTM program continue testing for NAPs at each monitoring event and continue SGC TPH-d and TPH-o analysis for all locations with non-SGC TPH-d or TPH-o detections.

6. References

California Environmental Protection Agency (CalEPA). 2011. "Interconverting Nitrate as Nitrate (Nitrate-NO3) and Nitrate as Nitrogen (Nitrate-N)." California Department of Public Health: Division of Drinking Water and Environmental Management (DDWEM) and Drinking Water and Radiation Laboratory (DWRL). April 15.

Department of Defense and Department of Energy, United States (DoD and DOE). 2017. *Department of Defense (DoD) and Department of Energy (DOE) Consolidated Quality Systems Manual (QSM) for Environmental Laboratories*. DoD QSM Ver. 5.1; DOE Quality Systems for Analytical Services Ver. 3.1. Prepared by DoD Environmental Data Quality Workgroup and DOE Consolidated Audit Program Operations Team.

Department of Health, State of Hawaii (DOH). 2017. *Evaluation of Environmental Hazards at Sites with Contaminated Soil and Groundwater, Hawai'i Edition*. Hazard Evaluation and Emergency Response. Revised 2017. Fall.

———. 2018. *Technical Guidance Manual for the Implementation of the Hawaii State Contingency Plan*. Interim Final. Honolulu, HI: Hazard Evaluation and Emergency Response Office. Latest Update: October.

Department of the Navy (DON). 2000. *Remedial Investigation Phase II, Red Hill Oily Waste Disposal Facility, Halawa, Oahu, Hawaii*. Prepared by Earth Tech, Inc., Honolulu, HI. Volume I, Technical Report. Pearl Harbor, HI: Naval Facilities Engineering Command, Pacific. September.

———. 2002. *Red Hill Bulk Fuel Storage Facility Investigation Report (Final) for Fleet Industrial Supply Center (FISC), Oahu, Hawaii*. Prepared by AMEC Earth & Environmental, Inc., Huntsville, AL. Pearl Harbor, HI: Naval Facilities Engineering Command, Pacific. August.

———. 2007. *Red Hill Bulk Fuel Storage Facility Final Technical Report, Pearl Harbor, Hawaii*. Prepared by TEC, Inc. Pearl Harbor, HI: Naval Facilities Engineering Command, Pacific. August.

———. 2010. *Work Plan, Long-Term Monitoring, Red Hill Bulk Fuel Storage Facility, Pearl Harbor, Oahu, Hawaii*. Prepared by Environet, Inc., Honolulu, HI. Prepared for Naval Facilities Engineering Command, Hawaii, JBPHH HI.

———. 2014. *Interim Update, Red Hill Bulk Fuel Storage Facility Final Groundwater Protection Plan, Pearl Harbor, Hawaii. (January 2008)*. Pearl Harbor, HI: Naval Facilities Engineering Command, Pacific. August.

———. 2015a. *Draft Monitoring Well Installation Report, Red Hill Bulk Fuel Storage Facility, Joint Base Pearl Harbor-Hickam, Hawaii*. Prepared by Battelle, Columbus, OH; and Parsons, South Jordan, UT. JBPHH HI: Naval Facilities Engineering Command, Hawaii. March.

———. 2015b. *Final Project Procedures Manual, U.S. Navy Environmental Restoration Program, NAVFAC Pacific*. JBPHH HI: Naval Facilities Engineering Command, Pacific. May.

———. 2015c. *Work Plan/Sampling and Analysis Plan, Long-Term Groundwater and Soil Vapor Monitoring, Red Hill Bulk Fuel Storage Facility, Joint Base Pearl Harbor-Hickam, Oahu, Hawaii*. Prepared by Element Environmental, LLC, Aiea, HI. JBPHH HI: Naval Facilities Engineering Command, Hawaii. September.

———. 2017a. *Work Plan / Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, Joint Base Pearl Harbor-Hickam, O'ahu, Hawai'i; January 4, 2017, Revision 02*. Prepared by AECOM Technical Services, Inc., Honolulu, HI. Prepared for Defense Logistics Agency Energy, Fort Belvoir, VA, under Naval Facilities Engineering Command, Hawaii, JBPHH HI.

———. 2017b. *Sampling and Analysis Plan, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, Joint Base Pearl Harbor-Hickam, O'ahu, Hawai'i; January 19, 2017, Revision 00*. Prepared by AECOM Technical Services, Inc., Honolulu, HI. Prepared for Defense Logistics Agency Energy, Fort Belvoir, VA, under Naval Facilities Engineering Command, Hawaii, JBPHH HI.

———. 2017c. *Sampling and Analysis Plan, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, Joint Base Pearl Harbor-Hickam, O'ahu, Hawai'i; April 20, 2017, Revision 01*. Prepared by AECOM Technical Services, Inc., Honolulu, HI. Prepared for Defense Logistics Agency Energy, Fort Belvoir, VA, under Naval Facilities Engineering Command, Hawaii, JBPHH HI.

———. 2017d. *Sampling and Analysis Plan Addendum 01, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, Joint Base Pearl Harbor-Hickam, O'ahu, Hawai'i; September 1, 2017, Revision 00*. Prepared by AECOM Technical Services, Inc., Honolulu, HI. Prepared for Defense Logistics Agency Energy, Fort Belvoir, VA, under Naval Facilities Engineering Command, Hawaii, JBPHH HI.

———. 2017e. *Navy's Response to Split Sampling Results from First Quarter 2017, Administrative Order on Consent Statement of Work Section 6 and Section 7, Red Hill Bulk Fuel Storage Facility (Red Hill), Joint Base Pearl Harbor-Hickam, Oahu, Hawaii*. Letter from: Richard D. Hayes III, Navy Region Hawaii, to: Bob Pallarino, EPA Region 9, and Steven Y. K. Chang, Hawaii DOH. October 11.

———. 2018a. *Final Third Quarter 2018 - Quarterly Groundwater Monitoring Report, Red Hill Bulk Fuel Storage Facility, Joint Base Pearl Harbor-Hickam, O'ahu, Hawai'i*. Prepared by AECOM Technical Services, Inc. JBPHH HI: Naval Facilities Engineering Command, Hawaii. November.

———. 2018b. *Final Fourth Quarter 2017 - Quarterly Groundwater Monitoring Report, Red Hill Bulk Fuel Storage Facility, Joint Base Pearl Harbor-Hickam, O'ahu, Hawai'i*. Prepared by AECOM Technical Services, Inc. JBPHH HI: Naval Facilities Engineering Command, Hawaii. January.

———. 2018c. *Well Elevation Survey Report, Red Hill Bulk Fuel Storage Facility, Joint Base Pearl Harbor-Hickam, O'ahu, Hawai'i; Revision 00*. Prepared by AECOM Technical Services, Inc., Honolulu, HI. Prepared for Defense Logistics Agency Energy, Fort Belvoir, VA, under Naval Facilities Engineering Command, Hawaii, JBPHH HI. January.

———. 2018d. *Technical Memorandum, Gyroscopic Survey Results and Calculated Correction Factors for Groundwater Monitoring Network Wells at the Red Hill Bulk Fuel Storage Facility, Joint Base Pearl Harbor-Hickam, O'ahu, Hawai'i*. JBPHH HI: Naval Facilities Engineering Command, Hawaii. May.

———. 2018e. *Sampling and Analysis Plan Addendum 03, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, Joint Base Pearl Harbor-Hickam, O'ahu, Hawai'i; June 2018, Internal Review Draft*. Prepared by AECOM Technical Services, Inc., Honolulu, HI. Prepared for Defense Logistics Agency Energy, Fort Belvoir, VA, under Naval Facilities Engineering Command, Hawaii, JBPHH HI.

———. 2018f. *Final First Quarter 2018 - Quarterly Groundwater Monitoring Report, Red Hill Bulk Fuel Storage Facility, Joint Base Pearl Harbor-Hickam, O'ahu, Hawai'i*. Prepared by AECOM Technical Services, Inc. JBPHH HI: Naval Facilities Engineering Command, Hawaii. July.

———. 2019a. *Well Elevation Surveys for Red Hill Monitoring Well RHMW14 and Test Boring RHTB01, Honolulu, O'ahu, Hawai'i*. Prepared for: Defense Logistics Agency Energy, Fort

Belvoir, VA. Prepared by: AECOM Technical Services, Inc., Honolulu, HI. Letter Report. Naval Facilities Engineering Command, Hawaii, JBPHH HI. June 7.

———. 2019b. *Conceptual Site Model, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, Joint Base Pearl Harbor-Hickam, O'ahu, Hawai'i; June 30, 2019, Revision 01*. Prepared by AECOM Technical Services, Inc., Honolulu, HI. Prepared for Defense Logistics Agency Energy, Fort Belvoir, VA, under Naval Facilities Engineering Command, Hawaii, JBPHH HI.

———. 2019c. *Final Second Quarter 2019 - Quarterly Groundwater Monitoring Report, Red Hill Bulk Fuel Storage Facility, Joint Base Pearl Harbor-Hickam, O'ahu, Hawai'i*. Prepared by AECOM Technical Services, Inc. JBPHH HI: Naval Facilities Engineering Command, Hawaii. August.

Environmental Protection Agency, United States (EPA). 2019. *Regional Screening Levels for Chemical Contaminants at Superfund Sites*. EPA Office of Superfund. November.

Environmental Protection Agency, United States, Region 9; and Department of Health, State of Hawaii (EPA Region 9 and DOH). 2015. *Administrative Order on Consent In the Matter of Red Hill Bulk Fuel Storage Facility, EPA Docket No: RCRA 7003-R9-2015-01; DOH Docket No: 15-UST-EA-01*. September.

———. 2016. *Final Scoping for AOC SOW Sections 6 and 7, and Navy's Proposed Chemical of Potential Concern (COPC) Recommendations*. Letter from: Bob Pallarino, EPA Red Hill Project Coordinator, and Steven Chang, Hawaii DOH Red Hill Project Coordinator, to: James A. K. Miyamoto, Naval Facilities Engineering Command, Hawaii, Joint Base Pearl Harbor-Hickam. February 4.

———. 2017a. *Split Sampling Results from First Quarter 2017*. Letter from: Bob Pallarino, EPA Region 9 Project Coordinator, and Steven Chang, Hawaii DOH Project Coordinator, to: Mark Manfredi, Red Hill Project Coordinator, Naval Facilities Hawaii. September 12.

———. 2017b. "Split Sampling Results from Fourth Quarter 2017." Red Hill Technical Documents 2017. October 2017.

Giambelluca, T. W., M. A. Nullet, and T. A. Schroeder. 1986. *Rainfall Atlas of Hawaii*. Report R76. Honolulu, HI: Department of Land and Natural Resources, Division of Water and Land Development. June.

Hunt Jr., C. D. 2004. *Ground-Water Quality and Its Relation to Land Use on Oahu, Hawaii, 2000–01*. Water-Resources Investigations Report 03-4305. National Water-Quality Assessment Program. U.S. Geological Survey.

Juvik, S. P., and J. O. Juvik, eds. 1998. *Atlas of Hawaii*. Honolulu, HI: University of Hawaii Press.

Leeson, A., E. Becvar, B. Henry, J. Fortenberry, and C. Coyle. 2004. *Principles and Practices of Enhanced Anaerobic Bioremediation of Chlorinated Solvents*. Technical Report TR-2250-ENV. Port Hueneme, CA: Naval Facilities Engineering Service Center. September.

Mink, John F., and L. Stephen Lau. 1990. *Aquifer Identification and Classification for Oahu: Groundwater Protection Strategy for Hawaii*. Technical Report No. 179. Honolulu, HI: University of Hawaii, Water Resources Research Center. November 1987; rev. February 1990.

United States Geological Survey (USGS). 2017. *Honolulu Quadrangle, Hawaii - Honolulu County. 7.5-Minutes Series: Scale 1:24,000.*

Wiedemeier, T. H., H. S. Rifai, C. J. Newell, and J. T. Wilson. 1999. *Natural Attenuation of Fuels and Chlorinated Solvents in the Subsurface*. New York: John Wiley & Sons, Inc.

This page intentionally left blank

Appendix A:
Cumulative Historical Monitoring Results

This page intentionally left blank

Appendix A.1:
Cumulative Groundwater COPC Results

This page intentionally left blank

Table A.1: Cumulative Groundwater COPC Results, First Quarter 2020 Groundwater Monitoring Event
Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i

		Analyte Class	TPH				TPH				TPH				TPH				TPH				Volatiles				Volatiles				Volatiles				Volatiles				Volatiles			
		Analyte Type	COPC				COPC				COPC				COPC				COPC				COPC				non-COPC				COPC				non-COPC				COPC			
		Analytical Method	8015				8260				8015				8015				8015				8260				524.2				8260				524.2				8260			
		Analyte	TPH-g****				TPH-g****				TPH-d				TPH-d with Silica Gel Cleanup				TPH-o				TPH-o with Silica Gel Cleanup				Benzene				Benzene				Ethylbenzene				Ethylbenzene				Toluene				Toluene			
		CAS No.	Gas				Gas				Diesel				Disel SGC				Oil				Oil SGC				71-43-2				71-43-2				100-41-4				100-41-4				108-88-3				108-88-3			
		Unit	µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L			
		DOH EAL	300				300				400				400				500				500				5				5				30				30				40				40			
		SSRBL	—				—				4500				—				—				—				750				750				—				—				—			
Well Name	Sample ID	Date Sampled	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note
RHMW2254-01	RH-B-001	2/16/2005[be]	< 50	U			—				< 50	U			—				< 100	U			—				< 0.50	U			—				< 0.50	U			—				< 1.0	UJ	t		—			
RHMW2254-01	RH-B-002	2/16/2005[bf]	< 50	U			—				< 53	U			—				< 110	U			—				< 0.50	U			—				< 0.50	U			—				< 1.2	UJ	t		—			
RHMW2254-01	RH-B-003	2/16/2005*[bf]	< 50	U			—				< 50	U			—				< 100	U			—				< 0.50	U			—				< 0.50	U			—				< 0.81	UJ	t		—			
RHMW2254-01	RH-B-004	6/28/2005[ae]	< 13	U			—				**43**	**J**			—				—				—				< 0.50	U		b	—				< 0.50	U		b	—				< 0.50	U		b	—			
RHMW2254-01	RH-B-005	6/28/2005*[ae]	< 13	U			—				**67**			Z	—				—				—				< 0.50	U		b	—				< 0.50	U		b	—				< 0.50	U		b	—			
RHMW2254-01	RH-B-006	6/28/2005*[af]	< 13	U			—				**58**			Z	—				—				—				< 0.50	U		b	—				< 0.50	U		b	—				< 0.50	U		b	—			
RHMW2254-01	RH-B-007	9/8/2005[ae]	< 13	U			—				**45**	**J**			—				**59**	**J**			—				< 0.14	U			—				< 0.13	U			—				< 0.11	U			—			
RHMW2254-01	RH-B-008	9/8/2005[af]	< 13	U			—				< 19	U			—				< 28	U			—				< 0.14	U			—				< 0.13	U			—				< 0.11	U			—			
RHMW2254-01	RH-B-009	9/8/2005*[af]	< 13	U			—				< 50	U		d	—				< 100	U		d	—				< 0.14	U			—				< 0.13	U			—				< 0.11	U			—			
RHMW2254-01	RHMW2254W01	9/20/2005[bd]	—				—				—				—				—				—				< 0.50	U			—				< 0.50	U			—				< 0.50	U			—			
RHMW2254-01	RH-B-010	12/6/2005[ae]	< 13	U			—				**38**	**J**			—				—				—				< 0.14	U			—				< 0.13	U			—				< 0.11	U			—			
RHMW2254-01	RH-B-011	12/6/2005*[ae]	< 13	U			—				**24**	**J**			—				—				—				< 0.14	U			—				< 0.13	U			—				< 0.11	U			—			
RHMW2254-01	RH-B-012	12/7/2005[af]	< 13	U			—				< 20	U			—				—				—				< 0.14	U			—				< 0.13	U			—				< 0.11	U			—			
RHMW2254-01	RHMW2254-01-GW02	7/10/2006[a]	< 50	U			—				< 110	U			—				—				—				< 0.50	U			—				< 0.50	U			—				< 0.50	U			—			
RHMW2254-01	RHMW2254-01-GW06	12/5/2006[a]	< 50	U			—				< 100	U			—				—				—				< 0.50	U			—				< 0.50	U			—				< 0.50	U			—			
RHMW2254-01	RHMW2254-01-WG07	3/27/2007[a]	< 50	U			—				< 98	U			—				—				—				< 0.50	U			—				< 0.50	U			—				< 0.50	U			—			
RHMW2254-01	RHMW2254-01-WG08	6/12/2007[a]	< 50	U			—				< 98	U			—				—				—				< 0.50	U			—				< 0.50	U			—				< 0.50	U			—			
RHMW2254-01	RHMW2254-01-WG0	9/10/2007[a]	< 50	U			—				< 97	U			—				—				—				< 0.20	U			—				< 0.20	U			—				< 0.27	U			—			
RHMW2254-01	RHMW2254-01-WG10 (RHMW2254-WG10)	1/15/2008[a]	< 10.0	U			—				< 102	UJ		b	—				—				—				< 0.120	U			—				< 0.310	U			—				< 0.310	U			—			
RHMW2254-01	RHMW2254-01-WG10.1	2/6/2008[a]	—				—				< 100	U			—				—				—				—				—				—				—				—				—			
RHMW2254-01	RHMW2254-01-WG10.1	2/6/2008[a]	—				—				< 10.3	U			—				—				—				—				—				—				—				—				—			
RHMW2254-01	RHMW2254-01-WG11 (RHMW2254-WG11)	4/15/2008[a]	< 10.0	U			—				< 86.0	U			—				—				—				< 0.120	U			—				< 0.310	U			—				< 0.310	U			—			
RHMW2254-01	RHMW2254-01-WG12	7/29/2008[ad]	< 10.0	U			—				< 83.3	U			—				—				—				< 0.120	U			—				< 0.310	U			—				< 0.310	U			—			
RHMW2254-01	RHMW2254-01-WG13	10/22/2008[ad]	< 10.0	U			—				< 84.2	U			—				—				—				< 0.120	U			—				< 0.310	U			—				< 0.310	U			—			
RHMW2254-01	RHMW2254-WG13B	12/16/2008[c]	—				—				—				—				—				—				< 0.120	U			—				< 0.310	U			—				< 0.310	U			—			
RHMW2254-01	RHMWA01-WG13B	12/16/2008*[c]	—				—				—				—				—				—				< 0.120	U			—				< 0.310	U			—				< 0.310	U			—			
RHMW2254-01	RHMW2254-01-WG14	2/4/2009[a]	**14.0**	**J**			—				< 92.0	U			—				—				—				< 0.120	U			—				< 0.310	U			—				< 0.310	U			—			
RHMW2254-01	RHMW2254-01-WG15	5/13/2009[a]	< 19.1	UJ	b t		—				< 169	U			—				—				—				< 0.120	U			—				< 0.310	U			—				< 0.310	U			—			
RHMW2254-01	RHMW2254-01-WG16	7/15/2009[a]	< 30.0	U			—				< 163	U			—				—				—				< 0.120	U			—				< 0.310	U			—				< 0.310	U			—			
RHMW2254-01	RHMW2254-WG17	10/14/2009[a]	< 30	U			—				< 158	U			—				—				—				< 0.12	U			—				< 0.31	U			—				< 0.31	U			—			
RHMW2254-01	RHMW2254-01-WG18	2010-01-27	< 60.0	U			—				< 320	U			—				—				—				< 0.240	U			—				< 0.620	U			—				< 0.620	U			—			
RHMW2254-01	RHMW2254-01-WG19 (RHMW225-WG19)	2010-04-13	< 60.0	U			—				< 320	U			—				—				—				< 0.240	U			—				< 0.620	U			—				< 0.620	U			—			
RHMW2254-01	RHMW2254-01-WG20 (RHMW2254-WG20)	2010-07-13	< 60.0	U			—				< 320	U			—				—				—				< 0.240	U			—				< 0.620	U			—				< 0.620	U			—			
RHMW2254-01	ES004	2010-10-19	—				< 12.12	U			< 80.0	U			—				—				—				< 0.32	U			—				< 0.46	U			—				< 0.34	U			—			
RHMW2254-01	ES014	1/20/2011[d]	—				< 12.12	U			< 80.8	U			—				—				—				< 0.32	U			—				< 0.46	U			—				< 0.34	U			—			
RHMW2254-01	ES019	4/19/2011[d]	—				< 12.12	U			< 80.8	U			—				—				—				< 0.32	U			—				< 0.46	U			—				< 0.34	U			—			
RHMW2254-01	ES040	2011-07-20	—				< 12.12	U			< 80.8	U			—				< 212.0	U			—				< 0.32	U			—				< 0.46	U			—				< 0.34	U			—			
RHMW2254-01	ES050	2011-10-25	—				< 12.12	U			< 80.8	U			—				—				—				< 0.32	U			—				< 0.46	U			—				< 0.34	U			—			
RHMW2254-01	ES062	2012-02-01	—				< 12.12	U			< 80.8	U			—				—				—				< 0.32	U			—				< 0.46	U			—				< 0.34	U			—			
RHMW2254-01	ES074	2012-04-17	—				< 12.12	U			< 80.8	U			—				—				—				< 0.32	U			—				< 0.46	U			—				< 0.34	U			—			
RHMW2254-01	ES077	2012-07-17	—				< 12.12	U			< 80.8	U			—				—				—				< 0.32	U			—				< 0.46	U			—				< 0.34	U			—			

Table A.1: Cumulative Groundwater COPC Results, First Quarter 2020 Groundwater Monitoring Event (cont'd)
Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i

		Analyte Class	Volatiles				Volatiles				Volatiles				Semivolatiles (PAHs)				Semivolatiles (PAHs)				Semivolatiles (PAHs)				Semivolatiles (PAHs)				Semivolatiles (PAHs)				Semivolatiles (PAHs)				Lead Scavenger				Lead Scavenger			
		Analyte Type	COPC				non-COPC				non-COPC				COPC				COPC				non-COPC				non-COPC				COPC				non-COPC				Lead Scavenger				Lead Scavenger			
		Analytical Method	8260				524.2				524.2				8270 SIM				8270 SIM				8270				8270 SIM				8260				524.2				8270				8011				8260			
		Analyte	Xylenes, Total (p/m-, o-xylene)				Xylenes, p/m-				Xylenes, o-				1-Methylnaphthalene				2-Methylnaphthalene				2-Methylnaphthalene				Naphthalene *****				Naphthalene *****				Naphthalene *****				Naphthalene *****				1,2-Dibromoethane *****				1,2-Dibromoethane *****			
		CAS No.	1330-20-7				179601-23-1				95-47-6				90-12-0				91-57-6				91-57-6				91-20-3				91-20-3				91-20-3				91-20-3				106-93-4				106-93-4			
		Unit	µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L			
		DOH EAL	20				20				20				10				10				10				17				17				17				17				0.04				0.04			
		SSRBL	—				—				—				—				—				—				—				—				—				—				—				—			
Well Name	Sample ID	Date Sampled	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note
RHMW2254-01	RH-B-001	2/16/2005[be]	< 0.50	U			—				—				—				< 0.020	U			—				< 0.020	U			—				—				—				—				—			
RHMW2254-01	RH-B-002	2/16/2005[bf]	< 0.50	U			—				—				—				< 0.022	U			—				< 0.022	U			—				—				—				—				—			
RHMW2254-01	RH-B-003	2/16/2005*[bf]	< 0.50	U			—				—				—				< 0.021	U			—				< 0.021	U			—				—				—				—				—			
RHMW2254-01	RH-B-004	6/28/2005[ae]	< 0.50	U		b	—				—				—				< 0.020	U		b	—				< 0.020	U		b	—				—				—				—				—			
RHMW2254-01	RH-B-005	6/28/2005*[ae]	< 0.50	U		b	—				—				—				< 0.020	U		b	—				< 0.020	U		b	—				—				—				—				—			
RHMW2254-01	RH-B-006	6/28/2005*[af]	< 0.50	U		b	—				—				—				< 0.021	U		b	—				< 0.021	U		b	—				—				—				—				—			
RHMW2254-01	RH-B-007	9/8/2005[ae]	< 0.22	U			—				—				—				< 0.020	U		b	—				**0.085**				—				—				—				—				—			
RHMW2254-01	RH-B-008	9/8/2005[af]	< 0.22	U			—				—				—				< 0.020	U		b	—				< 0.020	U		b	—				—				—				—				—			
RHMW2254-01	RH-B-009	9/8/2005*[af]	< 0.22	U			—				—				—				< 0.020	U		b	—				**0.045**				—				—				—				—				—			
RHMW2254-01	RHMW2254W01	9/20/2005[bd]	< 0.50	U			—				—				—				—				—				—				< 1.0	U			—				—				—				< 0.50	U		
RHMW2254-01	RH-B-010	12/6/2005[ae]	< 0.22	U			—				—				—				**0.038**				—				**0.036**				—				—				—				—				—			
RHMW2254-01	RH-B-011	12/6/2005*[ae]	< 0.22	U			—				—				—				**0.022**				—				< 0.024	UJ	b		—				—				—				—				—			
RHMW2254-01	RH-B-012	12/7/2005[af]	< 0.22	U			—				—				—				**0.0071**	**J**			—				**0.011**	**J**			—				—				—				—				—			
RHMW2254-01	RHMW2254-01-GW02	7/10/2006[a]	< 0.50	U			—				—				< 0.26	U			< 0.26	U			—				< 0.26	U			< 1.0	U			—				—				—				< 0.50	U		
RHMW2254-01	RHMW2254-01-GW06	12/5/2006[a]	< 0.50	U			—				—				< 0.25	U			< 0.25	U			—				< 0.25	U			< 1.0	U			—				—				—				< 0.50	U		
RHMW2254-01	RHMW2254-01-WG07	3/27/2007[a]	< 0.50	U			—				—				< 0.24	U			< 0.24	U			—				< 0.24	U			< 1.0	U			—				—				—				< 0.50	U		
RHMW2254-01	RHMW2254-01-WG08	6/12/2007[a]	< 0.50	U			—				—				< 0.25	U			< 0.25	U			—				< 0.25	U			< 1.0	U			—				—				—				< 0.50	U		
RHMW2254-01	RHMW2254-01-WG0	9/10/2007[a]	< 0.36	U			—				—				< 0.25	U			< 0.25	U			—				< 0.25	U			< 0.44	U			—				—				—				< 0.20	U		
RHMW2254-01	RHMW2254-01-WG10 (RHMW2254-WG10)	1/15/2008[a]	< 0.620	U			—				—				< 0.0150	U			< 0.0150	U			—				< 0.0310	U			< 0.620	U			—				—				—				< 0.310	U		
RHMW2254-01	RHMW2254-01-WG10.1	2/6/2008[a]	—				—				—				—				—				—				—				—				—				—				—				—			
RHMW2254-01	RHMW2254-01-WG10.1	2/6/2008[a]	—				—				—				—				—				—				—				—				—				—				—				—			
RHMW2254-01	RHMW2254-01-WG11 (RHMW2254-WG11)	4/15/2008[a]	< 0.620	U			—				—				< 0.0435	UJ	b		< 0.0561	UJ	b		—				< 0.0332	U			< 0.620	U			—				—				—				< 0.310	U		
RHMW2254-01	RHMW2254-01-WG12	7/29/2008[ad]	< 0.620	U			—				—				< 0.0156	U			< 0.0156	U			—				< 0.0323	U			< 0.620	U			—				—				—				< 0.310	U		
RHMW2254-01	RHMW2254-01-WG13	10/22/2008[ad]	< 0.620	U			—				—				**0.0276**	**J**			< 0.0150	U			—				**0.0466**	**J**			< 0.620	U			—				—				—				< 0.310	U		
RHMW2254-01	RHMW2254-WG13B	12/16/2008[c]	< 0.93	U			—				—				—				—				—				—				< 0.620	U			—				—				—				< 0.310	U		
RHMW2254-01	RHMWA01-WG13B	12/16/2008*[c]	< 0.93	U			—				—				—				—				—				—				< 0.620	U			—				—				—				< 0.310	U		
RHMW2254-01	RHMW2254-01-WG14	2/4/2009[a]	< 0.620	U			—				—				< 0.0161	U			< 0.0161	U			—				< 0.0333	U			< 0.620	U			—				—				—				< 0.310	U		
RHMW2254-01	RHMW2254-01-WG15	5/13/2009[a]	< 0.620	U			—				—				< 0.0156	U			**0.0180**	**J**			—				< 0.0323	U			< 0.620	U			—				—				—				< 0.310	U		
RHMW2254-01	RHMW2254-01-WG16	7/15/2009[a]	< 0.620	U			—				—				< 0.0165	U			< 0.0165	U			—				< 0.0341	U			< 0.620	U			—				—				—				< 0.310	U		
RHMW2254-01	RHMW2254-WG17	10/14/2009[a]	< 1	U			—				—				< 0.017	U			< 0.017	U			—				< 0.0352	U			< 0.62	U			—				—				—				< 0.31	U		
RHMW2254-01	RHMW2254-01-WG18	2010-01-27	< 1.24	U			—				—				< 0.0316	U			< 0.0316	U			—				**0.0375**	**J**			< 1.24	U			—				—				—				< 0.620	U		
RHMW2254-01	RHMW2254-01-WG19 (RHMW225-WG19)	2010-04-13	< 1.24	U			—				—				< 0.0330	U			< 0.0330	U			—				< 0.0682	U			< 1.24	U			—				—				—				< 0.620	U		
RHMW2254-01	RHMW2254-01-WG20 (RHMW2254-WG20)	2010-07-13	< 1.24	U			—				—				< 0.0320	U			< 0.0320	U			—				< 0.0664	U			< 1.24	U			—				—				—				< 0.620	U		
RHMW2254-01	ES004	2010-10-19	< 0.38	U			—				—				< 0.12	U			< 0.12	U			—				< 0.10	U			—				—				—				—				< 0.40	U		
RHMW2254-01	ES014	1/20/2011[d]	< 0.38	U			—				—				< 0.12	U			< 0.12	U			—				< 0.10	U			—				—				—				—				< 0.40	U		
RHMW2254-01	ES019	4/19/2011[d]	< 0.38	U			—				—				< 0.12	U			< 0.12	U			—				< 0.10	U			—				—				—				—				< 0.40	U		
RHMW2254-01	ES040	2011-07-20	< 0.38	U			—				—				< 0.12	U			< 0.12	U			—				< 0.10	U			—				—				—				—				< 0.40	U		
RHMW2254-01	ES050	2011-10-25	< 0.38	U			—				—				< 0.12	U			< 0.12	U			—				< 0.10	U			—				—				—				—				< 0.40	U		
RHMW2254-01	ES062	2012-02-01	< 0.38	U			—				—				< 0.12	U			< 0.12	U			—				< 0.10	U			—				—				—				—				< 0.40	U		
RHMW2254-01	ES074	2012-04-17	< 0.38	U			—				—				< 0.12	U			< 0.12	U			—				< 0.10	U			—				—				—				—				< 0.40	U		
RHMW2254-01	ES077	2012-07-17	< 0.38	U			—				—				< 0.12	U			< 0.12	U			—				< 0.10	U			—				—				—				—				< 0.40	U		

Table A.1: Cumulative Groundwater COPC Results, First Quarter 2020 Groundwater Monitoring Event (cont'd)
Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i

		Analyte Class	Lead Scavenger				Lead Scavenger				Lead Scavenger				Lead Scavenger				Lead Scavenger				Lead Scavenger				Semivolatiles				Semivolatiles			
		Analyte Type	Lead Scavenger				Lead Scavenger				Lead Scavenger				Lead Scavenger				Lead Scavenger				Fuel Additive				Fuel Additive					
		Analytical Method	504.1				524.2				8260SIM				8260SIM				8260				524.2				8270				8270/8270 Mod.			
		Analyte	1,2-Dibromoethane *****				1,2-Dibromoethane *****				1,2-Dibromoethane *****				1,2-Dichloroethane *****				1,2-Dichloroethane *****				1,2-Dichloroethane *****				Phenol				2-(2-Methoxyethoxy)-ethanol			
		CAS No.	106-93-4				106-93-4				106-93-4				107-06-2				107-06-2				107-06-2				108-95-2				111-77-3			
		Unit	µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L			
		DOH EAL	0.04				0.04				0.04				5				5				5				300				800			
		SSRBL	—				—				—				—				—				—				—				—			
Well Name	Sample ID	Date Sampled	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note
RHMW2254-01	RH-B-001	2/16/2005[be]	< 0.0083	U		[b]	—				—				—				< 0.50	U			—				—				—			
RHMW2254-01	RH-B-002	2/16/2005[bf]	< 0.0081	U		[b]	—				—				—				< 0.50	U			—				—				—			
RHMW2254-01	RH-B-003	2/16/2005*[bf]	< 0.0082	U		[b]	—				—				—				< 0.50	U			—				—				—			
RHMW2254-01	RH-B-004	6/28/2005[ae]	< 0.0095	U		[b]	—				—				—				< 0.50	U		[b]	—				—				—			
RHMW2254-01	RH-B-005	6/28/2005*[ae]	< 0.0097	U		[b]	—				—				—				< 0.50	U		[b]	—				—				—			
RHMW2254-01	RH-B-006	6/28/2005*[af]	< 0.0095	U		[b]	—				—				—				< 0.50	U		[b]	—				—				—			
RHMW2254-01	RH-B-007	9/8/2005[ae]	< 0.0095	U		[b]	—				—				—				< 0.12	U			—				—				—			
RHMW2254-01	RH-B-008	9/8/2005[af]	< 0.0095	U		[b]	—				—				—				< 0.12	U			—				—				—			
RHMW2254-01	RH-B-009	9/8/2005*[af]	< 0.0095	U		[b]	—				—				—				< 0.12	U			—				—				—			
RHMW2254-01	RHMW2254W01	9/20/2005[bd]	—				—				—				—				< 0.50	U			—				—				—			
RHMW2254-01	RH-B-010	12/6/2005[ae]	< 0.0096	U		[b]	—				—				—				< 0.12	U			—				—				—			
RHMW2254-01	RH-B-011	12/6/2005*[ae]	< 0.0094	U		[b]	—				—				—				< 0.12	U			—				—				—			
RHMW2254-01	RH-B-012	12/7/2005[af]	< 0.0095	U		[b]	—				—				—				< 0.12	U			—				—				—			
RHMW2254-01	RHMW2254-01-GW02	7/10/2006[a]	—				—				—				—				< 0.50	U			—				—				—			
RHMW2254-01	RHMW2254-01-GW06	12/5/2006[a]	—				—				—				—				< 0.50	U			—				—				—			
RHMW2254-01	RHMW2254-01-WG07	3/27/2007[a]	—				—				—				—				< 0.50	U			—				—				—			
RHMW2254-01	RHMW2254-01-WG08	6/12/2007[a]	—				—				—				—				< 0.50	U			—				—				—			
RHMW2254-01	RHMW2254-01-WG0	9/10/2007[a]	—				—				—				—				< 0.20	U			—				—				—			
RHMW2254-01	RHMW2254-01-WG10 (RHMW2254-WG10)	1/15/2008[a]	—				—				—				—				< 0.150	U			—				—				—			
RHMW2254-01	RHMW2254-01-WG10.1	2/6/2008[a]	—				—				—				—				—				—				—				—			
RHMW2254-01	RHMW2254-01-WG10.1	2/6/2008[a]	—				—				—				—				—				—				—				—			
RHMW2254-01	RHMW2254-01-WG11 (RHMW2254-WG11)	4/15/2008[a]	—				—				—				—				< 0.150	U			—				—				—			
RHMW2254-01	RHMW2254-01-WG12	7/29/2008[ad]	—				—				—				—				< 0.150	U			—				—				—			
RHMW2254-01	RHMW2254-01-WG13	10/22/2008[ad]	—				—				—				—				< 0.150	U			—				—				—			
RHMW2254-01	RHMW2254-WG13B	12/16/2008[c]	—				—				—				—				< 0.150	U			—				—				—			
RHMW2254-01	RHMWA01-WG13B	12/16/2008*[c]	—				—				—				—				< 0.150	U			—				—				—			
RHMW2254-01	RHMW2254-01-WG14	2/4/2009[a]	—				—				—				—				< 0.150	U			—				—				—			
RHMW2254-01	RHMW2254-01-WG15	5/13/2009[a]	—				—				—				—				< 0.150	U			—				—				—			
RHMW2254-01	RHMW2254-01-WG16	7/15/2009[a]	—				—				—				—				< 0.150	U			—				—				—			
RHMW2254-01	RHMW2254-WG17	10/14/2009[a]	—				—				—				—				< 0.15	U			—				—				—			
RHMW2254-01	RHMW2254-01-WG18	2010-01-27	—				—				—				—				< 0.300	U			—				—				—			
RHMW2254-01	RHMW2254-01-WG19 (RHMW225-WG19)	2010-04-13	—				—				—				—				< 0.300	U			—				—				—			
RHMW2254-01	RHMW2254-01-WG20 (RHMW2254-WG20)	2010-07-13	—				—				—				—				< 0.300	U			—				—				—			
RHMW2254-01	ES004	2010-10-19	—				—				—				—				< 0.28	U			—				—				—			
RHMW2254-01	ES014	1/20/2011[d]	—				—				—				—				< 0.28	U			—				—				—			
RHMW2254-01	ES019	4/19/2011[d]	—				—				—				—				< 0.28	U			—				—				—			
RHMW2254-01	ES040	2011-07-20	—				—				—				—				< 0.28	U			—				—				—			
RHMW2254-01	ES050	2011-10-25	—				—				—				—				< 0.28	U			—				—				—			
RHMW2254-01	ES062	2012-02-01	—				—				—				—				< 0.28	U			—				—				—			
RHMW2254-01	ES074	2012-04-17	—				—				—				—				< 0.28	U			—				—				—			
RHMW2254-01	ES077	2012-07-17	—				—				—				—				< 0.28	U			—				—				—			

Table A.1: Cumulative Groundwater COPC Results, First Quarter 2020 Groundwater Monitoring Event (cont'd)
Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i

		Analyte Class	TPH				TPH				TPH				TPH				TPH				TPH				Volatiles				Volatiles				Volatiles				Volatiles			
		Analyte Type	COPC				COPC				COPC				COPC				COPC				COPC				COPC				non-COPC				COPC				non-COPC			
		Analytical Method	8015				8260				8015				8015				8015				8015				8260				524.2				8260				524.2			
		Analyte	TPH-g****				TPH-g****				TPH-d				TPH-d with Silica Gel Cleanup				TPH-o				TPH-o with Silica Gel Cleanup				Benzene				Benzene				Ethylbenzene				Ethylbenzene			
		CAS No.	Gas				Gas				Diesel				Disel SGC				Oil				Oil SGC				71-43-2				71-43-2				100-41-4				100-41-4			
		Unit	µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L			
		DOH EAL	300				300				400				400				500				500				5				5				30				30			
		SSRBL	—				—				4500				—				—				—				750				750				—				—			
Well Name	Sample ID	Date Sampled	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note
RHMW2254-01	ES006	2012-10-22	—				< 18	UJ	b		< 20	U			—				—				—				< 0.50	U			—				< 0.50	U			**0.71**	**J**		
RHMW2254-01	ES014	2013-01-29	—				< 30	U			**22**	**J**		Y	—				—				—				< 0.50	U			—				< 0.50	U			< 0.50	U		
RHMW2254-01	ES023	2013-04-23	—				< 30	U			< 20	U			—				—				—				< 0.50	U			—				< 0.50	U			< 0.50	U		
RHMW2254-01	ES032	2013-07-23	—				< 30	U			< 20	U			—				—				—				< 0.50	U			—				< 0.50	U			< 0.50	U		
RHMW2254-01	ES041	2013-10-22	—				< 21	UJ	b t		< 20	U			—				—				—				< 0.50	U			—				< 0.50	U			< 0.50	U		
RHMW2254-01	ES050	1/16/2014[d]	—				—				< 20	U			—				—				—				< 0.50	U			—				< 0.50	U			< 0.50	U		
RHMW2254-01	ES060	1/29/2014[d]	—				< 16	UJ	b		< 20	U			—				—				—				< 0.50	U			—				< 0.50	U			< 0.50	U		
RHMW2254-01	ES067	3/6/2014[d]	—				—				< 20	U			—				—				—				< 0.50	U			—				< 0.50	U			< 0.50	U		
RHMW2254-01	ES075	3/26/2014[d]	—				—				< 10	U			—				—				—				< 0.50	U			—				< 0.50	U			< 0.50	U		
RHMW2254-01	ES085	4/22/2014[d]	—				< 30	U			< 10	U			—				—				—				< 0.50	U			—				< 0.50	U			< 0.50	U		
RHMW2254-01	ES094	5/28/2014[d]	—				—				< 12	U			—				—				—				< 0.50	U			—				< 0.50	U			< 0.50	U		
RHMW2254-01	ES102	6/24/2014[d]	—				—				< 12	U			—				—				—				< 0.50	U			—				< 0.50	U			< 0.50	U		
RHMW2254-01	ES107	2014-07-22	—				< 30	U			< 12	U			—				—				—				< 0.50	U			—				< 0.50	U			< 0.50	U		
RHMW2254-01	ES117	2014-10-28	—				< 30	U			**22**	**J**		Y	—				—				—				< 0.50	U			—				< 0.50	U			< 0.50	U		
RHMW2254-01	ES125	2015-01-27	—				< 30	U			< 12	U			—				—				—				< 0.50	U			—				< 0.50	U			< 0.50	U		
RHMW2254-01	ES134	2015-04-21	< 25	U			—				< 14	UJ	b		—				< 37	UJ	b		—				< 0.10	U			—				< 0.10	U			< 0.10	U		
RHMW2254-01	ES149	2015-07-21	< 25	U			—				**17**	**J**			—				**42**	**J**			—				< 0.10	U			—				< 0.10	U			< 0.10	U		
RHMW2254-01	ERH009	2015-10-20	< 25	U			—				< 16	UJ	b		—				< 53	UJ	b		—				< 0.10	UJ	h		—				< 0.10	UJ	h		< 0.99	UJ	t	
RHMW2254-01	ERH021	2016-01-20	< 25	U			—				< 21	UJ	b		—				< 54	UJ	b		—				< 0.10	U			—				< 0.10	U			< 0.16	UJ	t	
RHMW2254-01	ERH037	2016-04-20	< 25	U			—				< 21	U	b f		—				< 61	U	b f		—				< 0.10	U			—				< 0.10	U	f		< 0.10	U		
RHMW2254-01	ERH051	2016-07-20	< 25	U			—				< 21	U			—				< 27	U	b f		—				< 0.10	U			—				< 0.10	U			< 0.10	U		
RHMW2254-01	ERH088	2016-10-18	—				< 18	UJ	q		< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			< 0.30	U		
RHMW2254-01	ERH092	10/18/2016*	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			< 0.30	U		
RHMW2254-01	ERH115	2016-11-14	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			< 0.30	U		
RHMW2254-01	ERH116	11/14/2016*	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			< 0.30	U		
RHMW2254-01	ERH135	2016-12-12	—				< 18	U			**14**	**J**		Y	—				**16**	**J**			—				< 0.30	U			—				< 0.50	U			< 0.30	U		
RHMW2254-01	ERH137	12/12/2016*	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			< 0.30	U		
RHMW2254-01	ERH161	2017-01-09	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			< 0.30	U		
RHMW2254-01	ERH162	1/9/2017*	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			< 0.30	U		
RHMW2254-01	ERH161 (EPA split)	2017-01-09	< 25	UJ	c		—				< 75	U			—				< 300	U			—				—				< 0.2	U			—				< 0.2	U		
RHMW2254-01	ERH162 (EPA split)	1/9/2017*	< 25	UJ	c		—				< 75	U			—				< 300	U			—				—				< 0.2	U			—				< 0.2	U		
RHMW2254-01	ERH205	2017-02-06	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			< 0.30	U		
RHMW2254-01	ERH206	2/6/2017*	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			< 0.30	U		
RHMW2254-01	ERH205 (EPA split)	2017-02-06	< 25	UJ	c		—				< 75	U			—				< 300	U			—				—				< 0.2	U			—				< 0.2	U		
RHMW2254-01	ERH206 (EPA split)	2/6/2017*	< 25	UJ	c		—				< 75	U			—				< 300	U			—				—				< 0.2	U			—				< 0.2	U		
RHMW2254-01	ERH257	2017-03-06	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			< 0.30	U		
RHMW2254-01	ERH258	3/6/2017*	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			< 0.30	U		
RHMW2254-01	ERH257 (EPA split)	2017-03-06	< 25	UJ	c		—				< 75	U			—				< 300	U			—				—				< 0.2	U			—				< 0.2	U		
RHMW2254-01	ERH258 (EPA split)	3/6/2017*	< 25	UJ	c		—				**100**	**J**			—				< 300	U			—				—				< 0.2	U			—				< 0.2	U		
RHMW2254-01	ERH292	2017-04-03	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			< 0.30	U		
RHMW2254-01	ERH293	4/3/2017*	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			< 0.30	U		
RHMW2254-01	ERH329	2017-05-02	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			< 0.30	U		
RHMW2254-01	ERH330	5/2/2017*	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			< 0.30	U		
RHMW2254-01	ERH349	2017-06-06	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			< 0.30	U		
RHMW2254-01	ERH350	6/6/2017*	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			< 0.30	U		
RHMW2254-01	ERH378	2017-07-05	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			< 0.30	U		
RHMW2254-01	ERH379	7/5/2017*	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			< 0.30	U		
RHMW2254-01	ERH409	2017-10-24	—				< 18	U			**65**	**J**	e q	Z	—				< 40	UJ	q		—				< 0.30	U			—				< 0.50	U			< 0.30	U		
RHMW2254-01	ERH410	10/24/2017*	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			< 0.30	U		

Table A.1: Cumulative Groundwater COPC Results, First Quarter 2020 Groundwater Monitoring Event (cont'd)
Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i

		Analyte Class	Volatiles				Volatiles				Volatiles				Semivolatiles (PAHs)				Semivolatiles (PAHs)				Semivolatiles (PAHs)				Semivolatiles (PAHs)				Semivolatiles (PAHs)				Semivolatiles (PAHs)				Lead Scavenger				Lead Scavenger			
		Analyte Type	COPC				non-COPC				non-COPC				COPC				COPC				non-COPC				COPC				non-COPC				non-COPC				Lead Scavenger				Lead Scavenger			
		Analytical Method	8260				524.2				524.2				8270 SIM				8270 SIM				8270				8270 SIM				8260				524.2				8270				8011				8260			
		Analyte	Xylenes, Total (p/m-, o-xylene)				Xylenes, p/m-				Xylenes, o-				1-Methylnaphthalene				2-Methylnaphthalene				2-Methylnaphthalene				Naphthalene *****				Naphthalene *****				Naphthalene *****				Naphthalene *****				1,2-Dibromoethane *****				1,2-Dibromoethane *****			
		CAS No.	1330-20-7				179601-23-1				95-47-6				90-12-0				91-57-6				91-57-6				91-20-3				91-20-3				91-20-3				91-20-3				106-93-4				106-93-4			
		Unit	µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L			
		DOH EAL	20				20				20				10				10				10				17				17				17				17				0.04				0.04			
		SSRBL	—				—				—				—				—				—				—				—				—				—				—				—			
Well Name	Sample ID	Date Sampled	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note
RHMW2254-01	ES006	2012-10-22	< 1.0	U			—				—				< 0.050	U			< 0.050	U			—				**0.037**	**J**			—				—				—				—				< 0.50	U		
RHMW2254-01	ES014	2013-01-29	< 1.0	U			—				—				< 0.050	U			< 0.050	U			—				**0.052**	**J**			—				—				—				—				< 0.50	U		
RHMW2254-01	ES023	2013-04-23	< 1.0	U			—				—				< 0.051	U			< 0.051	U			—				< 0.051	U			—				—				—				—				< 0.50	U		
RHMW2254-01	ES032	2013-07-23	< 1.0	U			—				—				< 0.050	U			< 0.050	U			—				**0.099**	**J**			—				—				—				—				< 0.50	U		
RHMW2254-01	ES041	2013-10-22	< 1.0	U			—				—				< 0.050	U			< 0.050	U			—				**0.036**	**J**			—				—				—				—				< 0.50	U		
RHMW2254-01	ES050	1/16/2014[d]	< 1.0	U			—				—				< 0.049	U			< 0.049	U			—				**0.046**	**J**			—				—				—				—				< 0.50	U		
RHMW2254-01	ES060	1/29/2014[d]	< 1.0	U			—				—				< 0.050	U			< 0.050	U			—				**0.049**	**J**			—				—				—				—				< 0.50	U		
RHMW2254-01	ES067	3/6/2014[d]	< 1.0	U			—				—				< 0.050	U			< 0.050	U			—				**0.081**	**J**			—				—				—				—				—			
RHMW2254-01	ES075	3/26/2014[d]	< 1.0	U			—				—				< 0.050	U			< 0.050	U			—				< 0.050	U			—				—				—				—				—			
RHMW2254-01	ES085	4/22/2014[d]	< 1.0	U			—				—				< 0.049	U			< 0.049	U			—				< 0.049	U			—				—				—				—				< 0.50	U		
RHMW2254-01	ES094	5/28/2014[d]	< 1.0	U			—				—				< 0.050	U			< 0.050	U			—				< 0.050	U			—				—				—				—				—			
RHMW2254-01	ES102	6/24/2014[d]	< 1.0	U			—				—				< 0.049	U			< 0.049	U			—				< 0.049	U			—				—				—				—				—			
RHMW2254-01	ES107	2014-07-22	< 1.0	U			—				—				< 0.048	U			< 0.048	U			—				< 0.048	U			—				—				—				—				< 0.50	U		
RHMW2254-01	ES117	2014-10-28	< 1.0	U			—				—				< 0.097	U			< 0.049	U			—				< 0.049	U			—				—				—				—				< 0.50	U		
RHMW2254-01	ES125	2015-01-27	< 1.0	U			—				—				< 0.10	U			< 0.050	U			—				< 0.050	U			—				—				—				—				< 0.50	U		
RHMW2254-01	ES134	2015-04-21	< 0.20	U			—				—				< 0.0050	U			< 0.0050	U			—				< 0.0050	U			—				—				—				—				< 0.0040	U			< 0.20	U		
RHMW2254-01	ES149	2015-07-21	< 0.20	U			—				—				< 0.0050	U			< 0.0050	U			—				< 0.0050	U			—				—				—				—				< 0.0040	U			< 0.20	U		
RHMW2254-01	ERH009	2015-10-20	< 0.20	UJ	h		—				—				< 0.0050	U			< 0.0050	U			—				< 0.0050	U			—				—				—				—				< 0.0040	U			< 0.20	UJ	h	
RHMW2254-01	ERH021	2016-01-20	< 0.20	U			—				—				< 0.0050	U			< 0.0050	U			—				< 0.0050	U			—				—				—				—				< 0.0040	U			< 0.20	U		
RHMW2254-01	ERH037	2016-04-20	< 0.20	U			—				—				< 0.0050	U			< 0.0050	U			—				< 0.0050	U			—				—				—				—				—				—			
RHMW2254-01	ERH051	2016-07-20	< 0.20	U			—				—				< 0.0050	U			< 0.0050	U			—				< 0.0051	U	b f		—				—				—				—				—				—			
RHMW2254-01	ERH088	2016-10-18	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—				—			
RHMW2254-01	ERH092	10/18/2016*	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—				—			
RHMW2254-01	ERH115	2016-11-14	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—				—			
RHMW2254-01	ERH116	11/14/2016*	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—				—			
RHMW2254-01	ERH135	2016-12-12	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—				—			
RHMW2254-01	ERH137	12/12/2016*	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—				—			
RHMW2254-01	ERH161	2017-01-09	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—				—			
RHMW2254-01	ERH162	1/9/2017*	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—				—			
RHMW2254-01	ERH161 (EPA split)	2017-01-09	—				< 0.5	U			< 0.2	U			< 0.025	UJ	c		< 0.025	UJ	c		< 0.5	U			< 0.025	U			—				< 0.2	U			< 0.5	U			—				—			
RHMW2254-01	ERH162 (EPA split)	1/9/2017*	—				< 0.5	U			< 0.2	U			< 0.025	UJ	c		< 0.025	UJ	c		< 0.5	U			< 0.025	U			—				< 0.2	U			< 0.5	U			—				—			
RHMW2254-01	ERH205	2017-02-06	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—				—			
RHMW2254-01	ERH206	2/6/2017*	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—				—			
RHMW2254-01	ERH205 (EPA split)	2017-02-06	—				< 0.5	U			< 0.2	U			< 0.025	UJ	c s		< 0.025	UJ	c s		< 0.5	U			< 0.025	UJ	s		—				< 0.2	U			< 0.5	U			—				—			
RHMW2254-01	ERH206 (EPA split)	2/6/2017*	—				< 0.5	U			< 0.2	U			< 0.025	UJ	c s		< 0.025	UJ	c s		< 0.5	U			< 0.025	UJ	s		—				< 0.2	U			< 0.5	U			—				—			
RHMW2254-01	ERH257	2017-03-06	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—				—			
RHMW2254-01	ERH258	3/6/2017*	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—				—			
RHMW2254-01	ERH257 (EPA split)	2017-03-06	—				< 0.5	U			< 0.2	U			< 0.025	UJ	c		< 0.025	UJ	c		< 0.5	U			< 0.025	U			—				< 0.2	U			< 0.5	U			—				—			
RHMW2254-01	ERH258 (EPA split)	3/6/2017*	—				< 0.5	U			< 0.2	U			< 0.026	UJ	c		< 0.026	UJ	c		< 0.5	U			< 0.026	U			—				< 0.2	U			< 0.5	U			—				—			
RHMW2254-01	ERH292	2017-04-03	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—				—			
RHMW2254-01	ERH293	4/3/2017*	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—				—			
RHMW2254-01	ERH329	2017-05-02	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—				—			
RHMW2254-01	ERH330	5/2/2017*	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—				—			
RHMW2254-01	ERH349	2017-06-06	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—				—			
RHMW2254-01	ERH350	6/6/2017*	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—				—			
RHMW2254-01	ERH378	2017-07-05	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—				—			
RHMW2254-01	ERH379	7/5/2017*	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—				—			
RHMW2254-01	ERH409	2017-10-24	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—				—			
RHMW2254-01	ERH410	10/24/2017*	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—				—			

Table A.1: Cumulative Groundwater COPC Results, First Quarter 2020 Groundwater Monitoring Event (cont'd)
Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i

		Analyte Class	Lead Scavenger				Lead Scavenger				Lead Scavenger				Lead Scavenger				Lead Scavenger				Lead Scavenger				Semivolatiles				Semivolatiles			
		Analyte Type	Lead Scavenger				Lead Scavenger				Lead Scavenger				Lead Scavenger				Lead Scavenger				Fuel Additive				Fuel Additive					
		Analytical Method	504.1				524.2				8260SIM				8260SIM				8260				524.2				8270				8270/8270 Mod.			
		Analyte	1,2-Dibromoethane *****				1,2-Dibromoethane *****				1,2-Dibromoethane *****				1,2-Dichloroethane *****				1,2-Dichloroethane *****				1,2-Dichloroethane *****				Phenol				2-(2-Methoxyethoxy)-ethanol			
		CAS No.	106-93-4				106-93-4				106-93-4				107-06-2				107-06-2				107-06-2				108-95-2				111-77-3			
		Unit	µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L			
		DOH EAL	0.04				0.04				0.04				5				5				5				300				800			
		SSRBL	—				—				—				—				—				—				—				—			
Well Name	Sample ID	Date Sampled	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note
RHMW2254-01	ES006	2012-10-22	—				—				—				—				< 0.50	U			—				—				—			
RHMW2254-01	ES014	2013-01-29	—				—				—				—				< 0.50	U			—				—				—			
RHMW2254-01	ES023	2013-04-23	—				—				—				—				< 0.50	U			—				—				—			
RHMW2254-01	ES032	2013-07-23	—				—				—				—				< 0.50	U			—				—				—			
RHMW2254-01	ES041	2013-10-22	—				—				—				—				< 0.50	U			—				—				—			
RHMW2254-01	ES050	1/16/2014[d]	—				—				—				—				< 0.50	U			—				—				—			
RHMW2254-01	ES060	1/29/2014[d]	—				—				—				—				< 0.50	U			—				—				—			
RHMW2254-01	ES067	3/6/2014[d]	—				—				—				—				—				—				—				—			
RHMW2254-01	ES075	3/26/2014[d]	—				—				—				—				—				—				—				—			
RHMW2254-01	ES085	4/22/2014[d]	—				—				—				—				< 0.50	U			—				—				—			
RHMW2254-01	ES094	5/28/2014[d]	—				—				—				—				—				—				—				—			
RHMW2254-01	ES102	6/24/2014[d]	—				—				—				—				—				—				—				—			
RHMW2254-01	ES107	2014-07-22	—				—				—				—				< 0.50	U			—				—				—			
RHMW2254-01	ES117	2014-10-28	—				—				—				—				< 0.50	U			—				—				—			
RHMW2254-01	ES125	2015-01-27	—				—				—				—				< 0.50	U			—				—				—			
RHMW2254-01	ES134	2015-04-21	—				—				< 0.010	U			< 0.015	U			—				—				—				—			
RHMW2254-01	ES149	2015-07-21	—				—				—				< 0.015	U			—				—				—				—			
RHMW2254-01	ERH009	2015-10-20	—				—				—				< 0.015	U			—				—				—				—			
RHMW2254-01	ERH021	2016-01-20	—				—				—				< 0.015	U			—				—				—				—			
RHMW2254-01	ERH037	2016-04-20	—				—				—				—				—				—				—				—			
RHMW2254-01	ERH051	2016-07-20	—				—				—				—				—				—				—				—			
RHMW2254-01	ERH088	2016-10-18	—				—				—				—				—				—				< 4.00	U			< 80.0	UJ	h	
RHMW2254-01	ERH092	10/18/2016*	—				—				—				—				—				—				< 4.00	U			< 80.0	UJ	h	
RHMW2254-01	ERH115	2016-11-14	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW2254-01	ERH116	11/14/2016*	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW2254-01	ERH135	2016-12-12	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW2254-01	ERH137	12/12/2016*	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW2254-01	ERH161	2017-01-09	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW2254-01	ERH162	1/9/2017*	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW2254-01	ERH161 (EPA split)	2017-01-09	—				< 0.0025	U			—				—				—				< 0.0025	U			< 2.5	U			—			
RHMW2254-01	ERH162 (EPA split)	1/9/2017*	—				< 0.0025	U			—				—				—				< 0.0025	U			< 2.5	U			—			
RHMW2254-01	ERH205	2017-02-06	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW2254-01	ERH206	2/6/2017*	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW2254-01	ERH205 (EPA split)	2017-02-06	—				< 0.0025	U			—				—				—				< 0.0025	U			< 2.5	U			—			
RHMW2254-01	ERH206 (EPA split)	2/6/2017*	—				< 0.0025	U			—				—				—				< 0.0025	U			< 2.5	U			—			
RHMW2254-01	ERH257	2017-03-06	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW2254-01	ERH258	3/6/2017*	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW2254-01	ERH257 (EPA split)	2017-03-06	—				< 0.0025	U			—				—				—				< 0.0025	U			< 2.5	U			—			
RHMW2254-01	ERH258 (EPA split)	3/6/2017*	—				< 0.0025	U			—				—				—				< 0.0025	U			< 2.5	U			—			
RHMW2254-01	ERH292	2017-04-03	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW2254-01	ERH293	4/3/2017*	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW2254-01	ERH329	2017-05-02	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW2254-01	ERH330	5/2/2017*	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW2254-01	ERH349	2017-06-06	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW2254-01	ERH350	6/6/2017*	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW2254-01	ERH378	2017-07-05	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW2254-01	ERH379	7/5/2017*	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW2254-01	ERH409	2017-10-24	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW2254-01	ERH410	10/24/2017*	—				—				—				—				—				—				< 4.00	U			< 80.0	U		

Table A.1: Cumulative Groundwater COPC Results, First Quarter 2020 Groundwater Monitoring Event (cont'd)
Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i

		Analyte Class	TPH				TPH				TPH				TPH				TPH				TPH				Volatiles				Volatiles				Volatiles				Volatiles				Volatiles			
		Analyte Type	COPC				COPC				COPC				COPC				COPC				COPC				COPC				non-COPC				COPC				non-COPC				COPC			
		Analytical Method	8015				8260				8015				8015				8015				8015				8260				524.2				8260				524.2				8260			
		Analyte	TPH-g****				TPH-g****				TPH-d				TPH-d with Silica Gel Cleanup				TPH-o				TPH-o with Silica Gel Cleanup				Benzene				Benzene				Ethylbenzene				Ethylbenzene				Toluene				Toluene			
		CAS No.	Gas				Gas				Diesel				Disel SGC				Oil				Oil SGC				71-43-2				71-43-2				100-41-4				100-41-4				108-88-3				108-88-3			
		Unit	µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L			
		DOH EAL	300				300				400				400				500				500				5				5				30				30				40				40			
		SSRBL	—				—				4500				—				—				—				750				750				—				—				—				—			
Well Name	Sample ID	Date Sampled	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note
RHMW2254-01	ERH542	2018-03-14	—				< 18	U			< 25	UJ	h		—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW2254-01	ERH543	3/14/2018*	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW2254-01	ERH588	2018-04-23	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW2254-01	ERH589	4/23/2018*	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW2254-01	ERH634	2018-07-23	—				< 18	U			< 25	U			—				< 40	UJ	l		—				< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW2254-01	ERH635	7/23/2018*	—				< 18	U			< 25	UJ	s		—				< 40	UJ	l s		—				< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW2254-01	ERH678	2018-10-22	—				< 18	U			< 25	UJ	h		—				< 40	UJ	h		—				< 0.30	U			—				**1**				—				**0.24**	**J**			—			
RHMW2254-01	ERH679	10/22/2018*	—				< 18	U			< 25	UJ	h		—				< 40	UJ	h		—				< 0.30	U			—				**0.99**	**J**			—				**0.21**	**J**			—			
RHMW2254-01	ERH712	2018-11-13	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW2254-01	ERH713	11/13/2018*	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW2254-01	ERH715	2018-11-14	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW2254-01	ERH716	11/14/2018*	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW2254-01	ERH719	2018-12-12	—				< 18	U			< 25	UJ	s		< 25	U			< 40	UJ	s		< 40	U			< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW2254-01	ERH720	12/12/2018*	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW2254-01	ERH722	2018-12-13	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW2254-01	ERH723	12/13/2018*	—				< 18	U			< 25	U			< 25	U			< 40	U			< 40	U			< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW2254-01	ERH730	2019-01-23	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	UJ	q l		—			
RHMW2254-01	ERH731	1/23/2019*	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	UJ	l		—			
RHMW2254-01	ERH733	2019-01-24	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW2254-01	ERH734	1/24/2019*	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW2254-01	ERH782	2019-04-22	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW2254-01	ERH783	4/22/2019*	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW2254-01	ERH785	2019-04-23	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW2254-01	ERH786	4/23/2019*	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW2254-01	ERH838	2019-07-22	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW2254-01	ERH838	7/22/2019*	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW2254-01	ERH907	2019-10-21	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW2254-01	ERH908	10/21/2019*	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW2254-01	ERH971	2020-01-21	—				< 18	U			**100**		Z		< 25	U			< 40	U			< 40	U			< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW2254-01	ERH972	1/21/2020*	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW01	RH-W-001	2/17/2005[b]	< 50	U		[b]	—				**1,400**		Y		—				**770**		Y		—				< 0.50	U	[b]		—				< 0.50	U	[b]		—				< 0.50	U		[b]	—			
RHMW01	RH-W-002	2/17/2005*[b]	< 50	U		[b]	—				**1,500**				—				**890**				—				< 0.50	U	[b]		—				< 0.50	U	[b]		—				< 0.50	U		[b]	—			
RHMW01	RH-W-003	6/28/2005[a]	< 13	U			—				**1,300**		Z		—				—				—				< 0.50	U	[b]		—				< 0.50	U	[b]		—				< 0.50	U		[b]	—			
RHMW01	RH-W-004	6/28/2005*[a]	< 13	U			—				**1,100**		Z		—				—				—				< 0.50	U	[b]		—				< 0.50	U	[b]		—				< 0.50	U		[b]	—			
RHMW01	RH-W-005	9/8/2005[a]	< 13	U			—				**950**		Y		—				**540**		Y		—				< 0.14	U			—				< 0.13	U			—				**0.15**	**J**			—			
RHMW01	RH-W-006	9/8/2005*[a]	< 13	U			—				**1,100**		Y		—				**720**		Y		—				< 0.14	U			—				< 0.13	U			—				**0.15**	**J**			—			
RHMW01	RHMW01W01	9/20/2005[a]	—				—				—				—				—				—				< 0.50	U			—				< 0.50	U			—				< 0.50	U			—			
RHMW01	RH-W-007	12/6/2005[a]	< 13	U			—				**670**		Z		—				—				—				< 0.14	U			—				< 0.13	U			—				< 0.12	UJ	t		—			
RHMW01	RH-W-008	12/6/2005*[a]	< 13	U			—				**740**		Z		—				—				—				< 0.14	U			—				< 0.13	U			—				< 11	U			—			
RHMW01	RHMW01-GW02	7/10/2006[a]	< 50	U			—				**509**				—				—				—				< 0.50	U			—				< 0.50	U			—				< 0.50	U			—			
RHMW01	RHMW01-GW06	12/5/2006[a]	< 50	U			—				**303**				—				—				—				< 0.50	U			—				< 0.50	U			—				< 0.50	U			—			
RHMW01	RHMW01-WG07	3/27/2007[a]	< 50	U			—				**307**				—				—				—				< 0.50	U			—				< 0.50	U			—				< 0.50	U			—			
RHMW01	RHMW01-WG08	6/12/2007[a]	< 50	U			—				**274**				—				—				—				< 0.50	U			—				< 0.50	U			—				< 0.50	U			—			
RHMW01	RHMW01-WG08	6/12/2007[a]	< 50	U			—				**261**				—				—				—				< 0.20	U			—				< 0.20	U			—				< 0.27	U			—			
RHMW01	RHMW01-WG10	1/15/2008[a]	< 10.0	U			—				**574**		Y		—				—				—				< 0.120	U			—				< 0.310	U			—				< 0.310	U			—			
RHMW01	RHMW01-WG11	4/15/2008[a]	**13.6**	**J**			—				**427**	**J**			—				—				—				< 0.120	U			—				< 0.310	U			—				< 0.310	U			—			
RHMW01	RHMW01-WG12	7/29/2008[ad]	< 10.0	U			—				**327**	**J**			—				—				—				< 0.120	U			—				< 0.310	U			—				< 0.310	U			—			

Table A.1: Cumulative Groundwater COPC Results, First Quarter 2020 Groundwater Monitoring Event (cont'd)
Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i

		Analyte Class	Volatiles				Volatiles				Volatiles				Semivolatiles (PAHs)				Semivolatiles (PAHs)				Semivolatiles (PAHs)				Semivolatiles (PAHs)				Semivolatiles (PAHs)				Semivolatiles (PAHs)				Lead Scavenger				Lead Scavenger			
		Analyte Type	COPC				non-COPC				non-COPC				COPC				COPC				non-COPC				COPC				non-COPC				non-COPC				Lead Scavenger				Lead Scavenger			
		Analytical Method	8260				524.2				524.2				8270 SIM				8270 SIM				8270				8270 SIM				8260				524.2				8270				8011				8260			
		Analyte	Xylenes, Total (p/m-, o-xylene)				Xylenes, p/m-				Xylenes, o-				1-Methylnaphthalene				2-Methylnaphthalene				2-Methylnaphthalene				Naphthalene *****				Naphthalene *****				Naphthalene *****				Naphthalene *****				1,2-Dibromoethane *****				1,2-Dibromoethane *****			
		CAS No.	1330-20-7				179601-23-1				95-47-6				90-12-0				91-57-6				91-57-6				91-20-3				91-20-3				91-20-3				91-20-3				106-93-4				106-93-4			
		Unit	µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L			
		DOH EAL	20				20				20				10				10				10				17				17				17				17				0.04				0.04			
		SSRBL	—				—				—				—				—				—				—				—				—				—				—				—			
Well Name	Sample ID	Date Sampled	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note
RHMW2254-01	ERH542	2018-03-14	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW2254-01	ERH543	3/14/2018*	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW2254-01	ERH588	2018-04-23	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW2254-01	ERH589	4/23/2018*	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW2254-01	ERH634	2018-07-23	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW2254-01	ERH635	7/23/2018*	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW2254-01	ERH678	2018-10-22	**0.81**	**J**			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW2254-01	ERH679	10/22/2018*	**0.73**	**J**			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW2254-01	ERH712	2018-11-13	< 0.30	UJ	q		—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW2254-01	ERH713	11/13/2018*	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW2254-01	ERH715	2018-11-14	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW2254-01	ERH716	11/14/2018*	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW2254-01	ERH719	2018-12-12	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW2254-01	ERH720	12/12/2018*	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW2254-01	ERH722	2018-12-13	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW2254-01	ERH723	12/13/2018*	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW2254-01	ERH730	2019-01-23	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW2254-01	ERH731	1/23/2019*	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW2254-01	ERH733	2019-01-24	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW2254-01	ERH734	1/24/2019*	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW2254-01	ERH782	2019-04-22	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW2254-01	ERH783	4/22/2019*	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW2254-01	ERH785	2019-04-23	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW2254-01	ERH786	4/23/2019*	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW2254-01	ERH838	2019-07-22	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW2254-01	ERH838	7/22/2019*	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW2254-01	ERH907	2019-10-21	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW2254-01	ERH908	10/21/2019*	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW2254-01	ERH971	2020-01-21	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW2254-01	ERH972	1/21/2020*	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW01	RH-W-001	2/17/2005[b]	< 0.50	U	[b]		—				—				—				**0.14**				—				**0.25**				—				—				—				—				—			
RHMW01	RH-W-002	2/17/2005*[b]	< 0.50	U	[b]		—				—				—				**0.057**				—				**0.21**				—				—				—				—				—			
RHMW01	RH-W-003	6/28/2005[a]	< 0.50	U	[b]		—				—				—				**0.054**				—				**0.073**				—				—				—				—				—			
RHMW01	RH-W-004	6/28/2005*[a]	< 0.50	U	[b]		—				—				—				**0.051**				—				**0.055**				—				—				—				—				—			
RHMW01	RH-W-005	9/8/2005[a]	< 0.22	U			—				—				—				**0.038**				—				**0.83**				—				—				—				—				—			
RHMW01	RH-W-006	9/8/2005*[a]	< 0.22	U			—				—				—				**0.038**				—				**0.78**				—				—				—				—				—			
RHMW01	RHMW01W01	9/20/2005[a]	< 0.50	U			—				—				—				—				—				—				< 1.0	U			—				—				—				< 0.50	U		
RHMW01	RH-W-007	12/6/2005[a]	< 0.33	U			—				—				—				**0.098**				—				**0.51**				—				—				—				—				—			
RHMW01	RH-W-008	12/6/2005*[a]	< 0.33	U			—				—				—				**0.11**				—				**0.48**				—				—				—				—				—			
RHMW01	RHMW01-GW02	7/10/2006[a]	< 0.50	U			—				—				< 0.25	U			< 0.25	U			—				< 0.25	U			< 1.0	U			—				—				—				< 0.50	U		
RHMW01	RHMW01-GW06	12/5/2006[a]	< 0.50	U			—				—				< 0.25	U			< 0.25	U			—				< 0.25	U			< 1.0	U			—				—				—				< 0.50	U		
RHMW01	RHMW01-WG07	3/27/2007[a]	< 0.50	U			—				—				< 0.25	U			< 0.25	U			—				< 0.25	U			< 1.0	U			—				—				—				< 0.50	U		
RHMW01	RHMW01-WG08	6/12/2007[a]	< 0.50	U			—				—				< 0.25	U			< 0.25	U			—				< 0.25	U			< 1.0	U			—				—				—				< 0.50	U		
RHMW01	RHMW01-WG08	6/12/2007[a]	< 0.36	U			—				—				< 0.25	U			< 0.25	U			—				< 0.25	U			< 0.44	U			—				—				—				< 0.20	U		
RHMW01	RHMW01-WG10	1/15/2008[a]	< 0.620	U			—				—				**0.0640**				**0.0478**	**J**			—				**0.210**				**5.98**				—				—				—				< 0.310	U		
RHMW01	RHMW01-WG11	4/15/2008[a]	< 0.620	U			—				—				**0.101**				**0.0789**				—				**0.216**				< 0.620	U			—				—				—				< 0.310	U		
RHMW01	RHMW01-WG12	7/29/2008[ad]	< 0.620	U			—				—				< 0.0150	U			< 0.0150	U			—				**0.114**				< 0.620	U			—				—				—				< 0.310	U		

Table A.1: Cumulative Groundwater COPC Results, First Quarter 2020 Groundwater Monitoring Event (cont'd)
Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i

		Analyte Class	Lead Scavenger				Lead Scavenger				Lead Scavenger				Lead Scavenger				Lead Scavenger				Lead Scavenger				Semivolatiles				Semivolatiles			
		Analyte Type	Lead Scavenger				Lead Scavenger				Lead Scavenger				Lead Scavenger				Lead Scavenger				Fuel Additive				Fuel Additive					
		Analytical Method	504.1				524.2				8260SIM				8260SIM				8260				524.2				8270				8270/8270 Mod.			
		Analyte	1,2-Dibromoethane *****				1,2-Dibromoethane *****				1,2-Dibromoethane *****				1,2-Dichloroethane *****				1,2-Dichloroethane *****				1,2-Dichloroethane *****				Phenol				2-(2-Methoxyethoxy)-ethanol			
		CAS No.	106-93-4				106-93-4				106-93-4				107-06-2				107-06-2				107-06-2				108-95-2				111-77-3			
		Unit	µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L			
		DOH EAL	0.04				0.04				0.04				5				5				5				300				800			
		SSRBL	—				—				—				—				—				—				—				—			
Well Name	Sample ID	Date Sampled	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note
RHMW2254-01	ERH542	2018-03-14	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW2254-01	ERH543	3/14/2018*	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW2254-01	ERH588	2018-04-23	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW2254-01	ERH589	4/23/2018*	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW2254-01	ERH634	2018-07-23	—				—				—				—				—				—				< 4.00	UJ	h		< 80.0	U		
RHMW2254-01	ERH635	7/23/2018*	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW2254-01	ERH678	2018-10-22	—				—				—				—				—				—				< 4.00	U			< 80.0	UJ	l	
RHMW2254-01	ERH679	10/22/2018*	—				—				—				—				—				—				< 4.00	U			< 80.0	UJ	l	
RHMW2254-01	ERH712	2018-11-13	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW2254-01	ERH713	11/13/2018*	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW2254-01	ERH715	2018-11-14	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW2254-01	ERH716	11/14/2018*	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW2254-01	ERH719	2018-12-12	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW2254-01	ERH720	12/12/2018*	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW2254-01	ERH722	2018-12-13	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW2254-01	ERH723	12/13/2018*	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW2254-01	ERH730	2019-01-23	—				—				—				—				—				—				< 4.00	U			< 80.0	UJ	l	
RHMW2254-01	ERH731	1/23/2019*	—				—				—				—				—				—				< 4.00	U			< 80.0	UJ	l	
RHMW2254-01	ERH733	2019-01-24	—				—				—				—				—				—				< 4.00	U			< 80.0	UJ	l	
RHMW2254-01	ERH734	1/24/2019*	—				—				—				—				—				—				< 4.00	U			< 80.0	UJ	l	
RHMW2254-01	ERH782	2019-04-22	—				—				—				—				—				—				< 4.00	U			< 80.0	UJ	l	
RHMW2254-01	ERH783	4/22/2019*	—				—				—				—				—				—				< 4.00	U			< 80.0	UJ	l	
RHMW2254-01	ERH785	2019-04-23	—				—				—				—				—				—				< 4.00	U			< 80.0	UJ	l	
RHMW2254-01	ERH786	4/23/2019*	—				—				—				—				—				—				< 4.00	U			< 80.0	UJ	l	
RHMW2254-01	ERH838	2019-07-22	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW2254-01	ERH838	7/22/2019*	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW2254-01	ERH907	2019-10-21	—				—				—				—				—				—				< 4.00	UJ	l		< 80.0	U		
RHMW2254-01	ERH908	10/21/2019*	—				—				—				—				—				—				< 4.00	UJ	l		< 80.0	U		
RHMW2254-01	ERH971	2020-01-21	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW2254-01	ERH972	1/21/2020*	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW01	RH-W-001	2/17/2005[b]	< 0.0083	U			—				—				—				< 0.50	U	b		—				—				—			
RHMW01	RH-W-002	2/17/2005*[b]	< 0.0082	U			—				—				—				< 0.50	U	b		—				—				—			
RHMW01	RH-W-003	6/28/2005[a]	< 0.0095	U			—				—				—				< 0.50	U	b		—				—				—			
RHMW01	RH-W-004	6/28/2005*[a]	< 0.0095	U			—				—				—				< 0.50	U	b		—				—				—			
RHMW01	RH-W-005	9/8/2005[a]	< 0.00096	U			—				—				—				< 0.12	U			—				—				—			
RHMW01	RH-W-006	9/8/2005*[a]	< 0.00096	U			—				—				—				< 0.12	U			—				—				—			
RHMW01	RHMW01W01	9/20/2005[a]	—				—				—				—				< 0.50	U			—				—				—			
RHMW01	RH-W-007	12/6/2005[a]	< 0.0096	U	b		—				—				—				< 0.12	U			—				—				—			
RHMW01	RH-W-008	12/6/2005*[a]	< 0.0095	U	b		—				—				—				< 0.12	U			—				—				—			
RHMW01	RHMW01-GW02	7/10/2006[a]	—				—				—				—				< 0.50	U			—				—				—			
RHMW01	RHMW01-GW06	12/5/2006[a]	—				—				—				—				< 0.50	U			—				—				—			
RHMW01	RHMW01-WG07	3/27/2007[a]	—				—				—				—				< 0.50	U			—				—				—			
RHMW01	RHMW01-WG08	6/12/2007[a]	—				—				—				—				< 0.50	U			—				—				—			
RHMW01	RHMW01-WG08	6/12/2007[a]	—				—				—				—				< 0.20	U			—				—				—			
RHMW01	RHMW01-WG10	1/15/2008[a]	—				—				—				—				< 0.150	U			—				—				—			
RHMW01	RHMW01-WG11	4/15/2008[a]	—				—				—				—				< 0.150	U			—				—				—			
RHMW01	RHMW01-WG12	7/29/2008[ad]	—				—				—				—				< 0.150	U			—				—				—			

Table A.1: Cumulative Groundwater COPC Results, First Quarter 2020 Groundwater Monitoring Event (cont'd)
Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i

		Analyte Class	TPH				TPH				TPH				TPH				TPH				TPH				Volatiles				Volatiles				Volatiles				Volatiles			
		Analyte Type	COPC				COPC				COPC				8015				COPC				COPC				COPC				non-COPC				COPC				non-COPC			
		Analytical Method	8015				8260				8015				8015				8015				8015				8260				524.2				8260				524.2			
		Analyte	TPH-g****				TPH-g****				TPH-d				TPH-d with Silica Gel Cleanup				TPH-o				TPH-o with Silica Gel Cleanup				Benzene				Benzene				Ethylbenzene				Ethylbenzene			
		CAS No.	Gas				Gas				Diesel				Disel SGC				Oil				Oil SGC				71-43-2				71-43-2				100-41-4				100-41-4			
		Unit	µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L			
		DOH EAL	300				300				400				400				500				500				5				5				30				30			
		SSRBL	—				—				4500				—				—				—				750				750				—				—			
Well Name	Sample ID	Date Sampled	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note
RHMW01	RHMW01-WG13	10/22/2008[ad]	< 10.0	U			—				**459**				—				—				—				< 0.120	U			—				< 0.310	U			—			
RHMW01	RHMW01-WG14	2/4/2009[a]	**14.4**	**J**			—				**387**	**J**			—				—				—				< 0.120	U			—				< 0.310	U			—			
RHMW01	RHMW01-WG15	5/13/2009[a]	< 16.6	UJ	b t		—				**373**	**J**			—				—				—				< 0.120	U			—				< 0.310	U			—			
RHMW01	RHMW01-WG16	7/15/2009[a]	< 30.0	U			—				**248**	**J**			—				—				—				< 0.120	U			—				< 0.310	U			—			
RHMW01	RHMW01-WG17	10/14/2009[a]	< 30	U			—				**299**	**J**			—				—				—				< 0.12	U			—				< 0.31	U			—			
RHMW01	RHMW01-WG18	2010-01-27	< 60.0	U			—				**312**	**J**			—				—				—				< 0.240	U			—				< 0.620	U			—			
RHMW01	RHMW01-WG19	2010-04-13	< 60.0	U			—				**377**	**J**			—				—				—				< 0.240	U			—				< 0.620	U			—			
RHMW01	RHMW01-WG20	2010-07-13	< 60.0	U			—				**228**	**J**			—				—				—				< 0.240	U			—				< 0.620	U			—			
RHMW01	ES009	11/3/2010[d]	—				< 12.12	U			< 80.8	U			—				—				—				< 0.32	U			—				< 0.46	U			—			
RHMW01	ES015	1/20/2011[d]	—				< 12.12	U			< 80.8	U			—				—				—				< 0.32	U			—				< 0.46	U			—			
RHMW01	ES033	4/28/2011[d]	—				< 12.12	U			**300**			O	—				—				—				< 0.32	U			—				< 0.46	U			—			
RHMW01	ES041	2011-07-20	—				< 12.12	U			**290**			O	—				< 212.0	U			—				< 0.32	U			—				< 0.46	U			—			
RHMW01	ES057	2011-11-02	—				< 12.12	U			**210**			O	—				—				—				< 0.32	U			—				< 0.46	U			—			
RHMW01	ES069	2012-02-14	—				< 12.12	U			**210**			Y	—				—				—				< 0.32	U			—				< 0.46	U			—			
RHMW01	ES075	2012-04-17	—				< 12.12	U			< 80.8	U			—				—				—				< 0.32	U			—				< 0.46	U			—			
RHMW01	ES088	2012-07-20	—				< 12.12	U			< 80.8	U			—				—				—				< 0.32	U			—				< 0.46	U			—			
RHMW01	ES001	2012-10-22	—				< 20	UJ	b		**85**			Y	—				—				—				< 0.50	U			—				< 0.50	U			—			
RHMW01	ES010	2013-02-04	—				< 13	UJ	t		**79**				—				—				—				< 0.50	U			—				< 0.50	U			—			
RHMW01	ES019	2013-04-22	—				< 30	U			**340**			Y	—				—				—				< 0.50	U			—				< 0.50	U			—			
RHMW01	ES028	2013-07-22	—				< 30	UJ	h		**99**			Y	—				—				—				< 0.50	UJ	h		—				< 0.50	UJ	h		—			
RHMW01	ES037	2013-10-21	—				< 21	UJ	b t		**92**			Y	—				—				—				< 0.50	U			—				< 0.50	U			—			
RHMW01	ES048	1/15/2014[d]	—				—				**250**			Y	—				—				—				< 0.50	U			—				< 0.50	U			**2.5**			
RHMW01	ES056	1/28/2014[d]	—				< 26	UJ	b		**130**			Y	—				—				—				< 0.50	U			—				< 0.50	U			**1.3**			
RHMW01	ES062	2/24/2014[d]	—				< 30	U			**89**			Y	—				—				—				< 0.50	U			—				< 0.50	U			—			
RHMW01	ES064	3/5/2014[d]	—				—				**93**				—				—				—				< 0.50	U			—				< 0.50	U			—			
RHMW01	ES069	3/10/2014[d]	—				—				**38**			Y	—				—				—				< 0.50	U			—				< 0.50	U			—			
RHMW01	ES072	3/25/2014[d]	—				—				**82**			Y	—				—				—				< 0.50	U			—				< 0.50	U			—			
RHMW01	ES077	4/7/2014[d]	—				—				**140**			Y	—				—				—				< 0.50	U			—				< 0.50	U			—			
RHMW01	ES080	4/21/2014[d]	—				< 30	U			**88**			Y	—				—				—				< 0.50	U			—				< 0.50	U			—			
RHMW01	ES091	5/27/2014[d]	—				—				**66**			Y	—				—				—				< 0.50	U			—				< 0.50	U			—			
RHMW01	ES098	6/23/2014[d]	—				—				**77**				—				—				—				< 0.50	U			—				< 0.50	U			—			
RHMW01	ES103	2014-07-21	—				< 30	U			**67**			Y	—				—				—				< 0.50	U			—				< 0.50	U			—			
RHMW01	ES113	2014-10-27	—				< 30	U			**120**			Y	—				—				—				< 0.50	U			—				< 0.50	U			—			
RHMW01	ES120X	2015-01-27	—				< 30	U			**33**			Y	—				—				—				< 0.50	U			—				< 0.50	U			—			
RHMW01	ES130	2015-04-20	< 25	U			—				**170**			Y	—				< 23	UJ	b		—				< 0.10	U			—				< 0.10	U			—			
RHMW01	ES143	2015-06-25	—				—				**130**			Y	—				**40**	**J**			—				—				—				—				—			
RHMW01	ES145	2015-07-20	< 25	U			—				**150**	**J**	s	Y	—				**21**	**J**	s		—				< 0.10	U			—				< 0.10	U			—			
RHMW01	ERH011	2015-10-20	< 25	U			—				**330**			Y	—				< 54	UJ	b		—				< 0.10	UJ	h		—				< 0.42	UJ	t		—			
RHMW01	ERH024	2016-01-20	< 25	U			—				**430**			Y	—				< 60	UJ	b		—				< 0.10	U			—				< 0.17	UJ	t		—			
RHMW01	ERH039	2016-04-20	< 25	U			—				**360**			Y	—				< 120	U	b f	Y	—				< 0.10	U			—				< 0.10	U			—			
RHMW01	ERH053	2016-07-20	< 25	U			—				**250**			Y	—				< 59	U	b f		—				< 0.10	U			—				< 0.10	U			—			
RHMW01	ERH090	2016-10-17	—				< 18	U			**120**			O	< 25	U			< 40	U			< 40	U			< 0.30	U			—				< 0.50	U			—			
RHMW01	ERH117	2016-11-14	—				< 18	U			**94**			O	—				< 40	U			—				< 0.30	U			—				< 0.50	U			—			
RHMW01	ERH143	2016-12-13	—				< 18	U			< 96	U	f	O	—				< 40	U			—				< 0.30	U			—				< 0.50	U			—			
RHMW01	ERH172	2017-01-11	—				< 18	U			**88**			O	—				< 40	U			—				< 0.30	U			—				< 0.50	U			—			
RHMW01	ERH172 (EPA split)	2017-01-11	< 25	UJ	c		—				**280**				—				< 300	U			—				—				< 0.2	U			—				< 0.2	U		
RHMW01	ERH223	2017-02-08	—				< 18	U			**150**			O	—				< 40	U			—				< 0.30	U			—				< 0.50	U			—			

Table A.1: Cumulative Groundwater COPC Results, First Quarter 2020 Groundwater Monitoring Event (cont'd)
Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i

		Analyte Class	Volatiles				Volatiles				Volatiles				Semivolatiles (PAHs)				Semivolatiles (PAHs)				Semivolatiles (PAHs)				Semivolatiles (PAHs)				Semivolatiles (PAHs)				Semivolatiles (PAHs)				Lead Scavenger				Lead Scavenger			
		Analyte Type	COPC				non-COPC				non-COPC				COPC				COPC				non-COPC				COPC				non-COPC				non-COPC				Lead Scavenger				Lead Scavenger			
		Analytical Method	8260				524.2				524.2				8270 SIM				8270 SIM				8270				8270 SIM				8260				524.2				8270				8011				8260			
		Analyte	Xylenes, Total (p/m-, o-xylene)				Xylenes, p/m-				Xylenes, o-				1-Methylnaphthalene				2-Methylnaphthalene				2-Methylnaphthalene				Naphthalene *****				Naphthalene *****				Naphthalene *****				Naphthalene *****				1,2-Dibromoethane *****				1,2-Dibromoethane *****			
		CAS No.	1330-20-7				179601-23-1				95-47-6				90-12-0				91-57-6				91-57-6				91-20-3				91-20-3				91-20-3				91-20-3				106-93-4				106-93-4			
		Unit	µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L			
		DOH EAL	20				20				20				10				10				10				17				17				17				17				0.04				0.04			
		SSRBL	—				—				—				—				—				—				—				—				—				—				—				—			
Well Name	Sample ID	Date Sampled	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note
RHMW01	RHMW01-WG13	10/22/2008[ad]	< 0.620	U			—				—				< 0.0150	U			< 0.0150	U			—				**0.103**				< 0.620	U			—				—				—				< 0.310	U		
RHMW01	RHMW01-WG14	2/4/2009[a]	< 0.620	U			—				—				< 0.0165	U			< 0.0165	U			—				**0.173**				< 0.620	U			—				—				—				< 0.310	U		
RHMW01	RHMW01-WG15	5/13/2009[a]	< 0.620	U			—				—				< 0.0150	U			< 0.0150	U			—				**0.182**				< 0.620	U			—				—				—				< 0.310	U		
RHMW01	RHMW01-WG16	7/15/2009[a]	< 0.620	U			—				—				**9.44**				**3.07**				—				**5.61**				< 0.620	U			—				—				—				< 0.310	U		
RHMW01	RHMW01-WG17	10/14/2009[a]	< 1	U			—				—				< 0.0174	U			< 0.0174	U			—				**0.193**				< 0.62	U			—				—				—				< 0.31	U		
RHMW01	RHMW01-WG18	2010-01-27	< 1.24	U			—				—				< 0.0334	U			**0.0559**				—				**0.330**				< 1.24	U			—				—				—				< 0.620	U		
RHMW01	RHMW01-WG19	2010-04-13	< 1.24	U			—				—				< 0.0322	U			< 0.0322	U			—				< 0.0666	U			< 1.24	U			—				—				—				< 0.620	U		
RHMW01	RHMW01-WG20	2010-07-13	< 1.24	U			—				—				< 0.0316	U			< 0.0316	U			—				**0.184**				< 1.24	U			—				—				—				< 0.620	U		
RHMW01	ES009	11/3/2010[d]	< 0.38	U			—				—				< 0.12	U			< 0.12	U			—				**0.17**	**J**			—				—				—				—				< 0.40	U		
RHMW01	ES015	1/20/2011[d]	< 0.38	U			—				—				< 0.12	U			< 0.12	U			—				< 0.10	U			—				—				—				—				< 0.40	U		
RHMW01	ES033	4/28/2011[d]	< 0.38	U			—				—				< 0.12	U			< 0.12	U			—				< 0.10	U			—				—				—				—				< 0.40	U		
RHMW01	ES041	2011-07-20	< 0.38	U			—				—				< 0.12	U			< 0.12	U			—				**0.12**	**J**			—				—				—				—				< 0.40	U		
RHMW01	ES057	2011-11-02	< 0.38	U			—				—				< 0.12	U			< 0.12	U			—				< 0.10	U			—				—				—				—				< 0.40	U		
RHMW01	ES069	2012-02-14	< 0.38	U			—				—				< 0.12	U			< 0.12	U			—				< 0.10	U			—				—				—				—				< 0.40	U		
RHMW01	ES075	2012-04-17	< 0.38	U			—				—				< 0.12	U			< 0.12	U			—				< 0.10	U			—				—				—				—				< 0.40	U		
RHMW01	ES088	2012-07-20	< 0.38	U			—				—				< 0.12	U			< 0.12	U			—				**0.13**	**J**			—				—				—				—				< 0.40	U		
RHMW01	ES001	2012-10-22	< 1.0	U			—				—				< 0.050	U			< 0.050	U			—				< 0.050	U			—				—				—				—				< 0.50	U		
RHMW01	ES010	2013-02-04	< 1.0	U			—				—				< 0.050	U			< 0.050	U			—				**0.10**	**J**			—				—				—				—				< 0.50	U		
RHMW01	ES019	2013-04-22	< 1.0	U			—				—				< 0.052	U			< 0.052	U			—				< 0.052	U			—				—				—				—				< 0.50	U		
RHMW01	ES028	2013-07-22	< 1.0	UJ	h		—				—				< 0.050	U			< 0.050	U			—				**0.048**	**J**			—				—				—				—				< 0.50	UJ	h	
RHMW01	ES037	2013-10-21	< 1.0	U			—				—				< 0.052	U			< 0.052	U			—				< 0.052	U			—				—				—				—				< 0.50	U		
RHMW01	ES048	1/15/2014[d]	< 1.0	U			—				—				**0.040**	**J**			**0.039**	**J**			—				**0.062**	**J**			—				—				—				—				< 0.50	U		
RHMW01	ES056	1/28/2014[d]	< 1.0	U			—				—				< 0.050	U			< 0.050	U			—				**0.045**	**J**			—				—				—				—				< 0.50	U		
RHMW01	ES062	2/24/2014[d]	< 1.0	U			—				—				< 0.050	U			< 0.050	U			—				**0.037**	**J**			—				—				—				—				< 0.50	U		
RHMW01	ES064	3/5/2014[d]	< 1.0	U			—				—				< 0.050	U			**0.038**	**J**			—				< 0.050	U			—				—				—				—				—			
RHMW01	ES069	3/10/2014[d]	< 1.0	U			—				—				< 0.052	U			< 0.052	U			—				< 0.052	U			—				—				—				—				—			
RHMW01	ES072	3/25/2014[d]	< 1.0	U			—				—				< 0.051	U			< 0.051	U			—				< 0.051	U			—				—				—				—				—			
RHMW01	ES077	4/7/2014[d]	< 1.0	U			—				—				< 0.050	U			< 0.050	U			—				< 0.050	U			—				—				—				—				—			
RHMW01	ES080	4/21/2014[d]	< 1.0	U			—				—				< 0.050	U			< 0.050	U			—				< 0.050	U			—				—				—				—				< 0.50	U		
RHMW01	ES091	5/27/2014[d]	< 1.0	U			—				—				< 0.051	U			< 0.051	U			—				< 0.051	U			—				—				—				—				—			
RHMW01	ES098	6/23/2014[d]	< 1.0	U			—				—				< 0.050	U			< 0.050	U			—				< 0.050	U			—				—				—				—				—			
RHMW01	ES103	2014-07-21	< 1.0	U			—				—				< 0.051	U			< 0.051	U			—				< 0.051	U			—				—				—				—				< 0.50	U		
RHMW01	ES113	2014-10-27	< 1.0	U			—				—				< 0.10	U			< 0.052	U			—				< 0.052	U			—				—				—				—				< 0.50	U		
RHMW01	ES120X	2015-01-27	< 1.0	U			—				—				< 0.11	U			< 0.054	U			—				< 0.054	U			—				—				—				—				< 0.50	U		
RHMW01	ES130	2015-04-20	< 0.20	U			—				—				**0.014**	**J**			**0.0093**	**J**			—				**0.056**				—				—				—				—				< 0.0040	U			< 0.20	U		
RHMW01	ES143	2015-06-25	—				—				—				**0.0068**	**J**			**0.0058**	**J**			—				**0.040**		X		—				—				—				—				—			
RHMW01	ES145	2015-07-20	< 0.20	U			—				—				**0.014**	**J**			**0.013**	**J**			—				**0.057**				—				—				—				—				< 0.0040	U			< 0.20	U		
RHMW01	ERH011	2015-10-20	< 0.20	UJ	h		—				—				**0.037**				**0.024**				—				**0.20**				—				—				—				—				< 0.0040	U			< 0.20	UJ	h	
RHMW01	ERH024	2016-01-20	< 0.20	U			—				—				**0.029**				**0.023**				—				**0.18**				—				—				—				—				< 0.0040	U			< 0.004	U		
RHMW01	ERH039	2016-04-20	< 0.20	U			—				—				< 0.024	UJ	f v		< 0.014	UJ	f v		—				< 0.23	UJ	f		—				—				—				—				—				—			
RHMW01	ERH053	2016-07-20	< 0.20	U			—				—				**0.032**	**J**	v		**0.0068**	**J**	v		—				**0.21**				—				—				—				—				—				—			
RHMW01	ERH090	2016-10-17	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—				—			
RHMW01	ERH117	2016-11-14	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—				—			
RHMW01	ERH143	2016-12-13	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—				—			
RHMW01	ERH172	2017-01-11	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—				—			
RHMW01	ERH172 (EPA split)	2017-01-11	—				< 0.5	U			< 0.2	U			< 0.025	UJ	c		< 0.025	UJ	c		< 0.5	U			< 0.025	U			—				< 0.2	U			< 0.5	U			—				—			
RHMW01	ERH223	2017-02-08	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			

Table A.1: Cumulative Groundwater COPC Results, First Quarter 2020 Groundwater Monitoring Event (cont'd)
Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i

		Analyte Class	Lead Scavenger				Lead Scavenger				Lead Scavenger				Lead Scavenger				Lead Scavenger				Lead Scavenger				Semivolatiles				Semivolatiles			
		Analyte Type	Lead Scavenger				Lead Scavenger				Lead Scavenger				Lead Scavenger				Lead Scavenger				Fuel Additive				Fuel Additive					
		Analytical Method	504.1				524.2				8260SIM				8260SIM				8260				524.2				8270				8270/8270 Mod.			
		Analyte	1,2-Dibromoethane *****				1,2-Dibromoethane *****				1,2-Dibromoethane *****				1,2-Dichloroethane *****				1,2-Dichloroethane *****				1,2-Dichloroethane *****				Phenol				2-(2-Methoxyethoxy)-ethanol			
		CAS No.	106-93-4				106-93-4				106-93-4				107-06-2				107-06-2				107-06-2				108-95-2				111-77-3			
		Unit	µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L			
		DOH EAL	0.04				0.04				0.04				5				5				5				300				800			
		SSRBL	—				—				—				—				—				—				—				—			
Well Name	Sample ID	Date Sampled	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note
RHMW01	RHMW01-WG13	10/22/2008[ad]	—				—				—				—				< 0.150	U			—				—				—			
RHMW01	RHMW01-WG14	2/4/2009[a]	—				—				—				—				< 0.150	U			—				—				—			
RHMW01	RHMW01-WG15	5/13/2009[a]	—				—				—				—				< 0.150	U			—				—				—			
RHMW01	RHMW01-WG16	7/15/2009[a]	—				—				—				—				< 0.150	U			—				—				—			
RHMW01	RHMW01-WG17	10/14/2009[a]	—				—				—				—				< 0.15	U			—				—				—			
RHMW01	RHMW01-WG18	2010-01-27	—				—				—				—				< 0.300	U			—				—				—			
RHMW01	RHMW01-WG19	2010-04-13	—				—				—				—				< 0.300	U			—				—				—			
RHMW01	RHMW01-WG20	2010-07-13	—				—				—				—				< 0.300	U			—				—				—			
RHMW01	ES009	11/3/2010[d]	—				—				—				—				< 0.28	U			—				—				—			
RHMW01	ES015	1/20/2011[d]	—				—				—				—				< 0.28	U			—				—				—			
RHMW01	ES033	4/28/2011[d]	—				—				—				—				< 0.28	U			—				—				—			
RHMW01	ES041	2011-07-20	—				—				—				—				< 0.28	U			—				—				—			
RHMW01	ES057	2011-11-02	—				—				—				—				< 0.28	U			—				—				—			
RHMW01	ES069	2012-02-14	—				—				—				—				< 0.28	U			—				—				—			
RHMW01	ES075	2012-04-17	—				—				—				—				< 0.28	U			—				—				—			
RHMW01	ES088	2012-07-20	—				—				—				—				< 0.28	U			—				—				—			
RHMW01	ES001	2012-10-22	—				—				—				—				< 0.50	U			—				—				—			
RHMW01	ES010	2013-02-04	—				—				—				—				< 0.50	U			—				—				—			
RHMW01	ES019	2013-04-22	—				—				—				—				< 0.50	U			—				—				—			
RHMW01	ES028	2013-07-22	—				—				—				—				< 0.50	UJ	h		—				—				—			
RHMW01	ES037	2013-10-21	—				—				—				—				< 0.50	U			—				—				—			
RHMW01	ES048	1/15/2014[d]	—				—				—				—				< 0.50	U			—				—				—			
RHMW01	ES056	1/28/2014[d]	—				—				—				—				< 0.50	U			—				—				—			
RHMW01	ES062	2/24/2014[d]	—				—				—				—				< 0.50	U			—				—				—			
RHMW01	ES064	3/5/2014[d]	—				—				—				—				—				—				—				—			
RHMW01	ES069	3/10/2014[d]	—				—				—				—				—				—				—				—			
RHMW01	ES072	3/25/2014[d]	—				—				—				—				—				—				—				—			
RHMW01	ES077	4/7/2014[d]	—				—				—				—				—				—				—				—			
RHMW01	ES080	4/21/2014[d]	—				—				—				—				< 0.50	U			—				—				—			
RHMW01	ES091	5/27/2014[d]	—				—				—				—				—				—				—				—			
RHMW01	ES098	6/23/2014[d]	—				—				—				—				—				—				—				—			
RHMW01	ES103	2014-07-21	—				—				—				—				< 0.50	U			—				—				—			
RHMW01	ES113	2014-10-27	—				—				—				—				< 0.50	UJ	c		—				—				—			
RHMW01	ES120X	2015-01-27	—				—				—				—				< 0.50	U			—				—				—			
RHMW01	ES130	2015-04-20	—				—				< 0.010	U			< 0.015	U			—				—				—				—			
RHMW01	ES143	2015-06-25	—				—				—				—				—				—				—				—			
RHMW01	ES145	2015-07-20	—				—				—				< 0.015	U			—				—				—				—			
RHMW01	ERH011	2015-10-20	—				—				—				< 0.015	U			—				—				—				—			
RHMW01	ERH024	2016-01-20	—				—				—				< 0.015	U			< 0.020	U			—				—				—			
RHMW01	ERH039	2016-04-20	—				—				—				—				—				—				—				—			
RHMW01	ERH053	2016-07-20	—				—				—				—				—				—				—				—			
RHMW01	ERH090	2016-10-17	—				—				—				—				—				—				< 4.00	U			< 80.0	UJ	h	
RHMW01	ERH117	2016-11-14	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW01	ERH143	2016-12-13	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW01	ERH172	2017-01-11	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW01	ERH172 (EPA split)	2017-01-11	—				< 0.2	U			—				—				—				< 0.2	U			< 2.5	U			—			
RHMW01	ERH223	2017-02-08	—				—				—				—				—				—				< 4.00	U			< 80.0	U		

Table A.1: Cumulative Groundwater COPC Results, First Quarter 2020 Groundwater Monitoring Event (cont'd)
Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i

		Analyte Class	TPH				TPH				TPH				TPH				TPH				Volatiles				Volatiles				Volatiles				Volatiles				Volatiles			
		Analyte Type	COPC				COPC				COPC				COPC				COPC				COPC				non-COPC				COPC				non-COPC				COPC			
		Analytical Method	8015				8260				8015				8015				8015				8260				524.2				8260				524.2				8260			
		Analyte	TPH-g****				TPH-g****				TPH-d				TPH-d with Silica Gel Cleanup				TPH-o				TPH-o with Silica Gel Cleanup				Benzene				Benzene				Ethylbenzene				Ethylbenzene				Toluene				Toluene			
		CAS No.	Gas				Gas				Diesel				Disel SGC				Oil				Oil SGC				71-43-2				71-43-2				100-41-4				100-41-4				108-88-3				108-88-3			
		Unit	µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L			
		DOH EAL	300				300				400				400				500				500				5				5				30				30				40				40			
		SSRBL	—				—				4500				—				—				—				750				750				—				—				—			
Well Name	Sample ID	Date Sampled	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note
RHMW01	ERH223 (EPA split)	2017-02-08	< 25	UJ	c		—				**300**				—				< 300	U			—				—				< 0.2	U			—				< 0.2	U			—				< 0.2	U		
RHMW01	ERH275	2017-03-08	—				< 18	U			**83**			O	—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW01	ERH275 (EPA split)	2017-03-08	< 25	UJ	c		—				**130**	**J**			—				< 300	U			—				—				< 0.2	U			—				< 0.2	U			—				< 0.2	U		
RHMW01	ERH310	2017-04-03	—				< 18	U			**97**			O	—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW01	ERH332	2017-05-01	—				< 18	U			**110**			Y	< 51	U	b	Y	< 40	U			< 40	U			< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW01	ERH352	2017-06-05	—				< 18	U			**98**			O	**36**			O	< 40	U			< 40	U			**0.18**	**J**			—				< 0.50	U			—				< 0.30	U			—			
RHMW01	ERH383	2017-07-05	—				< 18	U			**110**			O	< 25	U			< 40	U			< 40	U			< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW01	ERH412	2017-10-25	—				< 18	U			**86**			Y	< 25	U			**67**				< 40	U			< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW01	ERH413	10/25/2017*	—				—				**83**			Y	< 25	UJ	s		**59**				< 40	UJ	s		—				—				—				—				—				—			
RHMW01	ERH412 (EPA split)	2017-10-25	—				—				< 210	U	b	F13	< 75	U			< 300	U			< 300	U			—				—				—				—				—				—			
RHMW01	ERH545	2018-03-12	—				< 18	U			**150**			O	< 25	U			< 40	U			< 40	U			< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW01	ERH545 (EPA split)	2018-03-12	—				—				**180**			F13	< 75	U			< 300	U			< 300	U			—				—				—				—				—				—			
RHMW01	ERH591	2018-04-25	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW01	ERH637	2018-07-24	—				< 18	UJ	s		**350**			O	< 25	U			< 40	U			< 40	U			< 0.30	UJ	s		—				< 0.50	UJ	s		—				< 0.30	UJ	s		—			
RHMW01	ERH637 (EPA split)	2018-07-24	—				—				**160**			F13	< 75	U			< 300	U			< 300	U			—				—				—				—				—				—			
RHMW01	ERH681	2018-10-25	—				< 18	U			**170**	**J**	h	Y	**67**	**J**		O	< 40	UJ	h		< 40	U			< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW01	ERH736	2019-01-22	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	UJ	l		—			
RHMW01	ERH788	2019-04-23	—				< 18	U			**230**			O	**57**			O	< 40	U			< 40	U			< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW01	ERH844	2019-07-23	—				< 18	U			**210**			O	< 25	U			< 40	U			< 40	U			< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW01	ERH910	2019-10-22	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW01	ERH974	2020-01-20	—				< 18	U			**180**	**J**	s	O	**39**	**J**			< 40	U			< 40	U			< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW02	RHMW02W01	9/20/2005[a]	< 50	U			—				**2,660**				—				—				—				< 2.5	U			—				< 2.5	U			—				< 2.5	U			—			
RHMW02	RHMW02Q01	9/20/2005*[a]	< 50	U			—				**2,500**				—				—				—				< 2.5	U			—				< 2.5	U			—				< 2.5	U			—			
RHMW02	RHMW02-GW02	7/10/2006[a]	**124**	**J**	s		—				**2,800**				—				—				—				< 0.50	U			—				**1.3**				—				< 0.50	U			—			
RHMW02	RHMW05-GW02	7/10/2006*[a]	**119**	**J**	s		—				**2,790**				—				—				—				< 2.5	U			—				< 2.5	U			—				< 2.5	U			—			
RHMW02	RHMW02-GW06	12/5/2006[a]	**110**	**J**	s		—				**2,600**				—				—				—				< 0.50	U			—				**1.2**				—				< 0.50	U			—			
RHMW02	RHMWA01-GW06	12/5/2006*[a]	**138**	**J**	s		—				**2,690**				—				—				—				< 0.50	U			—				**1.1**				—				< 0.50	U			—			
RHMW02	RHMW02-WG07	3/27/2007[a]	**122**	**J**	s		—				**2,750**				—				—				—				< 0.50	U			—				< 0.50	U			—				< 0.50	U			—			
RHMW02	RHMWA01-WG07	3/27/2007*[a]	**148**	**J**	s		—				**2,250**			Y	—				—				—				< 0.50	U			—				< 0.50	U			—				< 0.50	U			—			
RHMW02	RHMW02-WG08	6/12/2007[a]	**52.5**	**J**			—				**2,750**				—				—				—				< 0.50	U			—				< 0.50	U			—				< 0.50	U			—			
RHMW02	RHMWA01-WG08	6/12/2007*[a]	**56.5**	**J**			—				**2,900**				—				—				—				< 0.50	U			—				< 0.50	U			—				< 0.50	U			—			
RHMW02	RHMW02-WG09	9/10/2007[a]	**76**	**J**	s		—				**2,810**				—				—				—				< 0.20	U			—				< 0.20	U			—				< 0.27	U			—			
RHMW02	RHMWA01-WG09	9/10/2007*[a]	**78.2**	**J**	s		—				**3,180**				—				—				—				< 0.2	U			—				< 0.20	U			—				< 0.27	U			—			
RHMW02	RHMW02-WG10	1/15/2008[a]	**64.3**	**J**			—				**2,310**			Y	—				—				—				**0.170**	**J**			—				< 0.310	U			—				< 0.310	U			—			
RHMW02	RHMWA01-WG10	1/15/2008*[a]	**66.2**	**J**			—				**3,230**			Y	—				—				—				**0.170**	**J**			—				**0.350**	**J**			—				< 0.310	U			—			
RHMW02	RHMW02-WG11	4/15/2008[a]	**58.9**	**J**			—				**3,120**			Y	—				—				—				< 0.120	U			—				< 0.310	U			—				< 0.310	U			—			
RHMW02	RHMWA01-WG11	4/15/2008*[a]	**58.9**	**J**			—				**3,020**			Y	—				—				—				**0.150**	**J**			—				< 0.310	U			—				< 0.310	U			—			
RHMW02	RHMW02-WG12	7/29/2008[ad]	**61.7**	**J**			—				**4,470**				—				—				—				< 0.120	U			—				**0.580**	**J**			—				< 0.310	U			—			
RHMW02	RHMWA01-WG12	7/29/2008*[ad]	**61.2**	**J**			—				**3,640**				—				—				—				**0.120**	**J**			—				**0.560**	**J**			—				< 0.310	U			—			
RHMW02	RHMW02-WG13	10/22/2008[ad]	**52.8**	**J**			—				**4,540**				—				—				—				**0.140**	**J**			—				**0.450**	**J**			—				< 0.310	U			—			
RHMW02	RHMWA01-WG13	10/22/2008*[ad]	**52.9**	**J**			—				**6,300**				—				—				—				**0.150**	**J**			—				**0.420**	**J**			—				< 0.310	U			—			
RHMW02	RHMW02-WG14	2/4/2009[a]	**52.3**	**J**			—				**2,840**				—				—				—				**0.260**	**J**			—				**0.490**	**J**			—				< 0.310	U			—			
RHMW02	RHMWA01-WG14	2/4/2009*[a]	**54.3**	**J**			—				**2,840**				—				—				—				**0.240**	**J**			—				**0.520**	**J**			—				< 0.310	U			—			
RHMW02	RHMW02-WG15	5/13/2009[a]	< 39.1	U	b t		—				**1,620**				—				—				—				< 0.120	U			—				< 0.310	U			—				< 0.310	U			—			
RHMW02	RHMWA01-WG15	5/13/2009*[a]	< 36.7	U	b t		—				**2,000**				—				—				—				< 0.120	U			—				< 0.310	U			—				< 0.310	U			—			
RHMW02	RHMW02-WG16	7/15/2009[a]	< 30.0	U			—				**1,450**				—				—				—				< 0.120	U			—				< 0.310	U			—				< 0.310	U			—			

Table A.1: Cumulative Groundwater COPC Results, First Quarter 2020 Groundwater Monitoring Event (cont'd)
Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i

		Analyte Class	Volatiles				Volatiles				Volatiles				Semivolatiles (PAHs)				Semivolatiles (PAHs)				Semivolatiles (PAHs)				Semivolatiles (PAHs)				Semivolatiles (PAHs)				Semivolatiles (PAHs)				Lead Scavenger				Lead Scavenger			
		Analyte Type	COPC				non-COPC				non-COPC				COPC				COPC				non-COPC				COPC				non-COPC				non-COPC				Lead Scavenger				Lead Scavenger			
		Analytical Method	8260				524.2				524.2				8270 SIM				8270 SIM				8270				8270 SIM				8260				524.2				8270				8011				8260			
		Analyte	Xylenes, Total (p/m-, o-xylene)				Xylenes, p/m-				Xylenes, o-				1-Methylnaphthalene				2-Methylnaphthalene				2-Methylnaphthalene				Naphthalene *****				Naphthalene *****				Naphthalene *****				Naphthalene *****				1,2-Dibromoethane *****				1,2-Dibromoethane *****			
		CAS No.	1330-20-7				179601-23-1				95-47-6				90-12-0				91-57-6				91-57-6				91-20-3				91-20-3				91-20-3				91-20-3				106-93-4				106-93-4			
		Unit	µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L			
		DOH EAL	20				20				20				10				10				10				17				17				17				17				0.04				0.04			
		SSRBL	—				—				—				—				—				—				—				—				—				—				—				—			
Well Name	Sample ID	Date Sampled	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note
RHMW01	ERH223 (EPA split)	2017-02-08	—				< 0.5	U			< 0.2	U			< 0.025	UJ	c		< 0.025	UJ	c		< 0.5	U			**0.13**				—				**0.2**	**J**			< 0.5	U			—				—			
RHMW01	ERH275	2017-03-08	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW01	ERH275 (EPA split)	2017-03-08	—				< 0.5	U			< 0.2	U			< 0.026	UJ	c		< 0.026	UJ	c		< 0.5	U			**0.089**				—				**0.4**	**J**			< 0.5	U			—				—			
RHMW01	ERH310	2017-04-03	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW01	ERH332	2017-05-01	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW01	ERH352	2017-06-05	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW01	ERH383	2017-07-05	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW01	ERH412	2017-10-25	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				< 0.50	U		
RHMW01	ERH413	10/25/2017*	—				—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW01	ERH412 (EPA split)	2017-10-25	—				—				—				< 0.025	U			< 0.025	U			—				**0.17**				—				—				—				—				—			
RHMW01	ERH545	2018-03-12	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW01	ERH545 (EPA split)	2018-03-12	—				—				—				< 0.025	U			< 0.025	U			—				**0.19**				—				—				—				—				—			
RHMW01	ERH591	2018-04-25	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW01	ERH637	2018-07-24	< 0.30	UJ	s		—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW01	ERH637 (EPA split)	2018-07-24	—				—				—				< 0.025	U			< 0.025	U			—				**0.13**				—				—				—				—				—			
RHMW01	ERH681	2018-10-25	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW01	ERH736	2019-01-22	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW01	ERH788	2019-04-23	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW01	ERH844	2019-07-23	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW01	ERH910	2019-10-22	< 0.30	U			—				—				< 0.10	UJ	l		< 0.10	UJ	l		—				< 0.10	UJ	l		—				—				—				—				—			
RHMW01	ERH974	2020-01-20	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW02	RHMW02W01	9/20/2005[a]	< 2.5	U			—				—				**104**				**88.5**				—				**120**				**283**	**J**	c		—				—				—				< 2.5	U		
RHMW02	RHMW02Q01	9/20/2005*[a]	< 2.5	U			—				—				**102**				**87.2**				—				**123**				**319**				—				—				—				< 2.5	U		
RHMW02	RHMW02-GW02	7/10/2006[a]	< 0.50	U			—				—				**142**				**65.8**				—				**171**				**343**				—				—				—				< 0.50	U		
RHMW02	RHMW05-GW02	7/10/2006*[a]	< 2.5	U			—				—				**133**				**67.1**				—				**180**				**335**				—				—				—				< 2.5	U		
RHMW02	RHMW02-GW06	12/5/2006[a]	< 0.50	U			—				—				**124**				**45.1**				—				**160**				**257**				—				—				—				< 0.50	U		
RHMW02	RHMWA01-GW06	12/5/2006*[a]	< 0.50	U			—				—				**114**				**51.1**				—				**147**				**269**				—				—				—				< 0.50	U		
RHMW02	RHMW02-WG07	3/27/2007[a]	< 0.50	U			—				—				**72.1**				**30.3**				—				**105**				**196**				—				—				—				< 0.50	U		
RHMW02	RHMWA01-WG07	3/27/2007*[a]	< 0.50	U			—				—				**59.4**				**26.2**				—				**90.1**				**207**				—				—				—				< 0.50	U		
RHMW02	RHMW02-WG08	6/12/2007[a]	< 0.5	U			—				—				**67.3**				**26.5**				—				**87.2**				**209**				—				—				—				< 0.50	U		
RHMW02	RHMWA01-WG08	6/12/2007*[a]	< 0.50	U			—				—				**88.3**				**33**				—				**128**				**207**				—				—				—				< 0.50	U		
RHMW02	RHMW02-WG09	9/10/2007[a]	< 0.36	U			—				—				**109**				**21.5**				—				**144**				**206**				—				—				—				< 0.20	U		
RHMW02	RHMWA01-WG09	9/10/2007*[a]	< 0.38	U			—				—				**102**				**19.7**				—				**136**				**264**				—				—				—				< 0.20	U		
RHMW02	RHMW02-WG10	1/15/2008[a]	**1.06**				—				—				**67.0**				**23.8**				—				**93.6**				**195**				—				—				—				< 0.310	U		
RHMW02	RHMWA01-WG10	1/15/2008*[a]	**1.10**				—				—				**73.2**				**27.6**				—				**102**				**194**				—				—				—				< 0.310	U		
RHMW02	RHMW02-WG11	4/15/2008[a]	**0.740**	**J**			—				—				**75.8**				**34.5**				—				**73.0**				**290**				—				—				—				< 0.310	U		
RHMW02	RHMWA01-WG11	4/15/2008*[a]	**0.750**	**J**			—				—				**71.9**				**40.8**				—				**105**				**293**				—				—				—				< 0.310	U		
RHMW02	RHMW02-WG12	7/29/2008[ad]	< 0.620	U			—				—				**102**				**31.5**				—				**140**				**320**				—				—				—				< 0.310	U		
RHMW02	RHMWA01-WG12	7/29/2008*[ad]	< 0.620	U			—				—				**96.0**				**42.2**				—				**132**				**309**				—				—				—				< 0.310	U		
RHMW02	RHMW02-WG13	10/22/2008[ad]	**0.450**	**J**			—				—				**72.1**				**13.7**				—				**97.4**				**239**				—				—				—				< 0.310	U		
RHMW02	RHMWA01-WG13	10/22/2008*[ad]	**0.490**	**J**			—				—				**62.4**				**12.7**				—				**82.3**				**245**				—				—				—				< 0.310	U		
RHMW02	RHMW02-WG14	2/4/2009[a]	**0.400**	**J**			—				—				**21.2**	**J**	s		**10.5**				—				**15.2**				**42.8**				—				—				—				< 0.310	U		
RHMW02	RHMWA01-WG14	2/4/2009*[a]	**0.470**	**J**			—				—				**22.8**				**11.1**				—				**16.6**				**43.0**				—				—				—				< 0.310	U		
RHMW02	RHMW02-WG15	5/13/2009[a]	**0.310**	**J**			—				—				**17.9**				**0.136**				—				**1.17**				< 0.620	U			—				—				—				< 0.310	U		
RHMW02	RHMWA01-WG15	5/13/2009*[a]	< 0.620	U			—				—				**24.6**				**0.107**				—				**1.08**				< 0.620	U			—				—				—				< 0.310	U		
RHMW02	RHMW02-WG16	7/15/2009[a]	< 0.620	U			—				—				**13.2**				**3.66**				—				**8.37**				**10.1**				—				—				—				< 0.310	U		

Table A.1: Cumulative Groundwater COPC Results, First Quarter 2020 Groundwater Monitoring Event (cont'd)
Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i

		Analyte Class	Lead Scavenger				Lead Scavenger				Lead Scavenger				Lead Scavenger				Lead Scavenger				Lead Scavenger				Semivolatiles				Semivolatiles			
		Analyte Type	Lead Scavenger				Lead Scavenger				Lead Scavenger				Lead Scavenger				Lead Scavenger				Lead Scavenger				Fuel Additive				Fuel Additive			
		Analytical Method	504.1				524.2				8260SIM				8260SIM				8260				524.2				8270				8270/8270 Mod.			
		Analyte	1,2-Dibromoethane *****				1,2-Dibromoethane *****				1,2-Dibromoethane *****				1,2-Dichloroethane *****				1,2-Dichloroethane *****				1,2-Dichloroethane *****				Phenol				2-(2-Methoxyethoxy)-ethanol			
		CAS No.	106-93-4				106-93-4				106-93-4				107-06-2				107-06-2				107-06-2				108-95-2				111-77-3			
		Unit	µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L			
		DOH EAL	0.04				0.04				0.04				5				5				5				300				800			
		SSRBL	—				—				—				—				—				—				—				—			
Well Name	Sample ID	Date Sampled	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note
RHMW01	ERH223 (EPA split)	2017-02-08	—				< 0.2	U			—				—				—				< 0.2	U			< 2.5	U			—			
RHMW01	ERH275	2017-03-08	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW01	ERH275 (EPA split)	2017-03-08	—				< 0.2	U			—				—				—				< 0.2	U			< 2.5	U			—			
RHMW01	ERH310	2017-04-03	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW01	ERH332	2017-05-01	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW01	ERH352	2017-06-05	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW01	ERH383	2017-07-05	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW01	ERH412	2017-10-25	—				—				—				—				< 0.30	U			—				< 4.00	U			< 80.0	U		
RHMW01	ERH413	10/25/2017*	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW01	ERH412 (EPA split)	2017-10-25	—				—				—				—				—				—				—				—			
RHMW01	ERH545	2018-03-12	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW01	ERH545 (EPA split)	2018-03-12	—				—				—				—				—				—				—				—			
RHMW01	ERH591	2018-04-25	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW01	ERH637	2018-07-24	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW01	ERH637 (EPA split)	2018-07-24	—				—				—				—				—				—				—				—			
RHMW01	ERH681	2018-10-25	—				—				—				—				—				—				< 4.00	U			< 80.0	UJ	I	
RHMW01	ERH736	2019-01-22	—				—				—				—				—				—				< 4.00	U			< 80.0	UJ	I	
RHMW01	ERH788	2019-04-23	—				—				—				—				—				—				< 4.00	U			< 80.0	UJ	I	
RHMW01	ERH844	2019-07-23	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW01	ERH910	2019-10-22	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW01	ERH974	2020-01-20	—				—				—				—				—				—				< 4.00	U			< 80.0	UJ	I	
RHMW02	RHMW02W01	9/20/2005[a]	—				—				—				—				< 2.5	U			—				—				—			
RHMW02	RHMW02Q01	9/20/2005*[a]	—				—				—				—				< 2.5	U			—				—				—			
RHMW02	RHMW02-GW02	7/10/2006[a]	—				—				—				—				< 0.50	U			—				—				—			
RHMW02	RHMW05-GW02	7/10/2006*[a]	—				—				—				—				< 2.5	U			—				—				—			
RHMW02	RHMW02-GW06	12/5/2006[a]	—				—				—				—				< 0.50	U			—				—				—			
RHMW02	RHMWA01-GW06	12/5/2006*[a]	—				—				—				—				< 0.50	U			—				—				—			
RHMW02	RHMW02-WG07	3/27/2007[a]	—				—				—				—				< 0.50	U			—				—				—			
RHMW02	RHMWA01-WG07	3/27/2007*[a]	—				—				—				—				< 0.50	U			—				—				—			
RHMW02	RHMW02-WG08	6/12/2007[a]	—				—				—				—				< 0.50	U			—				—				—			
RHMW02	RHMWA01-WG08	6/12/2007*[a]	—				—				—				—				< 0.50	U			—				—				—			
RHMW02	RHMW02-WG09	9/10/2007[a]	—				—				—				—				< 0.20	U			—				—				—			
RHMW02	RHMWA01-WG09	9/10/2007*[a]	—				—				—				—				< 0.20	U			—				—				—			
RHMW02	RHMW02-WG10	1/15/2008[a]	—				—				—				—				< 0.150	U			—				—				—			
RHMW02	RHMWA01-WG10	1/15/2008*[a]	—				—				—				—				< 0.150	U			—				—				—			
RHMW02	RHMW02-WG11	4/15/2008[a]	—				—				—				—				< 0.150	U			—				—				—			
RHMW02	RHMWA01-WG11	4/15/2008*[a]	—				—				—				—				< 0.150	U			—				—				—			
RHMW02	RHMW02-WG12	7/29/2008[ad]	—				—				—				—				< 0.150	U			—				—				—			
RHMW02	RHMWA01-WG12	7/29/2008*[ad]	—				—				—				—				< 0.150	U			—				—				—			
RHMW02	RHMW02-WG13	10/22/2008[ad]	—				—				—				—				< 0.150	U			—				—				—			
RHMW02	RHMWA01-WG13	10/22/2008*[ad]	—				—				—				—				< 0.150	U			—				—				—			
RHMW02	RHMW02-WG14	2/4/2009[a]	—				—				—				—				< 0.150	U			—				—				—			
RHMW02	RHMWA01-WG14	2/4/2009*[a]	—				—				—				—				< 0.150	U			—				—				—			
RHMW02	RHMW02-WG15	5/13/2009[a]	—				—				—				—				< 0.150	U			—				—				—			
RHMW02	RHMWA01-WG15	5/13/2009*[a]	—				—				—				—				< 0.150	U			—				—				—			
RHMW02	RHMW02-WG16	7/15/2009[a]	—				—				—				—				< 0.150	U			—				—				—			

Table A.1: Cumulative Groundwater COPC Results, First Quarter 2020 Groundwater Monitoring Event (cont'd)
Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i

		Analyte Class	TPH				TPH				TPH				TPH				TPH				Volatiles				Volatiles				Volatiles				Volatiles			
		Analyte Type	COPC				COPC				COPC				COPC				COPC				COPC				non-COPC				COPC				non-COPC			
		Analytical Method	8015				8260				8015				8015				8015				8260				524.2				8260				524.2			
		Analyte	TPH-g****				TPH-g****				TPH-d				TPH-d with Silica Gel Cleanup				TPH-o				TPH-o with Silica Gel Cleanup				Benzene				Benzene				Ethylbenzene			
		CAS No.	Gas				Gas				Diesel				Disel SGC				Oil				Oil SGC				71-43-2				71-43-2				100-41-4			
		Unit	µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L			
		DOH EAL	300				300				400				400				500				500				5				5				30			
		SSRBL	—				—				4500				—				—				—				750				750				—			
Well Name	Sample ID	Date Sampled	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note
RHMW02	RHMWA01-WG16	7/15/2009*[a]	< 30.0	U			—				**1,300**				—				—				—				< 0.120	U			—				< 0.310	U		
RHMW02	RHMW02-WG17	10/13/2009[a]	**36.9**	**J**			—				**2,570**				—				—				—				< 0.12	U			—				< 0.31	U		
RHMW02	RHMWA01-WG17	10/13/2009*[a]	< 30	U			—				**2,570**				—				—				—				< 0.12	U			—				< 0.31	U		
RHMW02	RHMW02-WG18	2010-01-26	**42.3**	**J**			—				**2,130**			Y	—				—				—				< 0.240	U			—				< 0.620	U		
RHMW02	RHMWA01-WG18	1/26/2010*	**38.1**	**J**			—				**3,410**			Y	—				—				—				< 0.240	U			—				< 0.620	U		
RHMW02	RHMW02-WG19	2010-04-13	**39.3**	**J**			—				**2,350**				—				—				—				< 0.240	U			—				< 0.620	U		
RHMW02	RHMWA01-WG19	4/13/2010*	**39.0**	**J**			—				**2,080**				—				—				—				< 0.240	U			—				< 0.620	U		
RHMW02	RHMW02-WG20	2010-07-13	**46.5**	**J**			—				**3,060**				—				—				—				< 0.240	U			—				< 0.620	U		
RHMW02	RHMWA01-WG20	7/13/2010*	**45.4**	**J**			—				**3,110**				—				—				—				< 0.240	U			—				< 0.620	U		
RHMW02	ES002	2010-10-18	—				**150**			O	**1,700**			O	—				—				—				< 0.32	U			—				**0.25**	**J**		
RHMW02	ES003	10/18/2010*	—				**160**			O	**1,700**			O	—				—				—				< 0.32	U			—				**0.32**	**J**		
RHMW02	ES010	1/18/2011[d]	—				**17**	**J**		O	**1,100**			O	—				—				—				< 0.32	U			—				**0.29**	**J**		
RHMW02	ES011	1/18/2011*[d]	—				**20**			O	**980**			O	—				—				—				< 0.32	U			—				**0.25**	**J**		
RHMW02	ES020	4/19/2011[d]	—				**24**			O	**1,100**			O	—				—				—				< 0.32	U			—				< 0.46	U		
RHMW02	ES021	4/19/2011*[d]	—				**29**			O	**1,100**			O	—				—				—				< 0.32	U			—				< 0.46	U		
RHMW02	ES037	2011-07-19	—				< 12.12	U			**1,100**			O	—				< 212.0	U			—				< 0.32	U			—				< 0.46	U		
RHMW02	ES038	7/19/2011*	—				< 12.12	U			**1,800**	**J**	s	O	—				< 212.0	U			—				< 0.32	U			—				< 0.46	U		
RHMW02	ES046	2011-10-24	—				< 12.12	U			**750**			O	—				—				—				< 0.32	U			—				< 0.46	U		
RHMW02	ES047	10/24/2011*	—				< 12.12	U			**730**			O	—				—				—				< 0.32	U			—				< 0.46	U		
RHMW02	ES061	2012-01-26	—				< 12.12	U			**1,700**			O	—				—				—				< 0.32	U			—				**0.30**	**J**		
RHMW02	ES071	2012-04-16	—				< 12.12	U			**1,200**			O	—				—				—				< 0.32	U			—				< 0.46	U		
RHMW02	ES072	4/16/2012*	—				< 12.12	U			**1,100**			O	—				—				—				< 0.32	U			—				**0.23**	**J**		
RHMW02	ES082	2012-07-18	—				< 12.12	U			**1,700**			Y	—				—				—				< 0.32	U			—				< 0.46	U		
RHMW02	ES002	2012-10-22	—				**320**				**2,200**			Y	—				—				—				< 0.50	U			—				**0.18**	**J**		
RHMW02	ES003	10/22/2012*	—				**360**				**1,800**			Y	—				—				—				< 0.50	U			—				**0.18**	**J**		
RHMW02	ES011	2013-01-28	—				**660**				**1,700**			Y	—				—				—				< 0.50	U			—				**0.21**	**J**		
RHMW02	ES012	1/28/2013*	—				**650**				**1,500**			Y	—				—				—				< 0.50	U			—				**0.24**	**J**		
RHMW02	ES020	2013-04-22	—				< 54	UJ	t		**2,600**			Y	—				—				—				< 0.50	U			—				**0.21**	**J**		
RHMW02	ES021	4/22/2013*	—				< 56	UJ	t		**3,300**			Y	—				—				—				< 0.50	U			—				**0.21**	**J**		
RHMW02	ES029	2013-07-22	—				**55**	**J**	h		**2,500**			Y	—				—				—				< 0.50	UJ	h		—				**0.17**	**J**	h	
RHMW02	ES030	7/22/2013*	—				**61**	**J**	h		**2,600**			Y	—				—				—				< 0.50	UJ	h		—				**0.19**	**J**	h	
RHMW02	ES038	2013-10-21	—				< 48	UJ	b		**2,400**			Y	—				—				—				< 0.50	U			—				**0.14**	**J**		
RHMW02	ES039	10/21/2013*	—				< 63	UJ	b		**2,400**			Y	—				—				—				< 0.50	U			—				< 0.50	U		
RHMW02	ES046	1/15/2014[d]	—				—				**5,000**				—				—				—				< 0.50	U			—				**0.17**	**J**		
RHMW02	ES047	1/15/2014*[d]	—				—				**5,200**				—				—				—				< 0.50	U			—				**0.17**	**J**		
RHMW02	ES057	1/28/2014[d]	—				< 50	U	b		**2,300**			Y	—				—				—				**0.14**	**J**			—				**0.20**	**J**		
RHMW02	ES058	1/28/2014*[d]	—				< 52	U	b		**2,100**			Y	—				—				—				**0.15**	**J**			—				**0.20**	**J**		
RHMW02	ES063	2/24/2014[d]	—				**40**	**J**			**2,200**			Y	—				—				—				< 0.50	U			—				**0.15**	**J**		
RHMW02	ES065	3/5/2014[d]	—				—				**2,100**				—				—				—				< 0.50	U			—				**0.15**	**J**		
RHMW02	ES066	3/5/2014*[d]	—				—				**2,200**				—				—				—				< 0.50	U			—				**0.15**	**J**		
RHMW02	ES070	3/10/2014[d]	—				—				**930**				—				—				—				< 0.50	U			—				< 0.50	U		
RHMW02	ES071	3/10/2014*[d]	—				—				**890**				—				—				—				< 0.50	U			—				< 0.50	U		
RHMW02	ES073	3/25/2014[d]	—				—				**1,700**			Y	—				—				—				< 0.50	U			—				**0.15**	**J**		
RHMW02	ES074	3/25/2014*[d]	—				—				**1,700**			Y	—				—				—				< 0.50	U			—				**0.16**	**J**		
RHMW02	ES078	4/7/2014[d]	—				—				**3,500**			Y	—				—				—				< 0.50	U			—				**0.18**	**J**		
RHMW02	ES079	4/7/2014*[d]	—				—				**3,300**			Y	—				—				—				< 0.50	U			—				< 0.50	U		

Table A.1: Cumulative Groundwater COPC Results, First Quarter 2020 Groundwater Monitoring Event (cont'd)
Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i

		Analyte Class	Volatiles			Volatiles			Volatiles			Semivolatiles (PAHs)			Semivolatiles (PAHs)			Semivolatiles (PAHs)			Semivolatiles (PAHs)			Semivolatiles (PAHs)			Semivolatiles (PAHs)			Lead Scavenger			Lead Scavenger		
		Analyte Type	COPC			non-COPC			non-COPC			COPC			COPC			non-COPC			COPC			non-COPC			non-COPC			Lead Scavenger			Lead Scavenger		
		Analytical Method	8260			524.2			524.2			8270 SIM			8270 SIM			8270			8270 SIM			8260			524.2			8270			8011			8260		
		Analyte	Xylenes, Total (p/m-, o-xylene)			Xylenes, p/m-			Xylenes, o-			1-Methylnaphthalene			2-Methylnaphthalene			2-Methylnaphthalene			Naphthalene *****			Naphthalene *****			Naphthalene *****			Naphthalene *****			1,2-Dibromoethane *****			1,2-Dibromoethane *****		
		CAS No.	1330-20-7			179601-23-1			95-47-6			90-12-0			91-57-6			91-57-6			91-20-3			91-20-3			91-20-3			91-20-3			106-93-4			106-93-4		
		Unit	µg/L			µg/L			µg/L			µg/L			µg/L			µg/L			µg/L			µg/L			µg/L			µg/L			µg/L			µg/L		
		DOH EAL	20			20			20			10			10			10			17			17			17			17			0.04			0.04		
		SSRBL	—			—			—			—			—			—			—			—			—			—			—			—		
Well Name	Sample ID	Date Sampled	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note
RHMW02	RHMWA01-WG16	7/15/2009*[a]	< 0.620	U			—				—				10.6				2.58				—				6.71				11.2				—				< 0.310	U		
RHMW02	RHMW02-WG17	10/13/2009[a]	< 1	U			—				—				2.46				0.486				—				6.77				23.3				—				< 0.31	U		
RHMW02	RHMWA01-WG17	10/13/2009*[a]	< 1	U			—				—				4.03				0.783				—				7.82				20.0				—				< 0.31	U		
RHMW02	RHMW02-WG18	2010-01-26	< 1.24	U			—				—				9.03				3.85				—				17.3				31.5				—				< 0.620	U		
RHMW02	RHMWA01-WG18	1/26/2010*	< 1.24	U			—				—				8.26				2.65				—				15.7				9.30				—				< 0.620	U		
RHMW02	RHMW02-WG19	2010-04-13	< 1.24	U			—				—				6.61				1.69				—				14.3				20.6				—				< 0.620	U		
RHMW02	RHMWA01-WG19	4/13/2010*	< 1.24	U			—				—				5.90				1.90				—				12.7				21.4				—				< 0.620	U		
RHMW02	RHMW02-WG20	2010-07-13	**0.690**	**J**			—				—				7.43				1.06				—				59.9				107				—				< 0.620	U		
RHMW02	RHMWA01-WG20	7/13/2010*	**0.660**	**J**			—				—				7.05				0.937				—				61.1				102				—				< 0.620	U		
RHMW02	ES002	2010-10-18	**0.60**	**J**			—				—				15				5.0				—				59				—				—				< 0.40	U		
RHMW02	ES003	10/18/2010*	**0.51**	**J**			—				—				15				6.3				—				54				—				—				< 0.40	U		
RHMW02	ES010	1/18/2011[d]	**0.48**	**J**			—				—				19				3.6				—				57				—				—				< 0.40	U		
RHMW02	ES011	1/18/2011*[d]	**0.58**	**J**			—				—				23				5.6				—				63				—				—				< 0.40	U		
RHMW02	ES020	4/19/2011[d]	**0.41**	**J**			—				—				5.1				0.43				—				3.5				—				—				< 0.40	U		
RHMW02	ES021	4/19/2011*[d]	**0.41**	**J**			—				—				5.2				0.53				—				4.2				—				—				< 0.40	U		
RHMW02	ES037	2011-07-19	< 0.38	U			—				—				0.85				**0.16**	**J**			—				2.2				—				—				< 0.40	U		
RHMW02	ES038	7/19/2011*	< 0.38	U			—				—				0.90				**0.12**	**J**			—				2.7				—				—				< 0.40	U		
RHMW02	ES046	2011-10-24	< 0.38	U			—				—				0.53				**0.15**	**J**			—				0.80				—				—				< 0.40	U		
RHMW02	ES047	10/24/2011*	< 0.38	U			—				—				0.62				0.20				—				1.0				—				—				< 0.40	U		
RHMW02	ES061	2012-01-26	< 0.38	U			—				—				0.57				**0.17**	**J**			—				1.7				—				—				< 0.40	U		
RHMW02	ES071	2012-04-16	< 0.38	U			—				—				0.30				< 0.12	U			—				0.86				—				—				< 0.40	U		
RHMW02	ES072	4/16/2012*	< 0.38	U			—				—				1.2				0.61				—				2.9				—				—				< 0.40	U		
RHMW02	ES082	2012-07-18	**0.43**	**J**			—				—				4.7				0.88				—				17				—				—				< 0.40	U		
RHMW02	ES002	2012-10-22	**0.51**	**J**			—				—				24				14				—				63				—				—				< 0.50	U		
RHMW02	ES003	10/22/2012*	**0.47**	**J**			—				—				21				12				—				61				—				—				< 0.50	U		
RHMW02	ES011	2013-01-28	**0.65**	**J**			—				—				47				35				—				110				—				—				< 0.50	U		
RHMW02	ES012	1/28/2013*	**0.69**	**J**			—				—				41				31				—				100				—				—				< 0.50	U		
RHMW02	ES020	2013-04-22	**0.58**	**J**			—				—				16				13				—				53				—				—				< 0.50	U		
RHMW02	ES021	4/22/2013*	**0.58**	**J**			—				—				20				16				—				61				—				—				< 0.50	U		
RHMW02	ES029	2013-07-22	**0.45**	**J**	h		—				—				21				9.1				—				73				—				—				< 0.50	UJ	h	
RHMW02	ES030	7/22/2013*	**0.50**	**J**	h		—				—				18				6.6				—				67				—				—				< 0.50	UJ	h	
RHMW02	ES038	2013-10-21	**0.37**	**J**			—				—				9.0				9.0				—				30				—				—				< 0.50	U		
RHMW02	ES039	10/21/2013*	**0.37**	**J**			—				—				7.5				7.5				—				25				—				—				< 0.50	U		
RHMW02	ES046	1/15/2014[d]	**0.48**	**J**			—				—				6.0				4.9				—				18				—				—				< 0.50	U		
RHMW02	ES047	1/15/2014*[d]	**0.45**	**J**			—				—				5.3				4.3				—				17				—				—				< 0.50	U		
RHMW02	ES057	1/28/2014[d]	**0.38**	**J**			—				—				8.8				5.4				—				18				—				—				< 0.50	U		
RHMW02	ES058	1/28/2014*[d]	**0.34**	**J**			—				—				9.0				5.9				—				18				—				—				< 0.50	U		
RHMW02	ES063	2/24/2014[d]	**0.29**	**J**			—				—				5.2				2.5				—				15				—				—				< 0.50	U		
RHMW02	ES065	3/5/2014[d]	**0.29**	**J**			—				—				2.6				1.5				—				10				—				—				—			
RHMW02	ES066	3/5/2014*[d]	**0.32**	**J**			—				—				3.9				2.9				—				13				—				—				—			
RHMW02	ES070	3/10/2014[d]	**0.30**	**J**			—				—				3.7				2.5				—				11				—				—				—			
RHMW02	ES071	3/10/2014*[d]	**0.31**	**J**			—				—				4.2				3.0				—				12				—				—				—			
RHMW02	ES073	3/25/2014[d]	**0.38**	**J**			—				—				9.0				4.9				—				33				—				—				—			
RHMW02	ES074	3/25/2014*[d]	**0.41**	**J**			—				—				8.1				4.0				—				33				—				—				—			
RHMW02	ES078	4/7/2014[d]	**0.40**	**J**			—				—				6.2				4.4				—				25				—				—				—			
RHMW02	ES079	4/7/2014*[d]	**0.33**	**J**			—				—				9.0				7.6				—				31				—				—				—			

Table A.1: Cumulative Groundwater COPC Results, First Quarter 2020 Groundwater Monitoring Event (cont'd)
Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i

		Analyte Class	Lead Scavenger				Lead Scavenger				Lead Scavenger				Lead Scavenger				Lead Scavenger				Lead Scavenger				Semivolatiles				Semivolatiles			
		Analyte Type	Lead Scavenger				Lead Scavenger				Lead Scavenger				Lead Scavenger				Lead Scavenger				Fuel Additive				Fuel Additive					
		Analytical Method	504.1				524.2				8260SIM				8260SIM				8260				524.2				8270				8270/8270 Mod.			
		Analyte	1,2-Dibromoethane *****				1,2-Dibromoethane *****				1,2-Dibromoethane *****				1,2-Dichloroethane *****				1,2-Dichloroethane *****				1,2-Dichloroethane *****				Phenol				2-(2-Methoxyethoxy)-ethanol			
		CAS No.	106-93-4				106-93-4				106-93-4				107-06-2				107-06-2				107-06-2				108-95-2				111-77-3			
		Unit	µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L			
		DOH EAL	0.04				0.04				0.04				5				5				5				300				800			
		SSRBL	—				—				—				—				—				—				—				—			
Well Name	Sample ID	Date Sampled	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note
RHMW02	RHMWA01-WG16	7/15/2009*[a]	—				—				—				—				< 0.150	U			—				—				—			
RHMW02	RHMW02-WG17	10/13/2009[a]	—				—				—				—				< 0.15	U			—				—				—			
RHMW02	RHMWA01-WG17	10/13/2009*[a]	—				—				—				—				< 0.15	U			—				—				—			
RHMW02	RHMW02-WG18	2010-01-26	—				—				—				—				< 0.300	U			—				—				—			
RHMW02	RHMWA01-WG18	1/26/2010*	—				—				—				—				< 0.300	U			—				—				—			
RHMW02	RHMW02-WG19	2010-04-13	—				—				—				—				< 0.300	U			—				—				—			
RHMW02	RHMWA01-WG19	4/13/2010*	—				—				—				—				< 0.300	U			—				—				—			
RHMW02	RHMW02-WG20	2010-07-13	—				—				—				—				< 0.300	U			—				—				—			
RHMW02	RHMWA01-WG20	7/13/2010*	—				—				—				—				< 0.300	U			—				—				—			
RHMW02	ES002	2010-10-18	—				—				—				—				< 0.28	U			—				—				—			
RHMW02	ES003	10/18/2010*	—				—				—				—				< 0.28	U			—				—				—			
RHMW02	ES010	1/18/2011[d]	—				—				—				—				< 0.28	U			—				—				—			
RHMW02	ES011	1/18/2011*[d]	—				—				—				—				< 0.28	U			—				—				—			
RHMW02	ES020	4/19/2011[d]	—				—				—				—				< 0.28	U			—				—				—			
RHMW02	ES021	4/19/2011*[d]	—				—				—				—				< 0.28	U			—				—				—			
RHMW02	ES037	2011-07-19	—				—				—				—				< 0.28	U			—				—				—			
RHMW02	ES038	7/19/2011*	—				—				—				—				< 0.28	U			—				—				—			
RHMW02	ES046	2011-10-24	—				—				—				—				< 0.28	U			—				—				—			
RHMW02	ES047	10/24/2011*	—				—				—				—				< 0.28	U			—				—				—			
RHMW02	ES061	2012-01-26	—				—				—				—				< 0.28	U			—				—				—			
RHMW02	ES071	2012-04-16	—				—				—				—				< 0.28	U			—				—				—			
RHMW02	ES072	4/16/2012*	—				—				—				—				< 0.28	U			—				—				—			
RHMW02	ES082	2012-07-18	—				—				—				—				< 0.28	U			—				—				—			
RHMW02	ES002	2012-10-22	—				—				—				—				< 0.50	U			—				—				—			
RHMW02	ES003	10/22/2012*	—				—				—				—				< 0.50	U			—				—				—			
RHMW02	ES011	2013-01-28	—				—				—				—				< 0.50	U			—				—				—			
RHMW02	ES012	1/28/2013*	—				—				—				—				< 0.50	U			—				—				—			
RHMW02	ES020	2013-04-22	—				—				—				—				< 0.50	U			—				—				—			
RHMW02	ES021	4/22/2013*	—				—				—				—				< 0.50	U			—				—				—			
RHMW02	ES029	2013-07-22	—				—				—				—				< 0.50	UJ	h		—				—				—			
RHMW02	ES030	7/22/2013*	—				—				—				—				< 0.50	UJ	h		—				—				—			
RHMW02	ES038	2013-10-21	—				—				—				—				< 0.50	U			—				—				—			
RHMW02	ES039	10/21/2013*	—				—				—				—				< 0.50	U			—				—				—			
RHMW02	ES046	1/15/2014[d]	—				—				—				—				< 0.50	U			—				—				—			
RHMW02	ES047	1/15/2014*[d]	—				—				—				—				< 0.50	U			—				—				—			
RHMW02	ES057	1/28/2014[d]	—				—				—				—				< 0.50	U			—				—				—			
RHMW02	ES058	1/28/2014*[d]	—				—				—				—				< 0.50	U			—				—				—			
RHMW02	ES063	2/24/2014[d]	—				—				—				—				< 0.50	U			—				—				—			
RHMW02	ES065	3/5/2014[d]	—				—				—				—				—				—				—				—			
RHMW02	ES066	3/5/2014*[d]	—				—				—				—				—				—				—				—			
RHMW02	ES070	3/10/2014[d]	—				—				—				—				—				—				—				—			
RHMW02	ES071	3/10/2014*[d]	—				—				—				—				—				—				—				—			
RHMW02	ES073	3/25/2014[d]	—				—				—				—				—				—				—				—			
RHMW02	ES074	3/25/2014*[d]	—				—				—				—				—				—				—				—			
RHMW02	ES078	4/7/2014[d]	—				—				—				—				—				—				—				—			
RHMW02	ES079	4/7/2014*[d]	—				—				—				—				—				—				—				—			

Table A.1: Cumulative Groundwater COPC Results, First Quarter 2020 Groundwater Monitoring Event (cont'd)
Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i

		Analyte Class	TPH				TPH				TPH				TPH				TPH				Volatiles				Volatiles				Volatiles				Volatiles				Volatiles			
		Analyte Type	COPC				COPC				COPC				COPC				COPC				COPC				non-COPC				COPC				non-COPC				COPC			
		Analytical Method	8015				8260				8015				8015				8015				8260				524.2				8260				524.2				8260			
		Analyte	TPH-g****				TPH-g****				TPH-d				TPH-d with Silica Gel Cleanup				TPH-o				TPH-o with Silica Gel Cleanup				Benzene				Benzene				Ethylbenzene				Ethylbenzene				Toluene				Toluene			
		CAS No.	Gas				Gas				Diesel				Disel SGC				Oil				Oil SGC				71-43-2				71-43-2				100-41-4				100-41-4				108-88-3				108-88-3			
		Unit	µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L			
		DOH EAL	300				300				400				400				500				500				5				5				30				30				40				40			
		SSRBL	—				—				4500				—				—				—				750				750				—				—				—			
Well Name	Sample ID	Date Sampled	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note
RHMW02	ES081	4/21/2014[d]	—				**53**				**1,900**				—				—				—				< 0.50 U				—				**0.17 J**				—				< 0.50 U				—			
RHMW02	ES082	4/21/2014*[d]	—				**50**				**1,500**				—				—				—				< 0.50 U				—				**0.16 J**				—				< 0.50 U				—			
RHMW02	ES092	5/27/2014[d]	—				—				**1,500**			Y	—				—				—				< 0.50 U				—				< 0.50 U				—				< 0.50 U				—			
RHMW02	ES093	5/27/2014*[d]	—				—				**1,300**			Y	—				—				—				< 0.50 U				—				< 0.50 U				—				< 0.50 U				—			
RHMW02	ES099	6/23/2014[d]	—				—				**1,800**				—				—				—				< 0.50 U				—				**0.16 J**				—				< 0.50 U				—			
RHMW02	ES100	6/23/2014*[d]	—				—				**1,600**				—				—				—				< 0.50 U				—				**0.18 J**				—				< 0.50 U				—			
RHMW02	ES104	2014-07-21	—				**48 J**				**1,200**			Y	—				—				—				< 0.50 U				—				< 0.50 U				—				< 0.50 U				—			
RHMW02	ES105	7/21/2014*	—				**49 J**				**1,300**			Y	—				—				—				< 0.50 U				—				< 0.50 U				—				< 0.50 U				—			
RHMW02	ES114	2014-10-27	—				**57**				**2,000**			Y	—				—				—				< 0.50 U				—				**0.15 J**				—				< 0.50 U				—			
RHMW02	ES115	2014-10-27	—				**53**				**2,000**			Y	—				—				—				< 0.50 U				—				**0.14 J**				—				< 0.50 U				—			
RHMW02	ES126	2015-01-28	—				**54**				**1,100**			Y	—				—				—				< 0.50 U				—				**0.16 J**				—				< 0.50 U				—			
RHMW02	ES127	1/28/2015*	—				**59**				**1,700**			Y	—				—				—				< 0.50 U				—				**0.17 J**				—				< 0.50 U				—			
RHMW02	ES131	2015-04-20	**46 J**				—				**5,200**			Y	—				**360**			Y	—				**0.090 J**				—				**0.18 J**				—				< 0.10 U				—			
RHMW02	ES132	4/20/2015*	**47 J**				—				**5,400**			Y	—				**360**			Y	—				**0.080 J**				—				**0.19 J**				—				< 0.10 U				—			
RHMW02	ES144	2015-06-25	—				—				**3,800**			Y	—				**250**			Y	—				—				—				—				—				—				—			
RHMW02	ES146	2015-07-20	**40 J**				—				**3,900 J**		s	Y	—				**240 J**		s	Y	—				< 0.10 U				—				**0.16 J**				—				**0.060 J**				—			
RHMW02	ES147	7/20/2015*	**41 J**				—				**3,200**			Y	—				**260**			Y	—				**0.10 J**				—				**0.17 J**				—				< 0.10 U				—			
RHMW02	ERH012	2015-10-20	**47 J**				—				**6,100**			Y	—				**310**			Y	—				**0.090 J**	**h**			—				**0.29 J**	h			—				< 0.3 UJ	b h t			—			
RHMW02	ERH013	10/20/2015*	**47 J**				—				**6,200**			Y	—				**320**			Y	—				**0.090 J**	**h**			—				**0.26 J**	h			—				< 0.49 UJ	b h t			—			
RHMW02	ERH025	2016-01-20	**36 J**				—				**6,500**			Y	—				**340**			Y	—				**0.080 J**				—				**0.014 J**				—				< 0.07 UJ	t			—			
RHMW02	ERH040	2016-04-20	< 35 U	f			—				**4,400**			Y	—				**390**			Y	—				< 0.10 U				—				< 0.17 U	f			—				< 0.10 U				—			
RHMW02	ERH041	4/20/2016*	< 35 U	f			—				**3,700**			Y	—				**400**			Y	—				**0.070 J**				—				< 0.17 U	f			—				< 0.10 U				—			
RHMW02	ERH054	2016-07-20	**31 J**	s			—				**3,600**			Y	—				**280**			Y	—				**0.070 J**				—				< 0.13 U	f			—				< 0.10 U				—			
RHMW02	ERH055	7/20/2016*	**30 J**	s			—				**3,200**			Y	—				**270**			Y	—				**0.080 J**				—				< 0.14 U	f			—				< 0.10 U				—			
RHMW02	ERH091	2016-10-19	—				**35**				**1,300**				**300**			Y	< 40 U				< 40 U				< 0.30 U				—				< 0.50 U				—				< 0.30 U				—			
RHMW02	ERH124	2016-11-15	—				**26**		Y		**1,300**			O	—				**100**				—				< 0.30 U				—				< 0.50 U				—				< 0.30 U				—			
RHMW02	ERH144	2016-12-13	—				< 18 U				**1,300**			O	—				< 40 U				—				< 0.30 U				—				< 0.50 U				—				< 0.30 U				—			
RHMW02	ERH174	2017-01-10	—				**63**		Y		**1,400**			O	—				**42**				—				< 0.30 U				—				< 0.50 U				—				< 0.30 U				—			
RHMW02	ERH174 (EPA split)	2017-01-10	**41 J**	c			—				**4,000**				—				< 300 U				—				—				< 0.2 U				—				< 0.2 U				—				< 0.2 U			
RHMW02	ERH216	2017-02-07	—				**65**		Y		**1,000**			O	—				< 40 U				—				< 0.30 U				—				< 0.50 U				—				< 0.30 U				—			
RHMW02	ERH216 (EPA split)	2017-02-07	**32 J**	c			—				**2,700**				—				< 300 U				—				—				< 0.2 U				—				< 0.2 U				—				< 0.2 U			
RHMW02	ERH265	2017-03-07	—				**73**		W		**1,200**			O	—				< 40 U				—				< 0.30 U				—				< 0.50 U				—				< 0.30 U				—			
RHMW02	ERH265 (EPA split)	2017-03-07	**37 J**	c			—				**2,500**				—				< 300 U				—				—				< 0.2 U				—				< 0.2 U				—				< 0.2 U			
RHMW02	ERH300	2017-04-04	—				**57**		W		**940**			O	—				**84**				—				< 0.30 U				—				< 0.50 U				—				< 0.30 U				—			
RHMW02	ERH334	2017-05-01	—				**94**		Y		**1000**			Y	< 480 U		b	Y	< 40 U				< 40 U				< 0.30 U				—				< 0.50 U				—				< 0.30 U				—			
RHMW02	ERH354	2017-06-05	—				**65**		Y		**1000**			O	**570**			O	< 40 U				< 40 U				< 0.30 U				—				< 0.50 U				—				< 0.30 U				—			
RHMW02	ERH391	2017-07-06	—				**33**		Y		**1000**			O	**250**			O	< 40 U				< 40 U				< 0.30 U				—				< 0.50 U				—				< 0.30 U				—			
RHMW02	ERH415	2017-10-23	—				**43**		Y		**1300 J**		q	O	**230 J**		q e	Y	< 40 U				< 40 U				< 0.30 U				—				< 0.50 U				—				< 0.30 U				—			
RHMW02	ERH416	10/23/2017*	—				**76**		Y		**1600**			O	**230**			Y	< 40 U				< 40 U				< 0.30 U				—				< 0.50 U				—				< 0.30 U				—			
RHMW02	ERH415 (EPA split)	2017-10-23	—				—				**3300**			F13	**550**			F3	< 320 U				< 320 U				—				—				—				—				—				—			
RHMW02	ERH547	2018-03-13	—				**47**		Y		**1900**			O	**640**			O	< 40 U				< 40 U				< 0.30 U				—				< 0.50 U				—				< 0.30 U				—			
RHMW02	ERH548	3/13/2018*	—				**42**		Y		**1800**			O	**460**			O	< 40 U				< 40 U				< 0.30 U				—				< 0.50 U				—				< 0.30 U				—			
RHMW02	ERH547 (EPA split)	2018-03-13	—				—				**2900**			F13	**430**			F13	< 300 U				< 300 U				—				—				—				—				—				—			
RHMW02	ERH593	2018-04-24	—				**51**				**2700**			O	**510**			O	< 40 U				< 40 U				< 0.30 U				—				< 0.50 U				—				< 0.30 U				—			
RHMW02	ERH594	4/24/2018*	—				**44**				**2800**			O	**420**			O	< 40 U				< 40 U				< 0.30 U				—				< 0.50 U				—				< 0.30 U				—			
RHMW02	ERH639	2018-07-24	—				**78**				**2100**			O	**580**			O	< 40 U				< 40 U				< 0.30 U				—				< 0.50 U				—				< 0.30 U				—			
RHMW02	ERH640	7/24/2018*	—				**78**				**1500**			O	**260**			O	< 40 U				< 40 U				< 0.30 U				—				< 0.50 U				—				< 0.30 U				—			
RHMW02	ERH639 (EPA split)	2018-07-24	—				—				**2400**			F13	**570**			F13	< 300 U				< 300 U				—				—				—				—				—				—			
RHMW02	ERH683	2018-10-23	—				**81**		Y		**2000 J**		h	O	**370 J**		h	O	< 40 UJ		h		< 40 UJ		h		< 0.30 U				—				< 0.50 U				—				< 0.30 U				—			

Table A.1: Cumulative Groundwater COPC Results, First Quarter 2020 Groundwater Monitoring Event (cont'd)
Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i

		Analyte Class	Volatiles			Volatiles			Volatiles			Semivolatiles (PAHs)			Semivolatiles (PAHs)			Semivolatiles (PAHs)			Semivolatiles (PAHs)			Semivolatiles (PAHs)			Semivolatiles (PAHs)			Lead Scavenger			Lead Scavenger		
		Analyte Type	COPC			non-COPC			non-COPC			COPC			COPC			non-COPC			COPC			non-COPC			non-COPC			Lead Scavenger			Lead Scavenger		
		Analytical Method	8260			524.2			524.2			8270 SIM			8270 SIM			8270			8270 SIM			8260			524.2			8270			8011			8260		
		Analyte	Xylenes, Total (p/m-, o-xylene)			Xylenes, p/m-			Xylenes, o-			1-Methylnaphthalene			2-Methylnaphthalene			2-Methylnaphthalene			Naphthalene *****			Naphthalene *****			Naphthalene *****			Naphthalene *****			1,2-Dibromoethane *****			1,2-Dibromoethane *****		
		CAS No.	1330-20-7			179601-23-1			95-47-6			90-12-0			91-57-6			91-57-6			91-20-3			91-20-3			91-20-3			91-20-3			106-93-4			106-93-4		
		Unit	µg/L			µg/L			µg/L			µg/L			µg/L			µg/L			µg/L			µg/L			µg/L			µg/L			µg/L			µg/L		
		DOH EAL	20			20			20			10			10			10			17			17			17			17			0.04			0.04		
		SSRBL	—			—			—			—			—			—			—			—			—			—			—			—		
Well Name	Sample ID	Date Sampled	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note
RHMW02	ES081	4/21/2014[d]	**0.43 J**				—				—				**8.7**				**8.1**				—				**31**				—				—				< 0.50	U		
RHMW02	ES082	4/21/2014*[d]	**0.42 J**				—				—				**8.3**				**7.7**				—				**32**				—				—				< 0.50	U		
RHMW02	ES092	5/27/2014[d]	**0.31 J**				—				—				**9.3**				**2.7**				—				**34**				—				—				—			
RHMW02	ES093	5/27/2014*[d]	**0.32 J**				—				—				**7.8**				**1.5**				—				**28**				—				—				—			
RHMW02	ES099	6/23/2014[d]	**0.40 J**				—				—				**11**				**3.4**				—				**38**				—				—				—			
RHMW02	ES100	6/23/2014*[d]	**0.37 J**				—				—				**12**				**4.5**				—				**41**				—				—				—			
RHMW02	ES104	2014-07-21	**0.36 J**				—				—				**25**				**20**				—				**71**				—				—				< 0.50	U		
RHMW02	ES105	7/21/2014*	**0.33 J**				—				—				**26**				**22**				—				**76**				—				—				< 0.50	U		
RHMW02	ES114	2014-10-27	**0.32 J**				—				—				**59**				**43**				—				**140**				—				—				< 0.50	U		
RHMW02	ES115	2014-10-27	**0.29 J**				—				—				**54**				**36**				—				**130**				—				—				< 0.50	U		
RHMW02	ES126	2015-01-28	**0.35 J**				—				—				**34**				**7.6**				—				**90**				—				—				< 0.50	U		
RHMW02	ES127	1/28/2015*	**0.35 J**				—				—				**25**				**2.7**				—				**63**				—				—				< 0.50	U		
RHMW02	ES131	2015-04-20	**0.26 J**				—				—				**31**				**15**				—				**39**				—				—				< 0.20	U		
RHMW02	ES132	4/20/2015*	**0.30 J**				—				—				**68**				**37**				—				**140**				—				—				< 0.20	U		
RHMW02	ES144	2015-06-25	—				—				—				**71**				**48**				—				**150**				—				—				—			
RHMW02	ES146	2015-07-20	**0.26 J**				—				—				**65**				**43**				—				**150**				—				—				< 0.20	U		
RHMW02	ES147	7/20/2015*	**0.27 J**				—				—				**66**				**43**				—				**160**				—				—				< 0.20	U		
RHMW02	ERH012	2015-10-20	**0.32 J**	h			—				—				**60**				**27**				—				**120**				—				—				< 0.20	UJ	h	
RHMW02	ERH013	10/20/2015*	**0.30 J**	h			—				—				**57**				**24**				—				**88**				—				—				< 0.20	UJ	h	
RHMW02	ERH025	2016-01-20	**0.21 J**				—				—				**48**				**7.9**				—				**120**				—				—				< 0.20	U		
RHMW02	ERH040	2016-04-20	< 0.16 U	f			—				—				**59**				**38**				—				**100**				—				—				—			
RHMW02	ERH041	4/20/2016*	< 0.18 U	f			—				—				**61**				**39**				—				**110**				—				—				—			
RHMW02	ERH054	2016-07-20	< 0.21 U	f			—				—				**36**				**13**				—				**67**				—				—				—			
RHMW02	ERH055	7/20/2016*	< 0.23 U	f			—				—				**33**				**12**				—				**62**				—				—				—			
RHMW02	ERH091	2016-10-19	< 0.30 U				—				—				**25**				**9.2**				—				**49**				—				—				—			
RHMW02	ERH124	2016-11-15	< 0.30 U				—				—				**29**				**12**				—				**58**				—				—				—			
RHMW02	ERH144	2016-12-13	**0.19 J**				—				—				**17**				**11**				—				**40**				—				—				—			
RHMW02	ERH174	2017-01-10	**0.26 J**				—				—				**25**				**11**				—				**69**				—				—				—			
RHMW02	ERH174 (EPA split)	2017-01-10	—				< 0.5 U				**0.2 J**		s		**33**	J	c		**11**	J	c		**12**				**77**	J	v		—				**110**				**72**				—			
RHMW02	ERH216	2017-02-07	**0.23 J**				—				—				**22**				**16**				—				**57**				—				—				—			
RHMW02	ERH216 (EPA split)	2017-02-07	—				< 0.5 U				< 0.2 U				**28**	J	c v		—				**18**				—				—				**100**	J	s		**64**				—			
RHMW02	ERH265	2017-03-07	< 0.30 U				—				—				**22**				**17**				—				**49**				—				—				—			
RHMW02	ERH265 (EPA split)	2017-03-07	—				< 0.5 U				**0.2 J**				**21**	J	c s v		—				**18**				—				—				**73**				**67**				—			
RHMW02	ERH300	2017-04-04	< 0.30 U				—				—				**20**				**17**				—				**52**				—				—				—			
RHMW02	ERH334	2017-05-01	< 0.30 U				—				—				**28**				**24**				—				**65**				—				—				—			
RHMW02	ERH354	2017-06-05	< 0.30 U				—				—				**25**				**16**				—				**62**				—				—				—			
RHMW02	ERH391	2017-07-06	**1.4 J**				—				—				**14**				**1.5**				—				**56**				—				—				—			
RHMW02	ERH415	2017-10-23	**0.25 J**				—				—				**14**	J	q		**7.4 J**		e q		—				**38**	J	q		—				—				< 0.50	U		
RHMW02	ERH416	10/23/2017*	**0.26 J**				—				—				**15**				**8.6**				—				**37**				—				—				< 0.50	U		
RHMW02	ERH415 (EPA split)	2017-10-23	—				—				—				**19**				**13**				—				**50**				—				—				—			
RHMW02	ERH547	2018-03-13	**0.28 J**				—				—				**20**				**13**				—				**53**				—				—				—			
RHMW02	ERH548	3/13/2018*	**0.37 J**				—				—				**25**				**18**				—				**65**				—				—				—			
RHMW02	ERH547 (EPA split)	2018-03-13	—				—				—				**23**				**15**				—				**50**				—				—				—			
RHMW02	ERH593	2018-04-24	< 0.30 U				—				—				**26**				**25**				—				**70**				—				—				—			
RHMW02	ERH594	4/24/2018*	< 0.30 U				—				—				**27**				**27**				—				**73**				—				—				—			
RHMW02	ERH639	2018-07-24	< 0.30 U				—				—				**16**				**10**				—				**38**				—				—				—			
RHMW02	ERH640	7/24/2018*	< 0.30 U				—				—				**19**				**14**				—				**48**				—				—				—			
RHMW02	ERH639 (EPA split)	2018-07-24	—				—				—				**19**				**12**				—				**47**				—				—				—			
RHMW02	ERH683	2018-10-23	< 0.30 U				—				—				**21**				**20**				—				**51**				—				—				—			

Table A.1: Cumulative Groundwater COPC Results, First Quarter 2020 Groundwater Monitoring Event (cont'd)
Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i

		Analyte Class	Lead Scavenger				Lead Scavenger				Lead Scavenger				Lead Scavenger				Lead Scavenger				Lead Scavenger				Semivolatiles				Semivolatiles			
		Analyte Type	Lead Scavenger				Lead Scavenger				Lead Scavenger				Lead Scavenger				Lead Scavenger				Fuel Additive				Fuel Additive					
		Analytical Method	504.1				524.2				8260SIM				8260SIM				8260				524.2				8270				8270/8270 Mod.			
		Analyte	1,2-Dibromoethane *****				1,2-Dibromoethane *****				1,2-Dibromoethane *****				1,2-Dichloroethane *****				1,2-Dichloroethane *****				1,2-Dichloroethane *****				Phenol				2-(2-Methoxyethoxy)-ethanol			
		CAS No.	106-93-4				106-93-4				106-93-4				107-06-2				107-06-2				107-06-2				108-95-2				111-77-3			
		Unit	µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L			
		DOH EAL	0.04				0.04				0.04				5				5				5				300				800			
		SSRBL	—				—				—				—				—				—				—				—			
Well Name	Sample ID	Date Sampled	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note
RHMW02	ES081	4/21/2014[d]	—				—				—				—				< 0.50	U			—				—				—			
RHMW02	ES082	4/21/2014*[d]	—				—				—				—				< 0.50	U			—				—				—			
RHMW02	ES092	5/27/2014[d]	—				—				—				—				—				—				—				—			
RHMW02	ES093	5/27/2014*[d]	—				—				—				—				—				—				—				—			
RHMW02	ES099	6/23/2014[d]	—				—				—				—				—				—				—				—			
RHMW02	ES100	6/23/2014*[d]	—				—				—				—				—				—				—				—			
RHMW02	ES104	2014-07-21	—				—				—				—				< 0.50	U			—				—				—			
RHMW02	ES105	7/21/2014*	—				—				—				—				< 0.50	U			—				—				—			
RHMW02	ES114	2014-10-27	—				—				—				—				< 0.50	UJ	c		—				—				—			
RHMW02	ES115	2014-10-27	—				—				—				—				< 0.50	UJ	c		—				—				—			
RHMW02	ES126	2015-01-28	—				—				—				—				< 0.50	U			—				—				—			
RHMW02	ES127	1/28/2015*	—				—				—				—				< 0.50	U			—				—				—			
RHMW02	ES131	2015-04-20	—				—				< 0.010	U			< 0.015	U			—				—				—				—			
RHMW02	ES132	4/20/2015*	—				—				< 0.010	U			< 0.015	U			—				—				—				—			
RHMW02	ES144	2015-06-25	—				—				—				—				—				—				—				—			
RHMW02	ES146	2015-07-20	—				—				—				< 0.015	U			—				—				—				—			
RHMW02	ES147	7/20/2015*	—				—				—				< 0.015	U			—				—				—				—			
RHMW02	ERH012	2015-10-20	—				—				—				< 0.015	U			—				—				—				—			
RHMW02	ERH013	10/20/2015*	—				—				—				< 0.015	U			—				—				—				—			
RHMW02	ERH025	2016-01-20	—				—				—				< 0.015	U			—				—				—				—			
RHMW02	ERH040	2016-04-20	—				—				—				—				—				—				—				—			
RHMW02	ERH041	4/20/2016*	—				—				—				—				—				—				—				—			
RHMW02	ERH054	2016-07-20	—				—				—				—				—				—				—				—			
RHMW02	ERH055	7/20/2016*	—				—				—				—				—				—				—				—			
RHMW02	ERH091	2016-10-19	—				—				—				—				—				—				< 4.00	U			< 80.0	UJ	h	
RHMW02	ERH124	2016-11-15	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW02	ERH144	2016-12-13	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW02	ERH174	2017-01-10	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW02	ERH174 (EPA split)	2017-01-10	—				< 0.2	U			—				—				—				< 0.2	U			< 2.5	U			—			
RHMW02	ERH216	2017-02-07	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW02	ERH216 (EPA split)	2017-02-07	—				< 0.2	U			—				—				—				< 0.2	U			< 2.5	U			—			
RHMW02	ERH265	2017-03-07	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW02	ERH265 (EPA split)	2017-03-07	—				< 0.2	U			—				—				—				< 0.2	U			< 2.5	U			—			
RHMW02	ERH300	2017-04-04	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW02	ERH334	2017-05-01	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW02	ERH354	2017-06-05	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW02	ERH391	2017-07-06	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW02	ERH415	2017-10-23	—				—				—				—				< 0.30	U			—				< 4.00	U			< 80.0	U		
RHMW02	ERH416	10/23/2017*	—				—				—				—				< 0.30	U			—				< 4.00	U			< 80.0	U		
RHMW02	ERH415 (EPA split)	2017-10-23	—				—				—				—				—				—				—				—			
RHMW02	ERH547	2018-03-13	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW02	ERH548	3/13/2018*	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW02	ERH547 (EPA split)	2018-03-13	—				—				—				—				—				—				—				—			
RHMW02	ERH593	2018-04-24	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW02	ERH594	4/24/2018*	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW02	ERH639	2018-07-24	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW02	ERH640	7/24/2018*	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW02	ERH639 (EPA split)	2018-07-24	—				—				—				—				—				—				—				—			
RHMW02	ERH683	2018-10-23	—				—				—				—				—				—				< 4.00	U			< 80.0	UJ	l	

Table A.1: Cumulative Groundwater COPC Results, First Quarter 2020 Groundwater Monitoring Event (cont'd)
Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i

		Analyte Class	TPH				TPH				TPH				TPH				TPH				Volatiles				Volatiles				Volatiles				Volatiles				Volatiles			
		Analyte Type	COPC				COPC				COPC				COPC				COPC				COPC				non-COPC				COPC				non-COPC				COPC			
		Analytical Method	8015				8260				8015				8015				8015				8260				524.2				8260				524.2				8260			
		Analyte	TPH-g****				TPH-g****				TPH-d				TPH-d with Silica Gel Cleanup				TPH-o				TPH-o with Silica Gel Cleanup				Benzene				Benzene				Ethylbenzene				Ethylbenzene				Toluene				Toluene			
		CAS No.	Gas				Gas				Diesel				Disel SGC				Oil				Oil SGC				71-43-2				71-43-2				100-41-4				100-41-4				108-88-3				108-88-3			
		Unit	µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L			
		DOH EAL	300				300				400				400				500				500				5				5				30				30				40				40			
		SSRBL	—				—				4500				—				—				—				750				750				—				—				—			
Well Name	Sample ID	Date Sampled	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note
RHMW02	ERH684	10/23/2018*	—				**92**			Y	**2100**	**J**	h	O	**430**	**J**	h	O	< 40	UJ	h		< 40	UJ	h		< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW02	ERH738	2019-01-21	—				**48**			W	**2400**			O	**420**			O	< 40	U			< 40	U			< 0.30	UJ	s		—				< 0.50	UJ	s		—				< 0.30	UJ	s		—			
RHMW02	ERH739	1/21/2019*	—				**22**			W	**2700**			O	**430**			O	< 40	U			< 40	U			< 0.30	UJ	s		—				< 0.50	UJ	s		—				< 0.30	UJ	s		—			
RHMW02	ERH790	2019-04-24	—				**48**				**2300**			O	**430**			O	< 40	U			< 40	U			< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW02	ERH791	4/24/2019*	—				**57**				**2200**			O	**440**			O	< 40	U			< 40	U			< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW02	ERH846	2019-07-23	—				**79**				**2400**			O	**690**			O	**190**				< 40	U			< 0.30	UJ	s		—				< 0.50	UJ	s		—				< 0.30	UJ	s		—			
RHMW02	ERH847	7/23/2019*	—				< 18	U			**2600**			O	**480**			O	**200**				< 40	U			< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW02	ERH912	2019-10-22	—				81				**1700**			O	**520**			O	**200**				< 40	U			< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW02	ERH913	10/22/2019*	—				74				**1800**			O	**430**			O	**190**				< 40	U			< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW02	ERH976	2020-01-20	—				**58**				**1500**	**J**	s	O	**280**			O	< 40	U			< 40	U			< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW02	ERH977	1/20/2020*	—				**49**				**1700**			O	**360**			O	< 40	U			< 40	U			< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW03	RHMW03W01	9/20/2005[a]	< 0.50	U			—				**162**	**J**		Y	—				—				—				< 0.50	U			—				< 0.50	U			—				< 0.50	U			—			
RHMW03	RHMW03-GW02	7/10/2006[a]	< 50	U			—				**142**			Y	—				—				—				< 0.50	U			—				< 0.50	U			—				< 0.50	U			—			
RHMW03	RHMW03-GW06	12/5/2006[a]	< 50	U			—				< 100	U			—				—				—				< 0.50	U			—				< 0.50	U			—				< 0.50	U			—			
RHMW03	RHMW03-WG07	3/27/2007[a]	< 50	U			—				**95.7**	**J**			—				—				—				< 0.50	U			—				< 0.50	U			—				< 0.50	U			—			
RHMW03	RHMW03-WG08	6/12/2007[a]	< 50	U			—				**123**	**J**			—				—				—				< 0.50	U			—				< 0.50	U			—				< 0.50	U			—			
RHMW03	RHMW03-WG09	9/10/2007[a]	< 50	U			—				< 96	U			—				—				—				< 0.20	U			—				< 0.20	U			—				< 0.27	U			—			
RHMW03	RHMW03-WG10	1/15/2008[a]	< 10.0	U			—				**242**	**J**			—				—				—				< 0.120	U			—				< 0.310	U			—				< 0.310	U			—			
RHMW03	RHMW03-WG11	4/15/2008[a]	< 10.0	U			—				**190**	**J**			—				—				—				< 0.120	U			—				< 0.310	U			—				< 0.310	U			—			
RHMW03	RHMW03-WG12	7/29/2008[ad]	< 10.0	U			—				**199**	**J**			—				—				—				< 0.120	U			—				< 0.310	U			—				< 0.310	U			—			
RHMW03	RHMW03-WG13	10/22/2008[ad]	< 10.0	U			—				**244**	**J**			—				—				—				< 0.120	U			—				< 0.310	U			—				< 0.310	U			—			
RHMW03	RHMW03-WG14	2/4/2009[a]	**16.1**	**J**			—				**207**	**J**			—				—				—				< 0.120	U			—				< 0.310	U			—				< 0.310	U			—			
RHMW03	RHMW03-WG15	5/13/2009[a]	< 14.8	UJ	b	t	—				< 161	U			—				—				—				< 0.120	U			—				< 0.310	U			—				< 0.310	U			—			
RHMW03	RHMW03-WG16	7/15/2009[a]	< 30.0	U			—				< 150	U			—				—				—				< 0.120	U			—				< 0.310	U			—				< 0.310	U			—			
RHMW03	RHMW03-WG17	10/14/2009[a]	< 30	U			—				< 163	U			—				—				—				< 0.12	U			—				< 0.31	U			—				< 0.31	U			—			
RHMW03	RHMW03-WG18	2010-01-27	< 60.0	U			—				< 330	U			—				—				—				< 0.240	U			—				< 0.620	U			—				< 0.620	U			—			
RHMW03	RHMW03-WG19	2010-04-13	< 60.0	U			—				< 320	U			—				—				—				< 0.240	U			—				< 0.620	U			—				< 0.620	U			—			
RHMW03	RHMW03-WG20	2010-07-13	< 60.0	U			—				< 324	U			—				—				—				< 0.240	U			—				< 0.620	U			—				< 0.620	U			—			
RHMW03	ES001	10/18/2010[d]	—				< 12.12	U			**330**			Y	—				—				—				< 0.32	U			—				< 0.46	U			—				< 0.34	U			—			
RHMW03	ES012	2011-01-19	—				< 12.12	U			< 80.8	U			—				—				—				< 0.32	U			—				< 0.46	U			—				< 0.34	U			—			
RHMW03	ES025	4/20/2011[d]	—				< 12.12	U			< 80.8	U			—				—				—				< 0.32	U			—				< 0.46	U			—				< 0.34	U			—			
RHMW03	ES035	2011-07-19	—				< 12.12	U			< 80.8	U			—				< 212.0	U			—				< 0.32	U			—				< 0.46	U			—				< 0.34	U			—			
RHMW03	ES049	2011-10-24	—				< 12.12	U			< 80.8	U			—				—				—				< 0.32	U			—				< 0.46	U			—				< 0.34	U			—			
RHMW03	ES060	2012-01-26	—				< 12.12	U			< 80.8	U			—				—				—				< 0.32	U			—				< 0.46	U			—				< 0.34	U			—			
RHMW03	ES073	2012-04-16	—				< 12.12	U			< 80.8	U			—				—				—				< 0.32	U			—				< 0.46	U			—				< 0.34	U			—			
RHMW03	ES081	2012-07-18	—				< 12.12	U			< 80.8	U			—				< 212.0	U			—				< 0.32	U			—				< 0.46	U			—				< 0.34	U			—			
RHMW03	ES004	2012-10-22	—				< 30	U			**45**	**J**		Y	—				—				—				< 0.50	U			—				< 0.50	U			—				**0.54**	**J**			—			
RHMW03	ES013	2013-01-28	—				< 30	U			**59**			Y	—				—				—				< 0.50	U			—				< 0.50	U			—				< 0.50	U			—			
RHMW03	ES022	2013-04-22	—				< 30	U			**69**			Y	—				—				—				< 0.50	U			—				< 0.50	U			—				< 0.50	U			—			
RHMW03	ES031	2013-07-22	—				< 30	UJ	h		**48**	**J**		Y	—				—				—				< 0.50	UJ	h		—				< 0.50	UJ	h		—				< 0.50	UJ	h		—			
RHMW03	ES040	2013-10-21	—				< 23	UJ	b		**54**			Y	—				—				—				< 0.50	U			—				< 0.50	U			—				< 0.50	U			—			
RHMW03	ES059	1/28/2014[d]	—				< 20	UJ	b		**74**				—				—				—				< 0.50	U			—				< 0.50	U			—				< 0.50	U			—			
RHMW03	ES083	4/21/2014[d]	—				< 30	U			**39**			Y	—				—				—				< 0.50	U			—				< 0.50	U			—				< 0.50	U			—			
RHMW03	ES106	2014-07-22	—				< 30	U			**37**			Y	—				—				—				< 0.50	U			—				< 0.50	U			—				< 0.50	U			—			
RHMW03	ES116	2014-10-27	—				< 30	U			**80**			Y	—				—				—				< 0.50	U			—				< 0.50	U			—				< 0.50	U			—			
RHMW03	ES123	2015-01-28	—				< 30	U			**39**			Y	—				—				—				< 0.50	U			—				< 0.50	U			—				< 0.50	U			—			
RHMW03	ES133	2015-04-20	< 25	U			—				**100**			Y	—				**110**			Y	—				< 0.10	U			—				< 0.10	U			—				< 0.10	U			—			

Table A.1: Cumulative Groundwater COPC Results, First Quarter 2020 Groundwater Monitoring Event (cont'd)
Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i

		Analyte Class	Volatiles				Volatiles				Volatiles				Semivolatiles (PAHs)				Semivolatiles (PAHs)				Semivolatiles (PAHs)				Semivolatiles (PAHs)				Semivolatiles (PAHs)				Semivolatiles (PAHs)				Lead Scavenger				Lead Scavenger			
		Analyte Type	COPC				non-COPC				non-COPC				COPC				non-COPC				COPC				non-COPC				non-COPC				COPC				non-COPC				Lead Scavenger				Lead Scavenger			
		Analytical Method	8260				524.2				524.2				8270 SIM				8270 SIM				8270				8270 SIM				8260				524.2				8270				8011				8260			
		Analyte	Xylenes, Total (p/m-, o-xylene)				Xylenes, p/m-				Xylenes, o-				1-Methylnaphthalene				2-Methylnaphthalene				2-Methylnaphthalene				Naphthalene *****				Naphthalene *****				Naphthalene *****				Naphthalene *****				1,2-Dibromoethane *****				1,2-Dibromoethane *****			
		CAS No.	1330-20-7				179601-23-1				95-47-6				90-12-0				91-57-6				91-57-6				91-20-3				91-20-3				91-20-3				91-20-3				106-93-4				106-93-4			
		Unit	µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L			
		DOH EAL	20				20				20				10				10				10				17				17				17				17				0.04				0.04			
		SSRBL	—				—				—				—				—				—				—				—				—				—				—				—			
Well Name	Sample ID	Date Sampled	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note
RHMW02	ERH684	10/23/2018*	< 0.30	U			—				—				**20**				**18**				—				**49**				—				—				—				—				—			
RHMW02	ERH738	2019-01-21	< 0.30	UJ	s		—				—				**11**				**8.8**				—				**32**				—				—				—				—				—			
RHMW02	ERH739	1/21/2019*	< 0.30	UJ	s		—				—				**9.6**				**7.2**				—				**26**				—				—				—				—				—			
RHMW02	ERH790	2019-04-24	< 0.30	U			—				—				**9.0**				**7.9**				—				**28**				—				—				—				—				—			
RHMW02	ERH791	4/24/2019*	< 0.30	U			—				—				**8.7**				**7.4**				—				**26**				—				—				—				—				—			
RHMW02	ERH846	2019-07-23	< 0.30	UJ	s		—				—				**12**				**11**				—				**33**				—				—				—				—				—			
RHMW02	ERH847	7/23/2019*	< 0.30	U			—				—				**12**				**11**				—				**34**				—				—				—				—				—			
RHMW02	ERH912	2019-10-22	< 0.30	U			—				—				**30**				**26**				—				**66**				—				—				—				—				—			
RHMW02	ERH913	10/22/2019*	< 0.30	U			—				—				**31**				**27**				—				**68**				—				—				—				—				—			
RHMW02	ERH976	2020-01-20	< 0.30	U			—				—				**23**				**23**				—				**52**				—				—				—				—				—			
RHMW02	ERH977	1/20/2020*	< 0.30	U			—				—				**24**				**23**				—				**57**				—				—				—				—				—			
RHMW03	RHMW03W01	9/20/2005[a]	< 0.50	U			—				—				< 0.24	U			< 0.24	U			—				< 0.24	U			< 1.0	U			—				—				—				< 0.50	U		
RHMW03	RHMW03-GW02	7/10/2006[a]	< 0.50	U			—				—				< 0.25	U			< 0.25	U			—				< 0.25	U			< 1.0	U			—				—				—				< 0.50	U		
RHMW03	RHMW03-GW06	12/5/2006[a]	< 0.50	U			—				—				< 0.25	U			< 0.25	U			—				< 0.25	U			< 1.0	U			—				—				—				< 0.50	U		
RHMW03	RHMW03-WG07	3/27/2007[a]	< 0.50	U			—				—				< 0.25	U			< 0.25	U			—				< 0.25	U			< 1.0	U			—				—				—				< 0.50	U		
RHMW03	RHMW03-WG08	6/12/2007[a]	< 0.50	U			—				—				< 0.25	U			< 0.25	U			—				< 0.25	U			< 1.0	U			—				—				—				< 0.50	U		
RHMW03	RHMW03-WG09	9/10/2007[a]	< 0.36	U			—				—				< 0.25	U			< 0.25	U			—				< 0.25	U			< 0.44	U			—				—				—				< 0.20	U		
RHMW03	RHMW03-WG10	1/15/2008[a]	< 0.620	U			—				—				< 0.0156	U			< 0.0156	U			—				< 0.0323	U			< 0.620	U			—				—				—				< 0.310	U		
RHMW03	RHMW03-WG11	4/15/2008[a]	< 0.620	U			—				—				< 0.0268	UJ	b		< 0.0279	UJ	b		—				< 0.0341	U			< 0.620	U			—				—				—				< 0.310	U		
RHMW03	RHMW03-WG12	7/29/2008[ad]	< 0.620	U			—				—				**0.0294**	**J**			< 0.0156	U			—				**0.0689**	**J**			< 0.620	U			—				—				—				< 0.310	U		
RHMW03	RHMW03-WG13	10/22/2008[ad]	< 0.620	U			—				—				**0.0658**				**0.0937**				—				**0.219**				< 0.620	U			—				—				—				< 0.310	U		
RHMW03	RHMW03-WG14	2/4/2009[a]	< 0.620	U			—				—				< 0.0161	U			< 0.0161	U			—				< 0.0333	U			< 0.620	U			—				—				—				< 0.310	U		
RHMW03	RHMW03-WG15	5/13/2009[a]	< 0.620	U			—				—				< 0.0152	U			< 0.0152	U			—				< 0.0313	U			< 0.620	U			—				—				—				< 0.310	U		
RHMW03	RHMW03-WG16	7/15/2009[a]	< 0.620	U			—				—				< 0.0158	U			< 0.0158	U			—				< 0.0326	U			< 0.620	U			—				—				—				< 0.310	U		
RHMW03	RHMW03-WG17	10/14/2009[a]	< 1	U			—				—				< 0.0169	U			< 0.0169	U			—				< 0.0348	U			< 0.62	U			—				—				—				< 0.31	U		
RHMW03	RHMW03-WG18	2010-01-27	< 1.24	U			—				—				< 0.0322	U			< 0.0322	U			—				< 0.0666	U			< 1.24	U			—				—				—				< 0.620	U		
RHMW03	RHMW03-WG19	2010-04-13	< 1.24	U			—				—				< 0.0322	U			< 0.0322	U			—				< 0.0666	U			< 1.24	U			—				—				—				< 0.620	U		
RHMW03	RHMW03-WG20	2010-07-13	< 1.24	U			—				—				< 0.0322	U			< 0.0322	U			—				< 0.0666	U			< 1.24	U			—				—				—				< 0.620	U		
RHMW03	ES001	10/18/2010[d]	< 0.38	U			—				—				< 0.12	U			< 0.12	U			—				< 0.10	U			—				—				—				—				< 0.40	U		
RHMW03	ES012	2011-01-19	< 0.38	U			—				—				< 0.12	U			< 0.12	U			—				< 0.10	U			—				—				—				—				< 0.40	U		
RHMW03	ES025	4/20/2011[d]	< 0.38	U			—				—				< 0.12	U			< 0.12	U			—				< 0.10	U			—				—				—				—				< 0.40	U		
RHMW03	ES035	2011-07-19	< 0.38	U			—				—				< 0.12	U			< 0.12	U			—				< 0.10	U			—				—				—				—				< 0.40	U		
RHMW03	ES049	2011-10-24	< 0.38	U			—				—				< 0.12	U			< 0.12	U			—				< 0.10	U			—				—				—				—				< 0.40	U		
RHMW03	ES060	2012-01-26	< 0.38	U			—				—				< 0.12	U			< 0.12	U			—				< 0.10	U			—				—				—				—				< 0.40	U		
RHMW03	ES073	2012-04-16	< 0.38	U			—				—				< 0.12	U			< 0.12	U			—				< 0.10	U			—				—				—				—				< 0.40	U		
RHMW03	ES081	2012-07-18	< 0.38	U			—				—				< 0.12	U			< 0.12	U			—				< 0.10	U			—				—				—				—				< 0.40	U		
RHMW03	ES004	2012-10-22	< 1.0	U			—				—				< 0.050	U			< 0.050	U			—				**0.029**	**J**			—				—				—				—				< 0.50	U		
RHMW03	ES013	2013-01-28	< 1.0	U			—				—				**0.10**	**J**			**0.069**	**J**			—				**0.32**				—				—				—				—				< 0.50	U		
RHMW03	ES022	2013-04-22	< 1.0	U			—				—				< 0.053	U			< 0.053	U			—				< 0.053	U			—				—				—				—				< 0.50	U		
RHMW03	ES031	2013-07-22	< 1.0	UJ	h		—				—				< 0.050	U			< 0.050	U			—				**0.064**	**J**			—				—				—				—				< 0.50	UJ	h	
RHMW03	ES040	2013-10-21	< 1.0	U			—				—				< 0.050	U			< 0.050	U			—				< 0.050	U			—				—				—				—				< 0.50	U		
RHMW03	ES059	1/28/2014[d]	< 1.0	U			—				—				< 0.050	U			< 0.050	U			—				**0.15**	**J**			—				—				—				—				< 0.50	U		
RHMW03	ES083	4/21/2014[d]	< 1.0	U			—				—				< 0.049	U			< 0.049	U			—				**0.11**	**J**			—				—				—				—				< 0.50	U		
RHMW03	ES106	2014-07-22	< 1.0	U			—				—				< 0.047	U			< 0.047	U			—				< 0.047	U			—				—				—				—				< 0.50	U		
RHMW03	ES116	2014-10-27	< 1.0	U			—				—				< 0.11	U			< 0.054	U			—				< 0.054	U			—				—				—				—				< 0.50	U		
RHMW03	ES123	2015-01-28	< 1.0	U			—				—				< 0.097	U			< 0.048	U			—				< 0.048	U			—				—				—				—				< 0.50	U		
RHMW03	ES133	2015-04-20	< 0.20	U			—				—				**0.015**	**J**			**0.0083**	**J**			—				**0.035**				—				—				—				—				< 0.0040	U			< 0.20	U		

Table A.1: Cumulative Groundwater COPC Results, First Quarter 2020 Groundwater Monitoring Event (cont'd)
Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i

		Analyte Class	Lead Scavenger				Lead Scavenger				Lead Scavenger				Lead Scavenger				Lead Scavenger				Lead Scavenger				Semivolatiles				Semivolatiles			
		Analyte Type	Lead Scavenger				Lead Scavenger				Lead Scavenger				Lead Scavenger				Lead Scavenger				Fuel Additive				Fuel Additive					
		Analytical Method	504.1				524.2				8260SIM				8260SIM				8260				524.2				8270				8270/8270 Mod.			
		Analyte	1,2-Dibromoethane *****				1,2-Dibromoethane *****				1,2-Dibromoethane *****				1,2-Dichloroethane *****				1,2-Dichloroethane *****				1,2-Dichloroethane *****				Phenol				2-(2-Methoxyethoxy)-ethanol			
		CAS No.	106-93-4				106-93-4				106-93-4				107-06-2				107-06-2				107-06-2				108-95-2				111-77-3			
		Unit	µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L			
		DOH EAL	0.04				0.04				0.04				5				5				5				300				800			
		SSRBL	—				—				—				—				—				—				—				—			
Well Name	Sample ID	Date Sampled	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note
RHMW02	ERH684	10/23/2018*	—				—				—				—				—				—				< 4.00	U			< 80.0	UJ	I	
RHMW02	ERH738	2019-01-21	—				—				—				—				—				—				< 4.00	U			< 80.0	UJ	I	
RHMW02	ERH739	1/21/2019*	—				—				—				—				—				—				< 4.00	U			< 80.0	UJ	I	
RHMW02	ERH790	2019-04-24	—				—				—				—				—				—				< 4.00	U			< 80.0	UJ	I	
RHMW02	ERH791	4/24/2019*	—				—				—				—				—				—				< 4.00	U			< 80.0	UJ	I	
RHMW02	ERH846	2019-07-23	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW02	ERH847	7/23/2019*	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW02	ERH912	2019-10-22	—				—				—				—				—				—				< 4.00	UJ	I		< 80.0	U		
RHMW02	ERH913	10/22/2019*	—				—				—				—				—				—				< 4.00	UJ	I		< 80.0	U		
RHMW02	ERH976	2020-01-20	—				—				—				—				—				—				< 4.00	U			< 80.0	UJ	I	
RHMW02	ERH977	1/20/2020*	—				—				—				—				—				—				< 4.00	U			< 80.0	UJ	I	
RHMW03	RHMW03W01	9/20/2005[a]	—				—				—				—				< 0.50	U			—				—				—			
RHMW03	RHMW03-GW02	7/10/2006[a]	—				—				—				—				< 0.50	U			—				—				—			
RHMW03	RHMW03-GW06	12/5/2006[a]	—				—				—				—				< 0.50	U			—				—				—			
RHMW03	RHMW03-WG07	3/27/2007[a]	—				—				—				—				< 0.50	U			—				—				—			
RHMW03	RHMW03-WG08	6/12/2007[a]	—				—				—				—				< 0.50	U			—				—				—			
RHMW03	RHMW03-WG09	9/10/2007[a]	—				—				—				—				< 0.20	U			—				—				—			
RHMW03	RHMW03-WG10	1/15/2008[a]	—				—				—				—				< 0.150	U			—				—				—			
RHMW03	RHMW03-WG11	4/15/2008[a]	—				—				—				—				< 0.150	U			—				—				—			
RHMW03	RHMW03-WG12	7/29/2008[ad]	—				—				—				—				< 0.150	U			—				—				—			
RHMW03	RHMW03-WG13	10/22/2008[ad]	—				—				—				—				< 0.150	U			—				—				—			
RHMW03	RHMW03-WG14	2/4/2009[a]	—				—				—				—				< 0.150	U			—				—				—			
RHMW03	RHMW03-WG15	5/13/2009[a]	—				—				—				—				< 0.150	U			—				—				—			
RHMW03	RHMW03-WG16	7/15/2009[a]	—				—				—				—				< 0.150	U			—				—				—			
RHMW03	RHMW03-WG17	10/14/2009[a]	—				—				—				—				< 0.15	U			—				—				—			
RHMW03	RHMW03-WG18	2010-01-27	—				—				—				—				< 0.300	U			—				—				—			
RHMW03	RHMW03-WG19	2010-04-13	—				—				—				—				< 0.300	U			—				—				—			
RHMW03	RHMW03-WG20	2010-07-13	—				—				—				—				< 0.300	U			—				—				—			
RHMW03	ES001	10/18/2010[d]	—				—				—				—				< 0.28	U			—				—				—			
RHMW03	ES012	2011-01-19	—				—				—				—				< 0.28	U			—				—				—			
RHMW03	ES025	4/20/2011[d]	—				—				—				—				< 0.28	U			—				—				—			
RHMW03	ES035	2011-07-19	—				—				—				—				< 0.28	U			—				—				—			
RHMW03	ES049	2011-10-24	—				—				—				—				< 0.28	U			—				—				—			
RHMW03	ES060	2012-01-26	—				—				—				—				< 0.28	U			—				—				—			
RHMW03	ES073	2012-04-16	—				—				—				—				< 0.28	U			—				—				—			
RHMW03	ES081	2012-07-18	—				—				—				—				< 0.28	U			—				—				—			
RHMW03	ES004	2012-10-22	—				—				—				—				< 0.50	U			—				—				—			
RHMW03	ES013	2013-01-28	—				—				—				—				< 0.50	U			—				—				—			
RHMW03	ES022	2013-04-22	—				—				—				—				< 0.50	U			—				—				—			
RHMW03	ES031	2013-07-22	—				—				—				—				< 0.50	UJ	h		—				—				—			
RHMW03	ES040	2013-10-21	—				—				—				—				< 0.50	U			—				—				—			
RHMW03	ES059	1/28/2014[d]	—				—				—				—				< 0.50	U			—				—				—			
RHMW03	ES083	4/21/2014[d]	—				—				—				—				< 0.50	U			—				—				—			
RHMW03	ES106	2014-07-22	—				—				—				—				< 0.50	U			—				—				—			
RHMW03	ES116	2014-10-27	—				—				—				—				< 0.50	UJ	c		—				—				—			
RHMW03	ES123	2015-01-28	—				—				—				—				< 0.50	U			—				—				—			
RHMW03	ES133	2015-04-20	—				—				< 0.010	U			< 0.015	U			—				—				—				—			

Table A.1: Cumulative Groundwater COPC Results, First Quarter 2020 Groundwater Monitoring Event (cont'd)
Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i

		Analyte Class	TPH				TPH				TPH				TPH				TPH				Volatiles				Volatiles				Volatiles				Volatiles			
		Analyte Type	COPC				COPC				COPC				COPC				COPC				COPC				non-COPC				COPC				non-COPC			
		Analytical Method	8015				8260				8015				8015				8015				8260				524.2				8260				524.2			
		Analyte	TPH-g****				TPH-g****				TPH-d				TPH-d with Silica Gel Cleanup				TPH-o				TPH-o with Silica Gel Cleanup				Benzene				Benzene				Ethylbenzene			
		CAS No.	Gas				Gas				Diesel				Disel SGC				Oil				Oil SGC				71-43-2				71-43-2				100-41-4			
		Unit	µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L			
		DOH EAL	300				300				400				400				500				500				5				5				30			
		SSRBL	—				—				4500				—				—				—				750				750				—			
Well Name	Sample ID	Date Sampled	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note
RHMW03	ES148	2015-07-20	< 25 U				—				**130**			Y	—				**150**			Y	—				< 0.10 U				—				< 0.10 U			
RHMW03	ERH014	2015-10-20	< 25 U				—				**130**			Y	—				< 160 UJ	b		Y	—				< 0.10 UJ	h			—				< 0.10 UJ	h		
RHMW03	ERH026	2016-01-20	< 25 U				—				**150**			Y	—				< 160 UJ	b		Y	—				< 0.10 U				—				< 0.10 U			
RHMW03	ERH042	2016-04-20	< 25 U				—				< 95 U	f		Y	—				< 170 U	b f		Y	—				< 0.10 U				—				< 0.10 U			
RHMW03	ERH056	2016-07-20	< 25 U				—				< 70 U	f		Y	—				< 110 U	b f			—				< 0.10 U				—				< 0.10 U			
RHMW03	ERH093	2016-10-19	—				< 18 U				**65**			Y	< 25 U				**59**				< 40 U				< 0.30 U				—				< 0.50 U			
RHMW03	ERH125	2016-11-15	—				< 18 U				**51**			Y	—				**42**				—				< 0.30 U				—				< 0.50 U			
RHMW03	ERH152	2016-12-14	—				< 18 U				**56**			Y	—				**49**				—				< 0.30 U				—				< 0.50 U			
RHMW03	ERH181	2017-01-12	—				< 18 U				**51**			Y	—				**46**				—				< 0.30 U				—				< 0.50 U			
RHMW03	ERH181 (EPA split)	2017-01-12	< 25 UJ	c			—				**190**				—				< 300 U				—				—				< 0.2 U				—			
RHMW03	ERH231	2017-02-08	—				< 18 U				**67**			Y	—				**71**				—				< 0.30 U				—				< 0.50 U			
RHMW03	ERH231 (EPA split)	2017-02-08	< 25 UJ	c			—				**170**				—				< 300 U				—				—				< 0.2 U				—			
RHMW03	ERH268	2017-03-07	—				< 18 U				**55**			Y	—				**41**				—				< 0.30 U				—				< 0.50 U			
RHMW03	ERH268 (EPA split)	2017-03-07	< 25 UJ	c			—				**170**				—				< 300 U				—				—				< 0.2 U				—			
RHMW03	ERH303	2017-04-04	—				< 18 U				**47**			Y	—				**47**				—				< 0.30 U				—				< 0.50 U			
RHMW03	ERH336	2017-05-01	—				< 18 U				**50**			Y	< 25 U				**46**				< 40 U				< 0.30 U				—				< 0.50 U			
RHMW03	ERH356	2017-06-06	—				< 18 U				**46**			Y	**50**			Y	**36 J**				**34 J**				< 0.30 U				—				< 0.50 U			
RHMW03	ERH393	2017-07-06	—				< 18 U				**49**			Y	< 25 U				**46**				< 40 U				< 0.30 U				—				< 0.50 U			
RHMW03	ERH418	2017-10-23	—				< 18 U				**160**			Y	< 25 U				**160**				< 40 U				< 0.30 U				—				< 0.50 U			
RHMW03	ERH419	10/23/2017*	—				—				**210**			O	< 25 U				**200**				< 40 U				—				—				—			
RHMW03	ERH418 (EPA split)	2017-10-23	—				—				< 180 U	b		F6	< 75 U				< 300 U				< 300 U				—				—				—			
RHMW03	ERH550	2018-03-12	—				< 18 U				**190**				< 25 U				**180**			Y	< 40 U				< 0.30 U				—				< 0.50 U			
RHMW03	ERH550 (EPA split)	2018-03-12	—				—				**150**			F13	< 75 U				< 300 U				< 300 U				—				—				—			
RHMW03	ERH596	2018-04-25	—				< 18 U				**160**			Y	< 25 U				**110**				< 40 U				< 0.30 U				—				< 0.50 U			
RHMW03	ERH642	2018-07-25	—				< 18 U				**300**			Y	< 25 U				**140**				< 40 U				< 0.30 U				—				< 0.50 U			
RHMW03	ERH642 (EPA split)	2018-07-25	—				—				**180**			F13	< 75 U				< 300 U				< 300 U				—				—				—			
RHMW03	ERH686	2018-10-23	—				< 18 U				**220 J**	h		Y	< 25 UJ	h			**190 J**	h			< 40 UJ	h			< 0.30 U				—				< 0.50 U			
RHMW03	ERH741	2019-01-22	—				< 18 U				**380**			Y	< 25 U				**310**				< 40 U				< 0.30 U				—				< 0.50 U			
RHMW03	ERH793	2019-04-24	—				< 18 U				**300**			Y	< 25 U				**190**			Y	< 40 U				< 0.30 U				—				< 0.50 U			
RHMW03	ERH849	2019-07-22	—				< 18 U				**300**			Y	< 25 U				**270**				< 40 U				< 0.30 U				—				< 0.50 U			
RHMW03	ERH915	2019-10-21	—				< 18 U				**150**			Y	< 25 U				**230**				< 40 U				< 0.30 U				—				< 0.50 U			
RHMW03	ERH979	2020-01-20	—				< 18 U				**260**			Y	< 25 U				**250**			Y	< 40 U				< 0.30 U				—				< 0.50 U			
RHMW04	RHMW04W01	9/19/2005[a]	< 50.0 U				—				**338**			Y	—				—				—				< 0.50 U				—				< 0.50 U			
RHMW04	RHMW04-GW02	7/10/2006[a]	< 50.0 U				—				< 100 U				—				—				—				< 0.50 U				—				< 0.50 U			
RHMW04	RHMW04-WG-01	8/4/2009[ad]	< 30.0 U				—				< 157 U				—				—				—				< 0.120 U				—				< 0.310 U			
RHMW04	RHMWA01-WG-01	8/4/2009*[ad]	< 30.0 U				—				< 161 U				—				—				—				**0.250 J**				—				< 0.310 U			
RHMW04	RHMW04-WG-02	10/13/2009[abd]	< 30.0 U				—				< 169 U				—				—				—				< 0.12 U				—				< 0.31 U			
RHMW04	RHMWA01-WG-02	10/13/2009*[abd]	< 30.0 U				—				< 174 U				—				—				—				< 0.12 U				—				< 0.31 U			
RHMW04	RHMW04-WG-03	1/26/2010[d]	< 60.0 U				—				< 334 U				—				—				—				< 0.240 U				—				< 0.620 U			
RHMW04	RHMWA01-WG-03	1/26/2010*[d]	< 60.0 U				—				< 330 U				—				—				—				< 0.240 U				—				< 0.620 U			
RHMW04	RHMW04-WG-04	4/26/2010[d]	< 60.0 U				—				< 348 U				—				—				—				< 0.240 U				—				< 0.620 U			
RHMW04	RHMWA01-WG-04	4/26/2010*[d]	< 60.0 U				—				< 352 U				—				—				—				< 0.240 U				—				< 0.620 U			
RHMW04	ES112	2014-07-23	—				< 30 U				**17 J**			Y	—				—				—				< 0.50 U				—				< 0.50 U			
RHMW04	ES119	2014-10-29	—				< 30 U				< 12 U				—				—				—				< 0.50 U				—				< 0.50 U			
RHMW04	ES129	2015-01-29	—				< 30 U				**10 J**			Y	—				—				—				< 0.50 U				—				< 0.50 U			
RHMW04	ES139	2015-04-22	< 25 UJ	s			—				< 21 U				—				< 28 UJ	b			—				< 0.10 U				—				< 0.10 U			
RHMW04	ES156	2015-08-20	< 25 U				—				< 24 UJ	b			—				< 40 UJ	b			—				< 0.10 U				—				< 0.10 U			
RHMW04	ERH006	2015-10-19	< 25 U				—				< 22 UJ	b			—				< 53 UJ	b			—				**0.08 J**	h			—				< 0.10 UJ	h		

Table A.1: Cumulative Groundwater COPC Results, First Quarter 2020 Groundwater Monitoring Event (cont'd)
Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i

		Analyte Class	Volatiles				Volatiles				Volatiles				Semivolatiles (PAHs)				Semivolatiles (PAHs)				Semivolatiles (PAHs)				Semivolatiles (PAHs)				Semivolatiles (PAHs)				Semivolatiles (PAHs)				Lead Scavenger				Lead Scavenger			
		Analyte Type	COPC				non-COPC				non-COPC				COPC				COPC				non-COPC				COPC				non-COPC				Lead Scavenger				Lead Scavenger			
		Analytical Method	8260				524.2				524.2				8270 SIM				8270 SIM				8270				8270 SIM				8260				524.2				8270				8011				8260			
		Analyte	Xylenes, Total (p/m-, o-xylene)				Xylenes, p/m-				Xylenes, o-				1-Methylnaphthalene				2-Methylnaphthalene				2-Methylnaphthalene				Naphthalene *****				Naphthalene *****				Naphthalene *****				Naphthalene *****				1,2-Dibromoethane *****				1,2-Dibromoethane *****			
		CAS No.	1330-20-7				179601-23-1				95-47-6				90-12-0				91-57-6				91-57-6				91-20-3				91-20-3				91-20-3				91-20-3				106-93-4				106-93-4			
		Unit	µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L			
		DOH EAL	20				20				20				10				10				10				17				17				17				17				0.04				0.04			
		SSRBL	—				—				—				—				—				—				—				—				—				—				—				—			
Well Name	Sample ID	Date Sampled	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note
RHMW03	ES148	2015-07-20	< 0.20	U			—				—				< 0.0052	U			< 0.0052	U			—				< 0.0052	U			—				—				—				< 0.0040	U			< 0.20	U		
RHMW03	ERH014	2015-10-20	< 0.20	UJ	h		—				—				**0.0039**	**J**			< 0.0034	UJ	b		—				< 0.0094	UJ	b		—				—				—				< 0.0040	U			< 0.20	UJ	h	
RHMW03	ERH026	2016-01-20	< 0.20	U			—				—				< 0.0050	U			< 0.0050	U			—				< 0.0050	U			—				—				—				< 0.0040	U			< 0.20	U		
RHMW03	ERH042	2016-04-20	< 0.20	U			—				—				< 0.0084	U	f		< 0.0075	U	f		—				< 0.0050	U			—				—				—				—				—			
RHMW03	ERH056	2016-07-20	< 0.20	U			—				—				**0.0073**	**J**			**0.0040**	**J**			—				< 0.025	U	f		—				—				—				—				—			
RHMW03	ERH093	2016-10-19	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW03	ERH125	2016-11-15	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW03	ERH152	2016-12-14	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW03	ERH181	2017-01-12	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW03	ERH181 (EPA split)	2017-01-12	—				< 0.5	U			< 0.2	U			< 0.025	UJ	c		< 0.025	UJ	c		< 0.5	U			< 0.025	U			—				< 0.2	U			< 0.5	U			—				—			
RHMW03	ERH231	2017-02-08	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW03	ERH231 (EPA split)	2017-02-08	—				< 0.5	U			< 0.2	U			< 0.025	UJ	c		< 0.025	UJ	c		< 0.5	U			< 0.025	U			—				< 0.2	U			< 0.5	U			—				—			
RHMW03	ERH268	2017-03-07	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW03	ERH268 (EPA split)	2017-03-07	—				< 0.5	U			< 0.2	U			< 0.027	UJ	c		< 0.027	UJ	c		< 0.5	U			< 0.027	U			—				< 0.2	U			< 0.5	U			—				—			
RHMW03	ERH303	2017-04-04	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW03	ERH336	2017-05-01	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW03	ERH356	2017-06-06	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW03	ERH393	2017-07-06	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW03	ERH418	2017-10-23	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				< 0.50	U		
RHMW03	ERH419	10/23/2017*	—				—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW03	ERH418 (EPA split)	2017-10-23	—				—				—				< 0.025	U			< 0.025	U			—				< 0.025	U			—				—				—				—				—			
RHMW03	ERH550	2018-03-12	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW03	ERH550 (EPA split)	2018-03-12	—				—				—				< 0.025	U			< 0.025	U			—				< 0.025	U			—				—				—				—				—			
RHMW03	ERH596	2018-04-25	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW03	ERH642	2018-07-25	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW03	ERH642 (EPA split)	2018-07-25	—				—				—				< 0.027	U			< 0.027	U			—				< 0.027	U			—				—				—				—				—			
RHMW03	ERH686	2018-10-23	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW03	ERH741	2019-01-22	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW03	ERH793	2019-04-24	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW03	ERH849	2019-07-22	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW03	ERH915	2019-10-21	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW03	ERH979	2020-01-20	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW04	RHMW04W01	9/19/2005[a]	< 0.50	U			—				—				< 0.28	U			< 0.28	U			—				< 0.28	U			< 1.0	U			—				—				—				< 0.50	U		
RHMW04	RHMW04-GW02	7/10/2006[a]	< 0.50	U			—				—				< 0.26	U			< 0.26	U			—				< 0.26	U			< 1.0	U			—				—				—				< 0.50	U		
RHMW04	RHMW04-WG-01	8/4/2009[ad]	< 0.620	U			—				—				< 0.0162	U			< 0.0162	U			—				< 0.0335	U			< 0.620	U			—				—				—				< 0.310	U		
RHMW04	RHMWA01-WG-01	8/4/2009*[ad]	< 0.620	U			—				—				< 0.0167	U			< 0.0167	U			—				< 0.0344	U			< 0.620	U			—				—				—				< 0.310	U		
RHMW04	RHMW04-WG-02	10/13/2009[abd]	< 0.62	U			—				—				< 0.0172	U			< 0.0172	U			—				< 0.0356	U			< 0.62	U			—				—				—				< 0.31	U		
RHMW04	RHMWA01-WG-02	10/13/2009*[abd]	< 0.62	U			—				—				< 0.0169	U			< 0.0169	U			—				< 0.0348	U			< 0.62	U			—				—				—				< 0.31	U		
RHMW04	RHMW04-WG-03	1/26/2010[d]	< 1.24	U			—				—				< 0.0326	U			< 0.0326	U			—				< 0.0674	U			< 1.24	U			—				—				—				< 0.620	U		
RHMW04	RHMWA01-WG-03	1/26/2010*[d]	< 1.24	U			—				—				< 0.0338	U			< 0.0338	U			—				< 0.0696	U			< 1.24	U			—				—				—				< 0.620	U		
RHMW04	RHMW04-WG-04	4/26/2010[d]	< 1.24	U			—				—				< 0.0352	U			< 0.0352	U			—				< 0.0730	U			< 1.24	U			—				—				—				< 0.620	U		
RHMW04	RHMWA01-WG-04	4/26/2010*[d]	< 1.24	U			—				—				< 0.0352	U			< 0.0352	U			—				< 0.0730	U			< 1.24	U			—				—				—				< 0.620	U		
RHMW04	ES112	2014-07-23	< 1.0	U			—				—				< 0.052	U			< 0.052	U			—				< 0.052	U			—				—				—				—				< 0.50	U		
RHMW04	ES119	2014-10-29	< 1.0	U			—				—				< 0.099	U			< 0.050	U			—				< 0.050	U			—				—				—				—				< 0.50	U		
RHMW04	ES129	2015-01-29	< 1.0	U			—				—				< 0.10	U			< 0.052	U			—				< 0.052	U			—				—				—				—				< 0.50	U		
RHMW04	ES139	2015-04-22	< 0.20	U			—				—				< 0.0050	U			< 0.0050	U			—				< 0.0050	U			—				—				—				—				< 0.20	U		
RHMW04	ES156	2015-08-20	< 0.20	U			—				—				< 0.0050	U			**0.0059**	**J**			—				**0.0075**	**J**			—				—				—				—				< 0.20	U		
RHMW04	ERH006	2015-10-19	< 0.20	UJ	h		—				—				**0.0043**	**J**			< 0.0047	UJ	b		—				< 0.0051	UJ	b		—				—				—				—				< 0.20	UJ	h	

Table A.1: Cumulative Groundwater COPC Results, First Quarter 2020 Groundwater Monitoring Event (cont'd)
Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i

		Analyte Class	Lead Scavenger				Lead Scavenger				Lead Scavenger				Lead Scavenger				Lead Scavenger				Lead Scavenger				Semivolatiles				Semivolatiles			
		Analyte Type	Lead Scavenger				Lead Scavenger				Lead Scavenger				Lead Scavenger				Lead Scavenger				Fuel Additive				Fuel Additive					
		Analytical Method	504.1				524.2				8260SIM				8260SIM				8260				524.2				8270				8270/8270 Mod.			
		Analyte	1,2-Dibromoethane *****				1,2-Dibromoethane *****				1,2-Dibromoethane *****				1,2-Dichloroethane *****				1,2-Dichloroethane *****				1,2-Dichloroethane *****				Phenol				2-(2-Methoxyethoxy)-ethanol			
		CAS No.	106-93-4				106-93-4				106-93-4				107-06-2				107-06-2				107-06-2				108-95-2				111-77-3			
		Unit	µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L			
		DOH EAL	0.04				0.04				0.04				5				5				5				300				800			
		SSRBL	—				—				—				—				—				—				—				—			
Well Name	Sample ID	Date Sampled	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note
RHMW03	ES148	2015-07-20	—				—				—				< 0.015	U			—				—				—				—			
RHMW03	ERH014	2015-10-20	—				—				—				< 0.015	U			—				—				—				—			
RHMW03	ERH026	2016-01-20	—				—				—				< 0.015	U			—				—				—				—			
RHMW03	ERH042	2016-04-20	—				—				—				—				—				—				—				—			
RHMW03	ERH056	2016-07-20	—				—				—				—				—				—				—				—			
RHMW03	ERH093	2016-10-19	—				—				—				—				—				—				< 4.00	U			< 80.0	UJ	h	
RHMW03	ERH125	2016-11-15	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW03	ERH152	2016-12-14	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW03	ERH181	2017-01-12	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW03	ERH181 (EPA split)	2017-01-12	—				< 0.0025	U			—				—				—				< 0.0025	U			< 2.5	U			—			
RHMW03	ERH231	2017-02-08	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW03	ERH231 (EPA split)	2017-02-08	—				< 0.0025	U			—				—				—				< 0.0025	U			< 2.5	U			—			
RHMW03	ERH268	2017-03-07	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW03	ERH268 (EPA split)	2017-03-07	—				< 0.0025	U			—				—				—				< 0.0025	U			< 2.5	U			—			
RHMW03	ERH303	2017-04-04	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW03	ERH336	2017-05-01	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW03	ERH356	2017-06-06	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW03	ERH393	2017-07-06	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW03	ERH418	2017-10-23	—				—				—				—				< 0.30	U			—				< 4.00	U			< 80.0	U		
RHMW03	ERH419	10/23/2017*	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW03	ERH418 (EPA split)	2017-10-23	—				—				—				—				—				—				—				—			
RHMW03	ERH550	2018-03-12	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW03	ERH550 (EPA split)	2018-03-12	—				—				—				—				—				—				—				—			
RHMW03	ERH596	2018-04-25	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW03	ERH642	2018-07-25	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW03	ERH642 (EPA split)	2018-07-25	—				—				—				—				—				—				—				—			
RHMW03	ERH686	2018-10-23	—				—				—				—				—				—				< 4.00	U			< 80.0	UJ	l	
RHMW03	ERH741	2019-01-22	—				—				—				—				—				—				< 4.00	U			< 80.0	UJ	l	
RHMW03	ERH793	2019-04-24	—				—				—				—				—				—				< 4.00	U			< 80.0	UJ	l	
RHMW03	ERH849	2019-07-22	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW03	ERH915	2019-10-21	—				—				—				—				—				—				< 4.00	UJ	l		< 80.0	U		
RHMW03	ERH979	2020-01-20	—				—				—				—				—				—				< 4.00	U			< 80.0	UJ	l	
RHMW04	RHMW04W01	9/19/2005[a]	—				—				—				—				< 0.50	U			—				—				—			
RHMW04	RHMW04-GW02	7/10/2006[a]	—				—				—				—				< 0.50	U			—				—				—			
RHMW04	RHMW04-WG-01	8/4/2009[ad]	—				—				—				—				< 0.150	U			—				—				—			
RHMW04	RHMWA01-WG-01	8/4/2009*[ad]	—				—				—				—				< 0.150	U			—				—				—			
RHMW04	RHMW04-WG-02	10/13/2009[abd]	—				—				—				—				< 0.15	U			—				—				—			
RHMW04	RHMWA01-WG-02	10/13/2009*[abd]	—				—				—				—				< 0.15	U			—				—				—			
RHMW04	RHMW04-WG-03	1/26/2010[d]	—				—				—				—				< 0.300	U			—				—				—			
RHMW04	RHMWA01-WG-03	1/26/2010*[d]	—				—				—				—				< 0.300	U			—				—				—			
RHMW04	RHMW04-WG-04	4/26/2010[d]	—				—				—				—				< 0.300	U			—				—				—			
RHMW04	RHMWA01-WG-04	4/26/2010*[d]	—				—				—				—				< 0.300	U			—				—				—			
RHMW04	ES112	2014-07-23	—				—				—				—				< 0.50	U			—				—				—			
RHMW04	ES119	2014-10-29	—				—				—				—				< 0.50	U			—				—				—			
RHMW04	ES129	2015-01-29	—				—				—				—				< 0.50	U			—				—				—			
RHMW04	ES139	2015-04-22	—				—				< 0.010	U			< 0.015	U			—				—				—				—			
RHMW04	ES156	2015-08-20	—				—				—				< 0.015	U			—				—				—				—			
RHMW04	ERH006	2015-10-19	—				—				—				< 0.015	U			—				—				—				—			

Table A.1: Cumulative Groundwater COPC Results, First Quarter 2020 Groundwater Monitoring Event (cont'd)
Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i

		Analyte Class	TPH				TPH				TPH				TPH				TPH				TPH				Volatiles				Volatiles				Volatiles				Volatiles				Volatiles			
		Analyte Type	COPC				COPC				COPC				COPC				COPC				COPC				COPC				non-COPC				COPC				non-COPC				COPC			
		Analytical Method	8015				8260				8015				8015				8015				8015				8260				524.2				8260				524.2				8260			
		Analyte	TPH-g****				TPH-g****				TPH-d				TPH-d with Silica Gel Cleanup				TPH-o				TPH-o with Silica Gel Cleanup				Benzene				Benzene				Ethylbenzene				Ethylbenzene				Toluene				Toluene			
		CAS No.	Gas				Gas				Diesel				Disel SGC				Oil				Oil SGC				71-43-2				71-43-2				100-41-4				100-41-4				108-88-3				108-88-3			
		Unit	µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L			
		DOH EAL	300				300				400				400				500				500				5				5				30				30				40				40			
		SSRBL	—				—				4500				—				—				—				750				750				—				—				—				—			
Well Name	Sample ID	Date Sampled	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note
RHMW04	ERH019	2016-01-19	< 25	U			—				< 36	UJ	b		—				< 52	UJ	b		—				< 0.10	U			—				< 0.10	U			—				< 0.10	U		
RHMW04	ERH020	2016-01-19	< 25	U			—				< 29	UJ	b		—				< 53	UJ	b		—				< 0.10	U			—				< 0.10	U			—				< 0.11	UJ	t	
RHMW04	ERH034	2016-04-19	< 25	U			—				< 20	U	b f		—				< 33	U	b f		—				< 0.10	U			—				< 0.10	U			—				< 0.10	U		
RHMW04	ERH048	2016-07-19	< 25	U			—				< 23	U	f		—				< 54	U	b f		—				< 0.10	U			—				< 0.10	U			—				< 0.10	U		
RHMW04	ERH096	2016-10-25	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	U		
RHMW04	ERH128	2016-11-14	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	U		
RHMW04	ERH138	2016-12-13	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	U		
RHMW04	ERH166	2017-01-09	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	U		
RHMW04	ERH166 (EPA split)	2017-01-09	< 25	UJ	c		—				< 75	U			—				< 300	U			—				—				< 0.2	U			—				< 0.2	U			—			
RHMW04	ERH208	2017-02-06	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	U		
RHMW04	ERH208 (EPA split)	2017-02-06	< 25	UJ	c		—				< 75	U			—				< 300	U			—				—				< 0.2	U			—				< 0.2	U			—			
RHMW04	ERH260	2017-03-06	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	U		
RHMW04	ERH260 (EPA split)	2017-03-06	< 25	UJ	c		—				< 75	U			—				< 300	U			—				—				< 0.2	U			—				< 0.2	U			—			
RHMW04	ERH295	2017-04-03	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	U		
RHMW04	ERH381	2017-07-05	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	U		
RHMW04	ERH421	2017-10-24	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	U		
RHMW04	ERH552	2018-03-14	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	U		
RHMW04	ERH598	2018-04-25	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	U		
RHMW04	ERH644	2018-07-26	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	U		
RHMW04	ERH688	2018-10-24	—				< 18	U			< 25	UJ	h		—				< 40	UJ	h		—				< 0.30	U			—				< 0.50	U			—				< 0.30	U		
RHMW04	ERH743	2019-01-21	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	U		
RHMW04	ERH795	2019-04-22	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	U		
RHMW04	ERH851	2019-07-23	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	U		
RHMW04	ERH917	2019-10-21	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	U		
RHMW04	ERH981	2020-01-21	—				< 18	U			**120**			Z	< 25	U			< 40	U			< 40	U			< 0.30	U			—				< 0.50	U			—				< 0.30	U		
RHMW05	RHMW05-WG15	5/13/2009[a]	< 13.2	UJ	b t		—				**200**	**J**		Z	—				—				—				< 0.120	U			—				< 0.310	U			—				< 0.310	U		
RHMW05	RHMW05-WG16	7/15/2009[a]	< 30.0	U			—				**491**			Z	—				—				—				< 0.120	U			—				< 0.310	U			—				< 0.310	U		
RHMW05	RHMW05-WG17	10/13/2009[a]	< 30.0	U			—				**673**			Z	—				—				—				< 0.12	U			—				< 0.31	U			—				< 0.31	U		
RHMW05	RHMW05-WG18	2010-01-26	< 60.0	U			—				**2,060**			Z	—				—				—				< 0.240	U			—				< 0.620	U			—				< 0.620	U		
RHMW05	RHMW05-WG19	2010-04-13	< 60.0	U			—				< 300	U			—				—				—				< 0.240	U			—				< 0.620	U			—				< 0.620	U		
RHMW05	RHMW05-WG20	2010-07-13	< 60.0	U			—				< 320	U			—				—				—				< 0.240	U			—				< 0.620	U			—				< 0.620	U		
RHMW05	ES005	2010-10-20	—				< 12.12	U			< 80.8	U			—				—				—				< 0.32	U			—				< 0.46	U			—				< 0.34	U		
RHMW05	ES013	2011-01-19	—				< 12.12	U			< 80.8	U			—				—				—				< 0.32	U			—				< 0.46	U			—				< 0.34	U		
RHMW05	ES024	4/20/2011[d]	—				< 12.12	U			< 80.8	U			—				—				—				< 0.32	U			—				< 0.46	U			—				< 0.34	U		
RHMW05	ES039	2011-07-19	—				< 12.12	U			< 80.8	U			—				< 212.0	U			—				< 0.32	U			—				< 0.46	U			—				< 0.34	U		
RHMW05	ES051	2011-10-25	—				< 12.12	U			< 80.8	U			—				—				—				< 0.32	U			—				< 0.46	U			—				< 0.34	U		
RHMW05	ES063	2012-02-01	—				< 12.12	U			< 80.8	U			—				—				—				< 0.32	U			—				< 0.46	U			—				< 0.34	U		
RHMW05	ES070	2012-04-16	—				< 12.12	U			< 80.8	U			—				—				—				< 0.32	U			—				< 0.46	U			—				< 0.34	U		
RHMW05	ES079	2012-07-17	—				< 12.12	U			< 80.8	U			—				< 212.0	U			—				< 0.32	U			—				< 0.46	U			—				< 0.34	U		
RHMW05	ES080	7/17/2012*	—				< 12.12	U			< 80.8	U			—				< 212.0	U			—				< 0.32	U			—				< 0.46	U			—				< 0.34	U		
RHMW05	ES005	2012-10-22	—				< 15	UJ	b		**17**			Y	—				—				—				< 0.50	U			—				< 0.50	U			—				**0.31**	**J**		
RHMW05	ES015	2013-01-29	—				< 30	U			**62**			Y	—				—				—				< 0.50	U			—				< 0.50	U			—				< 0.50	U		
RHMW05	ES024	2013-04-23	—				< 21	UJ	t		**27**	**J**			—				—				—				< 0.50	U			—				< 0.50	U			—				< 0.50	U		
RHMW05	ES033	2013-07-23	—				< 30	U			< 20	U			—				—				—				< 0.50	U			—				< 0.50	U			—				< 0.50	U		
RHMW05	ES042	2013-10-22	—				< 17	UJ	b		< 20	U			—				—				—				< 0.50	U			—				< 0.50	U			—				< 0.50	U		
RHMW05	ES049	1/16/2014[d]	—				—				< 20	U			—				—				—				< 0.50	U			—				< 0.50	U			—				< 0.50	U		
RHMW05	ES061	1/29/2014[d]	—				< 23	UJ	b		**16**	**J**		Y	—				—				—				< 0.50	U			—				< 0.50	U			—				< 0.50	U		
RHMW05	ES068	3/6/2014[d]	—				—				< 21	U			—				—				—				< 0.50	U			—				< 0.50	U			—				< 0.50	U		
RHMW05	ES076	3/26/2014[d]	—				—				**17**	**J**		Y	—				—				—				< 0.50	U			—				< 0.50	U			—				< 0.50	U		

Table A.1: Cumulative Groundwater COPC Results, First Quarter 2020 Groundwater Monitoring Event (cont'd)
Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i

		Analyte Class	Volatiles				Volatiles				Volatiles				Semivolatiles (PAHs)				Semivolatiles (PAHs)				Semivolatiles (PAHs)				Semivolatiles (PAHs)				Semivolatiles (PAHs)				Semivolatiles (PAHs)				Lead Scavenger				Lead Scavenger			
		Analyte Type	COPC				non-COPC				non-COPC				COPC				COPC				non-COPC				COPC				non-COPC				non-COPC				Lead Scavenger				Lead Scavenger			
		Analytical Method	8260				524.2				524.2				8270 SIM				8270 SIM				8270				8270 SIM				8260				524.2				8270				8011				8260			
		Analyte	Xylenes, Total (p/m-, o-xylene)				Xylenes, p/m-				Xylenes, o-				1-Methylnaphthalene				2-Methylnaphthalene				2-Methylnaphthalene				Naphthalene *****				Naphthalene *****				Naphthalene *****				Naphthalene *****				1,2-Dibromoethane *****				1,2-Dibromoethane *****			
		CAS No.	1330-20-7				179601-23-1				95-47-6				90-12-0				91-57-6				91-57-6				91-20-3				91-20-3				91-20-3				91-20-3				106-93-4				106-93-4			
		Unit	µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L			
		DOH EAL	20				20				20				10				10				10				17				17				17				17				0.04				0.04			
		SSRBL	—				—				—				—				—				—				—				—				—				—				—				—			
Well Name	Sample ID	Date Sampled	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note
RHMW04	ERH019	2016-01-19	< 0.20	U			—				—				< 0.0050	U			< 0.0050	U			—				< 0.0050	U			—				—				—				< 0.0040	U			< 0.20	U		
RHMW04	ERH020	2016-01-19	< 0.20	U			—				—				< 0.0050	U			< 0.0050	U			—				< 0.0050	U			—				—				—				< 0.0040	U			< 0.20	U		
RHMW04	ERH034	2016-04-19	< 0.20	U			—				—				< 0.0050	U			< 0.0050	U			—				< 0.0050	U			—				—				—				—				—			
RHMW04	ERH048	2016-07-19	< 0.20	U			—				—				**0.0070**	**J**			**0.0068**	**J**			—				**0.18**				—				—				—				—				—			
RHMW04	ERH096	2016-10-25	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW04	ERH128	2016-11-14	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW04	ERH138	2016-12-13	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW04	ERH166	2017-01-09	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW04	ERH166 (EPA split)	2017-01-09	—				< 0.5	U			< 0.2	U			< 0.025	UJ	c		< 0.025	UJ	c		< 0.5	U			< 0.025	U			—				< 0.2	U			< 0.5	U			—				—			
RHMW04	ERH208	2017-02-06	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW04	ERH208 (EPA split)	2017-02-06	—				< 0.5	U			< 0.2	U			< 0.025	UJ	c		< 0.025	UJ	c		< 0.5	U			< 0.025	U			—				< 0.2	U			< 0.5	U			—				—			
RHMW04	ERH260	2017-03-06	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW04	ERH260 (EPA split)	2017-03-06	—				< 0.5	U			< 0.2	U			< 0.025	UJ	c		< 0.025	UJ	c		< 0.5	U			< 0.025	U			—				< 0.2	U			< 0.5	U			—				—			
RHMW04	ERH295	2017-04-03	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW04	ERH381	2017-07-05	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW04	ERH421	2017-10-24	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW04	ERH552	2018-03-14	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW04	ERH598	2018-04-25	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW04	ERH644	2018-07-26	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW04	ERH688	2018-10-24	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW04	ERH743	2019-01-21	**0.18**	**J**			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW04	ERH795	2019-04-22	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW04	ERH851	2019-07-23	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW04	ERH917	2019-10-21	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW04	ERH981	2020-01-21	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW05	RHMW05-WG15	5/13/2009[a]	< 0.620	U			—				—				< 0.0158	U			< 0.0158	U			—				< 0.0326	U			< 0.620	U			—				—				—				< 0.310	U		
RHMW05	RHMW05-WG16	7/15/2009[a]	< 0.620	U			—				—				< 0.0165	U			< 0.0165	U			—				< 0.0341	U			< 0.620	U			—				—				—				< 0.310	U		
RHMW05	RHMW05-WG17	10/13/2009[a]	< 1	U			—				—				< 0.017	U			< 0.017	U			—				< 0.0352	U			< 0.62	U			—				—				—				< 0.31	U		
RHMW05	RHMW05-WG18	2010-01-26	< 1.24	U			—				—				**0.0207**	**J**			**0.0246**	**J**			—				< 0.0712	U			< 1.24	U			—				—				—				< 0.620	U		
RHMW05	RHMW05-WG19	2010-04-13	< 1.24	U			—				—				**0.0335**	**J**			< 0.0326	U			—				**0.0752**	**J**			< 1.24	U			—				—				—				< 0.620	U		
RHMW05	RHMW05-WG20	2010-07-13	< 1.24	U			—				—				< 0.0316	U			< 0.0316	U			—				**0.0643**	**J**			< 1.24	U			—				—				—				< 0.620	U		
RHMW05	ES005	2010-10-20	< 0.38	U			—				—				< 0.12	U			< 0.12	U			—				< 0.10	U			—				—				—				—				< 0.40	U		
RHMW05	ES013	2011-01-19	< 0.38	U			—				—				< 0.12	U			< 0.12	U			—				< 0.10	U			—				—				—				—				< 0.40	U		
RHMW05	ES024	4/20/2011[d]	< 0.38	U			—				—				< 0.12	U			< 0.12	U			—				< 0.10	U			—				—				—				—				< 0.40	U		
RHMW05	ES039	2011-07-19	< 0.38	U			—				—				< 0.12	U			< 0.12	U			—				< 0.10	U			—				—				—				—				< 0.40	U		
RHMW05	ES051	2011-10-25	< 0.38	U			—				—				< 0.12	U			< 0.12	U			—				< 0.10	U			—				—				—				—				< 0.40	U		
RHMW05	ES063	2012-02-01	< 0.38	U			—				—				< 0.12	U			< 0.12	U			—				< 0.10	U			—				—				—				—				< 0.40	U		
RHMW05	ES070	2012-04-16	< 0.38	U			—				—				< 0.12	U			< 0.12	U			—				< 0.10	U			—				—				—				—				< 0.40	U		
RHMW05	ES079	2012-07-17	< 0.38	U			—				—				< 0.12	U			< 0.12	U			—				< 0.10	U			—				—				—				—				< 0.40	U		
RHMW05	ES080	7/17/2012*	< 0.38	U			—				—				< 0.12	U			< 0.12	U			—				< 0.10	U			—				—				—				—				< 0.40	U		
RHMW05	ES005	2012-10-22	< 1.0	U			—				—				< 0.050	U			< 0.050	U			—				**0.038**	**J**			—				—				—				—				< 0.50	U		
RHMW05	ES015	2013-01-29	< 1.0	U			—				—				< 0.050	U			< 0.050	U			—				**0.075**	**J**			—				—				—				—				< 0.50	U		
RHMW05	ES024	2013-04-23	< 1.0	U			—				—				< 0.048	U			< 0.048	U			—				**0.033**	**J**			—				—				—				—				< 0.50	U		
RHMW05	ES033	2013-07-23	< 1.0	U			—				—				< 0.051	U			< 0.051	U			—				**0.033**	**J**			—				—				—				—				< 0.50	U		
RHMW05	ES042	2013-10-22	< 1.0	U			—				—				< 0.051	U			< 0.051	U			—				**0.17**	**J**			—				—				—				—				< 0.50	U		
RHMW05	ES049	1/16/2014[d]	< 1.0	U			—				—				< 0.050	U			< 0.050	U			—				< 0.050	U			—				—				—				—				< 0.50	U		
RHMW05	ES061	1/29/2014[d]	< 1.0	U			—				—				< 0.050	U			< 0.050	U			—				**0.064**	**J**			—				—				—				—				< 0.50	U		
RHMW05	ES068	3/6/2014[d]	< 1.0	U			—				—				< 0.050	U			< 0.050	U			—				**0.038**	**J**			—				—				—				—				—			
RHMW05	ES076	3/26/2014[d]	< 1.0	U			—				—				< 0.050	U			< 0.050	U			—				**0.092**	**J**			—				—				—				—				—			

Table A.1: Cumulative Groundwater COPC Results, First Quarter 2020 Groundwater Monitoring Event (cont'd)
Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i

		Analyte Class	Lead Scavenger				Lead Scavenger				Lead Scavenger				Lead Scavenger				Lead Scavenger				Lead Scavenger				Semivolatiles				Semivolatiles			
		Analyte Type	Lead Scavenger				Lead Scavenger				Lead Scavenger				Lead Scavenger				Lead Scavenger				Fuel Additive				Fuel Additive					
		Analytical Method	504.1				524.2				8260SIM				8260SIM				8260				524.2				8270				8270/8270 Mod.			
		Analyte	1,2-Dibromoethane *****				1,2-Dibromoethane *****				1,2-Dibromoethane *****				1,2-Dichloroethane *****				1,2-Dichloroethane *****				1,2-Dichloroethane *****				Phenol				2-(2-Methoxyethoxy)-ethanol			
		CAS No.	106-93-4				106-93-4				106-93-4				107-06-2				107-06-2				107-06-2				108-95-2				111-77-3			
		Unit	µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L			
		DOH EAL	0.04				0.04				0.04				5				5				5				300				800			
		SSRBL	—				—				—				—				—				—				—				—			
Well Name	Sample ID	Date Sampled	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note
RHMW04	ERH019	2016-01-19	—				—				—				< 0.015	U			—				—				—				—			
RHMW04	ERH020	2016-01-19	—				—				—				< 0.015	U			—				—				—				—			
RHMW04	ERH034	2016-04-19	—				—				—				—				—				—				—				—			
RHMW04	ERH048	2016-07-19	—				—				—				—				—				—				—				—			
RHMW04	ERH096	2016-10-25	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW04	ERH128	2016-11-14	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW04	ERH138	2016-12-13	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW04	ERH166	2017-01-09	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW04	ERH166 (EPA split)	2017-01-09	—				< 0.0025	U			—				—				—				< 0.0025	U			< 2.5	U			—			
RHMW04	ERH208	2017-02-06	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW04	ERH208 (EPA split)	2017-02-06	—				< 0.0025	U			—				—				—				< 0.0025	U			< 2.5	U			—			
RHMW04	ERH260	2017-03-06	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW04	ERH260 (EPA split)	2017-03-06	—				< 0.0025	U			—				—				—				< 0.0025	U			< 2.5	U			—			
RHMW04	ERH295	2017-04-03	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW04	ERH381	2017-07-05	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW04	ERH421	2017-10-24	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW04	ERH552	2018-03-14	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW04	ERH598	2018-04-25	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW04	ERH644	2018-07-26	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW04	ERH688	2018-10-24	—				—				—				—				—				—				< 4.00	U			< 80.0	UJ	I	
RHMW04	ERH743	2019-01-21	—				—				—				—				—				—				< 4.00	U			< 80.0	UJ	I	
RHMW04	ERH795	2019-04-22	—				—				—				—				—				—				< 4.00	U			< 80.0	UJ	I	
RHMW04	ERH851	2019-07-23	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW04	ERH917	2019-10-21	—				—				—				—				—				—				< 4.00	UJ	I		< 80.0	U		
RHMW04	ERH981	2020-01-21	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW05	RHMW05-WG15	5/13/2009[a]	—				—				—				—				< 0.150	U			—				—				—			
RHMW05	RHMW05-WG16	7/15/2009[a]	—				—				—				—				< 0.150	U			—				—				—			
RHMW05	RHMW05-WG17	10/13/2009[a]	—				—				—				—				< 0.15	U			—				—				—			
RHMW05	RHMW05-WG18	2010-01-26	—				—				—				—				< 0.300	U			—				—				—			
RHMW05	RHMW05-WG19	2010-04-13	—				—				—				—				< 0.300	U			—				—				—			
RHMW05	RHMW05-WG20	2010-07-13	—				—				—				—				< 0.300	U			—				—				—			
RHMW05	ES005	2010-10-20	—				—				—				—				< 0.28	U			—				—				—			
RHMW05	ES013	2011-01-19	—				—				—				—				< 0.28	U			—				—				—			
RHMW05	ES024	4/20/2011[d]	—				—				—				—				< 0.28	U			—				—				—			
RHMW05	ES039	2011-07-19	—				—				—				—				< 0.28	U			—				—				—			
RHMW05	ES051	2011-10-25	—				—				—				—				< 0.28	U			—				—				—			
RHMW05	ES063	2012-02-01	—				—				—				—				< 0.28	U			—				—				—			
RHMW05	ES070	2012-04-16	—				—				—				—				< 0.28	U			—				—				—			
RHMW05	ES079	2012-07-17	—				—				—				—				< 0.28	U			—				—				—			
RHMW05	ES080	7/17/2012*	—				—				—				—				< 0.28	U			—				—				—			
RHMW05	ES005	2012-10-22	—				—				—				—				< 0.50	U			—				—				—			
RHMW05	ES015	2013-01-29	—				—				—				—				< 0.50	U			—				—				—			
RHMW05	ES024	2013-04-23	—				—				—				—				< 0.50	U			—				—				—			
RHMW05	ES033	2013-07-23	—				—				—				—				< 0.50	U			—				—				—			
RHMW05	ES042	2013-10-22	—				—				—				—				< 0.50	U			—				—				—			
RHMW05	ES049	1/16/2014[d]	—				—				—				—				< 0.50	U			—				—				—			
RHMW05	ES061	1/29/2014[d]	—				—				—				—				< 0.50	U			—				—				—			
RHMW05	ES068	3/6/2014[d]	—				—				—				—				—				—				—				—			
RHMW05	ES076	3/26/2014[d]	—				—				—				—				—				—				—				—			

Table A.1: Cumulative Groundwater COPC Results, First Quarter 2020 Groundwater Monitoring Event (cont'd)
Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i

		Analyte Class	TPH				TPH				TPH				TPH				TPH				Volatiles				Volatiles				Volatiles				Volatiles				Volatiles			
		Analyte Type	COPC				COPC				COPC				COPC				COPC				COPC				non-COPC				COPC				non-COPC				COPC			
		Analytical Method	8015				8260				8015				8015				8015				8260				524.2				8260				524.2				8260			
		Analyte	TPH-g****				TPH-g****				TPH-d				TPH-d with Silica Gel Cleanup				TPH-o				TPH-o with Silica Gel Cleanup				Benzene				Benzene				Ethylbenzene				Ethylbenzene				Toluene				Toluene			
		CAS No.	Gas				Gas				Diesel				Disel SGC				Oil				Oil SGC				71-43-2				71-43-2				100-41-4				100-41-4				108-88-3				108-88-3			
		Unit	µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L			
		DOH EAL	300				300				400				400				500				500				5				5				30				30				40				40			
		SSRBL	—				—				4500				—				—				—				750				750				—				—				—			
Well Name	Sample ID	Date Sampled	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note
RHMW05	ES084	4/22/2014[d]	—				< 30	U			< 10	U			—				—				—				< 0.50	U			—				< 0.50	U			—				< 0.50	U			—			
RHMW05	ES095	5/28/2014[d]	—				—				< 12	U			—				—				—				< 0.50	U			—				< 0.50	U			—				< 0.50	U			—			
RHMW05	ES101	6/24/2014[d]	—				—				< 12	U			—				—				—				< 0.50	U			—				< 0.50	U			—				< 0.50	U			—			
RHMW05	ES108	2014-07-22	—				< 30	U			< 12	U			—				—				—				< 0.50	U			—				< 0.50	U			—				< 0.50	U			—			
RHMW05	ES118	2014-10-28	—				< 30	U			**16**	**J**		Y	—				—				—				< 0.50	U			—				< 0.50	U			—				< 0.50	U			—			
RHMW05	ES124	2015-01-27	—				< 30	U			< 13	U			—				—				—				< 0.50	U			—				< 0.50	U			—				< 0.50	U			—			
RHMW05	ES135	2015-04-21	< 25	U			—				< 17	UJ	b		—				< 34	UJ	b		—				< 0.10	U			—				< 0.10	U			—				< 0.10	U			—			
RHMW05	ES142	2015-06-25	—				—				**15**	**J**			—				**41**	**J**			—				—				—				—				—				—				—			
RHMW05	ES150	2015-07-21	< 25	U			—				**18**	**J**	s		—				**44**	**J**	s		—				< 0.10	U			—				< 0.10	U			—				< 0.10	U			—			
RHMW05	ERH010	2015-10-20	< 25	U			—				< 20	UJ	b		—				< 54	UJ	b		—				< 0.10	UJ	h		—				< 0.10	UJ	h		—				< 0.59	UJ	t		—			
RHMW05	ERH022	2016-01-20	< 25	U			—				< 27	UJ	b		—				< 45	UJ	b		—				< 0.10	U			—				< 0.10	U			—				< 0.18	UJ	t		—			
RHMW05	ERH023	1/20/2016*	< 25	U			—				< 26	UJ	b		—				< 44	UJ	b		—				< 0.10	U			—				< 0.10	U			—				< 0.12	UJ	t		—			
RHMW05	ERH038	2016-04-20	< 25	U			—				< 22	U	b f		—				< 65	U	b f		—				< 0.10	U			—				< 0.10	U			—				< 0.10	U			—			
RHMW05	ERH052	2016-07-20	< 25	U			—				< 21	U			—				< 29	U	b f		—				< 0.10	U			—				< 0.10	U			—				< 0.10	U			—			
RHMW05	ERH089	2016-10-19	—				< 18	U			< 25	U			< 25	U			< 40	U			< 40	U			< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW05	ERH126	2016-11-15	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW05	ERH136	2016-12-12	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW05	ERH164	2017-01-10	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW05	ERH164 (EPA split)	2017-01-10	< 25	UJ	c		—				< 75	U			—				< 300	U			—				—				< 0.2	U			—				< 0.2	U			—				< 0.2	U		
RHMW05	ERH212	2017-02-07	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW05	ERH212 (EPA split)	2017-02-07	< 25	UJ	c		—				< 75	U			—				< 300	U			—				—				< 0.2	U			—				< 0.2	U			—				< 0.2	U		
RHMW05	ERH278	2017-03-08	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW05	ERH278 (EPA split)	2017-03-08	< 25	UJ	c		—				< 75	U			—				< 300	U			—				—				< 0.2	U			—				< 0.2	U			—				< 0.2	U		
RHMW05	ERH313	2017-04-03	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW05	ERH338	2017-05-01	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW05	ERH358	2017-06-06	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW05	ERH387	2017-07-05	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW05	ERH423	2017-10-24	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW05	ERH554	2018-03-13	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW05	ERH600	2018-04-23	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW05	ERH646	2018-07-23	—				< 18	U			< 25	UJ	s		—				< 40	UJ	l s		—				< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW05	ERH690	2018-10-22	—				< 18	U			< 25	UJ	h		—				< 40	UJ	h		—				< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW05	ERH745	2019-01-21	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW05	ERH797	2019-04-22	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW05	ERH853	2019-07-22	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW05	ERH919	2019-10-21	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW05	ERH983	2020-01-21	—				< 18	U			**93**			Z	< 25	UJ	s		**92**			Z	< 40	UJ	s		< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW06	RHMW06-GW-01	10/21/2014[d]	< 20	U			—				< 86	U			—				< 86	U			—				< 0.200	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW06	RHMW06-GW-02	1/23/2015[d]	< 20	U			—				< 76	U			—				< 76	U			—				< 0.200	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW06	ES140	2015-04-23	< 25	U			—				**20**	**J**			—				< 47	UJ	b		—				< 0.10	U			—				< 0.10	U			—				< 0.10	U			—			
RHMW06	ES155	2015-07-28	< 25	U			—				< 20	U			—				< 50	U			—				< 0.10	U			—				< 0.10	U			—				< 0.10	U			—			
RHMW06	ERH004	2015-10-19	< 25	U			—				< 17	UJ	b		—				< 53	UJ	b		—				< 0.10	UJ	h		—				< 0.10	UJ	h		—				< 1.1	UJ	b h t		—			
RHMW06	ERH005	2015-10-19	< 25	U			—				< 21	UJ	b		—				< 53	UJ	b		—				< 0.10	UJ	h		—				< 0.10	UJ	h		—				< 0.5	UJ	b h t		—			
RHMW06	ERH018	2016-01-19	< 25	U			—				< 21	UJ	b		—				< 54	UJ	b		—				< 0.10	U			—				< 0.10	U			—				< 0.1	UJ	t		—			
RHMW06	ERH033	2016-04-19	< 25	U			—				< 28	U	b f		—				< 48	U	b f		—				< 0.10	U			—				< 0.10	U			—				< 0.10	U			—			
RHMW06	ERH047	2016-07-19	< 25	U			—				< 23	U			—				< 27	U	b f		—				< 0.10	U			—				< 0.10	U			—				< 0.10	U			—			
RHMW06	ERH097	2016-10-19	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW06	ERH120	2016-11-14	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW06	ERH139	2016-12-12	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			

Table A.1: Cumulative Groundwater COPC Results, First Quarter 2020 Groundwater Monitoring Event (cont'd)
Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i

		Analyte Class	Volatiles			Volatiles			Volatiles			Semivolatiles (PAHs)			Semivolatiles (PAHs)			Semivolatiles (PAHs)			Semivolatiles (PAHs)			Semivolatiles (PAHs)			Semivolatiles (PAHs)			Lead Scavenger			Lead Scavenger		
		Analyte Type	COPC			non-COPC			non-COPC			COPC			COPC			non-COPC			COPC			non-COPC			non-COPC			Lead Scavenger			Lead Scavenger		
		Analytical Method	8260			524.2			524.2			8270 SIM			8270 SIM			8270			8270 SIM			8260			524.2			8270			8011			8260		
		Analyte	Xylenes, Total (p/m-, o-xylene)			Xylenes, p/m-			Xylenes, o-			1-Methylnaphthalene			2-Methylnaphthalene			2-Methylnaphthalene			Naphthalene *****			Naphthalene *****			Naphthalene *****			Naphthalene *****			1,2-Dibromoethane *****			1,2-Dibromoethane *****		
		CAS No.	1330-20-7			179601-23-1			95-47-6			90-12-0			91-57-6			91-57-6			91-20-3			91-20-3			91-20-3			91-20-3			106-93-4			106-93-4		
		Unit	µg/L			µg/L			µg/L			µg/L			µg/L			µg/L			µg/L			µg/L			µg/L			µg/L			µg/L		
		DOH EAL	20			20			20			10			10			10			17			17			17			17			0.04			0.04		
		SSRBL	—			—			—			—			—			—			—			—			—			—			—			—		
Well Name	Sample ID	Date Sampled	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note
RHMW05	ES084	4/22/2014[d]	< 1.0	U			—				—				< 0.051	U			< 0.051	U			—				**0.066**	**J**			—				—				< 0.50	U		
RHMW05	ES095	5/28/2014[d]	< 1.0	U			—				—				< 0.049	U			< 0.049	U			—				< 0.049	U			—				—				—			
RHMW05	ES101	6/24/2014[d]	< 1.0	U			—				—				< 0.051	U			< 0.051	U			—				< 0.051	U			—				—				—			
RHMW05	ES108	2014-07-22	< 1.0	U			—				—				< 0.049	U			< 0.049	U			—				< 0.049	U			—				—				< 0.50	U		
RHMW05	ES118	2014-10-28	< 1.0	U			—				—				< 0.096	U			< 0.048	U			—				< 0.048	U			—				—				< 0.50	U		
RHMW05	ES124	2015-01-27	< 1.0	U			—				—				< 0.096	U			< 0.048	U			—				< 0.048	U			—				—				< 0.50	U		
RHMW05	ES135	2015-04-21	< 0.20	U			—				—				< 0.0050	U			< 0.0050	U			—				< 0.0050	U			—				—				< 0.0040	U			< 0.20	U		
RHMW05	ES142	2015-06-25	—				—				—				**0.0046**	**J**			**0.0029**	**J**			—				< 0.0050	U			—				—				—				—			
RHMW05	ES150	2015-07-21	< 0.20	U			—				—				**0.0041**	**J**			**0.0036**	**J**			—				**0.0058**	**J**			—				—				< 0.0040	U			< 0.20	U		
RHMW05	ERH010	2015-10-20	< 0.20	UJ	h		—				—				**0.0050**	**J**			< 0.0066	UJ	b		—				< 0.0074	UJ	b		—				—				< 0.0040	U			< 0.20	UJ	h	
RHMW05	ERH022	2016-01-20	< 0.20	U			—				—				< 0.0050	U			**0.0031**	**J**			—				< 0.0050	U			—				—				< 0.0040	U			< 0.20	U		
RHMW05	ERH023	1/20/2016*	< 0.20	U			—				—				< 0.0050	U			**0.0039**	**J**			—				**0.0046**	**J**			—				—				< 0.0040	U			< 0.20	U		
RHMW05	ERH038	2016-04-20	< 0.20	U			—				—				< 0.0050	U			< 0.0050	U			—				< 0.0050	U			—				—				—				—			
RHMW05	ERH052	2016-07-20	< 0.20	U			—				—				< 0.0050	U			< 0.0050	U			—				< 0.0060	U	b f		—				—				—				—			
RHMW05	ERH089	2016-10-19	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—			
RHMW05	ERH126	2016-11-15	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—			
RHMW05	ERH136	2016-12-12	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—			
RHMW05	ERH164	2017-01-10	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—			
RHMW05	ERH164 (EPA split)	2017-01-10	—				< 0.5	U			< 0.2	U			< 0.025	UJ	c		< 0.025	UJ	c		< 0.5	U			< 0.025	U			—				< 0.2	U			< 0.5	U			—				—			
RHMW05	ERH212	2017-02-07	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—			
RHMW05	ERH212 (EPA split)	2017-02-07	—				< 0.5	U			< 0.2	U			< 0.025	UJ	c		< 0.025	UJ	c		< 0.5	U			< 0.025	U			—				< 0.2	U			< 0.5	U			—				—			
RHMW05	ERH278	2017-03-08	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—			
RHMW05	ERH278 (EPA split)	2017-03-08	—				< 0.5	U			< 0.2	U			< 0.027	UJ	c		< 0.027	UJ	c		< 0.6	U			< 0.027	U			—				< 0.2	U			< 0.6	U			—				—			
RHMW05	ERH313	2017-04-03	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—			
RHMW05	ERH338	2017-05-01	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—			
RHMW05	ERH358	2017-06-06	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—			
RHMW05	ERH387	2017-07-05	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—			
RHMW05	ERH423	2017-10-24	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—			
RHMW05	ERH554	2018-03-13	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—			
RHMW05	ERH600	2018-04-23	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—			
RHMW05	ERH646	2018-07-23	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—			
RHMW05	ERH690	2018-10-22	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—			
RHMW05	ERH745	2019-01-21	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—			
RHMW05	ERH797	2019-04-22	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—			
RHMW05	ERH853	2019-07-22	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—			
RHMW05	ERH919	2019-10-21	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—			
RHMW05	ERH983	2020-01-21	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—			
RHMW06	RHMW06-GW-01	10/21/2014[d]	< 0.30	U			—				—				< 0.011	U			**0.0064**	**J**			—				< 0.053	U			—				—				< 0.020	U			< 0.50	U		
RHMW06	RHMW06-GW-02	1/23/2015[d]	< 0.30	U			—				—				< 0.010	U			< 0.010	U			—				< 0.052	U			—				—				< 0.020	U			< 0.50	U		
RHMW06	ES140	2015-04-23	< 0.20	U			—				—				< 0.0052	U			< 0.0052	U			—				< 0.0052	U			—				—				< 0.0040	UJ	h		< 0.20	U		
RHMW06	ES155	2015-07-28	< 0.20	U			—				—				< 0.0050	U			< 0.0050	U			—				< 0.0050	U			—				—				< 0.0040	U			< 0.20	U		
RHMW06	ERH004	2015-10-19	< 0.20	UJ	h		—				—				< 0.0050	U			< 0.0050	U			—				< 0.0050	UJ	b		—				—				< 0.0040	U			< 0.20	UJ	h	
RHMW06	ERH005	2015-10-19	< 0.20	UJ	h		—				—				< 0.0050	U			< 0.0050	U			—				< 0.0050	U			—				—				< 0.0040	U			< 0.20	UJ	h	
RHMW06	ERH018	2016-01-19	< 0.20	U			—				—				< 0.0050	U			< 0.0050	U			—				< 0.0050	U			—				—				< 0.0040	U			< 0.20	U		
RHMW06	ERH033	2016-04-19	< 0.20	U			—				—				< 0.0050	U			< 0.0050	U			—				< 0.0050	U			—				—				—				—			
RHMW06	ERH047	2016-07-19	< 0.20	U			—				—				< 0.0050	U			< 0.0050	U			—				< 0.0047	U	b f		—				—				—				—			
RHMW06	ERH097	2016-10-19	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—			
RHMW06	ERH120	2016-11-14	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—			
RHMW06	ERH139	2016-12-12	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—			

Table A.1: Cumulative Groundwater COPC Results, First Quarter 2020 Groundwater Monitoring Event (cont'd)
Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i

		Analyte Class	Lead Scavenger				Lead Scavenger				Lead Scavenger				Lead Scavenger				Lead Scavenger				Lead Scavenger				Semivolatiles				Semivolatiles			
		Analyte Type	Lead Scavenger				Lead Scavenger				Lead Scavenger				Lead Scavenger				Lead Scavenger				Fuel Additive				Fuel Additive					
		Analytical Method	504.1				524.2				8260SIM				8260SIM				8260				524.2				8270				8270/8270 Mod.			
		Analyte	1,2-Dibromoethane *****				1,2-Dibromoethane *****				1,2-Dibromoethane *****				1,2-Dichloroethane *****				1,2-Dichloroethane *****				1,2-Dichloroethane *****				Phenol				2-(2-Methoxyethoxy)-ethanol			
		CAS No.	106-93-4				106-93-4				106-93-4				107-06-2				107-06-2				107-06-2				108-95-2				111-77-3			
		Unit	µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L			
		DOH EAL	0.04				0.04				0.04				5				5				5				300				800			
		SSRBL	—				—				—				—				—				—				—				—			
Well Name	Sample ID	Date Sampled	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note
RHMW05	ES084	4/22/2014[d]	—				—				—				—				< 0.50	U			—				—				—			
RHMW05	ES095	5/28/2014[d]	—				—				—				—				—				—				—				—			
RHMW05	ES101	6/24/2014[d]	—				—				—				—				—				—				—				—			
RHMW05	ES108	2014-07-22	—				—				—				—				< 0.50	U			—				—				—			
RHMW05	ES118	2014-10-28	—				—				—				—				< 0.50	U			—				—				—			
RHMW05	ES124	2015-01-27	—				—				—				—				< 0.50	U			—				—				—			
RHMW05	ES135	2015-04-21	—				—				< 0.010	U			< 0.015	U			—				—				—				—			
RHMW05	ES142	2015-06-25	—				—				—				—				—				—				—				—			
RHMW05	ES150	2015-07-21	—				—				—				< 0.015	U			—				—				—				—			
RHMW05	ERH010	2015-10-20	—				—				—				< 0.015	U			—				—				—				—			
RHMW05	ERH022	2016-01-20	—				—				—				< 0.015	U			—				—				—				—			
RHMW05	ERH023	1/20/2016*	—				—				—				< 0.015	U			—				—				—				—			
RHMW05	ERH038	2016-04-20	—				—				—				—				—				—				—				—			
RHMW05	ERH052	2016-07-20	—				—				—				—				—				—				—				—			
RHMW05	ERH089	2016-10-19	—				—				—				—				—				—				< 4.00	U			< 80.0	UJ	h	
RHMW05	ERH126	2016-11-15	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW05	ERH136	2016-12-12	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW05	ERH164	2017-01-10	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW05	ERH164 (EPA split)	2017-01-10	—				< 0.0025	U			—				—				—				< 0.0025	U			< 2.5	U			—			
RHMW05	ERH212	2017-02-07	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW05	ERH212 (EPA split)	2017-02-07	—				< 0.0025	U			—				—				—				< 0.0025	U			< 2.5	U			—			
RHMW05	ERH278	2017-03-08	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW05	ERH278 (EPA split)	2017-03-08	—				< 0.0025	U			—				—				—				< 0.0025	U			< 2.8	U			—			
RHMW05	ERH313	2017-04-03	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW05	ERH338	2017-05-01	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW05	ERH358	2017-06-06	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW05	ERH387	2017-07-05	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW05	ERH423	2017-10-24	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW05	ERH554	2018-03-13	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW05	ERH600	2018-04-23	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW05	ERH646	2018-07-23	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW05	ERH690	2018-10-22	—				—				—				—				—				—				< 4.00	U			< 80.0	UJ	l	
RHMW05	ERH745	2019-01-21	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW05	ERH797	2019-04-22	—				—				—				—				—				—				< 4.00	U			< 80.0	UJ	l	
RHMW05	ERH853	2019-07-22	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW05	ERH919	2019-10-21	—				—				—				—				—				—				< 4.00	UJ	l		< 80.0	U		
RHMW05	ERH983	2020-01-21	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW06	RHMW06-GW-01	10/21/2014[d]	—				—				—				—				< 0.100	U			—				—				—			
RHMW06	RHMW06-GW-02	1/23/2015[d]	—				—				—				—				< 0.100	U			—				—				—			
RHMW06	ES140	2015-04-23	—				—				< 0.010	U			< 0.015	U			—				—				—				—			
RHMW06	ES155	2015-07-28	—				—				—				< 0.015	U			—				—				—				—			
RHMW06	ERH004	2015-10-19	—				—				—				< 0.015	U			—				—				—				—			
RHMW06	ERH005	2015-10-19	—				—				—				< 0.015	U			—				—				—				—			
RHMW06	ERH018	2016-01-19	—				—				—				< 0.015	U			—				—				—				—			
RHMW06	ERH033	2016-04-19	—				—				—				—				—				—				—				—			
RHMW06	ERH047	2016-07-19	—				—				—				—				—				—				—				—			
RHMW06	ERH097	2016-10-19	—				—				—				—				—				—				< 4.00	U			< 80.0	UJ	h	
RHMW06	ERH120	2016-11-14	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW06	ERH139	2016-12-12	—				—				—				—				—				—				< 4.00	U			< 80.0	U		

Table A.1: Cumulative Groundwater COPC Results, First Quarter 2020 Groundwater Monitoring Event (cont'd)
Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i

		Analyte Class	TPH				TPH				TPH				TPH				TPH				TPH				Volatiles				Volatiles				Volatiles				Volatiles				Volatiles			
		Analyte Type	COPC				COPC				COPC				COPC				COPC				COPC				COPC				non-COPC				COPC				non-COPC				COPC			
		Analytical Method	8015				8260				8015				8015				8015				8015				8260				524.2				8260				524.2				8260			
		Analyte	TPH-g****				TPH-g****				TPH-d				TPH-d with Silica Gel Cleanup				TPH-o				TPH-o with Silica Gel Cleanup				Benzene				Benzene				Ethylbenzene				Ethylbenzene				Toluene				Toluene			
		CAS No.	Gas				Gas				Diesel				Disel SGC				Oil				Oil SGC				71-43-2				71-43-2				100-41-4				100-41-4				108-88-3				108-88-3			
		Unit	µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L			
		DOH EAL	300				300				400				400				500				500				5				5				30				30				40				40			
		SSRBL	—				—				4500				—				—				—				750				750				—				—				—			
Well Name	Sample ID	Date Sampled	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note
RHMW06	ERH168	2017-01-09	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW06	ERH168 (EPA split)	2017-01-09	< 25	UJ	c		—				< 75	U			—				< 300	U			—				—				< 0.2	U			—				< 0.2	U			—				< 0.2	U		
RHMW06	ERH210	2017-02-07	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW06	ERH210 (EPA split)	2017-02-07	< 25	UJ	c		—				< 75	U			—				< 300	U			—				—				< 0.2	U			—				< 0.2	U			—				< 0.2	U		
RHMW06	ERH284	2017-03-07	—				< 18	U			< 25	U			—				**47**			Y	—				< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW06	ERH284 (EPA split)	2017-03-07	< 25	UJ	c		—				< 75	U			—				< 300	U			—				—				< 0.2	U			—				< 0.2	U			—				< 0.2	U		
RHMW06	ERH319	2017-04-03	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW06	ERH369	2017-07-04	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW06	ERH425	2017-10-24	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW06	ERH556	2018-03-12	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW06	ERH602	2018-04-23	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW06	ERH648	2018-07-23	—				< 18	U			< 25	U			—				< 40	UJ	l		—				< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW06	ERH692	2018-10-23	—				< 18	U			< 25	UJ	h		—				< 40	UJ	h		—				< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW06	ERH747	2019-01-21	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW06	ERH799	2019-04-22	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW06	ERH855	2019-07-22	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW06	ERH921	2019-10-21	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW06	ERH985	2020-01-20	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW07	RHMW07-GW-01	10/20/2014[d]	< 20	U			—				**57**	**J**			—				< 78	U			—				< 0.200	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW07	RHMW07-GW-01FD	10/20/2014[d]	< 20	U			—				**66**	**J**			—				< 77	U			—				< 0.200	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW07	RHMW07-GW-02	1/22/2015[d]	< 20	U			—				< 75	U			—				< 75	U			—				< 0.200	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW07	RHMW07-GW-02FD	1/22/2015*[d]	< 20	U			—				< 81	U			—				< 81	U			—				< 0.200	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW07	ES141	2015-04-23	< 25	U			—				**26**	**J**			—				< 47	UJ	b		—				< 0.10	U			—				< 0.10	U			—				< 0.10	U			—			
RHMW07	ES154	2015-07-27	< 25	U			—				**22**	**J**			—				**48**	**J**			—				< 0.10	U			—				< 0.10	U			—				< 0.10	U			—			
RHMW07	ERH003	2015-10-19	< 25	U			—				< 26	UJ	b		—				< 59	UJ	b		—				< 0.10	UJ	h		—				< 0.10	UJ	h		—				< 0.64	UJ	b h t		—			
RHMW07	ERH017	2016-01-19	< 25	U			—				< 28	UJ	b		—				< 44	UJ	b		—				< 0.10	U			—				< 0.10	U			—				< 0.10	U			—			
RHMW07	ERH032	2016-04-19	< 25	U			—				< 26	U	b f		—				< 52	U	b f		—				< 0.10	U			—				< 0.10	U			—				< 0.10	U			—			
RHMW07	ERH045	2016-07-19	< 25	U			—				< 22	U			—				< 40	U	b f		—				< 0.10	U			—				< 0.10	U			—				< 0.10	U			—			
RHMW07	ERH046	2016-07-19	< 25	U			—				< 17	U	f		—				< 160	U	b		—				< 0.10	U			—				< 0.10	U			—				< 0.10	U			—			
RHMW07	ERH098	2016-10-19	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW07	ERH121	2016-11-14	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW07	ERH140	2016-12-13	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW07	ERH179	2017-01-10	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW07	ERH179 (EPA split)	2017-01-10	< 25	UJ	c		—				< 75	U			—				< 300	U			—				—				< 0.2	U			—				< 0.2	U			—				< 0.2	U		
RHMW07	ERH218	2017-02-08	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW07	ERH218 (EPA split)	2017-02-08	< 25	UJ	c		—				< 75	U			—				< 300	U			—				—				< 0.2	U			—				< 0.2	U			—				< 0.2	U		
RHMW07	ERH270	2017-03-07	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW07	ERH270 (EPA split)	2017-03-07	< 25	UJ	c		—				< 75	U			—				< 300	U			—				—				< 0.2	U			—				< 0.2	U			—				< 0.2	U		
RHMW07	ERH305	2017-04-03	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW07	ERH371	2017-07-04	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW07	ERH427	2017-10-25	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW07	ERH558	2018-03-13	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW07	ERH604	2018-04-24	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW07	ERH650	2018-07-24	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW07	ERH694	2018-10-23	—				< 18	U			< 25	UJ	h		—				< 40	UJ	h		—				< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW07	ERH749	2019-01-23	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	UJ	l		—			
RHMW07	ERH801	2019-04-22	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW07	ERH857	2019-07-22	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
RHMW07	ERH923	2019-10-22	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			

Table A.1: Cumulative Groundwater COPC Results, First Quarter 2020 Groundwater Monitoring Event (cont'd)
Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i

		Analyte Class	Volatiles				Volatiles				Volatiles				Semivolatiles (PAHs)				Semivolatiles (PAHs)				Semivolatiles (PAHs)				Semivolatiles (PAHs)				Semivolatiles (PAHs)				Semivolatiles (PAHs)				Lead Scavenger				Lead Scavenger			
		Analyte Type	COPC				non-COPC				non-COPC				COPC				COPC				non-COPC				COPC				non-COPC				non-COPC				Lead Scavenger				Lead Scavenger			
		Analytical Method	8260				524.2				524.2				8270 SIM				8270 SIM				8270				8270 SIM				8260				524.2				8270				8011				8260			
		Analyte	Xylenes, Total (p/m-, o-xylene)				Xylenes, p/m-				Xylenes, o-				1-Methylnaphthalene				2-Methylnaphthalene				2-Methylnaphthalene				Naphthalene *****				Naphthalene *****				Naphthalene *****				Naphthalene *****				1,2-Dibromoethane *****				1,2-Dibromoethane *****			
		CAS No.	1330-20-7				179601-23-1				95-47-6				90-12-0				91-57-6				91-57-6				91-20-3				91-20-3				91-20-3				91-20-3				106-93-4				106-93-4			
		Unit	µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L			
		DOH EAL	20				20				20				10				10				10				17				17				17				17				0.04				0.04			
		SSRBL	—				—				—				—				—				—				—				—				—				—				—				—			
Well Name	Sample ID	Date Sampled	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note
RHMW06	ERH168	2017-01-09	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW06	ERH168 (EPA split)	2017-01-09	—				< 0.5	U			< 0.2	U			< 0.025	UJ	c		< 0.025	UJ	c		< 0.5	U			< 0.025	U			—				< 0.2	U			< 0.5	U			—				—			
RHMW06	ERH210	2017-02-07	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW06	ERH210 (EPA split)	2017-02-07	—				< 0.5	U			< 0.2	U			< 0.025	UJ	c	s	< 0.025	UJ	c	s	< 0.5	U			< 0.025	UJ	s		—				< 0.2	U			< 0.5	U			—				—			
RHMW06	ERH284	2017-03-07	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW06	ERH284 (EPA split)	2017-03-07	—				< 0.5	U			< 0.2	U			< 0.025	UJ	c		< 0.025	UJ	c		< 0.5	U			< 0.025	U			—				< 0.2	U			< 0.5	U			—				—			
RHMW06	ERH319	2017-04-03	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW06	ERH369	2017-07-04	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW06	ERH425	2017-10-24	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW06	ERH556	2018-03-12	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW06	ERH602	2018-04-23	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW06	ERH648	2018-07-23	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW06	ERH692	2018-10-23	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW06	ERH747	2019-01-21	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW06	ERH799	2019-04-22	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW06	ERH855	2019-07-22	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW06	ERH921	2019-10-21	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW06	ERH985	2020-01-20	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW07	RHMW07-GW-01	10/20/2014[d]	< 0.30	U			—				—				< 0.0096	U			**0.0084**	**J**			—				< 0.048	U			—				—				—				< 0.020	U			< 0.50	U		
RHMW07	RHMW07-GW-01FD	10/20/2014[d]	< 0.30	U			—				—				< 0.010	U			**0.0060**	**J**			—				< 0.050	U			—				—				—				< 0.020	U			< 0.50	U		
RHMW07	RHMW07-GW-02	1/22/2015[d]	< 0.30	U			—				—				< 0.011	U			< 0.011	U			—				< 0.055	U			—				—				—				< 0.020	U			< 0.50	U		
RHMW07	RHMW07-GW-02FD	1/22/2015[*d]	< 0.30	U			—				—				< 0.010	U			< 0.010	U			—				< 0.050	U			—				—				—				< 0.020	U			< 0.50	U		
RHMW07	ES141	2015-04-23	< 0.20	U			—				—				< 0.0052	U			< 0.0052	U			—				< 0.0052	U			—				—				—				< 0.0040	UJ	h		< 0.20	U		
RHMW07	ES154	2015-07-27	< 0.20	U			—				—				**0.0051**	**J**			**0.0095**	**J**			—				**0.0060**	**J**			—				—				—				< 0.0040	U			< 0.20	U		
RHMW07	ERH003	2015-10-19	< 0.20	UJ	h		—				—				**0.0067**	**J**			< 0.01	UJ	b		—				< 0.01	UJ	b		—				—				—				< 0.0040	U			< 0.20	UJ	h	
RHMW07	ERH017	2016-01-19	< 0.20	U			—				—				**0.0046**	**J**			**0.0077**	**J**			—				**0.0038**	**J**			—				—				—				< 0.0040	U			< 0.20	U		
RHMW07	ERH032	2016-04-19	< 0.20	U			—				—				< 0.0050	U			< 0.0036	U	f		—				< 0.0050	U			—				—				—				—				—			
RHMW07	ERH045	2016-07-19	< 0.20	U			—				—				< 0.0050	U			**0.0037**	**J**			—				< 0.0074	U	b	f	—				—				—				—				—			
RHMW07	ERH046	2016-07-19	< 0.20	U			—				—				< 0.0050	U			**0.0033**	**J**			—				< 0.0077	U	b	f	—				—				—				—				—			
RHMW07	ERH098	2016-10-19	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW07	ERH121	2016-11-14	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW07	ERH140	2016-12-13	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW07	ERH179	2017-01-10	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW07	ERH179 (EPA split)	2017-01-10	—				< 0.5	U			< 0.2	U			< 0.025	UJ	c		< 0.025	UJ	c		< 0.5	U			< 0.025	U			—				< 0.2	U			< 0.5	U			—				—			
RHMW07	ERH218	2017-02-08	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW07	ERH218 (EPA split)	2017-02-08	—				< 0.5	U			< 0.2	U			< 0.025	UJ	c		< 0.025	UJ	c		< 0.5	U			< 0.025	U			—				< 0.2	U			< 0.5	U			—				—			
RHMW07	ERH270	2017-03-07	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW07	ERH270 (EPA split)	2017-03-07	—				< 0.5	U			< 0.2	U			< 0.025	UJ	c		< 0.025	UJ	c		< 0.5	U			< 0.025	U			—				< 0.2	U			< 0.5	U			—				—			
RHMW07	ERH305	2017-04-03	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW07	ERH371	2017-07-04	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW07	ERH427	2017-10-25	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW07	ERH558	2018-03-13	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW07	ERH604	2018-04-24	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW07	ERH650	2018-07-24	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW07	ERH694	2018-10-23	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW07	ERH749	2019-01-23	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW07	ERH801	2019-04-22	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW07	ERH857	2019-07-22	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW07	ERH923	2019-10-22	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			

Table A.1: Cumulative Groundwater COPC Results, First Quarter 2020 Groundwater Monitoring Event (cont'd)
Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i

		Analyte Class	Lead Scavenger				Lead Scavenger				Lead Scavenger				Lead Scavenger				Lead Scavenger				Lead Scavenger				Semivolatiles				Semivolatiles			
		Analyte Type	Lead Scavenger				Lead Scavenger				Lead Scavenger				Lead Scavenger				Lead Scavenger				Lead Scavenger				Fuel Additive				Fuel Additive			
		Analytical Method	504.1				524.2				8260SIM				8260SIM				8260				524.2				8270				8270/8270 Mod.			
		Analyte	1,2-Dibromoethane *****				1,2-Dibromoethane *****				1,2-Dibromoethane *****				1,2-Dichloroethane *****				1,2-Dichloroethane *****				1,2-Dichloroethane *****				Phenol				2-(2-Methoxyethoxy)-ethanol			
		CAS No.	106-93-4				106-93-4				106-93-4				107-06-2				107-06-2				107-06-2				108-95-2				111-77-3			
		Unit	µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L			
		DOH EAL	0.04				0.04				0.04				5				5				5				300				800			
		SSRBL	—				—				—				—				—				—				—				—			
Well Name	Sample ID	Date Sampled	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note
RHMW06	ERH168	2017-01-09	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW06	ERH168 (EPA split)	2017-01-09	—				< 0.0025	U			—				—				—				< 0.0025	U			< 2.5	U			—			
RHMW06	ERH210	2017-02-07	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW06	ERH210 (EPA split)	2017-02-07	—				< 0.0025	U			—				—				—				< 0.0025	U			< 2.5	U			—			
RHMW06	ERH284	2017-03-07	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW06	ERH284 (EPA split)	2017-03-07	—				< 0.0025	U			—				—				—				< 0.0025	U			< 2.5	U			—			
RHMW06	ERH319	2017-04-03	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW06	ERH369	2017-07-04	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW06	ERH425	2017-10-24	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW06	ERH556	2018-03-12	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW06	ERH602	2018-04-23	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW06	ERH648	2018-07-23	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW06	ERH692	2018-10-23	—				—				—				—				—				—				< 4.00	U			< 80.0	UJ	l	
RHMW06	ERH747	2019-01-21	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW06	ERH799	2019-04-22	—				—				—				—				—				—				< 4.00	U			< 80.0	UJ	l	
RHMW06	ERH855	2019-07-22	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW06	ERH921	2019-10-21	—				—				—				—				—				—				< 4.00	UJ	l		< 80.0	U		
RHMW06	ERH985	2020-01-20	—				—				—				—				—				—				< 4.00	UJ	l		< 80.0	UJ	l	
RHMW07	RHMW07-GW-01	10/20/2014[d]	—				—				—				—				< 0.100	U			—				—				—			
RHMW07	RHMW07-GW-01FD	10/20/2014[d]	—				—				—				—				< 0.100	U			—				—				—			
RHMW07	RHMW07-GW-02	1/22/2015[d]	—				—				—				—				< 0.100	U			—				—				—			
RHMW07	RHMW07-GW-02FD	1/22/2015[*d]	—				—				—				—				< 0.100	U			—				—				—			
RHMW07	ES141	2015-04-23	—				—				< 0.010	U			< 0.015	U			—				—				—				—			
RHMW07	ES154	2015-07-27	—				—				—				< 0.015	U			—				—				—				—			
RHMW07	ERH003	2015-10-19	—				—				—				< 0.015	U			—				—				—				—			
RHMW07	ERH017	2016-01-19	—				—				—				< 0.015	U			—				—				—				—			
RHMW07	ERH032	2016-04-19	—				—				—				—				—				—				—				—			
RHMW07	ERH045	2016-07-19	—				—				—				—				—				—				—				—			
RHMW07	ERH046	2016-07-19	—				—				—				—				—				—				—				—			
RHMW07	ERH098	2016-10-19	—				—				—				—				—				—				< 4.00	U			< 80.0	UJ	h	
RHMW07	ERH121	2016-11-14	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW07	ERH140	2016-12-13	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW07	ERH179	2017-01-10	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW07	ERH179 (EPA split)	2017-01-10	—				< 0.0025	U			—				—				—				< 0.0025	U			< 2.5	U			—			
RHMW07	ERH218	2017-02-08	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW07	ERH218 (EPA split)	2017-02-08	—				< 0.0025	U			—				—				—				< 0.0025	U			< 2.5	U			—			
RHMW07	ERH270	2017-03-07	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW07	ERH270 (EPA split)	2017-03-07	—				< 0.0025	U			—				—				—				< 0.0025	U			< 2.5	U			—			
RHMW07	ERH305	2017-04-03	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW07	ERH371	2017-07-04	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW07	ERH427	2017-10-25	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW07	ERH558	2018-03-13	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW07	ERH604	2018-04-24	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW07	ERH650	2018-07-24	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW07	ERH694	2018-10-23	—				—				—				—				—				—				< 4.00	U			< 80.0	UJ	l	
RHMW07	ERH749	2019-01-23	—				—				—				—				—				—				< 4.00	U			< 80.0	UJ	l	
RHMW07	ERH801	2019-04-22	—				—				—				—				—				—				< 4.00	U			< 80.0	UJ	l	
RHMW07	ERH857	2019-07-22	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW07	ERH923	2019-10-22	—				—				—				—				—				—				< 4.00	UJ	l		< 80.0	U		

Table A.1: Cumulative Groundwater COPC Results, First Quarter 2020 Groundwater Monitoring Event (cont'd)
Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i

		Analyte Class	TPH				TPH				TPH				TPH				TPH				Volatiles				Volatiles				Volatiles				Volatiles			
		Analyte Type	COPC				COPC				COPC				COPC				COPC				COPC				non-COPC				COPC				non-COPC			
		Analytical Method	8015				8260				8015				8015				8015				8260				524.2				8260				524.2			
		Analyte	TPH-g****				TPH-g****				TPH-d				TPH-d with Silica Gel Cleanup				TPH-o				TPH-o with Silica Gel Cleanup				Benzene				Benzene				Ethylbenzene			
		CAS No.	Gas				Gas				Diesel				Disel SGC				Oil				Oil SGC				71-43-2				71-43-2				100-41-4			
		Unit	µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L			
		DOH EAL	300				300				400				400				500				500				5				5				30			
		SSRBL	—				—				4500				—				—				—				750				750				—			
Well Name	Sample ID	Date Sampled	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note
RHMW07	ERH987	2020-01-20	—				< 18	U			**120**			Z	< 25	U			**84**			Z	**39**	**J**		Y	< 0.30	U			—				< 0.50	U		
RHMW08	ERH102	2016-10-19	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U		
RHMW08	ERH122	2016-11-15	—				< 18	U			**33**			Y	< 25	U			**32**	**J**			< 40	U			< 0.30	U			—				< 0.50	U		
RHMW08	ERH141	2016-12-12	—				< 18	U			**27**	**J**		Y	—				**29**	**J**			—				< 0.30	U			—				< 0.50	U		
RHMW08	ERH157	2016-12-21	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U		
RHMW08	ERH158	12/21/2016*	—				< 18	U			**63**			O	—				< 40	U			—				< 0.30	U			—				< 0.50	U		
RHMW08	ERH169	2017-01-11	—				< 18	U			**28**	**J**		Y	—				**29**	**J**			—				< 0.30	U			—				< 0.50	U		
RHMW08	ERH170	1/11/2017*	—				< 18	U			**23**	**J**		Y	—				**27**	**J**			—				< 0.30	U			—				< 0.50	U		
RHMW08	ERH169 (EPA split)	2017-01-11	< 25	UJ	c		—				**160**				—				< 300	U			—				—				< 0.2	U			—			
RHMW08	ERH170 (EPA split)	1/11/2017*	< 25	UJ	c		—				**150**				—				< 300	U			—				—				< 0.2	U			—			
RHMW08	ERH220	2017-02-06	—				< 18	U			**26**	**J**		Y	—				**31**	**J**			—				< 0.30	U			—				< 0.50	U		
RHMW08	ERH221	2/6/2017*	—				< 18	U			**25**	**J**		Y	—				**28**	**J**			—				< 0.30	U			—				< 0.50	U		
RHMW08	ERH220 (EPA split)	2017-02-06	< 25	UJ	c		—				**130**	**J**			—				< 300	U			—				—				< 0.2	U			—			
RHMW08	ERH221 (EPA split)	2/6/2017*	< 25	UJ	c		—				**120**	**J**			—				< 300	U			—				—				< 0.2	U			—			
RHMW08	ERH262	2017-03-06	—				< 18	U			**27**	**J**		Y	—				**23**	**J**			—				< 0.30	U			—				< 0.50	U		
RHMW08	ERH263	3/6/2017*	—				< 18	U			**25**	**J**		Y	—				**25**	**J**			—				< 0.30	U			—				< 0.50	U		
RHMW08	ERH262 (EPA split)	2017-03-06	< 25	UJ	c		—				< 75	U			—				< 300	U			—				—				< 0.2	U			—			
RHMW08	ERH263 (EPA split)	3/6/2017*	< 25	UJ	c		—				**98**	**J**			—				< 300	U			—				—				< 0.2	U			—			
RHMW08	ERH297	2017-04-04	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U		
RHMW08	ERH298	4/4/2017*	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U		
RHMW08	ERH340	2017-05-02	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U		
RHMW08	ERH360	2017-06-05	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U		
RHMW08	ERH376	2017-07-04	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U		
RHMW08	ERH429	2017-10-23	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U		
RHMW08	ERH560	2018-03-12	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U		
RHMW08	ERH606	2018-04-23	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U		
RHMW08	ERH652	2018-07-24	—				< 18	UJ	s		< 25	U			—				< 40	U			—				< 0.30	UJ	s		—				< 0.50	UJ	s	
RHMW08	ERH696	2018-10-24	—				< 18	U			< 25	UJ	h		—				< 40	UJ	h		—				< 0.30	U			—				< 0.50	U		
RHMW08	ERH751	2019-01-21	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U		
RHMW08	ERH803	2019-04-23	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U		
RHMW08	ERH859	2019-08-07	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U		
RHMW08	ERH925	2019-10-30	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U		
RHMW08	ERH989	2020-01-20	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U		
RHMW09	ERH103	2016-10-25	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U		
RHMW09	ERH129	2016-11-15	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U		
RHMW09	ERH146	2016-12-12	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U		
RHMW09	ERH178	2017-01-11	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U		
RHMW09	ERH178 (EPA split)	2017-01-11	< 25	UJ	c		—				< 71	U			—				< 290	U			—				—				< 0.2	U			—			
RHMW09	ERH225	2017-02-08	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U		
RHMW09	ERH247	2/8/2017*	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U		
RHMW09	ERH225 (EPA split)	2017-02-08	< 25	UJ	c		—				< 75	U			—				< 300	U			—				—				< 0.2	U			—			
RHMW09	ERH247 (EPA split)	2/8/2017*	< 25	UJ	c		—				< 71	U			—				< 280	U			—				—				< 0.2	U			—			
RHMW09	ERH272	2017-03-07	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U		
RHMW09	ERH272 (EPA split)	2017-03-07	< 25	UJ	c		—				< 75	U			—				< 300	U			—				—				< 0.2	U			—			
RHMW09	ERH307	2017-04-04	—				< 18	UJ	q		< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U		
RHMW09	ERH314	4/4/2017*	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U		
RHMW09	ERH385	2017-07-05	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U		
RHMW09	ERH431	2017-10-24	—				< 18	U			< 25	UJ	s		—				< 40	UJ	s		—				< 0.30	U			—				< 0.50	U		
RHMW09	ERH562	2018-03-13	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U		
RHMW09	ERH608	2018-04-25	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U		

Table A.1: Cumulative Groundwater COPC Results, First Quarter 2020 Groundwater Monitoring Event (cont'd)
Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i

		Analyte Class	Volatiles				Volatiles				Volatiles				Semivolatiles (PAHs)				Semivolatiles (PAHs)				Semivolatiles (PAHs)				Semivolatiles (PAHs)				Semivolatiles (PAHs)				Semivolatiles (PAHs)				Lead Scavenger				Lead Scavenger			
		Analyte Type	COPC				non-COPC				non-COPC				COPC				COPC				non-COPC				COPC				non-COPC				Lead Scavenger				Lead Scavenger			
		Analytical Method	8260				524.2				524.2				8270 SIM				8270 SIM				8270				8270 SIM				8260				524.2				8270				8011				8260			
		Analyte	Xylenes, Total (p/m-, o-xylene)				Xylenes, p/m-				Xylenes, o-				1-Methylnaphthalene				2-Methylnaphthalene				2-Methylnaphthalene				Naphthalene *****				Naphthalene *****				Naphthalene *****				Naphthalene *****				1,2-Dibromoethane *****				1,2-Dibromoethane *****			
		CAS No.	1330-20-7				179601-23-1				95-47-6				90-12-0				91-57-6				91-57-6				91-20-3				91-20-3				91-20-3				91-20-3				106-93-4				106-93-4			
		Unit	µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L			
		DOH EAL	20				20				20				10				10				10				17				17				17				17				0.04				0.04			
		SSRBL	—				—				—				—				—				—				—				—				—				—				—				—			
Well Name	Sample ID	Date Sampled	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note
RHMW07	ERH987	2020-01-20	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW08	ERH102	2016-10-19	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				< 0.02	U			—			
RHMW08	ERH122	2016-11-15	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				< 0.02	UJ	c		—			
RHMW08	ERH141	2016-12-12	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				< 0.02	U			—			
RHMW08	ERH157	2016-12-21	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				< 0.02	U			—			
RHMW08	ERH158	12/21/2016*	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				< 0.02	U			—			
RHMW08	ERH169	2017-01-11	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				< 0.02	U			—			
RHMW08	ERH170	1/11/2017*	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				< 0.02	U			—			
RHMW08	ERH169 (EPA split)	2017-01-11	—				< 0.5	U			< 0.2	U			< 0.025	UJ	c		< 0.025	UJ	c		< 0.5	U			< 0.025	U			—				< 0.2	U			< 0.5	U			—				—			
RHMW08	ERH170 (EPA split)	1/11/2017*	—				< 0.5	U			< 0.2	U			< 0.025	UJ	c		< 0.025	UJ	c		< 0.5	U			< 0.025	U			—				< 0.2	U			< 0.5	U			—				—			
RHMW08	ERH220	2017-02-06	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				< 0.02	U			—			
RHMW08	ERH221	2/6/2017*	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				< 0.02	U			—			
RHMW08	ERH220 (EPA split)	2017-02-06	—				< 0.5	U			< 0.2	U			< 0.025	UJ	c		< 0.025	UJ	c		< 0.5	U			< 0.025	U			—				< 0.2	U			< 0.5	U			—				—			
RHMW08	ERH221 (EPA split)	2/6/2017*	—				< 0.5	U			< 0.2	U			< 0.025	UJ	c		< 0.025	UJ	c		< 0.5	U			< 0.025	U			—				< 0.2	U			< 0.5	U			—				—			
RHMW08	ERH262	2017-03-06	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				< 0.02	U			—			
RHMW08	ERH263	3/6/2017*	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				< 0.02	U			—			
RHMW08	ERH262 (EPA split)	2017-03-06	—				< 0.5	U			< 0.2	U			< 0.025	UJ	c		< 0.025	UJ	c		< 0.5	U			< 0.025	U			—				< 0.2	U			< 0.5	U			—				—			
RHMW08	ERH263 (EPA split)	3/6/2017*	—				< 0.5	U			< 0.2	U			< 0.025	UJ	c		< 0.025	UJ	c		< 0.5	U			< 0.025	U			—				< 0.2	U			< 0.5	U			—				—			
RHMW08	ERH297	2017-04-04	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				< 0.02	U			—			
RHMW08	ERH298	4/4/2017*	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				< 0.02	U			—			
RHMW08	ERH340	2017-05-02	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				< 0.02	U			—			
RHMW08	ERH360	2017-06-05	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				< 0.02	U			—			
RHMW08	ERH376	2017-07-04	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				< 0.02	U			—			
RHMW08	ERH429	2017-10-23	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW08	ERH560	2018-03-12	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW08	ERH606	2018-04-23	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW08	ERH652	2018-07-24	< 0.30	UJ	s		—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW08	ERH696	2018-10-24	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW08	ERH751	2019-01-21	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW08	ERH803	2019-04-23	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW08	ERH859	2019-08-07	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW08	ERH925	2019-10-30	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW08	ERH989	2020-01-20	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW09	ERH103	2016-10-25	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				< 0.02	U			—			
RHMW09	ERH129	2016-11-15	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				< 0.02	UJ	c		—			
RHMW09	ERH146	2016-12-12	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				< 0.02	U			—			
RHMW09	ERH178	2017-01-11	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				< 0.02	U			—			
RHMW09	ERH178 (EPA split)	2017-01-11	—				< 0.5	U			< 0.2	U			< 0.024	UJ	c		< 0.024	UJ	c		< 0.5	U			< 0.024	U			—				< 0.2	U			< 0.5	U			—				—			
RHMW09	ERH225	2017-02-08	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				< 0.02	U			< 0.50	U		
RHMW09	ERH247	2/8/2017*	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				< 0.02	U			< 0.50	U		
RHMW09	ERH225 (EPA split)	2017-02-08	—				< 0.5	U			< 0.2	U			< 0.025	UJ	c		< 0.025	UJ	c		< 0.5	U			< 0.025	U			—				**1.0**				< 0.5	U			—				—			
RHMW09	ERH247 (EPA split)	2/8/2017*	—				< 0.5	U			< 0.2	U			< 0.025	UJ	c		< 0.025	UJ	c		< 0.5	U			< 0.025	U			—				< 0.2	U			< 0.5	U			—				—			
RHMW09	ERH272	2017-03-07	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				< 0.02	U			—			
RHMW09	ERH272 (EPA split)	2017-03-07	—				< 0.5	U			< 0.2	U			< 0.025	UJ	c		< 0.025	UJ	c		< 0.5	U			< 0.025	U			—				< 0.2	U			< 0.5	U			—				—			
RHMW09	ERH307	2017-04-04	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				< 0.02	U			< 0.50	U		
RHMW09	ERH314	4/4/2017*	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				< 0.02	U			< 0.50	U		
RHMW09	ERH385	2017-07-05	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				< 0.02	U			—			
RHMW09	ERH431	2017-10-24	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW09	ERH562	2018-03-13	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW09	ERH608	2018-04-25	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			

Table A.1: Cumulative Groundwater COPC Results, First Quarter 2020 Groundwater Monitoring Event (cont'd)
Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i

		Analyte Class	Lead Scavenger				Lead Scavenger				Lead Scavenger				Lead Scavenger				Lead Scavenger				Lead Scavenger				Semivolatiles				Semivolatiles			
		Analyte Type	Lead Scavenger				Lead Scavenger				Lead Scavenger				Lead Scavenger				Lead Scavenger				Lead Scavenger				Fuel Additive				Fuel Additive			
		Analytical Method	504.1				524.2				8260SIM				8260SIM				8260				524.2				8270				8270/8270 Mod.			
		Analyte	1,2-Dibromoethane *****				1,2-Dibromoethane *****				1,2-Dibromoethane *****				1,2-Dichloroethane *****				1,2-Dichloroethane *****				1,2-Dichloroethane *****				Phenol				2-(2-Methoxyethoxy)-ethanol			
		CAS No.	106-93-4				106-93-4				106-93-4				107-06-2				107-06-2				107-06-2				108-95-2				111-77-3			
		Unit	µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L			
		DOH EAL	0.04				0.04				0.04				5				5				5				300				800			
		SSRBL	—				—				—				—				—				—				—				—			
Well Name	Sample ID	Date Sampled	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note
RHMW07	ERH987	2020-01-20	—				—				—				—				< 0.30	U			—				< 4.00	U			< 80.0	UJ	I	
RHMW08	ERH102	2016-10-19	—				—				—				—				< 0.30	U			—				< 4.00	U			< 80.0	UJ	h	
RHMW08	ERH122	2016-11-15	—				—				—				—				< 0.30	U			—				< 4.00	U			< 80.0	U		
RHMW08	ERH141	2016-12-12	—				—				—				—				< 0.30	U			—				< 4.00	U			< 80.0	U		
RHMW08	ERH157	2016-12-21	—				—				—				—				< 0.30	U			—				< 4.00	U			< 80.0	U		
RHMW08	ERH158	12/21/2016*	—				—				—				—				< 0.30	U			—				< 4.00	U			< 80.0	U		
RHMW08	ERH169	2017-01-11	—				—				—				—				< 0.30	U			—				< 4.00	U			< 80.0	U		
RHMW08	ERH170	1/11/2017*	—				—				—				—				< 0.30	U			—				< 4.00	U			< 80.0	U		
RHMW08	ERH169 (EPA split)	2017-01-11	—				< 0.0025	U			—				—				—				**3.1**	**J**			< 2.5	U			—			
RHMW08	ERH170 (EPA split)	1/11/2017*	—				< 0.0025	U			—				—				—				**3.1**	**J**			< 2.5	U			—			
RHMW08	ERH220	2017-02-06	—				—				—				—				< 0.30	U			—				< 4.00	U			< 80.0	U		
RHMW08	ERH221	2/6/2017*	—				—				—				—				< 0.30	U			—				< 4.00	U			< 80.0	U		
RHMW08	ERH220 (EPA split)	2017-02-06	—				< 0.0025	U			—				—				—				**3.9**	**J**			< 2.5	U			—			
RHMW08	ERH221 (EPA split)	2/6/2017*	—				< 0.0025	U			—				—				—				**3.8**	**J**			< 2.5	U			—			
RHMW08	ERH262	2017-03-06	—				—				—				—				< 0.30	U			—				< 4.00	U			< 80.0	U		
RHMW08	ERH263	3/6/2017*	—				—				—				—				< 0.30	U			—				< 4.00	U			< 80.0	U		
RHMW08	ERH262 (EPA split)	2017-03-06	—				< 0.0025	U			—				—				—				**2.7**	**J**			< 2.5	U			—			
RHMW08	ERH263 (EPA split)	3/6/2017*	—				< 0.0025	U			—				—				—				**2.8**	**J**			< 2.5	U			—			
RHMW08	ERH297	2017-04-04	—				—				—				—				< 0.30	U			—				< 4.00	U			< 80.0	U		
RHMW08	ERH298	4/4/2017*	—				—				—				—				< 0.30	U			—				< 4.00	U			< 80.0	U		
RHMW08	ERH340	2017-05-02	—				—				—				—				< 0.30	U			—				< 4.00	U			< 80.0	U		
RHMW08	ERH360	2017-06-05	—				—				—				—				< 0.30	U			—				< 4.00	U			< 80.0	U		
RHMW08	ERH376	2017-07-04	—				—				—				—				< 0.30	U			—				< 4.00	U			< 80.0	U		
RHMW08	ERH429	2017-10-23	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW08	ERH560	2018-03-12	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW08	ERH606	2018-04-23	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW08	ERH652	2018-07-24	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW08	ERH696	2018-10-24	—				—				—				—				—				—				< 4.00	U			< 80.0	UJ	I	
RHMW08	ERH751	2019-01-21	—				—				—				—				—				—				< 4.00	U			< 80.0	UJ	I	
RHMW08	ERH803	2019-04-23	—				—				—				—				—				—				< 4.00	U			< 80.0	UJ	I	
RHMW08	ERH859	2019-08-07	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW08	ERH925	2019-10-30	—				—				—				—				—				—				< 4.00	U			< 80.0	UJ	I	
RHMW08	ERH989	2020-01-20	—				—				—				—				—				—				< 4.00	U			< 80.0	UJ	I	
RHMW09	ERH103	2016-10-25	—				—				—				—				< 0.30	U			—				< 4.00	U			< 80.0	U		
RHMW09	ERH129	2016-11-15	—				—				—				—				< 0.30	U			—				< 4.00	U			< 80.0	U		
RHMW09	ERH146	2016-12-12	—				—				—				—				< 0.30	U			—				**1.1**	**J**			< 80.0	U		
RHMW09	ERH178	2017-01-11	—				—				—				—				< 0.30	U			—				< 4.00	U			< 80.0	U		
RHMW09	ERH178 (EPA split)	2017-01-11	—				< 0.0025	U			—				—				—				< 0.0025	U			< 2.5	U			—			
RHMW09	ERH225	2017-02-08	—				—				—				—				< 0.30	U			—				< 4.00	U			< 80.0	U		
RHMW09	ERH247	2/8/2017*	—				—				—				—				< 0.30	U			—				< 4.00	U			< 80.0	U		
RHMW09	ERH225 (EPA split)	2017-02-08	—				< 0.0025	U			—				—				—				< 0.0025	U			< 2.5	U			—			
RHMW09	ERH247 (EPA split)	2/8/2017*	—				< 0.0025	U			—				—				—				< 0.0025	U			< 2.5	U			—			
RHMW09	ERH272	2017-03-07	—				—				—				—				< 0.30	U			—				< 4.00	U			< 80.0	U		
RHMW09	ERH272 (EPA split)	2017-03-07	—				< 0.0025	U			—				—				—				< 0.0025	U			< 2.5	U			—			
RHMW09	ERH307	2017-04-04	—				—				—				—				< 0.30	U			—				< 4.00	U			< 80.0	U		
RHMW09	ERH314	4/4/2017*	—				—				—				—				< 0.30	U			—				< 4.00	U			< 80.0	U		
RHMW09	ERH385	2017-07-05	—				—				—				—				< 0.30	U			—				< 4.00	U			< 80.0	U		
RHMW09	ERH431	2017-10-24	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW09	ERH562	2018-03-13	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW09	ERH608	2018-04-25	—				—				—				—				—				—				< 4.00	U			< 80.0	U		

Table A.1: Cumulative Groundwater COPC Results, First Quarter 2020 Groundwater Monitoring Event (cont'd)
Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i

		Analyte Class	TPH				TPH				TPH				TPH				TPH				Volatiles				Volatiles				Volatiles				Volatiles			
		Analyte Type	COPC				COPC				COPC				COPC				COPC				COPC				non-COPC				COPC				non-COPC			
		Analytical Method	8015				8260				8015				8015				8015				8260				524.2				8260				524.2			
		Analyte	TPH-g****				TPH-g****				TPH-d				TPH-d with Silica Gel Cleanup				TPH-o				TPH-o with Silica Gel Cleanup				Benzene				Benzene				Ethylbenzene			
		CAS No.	Gas				Gas				Diesel				Disel SGC				Oil				Oil SGC				71-43-2				71-43-2				100-41-4			
		Unit	µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L			
		DOH EAL	300				300				400				400				500				500				5				5				30			
		SSRBL	—				—				4500				—				—				—				750				750				—			
Well Name	Sample ID	Date Sampled	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note
RHMW09	ERH654	2018-07-25	—				< 18	UJ	s		< 25	U			—				< 40	U			—				< 0.30	UJ	s		—				< 0.50	UJ	s	
RHMW09	ERH698	2018-10-23	—				< 18	U			< 25	UJ	h		—				< 40	UJ	h		—				< 0.30	U			—				< 0.50	U		
RHMW09	ERH753	2019-01-22	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	UJ	s		—				< 0.50	UJ	s	
RHMW09	ERH805	2019-04-23	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U		
RHMW09	ERH861	2019-07-23	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U		
RHMW09	ERH927	2019-10-22	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U		
RHMW09	ERH991	2020-01-21	—				< 18	U			**100**			Z	< 25	U			**98**			Z	< 40	U			< 0.30	U			—				< 0.50	U		
RHMW10	ERH345	2017-05-04	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U		
RHMW10	ERH346	5/4/2017*	—				< 18	U			**89**			Z	**56**			Z	**190**				**140**				< 0.30	U			—				< 0.50	U		
RHMW10	ERH365	2017-06-05	—				< 18	U			< 25	UJ	h		< 25	UJ	h		< 40	U			< 40	UJ	h		< 0.30	U			—				< 0.50	U		
RHMW10	ERH366	6/5/2017*	—				< 18	U			< 25	UJ	h		< 25	UJ	h		< 40	U			< 40	UJ	h		< 0.30	U			—				< 0.50	U		
RHMW10	ERH373	2017-07-04	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	UJ	q		—				< 0.50	UJ	q	
RHMW10	ERH374	7/4/2017*	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U		
RHMW10	ERH433	2017-10-25	—				< 18	U			< 25	U			—				**61**				—				< 0.30	U			—				< 0.50	U		
RHMW10	ERH564	2018-03-13	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U		
RHMW10	ERH610	2018-04-24	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U		
RHMW10	ERH656	2018-07-24	—				< 18	UJ	s		< 25	U			—				< 40	U			—				< 0.30	UJ	s		—				< 0.50	UJ	s	
RHMW10	ERH700	2018-10-31	—				< 18	U			**120**	**J**	s	W	< 25	U			**62**	**J**	s		< 40	U			< 0.30	U			—				< 0.50	U		
RHMW10	ERH755	2019-01-24	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U		
RHMW10	ERH807	2019-04-23	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U		
RHMW10	ERH863	2019-07-24	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U		
RHMW10	ERH929	2019-11-13	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U		
RHMW10	ERH993	2020-01-28	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U		
RHMW11-01	ERH573	2018-03-21	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U		
RHMW11-01	ERH619	2018-05-02	—				< 18	U			< 340	U	b		< 25	U			< 450	U	b		< 40	U			< 0.30	U			—				< 0.50	U		
RHMW11-01	ERH674	2018-07-30	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U		
RHMW11-02	ERH575	2018-03-22	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U		
RHMW11-02	ERH621	2018-04-30	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U		
RHMW11-02	ERH672	2018-08-01	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U		
RHMW11-03	ERH579	2018-03-27	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U		
RHMW11-03	ERH623	2018-04-30	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U		
RHMW11-03	ERH670	2018-08-01	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U		
RHMW11-04	ERH577	2018-03-27	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U		
RHMW11-04	ERH625	2018-04-26	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U		
RHMW11-04	ERH668	2018-08-02	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U		
RHMW11-05	ERH581	2018-03-28	—				< 18	U			< 25	U			—				< 40	U			—				< 0.26	U	t		—				< 0.50	U		
RHMW11-05	ERH582	3/28/2018*	—				< 18	U			< 25	U			—				< 40	U			—				< 0.24	U	t		—				< 0.50	U		
RHMW11-05	ERH627	2018-05-01	—				< 18	U			< 380	U	b		< 25	U			< 530	U	b		< 40	U			< 0.30	U			—				< 0.50	U		
RHMW11-05	ERH628	5/1/2018*	—				< 18	U			< 300	U	b		< 25	U			< 400	U	b		< 40	U			< 0.30	UJ	s		—				< 0.50	UJ	s	
RHMW11-05	ERH665	2018-07-31	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U		
RHMW11-05	ERH666	7/31/2018*	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	UJ	s		—				< 0.50	UJ	s	
RHMW11-05	ERH709	2018-10-29	—				< 18	U			< 110	U	f	Y	< 25	U			< 120	U	f		< 40	U			< 0.30	U			—				< 0.50	U		
RHMW11-05	ERH710	10/29/2018*	—				< 18	U			—				—				—				—				< 0.30	U			—				< 0.50	U		
RHMW11-05	ERH764	2019-01-28	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U		
RHMW11-05	ERH816	2019-04-29	—				< 18	U			< 25	UJ	l		—				< 40	U			—				< 0.30	U			—				< 0.50	U		
RHMW11-05	ERH878	2019-08-01	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U		
RHMW11-05	ERH938	2019-10-29	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U		
RHMW11-05	ERH1002	2020-01-30	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U		
RHMW11-07	ERH874	2019-08-05	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U		
RHMW11-07	ERH940	2019-10-30	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U		

		Analyte Class	Volatiles				Volatiles				Volatiles				Volatiles				Volatiles			
		Analyte Type	COPC				non-COPC				COPC				non-COPC				COPC			
		Analytical Method	8260				524.2				8260				524.2				8260			
		Analyte	Ethylbenzene				Ethylbenzene				Toluene				Toluene				Toluene			
		CAS No.	100-41-4				100-41-4				108-88-3				108-88-3				108-88-3			
		Unit	µg/L				µg/L				µg/L				µg/L				µg/L			
		DOH EAL	30				30				40				40				40			
		SSRBL	—				—				—				—				—			
Well Name	Sample ID	Date Sampled	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note
RHMW09	ERH654	2018-07-25	< 0.50	UJ	s		—				< 0.30	UJ	s		—				< 0.30	UJ	s	
RHMW09	ERH698	2018-10-23	< 0.50	U			—				< 0.30	U			—				< 0.30	U		
RHMW09	ERH753	2019-01-22	< 0.50	UJ	s		—				< 0.30	UJ	s		—				< 0.30	UJ	s	
RHMW09	ERH805	2019-04-23	< 0.50	U			—				< 0.30	U			—				< 0.30	U		
RHMW09	ERH861	2019-07-23	< 0.50	U			—				< 0.30	U			—				< 0.30	U		
RHMW09	ERH927	2019-10-22	< 0.50	U			—				< 0.30	U			—				< 0.30	U		
RHMW09	ERH991	2020-01-21	< 0.50	U			—				< 0.30	U			—				< 0.30	U		
RHMW10	ERH345	2017-05-04	< 0.50	U			—				< 0.30	U			—				< 0.30	U		
RHMW10	ERH346	5/4/2017*	< 0.50	U			—				< 0.30	U			—				< 0.30	U		
RHMW10	ERH365	2017-06-05	< 0.50	U			—				< 0.30	U			—				< 0.30	U		
RHMW10	ERH366	6/5/2017*	< 0.50	U			—				< 0.30	U			—				< 0.30	U		
RHMW10	ERH373	2017-07-04	< 0.50	UJ	q		—				< 0.30	UJ	q		—				< 0.30	UJ	q	
RHMW10	ERH374	7/4/2017*	< 0.50	U			—				< 0.30	U			—				< 0.30	U		
RHMW10	ERH433	2017-10-25	< 0.50	U			—				< 0.30	U			—				< 0.30	U		
RHMW10	ERH564	2018-03-13	< 0.50	U			—				< 0.30	U			—				< 0.30	U		
RHMW10	ERH610	2018-04-24	< 0.50	U			—				< 0.30	U			—				< 0.30	U		
RHMW10	ERH656	2018-07-24	< 0.50	UJ	s		—				< 0.30	UJ	s		—				< 0.30	UJ	s	
RHMW10	ERH700	2018-10-31	< 0.50	U			—				< 0.30	U			—				< 0.30	U		
RHMW10	ERH755	2019-01-24	< 0.50	U			—				< 0.30	U			—				< 0.30	U		
RHMW10	ERH807	2019-04-23	< 0.50	U			—				< 0.30	U			—				< 0.30	U		
RHMW10	ERH863	2019-07-24	< 0.50	U			—				< 0.30	U			—				< 0.30	U		
RHMW10	ERH929	2019-11-13	< 0.50	U			—				< 0.30	U			—				< 0.30	U		
RHMW10	ERH993	2020-01-28	< 0.50	U			—				< 0.30	U			—				< 0.30	U		
RHMW11-01	ERH573	2018-03-21	< 0.50	U			—				< 0.30	U			—				< 0.30	U		
RHMW11-01	ERH619	2018-05-02	< 0.50	U			—				< 0.30	U			—				< 0.30	U		
RHMW11-01	ERH674	2018-07-30	< 0.50	U			—				< 0.30	U			—				< 0.30	U		
RHMW11-02	ERH575	2018-03-22	< 0.50	U			—				< 0.30	U			—				< 0.30	U		
RHMW11-02	ERH621	2018-04-30	< 0.50	U			—				< 0.30	U			—				< 0.30	U		
RHMW11-02	ERH672	2018-08-01	< 0.50	U			—				< 0.30	U			—				< 0.30	U		
RHMW11-03	ERH579	2018-03-27	< 0.50	U			—				< 0.30	U			—				< 0.30	U		
RHMW11-03	ERH623	2018-04-30	< 0.50	U			—				< 0.30	U			—				< 0.30	U		
RHMW11-03	ERH670	2018-08-01	< 0.50	U			—				< 0.30	U			—				< 0.30	U		
RHMW11-04	ERH577	2018-03-27	< 0.50	U			—				< 0.30	U			—				< 0.30	U		
RHMW11-04	ERH625	2018-04-26	< 0.50	U			—				< 0.30	U			—				< 0.30	U		
RHMW11-04	ERH668	2018-08-02	< 0.50	U			—				< 0.30	U			—				< 0.30	U		
RHMW11-05	ERH581	2018-03-28	< 0.50	U			—				< 0.30	U			—				< 0.30	U		
RHMW11-05	ERH582	3/28/2018*	< 0.50	U			—				< 0.30	U			—				< 0.30	U		
RHMW11-05	ERH627	2018-05-01	< 0.50	U			—				< 0.30	U			—				< 0.30	U		
RHMW11-05	ERH628	5/1/2018*	< 0.50	UJ	s		—				< 0.30	UJ	s		—				< 0.30	UJ	s	
RHMW11-05	ERH665	2018-07-31	< 0.50	U			—				< 0.30	U			—				< 0.30	U		
RHMW11-05	ERH666	7/31/2018*	< 0.50	UJ	s		—				< 0.30	UJ	s		—				< 0.30	UJ	s	
RHMW11-05	ERH709	2018-10-29	< 0.50	U			—				< 0.30	U			—				< 0.30	U		
RHMW11-05	ERH710	10/29/2018*	< 0.50	U			—				< 0.30	U			—				< 0.30	U		
RHMW11-05	ERH764	2019-01-28	< 0.50	U			—				< 0.30	U			—				< 0.30	U		
RHMW11-05	ERH816	2019-04-29	< 0.50	U			—				< 0.30	U			—				< 0.30	U		
RHMW11-05	ERH878	2019-08-01	< 0.50	U			—				< 0.30	UJ	c		—				< 0.30	UJ	c	
RHMW11-05	ERH938	2019-10-29	< 0.50	U			—				< 0.30	U			—				< 0.30	U		
RHMW11-05	ERH1002	2020-01-30	< 0.50	U			—				< 0.30	U			—				< 0.30	U		
RHMW11-07	ERH874	2019-08-05	< 0.50	U			—				< 0.30	U			—				< 0.30	U		
RHMW11-07	ERH940	2019-10-30	< 0.50	U			—				< 0.30	U			—				< 0.30	U		

Table A.1: Cumulative Groundwater COPC Results, First Quarter 2020 Groundwater Monitoring Event (cont'd)
Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i

		Analyte Class	Volatiles				Volatiles				Volatiles				Semivolatiles (PAHs)				Semivolatiles (PAHs)				Semivolatiles (PAHs)				Semivolatiles (PAHs)				Semivolatiles (PAHs)				Semivolatiles (PAHs)				Lead Scavenger				Lead Scavenger			
		Analyte Type	COPC				non-COPC				non-COPC				COPC				COPC				non-COPC				COPC				non-COPC				COPC				non-COPC				Lead Scavenger				Lead Scavenger			
		Analytical Method	8260				524.2				524.2				8270 SIM				8270 SIM				8270				8270 SIM				8260				524.2				8270				8011				8260			
		Analyte	Xylenes, Total (p/m-, o-xylene)				Xylenes, p/m-				Xylenes, o-				1-Methylnaphthalene				2-Methylnaphthalene				2-Methylnaphthalene				Naphthalene *****				Naphthalene *****				Naphthalene *****				Naphthalene *****				1,2-Dibromoethane *****				1,2-Dibromoethane *****			
		CAS No.	1330-20-7				179601-23-1				95-47-6				90-12-0				91-57-6				91-57-6				91-20-3				91-20-3				91-20-3				91-20-3				106-93-4				106-93-4			
		Unit	µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L			
		DOH EAL	20				20				20				10				10				10				17				17				17				17				0.04				0.04			
		SSRBL	—				—				—				—				—				—				—				—				—				—				—				—			
Well Name	Sample ID	Date Sampled	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note
RHMW09	ERH654	2018-07-25	< 0.30	UJ	s		—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW09	ERH698	2018-10-23	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW09	ERH753	2019-01-22	< 0.30	UJ	s		—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW09	ERH805	2019-04-23	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW09	ERH861	2019-07-23	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW09	ERH927	2019-10-22	< 0.30	U			—				—				< 0.10	UJ	l		< 0.10	UJ	l		—				< 0.10	UJ	l		—				—				—				—				—			
RHMW09	ERH991	2020-01-21	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW10	ERH345	2017-05-04	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				< 0.02	U			—			
RHMW10	ERH346	5/4/2017*	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				< 0.02	U			—			
RHMW10	ERH365	2017-06-05	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				< 0.02	U			—			
RHMW10	ERH366	6/5/2017*	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				< 0.02	U			—			
RHMW10	ERH373	2017-07-04	< 0.30	UJ	q		—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				< 0.02	U			—			
RHMW10	ERH374	7/4/2017*	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				< 0.02	U			—			
RHMW10	ERH433	2017-10-25	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				< 0.02	U			—			
RHMW10	ERH564	2018-03-13	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				< 0.02	U			—			
RHMW10	ERH610	2018-04-24	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				< 0.02	U			—			
RHMW10	ERH656	2018-07-24	< 0.30	UJ	s		—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW10	ERH700	2018-10-31	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW10	ERH755	2019-01-24	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW10	ERH807	2019-04-23	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW10	ERH863	2019-07-24	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW10	ERH929	2019-11-13	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW10	ERH993	2020-01-28	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW11-01	ERH573	2018-03-21	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				< 0.02	U			—			
RHMW11-01	ERH619	2018-05-02	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				< 0.019	U			—			
RHMW11-01	ERH674	2018-07-30	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				< 0.019	U			—			
RHMW11-02	ERH575	2018-03-22	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				< 0.02	U			—			
RHMW11-02	ERH621	2018-04-30	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				< 0.02	U			—			
RHMW11-02	ERH672	2018-08-01	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				< 0.019	U			—			
RHMW11-03	ERH579	2018-03-27	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				< 0.02	U			—			
RHMW11-03	ERH623	2018-04-30	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				< 0.02	U			—			
RHMW11-03	ERH670	2018-08-01	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				< 0.019	U			—			
RHMW11-04	ERH577	2018-03-27	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				< 0.02	U			—			
RHMW11-04	ERH625	2018-04-26	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				< 0.019	U			—			
RHMW11-04	ERH668	2018-08-02	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				< 0.019	U			—			
RHMW11-05	ERH581	2018-03-28	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				< 0.02	U			—			
RHMW11-05	ERH582	3/28/2018*	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				< 0.02	U			—			
RHMW11-05	ERH627	2018-05-01	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				< 0.019	U			—			
RHMW11-05	ERH628	5/1/2018*	< 0.30	UJ	s		—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				< 0.019	U			—			
RHMW11-05	ERH665	2018-07-31	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				< 0.019	U			—			
RHMW11-05	ERH666	7/31/2018*	< 0.30	UJ	s		—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				< 0.019	U			—			
RHMW11-05	ERH709	2018-10-29	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				< 0.019	U			—			
RHMW11-05	ERH710	10/29/2018*	< 0.30	U			—				—				—				—				—				—				—				—				—				< 0.019	U			—			
RHMW11-05	ERH764	2019-01-28	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW11-05	ERH816	2019-04-29	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW11-05	ERH878	2019-08-01	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW11-05	ERH938	2019-10-29	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW11-05	ERH1002	2020-01-30	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
RHMW11-07	ERH874	2019-08-05	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				< 0.019	U			—			
RHMW11-07	ERH940	2019-10-30	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				< 0.019	U			—			

Table A.1: Cumulative Groundwater COPC Results, First Quarter 2020 Groundwater Monitoring Event (cont'd)
Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i

		Analyte Class	Lead Scavenger				Lead Scavenger				Lead Scavenger				Lead Scavenger				Lead Scavenger				Lead Scavenger				Semivolatiles				Semivolatiles			
		Analyte Type	Lead Scavenger				Lead Scavenger				Lead Scavenger				Lead Scavenger				Lead Scavenger				Fuel Additive				Fuel Additive					
		Analytical Method	504.1				524.2				8260SIM				8260SIM				8260				524.2				8270				8270/8270 Mod.			
		Analyte	1,2-Dibromoethane *****				1,2-Dibromoethane *****				1,2-Dibromoethane *****				1,2-Dichloroethane *****				1,2-Dichloroethane *****				1,2-Dichloroethane *****				Phenol				2-(2-Methoxyethoxy)-ethanol			
		CAS No.	106-93-4				106-93-4				106-93-4				107-06-2				107-06-2				107-06-2				108-95-2				111-77-3			
		Unit	µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L			
		DOH EAL	0.04				0.04				0.04				5				5				5				300				800			
		SSRBL	—				—				—				—				—				—				—				—			
Well Name	Sample ID	Date Sampled	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note
RHMW09	ERH654	2018-07-25	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW09	ERH698	2018-10-23	—				—				—				—				—				—				< 4.00	U			< 80.0	UJ	I	
RHMW09	ERH753	2019-01-22	—				—				—				—				—				—				< 4.00	U			< 80.0	UJ	I	
RHMW09	ERH805	2019-04-23	—				—				—				—				—				—				< 4.00	U			< 80.0	UJ	I	
RHMW09	ERH861	2019-07-23	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW09	ERH927	2019-10-22	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW09	ERH991	2020-01-21	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW10	ERH345	2017-05-04	—				—				—				—				< 0.30	U			—				< 4.00	U			< 80.0	U		
RHMW10	ERH346	5/4/2017*	—				—				—				—				< 0.30	U			—				< 4.00	U			< 80.0	U		
RHMW10	ERH365	2017-06-05	—				—				—				—				< 0.30	U			—				< 4.00	U			< 80.0	U		
RHMW10	ERH366	6/5/2017*	—				—				—				—				< 0.30	U			—				< 4.00	U			< 80.0	U		
RHMW10	ERH373	2017-07-04	—				—				—				—				< 0.30	U			—				< 4.00	U			< 80.0	U		
RHMW10	ERH374	7/4/2017*	—				—				—				—				< 0.30	U			—				< 4.00	U			< 80.0	U		
RHMW10	ERH433	2017-10-25	—				—				—				—				< 0.30	U			—				< 4.00	U			< 80.0	U		
RHMW10	ERH564	2018-03-13	—				—				—				—				< 0.30	U			—				< 4.00	U			< 80.0	U		
RHMW10	ERH610	2018-04-24	—				—				—				—				< 0.30	U			—				< 4.00	U			< 80.0	U		
RHMW10	ERH656	2018-07-24	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW10	ERH700	2018-10-31	—				—				—				—				—				—				< 4.00	U			< 80.0	UJ	I	
RHMW10	ERH755	2019-01-24	—				—				—				—				—				—				< 4.00	U			< 80.0	UJ	I	
RHMW10	ERH807	2019-04-23	—				—				—				—				—				—				< 4.00	U			< 80.0	UJ	I	
RHMW10	ERH863	2019-07-24	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW10	ERH929	2019-11-13	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW10	ERH993	2020-01-28	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW11-01	ERH573	2018-03-21	—				—				—				—				< 0.30	U			—				< 4.00	U			< 80.0	U		
RHMW11-01	ERH619	2018-05-02	—				—				—				—				< 0.30	U			—				< 4.00	U			< 80.0	U		
RHMW11-01	ERH674	2018-07-30	—				—				—				—				< 0.30	U			—				< 4.00	U			< 80.0	U		
RHMW11-02	ERH575	2018-03-22	—				—				—				—				< 0.30	U			—				< 4.00	U			< 80.0	U		
RHMW11-02	ERH621	2018-04-30	—				—				—				—				< 0.30	U			—				< 4.00	U			< 80.0	U		
RHMW11-02	ERH672	2018-08-01	—				—				—				—				< 0.30	U			—				< 4.00	U			< 80.0	U		
RHMW11-03	ERH579	2018-03-27	—				—				—				—				< 0.30	U			—				< 4.00	U			< 80.0	U		
RHMW11-03	ERH623	2018-04-30	—				—				—				—				< 0.30	U			—				< 4.00	U			< 80.0	U		
RHMW11-03	ERH670	2018-08-01	—				—				—				—				< 0.30	U			—				< 4.00	U			< 80.0	U		
RHMW11-04	ERH577	2018-03-27	—				—				—				—				< 0.30	U			—				< 4.00	U			< 80.0	U		
RHMW11-04	ERH625	2018-04-26	—				—				—				—				< 0.30	U			—				< 4.00	U			< 80.0	U		
RHMW11-04	ERH668	2018-08-02	—				—				—				—				< 0.30	U			—				< 4.00	U			< 80.0	U		
RHMW11-05	ERH581	2018-03-28	—				—				—				—				< 0.30	U			—				< 4.00	U			< 80.0	U		
RHMW11-05	ERH582	3/28/2018*	—				—				—				—				< 0.30	U			—				< 4.00	U			< 80.0	U		
RHMW11-05	ERH627	2018-05-01	—				—				—				—				< 0.30	U			—				< 4.00	U			< 80.0	U		
RHMW11-05	ERH628	5/1/2018*	—				—				—				—				< 0.30	UJ	s		—				< 4.00	U			< 80.0	U		
RHMW11-05	ERH665	2018-07-31	—				—				—				—				< 0.30	U			—				< 4.00	U			< 80.0	U		
RHMW11-05	ERH666	7/31/2018*	—				—				—				—				< 0.30	UJ	s		—				< 4.00	U			< 80.0	U		
RHMW11-05	ERH709	2018-10-29	—				—				—				—				< 0.30	U			—				< 4.00	U			< 80.0	UJ	I	
RHMW11-05	ERH710	10/29/2018*	—				—				—				—				< 0.30	U			—				—				—			
RHMW11-05	ERH764	2019-01-28	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW11-05	ERH816	2019-04-29	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW11-05	ERH878	2019-08-01	—				—				—				—				—				—				< 4.00	U			< 80.0	UJ	I	
RHMW11-05	ERH938	2019-10-29	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW11-05	ERH1002	2020-01-30	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
RHMW11-07	ERH874	2019-08-05	—				—				—				—				< 0.30	U			—				< 4.00	U			< 80.0	U		
RHMW11-07	ERH940	2019-10-30	—				—				—				—				< 0.30	U			—				< 4.00	U			< 80.0	UJ	I	

Table A.1: Cumulative Groundwater COPC Results, First Quarter 2020 Groundwater Monitoring Event (cont'd)
Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i

		Analyte Class	TPH				TPH				TPH				TPH				TPH				Volatiles				Volatiles				Volatiles				Volatiles			
		Analyte Type	COPC				COPC				COPC				COPC				COPC				COPC				non-COPC				COPC				non-COPC			
		Analytical Method	8015				8260				8015				8015				8015				8260				524.2				8260				524.2			
		Analyte	TPH-g****				TPH-g****				TPH-d				TPH-d with Silica Gel Cleanup				TPH-o				TPH-o with Silica Gel Cleanup				Benzene				Benzene				Ethylbenzene			
		CAS No.	Gas				Gas				Diesel				Disel SGC				Oil				Oil SGC				71-43-2				71-43-2				100-41-4			
		Unit	µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L			
		DOH EAL	300				300				400				400				500				500				5				5				30			
		SSRBL	—				—				4500				—				—				—				750				750				—			
Well Name	Sample ID	Date Sampled	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note
RHMW14-01	ERH942	2019-10-21	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U		
RHMW14-01	ERH1004	2020-01-20	—				< 18	U			< 160	U	f	Z	< 25	U			< 95	U	f	Z	< 40	U			< 0.30	U			—				< 0.50	U		
RHMW14-02	ERH944	2019-10-22	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U		
RHMW14-02	ERH1006	2020-01-21	—				< 18	U			< 130	U	f	Z	< 25	U			< 110	U	f	Z	< 40	U			< 0.30	U			—				< 0.50	U		
RHMW14-03	ERH882	2019-07-30	—				< 18	UJ	q		< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U		
RHMW14-03	ERH883	7/30/2019*	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U		
RHMW14-03	ERH946	2019-10-28	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U		
RHMW14-03	ERH947	10/28/2019*	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U		
RHMW14-03	ERH1008	2020-01-22	—				< 18	U			< 25	UJ	l		—				< 40	UJ	l		—				< 0.30	U			—				< 0.50	U		
RHMW14-03	ERH1009	1/22/2020*	—				< 18	U			< 25	UJ	l		< 25	U			< 220	UJ	f l	W	< 74	U	f	W	< 0.30	U			—				< 0.50	U		
RHMW14-04	ERH880	2019-07-29	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U		
RHMW14-04	ERH949	2019-10-24	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U		
RHMW14-05	ERH872	2019-07-31	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U		
RHMW14-05	ERH951	2019-10-23	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U		
RHMW14-07	ERH876	2019-08-06	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U		
RHMW14-07	ERH953	2019-10-23	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U		
RHMW15-01	ERH955	2019-11-04	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U		
RHMW15-02	ERH957	2019-11-05	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U		
RHMW15-03	ERH959	2019-11-07	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U		
RHMW15-03	ERH1011	2020-01-27	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U		
RHMW15-04	ERH961	2019-10-31	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U		
RHMW15-04	ERH1013	2020-01-28	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U		
RHMW15-05	ERH963	2019-11-06	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U		
RHMW15-05	ERH964	11/6/2019*	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U		
RHMW15-05	ERH1015	2020-01-29	—				< 18	U			< 220	U	f	Z	< 25	U			< 40	U			< 40	U			< 0.30	U			—				< 0.50	U		
HDMW2253-03	HDMW2253-03-WG-02	10/13/2009[abd]	< 30	U			—				< 185	U			—				—				—				< 0.12	U			—				< 0.31	U		
HDMW2253-03	HDMW2253-03-WG-03	1/26/2010[d]	< 60.0	U			—				**322**	**J**			—				—				—				< 0.240	U			—				< 0.620	U		
HDMW2253-03	HDMW2253-03-WG-04	4/26/2010[d]	< 60.0	U			—				< 352	U			—				—				—				< 0.240	U			—				< 0.620	U		
HDMW2253-03	HDMW2253-03-WG-05	7/8/2010[d]	< 60.0	U			—				< 320	U			—				—				—				< 0.240	U			—				< 0.620	U		
HDMW2253-03	ES006	10/21/2010[d]	—				< 12.12	U			< 80.8	U			—				—				—				< 0.32	U			—				< 0.46	U		
HDMW2253-03	ES016	1/21/2011[d]	—				< 12.12	U			< 80.8	U			—				—				—				< 0.32	U			—				< 0.46	U		
HDMW2253-03	ES028	4/21/2011[d]	—				< 12.12	U			< 80.8	U			—				—				—				**0.42**	**J**			—				< 0.46	U		
HDMW2253-03	ES043	7/21/2011[d]	—				< 12.12	U			< 80.8	U			—				< 212.0	U			—				< 0.32	U			—				< 0.46	U		
HDMW2253-03	ES053	2011-10-26	—				< 12.12	U			< 80.8	U			—				—				—				**0.92**	**J**			—				< 0.46	U		
HDMW2253-03	ES057	2012-01-24	—				< 12.12	U			< 80.8	U			—				< 212.0	U			—				< 0.32	U			—				< 0.46	U		
HDMW2253-03	ES076	2012-04-26	—				< 12.12	U			**160**			Y	—				—				—				**0.20**	**J**			—				< 0.46	U		
HDMW2253-03	ES083	2012-07-19	—				< 12.12	U			< 80.8	U			—				—				—				< 0.32	U			—				< 0.46	U		
HDMW2253-03	ES009	2012-11-07	—				< 15	UJ	b h		**25**	**J**		Y	—				—				—				< 0.50	UJ	h		—				< 0.50	UJ	h	
HDMW2253-03	ES018	2013-01-30	—				< 30	U			**600**				—				—				—				< 0.50	U			—				< 0.50	U		
HDMW2253-03	ES027	2013-04-24	—				< 30	U			**45**	**J**			—				—				—				< 0.50	U			—				< 0.50	U		
HDMW2253-03	ES036	2013-07-24	—				< 30	U			< 21	U			—				—				—				< 0.50	U			—				< 0.50	U		
HDMW2253-03	ES045	2013-10-23	—				< 15	UJ	b		< 20	U			—				—				—				< 0.50	U			—				< 0.50	U		
HDMW2253-03	ES051	1/22/2014[d]	—				—				**18**	**J**		Y	—				—				—				< 0.50	U			—				< 0.50	U		
HDMW2253-03	ES052	1/22/2014*[d]	—				—				**18**	**J**		Y	—				—				—				< 0.50	U			—				< 0.50	U		
HDMW2253-03	ES055	1/27/2014[d]	—				< 27	UJ	b		**35**	**J**		Y	—				—				—				< 0.50	U			—				< 0.50	U		
HDMW2253-03	ES088***	4/23/2014[d]	—				< 27	UJ	b		**220**			Y	—				—				—				< 0.50	U			—				< 0.50	U		
HDMW2253-03	ES111	2014-07-23	—				< 30	U			< 12	U			—				—				—				< 0.50	U			—				< 0.50	U		
HDMW2253-03	ES120	2014-10-22	—				< 30	U			**14**	**J**		Y	—				—				—				< 0.50	U			—				**3.8**			

Table A.1: Cumulative Groundwater COPC Results, First Quarter 2020 Groundwater Monitoring Event (cont'd)
Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i

		Analyte Class	Volatiles				Volatiles				Volatiles				Semivolatiles (PAHs)				Semivolatiles (PAHs)				Semivolatiles (PAHs)				Semivolatiles (PAHs)				Semivolatiles (PAHs)				Semivolatiles (PAHs)				Lead Scavenger				Lead Scavenger			
		Analyte Type	COPC				non-COPC				non-COPC				COPC				COPC				non-COPC				non-COPC				COPC				non-COPC				Lead Scavenger				Lead Scavenger			
		Analytical Method	8260				524.2				524.2				8270 SIM				8270 SIM				8270				8270 SIM				8260				524.2				8270				8011				8260			
		Analyte	Xylenes, Total (p/m-, o-xylene)				Xylenes, p/m-				Xylenes, o-				1-Methylnaphthalene				2-Methylnaphthalene				2-Methylnaphthalene				Naphthalene *****				Naphthalene *****				Naphthalene *****				Naphthalene *****				1,2-Dibromoethane *****				1,2-Dibromoethane *****			
		CAS No.	1330-20-7				179601-23-1				95-47-6				90-12-0				91-57-6				91-57-6				91-20-3				91-20-3				91-20-3				91-20-3				106-93-4				106-93-4			
		Unit	µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L			
		DOH EAL	20				20				20				10				10				10				17				17				17				17				0.04				0.04			
		SSRBL	—				—				—				—				—				—				—				—				—				—				—				—			
Well Name	Sample ID	Date Sampled	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note
RHMW14-01	ERH942	2019-10-21	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				< 0.019	U			—			
RHMW14-01	ERH1004	2020-01-20	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				< 0.019	U			—			
RHMW14-02	ERH944	2019-10-22	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				< 0.019	U			—			
RHMW14-02	ERH1006	2020-01-21	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				< 0.019	U			—			
RHMW14-03	ERH882	2019-07-30	< 0.30	UJ	q		—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				< 0.019	U			—			
RHMW14-03	ERH883	7/30/2019*	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				< 0.019	U			—			
RHMW14-03	ERH946	2019-10-28	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				< 0.019	U			—			
RHMW14-03	ERH947	10/28/2019*	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				< 0.019	U			—			
RHMW14-03	ERH1008	2020-01-22	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				< 0.019	U			—			
RHMW14-03	ERH1009	1/22/2020*	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				< 0.019	U			—			
RHMW14-04	ERH880	2019-07-29	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				< 0.019	U			—			
RHMW14-04	ERH949	2019-10-24	< 0.30	U			—				—				< 0.10	UJ	l		< 0.10	UJ	l		—				< 0.10	UJ	l		—				—				—				< 0.019	U			—			
RHMW14-05	ERH872	2019-07-31	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				< 0.019	U			—			
RHMW14-05	ERH951	2019-10-23	< 0.30	U			—				—				< 0.10	UJ	l		< 0.10	UJ	l		—				< 0.10	UJ	l		—				—				—				< 0.019	U			—			
RHMW14-07	ERH876	2019-08-06	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				< 0.019	U			—			
RHMW14-07	ERH953	2019-10-23	< 0.30	U			—				—				< 0.10	UJ	l		< 0.10	UJ	l		—				< 0.10	UJ	l		—				—				—				< 0.019	U			—			
RHMW15-01	ERH955	2019-11-04	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				< 0.019	U			—			
RHMW15-02	ERH957	2019-11-05	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				< 0.019	U			—			
RHMW15-03	ERH959	2019-11-07	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				< 0.019	U			—			
RHMW15-03	ERH1011	2020-01-27	< 0.30	U			—				—				< 0.10	UJ	s		< 0.10	UJ	s		—				< 0.10	UJ	s		—				—				—				< 0.019	U			—			
RHMW15-04	ERH961	2019-10-31	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				< 0.019	U			—			
RHMW15-04	ERH1013	2020-01-28	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				< 0.019	U			—			
RHMW15-05	ERH963	2019-11-06	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				< 0.019	U			—			
RHMW15-05	ERH964	11/6/2019*	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				< 0.019	U			—			
RHMW15-05	ERH1015	2020-01-29	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				< 0.019	U			—			
HDMW2253-03	HDMW2253-03-WG-02	10/13/2009[abd]	< 0.62	U			—				—				< 0.0169	U			< 0.0169	U			—				< 0.035	U			< 0.62	U			—				—				—				< 0.31	U		
HDMW2253-03	HDMW2253-03-WG-03	1/26/2010[d]	< 1.24	U			—				—				< 0.0500	U			< 0.0500	U			—				< 0.103	U			< 1.24	U			—				—				—				< 0.620	U		
HDMW2253-03	HDMW2253-03-WG-04	4/26/2010[d]	< 1.24	U			—				—				< 0.0348	U			< 0.0348	U			—				< 0.0720	U			< 1.24	U			—				—				—				< 0.620	U		
HDMW2253-03	HDMW2253-03-WG-05	7/8/2010[d]	< 1.24	U			—				—				< 0.0348	U			< 0.0348	U			—				**0.0596**	**J**			< 1.24	U			—				—				—				< 0.620	U		
HDMW2253-03	ES006	10/21/2010[d]	< 0.38	U			—				—				< 0.12	U			< 0.12	U			—				< 0.10	U			—				—				—				—				< 0.40	U		
HDMW2253-03	ES016	1/21/2011[d]	< 0.38	U			—				—				< 0.12	U			< 0.12	U			—				< 0.10	U			—				—				—				—				< 0.40	U		
HDMW2253-03	ES028	4/21/2011[d]	< 0.38	U			—				—				< 0.12	U			< 0.12	U			—				< 0.10	U			—				—				—				—				< 0.40	U		
HDMW2253-03	ES043	7/21/2011[d]	< 0.38	U			—				—				< 0.12	U			< 0.12	U			—				< 0.10	U			—				—				—				—				< 0.40	U		
HDMW2253-03	ES053	2011-10-26	< 0.38	U			—				—				< 0.12	U			< 0.12	U			—				< 0.10	U			—				—				—				—				< 0.40	U		
HDMW2253-03	ES057	2012-01-24	< 0.38	U			—				—				< 0.12	U			< 0.12	U			—				< 0.10	U			—				—				—				—				< 0.40	U		
HDMW2253-03	ES076	2012-04-26	< 0.38	U			—				—				< 0.12	U			< 0.12	U			—				< 0.10	U			—				—				—				—				< 0.40	U		
HDMW2253-03	ES083	2012-07-19	< 0.38	U			—				—				< 0.12	U			< 0.12	U			—				< 0.10	U			—				—				—				—				< 0.40	U		
HDMW2253-03	ES009	2012-11-07	< 1.0	UJ	h		—				—				< 0.050	U			< 0.050	U			—				< 0.050	U			—				—				—				—				< 0.50	UJ	h	
HDMW2253-03	ES018	2013-01-30	< 1.0	U			—				—				< 0.050	U			< 0.050	U			—				**0.037**	**J**			—				—				—				—				< 0.50	U		
HDMW2253-03	ES027	2013-04-24	< 1.0	U			—				—				< 0.052	U			< 0.052	U			—				**0.16**	**J**			—				—				—				—				< 0.50	U		
HDMW2253-03	ES036	2013-07-24	< 1.0	U			—				—				< 0.047	U			< 0.047	U			—				**0.030**	**J**			—				—				—				—				< 0.50	U		
HDMW2253-03	ES045	2013-10-23	< 1.0	U			—				—				< 0.050	U			< 0.050	U			—				**0.041**	**J**			—				—				—				—				< 0.50	U		
HDMW2253-03	ES051	1/22/2014[d]	< 1.0	U			—				—				< 0.051	U			< 0.051	U			—				< 0.051	U			—				—				—				—				—			
HDMW2253-03	ES052	1/22/2014*[d]	< 1.0	U			—				—				< 0.051	U			< 0.051	U			—				< 0.051	U			—				—				—				—				—			
HDMW2253-03	ES055	1/27/2014[d]	< 1.0	U			—				—				< 0.051	U			< 0.051	U			—				**0.064**	**J**			—				—				—				—				< 0.50	U		
HDMW2253-03	ES088***	4/23/2014[d]	< 1.0	U			—				—				< 0.051	U			< 0.051	U			—				< 0.051	U			—				—				—				—				< 0.50	U		
HDMW2253-03	ES111	2014-07-23	< 1.0	U			—				—				< 0.053	U			< 0.053	U			—				< 0.053	U			—				—				—				—				< 0.50	U		
HDMW2253-03	ES120	2014-10-22	< 1.0	U			—				—				< 0.10	U			< 0.051	U			—				< 0.051	U			—				—				—				—				< 0.50	U		

Table A.1: Cumulative Groundwater COPC Results, First Quarter 2020 Groundwater Monitoring Event (cont'd)
Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i

		Analyte Class	Lead Scavenger				Lead Scavenger				Lead Scavenger				Lead Scavenger				Lead Scavenger				Lead Scavenger				Semivolatiles				Semivolatiles			
		Analyte Type	Lead Scavenger				Lead Scavenger				Lead Scavenger				Lead Scavenger				Lead Scavenger				Fuel Additive				Fuel Additive					
		Analytical Method	504.1				524.2				8260SIM				8260SIM				8260				524.2				8270				8270/8270 Mod.			
		Analyte	1,2-Dibromoethane *****				1,2-Dibromoethane *****				1,2-Dibromoethane *****				1,2-Dichloroethane *****				1,2-Dichloroethane *****				1,2-Dichloroethane *****				Phenol				2-(2-Methoxyethoxy)-ethanol			
		CAS No.	106-93-4				106-93-4				106-93-4				107-06-2				107-06-2				107-06-2				108-95-2				111-77-3			
		Unit	µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L			
		DOH EAL	0.04				0.04				0.04				5				5				5				300				800			
		SSRBL	—				—				—				—				—				—				—				—			
Well Name	Sample ID	Date Sampled	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note
RHMW14-01	ERH942	2019-10-21	—				—				—				—				< 0.30	U			—				< 4.00	UJ	I		< 80.0	U		
RHMW14-01	ERH1004	2020-01-20	—				—				—				—				< 0.30	U			—				< 4.00	U			< 80.0	U		
RHMW14-02	ERH944	2019-10-22	—				—				—				—				< 0.30	U			—				< 4.00	UJ	I		< 80.0	U		
RHMW14-02	ERH1006	2020-01-21	—				—				—				—				< 0.30	U			—				< 4.00	U			< 80.0	U		
RHMW14-03	ERH882	2019-07-30	—				—				—				—				< 0.30	U			—				< 4.00	U			< 80.0	UJ	I	
RHMW14-03	ERH883	7/30/2019*	—				—				—				—				< 0.30	U			—				< 4.00	U			< 80.0	UJ	I	
RHMW14-03	ERH946	2019-10-28	—				—				—				—				< 0.30	U			—				< 4.00	U			< 80.0	U		
RHMW14-03	ERH947	10/28/2019*	—				—				—				—				< 0.30	U			—				< 4.00	U			< 80.0	U		
RHMW14-03	ERH1008	2020-01-22	—				—				—				—				< 0.30	U			—				< 4.00	U			< 80.0	UJ	I	
RHMW14-03	ERH1009	1/22/2020*	—				—				—				—				< 0.30	U			—				< 4.00	U			< 80.0	UJ	I	
RHMW14-04	ERH880	2019-07-29	—				—				—				—				< 0.30	U			—				< 4.00	U			< 80.0	UJ	I	
RHMW14-04	ERH949	2019-10-24	—				—				—				—				< 0.30	U			—				< 4.00	U			< 80.0	U		
RHMW14-05	ERH872	2019-07-31	—				—				—				—				< 0.30	U			—				< 4.00	U			< 80.0	UJ	I	
RHMW14-05	ERH951	2019-10-23	—				—				—				—				< 0.30	U			—				< 4.00	U			< 80.0	U		
RHMW14-07	ERH876	2019-08-06	—				—				—				—				< 0.30	U			—				< 4.00	U			< 80.0	U		
RHMW14-07	ERH953	2019-10-23	—				—				—				—				< 0.30	U			—				< 4.00	U			< 80.0	U		
RHMW15-01	ERH955	2019-11-04	—				—				—				—				< 0.30	U			—				< 4.00	U			< 80.0	U		
RHMW15-02	ERH957	2019-11-05	—				—				—				—				< 0.30	U			—				< 4.00	U			< 80.0	U		
RHMW15-03	ERH959	2019-11-07	—				—				—				—				< 0.30	U			—				< 4.00	U			< 80.0	U		
RHMW15-03	ERH1011	2020-01-27	—				—				—				—				< 0.30	U			—				< 4.00	U			< 80.0	UJ	I	
RHMW15-04	ERH961	2019-10-31	—				—				—				—				< 0.30	U			—				< 4.00	U			< 80.0	UJ	I	
RHMW15-04	ERH1013	2020-01-28	—				—				—				—				< 0.30	U			—				< 4.00	U			< 80.0	U		
RHMW15-05	ERH963	2019-11-06	—				—				—				—				< 0.30	U			—				< 4.00	U			< 80.0	U		
RHMW15-05	ERH964	11/6/2019*	—				—				—				—				< 0.30	U			—				< 4.00	U			< 80.0	U		
RHMW15-05	ERH1015	2020-01-29	—				—				—				—				< 0.30	U			—				< 4.00	U			< 80.0	U		
HDMW2253-03	HDMW2253-03-WG-02	10/13/2009[abd]	—				—				—				—				< 0.15	U			—				—				—			
HDMW2253-03	HDMW2253-03-WG-03	1/26/2010[d]	—				—				—				—				< 0.300	U			—				—				—			
HDMW2253-03	HDMW2253-03-WG-04	4/26/2010[d]	—				—				—				—				< 0.300	U			—				—				—			
HDMW2253-03	HDMW2253-03-WG-05	7/8/2010[d]	—				—				—				—				< 0.300	U			—				—				—			
HDMW2253-03	ES006	10/21/2010[d]	—				—				—				—				< 0.28	U			—				—				—			
HDMW2253-03	ES016	1/21/2011[d]	—				—				—				—				< 0.28	U			—				—				—			
HDMW2253-03	ES028	4/21/2011[d]	—				—				—				—				< 0.28	U			—				—				—			
HDMW2253-03	ES043	7/21/2011[d]	—				—				—				—				< 0.28	U			—				—				—			
HDMW2253-03	ES053	2011-10-26	—				—				—				—				< 0.28	U			—				—				—			
HDMW2253-03	ES057	2012-01-24	—				—				—				—				< 0.28	U			—				—				—			
HDMW2253-03	ES076	2012-04-26	—				—				—				—				< 0.28	U			—				—				—			
HDMW2253-03	ES083	2012-07-19	—				—				—				—				< 0.28	U			—				—				—			
HDMW2253-03	ES009	2012-11-07	—				—				—				—				< 0.50	UJ	h		—				—				—			
HDMW2253-03	ES018	2013-01-30	—				—				—				—				< 0.50	U			—				—				—			
HDMW2253-03	ES027	2013-04-24	—				—				—				—				< 0.50	U			—				—				—			
HDMW2253-03	ES036	2013-07-24	—				—				—				—				< 0.50	U			—				—				—			
HDMW2253-03	ES045	2013-10-23	—				—				—				—				< 0.50	U			—				—				—			
HDMW2253-03	ES051	1/22/2014[d]	—				—				—				—				—				—				—				—			
HDMW2253-03	ES052	1/22/2014*[d]	—				—				—				—				—				—				—				—			
HDMW2253-03	ES055	1/27/2014[d]	—				—				—				—				< 0.50	U			—				—				—			
HDMW2253-03	ES088***	4/23/2014[d]	—				—				—				—				< 0.50	U			—				—				—			
HDMW2253-03	ES111	2014-07-23	—				—				—				—				< 0.50	U			—				—				—			
HDMW2253-03	ES120	2014-10-22	—				—				—				—				< 0.50	U			—				—				—			

Table A.1: Cumulative Groundwater COPC Results, First Quarter 2020 Groundwater Monitoring Event (cont'd)
Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i

		Analyte Class	TPH				TPH				TPH				TPH				TPH				TPH				Volatiles				Volatiles				Volatiles				Volatiles				Volatiles			
		Analyte Type	COPC				COPC				COPC				COPC				COPC				COPC				COPC				non-COPC				COPC				non-COPC				COPC			
		Analytical Method	8015				8260				8015				8015				8015				8015				8260				524.2				8260				524.2				8260			
		Analyte	TPH-g****				TPH-g****				TPH-d				TPH-d with Silica Gel Cleanup				TPH-o				TPH-o with Silica Gel Cleanup				Benzene				Benzene				Ethylbenzene				Ethylbenzene				Toluene				Toluene			
		CAS No.	Gas				Gas				Diesel				Disel SGC				Oil				Oil SGC				71-43-2				71-43-2				100-41-4				100-41-4				108-88-3				108-88-3			
		Unit	µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L			
		DOH EAL	300				300				400				400				500				500				5				5				30				30				40				40			
		SSRBL	—				—				4500				—				—				—				750				750				—				—				—				—			
Well Name	Sample ID	Date Sampled	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note
HDMW2253-03	ES128	2015-01-29	—				< 30	U			**16**	**J**		Y	—				—				—				< 0.50	U			—				< 0.50	U			—				< 0.50	U			—			
HDMW2253-03	ES136	2015-04-22	< 25	U			—				**13**	**J**			—				< 55	UJ	b		—				< 0.10	U			—				< 0.10	U			—				**0.070**	**J**			—			
HDMW2253-03	ES151	2015-07-22	< 25	U			—				< 18	UJ	b		—				< 77	UJ	b		—				< 0.10	U			—				< 0.10	U			—				< 0.10	U			—			
HDMW2253-03	ERH001	2015-10-19	**16**	**J**			—				< 21	UJ	b		—				< 56	UJ	b		—				< 0.10	UJ	h		—				< 0.10	UJ	h		—				< 0.37	UJ	h	t	—			
HDMW2253-03	ERH015	2016-01-19	< 25	U			—				< 43	UJ	b		—				< 63	UJ	b		—				< 0.10	U			—				< 0.10	U			—				< 0.24	UJ	t		—			
HDMW2253-03	ERH029	2016-04-19	< 21	U	f		—				< 25	U	b	f	—				< 48	U	b	f	—				< 0.10	U			—				< 0.10	U			—				< 0.10	U			—			
HDMW2253-03	ERH043	2016-07-19	< 25	U			—				< 13	U	f		—				< 32	U	b	f	—				< 0.10	U			—				< 0.10	U			—				< 0.10	U			—			
HDMW2253-03	ERH095	2016-10-18	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
HDMW2253-03	ERH127	2016-11-16	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
HDMW2253-03	ERH145	2016-12-13	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
HDMW2253-03	ERH176	2017-01-10	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
HDMW2253-03	ERH176 (EPA split)	2017-01-10	< 25	UJ	c		—				< 71	U			—				< 290	U			—				—				< 0.2	U			—				< 0.2	U			—				< 0.2	U		
HDMW2253-03	ERH214	2017-02-07	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
HDMW2253-03	ERH214 (EPA split)	2017-02-07	< 25	UJ	c		—				< 75	U			—				< 300	U			—				—				< 0.2	U			—				< 0.2	U			—				< 0.2	U		
HDMW2253-03	ERH280	2017-03-08	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
HDMW2253-03	ERH280 (EPA split)	2017-03-08	< 25	UJ	c		—				< 75	U			—				< 300	U			—				—				< 0.2	U			—				< 0.2	U			—				< 0.2	U		
HDMW2253-03	ERH437	2017-10-31	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
HDMW2253-03	ERH568	2018-03-12	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
HDMW2253-03	ERH614	2018-04-23	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
HDMW2253-03	ERH660	2018-07-23	—				< 18	UJ	s		< 25	UJ	s		—				< 40	UJ	l	s	—				< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
HDMW2253-03	ERH704	2018-10-22	—				< 18	U			< 25	UJ	h		—				< 40	UJ	h		—				< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
HDMW2253-03	ERH759	2019-02-07	—				< 18	UJ	c	l	< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
HDMW2253-03	ERH811	2019-04-25	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
HDMW2253-03	ERH867	2019-07-25	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
HDMW2253-03	ERH931	2019-10-23	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
HDMW2253-03	ERH997	2020-01-23	—				< 18	U			< 25	UJ	l		—				< 40	UJ	l		—				< 0.30	U			—				< 0.50	U			—				< 0.30	U			—			
OWDFMW01	OWDFMW01-WG-01	8/4/2009[ad]	< 30.0	U			—				< 171	U			—				—				—				**0.470**				—				< 0.310	U			—				< 0.310	U			—			
OWDFMW01	OWDFMW01-WG-02	10/13/2009[abd]	< 30	U			—				< 167	U			—				—				—				< 0.12	U			—				< 0.31	U			—				< 0.31	U			—			
OWDFMW01	OWDFMW01-WG-03	1/26/2010[d]	< 60.0	U			—				**1,490**				—				—				—				< 0.240	U			—				< 0.620	U			—				< 0.620	U			—			
OWDFMW01	OWDFMW01-WG-04	4/26/2010[d]	< 60.0	U			—				**288**	**J**			—				—				—				< 0.240	U			—				< 0.620	U			—				< 0.620	U			—			
OWDFMW01	ES007	10/21/2010[d]	—				< 12.12	U			< 80.8	U			—				—				—				< 0.32	U			—				< 0.46	U			—				< 0.34	U			—			
OWDFMW01	ES008	10/21/2010*[d]	—				< 12.12	U			< 80.8	U			—				—				—				< 0.32	U			—				< 0.46	U			—				< 0.34	U			—			
OWDFMW01	ES017	1/21/2011[d]	—				< 12.12	U			< 80.8	U			—				—				—				**0.54**	**J**			—				< 0.46	U			—				< 0.34	U			—			
OWDFMW01	ES018	1/21/2011*[d]	—				< 12.12	U			< 80.8	U			—				—				—				**0.69**	**J**			—				< 0.46	U			—				< 0.34	U			—			
OWDFMW01	ES029	4/21/2011[d]	—				< 12.12	U			< 80.8	U			—				—				—				< 0.32	U			—				< 0.46	U			—				**0.21**	**J**			—			
OWDFMW01	ES031	4/21/2011*[d]	—				< 12.12	U			< 80.8	U			—				—				—				**0.29**	**J**			—				< 0.46	U			—				< 0.34	U			—			
OWDFMW01	ES044	7/21/2011[d]	—				< 12.12	U			< 80.8	U			—				< 212.0	U			—				< 0.32	U			—				< 0.46	U			—				< 0.34	U			—			
OWDFMW01	ES045	7/21/2011*[d]	—				< 12.12	U			< 80.8	U			—				< 212.0	U			—				< 0.32	U			—				< 0.46	U			—				< 0.34	U			—			
OWDFMW01	ES055	10/26/2011[d]	—				< 12.12	U			< 80.8	U			—				—				—				< 0.32	U			—				< 0.46	U			—				< 0.34	U			—			
OWDFMW01	ES056	10/26/2011*[d]	—				< 12.12	U			< 80.8	U			—				—				—				< 0.32	U			—				< 0.46	U			—				< 0.34	U			—			
OWDFMW01	ES058	2012-01-24	—				< 12.12	U			< 80.8	U			—				< 212.0	U			—				**0.70**	**J**			—				< 0.46	U			—				< 0.34	U			—			
OWDFMW01	ES059	1/24/2012*	—				< 12.12	U			< 80.8	U			—				< 212.0	U			—				**0.58**	**J**			—				< 0.46	U			—				< 0.34	U			—			
OWDFMW01	ES077	2012-04-26	—				< 12.12	U			**220**			W	—				—				—				**0.71**	**J**			—				< 0.46	U			—				< 0.34	U			—			
OWDFMW01	ES084	2012-07-19	—				< 12.12	U			< 80.8	U			—				—				—				**1.3**				—				< 0.46	U			—				< 0.34	U			—			
OWDFMW01	ES008	2012-11-07	—				< 17	UJ	b	h	**2,500**			Y	—				—				—				**0.38**	**J**	h		—				< 0.50	UJ	h		—				< 0.50	UJ	h		—			
OWDFMW01	ES007	11/7/2012*	—				< 30	UJ	h		**2,500**			Y	—				—				—				**0.49**	**J**	h		—				< 0.50	UJ	h		—				< 0.50	UJ	h		—			
OWDFMW01	ES016	2013-01-30	—				< 30	U			**1,000**				—				—				—				**0.39**	**J**			—				< 0.50	U			—				< 0.50	U			—			
OWDFMW01	ES017	1/30/2013*	—				< 30	U			**1,000**				—				—				—				**0.17**	**J**			—				< 0.50	U			—				< 0.50	U			—			

Table A.1: Cumulative Groundwater COPC Results, First Quarter 2020 Groundwater Monitoring Event (cont'd)
Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i

		Analyte Class	Volatiles				Volatiles				Volatiles				Semivolatiles (PAHs)				Semivolatiles (PAHs)				Semivolatiles (PAHs)				Semivolatiles (PAHs)				Semivolatiles (PAHs)				Semivolatiles (PAHs)				Lead Scavenger				Lead Scavenger			
		Analyte Type	COPC				non-COPC				non-COPC				COPC				COPC				non-COPC				COPC				non-COPC				non-COPC				Lead Scavenger				Lead Scavenger			
		Analytical Method	8260				524.2				524.2				8270 SIM				8270 SIM				8270				8270 SIM				8260				524.2				8270				8011				8260			
		Analyte	Xylenes, Total (p/m-, o-xylene)				Xylenes, p/m-				Xylenes, o-				1-Methylnaphthalene				2-Methylnaphthalene				2-Methylnaphthalene				Naphthalene *****				Naphthalene *****				Naphthalene *****				Naphthalene *****				1,2-Dibromoethane *****				1,2-Dibromoethane *****			
		CAS No.	1330-20-7				179601-23-1				95-47-6				90-12-0				91-57-6				91-57-6				91-20-3				91-20-3				91-20-3				91-20-3				106-93-4				106-93-4			
		Unit	µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L			
		DOH EAL	20				20				20				10				10				10				17				17				17				17				0.04				0.04			
		SSRBL	—				—				—				—				—				—				—				—				—				—				—				—			
Well Name	Sample ID	Date Sampled	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note
HDMW2253-03	ES128	2015-01-29	< 1.0	U			—				—				< 0.11	U			< 0.053	U			—				< 0.053	U			—				—				—				—				< 0.50	U		
HDMW2253-03	ES136	2015-04-22	< 0.20	U			—				—				< 0.0052	U			< 0.0052	U			—				< 0.0052	U			—				—				—				< 0.0040	UJ	h		< 0.20	U		
HDMW2253-03	ES151	2015-07-22	< 0.20	U			—				—				< 0.0050	U			< 0.0050	U			—				< 0.0050	U			—				—				—				< 0.0040	U			< 0.20	U		
HDMW2253-03	ERH001	2015-10-19	< 0.20	UJ	h		—				—				< 0.0050	U			< 0.0050	UJ	b		—				< 0.0042	UJ	b		—				—				—				< 0.0040	U			< 0.20	UJ	h	
HDMW2253-03	ERH015	2016-01-19	< 0.20	U			—				—				< 0.0050	U			< 0.0050	U			—				< 0.0050	U			—				—				—				< 0.0040	U			< 0.20	U		
HDMW2253-03	ERH029	2016-04-19	< 0.20	U			—				—				< 0.0050	U			< 0.0050	U			—				< 0.0050	U			—				—				—				—				—			
HDMW2253-03	ERH043	2016-07-19	< 0.20	U			—				—				< 0.0050	U			**0.0027**	**J**			—				< 0.015	U	b	f	—				—				—				—				—			
HDMW2253-03	ERH095	2016-10-18	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
HDMW2253-03	ERH127	2016-11-16	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
HDMW2253-03	ERH145	2016-12-13	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
HDMW2253-03	ERH176	2017-01-10	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
HDMW2253-03	ERH176 (EPA split)	2017-01-10	—				< 0.5	U			< 0.2	U			< 0.025	UJ	c		< 0.025	UJ	c		< 0.5	U			< 0.025	U			—				< 0.2	U			< 0.5	U			—				—			
HDMW2253-03	ERH214	2017-02-07	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
HDMW2253-03	ERH214 (EPA split)	2017-02-07	—				< 0.5	U			< 0.2	U			< 0.025	UJ	c	s	< 0.025	UJ	c	s	< 0.5	U			< 0.025	UJ	s		—				< 0.2	U			< 0.5	U			—				—			
HDMW2253-03	ERH280	2017-03-08	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
HDMW2253-03	ERH280 (EPA split)	2017-03-08	—				< 0.5	U			< 0.2	U			< 0.025	UJ	c		< 0.025	UJ	c		< 0.5	U			< 0.025	U			—				< 0.2	U			< 0.5	U			—				—			
HDMW2253-03	ERH437	2017-10-31	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
HDMW2253-03	ERH568	2018-03-12	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
HDMW2253-03	ERH614	2018-04-23	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
HDMW2253-03	ERH660	2018-07-23	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
HDMW2253-03	ERH704	2018-10-22	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
HDMW2253-03	ERH759	2019-02-07	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
HDMW2253-03	ERH811	2019-04-25	< 0.30	U			—				—				< 0.10	UJ	s		< 0.10	UJ	s		—				< 0.10	UJ	s		—				—				—				—				—			
HDMW2253-03	ERH867	2019-07-25	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
HDMW2253-03	ERH931	2019-10-23	< 0.30	U			—				—				< 0.10	UJ	l		< 0.10	UJ	l		—				< 0.10	UJ	l		—				—				—				—				—			
HDMW2253-03	ERH997	2020-01-23	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
OWDFMW01	OWDFMW01-WG-01	8/4/2009[ad]	< 0.620	U			—				—				< 0.0164	U			< 0.0164	U			—				< 0.0339	U			< 0.620	U			—				—				—				< 0.310	U		
OWDFMW01	OWDFMW01-WG-02	10/13/2009[abd]	< 0.62	U			—				—				< 0.0168	U			< 0.0168	U			—				< 0.0346	U			< 0.62	U			—				—				—				< 0.31	U		
OWDFMW01	OWDFMW01-WG-03	1/26/2010[d]	< 1.24	U			—				—				< 0.0320	U			< 0.0320	U			—				< 0.0664	U			< 1.24	U			—				—				—				< 0.620	U		
OWDFMW01	OWDFMW01-WG-04	4/26/2010[d]	< 1.24	U			—				—				< 0.0352	U			< 0.0352	U			—				< 0.0730	U			< 1.24	U			—				—				—				< 0.620	U		
OWDFMW01	ES007	10/21/2010[d]	< 0.38	U			—				—				< 0.12	U			< 0.12	U			—				< 0.10	U			—				—				—				—				< 0.40	U		
OWDFMW01	ES008	10/21/2010*[d]	< 0.38	U			—				—				< 0.12	U			< 0.12	U			—				< 0.10	U			—				—				—				—				< 0.40	U		
OWDFMW01	ES017	1/21/2011[d]	< 0.38	U			—				—				< 0.12	U			< 0.12	U			—				< 0.10	U			—				—				—				—				< 0.40	U		
OWDFMW01	ES018	1/21/2011*[d]	< 0.38	U			—				—				< 0.12	U			< 0.12	U			—				< 0.10	U			—				—				—				—				< 0.40	U		
OWDFMW01	ES029	4/21/2011[d]	**0.39**	**J**			—				—				< 0.12	U			< 0.12	U			—				< 0.10	U			—				—				—				—				< 0.40	U		
OWDFMW01	ES031	4/21/2011*[d]	< 0.38	U			—				—				< 0.12	U			< 0.12	U			—				< 0.10	U			—				—				—				—				< 0.40	U		
OWDFMW01	ES044	7/21/2011[d]	< 0.38	U			—				—				< 0.12	U			< 0.12	U			—				< 0.10	U			—				—				—				—				< 0.40	U		
OWDFMW01	ES045	7/21/2011*[d]	< 0.38	U			—				—				< 0.12	U			< 0.12	U			—				< 0.10	U			—				—				—				—				< 0.40	U		
OWDFMW01	ES055	10/26/2011[d]	< 0.38	U			—				—				< 0.12	U			< 0.12	U			—				< 0.10	U			—				—				—				—				< 0.40	U		
OWDFMW01	ES056	10/26/2011*[d]	< 0.38	U			—				—				< 0.12	U			< 0.12	U			—				< 0.10	U			—				—				—				—				< 0.40	U		
OWDFMW01	ES058	2012-01-24	< 0.38	U			—				—				< 0.12	U			< 0.12	U			—				< 0.10	U			—				—				—				—				< 0.40	U		
OWDFMW01	ES059	1/24/2012*	< 0.38	U			—				—				< 0.12	U			< 0.12	U			—				< 0.10	U			—				—				—				—				< 0.40	U		
OWDFMW01	ES077	2012-04-26	< 0.38	U			—				—				< 0.12	U			< 0.12	U			—				< 0.10	U			—				—				—				—				< 0.40	U		
OWDFMW01	ES084	2012-07-19	< 0.38	U			—				—				< 0.12	U			< 0.12	U			—				< 0.10	U			—				—				—				—				< 0.40	U		
OWDFMW01	ES008	2012-11-07	< 1	UJ	h		—				—				< 0.050	U			< 0.050	U			—				**0.025**	**J**			—				—				—				—				< 0.50	UJ	h	
OWDFMW01	ES007	11/7/2012*	< 1	UJ	h		—				—				< 0.050	U			< 0.050	U			—				**0.035**	**J**			—				—				—				—				< 0.50	UJ	h	
OWDFMW01	ES016	2013-01-30	< 1	U			—				—				< 0.050	U			< 0.050	U			—				**0.032**	**J**			—				—				—				—				< 0.50	U		
OWDFMW01	ES017	1/30/2013*	< 1	U			—				—				< 0.050	U			< 0.050	U			—				**0.039**	**J**			—				—				—				—				< 0.50	U		

Table A.1: Cumulative Groundwater COPC Results, First Quarter 2020 Groundwater Monitoring Event (cont'd)
Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i

		Analyte Class	Lead Scavenger				Lead Scavenger				Lead Scavenger				Lead Scavenger				Lead Scavenger				Lead Scavenger				Semivolatiles				Semivolatiles			
		Analyte Type	Lead Scavenger				Lead Scavenger				Lead Scavenger				Lead Scavenger				Lead Scavenger				Fuel Additive				Fuel Additive					
		Analytical Method	504.1				524.2				8260SIM				8260SIM				8260				524.2				8270				8270/8270 Mod.			
		Analyte	1,2-Dibromoethane *****				1,2-Dibromoethane *****				1,2-Dibromoethane *****				1,2-Dichloroethane *****				1,2-Dichloroethane *****				1,2-Dichloroethane *****				Phenol				2-(2-Methoxyethoxy)-ethanol			
		CAS No.	106-93-4				106-93-4				106-93-4				107-06-2				107-06-2				107-06-2				108-95-2				111-77-3			
		Unit	µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L			
		DOH EAL	0.04				0.04				0.04				5				5				5				300				800			
		SSRBL	—				—				—				—				—				—				—				—			
Well Name	Sample ID	Date Sampled	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note
HDMW2253-03	ES128	2015-01-29	—				—				—				—				< 0.50	U			—				—				—			
HDMW2253-03	ES136	2015-04-22	—				—				< 0.010	U			< 0.015	U			—				—				—				—			
HDMW2253-03	ES151	2015-07-22	—				—				—				< 0.015	U			—				—				—				—			
HDMW2253-03	ERH001	2015-10-19	—				—				—				< 0.015	U			—				—				—				—			
HDMW2253-03	ERH015	2016-01-19	—				—				—				< 0.015	U			—				—				—				—			
HDMW2253-03	ERH029	2016-04-19	—				—				—				—				—				—				—				—			
HDMW2253-03	ERH043	2016-07-19	—				—				—				—				—				—				—				—			
HDMW2253-03	ERH095	2016-10-18	—				—				—				—				—				—				< 4.00	U			< 80.0	UJ	h	
HDMW2253-03	ERH127	2016-11-16	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
HDMW2253-03	ERH145	2016-12-13	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
HDMW2253-03	ERH176	2017-01-10	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
HDMW2253-03	ERH176 (EPA split)	2017-01-10	—				< 0.0025	U			—				—				—				< 0.0025	U			< 2.4	U			—			
HDMW2253-03	ERH214	2017-02-07	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
HDMW2253-03	ERH214 (EPA split)	2017-02-07	—				< 0.0025	U			—				—				—				< 0.0025	U			< 2.5	U			—			
HDMW2253-03	ERH280	2017-03-08	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
HDMW2253-03	ERH280 (EPA split)	2017-03-08	—				< 0.0025	U			—				—				—				< 0.0025	U			< 2.5	U			—			
HDMW2253-03	ERH437	2017-10-31	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
HDMW2253-03	ERH568	2018-03-12	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
HDMW2253-03	ERH614	2018-04-23	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
HDMW2253-03	ERH660	2018-07-23	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
HDMW2253-03	ERH704	2018-10-22	—				—				—				—				—				—				< 4.00	U			< 80.0	UJ	l	
HDMW2253-03	ERH759	2019-02-07	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
HDMW2253-03	ERH811	2019-04-25	—				—				—				—				—				—				< 4.00	UJ	h		< 80.0	UJ	l	
HDMW2253-03	ERH867	2019-07-25	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
HDMW2253-03	ERH931	2019-10-23	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
HDMW2253-03	ERH997	2020-01-23	—				—				—				—				—				—				< 4.00	U			< 80.0	UJ	l	
OWDFMW01	OWDFMW01-WG-01	8/4/2009[ad]	—				—				—				—				< 0.150	U			—				—				—			
OWDFMW01	OWDFMW01-WG-02	10/13/2009[abd]	—				—				—				—				< 0.15	U			—				—				—			
OWDFMW01	OWDFMW01-WG-03	1/26/2010[d]	—				—				—				—				< 0.300	U			—				—				—			
OWDFMW01	OWDFMW01-WG-04	4/26/2010[d]	—				—				—				—				< 0.300	U			—				—				—			
OWDFMW01	ES007	10/21/2010[d]	—				—				—				—				< 0.28	U			—				—				—			
OWDFMW01	ES008	10/21/2010*[d]	—				—				—				—				< 0.28	U			—				—				—			
OWDFMW01	ES017	1/21/2011[d]	—				—				—				—				< 0.28	U			—				—				—			
OWDFMW01	ES018	1/21/2011*[d]	—				—				—				—				< 0.28	U			—				—				—			
OWDFMW01	ES029	4/21/2011[d]	—				—				—				—				< 0.28	U			—				—				—			
OWDFMW01	ES031	4/21/2011*[d]	—				—				—				—				< 0.28	U			—				—				—			
OWDFMW01	ES044	7/21/2011[d]	—				—				—				—				< 0.28	U			—				—				—			
OWDFMW01	ES045	7/21/2011*[d]	—				—				—				—				< 0.28	U			—				—				—			
OWDFMW01	ES055	10/26/2011[d]	—				—				—				—				< 0.28	U			—				—				—			
OWDFMW01	ES056	10/26/2011*[d]	—				—				—				—				< 0.28	U			—				—				—			
OWDFMW01	ES058	2012-01-24	—				—				—				—				< 0.28	U			—				—				—			
OWDFMW01	ES059	1/24/2012*	—				—				—				—				< 0.28	U			—				—				—			
OWDFMW01	ES077	2012-04-26	—				—				—				—				< 0.28	U			—				—				—			
OWDFMW01	ES084	2012-07-19	—				—				—				—				< 0.28	U			—				—				—			
OWDFMW01	ES008	2012-11-07	—				—				—				—				< 0.50	UJ	h		—				—				—			
OWDFMW01	ES007	11/7/2012*	—				—				—				—				< 0.50	UJ	h		—				—				—			
OWDFMW01	ES016	2013-01-30	—				—				—				—				< 0.50	U			—				—				—			
OWDFMW01	ES017	1/30/2013*	—				—				—				—				< 0.50	U			—				—				—			

Table A.1: Cumulative Groundwater COPC Results, First Quarter 2020 Groundwater Monitoring Event (cont'd)
Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i

		Analyte Class	TPH				TPH				TPH				TPH				TPH				Volatiles				Volatiles				Volatiles				Volatiles			
		Analyte Type	COPC				COPC				COPC				8015				8015				COPC				non-COPC				COPC				non-COPC			
		Analytical Method	8015				8260				8015				8015				8015				8260				524.2				8260				524.2			
		Analyte	TPH-g****				TPH-g****				TPH-d				TPH-d with Silica Gel Cleanup				TPH-o				TPH-o with Silica Gel Cleanup				Benzene				Benzene				Ethylbenzene			
		CAS No.	Gas				Gas				Diesel				Disel SGC				Oil				Oil SGC				71-43-2				71-43-2				100-41-4			
		Unit	µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L			
		DOH EAL	300				300				400				400				500				500				5				5				30			
		SSRBL	—				—				4500				—				—				—				750				750				—			
Well Name	Sample ID	Date Sampled	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note
OWDFMW01	ES025	2013-04-24	—				< 30	U			**1,900**			Y	—				—				—				**0.82**	**J**			—				< 0.50	U		
OWDFMW01	ES026	4/24/2013*	—				< 30	U			**1,600**			Y	—				—				—				**0.67**	**J**			—				< 0.50	U		
OWDFMW01	ES034	2013-07-24	—				< 30	U			**470**			Y	—				—				—				**0.42**	**J**			—				< 0.50	U		
OWDFMW01	ES035	7/24/2013*	—				< 30	U			**340**			Y	—				—				—				**0.44**	**J**			—				< 0.50	U		
OWDFMW01	ES043	2013-10-23	—				< 17	UJ	b		**170**			Y	—				—				—				< 0.50	U			—				< 0.50	U		
OWDFMW01	ES044	10/23/2013*	—				< 14	UJ	b		**200**			Y	—				—				—				**0.17**	**J**			—				< 0.50	U		
OWDFMW01	ES053	1/27/2014[d]	—				< 26	UJ	b		**170**			Y	—				—				—				**0.15**	**J**			—				< 0.50	U		
OWDFMW01	ES054	1/27/2014*[d]	—				< 23	UJ	b		**140**			Y	—				—				—				< 0.50	U			—				< 0.50	U		
OWDFMW01	ES086	4/23/2014[d]	—				< 30	U			**270**			Y	—				—				—				< 0.50	U			—				< 0.50	U		
OWDFMW01	ES087***	4/23/2014*[d]	—				< 31	UJ	b		**32**			Y	—				—				—				< 0.50	U			—				< 0.50	U		
OWDFMW01	ES109	2014-07-24	—				< 30	U			**17**	**J**		Y	—				—				—				< 0.50	U			—				< 0.50	U		
OWDFMW01	ES110	7/24/2014*	—				< 30	U			**15**	**J**		Y	—				—				—				< 0.50	U			—				< 0.50	U		
OWDFMW01	ES121	2014-10-22	—				< 30	U			**19**	**J**		Y	—				—				—				< 0.50	U			—				< 0.50	U		
OWDFMW01	ES122	10/22/2014*	—				< 30	U			**19**	**J**		Y	—				—				—				< 0.50	U			—				< 0.50	U		
OWDFMW01	ES121X	2015-01-26	—				< 30	U			**24**	**J**		Y	—				—				—				< 0.50	U			—				< 0.50	U		
OWDFMW01	ES122X	1/26/2015*	—				< 30	U			**16**	**J**		Y	—				—				—				< 0.50	U			—				< 0.50	U		
OWDFMW01	ES137	2015-04-22	< 25	U			—				**120**			Z	—				< 110	UJ	b	Z	—				**0.070**	**J**			—				< 0.10	U		
OWDFMW01	ES138	4/22/2015*	< 25	U			—				**120**			Z	—				**140**			Z	—				< 0.10	U			—				< 0.10	U		
OWDFMW01	ES152	2015-07-22	< 25	U			—				**3,100**			Z	—				**390**			Z	—				< 0.10	U			—				< 0.10	U		
OWDFMW01	ES153	7/22/2015*	< 25	U			—				**3,000**			Z	—				**330**			Z	—				< 0.10	U			—				**0.060**	**J**		
OWDFMW01	ERH002	2015-10-19	< 25	U			—				**680**			Z	—				**100**	**J**			—				< 0.10	UJ	h		—				< 0.4	UJ	t	
OWDFMW01	ERH016	2016-01-19	< 25	U			—				**320**			Z	—				< 69	UJ	b		—				< 0.10	U			—				< 0.18	UJ	t	
OWDFMW01	ERH030	2016-04-19	< 13	U	f		—				< 38	U	b f		—				< 56	U	b f		—				< 0.10	U			—				< 0.10	U		
OWDFMW01	ERH031	2016-04-19	< 9	U	f		—				< 36	U	b f		—				< 67	U	b f		—				< 0.10	U			—				< 0.10	U		
OWDFMW01	ERH044	2016-07-19	< 25	U			—				< 16	U	f		—				< 40	U	b f		—				< 0.10	U			—				< 0.10	U		
OWDFMW01	ERH104	2016-10-20	—				< 18	U			**54**			Y	—				**110**				—				< 0.30	U			—				< 0.50	U		
OWDFMW01	ERH105	10/20/2016*	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U		
OWDFMW01	ERH118	2016-11-15	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U		
OWDFMW01	ERH119	11/15/2016*	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U		
OWDFMW01	ERH147	2016-12-14	—				< 18	U			< 58	U		Z	—				**39**	**J**			—				< 0.30	U			—				< 0.50	U		
OWDFMW01	ERH148	12/14/2016*	—				< 18	U			< 57	U		Z	—				**46**				—				< 0.30	U			—				< 0.50	U		
OWDFMW01	ERH184	2017-01-12	—				< 18	U			< 25	U			—				**45**			Y	—				< 0.30	U			—				< 0.50	U		
OWDFMW01	ERH184 (EPA split)	2017-01-12	< 25	UJ	c		—				< 75	U			—				< 300	U			—				—				< 0.2	U			—			
OWDFMW01	ERH227	2017-02-09	—				< 18	U			< 23	U		Z	—				**44**				—				< 0.30	U			—				< 0.50	U		
OWDFMW01	ERH227 (EPA split)	2017-02-09	< 25	UJ	c		—				< 75	U			—				< 300	U			—				—				< 0.2	U			—			
OWDFMW01	ERH286	2017-03-08	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U		
OWDFMW01	ERH286 (EPA split)	2017-03-08	< 25	UJ	c		—				< 75	U			—				< 300	U			—				—				< 0.2	U			—			
OWDFMW01	ERH321	2017-04-04	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U		
OWDFMW01	ERH389	2017-07-05	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U		
OWDFMW01	ERH435	2017-10-26	—				< 18	U			**110**			Y	—				< 40	U			—				< 0.30	U			—				< 0.50	U		
OWDFMW01	ERH566	2018-03-14	—				< 18	U			**310**	**J**	s	Z	< 25	U			< 40	U			< 40	U			< 0.30	U			—				< 0.50	U		
OWDFMW01	ERH612	2018-04-26	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U		
OWDFMW01	ERH658	2018-07-26	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U		
OWDFMW01	ERH702	2018-10-24	—				< 18	U			**250**	**J**	h	Y	< 25	UJ	h		**160**	**J**	h		< 40	UJ	h		< 0.30	U			—				< 5.0	U		
OWDFMW01	ERH757	2019-01-23	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	UJ	s		—				< 0.50	UJ	s	
OWDFMW01	ERH809	2019-04-25	—				< 18	U			< 25	U			—				< 40	U			—				< 0.30	U			—				< 0.50	U		
OWDFMW01	ERH865	2019-07-24	—				< 18	U			**210**			O	< 25	U			< 40	U			< 40	U			< 0.30	U			—				< 0.50	U		
OWDFMW01	ERH865	2019-07-24	—				< 18	U			**210**			O	< 25	U			< 40	U			< 40	U			< 0.30	U			—				< 0.50	U		
OWDFMW01	ERH995	2020-01-22	—				< 18	U			**120**			Z					**120**			Z					< 0.30	U			—				< 0.50	U		

Table A.1: Cumulative Groundwater COPC Results, First Quarter 2020 Groundwater Monitoring Event (cont'd)
Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i

		Analyte Class	Volatiles			Volatiles			Volatiles			Semivolatiles (PAHs)				Semivolatiles (PAHs)				Semivolatiles (PAHs)				Semivolatiles (PAHs)				Semivolatiles (PAHs)				Semivolatiles (PAHs)				Lead Scavenger				Lead Scavenger			
		Analyte Type	COPC			non-COPC			non-COPC			COPC				COPC				non-COPC				COPC				non-COPC				non-COPC				Lead Scavenger				Lead Scavenger			
		Analytical Method	8260			524.2			524.2			8270 SIM				8270 SIM				8270				8270 SIM				8260				524.2				8270				8011				8260			
		Analyte	Xylenes, Total (p/m-, o-xylene)			Xylenes, p/m-			Xylenes, o-			1-Methylnaphthalene				2-Methylnaphthalene				2-Methylnaphthalene				Naphthalene *****				Naphthalene *****				Naphthalene *****				Naphthalene *****				1,2-Dibromoethane *****				1,2-Dibromoethane *****			
		CAS No.	1330-20-7			179601-23-1			95-47-6			90-12-0				91-57-6				91-57-6				91-20-3				91-20-3				91-20-3				91-20-3				106-93-4				106-93-4			
		Unit	µg/L			µg/L			µg/L			µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L			
		DOH EAL	20			20			20			10				10				10				17				17				17				17				0.04				0.04			
		SSRBL	—			—			—			—				—				—				—				—				—				—				—				—			
Well Name	Sample ID	Date Sampled	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note
OWDFMW01	ES025	2013-04-24	< 1.0	U			—				—				< 0.051	U			< 0.051	U			—				**0.063**	**J**			—				—				—				< 0.50	U		
OWDFMW01	ES026	4/24/2013*	< 1.0	U			—				—				< 0.050	U			< 0.050	U			—				**0.068**	**J**			—				—				—				< 0.50	U		
OWDFMW01	ES034	2013-07-24	< 1.0	U			—				—				< 0.050	U			< 0.050	U			—				**0.081**	**J**			—				—				—				< 0.50	U		
OWDFMW01	ES035	7/24/2013*	< 1.0	U			—				—				< 0.048	U			< 0.048	U			—				**0.12**	**J**			—				—				—				< 0.50	U		
OWDFMW01	ES043	2013-10-23	< 1.0	U			—				—				< 0.049	U			< 0.049	U			—				< 0.049	U			—				—				—				< 0.50	U		
OWDFMW01	ES044	10/23/2013*	< 1.0	U			—				—				< 0.049	U			< 0.049	U			—				< 0.049	U			—				—				—				< 0.50	U		
OWDFMW01	ES053	1/27/2014[d]	< 1.0	U			—				—				< 0.050	U			< 0.050	U			—				**0.093**	**J**			—				—				—				< 0.50	U		
OWDFMW01	ES054	1/27/2014*[d]	< 1.0	U			—				—				< 0.050	U			< 0.050	U			—				**0.085**	**J**			—				—				—				< 0.50	U		
OWDFMW01	ES086	4/23/2014[d]	< 1.0	U			—				—				< 0.049	U			< 0.049	U			—				**0.035**	**J**			—				—				—				< 0.50	U		
OWDFMW01	ES087***	4/23/2014*[d]	< 1.0	U			—				—				< 0.050	U			< 0.050	U			—				**0.035**	**J**			—				—				—				< 0.50	U		
OWDFMW01	ES109	2014-07-24	< 1.0	U			—				—				< 0.051	U			< 0.051	U			—				**0.031**	**J**			—				—				—				< 0.50	U		
OWDFMW01	ES110	7/24/2014*	< 1.0	U			—				—				< 0.050	U			< 0.050	U			—				**0.027**	**J**			—				—				—				< 0.50	U		
OWDFMW01	ES121	2014-10-22	< 1.0	U			—				—				< 0.10	U			< 0.052	U			—				**0.047**	**J**			—				—				—				< 0.50	U		
OWDFMW01	ES122	10/22/2014*	< 1.0	U			—				—				< 0.10	U			< 0.052	U			—				< 0.052	U			—				—				—				< 0.50	U		
OWDFMW01	ES121X	2015-01-26	< 1.0	U			—				—				< 0.10	U			< 0.052	U			—				< 0.052	U			—				—				—				< 0.50	U		
OWDFMW01	ES122X	1/26/2015*	< 1.0	U			—				—				< 0.10	U			< 0.051	U			—				< 0.051	U			—				—				—				< 0.50	U		
OWDFMW01	ES137	2015-04-22	< 0.20	U			—				—				**0.023**				**0.017**	**J**			—				**0.025**				—				—				—				< 0.0040	UJ	h		< 0.20	U		
OWDFMW01	ES138	4/22/2015*	< 0.20	U			—				—				**0.020**				**0.015**	**J**			—				**0.023**				—				—				—				< 0.0040	UJ	h		< 0.20	U		
OWDFMW01	ES152	2015-07-22	< 0.20	U			—				—				**0.0088**	**J**			**0.0086**	**J**			—				**0.014**	**J**			—				—				—				< 0.0040	U			< 0.20	U		
OWDFMW01	ES153	7/22/2015*	< 0.20	U			—				—				**0.0096**	**J**			**0.0097**	**J**			—				**0.016**	**J**			—				—				—				< 0.0040	U			< 0.20	U		
OWDFMW01	ERH002	2015-10-19	< 0.20	UJ	h		—				—				**0.019**	**J**			< 0.013	UJ	b		—				**0.025**				—				—				—				< 0.0040	U			< 0.20	UJ	h	
OWDFMW01	ERH016	2016-01-19	< 0.20	U			—				—				**0.030**				**0.020**				—				**0.024**				—				—				—				< 0.0040	U			< 0.20	U		
OWDFMW01	ERH030	2016-04-19	< 0.20	U			—				—				< 0.0050	U			< 0.0050	U			—				< 0.0050	U			—				—				—				—				—			
OWDFMW01	ERH031	2016-04-19	< 0.20	U			—				—				< 0.0050	U			< 0.0050	U			—				< 0.0050	U			—				—				—				—				—			
OWDFMW01	ERH044	2016-07-19	< 0.20	U			—				—				< 0.0050	U			**0.0027**	**J**			—				< 0.019	U	b f		—				—				—				—				—			
OWDFMW01	ERH104	2016-10-20	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
OWDFMW01	ERH105	10/20/2016*	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
OWDFMW01	ERH118	2016-11-15	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
OWDFMW01	ERH119	11/15/2016*	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
OWDFMW01	ERH147	2016-12-14	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
OWDFMW01	ERH148	12/14/2016*	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
OWDFMW01	ERH184	2017-01-12	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
OWDFMW01	ERH184 (EPA split)	2017-01-12	—				< 0.5	U			< 0.2	U			< 0.025	UJ	c		< 0.025	UJ	c		< 0.5	U			< 0.025	U			—				< 0.2	U			< 0.5	U			—				—			
OWDFMW01	ERH227	2017-02-09	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
OWDFMW01	ERH227 (EPA split)	2017-02-09	—				< 0.5	U			< 0.2	U			< 0.025	UJ	c		< 0.025	UJ	c		< 0.5	UJ	h		< 0.025	U			—				< 0.2	U			< 0.5	UJ	h		—				—			
OWDFMW01	ERH286	2017-03-08	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
OWDFMW01	ERH286 (EPA split)	2017-03-08	—				< 0.5	U			< 0.2	U			< 0.025	UJ	c		< 0.025	UJ	c		< 0.5	U			< 0.025	U			—				< 0.2	U			< 0.5	U			—				—			
OWDFMW01	ERH321	2017-04-04	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
OWDFMW01	ERH389	2017-07-05	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
OWDFMW01	ERH435	2017-10-26	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
OWDFMW01	ERH566	2018-03-14	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
OWDFMW01	ERH612	2018-04-26	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
OWDFMW01	ERH658	2018-07-26	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
OWDFMW01	ERH702	2018-10-24	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
OWDFMW01	ERH757	2019-01-23	< 0.30	UJ	s		—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
OWDFMW01	ERH809	2019-04-25	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
OWDFMW01	ERH865	2019-07-24	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
OWDFMW01	ERH865	2019-07-24	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			
OWDFMW01	ERH995	2020-01-22	< 0.30	U			—				—				< 0.10	U			< 0.10	U			—				< 0.10	U			—				—				—				—				—			

Table A.1: Cumulative Groundwater COPC Results, First Quarter 2020 Groundwater Monitoring Event (cont'd)
Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i

		Analyte Class	Lead Scavenger				Lead Scavenger				Lead Scavenger				Lead Scavenger				Lead Scavenger				Lead Scavenger				Semivolatiles				Semivolatiles			
		Analyte Type	Lead Scavenger				Lead Scavenger				Lead Scavenger				Lead Scavenger				Lead Scavenger				Fuel Additive				Fuel Additive					
		Analytical Method	504.1				524.2				8260SIM				8260SIM				8260				524.2				8270				8270/8270 Mod.			
		Analyte	1,2-Dibromoethane *****				1,2-Dibromoethane *****				1,2-Dibromoethane *****				1,2-Dichloroethane *****				1,2-Dichloroethane *****				1,2-Dichloroethane *****				Phenol				2-(2-Methoxyethoxy)-ethanol			
		CAS No.	106-93-4				106-93-4				106-93-4				107-06-2				107-06-2				107-06-2				108-95-2				111-77-3			
		Unit	µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L				µg/L			
		DOH EAL	0.04				0.04				0.04				5				5				5				300				800			
		SSRBL	—				—				—				—				—				—				—				—			
Well Name	Sample ID	Date Sampled	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note	Result	Q	rc	note
OWDFMW01	ES025	2013-04-24	—				—				—				—				< 0.50	U			—				—				—			
OWDFMW01	ES026	4/24/2013*	—				—				—				—				< 0.50	U			—				—				—			
OWDFMW01	ES034	2013-07-24	—				—				—				—				< 0.50	U			—				—				—			
OWDFMW01	ES035	7/24/2013*	—				—				—				—				< 0.50	U			—				—				—			
OWDFMW01	ES043	2013-10-23	—				—				—				—				< 0.50	U			—				—				—			
OWDFMW01	ES044	10/23/2013*	—				—				—				—				< 0.50	U			—				—				—			
OWDFMW01	ES053	1/27/2014[d]	—				—				—				—				< 0.50	U			—				—				—			
OWDFMW01	ES054	1/27/2014*[d]	—				—				—				—				< 0.50	U			—				—				—			
OWDFMW01	ES086	4/23/2014[d]	—				—				—				—				< 0.50	U			—				—				—			
OWDFMW01	ES087***	4/23/2014*[d]	—				—				—				—				< 0.50	U			—				—				—			
OWDFMW01	ES109	2014-07-24	—				—				—				—				< 0.50	U			—				—				—			
OWDFMW01	ES110	7/24/2014*	—				—				—				—				< 0.50	U			—				—				—			
OWDFMW01	ES121	2014-10-22	—				—				—				—				< 0.50	U			—				—				—			
OWDFMW01	ES122	10/22/2014*	—				—				—				—				< 0.50	UJ	c		—				—				—			
OWDFMW01	ES121X	2015-01-26	—				—				—				—				< 0.50	U			—				—				—			
OWDFMW01	ES122X	1/26/2015*	—				—				—				—				< 0.50	U			—				—				—			
OWDFMW01	ES137	2015-04-22	—				—				< 0.010	U			**0.010**	**J**			—				—				—				—			
OWDFMW01	ES138	4/22/2015*	—				—				< 0.010	U			**0.0081**	**J**			—				—				—				—			
OWDFMW01	ES152	2015-07-22	—				—				—				**0.012**	**J**			—				—				—				—			
OWDFMW01	ES153	7/22/2015*	—				—				—				**0.012**	**J**			—				—				—				—			
OWDFMW01	ERH002	2015-10-19	—				—				< 0.010	U			**0.0009**	**J**			—				—				—				—			
OWDFMW01	ERH016	2016-01-19	—				—				—				**0.0096**	**J**			—				—				—				—			
OWDFMW01	ERH030	2016-04-19	—				—				—				—				—				—				—				—			
OWDFMW01	ERH031	2016-04-19	—				—				—				—				—				—				—				—			
OWDFMW01	ERH044	2016-07-19	—				—				—				—				—				—				—				—			
OWDFMW01	ERH104	2016-10-20	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
OWDFMW01	ERH105	10/20/2016*	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
OWDFMW01	ERH118	2016-11-15	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
OWDFMW01	ERH119	11/15/2016*	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
OWDFMW01	ERH147	2016-12-14	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
OWDFMW01	ERH148	12/14/2016*	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
OWDFMW01	ERH184	2017-01-12	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
OWDFMW01	ERH184 (EPA split)	2017-01-12	—				< 0.0025	U			—				—				—				< 0.0025	U			< 2.5	U			—			
OWDFMW01	ERH227	2017-02-09	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
OWDFMW01	ERH227 (EPA split)	2017-02-09	—				< 0.0025	U			—				—				—				< 0.0025	U			< 2.5	UJ	h		—			
OWDFMW01	ERH286	2017-03-08	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
OWDFMW01	ERH286 (EPA split)	2017-03-08	—				< 0.0025	U			—				—				—				< 0.0025	U			< 2.5	U			—			
OWDFMW01	ERH321	2017-04-04	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
OWDFMW01	ERH389	2017-07-05	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
OWDFMW01	ERH435	2017-10-26	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
OWDFMW01	ERH566	2018-03-14	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
OWDFMW01	ERH612	2018-04-26	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
OWDFMW01	ERH658	2018-07-26	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
OWDFMW01	ERH702	2018-10-24	—				—				—				—				—				—				< 4.00	U			< 80.0	UJ	l	
OWDFMW01	ERH757	2019-01-23	—				—				—				—				—				—				< 4.00	U			< 80.0	UJ	l	
OWDFMW01	ERH809	2019-04-25	—				—				—				—				—				—				< 4.00	U			< 80.0	UJ	l	
OWDFMW01	ERH865	2019-07-24	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
OWDFMW01	ERH865	2019-07-24	—				—				—				—				—				—				< 4.00	U			< 80.0	U		
OWDFMW01	ERH995	2020-01-22	—				—				—				—				—				—				< 4.00	U			< 80.0	U		

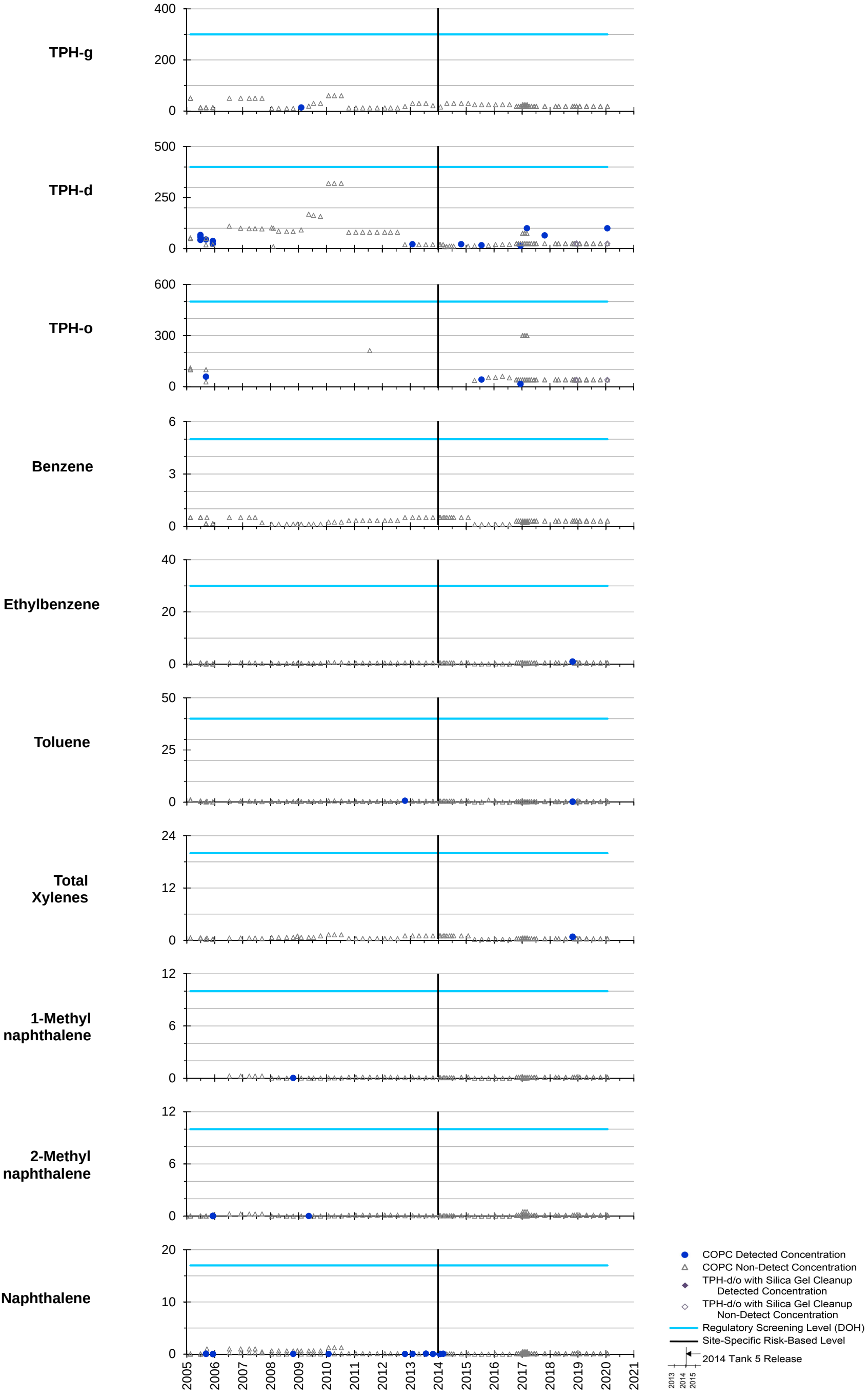
This page intentionally left blank

Appendix A.2:
Groundwater COPC Graphs

This page intentionally left blank

Appendix A.2 Groundwater Concentration Graphs

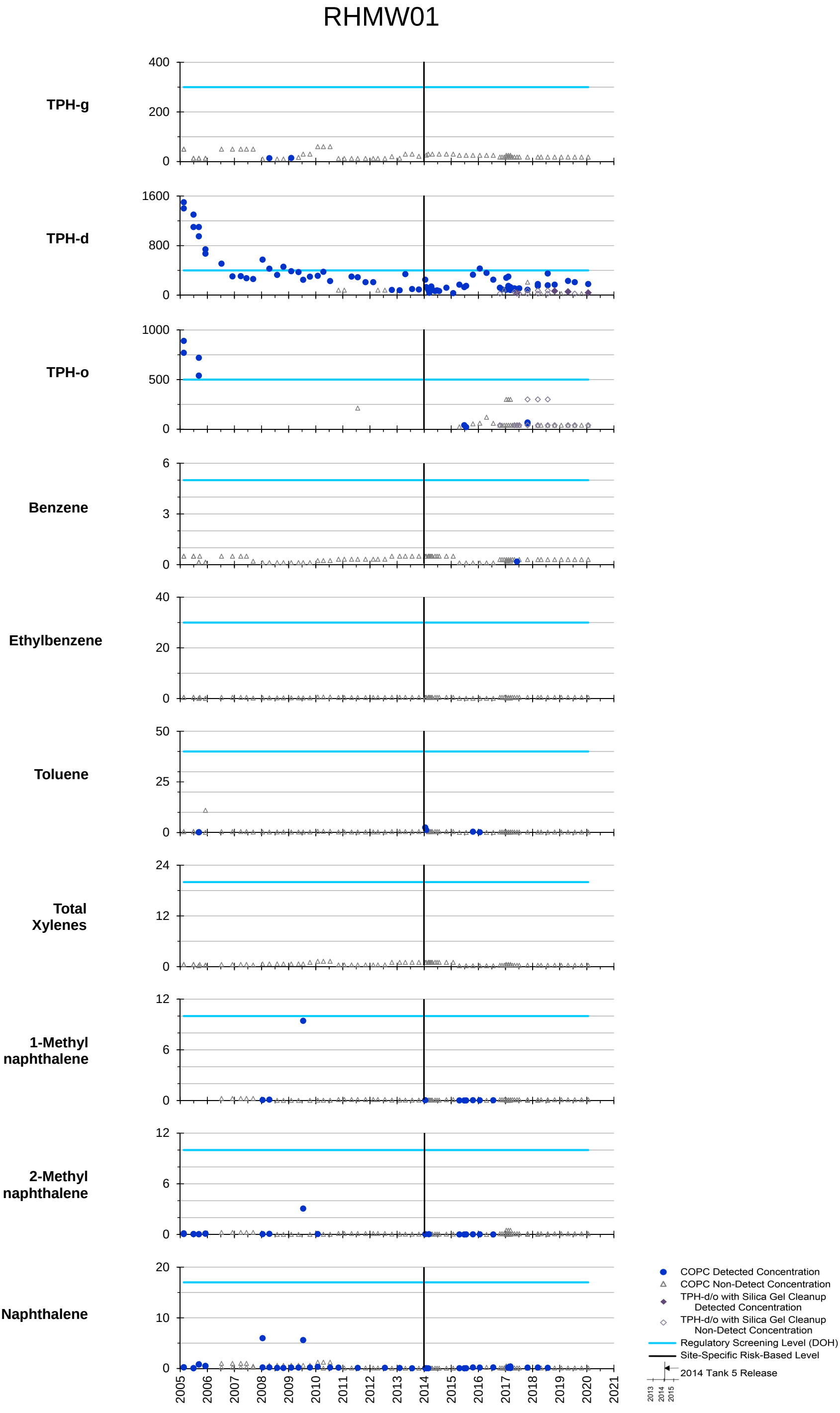
RHMW2254-01



All results in micrograms per liter (µg/L or parts per billion).

EPA Region 9 Laboratory split sampling data from First to Third Quarters 2017 included in the graphs.

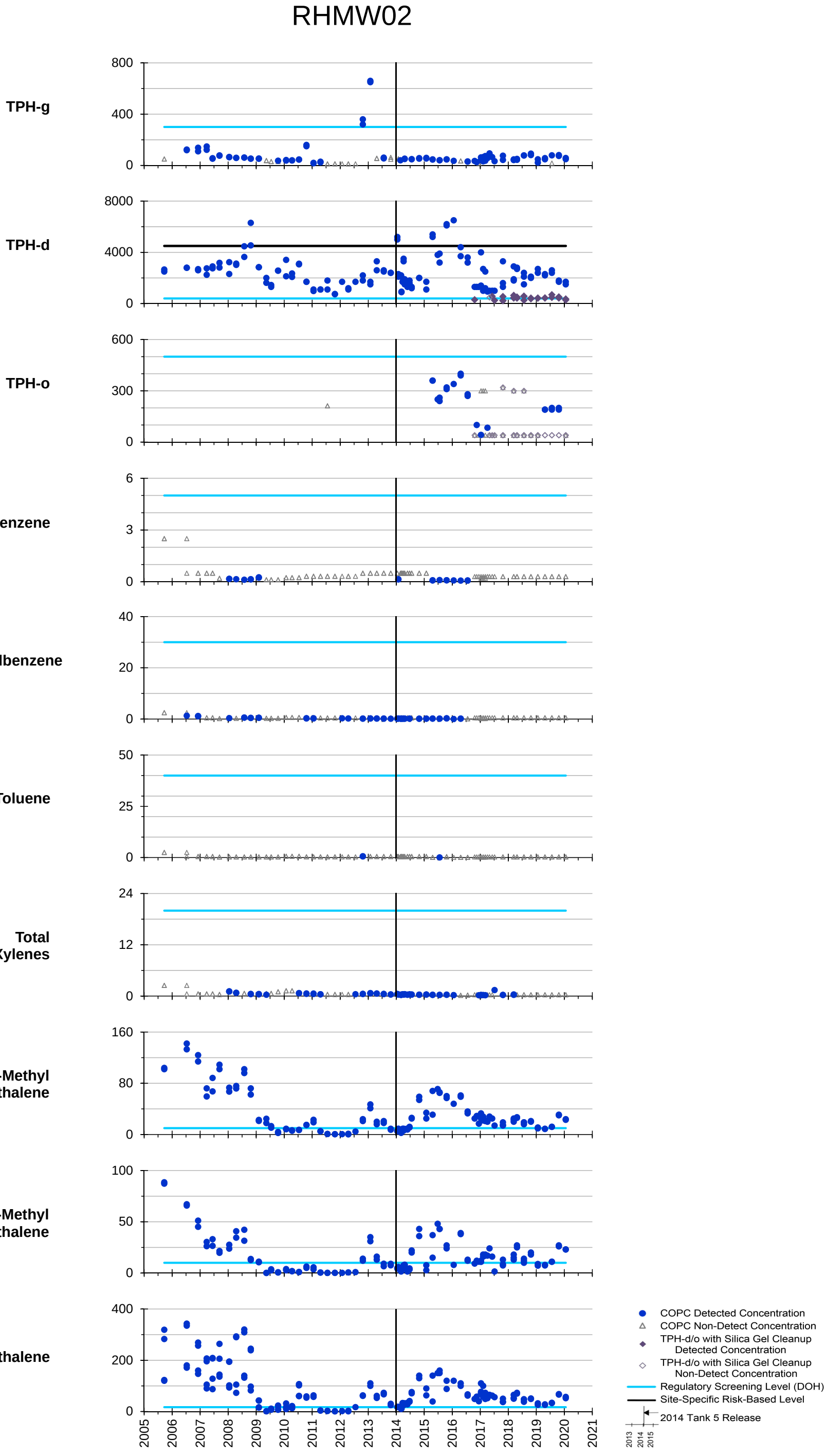
Appendix A.2 Groundwater Concentration Graphs



All results in micrograms per liter (µg/L or parts per billion).

EPA Region 9 Laboratory split sampling data from First to Fourth Quarters 2017, First Quarter 2018, and Third Quarter 2018 included in the graphs.

Appendix A.2 Groundwater Concentration Graphs

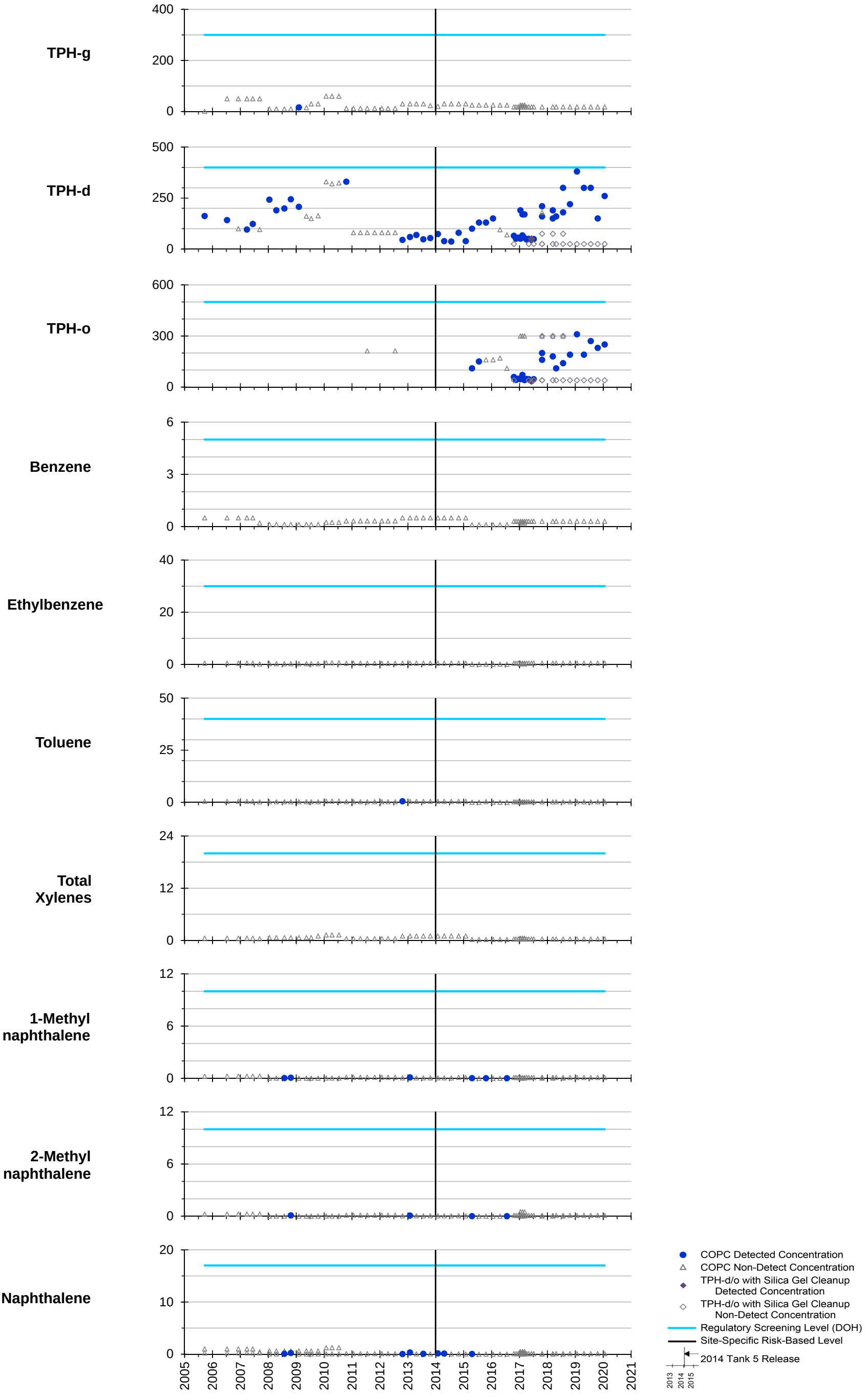


All results in micrograms per liter (µg/L or parts per billion).

EPA Region 9 Laboratory split sampling data from First to Fourth Quarters 2017, First Quarter 2018, and Third Quarter 2018 included in the graphs.

Appendix A.2 Groundwater Concentration Graphs

RHMW03

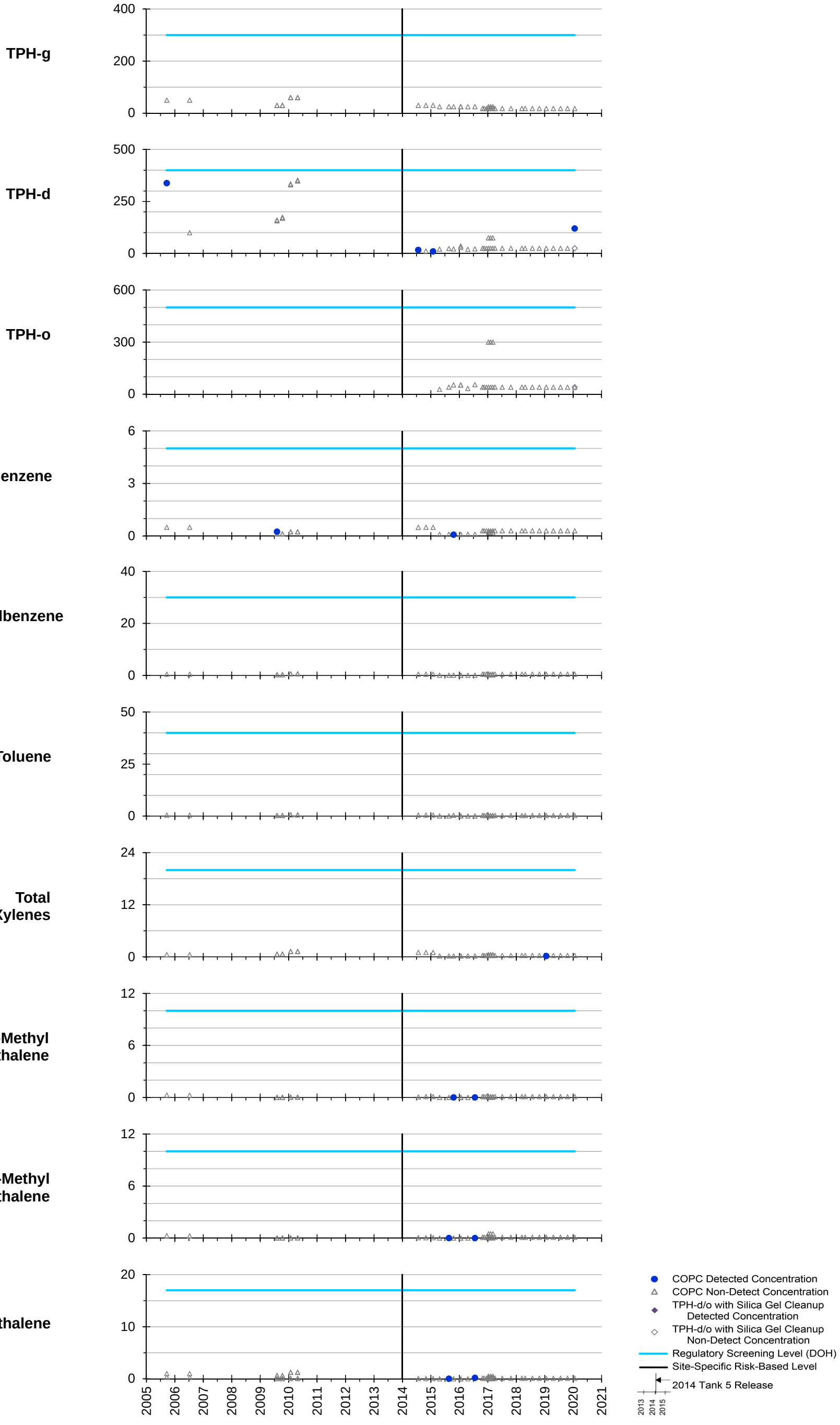


All results in micrograms per liter (µg/L or parts per billion).

EPA Region 9 Laboratory split sampling data from First to Fourth Quarters 2017, First Quarter 2018, and Third Quarter 2018 included in the graphs.

Appendix A.2 Groundwater Concentration Graphs

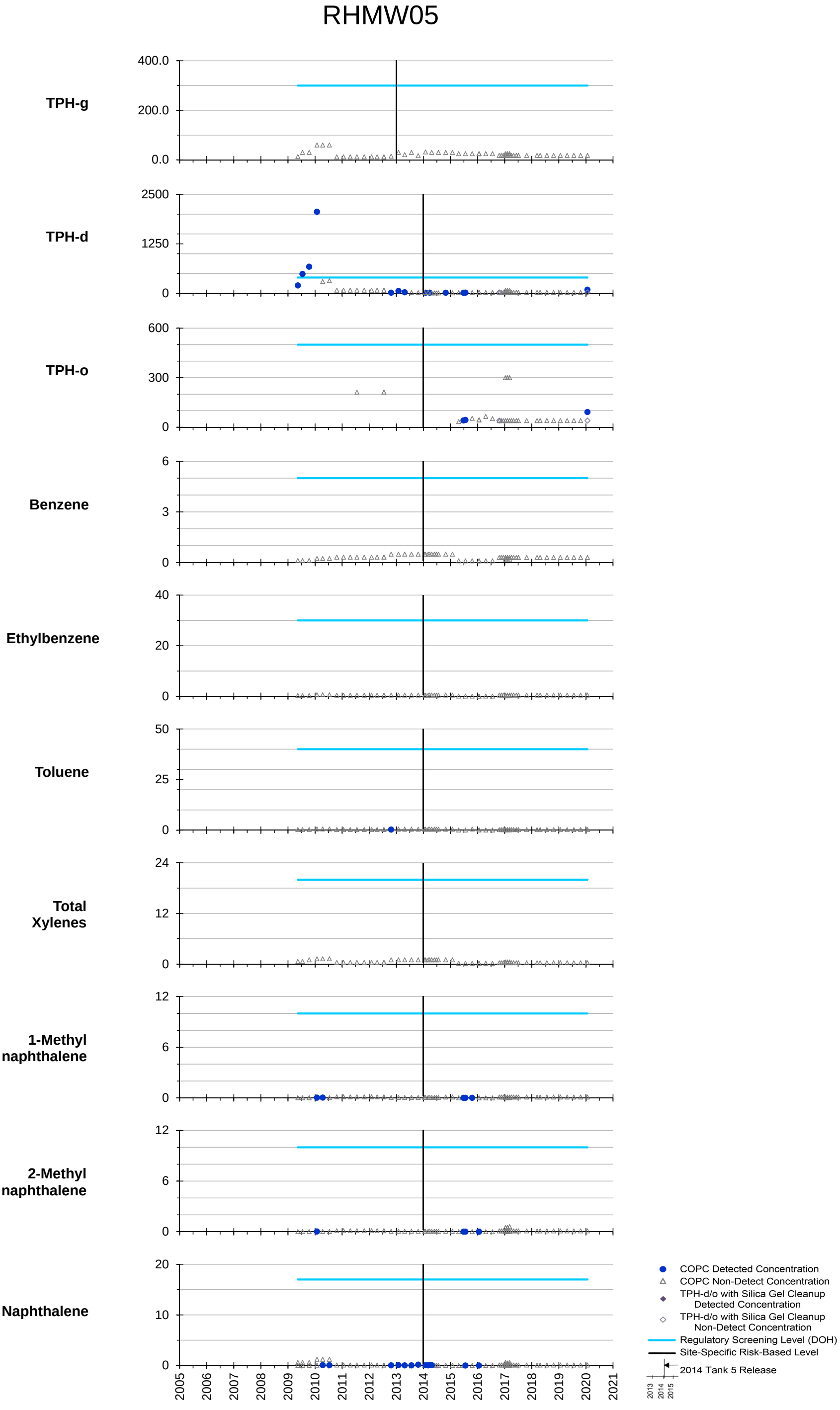
RHMW04



All results in micrograms per liter (µg/L or parts per billion).

EPA Region 9 Laboratory split sampling data from First to Third Quarters 2017 included in the graphs.

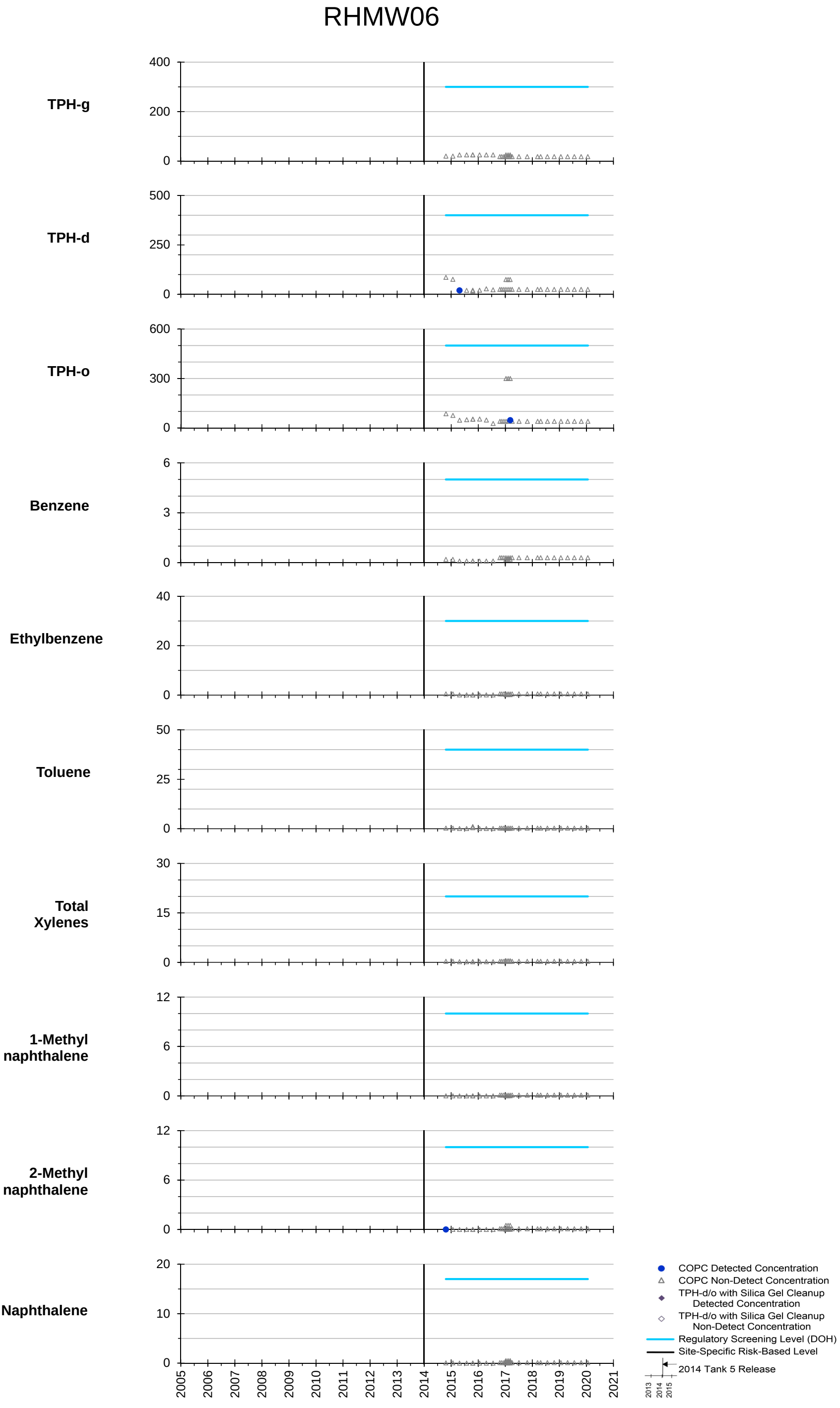
Appendix A.2 Groundwater Concentration Graphs



All results in micrograms per liter (µg/L or parts per billion).

EPA Region 9 Laboratory split sampling data from First to Third Quarters 2017 included in the graphs.

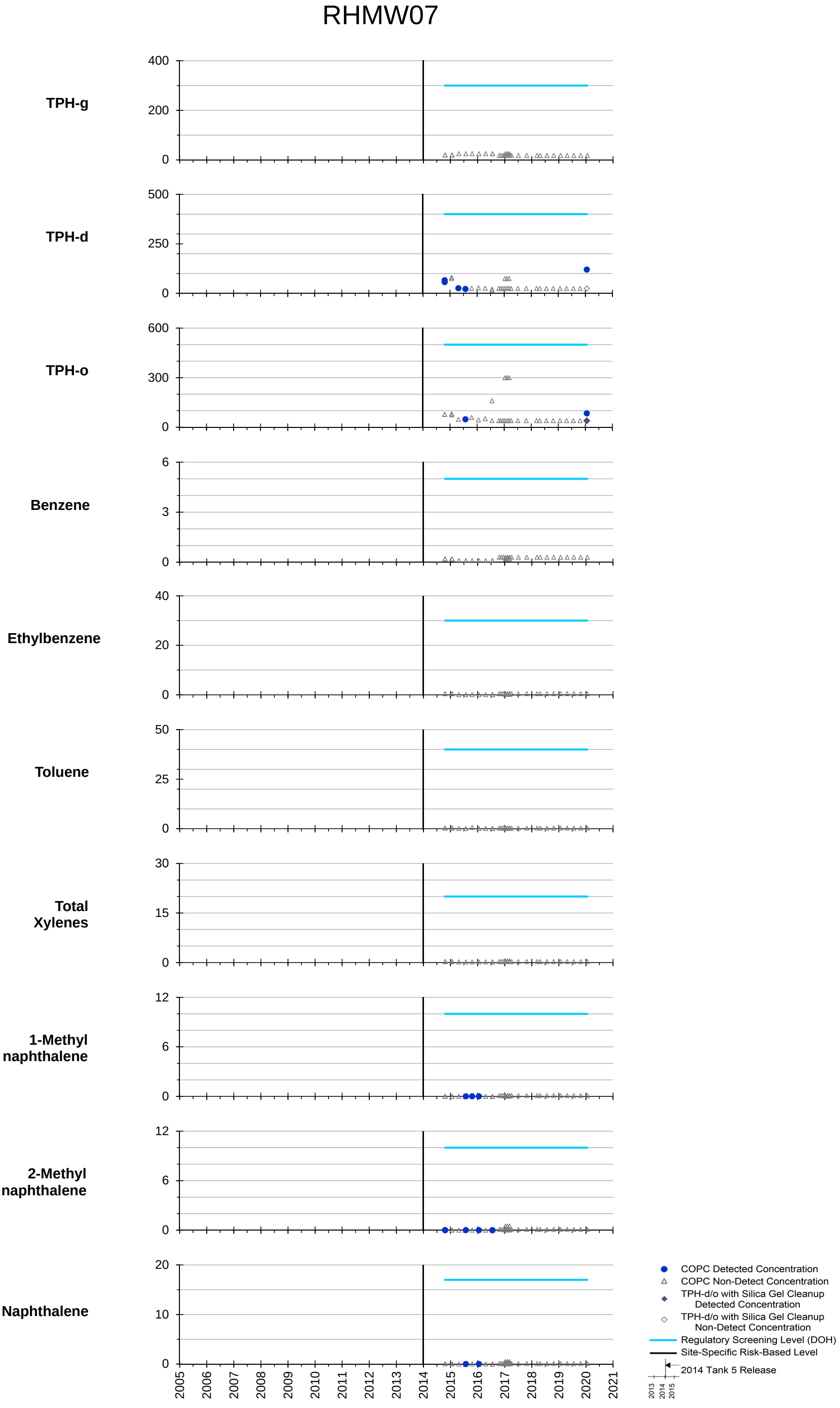
Appendix A.2 Groundwater Concentration Graphs



All results in micrograms per liter (µg/L or parts per billion).

EPA Region 9 Laboratory split sampling data from First to Third Quarters 2017 included in the graphs.

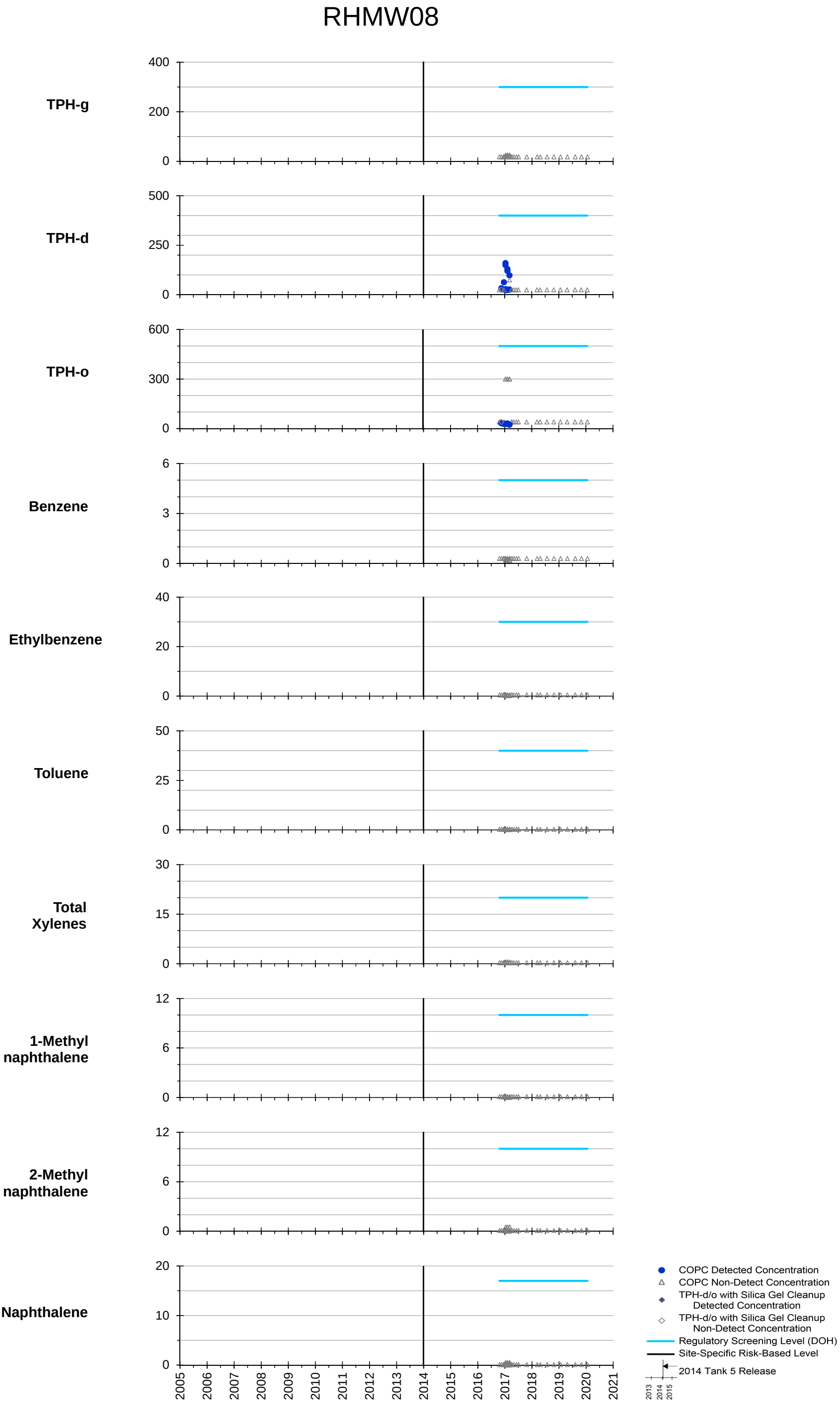
Appendix A.2 Groundwater Concentration Graphs



All results in micrograms per liter (µg/L or parts per billion).

EPA Region 9 Laboratory split sampling data from First to Third Quarters 2017 included in the graphs.

Appendix A.2 Groundwater Concentration Graphs

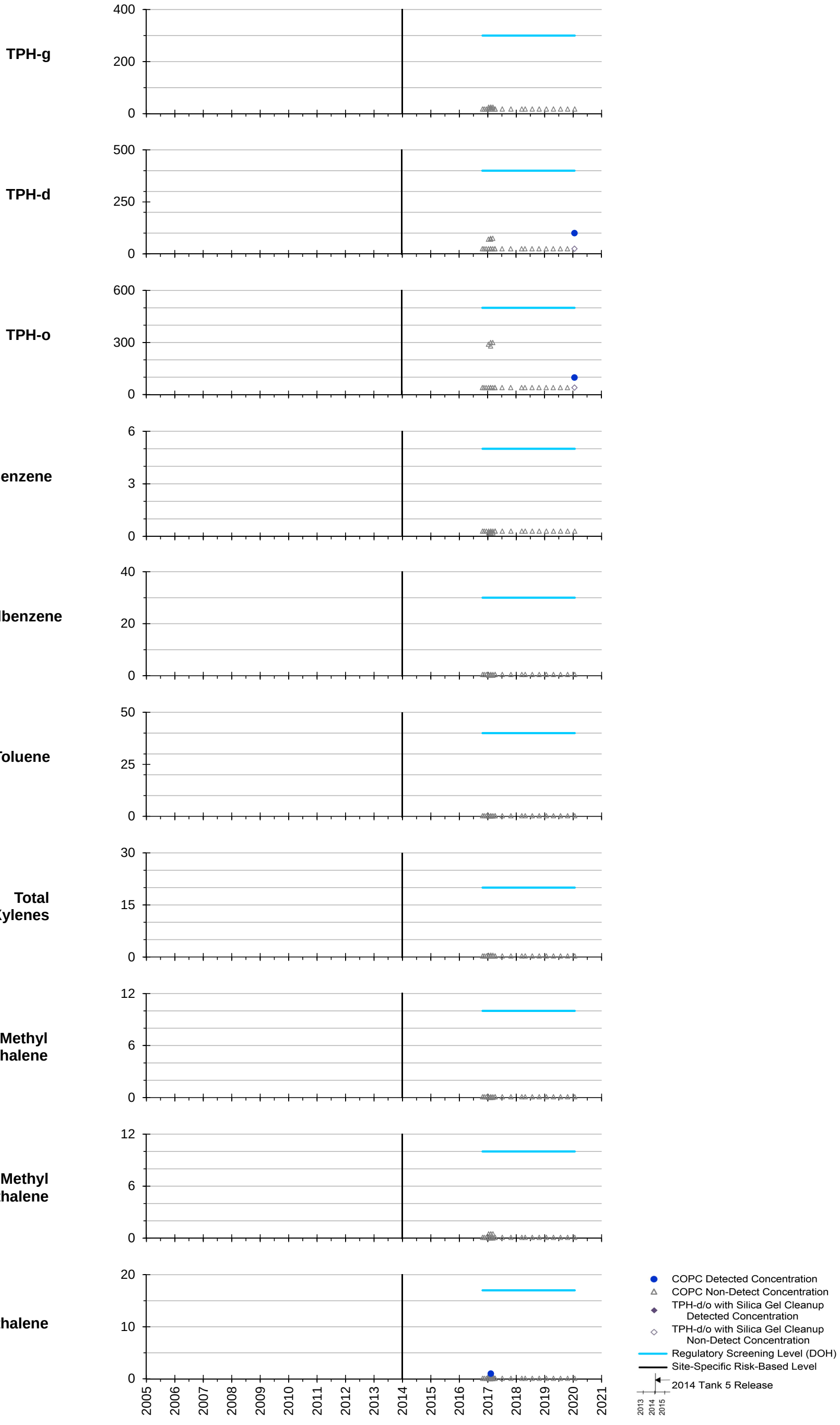


All results in micrograms per liter (µg/L or parts per billion).

EPA Region 9 Laboratory split sampling data from First to Third Quarters 2017 included in the graphs.

Appendix A.2 Groundwater Concentration Graphs

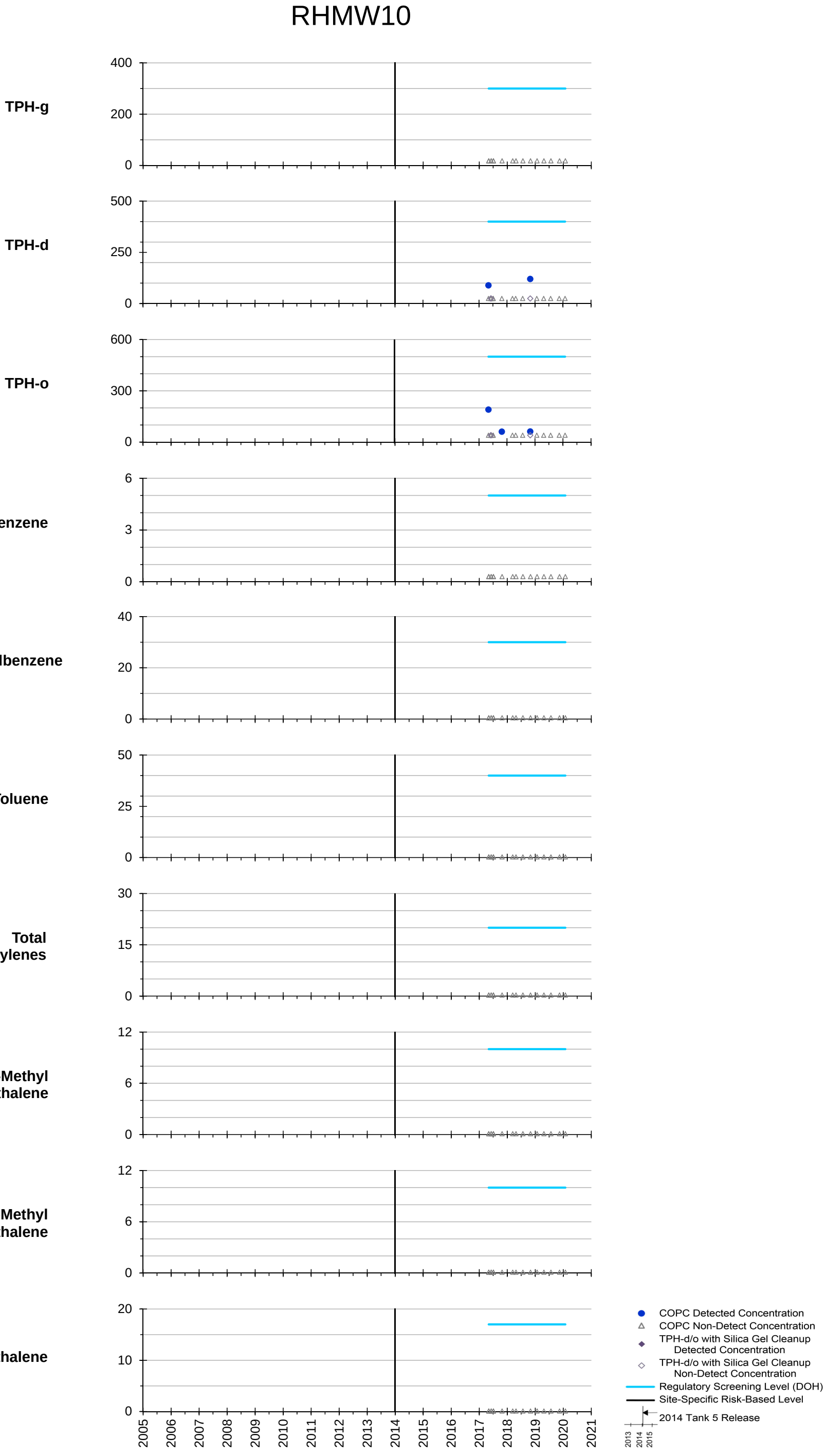
RHMW09



All results in micrograms per liter (µg/L or parts per billion).

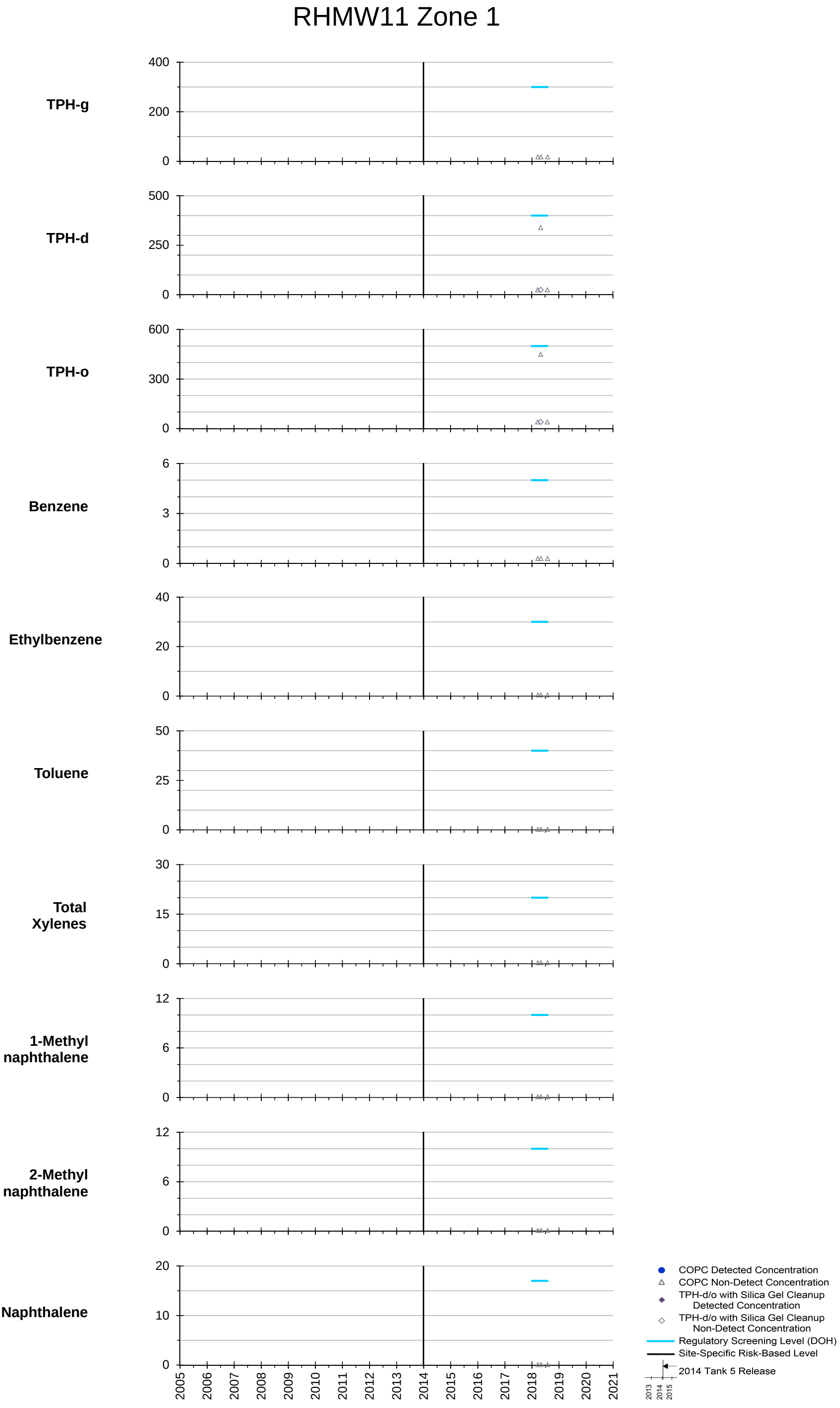
EPA Region 9 Laboratory split sampling data from First to Third Quarters 2017 included in the graphs.

Appendix A.2 Groundwater Concentration Graphs



All results in micrograms per liter (µg/L or parts per billion).

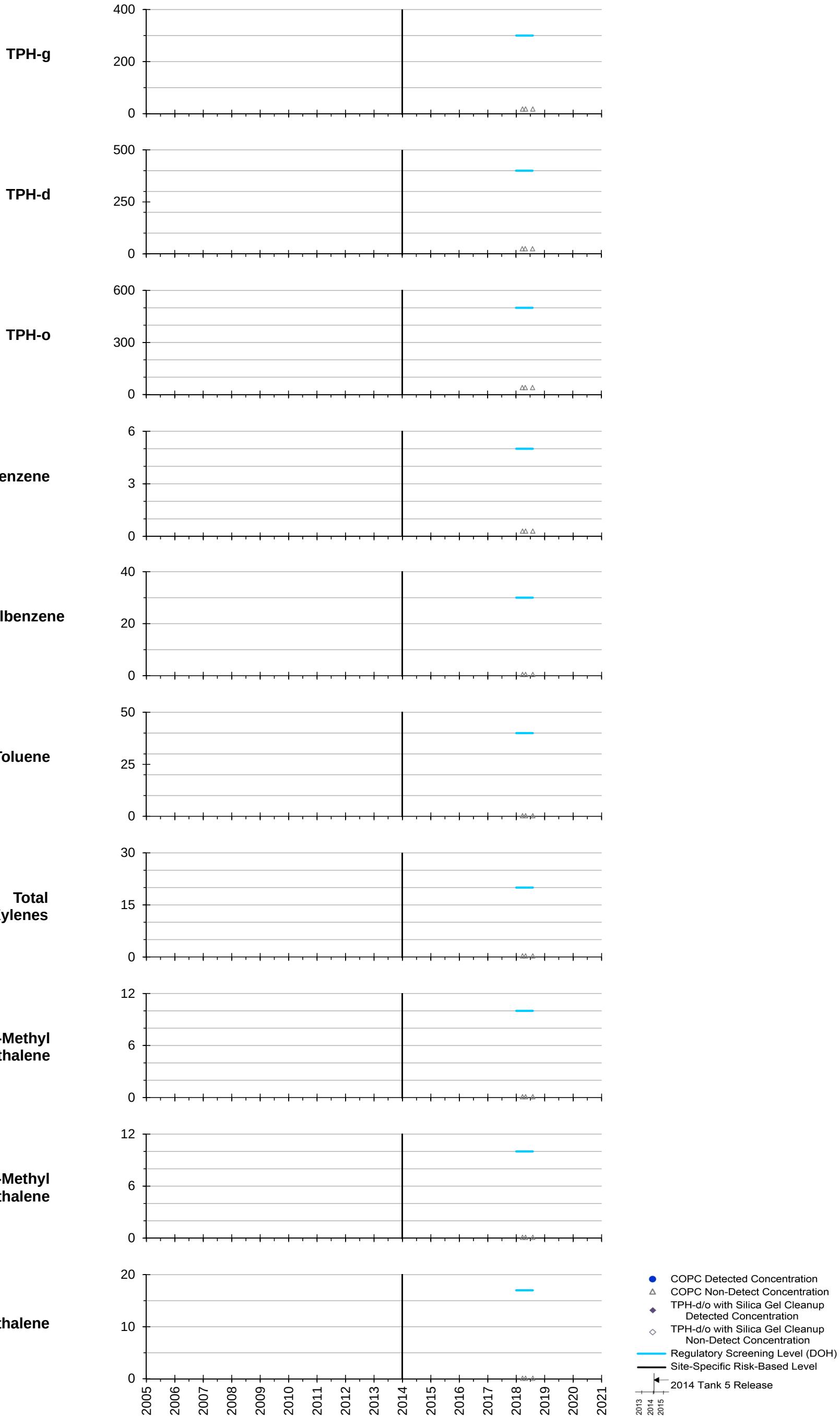
Appendix A.2 Groundwater Concentration Graphs



All results in micrograms per liter (µg/L or parts per billion).

Appendix A.2 Groundwater Concentration Graphs

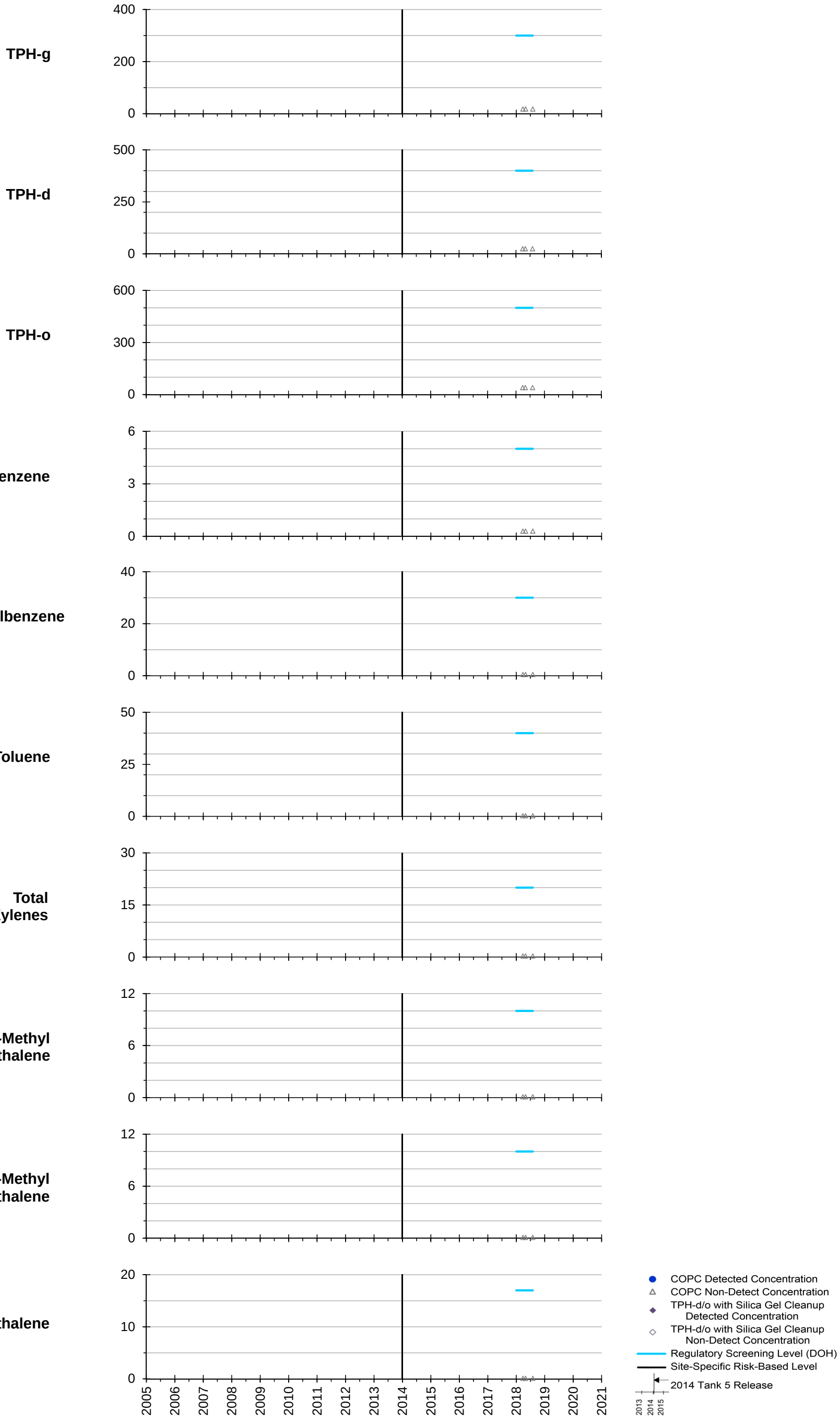
RHMW11 Zone 2



All results in micrograms per liter (µg/L or parts per billion).

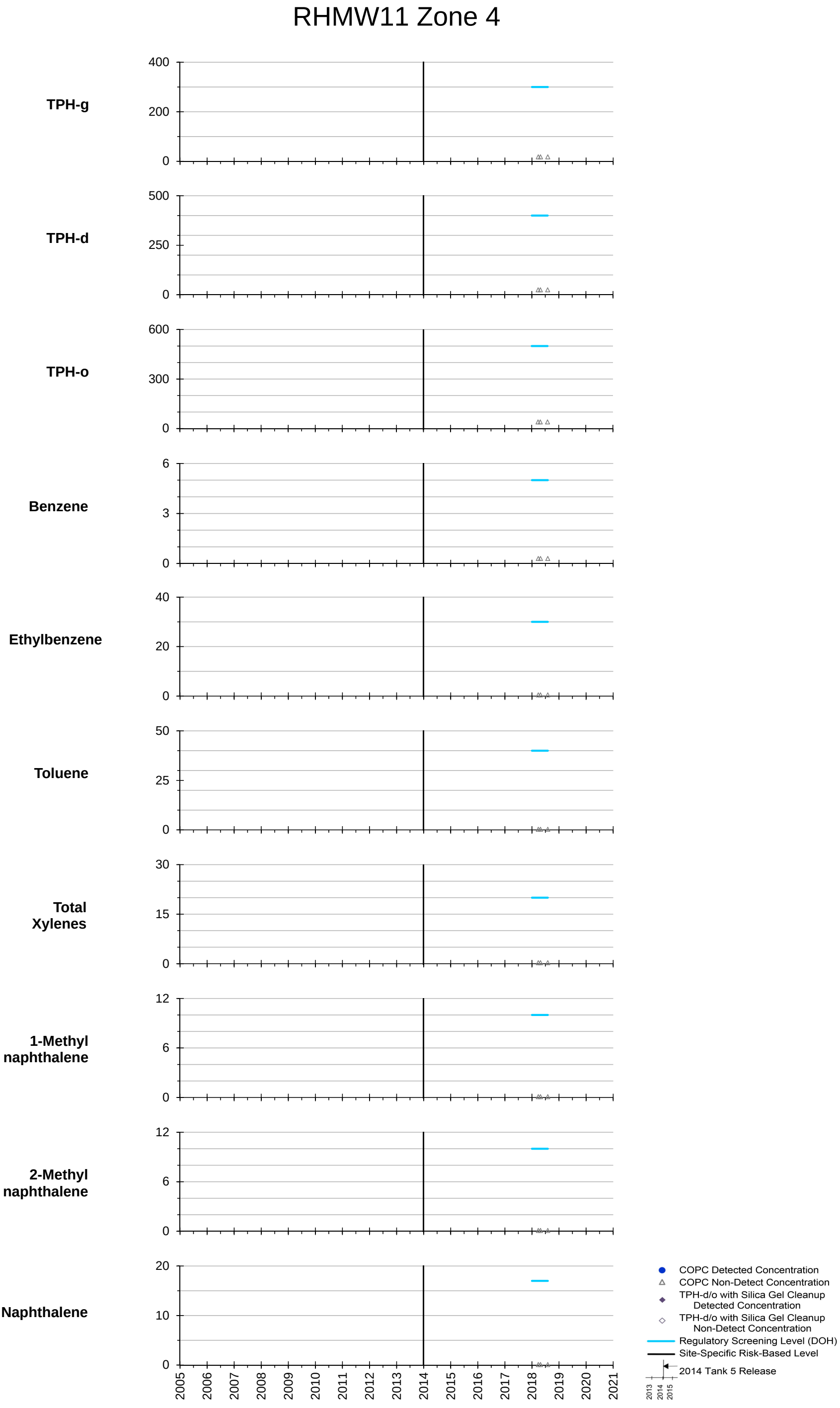
Appendix A.2 Groundwater Concentration Graphs

RHMW11 Zone 3



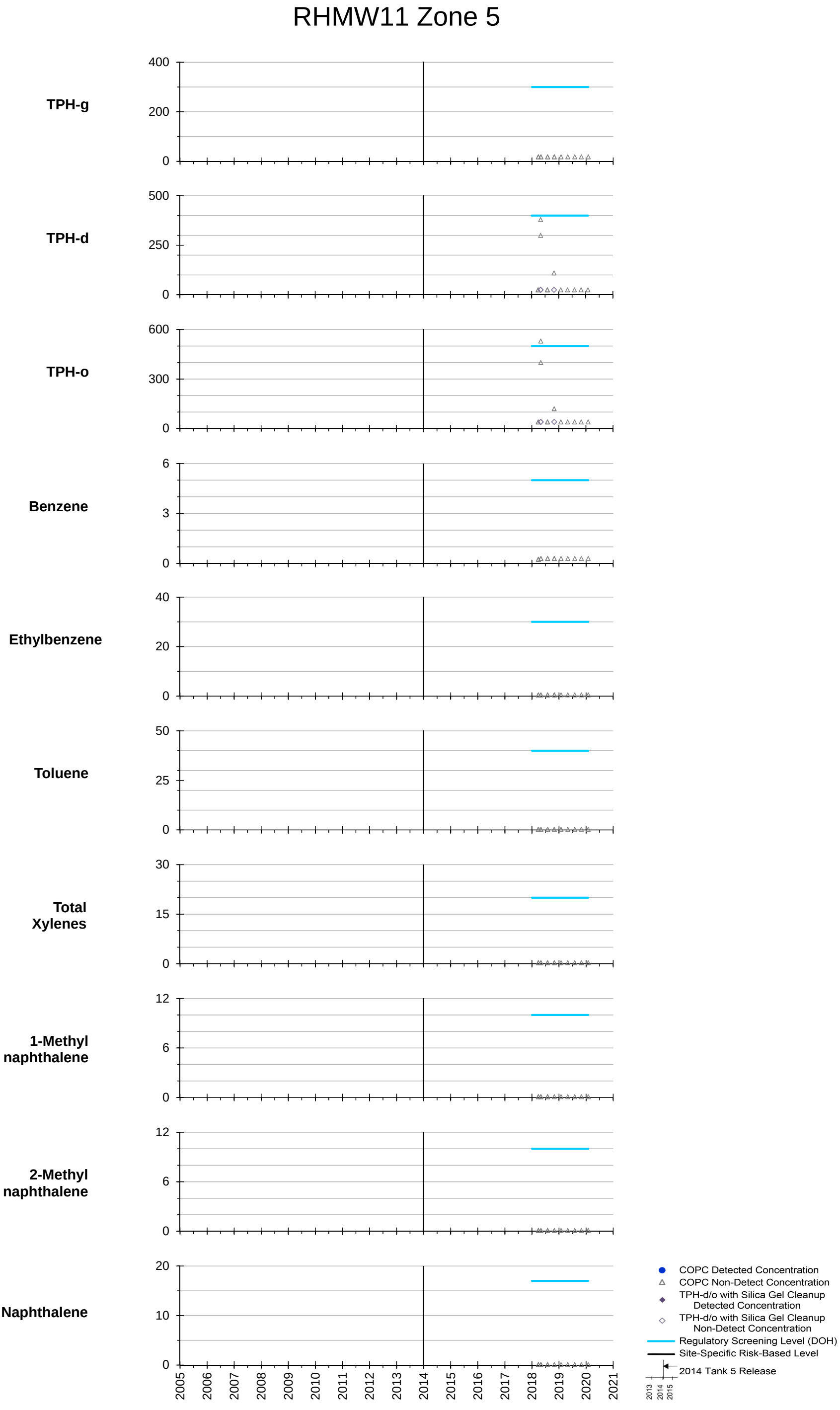
All results in micrograms per liter (µg/L or parts per billion).

Appendix A.2 Groundwater Concentration Graphs



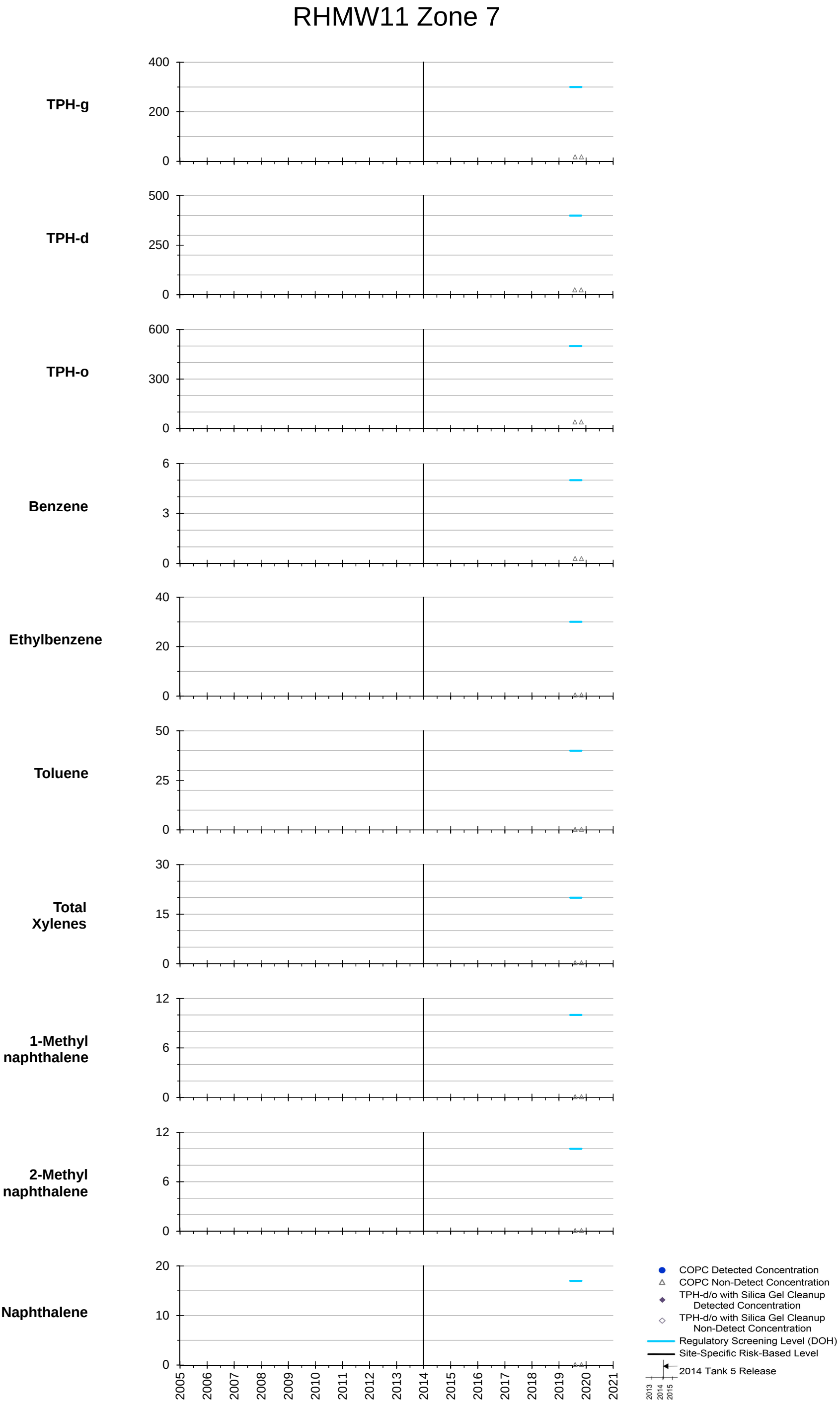
All results in micrograms per liter (µg/L or parts per billion).

Appendix A.2 Groundwater Concentration Graphs



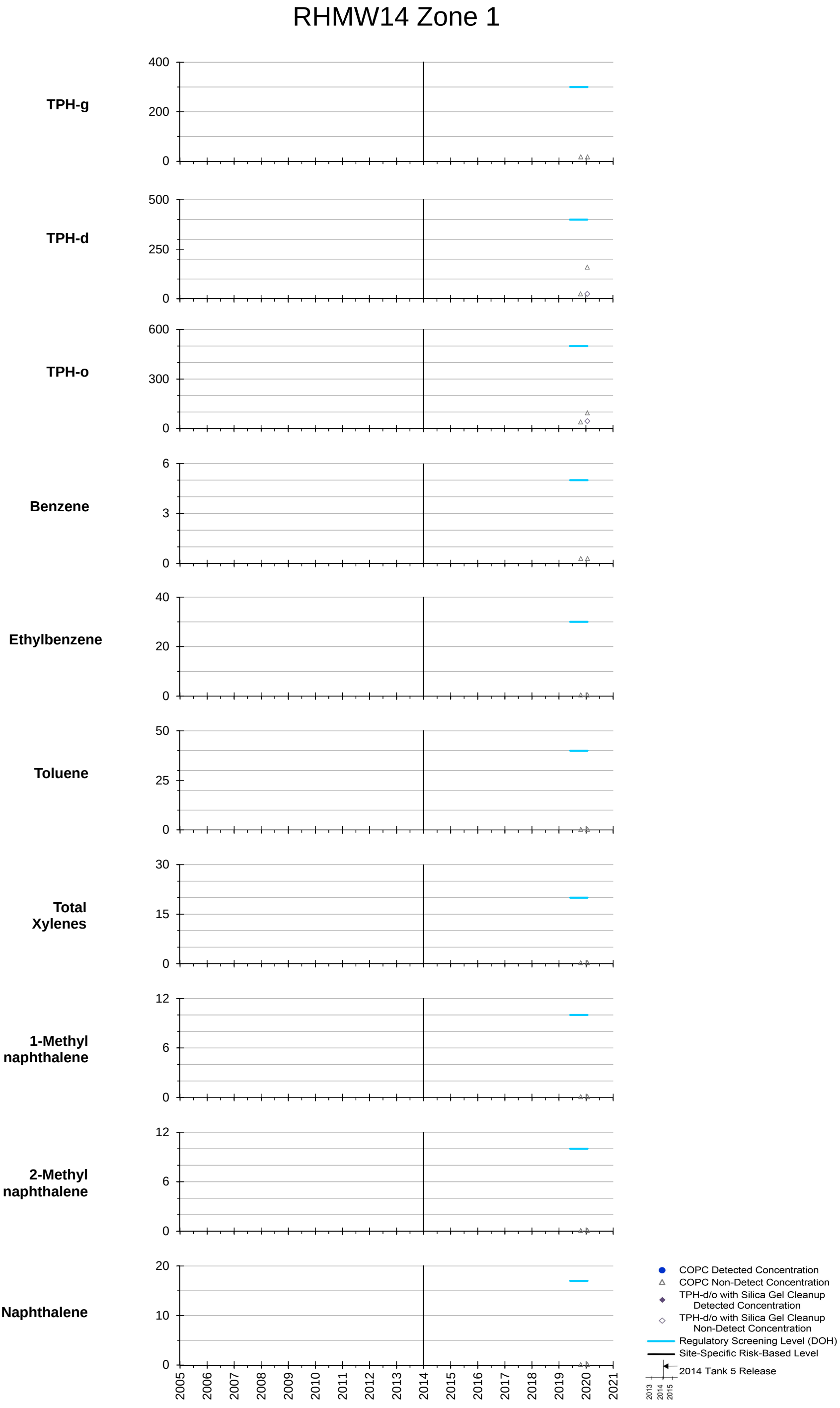
All results in micrograms per liter (µg/L or parts per billion).

Appendix A.2 Groundwater Concentration Graphs



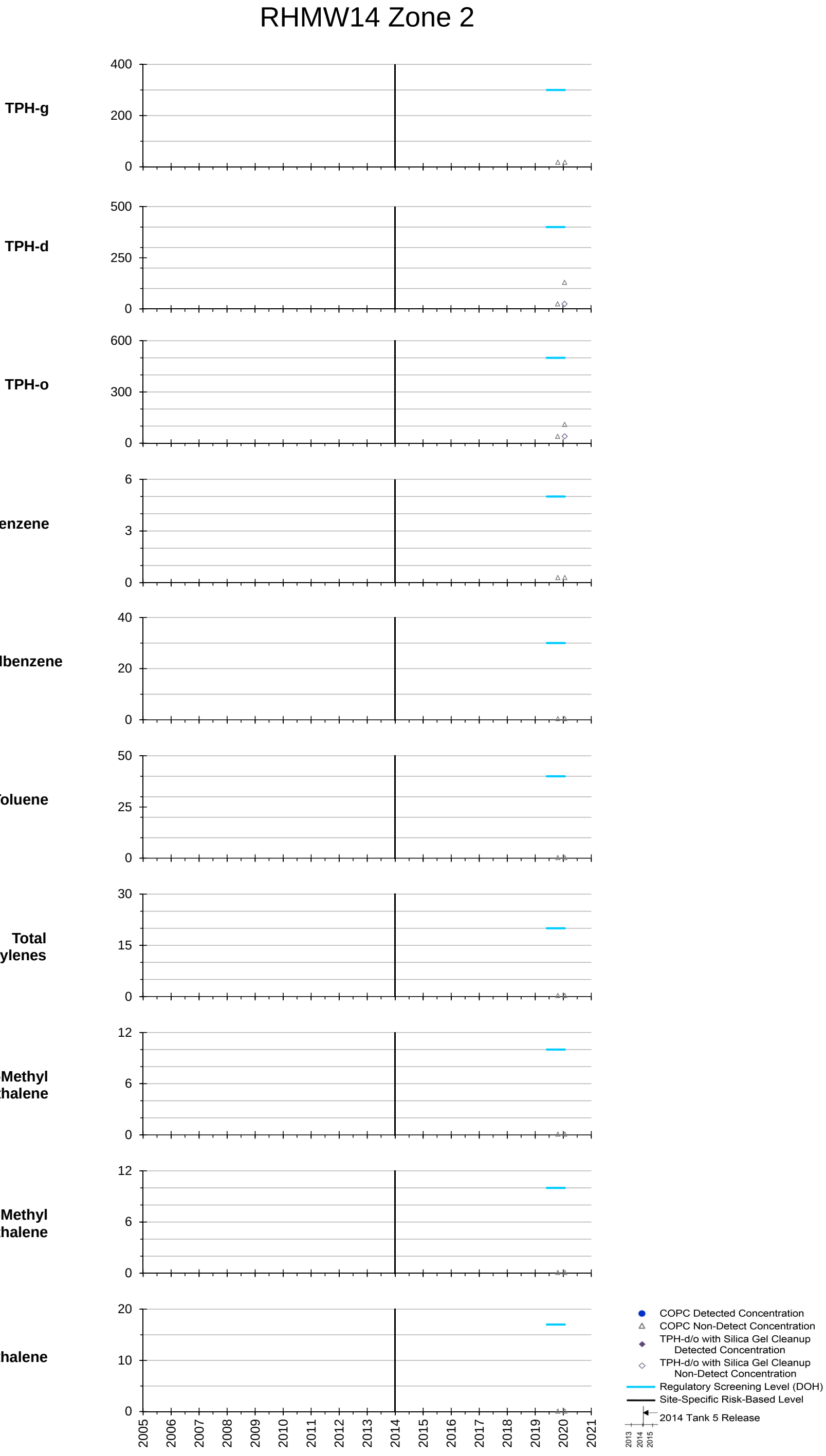
All results in micrograms per liter (µg/L or parts per billion).

Appendix A.2 Groundwater Concentration Graphs



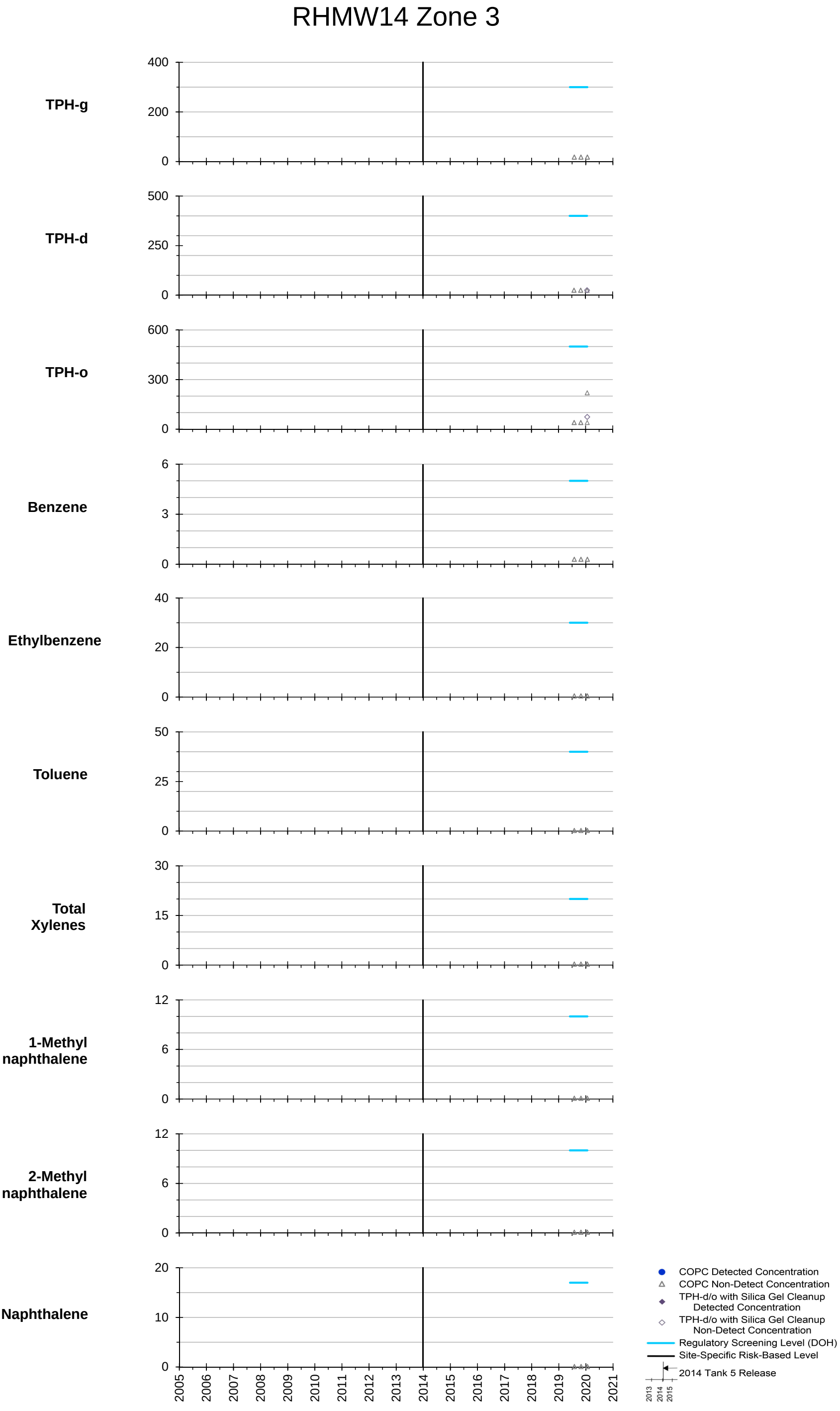
All results in micrograms per liter (µg/L or parts per billion).

Appendix A.2 Groundwater Concentration Graphs



All results in micrograms per liter (µg/L or parts per billion).

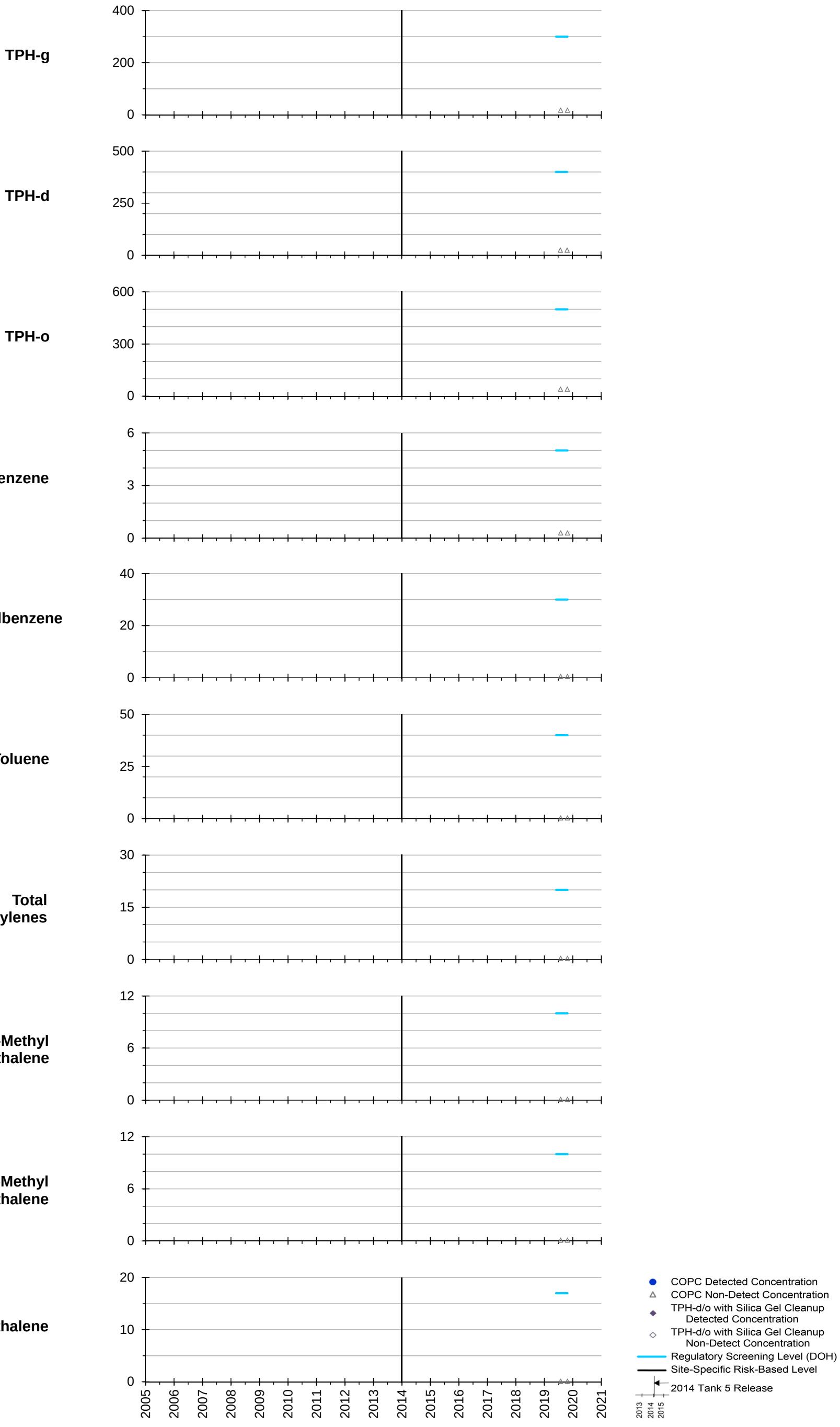
Appendix A.2 Groundwater Concentration Graphs



All results in micrograms per liter (µg/L or parts per billion).

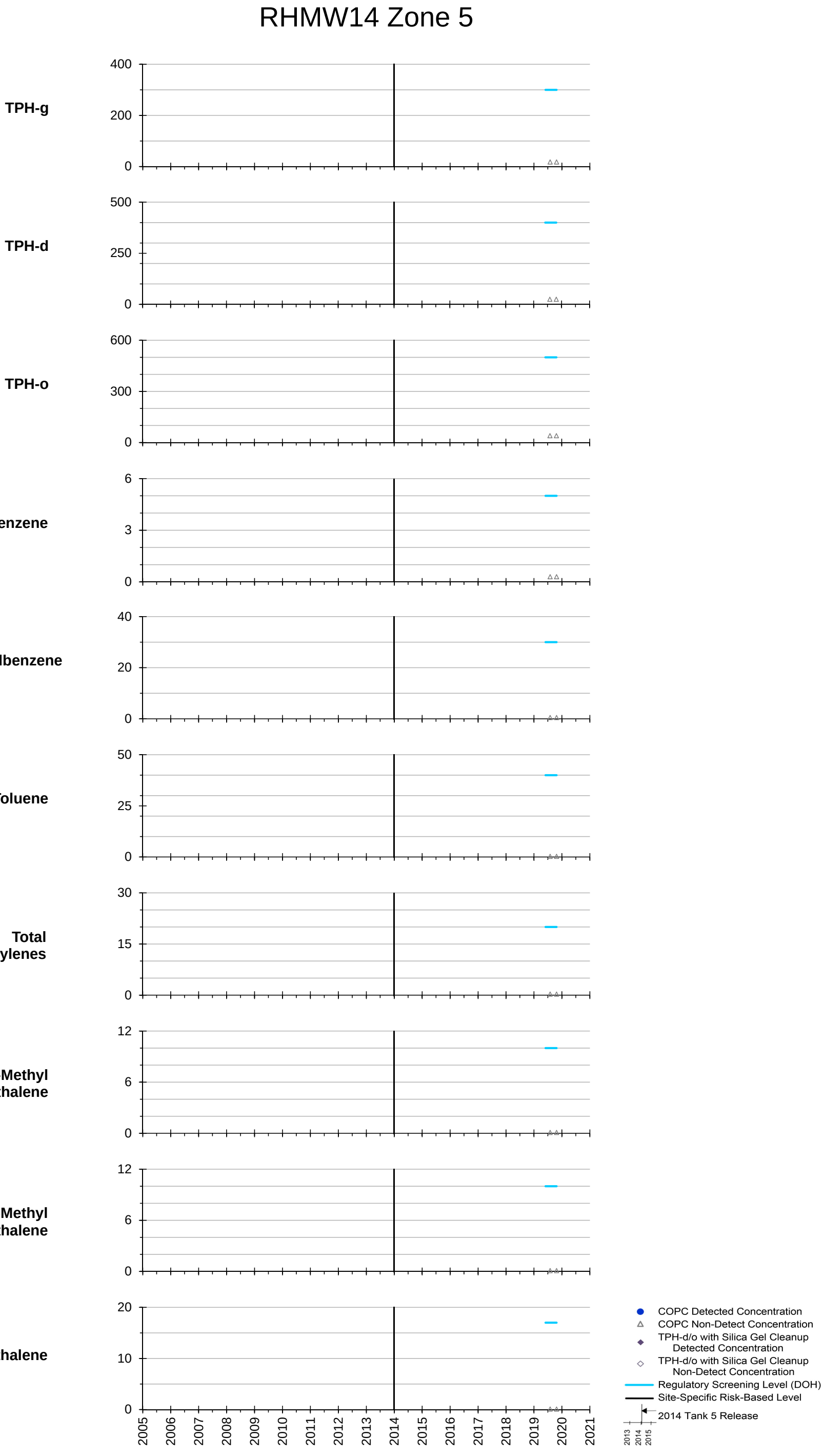
Appendix A.2 Groundwater Concentration Graphs

RHMW14 Zone 4



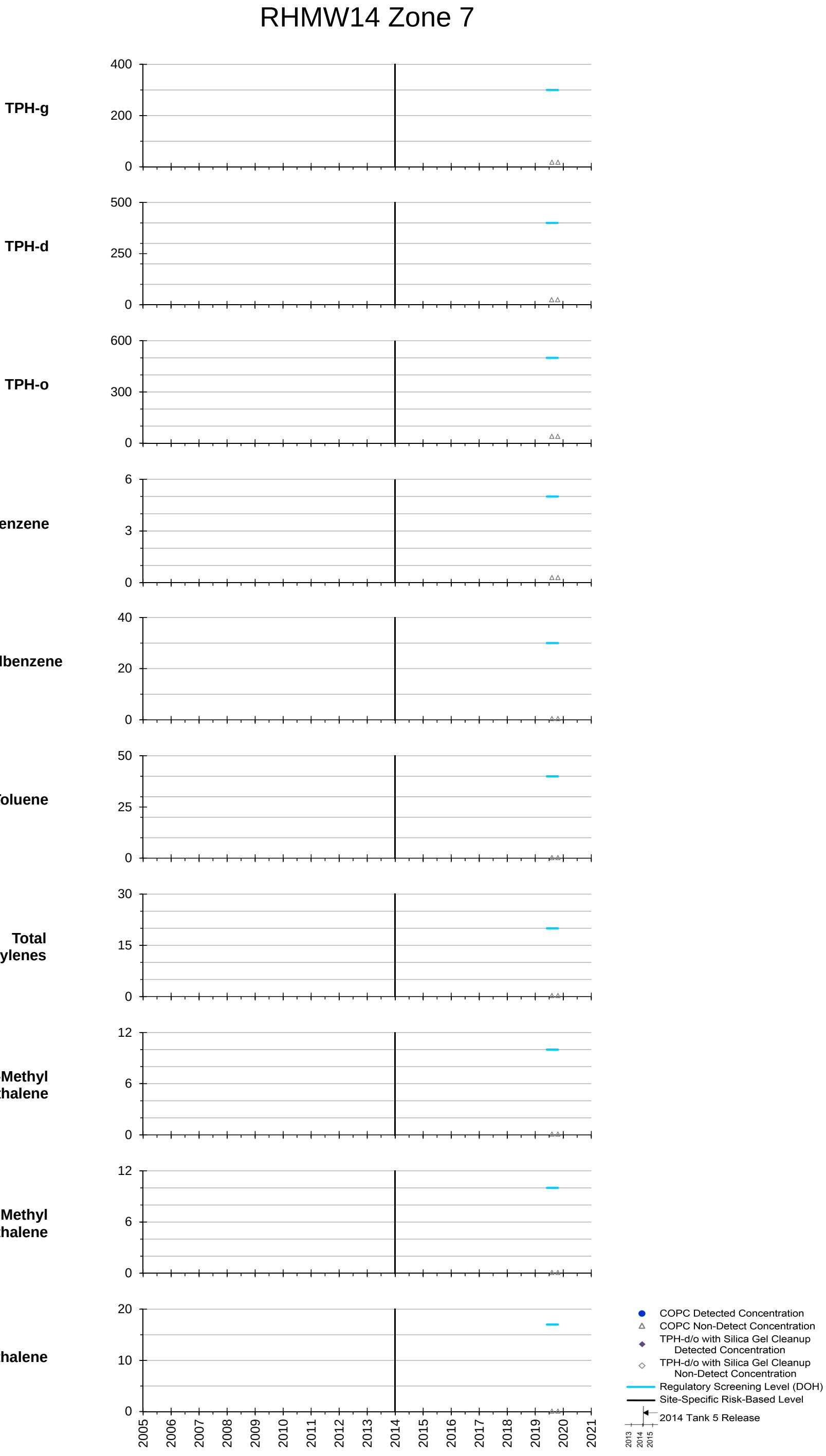
All results in micrograms per liter (µg/L or parts per billion).

Appendix A.2 Groundwater Concentration Graphs



All results in micrograms per liter (µg/L or parts per billion).

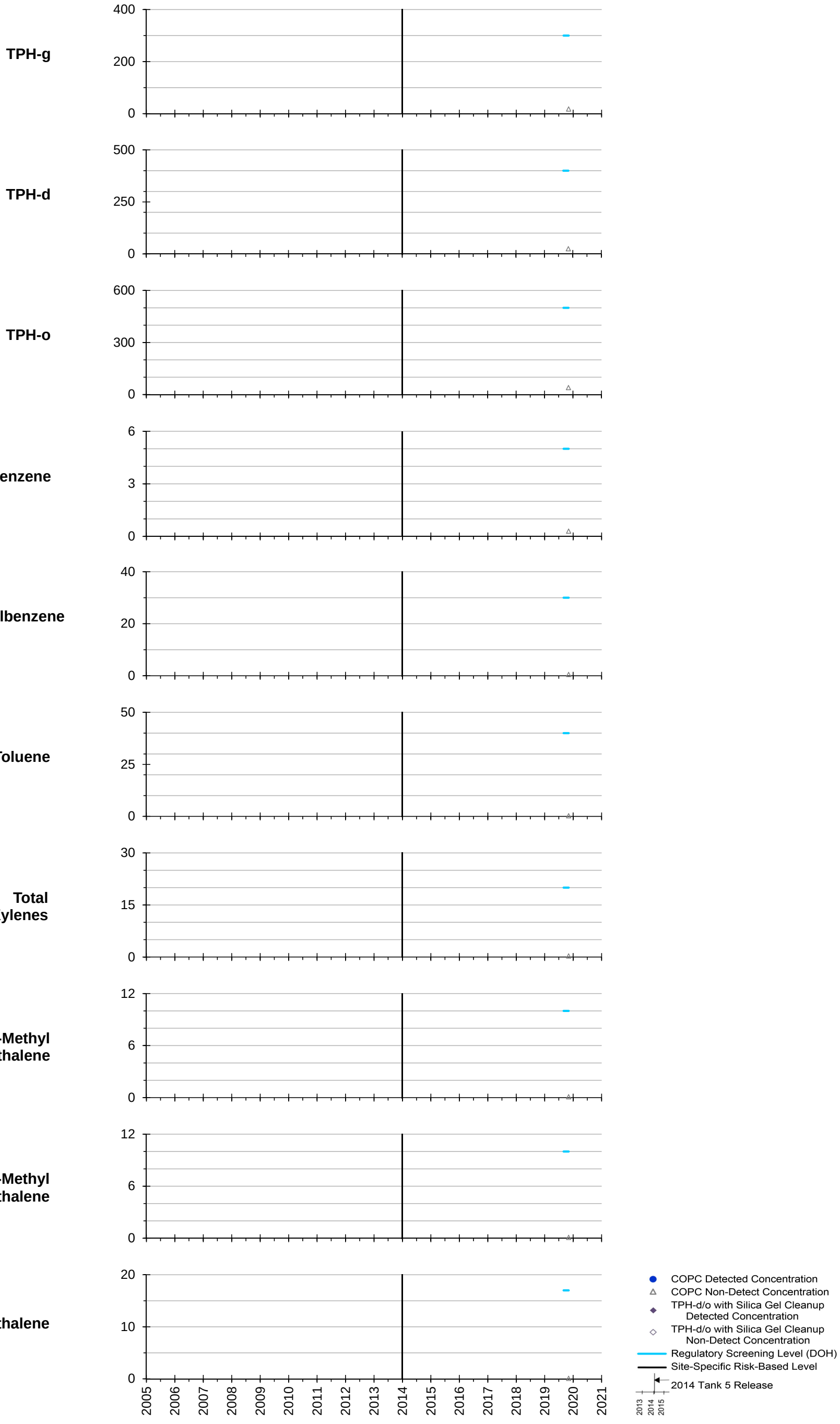
Appendix A.2 Groundwater Concentration Graphs



All results in micrograms per liter (µg/L or parts per billion).

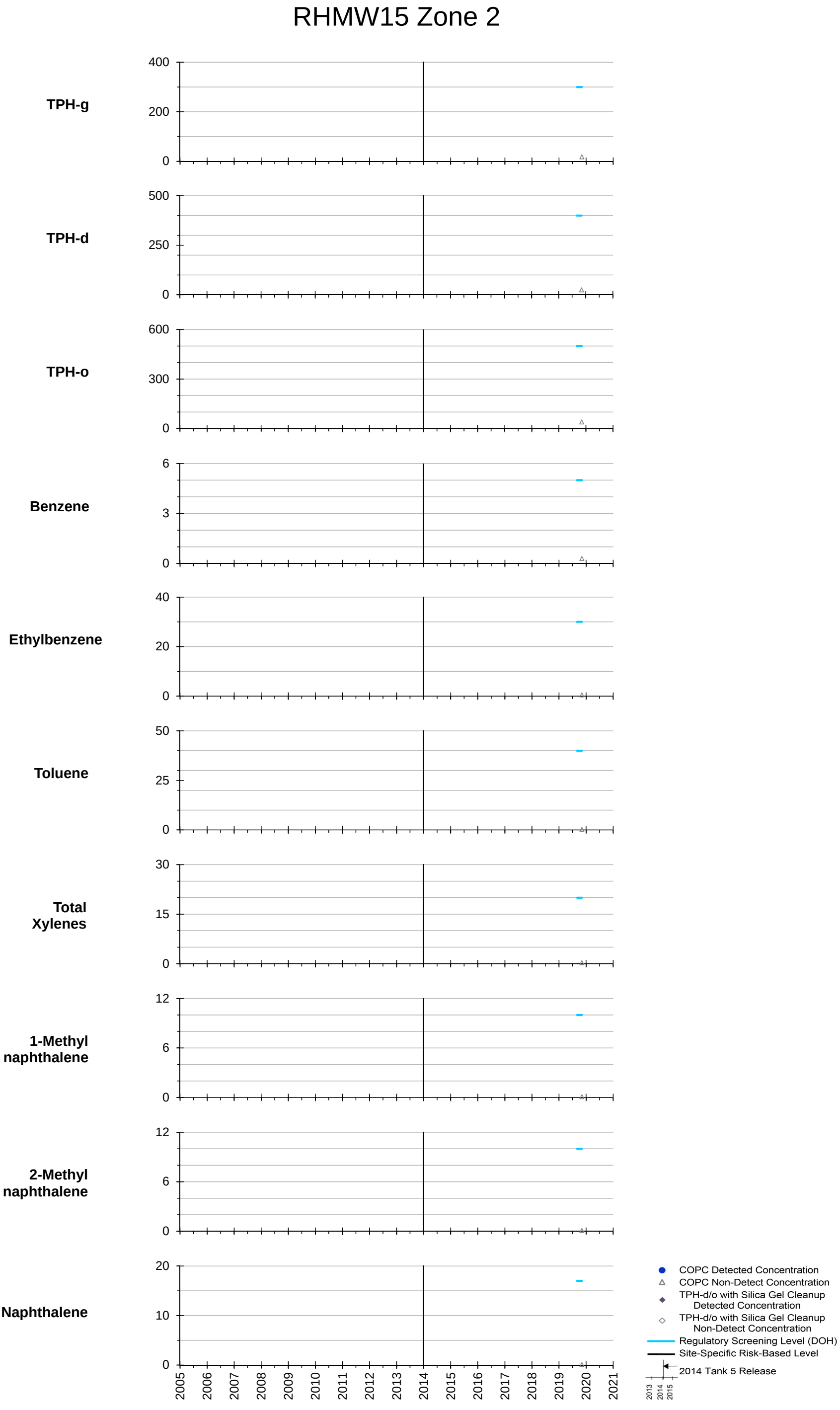
Appendix A.2 Groundwater Concentration Graphs

RHMW15 Zone 1



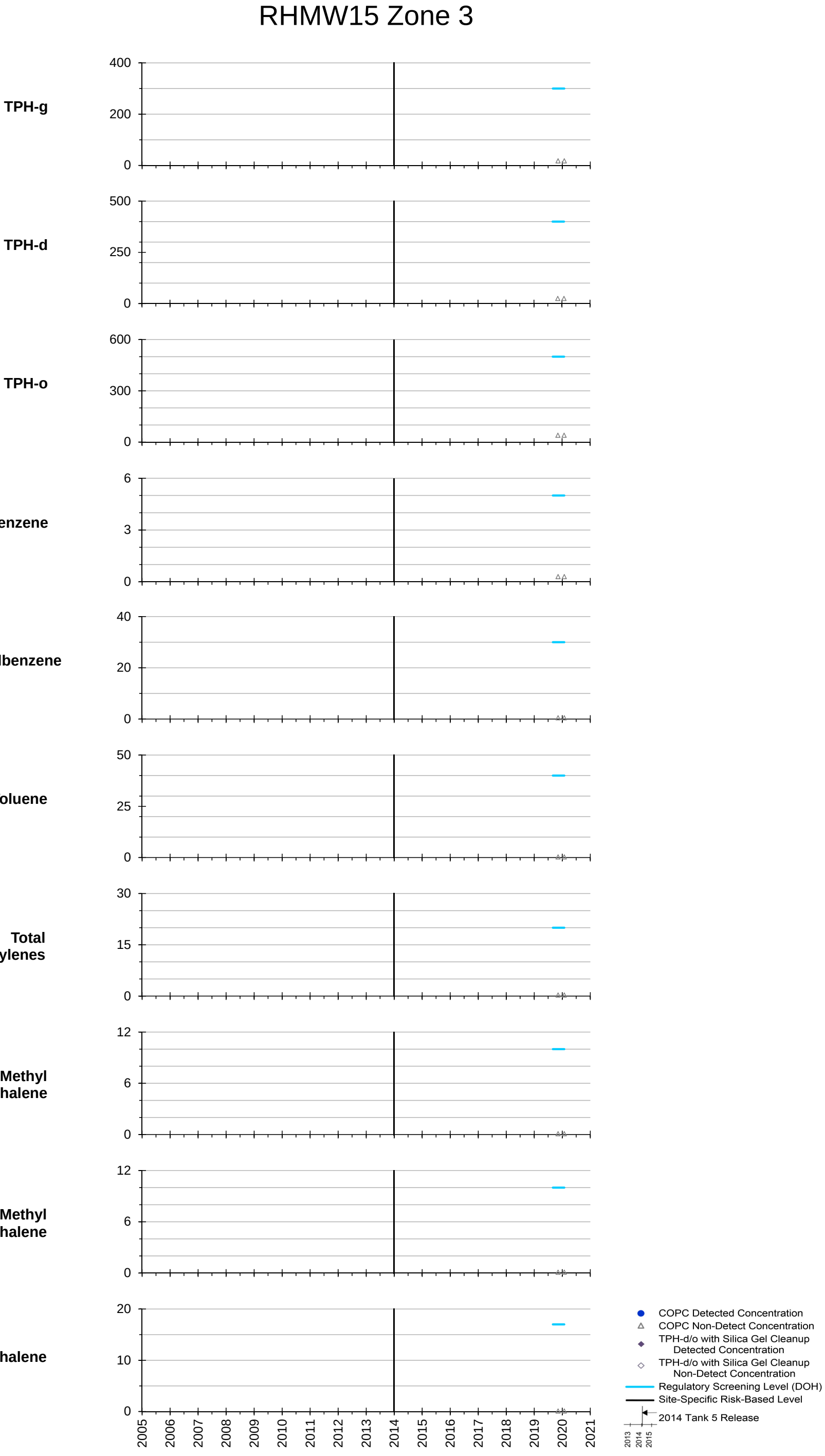
All results in micrograms per liter (µg/L or parts per billion).

Appendix A.2 Groundwater Concentration Graphs



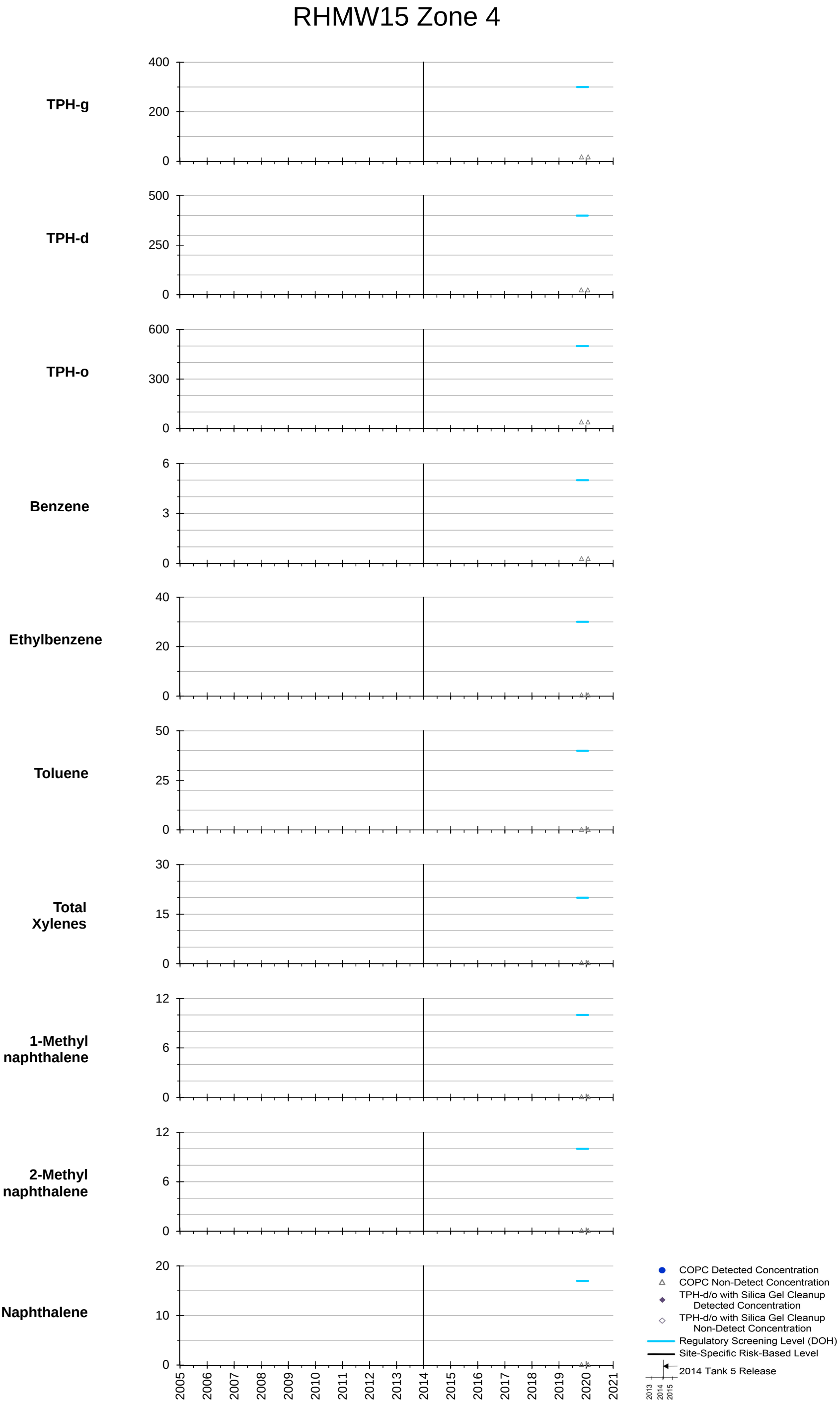
All results in micrograms per liter (µg/L or parts per billion).

Appendix A.2 Groundwater Concentration Graphs



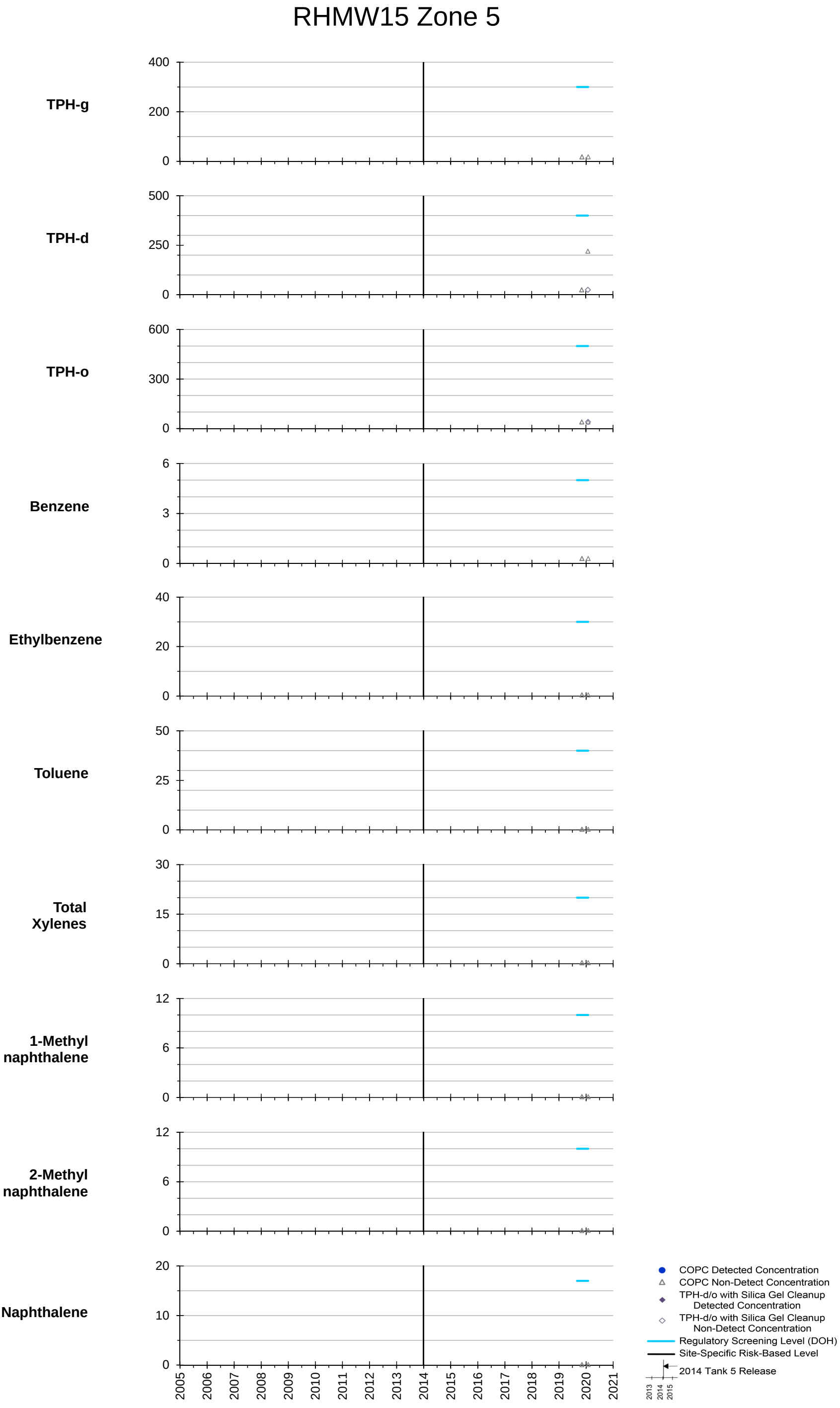
All results in micrograms per liter (µg/L or parts per billion).

Appendix A.2 Groundwater Concentration Graphs



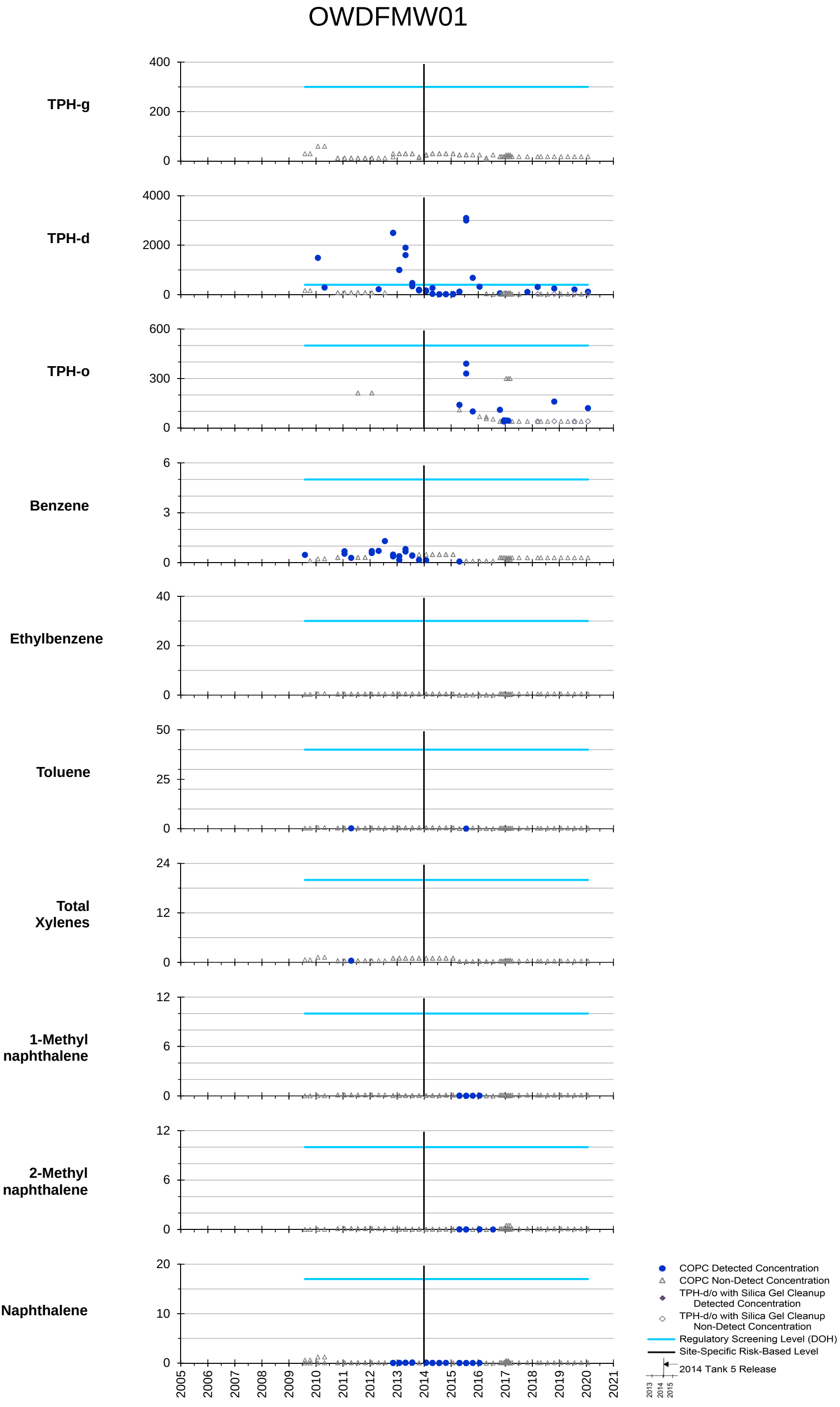
All results in micrograms per liter (µg/L or parts per billion).

Appendix A.2 Groundwater Concentration Graphs



All results in micrograms per liter (µg/L or parts per billion).

Appendix A.2 Groundwater Concentration Graphs

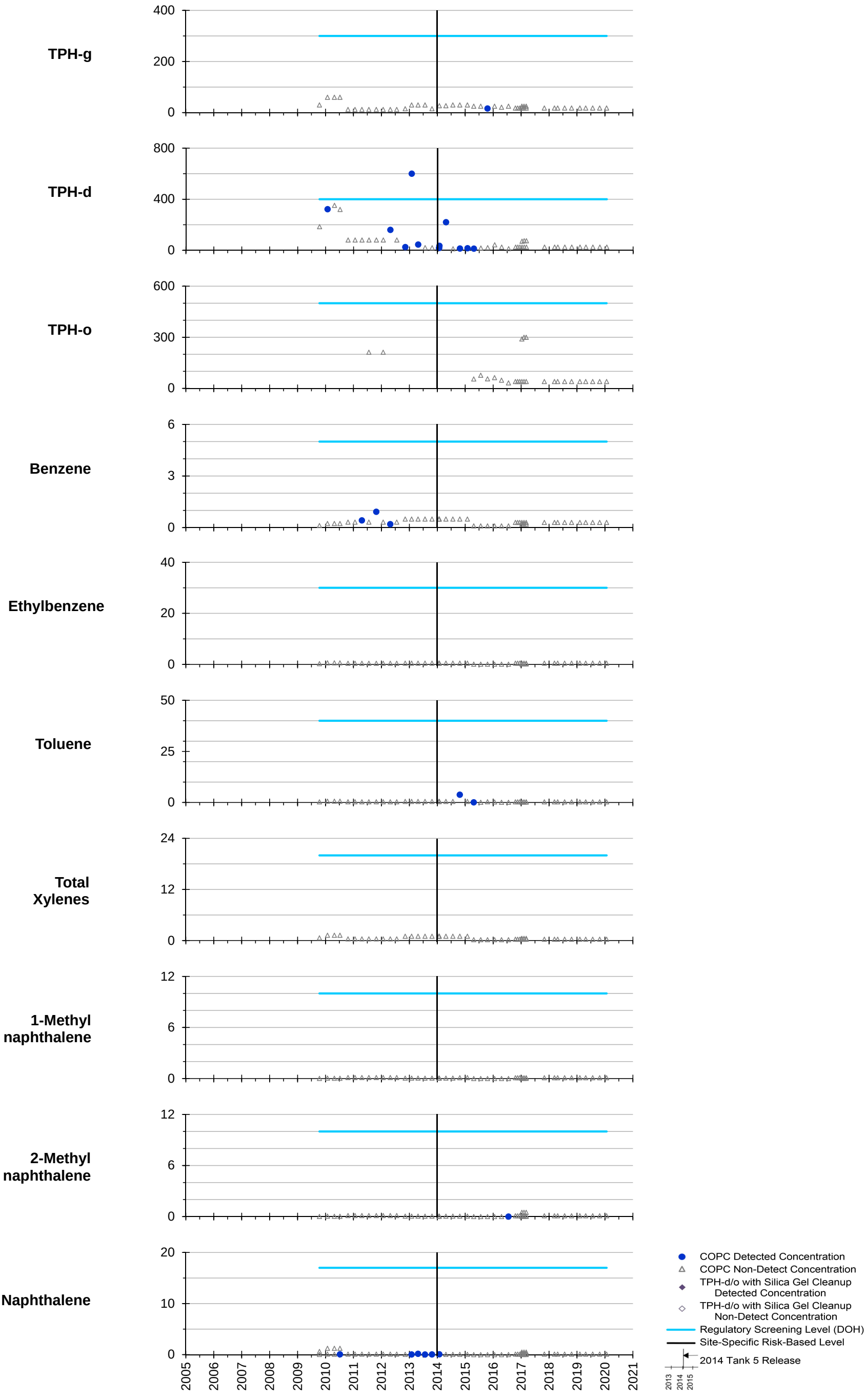


All results in micrograms per liter (µg/L or parts per billion).

EPA Region 9 Laboratory split sampling data from First to Third Quarters 2017 included in the graphs.

Appendix A.2 Groundwater Concentration Graphs

HDMW2253-03



All results in micrograms per liter (µg/L or parts per billion).

EPA Region 9 Laboratory split sampling data from First to Third Quarters 2017 included in the graphs.

Appendix A.3:
Natural Attenuation Parameters Graphs

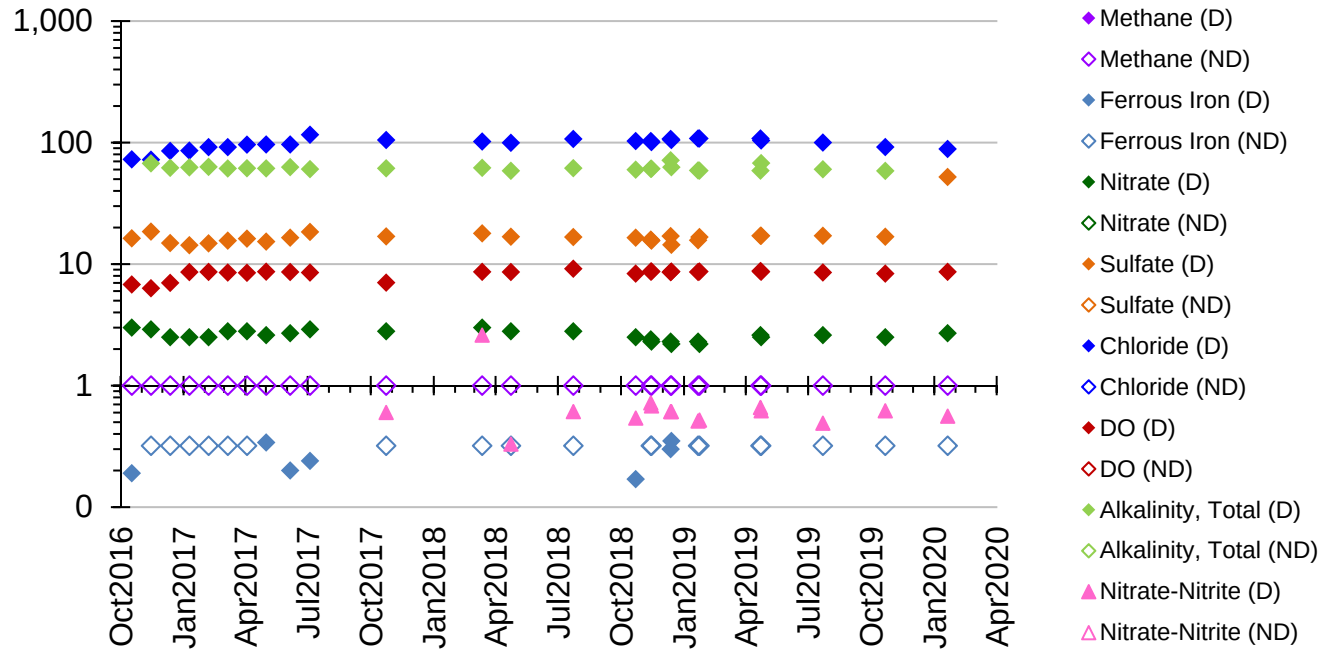
This page intentionally left blank

Appendix A.3.1:
Cumulative Natural Attenuation Parameters Graphs

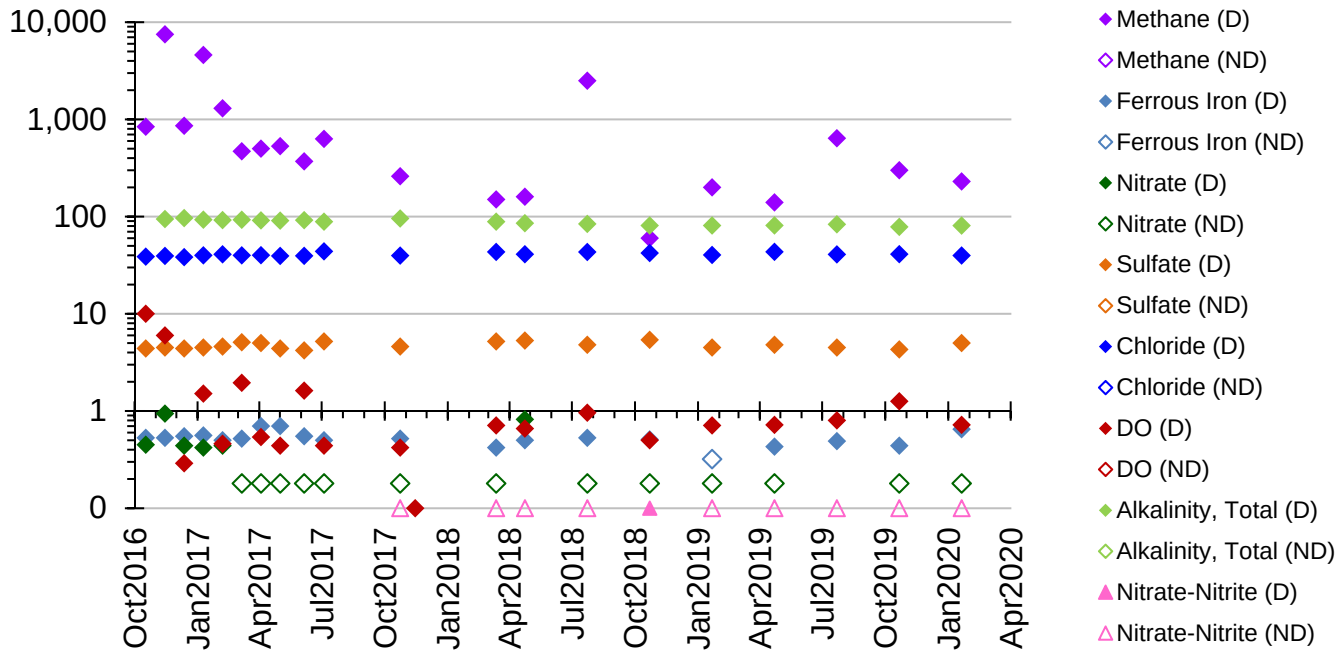
This page intentionally left blank

Appendix A.3.1 Cumulative Natural Attenuation Parameters Graphs

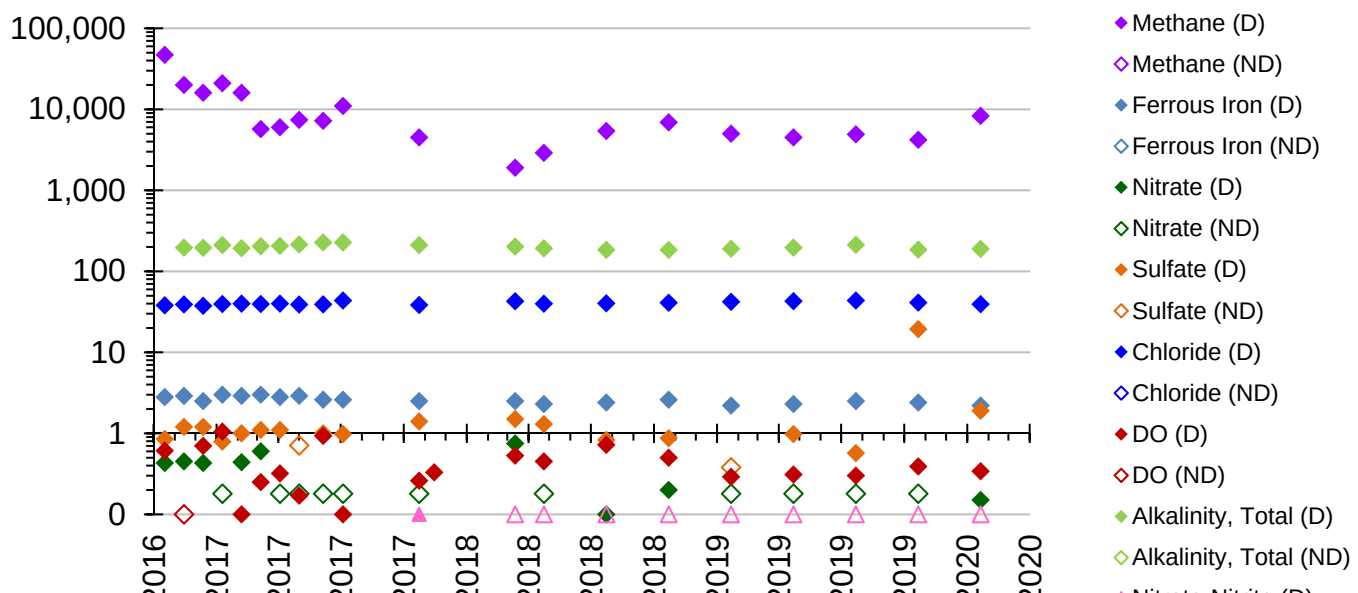
RHMW2254-01 NAPs



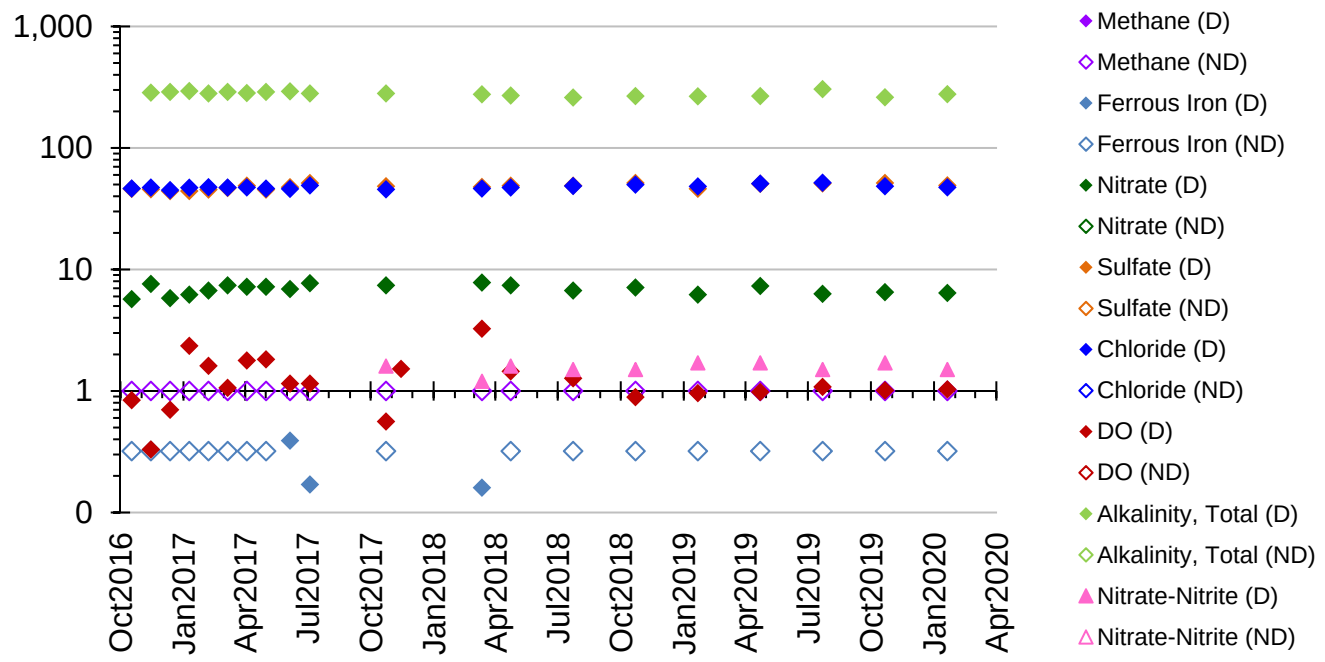
RHMW01 NAPs



RHMW02 NAPs



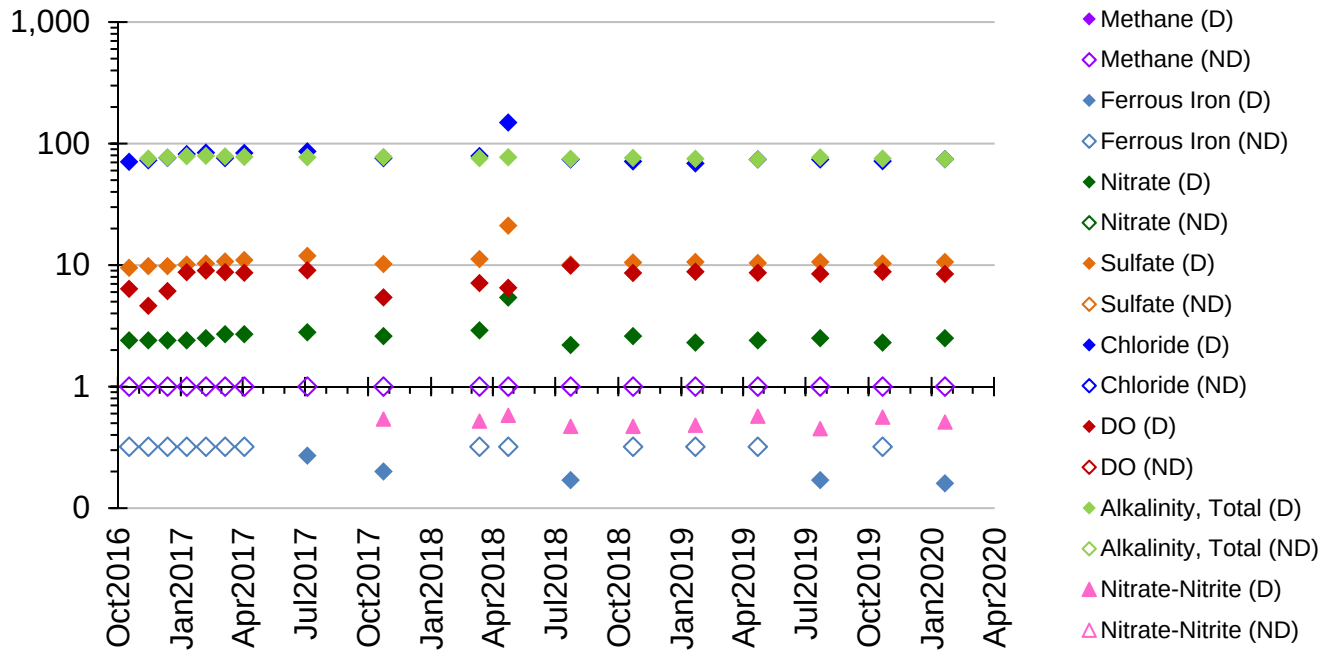
RHMW03 NAPs



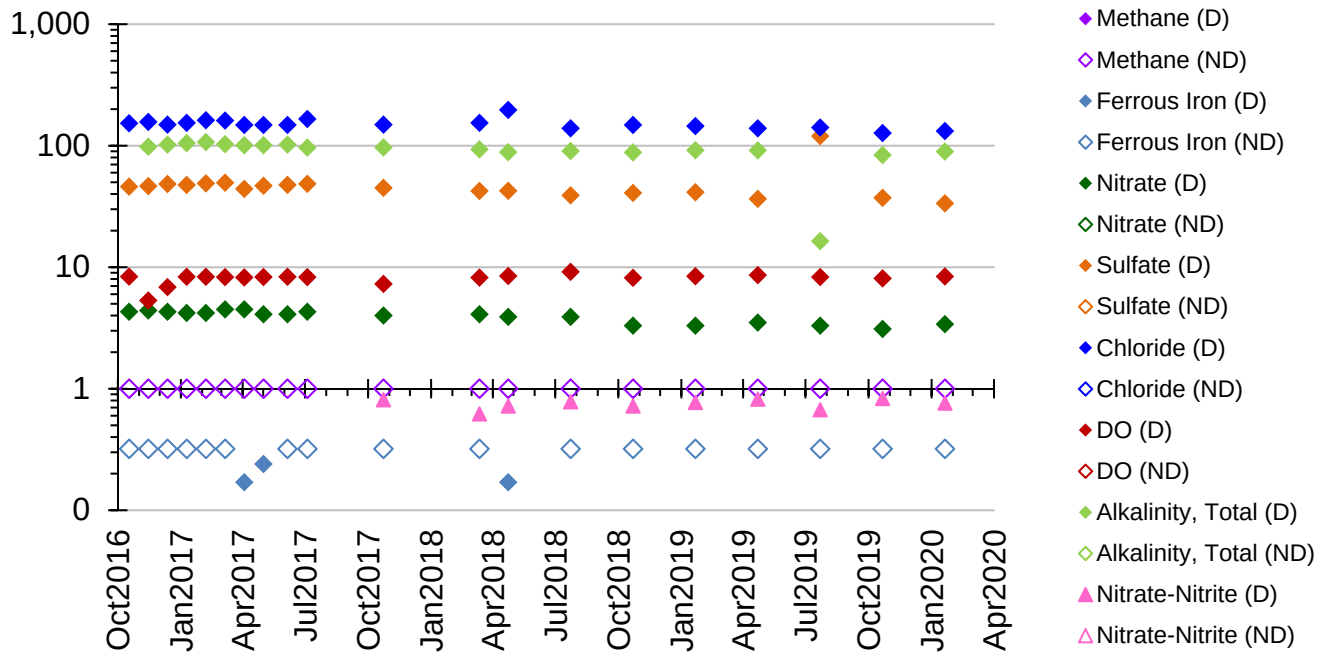
Methane results in micrograms per liter (µg/L or parts per billion).
All other results in milligrams per liter (mg/L or parts per million).

Appendix A.3.1 Cumulative Natural Attenuation Parameters Graphs

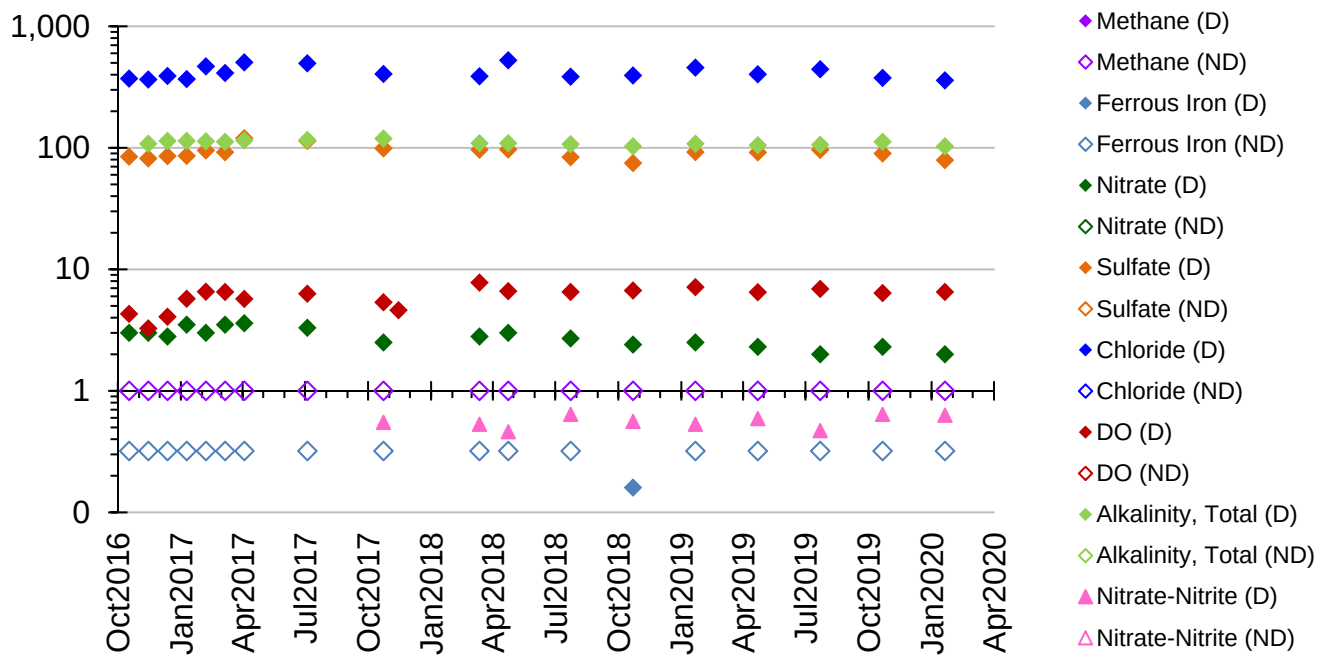
RHMW04 NAPs



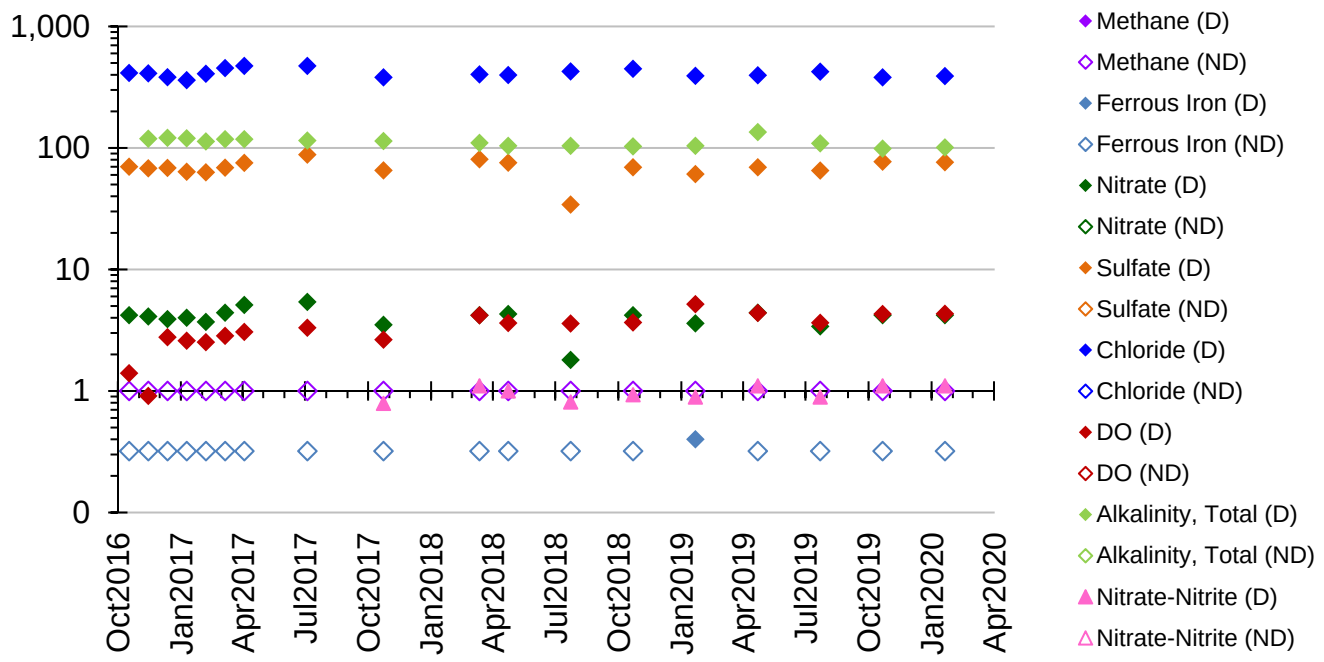
RHMW05 NAPs



RHMW06 NAPs



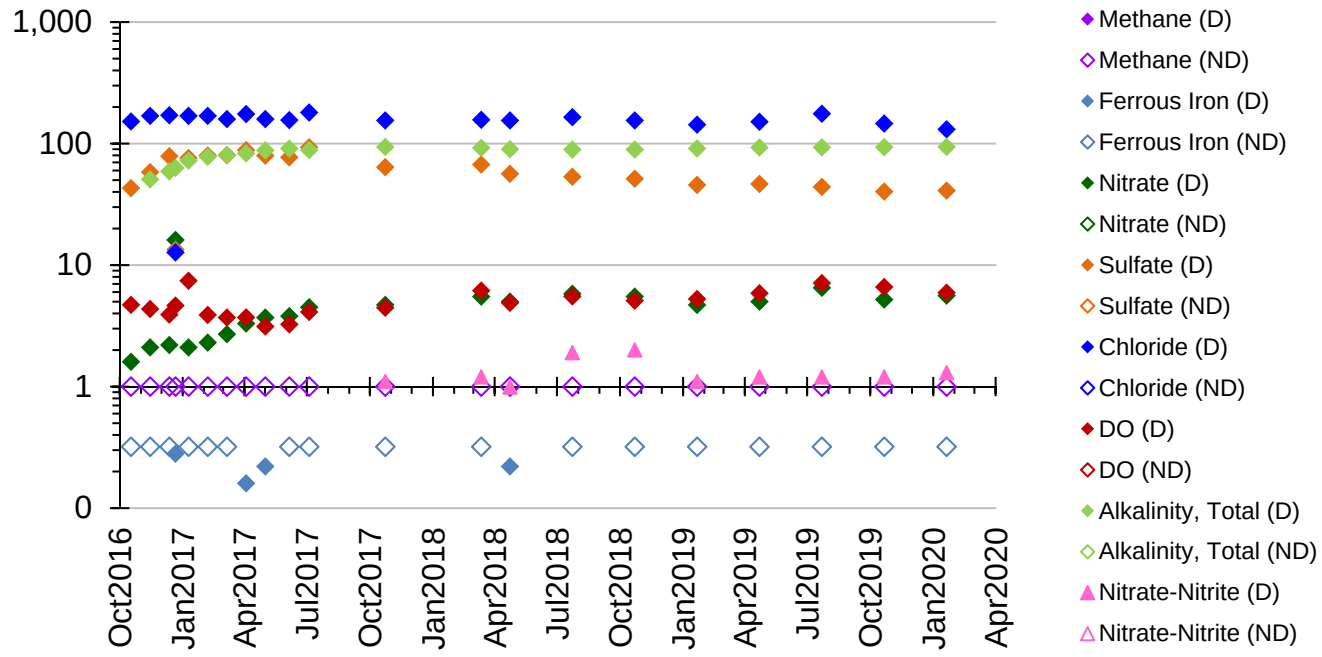
RHMW07 NAPs



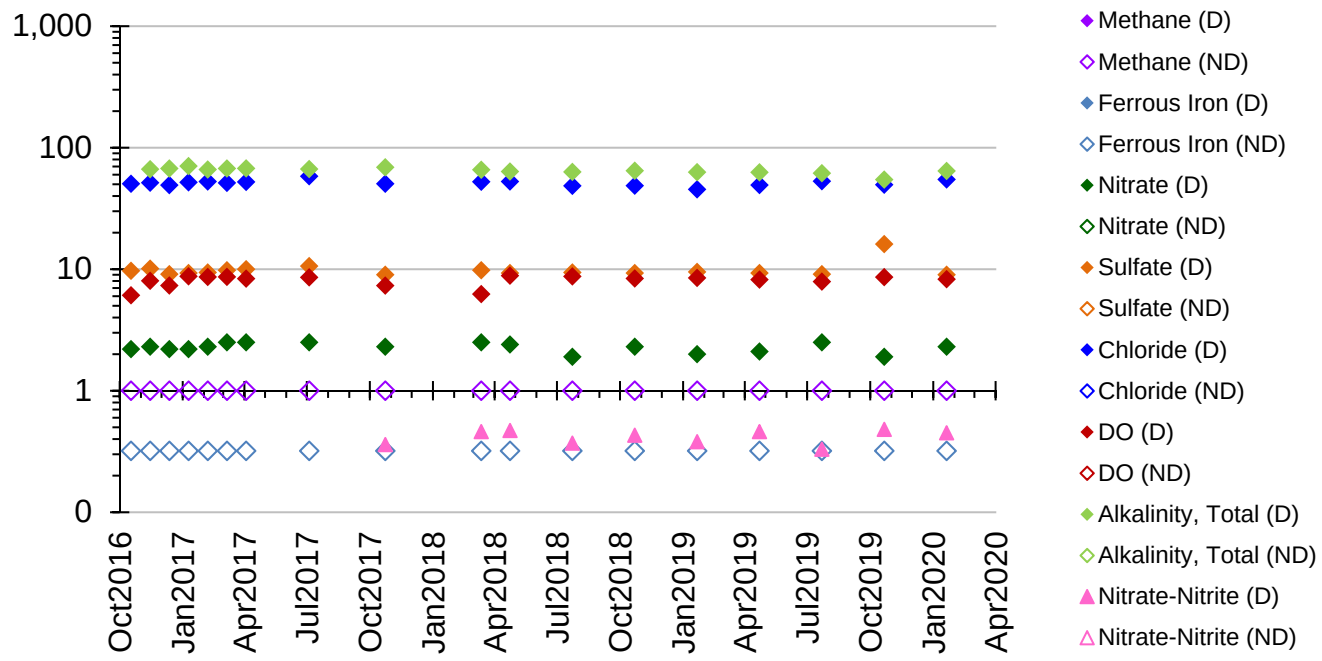
Methane results in micrograms per liter (µg/L or parts per billion).
All other results in milligrams per liter (mg/L or parts per million).

Appendix A.3.1 Cumulative Natural Attenuation Parameters Graphs

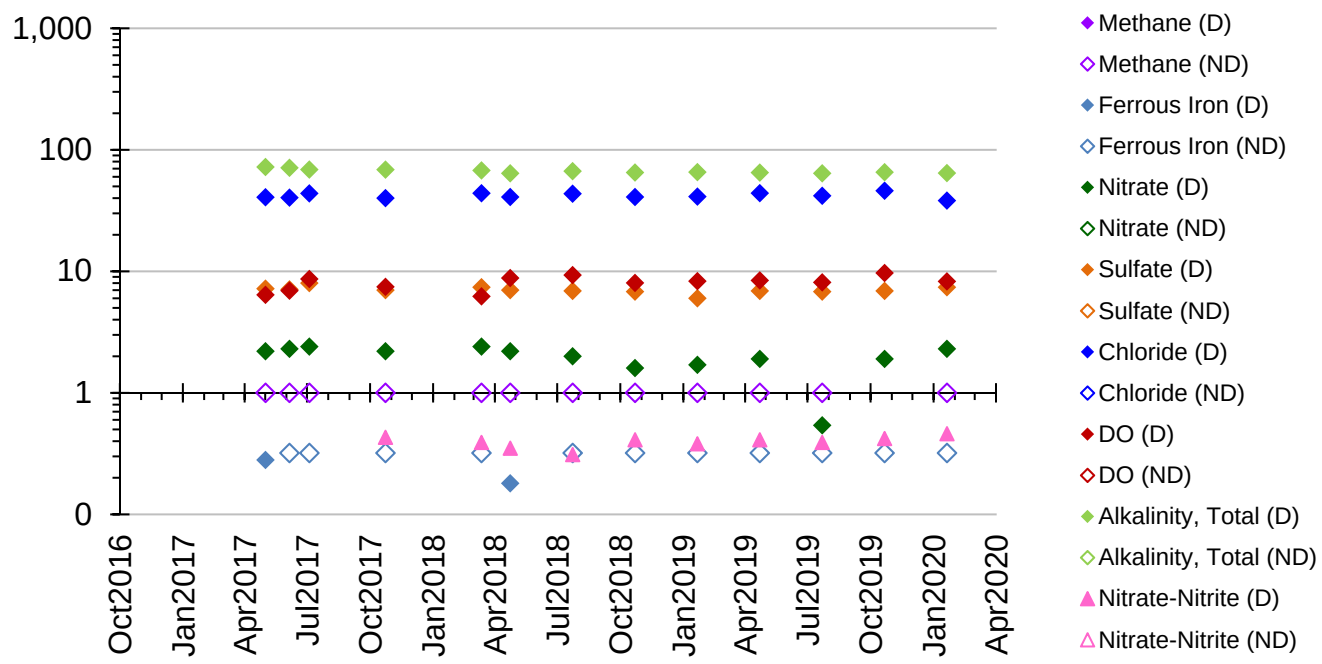
RHMW08 NAPs



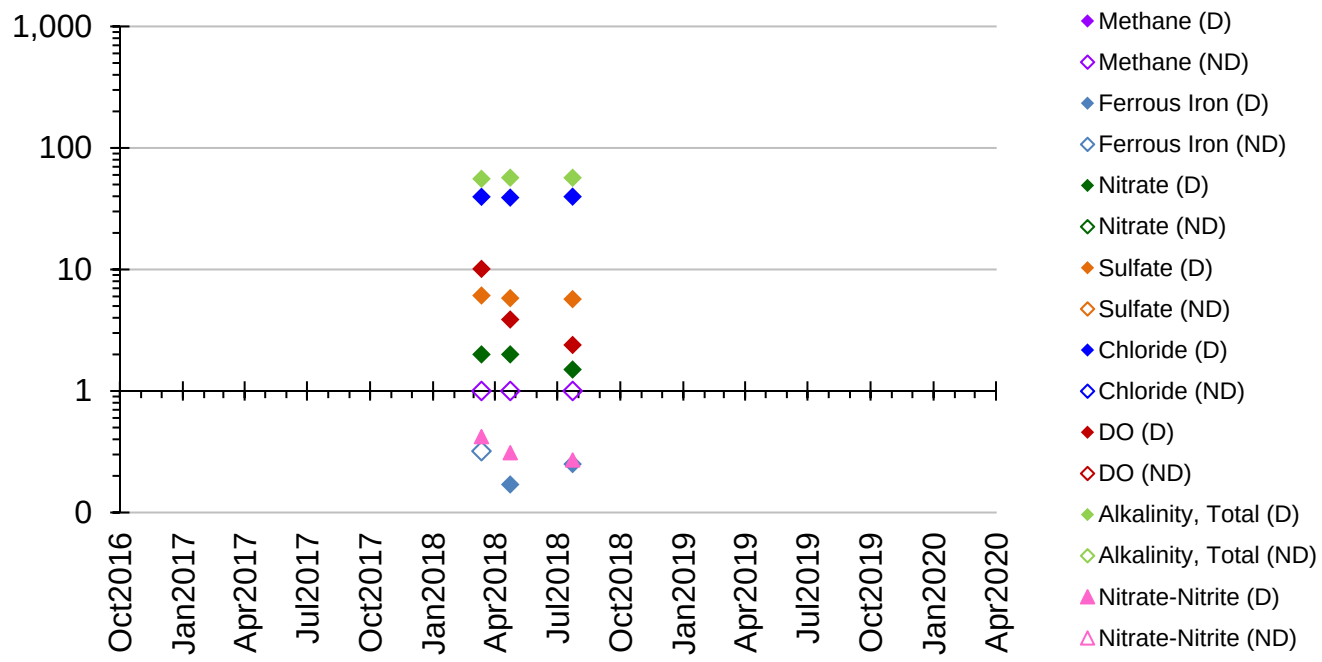
RHMW09 NAPs



RHMW10 NAPs



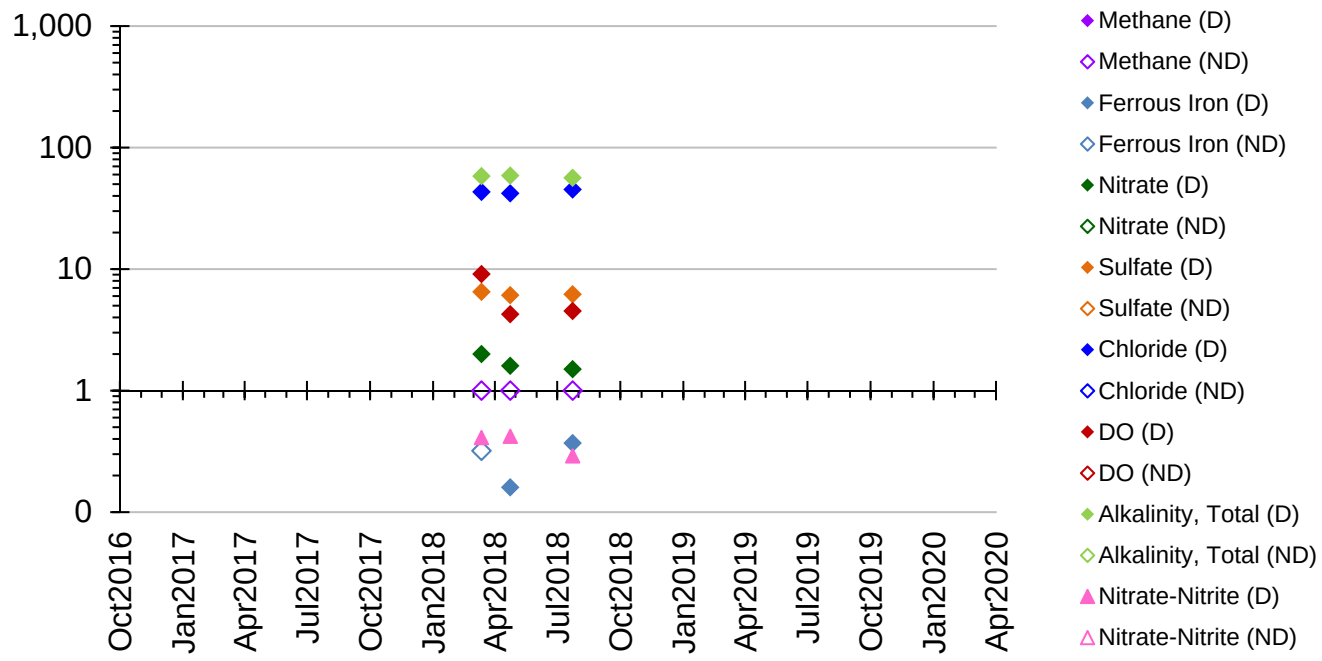
RHMW11 Zone 1 NAPs



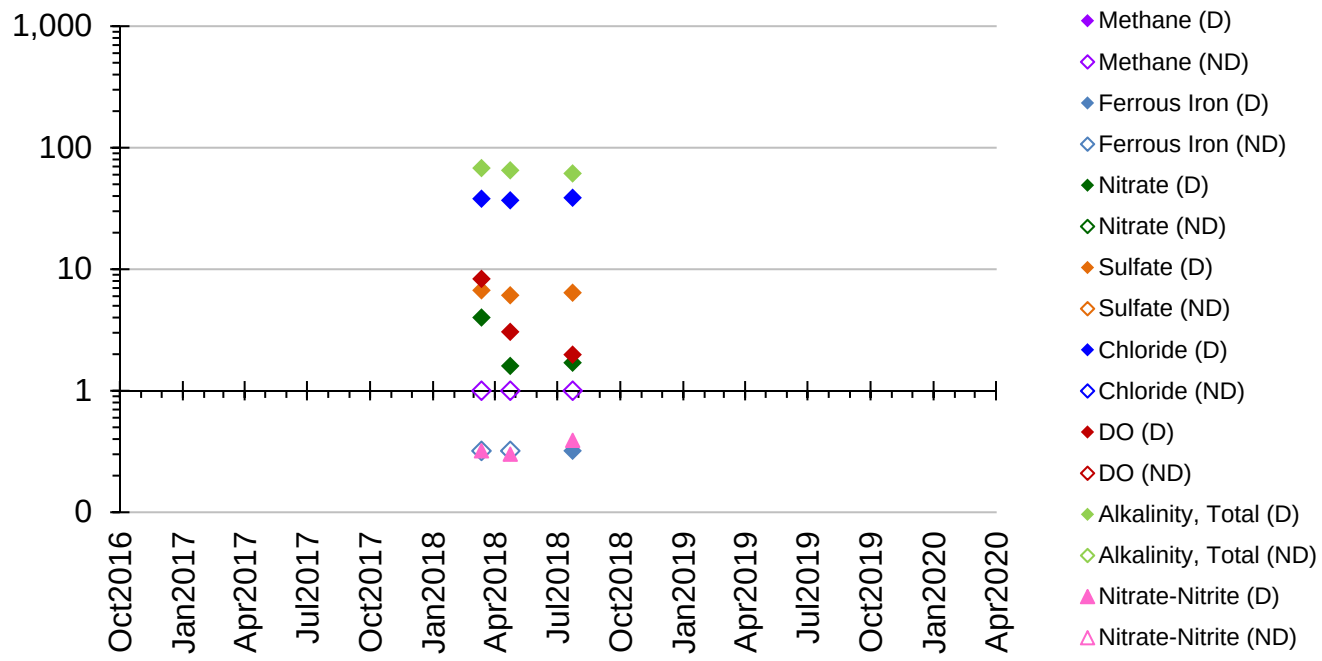
Methane results in micrograms per liter (µg/L or parts per billion).
All other results in milligrams per liter (mg/L or parts per million).

Appendix A.3.1 Cumulative Natural Attenuation Parameters Graphs

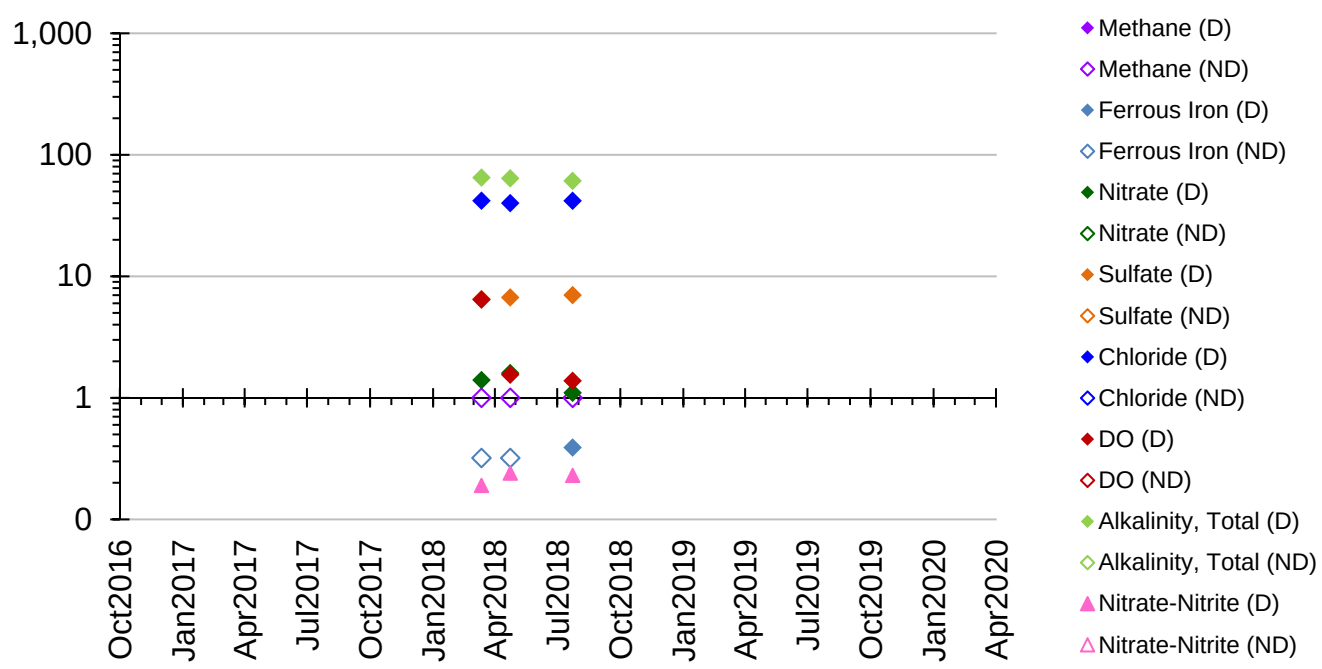
RHMW11 Zone 2 NAPs



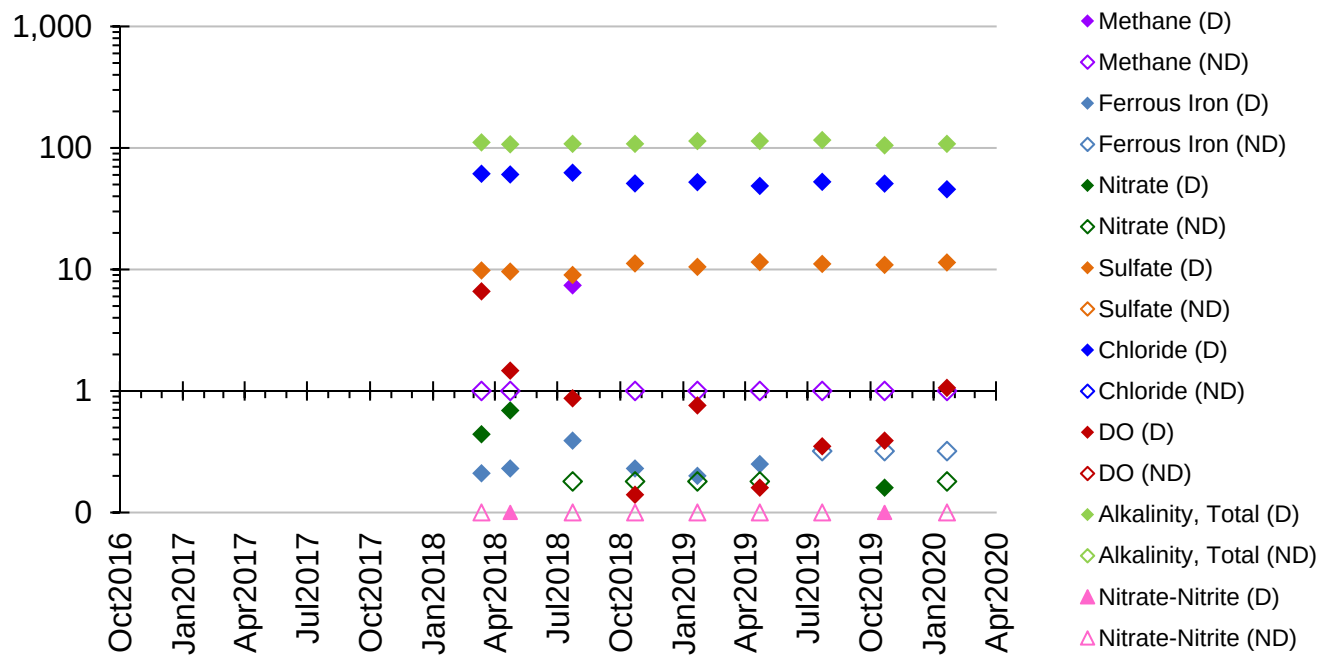
RHMW11 Zone 3 NAPs



RHMW11 Zone 4 NAPs



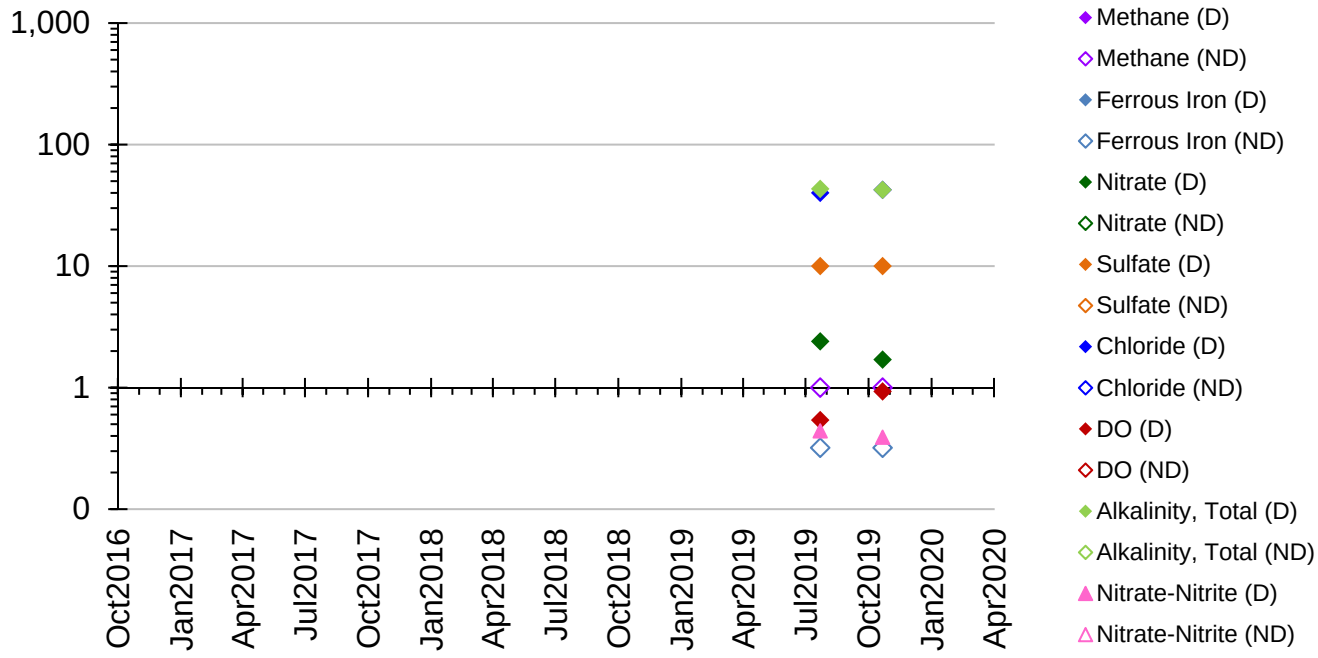
RHMW11 Zone 5 NAPs



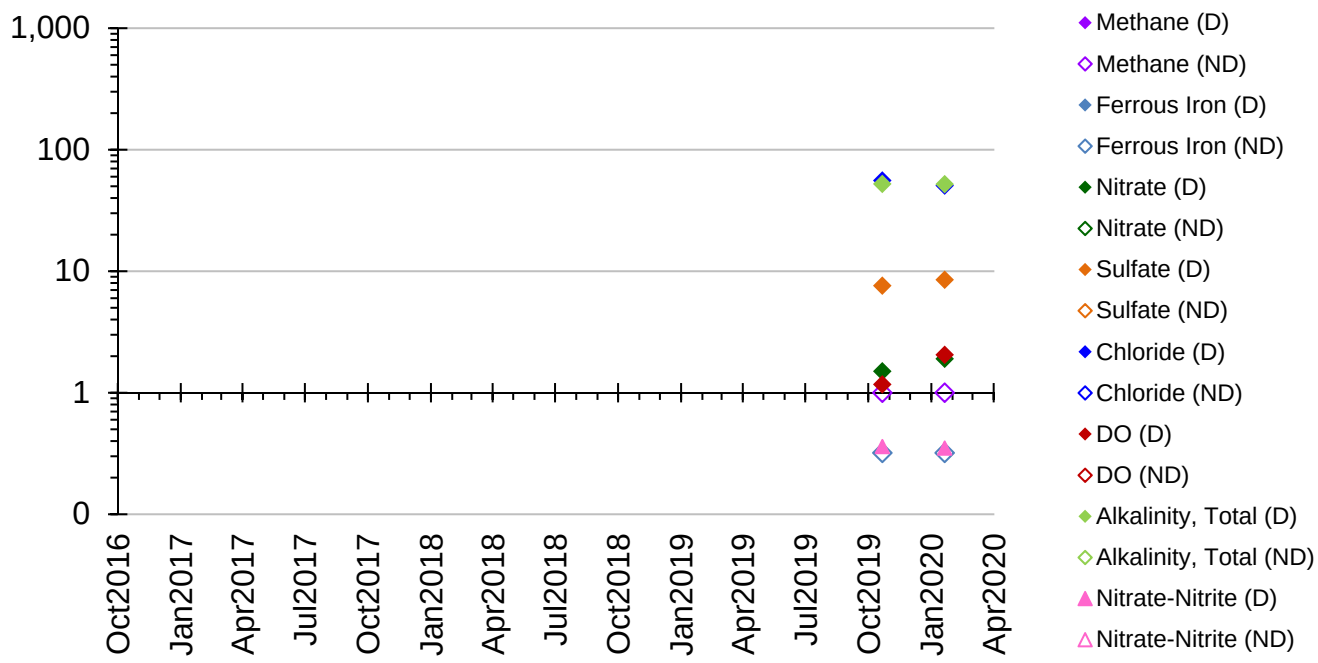
Methane results in micrograms per liter (µg/L or parts per billion).
All other results in milligrams per liter (mg/L or parts per million).

Appendix A.3.1 Cumulative Natural Attenuation Parameters Graphs

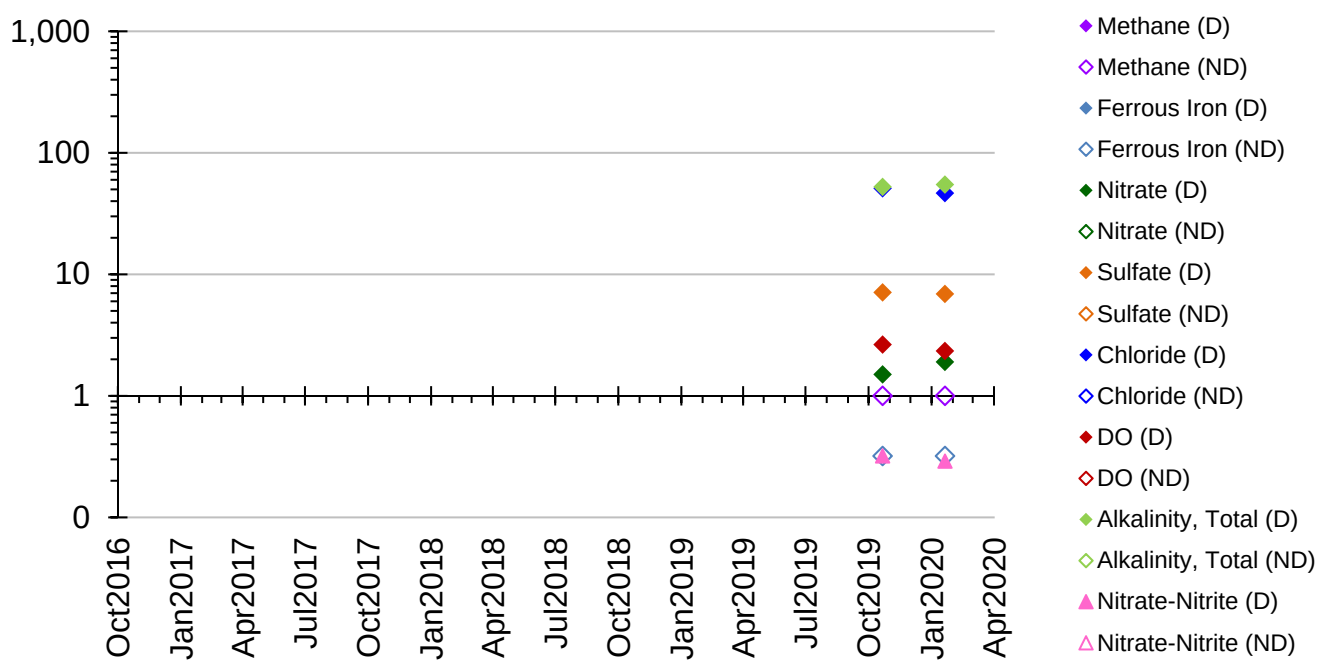
RHMW11 Zone 7 NAPs



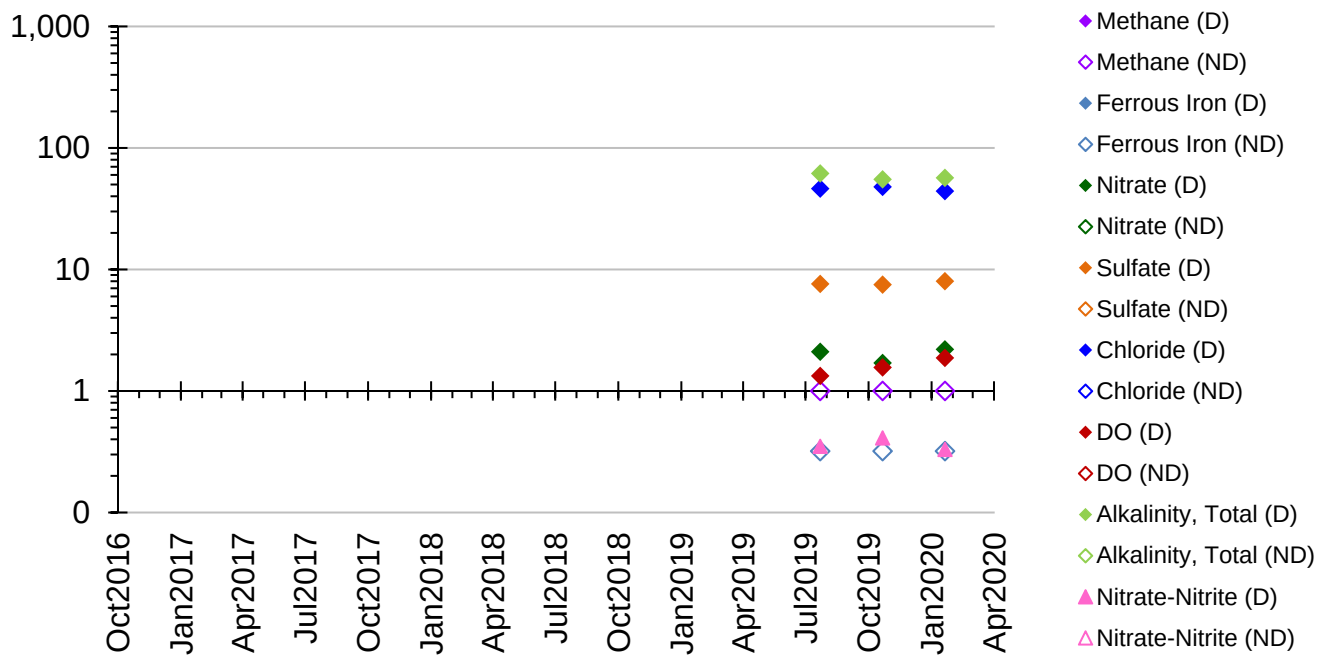
RHMW14 Zone 1 NAPs



RHMW14 Zone 2 NAPs



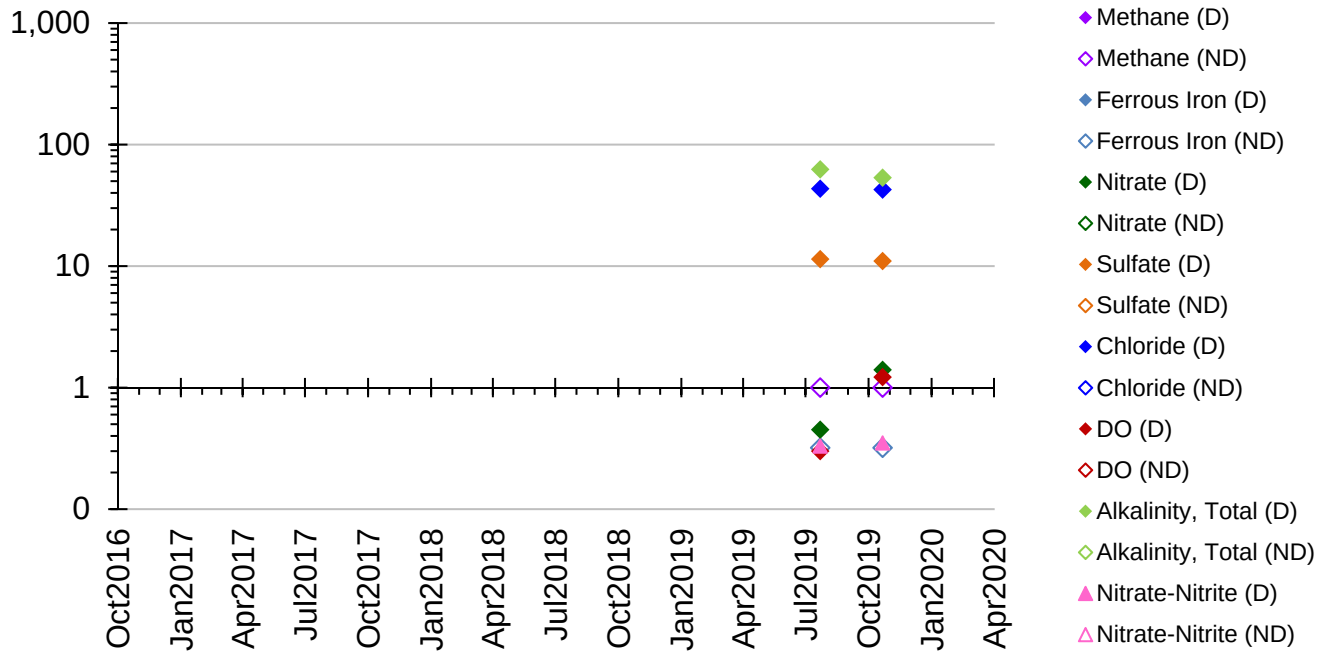
RHMW14 Zone 3 NAPs



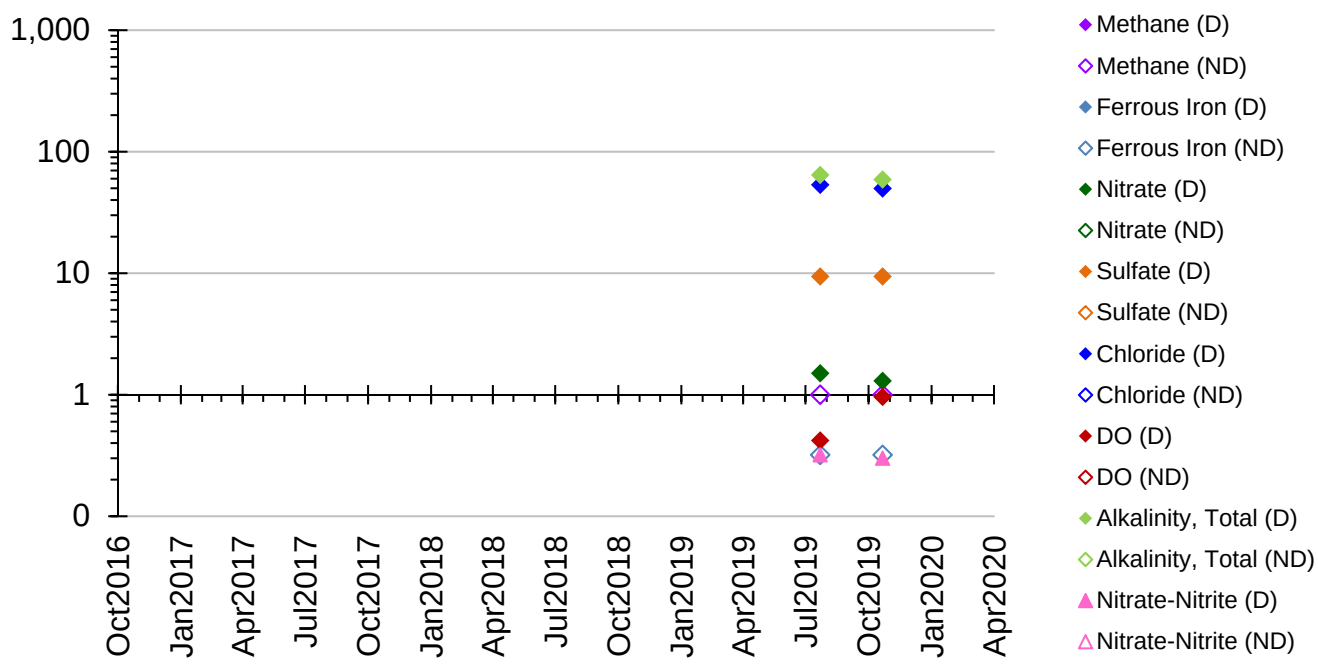
Methane results in micrograms per liter (µg/L or parts per billion).
All other results in milligrams per liter (mg/L or parts per million).

Appendix A.3.1 Cumulative Natural Attenuation Parameters Graphs

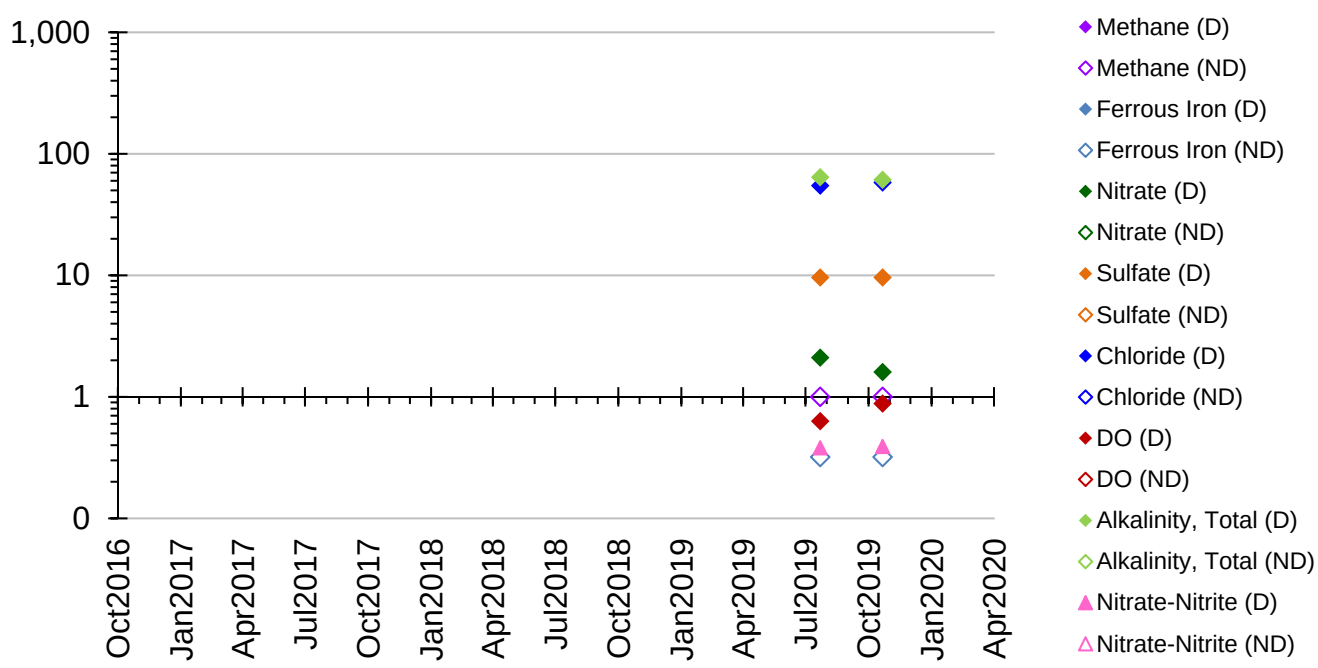
RHMW14 Zone 4 NAPs



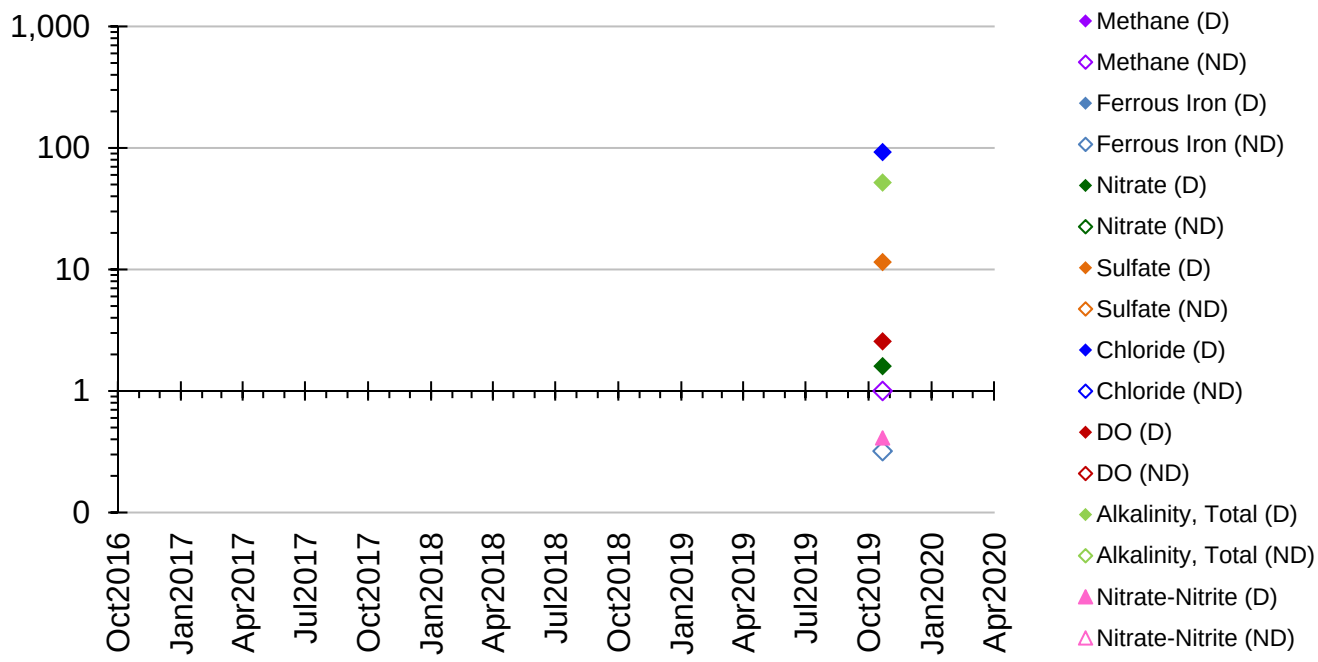
RHMW14 Zone 5 NAPs



RHMW14 Zone 7 NAPs



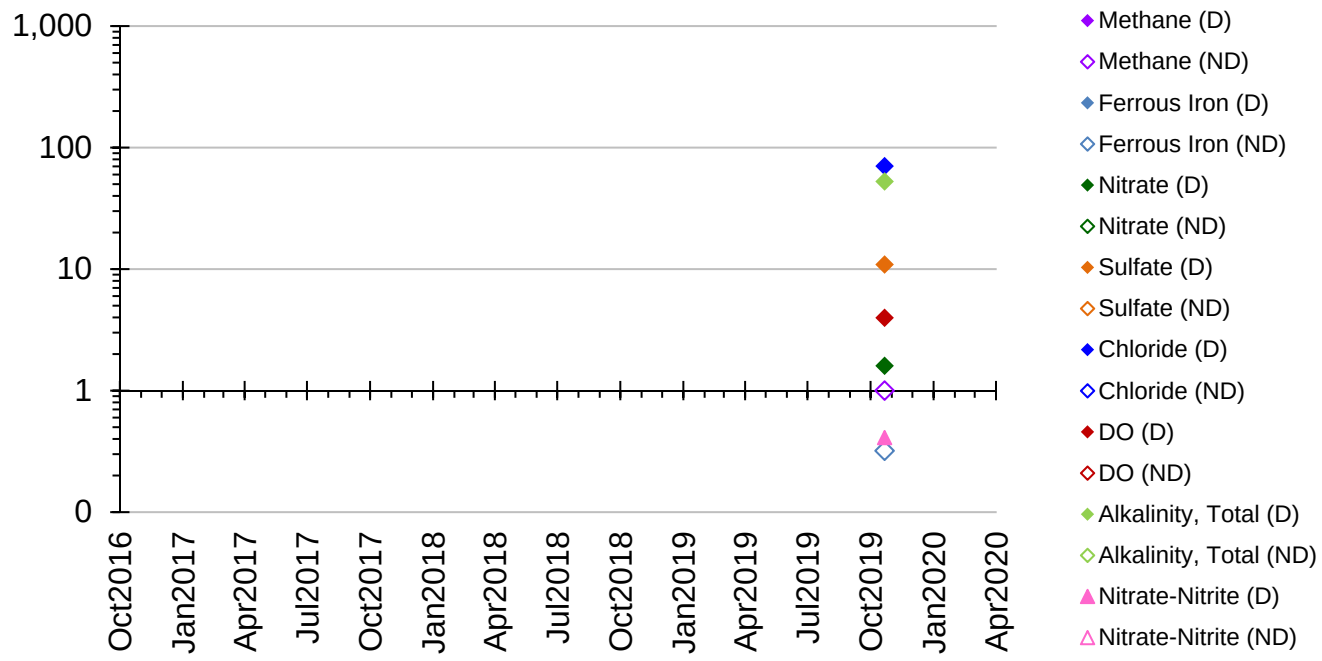
RHMW15 Zone 1 NAPs



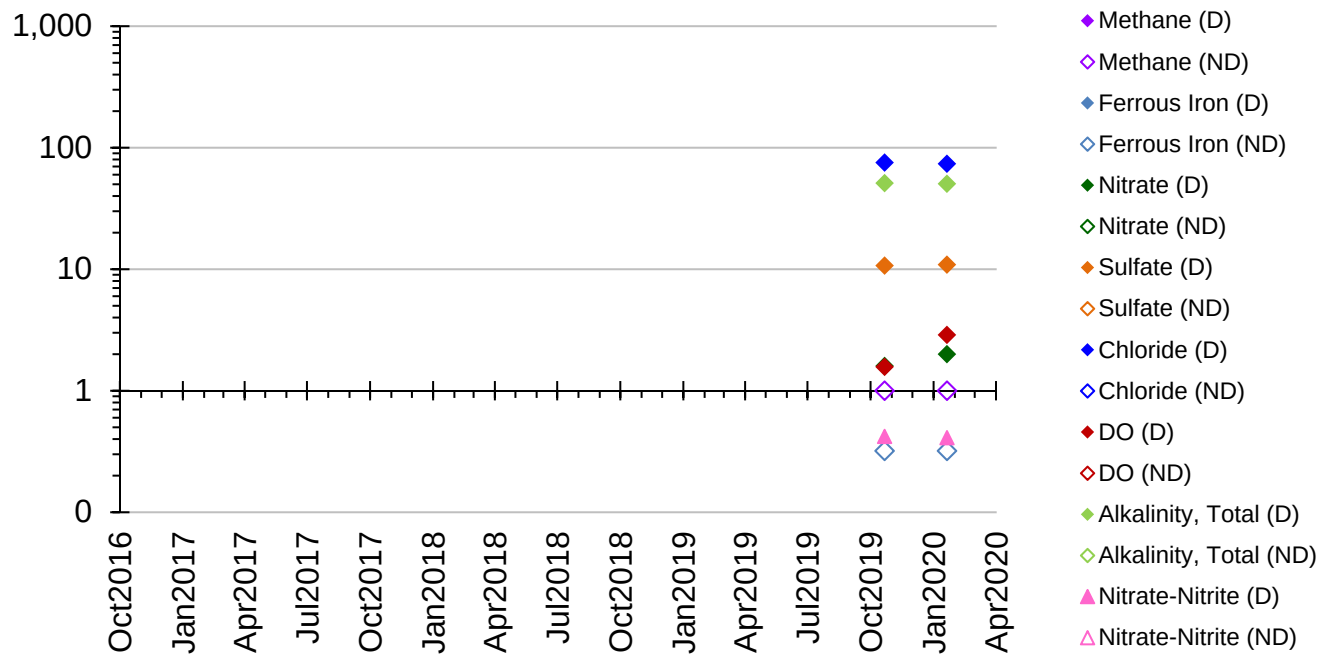
Methane results in micrograms per liter (µg/L or parts per billion).
All other results in milligrams per liter (mg/L or parts per million).

Appendix A.3.1 Cumulative Natural Attenuation Parameters Graphs

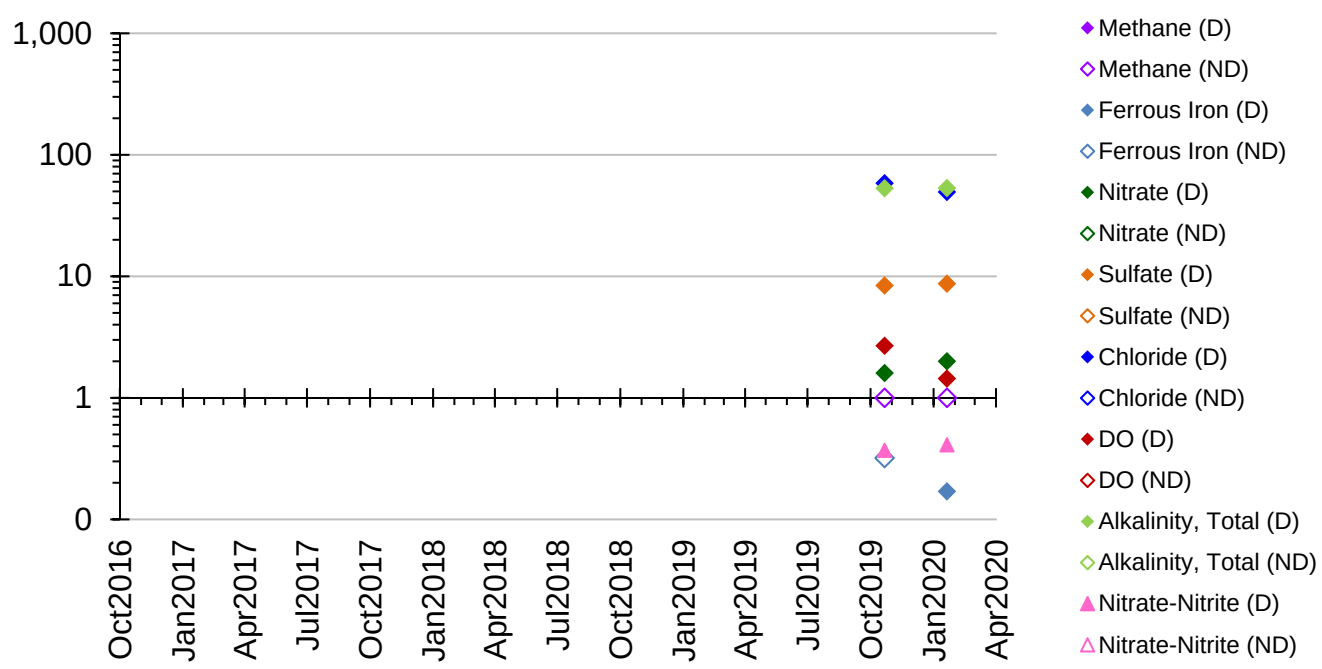
RHMW15 Zone 2 NAPs



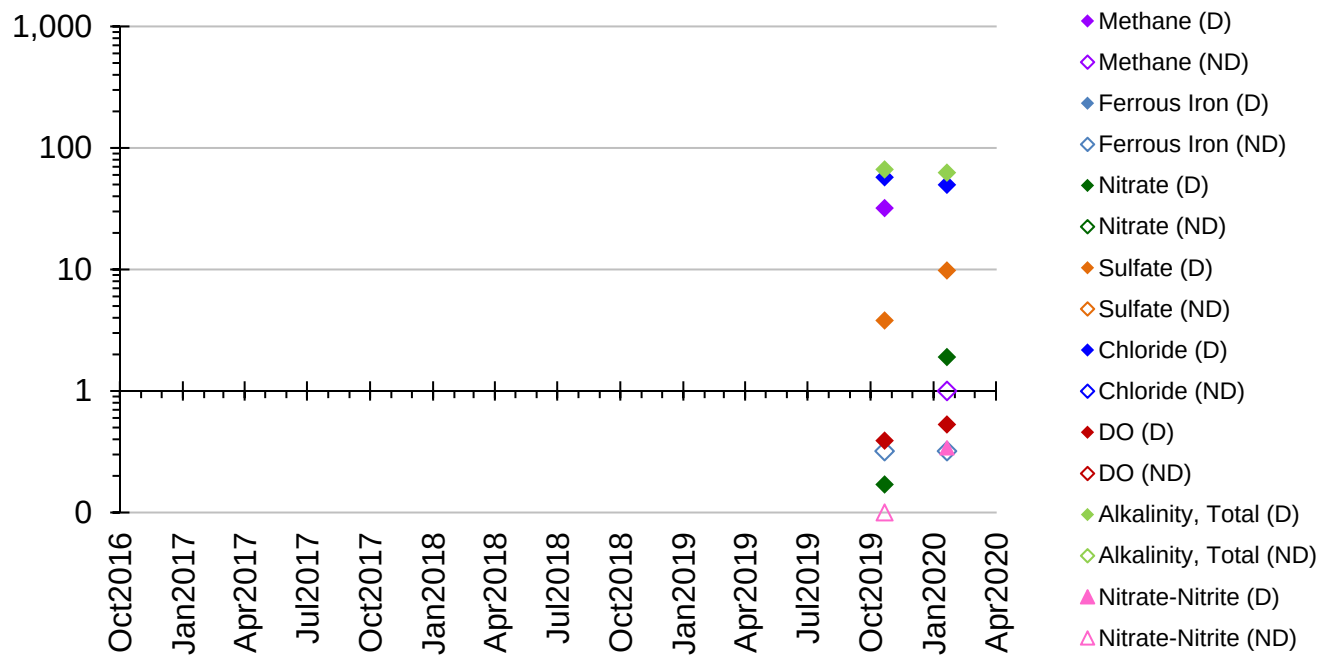
RHMW15 Zone 3 NAPs



RHMW15 Zone 4 NAPs



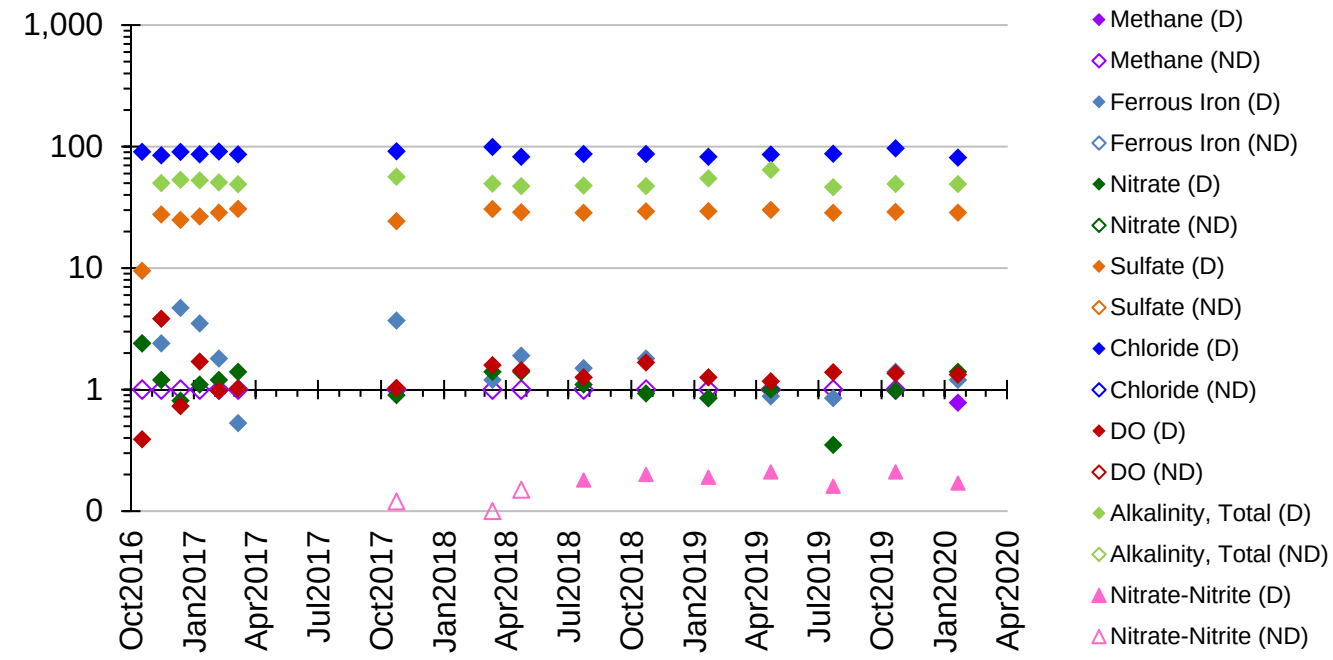
RHMW15 Zone 5 NAPs



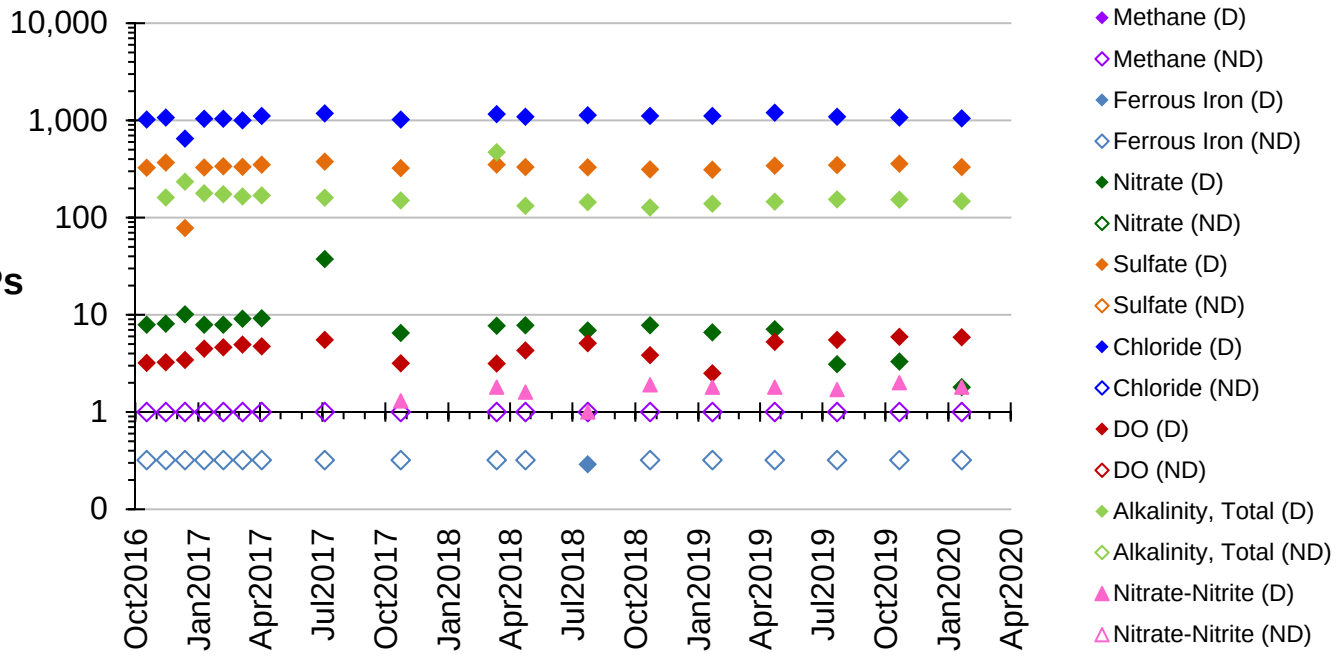
Methane results in micrograms per liter (µg/L or parts per billion).
All other results in milligrams per liter (mg/L or parts per million).

Appendix A.3.1 Cumulative Natural Attenuation Parameters Graphs

HDMW2253-03 NAPs



OWDFMW01 NAPs

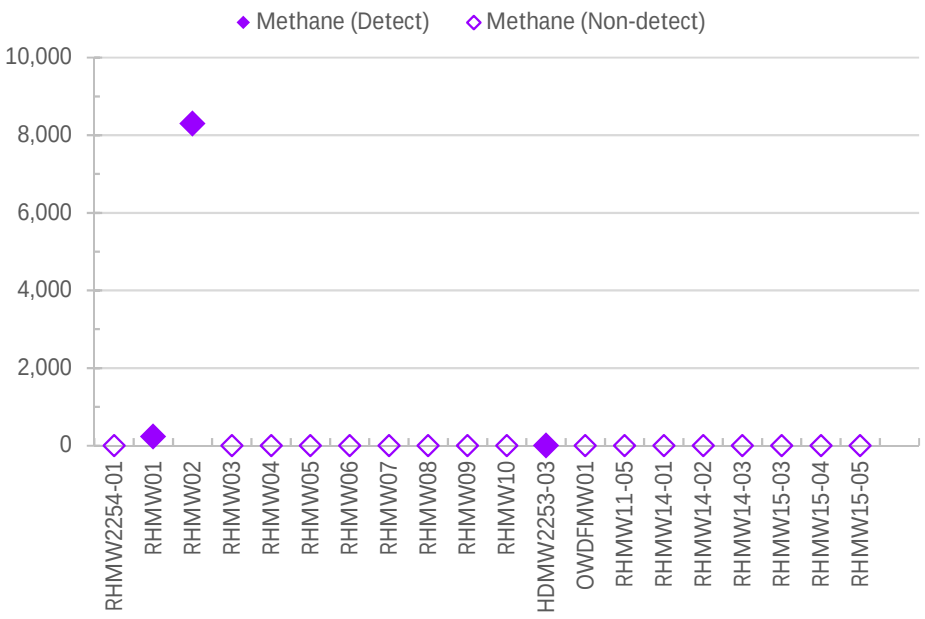


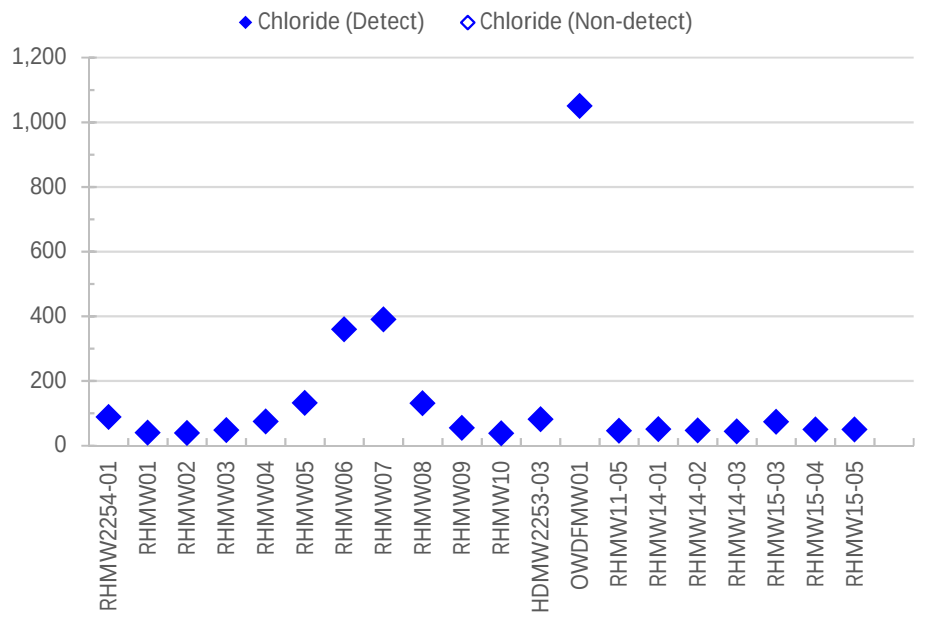
Methane results in micrograms per liter (µg/L or parts per billion).
All other results in milligrams per liter (mg/L or parts per million).

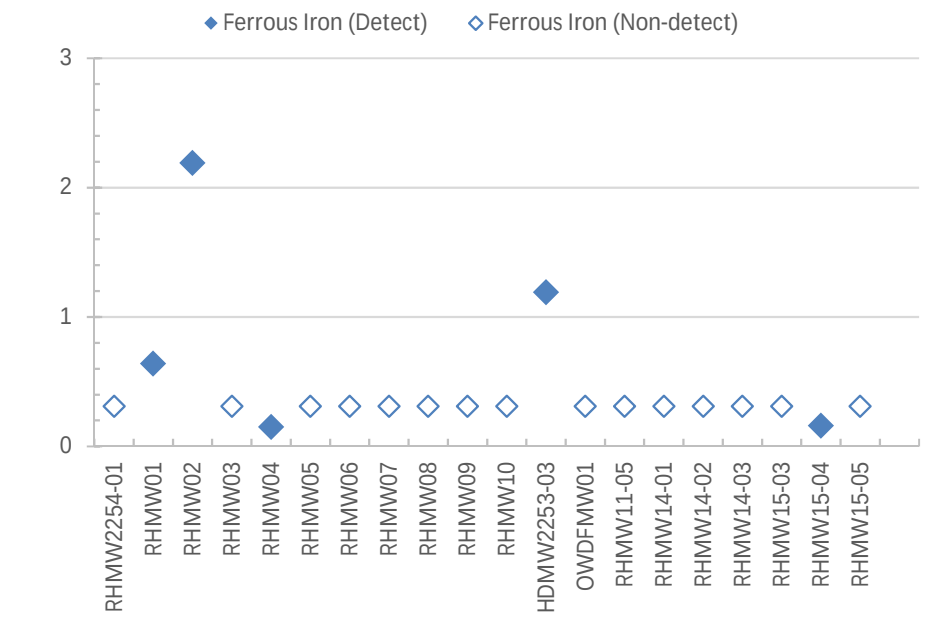
Appendix A.3.2:
First Quarter 2020 Natural Attenuation Parameter Graphs

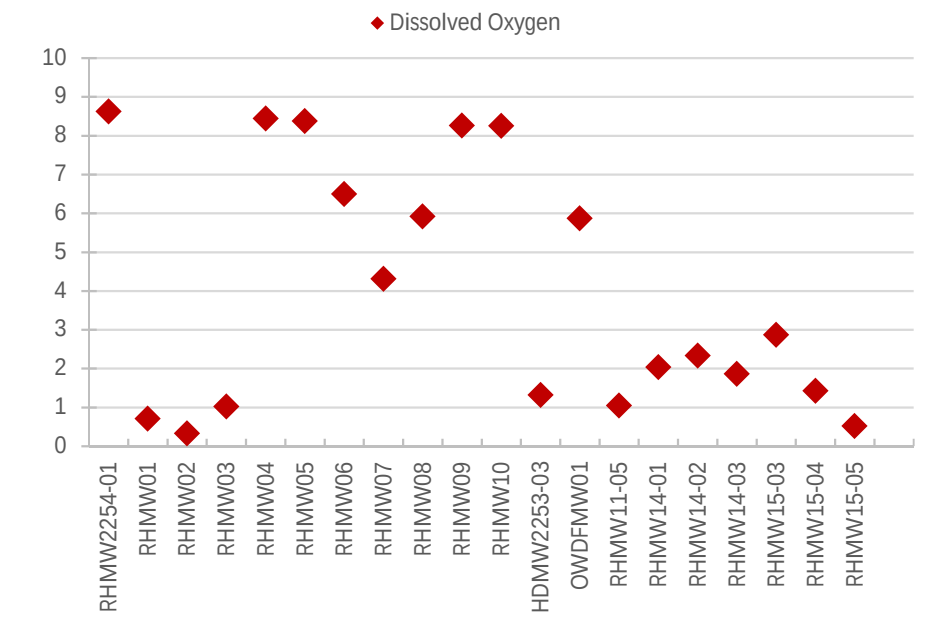
This page intentionally left blank

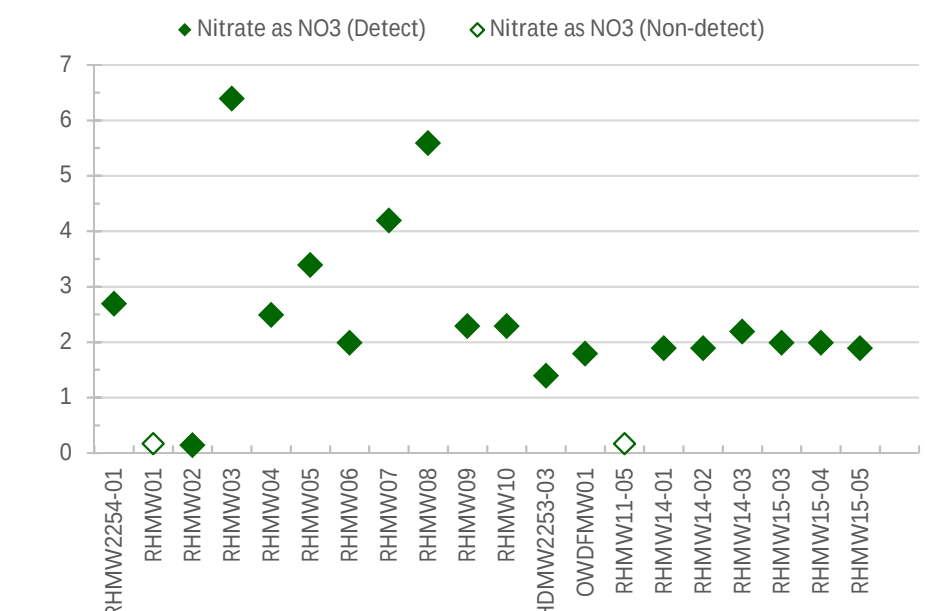
Appendix A.3.2 First Quarter 2020 Natural Attenuation Parameter Graphs

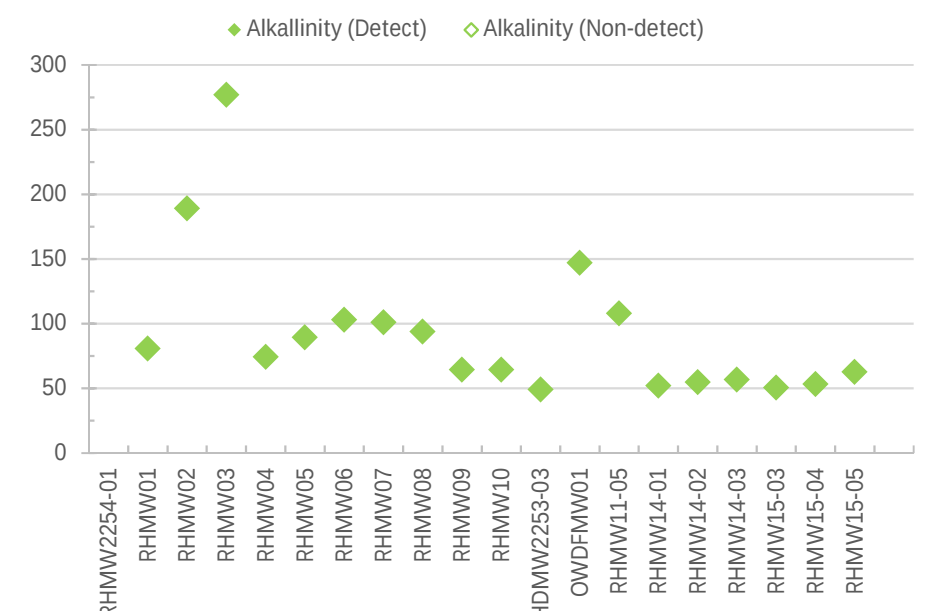


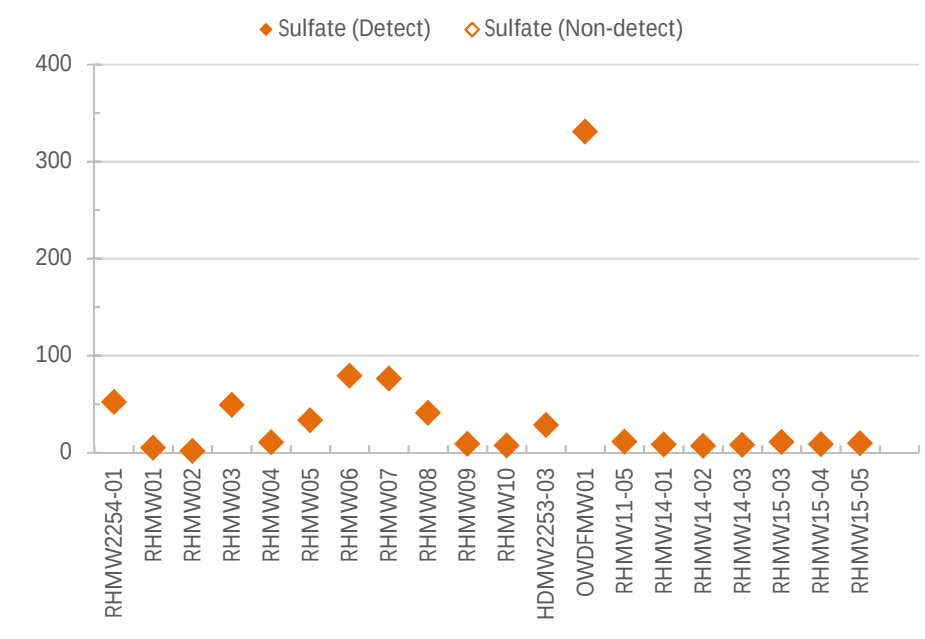


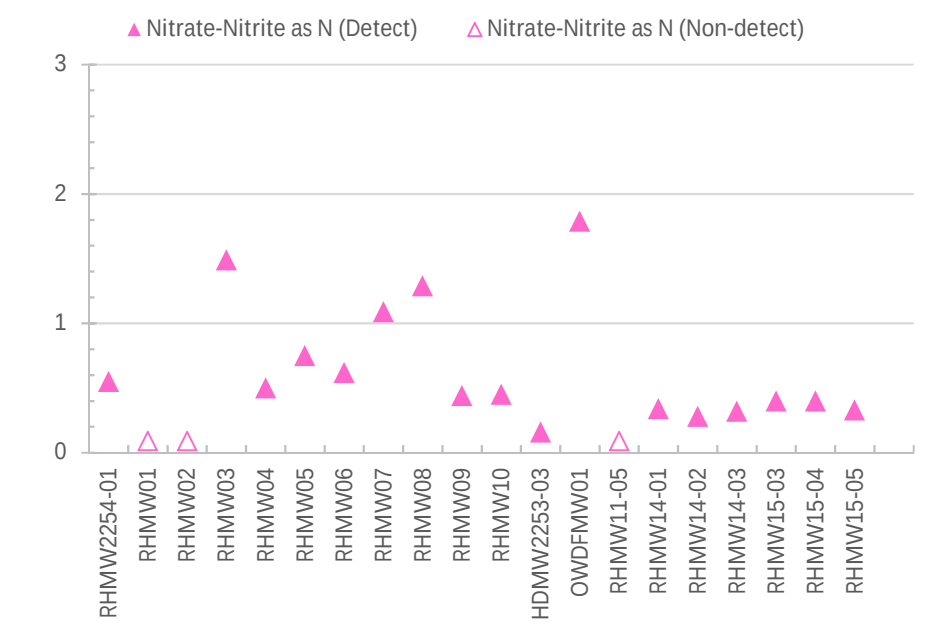












Methane results in micrograms per liter (µg/L). All other results in milligrams per liter (mg/L).

This page intentionally left blank

Appendix A.4:
Depth to Water

This page intentionally left blank

Table A.4-1: Depth to Groundwater (ft btoc) in Red Hill Groundwater Monitoring Wells, First Quarter 2020 Groundwater Monitoring Event

Sample Date [a,b]	RHMW2254-01	RHMW01	RHMW02	RHMW03	RHMW04	RHMW05	RHMW06	RHMW07	RHMW08	RHMW09	RHMW10	HDMW2253-03	OWDFMW01
28-Jan-2020 [c]	—	—	—	—	—	—	—	—	—	—	476.89	—	—
23-Jan-2020 [c]	—	—	—	—	—	—	—	—	—	—	—	206.99	—
22-Jan-2020 [c]	—	—	—	—	—	—	—	—	—	—	—	—	119.22
21-Jan-2020 [c]	—	—	—	—	293.27	82.24	—	—	—	376.54	—	—	—
20-Jan-2020 [c]	—	82.87	85.51	101.74	—	—	240.25	197.47	291.55	—	—	—	—
13-Nov-2019 [c]	—	—	—	—	—	—	—	—	—	—	477.02	—	—
30-Oct-2019 [c]	—	—	—	—	—	—	—	—	291.96	—	—	—	—
29-Oct-2019	—	83.15	85.84	102.19	—	82.09	—	—	—	—	—	—	—
24-Oct-2019 [c]	—	—	—	—	—	—	—	—	—	—	—	206.99	—
23-Oct-2019 [c]	—	—	—	—	—	—	—	—	—	—	—	—	119.34
22-Oct-2019 [c]	—	83.11	85.80	—	—	—	—	197.46	—	376.70	—	—	—
21-Oct-2019 [c]	—	—	—	101.87	293.36	82.32	240.34	—	—	—	—	—	—
7-Aug-2019 [c]	—	—	—	—	—	—	—	—	291.30	—	—	—	—
29-Jul-2019	—	82.67	85.34	101.57	—	82.06	—	—	—	—	—	—	—
25-Jul-2019 [c]	—	—	—	—	—	—	—	—	—	—	—	206.23	—
24-Jul-2019 [c]	—	—	—	—	—	—	—	—	—	—	476.27	—	118.97
23-Jul-2019 [c]	—	82.58	85.25	—	292.80	—	—	—	—	376.14	—	—	—
22-Jul-2019 [c]	—	—	—	101.48	—	82.04	239.83	196.93	—	—	—	—	—
26-Apr-2019	—	82.45	85.18	101.41	—	81.88	—	—	—	—	—	—	—
25-Apr-2019 [c]	—	—	—	—	—	—	—	—	—	—	—	205.97	118.92
24-Apr-2019 [c]	—	—	85.16	102.41	—	—	—	—	—	—	476.19	—	—
23-Apr-2019 [c]	—	82.47	—	—	—	—	—	—	291.08	375.98	—	—	—
22-Apr-2019 [c]	—	—	—	—	292.81	81.98	239.91	197.05	—	—	—	—	—
7-Feb-2019 [c]	—	—	—	—	—	—	—	—	—	—	—	205.81	—
24-Jan-2019	—	82.30	84.96	101.22	—	81.66	—	—	—	—	—	—	—
24-Jan-2019 [c]	81.01	—	—	—	—	—	—	—	—	—	476.15	—	—
23-Jan-2019 [c]	82.64	—	—	—	—	—	—	196.99	—	—	—	—	118.85
22-Jan-2019 [c]	—	82.39	—	101.19	—	—	—	—	—	375.99	—	—	—
21-Jan-2019 [c]	—	—	85.00	—	292.48	81.80	239.57	—	290.98	—	—	—	—
13-Dec-2018 [c]	81.16	—	—	—	—	—	—	—	—	—	—	—	—
12-Dec-2018 [c]	82.81	—	—	—	—	—	—	—	—	—	—	—	—
14-Nov-2018 [c]	81.14	—	—	—	—	—	—	—	—	—	—	—	—
13-Nov-2018 [c]	82.53	—	—	—	—	—	—	—	—	—	—	—	—
31-Oct-2018 [c]	—	—	—	—	—	—	—	—	—	—	476.54	—	—
30-Oct-2018	—	82.64	85.34	101.58	—	81.99	—	—	—	—	—	—	—
25-Oct-2018 [c]	—	82.76	—	—	—	—	—	—	—	—	—	—	—
24-Oct-2018 [c]	—	—	—	—	293.09	—	—	—	291.59	—	—	—	119.28
23-Oct-2018 [c]	—	—	85.53	101.71	—	—	240.16	197.58	—	376.39	—	—	—
22-Oct-2018 [c]	81.73	—	—	—	—	82.14	—	—	—	—	—	206.65	—
21-Aug-2018	—	—	86.32	102.58	—	—	—	—	—	—	—	—	—
26-Jul-2018 [c]	—	—	—	—	293.80	—	—	—	—	—	—	—	119.74
25-Jul-2018	—	83.55	86.33	102.58	—	82.89	—	—	—	—	—	—	—
24-Jul-2018 [c]	—	—	—	102.48	—	—	—	—	—	377.21	—	—	—
24-Jul-2018 [c]	—	83.65	86.19	—	—	—	—	197.97	292.35	—	476.89	—	—
23-Jul-2018 [c]	82.26	—	—	—	—	82.92	240.77	—	—	—	—	207.36	—
Jun-2018	—	83.63	86.34	102.57	—	82.99	—	—	—	—	—	—	—
22-May-2018	—	83.61	86.29	102.56	—	82.97	—	—	—	—	—	—	—
26-Apr-2018	—	—	—	—	—	—	—	—	—	—	—	—	119.80
25-Apr-2018	—	83.47	86.14	102.38	—	82.86	—	—	—	—	—	—	—
25-Apr-2018	—	83.43	—	102.33	293.63	—	—	—	—	377.28	—	—	—
24-Apr-2018	—	—	86.19	—	—	—	—	197.50	—	—	477.30	—	—
23-Apr-2018	82.08	—	—	—	—	82.73	240.65	—	292.04	—	—	207.33	—
20-Mar-2018	—	83.56	86.24	102.55	—	82.89	—	—	—	—	—	—	—
14-Mar-2018	82.40	—	—	—	293.82	—	—	—	—	—	—	—	119.62
13-Mar-2018	—	—	86.24	—	—	82.92	—	198.30	—	377.40	477.40	—	—
12-Mar-2018	—	83.44	—	102.40	—	—	240.81	—	292.25	—	—	207.43	—
21-Nov-2017	—	83.66	—	102.62	—	—	—	—	—	—	—	—	—
15-Nov-2017	—	—	86.28	—	—	—	—	—	—	—	—	—	—
14-Nov-2017	—	—	—	—	—	—	240.96	—	—	—	—	—	—
31-Oct-2017	—	—	—	—	—	—	—	—	—	—	—	207.59	—
26-Oct-2017	—	—	—	—	—	—	—	—	—	—	—	—	119.81
25-Oct-2017	—	83.79	—	—	—	—	—	198.06	—	—	477.79	—	—
24-Oct-2017	81.36	—	—	—	294.07	83.21	—	—	—	377.73	—	—	—
23-Oct-2017	—	—	86.38	102.76	—	—	241.18	—	292.77	—	—	—	—
21-Jul-2017	—	83.43	86.50	—	—	82.81	—	—	—	—	—	—	—
06-Jul-2017	—	—	85.88	102.09	—	—	—	—	—	—	—	—	—
05-Jul-2017	82.14	82.11	—	—	293.38	82.49	—	—	—	377.23	—	—	119.39
04-Jul-2017	—	—	—	—	—	—	240.55	197.78	292.14	—	477.26	—	—
22-Jun-2017	—	82.94	85.59	101.89	—	82.30	—	—	—	—	—	—	—
06-Jun-2017	82.66	—	—	101.76	—	82.17	—	—	—	—	—	—	—
05-Jun-2017	—	82.80	85.42	—	—	—	—	—	291.68	—	477.20	—	—
26-May-2017	—	82.45	85.13	101.39	—	81.80	—	—	—	—	—	—	—
04-May-2017	—	—	—	—	—	—	—	—	—	—	476.45	—	—
02-May-2017	80.12	—	—	—	—	—	—	—	291.42	—	—	—	—
01-May-2017	—	82.50	85.09	101.34	—	81.82	—	—	—		—	—	—
20-Apr-2017	—	82.59	85.25	101.50	—	81.94	—	—	—	—	—	—	—
04-Apr-2017	—	—	85.27	101.55	—	—	—	—	291.38	376.70	—	—	118.87
03-Apr-2017	80.23	82.43	—	—	292.78	81.81	239.86	197.07	—	—	—	—	—
24-Mar-2017	—	82.49	85.19	101.45	—	81.84	—	—	—	—	—	—	—
08-Mar-2017	—	82.28	—	—	—	81.61	—	—	—	—	—	206.13	188.61
07-Mar-2017	—	—	84.99	101.30	—	—	239.63	197.08	—	376.30	—	—	—
06-Mar-2017	80.06	—	—	—	292.62	—	—	—	291.19	—	—	—	—
22-Feb-2017	—	82.37	85.01	101.31	—	81.72	—	—	—	—	—	—	—
09-Feb-2017	—	—	—	—	—	—	—	—	—	—	—	—	119.03
08-Feb-2017	—	82.69	—	101.55	—	—	—	197.25	—	376.67	—	—	—
07-Feb-2017	—	—	85.24	—	—	81.91	239.90	—	—	—	—	206.32	—
06-Feb-2017	80.29	—	—	—	292.85	—	—	—	291.51	—	—	—	—
31-Jan-2017	—	82.45	85.13	101.46	—	82.04	—	—	—	—	—	—	—
12-Jan-2017	—	—	—	101.59	—	—	—	—	—	—	—	—	118.93
11-Jan-2017	—	82.70	—	—	—	—	—	—	291.26	376.10	—	—	—
10-Jan-2017	—	—	85.29	—	—	82.10	—	197.02	—	—	—	206.12	—
09-Jan-2017	80.39	—	—	—	292.48	—	239.76	—	—	—	—	—	—
21-Dec-2016	—	—	—	—	—	—	—	—	291.69	—	—	—	—
20-Dec-2016	—	82.67	85.36	101.61	—	82.01	—	—	—	—	—	—	—
14-Dec-2016	—	—	—	101.81	—	—	—	—	—	—	—	—	119.09
13-Dec-2016	—	82.88	85.51	—	292.61	—	—	197.13	—	—	—	206.33	—
12-Dec-2016	80.49	—	—	—	—	82.12	240.04	—	291.42	376.28	—	—	—
18-Nov-2016	80.45	82.85	85.55	101.78	293.11	82.19	240.17	197.45	291.63	376.74	—	—	119.07
17-Nov-2016	—	82.92	85.56	101.82	—	82.24	—	—	—	—	—	—	—
16-Nov-2016	—	—	—	—	—	—	—	—	—	—	—	206.83	—
15-Nov-2016	—	—	85.35	101.87	—	82.25	—	—	291.81	377.05	—	—	119.29

Table A.4-1: Depth to Groundwater (ft btoc) in Red Hill Groundwater Monitoring Wells, First Quarter 2020 Groundwater Monitoring Event (cont'd)

Sample Date [a,b]	RHMW2254-01	RHMW01	RHMW02	RHMW03	RHMW04	RHMW05	RHMW06	RHMW07	RHMW08	RHMW09	RHMW10	HDMW2253-03	OWDFMW01
14-Nov-2016	80.52	82.87	—	—	293.22	—	240.31	197.56	—	—	—	—	—
25-Oct-2016	—	—	—	—	293.33	—	—	—	—	377.09	—	—	—
20-Oct-2016	80.68	—	—	—	—	—	—	—	—	—	—	—	119.39
19-Oct-2016	—	83.01	85.69	101.95	—	82.39	—	—	—	—	—	—	—
19-Oct-2016	—	—	85.69	102.02	—	82.37	240.47	197.68	291.94	—	—	—	—
18-Oct-2016	80.68	—	—	—	—	—	—	—	—	—	—	207.02	—
17-Oct-2016	—	83.00	—	—	—	—	—	—	—	—	—	—	—
21-Sep-2016	—	83.13	85.74	102.06	—	82.44	—	—	—	—	—	—	—
23-Aug-2016	—	83.27	85.96	102.20	—	82.63	—	—	—	—	—	—	—
20-Jul-2016	80.96	83.32	85.99	102.31	—	82.63	—	—	—	—	—	—	—
19-Jul-2016	—	—	—	—	293.60	—	240.70	197.79	—	—	—	207.42	119.65
21-Jun-2016	—	83.16	85.77	102.03	—	82.54	—	—	—	—	—	—	—
23-May-2016	—	83.14	85.81	102.03	—	82.50	—	—	—	—	—	—	—
20-Apr-2016	80.57	82.97	85.63	101.91	—	82.31	—	—	—	—	—	—	—
19-Apr-2016	—	—	—	—	293.21	—	240.35	197.76	—	—	—	206.97	119.28
15-Mar-2016	—	82.89	85.60	101.82	—	82.26	—	—	—	—	—	—	—
17-Feb-2016	—	83.17	85.81	102.10	—	—	—	—	—	—	—	—	—
20-Jan-2016	81.00	83.31	85.97	102.21	—	—	—	—	—	—	—	—	—
19-Jan-2016	—	—	—	—	293.61	—	240.69	198.24	—	—	—	207.42	119.82
17-Dec-2015	—	83.76	86.36	102.56	—	83.18	—	—	—	—	—	—	—
18-Nov-2015	—	84.25	86.93	103.24	—	84.62	—	—	—	—	—	—	—
20-Oct-2015	82.34	84.00	86.38	103.38	—	—	—	—	—	—	—	—	—
19-Oct-2015	—	—	—	—	294.61	—	241.69	198.88	—	—	—	208.40	120.88
23-Sep-2015	—	84.26	86.91	103.21	—	83.63	—	—	—	—	—	—	—
27-Aug-2015	—	84.44	87.13	103.41	—	83.69	—	—	—	—	—	—	—
20-Aug-2015	—	—	—	—	295.10	—	—	—	—	—	—	—	—
28-Jul-2015	—	—	—	—	—	—	241.98	—	—	—	—	—	—
27-Jul-2015	—	—	—	—	—	—	—	198.61	—	—	—	—	—
22-Jul-2015	—	—	—	—	—	—	—	—	—	—	—	208.69	120.99
21-Jul-2015	82.24	—	—	—	—	83.76	—	—	—	—	—	—	—
20-Jul-2015	—	84.58	87.24	103.44	—	—	—	—	—	—	—	—	—
25-Jun-2015	—	84.58	87.28	103.57	—	83.75	—	—	—	—	—	—	—
28-May-2015	—	84.29	86.97	103.24	—	83.95	—	—	—	—	—	—	—
23-Apr-2015	—	—	—	—	—	—	—	198.40	—	—	—	—	—
22-Apr-2015	—	—	—	—	294.43	—	241.59	—	—	—	—	—	120.68
21-Apr-2015	82.99	—	—	—	—	83.72	—	—	—	—	—	—	—
20-Apr-2015	—	84.33	86.97	103.18	—	—	—	—	—	—	—	—	—
26-Mar-2015		83.83	86.04	102.79	—	83.24	—	—	—	—	—	—	—
27-Feb-2015		83.68	86.28	102.52	—	83.06	—	—	—	—	—	—	—
29-Jan-2015	—	—	—	—	293.91	—	—	—	—	—	—	206.67	—
28-Jan-2015	—	—	86.35	102.63	—	—	—	—	—	—	—	—	—
27-Jan-2015	81.37	83.63	—	—	—	83.03	—	—	—	—	—	—	—
26-Jan-2015	—	—	—	—	—	—	—	—	—	—	—	—	120.54
23-Dec-2014	—	83.67	86.37	102.64		83.05	—	—	—	—	—	—	—
20-Nov-2014	—	83.87	86.56	102.78		83.35	—	—	—	—	—	—	—
28-Oct-2014	83.44	—	—	—	—	83.21	—	—	—	—	—	—	—
27-Oct-2014	—	83.79	86.51	102.78	—	—	—	—	—	—	—	—	—
22-Oct-2014	—	—	—	—	—	—	—	—	—	—	—	207.99	120.49
25-Sep-2014	—	84.64	87.27	103.51	—	84.10	—	—	—	—	—	—	—
27-Aug-2014	—	84.01	86.65	102.87	—	83.04	—	—	—	—	—	—	—
24-Jul-2014	—	—	—	—	—	—	—	—	—	—	—	—	120.57
23-Jul-2014	—	—	—	—	294.33	—	—	—	—	—	—	208.08	—
22-Jul-2014	82.19	—	—	102.98	—	83.49	—	—	—	—	—	—	—
21-Jul-2014	—	84.13	86.80	—	—	—	—	—	—	—	—	—	—
23-Jun-2014	—	84.06	86.72	103.99	—	83.54	—	—	—	—	—	—	—
10-Jun-2014	—	83.93	86.55	—	—	83.34	—	—	—	—	—	—	—
27-May-2014	—	83.91	86.60	102.85	—	83.31	—	—	—	—	—	—	—
22-May-2014	—	83.81	86.47	—	—	83.15	—	—	—	—	—	—	—
08-May-2014	—	84.03	86.68	—	—	83.46	—	—	—	—	—	—	—
21-Apr-2014	—	83.93	86.58	102.80	—	83.27	—	—	—	—	—	—	—
07-Apr-2014	—	83.42	86.43	—	—	83.21	—	—	—	—	—	—	—
28-Mar-2014	—	83.76	86.42	102.65	—	83.18	—	—	—	—	—	—	—
24-Feb-2014	—	83.54	86.24	102.47	—	82.97	—	—	—	—	—	—	—
10-Feb-2014	—	84.49	86.16	102.47	—	82.83	—	—	—	—	—	—	—
04-Feb-2014	81.08	83.54	86.20	—	—	82.89	—	—	—	—	—	207.72	—
03-Feb-2014	81.08	83.54	86.20	—	—	82.91	—	—	—	—	—	207.72	—
31-Jan-2014	81.03	83.53	86.19	—	—	82.88	—	—	—	—	—	207.73	—
30-Jan-2014	81.09	83.53	86.21	—	—	82.93	—	—	—	—	—	207.67	—
29-Jan-2014	80.35	83.56	86.22	—	—	82.94	—	—	—	—	—	207.75	—
28-Jan-2014	80.40	83.56	86.25	102.52	—	82.94	—	—	—	—	—	207.76	—
27-Jan-2014	80.33	83.55	86.23	—	—	82.93	—	—	—	—	—	207.8	—
24-Jan-2014	80.38	83.57	86.23	—	—	82.93	—	—	—	—	—	207.75	—
23-Jan-2014	80.40	83.58	86.24	—	—	82.94	—	—	—	—	—	207.8	—
22-Jan-2014	80.40	83.53	86.20	—	—	82.87	—	—	—	—	—	207.66	—
16-Jan-2014	80.60	—	—	—	—	83.09	—	—	—	—	—	—	—
15-Jan-2014	—	83.94	86.62	—	—	—	—	—	—	—	—	—	—
23-Dec-2013	—	84.09	86.72	103.00	—	83.72	—	—	—	—	—	—	—
21-Nov-2013	—	84.26	86.91	103.16	—	83.70	—	—	—	—	—	—	—
23-Oct-2013	—	—	—	—	—	—	—	—	—	—	—	—	120.74
22-Oct-2013	—	84.47	87.08	103.31	—	83.80	—	—	—	—	—	—	—
21-Oct-2013	—	84.47	87.08	103.31	—	—	—	—	—	—	—	—	—
26-Sep-2013	—	84.57	87.20	103.43	—	84.00	—	—	—	—	—	—	—
29-Aug-2013	—	84.66	86.28	103.50	—	84.09	—	—	—	—	—	—	—
24-Jul-2013	—	—	—	—	—	—	—	—	—	—	—	—	120.72
23-Jul-2013	82.56	—	—	—	—	83.85	—	—	—	—	—	—	—
22-Jul-2013	—	84.29	86.96	103.23	—	—	—	—	—	—	—	—	—
13-Jul-2013	—	84.29	86.96	103.23	—	83.85	—	—	—	—	—	—	—
27-Jun-2013	—	84.22	86.86	103.12	—	83.66	—	—	—	—	—	—	—
30-May-2013	—	84.03	86.69	102.95	—	83.41	—	—	—	—	—	—	—
25-Apr-2013	—	83.84	86.50	102.78	—	83.41	—	—	—	—	—	—	—
24-Apr-2013	—	—	—	—	—	—	—	—	—	—	—	208.03	120.15
23-Apr-2013	82.61	—	—	—	—	83.41	—		—	—	—	—	—
22-Apr-2013	—	83.84	86.50	102.78	—	—	—	—	—	—	—	—	—
28-Mar-2013	—	83.82	86.48	102.75	—	83.19	—	—	—	—	—	—	—
28-Feb-2013	—	84.04	86.62	102.87	—	83.43	—	—	—	—	—	—	—
04-Feb-2013	—	84.04	—	—	—	—	—	—	—	—	—	—	—
01-Feb-2013	—	—	86.62	102.87	—	83.43	—	—	—	—	—	—	—
30-Jan-2013	—	—	—	—	—	—	—	—	—	—	—	208.15	120.55
29-Jan-2013	82.78	—	—	—	—	83.61	—	—	—	—	—	—	—
28-Jan-2013	—	—	86.75	102.98	—	—	—	—	—	—	—	—	—
13-Jan-2013	—	84.05	86.87	103.14	—	83.70	—	—	—	—	—	—	—
12-Dec-2012	—	84.21	86.87	103.14	—	83.70	—	—	—	—	—	—	—
07-Nov-2012	—	—	—	—	—	—	—	—	—	—	—	208.20	—
12-Nov-2012	—	84.23	86.85	103.10	—	83.70	—	—	—	—	—	—	—
23-Oct-2012	83.05	—	—	—	—	83.72	—	—	—	—	—	—	—
22-Oct-2012	—	84.19	86.81	103.05	—	—	—	—	—	—	—	—	—
Oct-2012	—	84.19	86.81	103.50	—	83.72	—	—	—	—	—	—	—
Aug-2012	—	84.19	86.81	103.30	—	83.62	—	—	—	—	—	—	—

Table A.4-1: Depth to Groundwater (ft btoc) in Red Hill Groundwater Monitoring Wells, First Quarter 2020 Groundwater Monitoring Event (cont'd)

Sample Date [a,b]	RHMW2254-01	RHMW01	RHMW02	RHMW03	RHMW04	RHMW05	RHMW06	RHMW07	RHMW08	RHMW09	RHMW10	HDMW2253-03	OWDFMW01
20-Jul-2012	—	84.05	—	—	—	—	—	—	—	—	—	—	—
19-Jul-2012	—	—	—	—	—	—	—	—	—	—	—	207.87	120.15
18-Jul-2012	—	—	86.70	103.09	—	—	—	—	—	—	—	—	—
17-Jul-2012	—	—	—	—	—	83.50	—	—	—	—	—	—	—
Jul-2012	—	84.20	86.64	102.89	—	83.41	—	—	—	—	—	—	—
Jun-2012	—	84.34	86.95	103.17	—	83.97	—	—	—	—	—	—	—
May-2012	—	84.09	86.71	102.98	—	83.53	—	—	—	—	—	—	—
26-Apr-2012	—	—	—	—	—	—	—	—	—	—	—	207.76	120.29
17-Apr-2012	—	83.60	—	—	—	—	—	—	—	—	—	—	—
16-Apr-2012	—	—	86.34	102.71	—	83.17	—	—	—	—	—	—	—
Mar-2012	—	83.41	86.51	102.45	—	82.79	—	—	—	—	—	—	—
14-Feb-2012	—	83.75	—	—	—	—	—	—	—	—	—	—	—
01-Feb-2012	—	—	—	—	—	83.15	—	—	—	—	—	—	—
Feb-2012	—	83.80	86.41	102.71	—	83.20	—	—	—	—	—	—	—
26-Jan-2012	—	—	86.31	102.56	—	—	—	—	—	—	—	—	—
24-Jan-2012	—	—	—	—	—	—	—	—	—	—	—	207.60	120.02
Jan-2012	—	83.57	86.18	102.56	—	82.90	—	—	—	—	—	—	—
Dec-2011	—	83.49	86.10	102.36	—	82.85	—	—	—	—	—	—	—
02-Nov-2011	—	83.71	—	—	—	—	—	—	—	—	—	—	—
Nov-2011	—	83.60	86.25	102.47	—	83.00	—	—	—	—	—	—	—
26-Oct-2011	—	—	—	—	—	—	—	—	—	—	—	207.73	120.12
25-Oct-2011	—	—	—	—	—	83.15	—	—	—	—	—	—	—
24-Oct-2011	—	—	86.38	102.90	—	—	—	—	—	—	—	—	—
Oct-2011	—	83.71	—	—	—	—	—	—	—	—	—	—	—
Sep-2011	—	83.81	86.44	102.69	—	83.21	—	—	—	—	—	—	—
Aug-2011	—	83.81	86.42	102.66	—	83.21	—	—	—	—	—	—	—
20-Jul-2011	—	83.60	—	—	—	—	—	—	—	—	—	—	—
19-Jul-2011	—	—	86.28	102.49	—	83.08	—	—	—	—	—	—	—
Jul-2011	—	83.57	86.22	102.44	—	82.99	—	—	—	—	—	—	—
Jun-2011	—	83.41	86.11	102.33	—	82.81	—	—	—	—	—	—	—
May-2011	—	83.39	86.05	102.69	—	82.72	—	—	—	—	—	—	—
Apr-2011	—	83.54	86.18	102.39	—	82.90	—	—	—	—	—	—	—
Mar-2011	—	83.77	86.39	102.87	—	83.20	—	—	—	—	—	—	—
Feb-2011	—	83.82	86.48	103.02	—	83.20	—	—	—	—	—	—	—
Jan-2011	—	85.32	86.91	103.41	—	83.65	—	—	—	—	—	—	—
Dec-2010	—	84.87	87.55	103.98	—	84.22	—	—	—	—	—	—	—
Nov-2010	—	85.20	87.84	104.30	—	84.60	—	—	—	—	—	—	—
Oct-2010	—	85.29	87.91	104.13	—	84.75	—	—	—	—	—	—	—
Sep-2010	—	85.30	87.92	104.13	—	84.71	—	—	—	—	—	—	—
Jul-2010	—	85.03	87.66	103.89	—	84.48	—	—	—	—	—	—	—
Jun-2010	—	84.87	87.51	103.74	—	84.30	—	—	—	—	—	—	—
May-2010	—	84.80	87.43	103.66	—	84.23	—	—	—	—	—	—	—
Apr-2010	—	84.75	87.37	103.60	—	84.17	—	—	—	—	—	—	—
Mar-2010	—	84.53	87.15	103.38	—	83.96	—	—	—	—	—	—	—
Feb-2010	—	84.24	86.89	103.14	—	83.60	—	—	—	—	—	—	—
Jan-2010	—	84.36	87.00	103.22	—	83.75	—	—	—	—	—	—	—
Dec-2009	—	84.12	86.75	103.00	—	83.53	—	—	—	—	—	—	—
Nov-2009	—	83.91	86.56	102.81	—	83.25	—	—	—	—	—	—	—
Oct-2009	—	84.24	86.87	103.07	—	83.62	—	—	—	—	—	—	—
Sep-2009	—	84.21	86.84	103.07	—	83.61	—	—	—	—	—	—	—
Aug-2009	—	84.04	86.71	102.84	—	83.51	—	—	—	—	—	—	—
Jul-2009	—	83.75	86.42	102.67	—	83.09	—	—	—	—	—	—	—
May-2009	—	83.50	86.15	102.41	—	—	—	—	—	—	—	—	—
Apr-2009 [b]	—	83.72	86.37	102.59	—	—	—	—	—	—	—	—	—
Mar-2009	—	83.82	86.44	102.64	—	—	—	—	—	—	—	—	—
Feb-2009	—	—	86.35	102.56	—	—	—	—	—	—	—	—	—
Jan-2009	—	83.13	85.79	102.04	—	—	—	—	—	—	—	—	—
Nov-2008	—	83.91	86.56	102.80	—	—	—	—	—	—	—	—	—
Oct-2008	—	83.80	86.45	102.49	—	—	—	—	—	—	—	—	—
Jul-2008	—	83.37	86.10	102.45	—	—	—	—	—	—	—	—	—
Jan-2008	—	84.67	86.23	—	—	—	—	—	—	—	—	—	—
Sep-2007	—	—	86.80	103.44	—	—	—	—	—	—	—	—	—
28-Jun-2005	87.00	83.56	—	—	—	—	—	—	—	—	—	—	—
17-Feb-2005	86.48	82.64	—	—	—	—	—	—	—	—	—	—	—

Notes:

—	no data
btoc	below top of casing
ft	foot or feet
LTM	long-term monitoring
PVC	polyvinyl chloride

[a] Dates in month year format (e.g., Sep 2007) were obtained from oil/water interface reports, and exact dates were not available.

[b] The April 2009 measurements were pushed back a week (to 5/6/2009) due to the RHMW05 installation.

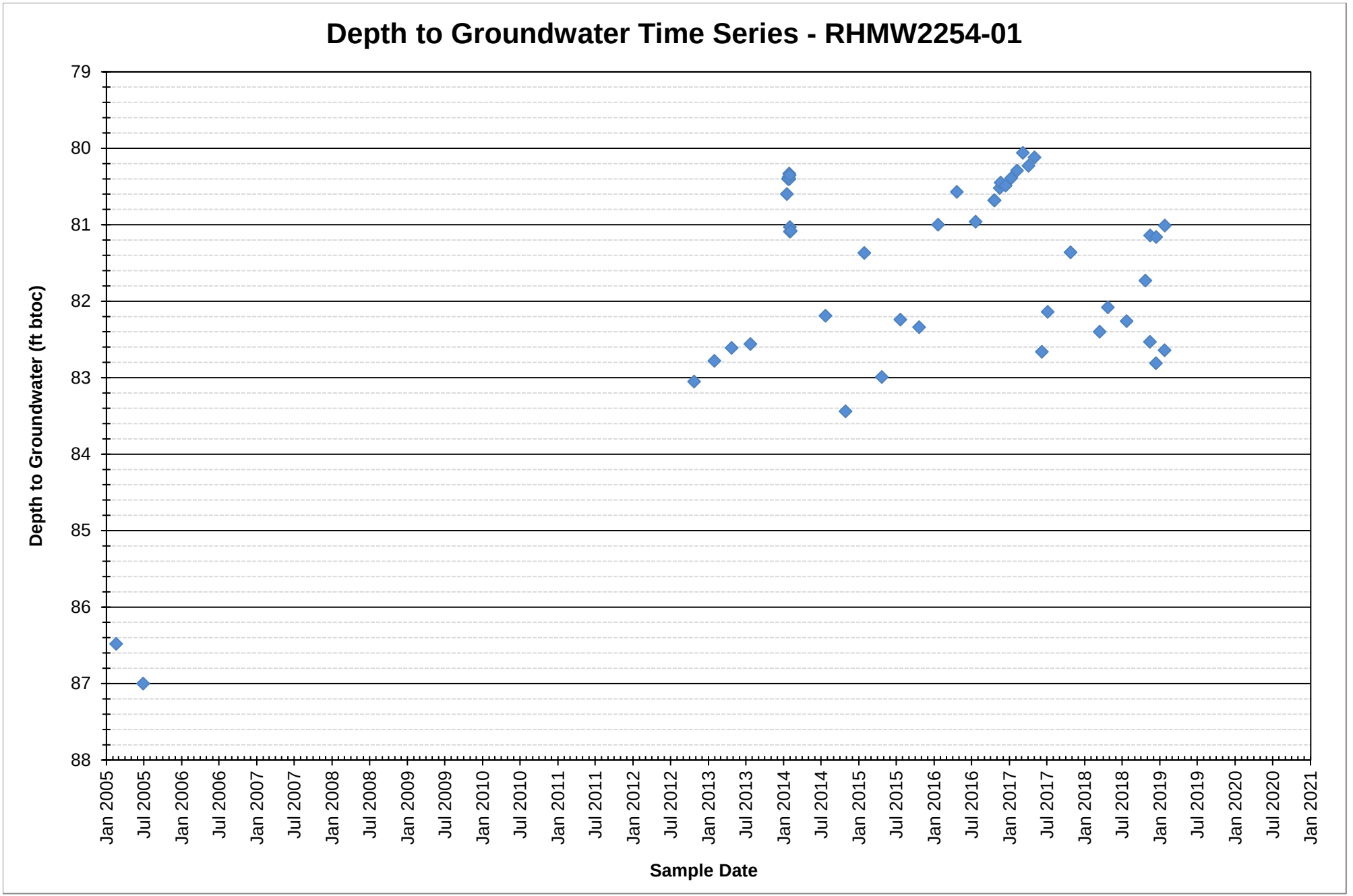
[c] The measurements have been corrected based on water level tape calibration and gyroscopic survey. See associated groundwater monitoring report.

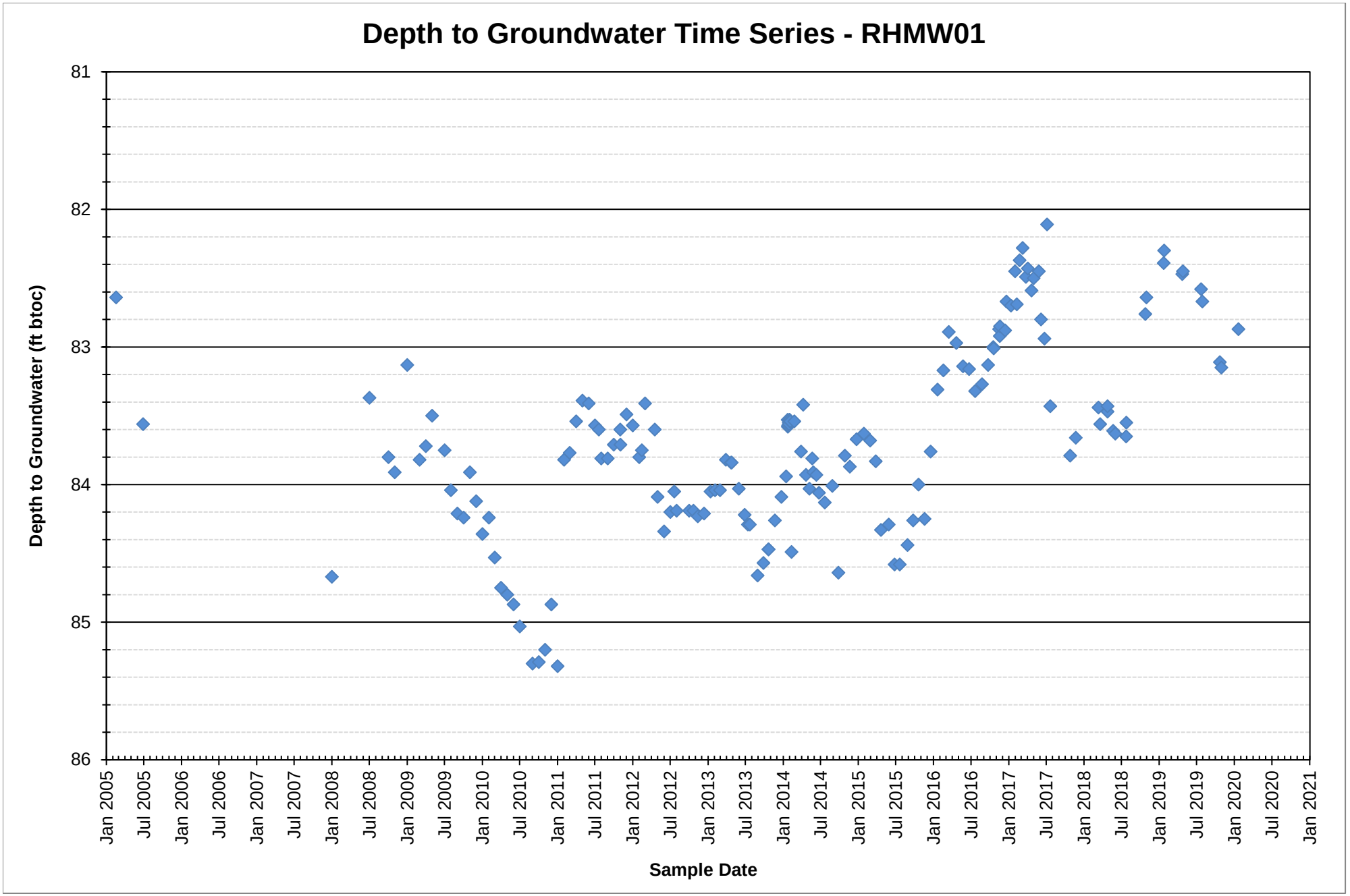
Source:

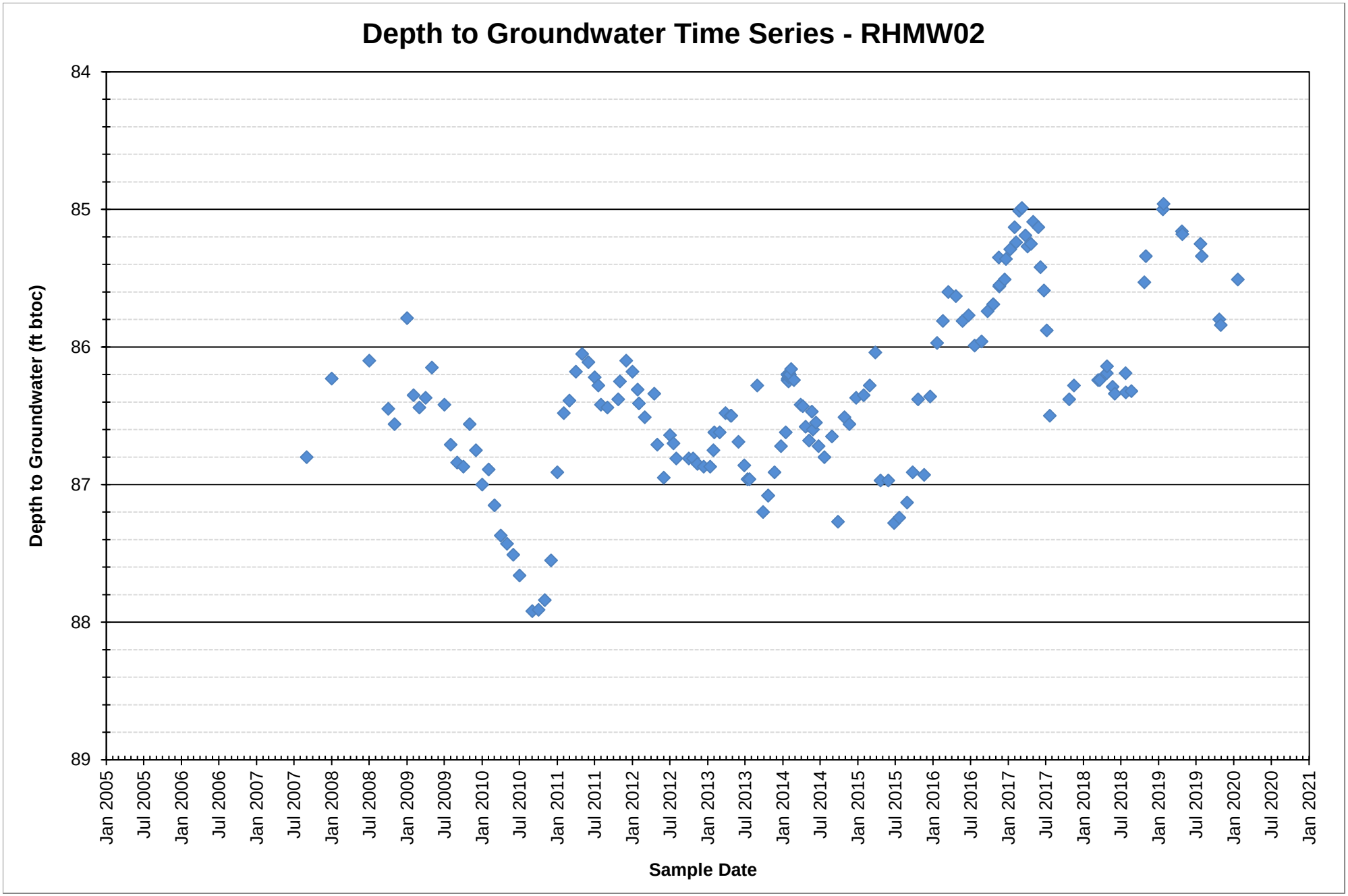
Depth to groundwater values from recent oil/water interface reports and from the Appendix A Groundwater Tables GW-9, GW-10, GW-14, GW-15, and GW-17 through GW-24 in:
Department of the Navy. 2007. *Existing Data Summary and Evaluation Report for Groundwater Flow and Contaminant Fate and Transport Modeling,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

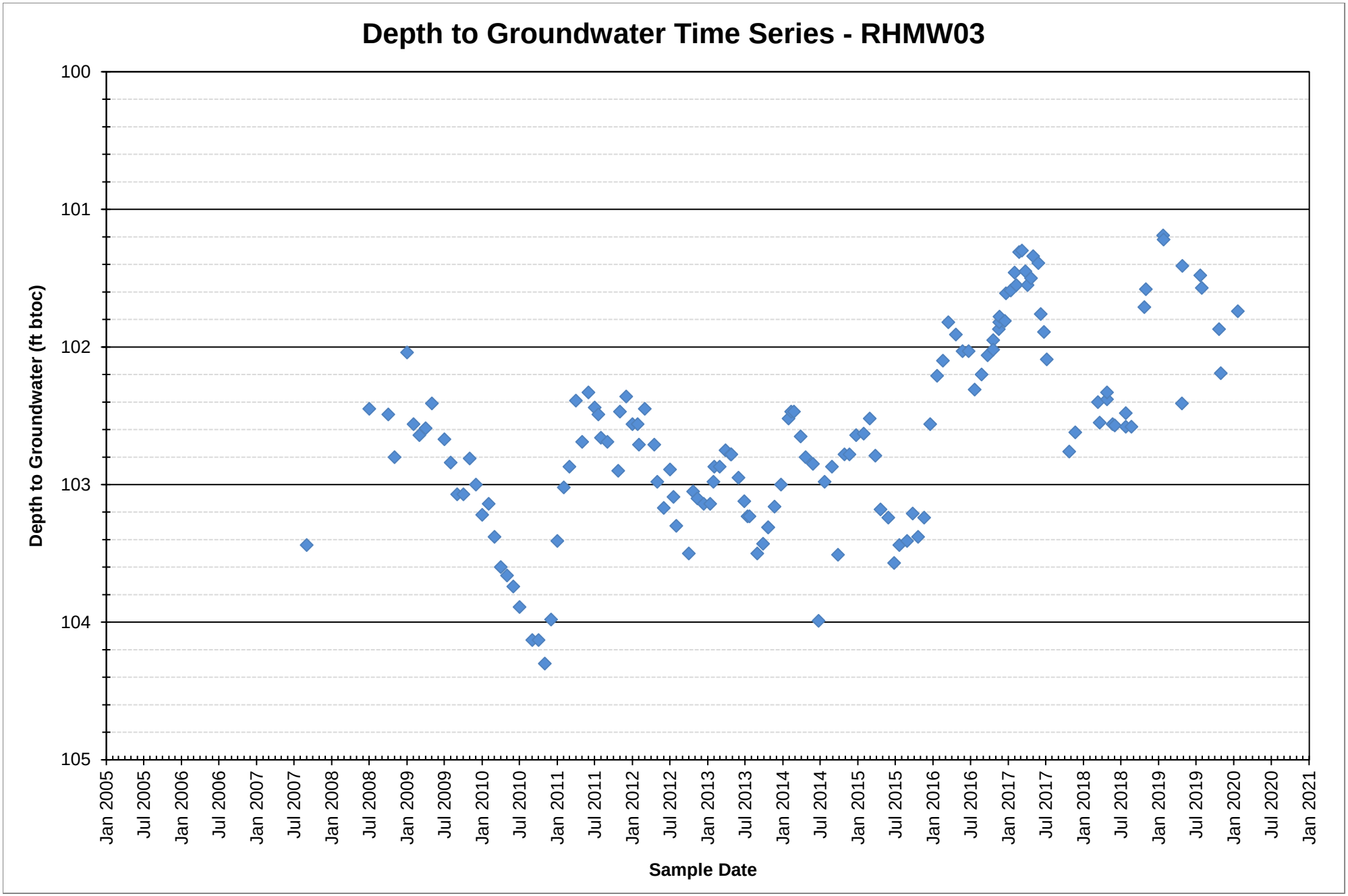
Reference points for these depth to water measurements may have varied over time:

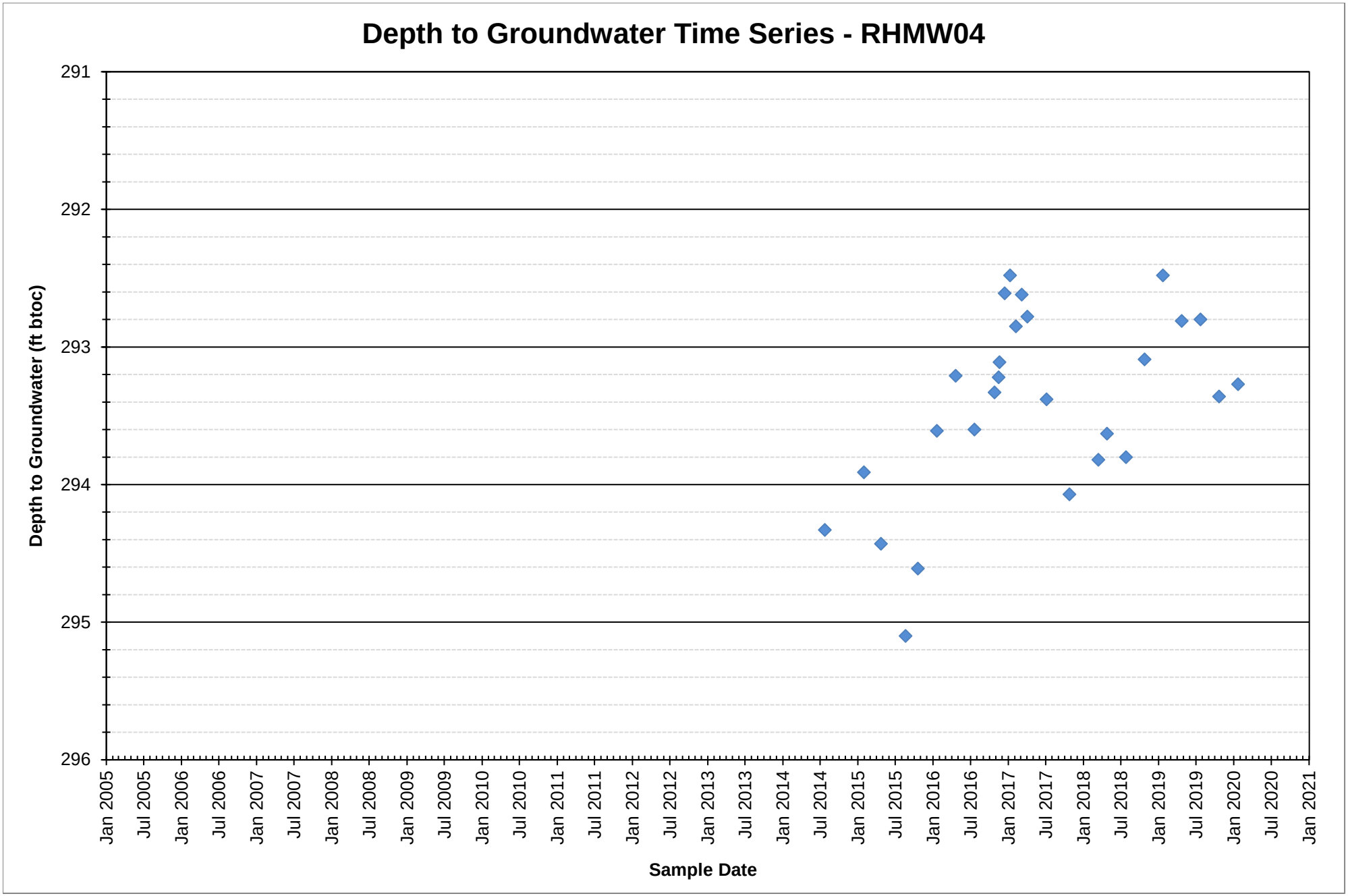
- Reference points for data prior to October 2016 are unknown.
- Reference points for RHMW01 to RHMW05, OWDFMW01, and HDMW2253-03 are the tops of permanent casings.
- Reference point for RHMW2254-01 was the top of the PVC casing for data prior to March 2018, and the high precision survey mark for data from March 2018 onwards.
- Reference points for RHMW06 to RHMW10 from October 2016 to July 2017 groundwater LTM events were the tops of the stand tubes (RHMW06 and RHMW07) and the tops of the slip rings (RHMW08, RHMW09, and RHMW10).
- Reference points for RHMW06 to RHMW10 from October 2017 groundwater LTM event onwards are the high precision survey mark on the tops of the gray plates.

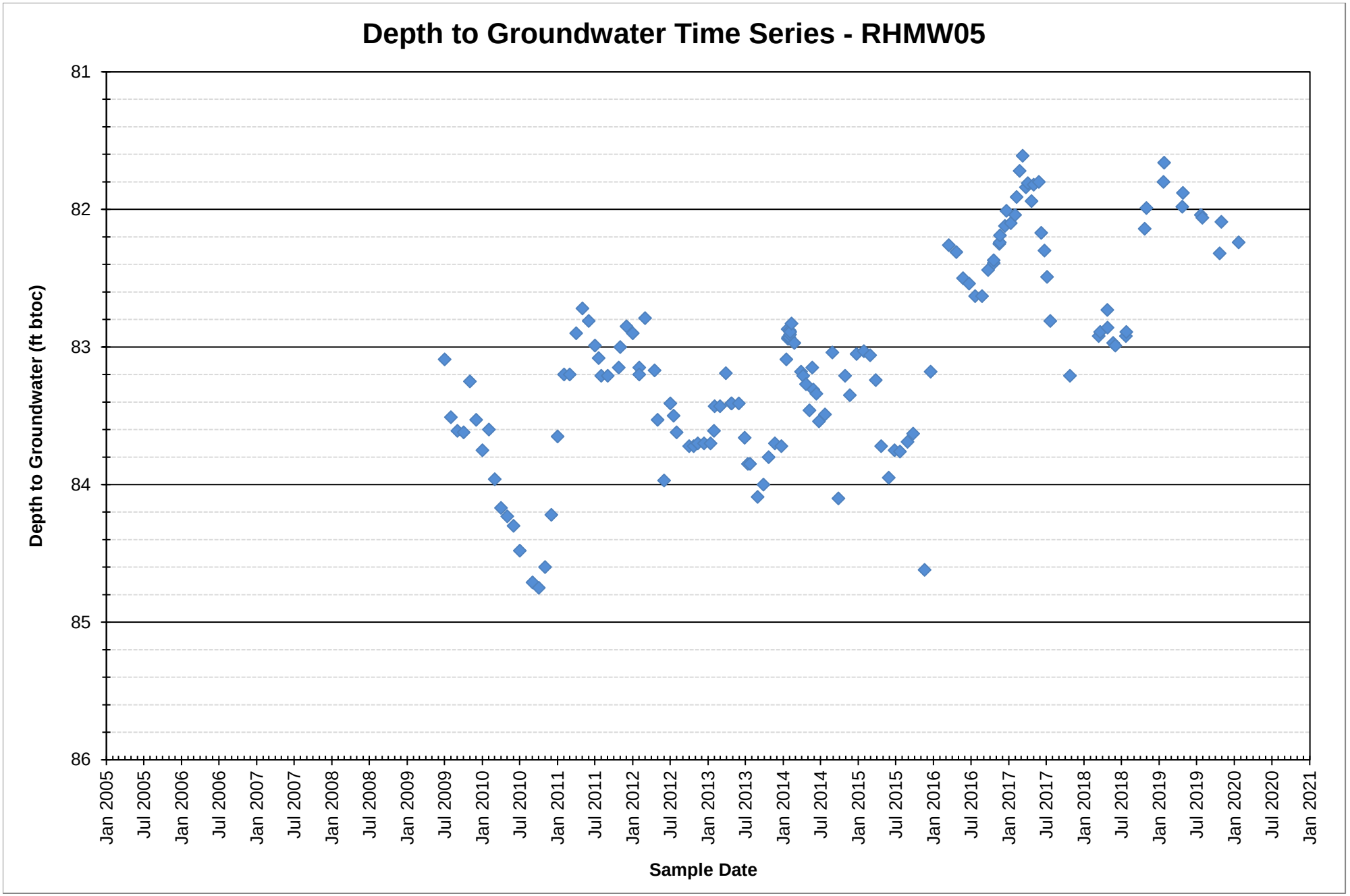

Depth to Groundwater Time Series - RHMW2254-01
Depth to Groundwater (ft btoc)
79
80
81
82
83
84
85
86
87
88
Jan 2005
Jul 2005
Jan 2006
Jul 2006
Jan 2007
Jul 2007
Jan 2008
Jul 2008
Jan 2009
Jul 2009
Jan 2010
Jul 2010
Jan 2011
Jul 2011
Jan 2012
Jul 2012
Jan 2013
Jul 2013
Jan 2014
Jul 2014
Jan 2015
Jul 2015
Jan 2016
Jul 2016
Jan 2017
Jul 2017
Jan 2018
Jul 2018
Jan 2019
Jul 2019
Jan 2020
Jul 2020
Jan 2021
Sample Date

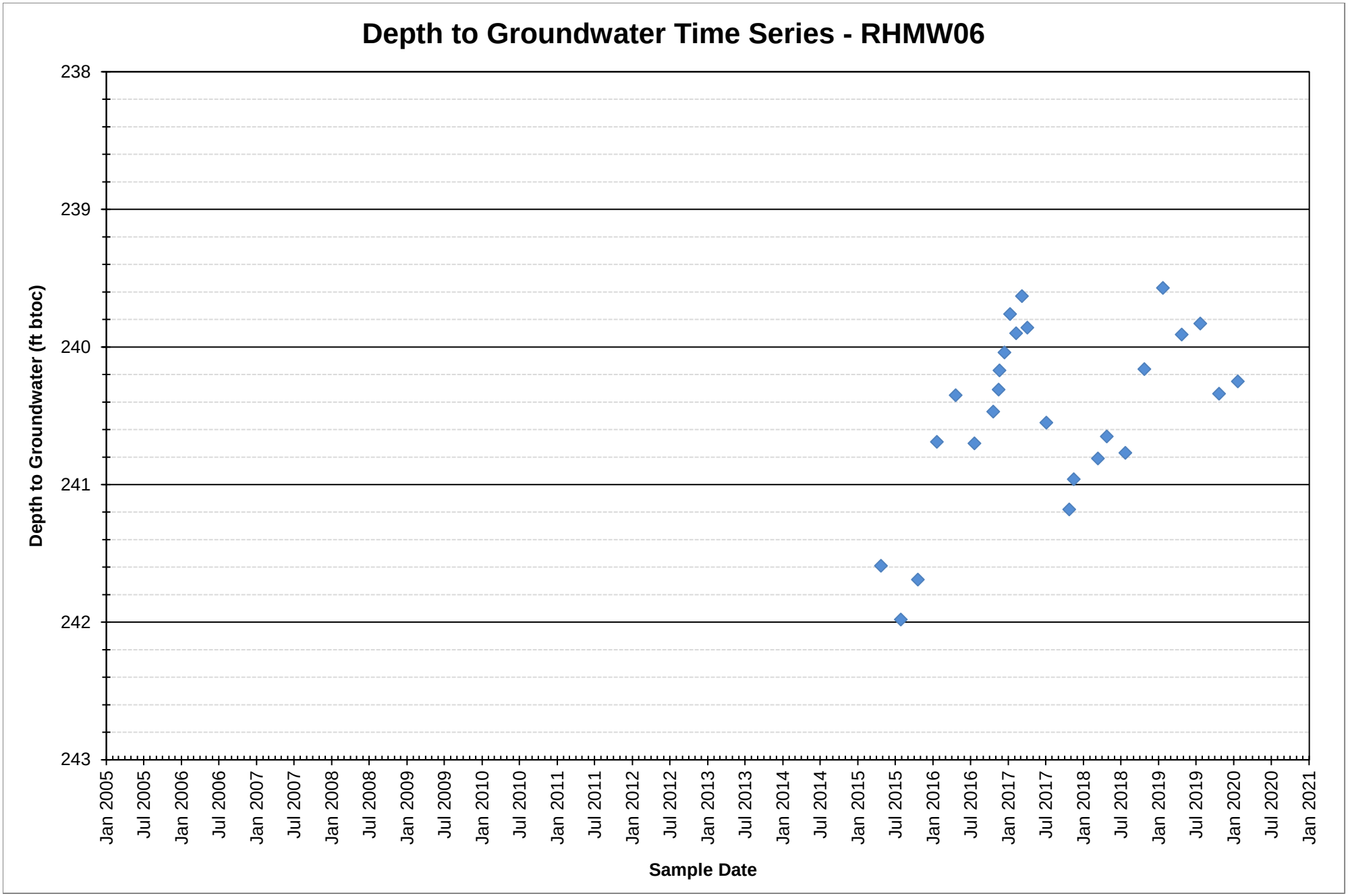

Depth to Groundwater Time Series - RHMW01
Depth to Groundwater (ft btoc)
81
82
83
84
85
86
Jan 2005
Jul 2005
Jan 2006
Jul 2006
Jan 2007
Jul 2007
Jan 2008
Jul 2008
Jan 2009
Jul 2009
Jan 2010
Jul 2010
Jan 2011
Jul 2011
Jan 2012
Jul 2012
Jan 2013
Jul 2013
Jan 2014
Jul 2014
Jan 2015
Jul 2015
Jan 2016
Jul 2016
Jan 2017
Jul 2017
Jan 2018
Jul 2018
Jan 2019
Jul 2019
Jan 2020
Jul 2020
Jan 2021
Sample Date

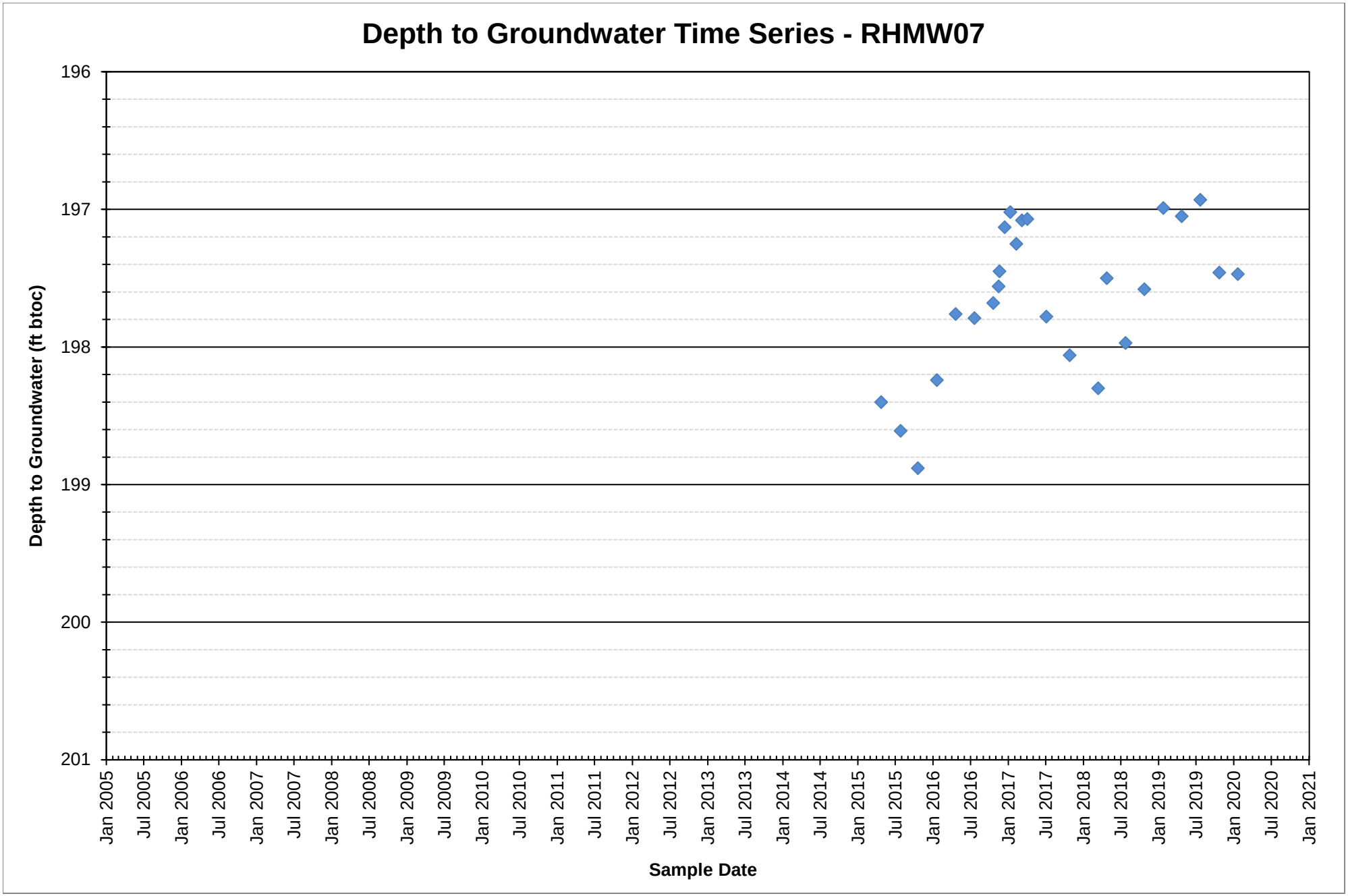

Depth to Groundwater Time Series - RHMW02
Depth to Groundwater (ft btoc)
84
85
86
87
88
89
Jan 2005
Jul 2005
Jan 2006
Jul 2006
Jan 2007
Jul 2007
Jan 2008
Jul 2008
Jan 2009
Jul 2009
Jan 2010
Jul 2010
Jan 2011
Jul 2011
Jan 2012
Jul 2012
Jan 2013
Jul 2013
Jan 2014
Jul 2014
Jan 2015
Jul 2015
Jan 2016
Jul 2016
Jan 2017
Jul 2017
Jan 2018
Jul 2018
Jan 2019
Jul 2019
Jan 2020
Jul 2020
Jan 2021
Sample Date

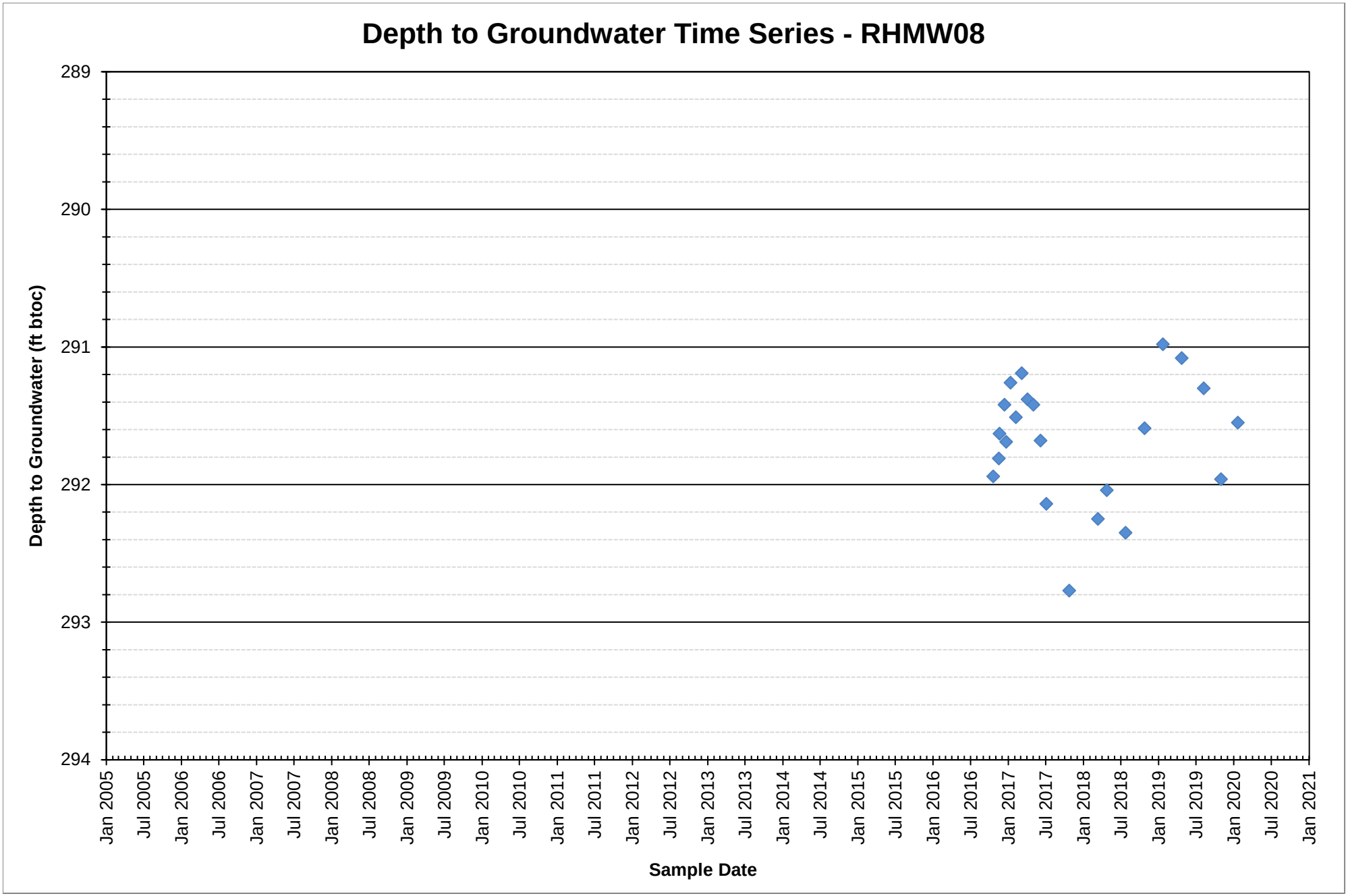

Depth to Groundwater Time Series - RHMW03
Depth to Groundwater (ft btoc)
100
101
102
103
104
105
Jan 2005
Jul 2005
Jan 2006
Jul 2006
Jan 2007
Jul 2007
Jan 2008
Jul 2008
Jan 2009
Jul 2009
Jan 2010
Jul 2010
Jan 2011
Jul 2011
Jan 2012
Jul 2012
Jan 2013
Jul 2013
Jan 2014
Jul 2014
Jan 2015
Jul 2015
Jan 2016
Jul 2016
Jan 2017
Jul 2017
Jan 2018
Jul 2018
Jan 2019
Jul 2019
Jan 2020
Jul 2020
Jan 2021
Sample Date

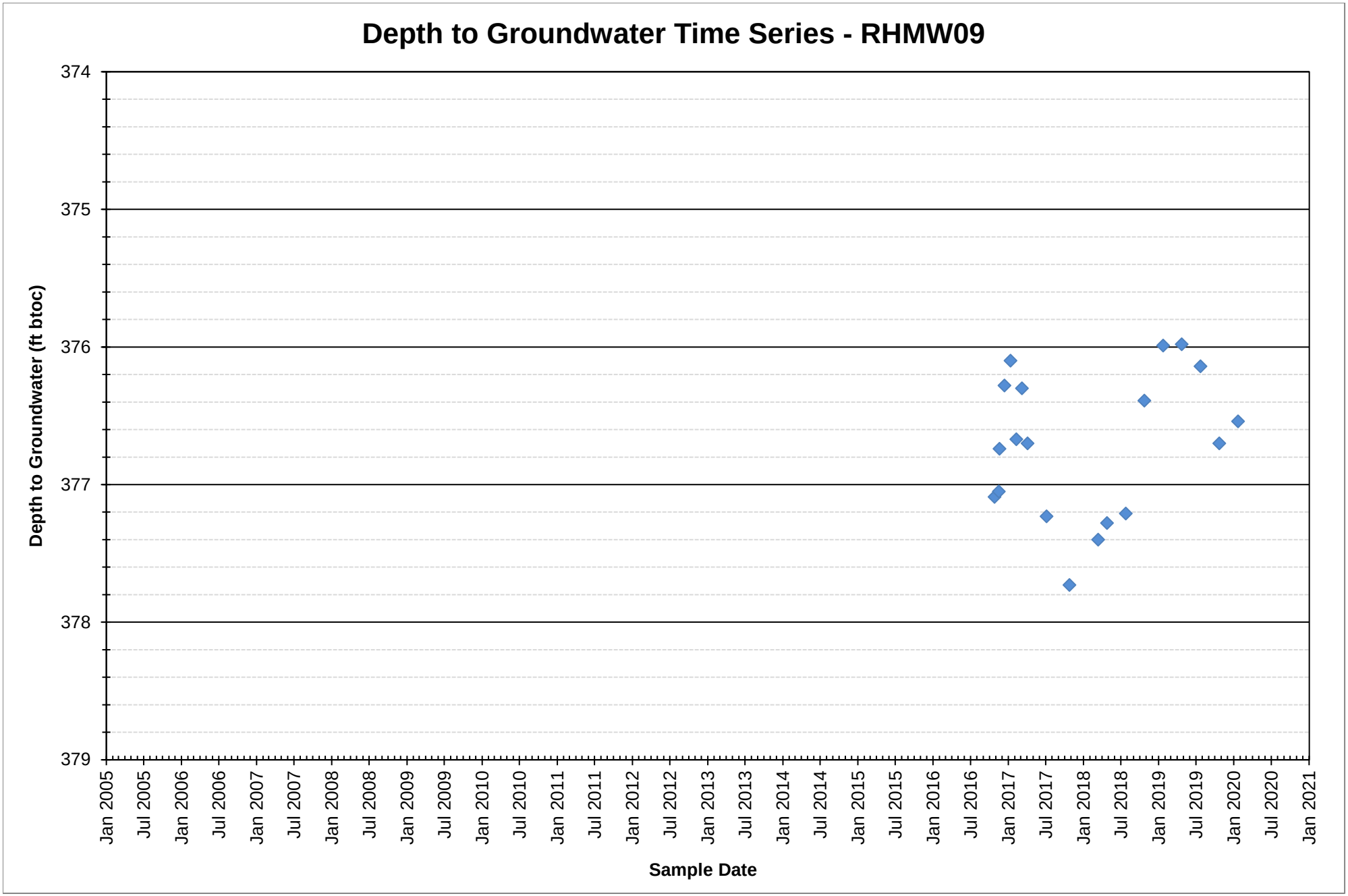

Depth to Groundwater Time Series - RHMW04
Depth to Groundwater (ft btoc)
291
292
293
294
295
296
Jan 2005
Jul 2005
Jan 2006
Jul 2006
Jan 2007
Jul 2007
Jan 2008
Jul 2008
Jan 2009
Jul 2009
Jan 2010
Jul 2010
Jan 2011
Jul 2011
Jan 2012
Jul 2012
Jan 2013
Jul 2013
Jan 2014
Jul 2014
Jan 2015
Jul 2015
Jan 2016
Jul 2016
Jan 2017
Jul 2017
Jan 2018
Jul 2018
Jan 2019
Jul 2019
Jan 2020
Jul 2020
Jan 2021
Sample Date

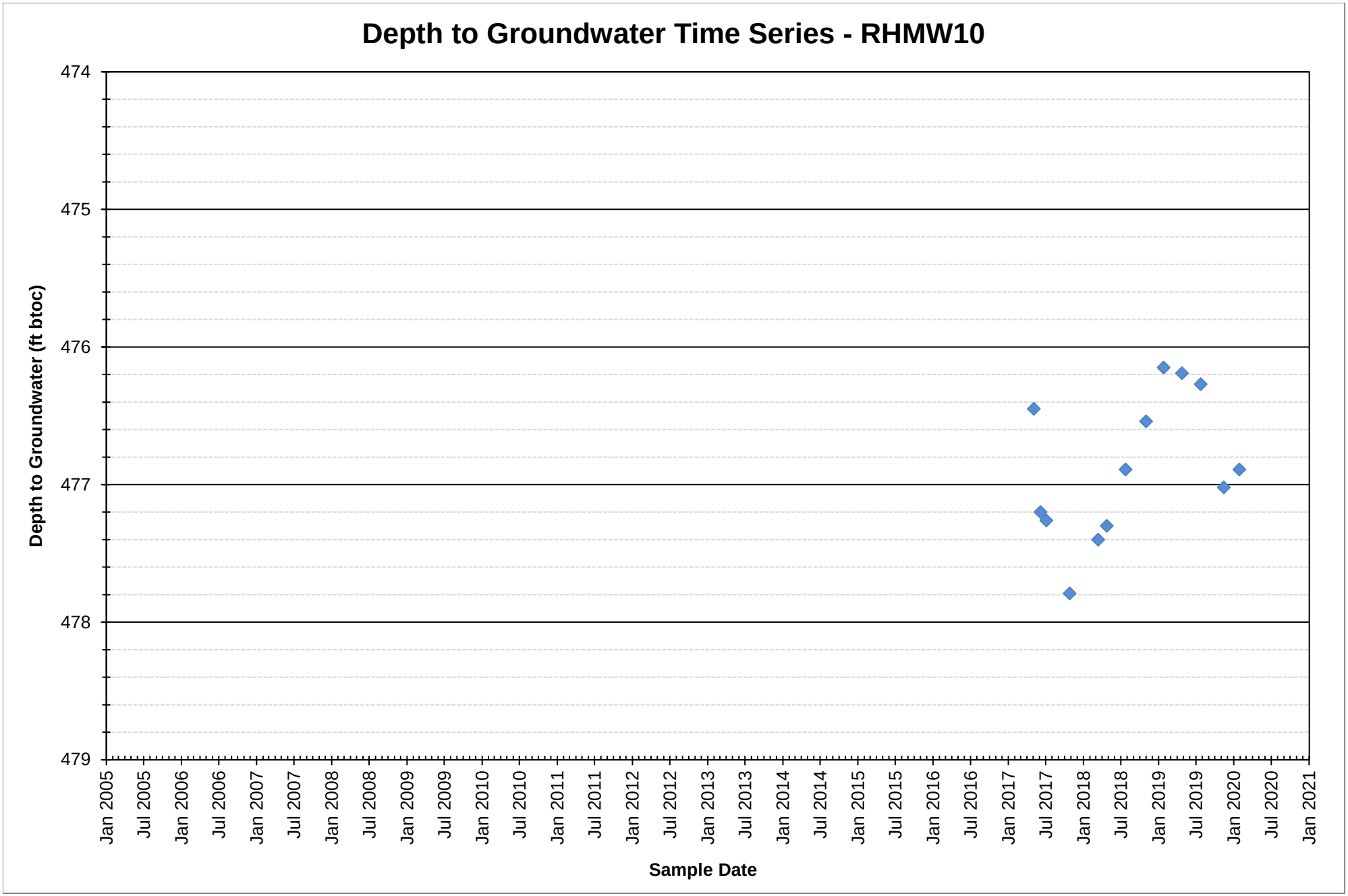

Depth to Groundwater Time Series - RHMW05
Depth to Groundwater (ft btoc)
81
82
83
84
85
86
Jan 2005
Jul 2005
Jan 2006
Jul 2006
Jan 2007
Jul 2007
Jan 2008
Jul 2008
Jan 2009
Jul 2009
Jan 2010
Jul 2010
Jan 2011
Jul 2011
Jan 2012
Jul 2012
Jan 2013
Jul 2013
Jan 2014
Jul 2014
Jan 2015
Jul 2015
Jan 2016
Jul 2016
Jan 2017
Jul 2017
Jan 2018
Jul 2018
Jan 2019
Jul 2019
Jan 2020
Jul 2020
Jan 2021
Sample Date

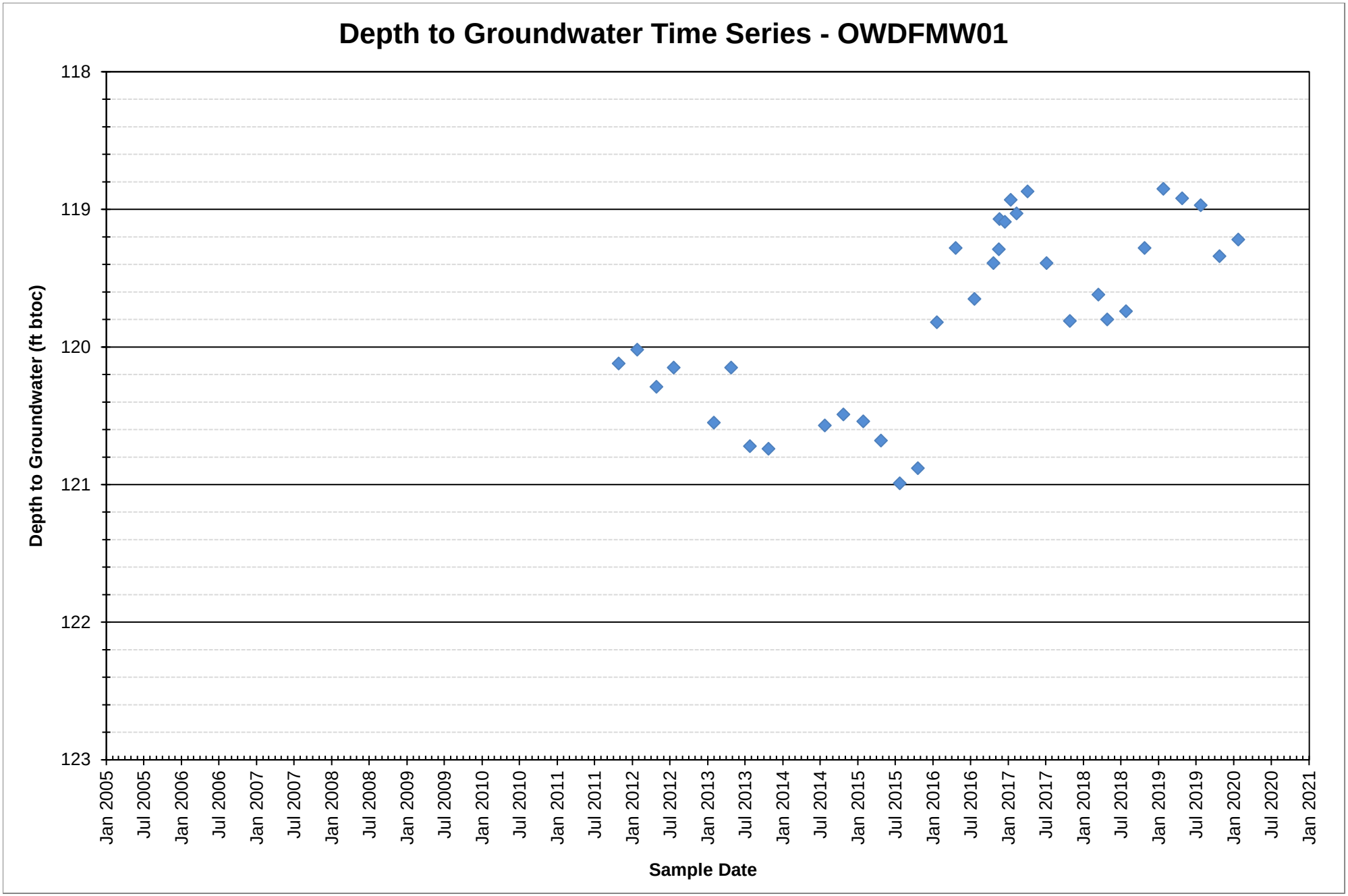

Depth to Groundwater Time Series - RHMW06
Depth to Groundwater (ft btoc)
238
239
240
241
242
243
Jan 2005
Jul 2005
Jan 2006
Jul 2006
Jan 2007
Jul 2007
Jan 2008
Jul 2008
Jan 2009
Jul 2009
Jan 2010
Jul 2010
Jan 2011
Jul 2011
Jan 2012
Jul 2012
Jan 2013
Jul 2013
Jan 2014
Jul 2014
Jan 2015
Jul 2015
Jan 2016
Jul 2016
Jan 2017
Jul 2017
Jan 2018
Jul 2018
Jan 2019
Jul 2019
Jan 2020
Jul 2020
Jan 2021
Sample Date

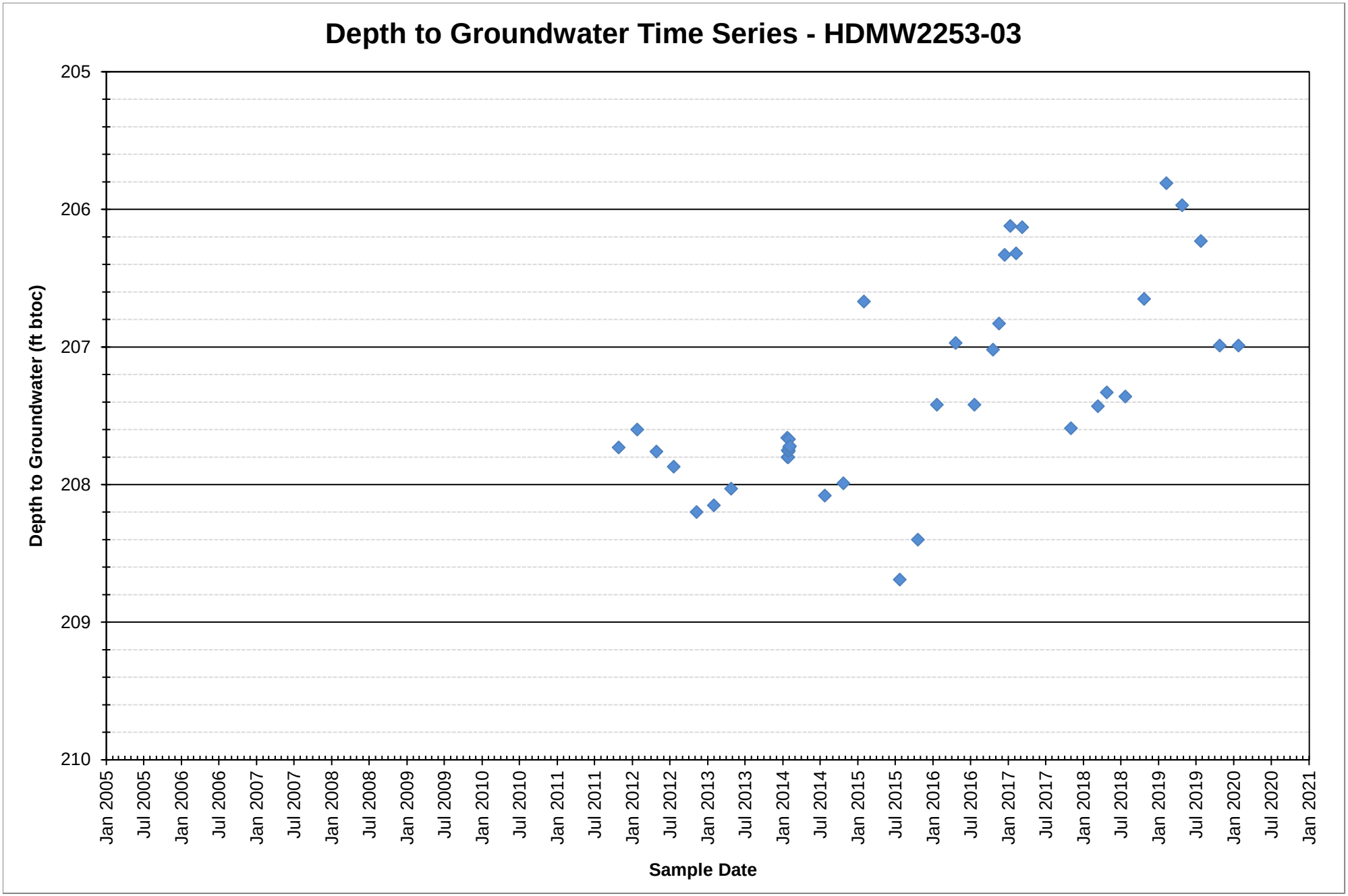

Depth to Groundwater Time Series - RHMW07
Depth to Groundwater (ft btoc)
196
197
198
199
200
201
Jan 2005
Jul 2005
Jan 2006
Jul 2006
Jan 2007
Jul 2007
Jan 2008
Jul 2008
Jan 2009
Jul 2009
Jan 2010
Jul 2010
Jan 2011
Jul 2011
Jan 2012
Jul 2012
Jan 2013
Jul 2013
Jan 2014
Jul 2014
Jan 2015
Jul 2015
Jan 2016
Jul 2016
Jan 2017
Jul 2017
Jan 2018
Jul 2018
Jan 2019
Jul 2019
Jan 2020
Jul 2020
Jan 2021
Sample Date


Depth to Groundwater Time Series - RHMW08
Depth to Groundwater (ft btoc)
289
290
291
292
293
294
Jan 2005
Jul 2005
Jan 2006
Jul 2006
Jan 2007
Jul 2007
Jan 2008
Jul 2008
Jan 2009
Jul 2009
Jan 2010
Jul 2010
Jan 2011
Jul 2011
Jan 2012
Jul 2012
Jan 2013
Jul 2013
Jan 2014
Jul 2014
Jan 2015
Jul 2015
Jan 2016
Jul 2016
Jan 2017
Jul 2017
Jan 2018
Jul 2018
Jan 2019
Jul 2019
Jan 2020
Jul 2020
Jan 2021
Sample Date


Depth to Groundwater Time Series - RHMW09
Depth to Groundwater (ft btoc)
374
375
376
377
378
379
Jan 2005
Jul 2005
Jan 2006
Jul 2006
Jan 2007
Jul 2007
Jan 2008
Jul 2008
Jan 2009
Jul 2009
Jan 2010
Jul 2010
Jan 2011
Jul 2011
Jan 2012
Jul 2012
Jan 2013
Jul 2013
Jan 2014
Jul 2014
Jan 2015
Jul 2015
Jan 2016
Jul 2016
Jan 2017
Jul 2017
Jan 2018
Jul 2018
Jan 2019
Jul 2019
Jan 2020
Jul 2020
Jan 2021
Sample Date


Depth to Groundwater Time Series - RHMW10
Depth to Groundwater (ft btoc)
474
475
476
477
478
479
Jan 2005
Jul 2005
Jan 2006
Jul 2006
Jan 2007
Jul 2007
Jan 2008
Jul 2008
Jan 2009
Jul 2009
Jan 2010
Jul 2010
Jan 2011
Jul 2011
Jan 2012
Jul 2012
Jan 2013
Jul 2013
Jan 2014
Jul 2014
Jan 2015
Jul 2015
Jan 2016
Jul 2016
Jan 2017
Jul 2017
Jan 2018
Jul 2018
Jan 2019
Jul 2019
Jan 2020
Jul 2020
Jan 2021
Sample Date


Depth to Groundwater Time Series - OWDFMW01
Depth to Groundwater (ft btoc)
118
119
120
121
122
123
Jan 2005
Jul 2005
Jan 2006
Jul 2006
Jan 2007
Jul 2007
Jan 2008
Jul 2008
Jan 2009
Jul 2009
Jan 2010
Jul 2010
Jan 2011
Jul 2011
Jan 2012
Jul 2012
Jan 2013
Jul 2013
Jan 2014
Jul 2014
Jan 2015
Jul 2015
Jan 2016
Jul 2016
Jan 2017
Jul 2017
Jan 2018
Jul 2018
Jan 2019
Jul 2019
Jan 2020
Jul 2020
Jan 2021
Sample Date


Depth to Groundwater Time Series - HDMW2253-03
Depth to Groundwater (ft btoc)
205
206
207
208
209
210
Jan 2005
Jul 2005
Jan 2006
Jul 2006
Jan 2007
Jul 2007
Jan 2008
Jul 2008
Jan 2009
Jul 2009
Jan 2010
Jul 2010
Jan 2011
Jul 2011
Jan 2012
Jul 2012
Jan 2013
Jul 2013
Jan 2014
Jul 2014
Jan 2015
Jul 2015
Jan 2016
Jul 2016
Jan 2017
Jul 2017
Jan 2018
Jul 2018
Jan 2019
Jul 2019
Jan 2020
Jul 2020
Jan 2021
Sample Date

Appendix B:
Field Activity Documentation,
First Quarter 2020
(on CD-ROM at end of document)

This page intentionally left blank

Appendix B.1:
Groundwater Sampling Logs

This page intentionally left blank

Red Hill Groundwater Sampling Log

WELL NO. **RHMW2254-01** LOCATION: Inside Tunnel PROJECT NO. 60571032

DATE: 01/21/2020 TIME: 0755 CLIMATIC CONDITIONS: In Tunnel

Depth to groundwater		Final Depth	Depth to Product	Depth to bottom		Purge			
Previous (ft btoc)	Current (ft btoc)	(ft btoc)	(ft btoc)	Previous (ft btoc)	Current (ft btoc)	Flow rate (mL/min)	Start Time	Total Volume (gal)	Battery Pack
*82.70	NM	NM	NM	115.79	NM	300	0917	2.5	Deep Cycle
**82.66	NM								

Pump settings:	Pressure (PSI)		Discharge (sec)		Fill (sec)	
Previous/Actual	50	50	25	50	35	35

Headspace VOCs:	0.1	ppm	Ambient VOCs:	0.1	ppm
Headspace O_2:	20.9	%	Ambient O_2:	20.9	%
Headspace LEL:	0	%	Ambient LEL:	0	%
Ambient CO:	0	ppm	Ambient H_2S:	0.0	%
O/W Interface Probe Type/Water Level Meter:	NA		Serial Number:	NA	
Gas Detector Type:	MultiRAE		Serial Number:	12Q1	
Water Quality Meter Type:	In-Situ Smartroll MP		Serial Number:	589972	

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

Depth to water measured from outside casing (free fall). Measure to survey mark.

* 200' Oil/Water Interface Probe measurement

** 500' Calibrated Water Level Meter measurement (N-1)

SAMPLING EQUIPMENT: Dedicated bladder pump

APPEARANCE OF SAMPLE: COLOR: Clear

SEDIMENT: None visble

ODOR/OTHER: No odor

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES / NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 16 Primary + 11 Dup + 18 MS/MSD = 45 Total

VOAs HCl: 4+4+4 =**12** H2SO4: 2 = **2**	Amber 1-L: 2+2+4= **8** 1-L (800mL): 2+2+4=**8** 500-mL: 3+3+6= **12**	Poly 250 mL H2SO4: **1** 250 mL HCl (brown): **1 filtered** 250 mL unpreserved.: **1**

SAMPLE IDENTIFICATION NUMBER(S) **ERH971 (N, MS/MSD)** **ERH972 (Dup)** **ERH970 (Trip Blank)**

DATE: 01/21/2020 TIME: Start: 0940 End: 1050 Start:0930

DECONTAMINATION PROCEDURES: Alconox, DI H_2O, Isopropyl, and DI H_2O wash

NOTES: Was the pump on or off? OFF

SAMPLED BY: DH, KL, MC SAMPLES DELIVERED TO: APPL TRANSPORTER: FedEx

WELL NO. **RHMW2254-01** LOCATION: Inside Tunnel PROJECT NO. 60571032

TIME	DTW**	LITERS REMOVED	TDS (ppm)	pH	SP. COND. (mS/cm)	D.O. (mg/L)	TURB. (NTU)	TEMP (°C)	ORP (mV)	SAL (psu)
0918	Water at surface									
0921	NM	2.0	319.31	7.54	0.49	8.47	0.16	22.19	90.6	0.2
0925	NM	3.0	318.32	7.63	0.49	8.51	0.15	21.99	94.3	0.2
0929	NM	4.0	318.47	7.68	0.49	8.56	0.14	21.90	96.1	0.2
0933	NM	5.75	318.71	7.72	0.49	8.59	0.09	21.85	98.5	0.2
0937	NM	7.0	318.56	7.75	0.49	8.63	0.08	21.82	100.4	0.2
0940	Start sampling									

Red Hill Groundwater Sampling Log

WELL NO. **RHMW01** LOCATION: Inside Tunnel PROJECT NO. 60571032

DATE: 01/20/2020 TIME: 0808 CLIMATIC CONDITIONS: Inside Tunnel

Depth to groundwater		Final Depth	Depth to Product	Depth to bottom		Purge			
Previous (ft btoc)	Current (ft btoc)	(ft btoc)	(ft btoc)	Previous (ft btoc)	Current (ft btoc)	Flow rate (mL/min)	Start Time	Total Volume (gal)	Battery Pack
*83.20	82.92	82.89*	NA	99.8	NM	80	0821	0.75	Deep cycle Jch20012398192
**83.13	82.89								

Pump settings:	Pressure (PSI)		Discharge (sec)		Fill (sec)	
Previous/Actual	45	45	7	7	8	8

Headspace VOCs:	0.0	ppm	Ambient VOCs:	0.0	ppm
Headspace O_2:	20.9	%	Ambient O_2:	20.9	%
Headspace LEL:	0	%	Ambient LEL:	0	%
Ambient CO:	0	ppm	Ambient H_2S:	0.0	ppm
O/W Interface Probe Type/Water Level Meter:	Heron/Solinst		Serial Number:	31242/N-1	
Gas Detector Type:	MultiRAE		Serial Number:	28Q9	
Water Quality Meter Type:	In-Situ SmarTroll MP		Serial Number:	589972	

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

Depth to water measured from red survey mark on top of permanent casing.

* 200' Oil/Water Interface Probe measurement

** 500' Calibrated Water Level Meter measurement (N-1)

TIME	DTW**	LITERS REMOVED	TDS (ppm)	pH	SP. COND. (mS/cm)	D.O. (mg/L)	TURB. (NTU)	TEMP. (°C)	ORP (mV)	SAL (psu)
0821	82.89	Water at surface								
0837	82.89	1.25	208.37	7.03	0.32	1.31	0.22	24.39	30.6	0.2

(see next page)

SAMPLING EQUIPMENT: Bladder Pump

APPEARANCE OF SAMPLE: COLOR: Clear

SEDIMENT: None

ODOR/OTHER: None

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

16 Primary + 8 Lab Study = 24 Total

VOAs	Amber	Poly
HCl: 4 + 8 = **12**	1-L: **2**	250 mL H2SO4: **1**
H2SO4: **2**	1-L (800mL): **2**	250 mL HCl (brown): **1 filtered**
	500-mL: **3**	250 mL unpres.: **1**

SAMPLE IDENTIFICATION NUMBER(S) **ERH974 (N) ERH973 (Trip Blank) 0845 ERH1016 (Lab Study)**

DATE: 01/20/2020 TIME: Start:0905 End:1030 Start: 0905

DECONTAMINATION PROCEDURES: Alconox, DI water, Isopropyl, and DI water wash

NOTES: NA: Not applicable, NM: Not measured

SAMPLED BY: KL, DH, MC

SAMPLES DELIVERED TO: APPL TRANSPORTER: FedEx

WELL NO. **RHMW01** LOCATION: Inside Tunnel PROJECT NO. 60571032

TIME	DTW**	LITERS REMOVED	TDS (ppm)	pH	SP. COND. (mS/cm)	D.O. (mg/L)	TURB. (NTU)	TEMP. (°C)	ORP (mV)	SAL (psu)
0841	82.89’	1.8	208.41	6.97	0.32	1.01	0.15	24.32	24.2	0.2
0845	82.89’	1.9	208.47	6.95	0.32	0.90	0.16	24.28	17.4	0.2
0849	82.89’	2.0	208.55	6.94	0.32	0.83	0.14	24.23	11.6	0.2
0853	82.89’	2.3	208.47	6.94	0.32	0.78	0.13	24.19	7.4	0.2
0857	82.89’	2.8	208.54	6.94	0.32	0.74	0.09	24.18	2.7	0.2
0901	82.89’	3.0	208.51	6.93	0.32	0.72	0.12	24.14	0.4	0.2
0905	Start sampling									

WELL NO. **RHMW02** LOCATION: Inside Tunnel PROJECT NO. 60571032

DATE: 01/20/2020 TIME: 1050 CLIMATIC CONDITIONS: Inside Tunnel

Depth to groundwater		Final Depth	Depth to Product	Depth to bottom		Purge			
Previous (ft btoc)	Current (ft btoc)	(ft btoc)	(ft btoc)	Previous (ft btoc)	Current (ft btoc)	Flow rate (mL/min)	Start Time	Total Volume (gal)	Battery Pack
*85.95	85.64	85.59	NA	99	NM	275	1101	3.5	Deep cycle Jch20012398192
**85.88	85.59								

Pump settings:	Pressure (PSI)		Discharge (sec)		Fill (sec)	
Previous/Actual	50	48	25	25	35	35

Headspace VOCs:	0.0	ppm	Ambient VOCs:	0.0	ppm
Headspace O_2:	11.6	%	Ambient O_2:	20.9	%
Headspace LEL:	4	%	Ambient LEL:	0	%
Ambient CO:	0	%	Ambient H_2S:	0.0	%
O/W Interface Probe Type/Water Level Meter:	Heron H. Oil Solinist 107		Serial Number:	01-5920/N-1	
Gas Detector Type:	MultiRAE		Serial Number:	28Q9	
Water Quality Meter Type:	In-Situ Smartroll MP		Serial Number:	589972	

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

Depth to water measured from red survey mark on top of permanent casing.

* 200' Oil/Water Interface Probe measurement

** 500' Calibrated Water Level Meter measurement (N-1)

SAMPLING EQUIPMENT: Dedicated Bladder Pump

APPEARANCE OF SAMPLE: COLOR: Clear

SEDIMENT: None

ODOR/OTHER: None

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

16 Primary + 11 Duplicate + 8 Lab Study + 8 Lab Study Dup = 43 Total

VOAs	Amber	Poly
HCl: 4+ 4+ 8+ 8 = **24**	1-L: 2 + 2 = **4**	250 mL H2SO4: **1**
H2SO4: **2**	1-L: (800 ml): 2 + 2 = **4**	250 mL HCl (brown): **1 filtered**
	500-mL: 3 + 3 = **6**	250 mL unpres.: **1**

SAMPLE IDENTIFICATION NUMBER(S) **ERH976 (N)** **ERH977 (Dup)** **ERH975 (Trip Blank)** **ERH1017 (Lab Study)** **ERH1018 (Lab Study Dup)**

DATE: 01/20/2020 TIME: Start: 1134 End:1240 Start: 1120

DECONTAMINATION PROCEDURES: Alconox, DI water, Isopropyl, and DI water wash

NOTES: —

SAMPLED BY: KL, MC, DH

SAMPLES DELIVERED TO: APPL TRANSPORTER: FedEx

WELL NO. **RHMW02** LOCATION: Inside Tunnel PROJECT NO. 60571032

TIME	DTW**	LITERS REMOVED	TDS (ppm)	pH	SP. COND. (mS/cm)	D.O. (mg/L)	TURB. (NTU)	TEMP. (°C)	ORP (mV)	SAL (psu)
1101	Water at surface									
1110	85.62’	2	340.75	6.73	0.52	0.59	1.21	24.31	28.1	0.3
1114	85.62’	3	339.88	6.61	0.52	0.42	0.66	24.01	15.3	0.3
1118	85.62’	4.25	340.30	6.63	0.52	0.35	0.55	23.93	7.9	0.3
1122	85.62’	5.5	340.64	6.64	0.52	0.34	0.48	23.92	2.4	0.3
1126	85.61’	7	341.59	6.65	0.53	0.32	0.47	23.92	-2.1	0.3
1130	85.61’	8	341.29	6.64	0.53	0.34	0.41	23.93	-5.4	0.3
1134	Start sampling									

Red Hill Groundwater Sampling Log

WELL NO. **RHMW03** LOCATION: Inside Tunnel PROJECT NO. 60571032

DATE: 01/20/2020 TIME: 1345 CLIMATIC CONDITIONS: Inside Tunnel

Depth to groundwater		Final Depth	Depth to Product	Depth to bottom		Purge			
Previous (ft btoc)	Current (ft btoc)	(ft btoc)	(ft btoc)	Previous (ft btoc)	Current (ft btoc)	Flow rate (mL/min)	Start Time	Total Volume (gal)	Battery Pack
*102.00	101.87	102.08 @1500	NA	117.30	NM	300	1356	2.5	Deep cycle jch20012398192
**101.94	101.81								

Pump settings:	Pressure (PSI)		Discharge (sec)		Fill (sec)	
Previous/Actual	55	55	25	25	35	35

Headspace VOCs:	0.0	ppm	Ambient VOCs:	0.0	ppm
Headspace O_2:	20.9	%	Ambient O_2:	20.4	%
Headspace LEL:	0	%	Ambient LEL:	0	%
Ambient CO:	0	ppm	Ambient H_2S:	0.0	%
O/W Interface Probe Type/Water Level Meter:	Heron/Solinst		Serial Number:	31242/N-1	
Gas Detector Type:	MultiRAE		Serial Number:	28Q9	
Water Quality Meter Type:	In-Situ Smartroll MP		Serial Number:	589972	

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

Depth to water measured from red survey mark on top of permanent casing.

* 200' Oil/Water Interface Probe measurement

** 500' Calibrated Water Level Meter measurement (N-1)

SAMPLING EQUIPMENT: Dedicated Bladder Pump

APPEARANCE OF SAMPLE: COLOR: Clear

SEDIMENT: Some particulates

ODOR/OTHER: None

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

16 primary + 8 Lab Study = 24 Total

VOAs	Amber	Poly
HCl: 4 +8 **= 12**	1-L: **2**	250 mL H2SO4: **1**
H2SO4: **2**	1-L (800mL): **2**	250 mL HCl (brown): **1 filtered**
	500-mL: **3**	250 mL unpres.: **1**

SAMPLE IDENTIFICATION NUMBER(S) **ERH979 (N)** **ERH978 (Trip Blank)** **ERH1019 (Lab Study)**

DATE: 01/20/2020 TIME: Start:1430 End: 1500 Start:1410

DECONTAMINATION PROCEDURES: Alconox, DI water, Isopropyl, and DI water wash

NOTES: *Particulates causing turbidity reading to vary greatly between 3 and 7 (±2 NTU)

**Lowered pressure and flow rate to 225-250 mL/min

SAMPLED BY: KL, DH, MC

SAMPLES DELIVERED TO: APPL TRANSPORTER: FedEx

WELL NO. **RHMW03** LOCATION: Inside Tunnel PROJECT NO. 60571032

TIME	DTW**	LITERS REMOVED	TDS (ppm)	pH	SP. COND. (mS/cm)	D.O. (mg/L)	TURB. (NTU)	TEMP. (°C)	ORP (mV)	SAL (psu)
1356	Water to surface									
1402	102.04'	1.75	539.75	7.02	0.83	2.69	3.58*	26.51	39.5	0.4
1406	102.14	2.50	529.97	6.87	0.81	1.29	3.85(3-7)*	26.79	44.5	0.4
1410	102.18	4.00	529.19	6.85	0.81	1.11	2.75*	26.63	48.2	0.4
1414	102.18	5.00	529.00	6.86	0.81	1.08	1.26(.9-1.7)	26.56	51.2	0.4
1418	102.20	6.00	528.10	6.88	0.81	1.05	0.65*	26.51	54.0	0.4
1422**	102.10	7.00	527.74	6.88	0.81	1.04	0.50*	26.50	55.8	0.4
1426	102.08	8.00	527.64	6.89	0.81	1.03	0.35	26.55	58.2	0.4
1430	Start sampling									

Red Hill Groundwater Sampling Log

WELL NO. **RHMW04** LOCATION: Outside Tunnel PROJECT NO. 60571032

DATE:01/21/2020 TIME: 0806 CLIMATIC CONDITIONS: Sunny, 69°F, 83% humidity, light winds

Depth to groundwater		Final Depth	Depth to Product	Depth to bottom		Purge			
Previous (ft btoc)	Current (ft btoc)	(ft btoc)	(ft btoc)	Previous (ft btoc)	Current (ft btoc)	Flow rate (mL/min)	Start Time	Total Volume (gal)	Nitrogen used
*293.51	293.40*	293.31	NA	305	NM	300	0828	13.75	Start: 2300 psi End: 2000 psi
**293.41	293.32**								

Pump settings:	Pressure (PSI)		Discharge (sec)		Fill (sec)	
Previous/Actual	140	140	28	28	32	32

Headspace VOCs: 0.0 ppm Ambient VOCs: 0.0 ppm

O/W Interface Probe Type/Water Level Meter: Rental Heron / Navy Solinst Serial Number: 01-5881 / N-2

Gas Detector Type: MiniRAE 3000 (10.6 eV) Serial Number: 592-914105

Water Quality Meter Type: In-Situ Smartroll MP Serial Number: 846770

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

Depth to water measured from red survey mark on top of permanent casing.

* 500' Rental Oil/Water Interface Probe measurement

** 1000' Calibrated Water Level Meter measurement (N-2)

TIME	DTW**	LITERS REMOVED	TDS (ppm)	pH	SP. COND. (mS/cm)	D.O. (mg/L)	TURB. (NTU)	TEMP. (°C)	ORP (mV)	SAL (psu)
0840	Water at surface									
0855	293.32	4.0	287.46	7.14	0.44	8.67	4.29	22.04	85.4	0.2
0900	293.32	6.1	287.93	7.32	0.44	8.48	2.86	21.98	84.7	0.2

(see next page)

SAMPLING EQUIPMENT: Dedicated Bladder Pump

APPEARANCE OF SAMPLE: COLOR: Clear

SEDIMENT: None

ODOR/OTHER: None

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES / NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 16 Primary = 16 Total

VOAs	Amber	Poly
HCl: **4**	1-L: **2**	250 mL HCl: **1**
H2SO4: **2**	1-L (800 mL): **2**	250 mL HCl (brown): **1 filtered**
	500-mL: **3**	250 mL unpres.: **1**

SAMPLE IDENTIFICATION NUMBER(S) **ERH981 (N)** **ERH980 (Trip Blank)**

DATE: 01/21/2020 TIME: Start:0930 End:1010 Start:0900

DECONTAMINATION PROCEDURES: Alconox, DI water, Isopropyl, and DI water wash

NOTES: Landscaping team working ~100 ft from sampling area from 0835 to 0910

SAMPLED BY: GM, RS, DM

SAMPLES DELIVERED TO: APPL TRANSPORTER: FedEx

WELL NO. **RHMW04** LOCATION: Outside Tunnel PROJECT NO. 60571032

TIME	DTW**	LITERS REMOVED	TDS (ppm)	pH	SP. COND. (mS/cm)	D.O. (mg/L)		TURB. (NTU)	TEMP. (°C)	ORP (mV)	SAL (psu)
0905	293.32	7.8	287.27	7.35	0.44	8.56		2.42	21.94	85.0	0.2
0910	293.32	9.0	286.09	7.36	0.44	8.52		2.22	21.92	85.2	0.2
0915	293.32	10.5	286.42	7.37	0.44	8.47		2.40	21.91	85.8	0.2
0920	293.32	11.75	285.44	7.38	0.44	8.47		2.10	21.89	85.9	0.2
0925	293.32	13.75	285.60	7.38	0.44	8.45	(97.0%)	2.65	21.89	86.4	0.2
0930	Begin sampling reduce flow rate to 125mL/min to collect VOAs										
	Return flow rate to 300mL/min to collect remaining samples.										

Red Hill Groundwater Sampling Log

WELL NO. **RHMW05** LOCATION: Inside Tunnel PROJECT NO. 60571032

DATE: 01/21/2020 TIME: 1205 CLIMATIC CONDITIONS: Inside Tunnel

Depth to groundwater		Final Depth	Depth to Product	Depth to bottom		Purge			
Previous (ft btoc)	Current (ft btoc)	(ft btoc)	(ft btoc)	Previous (ft btoc)	Current (ft btoc)	Flow rate (mL/min)	Start Time	Total Volume (gal)	Battery Pack
*82.43	82.32	82.27	NA	93	NM	250	1215	1.5	Deep Cycle
**82.35	82.27								

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

Headspace VOCs:	0.1	ppm	Ambient VOCs:	0.0	ppm
Headspace O_2:	20.9	%	Ambient O_2:	20.9	%
Headspace LEL:	0	%	Ambient LEL:	0	%
Ambient CO:	0	ppm	Ambient H_2S:	0.0	%
O/W Interface Probe Type/Water Level Meter:	Heron H Oil Solinst 107		Serial Number:	N-1	
Gas Detector Type:	MultiRAE		Serial Number:	12Q1	
Water Quality Meter Type:	In-Situ Smartroll MP		Serial Number:	589972	

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

Depth to water measured from red survey mark on top of permanent casing.

* 200' Oil/Water Interface Probe measurement

** 500' Calibrated Water Level Meter measurement (N-1)

SAMPLING EQUIPMENT: Dedicated Bladder Pump

APPEARANCE OF SAMPLE: COLOR: Clear

SEDIMENT: None visible

ODOR/OTHER: No odor

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES / NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 16 Primary = 16 Total

VOAs	Amber	Poly
HCl: **4**	1-L: **2**	250 mL H2SO4: **1**
H2SO4: **2**	1-L (800 mL): **2**	250 mL HCl (brown): **1 filtered**
	500-mL: **3**	250 mL unpres.: **1**

SAMPLE IDENTIFICATION NUMBER(S) **ERH983 (N)** **ERH982 (Trip Blank)**

DATE: 01/21/2020 TIME: Start: 1240 End:1310 Start:1230 End: 1230

DECONTAMINATION PROCEDURES: Alconox, DI water, Isopropyl, and DI water wash

NOTES:

SAMPLED BY: MC, EH, KL

SAMPLES DELIVERED TO: APPL TRANSPORTER: FedEx

WELL NO. **RHMW05** LOCATION: Inside Tunnel PROJECT NO. 60571032

TIME	DTW**	LITERS REMOVED	TDS (ppm)	pH	SP. COND. (mS/cm)	D.O. (mg/L)	TURB. (NTU)	TEMP. (°C)	ORP (mV)	SAL (psu)
1216	Water at surface									
1221	82.28	1.75	481.24	8.23	0.74	8.45	1.12	24.46	106.2	0.4
1225	82.28	2.75	478.95	8.22	0.74	8.40	1.10	24.23	110.8	0.4
1229	82.28	3.5	478.44	8.21	0.74	8.39	0.62	24.23	113.5	0.4
1233	82.28	4.75	478.05	8.21	0.74	8.39	0.48	24.23	116.3	0.4
1237	82.28	5.75	477.86	8.21	0.74	8.39	0.40	24.24	118.9	0.4
1240	Start sampling									

Red Hill Groundwater Sampling Log

WELL NO. **RHMW06** LOCATION: Outside Tunnel PROJECT NO. 60571032

DATE: 01/20/2020 TIME: 0825 CLIMATIC CONDITIONS: Overcast, raining, 72º, 82% humidity

Depth to groundwater		Final Depth	Depth to Product	Depth to bottom		Purge			
Previous (ft btoc)	Current (ft btoc)	(ft btoc)	(ft btoc)	Previous (ft btoc)	Current (ft btoc)	Flow rate (mL/min)	Start Time	Total Volume (L)	Nitrogen used
*240.45	*240.37	**240.31	NA	263.20	—	300mL/min	0837	~20.5	Start: 1000 psi End: 400 psi
**240.37	**240.28								

Pump settings:	Pressure (PSI)		Discharge (sec)		Fill (sec)	
Previous/Actual	120	120	25	25	25	25

Headspace VOCs: 0.0 ppm Ambient VOCs: 0.0 ppm

O/W Interface Probe Type/Water Level Meter: Rental Heron/ Navy Solinst Serial Number: Rental 01-5881 Navy N-2

Gas Detector Type: MiniRAE 3000 (10.6 eV) Serial Number: 592-914105

Water Quality Meter Type: In-Situ Smartroll MP Serial Number: 646770

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

Depth to groundwater is measured from the top of grey plate (survey mark).

* 500' Oil/Water Interface Probe measurement

** 1000' Calibrated Water Level Meter measurement (N-2)

TIME	DTW**	LITERS REMOVED	TDS (ppm)	pH	SP. COND. (mS/cm)	D.O. (mg/L)	TURB. (NTU)	TEMP. (°C)	ORP (mV)	SAL (psu)
0846	Water at surface									
0853	241.33	—	1037.57	6.53	1.60	7.15	0.50	23.15	130.3	0.8
0858	241.32	5.0	1035.77	6.81	1.59	7.64	0.60	23.01	121.9	0.8

(see next page)

SAMPLING EQUIPMENT: Dedicated Bladder Pump

APPEARANCE OF SAMPLE: COLOR: Clear

SEDIMENT: None

ODOR/OTHER: None

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES / NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 16 Primary = 16 Total

VOAs	Amber	Poly
HCl: **4**	1-L: **2**	250 mL H2SO4: **1**
H2SO4: **2**	1-L (800mL): **2**	250 mL HCl (brown): **1 filtered**
	500-mL: **3**	250 mL unpres.: **1**

SAMPLE IDENTIFICATION NUMBER(S) **ERH985 (N)** **ERH984 (Trip Blank)**

DATE: 01/20/2020 TIME: Start:0940 End:1020 Start:0840

DECONTAMINATION PROCEDURES: Alconox, DI water, Isopropyl, and DI water wash

NOTES: Standpipe Measurement: Taken after sampling = @1041 = **240.36 w/ N-2

SAMPLED BY: GM, RS, DM

SAMPLES DELIVERED TO: APPL TRANSPORTER: FedEx

WELL NO. **RHMW06** LOCATION: Outside Tunnel PROJECT NO. 60571032

TIME	DTW**	LITERS REMOVED	TDS (ppm)	pH	SP. COND. (mS/cm)	D.O. (mg/L)	TURB. (NTU)	TEMP. (°C)	ORP (mV)	SAL (psu)
0903	241.35	6.3	1028.82	6.83	1.58	7.31	0.51	23.06	121.4	0.8
0908	241.33	8.0	1026.68	6.84	1.58	7.11	0.49	22.80	121.3	0.8
0913	241.33	10.1	1030.83	6.84	1.56	7.38	0.48	22.79	121.1	0.8
0918	241.34	12.0	1028.12	6.85	1.58	7.12	0.30	22.74	121.4	0.8
0923	241.34	13.8	1032.95	6.85	1.59	7.22	0.47	22.84	121.3	0.8
0928	241.34	15.5	1035.43	6.86	1.59	7.37	0.42	22.74	121.3	0.8
0933	241.30	17.5	1026.79	6.86	1.56	7.06	0.42	22.79	121.3	0.8
0938	241.31	19.9	1033.46	6.87	1.59	6.75	0.38	22.78	121.3	0.8
0940	241.34	26.0	1033.45	6.87	1.59	6.51	0.39	22.79	121.3	0.8
0940	Start sampling at 0940. Reduced flow rate to 100mL/min for VOAs.									
	Returned flow rate to 300mL/min for remaining containers.									

Red Hill Groundwater Sampling Log

WELL NO. **RHMW07** LOCATION: Outside Tunnel PROJECT NO. 60571032

DATE: 01/20/2020 TIME: 1354 CLIMATIC CONDITIONS: Overcast, 76º, 82% humidity, light wind

Depth to groundwater		Final Depth	Depth to Product	Depth to bottom		Purge			
Previous (ft btoc)	Current (ft btoc)	(ft btoc)	(ft btoc)	Previous (ft btoc)	Current (ft btoc)	Flow rate (mL/min)	Start Time	Total Volume (L)	Nitrogen used
*197.54	*197.57	197.88	NA	217.76	—	175	1403	10	Start: 1100psi End: 400psi
**197.49	**197.50								

Pump settings:	Pressure (PSI)		Discharge (sec)		Fill (sec)	
Previous/Actual	95	95	30	30	30	30

Headspace VOCs: 0.0 ppm Ambient VOCs: 0.0 ppm

O/W Interface Probe Type/Water Level Meter: Rental Heron / Navy Solinst Serial Number: Rental 01-5881 / Navy N-2

Gas Detector Type: MiniRAE 3000 (10.6 eV) Serial Number: 592-914105

Water Quality Meter Type: In-Situ Smartroll MP Serial Number: 646770

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

Depth to groundwater is measure from top of grey plate (survey mark).

* 500' Oil/Water Interface Probe measurement

** 1000' Calibrated Water Level Meter measurement (N-2)

TIME	DTW**	LITERS REMOVED	TDS (ppm)	pH	SP. COND. (mS/cm)	D.O. (mg/L)	TURB. (NTU)	TEMP. (°C)	ORP (mV)	SAL (psu)
1422	Water at surface									
1434	197.81	2.75	1156.69	7.25	1.78	5.56	0.70	25.22	126.0	0.9
1442	197.81	3.75	1172.81	7.03	1.81	4.86	0.51	24.23	124.1	0.9
1447	197.85	4.9	1166.63	7.02	1.80	4.44	0.41	24.32	123.8	0.9

(see next page)

SAMPLING EQUIPMENT: Dedicated Bladder Pump

APPEARANCE OF SAMPLE: COLOR: Clear

SEDIMENT: None

ODOR/OTHER: None

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES / NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 16 Primary = 16 Total

VOAs	Amber	Poly
HCl: **4**	1-L: **2**	250 mL H2SO4: **1**
H2SO4: **2**	1-L(800mL): **2**	250 mL HCl (brown): **1 filtered**
	500-mL: **3**	250 mL unpres.: **1**

SAMPLE IDENTIFICATION NUMBER(S) **ERH987 (N)** **ERH986 (Trip Blank)**

DATE: 01/20/2020 TIME: Start:1525 End:1608 Start:1410

DECONTAMINATION PROCEDURES: Alconox, DI water, Isopropyl, and DI water wash

NOTES: Standpipe Measurement: 197.53 w/ N-2 @1405

SAMPLED BY: GM, RS, DM

SAMPLES DELIVERED TO: APPL TRANSPORTER: FedEx

WELL NO. **RHMW07** LOCATION: Outside Tunnel PROJECT NO. 60571032

TIME	DTW*	LITERS REMOVED	TDS (ppm)	pH	SP. COND. (mS/cm)	D.O. (mg/L)	TURB. (NTU)	TEMP. (°C)	ORP (mV)	SAL (psu)
1452	197.84	5.0	1160.72	7.01	1.79	4.31	0.37	24.33	123.5	0.9
1457	197.86	6.0	1155.54	7.01	1.78	4.32	0.32	24.28	123.2	0.9
1502	197.86	7.2	1153.27	7.01	1.78	4.30	0.33	24.25	123.1	0.9
1507	197.84	8.0	1155.86	7.01	1.78	4.29	0.39	24.25	122.8	0.9
1512	197.85	8.5	1153.76	7.01	1.77	4.28	0.24	24.23	122.6	0.9
1517	197.85	9.2	1151.75	7.01	1.77	4.32	0.32	24.18	122.3	0.9
1525	Collect sample. Flow rate kept at 175mL/min									

Red Hill Groundwater Sampling Log

WELL NO. **RHMW08** LOCATION: Outside Tunnel PROJECT NO. 60571032

DATE: 01/20/2020 TIME: 1116 CLIMATIC CONDITIONS: Overcast, 82% humidity, 76º, light winds

Depth to groundwater		Final Depth	Depth to Product	Depth to bottom		Purge			
Previous (ft btoc)	Current (ft btoc)	(ft btoc)	(ft btoc)	Previous (ft btoc)	Current (ft btoc)	Flow rate (mL/min)	Start Time	Total Volume (L)	Nitrogen used
*292.11	*291.69	291.69	NA	311.30	—	300	1128	12.5	Start: 2100 psi End: 1100 psi
**292.02	**291.61								

Pump settings:	Pressure (PSI)		Discharge (sec)		Fill (sec)	
Previous/Actual	140	140	30	30	26	26

Headspace VOCs: 0.0 ppm Ambient VOCs: 0.0 ppm

O/W Interface Probe Type/Water Level Meter: Rental Heron / Navy Solinst Serial Number: Rental 01-5881 / Navy N-2

Gas Detector Type: MiniRAE 3000 (10.6 eV) Serial Number: 592-914105

Water Quality Meter Type: In-Situ Smartroll MP Serial Number: 646770

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

Depth to groundwater is measure from top of grey plate (survey mark).

* 500' Oil/Water Interface Probe measurement

** 1000' Calibrated Water Level Meter measurement (N-2)

TIME	DTW**	LITERS REMOVED	TDS (ppm)	pH	SP. COND. (mS/cm)	D.O. (mg/L)	TURB. (NTU)	TEMP. (°C)	ORP (mV)	SAL (psu)
1146	Water reached the surface									
1156	291.66	2.5	527.58	7.53	0.81	6.77	1.75	25.18	118.9	0.4
1201	291.71	4.0	532.56	8.10	0.68	8.13	2.25	24.16	116.0	0.4
1206	291.74	5.5	533.40	8.11	0.82	6.03	2.90	23.96	115.3	0.4

(see next page)

SAMPLING EQUIPMENT: Dedicated Bladder Pump

APPEARANCE OF SAMPLE: COLOR: Clear

SEDIMENT: None

ODOR/OTHER: None

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES / NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 16 primary = 16 Total

VOAs	Amber	Poly
HCl: **4**	1-L: **2**	250 mL H2SO4: **1**
H2SO4: **2**	1-L (800 mL): **2**	250 mL HCl (brown): **1 filtered**
	500-mL: **3**	250 mL unpres.: **1**

SAMPLE IDENTIFICATION NUMBER(S) **ERH989 (N)** **ERH988 (Trip Blank)**

DATE: 01/20/2020 TIME: Start:1235 End:1309 Start(1139)

DECONTAMINATION PROCEDURES: Alconox, DI water, Isopropyl, and DI water wash

NOTES: NA – Not applicable/ no reading — No reading

SAMPLED BY: GM, DM, and RS

SAMPLES DELIVERED TO: APPL TRANSPORTER: FedEx

WELL NO. **RHMW08** LOCATION: Outside Tunnel PROJECT NO. 60571032

TIME	DTW**	LITERS REMOVED	TDS (ppm)	pH	SP. COND. (mS/cm)	D.O. (mg/L)	TURB. (NTU)	TEMP. (°C)	ORP (mV)	SAL (psu)
1211	291.71	7.5	532.56	8.14	0.82	6.66	2.51	23.95	115.7	0.4
1216	291.70	8.5	530.60	8.13	0.82	5.92	2.22	23.93	114.8	0.4
1221	291.69	10.0	529.83	8.13	0.82	5.91	2.01	23.89	115.2	0.4
1226	291.66	11.75	528.71	8.13	0.81	5.94	1.78	23.90	114.4	0.4
1231	291.66	12.5	527.96	8.12	0.81	5.93	1.65	23.96	114.3	0.4
1235	Start collecting sample. Drop flow rate to 100mL/min for VOAs; Return to 300mL/min for remaining containers									

Red Hill Groundwater Sampling Log

WELL NO. **RHMW09** LOCATION: Outside Tunnel PROJECT NO. 60571032

DATE:01/21/2020 TIME: 1127 CLIMATIC CONDITIONS: Sunny, 82º, 83% humidity, light wind

Depth to groundwater		Final Depth	Depth to Product	Depth to bottom		Purge			
Previous (ft btoc)	Current (ft btoc)	(ft btoc)	(ft btoc)	Previous (ft btoc)	Current (ft btoc)	Flow rate (mL/min)	Start Time	Total Volume (gal)	Nitrogen used
*377.09	*376.92	376.79	NA	396.69	NM	300	1200	14.25	Start: 1400psi Pause: 500psi Resume: 2200 psi Final: 1900 psi
**376.98	**376.82								

Pump settings:	Pressure (PSI)		Discharge (sec)		Fill (sec)	
Previous/Actual	180	180	40	40	40	40

Headspace VOCs: 0.0 ppm Ambient VOCs: 0.0 Ppm

O/W Interface Probe Type/Water Level Meter: Rental Heron / Navy Solinst Serial Number: Rental 01-5881 / Navy N-2

Gas Detector Type: MiniRAE 3000 (10.6 eV) Serial Number: 592-914105

Water Quality Meter Type: In-Situ Smartroll MP Serial Number: 646770

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

Depth to groundwater is measure from top of grey plate (survey mark).

* 500' Oil/Water Interface Probe measurement

** 1000' Calibrated Water Level Meter measurement (N-2)

TIME	DTW**	LITERS REMOVED	TDS (ppm)	pH	SP. COND. (mS/cm)	D.O. (mg/L)	TURB. (NTU)	TEMP. (°C)	ORP (mV)	SAL (psu)
1206	Water at surface									
1217	376.80	3.5	221.32	7.68	0.34	7.76	1.11	25.50	80.5	0.0
1222	376.80	5.0	223.11	7.61	0.35	7.89	0.66	24.51	90.5	0.2
1227	376.80	6.0	226.49	7.55	0.34	8.66	0.52	24.19	90.2	0.2
1232	376.80	7.5	227.33	7.53	0.35	8.50	0.46	24.05	90.0	0.2

(see next page)

SAMPLING EQUIPMENT: Dedicated Bladder Pump

APPEARANCE OF SAMPLE: COLOR: Clear

SEDIMENT: None

ODOR/OTHER: none

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES / NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 16 primary = 16 Total

VOAs	Amber	Poly
HCl: **4**	1-L: **2**	250 mL H2SO4: **1**
H2SO4: **2**	1-L (800 mL): **2**	250 mL HCl (brown): **1 filtered**
	500-mL: **3**	250 mL unpres.: **1**

SAMPLE IDENTIFICATION NUMBER(S) **ERH991 (N)** **ERH990 (Trip Blank) 1220**

DATE: 01/21/2020 TIME: Start:1310 End:1355 Start:1220

DECONTAMINATION PROCEDURES: Alconox, DI water, Isopropyl, and DI water wash

NOTES:

SAMPLED BY: GM, RS, DM

SAMPLES DELIVERED TO: APPL TRANSPORTER: FedEx

WELL NO. **RHMW09** LOCATION: Outside Tunnel PROJECT NO. 60571032

TIME	DTW**	LITERS REMOVED	TDS (ppm)	pH	SP. COND. (mS/cm)	D.O. (mg/L)	TURB. (NTU)	TEMP. (°C)	ORP (mV)	SAL (psu)
1237	376.80	8.25	225.79	7.52	0.35	8.47	0.27	23.94	90.1	0.2
1242	376.79	10.3	225.20	7.51	0.35	8.50	0.41	23.70	90.2	0.2
1247	376.79	11.9	226.14	7.51	0.35	8.37	0.30	23.60	90.4	0.2
1252	376.79	13.5	226.63	7.50	0.35	8.28	0.32	23.53	90.3	0.2
1257	376.79	14.25	226.82	7.52	0.35	8.27	0.35	23.53	90.6	0.2
1300	Pause purge to change nitrogen tank (500 psi). Resumed purge at 1305 and began sampling 1310. Dropped flow rate to 100mL/min									
	to collect VOAs. Adjusted flow rate to 300mL/min for rest of sample collection.									

Red Hill Groundwater Sampling Log

WELL NO. **RHMW10** LOCATION: Outside Tunnel PROJECT NO. 60571032

DATE: 01/28/2020 TIME: 1134 CLIMATIC CONDITIONS: Partly sunny, breezy, 80°F, 53% humidity

Depth to groundwater		Final Depth	Depth to Product	Depth to bottom		Purge			
Previous (ft btoc)	Current (ft btoc)	(ft btoc)	(ft btoc)	Previous (ft btoc)	Current (ft btoc)	Flow rate (mL/min)	Start Time	Total Volume (L)	Nitrogen used
*477.42	477.16*	477.01*	NA	497.37	NM	275	1138	19.5	Start: 1000 psi End: 450 psi Start: 2100 psi End: 1800 psi
**477.15	477.02**								

Pump settings:	Pressure (PSI)		Discharge (sec)		Fill (sec)	
Previous/Actual	230	220	40	40	40	40

Headspace VOCs: 0.0 ppm Ambient VOCs: 0.0 ppm

O/W Interface Probe Type/Water Level Meter: Rental Heron / Navy Solinist Serial Number: Rental 01-5881 / Navy N-2

Gas Detector Type: MiniRAE 3000 (10.6 eV) Serial Number: 592-908165

Water Quality Meter Type: InSitu Smartroll MP Serial Number: 637618

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

Depth to groundwater is measure from top of grey plate (survey mark).

* 500' Oil/Water Interface Probe measurement

** 1000' Calibrated Water Level Meter measurement (N-2)

TIME	DTW**	LITERS REMOVED	TDS (ppm)	pH	SP. COND. (mS/cm)	D.O. (mg/L)	TURB. (NTU)	TEMP. (°C)	ORP (mV)	SAL (psu)
1149	Water at surface									
1238	477.00	8.0	188.32	7.54	0.29	8.56	0.68	24.29	123.0	0.1
1243	477.00	9.5	188.49	7.54	0.29	8.45	0.28	24.20	124.7	0.1
1248	477.00	11.0	188.25	7.52	0.29	8.25	0.28	24.04	126.7	0.1
1253	477.00	12.5	188.19	7.51	0.29	8.11	0.29	23.97	127.1	0.1

(see next page)

SAMPLING EQUIPMENT: Dedicated Bladder Pump

APPEARANCE OF SAMPLE: COLOR: Clear

SEDIMENT: None

ODOR/OTHER: none

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES / NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 16 Primary = 16 Total

VOAs	Amber	Poly
HCl: **4**	1-L: **2**	250 mL H2SO4: **1**
H2SO4: **2**	1-L (800mL): **2**	250 mL HCl (brown): **1 filtered**
	500-mL: **3**	250 mL unpres.: **1**

SAMPLE IDENTIFICATION NUMBER(S) **ERH993 (N)** **ERH992 (Trip Blank)**

DATE: 01/28/2020 TIME: Start:1315 End:1355 Start:1300

DECONTAMINATION PROCEDURES: Alconox, DI water, Isopropyl, and DI water wash

NOTES:

SAMPLED BY: GM, CS, RS, KL

SAMPLES DELIVERED TO: APPL TRANSPORTER: FedEx

WELL NO. **RHMW10** LOCATION: Outside Tunnel PROJECT NO. 60571032

TIME	DTW**	LITERS REMOVED	TDS (ppm)	pH	SP. COND. (mS/cm)	D.O. (mg/L)	TURB. (NTU)	TEMP. (°C)	ORP (mV)	SAL (psu)
1258	477.00	14.00	188.07	7.51	0.29	8.24	0.18	24.04	131.1	0.1
1303	477.00	15.50	188.13	7.51	0.29	8.26	0.26	24.02	128.4	0.1
1308	477.00	17.00	187.68	7.51	0.29	8.26	0.19	24.04	128.5	0.1
	Flow rate decreased to 120mL/min for VOAs.									
	Flow rate returned to 275mL/min for ambers.									

Westbay Well Groundwater Sampling

Field Data Sheet

Project: 60571032 Red Hill
Monitoring Well No.: RHMW11
Sampling Zone No(s).: Zone 5
Sampled by: BM, TV, DM, SP

Ambiant VOCs (ppm): 0.0
Headspace VOCs (ppm): 0.2
Start Time: 9:28 Atm. Reading: 14.61
End Time: 14:01 Atm. Reading: 14.70

Date: 2020-01-30
Sheet: 1 of 1
Sampling Equipment: EMS5285

Time	Port No.	Run No.	Surface Function Tests (probe in flushing collar)						Position Sampler					Sample Collection Checks (probe located at sampling zone in Westbay casing)								Comments (volume recovered)
			Shoe Out	Close Valve	Check Vacuum	Open Valve	Evacuate Bottles (3-5 psi)	Close Valve	Shoe In	Arm In	Locate Port	Arm Out	Land Probe	Pressure in Westbay (psi)	Shoe Out	Zone Pressure (psi)	Open Valve	Zone Pressure (psi)	Close Valve	Shoe In	Pressure in Westbay (psi)	
9:37	5	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	74.73	✓	55.47	✓	55.47	✓	✓	74.73	Physical parameters
9:59	5	2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	74.75	✓	55.44	✓	55.45	✓	✓	74.68	VOAs, TPH PID = 2.1
10:17	5	3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	74.65	✓	55.45	✓	55.45	✓	✓	74.64	TPH
10:37	5	4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	74.62	✓	55.44	✓	55.45	✓	✓	74.65	VOCs
10:55	5	5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	74.59	✓	55.44	✓	55.45	✓	✓	74.61	SVOCs
11:15	5	6	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	74.46	✓	55.43	✓	55.45	✓	✓	74.54	Physical parameters
11:37	5	7	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	74.55	✓	55.46	✓	55.46	✓	✓	74.53	PAHs
12:43	5	8	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	74.49	✓	55.45	✓	55.48	✓	✓	74.52	PAHs, polys PID = 0.2
13:02	5	9	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	74.51	✓	55.48	✓	55.47	✓	✓	74.50	Polys
13:45	5	10	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	74.39	✓	55.44	✓	55.47	✓	✓	74.45	Physical parameters

TIME	Liters Removed	TDS (ppm)	pH	SP. COND. (mS/cm)	D.O. (mg/L)	TURB. (NTU)	TEMP. (°C)	ORP (mV)	SAL (psu)	Comments
10:00	1	217.92	6.65	0.34	1.06	0.47	28.07	101.5	0.2	
11:38	6	223.35	7.72	0.34	0.92	0.96	32.15	97.8	0.2	
14:07	10	217.97	8.09	0.34	1.24	0.41	38.46	99.3	0.2	

Sample Identification Numbers: ERH1002 (N) & ERH1001 (TB)
Sample Start Time: 9:37 End Time: 13:25
Appearance of Sample: COLOR: clear
SEDIMENT: none
OTHER: n/a
Notes: ERH 1001 --> 07:50
ERH 1002 --> 10:10

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

16 Primary

VOAs	**Amber**	**Poly**
HCl: **4**	1-L: **2**	250 mL H2SO4: **1**
H2SO4: **2**	500-mL: **3**	250 mL HCl (brown): **1 filtered**
	1-L (800 mL): **2**	250 mL unpres.: **1**

Westbay Well Groundwater Sampling

Field Data Sheet

Time	Port No.	Run No.	Surface Function Tests (probe in flushing collar)						Position Sampler					Sample Collection Checks (probe located at sampling zone in Westbay casing)								Comments (volume recovered)
			Shoe Out	Close Valve	Check Vacuum	Open Valve	Evacuate Bottles (3-5 psi)	Close Valve	Shoe In	Arm In	Locate Port	Arm Out	Land Probe	Pressure in Westbay (psi)	Shoe Out	Zone Pressure (psi)	Open Valve	Zone Pressure (psi)	Close Valve	Shoe In	Pressure in Westbay (psi)	

Westbay Well Groundwater Sampling

Field Data Sheet

Project: 60571032 Red Hill
Monitoring Well No.: RHMW14
Sampling Zone No(s).: Zone 1
Sampled by: BM, BL, TV, SP

Ambiant VOCs (ppm): 0.0
Headspace VOCs (ppm): 0.0
Start Time: 9:34 Atm. Reading: 14.80
End Time: 14:32 Atm. Reading: 14.78

Date: 2020-01-20
Sheet: 1 of 1
Sampling Equipment: EMS5285

Time	Port No.	Run No.	Surface Function Tests (probe in flushing collar)						Position Sampler					Sample Collection Checks (probe located at sampling zone in Westbay casing)								Comments (volume recovered)
			Shoe Out	Close Valve	Check Vacuum	Open Valve	Evacuate Bottles (3-5 psi)	Close Valve	Shoe In	Arm In	Locate Port	Arm Out	Land Probe	Pressure in Westbay (psi)	Shoe Out	Zone Pressure (psi)	Open Valve	Zone Pressure (psi)	Close Valve	Shoe In	Pressure in Westbay (psi)	
9:34	1	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	100.87	✓	142.60	✓	142.61	✓	✓	100.89	Physical parameters
10:02	1	2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	100.96	✓	142.60	✓	142.63	✓	✓	100.97	VOCs, EDB, TPH, SVOCs, PID = 0.0
10:37	1	3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	100.55	✓	142.62	✓	142.65	✓	✓	100.87	TPH, SVOCs
11:02	1	4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	100.78	✓	142.62	✓	142.63	✓	✓	100.83	SVOCs, PID = 3.0
11:23	1	5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	100.88	✓	142.63	✓	142.63	✓	✓	100.81	SVOCs, PID = 0.0
11:52	1	6	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	100.78	✓	142.63	✓	142.63	✓	✓	100.79	Physical parameters
12:22	1	7	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	100.76	✓	142.63	✓	142.63	✓	✓	100.77	PAHs
12:49	1	8	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	100.71	✓	142.61	✓	142.61	✓	✓	100.74	PAHs
13:11	1	9	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	100.70	✓	142.60	✓	142.61	✓	✓	100.73	Nitrate/Nitrite
13:32	1	10	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	100.70	✓	142.60	✓	142.61	✓	✓	100.70	Iron
14:09	1	11	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	100.67	✓	142.62	✓	142.60	✓	✓	100.70	Physical parameters

TIME	Liters Removed	TDS (ppm)	pH	SP. COND. (mS/cm)	D.O. (mg/L)	TURB. (NTU)	TEMP. (°C)	ORP (mV)	SAL (psu)	Comments
10:28	1	166.14	7.59	0.27	2.05	0.80	24.71	156.2	0.10	Stayed out for about 5 to 10 minutes before reading sample
12:30	6	193.09	7.49	0.29	2.50	0.43	26.21	196.2	0.10	
14:10	11	173.22	7.55	0.27	2.45	0.54	28.63	246.7	0.10	

Sample Identification Numbers: ERH1004 (N) & ERH1003 (TB)
Sample Start Time: 10:00 End Time: 13:40
Appearance of Sample: COLOR: clear
SEDIMENT: none
OTHER: n/a

Sampling Order: n/a

Notes: ERH 1003 --> 09:05, ERH 1004 --> 10:00

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

19 Primary

VOAs	**Amber**	Poly
HCl: **4**	1-L: **2**	250 mL H2SO4: **1**
Unpres: **3**	500-mL: **3**	250 mL HCl (brown): **1 filtered**
H2SO4: **2**	1-L (800 mL): **2**	250 mL unpres.: **1**

			Surface Function Tests	Position	Sample Collection Checks	

Westbay Well Groundwater Sampling

Field Data Sheet

Time	Port No.	Run No.	(probe in flushing collar)						Sampler					(probe located at sampling zone in Westbay casing)								Comments (volume recovered)
			Shoe Out	Close Valve	Check Vacuum	Open Valve	Evacuate Bottles (3-5 psi)	Close Valve	Shoe In	Arm In	Locate Port	Arm Out	Land Probe	Pressure in Westbay (psi)	Shoe Out	Zone Pressure (psi)	Open Valve	Zone Pressure (psi)	Close Valve	Shoe In	Pressure in Westbay (psi)	

Westbay Well Groundwater Sampling

Field Data Sheet

Project: 60571032 Red Hill
Monitoring Well No.: RHMW14
Sampling Zone No(s).: Zone 2
Sampled by: BM, BL, TV, SP

Ambiant VOCs (ppm): 0.5
Headspace VOCs (ppm): 1.3
Start Time: 9:54 Atm. Reading: 14.79
End Time: 13:36 Atm. Reading: 14.76

Date: 2020-01-21
Sheet: 1 of 1
Sampling Equipment: EMS5285

Time	Port No.	Run No.	Surface Function Tests (probe in flushing collar)						Position Sampler					Sample Collection Checks (probe located at sampling zone in Westbay casing)								Comments (volume recovered)
			Shoe Out	Close Valve	Check Vacuum	Open Valve	Evacuate Bottles (3-5 psi)	Close Valve	Shoe In	Arm In	Locate Port	Arm Out	Land Probe	Pressure in Westbay (psi)	Shoe Out	Zone Pressure (psi)	Open Valve	Zone Pressure (psi)	Close Valve	Shoe In	Pressure in Westbay (psi)	
9:54	2	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	82.89	✓	124.77	✓	124.77	✓	✓	82.75	Physical parameters
10:10	2	2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	82.83	✓	124.77	✓	124.76	✓	✓	82.70	VOCs, EDB, TPH, SVOCs, PID = 0.0
10:30	2	3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	82.81	✓	124.80	✓	124.79	✓	✓	82.68	TPH, SVOCs
10:49	2	4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	82.68	✓	124.80	✓	124.81	✓	✓	82.66	SVOCs, PID = 3.0
11:11	2	5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	82.59	✓	124.78	✓	124.79	✓	✓	82.63	SVOCs
11:38	2	6	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	82.64	✓	124.79	✓	124.78	✓	✓	82.64	Physical parameters, PID = 0.0
12:08	2	7	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	82.58	✓	124.75	✓	124.78	✓	✓	82.58	PAHs, PID = 0.0
12:30	2	8	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	82.55	✓	124.76	✓	124.77	✓	✓	82.56	PAHs, Nitrate, Nitrite, Anion
12:52	2	9	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	82.52	✓	124.78	✓	124.77	✓	✓	82.53	Iron
13:14	2	10	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	82.51	✓	124.77	✓	124.78	✓	✓	82.50	Physical parameters

TIME	Liters Removed	TDS (ppm)	pH	SP. COND. (mS/cm)	D.O. (mg/L)	TURB. (NTU)	TEMP. (°C)	ORP (mV)	SAL (psu)	Comments
10:14	1	167.57	7.93	0.26	2.34	0.23	24.72	120.5	0.1	
12:12	7	172.47	8.07	0.27	2.00	0.68	25.20	102.2	0.1	
13:42	10	161.02	8.10	0.25	1.55	0.58	27.78	103.1	0.1	

Sample Identification Numbers: ERH1006 (N) & ERH1005 (TB)
Sample Start Time: 10:30 End Time: 13:24
Appearance of Sample: COLOR: clear
SEDIMENT: none
OTHER: none

Sampling Order: n/a

Notes: ERH 1005 --> 1000, ERH 1006 --> 1030

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

19 Primary

VOAs	**Amber**	Poly
HCl: **4**	1-L: **2**	250 mL H2SO4: **1**
Unpres: **3**	500-mL: **3**	250 mL HCl (brown): **1 filtered**
H2SO4: **2**	1-L (800 mL): **2**	250 mL unpres.: **1**

Westbay Well Groundwater Sampling

Field Data Sheet

Time	Port No.	Run No.	Surface Function Tests (probe in flushing collar)						Position Sampler					Sample Collection Checks (probe located at sampling zone in Westbay casing)								Comments (volume recovered)
			Shoe Out	Close Valve	Check Vacuum	Open Valve	Evacuate Bottles (3-5 psi)	Close Valve	Shoe In	Arm In	Locate Port	Arm Out	Land Probe	Pressure in Westbay (psi)	Shoe Out	Zone Pressure (psi)	Open Valve	Zone Pressure (psi)	Close Valve	Shoe In	Pressure in Westbay (psi)	

Westbay Well Groundwater Sampling

Field Data Sheet

Project: 60571032 Red Hill
Monitoring Well No.: RHMW14
Sampling Zone No(s).: Zone 3
Sampled by: BM, BL, SP, TV

Ambiant VOCs (ppm): 0.0
Headspace VOCs (ppm): 0.0
Start Time: 7:54 Atm. Reading: 14.72
End Time: 13:59 Atm. Reading: NM

Date: 2020-01-22
Sheet: 1 of 2
Sampling Equipment: EMS5285

Time	Port No.	Run No.	Surface Function Tests (probe in flushing collar)						Position Sampler					Sample Collection Checks (probe located at sampling zone in Westbay casing)								Comments (volume recovered)
			Shoe Out	Close Valve	Check Vacuum	Open Valve	Evacuate Bottles (3-5 psi)	Close Valve	Shoe In	Arm In	Locate Port	Arm Out	Land Probe	Pressure in Westbay (psi)	Shoe Out	Zone Pressure (psi)	Open Valve	Zone Pressure (psi)	Close Valve	Shoe In	Pressure in Westbay (psi)	
7:54	3	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	44.50	✓	85.81	✓	85.31	✓	✓	43.52	Physical parameters
8:29	3	2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	43.30	✓	85.80	✓	85.80	✓	✓	43.30	VOCs, Normal + Field Duplicate
9:30	3	3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	43.01	✓	85.78	✓	85.80	✓	✓	43.27	TPH
9:57	3	4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	43.26	✓	85.79	✓	85.80	✓	✓	43.25	TPH
10:12	3	5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	43.15	✓	85.79	✓	85.80	✓	✓	43.27	TPN - SVOC
10:30	3	6	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	43.33	✓	85.81	✓	85.80	✓	✓	43.21	SVOCs
10:49	3	7	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	43.18	✓	85.79	✓	85.79	✓	✓	43.21	SVOCs
11:06	3	8	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	43.15	✓	85.79	✓	85.88	✓	✓	43.16	SVOCs
11:25	3	9	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	43.15	✓	85.81	✓	85.80	✓	✓	43.16	SVOCs
11:43	3	10	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	43.17	✓	85.82	✓	85.80	✓	✓	43.18	Physical parameters
12:04	3	11	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	43.12	✓	85.80	✓	85.77	✓	✓	43.13	PAHs
12:21	3	12	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	43.19	✓	85.79	✓	85.73	✓	✓	43.10	PAHs
12:41	3	13	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	43.14	✓	85.78	✓	85.79	✓	✓	43.22	PAHs
12:59	3	14	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	43.08	✓	85.78	✓	85.79	✓	✓	43.00	Polys

TIME	Liters Removed	TDS (ppm)	pH	SP. COND. (mS/cm)	D.O. (mg/L)	TURB. (NTU)	TEMP. (°C)	ORP (mV)	SAL (psu)	Comments
9:24	1	174.08	7.74	0.27	1.87	0.46	19.93	147.5	0.1	see Logbook #14 page 64
12:01	10	158.61	7.99	0.24	1.27	0.65	29.97	102.4	0.1	PID = 0.1 ppm
14:03	16	178.49	7.88	0.27	2.07	0.51	26.49	127.7	0.1	

Sample Identification Numbers: ERH1008 (N) & ERH1007 (TB) & ERH1009 (FD)
Sample Start Time: 8:30 End Time: 13:30
Appearance of Sample: COLOR: clear
SEDIMENT: n/a
OTHER: n/a

Sampling Order:
ERH 1007 --> 0730, ERH 1008 --> 0830, ERH 1009 --> 0835

Notes:

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

19 Primary + 14 Dup = 33 Total

VOAs	**Amber**	**Poly**
HCl: **4+4 = 8**	1-L: **2+2 = 4**	250 mL H2SO4: **1**
Unpres: **3+3= 6**	500-mL: **3+3 = 6**	250 mL HCl (brown): **1 filtered**
H2SO4: **2**	1-L (800 mL): **2+2 = 4**	250 mL unpres.: **1**

Westbay Well Groundwater Sampling

Field Data Sheet

Time	Port No.	Run No.	Surface Function Tests (probe in flushing collar)						Position Sampler					Sample Collection Checks (probe located at sampling zone in Westbay casing)								Comments (volume recovered)
			Shoe Out	Close Valve	Check Vacuum	Open Valve	Evacuate Bottles (3-5 psi)	Close Valve	Shoe In	Arm In	Locate Port	Arm Out	Land Probe	Pressure in Westbay (psi)	Shoe Out	Zone Pressure (psi)	Open Valve	Zone Pressure (psi)	Close Valve	Shoe In	Pressure in Westbay (psi)	
13:18	3	15	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	43.00	✓	85.78	✓	85.77	✓	✓	43.01	Iron
13:40	3	16	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	43.05	✓	85.76	✓	85.76	✓	✓	43.00	Physical parameters

Westbay Well Groundwater Sampling

Field Data Sheet

Project: 60571032 Red Hill
Monitoring Well No.: RHMW15
Sampling Zone No(s).: Zone 3
Sampled by: BM, DH, TV, SP

Ambiant VOCs (ppm): 0.0
Headspace VOCs (ppm): 0.0
Start Time: 9:11 Atm. Reading: 14.68
End Time: 13:24 Atm. Reading: 14.70

Date: 2020-01-27
Sheet: 1 of 1
Sampling Equipment: EMS5285

Time	Port No.	Run No.	Surface Function Tests (probe in flushing collar)						Position Sampler					Sample Collection Checks (probe located at sampling zone in Westbay casing)								Comments (volume recovered)
			Shoe Out	Close Valve	Check Vacuum	Open Valve	Evacuate Bottles (3-5 psi)	Close Valve	Shoe In	Arm In	Locate Port	Arm Out	Land Probe	Pressure in Westbay (psi)	Shoe Out	Zone Pressure (psi)	Open Valve	Zone Pressure (psi)	Close Valve	Shoe In	Pressure in Westbay (psi)	
9:13	3	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	38.75	✓	66.69	✓	66.69	✓	✓	38.74	Physical parameters
9:47	3	2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	38.73	✓	66.71	✓	66.70	✓	✓	38.76	VOAs, TPH, PID = 0.0
10:15	3	3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	38.72	✓	66.69	✓	66.70	✓	✓	38.75	TPH
10:34	3	4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	38.71	✓	66.71	✓	66.70	✓	✓	38.72	TPH, SVOCs, PID = 0.0
10:56	3	5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	38.68	✓	66.70	✓	66.70	✓	✓	38.69	SVOCs
11:19	3	6	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	38.69	✓	66.69	✓	66.69	✓	✓	38.69	SVOCs, PAHs
11:41	3	7	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	38.71	✓	66.69	✓	66.67	✓	✓	38.67	Physical parameters
12:04	3	8	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	38.68	✓	66.69	✓	66.67	✓	✓	38.66	PAHs, PID = 0.0
12:25	3	9	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	38.61	✓	66.67	✓	66.65	✓	✓	38.63	PAHs, polys
12:44	3	10	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	38.61	✓	66.68	✓	66.66	✓	✓	38.59	polys, iron
13:05	3	11	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	38.61	✓	66.66	✓	66.69	✓	✓	38.58	Physical parameters

TIME	Liters Removed	TDS (ppm)	pH	SP. COND. (mS/cm)	D.O. (mg/L)	TURB. (NTU)	TEMP. (°C)	ORP (mV)	SAL (ppt)	Comments
9:40	1	243.66	7.55	0.36	2.88	0.26	22.00	101.7	0.2	
12:07	7	222.27	7.84	0.35	2.41	0.35	24.27	108.9	0.2	
13:00	11	231.54	7.97	0.28	2.78	0.15	24.00	98.2	0.2	

Sample Identification Numbers: ERH1011 (N) & ERH1010 (TB)
Sample Start Time: 9:45 End Time: 12:55
Appearance of Sample: COLOR: clear
SEDIMENT: none
OTHER: n/a

Sampling Order: n/a

Notes: ERH 1010 --> 0840, ERH 1011 --> 0945

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

19 Primary

VOAs	**Amber**	Poly
HCl: **4**	1-L: **2**	250 mL H2SO4: **1**
Unpres: **3**	500-mL: **3**	250 mL HCl (brown): **1 filtered**
H2SO4: **2**	1-L (800 mL): **2**	250 mL unpres.: **1**

Westbay Well Groundwater Sampling

Field Data Sheet

Time	Port No.	Run No.	Surface Function Tests (probe in flushing collar)						Position Sampler					Sample Collection Checks (probe located at sampling zone in Westbay casing)								Comments (volume recovered)
			Shoe Out	Close Valve	Check Vacuum	Open Valve	Evacuate Bottles (3-5 psi)	Close Valve	Shoe In	Arm In	Locate Port	Arm Out	Land Probe	Pressure in Westbay (psi)	Shoe Out	Zone Pressure (psi)	Open Valve	Zone Pressure (psi)	Close Valve	Shoe In	Pressure in Westbay (psi)	

Westbay Well Groundwater Sampling

Field Data Sheet

Project: 60571032 Red Hill
Monitoring Well No.: RHMW15
Sampling Zone No(s).: Zone 4
Sampled by: BM, DH, SP, TV

Ambiant VOCs (ppm): 0.0
Headspace VOCs (ppm): 0.0
Start Time: 7:44 Atm. Reading: 14.65
End Time: 11:51 Atm. Reading: 14.67

Date: 2020-01-28
Sheet: 1 of 1
Sampling Equipment: EMS5285

Time	Port No.	Run No.	Surface Function Tests (probe in flushing collar)						Position Sampler					Sample Collection Checks (probe located at sampling zone in Westbay casing)							Comments (volume recovered)
			Shoe Out	Close Valve	Check Vacuum	Open Valve	Evacuate Bottles (3-5 psi)	Close Valve	Shoe In	Arm In	Locate Port	Arm Out	Land Probe	Pressure in Westbay (psi)	Shoe Out	Zone Pressure (psi)	Open Valve	Zone Pressure (psi)	Close Valve	Shoe In	Pressure in Westbay (psi)	
7:58	4	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	14.80	✓	32.05	✓	31.90	✓	✓	14.88	Physical parameters, PID = 0.0
8:18	4	2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	14.86	✓	32.09	✓	32.06	✓	✓	14.93	VOAs, TPH, PID = 0.0
8:36	4	3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	14.86	✓	32.08	✓	32.06	✓	✓	14.85	TPH
8:57	4	4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	14.86	✓	32.06	✓	32.04	✓	✓	14.92	TPH, SVOCs
9:16	4	5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	14.86	✓	32.01	✓	32.01	✓	✓	14.93	SVOCs, PID = 0.0
9:36	4	6	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	14.86	✓	32.03	✓	32.01	✓	✓	14.92	Physical parameters
9:57	4	7	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	14.85	✓	32.01	✓	32.01	✓	✓	14.91	SVOCs, PAHs
10:11	4	8	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	14.83	✓	32.03	✓	32.03	✓	✓	14.93	SVOCs, PAHs
10:29	4	9	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	14.86	✓	32.04	✓	32.04	✓	✓	14.91	PAHs, polys, PID= 0.3
10:51	4	10	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	14.81	✓	32.04	✓	32.04	✓	✓	14.88	polys
11:10	4	11	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	14.85	✓	32.05	✓	32.04	✓	✓	14.89	Iron
11:30	4	12	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	14.83	✓	32.05	✓	32.06	✓	✓	14.88	Physical parameters

TIME	Liters Removed	TDS (ppm)	pH	SP. COND. (mS/cm)	D.O. (mg/L)	TURB. (NTU)	TEMP. (°C)	ORP (mV)	SAL (ppt)	Comments
8:20	1	79.46	7.39	0.20	1.44	0.29	20.85	96.7	0.1	
9:56	6	87.43	7.84	0.31	2.60	0.44	22.01	103.1	0.1	
11:53	12	194.96	8.02	0.31	2.27	1.27	26.14	110.7	0.1	

Sample Identification Numbers: ERH1013 (N) & ERH1012 (TB)
Sample Start Time: 8:30 End Time: 11:40
Appearance of Sample: COLOR: clear
SEDIMENT: none
OTHER: n/a

Sampling Order: n/a

Notes: ERH 1012 --> 0800, ERH 1013 --> 0830

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

19 Primary

VOAs	**Amber**	Poly
HCl: **4**	1-L: **2**	250 mL H2SO4: **1**
Unpres: **3**	500-mL: **3**	250 mL HCl (brown): **1 filtered**
H2SO4: **2**	1-L (800 mL): **2**	250 mL unpres.: **1**

Westbay Well Groundwater Sampling

Field Data Sheet

Time	Port No.	Run No.	Surface Function Tests (probe in flushing collar)						Position Sampler					Sample Collection Checks (probe located at sampling zone in Westbay casing)								Comments (volume recovered)
			Shoe Out	Close Valve	Check Vacuum	Open Valve	Evacuate Bottles (3-5 psi)	Close Valve	Shoe In	Arm In	Locate Port	Arm Out	Land Probe	Pressure in Westbay (psi)	Shoe Out	Zone Pressure (psi)	Open Valve	Zone Pressure (psi)	Close Valve	Shoe In	Pressure in Westbay (psi)	

Westbay Well Groundwater Sampling

Field Data Sheet

Project: 60571032 Red Hill
Monitoring Well No.: RHMW15
Sampling Zone No(s).: Zone 5
Sampled by: BM, TV, SP, MC

Ambiant VOCs (ppm): 0.0
Headspace VOCs (ppm): 0.0
Start Time: 7:42 Atm. Reading: 14.61
End Time: 17:20 Atm. Reading: 14.59

Date: 2020-01-29
Sheet: 1 of 2
Sampling Equipment: EMS5285

Time	Port No.	Run No.	Surface Function Tests (probe in flushing collar)						Position Sampler					Sample Collection Checks (probe located at sampling zone in Westbay casing)								Comments (volume recovered)
			Shoe Out	Close Valve	Check Vacuum	Open Valve	Evacuate Bottles (3-5 psi)	Close Valve	Shoe In	Arm In	Locate Port	Arm Out	Land Probe	Pressure in Westbay (psi)	Shoe Out	Zone Pressure (psi)	Open Valve	Zone Pressure (psi)	Close Valve	Shoe In	Pressure in Westbay (psi)	
7:51	5	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	14.78	✓	17.69	✓	17.70	✓	✓	14.85	Physical parameters
8:14	5	2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	14.79	✓	17.69	✓	17.71	✓	✓	14.86	VOAs, PID = 1.7
8:37	5	3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	14.80	✓	17.68	✓	17.70	✓	✓	14.86	VOAs, TPH, PID = 1.4/3.0
9:04	5	4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	14.81	✓	17.67	✓	17.70	✓	✓	14.86	TPH, PID = 3.5
9:25	5	5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	14.83	✓	17.70	✓	17.70	✓	✓	14.88	TPH, PID = 0.1, 1.3
9:47	5	6	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	14.81	✓	17.70	✓	17.71	✓	✓	14.86	TPH, PID= 1.2
10:10	5	7	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	14.80	✓	17.70	✓	17.70	✓	✓	14.88	TPH, PID = 1.0
10:31	5	8	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	14.79	✓	17.69	✓	17.69	✓	✓	14.88	TPH, PID = 0.1
10:56	5	9	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	14.81	✓	17.67	✓	17.69	✓	✓	14.85	SVOCs, PID = 0.0
11:19	5	10	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	14.80	✓	17.64	✓	17.67	✓	✓	14.86	SVOCs, PID = 0.0
11:43	5	11	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	14.80	✓	17.62	✓	17.62	✓	✓	14.85	SVOCs, PID = 0.0
12:05	5	12	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	14.82	✓	17.58	✓	17.62	✓	✓	14.83	SVOCs, PID = 0.0
12:27	5	13	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	14.80	✓	17.60	✓	17.56	✓	✓	14.87	SVOCs, PID = 0.0
12:45	5	14	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	14.74	✓	17.56	✓	17.99	✓	✓	14.70	SVOCs, PID = 0.0

TIME	Liters Removed	TDS (ppm)	pH	SP. COND. (mS/cm)	D.O. (mg/L)	TURB. (NTU)	TEMP. (°C)	ORP (mV)	SAL (ppt)	Comments
8:23	1	198.92	6.56	0.31	0.53	0.48	21.18	112.8	0.2	
14:43	18	217.55	7.73	0.33	1.76	0.50	25.50	101.8	0.2	
17:21	26	216.81	7.77	0.33	1.65	0.58	25.18	108.0	0.2	

Sample Identification Numbers: ERH1015 (N, MS/MSD), ERH1014 (TB)
Sample Start Time: 8:30 End Time: 17:04
Appearance of Sample: COLOR: clear
SEDIMENT: none
OTHER: n/a

Sampling Order: n/a

Notes: ERH 1014 --> 0815

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

19 Primary + 24 MS/MSD = 43 Total

VOAs	**Amber**	Poly
HCl: **4 + 4 = 8**	1-L: **2 + 4 = 6**	250 mL H2SO4: **1**
Unpres: **3 + 6 = 9**	500-mL: **3 + 6 = 9**	250 mL HCl (brown): **1 filtered**
H2SO4: **2**	1-L (800 mL): **2 + 4 = 6**	250 mL unpres.: **1**

Westbay Well Groundwater Sampling

Field Data Sheet

Time	Port No.	Run No.	Surface Function Tests (probe in flushing collar)						Position Sampler					Sample Collection Checks (probe located at sampling zone in Westbay casing)								Comments (volume recovered)
			Shoe Out	Close Valve	Check Vacuum	Open Valve	Evacuate Bottles (3-5 psi)	Close Valve	Shoe In	Arm In	Locate Port	Arm Out	Land Probe	Pressure in Westbay (psi)	Shoe Out	Zone Pressure (psi)	Open Valve	Zone Pressure (psi)	Close Valve	Shoe In	Pressure in Westbay (psi)	
13:13	5	15	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	14.79	✓	17.54	✓	17.56	✓	✓	14.85	SVOCs, PID = 1.1
13:36	5	16	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	14.76	✓	17.56	✓	17.57	✓	✓	14.85	SVOCs, PID = 0.2
13:57	5	17	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	14.77	✓	17.53	✓	17.56	✓	✓	14.83	SVOCs, PID = 1.1
14:17	5	18	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	14.76	✓	17.53	✓	17.56	✓	✓	14.83	Physical parameters
14:36	5	19	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	14.75	✓	17.55	✓	17.54	✓	✓	14.82	PAHs
14:56	5	20	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	14.76	✓	17.53	✓	17.54	✓	✓	14.82	PAHs
15:19	5	21	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	14.79	✓	17.53	✓	17.53	✓	✓	14.80	PAHs
15:42	5	22	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	14.76	✓	17.54	✓	17.54	✓	✓	14.82	PAHs, PID = 0.2
16:00	5	23	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	14.79	✓	17.54	✓	17.53	✓	✓	14.81	PAHs, PID = 0.2
16:20	5	24	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	14.78	✓	17.58	✓	17.57	✓	✓	14.80	PAHs, polys
16:42	5	25	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	14.78	✓	17.60	✓	17.58	✓	✓	14.82	polys
17:00	5	26	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	14.76	✓	17.60	✓	17.62	✓	✓	14.82	Physical parameters

Red Hill Groundwater Sampling Log

WELL NO. **HDMW2253-03** LOCATION: Outside Tunnel PROJECT NO. 60571032

DATE: 01/23/2020 TIME: 0826 CLIMATIC CONDITIONS: Sunny, light wind, 69ºF, 70% humidity

Depth to groundwater		Final Depth	Depth to Product	Depth to bottom		Purge			
Previous (ft btoc)	Current (ft btoc)	(ft btoc)	(ft btoc)	Previous (ft btoc)	Current (ft btoc)	Flow rate (mL/min)	Start Time	Total Volume (gal)	Nitrogen used
[a] *207.09	[a] *207.03	206.99	NA	1575	NM	275	0914	22.5	Start:1700 End: 1000
**207.02	**207.02								

Pump settings:	Pressure (PSI)		Discharge (sec)		Fill (sec)	
Previous/Actual	145	145	30	30	30	30

Headspace VOCs: 0.0 ppm Ambient VOCs: 0.0 ppm

O/W Interface Probe Type/Water Level Meter: Rental Heron / Navy Solinst Serial Number: Rental 01-5881 / Navy N-2

Gas Detector Type: MiniRAE 3000 (10.6 eV) Serial Number: 592-908165

Water Quality Meter Type: In-Situ Smartroll MP Serial Number: 646770

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

Depth to water measured from red survey mark on top of permanent casing.

* 500' Oil/Water Interface Probe measurement (Reading taken after pump deployment)

** 1000' Calibrated Water Level Meter measurement (N-2) (Reading taken after pump deployment)

TIME	DTW**	LITERS REMOVED	TDS (ppm)	pH	SP. COND. (mS/cm)	D.O. (mg/L)	TURB. (NTU)	TEMP. (°C)	ORP (mV)	SAL (psu)
0921	Water at surface									
0933	206.99	2.90	308.67	6.38	0.47	5.19	31.3	22.40	77.5	0.2
0938	206.99	4.10	305.52	6.43	0.47	2.96	30.9	22.73	67.4	0.2
0943	206.99	5.90	304.61	6.43	0.47	2.34	28.2	22.76	62.3	0.2

(see next page)

SAMPLING EQUIPMENT: Dedicated Bladder Pump

APPEARANCE OF SAMPLE: COLOR: Clear

SEDIMENT: None

ODOR/OTHER: None

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES / NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 16 primary = 16 Total

VOAs	Amber	Poly
HCl: **4**	1-L: **2**	250 mL H2SO4: **1**
H2SO4: **2**	1-L (800mL): **2**	250 mL HCl (brown): **1 filtered**
	500-mL: **3**	250 mL unpres.: **1**

SAMPLE IDENTIFICATION NUMBER(S) **ERH997 (N)** **ERH996 (Trip Blank)**

DATE: 01/23/2020 TIME: Start:1035 End:1116 Start:0930 End: —

DECONTAMINATION PROCEDURES: Alconox, DI water, Isopropyl, and DI water wash

NOTES: Could not get turbidity below 20 NTUs. Called Margie Pascua for permission to collect sample

[a] =Reading taken before pump deployment during Event

SAMPLED BY: GM, RS, CS

SAMPLES DELIVERED TO: APPL TRANSPORTER: FedEx

WELL NO. **HDMW2253-03** LOCATION: Outside Tunnel PROJECT NO. 60571032

TIME	DTW	LITERS REMOVED	TDS (ppm)	pH	SP. COND. (mS/cm)	D.O. (mg/L)	TURB. (NTU)	TEMP. (°C)	ORP (mV)	SAL (psu)
0948	206.99	7.00	304.24	6.43	0.47	2.03	26.8	22.79	67.7	0.2
0953	206.99	8.50	302.07	6.44	0.47	1.83	26.6	22.84	59.3	0.2
0958	206.99	10.00	303.04	6.44	0.47	1.69	24.7	22.87	58.5	0.2
1003	206.99	11.10	299.75	6.44	0.46	1.59	24.9	22.87	56.8	0.2
1008	206.99	12.90	303.88	6.44	0.47	1.50	24.8	22.88	55.1	0.2
1013	206.99	14.00	302.40	6.45	0.47	1.44	24.9	22.89	54.2	0.2
1018	206.99	15.50	302.38	6.45	0.47	1.39	23.9	22.90	52.9	0.2
1023	206.99	16.10	303.65	6.45	0.47	1.34	22.7	22.93	51.7	0.2
1028	206.99	17.55	303.22	6.45	0.47	1.33	21.9	22.97	51.4	0.2
1034	Reduce flow rate to 110mL/min for VOAs. Bring flow rate back to 275mL/min for ambers									

Red Hill Groundwater Sampling Log

WELL NO. **OWDFMW01** LOCATION: Outside Tunnel PROJECT NO. 60571032

DATE: 01/22/2020 TIME: 0715 CLIMATIC CONDITIONS: 68ºF, cloudy

Depth to groundwater		Final Depth	Depth to Product	Depth to bottom		Purge			
Previous (ft btoc)	Current (ft btoc)	(ft btoc)	(ft btoc)	Previous (ft btoc)	Current (ft btoc)	Flow rate (mL/min)	Start Time	Total Volume (gal)	Nitrogen used
*119.39	119.36	119.68	NA	144.74	NM	80	0750	1.25	Start: 2000 End: 1700
**119.40	119.28								

Pump settings:	Pressure (PSI)		Discharge (sec)		Fill (sec)	
Previous/Actual	65	65	13	13	17	17

Headspace VOCs: 0.8 ppm Ambient VOCs: 0.1 ppm

O/W Interface Probe Type/Water Level Meter: Heron/Solinist Serial Number: 31242/N-1

Gas Detector Type: MultiRAE Serial Number: 12Q1

Water Quality Meter Type: In-Situ Smartroll MP Serial Number: 589972

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

Depth to water measured from red survey mark on top of permanent casing.

* 200' Oil/Water Interface Probe measurement

** 500' Calibrated Water Level Meter measurement (N-1)

TIME	DTW**	LITERS REMOVED	TDS (ppm)	pH	SP. COND. (mS/cm)	D.O. (mg/L)	TURB. (NTU)	TEMP. (°C)	ORP (mV)	SAL (psu)
0750	Water to surface									
0807	119.51	1	2795.10	8.40	4.30	12.20	14.8	21.94	118.5	2.3

(see next page)

SAMPLING EQUIPMENT: Dedicated Bladder Pump

APPEARANCE OF SAMPLE: COLOR: Clear/none

SEDIMENT: None

ODOR/OTHER: None

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES / NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 16 Primary = 16 Total

VOAs HCl: **4** H2SO4: **2**	Amber 1-L: **2** 1-L (800 mL): **2** 500-mL: **3**	Poly 250 mL H2SO4: **1** 250 mL HCl (brown): **1 filtered** 250 mL unpres.: **1**

SAMPLE IDENTIFICATION NUMBER(S) **ERH995 (N)** **ERH994 (Trip Blank)**

DATE: 01/22/2020 TIME: Start: 0840 End: 1009 Start: 0755

DECONTAMINATION PROCEDURES: Alconox, DI water, Isopropyl, and DI water wash

NOTES:

SAMPLED BY: DH, KL, DM

SAMPLES DELIVERED TO: APPL TRANSPORTER: FedEx

WELL NO. **OWDFMW01** LOCATION: Outside Tunnel PROJECT NO. 60571032

TIME	DTW**	LITERS REMOVED	TDS (ppm)	pH	SP. COND. (mS/cm)	D.O. (mg/L)	TURB. (NTU)	TEMP. (°C)	ORP (mV)	SAL (psu)
0811	119.57’	1.5	2500.97	9.48	3.85	9.25	6.72	23.06	94.6	2.1
0815	119.63’	1.9	2561.60	9.89	3.94	7.41	2.81	23.27	90.6	2.1
0819	119.66’	2.1	2557.61	9.98	3.94	6.93	2.99	23.28	90.3	2.1
0823	119.69’	2.7	2558.77	10.08	3.94	6.49	2.39	23.45	89.7	2.1
0827	119.73’	3.0	2561.50	10.18	3.94	6.18	2.27	23.74	89.5	2.1
0831	119.77’	3.5	2552.86	10.24	3.93	5.95	2.14	23.80	89.5	2.1
0835	119.77’	4.0	2551.76	10.22	3.93	5.88	1.89	23.69	89.6	2.1
0840	Start sampling									

Appendix B.2:
Field Logbooks

This page intentionally left blank

Location HCF Date 1/20/2020

Project / Client Red Hill LTM January 2020

Book #14 RHMW14Z1

Purpose: Complete a pressure profile in RHMW14 and sample RHMW14Z1.

0530 TV at warehouse to load.

0600 BM & BL at warehouse to load.

0615 SP at warehouse to load.

Personnel: AECOM-TV(SSHO), BM, BL, SP

Weather: 78°, intermittent showers

0700 KL conducts tailgate. See log for details.

0705 SP & TV head to site to setup. BM & BL put gas in generator and head to site

Rentals: Smart troll SN 512733
P10 SN 592-908165
Turbidimeter SN

0730 Sign in at HCF gate. Proceed to RHMW14 and setup.

0830 Setup for pressure profile. MP ~~BM35-285~~ 500152. Winch controller (yellow box) not reading depth. Call Westbay (Mark) to troubleshoot

0848 Fix winch controller. Cable had fallen off the wheel. Start Pressure Profile.

0905 Collect TB RH1003

Location HCF Date 1/20/2020

Project / Client Red Hill LTM January 2020

Book #14 RHMW14Z1 con't

0929 Complete pressure profile. MP3=HGIS243

0934 Send down canisters for parameters. Purged with Nitrogen.

1000 Collect RH1004

1028 Collect 1st parameters reading (slight delay due to passing silicon tubing). Continue to send sample canisters down.

1152 Send down canisters for second set of parameters. Purged with Nitrogen

1244 Continue sending down ~~samples~~ canisters for samples.

1320 TH on site.

1409 Send down canisters for third set of parameters. Purged with Nitrogen

1455 TH offsite (late entry)

1440 Finish sampling. Decon canisters and place in bags.

1510 TV, SP, BM, BL depart HCF Sign out at gate. TV and SP to warehouse.

1515 BM and BL to RH for IDW.

1540 At warehouse unload. End of field day.

1/20/2020

Rite in the Rain

Location HCF Date 1/21/2020

Project / Client Red Hill LTM January 2020

Book #14 RHMW14-22

Purpose: Collect RHMW14-22, EB, FB.

Personnel: AECOM - BM, BL, SP, TV

Weather: 75°, partly cloudy

0530 TVout Warehouse to load.

0600 BM, BL, SP at warehouse to load

0700 SP and TV to HCF to load.

0715 BM+BL attempting to calibrate SN 512733 Smart Troll. Call Joel. Joel to bring out new one to HCF.

0730 BM+BL to pick up ice and fill up operation Tlers head to HCF.

0800 BM+BL sign in at HCF. Proceed to RHMW14.

0920 Collect ERH998 (TB for FB/EB)

0921 TV contacts tailgate. See log for details.

0830 collect ERH999 (FB)

0850 collect ERH 1000 (EB)

0910 Joel (HBR) arrived with new smart troll. Calibrate Smart troll SN 637618. Waiting for RD to Stabilize. (SN 592-914105)

0958 Send 1st set of canisters down for parameters. Purged with Nitrogen.

1000 ERH 1005 (TB) collected

1030 Collect ERH 1006

1138 Send 2nd set of canisters down for

Location HCF Date 1/21/2020

Project / Client Red Hill LTM January 2020

Book #14 RHMW14-22 cont'd

parameters. Purged with Nitrogen.

1314 Send 3rd set of canisters down for parameters. Purged w/ Nitrogen.

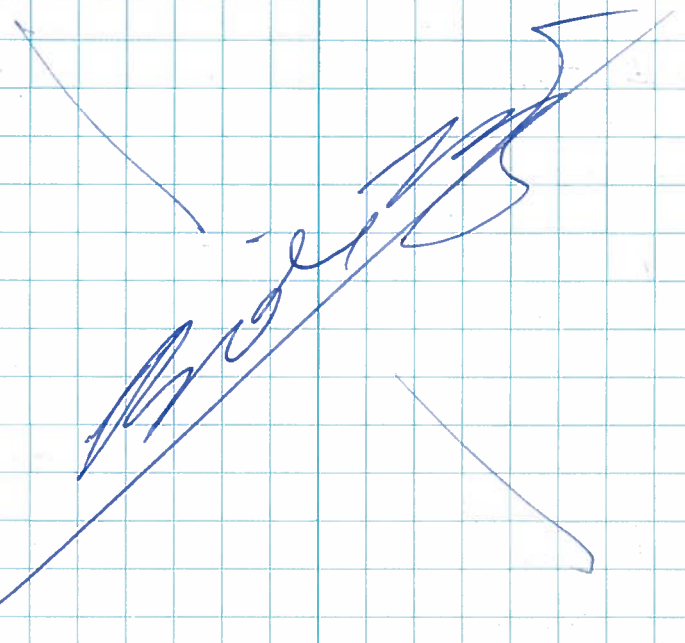
1324 Sample End time for ERH 1006 Decon canisters and Store in bags. Demob site.

1408 Depart HCF. Hand ZPW off to KL

1410 Sign out at HCF. Proceed to warehouse.

1430 Arrive at warehouse. Unload. End of field day.

MAG-T = MG15243



Rite in the Rain

64

Location HCF Date 1/22/2020

Project / Client Red Hill LTM January 2020

Book #14 RHMW14Z3

Purpose: Sample RHMW14Z3 duplicate.

Personnel: AECOM - BM, BL, TV, SP

Weather: ~~75° sunny~~ 50° AM, 75° PM sunny

0530 TV at (AM) warehouse to load.

0600 BM, BL, SP at warehouse to load.

0630 TV, SP to site. BM+BL to fill generators and then lead to site.

0645 Sign in at HCF. Setup at RHMW14.

0750 Collect ERH 1007 (CTR)

~~0754 Send 1st set of canisters down for parameters. Purge w/ nitrogen~~

0745 TV conducts tailgate (lake entry) See log for details.

Rentals: SN592-914105-PID

SN637619 - Smartroll

0754 Setup to (AM) send 1st set of canisters down well. Purged w/ nitrogen for parameters. Hand pump broke. Pause to get old one from warehouse. Parameters sit for N1.5hrs before parameters taken

0905 Fix pump. Resume work.

0830 Collect ERH1008 (primary)

0835 Collect ERH-1009 (duplicate)

1030 JK on site.

65

Location HCF Date 1/22/2020

Project / Client Red Hill LTM January 2020

Book #14 RHMW14Z3 cont'd

1100 JK offsite.

1143 Send Second set of canisters down for parameters. Purged w/ nitrogen.

1330 Complete sample collection.

1340 Send 3rd set of canisters down for parameters. Purge w/ nitrogen.

1400 Decon canisters and place in bags. Demob site.

MAQT=MGTS379

1430 BM, BL/TV, SP depart site. Sign out at HCF. BM+BL to Ling Tow to DM at RH.

1501 Arrive at warehouse to unload. End of Field day.

Rite in the Rain

Location HCF Date 1/23/2020

Project / Client Red Hill LTM January 2020

Book #14 RHMW11Z5

Purpose: Complete pressure profile at RHMW11 and sample RHMW11Z5.

Personel: Aecom - BM, BL, TV, SP

Weather: 78°, sunny

0530 TV at warehouse to load.

0545 BM + BL at warehouse to calibrate.

0600 SP at warehouse to load.

0645 TV and SP to site. BM and BL to get gas for generator and then to site.

0703 BM, BL, TV, SP sign in at HCF. Proceed to RHMW11.

0741 Begin pressure profile.

Rentals: PID SN 592-914105

~~Smartball SN~~ BM

MAGI: MGI5380

0745 TV conductivity gate. See log for details.

0811 Zone 1 Outside pressure not reading right. Bring up EMU5285 to check.

0820 Check faceplate. Send back down well. Determine not enough water in center tube. TV to go purchase water. Pin Zf: 14.86 psi.

0845 JK calls. Says USGS does not need any pumping ports open in RHMW11 Just Mitchell confirmed same ~~for~~ installation at RHMW14 as last time.

Location HCF Date 1/23/2020

Project / Client Red Hill LTM January 2020

Book #14 RHMW11Z5 cont'd

0900 Add 10 gallons to west bay center ~~tube~~. Check P inside. BM

0913 Resume pressure profile, Z1 off. ~~Pull up probe to adjust faceplate.~~ Test Z3 off. Pull up probe to adjust face plate. Replace arm plunger gasket. Knick in gasket. Arm also scratches. Shoe also not completely closing during shoe in. Replace shoe.

0944 Resume pressure profile. BM ~~off~~. Shoe only doing 17 not 23 rotations. "Home" (under MGI) it to reset shoe bar arm). Pull probe to check shoe.

1002 Shoe goes in and out w/ 23 rotations at surface. Shoe catches on its way in. Adjust screws. Only 16 rotations at collar. Put shoe in and out again. Try at collar still only at 16 rotations. Change to MGIS242 Home 23 rotations, go to ~~Z8~~ to test. No reading at all. Depths on yellow box also not working.

1028 Call Tony Kim. Determine battery needs to be replaced on yellow winch controller.

Rite in the Rain

Location HCF Date 1/23/2020

Project / Client Red Hill January LTM

Book #14 RHMW175 cont'd

1100 TV off to get new 3 Volt battery

1200 TV back with battery. Call Tony Kim to reprogram yellow box. Should be 00.5468 Reset yellow box.

1215 Restart pressure profile.

1230 collect EKH1001 (TB)

1315 Determine will not be able sample today due to shipping times. Confirm with MP.

1330 Complete pressure profile. Mob to RHMW174 to install MOSDAXs and open pumping port in Zone 7.

1347 setup at RHMW174.

1422 Setup to open pumping port in Zone 7. Change to face plate A3 MAG1-MG15243 Need to add water to ensure 10 psi differential between P_{in} and P_{out}.

1434 Add 9-10 gallons of water. Open pumping port 7. Land probe in Zone 7 PP. But pressure reads 18.4 psi should be ~25 psi based on 1/20 pressure profile. Could not figure out solution. Check faceplate.

Location HCF Date 1/23/2020

Project / Client Red Hill January LTM

Book #14 RHMW175 cont'd

1539 Send probe back down. Pout in shroud = 19.46 psi. Call Mark from Westbay. Pumping port is a closed system and it does not see the formation. So all is (BM) Proceed to open pumping port.

1555 Confirm pumping port open. Demob site.

1615 Report site. Sign out at HCF. TV + SP to warehouse. BM + BL to JBW from Hawaii

1635 BM + BL finish JBW. Offsite.

1700 Arrive at warehouse. End of field day.

Rite in the Rain

70

Location ~~RH~~ RH Date 1/27/2020

Project / Client Red Hill January 2020 GTM

Book #14 RHMW15Z3

Purpose: Complete a pressure profile for RHMW15 and sample Zone 3.

Personnel: AECOM - TV, SP, BM, DH

Weather: 80° humid partly cloudy

0545 BM + DH depart office for warehouse.

0600 SP + TV at warehouse loading, BM + DH at warehouse to load.

0630 TV conducts tailgate. See log for details.

0645 TV + SP to get gas for generator. BM + DH head to site.

0715 Arrive at RHMW15. Setup. MAGI = MG-1580

Rentals: Smart troll SN 646770
PID SN592-908165

0822 Begin pressure profile.

0840 collect ERH 1010 (TB)

0913 Send 1st set of canisters down for parameters. Purged w/ Nitrogen.

0945 collect ERH 1011

1141 Send 2nd set of canisters down for parameters. Purged w/ Nitrogen.

1255 Complete collecting ERH 1011

1305 Send 3rd set of canisters down. Purged w/ nitrogen.

1330 Demobsite, Decon canisters ~~BM~~ to IDW.

1415 BM, TV, PH, SP off site.

1430 At warehouse. End of field day.

71

Location ~~HCC~~ RH Date 1/28/2020

Project / Client Red Hill January 2020 TTM

Book #14 RHMW15Z4

Purpose: Sample RHMW14 Zone 4.

Personnel: AECOM - TV, SP, BM, DH

Weather: 80°, humid

0545 BM + DH at warehouse. SP at warehouse loading.

0600 SP at warehouse.

Rentals: Smart troll SN 646770
PID SN592-908165

0630 Depart warehouse for site.

0650 Arrive on site. Setup. MAGI = MG-1580

0~~7~~8 Send 1st set of sample canisters down. Purged w/ nitrogen.

0800 Collect ERH 1012 TB

0830 Start collecting ERH 1013

0~~8~~05 JBPHH guard informed us that ~~they~~ key could not go up the road to IDW.

0936 Send 2nd set of sample canisters down. Purged w/ nitrogen.

1130 Send 3rd set of canisters down. Purged w/ Nitrogen

1140 Complete Sampling ERH 1013. Decon canisters. Demob site.

1215 BM + SP to IDW. DH + TV to warehouse. Wait for dispatch to open gate.

1315 BM + SP to warehouse.

1330 At warehouse. End of field day.

Rite in the Rain

Location RH Date 1/29/2020

Project / Client Red Hill January 2020 GTM

Book #14 RHMW1525

Purpose: Sample RHMW1525 MS/MSD

Personnel: AECOM - BM, TV, SP, MC

Weather: 80°, sunny

0530 TV + MC at warehouse. loading

0545 BM + SP at warehouse.

Rentals: Smart Roll SN 646700

PID SN 592-908165

MAG1 = MG1 5280

0620 Depart warehouse for site

0645 Arrive on site. setup. Conduct tailgate. See log for details.

0750 Send 1st set of canisters downwell. Purged w/ Nitrogen for parameters

0815 ERH1014 FB - collected

0830 ERH1015 - collected

0930 BM + TV go to IDW to sample 097 ~~Inspect~~

0950 ERH1021 - collected.

1006 BM + TV back at RHMW1525

1417 Send 2nd set of canisters downwell. Purged w/ Nitrogen for parameters

1631 Mag: shut off b/c of overheating during run no. 24 (while filling)

1638 Mag: turned on. Still filling. Resume run.

1700 Send 3rd set of canisters down well. Purged

Location RH Date 1/29/2020

Project / Client Red Hill January 2020 GTM

Book #14 cont'd RHMW1525

with Nitrogen.

1704 Complete sampling ERH1021. Start to demob site. Decon sample canisters.

1740 Call JBPHH to open IDW gates. TV to RHMW12 to replace well heads. MC to warehouse. BM + SP to IDW.

1755 Call JBPHH to open gates.

1800 Rover gens gate.

1810 Complete IDW. Depart site. Head to warehouse.

1825 Arrive at warehouse. End of field day.

Rite in the Rain

Location RH/HCF Date 1/30/2020

Project / Client Red Hill January 2020

Book #M RHMW11 B5

Purpose: Sample RHMW11 Zone 5 and install various transducers.

Personnel: AECOM - BM, TV, DM, SP

Weather:

0600 DM, BM, SP at warehouse. TV already there Loading.

0645 Depart warehouse for HCF.

0703 Sign in at HCF gate. Proceed to RHMW11 and set up. RAE3=MOL5380

Rentals: Smartroll SN 641700
PID SN 592-908165

0745 TV conducts fall gate, see log for details.

0750 Collect ERH1001 (TB)

0937 Send 1st set of canisters down for parameters. Purged w/ Nitrogen

1010 Collect ERH1002

1115 Send 2nd set of canisters down for parameters. Purged w/ Nitrogen.

1158 Issues w/ vacuum. troubleshoot. Change face plate/adjust spring in face plate and shoe.

1243 Resume sampling.

1345 Finish collecting ERH1002 send 3rd set of canisters down. Purged with Nitrogen.

Location RH/HCF Date 1/30/2020

Project / Client Red Hill January 2020

Book #M RHMW11 B5

1402 Start Demobing. Decon canisters.

1435 Depart HCF. Sign out. Proceed to RHMW13 for pressure profile. Waiting for pump house gate to be opened.

1455 Rover arrives to open gate. Mob to RHMW13. DM + SP to JOIN. TV + BM set up at RHMW13 for pressure profile.

1530 DM offsite.

1540 Complete Pressure profile at RHMW13 to be ready for transducer deployments. Demob site.

1554 TV offsite. Call rover to close pump gate.

1600 Rover onsite. SP + BM depart site. Head to warehouse.

1616 Arrive at warehouse. End of field day

Rite in the Rain

Location RH/HCF Date 1/31/2020

Project / Client Red Hill January 2020

Book #14 Transducer Install

Purpose: Deploy transducers.

Personnel: ABCom - BM, TV, SP, CM

Weather: 75° cloudy

0600 At warehouse loading vehicles.

0640 Depart warehouse for RHMW13

0700 Arrive at RHMW13 setup to install transducers

Rentals: SN 5-92-9/14105

0840 TV conducts tailgate. See log for details

RHMW13 → MAGI 3860 rental #0

Zone 1 → 2663 250PSI #1

Zone 2 → 2200 250PSI #2

Zone 3 → 2633 250PSI #3

Zone 4 → 2640 250PSI #4

Zone 5 → 5180 30PSI #5

RSB (White box) Rentals/NRSB3755

0916 Open Wellhead. PID: 0.0

~~1107 Energy to RSB Rental SN NRSB3755~~

1240 Spoke to TK. When setting up to start logging. Bug cannot adjust clock manually set at 1/1/2020 12:30:08 will correct automatically. Confirm data is working.

- Supply VDC: 12.7
- Lithium battery = OK
- Line VDC: 47.9
- Line ma.: 1.3

Location RH/HCF Date 1/31/2020

Project / Client Red Hill January 2020

Book #14 Transducer Install cont'd

1245 Call SBPHH dispatch to gate and mobilize to RHMW05.

1300 Recall SBPHH dispatch to gate.

1305 Gate opened. Proceed to RHMW05

RHMW05 → MAGI 5380 owned #0, gov't #10 17097

Zone 1 → 5372 250 PSI #1

Zone 2 → 5373 250 PSI #2

Zone 3 → 5374 250 PSI #3

Zone 4 → 5375 250 PSI #4

Zone 5 → 4934 250 PSI #5

RSB (White box) owned SN NRSB 5058 Gov't #0 14934

1317 Open well head. PID: 0.0

1335 Attempt to connect computer to MAGI. Cannot call Tony Kim.

1404 Issue resolved. Resume work

~~1507 Energy to RSB Rental SN NRSB3755~~

1509 Finish setup: Start time confirmed correct w/ work around.

- Supply VDC: 12.5
- Line VDC: 47.6
- Line ma.: 5.97
- Lithium battery = OK

1510 De-mobsite.

1516 Depart site

1545 At warehouse End of Day.

Rite in the Rain

78

Location HCF/RH Date 2/3/20

Project / Client Red Hill January ~~2020~~ 2020 LTM

Book #14 Transducer Install

0600 BM, GM, SP, TV at warehouse loading truck

0622 Depart warehouse to HCF.

Purpose: Install transducers in RHMW14 and check batteries in RHMW15 & RHMW13.

Personnel: AECOM - BM, GM, SP, TV

Weather:

0645 Checking at HCF. Proceed to RHMW14.

0715 TV conducts tailgate see log for details.

PID at well: 0.0

RHMW14 → MAC1 5252 (covered) #0

Zone3 → 4929 250PSI #3

Zone4 → 4930 250PSI #4

Zone5 → 4931 250PSI #5

Zone6 → 5184 100PSI #6

Zone7 → 5183 100PSI #7

Covered

RSB (white box) ~~Rental SN RSB 5052~~

Rental SN RSB 5052

0905 Transducers in. Issue with lightning protector cord. trouble shoot.

0920 Lightning box ~~has~~ is corroded inside. ~~cannot connect TH determined is confirms~~

79

Location HCF/RH Date 2/3/20

Project / Client Red Hill January 2020 LTM

Book #14 Transducer Install cont'd

cannot use. Do not start collecting data but leave transducers in. Demob site.

1005 Replace Batteries in RHMW13 & 14 Looking for small crack

1040 OFF Site

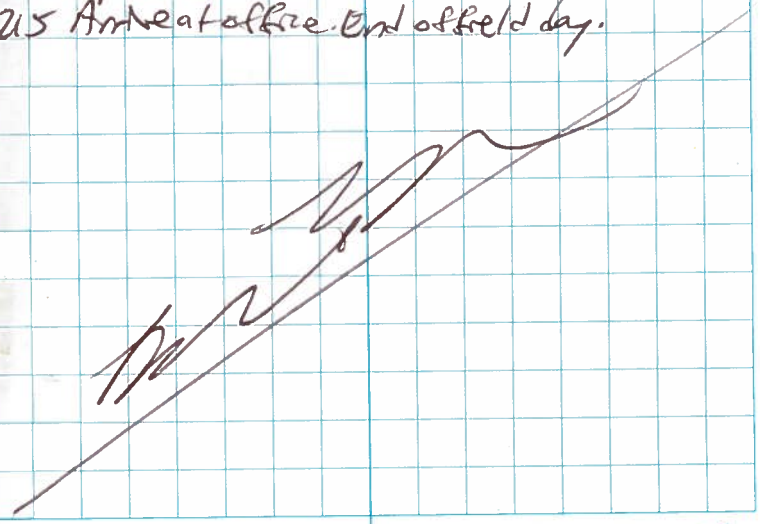
1115 TV + BM head to RHMW15 to adjust settings. SP + GM head to office.

1135 Arrive at RHMW15

1140 Reset data logging at RHMW15 to 2 minute scans (was 20 seconds) and power save.

1145 Depart site.

1215 Arrive at office. End of field day.



Rite in the Rain

Location Red Hill BFSF Date 01/16/2020

Project / Client LTM January 2020 Pump Deployment

Logbook #17

storage area. Team drops ≈3.5 gallons of purge water into Drum #107.

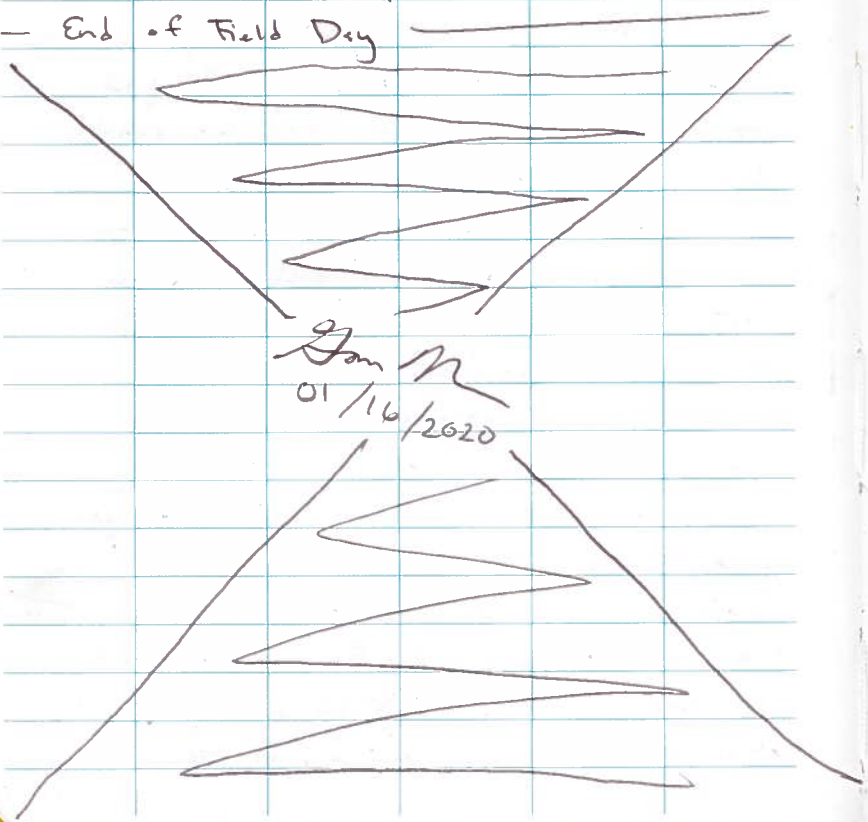
1418 Check in w/ JF and CE at RHMW15.

1425 Team leaves site to return to warehouse.

1453 Team arrives at warehouse. Unloads equipment and supplies.

1328 Team finishes up at warehouse.

— End of Field Day



Location Red Hill BFSF Date 01/20/2020

Project / Client LTM January 2020 Sampling Event

Logbook #17

0600 Team meets at warehouse. GM and DM show up at 0540 to calibrate equipment. KL helps calibrate PID and multirae. See calibration logs for details.

0640 Teams pack equipment & supplies in vehicles. KL conducts group HRS meeting. See HRS log for details.

0710 Team leaves warehouse and heads to site.

0728 Team arrives onsite. Checks in with Red Hill main gate guard. Has to wait for guard to open gate to RHMW04.

0743 Set up at RHMW04. Grey plate dropped from well cap when opening well. Grey plate is sitting ≈15 feet from surface. Will need to get fishing line to get pump set up out of well. Notified JK and mobilized to RHMW06.

0816 Set up at RHMW06.

Objective: Sample RHMW06, 08, and 07

Team: AECOM (GM, RS, and DM)

Weather: Overcast, rainy, 72°, 82% humidity, light wind

Equipment: PID Serial # = 914105, SmarTroll = 646770, water/oil interface = Heron 01-5881.

0835 started pumping at RHMW06. Water at surface at 0846. Pressure in first nitrogen tank at start = 1000 PSI. Trip Blank = ERH984 @ 8:40.

Rite in the Rain

Location Red Hill BFSF Date 01/20/2020

Project / Client LTM January 2020 Sampling Event

Logbook #17

0853 Got flow rate to approx 300 mL/min and started measuring stabilization parameters. Standpipe DTW measured later.

0940 Parameters stabilized at RHMW06. See sampling log for details. Started collecting RHMW06 sample at 9:40 = ERH985.

1020 Finished collecting ERH985.

1048 Finished at RHMW06 and packed away supplies and equipment to mobilize to RHMW08.

1108 Set up at RHMW08.

1128 Started pumping at RHMW08. Water at surface at 11:46. Took RS some time to get the water flow rate to approx 300 mL/min.

1156 Started measuring stabilization parameters at RHMW08. Trip Blank Sample @11:39 = ERH988.

1231 Parameters stabilized at RHMW08. Started collecting RHMW08 sample @1235 = ERH989.

1309 Finished collecting RHMW08 sample @ 13:09.

1324 Packed up at RHMW08 and mobilized to RHMW07.

1354 Set up at RHMW07. Collected trip blank sample @14:10 = ERH986.

1403 Started pumping at RHMW07. Water at surface @ 1422. Flow rate took a long time to get to 175mL/min. Well has history of draw down so sampling occurs at lower rate.

Location Red Hill BFSF Date 01/20/2020

Project / Client LTM January 2020 Sampling Event

Logbook #17

1434 Started measuring parameter stabilization for RHMW07.

1525 Parameters stabilized at RHMW07. Started collecting RHMW07 sample @15:25 = ERH987

1608 Finished collecting RHMW07 sample. Welding Team (BM and BL) and Tunnel team (KL, MC, OH) stopped by RHMW07 to drop off IDW with our team. Team (CM and DM) will drop off at IDW storage area.

1623 Started packing up supplies and equipment at RHMW07. RS lets guards know to open gate to the IDW storage area and then heads to warehouse.

1648 CM and DM drop off IDW in IDW storage drum #108. Team checks out w/ guard and leaves site to return to warehouse.

1713 Team arrives at warehouse and unloads supplies and equipment. RS stores samples in Federal fridge.

1750 Team finishes at warehouse and signs out for the day. End of Field Day

01/20/2020

Rite in the Rain

Location Red Hill BFSF Date 01/21/2020

Project / Client LTM January 2020 Sampling Event Day 2

Logbook #17

0540 GM, DM, and KL arrive at warehouse to calibrate equipment. See calibration logs for details. Trouble calibrate multirae and ~~but~~ westbay smartroll. Called Joel at HFR to bring replacements.

0600 Rest of team members arrive at warehouse and help load equipment and supplies for the day.

0708 Team finishes loading vehicles and DM leads H&S tailgate meeting. See log for details.

0741 Team arrives onsite and checks in with main gate. Team asks guard to open gate to RHMW04.

0806 Guard opens gate and team sets up at RHMW04.

Objective: Sample RHMW09 and 04.

Team: AECOM (GM, DM, and RS)

Weather: Sunny, 79°, 83% humidity, light wind

Equipment: PID serial #=914105, SmarTroll=646770, and rental water/oil interface = 01-5881

0828 Team set up fishing line w/ hook to grab sampling grey plate stuck approx 10-15 ft below top of casing at RHMW04. Dropped into well on 01/20/2020. After several attempts team hooked onto grey plate and pulled to surface.

0828 Set up RHMW04 and started pumping.

0840 Water at surface. RS/GM worked flow rate to approx. 300 mL/min w/ normal settings.

Location Red Hill BFSF Date 01/21/2020.

Project / Client LTM January 2020 Sampling Event Day 2

Logbook #17.

0900 Collected trip blank sample @ 9:00 = ERH980

0930 Parameters stabilized at RHMW04.

Started collecting RHMW04 sample = ERH981 (N)

1008 Finished collecting RHMW04 sample.

Note: Some vegetation clearance was performed in the area of RHMW04 during purge. Not around during sampling. Packed up supplies and equipment and mobilized to bottom gate entrance to RHMW09. Avoided damaged rocky road.

1056 Guard arrives to open gate and escort team to RHMW09.

11:25 Arrive at RHMW09 and set up for sampling. Started pumping at RHMW09.

12:06 Water at surface at RHMW09. RS reached a flow rate of approx. 300mL/min. No bubbles in discharge tubing.

12:17 Started collecting parameter readings at RHMW09. Collected trip blank @ 1220 = ERH990

13:00 Finished collecting parameter readings and reached stabilization. Started collecting RHMW09 sample @ ~~1310~~ 1310 = ERH991 (N)

1355 Finished collecting RHMW09 sample. Packed up supplies and equipment. Mobilized to IDW storage area to meet

Rite in the Rain

Location Red Hill BFSF Date 01/21/2020

Project / Client LTM January 2020 Sampling Event Day 2

Logbook #17

KL and drop off IDW.

1413 Arrived at IDW storage area and dropped off IDW in drum #108. Labeled drum and removed current old broken tarp. Stretched out new tarp and covered IDW storage area.

1443 Finished at IDW area and team leaves site to return to warehouse. GM checks out w/ main gate guard.

1510 Team arrives at warehouse and unloads nitrogen, supplies, and equipment. Organize supplies for tomorrows field work.

1545 Finish unloading at warehouse. KL decons IDW buckets. End of Field Day!

Erwin Mura
01/21/2020

Location Red Hill BFSF Date 01/22/2020

Project / Client LTM January 2020 Sampling Event Day 3

Logbook #17

0600 GM arrives at warehouse. KL, DH on, and DH calibrate equipment. See calibration logs for details. (LY) on Laur arrives to join outside team.

Objectives: Sample RHMW10. Pull pumps from RHMW10 and RHMW04

Weather: Sunny, light winds, 82% humidity, 80° @ 8:45

Equipment: PID = 914105, SmarTroll = 646770, oil/water interface = ~~CS~~ GM 01-5881

Team: Outside AECOM team (GM, CS, RS, and LY)

0713 Team finishes loading vehicles and heads to site. KL leads H&S tailgate as a group before leaving warehouse.

0738 Arrive onsite and check in with main gate guard. Notify security about needing access to RHMW10 from side gates. Guard escorts team to top of hill.

0758 Arrive at RHMW10 and begin to set up to deploy pump. Before deployment team discusses objectives and signs in on H&S tailgate. See tailgate for details

0815 Deployed pump and tubing into RHMW10.

0907 Started pumping at RHMW10

Rite in the Rain

Location Red Hill BFSF Date 01/22/2020

Project / Client LTM January 2020 Sampling Event Day 3

Logbook #17

0935 Water at surface. Flow rate of ~~300~~ mL/min was achieved. No bubbles in discharge tubing. Started collecting stabilization parameter readings.

0939 Air line burst at swaglock ferrul fitting directing at grey plate connection. Stopped controller and ~~set up~~ set up to pull out tubing and reconnect air tubing to air connector.

1003 When sending pump back down the weight remained on the steel cable or tubing indicating that pump ~~or~~ on tubing was wedged in the well preventing grey cap from holding weight of pump. Decided to pull pump/tubing totally out of well to determine how/where pump/tubing was getting wedged. Called JK to notify manager of problems. Called KL and tunnel team to help at RHMW10 to troubleshoot and pull pump.

1040 Team pulled RHMW10 pump/tubing out of well and re-spooled. KL, DM, arrive at RHMW10 to assist. ~~Started~~ Air/water line did not look crimped or damaged. Bladder was in good condition. Re-deployed into RHMW10.

1108 ~~St~~ Resumed pumping at RHMW10.

1121 Water back at surface. Reached approx flow rate of 250mL/min

Location Red Hill BFSF Date 01/22/2020

Project / Client LTM January 2020 Sampling Event Day 3

Logbook #17

1125 Air line blew out again but the sound of nitrogen was leaking downhole. Leak must be at splice or at pump attachment. Decided to pull pump completely again. Pump/tubing seemed to get wedged at the same place within the well. Pulled up and down slowly before pulling pump all the way to surface. Discovered air hole leak approx 3 inches up from air line connection to pump. In order to fix, we had to remove 3 inches of tubing and add new swaglock fittings. Tightened down and pull tested.

1130 JK arrived onsite. Showed and explained difficulties to JK. Re-deployed pump into RHMW10.

1230 DH arrives at RHMW10 w/ extra bladder and assists in pump redeployment.

1258 Pump back in well. Resumed pumping at 30 PSI air line blew down hole. Needed to pull entire pump/tubing set up out of well to identify Airline leak.

1320 DM and DH depart RHMW10 to offload IDW and pull pumps from RHMW06 and RHMW07. KL remains

Rite in the Rain

with team.
1356 Pump back at surface. Removed pump from end of tubing to pressure test air line with nitrogen by plugging end of nitrogen air line. Started pressurizing air line at 20 PSI air line leak was identified at approx the middle of the tubing at the bonding location. Based on discovery of hole called Geotek to discuss. Team attempted to cut ~~off~~ approx 3 inches and attempted to repair hole with swaglock splice connectors. Had to cut and repair air and water line.
1418 Repressurized line to check GM line repair. When increasing pressure the hole continued to spread down the air line. Attempted to cut out another 3 inches and add new swaglock fittings. Confirmed new splice was tight and set up to re-pressurize again.
1436 When re-pressurizing reached a pressure of approx 200 PSI and then a new bonding hole sprung up approx 3 inches below splice. Turned off pump controller and called RtHMW10 trouble shooting for the day. Called and notified JK.
1458 GM spoke to Geotek to troubleshoot difficulties. Team packed up supplies and

equipment at RtHMW10.
1505 Team mobilized to IDW storage area to drop off purge water from RtHMW10. Dropped off IDW in drum #108. Drum is now mostly full (approx 48 gallons).
1530 Team departs from site to return to warehouse
1558 Team arrives at warehouse and unloads supplies and equipment. Team discusses todays issues and CM calls JK.
1640 All activities completed for day. Closed up warehouse and End of Field Day

01/22/2020

Rite in the Rain

Location: Red Hill BFSF Date: 01/23/2020

Project / Client: LTM January 2020 Sampling Event Day 4

Logbook #17

0600 Team arrives at warehouse. BM and BL do calibration of equipment. See calibration log for details.

0640 Team finishes loading supplies and equipment and discusses today's tasks.

Objective: Sample HDMW2253-03

Team: AECOM (GM, RS, and CS)

Equipment: PID Serial #= 592-908165, oil/water interface = 01-5881 and SmarTroll = 646770

Weather: Sunny, light winds, 69°F, 70% humidity

0653 Team departs from warehouse to head to HCF.

0725 Team checks in at guardshack for HCF. CS stays to wait for escort Patricia Casey and Jack/Rylan from USGS. GM and RS head to OWOF well to retrieve nitrogen tank from 01/22/2020.

0800 Patricia, Rylan, and Jack show up to check in at HCF and escort team to HDMW2253-03.

08:26 Team sets up at HDMW2253-03. GM cuts down grass inside of containment fence of HDMW2253-03. Rylan/Jack pulled out transducer before start of set up.

0914 Started pump at HDMW 2253-03. Collected Trip Blank ERH996 @ 9:30. Late Entry: CS lead daily tailgate meeting. See log for details.

Location: Red Hill BFSF Date: 01/23/2020

Project / Client: LTM January 2020

0921 Water at surface. RS gets flow rate to approx 275mL/min. No bubbles in discharge.

0933 Started collecting parameter stabilization reading. See log for details.

1028 Parameters stabilized. NTU Turbidity was around 20 NTU the whole time. Turbidity did not clear up w/ time. Called MP to let her know and get confirmation to sample

1034 Started collecting HDMW2253-03 sample ERH997

1116 Finished collecting ERH997. Started packing up supplies and equipment. Rylan/Jack came back to well to redeploy transducer in well.

1158 Team leaves HDMW2253-03 and checks in w/ westbay team. Team leaves IDW w/ westbay team. Team checks out at HCF guardshack.

1218 Team arrives at warehouse and unloads supplies and equipment for the day.

1258 Team finishes unloading. GM calls Geotech to discuss and order replacement tubing for RHMW10. CS gets #11 Toyota Tacoma washed

1320 End of Field Day

01/23/2020

Location Red Hill BFSF Date 01/28/2020

Project / Client LTM January 2020 Event - RHMW10 Sampling Logbook #17

0600 Team arrives at warehouse. GM/KL calibrate equipment. See calibration log for detail. Team loads supplies and equipment into vehicles. TV loads nitrogen for today's sampling.

0638 Team leaves for site.

0706 Team arrives at Red Hill main gate. Team asks guard to open gate to RHMW10.

Objective: Set up new tubing/cable set up for RHMW10. Sample RHMW10.

Weather: Sunny, slightly overcast, 82°, 54%, light winds

Team: AECOM (GM, RS, CS, and KL)

Equipment: SmarTroll #= 637618, PID=908165, and oil/water interface = 01-5881

0728 Set up at RHMW10. CS leads H&S tailgate meeting. See sign in log for details. Discussed weight management and taking turns w/ weight.

0746 Got all tubing set up on ~~cart~~ spools / bar to get ready to deploy. Sent RS to return to warehouse to grab additional equipment.

0838 RS arrives back onsite and needed guard to re-open gate.

0905 Team discussed deployment of new RHMW10 tubing and cables. Worked out plan to have everyone lower at the same rate and zipties tubing together on the way down. Steel cable

Location Red Hill BFSF Date 01/28/2020

Project / Client LTM January 2020 Event - RHMW10 Sampling Logbook #17

ues attached to tubing at approx 70-100 ft increments w/ ziptties. Once fully deployed attached tubing to connectors at grey plate. Cut off approx 22.5 ft of water line (HDPE + FEP) and approx 16.2 ft of air line (HDPE). Completed connections to grey plate.

~~0949 Tested GM~~ 1127 Finished set up of new tubing/cables for RHMW10.

1134 Started pumping at RHMW10.

1149 Water at surface at RHMW10. Switched nitrogen tank.

1238 Started taking water parameter readings w/ SmarTroll. RS collected trip blank ERH992 @ 13:00.

1308 Finished collecting water stabilization parameters. See log for details.

1315 Started collecting RHMW10 sample ERH993 @ 1315. JM stops by to talk to team and see when to pull RHMW10

1355 Finished collecting RHMW10 sample. Team packed up all equipment and supplies. Contacted guards to open gates to get off the top of hill.

1456 RS and CS head off of site to return to warehouse. GM and KL head

Rite in the Rain

Location Red Hill BFSF Date 01/28/2020

Project / Client LTM January 2020 Event - RHMW10 Sampling
Logbook #17

to IDW storage area to drop off today's IDW in IDW drum #109. KL and GM prepare peristaltic pump to sample from DM106 for ERH1020 @ 15:30.

1543 Finished collecting DM106 IDW sample. Ran out of silicon tubing / could not collect IDW sample from Drum #097. Westbay team will collect sample on 01/29/2020.

1553 Guard lets KL and GM offsite and locks RH upper hill gate. Team heads to warehouse. Team signs off on H&S tailgate

1616 Arrive at warehouse. Team unloads all supplies and equipment. End of Field Day

Gavin Mun
01/28/2020

Location _____ Date _____

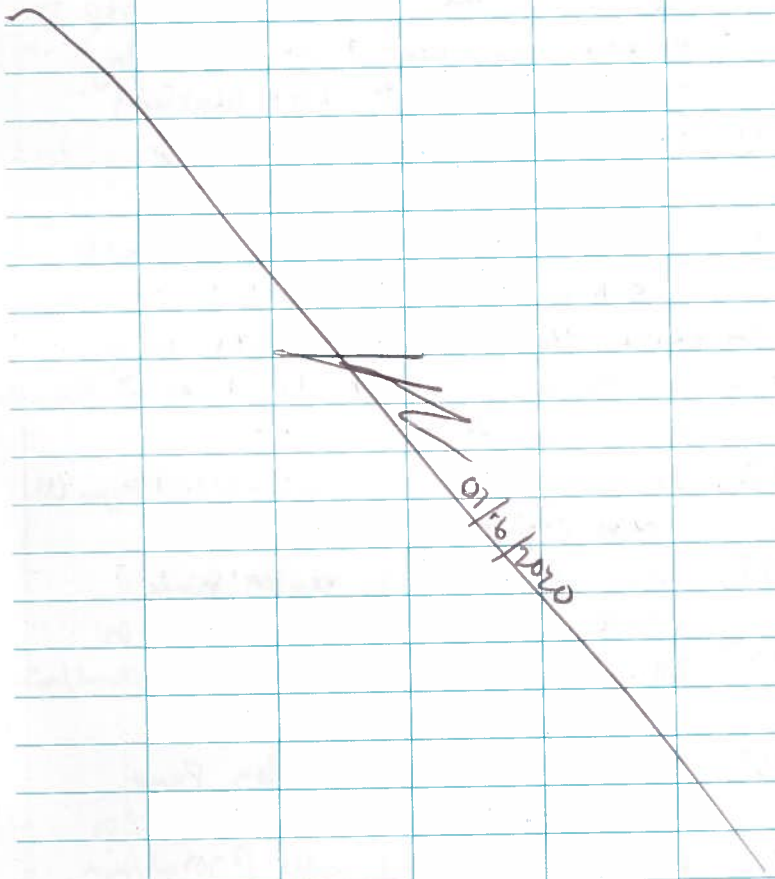
Project / Client _____

Rite in the Rain

Location JBPHH, OAHU, HI Date 01/16/2020

Project / Client CV18F0126 Red Hill Bulk Fuel Facility

1235 KL & DH exit tunnel through Adit 6.
Drop IDW at RHMW15.
1300 KL & DH depart site.
1330 KL & DH arrive at warehouse.
Unload. End fieldwork.



Location JBPHH, OAHU, HI Date 01/20/2020

Project / Client CV18F0126 Red Hill Bulk Fuel Facility

0545 KL arrives at warehouse. Join GM, TV, DM in cells & loading up vehicles
0600 DH, BL, BM, RS, SP arrive to load.
0700 Joint tailgate safety meeting all teams
0720 KL, DH, MC (tunnel team) departs warehouse for Red Hill site.
0745 KL, DH, MC arrive at Red Hill site. Load at Adit 6. Overcast / Showers ~75°F
0800 Enter Adit 6. 20.9% O_2, 0% LEL, 0 ppm CO
0.0 ppm H_2S, VOCs
Equipment used for today. Breather Packs #2, 4, 1
Pump Cycle #JCH2001239B192, Heron N-1 (Accum)
Solinst O/W #31242, Multi. RAE 28Q9
Insitu Smartroll #589972, QED MPSO-1999
0808 Arrive at RHMW01 set up.
0821 Begin purge at RHMW01. See RHMW01 purge logs.
0845 Trip blank taken for RHMW01 ERH973
0905 Sample started for RHMW01 ERH974 & ERH1016
1030 End sample for RHMW01.
1050 Moved to RHMW02. Set up.
1101 Begin purge for RHMW02
1120 Trip blank for RHMW02 taken ERH975

Rite in the Rain

Location JBPHH, OAHU, HI Date 01/20/2020

Project / Client CV18F0126 Red Hill Bulk Fuel Facility

1134 Start sample for RHMW02 ERH976 (N), ERH977(D), ERH1017 (lab study), ERH1018 (lab study Dup)

1240 End sample for RHMW02.

1300 Samples taken to surface out Adit 6.

1345 Set up at RHMW03

1356 Begin Purging RHMW03.

1410 Trip blank taken for RHMW03 ERH978

1430 Sample started for RHMW03 ERH979 & ERH1019

1500 end sample at RHMW03

1530 KL, DH, MC depart tunnel through Adit6 Give IDW to outside team. Drop Carts at Adit 3

1600 Carts dropped at Adit 3.

1605 Depart Site.

1625 KL, DH, MC arrive at warehouse. Unload. End Field Work.

01/20/2020

Location JBPHH, OAHI, HI Date 01/21/2020

Project / Client CV18F0126 Red Hill Bulkfuel Facility

0545 KL arrives at the warehouse begin cals on PIDs. Join GM, TV, DM.

0600 RS, BM, BL, SP, MC, DH arrive at warehouse begin loading for LTM event

Equipment used for day. SwaAroll 589972

QED MP50-1999, Deep Cycle Battery #

Solinst o/w #31242, Heron N-1 WLM (Alcon)

Breather Packs #2, 4, 1. MultiRAE 2 & Q1

0640 issues with LEL cal on MULTIRAE HER called to swap.

0700 Tunnel team (MC, DH, KL) departs warehouse for site.

0715 KL, MC, DH arrive at adit 3. Tailgate safety meeting ~ 75-80°F clear, % Humidity

0730 John Muraoka (NAVFAC) onsite. Waiting for Navy UEM for entrance to shaft

0750 Navy UEM onsite. John Muraoka & Navy UEM access shaft. KL, MC, DH set up on RHMW2254-01

0755 Set up KL onto for sampling but leave manhole to pump closed. MC offsite to swap MULTIRAE with HER

0900 MC returns with new MULTIRAE 12Q1

0918 Begin Purge at RHMW2254-01

0930 Trip blank taken for RHMW2254-01 ERH970

Rite in the Rain

Location JBPHH, OAHU, HI Date 01/21/2020

Project / Client CV18F026 Red Hill Bulk Fuel Facility

0940 Sample start for RHMW2254-01 ERH971 + FRH972
1050 Sample end for RHMW2254-01. Clean up
1100 Leave pump house. J. Muraoka departs.
1100 Exit Adit 3 with samples.
1130 EB & WZ onsite to pick up samples + exchange utilities carts.
1135 KL, DH, MC reenter tunnel at Adit 3
1205 Arrive at RHMW05. Set up.
1216 Begin purge at RHMW05
1230 Trip blank taken for RHMW05
ERH982
1240 Begin sample for RHMW05 ERH983
1310 End sample for RHMW05.
1345 KL, DH, MC exit tunnel at Adit 3. load vehicles
1400 DH & MC departs site for warehouse.
1 KL grabs IDW from westbay team. take to IDW area.
1440 KL departs site for warehouse.
1450 MC departs warehouse.
1500 DH departs warehouse.
1505 KL arrives at warehouse. End Field work.

01/21/2020

Location JBPHH, OAHU, HI Date 01/22/2020

Project / Client CV18F026 Red Hill Bulk Fuel Facility

0535 KL & DH drive at warehouse begin cars. TU loading equipment.
0600 RS, DH, BM, CS, BL, PS, GM, LY arrive to load up.
0630 Joint tailgate safety meeting for outside and tunnel teams. (KL, DH, DM, GM, CS, RS, LY)
0635 (KL, DH, DM) Tunnel team depart for site
0650 KL, DH, DM arrive onsite. move to set up at OWDFMW01. RS & LY drop off Nitrogen tank.
0715 Set up OWDFMW01
0750 Begin purge at OWDFMW01
0850 LATE ENTRY Clear/Sunny ~70°F 67% humidity
Equipment used for day Multi RAE 12Q1, Smartroll #589972, Heron #31242, Solinst N-1
Deep cycle # 98193
0846 OWDFMW01 stabilized. Begin Sample.
ERH995
0755 Late entry Trip blank for OWDFMW01 taken
ERH994
1009 End sample at OWDFMW01
1030 KL & DM move up to RHMW10 to help troubleshoot. DH ~~ASSIST~~ KL 01/22/2020 runs OWDFMW01 sample to warehouse.

Rite in the Rain

Location JBPHH, OAHU, HI Date 01/22/2020

Project / Client CV18F0126 Red Hill Bulk Fuel Facility

(notes by DM)

1230	DH return to RHMW10 area.
1320	DM and DH depart RHMW10 area to offload IDW from OWDFMW01 into Drum 108 (4.0L).
1340	DM and DH inspect RHMW04 and take photos.
1350	Set up at RHMW06 to pull pump.
1422	Finish pulling pump in RHMW06; set up at RHMW07.
1511	Finish pulling pump in RHMW07; westbay team came by at ~1445 to drop off their IDW, (4 gallons).
1519	DH depart site for warehouse, DM to IDW area.
1530	DM meet KL at IDW area and depart site.

1.22.20

Checked by KL 01/22/2020

Location JBPHH, Oahu, HI Date 01/23/2020

Project / Client CV18F0126 Red Hill Bulk Fuel Facility

0730	KL arrives at warehouse. Set up for pump pulling. Joins DH + MC.
0800	Tailgate Safety Meeting. ~75°F clear/sunny, 60% humidity
0810	KL, DH, MC depart for site.
0830	KL, DH, MC arrive at RH site. Move to RHMW04 begin pull pump.
0900	RHMW04 pump pulled. Move to RHMW06
0905	Arrive at RHMW08 Set up to pull pump.
0930	RHMW08 pump pulled. White well cap missing
0935	Move to pull RHMW09
0940	Arrive at RHMW09. Set up to pull.
1010	RHMW09 pump pulled.
1020	KL, DH, MC dump IDW water at IDW area.
1030	KL, DH, MC depart site.
1100	KL, DH, MC arrive at warehouse to unload. End field work.

01/23/2020

Rite in the Rain

Appendix B.3:
Tape Correction Factors

This page intentionally left blank

For Participant

Owner: **U.S. Navy**
Tape ID: **N-1**
Make: **Solinst**
Serial number: **133795**
Length: **500 feet**
Dates: **9/13/2017 - 9/15/2017**

Table 1. Correction table for Solinst 500-foot tape (serial number 133795; tape identifier N-1), tested 9/13/2017 to 9/15/2017.

Tape interval, in feet		[1]Correction to add to depth to water, in feet
From	To	
0.00	*6.41*	*0.00*
6.42	14.02	0.00
14.03	52.17	-0.01
52.18	90.33	-0.02
90.34	128.49	-0.03
128.50	166.64	-0.04
166.65	204.80	-0.05
204.81	242.96	-0.06
242.97	392.45	-0.07
392.46	*500.00*	*-0.07*

Values in red italics are extrapolated outside the range defined by the shallowest and deepest test measurements

[1]Use of the indicated correction values is expected to improve accuracy in water-level measurements made with this tape. However, because of scatter in the calibration data, the indicated corrections for this tape may contain uncertainty on the order of 0.01 - 0.02 feet.

Table 2. Depth-to-water measurements and errors for Solinst 500-foot tape (serial number 133795; tape identifier N-1), tested 9/13/2017 to 9/15/2017.

Well site	Reference tape depth to water, in feet	N-1 depth to water, in feet	[1]Error, in feet
Halawa Kiosk	6.40	6.42	-0.02
Moanalua	17.60	17.61	-0.01
Halawa	43.37	43.39	-0.02
Waiawa	69.97	69.96	0.01
Waialae Shaft	152.41	152.44	-0.03
Kapakahi	261.97	262.04	-0.07
Waipio	392.38	392.45	-0.07

[1]Negative error indicates tape shortening; positive error indicates tape stretch

For Participant

Owner:	**U.S. Navy**
Tape ID:	**N-2**
Make:	**Solinst**
Serial number:	**133937**
Length:	**1,000 feet**
Dates:	**9/13/2017 - 9/15/2017**

Table 1. Correction table for Solinst 1,000-foot tape (serial number 133937; tape identifier N-2), tested 9/13/2017 to 9/15/2017.

Tape interval, in feet		[1]Correction to add to depth to water, in feet
From	To	
0.00	*6.40*	*0.01*
6.41	8.23	0.01
8.24	80.71	0.00
80.72	161.31	-0.01
161.32	253.61	-0.02
253.62	364.91	-0.03
364.92	516.53	-0.04
516.54	593.17	-0.05
593.18	*764.02*	*-0.05*
764.03	*1000.00*	*-0.06*

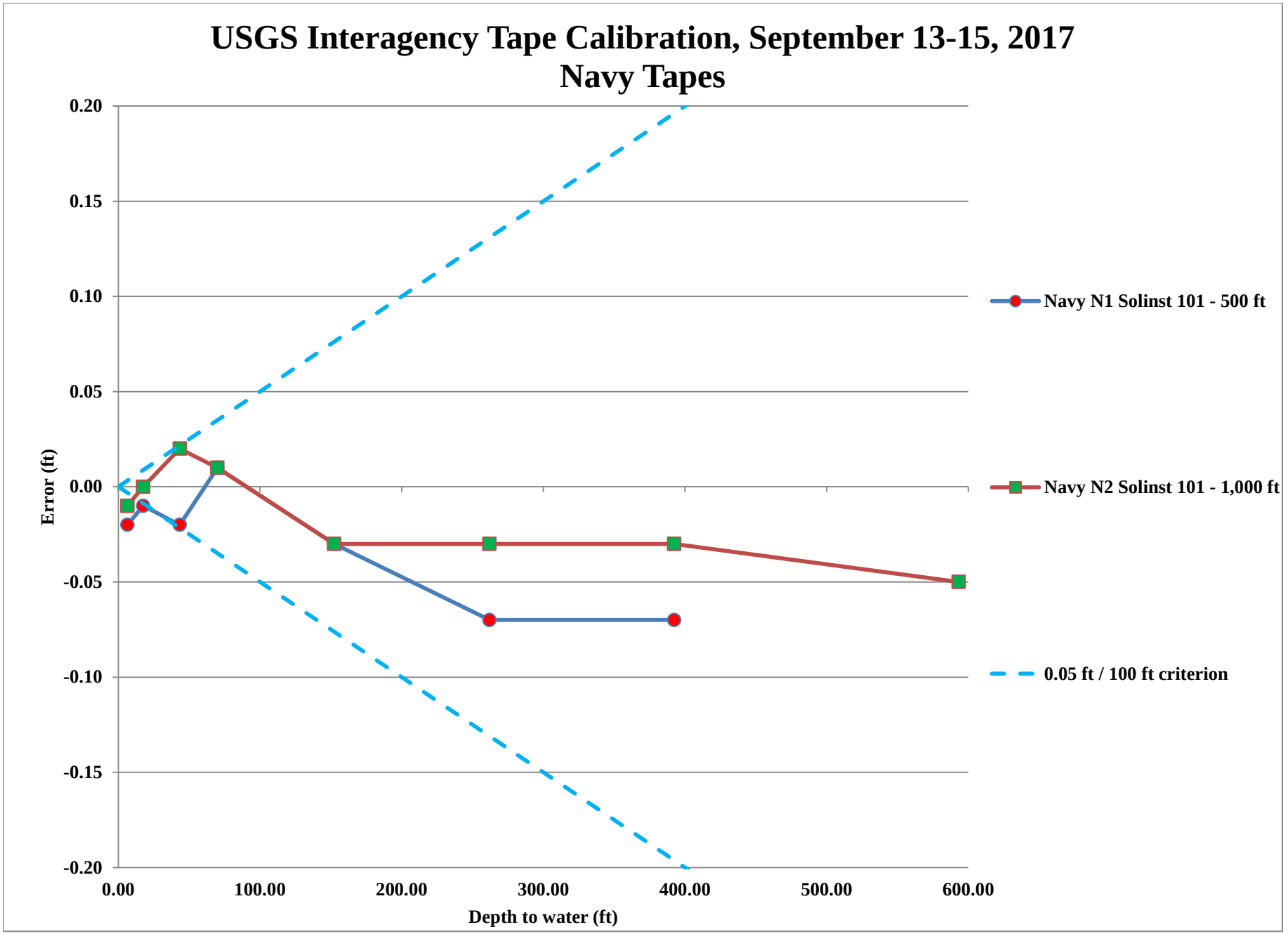
Values in red italics are extrapolated outside the range defined by the shallowest and deepest test measurements

[1]Use of the indicated correction values is expected to improve accuracy in water-level measurements made with this tape. However, because of scatter in the calibration data, the indicated corrections for this tape may contain uncertainty on the order of 0.01 - 0.02 feet.

Table 2. Depth-to-water measurements and errors for Solinst 1,000-foot tape (serial number 133937; tape identifier N-2), tested 9/13/2017 to 9/15/2017.

Well site	Reference tape depth to water, in feet	N-2 depth to water, in feet	[1]Error, in feet
Halawa Kiosk	6.40	6.41	-0.01
Moanalua	17.60	17.60	0.00
Halawa	43.37	43.35	0.02
Waiawa	69.97	69.96	0.01
Waialae Shaft	152.41	152.44	-0.03
Kapakahi	261.97	262.00	-0.03
Waipio	392.38	392.41	-0.03
Poliwai	593.12	593.17	-0.05

[1]Negative error indicates tape shortening; positive error indicates tape stretch


USGS Interagency Tape Calibration, September 13-15, 2017
Navy Tapes
0.20
0.15
0.10
0.05
0.00
-0.05
-0.10
-0.15
-0.20
Error (ft)
0.00
100.00
200.00
300.00
400.00
500.00
600.00
Depth to water (ft)
Navy N1 Solinst 101 - 500 ft
Navy N2 Solinst 101 - 1,000 ft
0.05 ft / 100 ft criterion

This page intentionally left blank

Appendix B.4:
Instrument Calibration Log

This page intentionally left blank

HAWAII ENVIRONMENTAL RENTAL INC.

Certificate of Calibration

Instrument Type: **MINIRAE RAE 3000** Serial Number: 914105

Calibration Gas	Lot Number	Result
Isobutylene 100 ppm	**987369**	**100ppm**

Calibrated by: _____ Calibration Date: 01/09/20

HAWAII ENVIRONMENTAL RENTAL INC.

Certificate of Calibration

Instrument Type: **MultiRae**

Serial Number: 2809

Calibration Gas Lot #: **988828 exp. 09/2021**

Calibration Gas	*Result*
CO 50 ppm	50 ppm
H2S 25 ppm	25 ppm
CH4 50% LEL	50% LEL
OXY 19.0% Volume	19.0% Volume
VOC 100PPM	100PPM

Calibrated by: _____ Calibration Date: 01/13/20

HAWAII ENVIRONMENTAL RENTAL INC.

Certificate of Calibration

Instrument Type: **MINIRAE RAE 3000** Serial Number: 908165

Calibration Gas	Lot Number	Result
Isobutylene 100 ppm	**987369**	**100ppm**

Calibrated by: _____ Calibration Date: 01/13/20

HAWAII ENVIRONMENTAL RENTAL INC.

Certificate of Calibration

Instrument Type: **MultiRae**

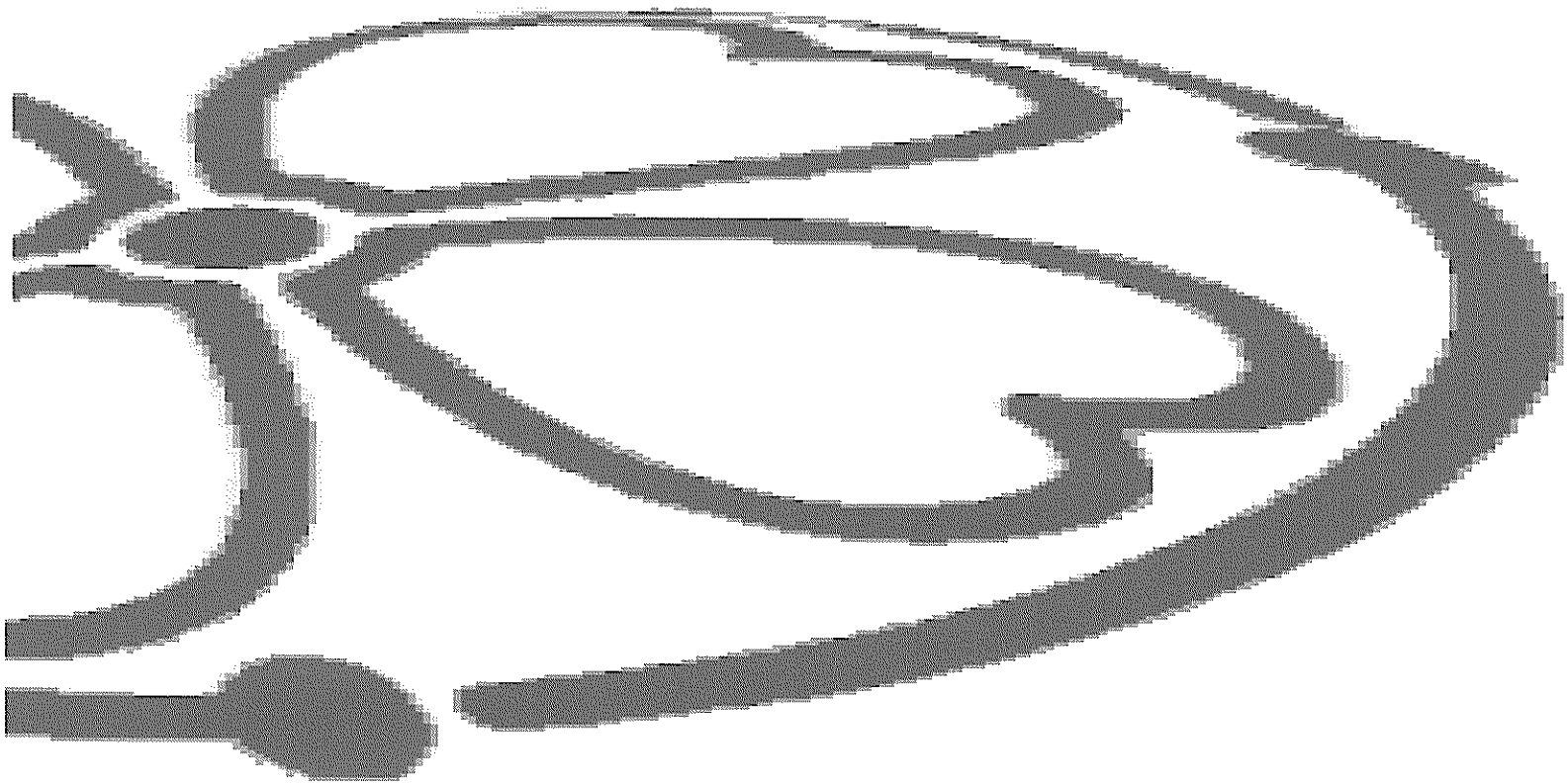
Serial Number: 12Q1

Calibration Gas Lot #: **988828 exp. 09/2021**

Calibration Gas	*Result*
CO 50 ppm	50 ppm
H2S 25 ppm	25 ppm
CH4 50% LEL	50% LEL
OXY 19.0% Volume	19.0% Volume
VOC 100PPM	100PPM

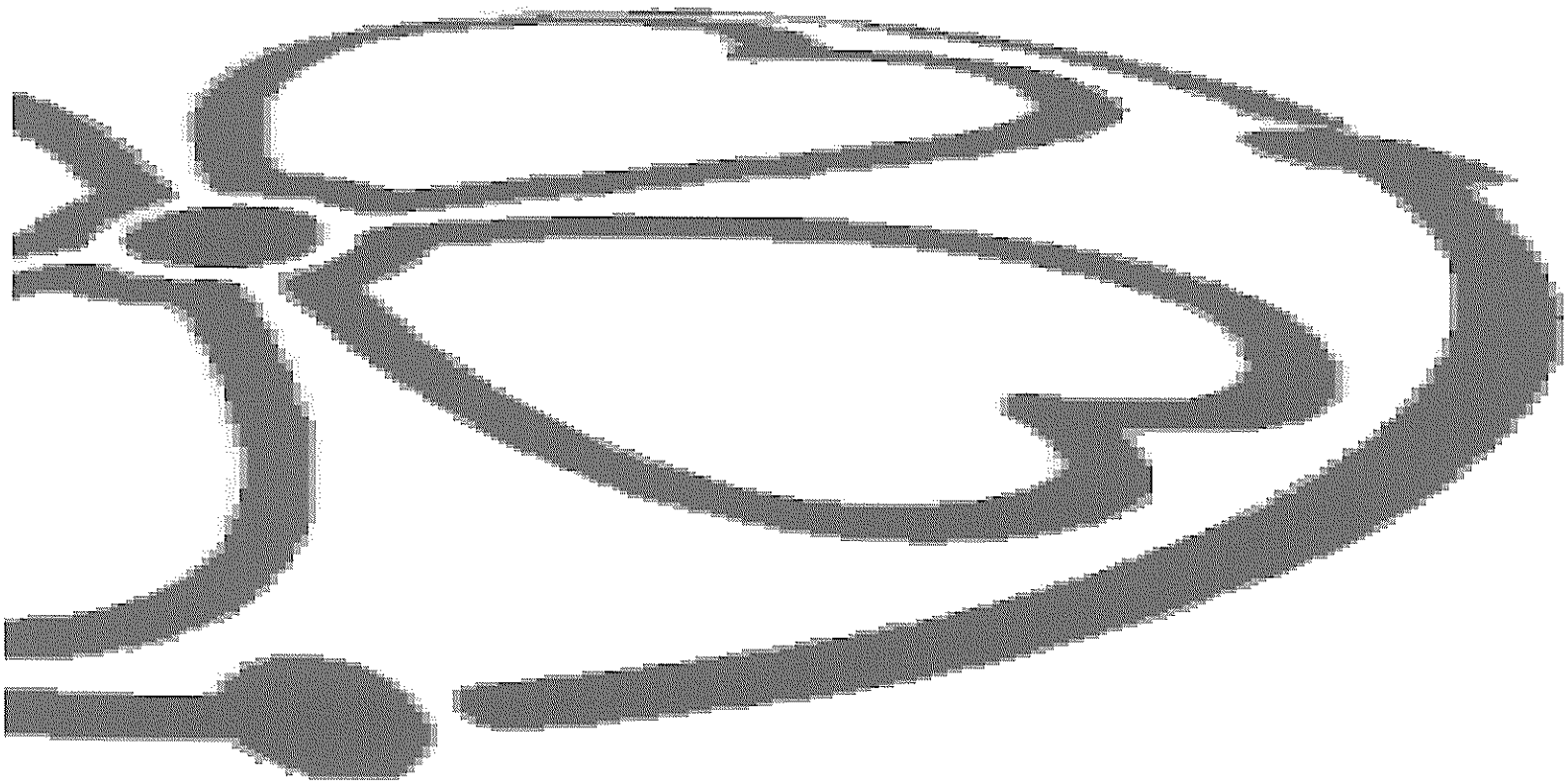
Calibrated by: _____ Calibration Date: 01/21/20

Calibration Report: Conductivity Calibration Report
2020-01-13 14:32:43
Probe: 589972
Cell Constant: 0.9282
Stability: Full

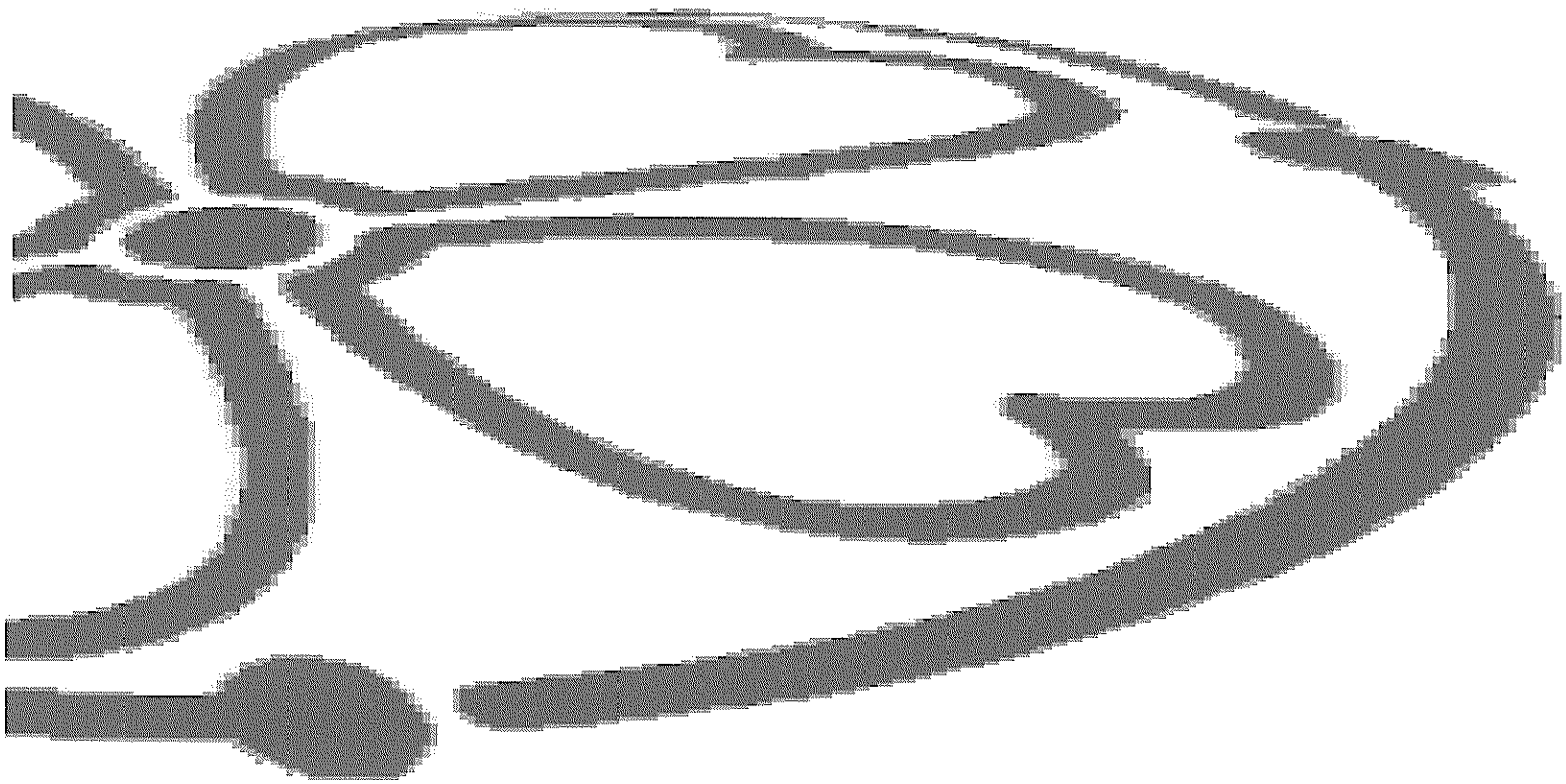


Calibration Report: pH Calibration Report
2020-01-13 14:31:17
Probe: 589972
4.00 pH
Slope: -59.16 mV/pH
Offset: 6.85 pH

Stability: Full

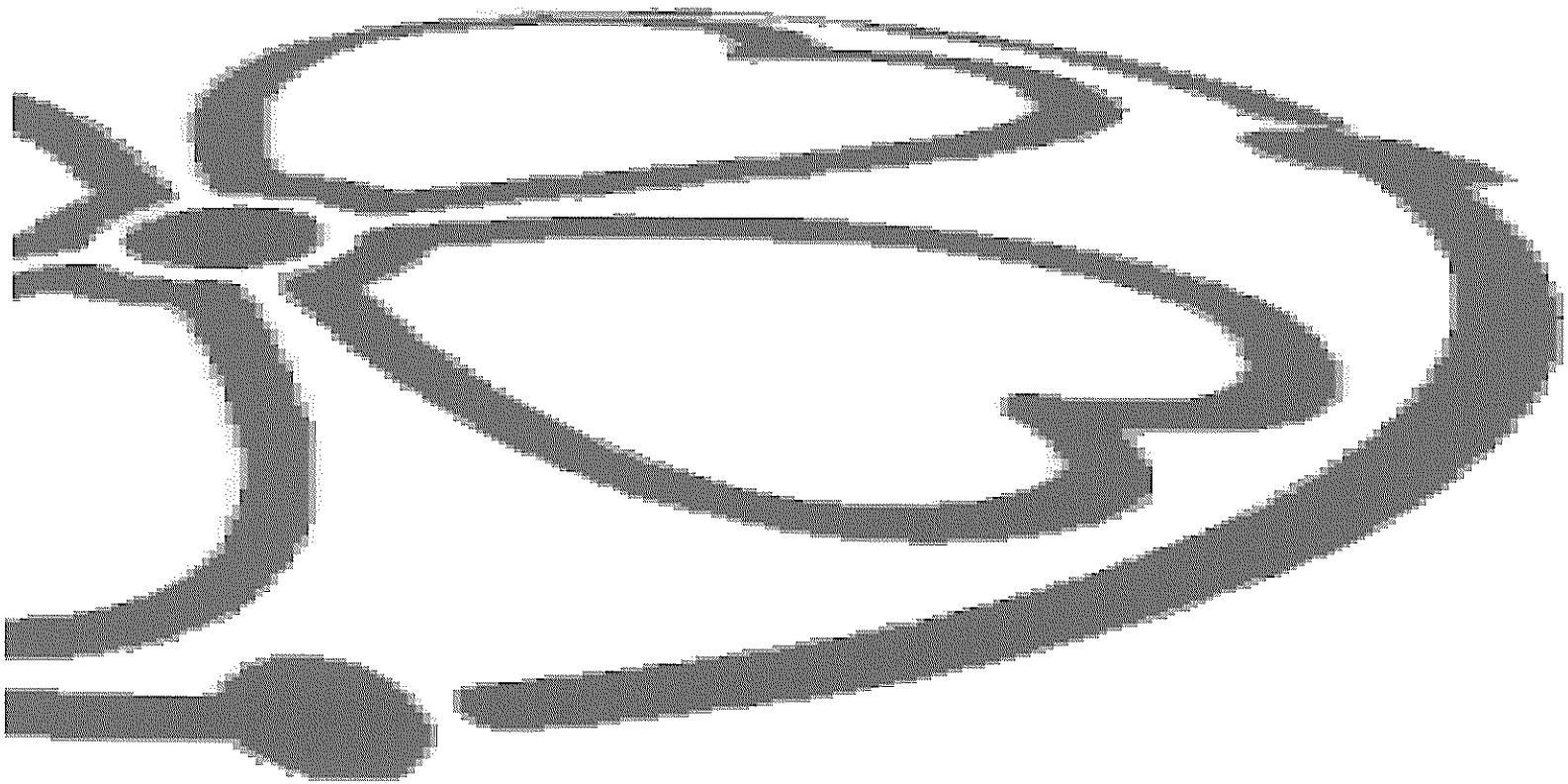


Calibration Report: RDO Calibration Report
2020-01-13 13:44:22
Probe: 646770
Slope: 1.0197
Offset: -0.0000
Stability: Full

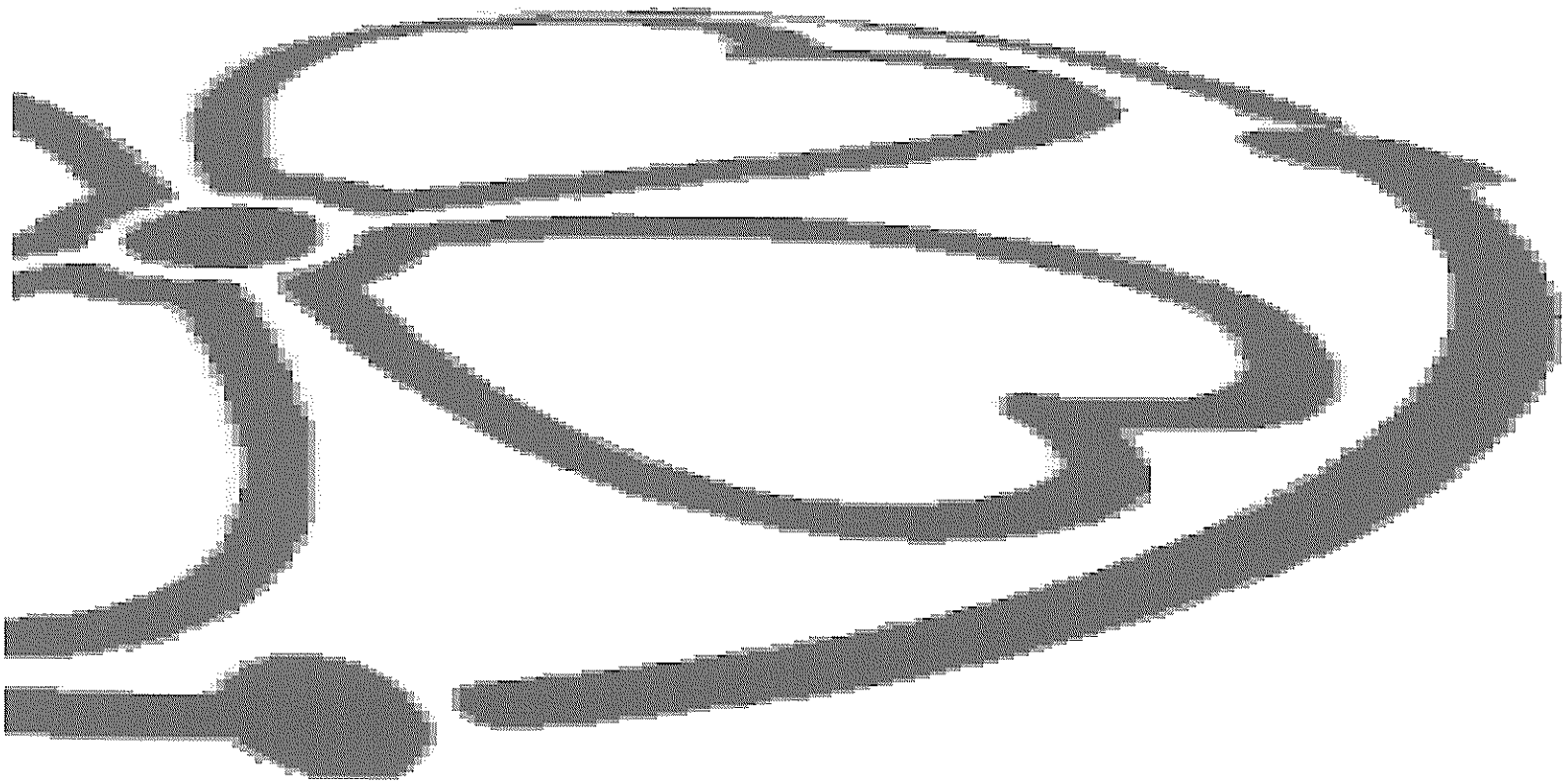


Calibration Report: pH Calibration Report
2020-01-13 13:38:54
Probe: 646770
4.00 pH
Slope: -59.16 mV/pH
Offset: 6.89 pH

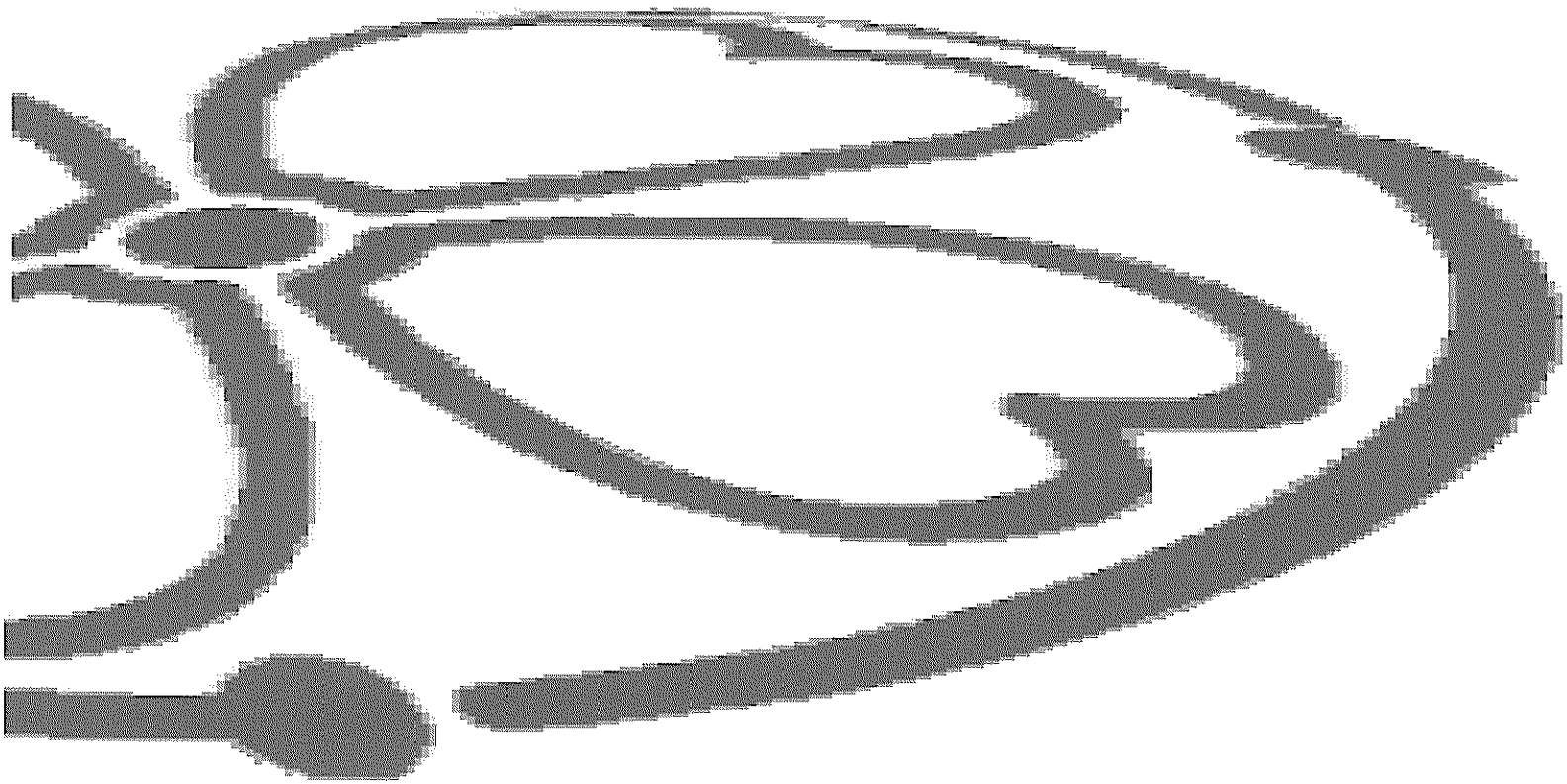
Stability: Full



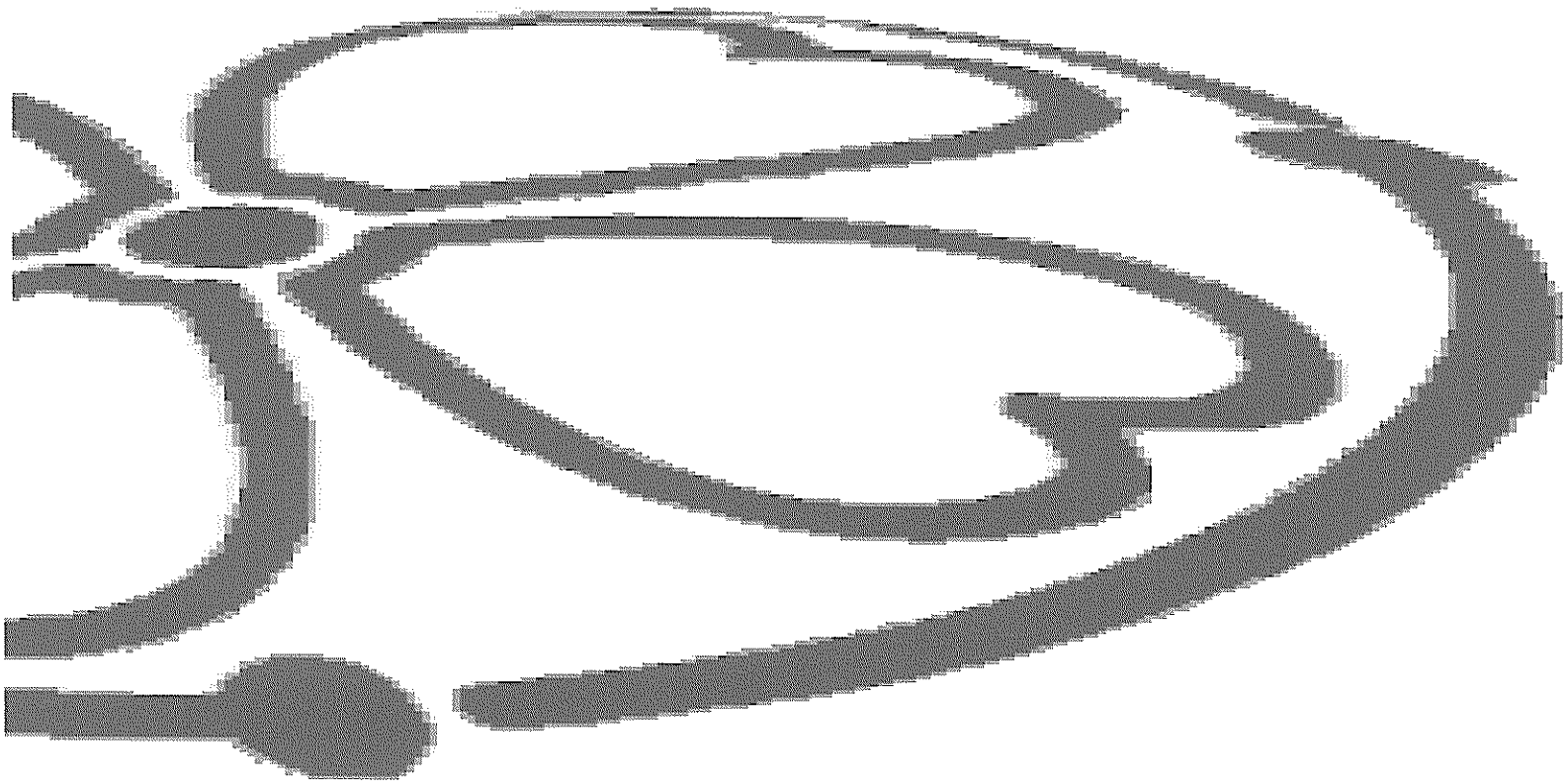
Calibration Report: ORP Calibration Report
2020-01-13 13:50:17
Probe: 646770
ZoBell's
Offset: 0.9 mV
Stability: Full



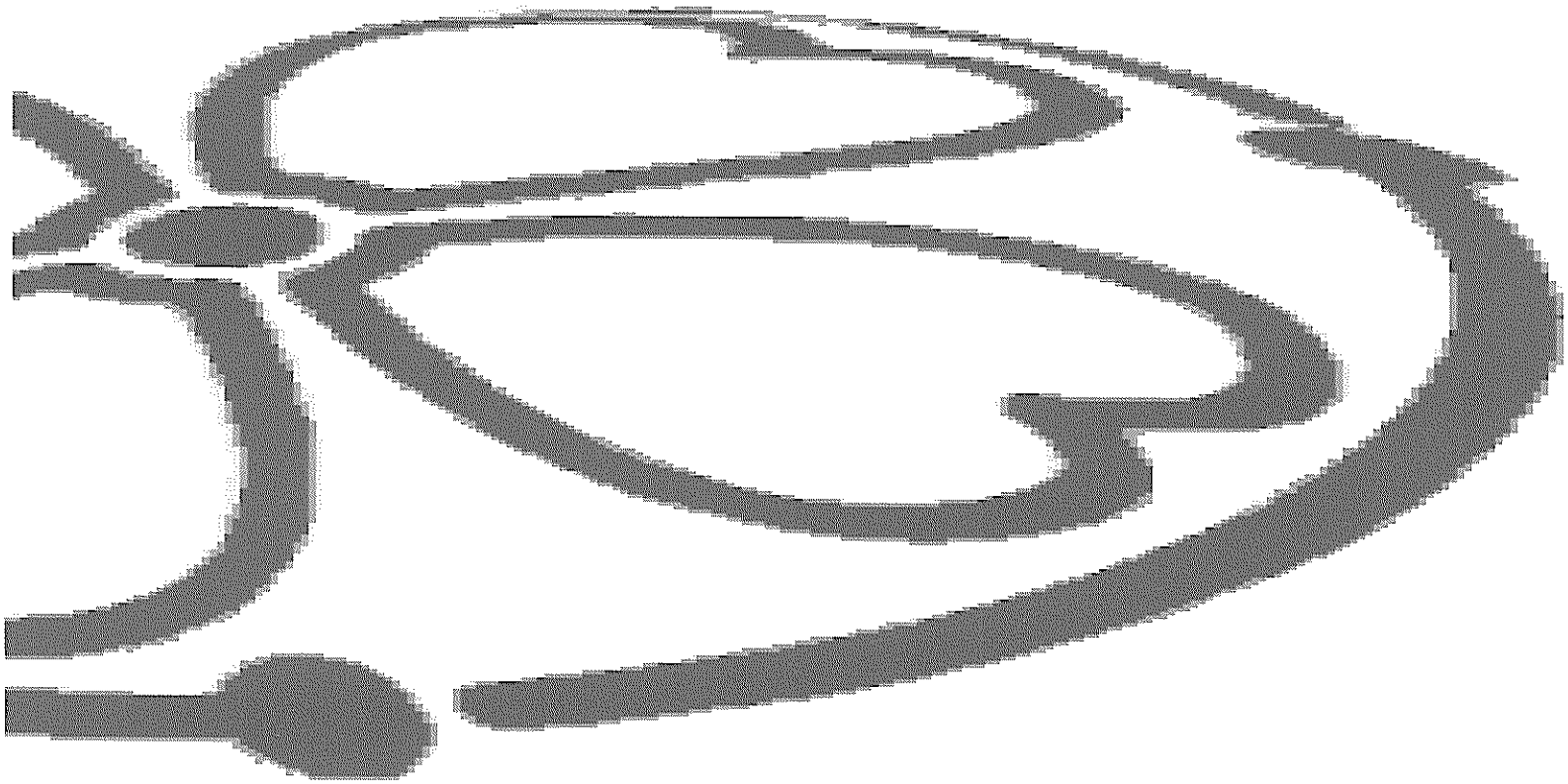
Calibration Report: Conductivity Calibration Report
2020-01-13 13:47:54
Probe: 646770
Cell Constant: 1.0405
Stability: Full



Calibration Report: ORP Calibration Report
2020-01-13 14:15:02
Probe: 512733
User Defined: 228.0 mV
Offset: 20.0 mV
Stability: Full

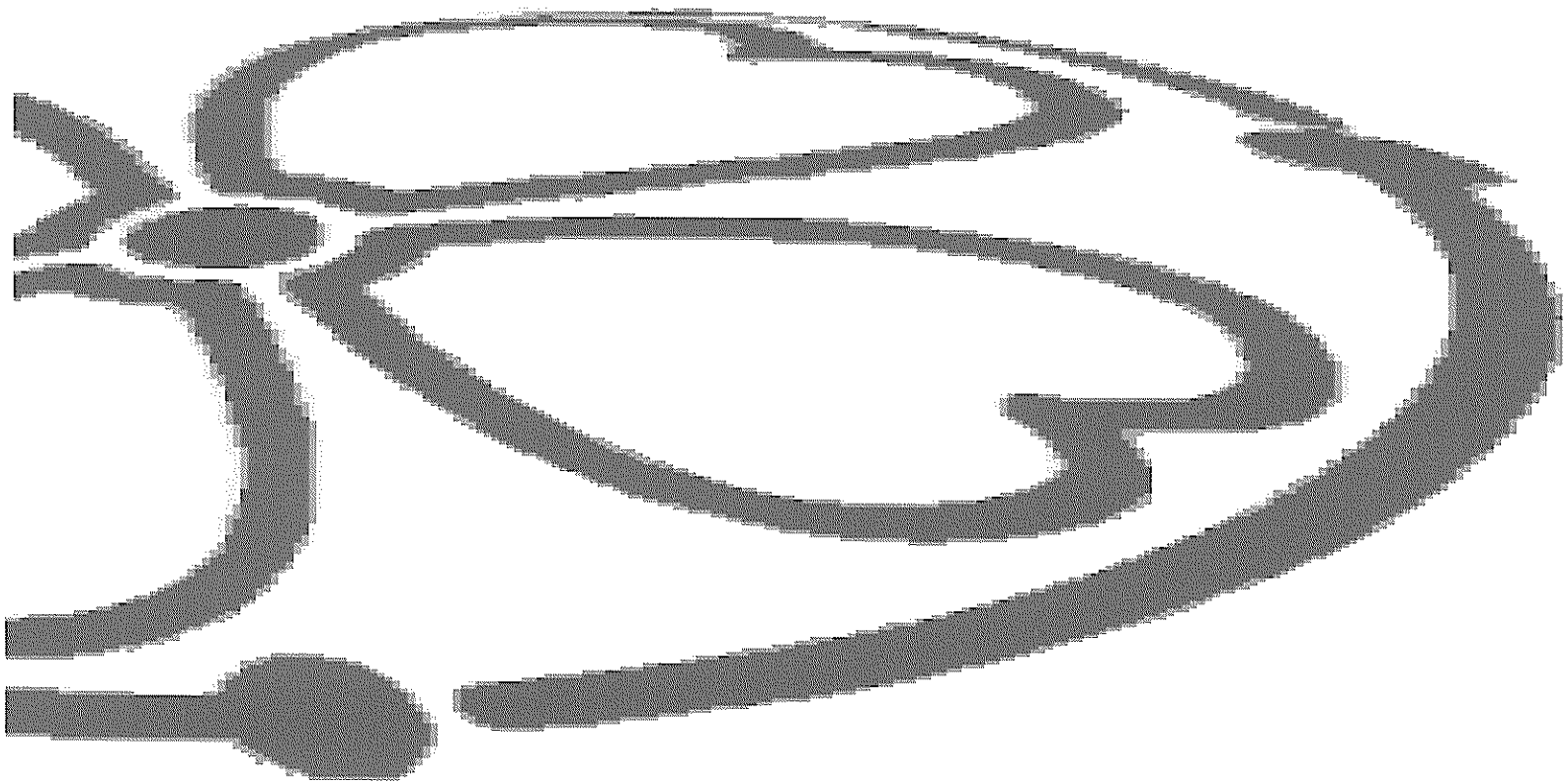


Calibration Report: RDO Calibration Report
2020-01-13 14:10:43
Probe: 512733
Slope: 1.0537
Offset: -0.0000
Stability: Full

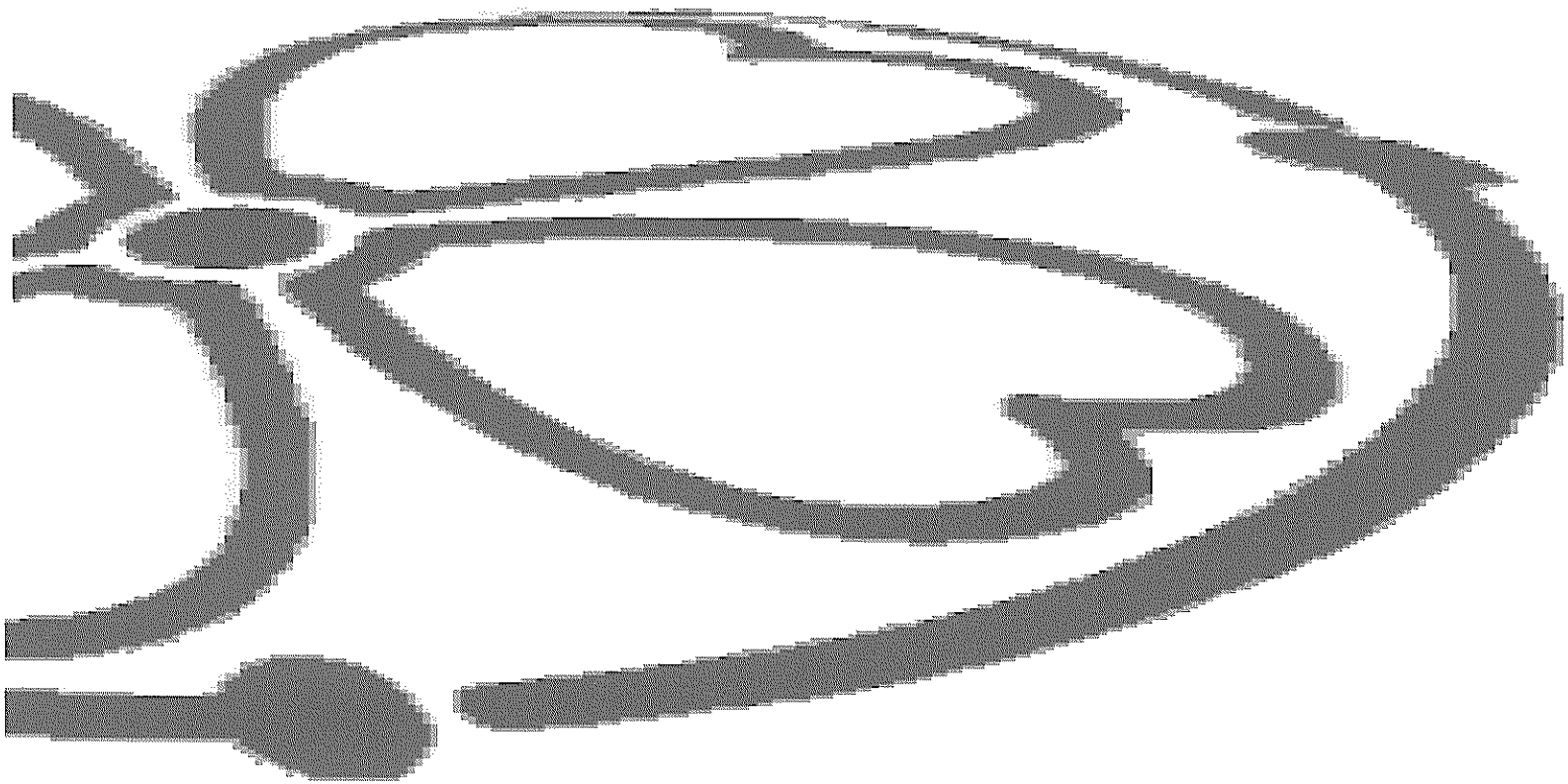


Calibration Report: pH Calibration Report
2020-01-13 14:01:07
Probe: 512733
4.00 pH
Slope: -59.16 mV/pH
Offset: 6.53 pH

Stability: Full

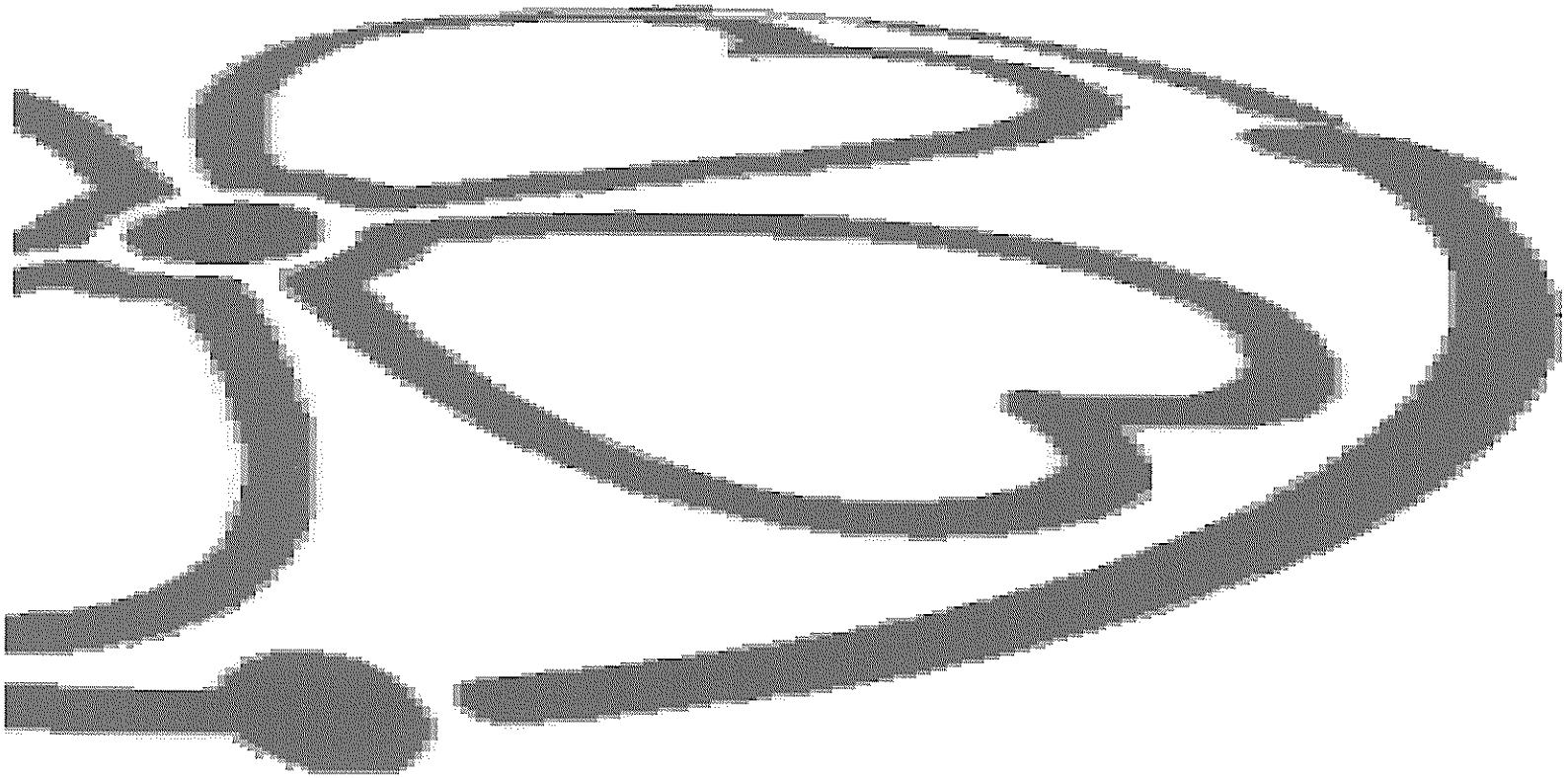


Calibration Report: RDO Calibration Report
2020-01-13 14:38:26
Probe: 589972
Slope: 0.9627
Offset: -0.0000
Stability: Full



Calibration Report: ORP Calibration Report
2020-01-13 14:40:35
Probe: 589972
ZoBell's
Offset: 4.2 mV
Stability: Full

Calibration Report: Conductivity Calibration Report
2020-01-13 14:02:55
Probe: 512733
Cell Constant: 0.9935
Stability: Full



AECOM

Americas

Instrument Calibration Log

S3AM-127-FM10

Instrument Information	
Instrument Name: MiniRae 3000	Manufacturer: Rae Systems
Serial Number: 592-91405	Last Service Date:
Parameter(s): VOCs	Calibration Gas: 100 ppm isobutylene
Calibration Procedure: ① zero in fresh air ② span cal with cal gas	

Daily Calibration Results	
Date: 1.15.2020	Calibration Result: pass span=100.1 zero=0.6
Name: Dommic Mariano	Signature:
Notes: 0607	
Date: 1.16.2020	Calibration Result: zero = 0.0 ppm span = 100.1 ppm
Name: Dominic Mancuso	Signature:
Notes: 0620	
Date: 01/21/2020	Calibration Result: zero = 0.0 ppm span = 101.0 ppm
Name: Kevin Lee	Signature:
Notes:	
Date: 01/22/2020	Calibration Result: zero = 0.0 ppm span = 100.1 ppm
Name: Danielle Huang	Signature:
Notes:	

Project: Red Hill CTO18F0126
Date: 01/15/2020
Instrument: Mini Rae 3000

Job No.: 60571032 60571032
Operator: DM, KL, DH
Calibration: Pass

AECOM

Americas

Instrument Calibration Log

S3AM-127-FM10

Instrument Information			
Instrument Name:	MiniRAE 3000	Manufacturer:	RAE Systems
Serial Number:	914105	Last Service Date:	01/13/2020
Parameter(s):	VOCs	Calibration Gas:	Isobutylene 100ppm
Calibration Procedure:	① fresh air cal ② Isobutylene cal.		

Daily Calibration Results			
Date:	01/20/2020	Calibration Result:	0.6 ppm, 100.1 ppm
Name:	Kevin Lee	Signature:	
Notes:			
Date:	1/23/2020	Calibration Result:	zero → 0 span → 99.8ppm
Name:	Bianca Mintz	Signature:	
Notes:			
Date:		Calibration Result:	
Name:		Signature:	
Notes:			
Date:		Calibration Result:	
Name:		Signature:	
Notes:			

Project: Red Hill CT018F0126
Date: 01/20/2020
Instrument: Mini Rae 3000

Job No.: 60571032
Operator: BM, KL
Calibration: Pass

Americas

Instrument Calibration Log

S3AM-127-FM10

Instrument Information	
Instrument Name: Mini Rae 3000	Manufacturer: RAE Systems
Serial Number: 909165	Last Service Date: 1.13.2020
Parameter(s): VOCs	Calibration Gas: isobutylene, 100ppm
Calibration Procedure: ① Fresh air calibration ② span calibration	

Daily Calibration Results	
Date: 1.16.2020	Calibration Result: Zero = 0.6 Span = 100.1
Name: Dominic Mariano	Signature:
Notes: ok	
Date: 1.17.2020	Calibration Result: zero = 0.0 ppm span = 100.0 ppm
Name: Jack Flaherty	Signature:
Notes: new cal gas = serial # 785291 ; expiration 07/2020	
Date: 01/20/2020	Calibration Result: zero = 0.0 ppm span = 100.1 ppm
Name: Kevin Lee	Signature:
Notes:	
Date: 01/21/2020	Calibration Result: zero = 0.0 ppm span = 100.1 ppm
Name:	Signature:
Notes:	

Project: Red Hill CT018F0126
Date: 01/16/2020
Instrument: Mini Rae 3000

Job No.: 60571032
Operator: DM, JK, KL
Calibration: pass

AECOM

Americas

Instrument Calibration Log

S3AM-127-FM10

Instrument Information	
Instrument Name: MultiRAE	Manufacturer: RAE Systems
Serial Number: 2809	Last Service Date: 01/13/2020
Parameter(s): Oxy, LEL, CO, H2S, VOCs	Calibration Gas: Multi-span (CO 50ppm, H2S 25ppm, CH4 50% LEL, OXY 19.0%) VOC 100ppm Lot# 235653 Lot 234171
Calibration Procedure: Air, Multi Span, 100ppm 180	

Daily Calibration Results	
Date: 01/16/2020	Calibration Result: Pass
Name: Kevin Lee	Signature:
Notes:	
Date: 01/21/2020	Calibration Result: Fresh Air - Pass
Name: Kevin Lee	Signature:
Notes:	
Date: 1/22/2020	Calibration Result: Fresh air = pass, O_2 = 20.9 %, CO = 50ppm all pass; multi span = O_2 : 19.1, ~~CH4~~: H2S: 23, LEL = 50%. VOC = 100.4 ppm
Name: Danielle Huang	Signature: Danielle Huang
Notes: Cal results for new MULTIRAE 1201	
Date:	Calibration Result:
Name:	Signature:
Notes:	

Project: Red Hill CTO 18F0126

Date: 01/16/2020

Instrument: Multi Rae

Job No.: 60571032

Operator: KL, DH

Calibration: Passed

AECOM

Americas

Instrument Calibration Log

S3AM-127-FM10

Instrument Information	
Instrument Name: HF Turbidimeter	Manufacturer: HF Scientific Inc.
Serial Number: N/A	Last Service Date:
Parameter(s): Turbidity (NTU)	Calibration Gas: 0.02 NTU Reference Standard water
Calibration Procedure: Insert 0.02 NTU reference Vial. Turn on, adjust until stable at 0.02	

Daily Calibration Results	
Date: 01/20/2020	Calibration Result: 0.02 NTU = pass
Name: Maverick Carey	Signature:
Notes:	
Date:	Calibration Result:
Name:	Signature:
Notes:	
Date:	Calibration Result:
Name:	Signature:
Notes:	
Date:	Calibration Result:
Name:	Signature:
Notes:	

Project: Red Hill GTDIBFM26
Date: 01/20/2020
Instrument: Turbidity (NTU)

Job No.: 60571032
Operator: MC
Calibration: Pass

AECOM

Americas

Instrument Calibration Log

S3AM-127-FM10

Instrument Information	
Instrument Name: MiniRAE 3000	Manufacturer: RAE Systems
Serial Number: 908165	Last Service Date:
Parameter(s): VOCs	Calibration Gas: 100ppm isobutylene
Calibration Procedure: ① zero in fresh air ② span cal with cal gas	

Daily Calibration Results	
Date: 1/22/2020	Calibration Result: zero = 0.0 ppm span = 100.0ppm
Name: Danielle Huang	Signature: Danielle Huang
Notes:	
Date: 1/23/2020	Calibration Result: zero 0ppm span = 100.2ppm
Name: Bianca Mintz	Signature:
Notes:	
Date:	Calibration Result:
Name:	Signature:
Notes:	
Date:	Calibration Result:
Name:	Signature:
Notes:	

Project: Red Hill GT018F0126
Date: 01/22/2020
Instrument: Mini Rae 3000

Job No.: 60571032
Operator: DH, BM
Calibration: Pass

AECOM

Americas

Instrument Calibration Log

S3AM-127-FM10

Instrument Information	
Instrument Name: SmarTroll	Manufacturer: In Situ Inc
Serial Number: 589972	Last Service Date:
Parameter(s): conductivity, pH 4.0, 7.0, 10.0, ORP, rDO	Calibration Gas: Auto cal solution - Lot#19150080, Exp 11/2020 pH 7.0 - Lot#19070141 Exp 11/2020 pH 10.0 - Lot#18449291 Exp 11/2020
Calibration Procedure:	

Daily Calibration Results	
Date: 01/20/2020	Calibration Result: con: 4308 → 4490, pH 4.20 → 4.0, pH 6.98 → 7.0, pH 9.49 → 10.0 ORP → 224.0 → 228.0, DO → 98.1 / 8.34
Name: Gavin Mura	Signature:
Notes:	
Date: 01/21/2020	Calibration Result: con: ~~4355~~ → 4490, pH: 4.28 → 4.0 pH7: 7.04 → 7.0 ORP: 224.3 → 228 pH10: 9.35 → 10.0 DO: 98.8 / 8.61 mg/L
Name: Gavin Mura	Signature:
Notes: Auto Cal - Lot# 19150080 (11/2020) > pH 4: Lot# 19150080 (11/2020) pH 7: Lot# 19070141 Exp (11/2020)	pH 10: Lot# 19070141 Exp (11/2020) ORP: Lot# 19280059 Exp (11/2020)
Date: 1/22/2020	Calibration Result: Con 4380 → 4490, pH 4.68 → 4.0 ORP: 223.5 → 228 mV 6.97 → 7.0 DO 107.5% 9.23 → 10.0
Name: Kevin Lee	Signature:
Notes:	
Date:	Calibration Result: ~~7 → 6.98, 10~~ →
Name:	Signature:
Notes:	

Project: RH

Date: 1/21/2020

Instrument: SmarTroll

Job No.: 60571032

Operator: GM, KL

Calibration: passed

AECOM

Americas

Instrument Calibration Log

S3AM-127-FM10

Instrument Information	
Instrument Name: SmarTroll	Manufacturer: In Situ Inc
Serial Number: 646770	Last Service Date:
Parameter(s): Conductivity, pH 4,7,10, ORP, RDO	Calibration Gas: Auto Cal Solution – Lot#19150050, Exp 11/2020 pH 7.0 – Lot#19070141 Exp 11/20/20 pH 10.0 – Lot#18449291 Exp 11/2020
Calibration Procedure:	

Daily Calibration Results	
Date: 01/20/2020	Calibration Result: con: 4303 µs/cm → 4490 µs/cm, pH 4.16→4.0, 7.10→7.0, 9.94→10.0 ORP→224.7→228 DO→95.8/8.18
Name: Gavin Mura	Signature:
Notes:	
Date: 01/21/2020	Calibration Result: Con pH 7 → 7.14 cond → 4296 µS/cm pH 10 → 9.98 ORP → 223.8 mV pH 4 → 4.35 RDO → 101.3% 8.73 mg/L
Name: ~~Gavin Mura~~ Dominic Mariano	Signature:
Notes:	
Date: 1.22.2020	Calibration Result: cond → 4363 µS/cm pH 7 → 7.13 40 pH → ~~7.0~~ 4.23 pH 10 → 9.96 ORP → 223.9 mV RDO → 101.5% 8.79 mg/L
Name: Dominic Mariano	Signature:
Notes:	
Date: 1/23/2020	Calibration Result: pH7→7.12, 10→10.09, 4→4.21, SpC 4.49→4.39, ORP→231V RDO→9.58
Name: Bianca Mintz	Signature:
Notes:	

Project: Red Hill

Date: 1.21.20

Instrument: SmarTroll

Job No.: 60571032

Operator: D. Mariano

Calibration: multi-parameter

AECOM

Americas

Instrument Calibration Log

S3AM-127-FM10

Instrument Information	
Instrument Name: Smartroll	Manufacturer: In Situ
Serial Number: SN 637618	Last Service Date: 1/21/2020
Parameter(s): see below	Calibration Gas:
Calibration Procedure: pH 7 → Lot # C698426 exp 7/2020 pH 10 → Lot # 1844921 exp 11/2020 pH4/SpC 4,490uS/cm → Lot # 1915008 exp 11/2020 ORP → Lot # 1928059 exp 11/2020 RDO → range	

Daily Calibration Results	
Date: 1/21/2020	Calibration Result: pH 7 → 7.25, pH 10 → 10.19, pH 4 → 4.37 SpC → 4490 uS/cm → 4409 uS/cm, ORP [illegible] mV → 2[illegible]7mV RDO → 98.8%
Name: Bianca Mintz	Signature:
Notes:	
Date: 1/22/2020	Calibration Result: con 4376 → 4490, pH 4.37 → 4.0 ORP 209.1mV → 226mV 7.26 → 7.0 DO 98.3% 10.23 → 10.0
Name: Kevin Lee	Signature:
Notes:	
Date: 1/23/2020	Calibration Result: pH 7 → 7.26, 10 → 10.24, 4 → 4.0 SpC 4.49 → 4.42, ORP → 286.6, RDO → 99.3%
Name: Bianca Mintz	Signature:
Notes:	
Date:	Calibration Result:
Name:	Signature:
Notes:	

Project: pH

Date: 1/21/2020

Instrument: Smartroll

Job No.: 60571032

Operator: Mintz

Calibration: passed

AECOM

Americas

Instrument Calibration Log

S3AM-127-FM10

Instrument Information	
Instrument Name: SmarTroll MP	Manufacturer: In-Situ
Serial Number: 512733	Last Service Date:
Parameter(s):	Calibration Gas:
Calibration Procedure: Single-point cal for conductivity	Sol'ns. Lot # 1915 0690 Exp 11/2020 type Conductivity; C649429 7/2020 pH 7.00; 96E1076 ~~1944291~~ ~~4/2021~~ 5/2021 pH 10.00; 1928005q 11/2020 ORP 228 mV
Daily Calibration Results	
Date: 1.20.2020	Calibration Result: 4490 Cond. → 4490 µS/cm; pH 4.0 → 4.65; pH 7.0 → 6.70; pH 10.0 → ; ORP → 206.2 mV; RDO → 102.5% → 8.64 mg/L
Name: Dominic Mariano	Signature:
Notes: re-calibrated 3-point pH 7.0 pH → 7.16 10.0 pH → 9.00 4.0 pH →	
Date: 1.21.2020	Calibration Result: pH 7 → ~~7.19~~ 7.12 7.14 GM 7.20; pH 10 → 9.87; Cond: 4320 → 4490 µS/cm; pH 4:
Name:	Signature:
Notes:	
Date:	Calibration Result:
Name:	Signature:
Notes:	
Date:	Calibration Result:
Name:	Signature:
Notes:	

Project: RH

Date: 1/20/2020

Instrument: SmarTroll

Job No.: 60571032

Operator: DM

Calibration: Rabbit

AECOM

Americas

Instrument Calibration Log

S3AM-127-FM10

Instrument Information	
Instrument Name: MULTI RAE	Manufacturer: Honeywell
Serial Number: MO120789V8	Last Service Date:
Parameter(s): VOCs,	Calibration Gas: Isobutylene (100ppm) Lot# 234171 Compressed gas, n.o.s (oxygen, nitrogen) Lot# 235653
Calibration Procedure: ① fresh air calibration ② multi sensor calibration ③ VOC calibration	

Daily Calibration Results	
Date: mm/dd/yy 1/20/2020 DH 1/20/2020	Calibration Result: Isobutylene = 100.4ppm CO: 50 ppm O_2 = 19.0% H_2S = 25.1 ppm Methane = 50% LEL
Name: Danielle Huang	Signature: Danielle Huang
Notes:	
Date:	Calibration Result:
Name:	Signature:
Notes:	
Date:	Calibration Result:
Name:	Signature:
Notes:	
Date:	Calibration Result:
Name:	Signature:
Notes:	

Project: RH
Date: 1/20/2020
Instrument: Multi Rae

Job No.: 60571032
Operator: DH
Calibration: passed

AECOM

Americas

Instrument Calibration Log

S3AM-127-FM10

Instrument Information	
Instrument Name: 582243 In Situ SmarTroll (Label not visible)	Manufacturer: In Situ
Serial Number:	Last Service Date:
Parameter(s): pH, Sp. cond., ORP, DO	Calibration Gas: pH 7 lot#: C698429 Exp: 07/2020; pH 10 lot#: 16449291 Exp: 11/2020; pH 4 lot#: 19150080 Exp: 11/2020; Sp. Cond lot#: 19150080 Exp: 11/2020; ORP lot#: [illegible] Exp: [illegible] 11/2020; 96P122 03/2020
Calibration Procedure: • 3 point pH with 7, 10, 4 • Conductivity w/ 1413 µS/cm • ORP w/ 240 mV • 100% DO saturation with wet sponge in cal cup	

Daily Calibration Results	
Date: 01/28/2020	Calibration Result: SC: 4899 → 4410 pH10: 10.27 → 10.0 pH4: 4.12 → 4.0 ORP: 201.2 → 228.0 pH7: 7.30 → 7.0 DO: 100.8% / 8.77 mg/L 100.8%
Name: Gavin Mura	Signature:
Notes: Trouble connecting battery to probe at first	
Date:	Calibration Result:
Name:	Signature:
Notes:	
Date:	Calibration Result:
Name:	Signature:
Notes:	
Date:	Calibration Result:
Name:	Signature:
Notes:	

Project: Red Hill CTO 18F0126 Job No.: 60571032

Date: 1/28/2020 Operator: GM

Instrument: In Situ SmarTroll Calibration: passed

AECOM

Americas

Instrument Calibration Log

S3AM-127-FM10

Instrument Information	
Instrument Name: MiniRae 3000	Manufacturer: RAE
Serial Number: 592-914105	Last Service Date: 9/4/05
Parameter(s): VOCs	Calibration Gas: ISOBUTYLENE 100 ppm (3/22) → 987369
Calibration Procedure: ZERO cal with fresh air span cal with 100 ppm Isobutylene	

Daily Calibration Results	
Date: 1/13/20	Calibration Result: zero → 0.0 ppm span → 100.2 ppm
Name: Caitlin Ellis	Signature:
Notes:	
Date: 1/14/20	Calibration Result: zero cal = 0.0ppm span cal = 100.0 ppm
Name: Jack Flaherty	Signature:
Notes:	
Date: 1/31/20	Calibration Result: zero→0.0ppm span→100.5
Name: Bianca Mintz	Signature:
Notes:	
Date:	Calibration Result:
Name:	Signature:
Notes:	

Project: 60571032 RH

Job No.: 60571032

Date:

Operator:

Instrument:

Calibration:

PRINTED COPIES ARE UNCONTROLLED. CONTROLLED COPY IS AVAILABLE ON COMPANY INTRANET.

AECOM

Americas

Instrument Calibration Log

S3AM-127-FM10

Instrument Information	
Instrument Name: MiniRae	Manufacturer: Rae Systems
Serial Number: SN 592-908165	Last Service Date: ———
Parameter(s): VOCs, Freshair	Calibration Gas: Isobutylene
Calibration Procedure: VOCs → 100.0ppm Freshair → 0.0ppm	Lot #0 → 226984 exp March 2022

Daily Calibration Results	
Date: 1/27/2020	Calibration Result: 0.0ppm 100.1ppm
Name: Bianca Mntz	Signature:
Notes:	
Date: 1/28/2020	Calibration Result: 0.0ppm 99.8ppm
Name: Bianca Mntz	Signature:
Notes:	
Date:	Calibration Result: 0.0ppm 99.9ppm
Name: 1/30/2020	Signature:
Notes: Bianca Mntz	
Date:	Calibration Result:
Name:	Signature:
Notes:	

Project: CTO 18F0126
Date: 1/27/2020
Instrument: MiniRae

Job No.: 60577032
Operator: Mntz
Calibration: pass

AECOM

Americas

Instrument Calibration Log

S3AM-127-FM10

Instrument Information	
Instrument Name: Smart Troll	Manufacturer: In-Situ, Inc.
Serial Number: 646770	Last Service Date:
Parameter(s): pH, Sp. cond., ORP, DO	Calibration Gas: pH 7 lot#: C698429 Exp: 07/2020 pH 10 lot#: 18499291 Exp: 11/2020 pH 4 lot#: 19150080 Exp: 11/2020 Sp. Cond Lot#: 19150080 Exp: 11/2020 ORP Lot#: 19280059 Exp: 11/2020
Calibration Procedure: • 3 point pH with 7, 10, 4 • Conductivity w/ 1413 µS/cm • ORP w/ ~~240 mV~~ +228 mV 1/27/20 DH • 100% DO saturation with wet sponge in cal cup	

Daily Calibration Results	
Date: 1/27/2020	Calibration Result: DO: 95.9%, 7.98 mg/L, cond: 4422 µS/cm pH: 4.24, 7.13, 10.12; ORP: 212.7 mV
Name: Danielle Huang	Signature: Danielle Huang
Notes:	
Date: 1/28/2020	Calibration Result: DO: 101.4%, 8.94 mg/L, Cond: 4399 µS/cm pH: 4.27, 7.15, 10.12; ORP: 212.2 mV
Name: Danielle Huang	Signature: Danielle Huang
Notes:	
Date: 1/30/2020	Calibration Result: pH ~~4~~ 7.18, 10.19 4.30, Cond 4.358 mS/cm ORP = 226.4 mV RDO - 94.8%
Name: Bianca Muniz	Signature:
Notes:	
Date:	Calibration Result:
Name:	Signature:
Notes:	

Project: Red Hill CTO 18F0126 Job No.: 60571032

Date: Operator:

Instrument: Calibration:

Appendix C:
Analytical Documentation,
First Quarter 2020
(on CD-ROM at end of document)

This page intentionally left blank

Appendix C.1:
Analytical Laboratory Reports

This page intentionally left blank

908 North Temperance Ave. ∇ Clovis, CA 93611 ∇ Phone 559-275-2175 ∇ Fax 559-275-4422

Certification Number: CA1312
NELAP Certification number: CA00046
DoD-ELAP Certificate number: 4064.01

Data Validatable Report

March 3, 2020

AECOM
1001 Bishop Street, Suite 1600
Honolulu, Hawaii 96813

Attn: Margie Pascua

Title: Report of Data: Case 91264

Project: 60571032 CV18F0126 Red Hill Fuel Storage. HI

Contract #: Prime contract # for DoD: NAVY CLEAN N62742-17-F-1800, CV18F0126
Subcontract: 18S-22209-HI27

Dear Ms. Pascua:

Nine water samples were received January 21,2020. Revised written results for the requested analyses are being provided on this March 3, 2020. **Revision:** Nitrate-Nitrite-N MS/MSD added for sample ERH974. The MS/MSD were inadvertently not spiked by the analyst prior to analysis.

Results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

If you have any questions or require further information, please contact your APPL Project Manager, Libby Cheeseborough, libby@applinc.com, at your convenience. Thank you for choosing APPL, Inc.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. These test results meet all requirements of NELAC and DoD QSM. Release of the hard copy has been authorized by the Laboratory Manager or her designee, as verified by the following signature.

Paula McCartney

Paula McCartney, Laboratory Director
APPL, Inc.

PM/lac
Enclosure
cc: File

Data Validation Package
for
60481245 CIV 0053 Red Hill Fuel Storage
APPL SDG 91264
TABLE OF CONTENTS

LABORATORY NAME: *APPL, Inc.*

Case Narrative	4
Sample Management Records	11
Sample Results	21
QC Forms	80
Method 8015B Calibration Data	153
Method 8015B Raw Data	222
Method 8270D SIM Calibration Data	266
Method 8270D SIM Raw Data	293
Method 8270D Calibration Data	329
Method 8270D Raw Data	375
APPL SOP 2-MEE Calibration Data	410
APPL SOP 2-MEE Raw Data	437
Method 8260B Calibration Data	468
Method 8260B Raw Data	548
Method 8260B GRO Calibration Data	584
Method 8260B GRO Raw Data	635
Method RSK-175 Calibration Data	674
Method RSK-175 Raw Data	699
Method 300 Calibration Data	726
Method 300 Raw Data	767

Inorganic Analyses Calibration Data 486
Inorganic Analyses Raw Data 791

CASE NARRATIVE

Case Narrative

ARF: 91264

Project: 60571032 CV18F0126 Red Hill Fuel Storage. HI

Sample Receipt Information:

Nine water samples were received January 21,2020, at 0.4°C, °C, 0.5°C, 1.6°C, 1.9°C and 2.5°C. The sample group was assigned Analytical Request Form (ARF) number 91264.

Sample Preparation and Analysis Information:

For the EPA 8015B analysis, the samples were extracted according to EPA method 3520C. The sample extracts were silica gel cleaned according to APPL's SOP CLN004; two extracts were placed on hold.

For the EPA 8270D SIM analysis, the samples were extracted according to EPA method 3520C.

For the EPA 8270D Phenol analysis, the samples were extracted according to EPA method 3520C.

For the APPL SOP ANA2MEE analysis, the samples were extracted according to EPA method 3535.

For the EPA 8260B analysis, the samples were purged according to EPA method 5030B.

For the RSK-175 analysis, the samples were allowed to equilibrate for 10 minutes at 40°C and a portion of the headspace was analyzed.

For the EPA 9060A, 300.0, 353.2, SM 2320B, SM 4500-SiD and SM 3500FeB analyses, the samples were prepared according to the methods.

Only the portion of the injection log relative to these samples is included. A full sequence log is available upon request. Measurement uncertainty can be reported upon request.

Analytical Exceptions, Deviations and Abnormalities.

EPA 8015B: Manual integrations were performed in accordance with APPL's SOP. Chromatograms of before and after manual integration are enclosed.

The surrogate Octacosane recovered above the upper control limit in four samples and the Method Blank. The surrogate is associated with Oil which, is non-detect.

The ending continuing calibration for Decanoic Acid decreased in sensitivity with a 23% Drift.

EPA 8270D SIM: The internal standard area response of Perylene-D12 for sample ERH976 was low. Corrective Action: None, Perylene-D12 is not associated with the target analytes.

EPA 8270D Phenol: In the 200122A LCS/LCSD, Phenol recovered above the 115% upper control limit. The surrogate Phenol-D6 also recovered above its 115% upper control limit. Corrective action: None, Phenol was not detected in the associated samples.

APPL SOP ANA2MEE: The RPD in the 200124A LCS/LCSD exceeded the 20% limit

Inorganics: The ferrous iron analysis was performed on 2/01/2020, within three days of sampling.

SDG	Received	Client ID	APPL ID	Collected DateTime	Matrix	Method	Method Description
91264	01/21/20	ERH973	BA06135	01/20/20 8:45:00 AM	WATER	EPA 8260B	EPA 8260B BTEX WATER
91264	01/21/20	ERH973	BA06135	01/20/20 8:45:00 AM	WATER	EPA 8260-GAS	EPA 8260 with GAS
91264	01/21/20	ERH973	BA06135	01/20/20 8:45:00 AM	WATER	EPA 8260B	EPA 8260B GRO WATER
91264	01/21/20	ERH973	BA06135	01/20/20 8:45:00 AM	WATER	RSK 175	METHANE BY RSK 175
91264	01/21/20	ERH974	BA06136	01/20/20 9:05:00 AM	WATER	SM 2320B	Wetlab 2320B - Water
91264	01/21/20	ERH974	BA06136	01/20/20 9:05:00 AM	WATER	EPA 300.0	Wetlab 300.0 - Water
91264	01/21/20	ERH974	BA06136	01/20/20 9:05:00 AM	WATER	EPA 300.0	Wetlab 300.0 - Water
91264	01/21/20	ERH974	BA06136	01/20/20 9:05:00 AM	WATER	SM3500FeB	Ferrous Iron
91264	01/21/20	ERH974	BA06136	01/20/20 9:05:00 AM	WATER	EPA 353.2	EPA 353.2 - WATER
91264	01/21/20	ERH974	BA06136	01/20/20 9:05:00 AM	WATER	EPA 8260B	EPA 8260B BTEX WATER
91264	01/21/20	ERH974	BA06136	01/20/20 9:05:00 AM	WATER	EPA 8270D	EPA 8270D WATER
91264	01/21/20	ERH974	BA06136	01/20/20 9:05:00 AM	WATER	EPA 8270D	EPA 8270D MODIFIED WATER
91264	01/21/20	ERH974	BA06136	01/20/20 9:05:00 AM	WATER	EPA 8015B-eLL	EPA 8015B TPH WATER L-L SGC
91264	01/21/20	ERH974	BA06136	01/20/20 9:05:00 AM	WATER	EPA 8015B-eLL	EPA 8015B TPH LIQ-LIQ
91264	01/21/20	ERH974	BA06136	01/20/20 9:05:00 AM	WATER	EPA 8260-GAS	EPA 8260 with GAS
91264	01/21/20	ERH974	BA06136	01/20/20 9:05:00 AM	WATER	EPA 8260B	EPA 8260B GRO WATER
91264	01/21/20	ERH974	BA06136	01/20/20 9:05:00 AM	WATER	RSK 175	METHANE BY RSK 175
91264	01/21/20	ERH974	BA06136	01/20/20 9:05:00 AM	WATER	8270D-SIM	EPA 8270D SIM LIQ-LIQ
91264	01/21/20	ERH974	BA06136	01/20/20 9:05:00 AM	WATER	SW846 9060A	9060A TOC
91264	01/21/20	ERH975	BA06137	01/20/20 11:20:00 AM	WATER	EPA 8260B	EPA 8260B BTEX WATER
91264	01/21/20	ERH975	BA06137	01/20/20 11:20:00 AM	WATER	EPA 8260-GAS	EPA 8260 with GAS
91264	01/21/20	ERH975	BA06137	01/20/20 11:20:00 AM	WATER	EPA 8260B	EPA 8260B GRO WATER
91264	01/21/20	ERH975	BA06137	01/20/20 11:20:00 AM	WATER	RSK 175	METHANE BY RSK 175
91264	01/21/20	ERH976	BA06138	01/20/20 11:34:00 AM	WATER	SM 2320B	Wetlab 2320B - Water
91264	01/21/20	ERH976	BA06138	01/20/20 11:34:00 AM	WATER	EPA 300.0	Wetlab 300.0 - Water
91264	01/21/20	ERH976	BA06138	01/20/20 11:34:00 AM	WATER	EPA 300.0	Wetlab 300.0 - Water
91264	01/21/20	ERH976	BA06138	01/20/20 11:34:00 AM	WATER	SM3500FeB	Ferrous Iron
91264	01/21/20	ERH976	BA06138	01/20/20 11:34:00 AM	WATER	EPA 353.2	EPA 353.2 - WATER
91264	01/21/20	ERH976	BA06138	01/20/20 11:34:00 AM	WATER	EPA 8260B	EPA 8260B BTEX WATER
91264	01/21/20	ERH976	BA06138	01/20/20 11:34:00 AM	WATER	EPA 8270D	EPA 8270D WATER
91264	01/21/20	ERH976	BA06138	01/20/20 11:34:00 AM	WATER	EPA 8270D	EPA 8270D MODIFIED WATER
91264	01/21/20	ERH976	BA06138	01/20/20 11:34:00 AM	WATER	EPA 8015B-eLL	EPA 8015B TPH WATER L-L SGC
91264	01/21/20	ERH976	BA06138	01/20/20 11:34:00 AM	WATER	EPA 8015B-eLL	EPA 8015B TPH LIQ-LIQ
91264	01/21/20	ERH976	BA06138	01/20/20 11:34:00 AM	WATER	EPA 8260-GAS	EPA 8260 with GAS
91264	01/21/20	ERH976	BA06138	01/20/20 11:34:00 AM	WATER	EPA 8260B	EPA 8260B GRO WATER

91264	01/21/20	ERH976	BA06138	01/20/20 11:34:00 AM	WATER	RSK 175	METHANE BY RSK 175
91264	01/21/20	ERH976	BA06138	01/20/20 11:34:00 AM	WATER	8270D-SIM	EPA 8270D SIM LIQ-LIQ
91264	01/21/20	ERH976	BA06138	01/20/20 11:34:00 AM	WATER	SW846 9060A	9060A TOC
91264	01/21/20	ERH977	BA06139	01/20/20 11:34:00 AM	WATER	EPA 8260B	EPA 8260B BTEX WATER
91264	01/21/20	ERH977	BA06139	01/20/20 11:34:00 AM	WATER	EPA 8270D	EPA 8270D WATER
91264	01/21/20	ERH977	BA06139	01/20/20 11:34:00 AM	WATER	EPA 8270D	EPA 8270D MODIFIED WATER
91264	01/21/20	ERH977	BA06139	01/20/20 11:34:00 AM	WATER	EPA 8015B-eLL	EPA 8015B TPH WATER L-L SGC
91264	01/21/20	ERH977	BA06139	01/20/20 11:34:00 AM	WATER	EPA 8015B-eLL	EPA 8015B TPH LIQ-LIQ
91264	01/21/20	ERH977	BA06139	01/20/20 11:34:00 AM	WATER	EPA 8260-GAS	EPA 8260 with GAS
91264	01/21/20	ERH977	BA06139	01/20/20 11:34:00 AM	WATER	EPA 8260B	EPA 8260B GRO WATER
91264	01/21/20	ERH977	BA06139	01/20/20 11:34:00 AM	WATER	8270D-SIM	EPA 8270D SIM LIQ-LIQ
91264	01/21/20	ERH984	BA06140	01/20/20 8:40:00 AM	WATER	EPA 8260B	EPA 8260B BTEX WATER
91264	01/21/20	ERH984	BA06140	01/20/20 8:40:00 AM	WATER	EPA 8260-GAS	EPA 8260 with GAS
91264	01/21/20	ERH984	BA06140	01/20/20 8:40:00 AM	WATER	EPA 8260B	EPA 8260B GRO WATER
91264	01/21/20	ERH984	BA06140	01/20/20 8:40:00 AM	WATER	RSK 175	METHANE BY RSK 175
91264	01/21/20	ERH985	BA06141	01/20/20 9:40:00 AM	WATER	SM 2320B	Wetlab 2320B - Water
91264	01/21/20	ERH985	BA06141	01/20/20 9:40:00 AM	WATER	EPA 300.0	Wetlab 300.0 - Water
91264	01/21/20	ERH985	BA06141	01/20/20 9:40:00 AM	WATER	EPA 300.0	Wetlab 300.0 - Water
91264	01/21/20	ERH985	BA06141	01/20/20 9:40:00 AM	WATER	SM3500FeB	Ferrous Iron
91264	01/21/20	ERH985	BA06141	01/20/20 9:40:00 AM	WATER	EPA 353.2	EPA 353.2 - WATER
91264	01/21/20	ERH985	BA06141	01/20/20 9:40:00 AM	WATER	EPA 8260B	EPA 8260B BTEX WATER
91264	01/21/20	ERH985	BA06141	01/20/20 9:40:00 AM	WATER	EPA 8270D	EPA 8270D WATER
91264	01/21/20	ERH985	BA06141	01/20/20 9:40:00 AM	WATER	EPA 8270D	EPA 8270D MODIFIED WATER
91264	01/21/20	ERH985	BA06141	01/20/20 9:40:00 AM	WATER	EPA 8015B-eLL	EPA 8015B TPH LIQ-LIQ
91264	01/21/20	ERH985	BA06141	01/20/20 9:40:00 AM	WATER	EPA 8260-GAS	EPA 8260 with GAS
91264	01/21/20	ERH985	BA06141	01/20/20 9:40:00 AM	WATER	EPA 8260B	EPA 8260B GRO WATER
91264	01/21/20	ERH985	BA06141	01/20/20 9:40:00 AM	WATER	RSK 175	METHANE BY RSK 175
91264	01/21/20	ERH985	BA06141	01/20/20 9:40:00 AM	WATER	8270D-SIM	EPA 8270D SIM LIQ-LIQ
91264	01/21/20	ERH985	BA06141	01/20/20 9:40:00 AM	WATER	SW846 9060A	9060A TOC
91264	01/21/20	ERH988	BA06142	01/20/20 11:39:00 AM	WATER	EPA 8260B	EPA 8260B BTEX WATER
91264	01/21/20	ERH988	BA06142	01/20/20 11:39:00 AM	WATER	EPA 8260-GAS	EPA 8260 with GAS
91264	01/21/20	ERH988	BA06142	01/20/20 11:39:00 AM	WATER	EPA 8260B	EPA 8260B GRO WATER
91264	01/21/20	ERH988	BA06142	01/20/20 11:39:00 AM	WATER	RSK 175	METHANE BY RSK 175
91264	01/21/20	ERH989	BA06143	01/20/20 12:35:00 PM	WATER	SM 2320B	Wetlab 2320B - Water
91264	01/21/20	ERH989	BA06143	01/20/20 12:35:00 PM	WATER	EPA 300.0	Wetlab 300.0 - Water
91264	01/21/20	ERH989	BA06143	01/20/20 12:35:00 PM	WATER	EPA 300.0	Wetlab 300.0 - Water
91264	01/21/20	ERH989	BA06143	01/20/20 12:35:00 PM	WATER	SM3500FeB	Ferrous Iron

91264	01/21/20	ERH989	BA06143	01/20/20 12:35:00 PM	WATER	EPA 353.2	EPA 353.2 - WATER
91264	01/21/20	ERH989	BA06143	01/20/20 12:35:00 PM	WATER	EPA 8260B	EPA 8260B BTEX WATER
91264	01/21/20	ERH989	BA06143	01/20/20 12:35:00 PM	WATER	EPA 8270D	EPA 8270D WATER
91264	01/21/20	ERH989	BA06143	01/20/20 12:35:00 PM	WATER	EPA 8270D	EPA 8270D MODIFIED WATER
91264	01/21/20	ERH989	BA06143	01/20/20 12:35:00 PM	WATER	EPA 8015B-eLL	EPA 8015B TPH LIQ-LIQ
91264	01/21/20	ERH989	BA06143	01/20/20 12:35:00 PM	WATER	EPA 8260-GAS	EPA 8260 with GAS
91264	01/21/20	ERH989	BA06143	01/20/20 12:35:00 PM	WATER	EPA 8260B	EPA 8260B GRO WATER
91264	01/21/20	ERH989	BA06143	01/20/20 12:35:00 PM	WATER	RSK 175	METHANE BY RSK 175
91264	01/21/20	ERH989	BA06143	01/20/20 12:35:00 PM	WATER	8270D-SIM	EPA 8270D SIM LIQ-LIQ
91264	01/21/20	ERH989	BA06143	01/20/20 12:35:00 PM	WATER	SW846 9060A	9060A TOC

APPL Inc.
Abbreviations and Flags

FLAG	DESCRIPTION
#	Recovery or RPD outside control limits
*	Recovery or RPD outside control limits
B	Analyte detected in associated method blank
C1	Reason for correction: wrote incorrect response
C2	Reason for correction: calculated incorrectly
C3	Reason for correction: needs to be rechecked
C4	Reason for correction: data not usable
DO	Diluted out
E	Exceeds linear range
F	Estimated value
G1	Includes a wide range of hydrocarbons which does not match our gasoline standard
G10	Includes a match to hydrocarbon profiles within the range of mineral spirits
G11	Includes a match to hydrocarbon profiles within the range of JP-4
G12	Pattern does not match the gasoline standard; the carbon range for this sample is consistent with JP8
G13	Closely resembles the hydrocarbon profile of aviation gasoline
G14	Analyte concentration may be biased due to carry over
G2	Closely resembles the boiling point hydrocarbon profile consistent with weathered gasoline
G3	Includes higher boiling hydrocarbons
G4	Includes dominant peak(s) not indicative of petroleum hydrocarbons
G5	Is mainly dominant peak(s) not indicative of petroleum hydrocarbons
G6	Contains recognizable contaminant peak(s) which has been removed from quantitation
G7	Is mainly a match to hydrocarbons within the range of gasoline
G8	Closely resembles the boiling point hydrocarbon profile consistent with weathered gasoline
G9	Includes hydrocarbons within the range of kerosene
J	Estimated value
M	Matrix effect
MI1	Manual integration: integration does not follow baseline
MI2	Manual integration: non-target peak interference
MI3	Manual integration: to split a peak that was integrated as one peak by the computer.
MI4	Manual integration: to integrate a split peak
MI5	Manual integration: the whole peak or part of the peak was not integrated
MI6	Manual integration: computer integrated wrong peak
MI7	Manual integration: other – (See case narrative)
MDL	Method detection limit
ND	Not detected
NT	Non-target
Q	Acceptance criteria not met
T1 I	Includes wide range of hydrocarbons not indicative of diesel
T1 M	Is mainly wide range of hydrocarbons not necessarily indicative of diesel
T2 I	Includes lower boiling hydrocarbons, e.g. mineral spirits, kerosene, stoddard solvent, white gas
T2 M	Is mainly lower boiling hydrocarbons, e.g. mineral spirits, kerosene, stoddard solvent, white gas
T3 I	Includes higher boiling hydrocarbons, e.g. asphaltene, waste oil, motor oil, or weathered diesel fuel
T3 M	Is mainly higher boiling hydrocarbons, e.g. asphaltene, waste oil, motor oil, or weathered diesel fuel
T4 I	Includes dominant peak(s) not indicative of hydrocarbons
T4 M	Is mainly dominant peak(s) not indicative of hydrocarbons
T5	Contains recognizable contaminant peak(s) which has been removed from quantitation
T6	Is mainly a match to hydrocarbons within range of diesel fuel
T7	Closely resembles the boiling point hydrocarbon profile consistent with diesel fuel
T8	Includes a match to hydrocarbon profiles within range of diesel and kerosene fuel
T9 I	Includes non-diesel hydrocarbons within boiling point range of diesel fuel
T9 M	Is mainly non-diesel hydrocarbons within boiling point range of diesel fuel
U	Not detected
Y	Percent difference between primary and confirmation column > 40%

SAMPLE RECORDS MANAGEMENT

CHAIN OF CUSTODY,

ARF, CRF, AND

CLIENT COMMUNICATION

APPL - Analysis Request Form 91264

Client: AECOM
Address: 1001 Bishop Street, Suite 1600
Honolulu, HI 96813
Attn: Margie Pascua
Phone: 808-356-5373 Fax: 808-523-8950
Job: 60571032 CV18F0126 Red Hill Fuel Storage
PO #: 18S-22209-HI27 PO# 102604
Chain of Custody (Y/N): Y # 144-5,147,149,154
RAD Screen (Y/N): Y pH (Y/N): Y
Turn Around Type: ONE WEEK

Received by: RBR
Date Received: 01/21/20 Time: 10:00
Delivered by: FEDEX
Shuttle Custody Seals (Y/N): Y Time Zone: -10
Chest Temp(s): SEE CRF
Color: VFRG/N-PurpleBlue
Samples Chilled until Placed in Refrig/Freezer: Y
Project Manager: Libby Cheesebor
QC Report Type: DVP4DOD/EQUIS/HI
Due Date: 01/28/20

Comments:
PM: login and F1s to Margie.Pascua@aecom.com
AN: 7 day TAT for Form 1s; 21 day TAT for PKG STYLE 1; DOD v5.1; DOD Forms: LOD database
Wetlab: Nitrate by EPA 300 and 353.2
8260: BTEX & TPH-G only; 8270 SIM: 1-methylnaphthalene, 2-methylnaphthalene & naphthalene only.
TPH D & O both with and w/o SGC, reverse surrogate for the SGC; BA06161 & BA06164: analyze SGC if dete
RSK: Methane only; $87DC53W5: report phenol only
FR: email ftp info to Margie, Stella, trommelfanger@lab-data.com & jcanlas@lab-data.com
EDD: AECOM EQuIS EDD 2.5.3 Red Hill 87DMEE->3535A to Margie.Pascua@aecom.com & jecklund@lab-data.com

Sample Distribution:
GC: 5-$87DC53W5, 5-$87DMEEW5, 3-$DOC53SGCW5LIQ, 5-$DOC53W5LIQ, 5-$SIM53LIQ51
Extractions: 5- LIQ003, 5- LIQ005SGC, 5- MWE2MEE
VOA: 9-$86BTOTXDOD5W, 9-$GASBL, 9-$GRO86BW, 8-$RSKMETH
Wetlab: 4-$232W(HCO3,CO3,ALK), 4-$300W, 4-$35FE, 4-$35OF, 4-$TOCW53

Charges:

Invoice To:
ACCOUNTS PAYABLE
1001 Bishop Street, Ste 1600
USAPImaging@aecom.com
mary.basano@aecom.com

	Client ID	APPL ID	Sampled	Analyses Requested
1.	ERH973	BA06135W	01/20/20 08:45	$86BTOTXDOD5W, $GASBL, $GRO86BW, $RSKMETH -- see comments
2.	ERH974	BA06136W	01/20/20 09:05	$232W(HCO3,CO3,ALK), $300W, $35FE, $35OF, $86BTOTXDOD5W, $87DC53W5, $87DMEEW5, $DOC53SGCW5LIQ, $DOC53W5LIQ, $GASBL, $GRO86BW, $RSKMETH, $SIM53LIQ51, $TOCW53 -- see comments
3.	ERH975	BA06137W	01/20/20 11:20	$86BTOTXDOD5W, $GASBL, $GRO86BW, $RSKMETH -- see comments

Note: All times, excluding sample collection times, are Pacific Time Zone unless noted otherwise. Collection times are in: -10 UTC
Page 1 Client Code: AECOM-REDHILL *Printed 01/22/20 8:05:52 AM* Computer: APPL-LC **# 91264**

4.	ERH976	BA06138W	01/20/20 11:34	$232W(HCO3,CO3,ALK), $300W, $35FE, $35OF, $86BTOTXDOD5W, $87DC53W5, $87DMEEW5, $DOC53SGCW5LIQ, $DOC53W5LIQ, $GASBL, $GRO86BW, $RSKMETH, $SIM53LIQ51, $TOCW53 -- see comments
5.	ERH977	BA06139W	01/20/20 11:34	$86BTOTXDOD5W, $87DC53W5, $87DMEEW5, $DOC53SGCW5LIQ, $DOC53W5LIQ, $GASBL, $GRO86BW, $SIM53LIQ51 -- see comments
6.	ERH984	BA06140W	01/20/20 08:40	$86BTOTXDOD5W, $GASBL, $GRO86BW, $RSKMETH -- see comments
7.	ERH985	BA06141W	01/20/20 09:40	$232W(HCO3,CO3,ALK), $300W, $35FE, $35OF, $86BTOTXDOD5W, $87DC53W5, $87DMEEW5, $DOC53W5LIQ, $GASBL, $GRO86BW, $RSKMETH, $SIM53LIQ51, $TOCW53 -- see comments
8.	ERH988	BA06142W	01/20/20 11:39	$86BTOTXDOD5W, $GASBL, $GRO86BW, $RSKMETH -- see comments
9.	ERH989	BA06143W	01/20/20 12:35	$232W(HCO3,CO3,ALK), $300W, $35FE, $35OF, $86BTOTXDOD5W, $87DC53W5, $87DMEEW5, $DOC53W5LIQ, $GASBL, $GRO86BW, $RSKMETH, $SIM53LIQ51, $TOCW53 -- see comments

APPL Sample Receipt Form

ARF# **91264**

Sample	Container Type	Count	p
BA06135	[13] VOAs - HCL	4	NA
BA06136	[3] PL 250mL	1	NA
	[10] PL 250mL - H2SO4	1	1.6
	[13] VOAs - HCL	4	NA
	[17] Amber Liter	4	NA
	[32] Clear VOA - H2SO4	2	NA
	[38] 250mL brn poly, HCl prsvd	1	1.6
	[40] 500mL Amber, unprsrvd	3	NA
BA06137	[13] VOAs - HCL	4	NA
BA06138	[3] PL 250mL	1	NA
	[10] PL 250mL - H2SO4	1	1.6
	[13] VOAs - HCL	4	NA
	[17] Amber Liter	4	NA
	[32] Clear VOA - H2SO4	2	NA
	[38] 250mL brn poly, HCl prsvd	1	1.6
	[40] 500mL Amber, unprsrvd	3	NA
BA06139	[13] VOAs - HCL	4	NA
	[17] Amber Liter	4	NA
	[40] 500mL Amber, unprsrvd	3	NA
BA06140	[13] VOAs - HCL	4	NA
BA06141	[3] PL 250mL	1	NA
	[10] PL 250mL - H2SO4	1	1.6
	[13] VOAs - HCL	4	NA
	[17] Amber Liter	4	NA
	[32] Clear VOA - H2SO4	2	NA
	[38] 250mL brn poly, HCl prsvd	1	1.6
	[40] 500mL Amber, unprsrvd	3	NA
BA06142	[13] VOAs - HCL	4	NA
BA06143	[3] PL 250mL	1	NA
	[10] PL 250mL - H2SO4	1	1.6
	[13] VOAs - HCL	4	NA
	[17] Amber Liter	4	NA
	[32] Clear VOA - H2SO4	2	NA
	[38] 250mL brn poly, HCl prsvd	1	1.6
	[40] 500mL Amber, unprsrvd	3	NA

Sample	Container Type	Count	p

APPL, Inc.
908 N Temperance Ave
Clovis, CA 93611
www.applinc.com

Phone: (559) 275-2175
Fax: (559) 275-4422
coc@applinc.com

CHAIN OF CUSTODY RECORD

C.O.C. 147

Report to: PLEASE PRINT	Invoice to: PLEASE PRINT
Company Name: AECOM Phone: 808-356-5373	Company Name: AECOM Phone: 808-529-7249
Address: 1001 Bishop St, Suite 1600 Honolulu, HI 96813 Fax: 808-523-8950	Address: 1001 Bishop St, Suite 1600 Honolulu, HI 96813 Fax: 808-523-8950
Attn: Margie Pascua	Attn: Mary Basano
Email: margie.pascua@aecom.com	Email: mary.basano@aecom.com; usapimaging@aecom.com

Project Name/Number	Sampler (Print)
CV18F0126 / 60571032	KL, MC, EH
Purchase Order Number	**Sampler (Signature)**
102604	MP for KL, MC, EH

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Sed.	Soil	
ERH973	Trip Blank	01/20/20	0845	HST	4	X			
ERH974	RHMW01	01/20/20	0905	HST	16	X			

EB - 01/20/20

Analysis Requested/Method Number

Sample Identification	8260C BTEX,TPH-g	8260C DCA 8011 EDB	8015C TPH-d/o	3630/8015C TPH-d/o w/ SGT	8270DSIM PAHs short list	8270D Phenol, TICs MP	8270D 2-(2-methoxy ethoxy)-ethanol	RSK175M Methane	SM3500-Fe Ferrous Iron	353.2 Nitrate-Nitrite N	SM2320B Alkalinity 300.0 Nitrate,Sulfate,Chloride	300.0 Bromide/Fluoride 6010 Total Ca,Mg,Mn,K,Na SM4500 Total & Dissolved Silica	9060A TOC
ERH973	X							X					
ERH974	X		X	X	X	X	X	X	X	X	X		X

Date Shipped: MM/DD/YY
Carrier: FedEx
Waybill No.:
Comments:

*Analyze TPH w/SGT only if TPH-d/o detected.

TPH-d/o & PAHs need liquid-liquid extraction.

Shuttle Temperature:	Turnaround Requested: Check one ☐ Standard 2-3 wk ☒ One week ☐ 3 days ☐ 24/48 Hrs. ☐ Other:	Sample Disposal: ☐ Return to client ☒ Disposal by Lab (30-day retention)

Relinquished by sampler: AECOM Estelle BONNY	Date 01/20/20	Time 1235	Received by:	Relinquished by:	Date	Time	Received by:
Relinquished by:	Date	Time	Received by:	Relinquished by:	Date 1-21-20	Time 1000	Received at lab by:

See page 2 for Container Preservative and Sampling Information

91264

APPL LABS

APPL, Inc.
908 N Temperance Ave
Clovis, CA 93611
www.applinc.com

Phone: (559) 275-2175
Fax: (559) 275-4422
coc@applinc.com

CHAIN OF CUSTODY RECORD

C.O.C. 144

Report to: PLEASE PRINT

Company Name: AECOM Phone: 808-356-5373

Address: 1001 Bishop St, Suite 1600
Honolulu, HI 96813
Fax: 808-523-8950

Attn: Margie Pascua

Email: margie.pascua@aecom.com

Invoice to: PLEASE PRINT

Company Name: AECOM Phone: 808-529-7249

Address: 1001 Bishop St, Suite 1600
Honolulu, HI 96813
Fax: 808-523-8950

Attn: Mary Basano

Email: mary.basano@aecom.com; usapimaging@aecom.com

Project Name/Number: CV18F0126 / 60571032

Purchase Order Number: 102604

Sampler (Print): KL, MC, EH

Sampler (Signature): MP for KL, MC, EH

Date Shipped:

Carrier: FedEx

Waybill No.:

Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Sed.	Soil		8260C BTEX,TPH-g	8260C DCA 8011 EDB	8015C TPH-d/o	3630/8015C TPH-d/o w/ SGT	8270DSIM PAHs short list	8270D Phenol, ~~TICs~~ MS	8270D 2-(2-methoxy ethoxy)-ethanol	RSK175M Methane	SM3500-Fe Ferrous Iron	353.2 Nitrate-Nitrite N	SM2320B Alkalinity 300.0 Nitrate,Sulfate,Chloride	300.0 Bromide/Fluoride 6010 Total Ca,Mg,Mn,K,Na SM4500 Total & Dissolved Silica	9060A TOC	
ERH975	Trip Blank	01/20/20	1120	HST	4	X				X							X						
ERH976	RHMW02	01/20/20	1134	HST	15	X				X		X	X	X	X	X	X	X	⑧	X	X		X	
~~ERH977~~	RHMW02	01/20/20	1134	HST	11	X				X				⑧	01/20/20								see other cooler
						EB	01/20/20																⑧bottle missing. will be shipped tomorrow

*Analyze TPH w/SGT only if TPH-d/o detected.

TPH-d/o & PAHs need liquid-liquid extraction.

Shuttle Temperature: 1.9/1.6 TR @ -0.3 2.6/2.5 0.4/0.5, 2.2/1.9 0.2/0.9

Turnaround Requested: Check one
☐ Standard 2-3 wk ☒ One week ☐ 3 days ☐ 24/48 Hrs. ☐ Other:

Sample Disposal:
☐ Return to client ☒ Disposal by Lab (30-day retention)

Relinquished by sampler: AECOM Estelle BONNY	Date 01/20/20	Time 1420	Received by:	Relinquished by:	Date	Time	Received by:
Relinquished by:	Date	Time	Received by:	Relinquished by:	Date 1.21.20	Time 1000	Received at lab by:

See page 2 for Container Preservative and Sampling Information

APPL LABS

APPL, Inc.
908 N Temperance Ave
Clovis, CA 93611
www.applinc.com

Phone: (559) 275-2175
Fax: (559) 275-4422
coc@applinc.com

CHAIN OF CUSTODY RECORD

C.O.C. 145

Report to: PLEASE PRINT	Invoice to: PLEASE PRINT
Company Name: AECOM Phone: 808-356-5373	Company Name: AECOM Phone: 808-529-7249
Address: 1001 Bishop St, Suite 1600 Honolulu, HI 96813 Fax: 808-523-8950	Address: 1001 Bishop St, Suite 1600 Honolulu, HI 96813 Fax: 808-523-8950
Attn: Margie Pascua	Attn: Mary Basano
Email: margie.pascua@aecom.com	Email: mary.basano@aecom.com; usapimaging@aecom.com

Project Name/Number: CV18F0126 / 60571032
Purchase Order Number: 102604
Sampler (Print): KL, MC, EH
Sampler (Signature): MP for KL, MC, EH

Date Shipped: MM/DD/YY
Carrier: FedEx
Waybill No.:
Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Sed.	Soil	8260C BTEX,TPH-g	8260C DCA 8011 EDB	8015C TPH-d/o	3630/8015C TPH-d/o w/ SGT	8270DSIM PAHs short list	8270D Phenol, TPH-MS	8270D 2-(2-methoxy ethoxy)-ethanol	RSK175M Methane	SM3500-Fe Ferrous Iron	353.2 Nitrate-Nitrite N	SM2320B Alkalinity 300.0 Nitrate,Sulfate,Chloride	300.0 Bromide/Fluoride 6010 Total Ca,Mg,Mn,K,Na SM4500 Total & Dissolved Silica	9060A TOC	
ERH977	RHMW02	01/20/20	1134	HST	11	X			X		X	X	X	X	X							See other order for VOAs 01/20/20

EB 01/20/20

*Analyze TPH w/SGT only if TPH-d/o detected.

TPH-d/o & PAHs need liquid-liquid extraction.

Shuttle Temperature:

Turnaround Requested: Check one
☐ Standard 2-3 wk ☒ One week ☐ 3 days ☐ 24/48 Hrs. ☐ Other:

Sample Disposal:
☐ Return to client ☒ Disposal by Lab (30-day retention)

Relinquished by sampler: AECOM Estelle BONNY	Date 01/20/20	Time 1620	Received by:	Relinquished by:	Date	Time	Received by:
Relinquished by:	Date	Time	Received by:	Relinquished by:	Date 1-21-20	Time 1000	Received at lab by:

See page 2 for Container Preservative and Sampling Information

APPL LABS

APPL, Inc.
908 N Temperance Ave
Clovis, CA 93611
www.applinc.com

Phone: (559) 275-2175
Fax: (559) 275-4422
coc@applinc.com

CHAIN OF CUSTODY RECORD

C.O.C. 149

Report to: PLEASE PRINT	Invoice to: PLEASE PRINT
Company Name: AECOM Phone: 808-356-5373	Company Name: AECOM Phone: 808-529-7249
Address: 1001 Bishop St, Suite 1600 Honolulu, HI 96813 Fax: 808-523-8950	Address: 1001 Bishop St, Suite 1600 Honolulu, HI 96813 Fax: 808-523-8950
Attn: Margie Pascua	Attn: Mary Basano
Email: margie.pascua@aecom.com	Email: mary.basano@aecom.com; usapimaging@aecom.com

Project Name/Number	Sampler (Print)
CV18F0126 / 60571032	GM, DM, RS
Purchase Order Number	**Sampler (Signature)**
102604	MP for GM, DM, RS

Date Shipped: 1/21/20
Carrier: FedEx
Waybill No.:
Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Matrix: Sed.	Matrix: Soil	8260C BTEX,TPH-g	8260C DCA 8011 EDB	8015C TPH-d/o	3630/8015C TPH-d/o w/ SGT	8270DSIM PAHs short list	8270D Phenol, [illegible] SIM	8270D 2-(2-methoxy ethoxy)-ethanol	RSK175M Methane	SM3500-Fe Ferrous Iron	353.2 Nitrate-Nitrite N	SM2320B Alkalinity 300.0 Nitrate,Sulfate,Chloride	300.0 Bromide/Fluoride 6010 Total Ca,Mg,Mn,K,Na SM4500 Total & Dissolved Silica	9060A TOC
ERH984	Trip Blank	01/20/20	0840	HST	4	X			X							X					
ERH985	RHMW06	01/20/20	0940	HST	16	X			X		X	X*	X	X	X	X	X	X	X		X

EB 01/20/20

*Analyze TPH w/SGT only if TPH-d/o detected.

TPH-d/o & PAHs need liquid-liquid extraction.

Shuttle Temperature:

Turnaround Requested: Check one
☐ Standard 2-3 wk ☒ One week ☐ 3 days ☐ 24/48 Hrs. ☐ Other:

Sample Disposal:
☐ Return to client ☒ Disposal by Lab (30-day retention)

Relinquished by sampler: AECOM Estelle BONNY	Date 01/20/20	Time 1300	Received by:	Relinquished by:	Date	Time	Received by:
Relinquished by:	Date	Time	Received by:	Relinquished by:	Date 1-21-20	Time 1000	Received at lab by:

See page 2 for Container Preservative and Sampling Information

APPL LABS

APPL, Inc.
908 N Temperance Ave
Clovis, CA 93611
www.applinc.com

Phone: (559) 275-2175
Fax: (559) 275-4422
coc@applinc.com

CHAIN OF CUSTODY RECORD

C.O.C. 154

Report to: PLEASE PRINT

Company Name: AECOM Phone: 808-356-5373

Address: 1001 Bishop St, Suite 1600
Honolulu, HI 96813 Fax: 808-523-8950

Attn: Margie Pascua

Email: margie.pascua@aecom.com

Invoice to: PLEASE PRINT

Company Name: AECOM Phone: 808-529-7249

Address: 1001 Bishop St, Suite 1600
Honolulu, HI 96813 Fax: 808-523-8950

Attn: Mary Basano

Email: mary.basano@aecom.com; usapimaging@aecom.com

Project Name/Number: CV18F0126 / 60571032

Purchase Order Number: 102604

Sampler (Print): GM, OM, RS

Sampler (Signature): MP for GM, OM, RS

Date Shipped: MM/DD/YY

Carrier: FedEx

Waybill No.:

Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Matrix: Sed.	Matrix: Soil	8260C BTEX,TPH-g	8260C DCA 8011 EDB	8015C TPH-d/o	3630/8015C TPH-d/o w/ SGT	8270DSIM PAHs short list	8270D Phenol,PCP,NMP	8270D 2-(2-methoxyethoxy)-ethanol	RSK175M Methane	SM3500-Fe Ferrous Iron	353.2 Nitrate-Nitrite N	SM2320B Alkalinity 300.0 Nitrate,Sulfate,Chloride	300.0 Bromide/Fluoride 6010 Total Ca,Mg,Mn,K,Na SM4500 Total & Dissolved Silica	9060A TOC
ER4988	Trip Blank	01/20/20	1139	HST	4	X			X							X					
ER4989	RHMW08	01/20/20	1235	HST	16	X			X		X*	X	X	X	X	X	X	X	X		X

*Analyze TPH w/SGT only if TPH-d/o detected.

TPH-d/o & PAHs need liquid-liquid extraction.

Shuttle Temperature:

Turnaround Requested: Check one
☐ Standard 2-3 wk ☒ One week ☐ 3 days ☐ 24/48 Hrs. ☐ Other:

Sample Disposal:
☐ Return to client ☒ Disposal by Lab (30-day retention)

Relinquished by sampler: AECOM	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
Estelle BONNY	01/20/20	1445					
Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received at lab by:
					1-21-20	1000	

See page 2 for Container Preservative and Sampling Information

COOLER RECEIPT FORM **ARF: 91264**

1) Project: 60481245 CIV0053 Red Hill Fuel Storage Date Received: 01/21/20

2) Coolers: Number of Coolers: 0

3) YES Were custody seals present and intact?
How many? 0 Name/Date on seal? _____

4) YES Was there a shipping slip? Carrier name: FEDEX

5) Type of packing in cooler: __ bubble wrap __ popcorn __ foam __ plastic bags __ other
__ wet ice __ dry ice __ no ice __ gel ice

6) YES Were cooler temperatures acceptable?

7) Serial number of certified NIST thermometer use IR CF: -0.3°C

8) Cooler temp(s): In °C. Thermometer Temp / Corrected Temp
1: 1.9/1.6 2: 2.8/2.5 3: 0.7/0.4 4: 2.2/1.9 5: 0.8/0.5 6: _____
7: _____ 8: _____ 9: _____ 10: _____ 11: _____ 12: _____

Chain of custody:

9) YES Was a chain of custody received?

10) YES Were the custody papers complete/signed in the appropriate places?

Sample Labels:

11) YES Were all sample labels complete (sample ID, date/time of sampling, etc.)?

12) YES Did all container labels agree with custody papers?

Sample Containers:

13) YES Were all containers sealed in separate bags?

14) YES Did all containers arrive in good condition (unbroken, no leakage, no cracked/broken lids)?

15) YES Were correct containers and preservatives used for the tests indicated?

16) YES Was a sufficient amount of sample sent for tests indicated?

17) NA Were bubbles present in volatile samples?
If yes, the following were received with air bubbles:
Larger than a pea: _____
Smaller than a pea: _____

Preservation Hold time:

18) Yes Was a sufficient amount of holding time remaining to analyze the samples?

19) Yes Was the pH taken of all non-VOA preserved samples and written on the sample container?

20) Yes Was the pH of acid preserved non-VOA samples < 2?

21) NA Was the pH of sodium hydroxide preserved samples for Cyanide > 12 and Sulfide >9?

22) NO Were unpreserved VOA Vials received?

23) NA Are unpreserved VOA vials noted in the ADD TEST FIELD on the ARF?
pH strip lot number: HC982588
Lab notified if pH was not adequate: _____

Notes/Deficiencies:
Container missing for Ferrous Iron, sample ID ERH976. COC says we will receive it tomorrow.

Personnel receiving samples: ZG Second reviewer: _____
Personnel labeling samples: AD
Project manager notified: ZG Date/Time of notification 01/21/20
Name of client notified: _____ Date/Time of notification _____

Revision: 22, November 5, 2013

SAMPLE RESULTS

EPA 8015B TPH LIQ-LIQ

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91264

Sample ID: ERH974

APPL ID: BA06136

Sample Collection Date: 01/20/20

QCG: #DOC53-200122A-249517

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8015B-eL	DIESEL (C10-C24)	180 ++	40.0	25.00	13.07	ug/L	01/22/20	01/25/20
EPA 8015B-eL	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	01/22/20	01/25/20
EPA 8015B-eL	SURROGATE: OCTACOSANE (S)	153 #	60-142			%	01/22/20	01/25/20
EPA 8015B-eL	SURROGATE: ORTHO-TERPHENYL (S)	96.6	56-125			%	01/22/20	01/25/20

= Recovery (or RPD) is outside QC limits.
++(T6) The analyst has noted that the chromatogram of this sample is mainly a match to hydrocarbons within the range of diesel fuel.

Quant Method:	DOC0111.M
Run #:	111129
Instrument:	Apollo
Sequence:	200111
Dilution Factor:	1
Initials:	SSE

Printed: 01/28/20 12:38:13 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8015B TPH WATER L-L SGC

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91264

Sample ID: ERH974

APPL ID: BA06136

Sample Collection Date: 01/20/20

QCG: #DOC53-200122A1-249520

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8015B-eL	DIESEL (C10-C24)	39 J	40.0	25.00	13.07	ug/L	01/22/20	01/27/20
EPA 8015B-eL	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	01/22/20	01/27/20
EPA 8015B-eL	SURROGATE: (R) DECANOIC ACID (S)	0.0	0-1			%	01/22/20	01/27/20
EPA 8015B-eL	SURROGATE: OCTACOSANE (S)	99.1	60-142			%	01/22/20	01/27/20
EPA 8015B-eL	SURROGATE: ORTHO-TERPHENYL (S)	109	56-125			%	01/22/20	01/27/20

J = Estimated value.

Quant Method: DOC0127.M
Run #: 127019
Instrument: Apollo
Sequence: 200127
Dilution Factor: 1
Initials: SSE

Printed: 01/28/20 12:52:19 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8015B TPH LIQ-LIQ

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

Attn: Margie Pascua

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91264

Sample ID: ERH976

APPL ID: BA06138

Sample Collection Date: 01/20/20

QCG: #DOC53-200122A-249517

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8015B-eL	DIESEL (C10-C24)	1500 ++	40.0	25.00	13.07	ug/L	01/22/20	01/25/20
EPA 8015B-eL	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	01/22/20	01/25/20
EPA 8015B-eL	SURROGATE: OCTACOSANE (S)	147 #	60-142			%	01/22/20	01/25/20
EPA 8015B-eL	SURROGATE: ORTHO-TERPHENYL (S)	102	56-125			%	01/22/20	01/25/20

= Recovery (or RPD) is outside QC limits.
++(T6) The analyst has noted that the chromatogram of this sample is mainly a match to hydrocarbons within the range of diesel fuel.

Quant Method: DOC0111.M
Run #: 111130
Instrument: Apollo
Sequence: 200111
Dilution Factor: 1
Initials: SSE

Printed: 01/28/20 12:38:13 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8015B TPH WATER L-L SGC

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91264

Sample ID: ERH976

APPL ID: BA06138

Sample Collection Date: 01/20/20

QCG: #DOC53-200122A1-249520

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8015B-eL	DIESEL (C10-C24)	280 ++	40.0	25.00	13.07	ug/L	01/22/20	01/27/20
EPA 8015B-eL	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	01/22/20	01/27/20
EPA 8015B-eL	SURROGATE: (R) DECANOIC ACID (S)	0.0	0-1			%	01/22/20	01/27/20
EPA 8015B-eL	SURROGATE: OCTACOSANE (S)	102	60-142			%	01/22/20	01/27/20
EPA 8015B-eL	SURROGATE: ORTHO-TERPHENYL (S)	109	56-125			%	01/22/20	01/27/20

++(T6) The analyst has noted that the chromatogram of this sample is mainly a match to hydrocarbons within the range of diesel fuel.

Quant Method: DOC0127.M
Run #: 127020
Instrument: Apollo
Sequence: 200127
Dilution Factor: 1
Initials: SSE

Printed: 01/28/20 12:52:20 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8015B TPH WATER L-L SGC

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91264

Sample ID: ERH977

APPL ID: BA06139

Sample Collection Date: 01/20/20

QCG: #DOC53-200122A1-249520

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8015B-eL	DIESEL (C10-C24)	360 ++	40.0	25.00	13.07	ug/L	01/22/20	01/27/20
EPA 8015B-eL	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	01/22/20	01/27/20
EPA 8015B-eL	SURROGATE: (R) DECANOIC ACID (S)	0.0	0-1			%	01/22/20	01/27/20
EPA 8015B-eL	SURROGATE: OCTACOSANE (S)	102	60-142			%	01/22/20	01/27/20
EPA 8015B-eL	SURROGATE: ORTHO-TERPHENYL (S)	112	56-125			%	01/22/20	01/27/20

++(T6) The analyst has noted that the chromatogram of this sample is mainly a match to hydrocarbons within the range of diesel fuel.

Quant Method: DOC0127.M
Run #: 127021
Instrument: Apollo
Sequence: 200127
Dilution Factor: 1
Initials: SSE

Printed: 01/28/20 12:52:20 PM

APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8015B TPH LIQ-LIQ

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

Attn: Margie Pascua

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91264

Sample ID: ERH977

APPL ID: BA06139

Sample Collection Date: 01/20/20

QCG: #DOC53-200122A-249517

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8015B-eL	DIESEL (C10-C24)	1700 ++	40.0	25.00	13.07	ug/L	01/22/20	01/25/20
EPA 8015B-eL	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	01/22/20	01/25/20
EPA 8015B-eL	SURROGATE: OCTACOSANE (S)	132	60-142			%	01/22/20	01/25/20
EPA 8015B-eL	SURROGATE: ORTHO-TERPHENYL (S)	101	56-125			%	01/22/20	01/25/20

++(T6) The analyst has noted that the chromatogram of this sample is mainly a match to hydrocarbons within the range of diesel fuel.

Quant Method: DOC0111.M
Run #: 111131
Instrument: Apollo
Sequence: 200111
Dilution Factor: 1
Initials: SSE

Printed: 01/28/20 12:38:13 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8015B TPH LIQ-LIQ

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

Sample ID: ERH985

Sample Collection Date: 01/20/20

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 91264

APPL ID: BA06141

QCG: #DOC53-200122A-249517

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8015B-eL	DIESEL (C10-C24)	25.00 U	40.0	25.00	13.07	ug/L	01/22/20	01/25/20
EPA 8015B-eL	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	01/22/20	01/25/20
EPA 8015B-eL	SURROGATE: OCTACOSANE (S)	161 #	60-142			%	01/22/20	01/25/20
EPA 8015B-eL	SURROGATE: ORTHO-TERPHENYL (S)	96.3	56-125			%	01/22/20	01/25/20

= Recovery (or RPD) is outside QC limits.

Quant Method: DOC0111.M
Run #: 111132
Instrument: Apollo
Sequence: 200111
Dilution Factor: 1
Initials: SSE

Printed: 01/28/20 12:38:14 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8015B TPH LIQ-LIQ

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

Attn: Margie Pascua
Project: 60571032 CV18F0126 Red Hill Fuel Storage
Sample ID: ERH989
Sample Collection Date: 01/20/20

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 91264
APPL ID: BA06143
QCG: #DOC53-200122A-249517

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8015B-eL	DIESEL (C10-C24)	25.00 U	40.0	25.00	13.07	ug/L	01/22/20	01/25/20
EPA 8015B-eL	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	01/22/20	01/25/20
EPA 8015B-eL	SURROGATE: OCTACOSANE (S)	183 #	60-142			%	01/22/20	01/25/20
EPA 8015B-eL	SURROGATE: ORTHO-TERPHENYL (S)	96.6	56-125			%	01/22/20	01/25/20

= Recovery (or RPD) is outside QC limits.

Quant Method: DOC0111.M
Run #: 111133
Instrument: Apollo
Sequence: 200111
Dilution Factor: 1
Initials: SSE

Printed: 01/28/20 12:38:14 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8270D SIM LIQ-LIQ

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91264

Sample ID: ERH974

APPL ID: BA06136

Sample Collection Date: 01/20/20

QCG: #SIM53-200122A-249461

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8270D-SIM	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.04	ug/L	01/22/20	01/24/20
8270D-SIM	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.04	ug/L	01/22/20	01/24/20
8270D-SIM	NAPHTHALENE	0.10 U	0.2	0.10	0.04	ug/L	01/22/20	01/24/20
8270D-SIM	SURROGATE: 2-METHYLNAPHTHALEN	87.7	39-114			%	01/22/20	01/24/20
8270D-SIM	SURROGATE: FLUORANTHENE-D10 (S	88.1	58-120			%	01/22/20	01/24/20

Quant Method: L0113PCP.M
Run #: 0113L154
Instrument: Linus
Sequence: L200113P
Dilution Factor: 1
Initials: JPR

Printed: 01/27/20 12:44:32 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8270D SIM LIQ-LIQ

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91264

Sample ID: ERH976

APPL ID: BA06138

Sample Collection Date: 01/20/20

QCG: #SIM53-200122A-249461

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8270D-SIM	1-METHYLNAPHTHALENE	23	0.2	0.10	0.04	ug/L	01/22/20	01/24/20
8270D-SIM	2-METHYLNAPHTHALENE	23	0.2	0.10	0.04	ug/L	01/22/20	01/24/20
8270D-SIM	NAPHTHALENE	52	0.2	0.10	0.04	ug/L	01/22/20	01/24/20
8270D-SIM	SURROGATE: 2-METHYLNAPHTHALEN	84.0	39-114			%	01/22/20	01/24/20
8270D-SIM	SURROGATE: FLUORANTHENE-D10 (S	79.8	58-120			%	01/22/20	01/24/20

Quant Method: L0113PCP.M
Run #: 0113L155
Instrument: Linus
Sequence: L200113P
Dilution Factor: 1
Initials: JPR

Printed: 01/27/20 12:44:33 PM

APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8270D SIM LIQ-LIQ

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91264

Sample ID: ERH977

APPL ID: BA06139

Sample Collection Date: 01/20/20

QCG: #SIM53-200122A-249461

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8270D-SIM	1-METHYLNAPHTHALENE	24	0.2	0.10	0.04	ug/L	01/22/20	01/24/20
8270D-SIM	2-METHYLNAPHTHALENE	23	0.2	0.10	0.04	ug/L	01/22/20	01/24/20
8270D-SIM	NAPHTHALENE	57	0.2	0.10	0.04	ug/L	01/22/20	01/24/20
8270D-SIM	SURROGATE: 2-METHYLNAPHTHALEN	93.1	39-114			%	01/22/20	01/24/20
8270D-SIM	SURROGATE: FLUORANTHENE-D10 (S	90.1	58-120			%	01/22/20	01/24/20

Quant Method: L0113PCP.M
Run #: 0113L156
Instrument: Linus
Sequence: L200113P
Dilution Factor: 1
Initials: JPR

Printed: 01/27/20 12:44:33 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8270D SIM LIQ-LIQ

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91264

Sample ID: ERH985

APPL ID: BA06141

Sample Collection Date: 01/20/20

QCG: #SIM53-200122A-249461

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8270D-SIM	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.04	ug/L	01/22/20	01/24/20
8270D-SIM	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.04	ug/L	01/22/20	01/24/20
8270D-SIM	NAPHTHALENE	0.10 U	0.2	0.10	0.04	ug/L	01/22/20	01/24/20
8270D-SIM	SURROGATE: 2-METHYLNAPHTHALEN	86.4	39-114			%	01/22/20	01/24/20
8270D-SIM	SURROGATE: FLUORANTHENE-D10 (S	87.2	58-120			%	01/22/20	01/24/20

Quant Method: L0113PCP.M
Run #: 0113L157
Instrument: Linus
Sequence: L200113P
Dilution Factor: 1
Initials: JPR

Printed: 01/27/20 12:44:33 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8270D SIM LIQ-LIQ

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua
Project: 60571032 CV18F0126 Red Hill Fuel Storage
Sample ID: ERH989
Sample Collection Date: 01/20/20

ARF: 91264
APPL ID: BA06143
QCG: #SIM53-200122A-249461

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8270D-SIM	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.04	ug/L	01/22/20	01/24/20
8270D-SIM	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.04	ug/L	01/22/20	01/24/20
8270D-SIM	NAPHTHALENE	0.10 U	0.2	0.10	0.04	ug/L	01/22/20	01/24/20
8270D-SIM	SURROGATE: 2-METHYLNAPHTHALEN	78.2	39-114			%	01/22/20	01/24/20
8270D-SIM	SURROGATE: FLUORANTHENE-D10 (S	87.6	58-120			%	01/22/20	01/24/20

Quant Method: L0113PCP.M
Run #: 0113L158
Instrument: Linus
Sequence: L200113P
Dilution Factor: 1
Initials: JPR

Printed: 01/27/20 12:44:33 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8270D WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

Attn: Margie Pascua
Project: 60571032 CV18F0126 Red Hill Fuel Storage
Sample ID: ERH974
Sample Collection Date: 01/20/20

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 91264
APPL ID: BA06136
QCG: #87DC5-200122A-249451

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	01/22/20	01/24/20
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHENO	105	43-140			%	01/22/20	01/24/20
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	91.0	44-119			%	01/22/20	01/24/20
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	97.6	19-119			%	01/22/20	01/24/20
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	106	44-120			%	01/22/20	01/24/20
EPA 8270D	SURROGATE: PHENOL-D6 (S)	104	10-115			%	01/22/20	01/24/20
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	113	50-134			%	01/22/20	01/24/20

Quant Method: Y1219.M
Run #: 1219Y223
Instrument: Yoda
Sequence: Y191219
Dilution Factor: 1
Initials: JPR

Printed: 01/27/20 8:26:05 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8270D WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91264

Sample ID: ERH976

APPL ID: BA06138

Sample Collection Date: 01/20/20

QCG: #87DC5-200122A-249451

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	01/22/20	01/24/20
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHENO	102	43-140			%	01/22/20	01/24/20
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	84.0	44-119			%	01/22/20	01/24/20
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	80.8	19-119			%	01/22/20	01/24/20
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	96.9	44-120			%	01/22/20	01/24/20
EPA 8270D	SURROGATE: PHENOL-D6 (S)	45.7	10-115			%	01/22/20	01/24/20
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	85.2	50-134			%	01/22/20	01/24/20

Quant Method: Y1219.M
Run #: 1219Y224
Instrument: Yoda
Sequence: Y191219
Dilution Factor: 1
Initials: JPR

Printed: 01/27/20 8:26:06 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8270D WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91264

Sample ID: ERH977

APPL ID: BA06139

Sample Collection Date: 01/20/20

QCG: #87DC5-200122A-249451

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	01/22/20	01/24/20
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHENO	98.3	43-140			%	01/22/20	01/24/20
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	81.6	44-119			%	01/22/20	01/24/20
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	85.3	19-119			%	01/22/20	01/24/20
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	95.9	44-120			%	01/22/20	01/24/20
EPA 8270D	SURROGATE: PHENOL-D6 (S)	89.5	10-115			%	01/22/20	01/24/20
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	84.6	50-134			%	01/22/20	01/24/20

Quant Method: Y1219.M
Run #: 1219Y225
Instrument: Yoda
Sequence: Y191219
Dilution Factor: 1
Initials: JPR

Printed: 01/27/20 8:26:06 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8270D WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

Sample ID: ERH985

Sample Collection Date: 01/20/20

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 91264

APPL ID: BA06141

QCG: #87DC5-200122A-249451

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	01/22/20	01/24/20
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHENO	97.2	43-140			%	01/22/20	01/24/20
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	85.0	44-119			%	01/22/20	01/24/20
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	93.9	19-119			%	01/22/20	01/24/20
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	101	44-120			%	01/22/20	01/24/20
EPA 8270D	SURROGATE: PHENOL-D6 (S)	98.6	10-115			%	01/22/20	01/24/20
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	109	50-134			%	01/22/20	01/24/20

Quant Method: Y1219.M
Run #: 1219Y226
Instrument: Yoda
Sequence: Y191219
Dilution Factor: 1
Initials: JPR

Printed: 01/27/20 8:26:06 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8270D WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

Sample ID: ERH989

Sample Collection Date: 01/20/20

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 91264

APPL ID: BA06143

QCG: #87DC5-200122A-249451

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	01/22/20	01/24/20
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHENO	99.2	43-140			%	01/22/20	01/24/20
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	81.0	44-119			%	01/22/20	01/24/20
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	79.8	19-119			%	01/22/20	01/24/20
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	87.6	44-120			%	01/22/20	01/24/20
EPA 8270D	SURROGATE: PHENOL-D6 (S)	86.3	10-115			%	01/22/20	01/24/20
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	115	50-134			%	01/22/20	01/24/20

Quant Method: Y1219.M
Run #: 1219Y227
Instrument: Yoda
Sequence: Y191219
Dilution Factor: 1
Initials: JPR

Printed: 01/27/20 8:26:06 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8270D MODIFIED WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

Sample ID: ERH974

Sample Collection Date: 01/20/20

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 91264

APPL ID: BA06136

QCG: #87DME-200124A-249453

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	2-(2-METHOXYETHOXY)-ETHANOL	80.0 U	100	80.0	40.0	ug/L	01/24/20	01/24/20

Quant Method: YMEE0122.M
Run #: 1219Y232
Instrument: Yoda
Sequence: Y191219
Dilution Factor: 1
Initials: JPR

Printed: 01/27/20 9:06:23 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8270D MODIFIED WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

Attn: Margie Pascua
Project: 60571032 CV18F0126 Red Hill Fuel Storage
Sample ID: ERH976
Sample Collection Date: 01/20/20

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 91264
APPL ID: BA06138
QCG: #87DME-200124A-249453

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	2-(2-METHOXYETHOXY)-ETHANOL	80.0 U	100	80.0	40.0	ug/L	01/24/20	01/24/20

Quant Method:	YMEE0122.M
Run #:	1219Y233
Instrument:	Yoda
Sequence:	Y191219
Dilution Factor:	1
Initials:	JPR

Printed: 01/27/20 9:06:23 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8270D MODIFIED WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua
Project: 60571032 CV18F0126 Red Hill Fuel Storage
Sample ID: ERH977
Sample Collection Date: 01/20/20

ARF: 91264
APPL ID: BA06139
QCG: #87DME-200124A-249453

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	2-(2-METHOXYETHOXY)-ETHANOL	80.0 U	100	80.0	40.0	ug/L	01/24/20	01/24/20

Quant Method: YMEE0122.M
Run #: 1219Y234
Instrument: Yoda
Sequence: Y191219
Dilution Factor: 1
Initials: JPR

Printed: 01/27/20 9:06:23 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8270D MODIFIED WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

Sample ID: ERH985

Sample Collection Date: 01/20/20

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 91264

APPL ID: BA06141

QCG: #87DME-200124A-249453

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	2-(2-METHOXYETHOXY)-ETHANOL	80.0 U	100	80.0	40.0	ug/L	01/24/20	01/24/20

Quant Method:	YMEE0122.M
Run #:	1219Y235
Instrument:	Yoda
Sequence:	Y191219
Dilution Factor:	1
Initials:	JPR

Printed: 01/27/20 9:06:23 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8270D MODIFIED WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

Attn: Margie Pascua
Project: 60571032 CV18F0126 Red Hill Fuel Storage
Sample ID: ERH989
Sample Collection Date: 01/20/20

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 91264
APPL ID: BA06143
QCG: #87DME-200124A-249453

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	2-(2-METHOXYETHOXY)-ETHANOL	80.0 U	100	80.0	40.0	ug/L	01/24/20	01/24/20

Quant Method:	YMEE0122.M
Run #:	1219Y236
Instrument:	Yoda
Sequence:	Y191219
Dilution Factor:	1
Initials:	JPR

Printed: 01/27/20 9:06:23 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91264

Sample ID: ERH973

APPL ID: BA06135

Sample Collection Date: 01/20/20

QCG: #86BTO-200121AL-249333

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.15	ug/L	01/21/20	01/21/20
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	01/21/20	01/21/20
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.15	ug/L	01/21/20	01/21/20
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.15	ug/L	01/21/20	01/21/20
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE-	101	81-118			%	01/21/20	01/21/20
EPA 8260B	SURROGATE: 4-BROMOFLUOROBENZ	89.3	85-114			%	01/21/20	01/21/20
EPA 8260B	SURROGATE: DIBROMOFLUOROMETH	107	80-119			%	01/21/20	01/21/20
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	95.5	89-112			%	01/21/20	01/21/20

Quant Method: L0121W.M
Run #: 0121L33
Instrument: Loki
Sequence: 200121
Dilution Factor: 1
Initials: CMO

Printed: 01/22/20 9:44:54 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91264

Sample ID: ERH974

APPL ID: BA06136

Sample Collection Date: 01/20/20

QCG: #86BTO-200121AL-249333

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.15	ug/L	01/21/20	01/21/20
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	01/21/20	01/21/20
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.15	ug/L	01/21/20	01/21/20
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.15	ug/L	01/21/20	01/21/20
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE-	105	81-118			%	01/21/20	01/21/20
EPA 8260B	SURROGATE: 4-BROMOFLUOROBENZ	92.3	85-114			%	01/21/20	01/21/20
EPA 8260B	SURROGATE: DIBROMOFLUOROMETH	110	80-119			%	01/21/20	01/21/20
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	99.2	89-112			%	01/21/20	01/21/20

Quant Method: L0121W.M
Run #: 0121L34
Instrument: Loki
Sequence: 200121
Dilution Factor: 1
Initials: CMO

Printed: 01/22/20 9:44:54 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91264

Sample ID: ERH975

APPL ID: BA06137

Sample Collection Date: 01/20/20

QCG: #86BTO-200121AL-249333

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.15	ug/L	01/21/20	01/21/20
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	01/21/20	01/21/20
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.15	ug/L	01/21/20	01/21/20
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.15	ug/L	01/21/20	01/21/20
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE-	107	81-118			%	01/21/20	01/21/20
EPA 8260B	SURROGATE: 4-BROMOFLUOROBENZ	93.8	85-114			%	01/21/20	01/21/20
EPA 8260B	SURROGATE: DIBROMOFLUOROMETH	111	80-119			%	01/21/20	01/21/20
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	102	89-112			%	01/21/20	01/21/20

Quant Method: L0121W.M
Run #: 0121L35
Instrument: Loki
Sequence: 200121
Dilution Factor: 1
Initials: CMO

Printed: 01/22/20 9:44:54 AM

APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91264

Sample ID: ERH976

APPL ID: BA06138

Sample Collection Date: 01/20/20

QCG: #86BTO-200121AL-249333

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.15	ug/L	01/21/20	01/21/20
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	01/21/20	01/21/20
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.15	ug/L	01/21/20	01/21/20
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.15	ug/L	01/21/20	01/21/20
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE-	104	81-118			%	01/21/20	01/21/20
EPA 8260B	SURROGATE: 4-BROMOFLUOROBENZ	90.0	85-114			%	01/21/20	01/21/20
EPA 8260B	SURROGATE: DIBROMOFLUOROMETH	102	80-119			%	01/21/20	01/21/20
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	90.8	89-112			%	01/21/20	01/21/20

Quant Method: L0121W.M
Run #: 0121L36
Instrument: Loki
Sequence: 200121
Dilution Factor: 1
Initials: CMO

Printed: 01/22/20 9:44:54 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91264

Sample ID: ERH977

APPL ID: BA06139

Sample Collection Date: 01/20/20

QCG: #86BTO-200121AL-249333

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.15	ug/L	01/22/20	01/22/20
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	01/22/20	01/22/20
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.15	ug/L	01/22/20	01/22/20
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.15	ug/L	01/22/20	01/22/20
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE-	97.4	81-118			%	01/22/20	01/22/20
EPA 8260B	SURROGATE: 4-BROMOFLUOROBENZ	93.7	85-114			%	01/22/20	01/22/20
EPA 8260B	SURROGATE: DIBROMOFLUOROMETH	99.5	80-119			%	01/22/20	01/22/20
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	91.4	89-112			%	01/22/20	01/22/20

Quant Method: L0121W.M
Run #: 0121L37
Instrument: Loki
Sequence: 200121
Dilution Factor: 1
Initials: CMO

Printed: 01/22/20 9:44:54 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91264

Sample ID: ERH984

APPL ID: BA06140

Sample Collection Date: 01/20/20

QCG: #86BTO-200121AL-249333

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.15	ug/L	01/22/20	01/22/20
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	01/22/20	01/22/20
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.15	ug/L	01/22/20	01/22/20
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.15	ug/L	01/22/20	01/22/20
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE-	98.8	81-118			%	01/22/20	01/22/20
EPA 8260B	SURROGATE: 4-BROMOFLUOROBENZ	91.1	85-114			%	01/22/20	01/22/20
EPA 8260B	SURROGATE: DIBROMOFLUOROMETH	102	80-119			%	01/22/20	01/22/20
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	97.3	89-112			%	01/22/20	01/22/20

Quant Method: L0121W.M
Run #: 0121L38
Instrument: Loki
Sequence: 200121
Dilution Factor: 1
Initials: CMO

Printed: 01/22/20 9:44:54 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91264

Sample ID: ERH985

APPL ID: BA06141

Sample Collection Date: 01/20/20

QCG: #86BTO-200121AL-249333

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.15	ug/L	01/22/20	01/22/20
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	01/22/20	01/22/20
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.15	ug/L	01/22/20	01/22/20
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.15	ug/L	01/22/20	01/22/20
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE-	102	81-118			%	01/22/20	01/22/20
EPA 8260B	SURROGATE: 4-BROMOFLUOROBENZ	89.6	85-114			%	01/22/20	01/22/20
EPA 8260B	SURROGATE: DIBROMOFLUOROMETH	104	80-119			%	01/22/20	01/22/20
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	96.2	89-112			%	01/22/20	01/22/20

Quant Method: L0121W.M
Run #: 0121L39
Instrument: Loki
Sequence: 200121
Dilution Factor: 1
Initials: CMO

Printed: 01/22/20 9:44:54 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91264

Sample ID: ERH988

APPL ID: BA06142

Sample Collection Date: 01/20/20

QCG: #86BTO-200121AL-249333

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.15	ug/L	01/22/20	01/22/20
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	01/22/20	01/22/20
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.15	ug/L	01/22/20	01/22/20
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.15	ug/L	01/22/20	01/22/20
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE-	101	81-118			%	01/22/20	01/22/20
EPA 8260B	SURROGATE: 4-BROMOFLUOROBENZ	94.6	85-114			%	01/22/20	01/22/20
EPA 8260B	SURROGATE: DIBROMOFLUOROMETH	108	80-119			%	01/22/20	01/22/20
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	99.2	89-112			%	01/22/20	01/22/20

Quant Method: L0121W.M
Run #: 0121L40
Instrument: Loki
Sequence: 200121
Dilution Factor: 1
Initials: CMO

Printed: 01/22/20 9:44:54 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91264

Sample ID: ERH989

APPL ID: BA06143

Sample Collection Date: 01/20/20

QCG: #86BTO-200121AL-249333

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.15	ug/L	01/22/20	01/22/20
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	01/22/20	01/22/20
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.15	ug/L	01/22/20	01/22/20
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.15	ug/L	01/22/20	01/22/20
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE-	98.8	81-118			%	01/22/20	01/22/20
EPA 8260B	SURROGATE: 4-BROMOFLUOROBENZ	89.9	85-114			%	01/22/20	01/22/20
EPA 8260B	SURROGATE: DIBROMOFLUOROMETH	100	80-119			%	01/22/20	01/22/20
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	95.7	89-112			%	01/22/20	01/22/20

Quant Method: L0121W.M
Run #: 0121L41
Instrument: Loki
Sequence: 200121
Dilution Factor: 1
Initials: CMO

Printed: 01/22/20 9:44:54 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91264

Sample ID: ERH973

APPL ID: BA06135

Sample Collection Date: 01/20/20

QCG: #GRO86-200121AL-249343

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	01/21/20	01/21/20
EPA 8260B	SURROGATE: 4-BROMOFLUOROBENZ	89.3	85-114			%	01/21/20	01/21/20

Quant Method: LGAS0121.M
Run #: 0121L33
Instrument: Loki
Sequence: 200121
Dilution Factor: 1
Initials: CMO

Printed: 01/22/20 12:06:00 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91264

Sample ID: ERH974

APPL ID: BA06136

Sample Collection Date: 01/20/20

QCG: #GRO86-200121AL-249343

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	01/21/20	01/21/20
EPA 8260B	SURROGATE: 4-BROMOFLUOROBENZ	92.3	85-114			%	01/21/20	01/21/20

Quant Method: LGAS0121.M
Run #: 0121L34
Instrument: Loki
Sequence: 200121
Dilution Factor: 1
Initials: CMO

Printed: 01/22/20 12:06:00 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91264

Sample ID: ERH975

APPL ID: BA06137

Sample Collection Date: 01/20/20

QCG: #GRO86-200121AL-249343

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	01/21/20	01/21/20
EPA 8260B	SURROGATE: 4-BROMOFLUOROBENZ	93.8	85-114			%	01/21/20	01/21/20

Quant Method: LGAS0121.M
Run #: 0121L35
Instrument: Loki
Sequence: 200121
Dilution Factor: 1
Initials: CMO

Printed: 01/22/20 12:06:00 PM

APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91264

Sample ID: ERH976

APPL ID: BA06138

Sample Collection Date: 01/20/20

QCG: #GRO86-200121AL-249343

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	58 ++	20	18.0	8.6	ug/L	01/21/20	01/21/20
EPA 8260B	SURROGATE: 4-BROMOFLUOROBENZ	90.0	85-114			%	01/21/20	01/21/20

++(G3) The analyst has noted that the chromatogram of this sample includes higher boiling hydrocarbons.

Quant Method: LGAS0121.M
Run #: 0121L36
Instrument: Loki
Sequence: 200121
Dilution Factor: 1
Initials: CMO

Printed: 01/22/20 12:06:00 PM

APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91264

Sample ID: ERH977

APPL ID: BA06139

Sample Collection Date: 01/20/20

QCG: #GRO86-200121AL-249343

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	49 ++	20	18.0	8.6	ug/L	01/22/20	01/22/20
EPA 8260B	SURROGATE: 4-BROMOFLUOROBENZ	93.7	85-114			%	01/22/20	01/22/20

++(G3) The analyst has noted that the chromatogram of this sample includes higher boiling hydrocarbons.

Quant Method:	LGAS0121.M
Run #:	0121L37
Instrument:	Loki
Sequence:	200121
Dilution Factor:	1
Initials:	CMO

Printed: 01/22/20 12:06:00 PM

APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91264

Sample ID: ERH984

APPL ID: BA06140

Sample Collection Date: 01/20/20

QCG: #GRO86-200121AL-249343

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	01/22/20	01/22/20
EPA 8260B	SURROGATE: 4-BROMOFLUOROBENZ	91.1	85-114			%	01/22/20	01/22/20

Quant Method: LGAS0121.M
Run #: 0121L38
Instrument: Loki
Sequence: 200121
Dilution Factor: 1
Initials: CMO

Printed: 01/22/20 12:06:00 PM

APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91264

Sample ID: ERH985

APPL ID: BA06141

Sample Collection Date: 01/20/20

QCG: #GRO86-200121AL-249343

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	01/22/20	01/22/20
EPA 8260B	SURROGATE: 4-BROMOFLUOROBENZ	89.6	85-114			%	01/22/20	01/22/20

Quant Method: LGAS0121.M
Run #: 0121L39
Instrument: Loki
Sequence: 200121
Dilution Factor: 1
Initials: CMO

Printed: 01/22/20 12:06:00 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91264

Sample ID: ERH988

APPL ID: BA06142

Sample Collection Date: 01/20/20

QCG: #GRO86-200121AL-249343

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	01/22/20	01/22/20
EPA 8260B	SURROGATE: 4-BROMOFLUOROBENZ	94.6	85-114			%	01/22/20	01/22/20

Quant Method: LGAS0121.M
Run #: 0121L40
Instrument: Loki
Sequence: 200121
Dilution Factor: 1
Initials: CMO

Printed: 01/22/20 12:06:00 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

Sample ID: ERH989

Sample Collection Date: 01/20/20

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 91264

APPL ID: BA06143

QCG: #GRO86-200121AL-249343

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	01/22/20	01/22/20
EPA 8260B	SURROGATE: 4-BROMOFLUOROBENZ	89.9	85-114			%	01/22/20	01/22/20

Quant Method: LGAS0121.M
Run #: 0121L41
Instrument: Loki
Sequence: 200121
Dilution Factor: 1
Initials: CMO

Printed: 01/22/20 12:06:00 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

METHANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

Sample ID: ERH973

Sample Collection Date: 01/20/20

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 91264

APPL ID: BA06135

QCG: #RSKME-200123A-249407

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	1.00 U	5.0	1.00	0.25	ug/L	01/23/20	01/23/20

Quant Method: RSK1002.M
Run #: 0123R06
Instrument: Rocky
Sequence: 191002
Dilution Factor: 1
Initials: GAG

Printed: 01/24/20 9:12:50 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

METHANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

Sample ID: ERH974

Sample Collection Date: 01/20/20

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 91264

APPL ID: BA06136

QCG: #RSKME-200123A-249407

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	230	5.0	1.00	0.25	ug/L	01/23/20	01/23/20

Quant Method:	RSK1002.M
Run #:	0123R07
Instrument:	Rocky
Sequence:	191002
Dilution Factor:	1
Initials:	GAG

Printed: 01/24/20 9:12:50 AM

APPL-F1-SC-NoMC-REG MDLs-DOD

METHANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

Attn: Margie Pascua
Project: 60571032 CV18F0126 Red Hill Fuel Storage
Sample ID: ERH975
Sample Collection Date: 01/20/20

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 91264
APPL ID: BA06137
QCG: #RSKME-200123A-249407

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	1.00 U	5.0	1.00	0.25	ug/L	01/23/20	01/23/20

Quant Method: RSK1002.M
Run #: 0123R08
Instrument: Rocky
Sequence: 191002
Dilution Factor: 1
Initials: GAG

Printed: 01/24/20 9:12:50 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

METHANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

Attn: Margie Pascua
Project: 60571032 CV18F0126 Red Hill Fuel Storage
Sample ID: ERH976
Sample Collection Date: 01/20/20

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 91264
APPL ID: BA06138
QCG: #RSKME-200123A-249407

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	3700 E	5.0	1.00	0.25	ug/L	01/23/20	01/23/20

E = The reported value exceeds linear range.

Quant Method:	RSK1002.M
Run #:	0123R09
Instrument:	Rocky
Sequence:	191002
Dilution Factor:	1
Initials:	GAG

Printed: 01/24/20 9:12:50 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

METHANE - Dilution

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91264

Sample ID: ERH976

APPL ID: BA06138

Sample Collection Date: 01/20/20

QCG: #RSKME-200123A-249407

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	8300	50.0	10.00	2.50	ug/L	01/23/20	01/23/20

Quant Method: RSK1002.M
Run #: 0123R11
Instrument: Rocky
Sequence: 191002
Dilution Factor: 10
Initials: GAG

Printed: 01/24/20 9:12:50 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

METHANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

Attn: Margie Pascua
Project: 60571032 CV18F0126 Red Hill Fuel Storage
Sample ID: ERH984
Sample Collection Date: 01/20/20

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 91264
APPL ID: BA06140
QCG: #RSKME-200123A-249407

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	1.00 U	5.0	1.00	0.25	ug/L	01/23/20	01/23/20

Quant Method:	RSK1002.M
Run #:	0123R12
Instrument:	Rocky
Sequence:	191002
Dilution Factor:	1
Initials:	GAG

Printed: 01/24/20 9:12:50 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

METHANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91264

Sample ID: ERH985

APPL ID: BA06141

Sample Collection Date: 01/20/20

QCG: #RSKME-200123A-249407

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	1.00 U	5.0	1.00	0.25	ug/L	01/23/20	01/23/20

Quant Method:	RSK1002.M
Run #:	0123R13
Instrument:	Rocky
Sequence:	191002
Dilution Factor:	1
Initials:	GAG

Printed: 01/24/20 9:12:50 AM

APPL-F1-SC-NoMC-REG MDLs-DOD

METHANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

Sample ID: ERH988

Sample Collection Date: 01/20/20

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 91264

APPL ID: BA06142

QCG: #RSKME-200123A-249407

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	1.00 U	5.0	1.00	0.25	ug/L	01/23/20	01/23/20

Quant Method:	RSK1002.M
Run #:	0123R14
Instrument:	Rocky
Sequence:	191002
Dilution Factor:	1
Initials:	GAG

Printed: 01/24/20 9:12:50 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

METHANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

Attn: Margie Pascua
Project: 60571032 CV18F0126 Red Hill Fuel Storage
Sample ID: ERH989
Sample Collection Date: 01/20/20

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 91264
APPL ID: BA06143
QCG: #RSKME-200123A-249407

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	1.00 U	5.0	1.00	0.25	ug/L	01/23/20	01/23/20

Quant Method:	RSK1002.M
Run #:	0123R15
Instrument:	Rocky
Sequence:	191002
Dilution Factor:	1
Initials:	GAG

Printed: 01/24/20 9:12:50 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Wet Lab Analysis

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

Sample ID: ERH974

Sample Collection Date: 01/20/20

APPL ID: BA06136

ARF: 91264

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
EPA 300.0	CHLORIDE	39.8	1.0	0.20	0.08	mg/L	1	01/25/20	01/25/20
EPA 300.0	SULFATE	5.0	1.0	0.20	0.09	mg/L	1	01/25/20	01/25/20
EPA 300.0	NITRATE	0.18 U	0.5	0.18	0.04	mg/L	1	01/21/20	01/21/20

Printed: 01/28/20 8:32:56 AM

APPL-F1-SC-NoMC-REG MDLs

Wet Lab Analysis

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

Sample ID: ERH976

APPL ID: BA06138

Sample Collection Date: 01/20/20

ARF: 91264

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
EPA 300.0	CHLORIDE	39.3	1.0	0.20	0.08	mg/L	1	01/25/20	01/25/20
EPA 300.0	SULFATE	1.9	1.0	0.20	0.09	mg/L	1	01/25/20	01/25/20
EPA 300.0	NITRATE	0.15 J	0.5	0.18	0.04	mg/L	1	01/21/20	01/21/20

J = Estimated value.

Printed: 01/28/20 8:32:56 AM

APPL-F1-SC-NoMC-REG MDLs

Wet Lab Analysis

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

Sample ID: ERH985

Sample Collection Date: 01/20/20

APPL ID: BA06141

ARF: 91264

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
EPA 300.0	CHLORIDE	359	10.0	2.00	0.80	mg/L	10	01/25/20	01/25/20
EPA 300.0	SULFATE	79.2	10.0	2.00	0.90	mg/L	10	01/25/20	01/25/20
EPA 300.0	NITRATE	2.0	0.5	0.18	0.04	mg/L	1	01/21/20	01/21/20

Printed: 01/28/20 8:32:56 AM

APPL-F1-SC-NoMC-REG MDLs

Wet Lab Analysis

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

Sample ID: ERH989

APPL ID: BA06143

Sample Collection Date: 01/20/20

ARF: 91264

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
EPA 300.0	CHLORIDE	131	10.0	2.00	0.80	mg/L	10	01/25/20	01/25/20
EPA 300.0	SULFATE	41.0	10.0	2.00	0.90	mg/L	10	01/25/20	01/25/20
EPA 300.0	NITRATE	5.6	0.5	0.18	0.04	mg/L	1	01/21/20	01/21/20

Printed: 01/28/20 8:32:56 AM

APPL-F1-SC-NoMC-REG MDLs

Wet Lab Analysis

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

Sample ID: ERH974

APPL ID: BA06136

Sample Collection Date: 01/20/20

ARF: 91264

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
EPA 353.2	NITRATE-NITRITE-N	0.090 U	0.10	0.090	0.028	mg/L	1	01/27/20	01/27/20
SM 2320B	BICARBONATE AS CACO3	80.8	2.0	1.70	0.85	mg/L	1	01/25/20	01/25/20
SM 2320B	CARBONATE AS CACO3	1.70 U	2.0	1.70	0.85	mg/L	1	01/25/20	01/25/20
SM 2320B	TOTAL ALKALINITY AS CACO	80.8	2.0	1.70	0.85	mg/L	1	01/25/20	01/25/20
SM3500FeB	FERROUS IRON	0.65 J	1.0	0.32	0.16	mg/L	1	01/22/20	01/22/20
SW846 9060A	TOTAL ORGANIC CARBON	0.77 J	0.93	0.350	0.130	mg/L	1	01/22/20	01/22/20

J = Estimated value.

Printed: 01/28/20 2:04:40 PM

APPL-F1-SC-NoMC-REG MDLs

Wet Lab Analysis

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

Sample ID: ERH976

APPL ID: BA06138

Sample Collection Date: 01/20/20

ARF: 91264

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
EPA 353.2	NITRATE-NITRITE-N	0.090 U	0.10	0.090	0.028	mg/L	1	01/27/20	01/27/20
SM 2320B	BICARBONATE AS CACO3	189	2.0	1.70	0.85	mg/L	1	01/25/20	01/25/20
SM 2320B	CARBONATE AS CACO3	1.70 U	2.0	1.70	0.85	mg/L	1	01/25/20	01/25/20
SM 2320B	TOTAL ALKALINITY AS CACO	189	2.0	1.70	0.85	mg/L	1	01/25/20	01/25/20
SM3500FeB	FERROUS IRON	2.2	1.0	0.32	0.16	mg/L	1	01/22/20	01/22/20
SW846 9060A	TOTAL ORGANIC CARBON	3.6	0.93	0.350	0.130	mg/L	1	01/22/20	01/23/20

Printed: 01/28/20 2:04:40 PM

APPL-F1-SC-NoMC-REG MDLs

Wet Lab Analysis

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

Sample ID: ERH985

APPL ID: BA06141

Sample Collection Date: 01/20/20

ARF: 91264

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
EPA 353.2	NITRATE-NITRITE-N	0.63	0.10	0.090	0.028	mg/L	1	01/27/20	01/27/20
SM 2320B	BICARBONATE AS CACO3	103	2.0	1.70	0.85	mg/L	1	01/25/20	01/25/20
SM 2320B	CARBONATE AS CACO3	1.70 U	2.0	1.70	0.85	mg/L	1	01/25/20	01/25/20
SM 2320B	TOTAL ALKALINITY AS CACO	103	2.0	1.70	0.85	mg/L	1	01/25/20	01/25/20
SM3500FeB	FERROUS IRON	0.32 U	1.0	0.32	0.16	mg/L	1	01/22/20	01/22/20
SW846 9060A	TOTAL ORGANIC CARBON	0.27 J	0.93	0.350	0.130	mg/L	1	01/22/20	01/23/20

J = Estimated value.

Printed: 01/28/20 2:04:40 PM

APPL-F1-SC-NoMC-REG MDLs

Wet Lab Analysis

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

Sample ID: ERH989

APPL ID: BA06143

Sample Collection Date: 01/20/20

ARF: 91264

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
EPA 353.2	NITRATE-NITRITE-N	1.3	0.10	0.090	0.028	mg/L	1	01/27/20	01/27/20
SM 2320B	BICARBONATE AS CACO3	93.8	2.0	1.70	0.85	mg/L	1	01/25/20	01/25/20
SM 2320B	CARBONATE AS CACO3	1.70 U	2.0	1.70	0.85	mg/L	1	01/25/20	01/25/20
SM 2320B	TOTAL ALKALINITY AS CACO	93.8	2.0	1.70	0.85	mg/L	1	01/25/20	01/25/20
SM3500FeB	FERROUS IRON	0.32 U	1.0	0.32	0.16	mg/L	1	01/22/20	01/22/20
SW846 9060A	TOTAL ORGANIC CARBON	0.73 J	0.93	0.350	0.130	mg/L	1	01/22/20	01/23/20

J = Estimated value.

Printed: 01/28/20 2:04:40 PM

APPL-F1-SC-NoMC-REG MDLs

QC FORMS

EPA 8015B-eLL

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 91264

Case No: 91264 Date Analyzed: 01/25/20

Matrix: WATER Instrument: Apollo

APPL ID.	Client Sample No.	SURROGATE: OCTACOSANE (S)			SURROGATE: ORTHO-TERPHENYL (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
200122A-BLK	Blank	60-142	213	#	56-125	101	
200122A-LCS	Lab Control Spike	60-142	123		56-125	92.8	
200122A-LCSD	Lab Control SpikeD	60-142	135		56-125	87.2	
BA06136	ERH974	60-142	153	#	56-125	96.6	
BA06138	ERH976	60-142	147	#	56-125	102	
BA06139	ERH977	60-142	132		56-125	101	
BA06141	ERH985	60-142	161	#	56-125	96.3	
BA06143	ERH989	60-142	183	#	56-125	96.6	

Comments: Batch: #DOC53-200122A

= Recovery outside of Control Limits on Sample.

EPA 8015B-eLL

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 91264

Case No: 91264 Date Analyzed: 01/27/20

Matrix: WATER Instrument: Apollo

APPL ID.	Client Sample No.	SURROGATE: (R) DECANOIC ACID (S)			SURROGATE: OCTACOSANE (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
200122A1-BLK	Blank	0-1	0.0		60-142	104	
200122A1-LCS	Lab Control Spike	0-1	0.0		60-142	101	
200122A1-LCSD	Lab Control SpikeD	0-1	0.0		60-142	101	
BA06136	ERH974	0-1	0.0		60-142	99.1	
BA06138	ERH976	0-1	0.0		60-142	102	
BA06139	ERH977	0-1	0.0		60-142	102	

Comments: Batch: #DOC53-200122A1

EPA 8015B-eLL

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 91264

Case No: 91264 Date Analyzed: 01/27/20

Matrix: WATER Instrument: Apollo

APPL ID.	Client Sample No.	SURROGATE: ORTHO-TERPHENYL (S)					
		Limits	Result	Qualifier	Limits	Result	Qualifier
200122A1-BLK	Blank	56-125	112				
200122A1-LCS	Lab Control Spike	56-125	94.8				
200122A1-LCSD	Lab Control SpikeD	56-125	94.3				
BA06136	ERH974	56-125	109				
BA06138	ERH976	56-125	109				
BA06139	ERH977	56-125	112				

Comments: Batch: #DOC53-200122A1

EPA 8015B-eL

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 91264

Case No: 91264 Date Analyzed: 01/25/20

Matrix: WATER Instrument: Apollo

Blank ID: 200122A-BLK Time Analyzed: 1249

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200122A-BLK	Blank	111126	01/25/20 1249
200122A-LCS	Lab Control Spike	111127	01/25/20 1309
200122A-LCSD	Lab Control SpikeD	111128	01/25/20 1329
BA06136	ERH974	111129	01/25/20 1349
BA06138	ERH976	111130	01/25/20 1408
BA06139	ERH977	111131	01/25/20 1428
BA06141	ERH985	111132	01/25/20 1448
BA06143	ERH989	111133	01/25/20 1508

Comments: Batch: #DOC53-200122A

EPA 8015B-eL

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 91264

Case No: 91264 Date Analyzed: 01/27/20

Matrix: WATER Instrument: Apollo

Blank ID: 200122A1-BLK Time Analyzed: 1650

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200122A1-BLK	Blank	127016	01/27/20 1650
200122A1-LCS	Lab Control Spike	127017	01/27/20 1709
200122A1-LCSD	Lab Control SpikeD	127018	01/27/20 1729
BA06136	ERH974	127019	01/27/20 1748
BA06138	ERH976	127020	01/27/20 1808
BA06139	ERH977	127021	01/27/20 1827

Comments: Batch: #DOC53-200122A1

Method Blank
EPA 8015B TPH WATER L-L SGC

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **200122W-06136 - 249520**
Batch ID: #DOC53-200122A1

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	DIESEL (C10-C24)	25.00 U	40.0	25.00	13.07	ug/L	01/22/20	01/27/20
BLANK	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	01/22/20	01/27/20
BLANK	SURROGATE: (R) DECANOIC AC	0.0	0-1			%	01/22/20	01/27/20
BLANK	SURROGATE: OCTACOSANE (S)	104	60-142			%	01/22/20	01/27/20
BLANK	SURROGATE: ORTHO-TERPHEN	112	56-125			%	01/22/20	01/27/20

Quant Method:DOC0127.M
Run #:127016
Instrument:Apollo
Sequence:200127
Initials:SSE

GC SC-Blank-REG MDLs-DOD
Printed: 01/28/20 12:52:24 PM

Method Blank

EPA 8015B TPH LIQ-LIQ

Blank Name/QCG: **200122W-06136 - 249517**
Batch ID: #DOC53-200122A

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	DIESEL (C10-C24)	25.00 U	40.0	25.00	13.07	ug/L	01/22/20	01/25/20
BLANK	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	01/22/20	01/25/20
BLANK	SURROGATE: OCTACOSANE (S)	213 #	60-142			%	01/22/20	01/25/20
BLANK	SURROGATE: ORTHO-TERPHEN	101	56-125			%	01/22/20	01/25/20

= Recovery (or RPD) is outside QC limits.

Quant Method:DOC0111.M
Run #:111126
Instrument:Apollo
Sequence:200111
Initials:SSE

GC SC-Blank-REG MDLs-DOD
Printed: 01/28/20 12:38:13 PM

EPA 8015B-eL

Form 4

LCS Summary

Lab Name: APPL, Inc. SDG No: 91264

Case No: 91264 Date Analyzed: 01/25/20

Matrix: WATER Instrument: Apollo

LCS ID: 200122A-LCS Time Analyzed: 1309

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200122A-BLK	Blank	111126	01/25/20 1249
200122A-LCS	Lab Control Spike	111127	01/25/20 1309
200122A-LCSD	Lab Control SpikeD	111128	01/25/20 1329
BA06136	ERH974	111129	01/25/20 1349
BA06138	ERH976	111130	01/25/20 1408
BA06139	ERH977	111131	01/25/20 1428
BA06141	ERH985	111132	01/25/20 1448
BA06143	ERH989	111133	01/25/20 1508

Comments: Batch: #DOC53-200122A

EPA 8015B-eL

Form 4

LCS Summary

Lab Name: APPL, Inc. SDG No: 91264

Case No: 91264 Date Analyzed: 01/27/20

Matrix: WATER Instrument: Apollo

LCS ID: 200122A1-LCS Time Analyzed: 1709

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200122A1-BLK	Blank	127016	01/27/20 1650
200122A1-LCS	Lab Control Spike	127017	01/27/20 1709
200122A1-LCSD	Lab Control SpikeD	127018	01/27/20 1729
BA06136	ERH974	127019	01/27/20 1748
BA06138	ERH976	127020	01/27/20 1808
BA06139	ERH977	127021	01/27/20 1827

Comments: Batch: #DOC53-200122A1

Laboratory Control Spike Recoveries

EPA 8015B TPH LIQ-LIQ

APPL ID: **200122W-06136 LCS - 249517**
Batch ID: #DOC53-200122A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
DIESEL (C10-C24)	1250	1160	1150	92.8	92.0	36-132	0.87	30
OIL (C24-C40)	1250	1240	1230	99.2	98.4	41-113	0.81	30
SURROGATE: OCTACOSANE (S)	75.0	91.9	101	123	135	60-142		
SURROGATE: ORTHO-TERPHENYL (S)	75.0	69.6	65.4	92.8	87.2	56-125		

Comments: _____

Primary	SPK	DUP
Quant Method :	DOC0111.M	DOC0111.M
Extraction Date :	01/22/20	01/22/20
Analysis Date :	01/25/20	01/25/20
Instrument :	Apollo	Apollo
Run :	111127	111128
Initials :	SSE	

Printed: 01/28/20 12:38:14 PM
APPL Standard LCSD

Laboratory Control Spike Recoveries

EPA 8015B TPH WATER L-L SGC

APPL ID: **200122W-06136 LCS - 249520**
Batch ID: #DOC53-200122A1

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
DIESEL (C10-C24)	1250	1070	1100	85.6	88.0	36-132	2.8	30
OIL (C24-C40)	1250	1140	1190	91.2	95.2	41-113	4.3	30
SURROGATE: (R) DECANOIC ACID (S)	10.00	0	0	0.0	0.0	0-1		
SURROGATE: OCTACOSANE (S)	75.0	75.4	76.0	101	101	60-142		
SURROGATE: ORTHO-TERPHENYL (S)	75.0	71.1	70.7	94.8	94.3	56-125		

Comments: _____

Primary	SPK	DUP
Quant Method :	DOC0127.M	DOC0127.M
Extraction Date :	01/22/20	01/22/20
Analysis Date :	01/27/20	01/27/20
Instrument :	Apollo	Apollo
Run :	127017	127018
Initials :	SSE	

Printed: 01/28/20 12:52:11 PM
APPL Standard LCSD

8270D-SIM

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 91264

Case No: 91264 Date Analyzed: 01/24/20

Matrix: WATER Instrument: Linus

APPL ID.	Client Sample No.	SURROGATE: 2-METHYLNAPHTHALENE-D10 (S)			SURROGATE: FLUORANTHENE-D10 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
200122A-BLK	Blank	39-114	82.3		58-120	84.8	
200122A-LCS	Lab Control Spike	39-114	88.6		58-120	94.4	
200122A-LCSD	Lab Control SpikeD	39-114	89.8		58-120	89.8	
BA06136	ERH974	39-114	87.7		58-120	88.1	
BA06138	ERH976	39-114	84.0		58-120	79.8	
BA06139	ERH977	39-114	93.1		58-120	90.1	
BA06141	ERH985	39-114	86.4		58-120	87.2	
BA06143	ERH989	39-114	78.2		58-120	87.6	

Comments: Batch: #SIM53-200122A

8270D-SIM

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 91264

Case No: 91264 Date Analyzed: 01/24/20

Matrix: WATER Instrument: Linus

Blank ID: 200122A-BLK Time Analyzed: 1259

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200122A-BLK	Blank	0113L151	01/24/20 1259
200122A-LCS	Lab Control Spike	0113L152	01/24/20 1321
200122A-LCSD	Lab Control SpikeD	0113L153	01/24/20 1343
BA06136	ERH974	0113L154	01/24/20 1405
BA06138	ERH976	0113L155	01/24/20 1427
BA06139	ERH977	0113L156	01/24/20 1449
BA06141	ERH985	0113L157	01/24/20 1511
BA06143	ERH989	0113L158	01/24/20 1533

Comments: Batch: #SIM53-200122A

Printed: 01/27/20 10:44:43 AM
Form 4, Blank Summary

Method Blank

EPA 8270D SIM LIQ-LIQ

Blank Name/QCG: **200122W-06136 - 249461**
Batch ID: #SIM53-200122A

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.04	ug/L	01/22/20	01/24/20
BLANK	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.04	ug/L	01/22/20	01/24/20
BLANK	NAPHTHALENE	0.10 U	0.2	0.10	0.04	ug/L	01/22/20	01/24/20
BLANK	SURROGATE: 2-METHYLNAPHT	82.3	39-114			%	01/22/20	01/24/20
BLANK	SURROGATE: FLUORANTHENE-	84.8	58-120			%	01/22/20	01/24/20

Quant Method:L0113PCP.M
Run #:0113L151
Instrument:Linus
Sequence:L200113P
Initials:JPR

GC SC-Blank-REG MDLs-DOD
Printed: 01/27/20 12:44:37 PM

8270D-SIM

Form 4

LCS Summary

Lab Name: APPL, Inc. SDG No: 91264

Case No: 91264 Date Analyzed: 01/24/20

Matrix: WATER Instrument: Linus

LCS ID: 200122A-LCS Time Analyzed: 1321

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200122A-BLK	Blank	0113L151	01/24/20 1259
200122A-LCS	Lab Control Spike	0113L152	01/24/20 1321
200122A-LCSD	Lab Control SpikeD	0113L153	01/24/20 1343
BA06136	ERH974	0113L154	01/24/20 1405
BA06138	ERH976	0113L155	01/24/20 1427
BA06139	ERH977	0113L156	01/24/20 1449
BA06141	ERH985	0113L157	01/24/20 1511
BA06143	ERH989	0113L158	01/24/20 1533

Comments: Batch: #SIM53-200122A

Printed: 01/27/20 10:44:48 AM
Form 4, LCS Summary

Laboratory Control Spike Recoveries

EPA 8270D SIM LIQ-LIQ

APPL ID: **200122W-06136 LCS - 249461**
Batch ID: #SIM53-200122A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
1-METHYLNAPHTHALENE	6.25	5.44	5.47	87.0	87.5	41-115	0.55	20
2-METHYLNAPHTHALENE	6.25	5.46	5.55	87.4	88.8	39-114	1.6	20
NAPHTHALENE	6.25	5.27	5.44	84.3	87.0	43-114	3.2	20
SURROGATE: 2-METHYLNAPHTHALEN	6.25	5.54	5.61	88.6	89.8	39-114		
SURROGATE: FLUORANTHENE-D10 (S)	6.25	5.90	5.61	94.4	89.8	58-120		

Comments: _____

Primary	SPK	DUP
Quant Method :	L0113PCP.M	L0113PCP.M
Extraction Date :	01/22/20	01/22/20
Analysis Date :	01/24/20	01/24/20
Instrument :	Linus	Linus
Run :	0113L152	0113L153
Initials :	JPR	

Printed: 01/27/20 12:44:40 PM
APPL Standard LCSD

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No:
Matrix: Soil
ID: 0113L001.D

SDG No:
Date Analyzed: 01/13/20
Instrument: Linus
Time Analyzed: 13:07

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		5.0 SIM PCP 09/10/19	0113L003.D	01/13/20 14:59
2		0.1 SIM PCP 09/10/19	0113L004.D	01/13/20 15:43
3		0.25 SIM PCP 09/10/	0113L005.D	01/13/20 16:05
4		0.5 SIM PCP 09/10/19	0113L006.D	01/13/20 16:26
5		2.5 SIM PCP 09/10/19	0113L007.D	01/13/20 16:48
6		25 SIM PCP 09/10/19	0113L008.D	01/13/20 17:10
7		50 SIM PCP 09/10/19	0113L009.D	01/13/20 17:32
8		SS SIM PCP 01/07/20	0113L010.D	01/13/20 17:54
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	9.95 - 80% of mass 198	19.0
68	0 - 2.05% of mass 69	0.0
70	0 - 2% of mass 69	0.3
127	10 - 80% of mass 198	41.1
197	0 - 2% of mass 198	0.0
198	100 - 100% of mass 198	100.0
199	5 - 9% of mass 198	6.5
275	10 - 60% of mass 198	33.0
365	1 - 100% of mass 198	5.1
441	0.01 - 24% of mass 442	15.2
442	50 - 500% of mass 198	244.5
443	15 - 24% of mass 442	18.6

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 91264
Matrix: Water
ID: 0113L149.D

SDG No: 91264
Date Analyzed: 01/24/20
Instrument: Linus
Time Analyzed: 12:03

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		5ug/mL SIM PCP 01/16	0113L150.D	01/24/20 12:18
2	Blank	200122A BLK 1/800	0113L151.D	01/24/20 12:59
3	Lab Control Spike	200122A LCS-2 1/800	0113L152.D	01/24/20 13:21
4	Lab Control SpikeD	200122A LCSD-2 1/800	0113L153.D	01/24/20 13:43
5	ERH974	BA06136W14 1/800	0113L154.D	01/24/20 14:05
6	ERH976	BA06138W13 1/800	0113L155.D	01/24/20 14:27
7	ERH977	BA06139W11 1/800	0113L156.D	01/24/20 14:49
8	ERH985	BA06141W14 1/800	0113L157.D	01/24/20 15:11
9	ERH989	BA06143W13 1/800	0113L158.D	01/24/20 15:33
10		5ug/mL SIM PCP 01/16	0113L159.D	01/24/20 16:06
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	9.95 - 80% of mass 198	19.8
68	0 - 2.05% of mass 69	0.0
70	0 - 2% of mass 69	0.2
127	10 - 80% of mass 198	42.4
197	0 - 2% of mass 198	0.0
198	100 - 100% of mass 198	100.0
199	5 - 9% of mass 198	6.2
275	10 - 60% of mass 198	27.5
365	1 - 100% of mass 198	4.2
441	0.01 - 24% of mass 442	14.5
442	50 - 500% of mass 198	198.6
443	15 - 24% of mass 442	20.5

INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract:

Lab Code: SDG No.:

Lab File ID (Standard): 0113L150.D Date Analyzed: 01/24/20

Instrument ID: Linus Time Analyzed: 12:18

GC Column: ID: Heated Purge: (Y/N)

		Napthalene-D8(IS)		Acenaphthene-D10(IS)		Phenanthrene-D10(IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	118617	4.19	66046	6.18	131055	7.91
	UPPER LIMIT	237234	4.36	132092	6.35	262110	8.08
	LOWER LIMIT	59309	4.02	33023	6.01	65528	7.74
	SAMPLE NO.						
01	200122A BLK 1/800	121568	4.19	67630	6.18	127184	7.91
02	200122A LCS-2 1/800	113076	4.19	61444	6.18	117922	7.91
03	200122A LCSD-2 1/800	118054	4.19	65234	6.18	124230	7.91
04	BA06136W14 1/800	117152	4.19	65997	6.18	123854	7.91
05	BA06138W13 1/800	114561	4.19	47867	6.19	122824	7.91
06	BA06139W11 1/800	109136	4.19	61103	6.19	117903	7.91
07	BA06141W14 1/800	113654	4.19	63586	6.18	120989	7.91
08	BA06143W13 1/800	115888	4.19	64602	6.18	120668	7.91
09	5ug/mL SIM PCP 01/16/	116351	4.19	64386	6.18	128605	7.91
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.17 minutes of internal standard RT
RT LOWER LIMIT = -0.17 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract: _____

Lab Code: _____ SDG No.: _____

Lab File ID (Standard): 0113L150.D Date Analyzed: 01/24/20

Instrument ID: Linus Time Analyzed: 12:18

GC Column: _____ ID: Heated Purge: (Y/N) _____

		Chrysene-D12(IS)		Perylene-D12(IS)			
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	169396	11.02	198400	13.43		
	UPPER LIMIT	338792	11.19	396800	13.60		
	LOWER LIMIT	84698	10.85	99200	13.26		
	SAMPLE NO.						
01	200122A BLK 1/800	166397	11.02	195684	13.45		
02	200122A LCS-2 1/800	152812	11.01	176072	13.44		
03	200122A LCSD-2 1/800	161641	11.01	188234	13.43		
04	BA06136W14 1/800	165303	11.02	192741	13.45		
05	BA06138W13 1/800	146489	11.02	5813 *	13.45		
06	BA06139W11 1/800	155781	11.02	183086	13.45		
07	BA06141W14 1/800	156513	11.01	186864	13.43		
08	BA06143W13 1/800	159629	11.01	186207	13.43		
09	5ug/mL SIM PCP 01/16/	162751	11.02	188599	13.45		
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

*No affected analytes detected

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.17 minutes of internal standard RT
RT LOWER LIMIT = -0.17 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

EPA 8270D

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 91264

Case No: 91264 Date Analyzed: 01/24/20

Matrix: WATER Instrument: Yoda

APPL ID.	Client Sample No.	SURROGATE: 2,4,6-TRIBROMOPHENOL (S)			SURROGATE: 2-FLUORBIPHENYL (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
200122A-BLK	Blank	43-140	102		44-119	89.3	
200122A-LCS	Lab Control Spike	43-140	118		44-119	99.2	
200122A-LCSD	Lab Control SpikeD	43-140	98.8		44-119	85.6	
BA06136	ERH974	43-140	105		44-119	91.0	
BA06138	ERH976	43-140	102		44-119	84.0	
BA06139	ERH977	43-140	98.3		44-119	81.6	
BA06141	ERH985	43-140	97.2		44-119	85.0	
BA06143	ERH989	43-140	99.2		44-119	81.0	

Comments: Batch: #87DC5-200122A

EPA 8270D

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 91264

Case No: 91264 Date Analyzed: 01/24/20

Matrix: WATER Instrument: Yoda

APPL ID.	Client Sample No.	SURROGATE: 2-FLUOROPHENOL (S)			SURROGATE: NITROBENZENE-D5 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
200122A-BLK	Blank	19-119	91.1		44-120	107	
200122A-LCS	Lab Control Spike	19-119	112		44-120	114	
200122A-LCSD	Lab Control SpikeD	19-119	102		44-120	105	
BA06136	ERH974	19-119	97.6		44-120	106	
BA06138	ERH976	19-119	80.8		44-120	96.9	
BA06139	ERH977	19-119	85.3		44-120	95.9	
BA06141	ERH985	19-119	93.9		44-120	101	
BA06143	ERH989	19-119	79.8		44-120	87.6	

Comments: Batch: #87DC5-200122A

EPA 8270D

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 91264

Case No: 91264 Date Analyzed: 01/24/20

Matrix: WATER Instrument: Yoda

APPL ID.	Client Sample No.	SURROGATE: PHENOL-D6 (S)			SURROGATE: TERPHENYL-D14 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
200122A-BLK	Blank	10-115	95.6		50-134	117	
200122A-LCS	Lab Control Spike	10-115	121	*	50-134	106	
200122A-LCSD	Lab Control SpikeD	10-115	111		50-134	88.0	
BA06136	ERH974	10-115	104		50-134	113	
BA06138	ERH976	10-115	45.7		50-134	85.2	
BA06139	ERH977	10-115	89.5		50-134	84.6	
BA06141	ERH985	10-115	98.6		50-134	109	
BA06143	ERH989	10-115	86.3		50-134	115	

Comments: Batch: #87DC5-200122A

* = Recovery outside of Control Limits on QC Sample.

EPA 8270D

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 91264

Case No: 91264 Date Analyzed: 01/24/20

Matrix: WATER Instrument: Yoda

Blank ID: 200122A-BLK Time Analyzed: 1517

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200122A-BLK	Blank	1219Y220	01/24/20 1517
200122A-LCS	Lab Control Spike	1219Y221	01/24/20 1545
200122A-LCSD	Lab Control SpikeD	1219Y222	01/24/20 1613
BA06136	ERH974	1219Y223	01/24/20 1641
BA06138	ERH976	1219Y224	01/24/20 1709
BA06139	ERH977	1219Y225	01/24/20 1736
BA06141	ERH985	1219Y226	01/24/20 1804
BA06143	ERH989	1219Y227	01/24/20 1832

Comments: Batch: #87DC5-200122A

Method Blank
EPA 8270D WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **200122W-06136 - 249451**
Batch ID: #87DC5-200122A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	01/22/20	01/24/20
BLANK	SURROGATE: 2,4,6-TRIBROMOP	102	43-140			%	01/22/20	01/24/20
BLANK	SURROGATE: 2-FLUORBIPHENY	89.3	44-119			%	01/22/20	01/24/20
BLANK	SURROGATE: 2-FLUOROPHENO	91.1	19-119			%	01/22/20	01/24/20
BLANK	SURROGATE: NITROBENZENE-	107	44-120			%	01/22/20	01/24/20
BLANK	SURROGATE: PHENOL-D6 (S)	95.6	10-115			%	01/22/20	01/24/20
BLANK	SURROGATE: TERPHENYL-D14 (	117	50-134			%	01/22/20	01/24/20

Quant Method:Y1219.M
Run #:1219Y220
Instrument:Yoda
Sequence:Y191219
Initials:JPR

GC SC-Blank-REG MDLs-DOD
Printed: 01/27/20 8:26:15 AM

EPA 8270D

Form 4

LCS Summary

Lab Name: APPL, Inc. SDG No: 91264

Case No: 91264 Date Analyzed: 01/24/20

Matrix: WATER Instrument: Yoda

LCS ID: 200122A-LCS Time Analyzed: 1545

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200122A-BLK	Blank	1219Y220	01/24/20 1517
200122A-LCS	Lab Control Spike	1219Y221	01/24/20 1545
200122A-LCSD	Lab Control SpikeD	1219Y222	01/24/20 1613
BA06136	ERH974	1219Y223	01/24/20 1641
BA06138	ERH976	1219Y224	01/24/20 1709
BA06139	ERH977	1219Y225	01/24/20 1736
BA06141	ERH985	1219Y226	01/24/20 1804
BA06143	ERH989	1219Y227	01/24/20 1832

Comments: Batch: #87DC5-200122A

Laboratory Control Spike Recoveries

EPA 8270D WATER

APPL ID: **200122W-06136 LCS - 249451**
Batch ID: #87DC5-200122A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
PHENOL	62.5	81.1	74.8	130 #	120 #	10-115	8.1	20
SURROGATE: 2,4,6-TRIBROMOPHENOL	250	296	247	118	98.8	43-140		
SURROGATE: 2-FLUORBIPHENYL (S)	125	124	107	99.2	85.6	44-119		
SURROGATE: 2-FLUOROPHENOL (S)	250	279	256	112	102	19-119		
SURROGATE: NITROBENZENE-D5 (S)	125	142	131	114	105	44-120		
SURROGATE: PHENOL-D6 (S)	250	302	277	121 #	111	10-115		
SURROGATE: TERPHENYL-D14 (S)	125	132	110	106	88.0	50-134		

= Recovery is outside QC limits.

Comments:

Primary	SPK	DUP
Quant Method :	Y1219.M	Y1219.M
Extraction Date :	01/22/20	01/22/20
Analysis Date :	01/24/20	01/24/20
Instrument :	Yoda	Yoda
Run :	1219Y221	1219Y222
Initials :	JPR	

Printed: 01/27/20 8:26:20 AM
APPL Standard LCSD

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No:
Matrix: Soil
ID: 1219Y002.D

SDG No:
Date Analyzed: 12/19/19
Instrument: Yoda
Time Analyzed: 8:50

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		50ug/ml 8270 11/21/1	1219Y003.D	12/19/19 9:06
2		4ug/ml 8270 11/21/19	1219Y004.D	12/19/19 9:33
3		5ug/ml 8270 11/21/19	1219Y005.D	12/19/19 10:01
4		10ug/ml 8270 11/21/1	1219Y006.D	12/19/19 10:28
5		20ug/ml 8270 11/21/1	1219Y007.D	12/19/19 10:56
6		40ug/ml 8270 11/21/1	1219Y008.D	12/19/19 11:24
7		60ug/ml 8270 11/21/1	1219Y009.D	12/19/19 11:51
8		80ug/ml 8270 11/21/1	1219Y010.D	12/19/19 12:19
9		100ug/ml 8270 11/21/	1219Y011.D	12/19/19 12:46
10		SS 8270 11/22/19	1219Y012.D	12/19/19 13:14
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	9.95 - 80.04% of mass 198	39.5
68	0 - 2% of mass 69	0.0
70	0 - 2% of mass 69	1.0
127	10 - 80% of mass 198	51.3
197	0 - 2% of mass 198	0.0
198	100 - 100% of mass 198	100.0
199	5 - 9% of mass 198	6.7
275	10 - 60% of mass 198	29.4
365	1 - 100% of mass 198	3.5
441	0.01 - 24% of mass 442	4.6
442	50 - 500% of mass 198	102.9
443	15 - 24% of mass 442	20.0

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 91264
Matrix: Water
ID: 1219Y216.D

SDG No: 91264
Date Analyzed: 01/24/20
Instrument: Yoda
Time Analyzed: 11:51

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		50ug/ml 8270 01/06/2	1219Y217.D	01/24/20 12:06
2	Blank	200122A BLK 1/800	1219Y220.D	01/24/20 15:17
3	Lab Control Spike	200122A LCS-1 1/800	1219Y221.D	01/24/20 15:45
4	Lab Control SpikeD	200122A LCSD-1 1/800	1219Y222.D	01/24/20 16:13
5	ERH974	BA06136W14 1/800	1219Y223.D	01/24/20 16:41
6	ERH976	BA06138W13 1/800	1219Y224.D	01/24/20 17:09
7	ERH977	BA06139W11 1/800	1219Y225.D	01/24/20 17:36
8	ERH985	BA06141W14 1/800	1219Y226.D	01/24/20 18:04
9	ERH989	BA06143W13 1/800	1219Y227.D	01/24/20 18:32
10		50ug/ml 8270 01/06/2	1219Y228.D	01/24/20 19:00
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	9.95 - 80.04% of mass 198	38.7
68	0 - 2% of mass 69	0.0
70	0 - 2% of mass 69	0.2
127	10 - 80% of mass 198	50.1
197	0 - 2% of mass 198	0.0
198	100 - 100% of mass 198	100.0
199	5 - 9% of mass 198	6.8
275	10 - 60% of mass 198	30.4
365	1 - 100% of mass 198	3.6
441	0.01 - 24% of mass 442	6.2
442	50 - 500% of mass 198	108.4
443	15 - 24% of mass 442	19.6

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract: _____

Lab Code: _____ SDG No.: _____

Lab File ID (Standard): 1219Y217.D Date Analyzed: 01/24/20

Instrument ID: Yoda Time Analyzed: 12:06

GC Column: _____ ID: Heated Purge: (Y/N) _____

		1,4-dichlorobenzene-D4(IS)		Napthalene-D8(IS)		Acenaphthene-D10(IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	218453	5.38	959258	6.82	609190	8.84
	UPPER LIMIT	436906	5.55	1918516	6.99	1218380	9.01
	LOWER LIMIT	109227	5.21	479629	6.65	304595	8.67
	SAMPLE NO.						
01	200122A BLK 1/800	130711	5.37	520111	6.81	395671	8.83
02	200122A LCS-1 1/800	131156	5.38	557550	6.82	402644	8.83
03	200122A LCSD-1 1/800	132891	5.38	559491	6.82	428312	8.83
04	BA06136W14 1/800	136295	5.38	571321	6.81	422631	8.83
05	BA06138W13 1/800	135372	5.38	580969	6.82	424875	8.83
06	BA06139W11 1/800	140595	5.38	607022	6.82	458238	8.83
07	BA06141W14 1/800	145037	5.38	612272	6.81	451124	8.83
08	BA06143W13 1/800	145675	5.37	624772	6.81	452958	8.83
09	50ug/ml 8270 01/06/20 (	155987	5.38	646037	6.81	398635	8.84
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.17 minutes of internal standard RT
RT LOWER LIMIT = -0.17 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

EPA 8270D

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 91264

Case No: 91264 Date Analyzed: 01/24/20

Matrix: WATER Instrument: Yoda

Blank ID: 200124A-BLK Time Analyzed: 1927

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200124A-BLK	Blank	1219Y229	01/24/20 1927
200124A-LCS	Lab Control Spike	1219Y230	01/24/20 1951
200124A-LCSD	Lab Control SpikeD	1219Y231	01/24/20 2015
BA06136	ERH974	1219Y232	01/24/20 2038
BA06138	ERH976	1219Y233	01/24/20 2102
BA06139	ERH977	1219Y234	01/24/20 2125
BA06141	ERH985	1219Y235	01/24/20 2149
BA06143	ERH989	1219Y236	01/24/20 2212

Comments: Batch: #87DME-200124A

Printed: 01/27/20 9:06:26 AM
Form 4, Blank Summary

Method Blank
EPA 8270D MODIFIED WATER

Blank Name/QCG: **200124W-06136 - 249453**
Batch ID: #87DME-200124A

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	2-(2-METHOXYETHOXY)-ETHAN	80.0 U	100	80.0	40.0	ug/L	01/24/20	01/24/20

Quant Method:YMEE0122.M
Run #:1219Y229
Instrument:Yoda
Sequence:Y191219
Initials:JPR

GC SC-Blank-REG MDLs-DOD
Printed: 01/27/20 9:06:28 AM

EPA 8270D

Form 4

LCS Summary

Lab Name: APPL, Inc. SDG No: 91264

Case No: 91264 Date Analyzed: 01/24/20

Matrix: WATER Instrument: Yoda

LCS ID: 200124A-LCS Time Analyzed: 1951

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200124A-BLK	Blank	1219Y229	01/24/20 1927
200124A-LCS	Lab Control Spike	1219Y230	01/24/20 1951
200124A-LCSD	Lab Control SpikeD	1219Y231	01/24/20 2015
BA06136	ERH974	1219Y232	01/24/20 2038
BA06138	ERH976	1219Y233	01/24/20 2102
BA06139	ERH977	1219Y234	01/24/20 2125
BA06141	ERH985	1219Y235	01/24/20 2149
BA06143	ERH989	1219Y236	01/24/20 2212

Comments: Batch: #87DME-200124A

Printed: 01/27/20 9:06:30 AM
Form 4, LCS Summary

Laboratory Control Spike Recoveries

EPA 8270D MODIFIED WATER

APPL ID: **200124W-06136 LCS - 249453**
Batch ID: #87DME-200124A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
2-(2-METHOXYETHOXY)-ETHANOL	80.0	67.5	90.1	84.4	113	30-130	28.7 #	20

= Recovery is outside QC limits.

Comments:

Primary	SPK	DUP
Quant Method :	YMEE0122.M	YMEE0122.M
Extraction Date :	01/24/20	01/24/20
Analysis Date :	01/24/20	01/24/20
Instrument :	Yoda	Yoda
Run :	1219Y230	1219Y231
Initials :	JPR	

Printed: 01/27/20 9:06:32 AM
APPL Standard LCSD

Form 5
Tune Summary

Lab Name: APPL Inc. SDG No:
Case No: Date Analyzed: 01/22/20
Matrix: Soil Instrument: Yoda
ID: 0122Y002.D Time Analyzed: 15:31

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		50ug/ml MEE 01/22/20	0122Y003.D	01/22/20 15:46
2		100ug/ml MEE 01/22/2	0122Y004.D	01/22/20 16:10
3		200ug/ml MEE 01/22/2	0122Y005.D	01/22/20 16:33
4		400ug/ml MEE 01/22/2	0122Y006.D	01/22/20 16:57
5		500ug/ml MEE 01/22/2	0122Y007.D	01/22/20 17:21
6		600ug/ml MEE 01/22/2	0122Y008.D	01/22/20 17:45
7		800ug/ml MEE 01/22/2	0122Y009.D	01/22/20 18:08
8		1000ug/ml MEE 01/22/	0122Y010.D	01/22/20 18:32
9		SS MEE 01/22/20	0122Y011.D	01/22/20 18:55
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	9.95 - 80.04% of mass 198	37.2
68	0 - 2.04% of mass 69	0.0
70	0 - 2.04% of mass 69	0.2
127	10 - 80% of mass 198	50.4
197	0 - 2% of mass 198	0.0
198	100 - 100% of mass 198	100.0
199	5 - 9% of mass 198	7.1
275	10 - 60% of mass 198	30.1
365	1 - 100% of mass 198	3.7
441	0.01 - 24% of mass 442	15.9
442	50 - 500% of mass 198	109.9
443	15 - 24% of mass 442	19.8

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 91264
Matrix: Water
ID: 1219Y216.D

SDG No: 91264
Date Analyzed: 01/24/20
Instrument: Yoda
Time Analyzed: 11:51

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		500ug/ml 2MEE 01/22/	1219Y218.D	01/24/20 13:23
2	Blank	200124A BLK 2/500	1219Y229.D	01/24/20 19:27
3	Lab Control Spike	200124A LCS-1 2/500	1219Y230.D	01/24/20 19:51
4	Lab Control SpikeD	200124A LCSD-1 2/500	1219Y231.D	01/24/20 20:15
5	ERH974	BA06136W11 2/500	1219Y232.D	01/24/20 20:38
6	ERH976	BA06138W11 2/250	1219Y233.D	01/24/20 21:02
7	ERH977	BA06139W06 2/250	1219Y234.D	01/24/20 21:25
8	ERH985	BA06141W11 2/500	1219Y235.D	01/24/20 21:49
9	ERH989	BA06143W10 2/500	1219Y236.D	01/24/20 22:12
10	ERH979	BA06275W10 2/500	1219Y237.D	01/24/20 22:36
11	ERH987	BA06279W10 2/500	1219Y238.D	01/24/20 22:59
12		600ug/ml 2MEE 01/22/	1219Y239.D	01/24/20 23:23
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	9.95 - 80.04% of mass 198	38.7
68	0 - 2.04% of mass 69	0.0
70	0 - 2.04% of mass 69	0.2
127	10 - 80% of mass 198	50.1
197	0 - 2% of mass 198	0.0
198	100 - 100% of mass 198	100.0
199	5 - 9% of mass 198	6.8
275	10 - 60% of mass 198	30.4
365	1 - 100% of mass 198	3.6
441	0.01 - 24% of mass 442	6.2
442	50 - 500% of mass 198	108.4
443	15 - 24% of mass 442	19.6

INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract:

Lab Code: SDG No.:

Lab File ID (Standard): 1219Y218.D Date Analyzed: 01/24/20

Instrument ID: Yoda Time Analyzed: 13:23

GC Column: ID: Heated Purge: (Y/N)

		1,4-dichlorobenzene-D4(IS)		Napthalene-D8(IS)		Acenaphthene-D10(IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	167718	5.14	676400	6.56	428742	8.58
	UPPER LIMIT	335436	5.31	1352800	6.73	857484	8.75
	LOWER LIMIT	83859	4.97	338200	6.39	214371	8.41
	SAMPLE NO.						
01	200124A BLK 2/500	130313	5.16	533820	6.57	394384	8.58
02	200124A LCS-1 2/500	126776	5.16	539160	6.57	390935	8.59
03	200124A LCSD-1 2/500	135026	5.16	594325	6.57	418530	8.58
04	BA06136W11 2/500	137416	5.16	600991	6.57	416094	8.58
05	BA06138W11 2/250	141120	5.15	640192	6.57	404375	8.58
06	BA06139W06 2/250	136088	5.15	612397	6.57	386655	8.58
07	BA06141W11 2/500	127978	5.16	555190	6.57	344716	8.58
08	BA06143W10 2/500	127692	5.15	585953	6.57	361958	8.58
09	BA06275W10 2/500	145736	5.15	660953	6.57	407224	8.58
10	BA06279W10 2/500	141128	5.16	619927	6.57	377585	8.58
11	600ug/ml 2MEE 01/22/2	143090	5.16	610531	6.57	370789	8.59
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.17 minutes of internal standard RT
RT LOWER LIMIT = -0.17 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

EPA 8260B

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 91264

Case No: 91264 Date Analyzed: 01/21/20

Matrix: WATER Instrument: Loki

APPL ID.	Client Sample No.	SURROGATE: 1,2-DICHLOROETHANE-D4 (S)			SURROGATE: 4-BROMOFLUOROBENZENE (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
200121AL-LCS	Lab Control Spike	81-118	103		85-114	102	
200121AL-LCSD	Lab Control SpikeD	81-118	99.6		85-114	103	
200121AL-BLK	Blank	81-118	104		85-114	87.5	
BA06135	ERH973	81-118	101		85-114	89.3	
BA06136	ERH974	81-118	105		85-114	92.3	
BA06137	ERH975	81-118	107		85-114	93.8	
BA06138	ERH976	81-118	104		85-114	90.0	
BA06139	ERH977	81-118	97.4		85-114	93.7	
BA06140	ERH984	81-118	98.8		85-114	91.1	
BA06141	ERH985	81-118	102		85-114	89.6	
BA06142	ERH988	81-118	101		85-114	94.6	
BA06143	ERH989	81-118	98.8		85-114	89.9	

Comments: Batch: #86BTO-200121AL

EPA 8260B

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 91264

Case No: 91264 Date Analyzed: 01/21/20

Matrix: WATER Instrument: Loki

APPL ID.	Client Sample No.	SURROGATE: DIBROMOFLUOROMETHANE (S)			SURROGATE: TOLUENE-D8 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
200121AL-LCS	Lab Control Spike	80-119	100		89-112	98.0	
200121AL-LCSD	Lab Control SpikeD	80-119	100		89-112	97.6	
200121AL-BLK	Blank	80-119	102		89-112	96.7	
BA06135	ERH973	80-119	107		89-112	95.5	
BA06136	ERH974	80-119	110		89-112	99.2	
BA06137	ERH975	80-119	111		89-112	102	
BA06138	ERH976	80-119	102		89-112	90.8	
BA06139	ERH977	80-119	99.5		89-112	91.4	
BA06140	ERH984	80-119	102		89-112	97.3	
BA06141	ERH985	80-119	104		89-112	96.2	
BA06142	ERH988	80-119	108		89-112	99.2	
BA06143	ERH989	80-119	100		89-112	95.7	

Comments: Batch: #86BTO-200121AL

EPA 8260B

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 91264

Case No: 91264 Date Analyzed: 01/21/20

Matrix: WATER Instrument: Loki

Blank ID: 200121AL-BLK Time Analyzed: 2201

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200121AL-LCS	Lab Control Spike	0121L23	01/21/20 1743
200121AL-LCSD	Lab Control SpikeD	0121L24	01/21/20 1812
200121AL-BLK	Blank	0121L32	01/21/20 2201
BA06135	ERH973	0121L33	01/21/20 2230
BA06136	ERH974	0121L34	01/21/20 2258
BA06137	ERH975	0121L35	01/21/20 2327
BA06138	ERH976	0121L36	01/21/20 2355
BA06139	ERH977	0121L37	01/22/20 0024
BA06140	ERH984	0121L38	01/22/20 0052
BA06141	ERH985	0121L39	01/22/20 0121
BA06142	ERH988	0121L40	01/22/20 0150
BA06143	ERH989	0121L41	01/22/20 0218

Comments: Batch: #86BTO-200121AL

Printed: 01/22/20 9:44:42 AM
Form 4, Blank Summary

Method Blank
EPA 8260B BTEX WATER

Blank Name/QCG: **200121W-06135 - 249333**
Batch ID: #86BTO-200121AL

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	BENZENE	0.30 U	1.0	0.30	0.15	ug/L	01/21/20	01/21/20
BLANK	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	01/21/20	01/21/20
BLANK	TOLUENE	0.30 U	1.0	0.30	0.15	ug/L	01/21/20	01/21/20
BLANK	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.15	ug/L	01/21/20	01/21/20
BLANK	SURROGATE: 1,2-DICHLOROET	104	81-118			%	01/21/20	01/21/20
BLANK	SURROGATE: 4-BROMOFLUORO	87.5	85-114			%	01/21/20	01/21/20
BLANK	SURROGATE: DIBROMOFLUOR	102	80-119			%	01/21/20	01/21/20
BLANK	SURROGATE: TOLUENE-D8 (S)	96.7	89-112			%	01/21/20	01/21/20

Quant Method:L0121W.M
Run #:0121L32
Instrument:Loki
Sequence:200121
Initials:CMO

GC SC-Blank-REG MDLs-DOD
Printed: 01/22/20 9:44:57 AM

EPA 8260B

Form 4

LCS Summary

Lab Name: APPL, Inc. SDG No: 91264

Case No: 91264 Date Analyzed: 01/21/20

Matrix: WATER Instrument: Loki

LCS ID: 200121AL-LCS Time Analyzed: 1743

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200121AL-LCS	Lab Control Spike	0121L23	01/21/20 1743
200121AL-LCSD	Lab Control SpikeD	0121L24	01/21/20 1812
200121AL-BLK	Blank	0121L32	01/21/20 2201
BA06135	ERH973	0121L33	01/21/20 2230
BA06136	ERH974	0121L34	01/21/20 2258
BA06137	ERH975	0121L35	01/21/20 2327
BA06138	ERH976	0121L36	01/21/20 2355
BA06139	ERH977	0121L37	01/22/20 0024
BA06140	ERH984	0121L38	01/22/20 0052
BA06141	ERH985	0121L39	01/22/20 0121
BA06142	ERH988	0121L40	01/22/20 0150
BA06143	ERH989	0121L41	01/22/20 0218

Comments: Batch: #86BTO-200121AL

Laboratory Control Spike Recoveries

EPA 8260B BTEX WATER

APPL ID: **200121W-06135 LCS - 249333**
Batch ID: #86BTO-200121AL

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
BENZENE	10.00	9.91	9.81	99.1	98.1	79-120	1.0	20
ETHYLBENZENE	10.00	9.03	9.03	90.3	90.3	79-121	0.0	20
TOLUENE	10.00	10.2	10.3	102	103	80-121	0.98	20
XYLENES (TOTAL)	30.0	27.1	27.0	90.3	90.0	79-121	0.37	20
SURROGATE: 1,2-DICHLOROETHANE-D	25.0	25.7	24.9	103	99.6	81-118		
SURROGATE: 4-BROMOFLUOROBENZE	25.0	25.4	25.7	102	103	85-114		
SURROGATE: DIBROMOFLUOROMETH	25.0	25.1	25.0	100	100	80-119		
SURROGATE: TOLUENE-D8 (S)	25.0	24.5	24.4	98.0	97.6	89-112		

Comments:

Primary	SPK	DUP
Quant Method :	L0121W.M	L0121W.M
Extraction Date :	01/21/20	01/21/20
Analysis Date :	01/21/20	01/21/20
Instrument :	Loki	Loki
Run :	0121L23	0121L24
Initials :	CMO	

Printed: 01/22/20 9:44:50 AM
APPL Standard LCSD

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No:
Matrix: Water
ID: 0121L00.D

SDG No:
Date Analyzed: 01/21/20
Instrument: Loki
Time Analyzed: 6:34

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		0.3ug/L VOC STD 1/21	0121L02.D	01/21/20 7:43
2		0.5ug/L VOC STD 1/21	0121L03.D	01/21/20 8:11
3		1ug/L VOC STD 1/21/2	0121L04.D	01/21/20 8:40
4		2ug/L VOC STD 1/21/2	0121L05.D	01/21/20 9:08
5		5ug/L VOC STD 1/21/2	0121L06.D	01/21/20 9:37
6		10ug/L VOC STD 1/21/	0121L07.D	01/21/20 10:06
7		20ug/L VOC STD 1/21/	0121L08.D	01/21/20 10:34
8		40ug/L VOC STD 1/21/	0121L09.D	01/21/20 11:03
9		100ug/L VOC STD 1/21	0121L10.D	01/21/20 11:32
10		(SS) 10ug/L VOC STD	0121L12.D	01/21/20 12:29
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
50	15.0 - 40.0% of mass 95	16.0
75	30.0 - 60.0% of mas 95	50.6
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	8.8
173	Less than 2.0% of mass 174	0.0
174	50.0 - 200.0% of mass 95	106.3
175	5.0 - 9.0% of mass 174	7.5
176	95.0 - 101.0% of mass 174	95.8
177	5.0 - 9.0% of mass 176	7.3

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 91264
Matrix: Water
ID: 0121L22.D

SDG No: 91264
Date Analyzed: 01/21/20
Instrument: Loki
Time Analyzed: 17:15

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1	Lab Control Spike	200121A CCV/LCS 10u	0121L23.D	01/21/20 17:43
2	Lab Control SpikeD	200121A LCSD 10ug/L	0121L24.D	01/21/20 18:12
3	Blank	200121A BLK	0121L32.D	01/21/20 22:01
4	ERH973	BA06135W01	0121L33.D	01/21/20 22:30
5	ERH974	BA06136W01	0121L34.D	01/21/20 22:58
6	ERH975	BA06137W01	0121L35.D	01/21/20 23:27
7	ERH976	BA06138W01	0121L36.D	01/21/20 23:55
8	ERH977	BA06139W01	0121L37.D	01/22/20 0:24
9	ERH984	BA06140W01	0121L38.D	01/22/20 0:52
10	ERH985	BA06141W04	0121L39.D	01/22/20 1:21
11	ERH988	BA06142W01	0121L40.D	01/22/20 1:50
12	ERH989	BA06143W01	0121L41.D	01/22/20 2:18
13		Ending CCV 10ug/L 1/	0121L47.D	01/22/20 5:10
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
50	15 - 40% of mass 95	16.6
75	30 - 60% of mass 95	49.9
95	100 - 100% of mass 95	100.0
96	5 - 9% of mass 95	6.5
173	0 - 2% of mass 174	1.2
174	50 - 200% of mass 95	96.4
175	5 - 9% of mass 174	7.7
176	94.95 - 101% of mass 174	96.6
177	5 - 9% of mass 176	6.5

INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract: _____

Lab Code: _____ SDG No.: _____

Lab File ID (Standard): 0121L07.D Date Analyzed: 01/21/20

Instrument ID: Loki Time Analyzed: 10:06

GC Column: _____ ID: Heated Purge: (Y/N) _____

		Fluorobenzene (IS)		Chlorobenzene-D5 (IS)		1,4-Dichlorobenzene-D (IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	228544	5.06	229056	8.69	130680	11.23
	UPPER LIMIT	457088	5.23	458112	8.86	261360	11.40
	LOWER LIMIT	114272	4.89	114528	8.52	65340	11.06
	SAMPLE NO.						
01	200121A CCV/LCS 10u	225408	5.06	235520	8.68	136960	11.23
02	200121A LCSD 10ug/L	236992	5.06	245312	8.68	136960	11.23
03	200121A BLK	212928	5.06	213312	8.69	101976	11.23
04	BA06135W01	209088	5.06	210816	8.69	101000	11.23
05	BA06136W01	203904	5.07	207488	8.69	98936	11.23
06	BA06137W01	201024	5.06	197504	8.69	98072	11.23
07	BA06138W01	207104	5.06	224704	8.69	117552	11.23
08	BA06139W01	214784	5.06	227136	8.69	120648	11.23
09	BA06140W01	223104	5.06	225536	8.68	107824	11.23
10	BA06141W04	218368	5.06	226304	8.69	110960	11.23
11	BA06142W01	214016	5.06	215424	8.69	105456	11.23
12	BA06143W01	217792	5.06	217280	8.69	102848	11.23
13	Ending CCV 10ug/L 1/2	230976	5.06	237376	8.69	134848	11.23
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.17 minutes of internal standard RT
RT LOWER LIMIT = -0.17 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

EPA 8260B

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 91264

Case No: 91264 Date Analyzed: 01/21/20

Matrix: WATER Instrument: Loki

APPL ID.	Client Sample No.	SURROGATE: 4-BROMOFLUOROBENZENE (S)					
		Limits	Result	Qualifier	Limits	Result	Qualifier
200121AL-LCS	Lab Control Spike	85-114	97.6				
200121AL-LCSD	Lab Control SpikeD	85-114	96.4				
200121AL-BLK	Blank	85-114	87.5				
BA06135	ERH973	85-114	89.3				
BA06136	ERH974	85-114	92.3				
BA06137	ERH975	85-114	93.8				
BA06138	ERH976	85-114	90.0				
BA06139	ERH977	85-114	93.7				
BA06140	ERH984	85-114	91.1				
BA06141	ERH985	85-114	89.6				
BA06142	ERH988	85-114	94.6				
BA06143	ERH989	85-114	89.9				

Comments: Batch: #GRO86-200121AL

EPA 8260B

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 91264

Case No: 91264 Date Analyzed: 01/21/20

Matrix: WATER Instrument: Loki

Blank ID: 200121AL-BLK Time Analyzed: 2201

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200121AL-LCS	Lab Control Spike	0121L27	01/21/20 1938
200121AL-LCSD	Lab Control SpikeD	0121L28	01/21/20 2007
200121AL-BLK	Blank	0121L32	01/21/20 2201
BA06135	ERH973	0121L33	01/21/20 2230
BA06136	ERH974	0121L34	01/21/20 2258
BA06137	ERH975	0121L35	01/21/20 2327
BA06138	ERH976	0121L36	01/21/20 2355
BA06139	ERH977	0121L37	01/22/20 0024
BA06140	ERH984	0121L38	01/22/20 0052
BA06141	ERH985	0121L39	01/22/20 0121
BA06142	ERH988	0121L40	01/22/20 0150
BA06143	ERH989	0121L41	01/22/20 0218

Comments: Batch: #GRO86-200121AL

Printed: 01/22/20 12:05:48 PM
Form 4, Blank Summary

Method Blank
EPA 8260B GRO WATER

Blank Name/QCG: **200121W-06135 - 249343**
Batch ID: #GRO86-200121AL

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	01/21/20	01/21/20
BLANK	SURROGATE: 4-BROMOFLUORO	87.5	85-114			%	01/21/20	01/21/20

Quant Method:LGAS0121.M
Run #:0121L32
Instrument:Loki
Sequence:200121
Initials:CMO

GC SC-Blank-REG MDLs-DOD
Printed: 01/22/20 12:06:03 PM

EPA 8260B

Form 4

LCS Summary

Lab Name: APPL, Inc. SDG No: 91264

Case No: 91264 Date Analyzed: 01/21/20

Matrix: WATER Instrument: Loki

LCS ID: 200121AL-LCS Time Analyzed: 1938

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200121AL-LCS	Lab Control Spike	0121L27	01/21/20 1938
200121AL-LCSD	Lab Control SpikeD	0121L28	01/21/20 2007
200121AL-BLK	Blank	0121L32	01/21/20 2201
BA06135	ERH973	0121L33	01/21/20 2230
BA06136	ERH974	0121L34	01/21/20 2258
BA06137	ERH975	0121L35	01/21/20 2327
BA06138	ERH976	0121L36	01/21/20 2355
BA06139	ERH977	0121L37	01/22/20 0024
BA06140	ERH984	0121L38	01/22/20 0052
BA06141	ERH985	0121L39	01/22/20 0121
BA06142	ERH988	0121L40	01/22/20 0150
BA06143	ERH989	0121L41	01/22/20 0218

Comments: Batch: #GRO86-200121AL

Laboratory Control Spike Recoveries
EPA 8260B GRO WATER

APPL ID: **200121W-06135 LCS - 249343**
Batch ID: #GRO86-200121AL

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
GASOLINE RANGE ORGANICS	300	243	253	81.0	84.3	78-122	4.0	20
SURROGATE: 4-BROMOFLUOROBENZE	25.0	24.4	24.1	97.6	96.4	85-114		

Comments: _____

Primary	SPK	DUP
Quant Method :	LGAS0121.M	LGAS0121.M
Extraction Date :	01/21/20	01/21/20
Analysis Date :	01/21/20	01/21/20
Instrument :	Loki	Loki
Run :	0121L27	0121L28
Initials :	CMO	

Printed: 01/22/20 12:05:55 PM
APPL Standard LCSD

RSK 175

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 91264

Case No: 91264 Date Analyzed: 01/23/20

Matrix: WATER Instrument: Rocky

Blank ID: 200123A-BLK Time Analyzed: 1554

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200123A-LCS	Lab Control Spike	0123R04	01/23/20 1446
200123A-LCSD	Lab Control SpikeD	0123R05	01/23/20 1450
BA06135	ERH973	0123R06	01/23/20 1453
BA06136	ERH974	0123R07	01/23/20 1502
BA06137	ERH975	0123R08	01/23/20 1506
BA06138	ERH976	0123R09	01/23/20 1510
BA06138	ERH976	0123R11	01/23/20 1532
BA06140	ERH984	0123R12	01/23/20 1537
BA06141	ERH985	0123R13	01/23/20 1541
BA06142	ERH988	0123R14	01/23/20 1544
BA06143	ERH989	0123R15	01/23/20 1548
200123A-BLK	Blank	0123R16	01/23/20 1554

Comments: Batch: #RSKME-200123A

Method Blank
METHANE

Blank Name/QCG: **200123W-06135 - 249407**
Batch ID: #RSKME-200123A

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	METHANE	1.00 U	5.0	1.00	0.25	ug/L	01/23/20	01/23/20

Quant Method: RSK1002.M
Run #: 0123R16
Instrument: Rocky
Sequence: 191002
Initials: GAG

GC SC-Blank-REG MDLs-DOD
Printed: 01/24/20 9:12:49 AM

RSK 175

Form 4

LCS Summary

Lab Name: APPL, Inc. SDG No: 91264

Case No: 91264 Date Analyzed: 01/23/20

Matrix: WATER Instrument: Rocky

LCS ID: 200123A-LCS Time Analyzed: 1446

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200123A-LCS	Lab Control Spike	0123R04	01/23/20 1446
200123A-LCSD	Lab Control SpikeD	0123R05	01/23/20 1450
BA06135	ERH973	0123R06	01/23/20 1453
BA06136	ERH974	0123R07	01/23/20 1502
BA06137	ERH975	0123R08	01/23/20 1506
BA06138	ERH976	0123R09	01/23/20 1510
BA06138	ERH976	0123R11	01/23/20 1532
BA06140	ERH984	0123R12	01/23/20 1537
BA06141	ERH985	0123R13	01/23/20 1541
BA06142	ERH988	0123R14	01/23/20 1544
BA06143	ERH989	0123R15	01/23/20 1548
200123A-BLK	Blank	0123R16	01/23/20 1554

Comments: Batch: #RSKME-200123A

Laboratory Control Spike Recoveries
METHANE

APPL ID: **200123W-06135 LCS - 249407**
Batch ID: #RSKME-200123A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
METHANE	83.4	82.7	77.6	99.2	93.0	72-125	6.4	30

Comments:

Primary	SPK	DUP
Quant Method :	RSK1002.M	RSK1002.M
Extraction Date :	01/23/20	01/23/20
Analysis Date :	01/23/20	01/23/20
Instrument :	Rocky	Rocky
Run :	0123R04	0123R05
Initials :	GAG	

Printed: 01/24/20 9:12:57 AM
APPL Standard LCSD

EPA 300.0

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 91264

Case No: 91264 Date Analyzed: 01/21/20

Matrix: WATER Instrument: Charlie

Blank ID: 200121A-BLK Time Analyzed: 1914

APPL ID.	Client Sample No.	File ID.	Date Analyzed
BA06136	ERH974	13	01/21/20 2037
BA06138	ERH976	14	01/21/20 2044
BA06143	ERH989	15	01/21/20 2052
BA06141	ERH985	16	01/21/20 2059
200121A-BLK	Blank	2	01/21/20 1914
200121A-LCS	Lab Control Spike	3	01/21/20 1922
200121A-LCSD	Lab Control SpikeD	4	01/21/20 1929

Comments: Batch: #300W-200121A

Printed: 01/28/20 8:33:20 AM
Form 4, Blank Summary

EPA 300.0

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 91264

Case No: 91264 Date Analyzed: 01/25/20

Matrix: WATER Instrument: Charlie

Blank ID: 200125B-BLK Time Analyzed: 1222

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200125B-BLK	Blank	31	01/25/20 1222
200125B-LCS	Lab Control Spike	32	01/25/20 1228
200125B-LCSD	Lab Control SpikeD	33	01/25/20 1235
BA06136	ERH974	41	01/25/20 1326
BA06138	ERH976	42	01/25/20 1332
BA06141	ERH985	43	01/25/20 1338
BA06143	ERH989	44	01/25/20 1345

Comments: Batch: #300WD-200125B

Printed: 01/28/20 8:33:20 AM
Form 4, Blank Summary

WETLAB BLANK

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Analyte	Result	LOQ	LOD	DL	Units	Prep Date	Analysis Date	QC Group
EPA 300.0	NITRATE	0.18 U	0.5	0.18	0.04	mg/L	01/21/20	01/21/20	#300W-200121A-BA06136
EPA 300.0	CHLORIDE	0.20 U	1.0	0.20	0.08	mg/L	01/25/20	01/25/20	#300WD-200125B-BA06136
EPA 300.0	SULFATE	0.20 U	1.0	0.20	0.09	mg/L	01/25/20	01/25/20	#300WD-200125B-BA06136

Wetlab SC-Blank-REG MDLs
Printed: 01/28/20 8:32:56 AM

EPA 300.0

Form 4

LCS Summary

Lab Name: APPL, Inc. SDG No: 91264

Case No: 91264 Date Analyzed: 01/21/20

Matrix: WATER Instrument: Charlie

LCS ID: 200121A-LCS Time Analyzed: 1922

APPL ID.	Client Sample No.	File ID.	Date Analyzed
BA06136	ERH974	13	01/21/20 2037
BA06138	ERH976	14	01/21/20 2044
BA06143	ERH989	15	01/21/20 2052
BA06141	ERH985	16	01/21/20 2059
200121A-BLK	Blank	2	01/21/20 1914
200121A-LCS	Lab Control Spike	3	01/21/20 1922
200121A-LCSD	Lab Control SpikeD	4	01/21/20 1929

Comments: Batch: #300W-200121A

Printed: 01/28/20 8:33:20 AM
Form 4, LCS Summary

EPA 300.0

Form 4

LCS Summary

Lab Name: APPL, Inc. SDG No: 91264

Case No: 91264 Date Analyzed: 01/25/20

Matrix: WATER Instrument: Charlie

LCS ID: 200125B-LCS Time Analyzed: 1228

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200125B-BLK	Blank	31	01/25/20 1222
200125B-LCS	Lab Control Spike	32	01/25/20 1228
200125B-LCSD	Lab Control SpikeD	33	01/25/20 1235
BA06136	ERH974	41	01/25/20 1326
BA06138	ERH976	42	01/25/20 1332
BA06141	ERH985	43	01/25/20 1338
BA06143	ERH989	44	01/25/20 1345

Comments: Batch: #300WD-200125B

Printed: 01/28/20 8:33:20 AM
Form 4, LCS Summary

Laboratory Control Spike Recoveries

WETLAB

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Lvl mg/L	SPK Res mg/L	DUP Res mg/L	SPK % Recov	DUP % Recov	RPD	RPD Max	QC Limits	Extract Date-Spk	Analysis Date-Spk	Extract Date-Dup	Analysis Date-Dup	QC Group
EPA 300.0	CHLORIDE	25.0	24.1	23.7	96.4	94.8	1.7	20	90-110	01/25/20	01/25/20	01/25/20	01/25/20	#300WD-200125B-BA0613
EPA 300.0	SULFATE	25.0	24.6	24.5	98.4	98.0	0.41	20	90-110	01/25/20	01/25/20	01/25/20	01/25/20	#300WD-200125B-BA0613
EPA 300.0	NITRATE	22.1	22.1	22.1	100	100	0.0	20	90-110	01/21/20	01/21/20	01/21/20	01/21/20	#300W-200121A-BA06136

Comments: _____

_____

_____

EPA 353.2

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 91264

Case No: 91264 Date Analyzed: 01/27/20

Matrix: WATER Instrument: EVE

Blank ID: 200127A-BLK Time Analyzed: 1422

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200127A-BLK	Blank	12	01/27/20 1422
200127A-LCS	Lab Control Spike	13	01/27/20 1425
200127A-LCSD	Lab Control SpikeD	14	01/27/20 1427
BA06136	ERH974	18	01/27/20 1436
BA06138	ERH976	19	01/27/20 1438
BA06141	ERH985	22	01/27/20 1445
BA06143	ERH989	23	01/27/20 1448

Comments: Batch: #35OF-200127A

Printed: 01/28/20 2:04:42 PM
Form 4, Blank Summary

SM 2320B

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 91264

Case No: 91264 Date Analyzed: 01/25/20

Matrix: WATER Instrument: Tiamo

Blank ID: 200125A-BLK Time Analyzed: 1213

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200125A-BLK	Blank	1	01/25/20 1213
200125A-LCS	Lab Control Spike	2	01/25/20 1233
200125A-LCSD	Lab Control SpikeD	3	01/25/20 1242
BA06136	ERH974	4	01/25/20 1250
BA06138	ERH976	5	01/25/20 1254
BA06141	ERH985	6	01/25/20 1302
BA06143	ERH989	7	01/25/20 1307

Comments: Batch: #232W-200125A

Printed: 01/28/20 2:04:42 PM
Form 4, Blank Summary

SM3500FeB

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 91264

Case No: 91264 Date Analyzed: 01/22/20

Matrix: WATER Instrument: Manual Spec

Blank ID: A200122-BLK Time Analyzed: 1358

APPL ID.	Client Sample No.	File ID.	Date Analyzed
A200122-BLK	Blank	12	01/22/20 1358
A200122-LCS	Lab Control Spike	13	01/22/20 1359
A200122-LCSD	Lab Control SpikeD	15	01/22/20 1400
BA06136	ERH974	16	01/22/20 1401
BA06141	ERH985	17	01/22/20 1404
BA06138	ERH976	18	01/22/20 1404
BA06143	ERH989	19	01/22/20 1405

Comments: Batch: #35FE-A200122

Printed: 01/28/20 2:04:42 PM
Form 4, Blank Summary

SW846 9060A

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 91264

Case No: 91264 Date Analyzed: 01/22/20

Matrix: WATER Instrument: TICTOC

Blank ID: 200122A-BLK Time Analyzed: 2008

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200122A-BLK	Blank	19	01/22/20 2008
200122A-LCS	Lab Control Spike	20	01/22/20 2046
200122A-LCSD	Lab Control SpikeD	21	01/22/20 2126
BA06136	ERH974	22	01/22/20 2323
BA06138	ERH976	23	01/23/20 0000
BA06141	ERH985	24	01/23/20 0037
BA06143	ERH989	25	01/23/20 0114

Comments: Batch: #TOCW5-200122A

Printed: 01/28/20 2:04:42 PM
Form 4, Blank Summary

WETLAB BLANK

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Analyte	Result	LOQ	LOD	DL	Units	Prep Date	Analysis Date	QC Group
SM 2320B	BICARBONATE AS	2.6	2.0	1.70	0.85	mg/L	01/25/20	01/25/20	#232W-200125A-BA06136
SM 2320B	CARBONATE AS C	1.70 U	2.0	1.70	0.85	mg/L	01/25/20	01/25/20	#232W-200125A-BA06136
SM 2320B	TOTAL ALKALINITY	2.6	2.0	1.70	0.85	mg/L	01/25/20	01/25/20	#232W-200125A-BA06136
SM3500Fe	FERROUS IRON	0.32 U	1.0	0.32	0.16	mg/L	01/22/20	01/22/20	#35FE-A200122-BA06272
EPA 353.2	NITRATE-NITRITE-	0.090 U	0.10	0.090	0.028	mg/L	01/27/20	01/27/20	#35OF-200127A-BA06136
SW846 90	TOTAL ORGANIC C	0.14 J	0.93	0.350	0.130	mg/L	01/22/20	01/22/20	#TOCW5-200122A-BA06272

J = Estimated value.

Wetlab SC-Blank-REG MDLs
Printed: 01/28/20 2:04:40 PM

EPA 353.2

Form 4

LCS Summary

Lab Name: APPL, Inc. SDG No: 91264

Case No: 91264 Date Analyzed: 01/27/20

Matrix: WATER Instrument: EVE

LCS ID: 200127A-LCS Time Analyzed: 1425

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200127A-BLK	Blank	12	01/27/20 1422
200127A-LCS	Lab Control Spike	13	01/27/20 1425
200127A-LCSD	Lab Control SpikeD	14	01/27/20 1427
BA06136	ERH974	18	01/27/20 1436
BA06138	ERH976	19	01/27/20 1438
BA06141	ERH985	22	01/27/20 1445
BA06143	ERH989	23	01/27/20 1448

Comments: Batch: #35OF-200127A

Printed: 01/28/20 2:04:42 PM
Form 4, LCS Summary

SM 2320B

Form 4

LCS Summary

Lab Name: APPL, Inc. SDG No: 91264

Case No: 91264 Date Analyzed: 01/25/20

Matrix: WATER Instrument: Tiamo

LCS ID: 200125A-LCS Time Analyzed: 1233

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200125A-BLK	Blank	1	01/25/20 1213
200125A-LCS	Lab Control Spike	2	01/25/20 1233
200125A-LCSD	Lab Control SpikeD	3	01/25/20 1242
BA06136	ERH974	4	01/25/20 1250
BA06138	ERH976	5	01/25/20 1254
BA06141	ERH985	6	01/25/20 1302
BA06143	ERH989	7	01/25/20 1307

Comments: Batch: #232W-200125A

Printed: 01/28/20 2:04:42 PM
Form 4, LCS Summary

SM3500FeB

Form 4

LCS Summary

Lab Name: APPL, Inc. SDG No: 91264

Case No: 91264 Date Analyzed: 01/22/20

Matrix: WATER Instrument: Manual Spec

LCS ID: A200122-LCS Time Analyzed: 1359

APPL ID.	Client Sample No.	File ID.	Date Analyzed
A200122-BLK	Blank	12	01/22/20 1358
A200122-LCS	Lab Control Spike	13	01/22/20 1359
A200122-LCSD	Lab Control SpikeD	15	01/22/20 1400
BA06136	ERH974	16	01/22/20 1401
BA06141	ERH985	17	01/22/20 1404
BA06138	ERH976	18	01/22/20 1404
BA06143	ERH989	19	01/22/20 1405

Comments: Batch: #35FE-A200122

Printed: 01/28/20 2:04:42 PM
Form 4, LCS Summary

SW846 9060A

Form 4

LCS Summary

Lab Name: APPL, Inc. SDG No: 91264

Case No: 91264 Date Analyzed: 01/22/20

Matrix: WATER Instrument: TICTOC

LCS ID: 200122A-LCS Time Analyzed: 2046

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200122A-BLK	Blank	19	01/22/20 2008
200122A-LCS	Lab Control Spike	20	01/22/20 2046
200122A-LCSD	Lab Control SpikeD	21	01/22/20 2126
BA06136	ERH974	22	01/22/20 2323
BA06138	ERH976	23	01/23/20 0000
BA06141	ERH985	24	01/23/20 0037
BA06143	ERH989	25	01/23/20 0114

Comments: Batch: #TOCW5-200122A

Printed: 01/28/20 2:04:42 PM
Form 4, LCS Summary

Laboratory Control Spike Recoveries

WETLAB

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Lvl mg/L	SPK Res mg/L	DUP Res mg/L	SPK % Recov	DUP % Recov	RPD	RPD Max	QC Limits	Extract Date-Spk	Analysis Date-Spk	Extract Date-Dup	Analysis Date-Dup	QC Group
EPA 353.2	NITRATE-NITRITE-N	3.00	3.02	2.90	101	96.7	4.1	20	90-110	01/27/20	01/27/20	01/27/20	01/27/20	#35OF-200127A-BA06136
SM 2320B	BICARBONATE AS CACO3	250	231	232	92.4	92.8	0.43	20	90-110	01/25/20	01/25/20	01/25/20	01/25/20	#232W-200125A-BA06136
SM 2320B	TOTAL ALKALINITY AS CA	238.88	240	241	100	101	0.42	20	90-110	01/25/20	01/25/20	01/25/20	01/25/20	#232W-200125A-BA06136
SM3500Fe	FERROUS IRON	3.00	3.09	3.08	103	103	0.32	20	80-120	01/22/20	01/22/20	01/22/20	01/22/20	#35FE-A200122-BA06272
SW846 90	TOTAL ORGANIC CARBO	5.00	4.91	5.01	98.2	100	2.0	20	80-120	01/22/20	01/22/20	01/22/20	01/22/20	#TOCW5-200122A-BA062

Comments: _____

_____

_____

Printed: 01/28/20 2:04:41 PM
APPL Standard LCSD

Matrix Spike Recoveries

WETLAB

APPL ID: **200127W-06136 MS - 249484**

Sample ID: BA06136

Client ID: ERH974

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Lvl mg/L	Matrix Res mg/L	SPK Res mg/L	DUP Res mg/L	SPK % Recovery	DUP % Recovery	RPD	RPD Max	Recovery Limits	Extract Date-Spk	Analysis Date-Spk	Extract Date-Dup	Analysis Date-Dup	QC Group	QC Sample
EPA 353.2	NITRATE-NITRITE-N	3.23	ND	0.00	0	0.0 #	0.0 #	0.00	20	90-110	01/27/20	01/27/20	01/27/20	01/27/20	249484	BA06136

= Recovery is outside QC limits.

Comments: _____

ORGANICS
Calibration Data

TPH Extractables
DOC0111

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Initial Cal. Date: 01/11/20
Matrix: Water Instrument: Apollo
Initials: SS/

			111003 D	111004.D	111005.D	111006.D	111007.D	111008.D										
		Compound	1	2	3	4	5	6					Avg	%RSD	Type	r^2	Q
1	HATM	Diesel (C10-C24)	2841982	1986670	1924883	1912582	1919928	1939022					2087511	18	HATM		
2	HBTM	Motor Oil (C24-C40)	1741672	1398165	1463790	1435842	1434834	1461667					1489328	8.5	HBTM		
3	SA	Ortho-Terphenyl(S)	2323085	2018666	2137659	2123698	2118424	2175744					2149546	4.6	SA		
4	SA	Octacosane(S)	2784149	1939553	1932971	1877050	1923095	2033143					2081660	17	SA		
5																	
6																	
7																	
8																	
9																	
10																	
11																	
12																	
13																	
14																	
15																	
16																	
17																	
18																	
19																	
20																	
21																	
22																	
23																	
24																	
25																	
26																	
27																	
28																	
29																	
30																	
31																	
32																	
33																	
34																	
35																	

1.35871

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200111\111003.D Vial: 3
Acq On : 1-11-20 11:35:53 Operator: BT
Sample : Diesel Motor Oil-1 1/11/20 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 13 7:56 2020 Quant Results File: DOC0111.RES

Method : G:\APOLLO\DATA\200111\DOC0111.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Mon Jan 13 07:59:04 2020
Response via : Multiple Level Calibration

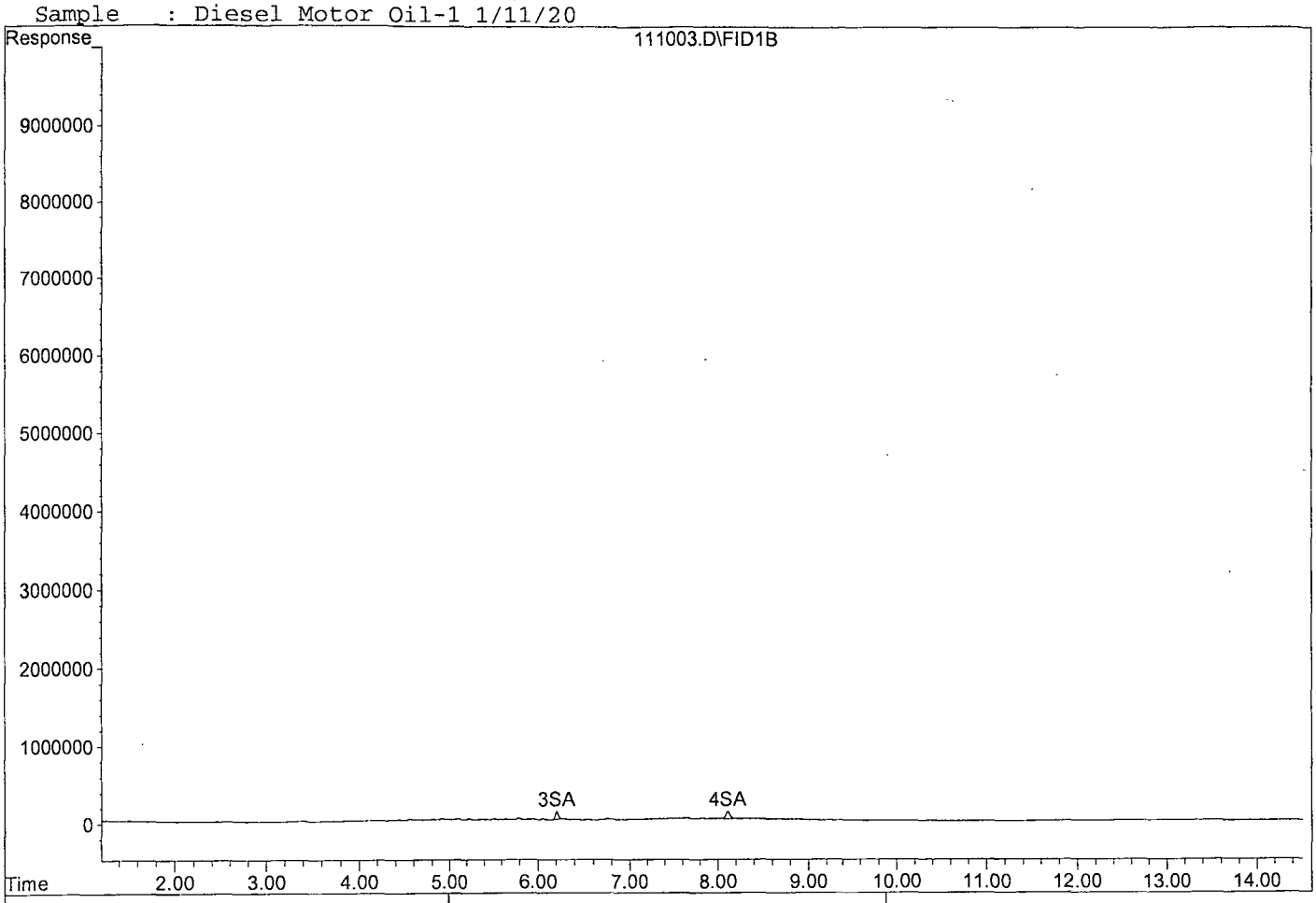
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

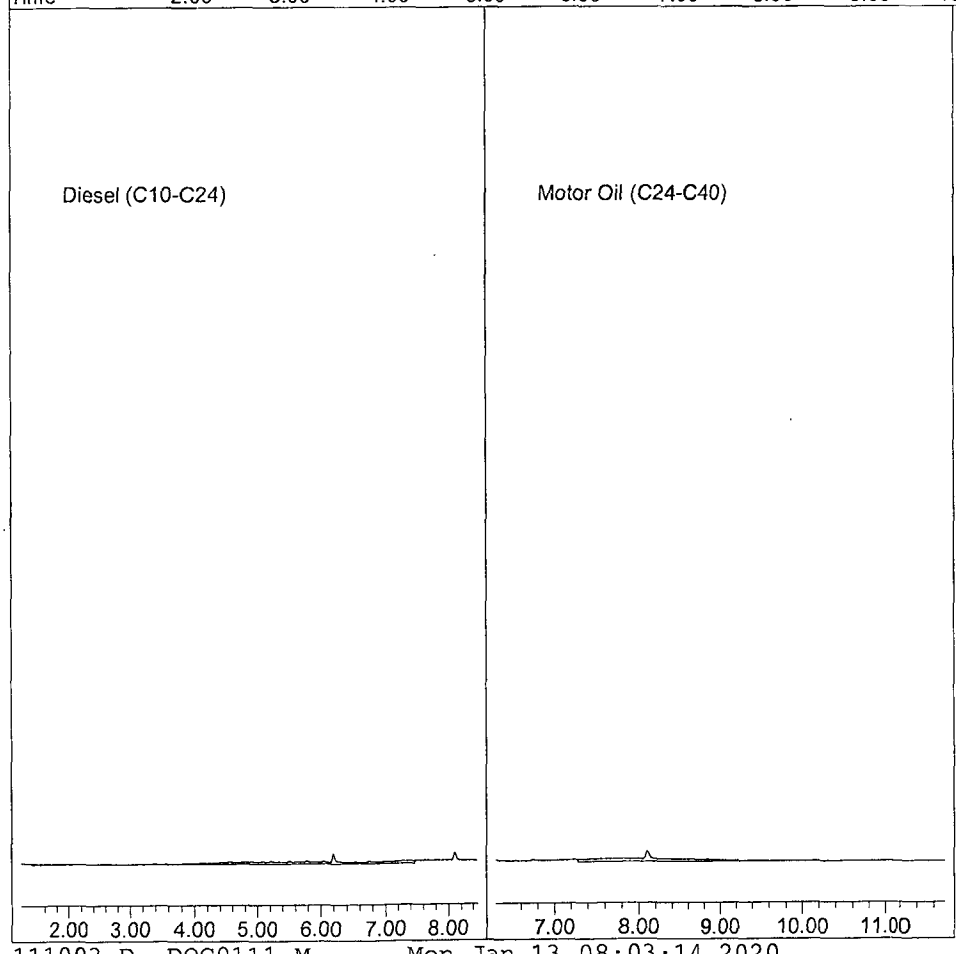
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SA Ortho-Terphenyl(S)	6.20	2323085	0.808 ppb
Surrogate Spike 30.000	Recovery =		2.69%
4) SA Octacosane(S)	8.11	2784149	1.349 ppb
Surrogate Spike 30.000	Recovery =		4.50%
Target Compounds			
1) HATM Diesel (C10-C24)	4.42	56839649	1.708 ppb
2) HBTM Motor Oil (C24-C40)	9.01	34833431	14.238 ppb
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\200111\111003.D
Sample : Diesel Motor Oil-1 1/11/20





111003.D DOC0111.M Mon Jan 13 08:03:14 2020

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200111\111004.D Vial: 4
Acq On : 1-11-20 11:55:28 Operator: BT
Sample : Diesel Motor Oil-2 1/11/20 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 13 7:56 2020 Quant Results File: DOC0111.RES

Method : G:\APOLLO\DATA\200111\DOC0111.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Mon Jan 13 07:59:04 2020
Response via : Multiple Level Calibration

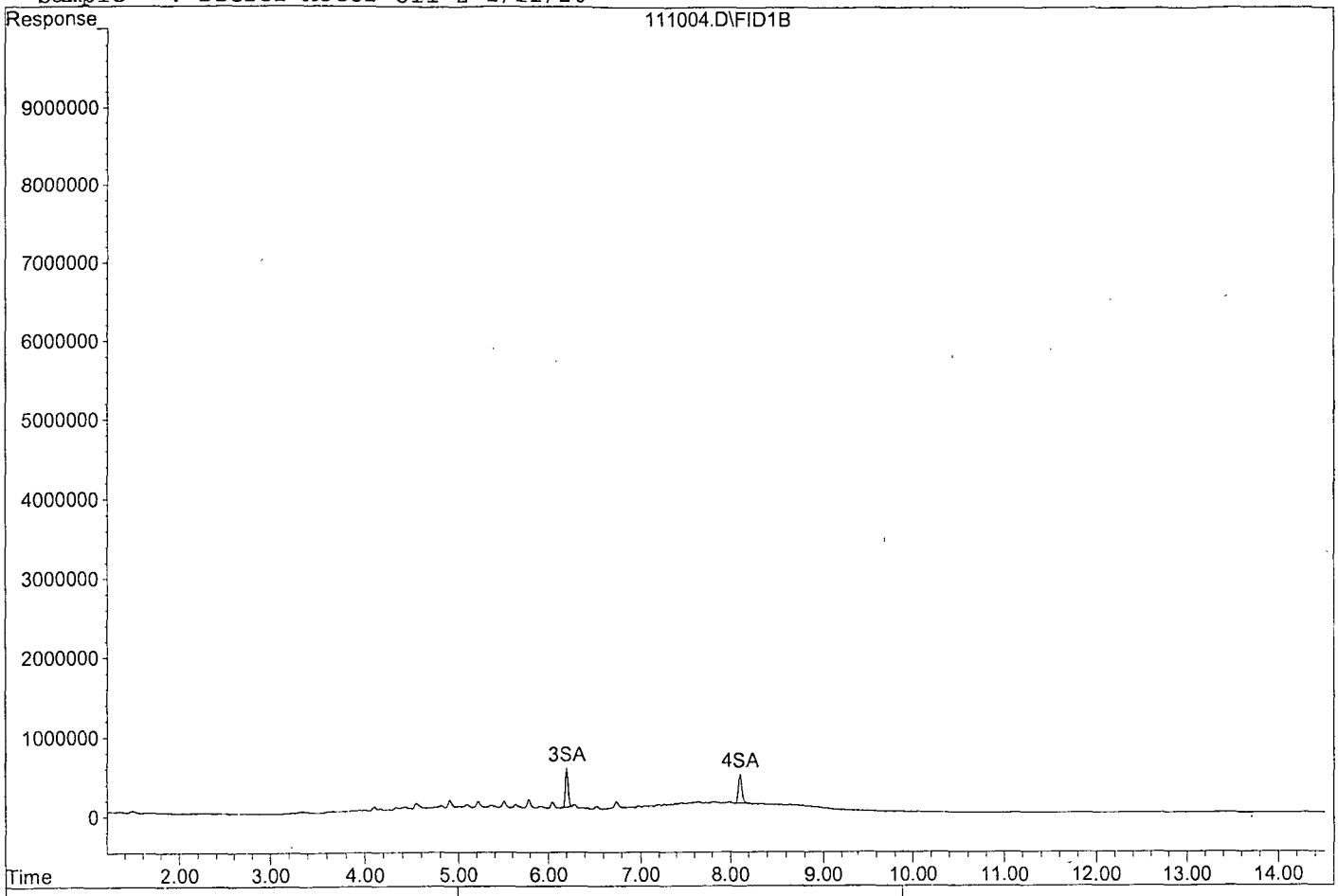
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

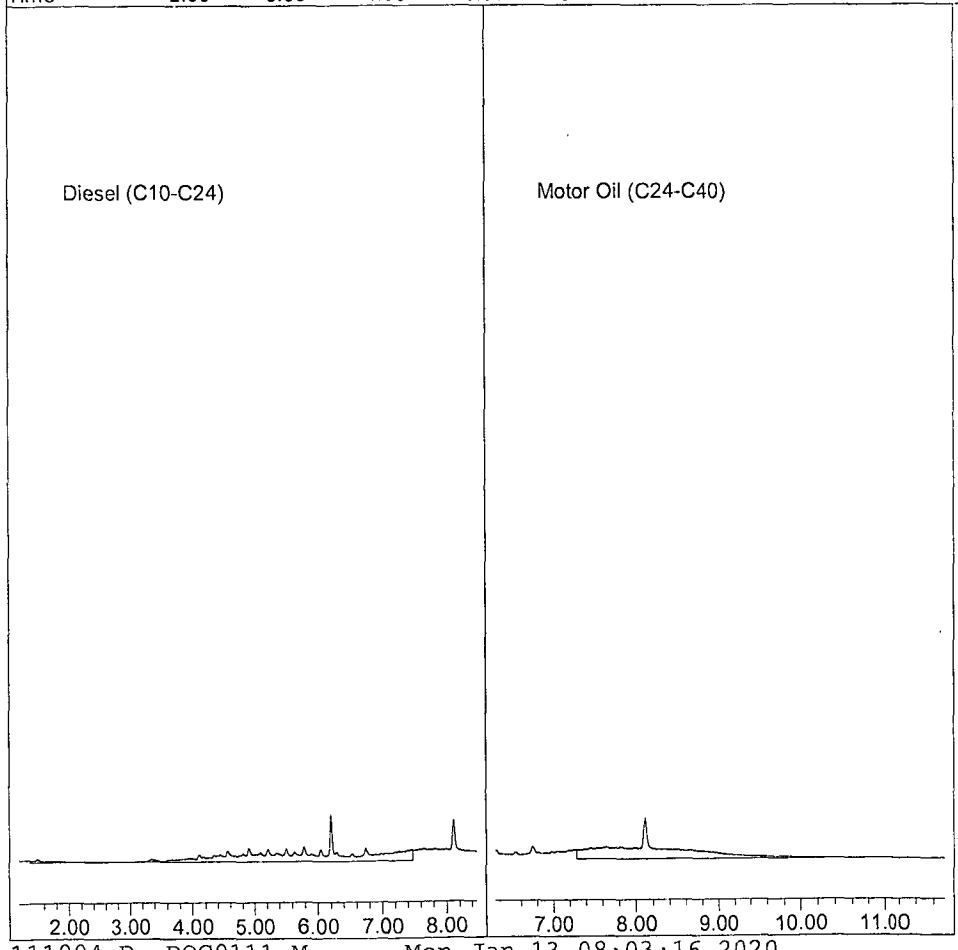
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SA Ortho-Terphenyl(S)	6.20	10093332	2.608 ppb
Surrogate Spike 30.000	Recovery =		8.69%
4) SA Octacosane(S)	8.11	9697764	3.083 ppb
Surrogate Spike 30.000	Recovery =		10.28%
Target Compounds			
1) HATM Diesel (C10-C24)	4.42	198667031	38.722 ppb
2) HBTM Motor Oil (C24-C40)	9.01	139816465	50.388 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200111\111004.D
Sample : Diesel Motor Oil-2 1/11/20





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200111\111005.D Vial: 5
Acq On : 1-11-20 12:15:09 Operator: BT
Sample : Diesel Motor Oil-3 1/11/20 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 13 7:57 2020 Quant Results File: DOC0111.RES

Method : G:\APOLLO\DATA\200111\DOC0111.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Mon Jan 13 07:59:04 2020
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

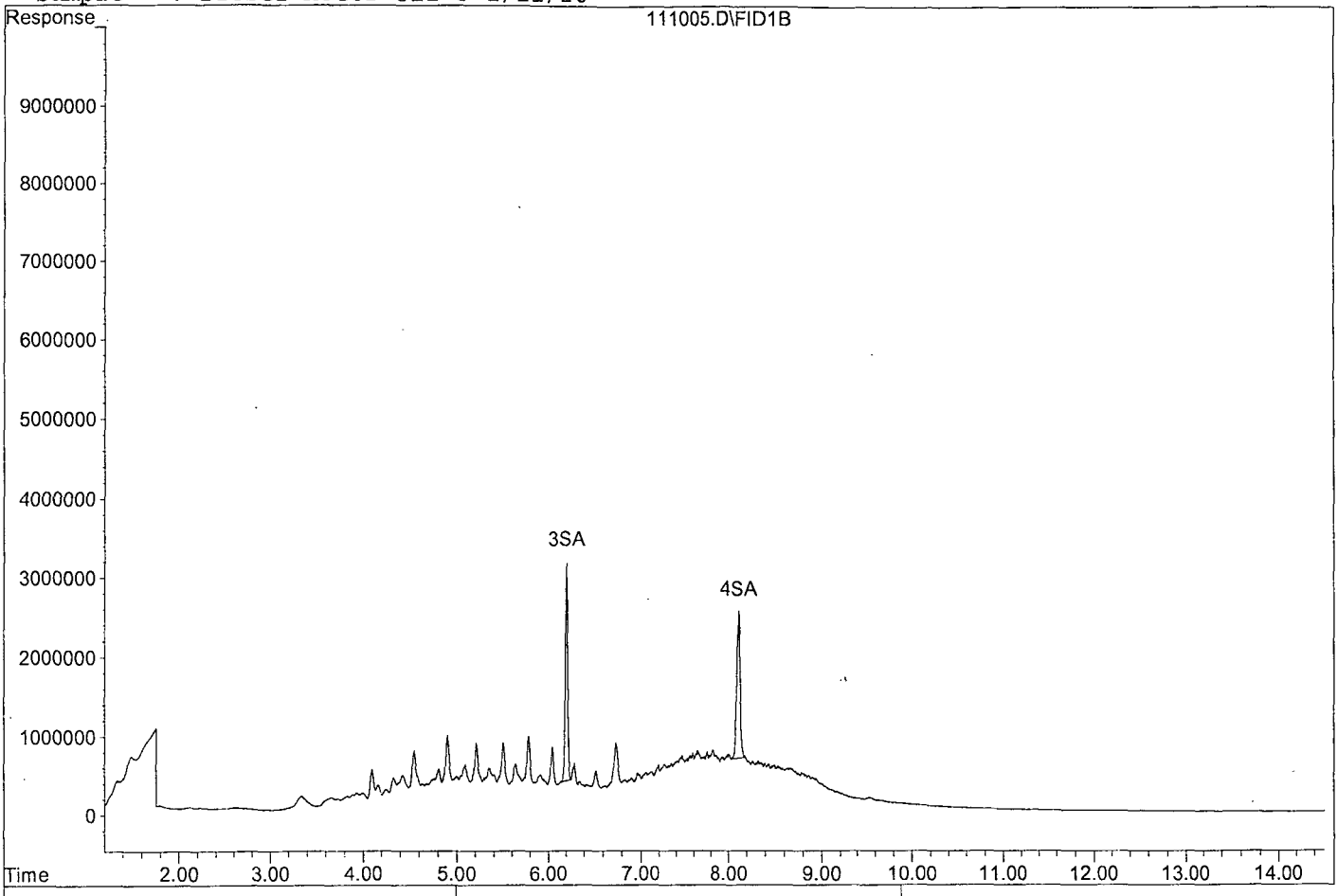
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SA Ortho-Terphenyl(S)	6.20	53441475	12.651 ppb
Surrogate Spike 30.000		Recovery =	42.17%
4) SA Octacosane(S)	8.11	48324263	12.768 ppb
Surrogate Spike 30.000		Recovery =	42.56%
Target Compounds			
1) HATM Diesel (C10-C24)	4.42	962441423	238.050 ppb
2) HBTM Motor Oil (C24-C40)	9.01	731894758	254.269 ppb

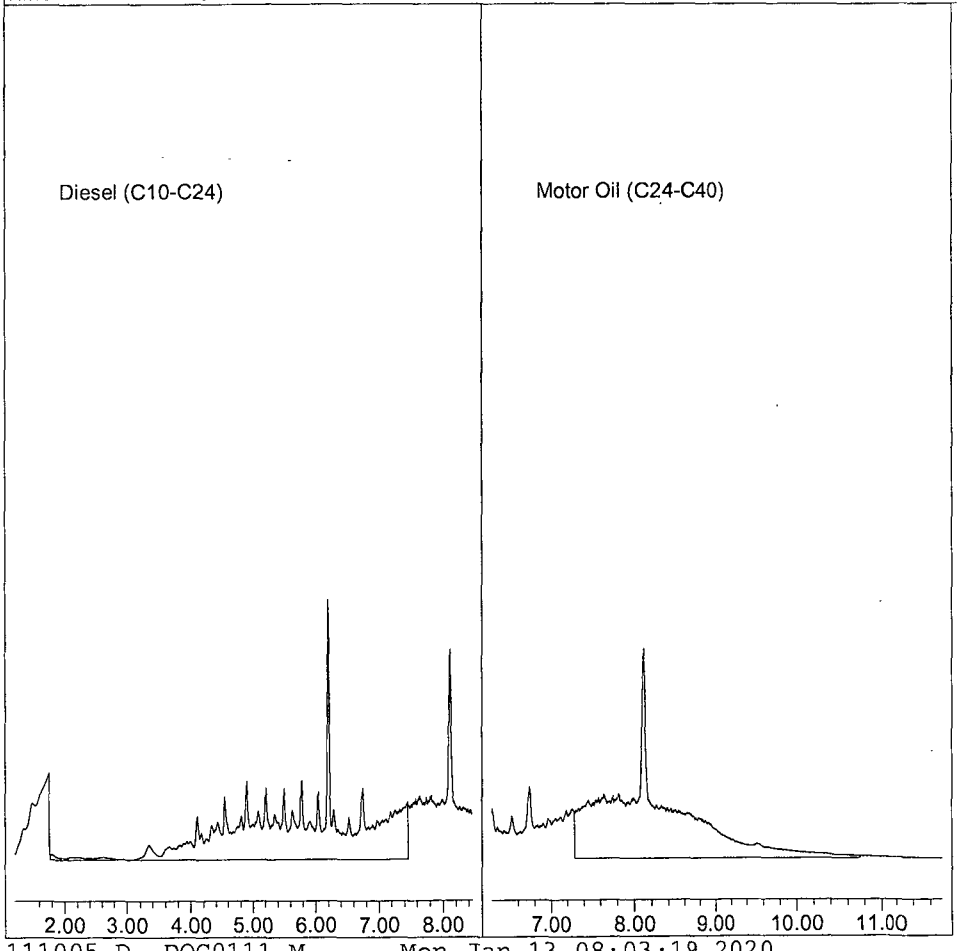
Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\200111\111005.D
Sample : Diesel Motor Oil-3 1/11/20

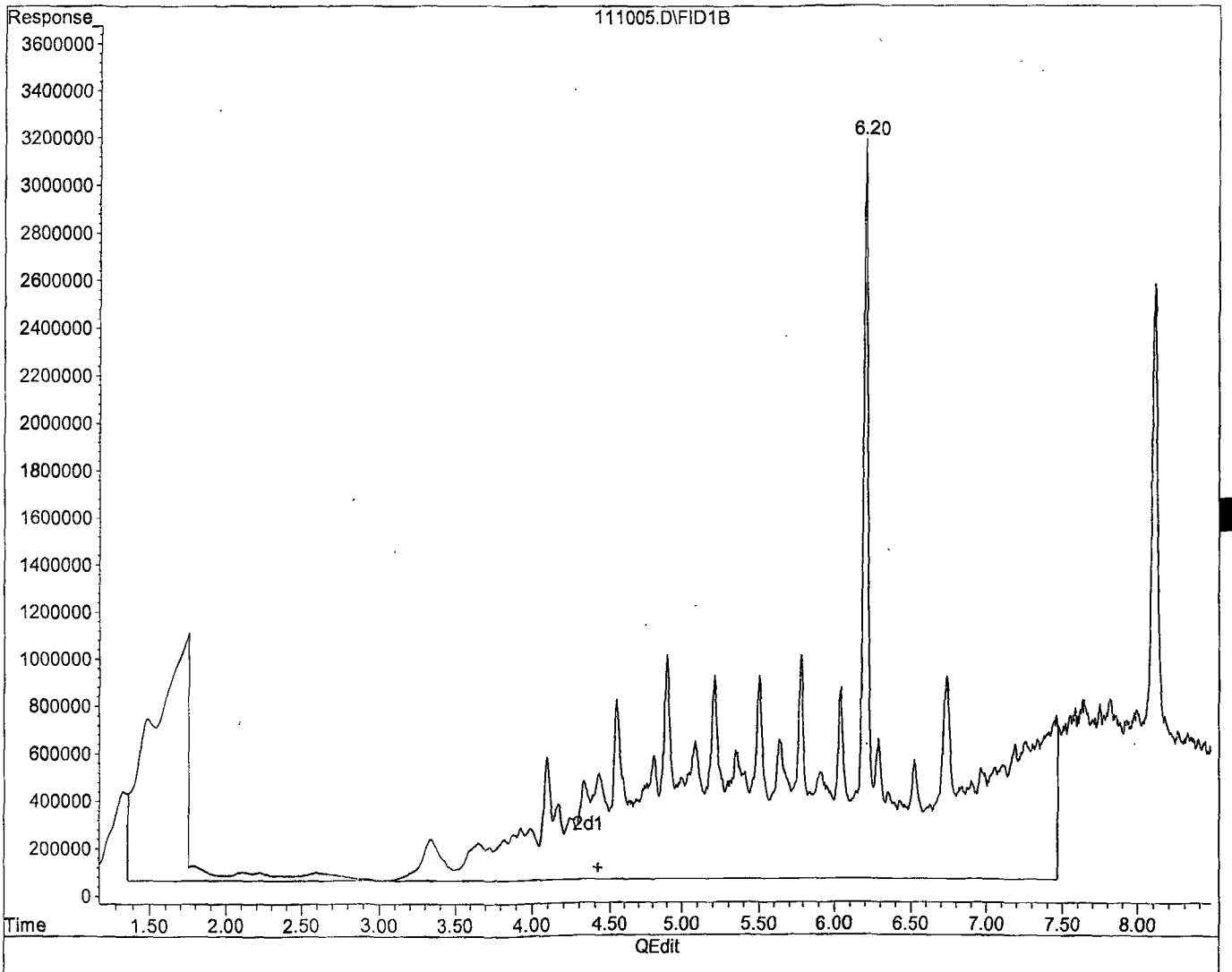




Quantitation Report

Data File : G:\APOLLO\DATA\200111\111005.D Vial: 5
Acq On : 1-11-20 12:15:09 Operator: BT
Sample : Diesel Motor Oil-3 1/11/20 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 13 7:56 2020 Quant Results File: DOC0111.RES

Method : G:\APOLLO\DATA\200111\DOC0111.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Mon Jan 13 07:53:21 2020
Response via : Multiple Level Calibration



(1) Diesel (C10-C24) (HATM)

4.42min 283.321ppb m

response 1135907850

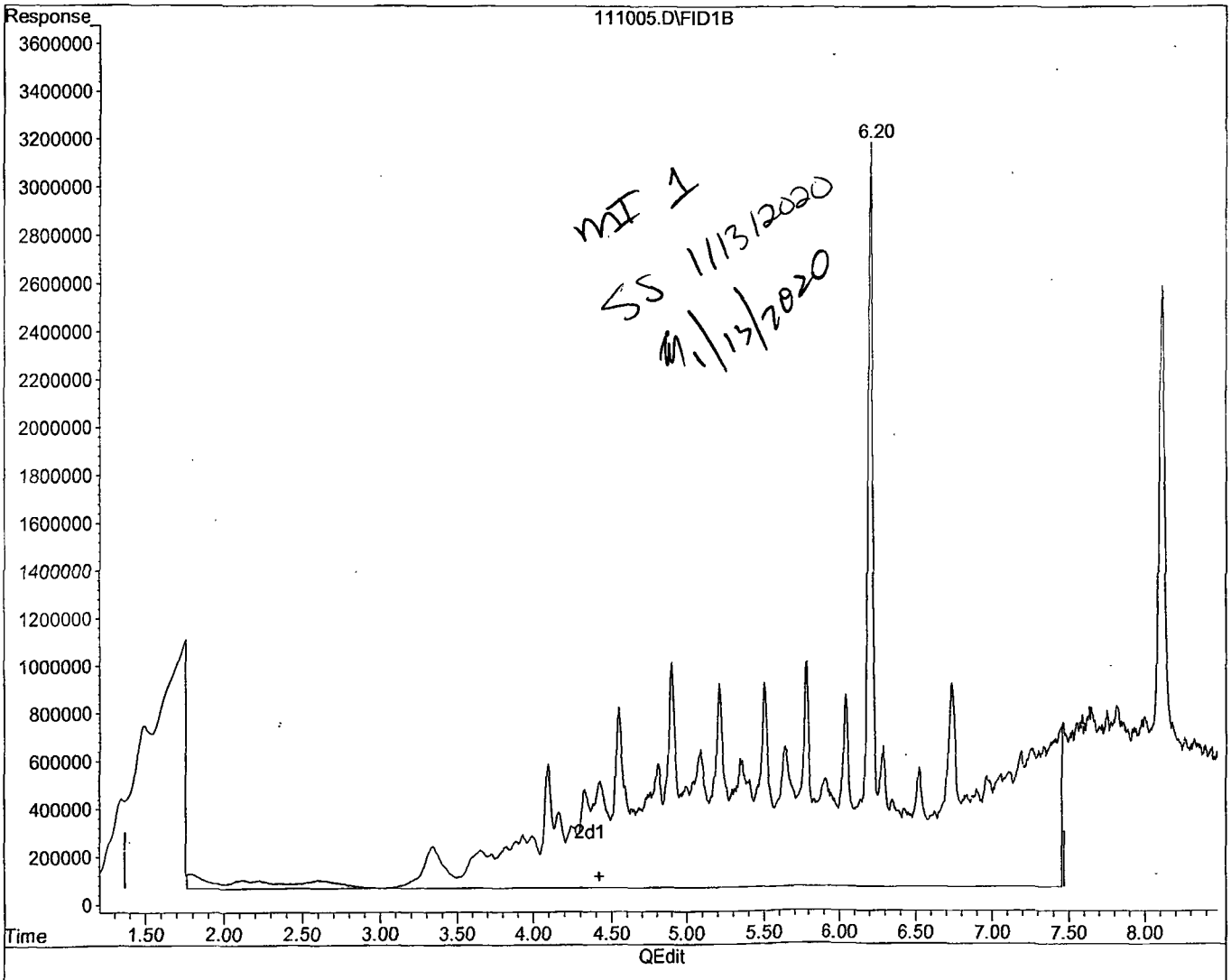
(+) = Expected Retention Time

111005.D DOC0111.M Mon Jan 13 07:57:09 2020

Quantitation Report

Data File : G:\APOLLO\DATA\200111\111005.D Vial: 5
Acq On : 1-11-20 12:15:09 Operator: BT
Sample : Diesel Motor Oil-3 1/11/20 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 13 7:56 2020 Quant Results File: DOC0111.RES

Method : G:\APOLLO\DATA\200111\DOC0111.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Mon Jan 13 07:53:21 2020
Response via : Multiple Level Calibration



(1) Diesel (C10-C24) (HATM)

4.42min 238.050ppb m

response 962441423

(+) = Expected Retention Time
111005.D DOC0111.M Mon Jan 13 07:57:22 2020

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200111\111006.D Vial: 6
Acq On : 1-11-20 12:34:51 Operator: BT
Sample : Diesel Motor Oil-4 1/11/20 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 13 7:56 2020 Quant Results File: DOC0111.RES

Method : G:\APOLLO\DATA\200111\DOC0111.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Mon Jan 13 07:59:04 2020
Response via : Multiple Level Calibration

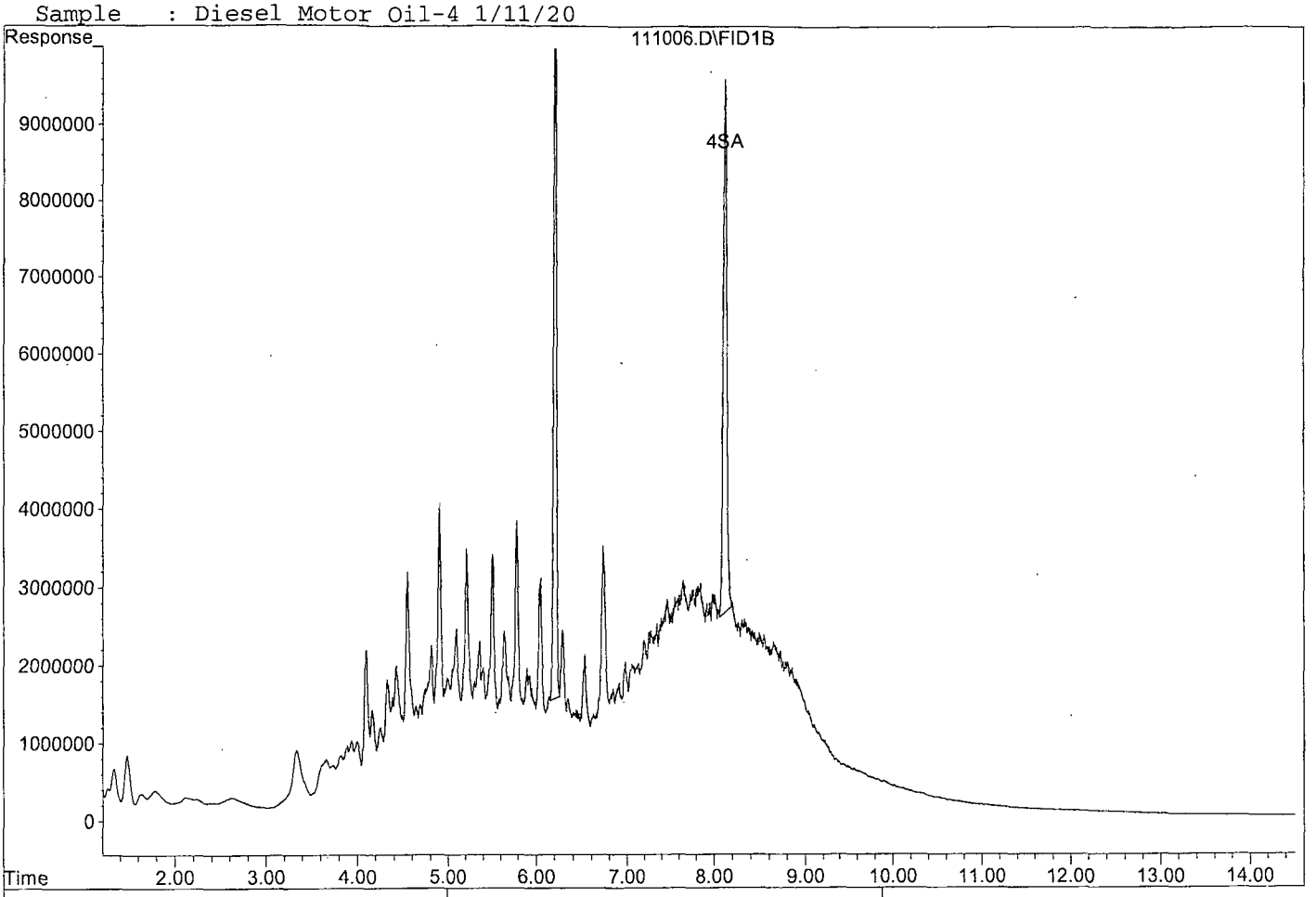
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

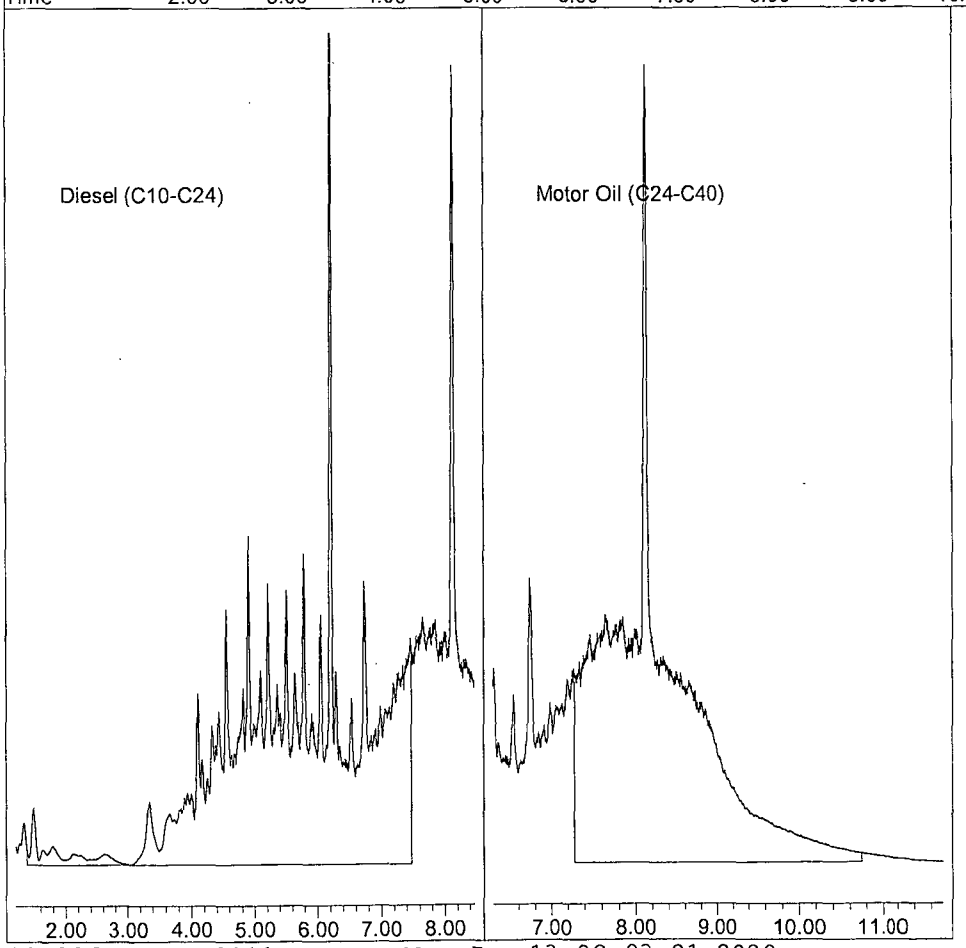
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SA Ortho-Terphenyl(S)	6.21	212369754	49.469 ppb
Surrogate Spike 30.000	Recovery =		164.90%
4) SA Octacosane(S)	8.12	187705049	47.715 ppb
Surrogate Spike 30.000	Recovery =		159.05%
Target Compounds			
1) HATM Diesel (C10-C24)	4.42	3825164959	985.158 ppb
2) HBTM Motor Oil (C24-C40)	9.01	2871684053	991.098 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200111\111006.D
Sample : Diesel Motor Oil-4 1/11/20





111006.D DOC0111.M Mon Jan 13 08:03:21 2020

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200111\111007.D Vial: 7
Acq On : 1-11-20 12:53:51 Operator: BT
Sample : Diesel Motor Oil-5 1/11/20 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 13 7:56 2020 Quant Results File: DOC0111.RES

Method : G:\APOLLO\DATA\200111\DOC0111.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Mon Jan 13 07:59:04 2020
Response via : Multiple Level Calibration

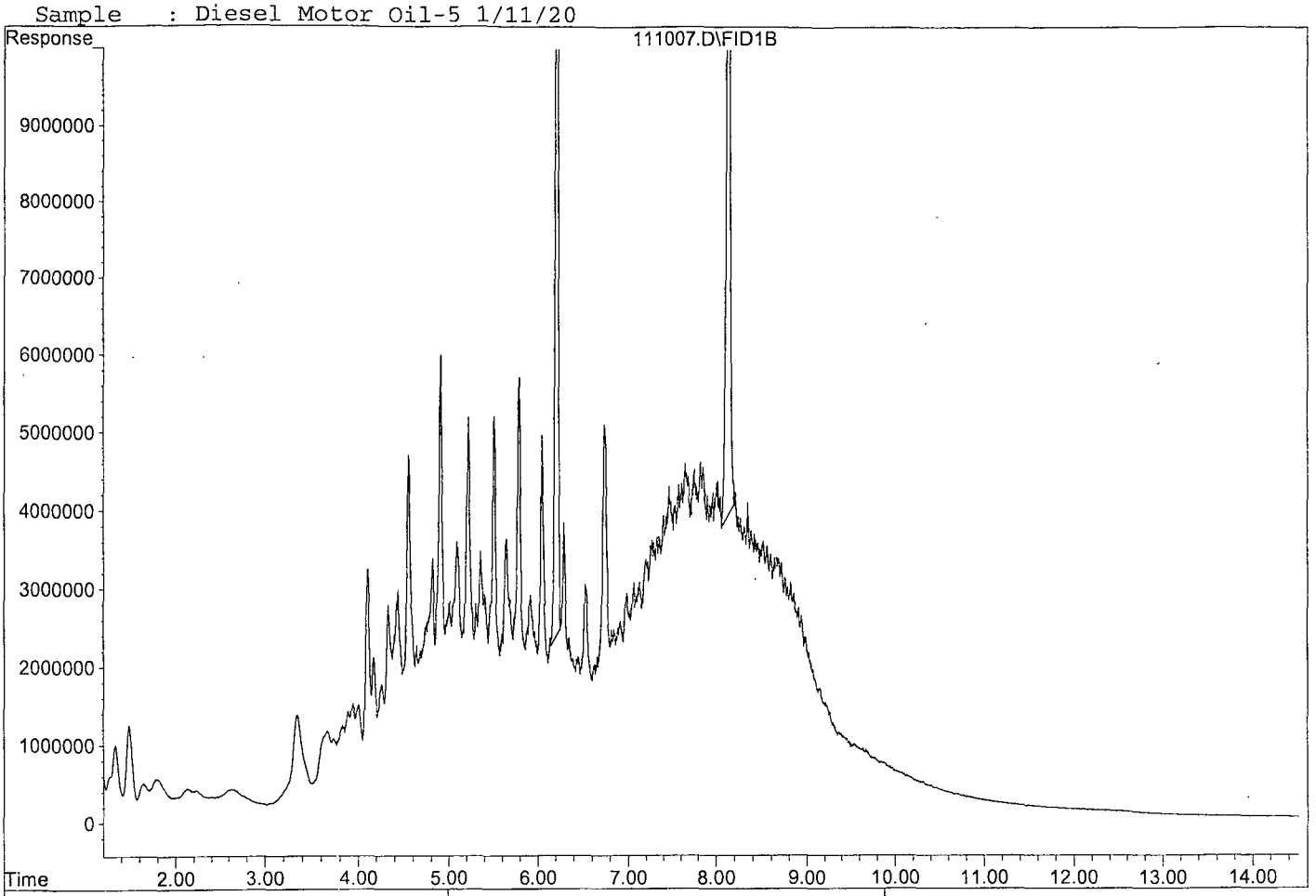
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

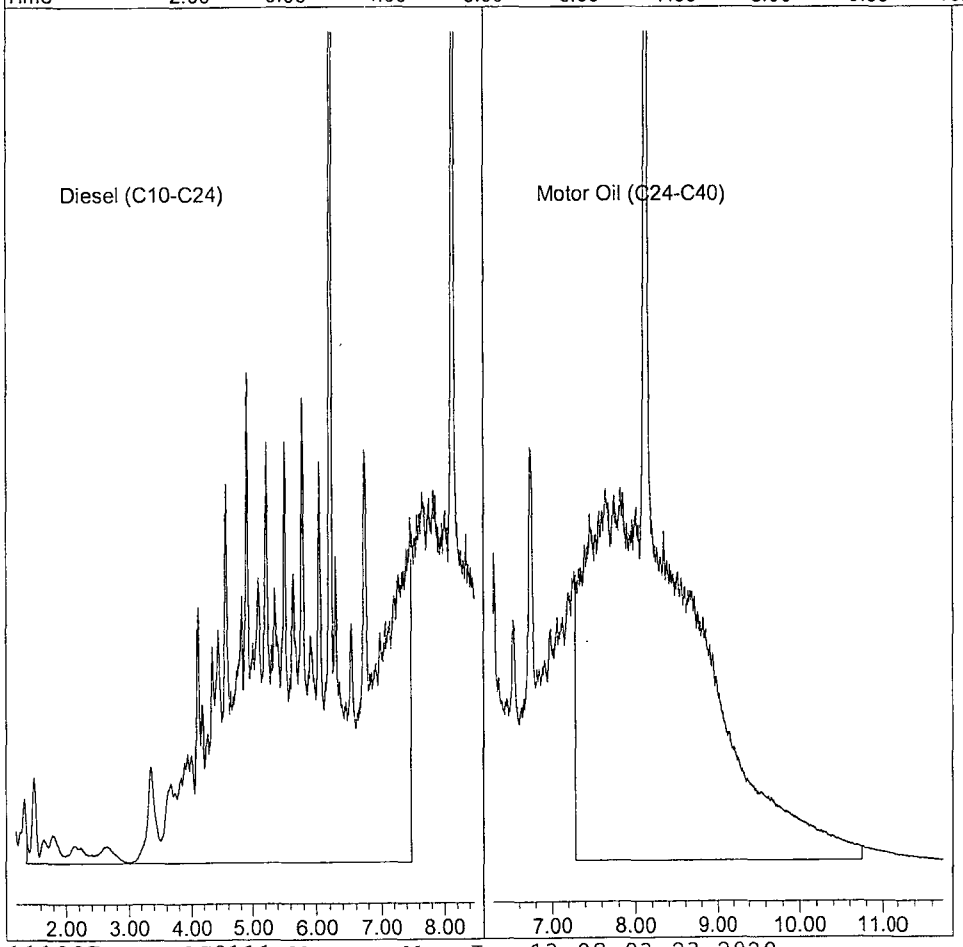
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SA Ortho-Terphenyl(S)	6.22	317763661	73.885 ppb
Surrogate Spike 30.000	Recovery =		246.28%
4) SA Octacosane(S)	8.13	288464296	72.979 ppb
Surrogate Spike 30.000	Recovery =		243.26%
Target Compounds			
1) HATM Diesel (C10-C24)	4.42	5759785331	1490.051 ppb
2) HBTM Motor Oil (C24-C40)	9.01	4304501059	1484.484 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200111\111007.D
Sample : Diesel Motor Oil-5 1/11/20





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200111\111008.D Vial: 8
Acq On : 1-11-20 13:13:29 Operator: BT
Sample : Diesel Motor Oil-6 1/11/20 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 13 7:56 2020 Quant Results File: DOC0111.RES

Method : G:\APOLLO\DATA\200111\DOC0111.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Mon Jan 13 07:59:04 2020
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

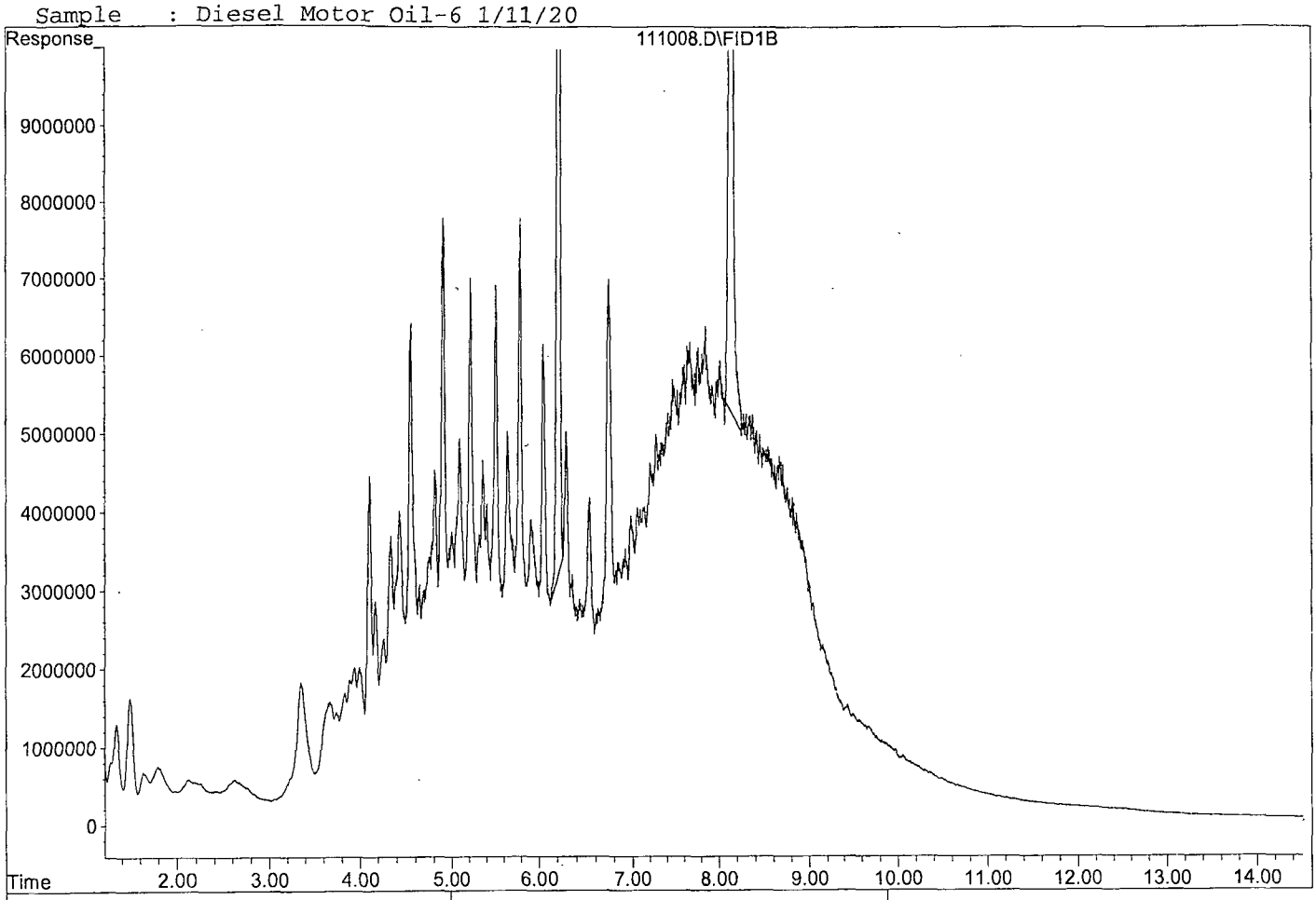
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SA Ortho-Terphenyl(S)	6.22	435148844	101.079 ppb
Surrogate Spike 30.000	Recovery =		336.93%
4) SA Octacosane(S)	8.14	406628533	102.606 ppb
Surrogate Spike 30.000	Recovery =		342.02%
Target Compounds			
1) HATM Diesel (C10-C24)	4.42	7756086002	2011.041 ppb
2) HBTM Motor Oil (C24-C40)	9.01	5846668269	2015.524 ppb

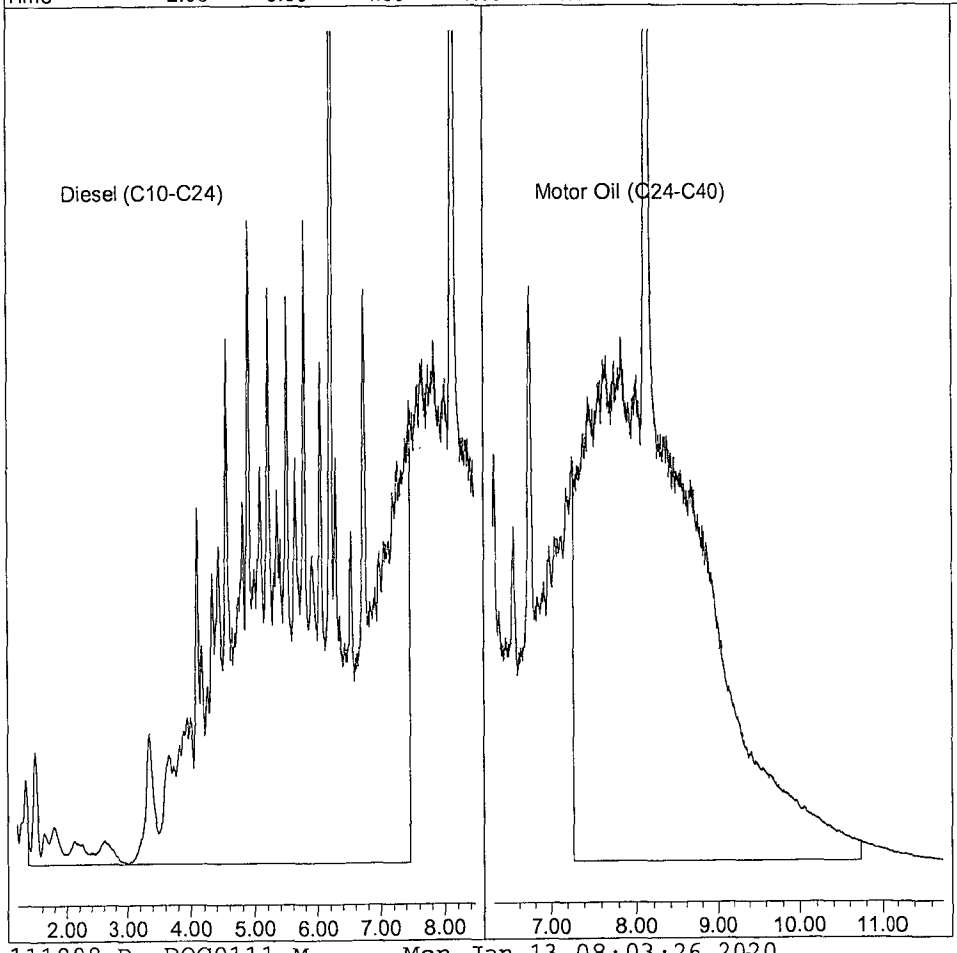
Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\200111\111008.D
Sample : Diesel Motor Oil-6 1/11/20





111008.D DOC0111.M Mon Jan 13 08:03:26 2020

TPH Extractables
DOC0111

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: Water

SDG No:
Date Analyzed: 01/11/20
Instrument: Apollo
Initial Cal. Date: 01/11/20
Data File: 111009.D

		Compound	MEAN	CCRF	%D		%Drift
1	HATM	Diesel (C10-C24)	2087510	1977670	5.3	HATM	
2	HBTM	Motor Oil (C24-C40)	1489330	1360260	8.7	HBTM	
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			7.0		

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200111\111009.D Vial: 9
Acq On : 1-11-20 13:33:12 Operator: BT
Sample : Diesel Motor Oil-SS 12/23/19 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 13 8:03 2020 Quant Results File: DOC0111.RES

Method : G:\APOLLO\DATA\200111\DOC0111.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Mon Jan 13 07:59:04 2020
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

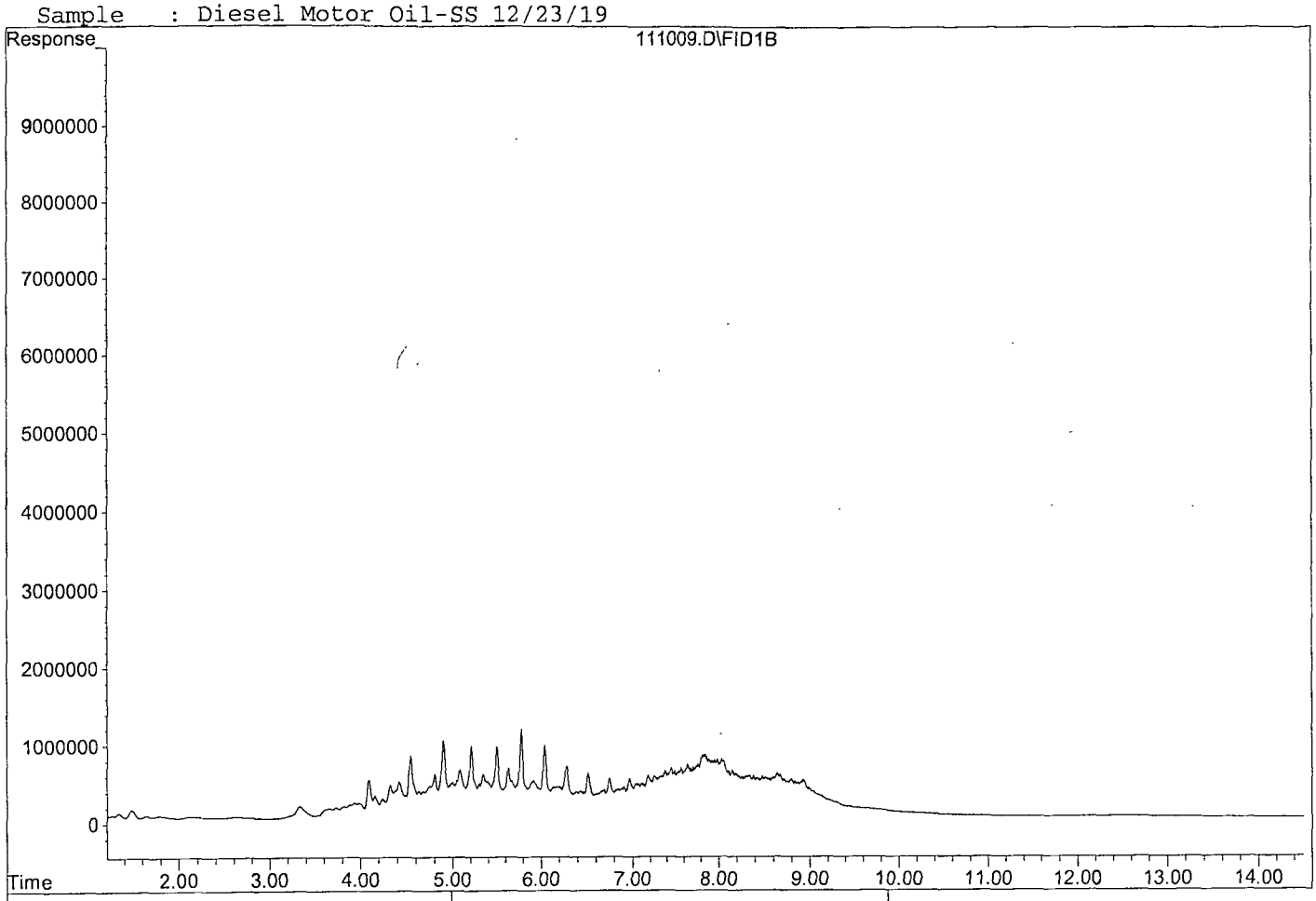
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SA Ortho-Terphenyl(S)	0.00	0	N.D. ppb d
Surrogate Spike 30.000	Recovery	=	0.00%
4) SA Octacosane(S)	0.00	0	N.D. ppb d
Surrogate Spike 30.000	Recovery	=	0.00%
Target Compounds			
1) HATM Diesel (C10-C24)	4.42	988835441	236.846 ppb
2) HBTM Motor Oil (C24-C40)	9.01	680127899	228.334 ppb

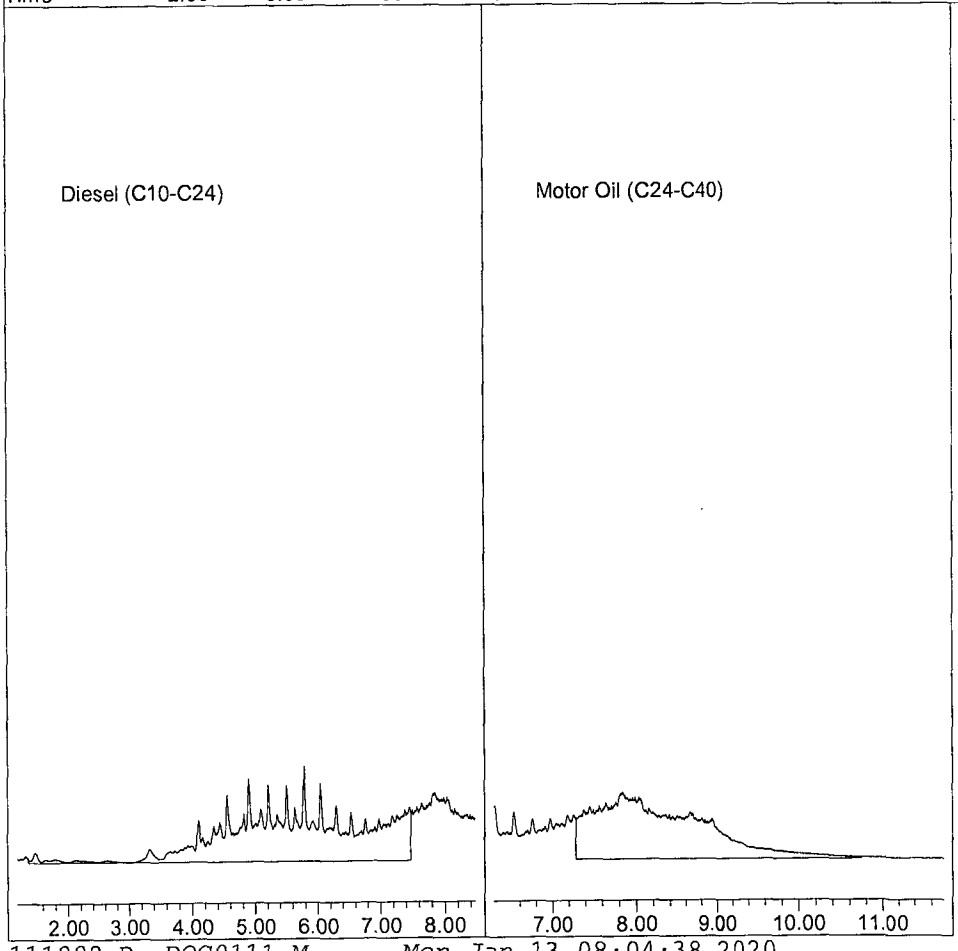
Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\200111\111009.D
Sample : Diesel Motor Oil-SS 12/23/19





TPH Extractables
DEC1120

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Initial Cal. Date: 11/20/19
Matrix: Water Instrument: Apollo Initials:

1115178 D 1115179 D 1115180 D 1115181.D 1115182.D 1115183 D

		Compound	1	2	3	4	5	6					Avg	%RSD	Type	r^2	Q
1	SCL	Decanoic Acid(S)	405087	460275	729336	758671	822876	812977					664870	28	SC	0.998	
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	
11																	
12																	
13																	
14																	
15																	
16																	
17																	
18																	
19																	
20																	
21																	
22																	
23																	
24																	
25																	
26																	
27																	
28																	
29																	
30																	
31																	
32																	
33																	
34																	
35																	

0.790521

Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\191115\1115178.D Vial: 78
Acq On : 11-20-19 10:33:58 Operator: BT
Sample : Decanoic Acid - 1 11/20/19 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Nov 22 8:50 2019 Quant Results File: DEC1120.RES

Method : G:\APOLLO\DATA\191115\DEC1120.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Sat Jan 18 07:19:37 2020
Response via : Multiple Level Calibration

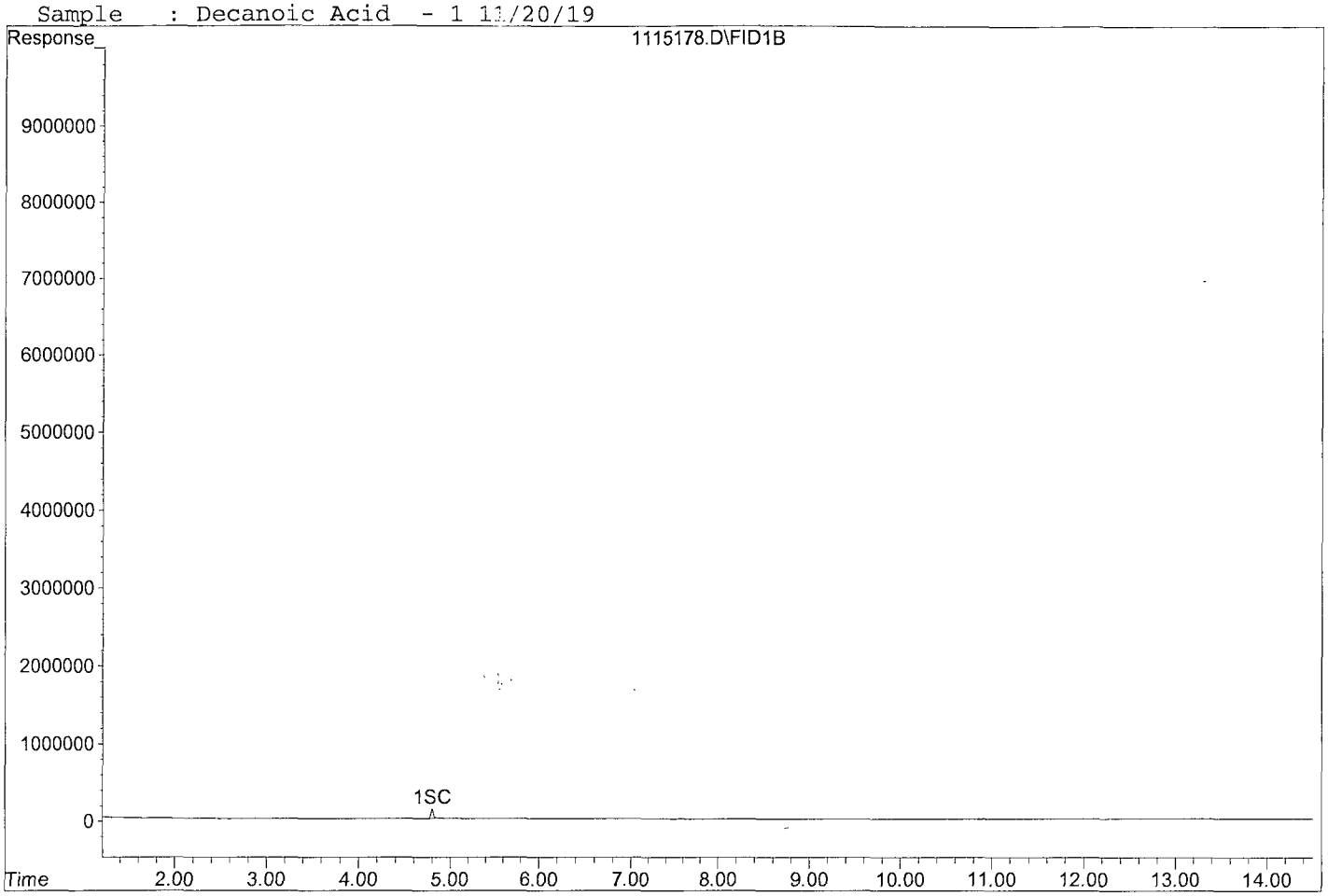
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) SC Decanoic Acid(S)	4.80	2430521	1.828 ppb
Surrogate Spike 24.000	Recovery	≈	7.62%
Target Compounds			
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\191115\1115178.D
Sample : Decanoic Acid - 1 11/20/19



Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\191115\1115179.D Vial: 79
Acq On : 11-20-19 10:53:46 Operator: BT
Sample : Decanoic Acid - 2 11/20/19 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Nov 22 8:50 2019 Quant Results File: DEC1120.RES

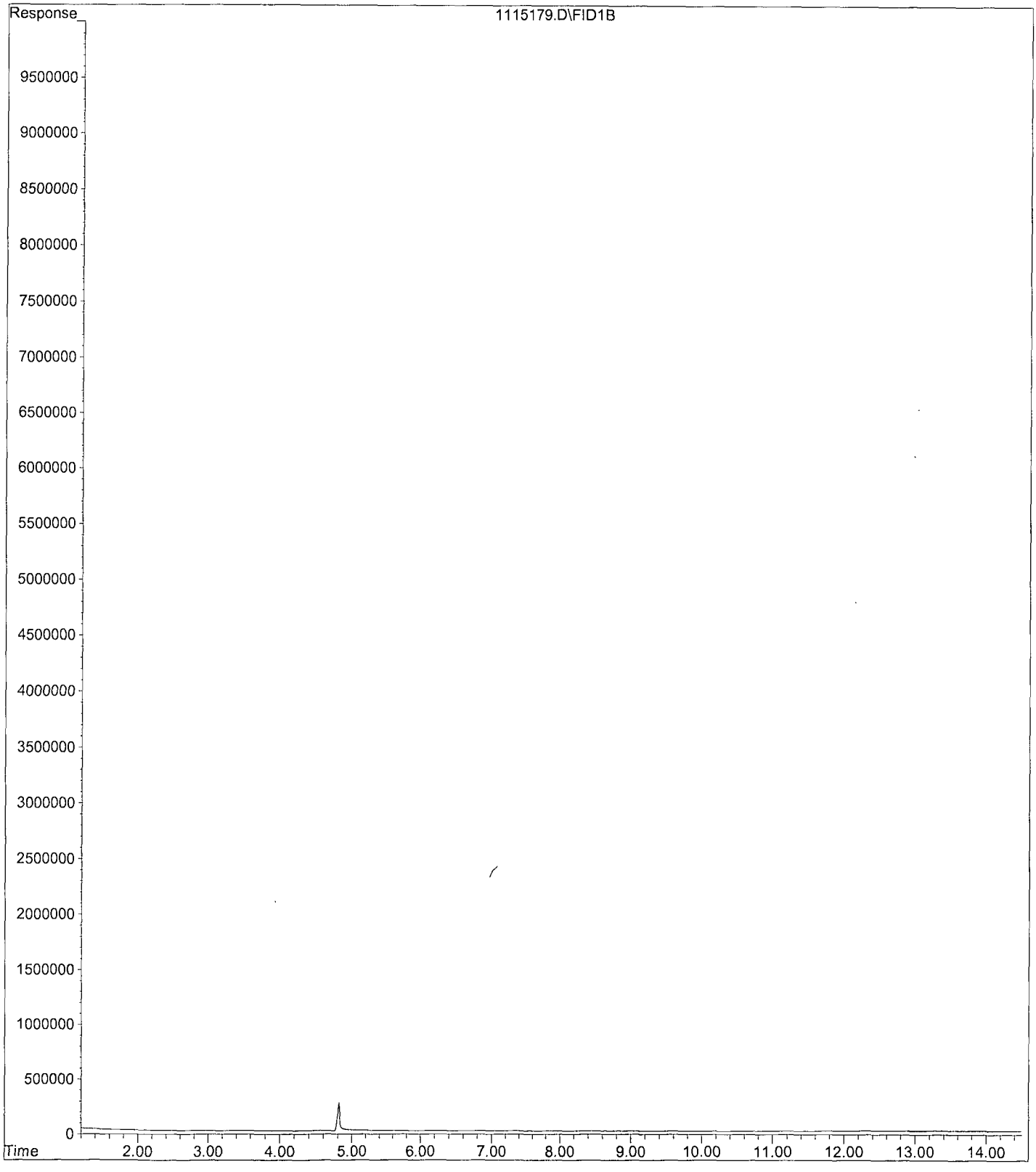
Method : G:\APOLLO\DATA\191115\DEC1120.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Sat Jan 18 07:19:37 2020
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) SC Decanoic Acid(S)	4.82	5523296	4.154 ppb
Surrogate Spike 24.000		Recovery =	17.31%
Target Compounds			
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

File : G:\APOLLO\DATA\191115\1115179.D
Operator : BT
Acquired : 11-20-19 10:53:46 using AcqMethod TPHSN.M
Instrument : Apollo
Sample Name: Decanoic Acid - 2 11/20/19
Misc Info : water
Vial Number: 79



Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\191115\1115180.D Vial: 80
Acq On : 11-20-19 11:13:35 Operator: BT
Sample : Decanoic Acid - 3 11/20/19 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Nov 22 8:51 2019 Quant Results File: DEC1120.RES

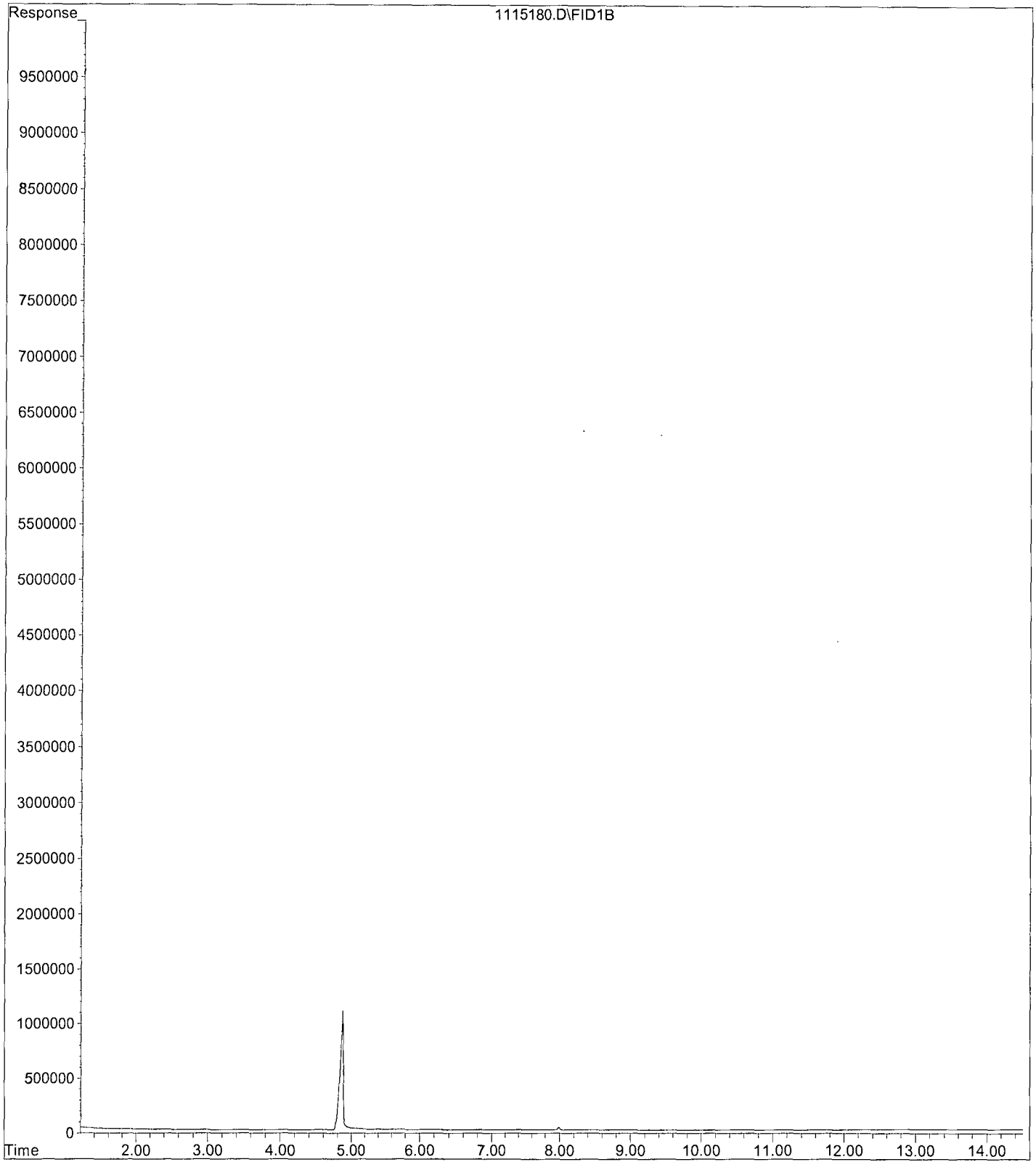
Method : G:\APOLLO\DATA\191115\DEC1120.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Sat Jan 18 07:19:37 2020
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) SC Decanoic Acid(S)	4.87f	35008125	26.327 ppb
Surrogate Spike 24.000	Recovery =		109.70%
Target Compounds			
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

File : G:\APOLLO\DATA\191115\1115180.D
Operator : BT
Acquired : 11-20-19 11:13:35 using AcqMethod TPHSN.M
Instrument : Apollo
Sample Name: Decanoic Acid - 3 11/20/19
Misc Info : water
Vial Number: 80



Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\191115\1115181.D Vial: 81
Acq On : 11-20-19 11:33:26 Operator: BT
Sample : Decanoic Acid - 4 11/20/19 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Nov 22 8:51 2019 Quant Results File: DEC1120.RES

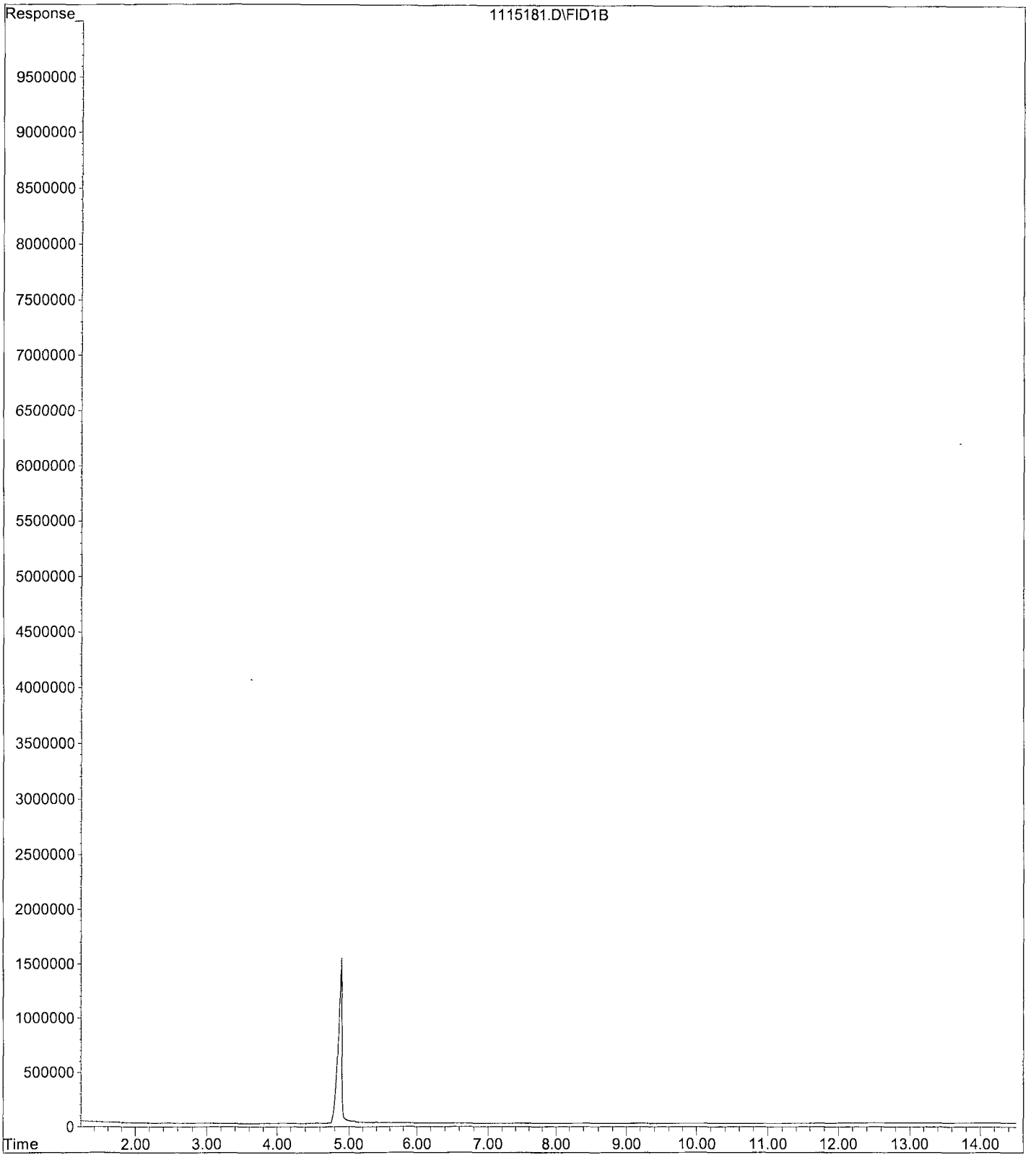
Method : G:\APOLLO\DATA\191115\DEC1120.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Sat Jan 18 07:19:37 2020
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) SC Decanoic Acid(S)	4.89f	54624296	41.079 ppb
Surrogate Spike 24.000	Recovery =		171.16%
Target Compounds			
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

File : G:\APOLLO\DATA\191115\1115181.D
Operator : BT
Acquired : 11-20-19 11:33:26 using AcqMethod TPHSN.M
Instrument : Apollo
Sample Name: Decanoic Acid - 4 11/20/19
Misc Info : water
Vial Number: 81



Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\191115\1115182.D Vial: 82
Acq On : 11-20-19 11:52:35 Operator: BT
Sample : Decanoic Acid - 5 11/20/19 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Nov 22 8:51 2019 Quant Results File: DEC1120.RES

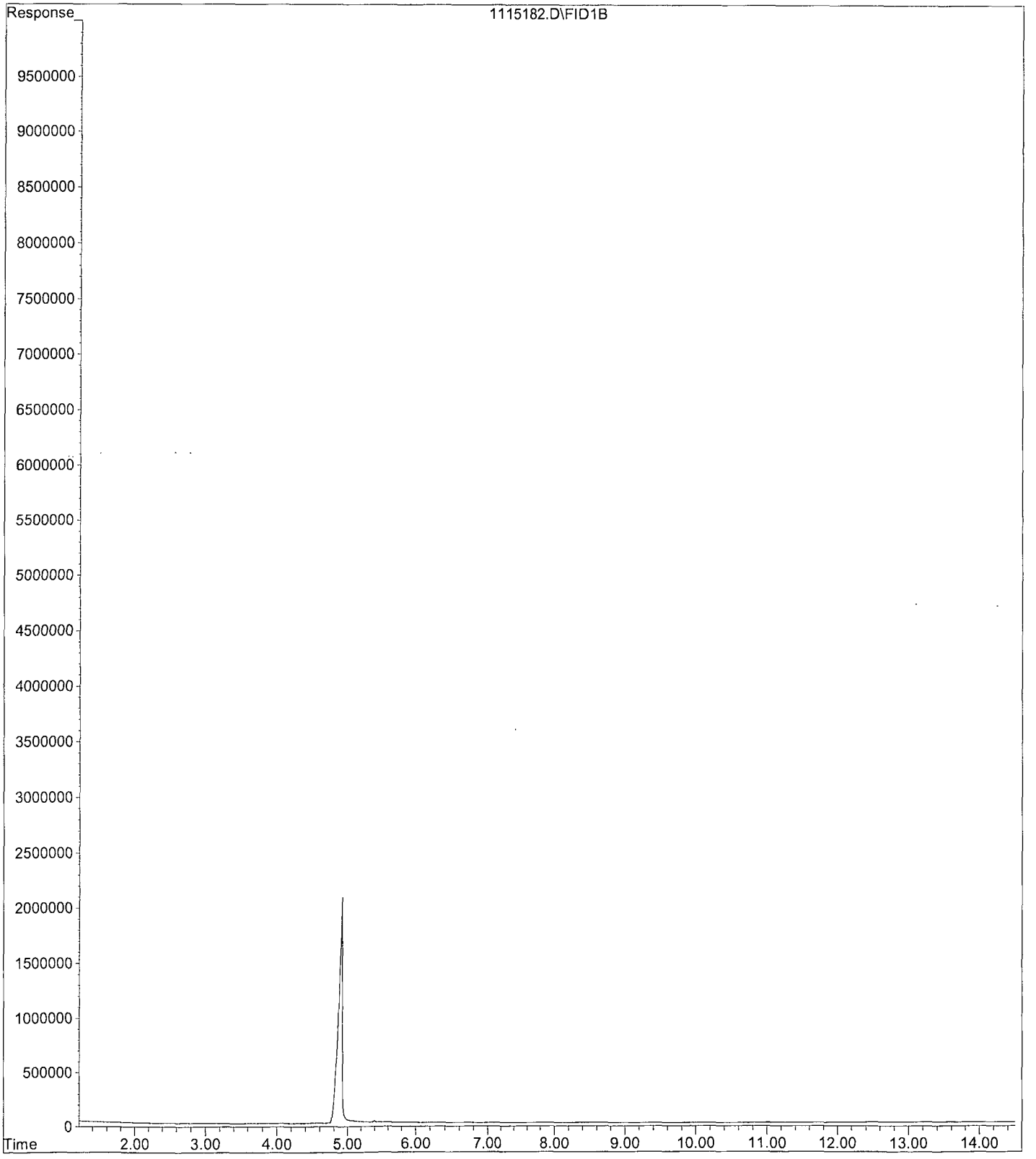
Method : G:\APOLLO\DATA\191115\DEC1120.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Sat Jan 18 07:19:37 2020
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) SC Decanoic Acid(S)	4.92f	78996112	59.407 ppb
Surrogate Spike 24.000	Recovery	=	247.53%
Target Compounds			
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

File : G:\APOLLO\DATA\191115\1115182.D
Operator : BT
Acquired : 11-20-19 11:52:35 using AcqMethod TPHSN.M
Instrument : Apollo
Sample Name: Decanoic Acid - 5 11/20/19
Misc Info : water
Vial Number: 82



Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\191115\1115183.D Vial: 83
Acq On : 11-20-19 12:12:26 Operator: BT
Sample : Decanoic Acid - 6 11/20/19 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Nov 22 8:51 2019 Quant Results File: DEC1120.RES

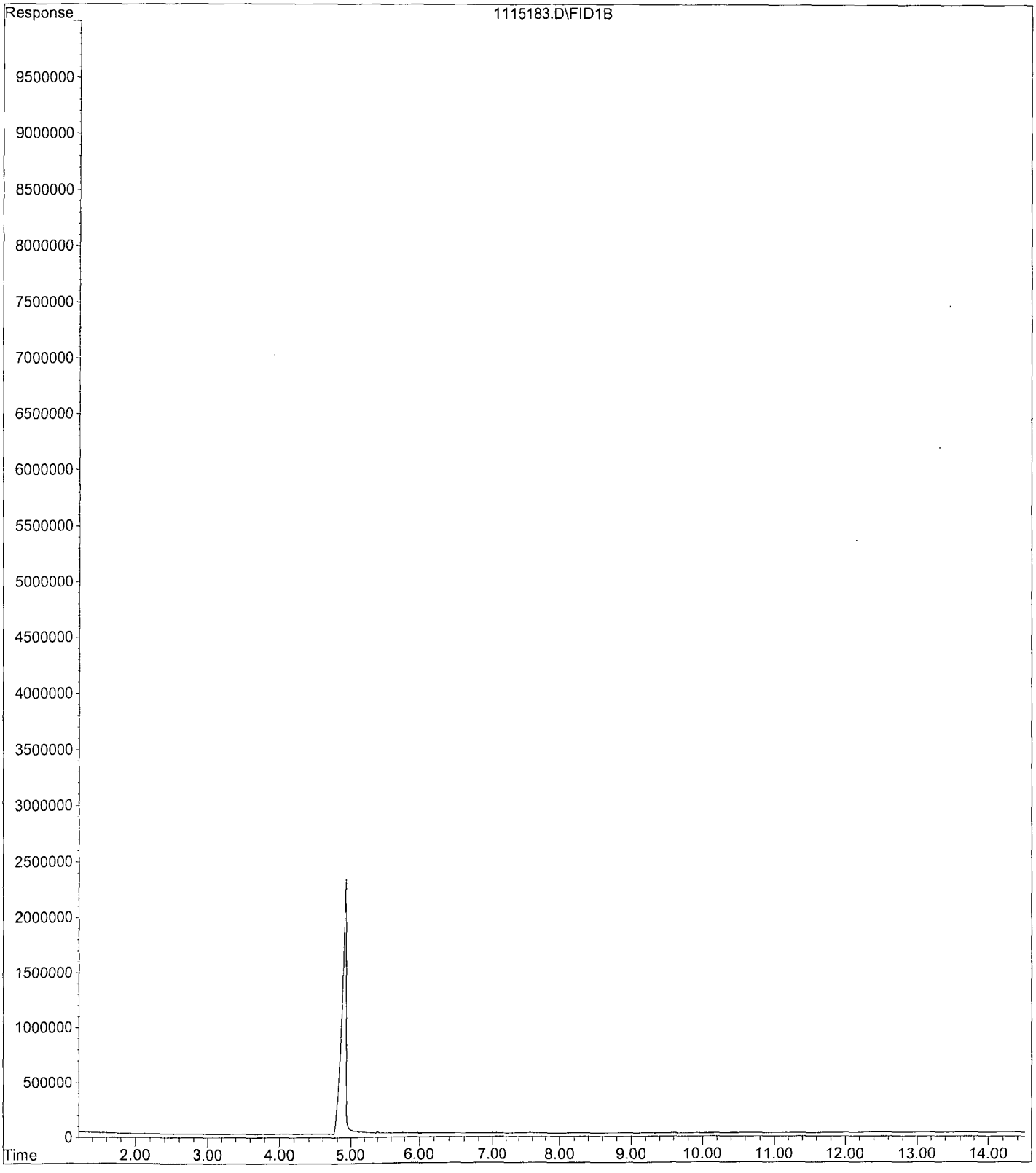
Method : G:\APOLLO\DATA\191115\DEC1120.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Sat Jan 18 07:19:37 2020
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) SC Decanoic Acid(S)	4.93	97557275	73.366 ppb
Surrogate Spike 24.000		Recovery =	305.69%
Target Compounds			
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

File : G:\APOLLO\DATA\191115\1115183.D
Operator : BT
Acquired : 11-20-19 12:12:26 using AcqMethod TPHSN.M
Instrument : Apollo
Sample Name: Decanoic Acid - 6 11/20/19
Misc Info : water
Vial Number: 83



TPH Extractables
DOC0127

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Initial Cal. Date: 01/27/20
Matrix: Water Instrument: Apollo
Initials: SS/

			127006.D	127011 D	127009.D	127012.D	127013 D	127014 D									
		Compound	1	2	3	4	5	6					Avg	%RSD	Type	r^2	Q
1	HATML	Diesel (C10-C24)	3276902	1949036	2020812	1964481	1919182	1995728					2187690	24	HATM	0.999	
2	HBTM	Motor Oil (C24-C40)	1978456	1342290	1402120	1442626	1418303	1497724					1513587	15	HBTM		
3	SA	Ortho-Terphenyl(S)	2197510	1483188	1704956	1740698	1758958	1840975					1787714	13	SA		
4	SAL	Octacosane(S)	2926859	1854766	1686648	1741570	1771993	1889797					1978606	24	SA	0.998	
5																	
6																	
7																	
8																	
9																	
10																	
11																	
12																	
13																	
14																	
15																	
16																	
17																	
18																	
19																	
20																	
21																	
22																	
23																	
24																	
25																	
26																	
27																	
28																	
29																	
30																	
31																	
32																	
33																	
34																	
35																	

2.191921

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200127\127006.D Vial: 6
Acq On : 1-27-20 13:00:22 Operator: BT
Sample : Diesel Motor Oil - 1 1/27/20 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 28 7:52 2020 Quant Results File: DOC0127.RES

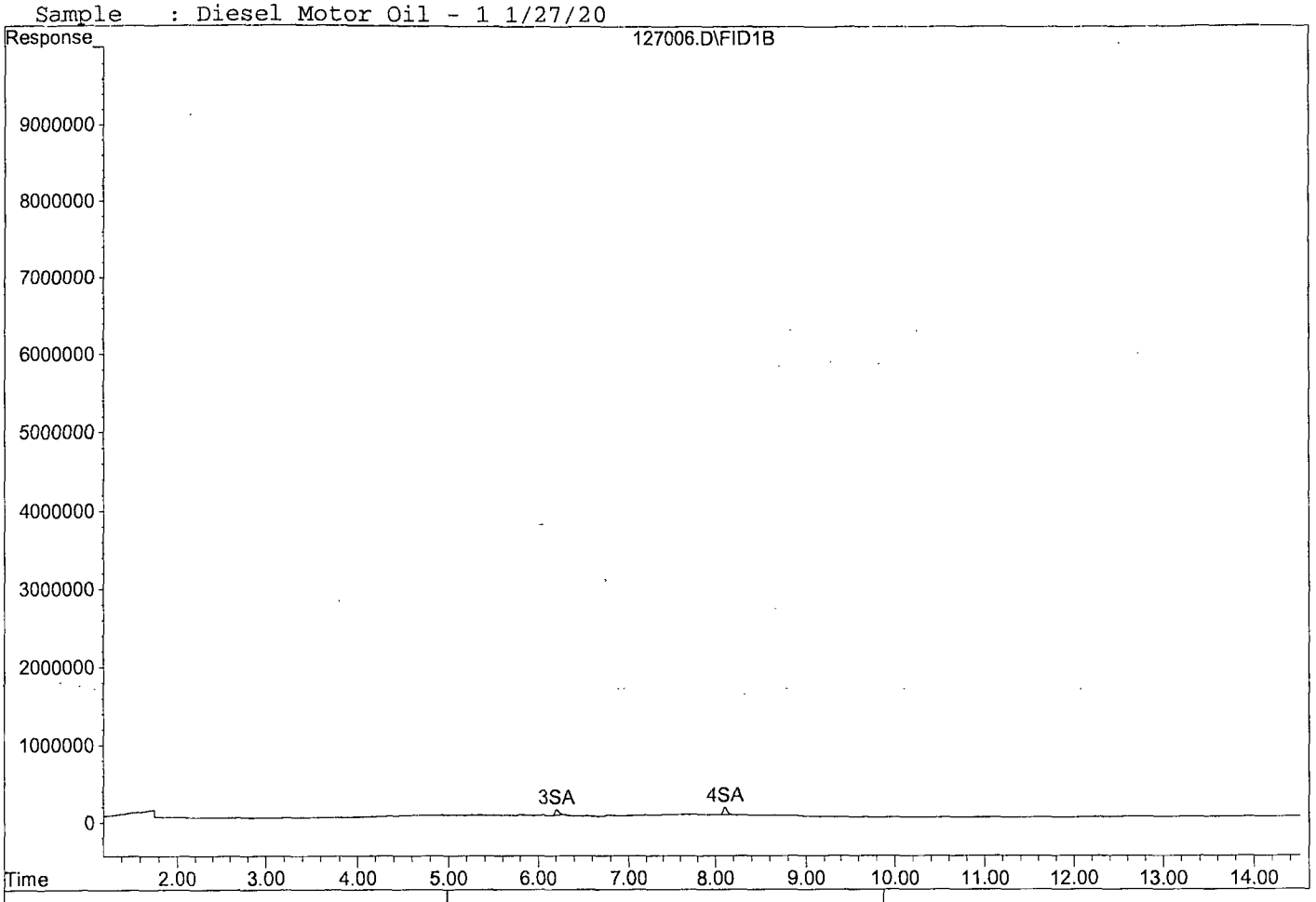
Method : G:\APOLLO\DATA\200127\DOC0127.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Jan 28 07:54:11 2020
Response via : Multiple Level Calibration

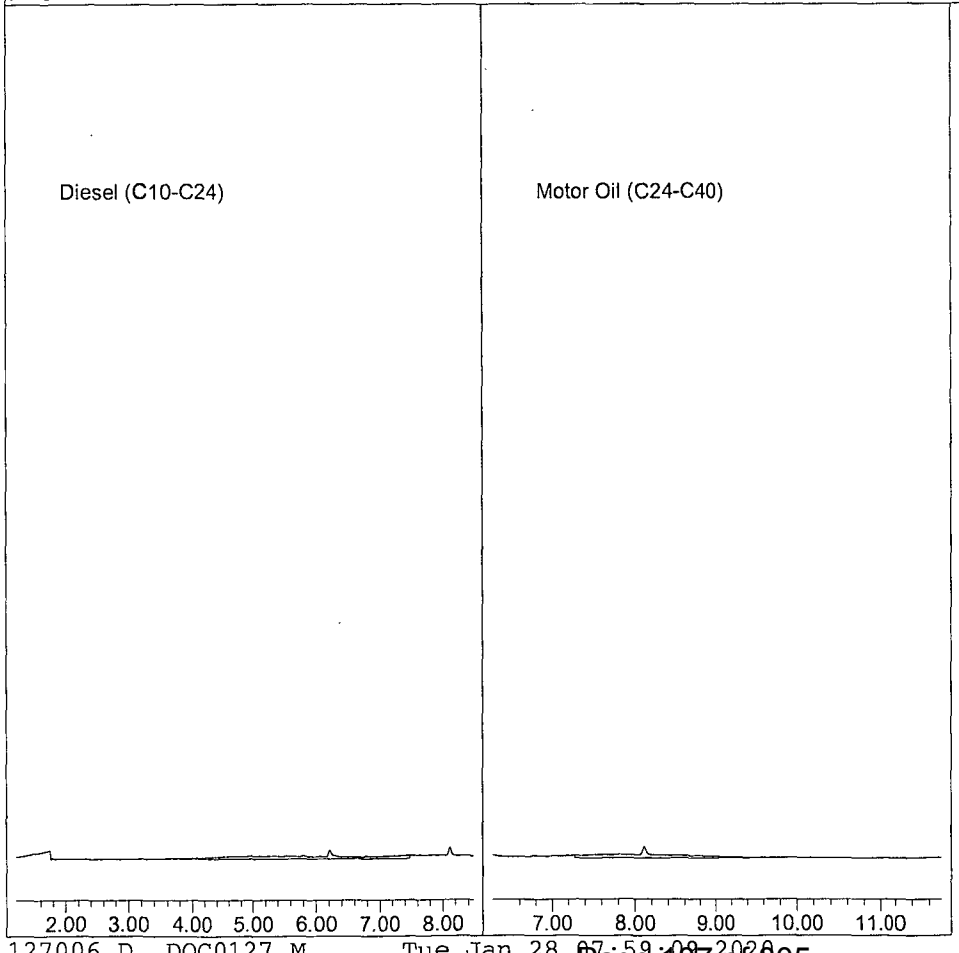
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SA Ortho-Terphenyl(S)	6.21	2197510	0.615 ppb
Surrogate Spike 30.000	Recovery =		2.05%
4) SA Octacosane(S)	8.11	2926859	0.740 ppb
Surrogate Spike 30.000	Recovery =		2.47%
Target Compounds			
1) HATM Diesel (C10-C24)	4.42	65538050	13.704 ppb
2) HBTM Motor Oil (C24-C40)	9.01	39569115	13.136 ppb
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200127\127006.D
Sample : Diesel Motor Oil - 1 1/27/20

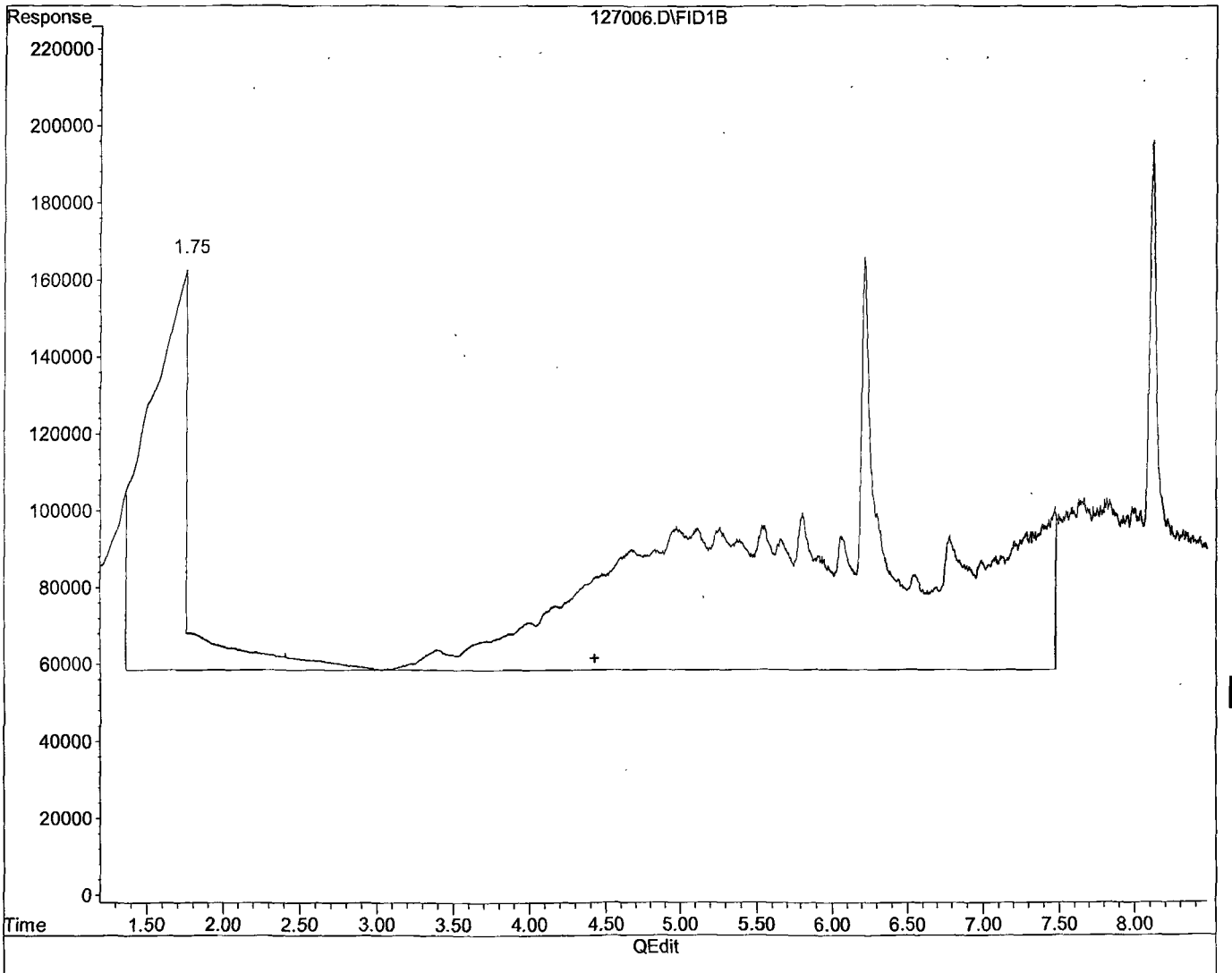




Quantitation Report

Data File : G:\APOLLO\DATA\200127\127006.D Vial: 6
Acq On : 1-27-20 13:00:22 Operator: BT
Sample : Diesel Motor Oil - 1 1/27/20 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 28 7:49 2020 Quant Results File: DOC0127.RES

Method : G:\APOLLO\DATA\200127\DOC0127.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Jan 28 07:48:05 2020
Response via : Multiple Level Calibration



(1) Diesel (C10-C24) (HATM)

4.42min 17.313ppb m

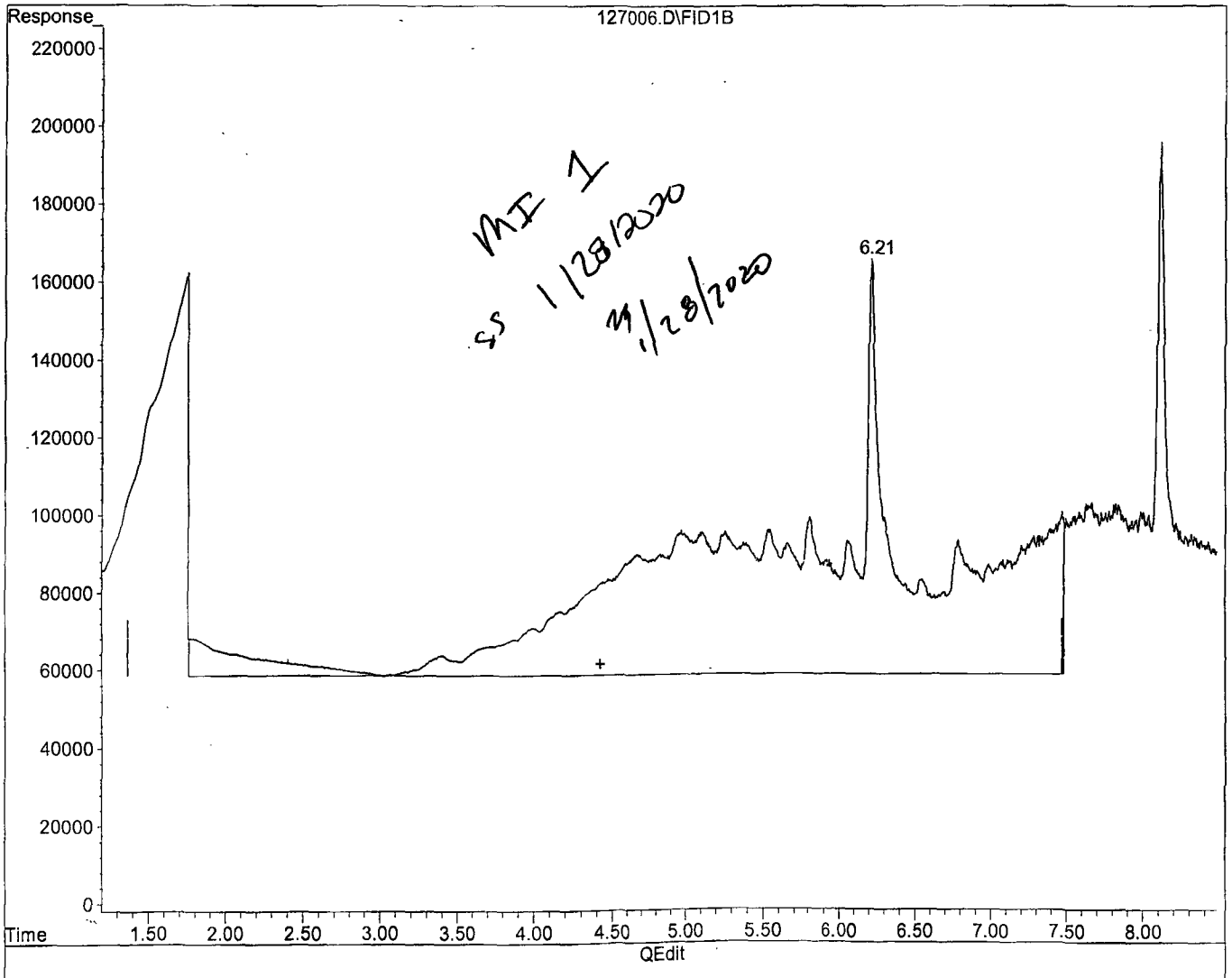
response 82799590

(+) = Expected Retention Time

Quantitation Report

Data File : G:\APOLLO\DATA\200127\127006.D Vial: 6
Acq On : 1-27-20 13:00:22 Operator: BT
Sample : Diesel Motor Oil - 1 1/27/20 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 28 7:49 2020 Quant Results File: DOC0127.RES

Method : G:\APOLLO\DATA\200127\DOC0127.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Jan 28 07:48:05 2020
Response via : Multiple Level Calibration



(1) Diesel (C10-C24) (HATM)

4.42min 13.704ppb m

response 65538050

(+) = Expected Retention Time

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200127\127011.D Vial: 11
Acq On : 1-27-20 15:11:37 Operator: BT
Sample : Diesel Motor Oil - 2 1/27/20 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 28 7:50 2020 Quant Results File: DOC0127.RES

Method : G:\APOLLO\DATA\200127\DOC0127.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Jan 28 07:54:11 2020
Response via : Multiple Level Calibration

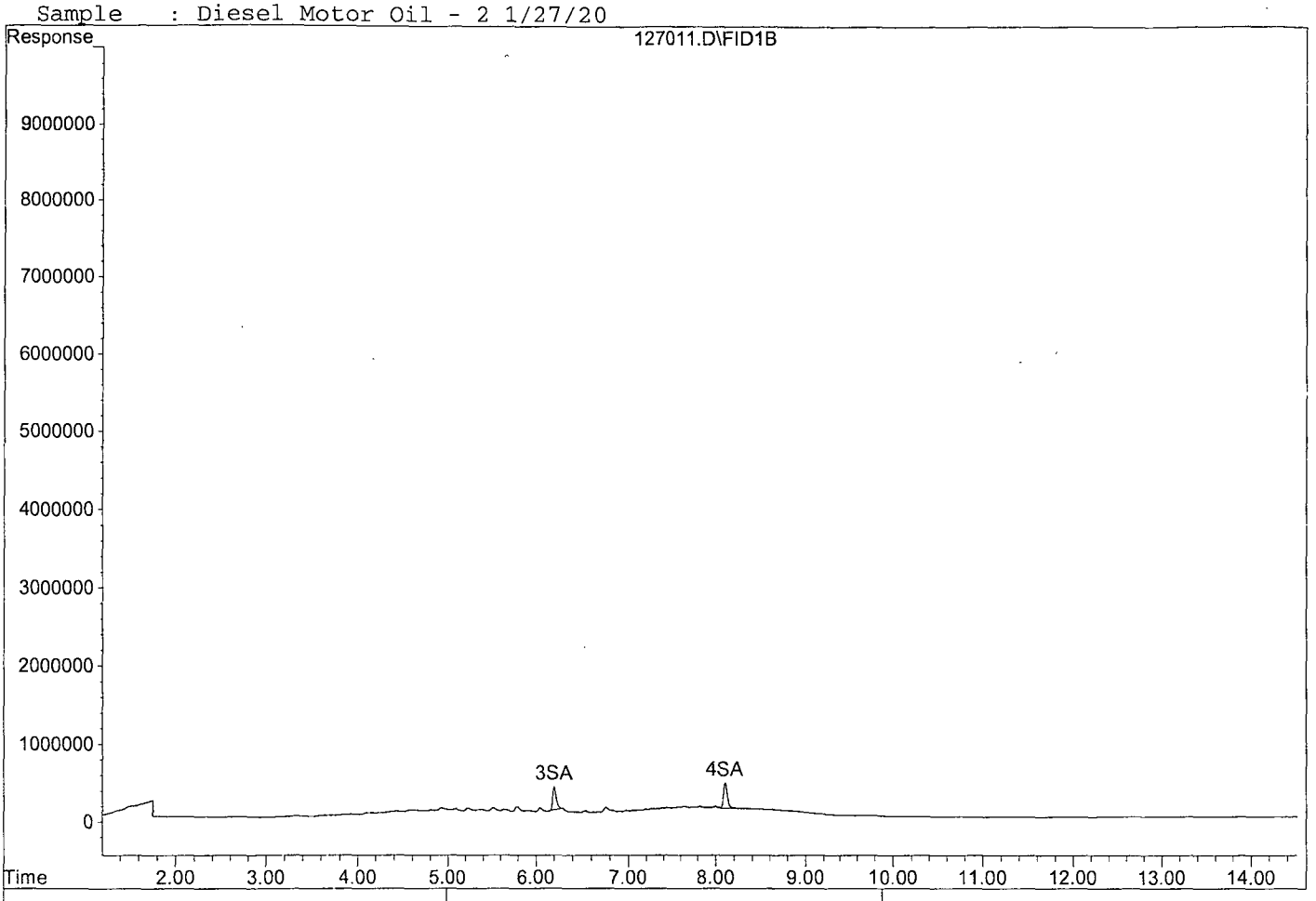
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

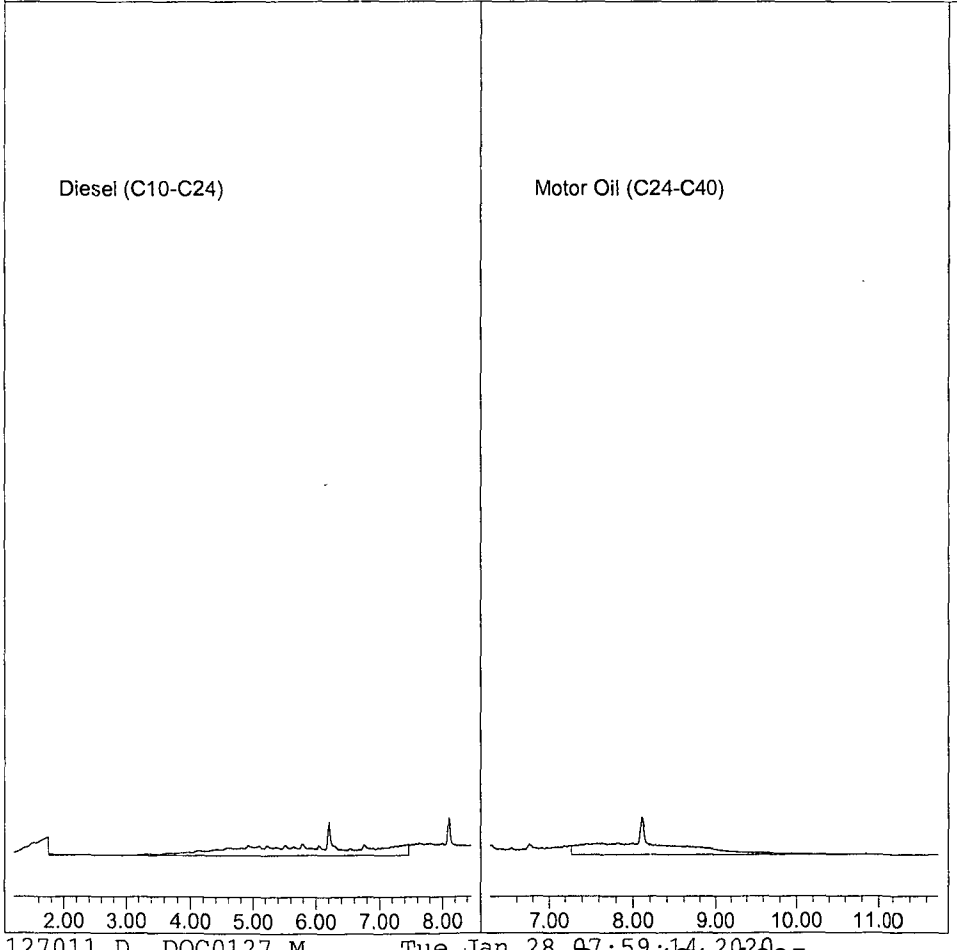
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SA Ortho-Terphenyl(S)	6.20	7415939	2.074 ppb
Surrogate Spike 30.000	Recovery =		6.91%
4) SA Octacosane(S)	8.10	9273829	2.344 ppb
Surrogate Spike 30.000	Recovery =		7.81%
Target Compounds			
1) HATM Diesel (C10-C24)	4.42	194903581	40.753 ppb
2) HBTM Motor Oil (C24-C40)	9.01	134229005	44.561 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200127\127011.D
Sample : Diesel Motor Oil - 2 1/27/20

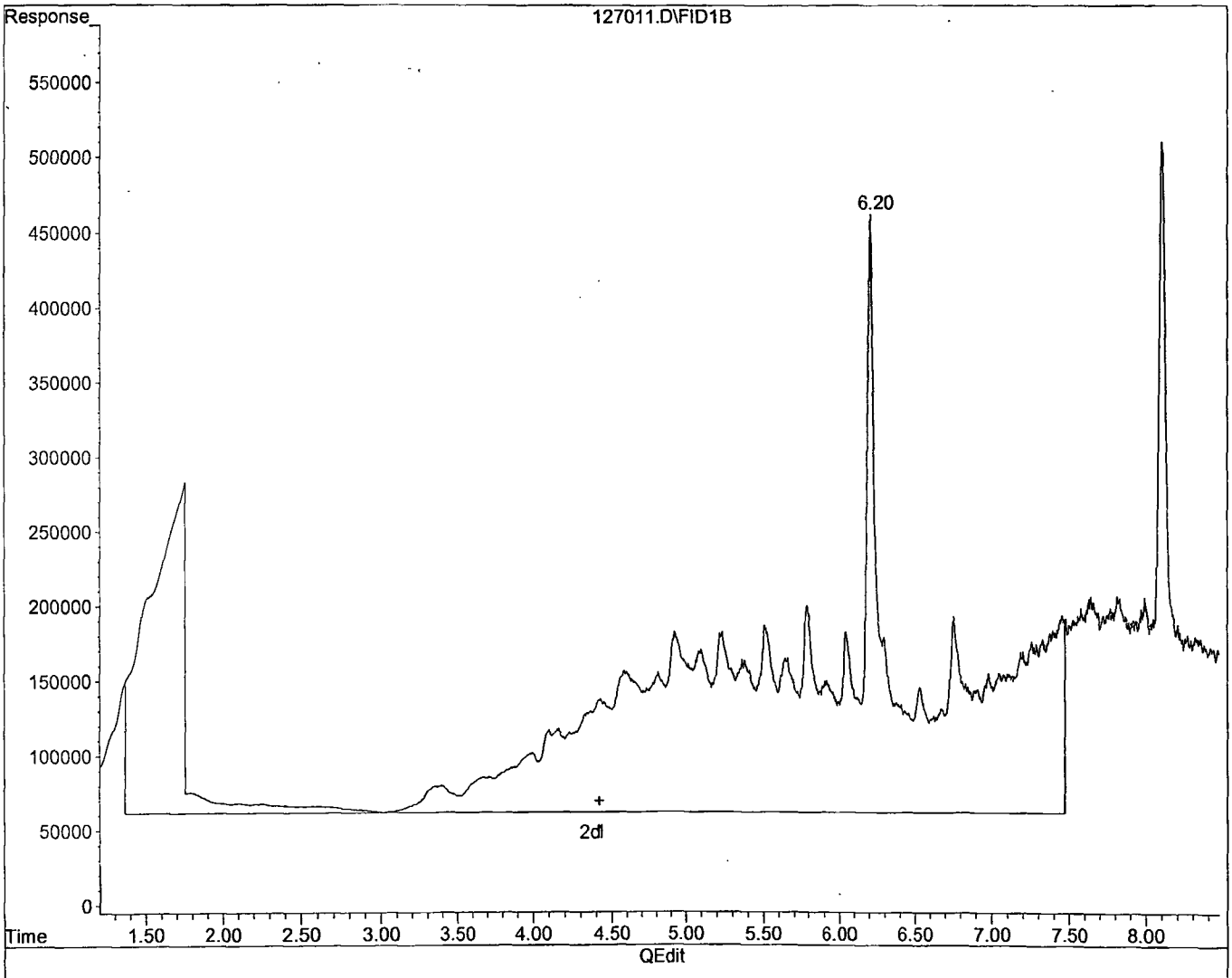




Quantitation Report

Data File : G:\APOLLO\DATA\200127\127011.D Vial: 11
Acq On : 1-27-20 15:11:37 Operator: BT
Sample : Diesel Motor Oil - 2 1/27/20 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 28 7:49 2020 Quant Results File: DOC0127.RES

Method : G:\APOLLO\DATA\200127\DOC0127.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Jan 28 07:48:05 2020
Response via : Multiple Level Calibration



(1) Diesel (C10-C24) (HATM)

4.42min 48.248ppb m

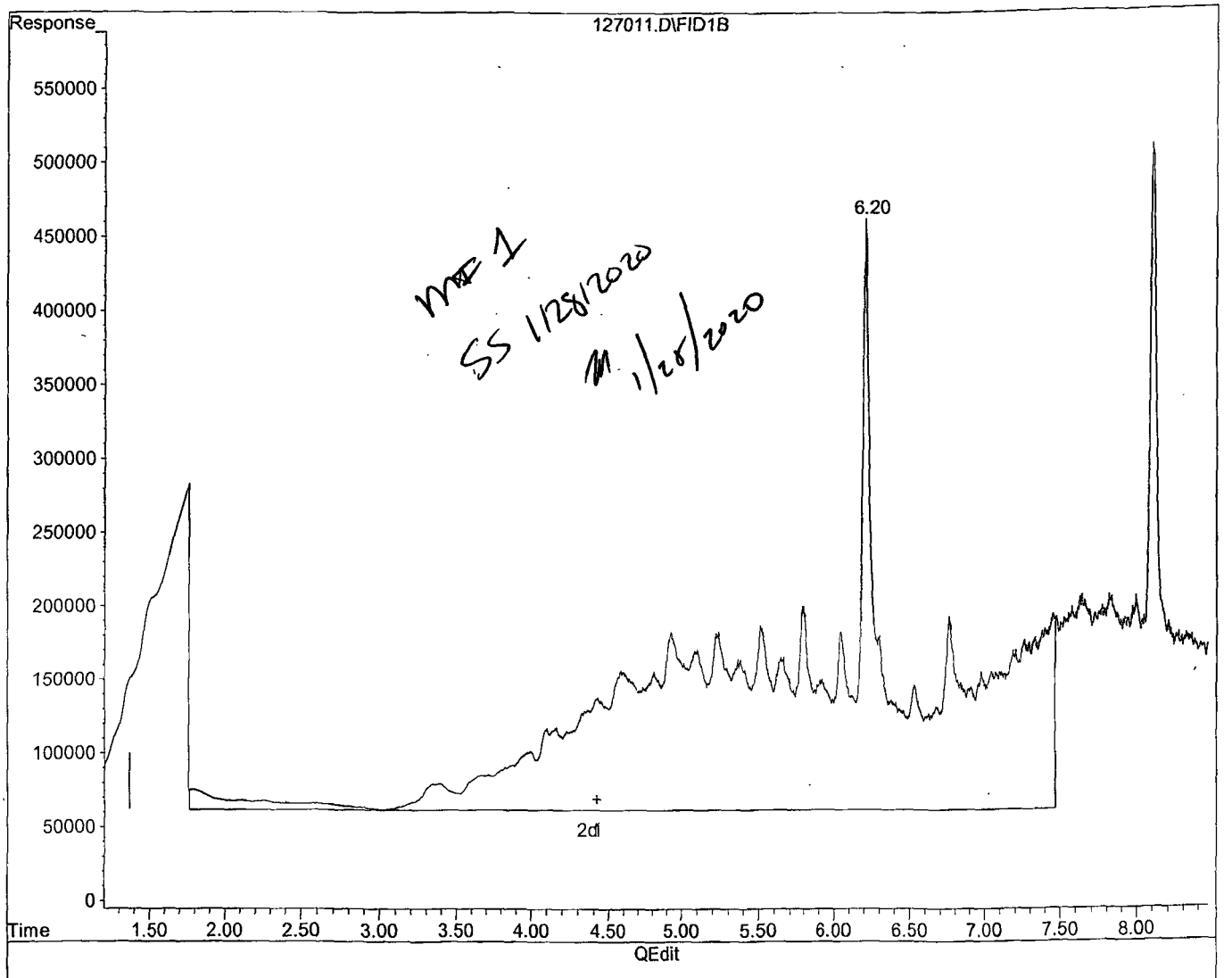
response 230748622

(+) = Expected Retention Time

Quantitation Report

Data File : G:\APOLLO\DATA\200127\127011.D Vial: 11
Acq On : 1-27-20 15:11:37 Operator: BT
Sample : Diesel Motor Oil - 2 1/27/20 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 28 7:49 2020 Quant Results File: DOC0127.RES

Method : G:\APOLLO\DATA\200127\DOC0127.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Jan 28 07:48:05 2020
Response via : Multiple Level Calibration



(1) Diesel (C10-C24) (HATM)

4.42min 40.753ppb m

response 194903581

(+) = Expected Retention Time

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200127\127009.D Vial: 9
Acq On : 1-27-20 14:07:03 Operator: BT
Sample : Diesel Motor Oil - 3 12/23/19 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 28 7:49 2020 Quant Results File: DOC0127.RES

Method : G:\APOLLO\DATA\200127\DOC0127.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Jan 28 07:54:11 2020
Response via : Multiple Level Calibration

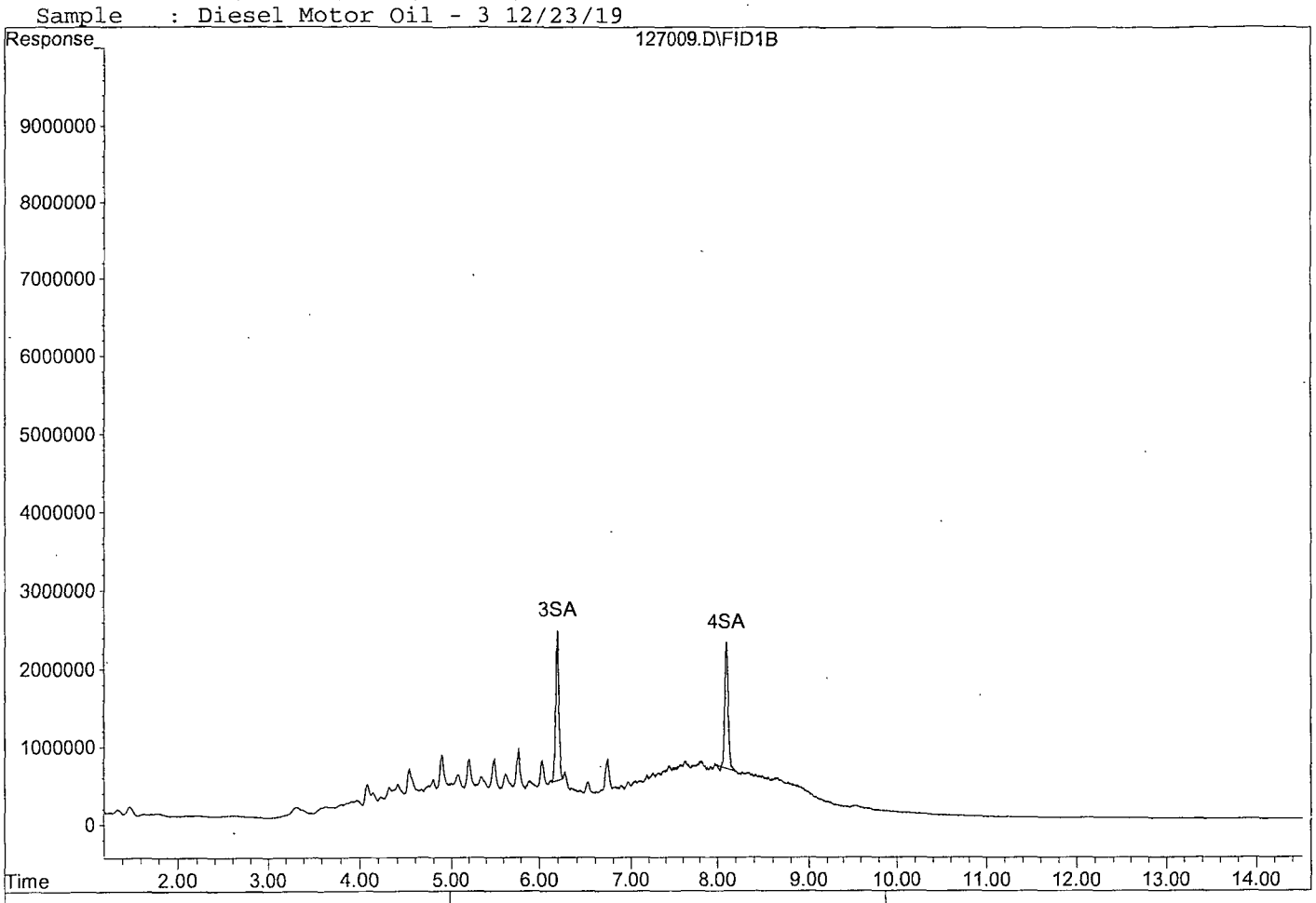
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

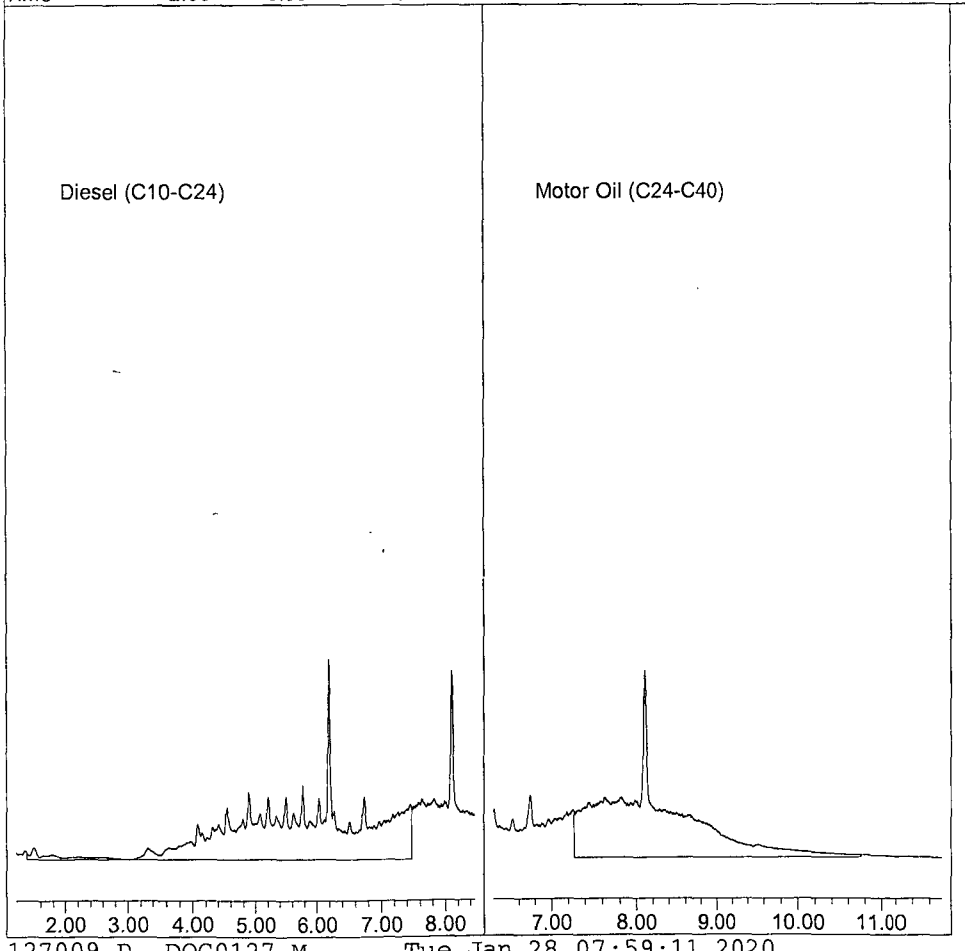
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SA Ortho-Terphenyl(S)	6.20	42623909	11.921 ppb
Surrogate Spike 30.000	Recovery =		39.74%
4) SA Octacosane(S)	8.10	42166202	10.656 ppb
Surrogate Spike 30.000	Recovery =		35.52%
Target Compounds			
1) HATM Diesel (C10-C24)	4.42	1010405986	211.269 ppb
2) HBTM Motor Oil (C24-C40)	9.01	701059957	232.734 ppb
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\200127\127009.D
Sample : Diesel Motor Oil - 3 12/23/19





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200127\127012.D Vial: 12
Acq On : 1-27-20 15:31:22 Operator: BT
Sample : Diesel Motor Oil - 4 1/27/20 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 28 7:49 2020 Quant Results File: DOC0127.RES

Method : G:\APOLLO\DATA\200127\DOC0127.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Jan 28 07:54:11 2020
Response via : Multiple Level Calibration

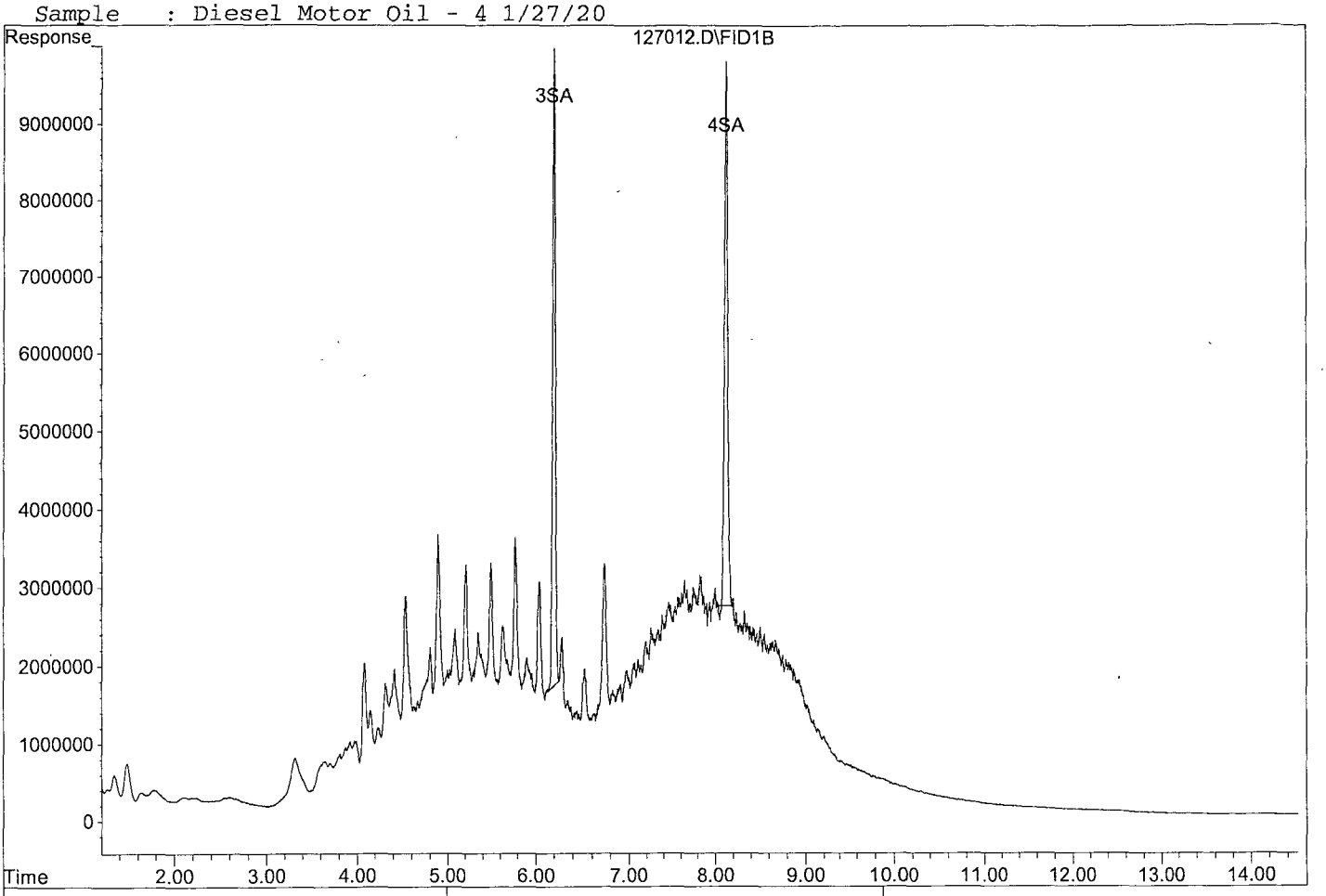
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

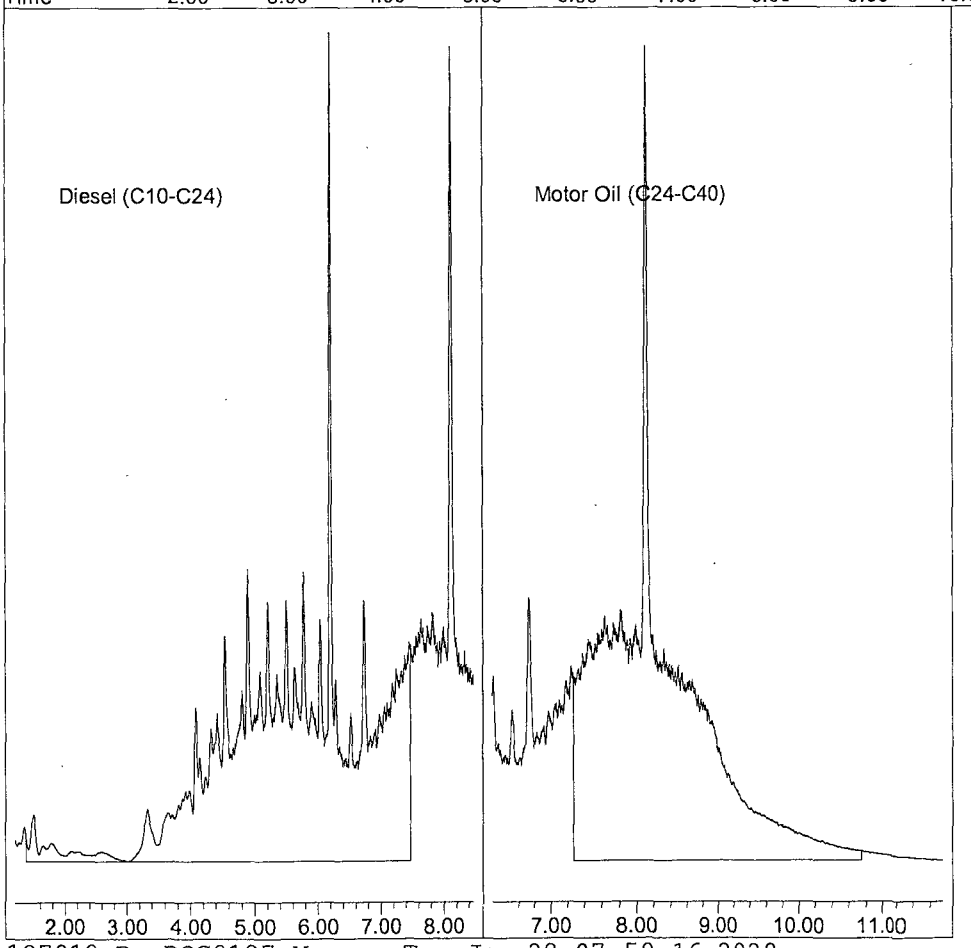
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SA Ortho-Terphenyl(S)	6.20	174069844	48.685 ppb
Surrogate Spike 30.000	Recovery =		162.28%
4) SA Octacosane(S)	8.12	174156956	44.010 ppb
Surrogate Spike 30.000	Recovery =		146.70%
Target Compounds			
1) HATM Diesel (C10-C24)	4.42	3928961113	821.519 ppb
2) HBTM Motor Oil (C24-C40)	9.01	2885251736	957.831 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200127\127012.D
Sample : Diesel Motor Oil - 4 1/27/20





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200127\127013.D Vial: 13
Acq On : 1-27-20 15:51:02 Operator: BT
Sample : Diesel Motor Oil - 5 1/27/20 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 28 7:49 2020 Quant Results File: DOC0127.RES

Method : G:\APOLLO\DATA\200127\DOC0127.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Jan 28 07:54:11 2020
Response via : Multiple Level Calibration

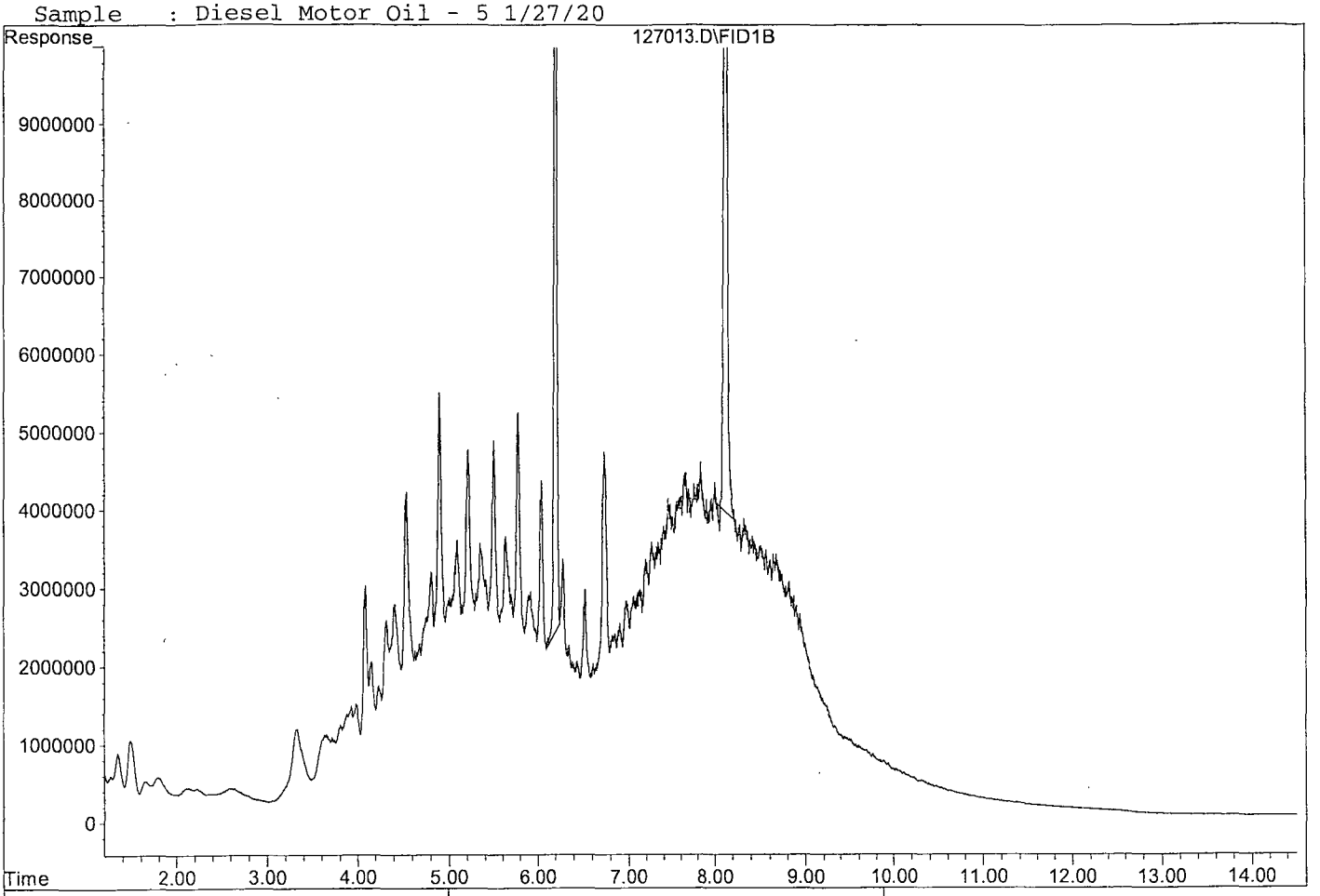
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

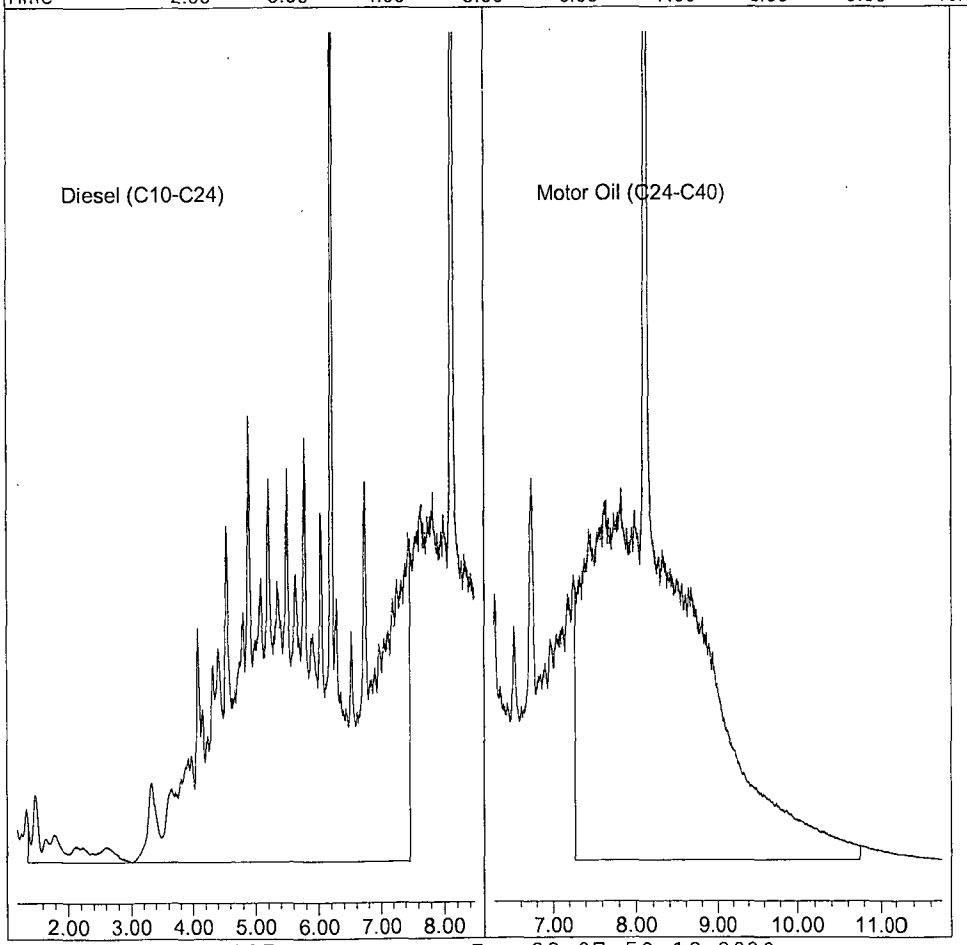
Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
3) SA Ortho-Terphenyl(S)	6.21	263843774	73.794	ppb
Surrogate Spike 30.000	Recovery =		245.98%	
4) SA Octacosane(S)	8.12	265798935	67.168	ppb
Surrogate Spike 30.000	Recovery =		223.89%	
Target Compounds				
1) HATM Diesel (C10-C24)	4.42	5757546604	1203.864	ppb
2) HBTM Motor Oil (C24-C40)	9.01	4254910294	1412.523	ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200127\127013.D
Sample : Diesel Motor Oil - 5 1/27/20





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200127\127014.D Vial: 14
Acq On : 1-27-20 16:10:47 Operator: BT
Sample : Diesel Motor Oil - 6 1/27/20 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 28 7:49 2020 Quant Results File: DOC0127.RES

Method : G:\APOLLO\DATA\200127\DOC0127.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Jan 28 07:54:11 2020
Response via : Multiple Level Calibration

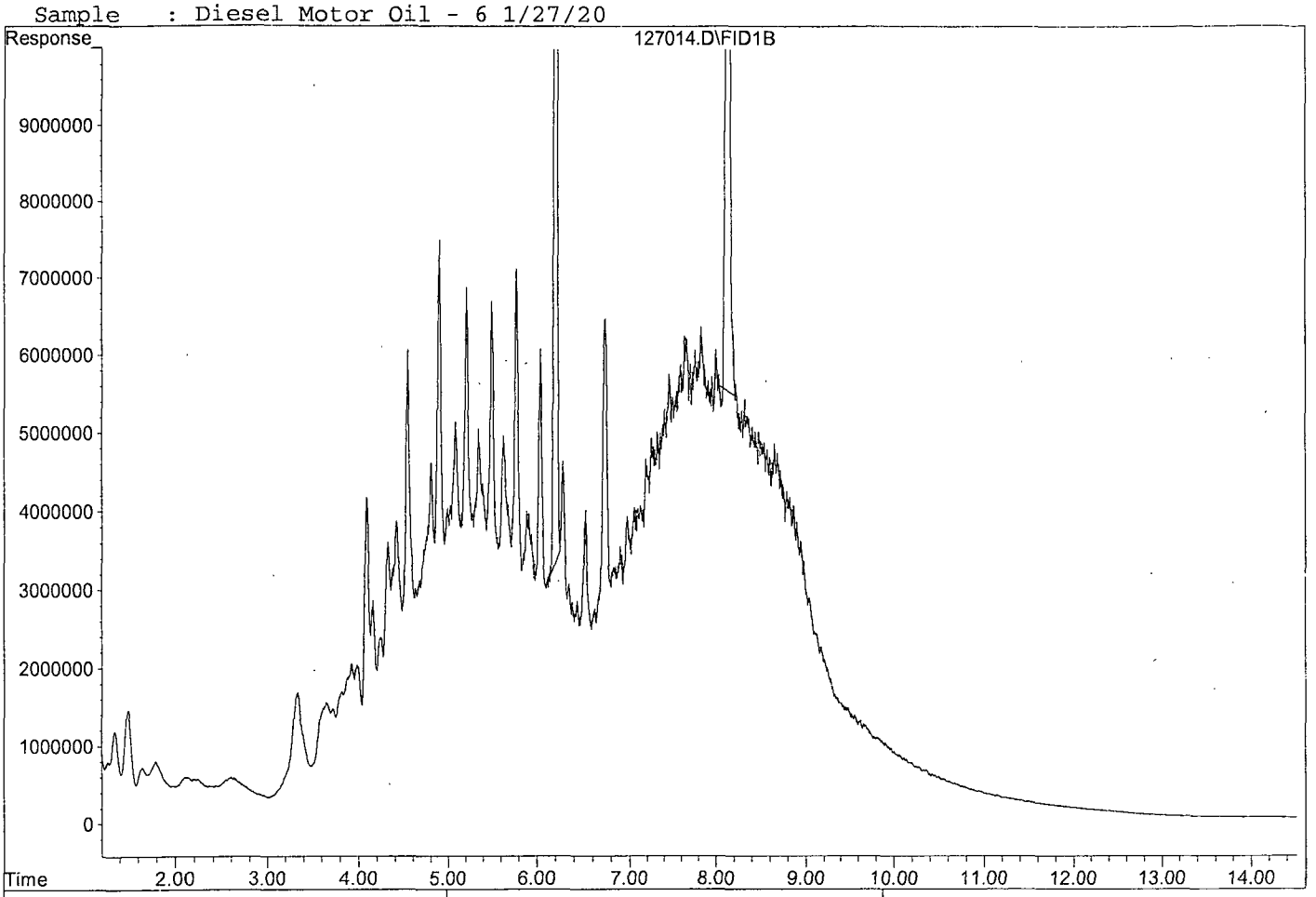
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

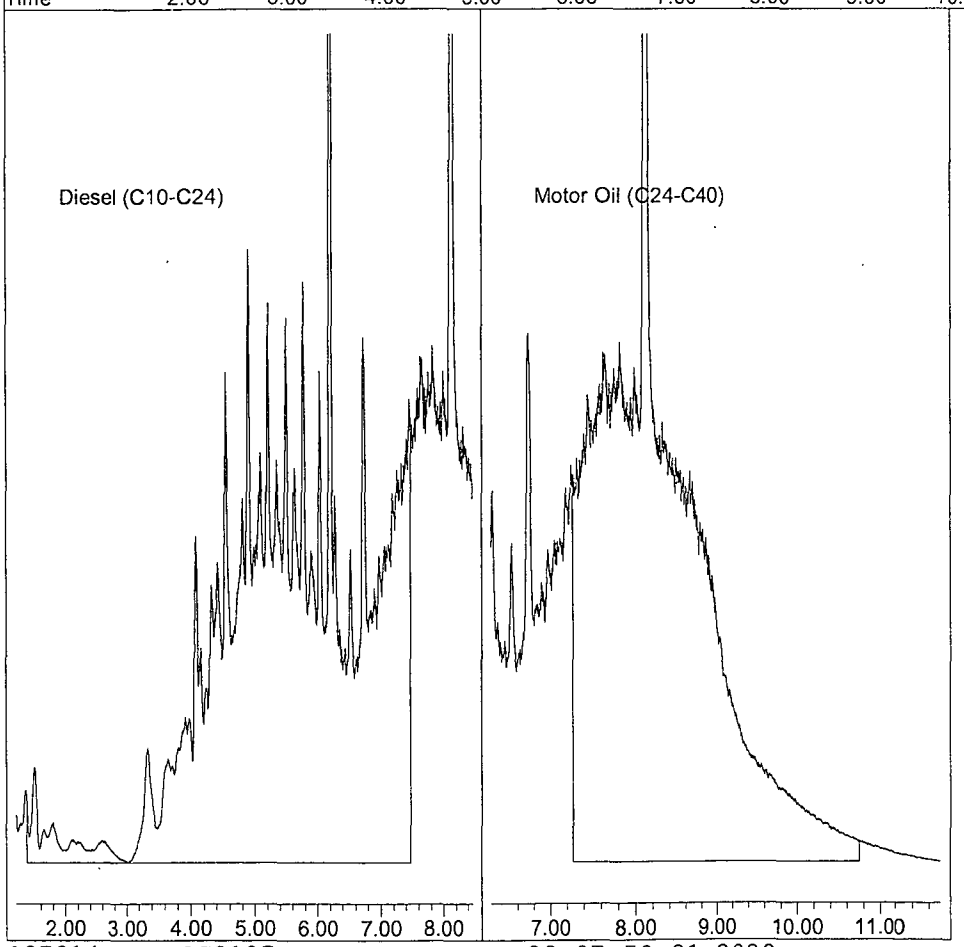
Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
3) SA Ortho-Terphenyl(S)	6.21	368194944	102.979	ppb
Surrogate Spike 30.000	Recovery =		343.26%	
4) SA Octacosane(S)	8.13	377959485	95.512	ppb
Surrogate Spike 30.000	Recovery =		318.37%	
Target Compounds				
1) HATM Diesel (C10-C24)	4.42	7982912924	1669.173	ppb
2) HBTM Motor Oil (C24-C40)	9.01	5990895966	1988.826	ppb

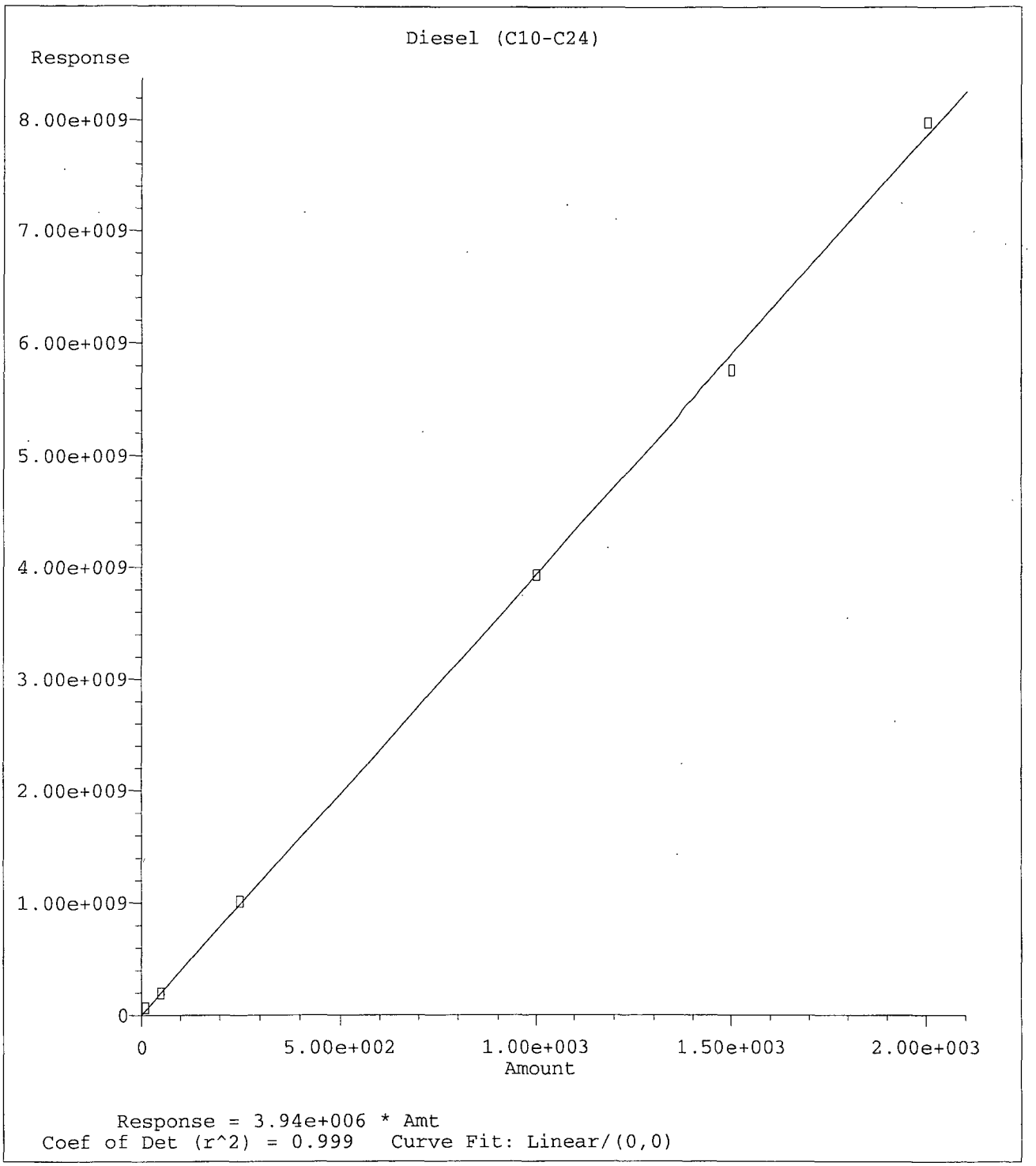
Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

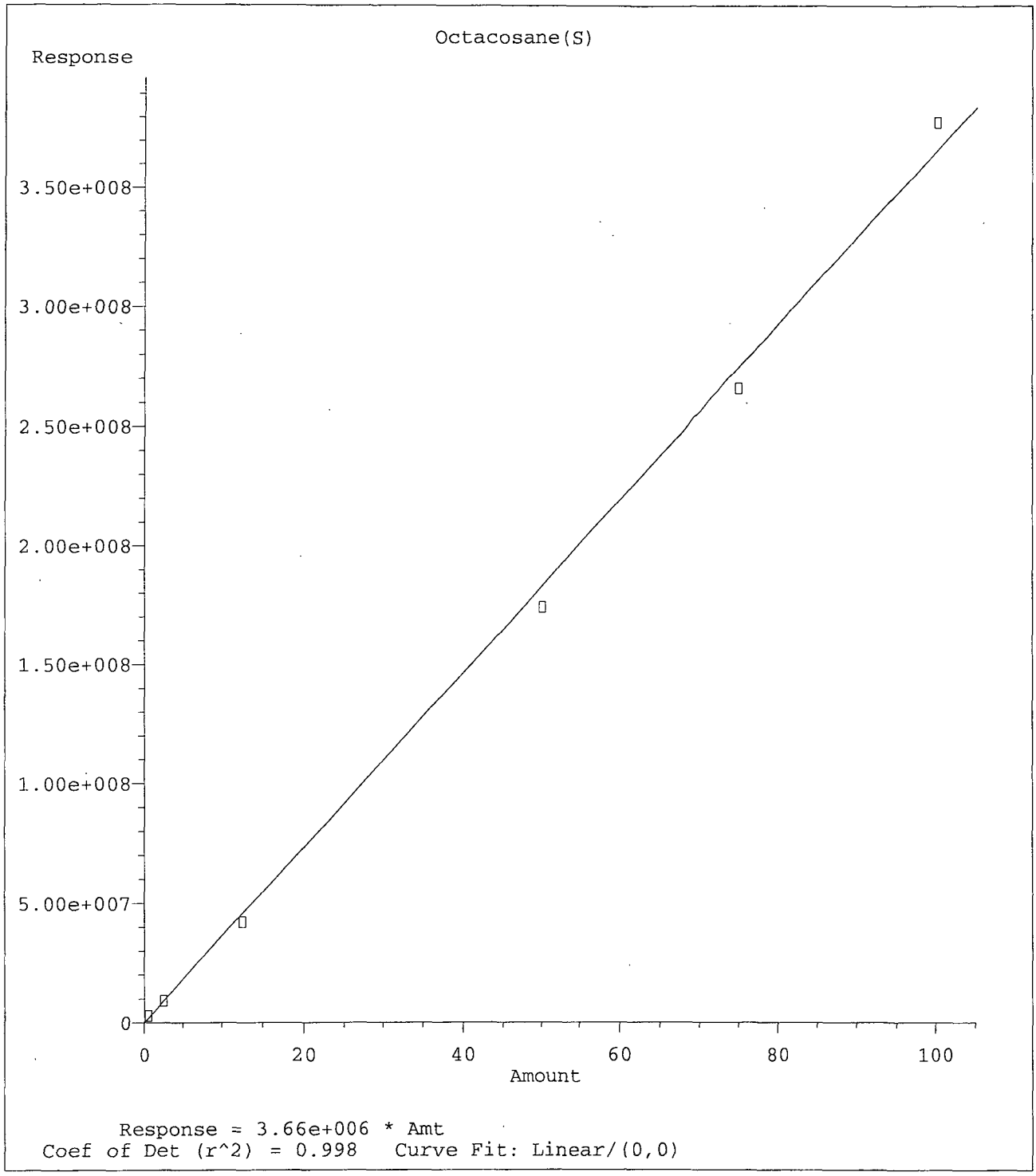
Data File: G:\APOLLO\DATA\200127\127014.D
Sample : Diesel Motor Oil - 6 1/27/20







Method Name: G:\APOLLO\DATA\200127\DOC0127.M
Calibration Table Last Updated: Tue Jan 28 07:48:05 2020



Method Name: G:\APOLLO\DATA\200127\DOC0127.M
Calibration Table Last Updated: Tue Jan 28 07:53:59 2020

TPH Extractables
DOC0127

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: Water

SDG No:
Date Analyzed: 01/27/20
Instrument: Apollo
Initial Cal. Date: 01/27/20
Data File: 127015.D

		Compound	MEAN	CCRF	%D		%Drift
1	HATM	Diesel (C10-C24)	2187690	1934490	12	HATML	1.7
2	HBTM	Motor Oil (C24-C40)	1513590	1355980	10	HBTM	
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			11.0		

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200127\127015.D Vial: 15
Acq On : 1-27-20 16:30:32 Operator: BT
Sample : Diesel Motor Oil - SS 12/23/19 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 28 7:56 2020 Quant Results File: DOC0127.RES

Method : G:\APOLLO\DATA\200127\DOC0127.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Jan 28 07:54:11 2020
Response via : Multiple Level Calibration

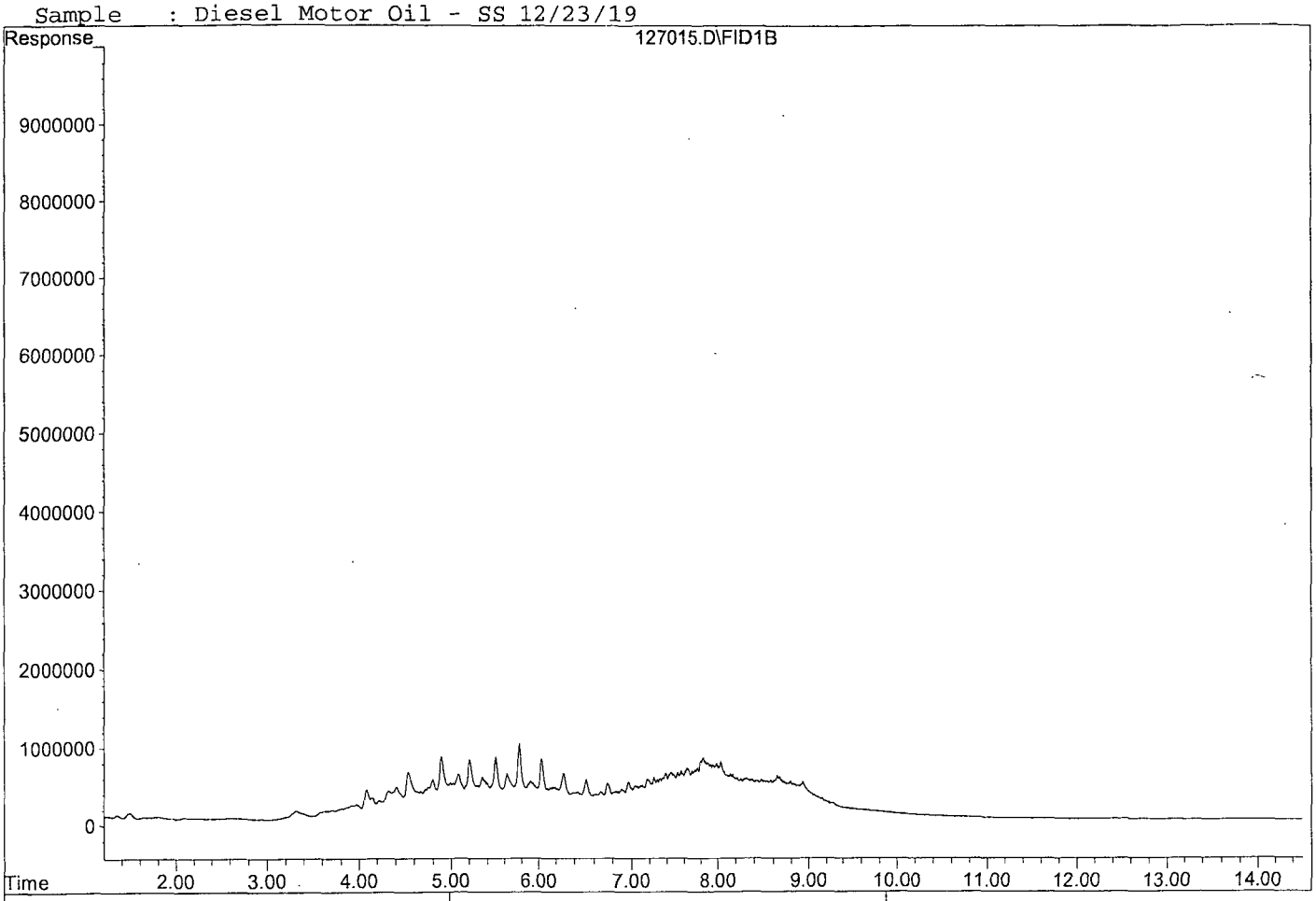
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

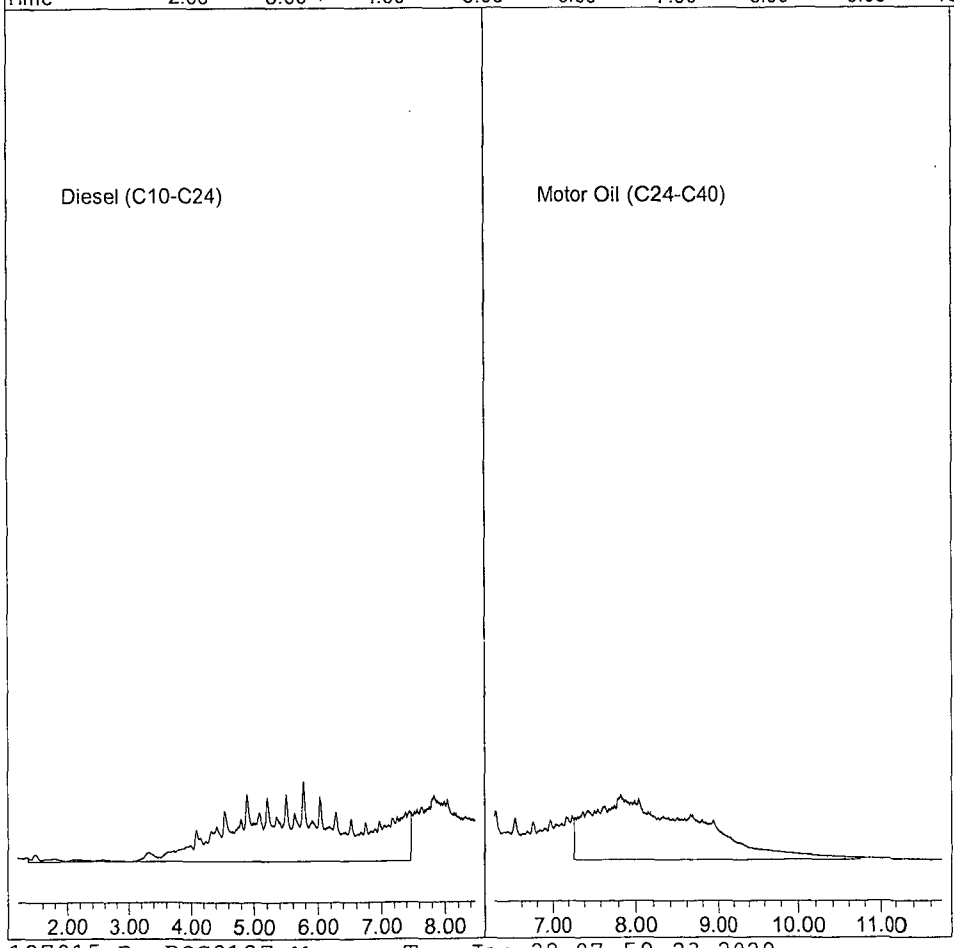
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SA Ortho-Terphenyl(S)	0.00	0	N.D. ppb d
Surrogate Spike 30.000	Recovery	=	0.00%
4) SA Octacosane(S)	0.00	0	N.D. ppb d
Surrogate Spike 30.000	Recovery	=	0.00%
Target Compounds			
1) HATM Diesel (C10-C24)	4.42	967242658	245.727 ppb
2) HBTM Motor Oil (C24-C40)	9.01	677988612	223.968 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200127\127015.D
Sample : Diesel Motor Oil - SS 12/23/19





TPH Extractables
DOC0111

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: Water

SDG No:
Date Analyzed: 01/25/20
Instrument: Apollo
Initial Cal. Date: 01/11/20
Data File: 111125.D

		Compound	MEAN	CCRF	%D	%Drift	
1	HATM	Diesel (C10-C24)	2087510	2007310	3.8	HATM	
2	HBTM	Motor Oil (C24-C40)	1489330	1446470	2.9	HBTM	
3	SA	Ortho-Terphenyl(S)	2149550	1860630	13	SA	
4	SA	Octacosane(S)	2081660	1771560	15	SA	
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			8.7		

Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\200111\111125.D Vial: 25
Acq On : 1-25-20 12:30:22 Operator: BT
Sample : Diesel/Motor Oil - CCV 12/23/19 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 27 9:56 2020 Quant Results File: DOC0111.RES

Method : G:\APOLLO\DATA\200111\DOC0111.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Mon Jan 13 07:59:04 2020
Response via : Multiple Level Calibration

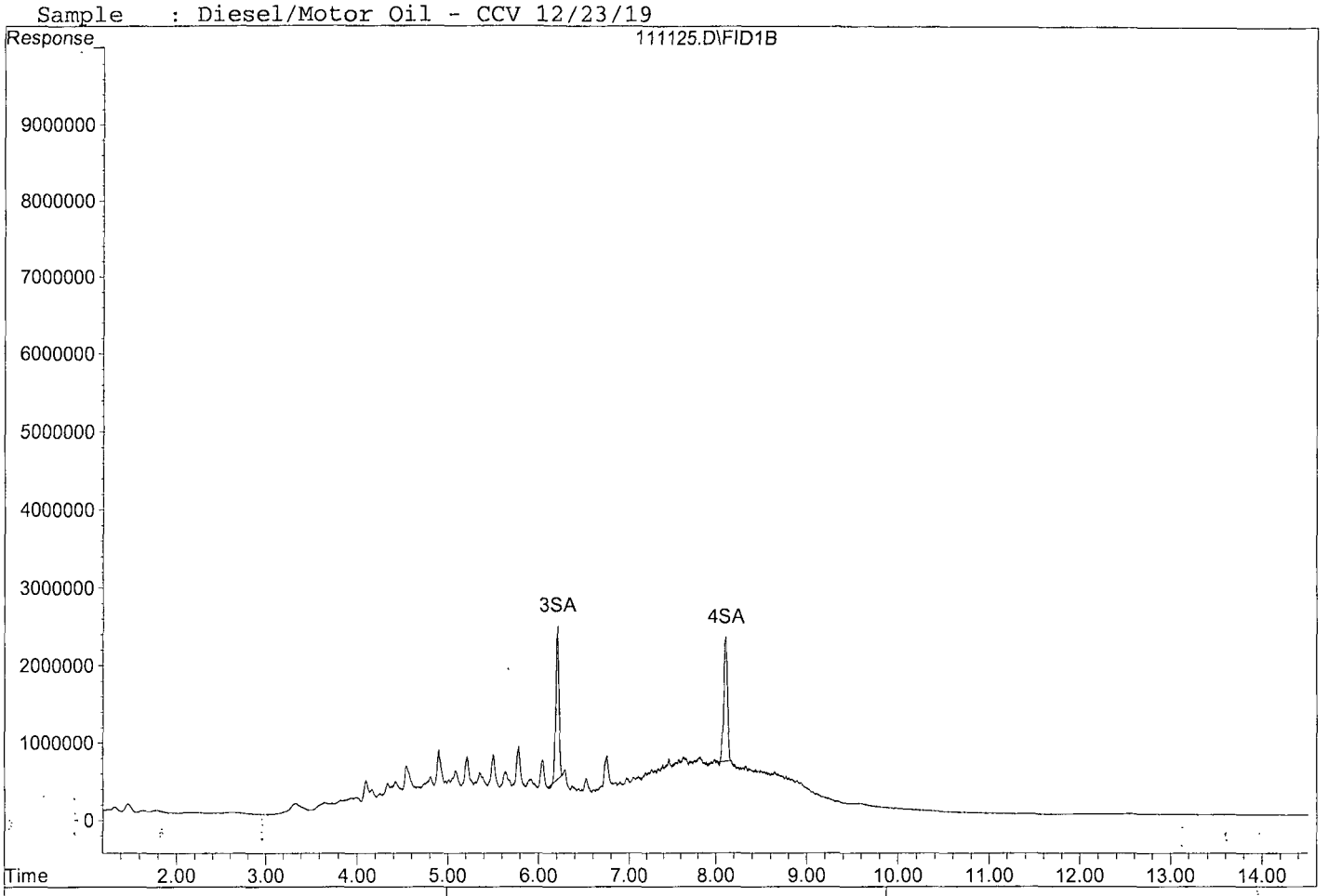
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

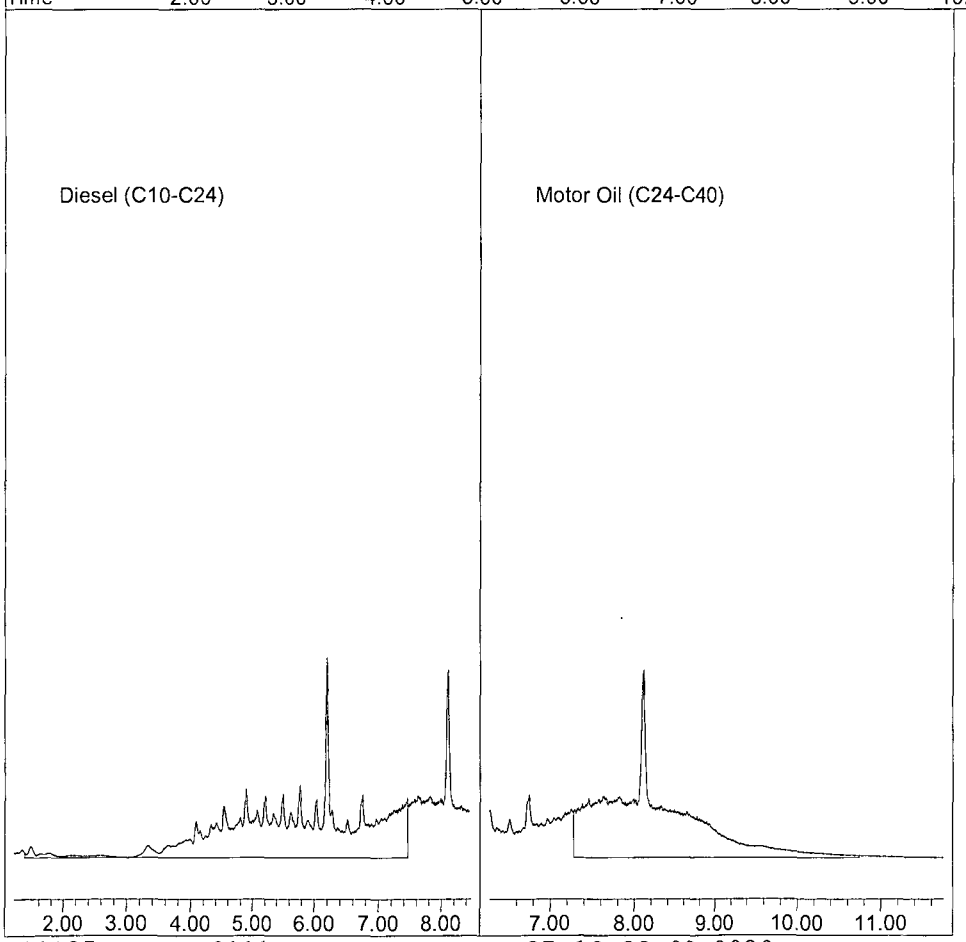
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SA Ortho-Terphenyl(S)	6.21	46515752	10.820 ppb
Surrogate Spike 30.000		Recovery =	36.07%
4) SA Octacosane(S)	8.11	44288944	10.638 ppb
Surrogate Spike 30.000		Recovery =	35.46%
Target Compounds			
1) HATM Diesel (C10-C24)	4.42	1003657360	240.396 ppb
2) HBTM Motor Oil (C24-C40)	9.01	723235579	242.806 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200111\111125.D
Sample : Diesel/Motor Oil - CCV 12/23/19





TPH Extractables
DOC0111

Form 7
Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: Water

SDG No:
Date Analyzed: 01/25/20
Instrument: Apollo
Initial Cal. Date: 01/11/20
Data File: 111134.D

		Compound	MEAN	CCRF	%D	%Drift	
1	HATM	Diesel (C10-C24)	2087510	2035400	2.5	HATM	
2	HBTM	Motor Oil (C24-C40)	1489330	1465670	1.6	HBTM	
3	SA	Ortho-Terphenyl(S)	2149550	1887760	12	SA	
4	SA	Octacosane(S)	2081660	1816230	13	SA	
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			7.3		

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200111\111134.D Vial: 34
Acq On : 1-25-20 15:28:06 Operator: BT
Sample : Diesel/Motor Oil - CCV 12/23/19 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 27 9:56 2020 Quant Results File: DOC0111.RES

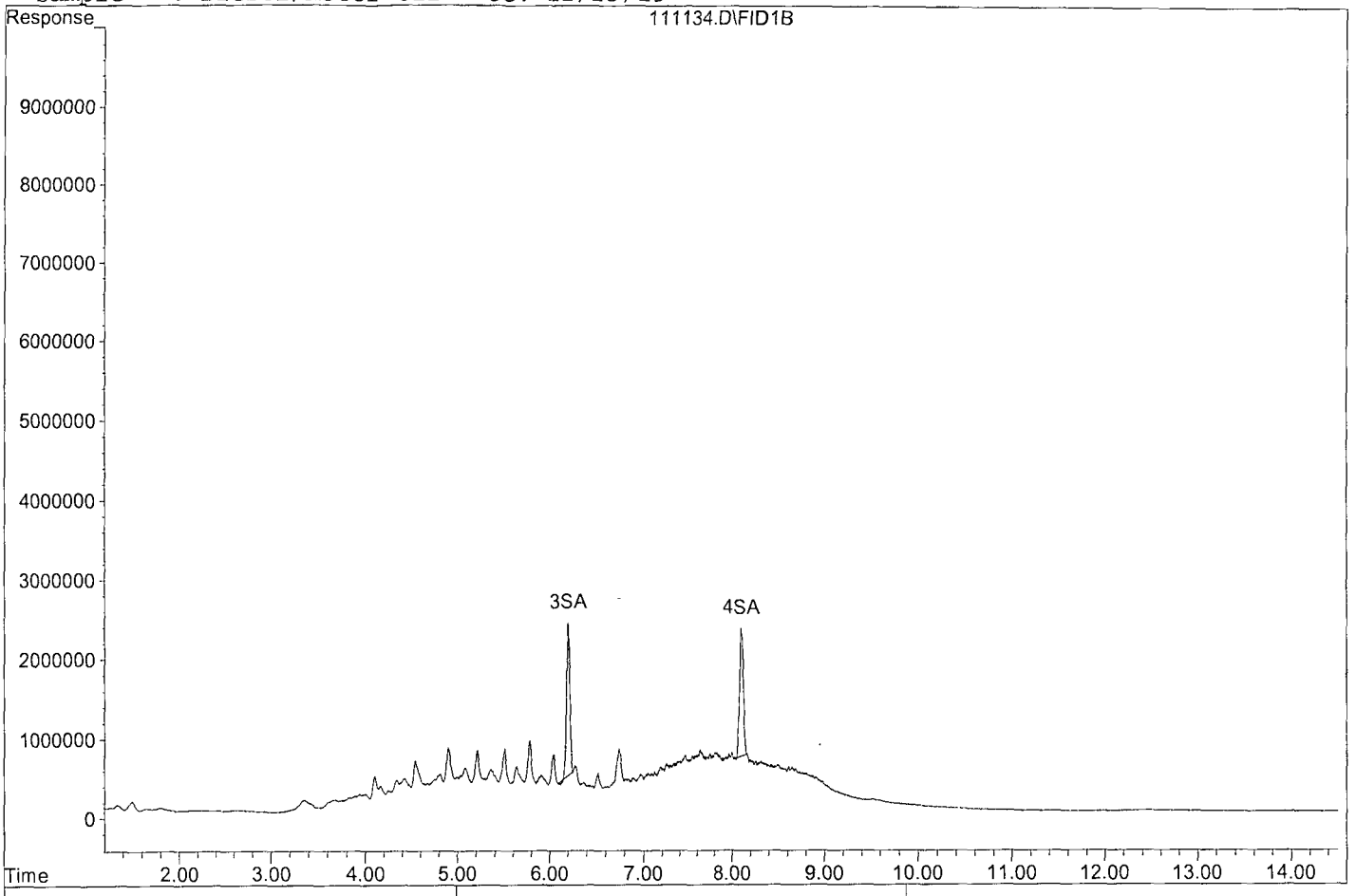
Method : G:\APOLLO\DATA\200111\DOC0111.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Mon Jan 13 07:59:04 2020
Response via : Multiple Level Calibration

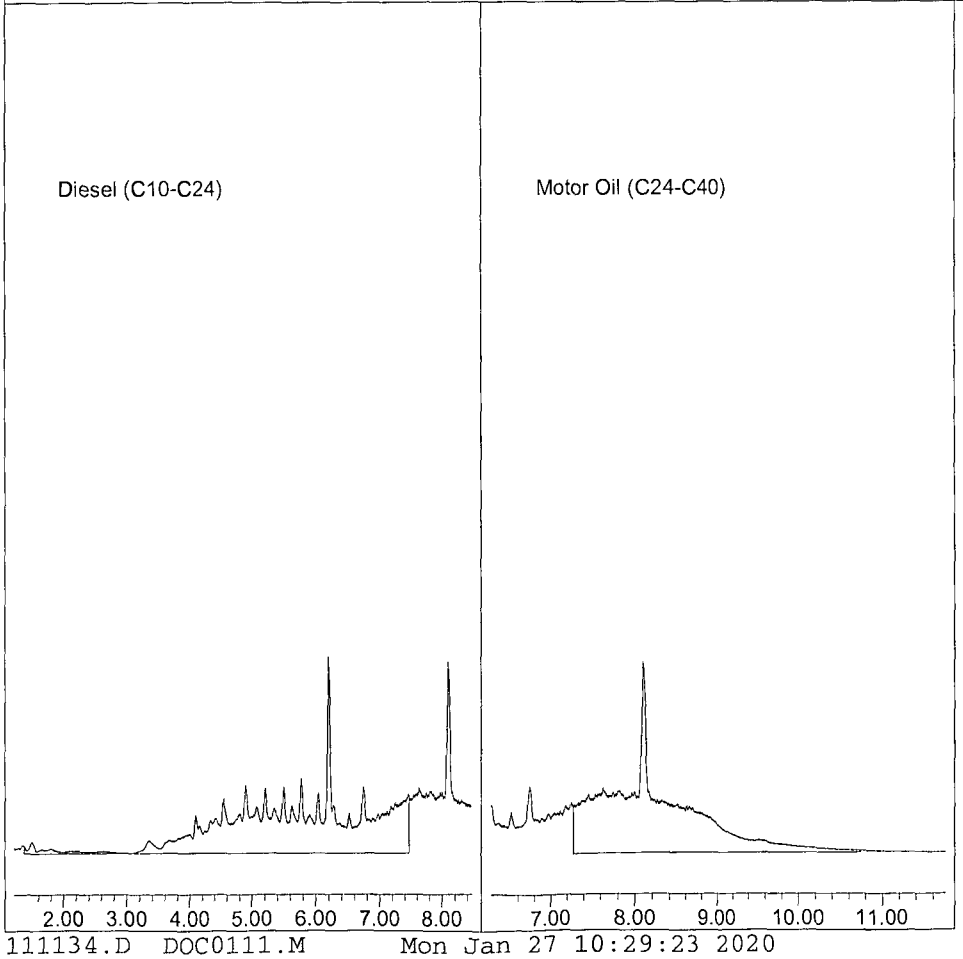
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SA Ortho-Terphenyl(S)	6.21	47194002	10.978 ppb
Surrogate Spike 30.000		Recovery =	36.59%
4) SA Octacosane(S)	8.10	45405855	10.906 ppb
Surrogate Spike 30.000		Recovery =	36.35%
Target Compounds			
1) HATM Diesel (C10-C24)	4.42	1017702065	243.760 ppb
2) HBTM Motor Oil (C24-C40)	9.01	732834599	246.029 ppb
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200111\111134.D
Sample : Diesel/Motor Oil - CCV 12/23/19





111134.D DOC0111.M Mon Jan 27 10:29:23 2020

TPH Extractables
DEC1120

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: Water

SDG No:
Date Analyzed: 01/27/20
Instrument: Apollo
Initial Cal. Date: 11/20/19
Data File: 127008.D

		Compound	MEAN	CCRF	%D	%Drift	
1	SCL	Decanoic Acid(S)	664870	677513	1.9	SCL	15
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			1.9		

Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\200127\127008.D Vial: 8
Acq On : 1-27-20 13:48:05 Operator: BT
Sample : Decanoic Acid - 5 1/27/20 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 27 14:04 2020 Quant Results File: DEC1120.RES

Method : G:\APOLLO\DATA\200127\DEC1120.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Jan 28 08:46:59 2020
Response via : Multiple Level Calibration

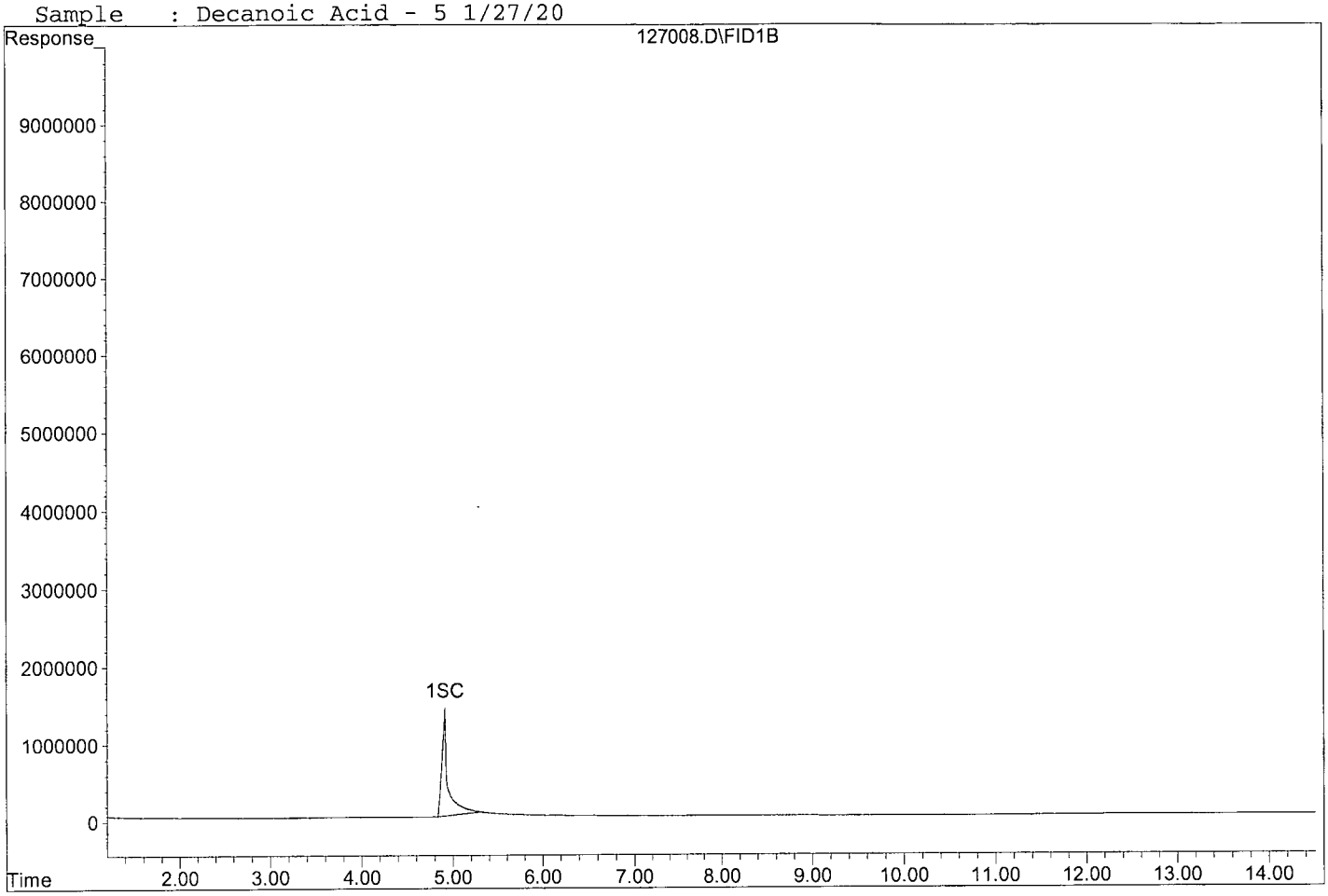
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) SC Decanoic Acid(S)	4.91	65041244	40.919 ppb
Surrogate Spike 24.000	Recovery	=	170.50%
Target Compounds			
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\200127\127008.D
Sample : Decanoic Acid - 5 1/27/20



TPH Extractables
DOC0127

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: Water

SDG No:
Date Analyzed: 01/28/20
Instrument: Apollo
Initial Cal. Date: 01/27/20
Data File: 127026.D

		Compound	MEAN	CCRF	%D		%Drift
1	HATM	Diesel (C10-C24)	2187690	2018590	7.7	HATML	2.6
2	HBTM	Motor Oil (C24-C40)	1513590	1782930	18	HBTM	
3	SA	Ortho-Terphenyl(S)	1787710	1676650	6.2	SA	
4	SAL	Octacosane(S)	1978610	1853430	6.3	SAL	1.2
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			9.6		

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200127\127026.D Vial: 26
Acq On : 1-28-20 8:10:17 Operator: BT
Sample : Diesel Motor Oil - CCV 12/23/19 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 28 8:25 2020 Quant Results File: DOC0127.RES

Method : G:\APOLLO\DATA\200127\DOC0127.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Jan 28 07:54:11 2020
Response via : Multiple Level Calibration

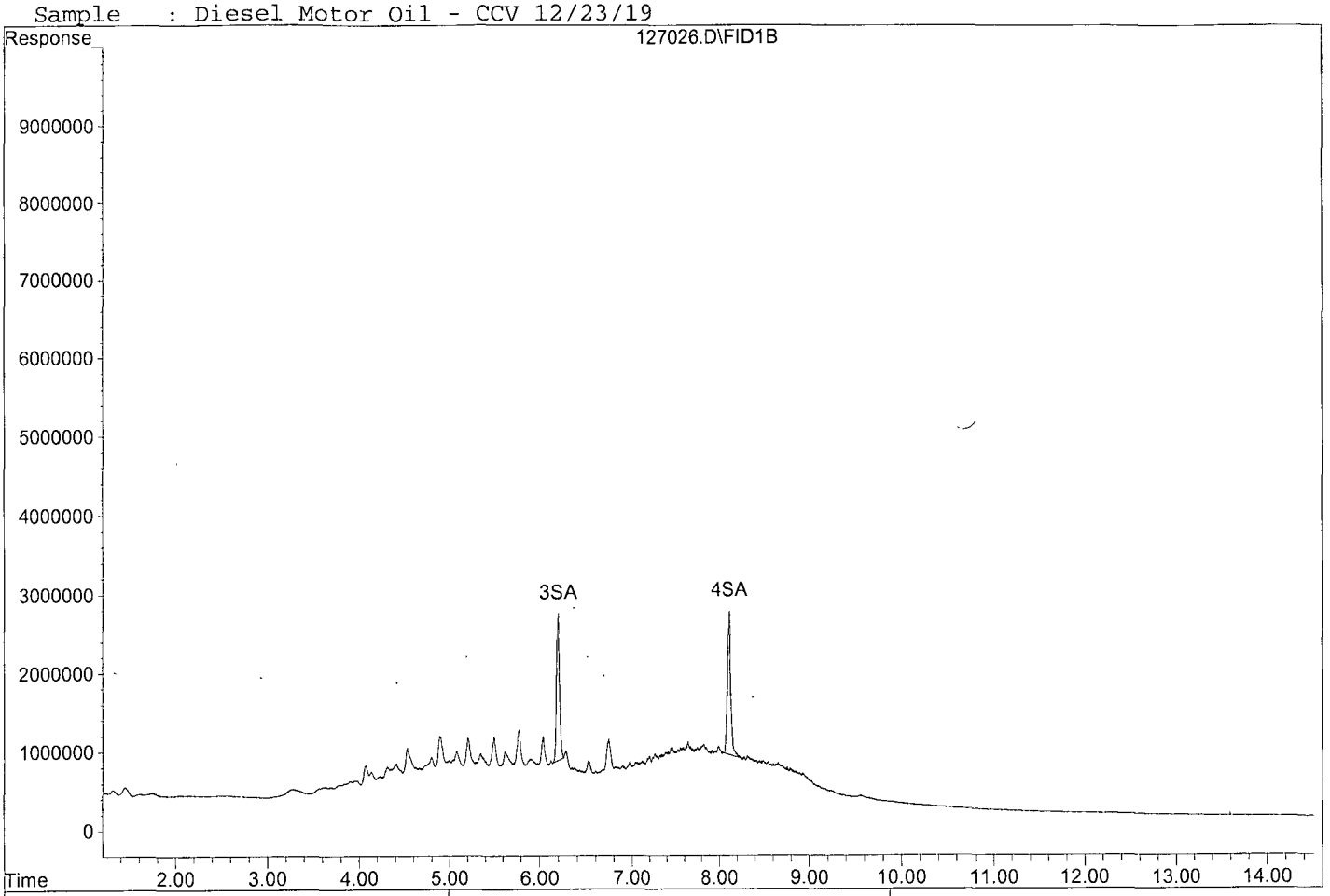
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

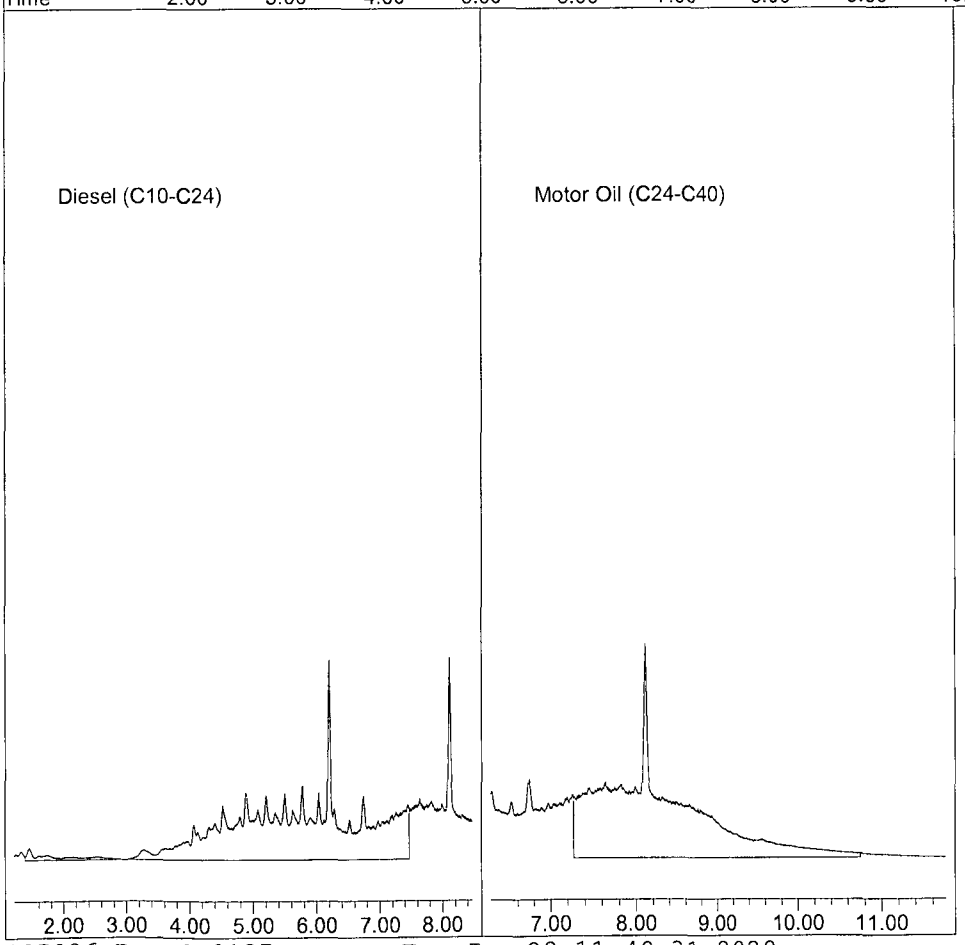
Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
3) SA Ortho-Terphenyl(S)	6.20	41916135	11.723	ppb
Surrogate Spike 30.000		Recovery =	39.08%	
4) SA Octacosane(S)	8.11	46335793	12.649	ppb
Surrogate Spike 30.000		Recovery =	42.16%	
Target Compounds				
1) HATM Diesel (C10-C24)	4.42	1009295597	256.410	ppb
2) HBTM Motor Oil (C24-C40)	9.01	891463233	294.487	ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200127\127026.D
Sample : Diesel Motor Oil - CCV 12/23/19





127026.D DOC0127.M Tue Jan 28 11:40:31 2020

TPH Extractables
DEC1120

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: Water

SDG No:
Date Analyzed: 01/28/20
Instrument: Apollo
Initial Cal. Date: 11/20/19
Data File: 127027.D

		Compound	MEAN	CCRF	%D	%Drift	
1	SCL	Decanoic Acid(S)	664870	609013	8.4	SCL 23	*
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			8.4		

Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\200127\127027.D Vial: 27
Acq On : 1-28-20 8:28:56 Operator: BT
Sample : Decanoic Acid - CCV 1/27/20 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 28 8:47 2020 Quant Results File: DEC1120.RES

Method : G:\APOLLO\DATA\200127\DEC1120.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Jan 28 08:46:59 2020
Response via : Multiple Level Calibration

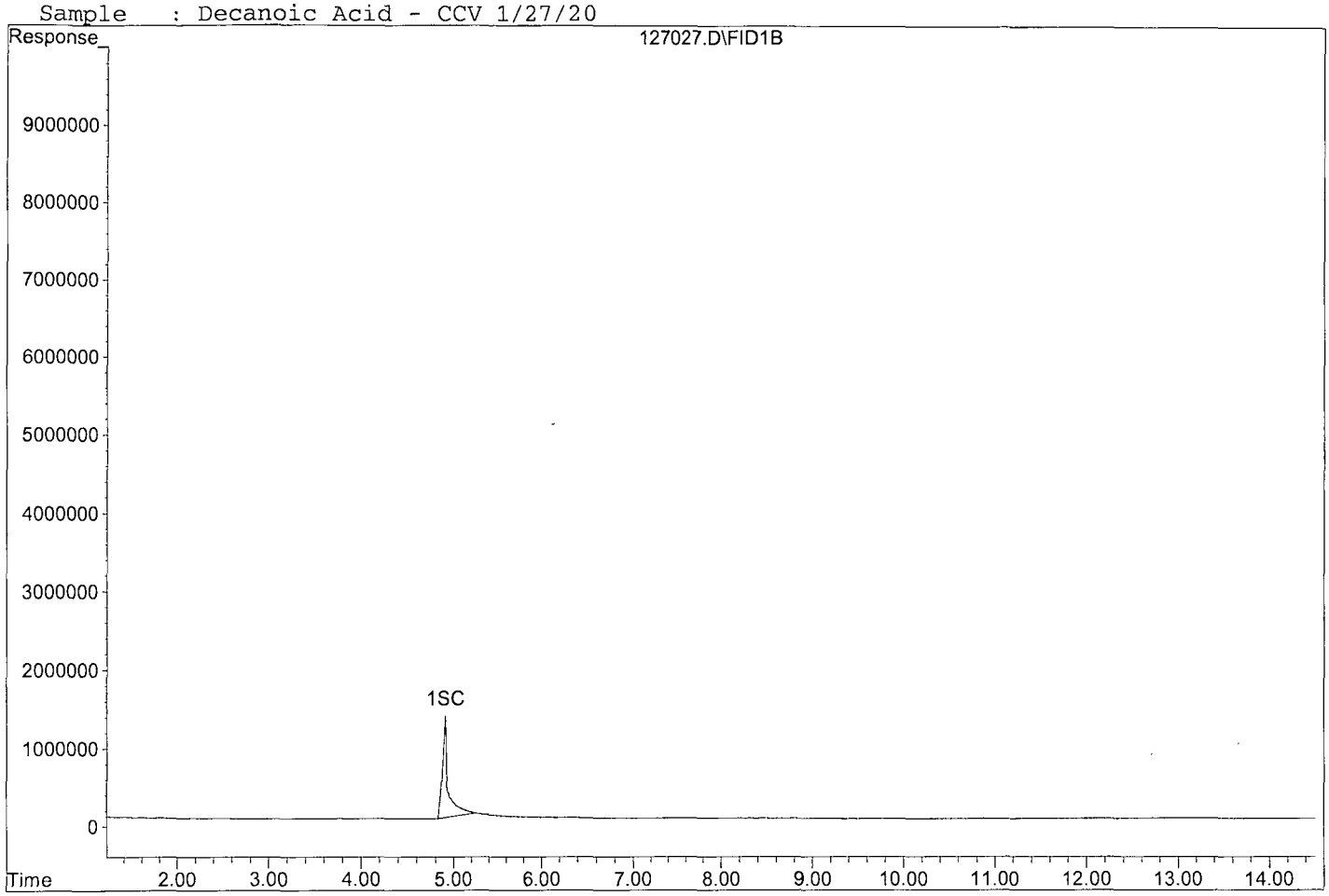
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) SC Decanoic Acid(S)	4.91	58465252	37.039 ppb
Surrogate Spike 24.000		Recovery =	154.33%
Target Compounds			
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\200127\127027.D
Sample : Decanoic Acid - CCV 1/27/20



ORGANICS
Raw Data

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200111\111129.D Vial: 29
Acq On : 1-25-20 13:49:10 Operator: BT
Sample : BA06136W16 2/800 Inst : Apollo
Misc : water Multiplr: 2.50
IntFile : events.e
Quant Time: Jan 28 11:21 2020 Quant Results File: DOC0111.RES

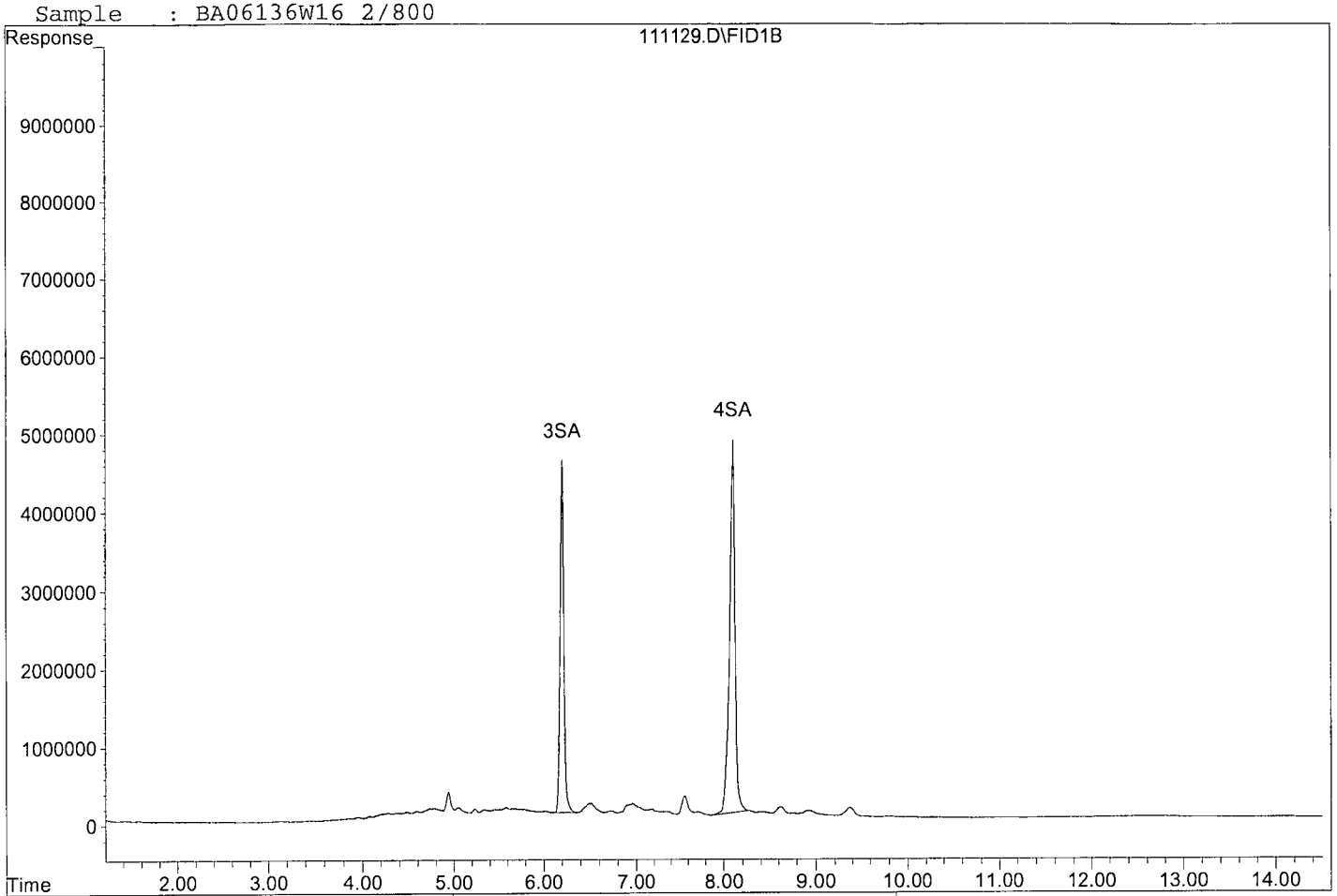
Method : G:\APOLLO\DATA\200111\DOC0111.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Mon Jan 13 07:59:04 2020
Response via : Multiple Level Calibration

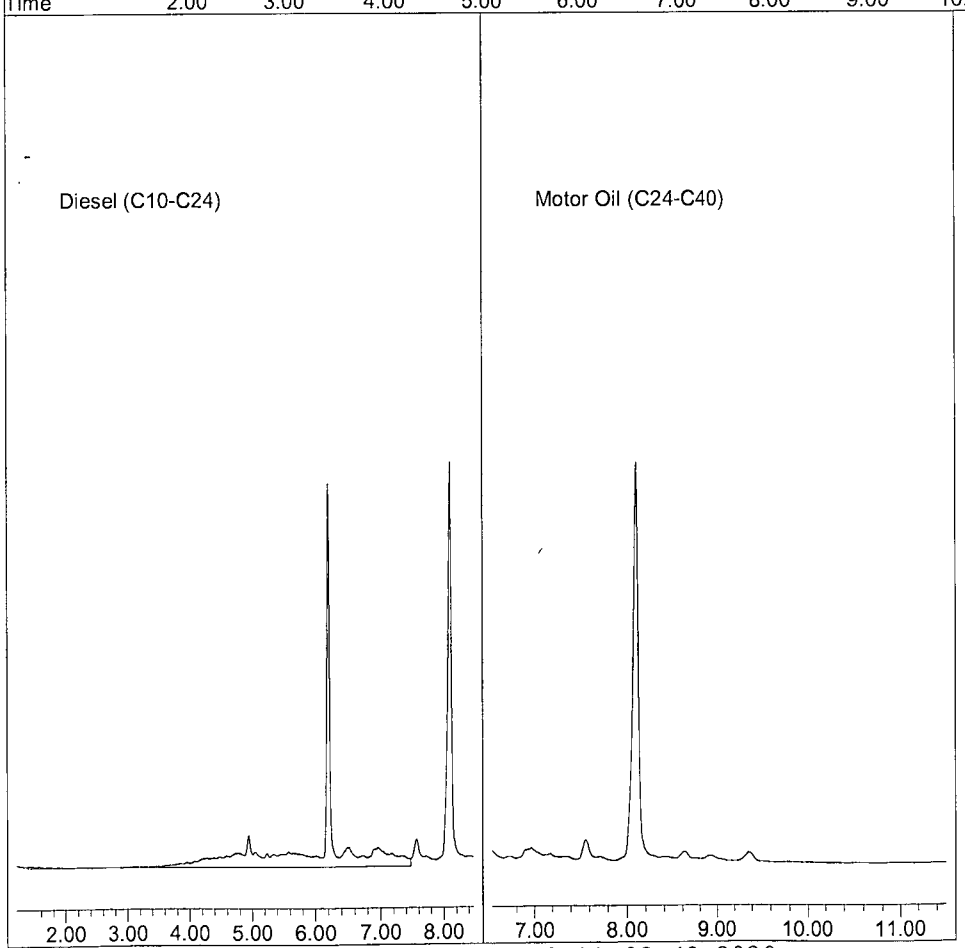
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
3) SA Ortho-Terphenyl(S)	6.21	124589116	72.451	ppb
Surrogate Spike 75.000	Recovery =		96.60%	
4) SA Octacosane(S)	8.10	191443852	114.959	ppb
Surrogate Spike 75.000	Recovery =		153.28%	
Target Compounds				
1) HATM Diesel (C10-C24)	4.42	303238515	181.579	ppb
Target Compounds				
2) HBTM Motor Oil (C24-C40)	0.00	0	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200111\111129.D
Sample : BA06136W16 2/800





111129.D DOC0111.M Tue Jan 28 11:22:43 2020

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200127\127019.D Vial: 19
Acq On : 1-27-20 17:48:25 Operator: BT
Sample : BA06136W16 2/800 SG Inst : Apollo
Misc : water Multiplr: 2.50
IntFile : events.e
Quant Time: Jan 28 11:31 2020 Quant Results File: DOC0127.RES

Method : G:\APOLLO\DATA\200127\DOC0127.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Jan 28 07:54:11 2020
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
3) SA Ortho-Terphenyl(S)	6.20	116544840	81.490	ppb
Surrogate Spike 75.000		Recovery =	108.65%	
4) SA Octacosane(S)	8.11	108892431	74.316	ppb
Surrogate Spike 75.000		Recovery =	99.09%	
Target Compounds				
1) HATM Diesel (C10-C24)	4.42	61882625	39.303	ppb
Target Compounds				
2) HBTM Motor Oil (C24-C40)	0.00	0	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200127\127019.D Vial: 19
Acq On : 1-27-20 17:48:25 Operator: BT
Sample : BA06136W16 2/800 SG Inst : Apollo
Misc : water Multiplr: 2.50
IntFile : events.e
Quant Time: Jan 28 11:33 2020 Quant Results File: DEC1120.RES

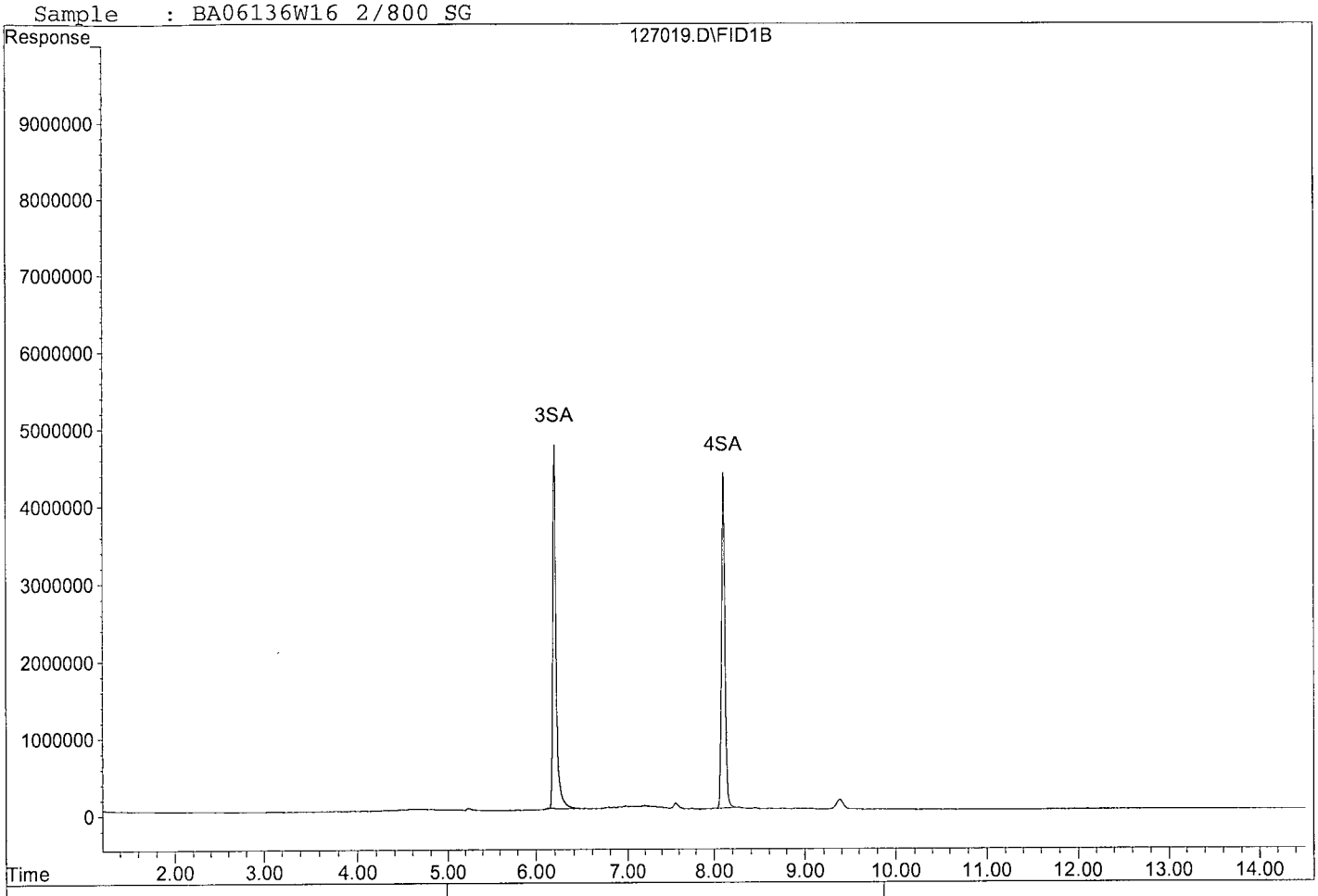
Method : G:\APOLLO\DATA\191115\DEC1120.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Sat Jan 18 07:19:37 2020
Response via : Multiple Level Calibration

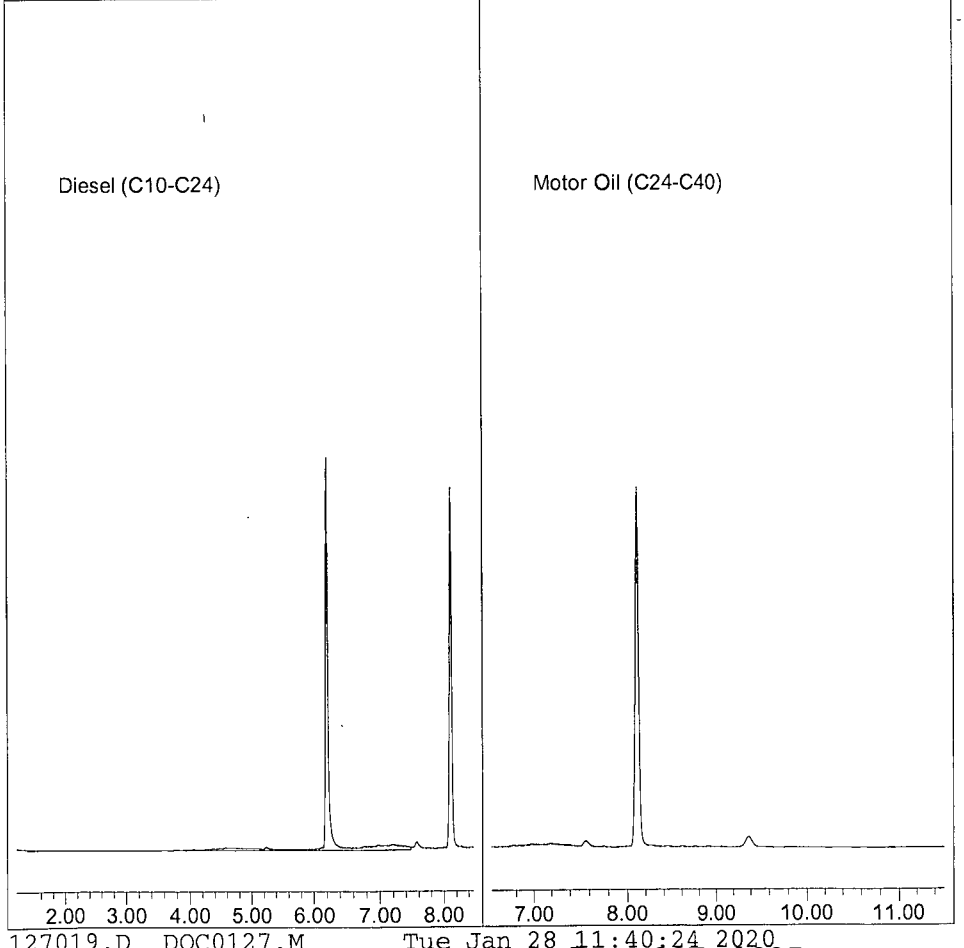
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
1) SC Decanoic Acid(S)	0.00	0	N.D.	ppb
Surrogate Spike 60.000	Recovery	=	0.00%	
Target Compounds				
Target Compounds				

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200127\127019.D
Sample : BA06136W16 2/800 SG





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200111\111130.D Vial: 30
Acq On : 1-25-20 14:08:57 Operator: BT
Sample : BA06138W15 2/800 Inst : Apollo
Misc : water Multiplr: 2.50
IntFile : events.e
Quant Time: Jan 28 11:21 2020 Quant Results File: DOC0111.RES

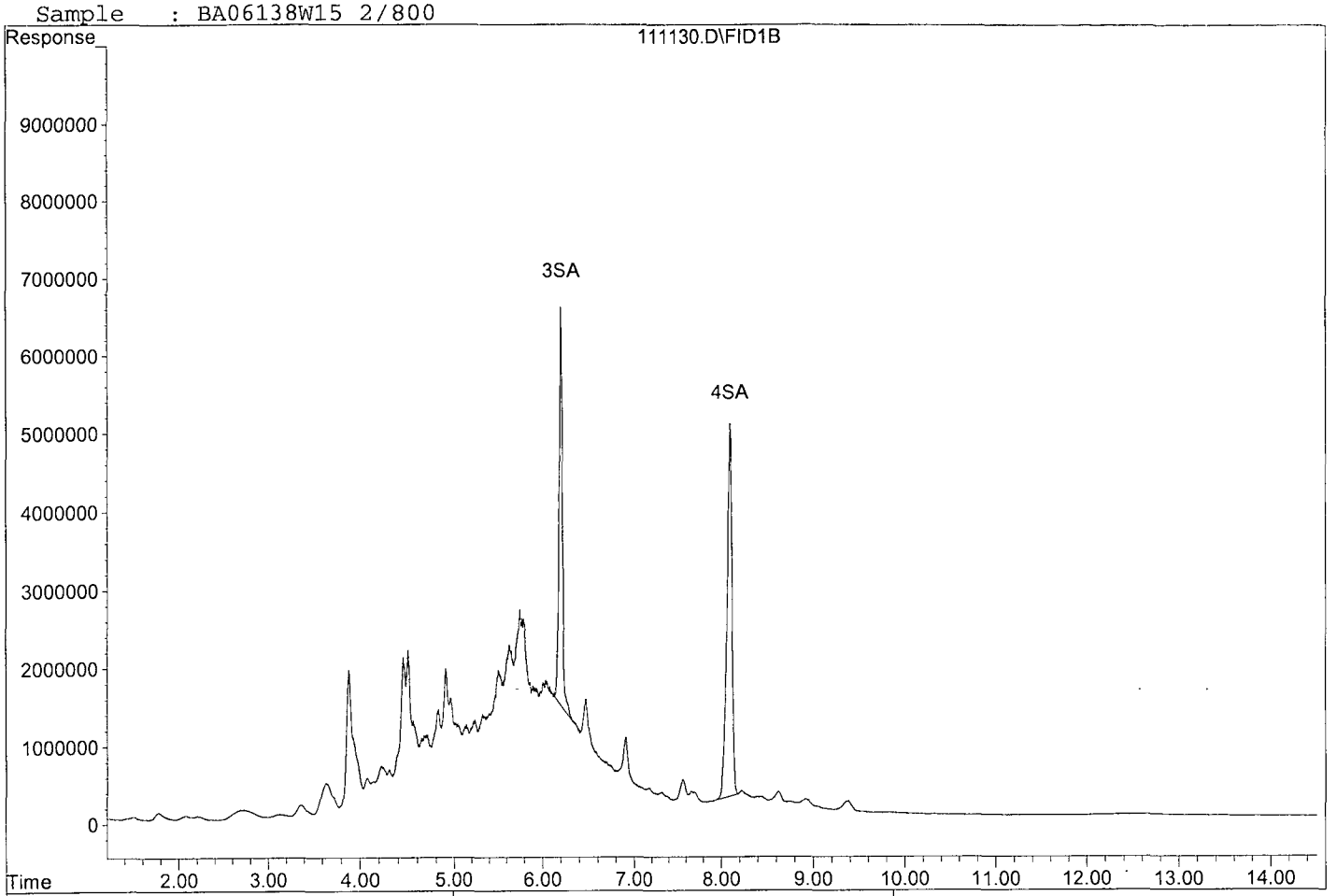
Method : G:\APOLLO\DATA\200111\DOC0111.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Mon Jan 13 07:59:04 2020
Response via : Multiple Level Calibration

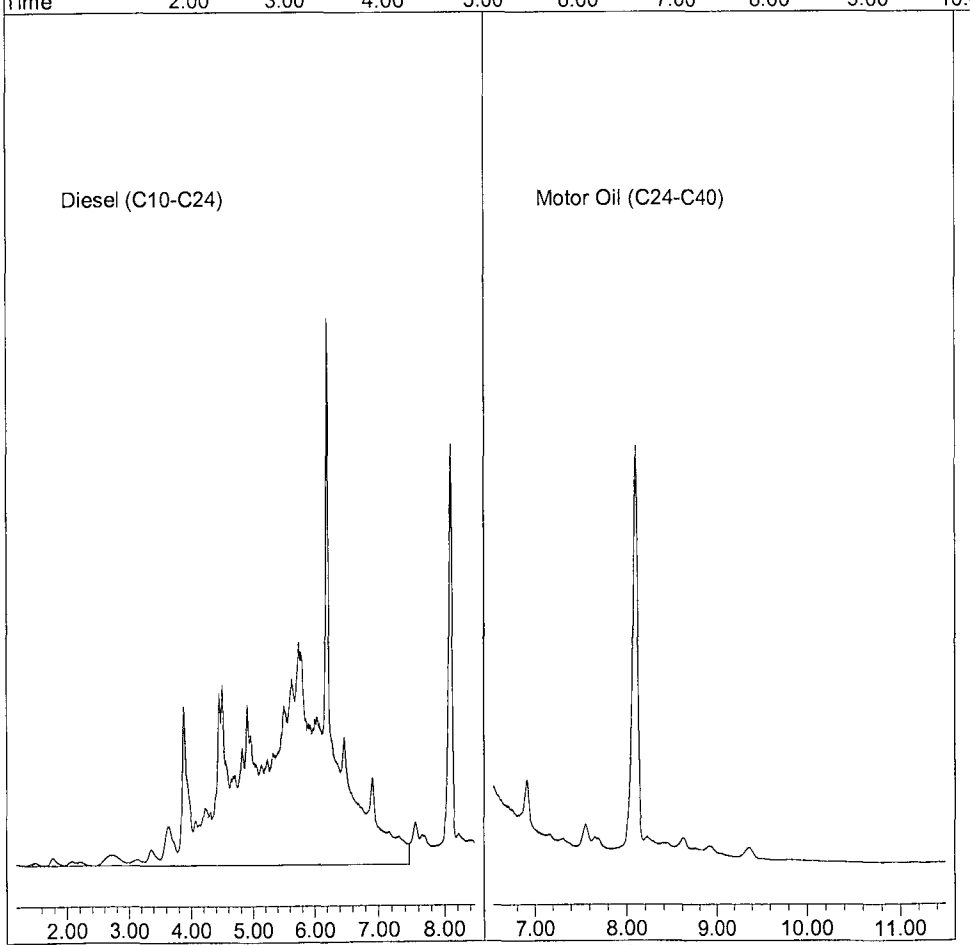
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
3) SA Ortho-Terphenyl(S)	6.21	130997392	76.177	ppb
Surrogate Spike 75.000	Recovery =		101.57%	
4) SA Octacosane(S)	8.10	183628278	110.266	ppb
Surrogate Spike 75.000	Recovery =		147.02%	
Target Compounds				
1) HATM Diesel (C10-C24)	4.42	2562280166	1534.291	ppb
Target Compounds				
2) HBTM Motor Oil (C24-C40)	0.00	0	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200111\111130.D
Sample : BA06138W15 2/800





111130.D DOC0111.M Tue Jan 28 11:22:46 2020

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200127\127020.D Vial: 20
Acq On : 1-27-20 18:08:05 Operator: BT
Sample : BA06138W15 2/800 SG Inst : Apollo
Misc : water Multiplr: 2.50
IntFile : events.e
Quant Time: Jan 28 11:31 2020 Quant Results File: DOC0127.RES

Method : G:\APOLLO\DATA\200127\DOC0127.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Jan 28 07:54:11 2020
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
3) SA Ortho-Terphenyl(S)	6.20	117402794	82.090	ppb
Surrogate Spike 75.000	Recovery = 109.45%			
4) SA Octacosane(S)	8.11	111818086	76.313	ppb
Surrogate Spike 75.000	Recovery = 101.75%			
Target Compounds				
1) HATM Diesel (C10-C24)	4.42	433203175	275.137	ppb
Target Compounds				
2) HBTM Motor Oil (C24-C40)	0.00	0	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200127\127020.D Vial: 20
Acq On : 1-27-20 18:08:05 Operator: BT
Sample : BA06138W15 2/800 SG Inst : Apollo
Misc : water Multiplr: 2.50
IntFile : events.e
Quant Time: Jan 28 11:33 2020 Quant Results File: DEC1120.RES

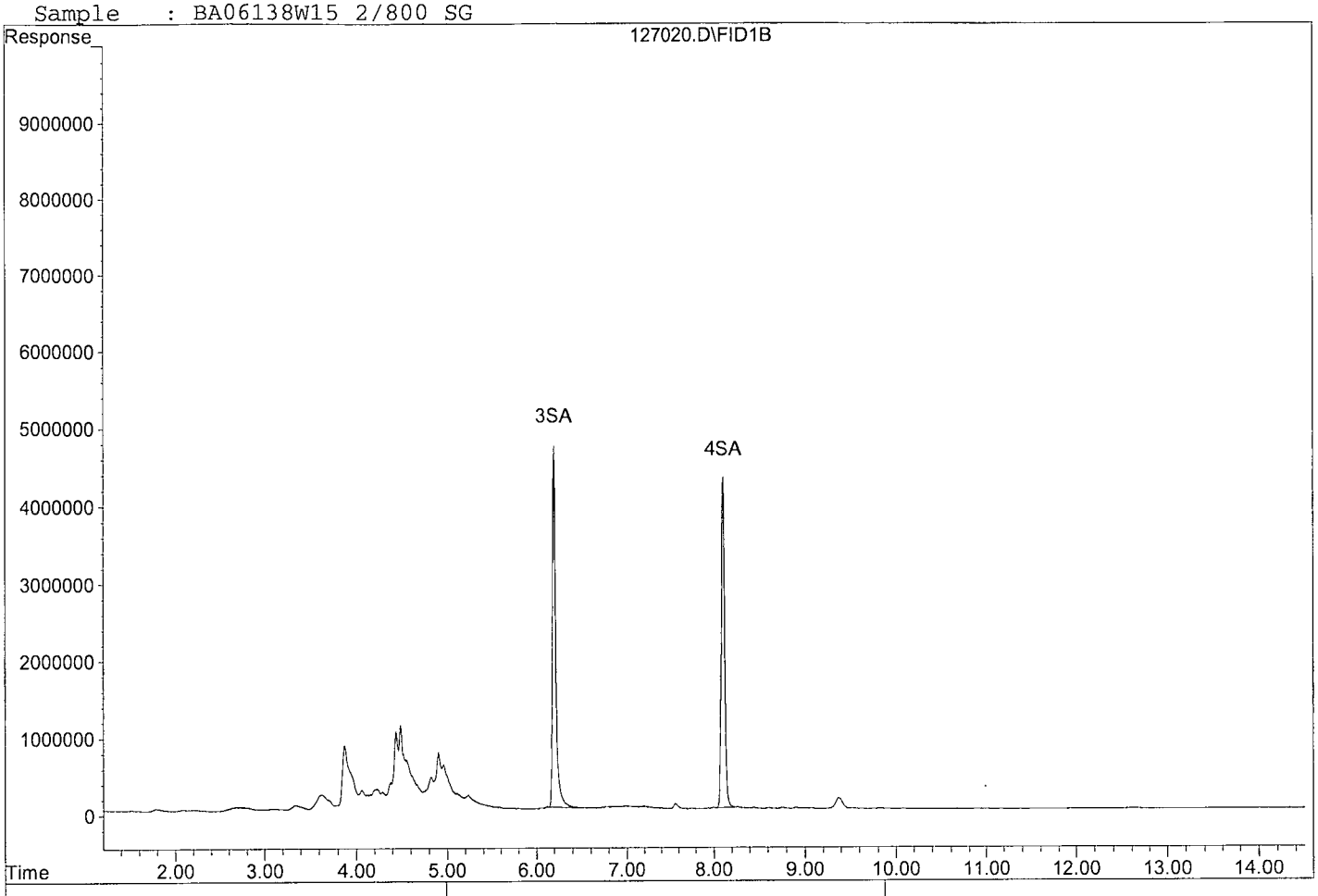
Method : G:\APOLLO\DATA\191115\DEC1120.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Sat Jan 18 07:19:37 2020
Response via : Multiple Level Calibration

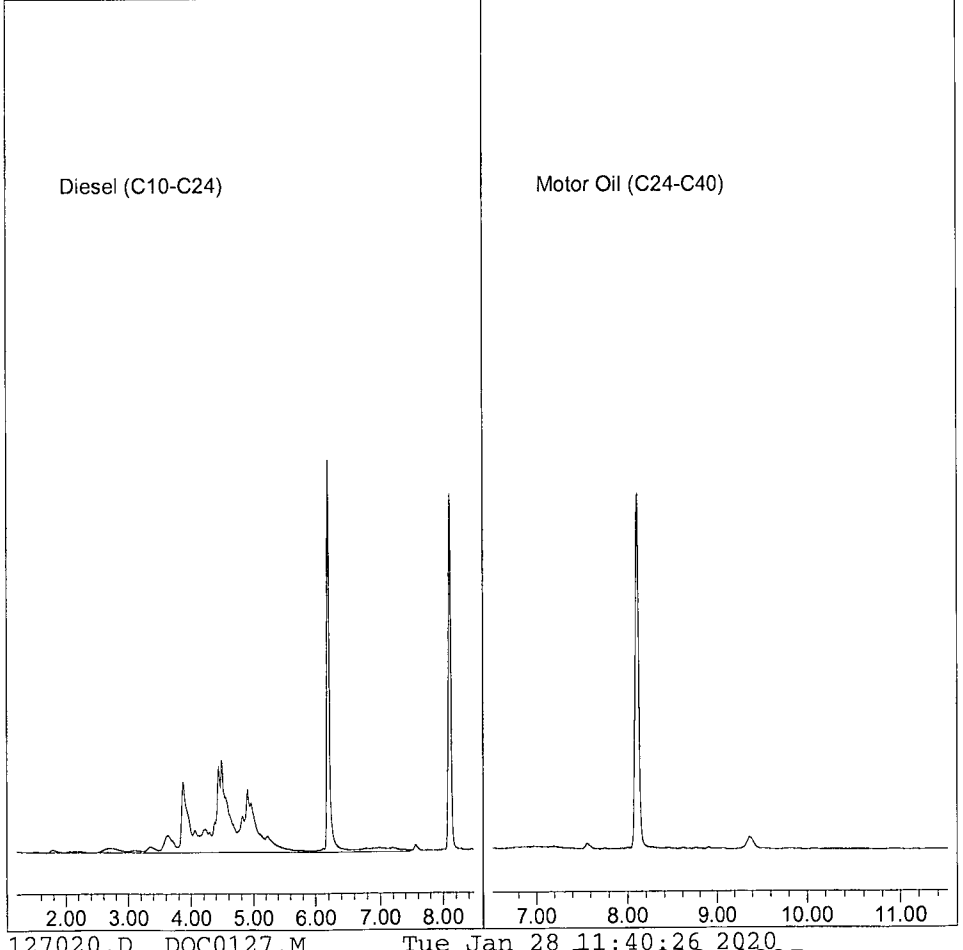
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
1) SC Decanoic Acid(S)	0.00	0	N.D.	ppb d
Surrogate Spike 60.000	Recovery	=	0.00%	
Target Compounds				
Target Compounds				

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200127\127020.D
Sample : BA06138W15 2/800 SG





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200111\111131.D Vial: 31
Acq On : 1-25-20 14:28:42 Operator: BT
Sample : BA06139W08 2/800 Inst : Apollo
Misc : water Multiplr: 2.50
IntFile : events.e
Quant Time: Jan 28 11:21 2020 Quant Results File: DOC0111.RES

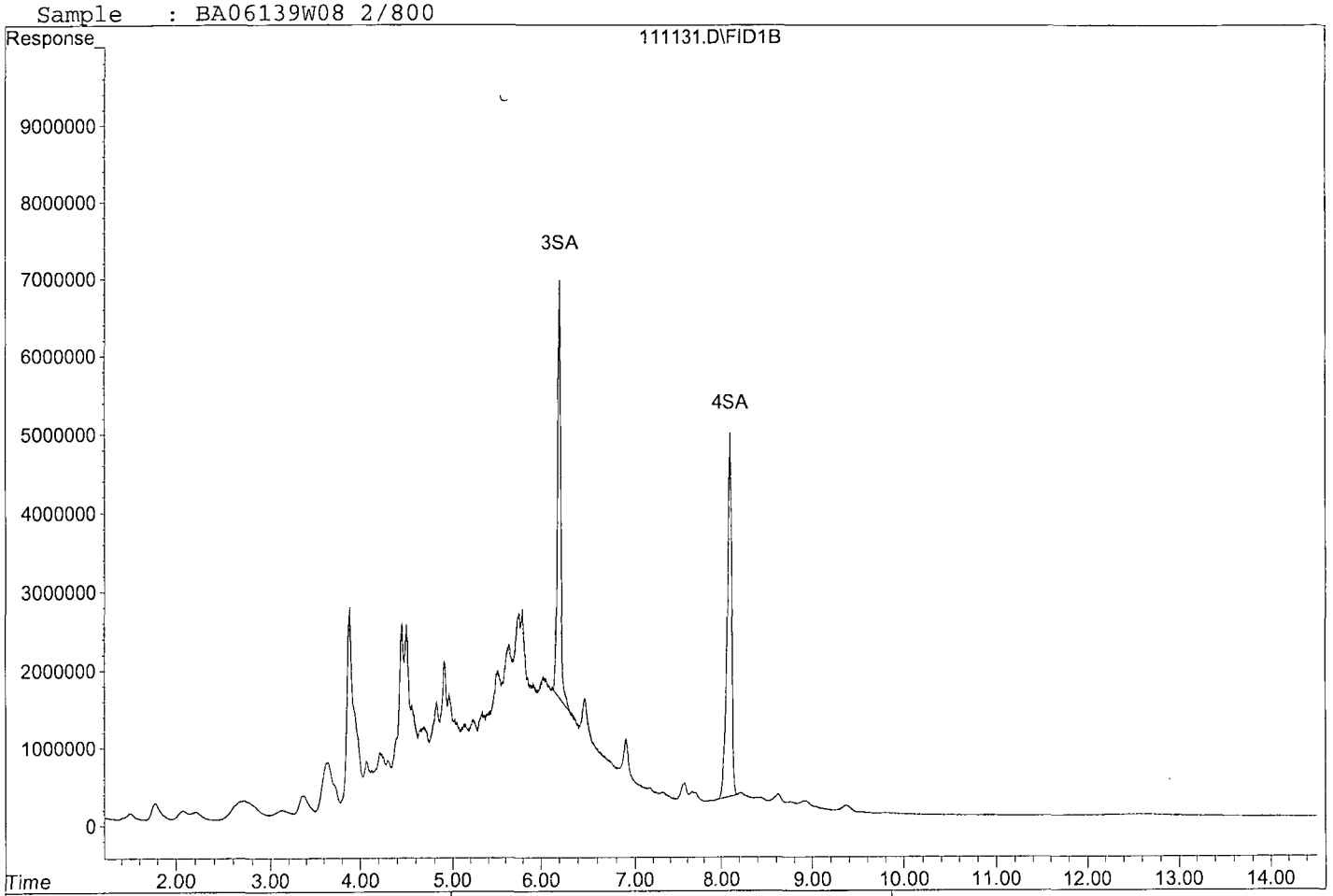
Method : G:\APOLLO\DATA\200111\DOC0111.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Mon Jan 13 07:59:04 2020
Response via : Multiple Level Calibration

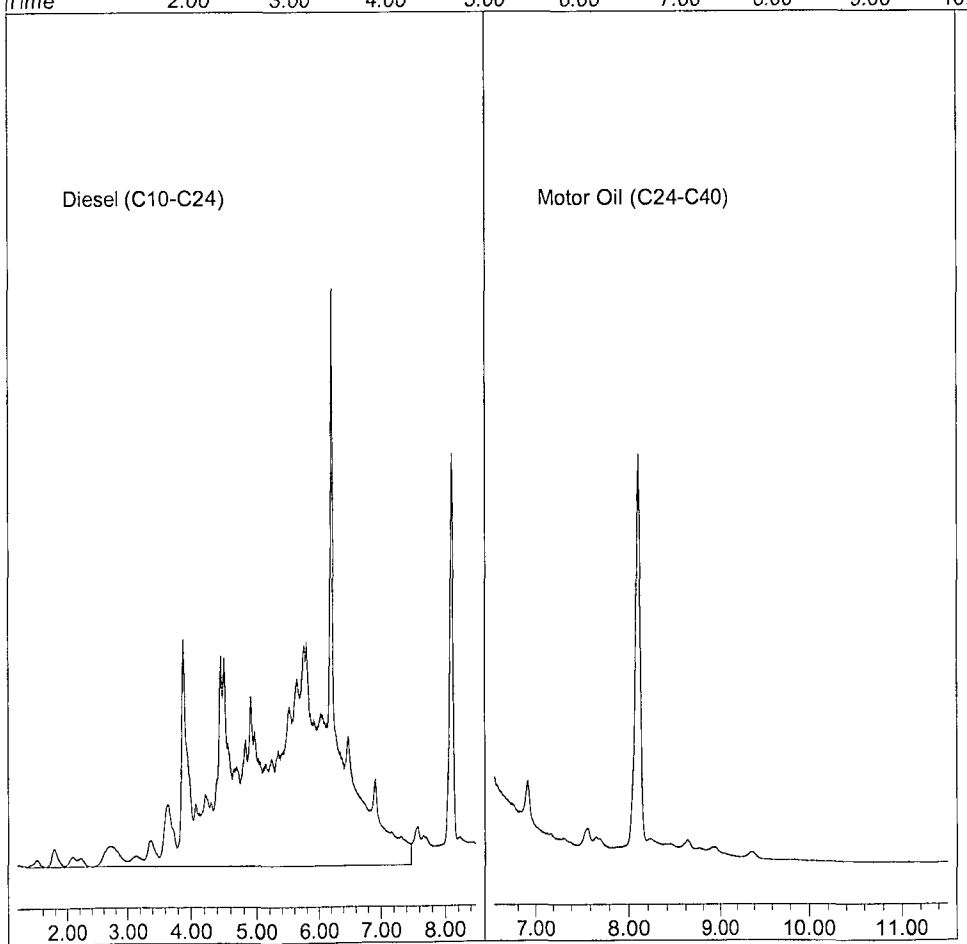
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
3) SA Ortho-Terphenyl(S)	6.21	129813897	75.489	ppb
Surrogate Spike 75.000	Recovery =		100.65%	
4) SA Octacosane(S)	8.10	164439779	98.743	ppb
Surrogate Spike 75.000	Recovery =		131.66%	
Target Compounds				
1) HATM Diesel (C10-C24)	4.42	2843289089	1702.559	ppb
Target Compounds				
2) HBTM Motor Oil (C24-C40)	0.00	0	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200111\111131.D
Sample : BA06139W08 2/800





111131.D DOC0111.M Tue Jan 28 11:22:48 2020

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200127\127021.D Vial: 21
Acq On : 1-27-20 18:27:36 Operator: BT
Sample : BA06139W08 2/800 SG Inst : Apollo
Misc : water Multiplr: 2.50
IntFile : events.e
Quant Time: Jan 28 11:32 2020 Quant Results File: DOC0127.RES

Method : G:\APOLLO\DATA\200127\DOC0127.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Jan 28 07:54:11 2020
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
3) SA Ortho-Terphenyl(S)	6.20	120368328	84.164	ppb
Surrogate Spike 75.000		Recovery =	112.22%	
4) SA Octacosane(S)	8.10	112550254	76.813	ppb
Surrogate Spike 75.000		Recovery =	102.42%	
Target Compounds				
1) HATM Diesel (C10-C24)	4.42	561494942	356.617	ppb
Target Compounds				
2) HBTM Motor Oil (C24-C40)	0.00	0	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200127\127021.D Vial: 21
Acq On : 1-27-20 18:27:36 Operator: BT
Sample : BA06139W08 2/800 SG Inst : Apollo
Misc : water Multiplr: 2.50
IntFile : events.e
Quant Time: Jan 28 11:33 2020 Quant Results File: DEC1120.RES

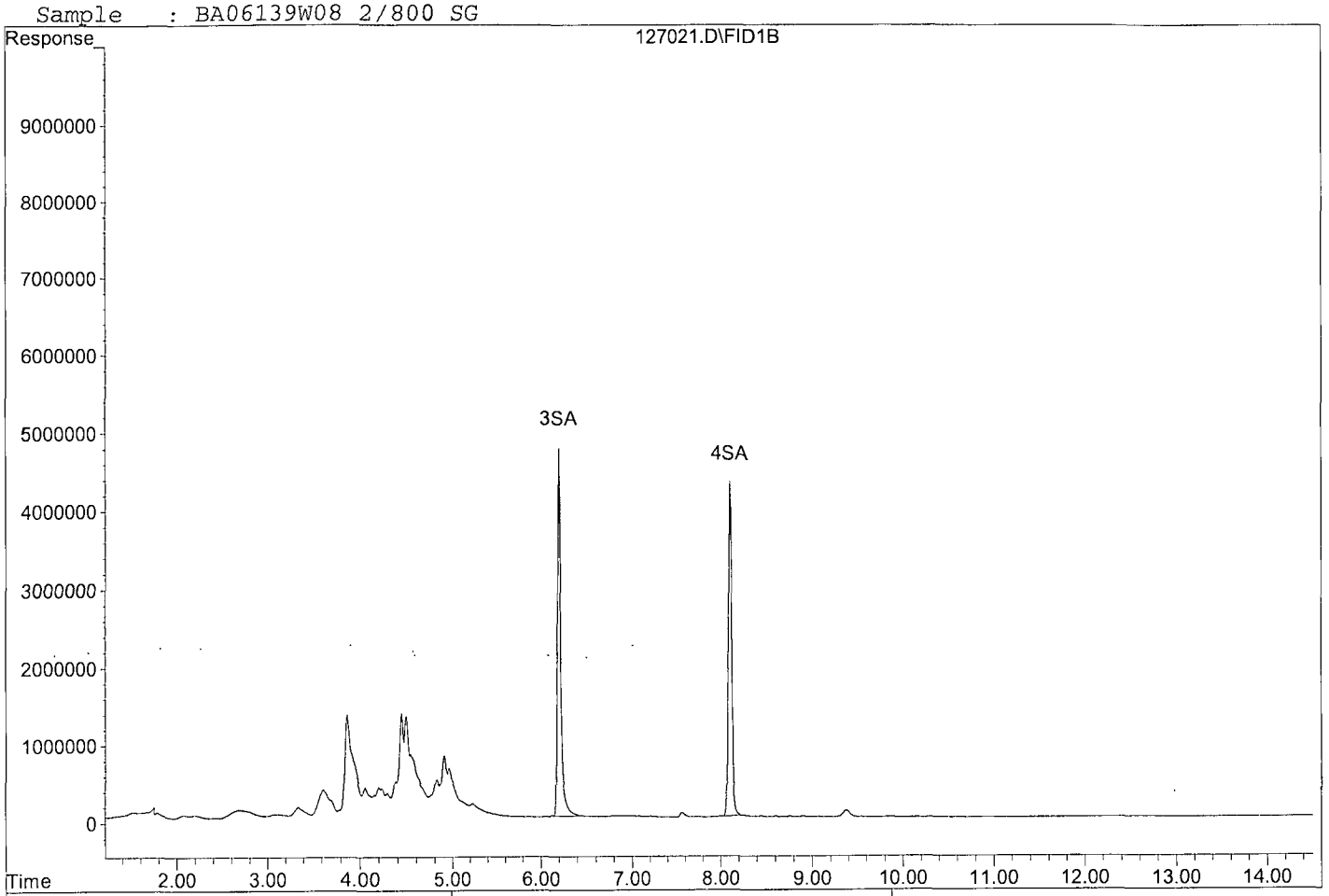
Method : G:\APOLLO\DATA\191115\DEC1120.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Sat Jan 18 07:19:37 2020
Response via : Multiple Level Calibration

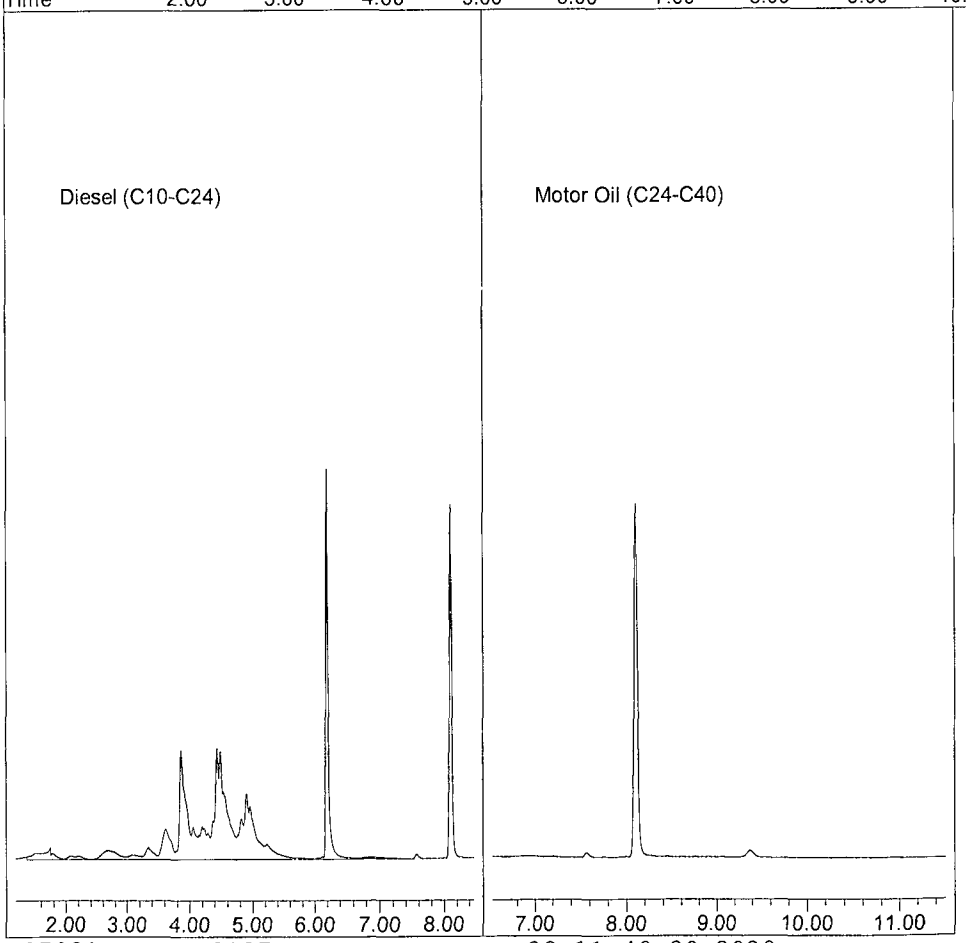
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
1) SC Decanoic Acid(S)	0.00	0	N.D.	ppb d
Surrogate Spike 60.000	Recovery	=	0.00%	
Target Compounds				
Target Compounds				

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200127\127021.D
Sample : BA06139W08 2/800 SG





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200111\111132.D Vial: 32
Acq On : 1-25-20 14:48:28 Operator: BT
Sample : BA06141W13 2/800 Inst : Apollo
Misc : water Multiplr: 2.50
IntFile : events.e
Quant Time: Jan 28 11:21 2020 Quant Results File: DOC0111.RES

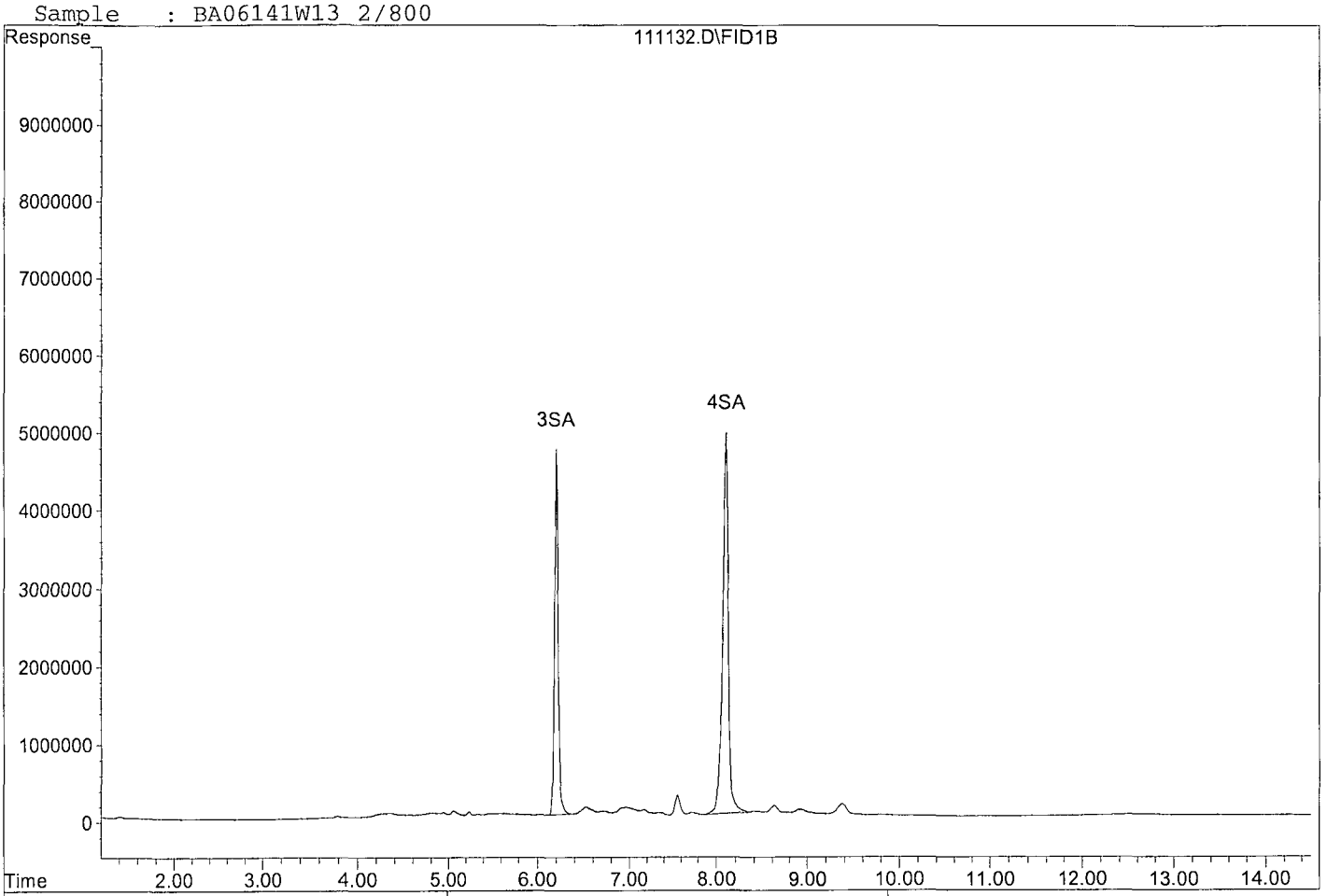
Method : G:\APOLLO\DATA\200111\DOC0111.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Mon Jan 13 07:59:04 2020
Response via : Multiple Level Calibration

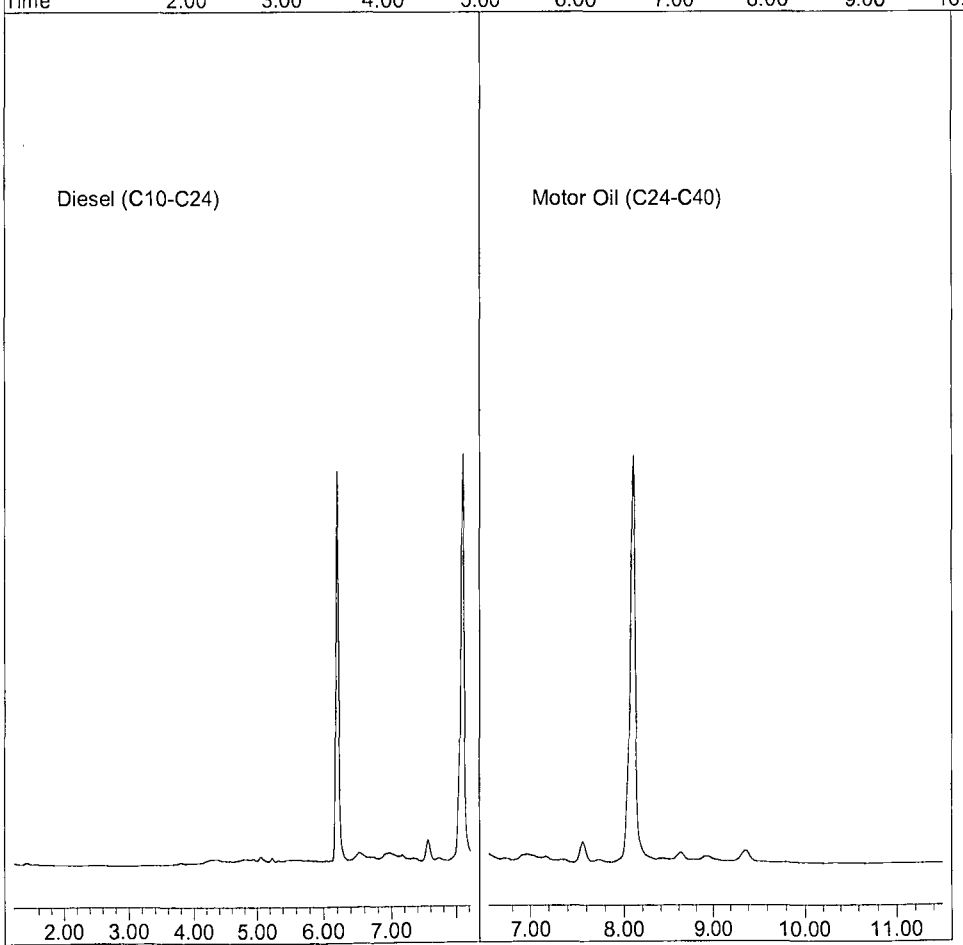
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
3) SA Ortho-Terphenyl(S)	6.21	124210378	72.231	ppb
Surrogate Spike 75.000	Recovery =		96.31%	
4) SA Octacosane(S)	8.11	201302994	120.879	ppb
Surrogate Spike 75.000	Recovery =		161.17%	
Target Compounds				
Target Compounds				
1) HATM Diesel (C10-C24)	0.00	0	N.D.	ppb
2) HBTM Motor Oil (C24-C40)	0.00	0	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200111\111132.D
Sample : BA06141W13 2/800





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200111\111133.D Vial: 33
Acq On : 1-25-20 15:08:16 Operator: BT
Sample : BA06143W16 2/800 Inst : Apollo
Misc : water Multiplr: 2.50
IntFile : events.e
Quant Time: Jan 28 11:22 2020 Quant Results File: DOC0111.RES

Method : G:\APOLLO\DATA\200111\DOC0111.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Mon Jan 13 07:59:04 2020
Response via : Multiple Level Calibration

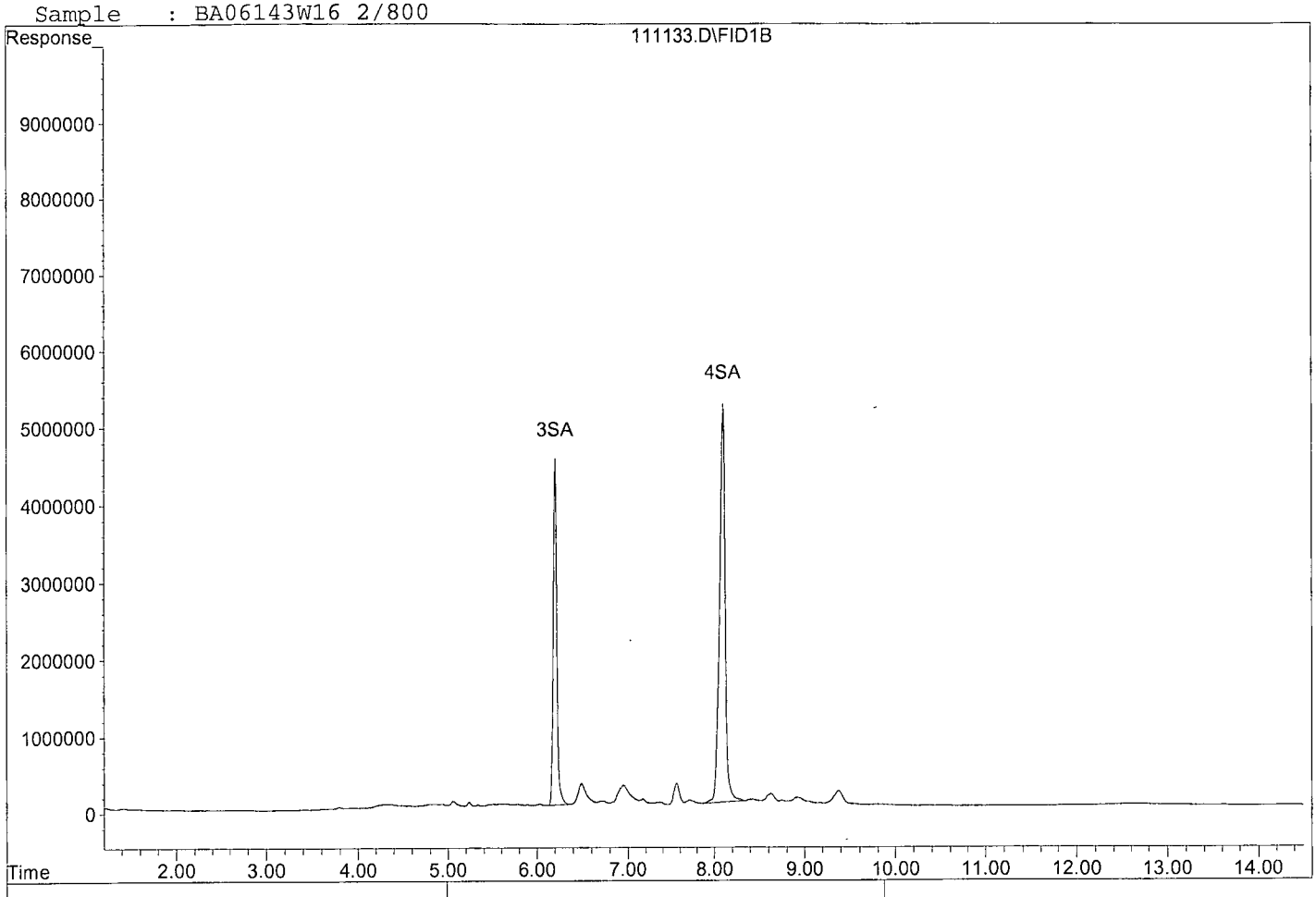
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

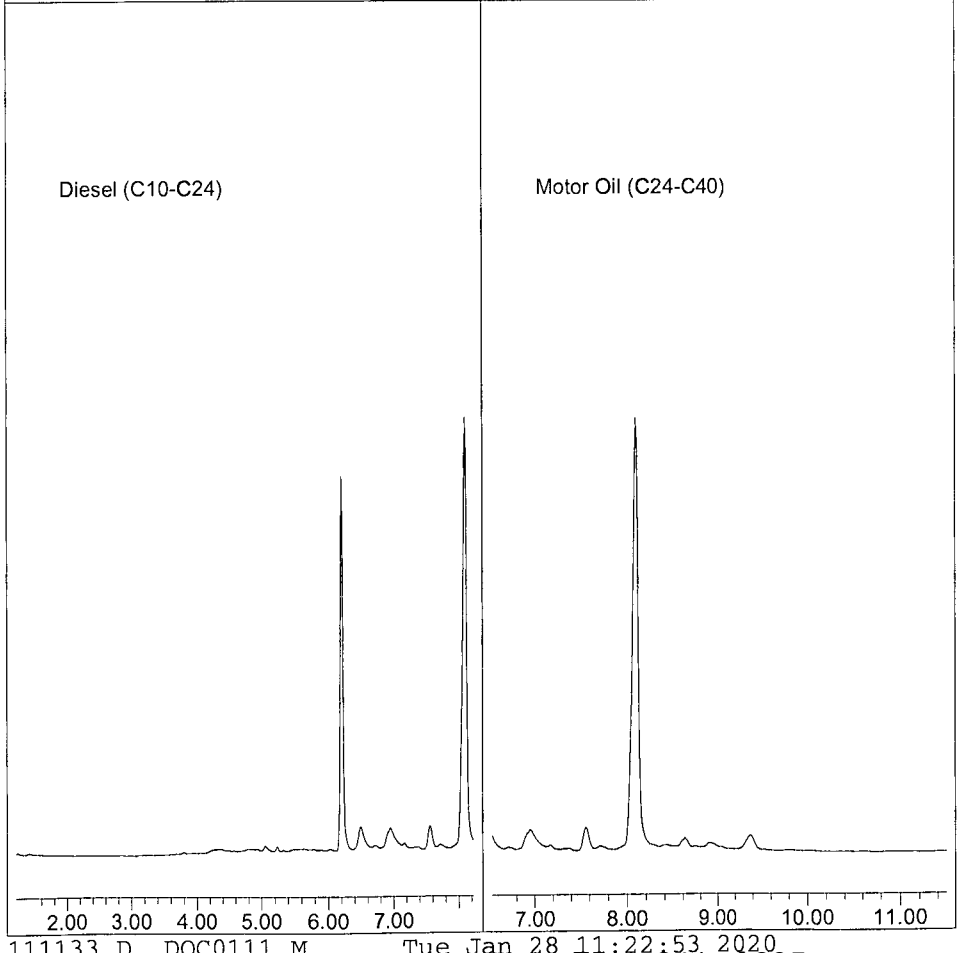
Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
3) SA Ortho-Terphenyl(S)	6.21	124621466	72.470	ppb
Surrogate Spike 75.000		Recovery =	96.63%	
4) SA Octacosane(S)	8.10	228685666	137.322	ppb
Surrogate Spike 75.000		Recovery =	183.10%	
Target Compounds				
Target Compounds				
1) HATM Diesel (C10-C24)	0.00	0	N.D.	ppb
2) HBTM Motor Oil (C24-C40)	0.00	0	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\200111\111133.D
Sample : BA06143W16 2/800





111133.D DOC0111.M Tue Jan 28 11:22:53 2020

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200111\111126.D Vial: 26
Acq On : 1-25-20 12:49:57 Operator: BT
Sample : 200122A BLK 2/800 Inst : Apollo
Misc : water Multiplr: 2.50
IntFile : events.e
Quant Time: Jan 27 9:57 2020 Quant Results File: DOC0111.RES

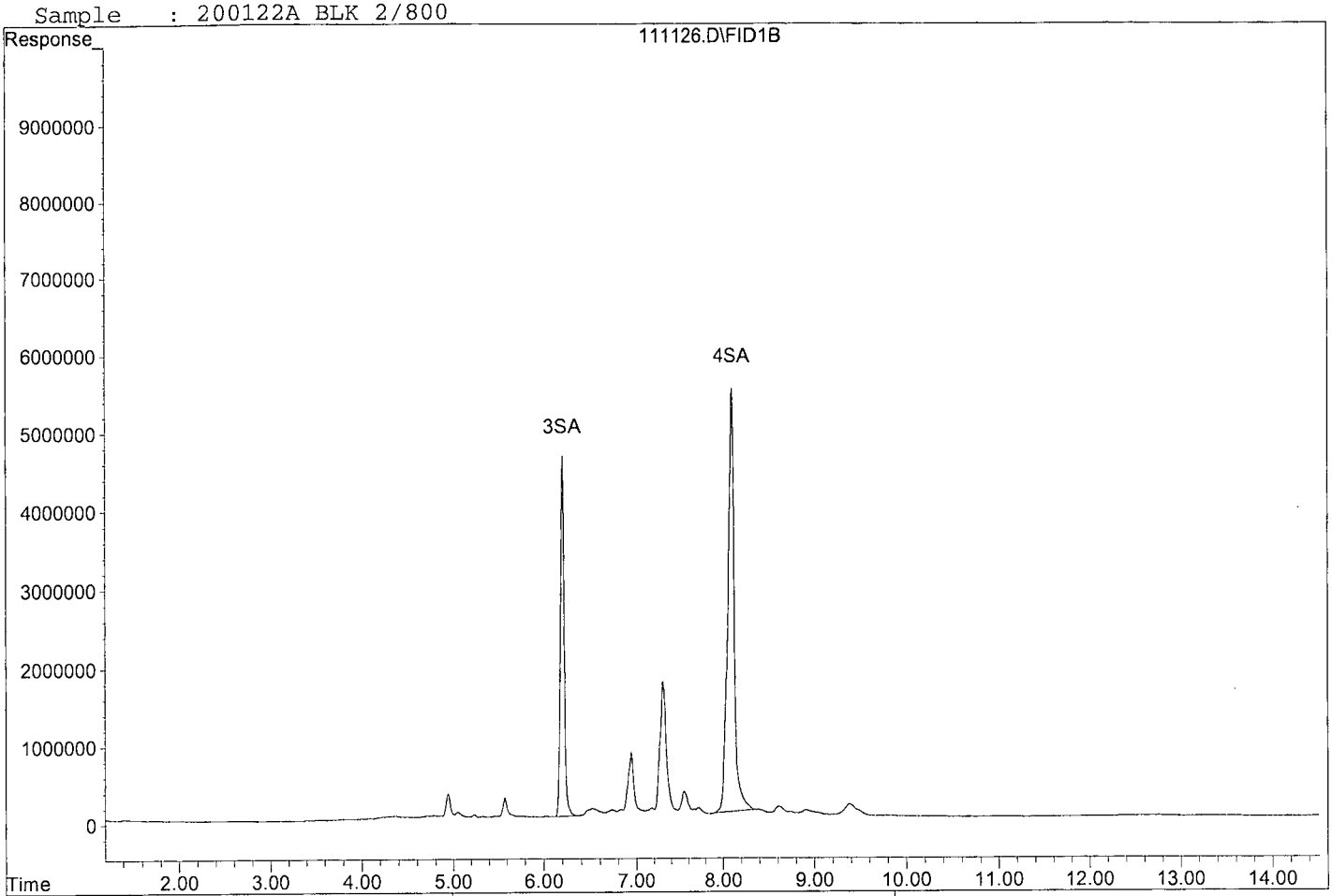
Method : G:\APOLLO\DATA\200111\DOC0111.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Mon Jan 13 07:59:04 2020
Response via : Multiple Level Calibration

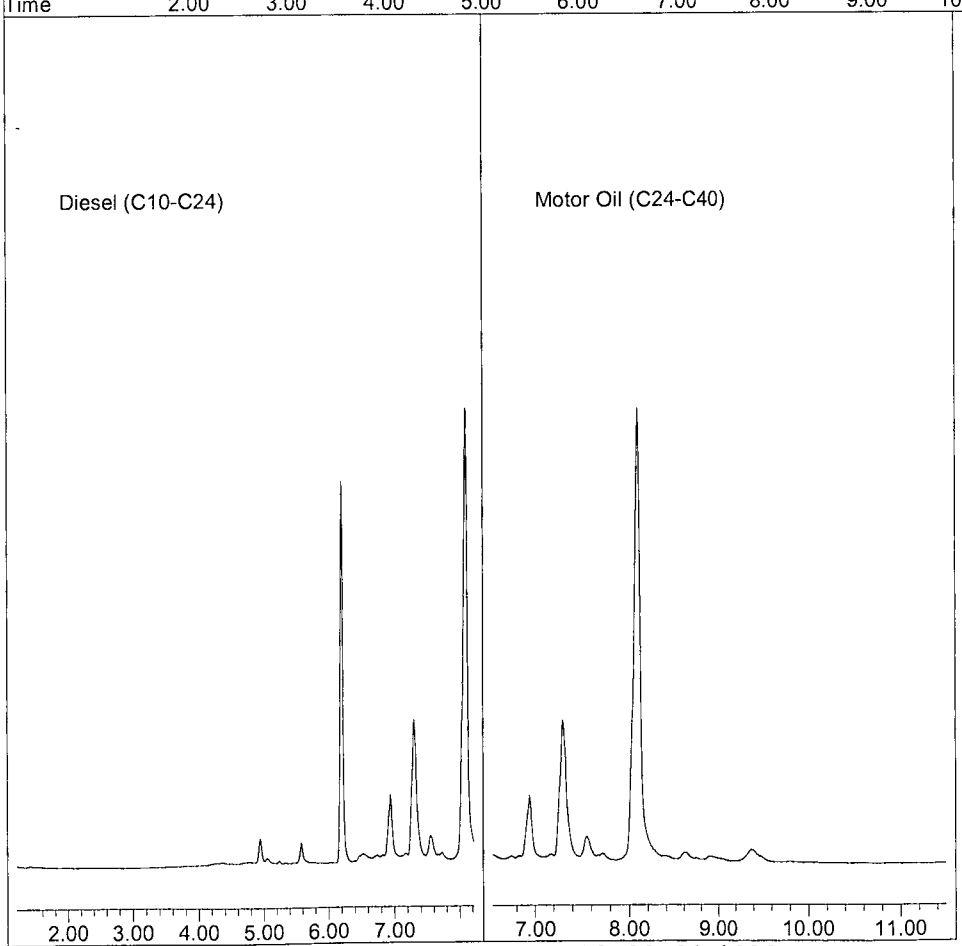
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
3) SA Ortho-Terphenyl(S)	6.21	129719318	75.434	ppb
Surrogate Spike 75.000	Recovery =		100.58%	
4) SA Octacosane(S)	8.10	265518221	159.439	ppb
Surrogate Spike 75.000	Recovery =		212.59%	
Target Compounds				
Target Compounds				
1) HATM Diesel (C10-C24)	0.00	0	N.D.	ppb
2) HBTM Motor Oil (C24-C40)	0.00	0	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200111\111126.D
Sample : 200122A BLK 2/800





111126.D DOC0111.M Mon Jan 27 10:29:04 2020

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200127\127016.D Vial: 16
Acq On : 1-27-20 16:50:14 Operator: BT
Sample : 200122A BLK 2/800 SG Inst : Apollo
Misc : water Multiplr: 2.50
IntFile : events.e
Quant Time: Jan 28 11:30 2020 Quant Results File: DOC0127.RES

Method : G:\APOLLO\DATA\200127\DOC0127.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Jan 28 07:54:11 2020
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
3) SA Ortho-Terphenyl(S)	6.20	120545424	84.287	ppb
Surrogate Spike 75.000		Recovery =	112.38%	
4) SA Octacosane(S)	8.11	114544900	78.174	ppb
Surrogate Spike 75.000		Recovery =	104.23%	
Target Compounds				
Target Compounds				
1) HATM Diesel (C10-C24)	0.00	0	N.D.	ppb
2) HBTM Motor Oil (C24-C40)	0.00	0	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200127\127016.D Vial: 16
Acq On : 1-27-20 16:50:14 Operator: BT
Sample : 200122A BLK 2/800 SG Inst : Apollo
Misc : water Multiplr: 2.50
IntFile : events.e
Quant Time: Jan 28 11:33 2020 Quant Results File: DEC1120.RES

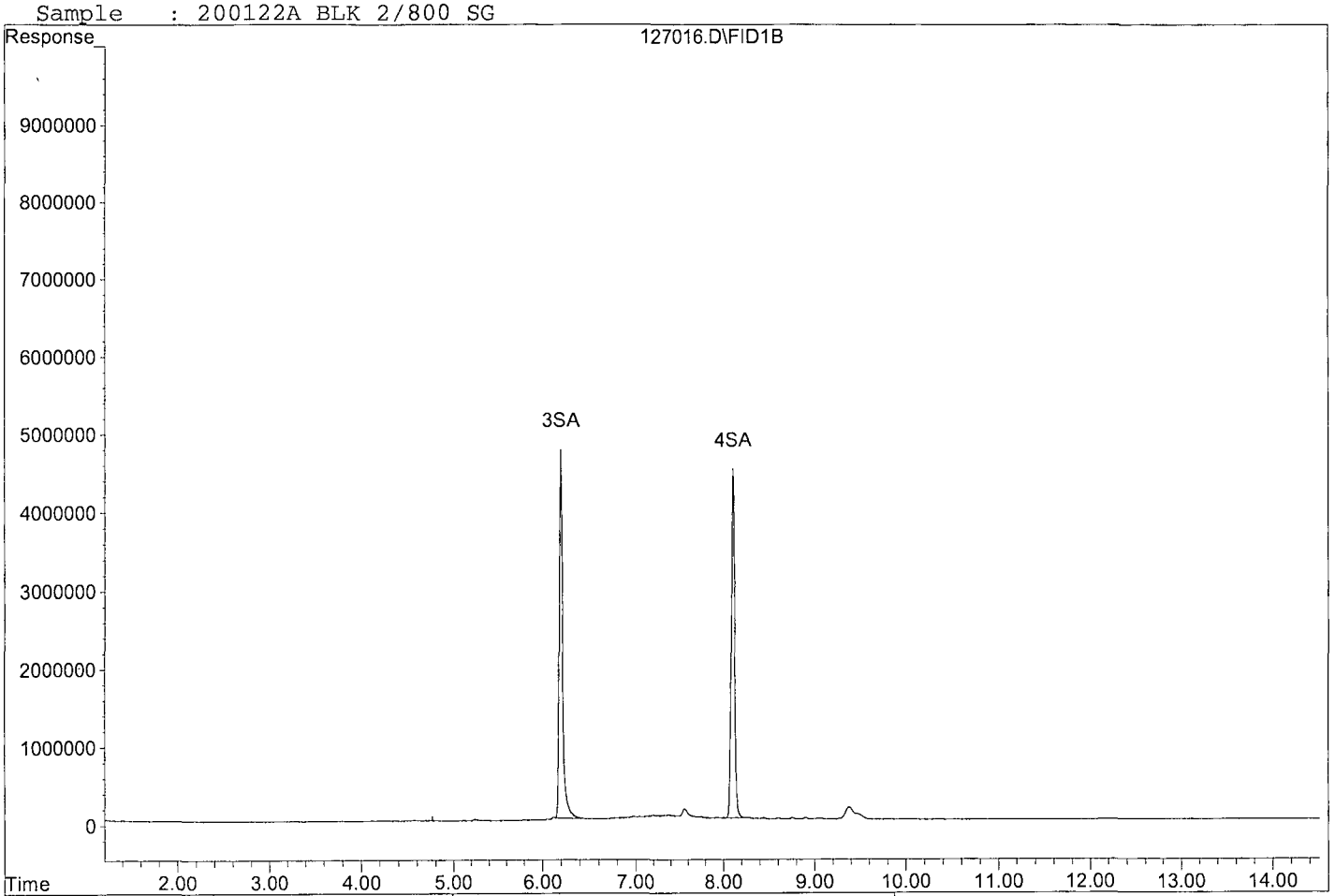
Method : G:\APOLLO\DATA\191115\DEC1120.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Sat Jan 18 07:19:37 2020
Response via : Multiple Level Calibration

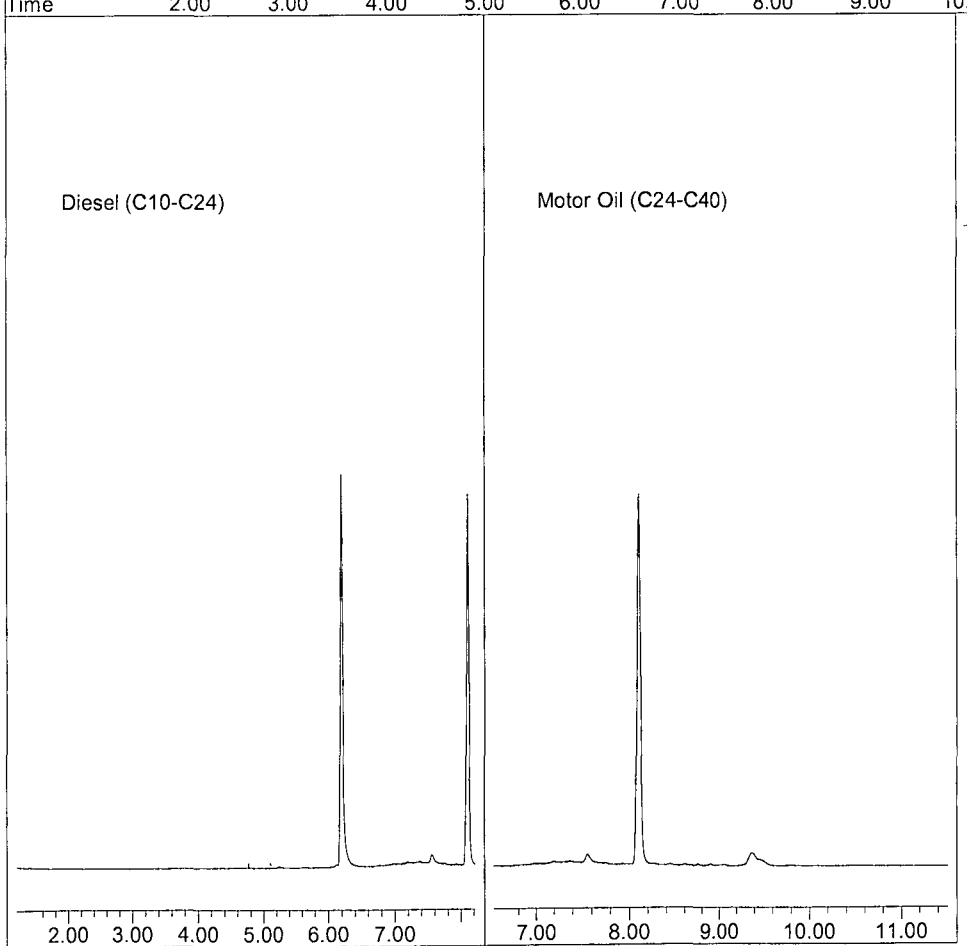
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
1) SC Decanoic Acid(S)	0.00	0	N.D.	ppb
Surrogate Spike 60.000	Recovery	=	0.00%	
Target Compounds				
Target Compounds				

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200127\127016.D
Sample : 200122A BLK 2/800 SG





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200111\111127.D Vial: 27
Acq On : 1-25-20 13:09:40 Operator: BT
Sample : 200122A LCS-1 2/800 Inst : Apollo
Misc : water Multiplr: 2.50
IntFile : events.e
Quant Time: Jan 27 9:56 2020 Quant Results File: DOC0111.RES

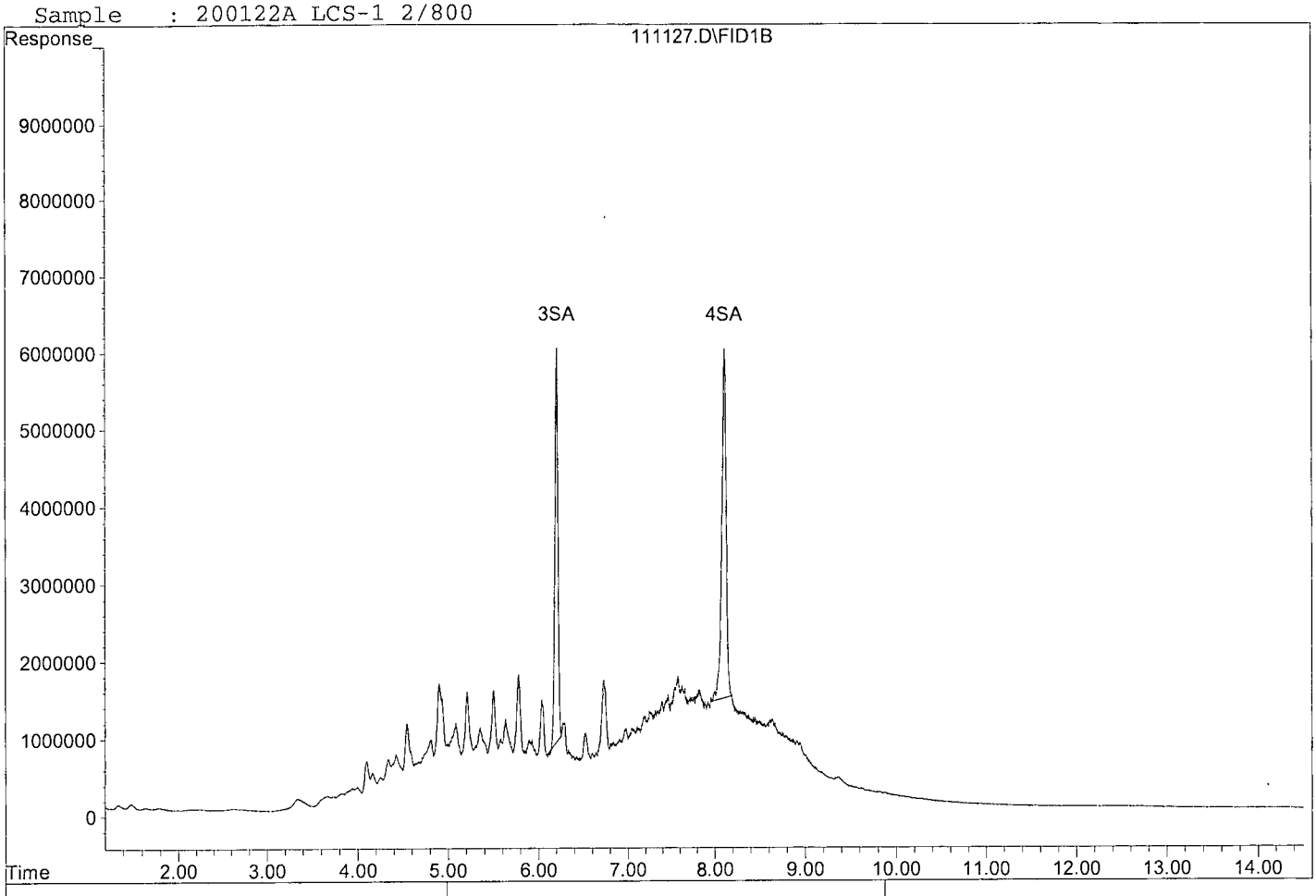
Method : G:\APOLLO\DATA\200111\DOC0111.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Mon Jan 13 07:59:04 2020
Response via : Multiple Level Calibration

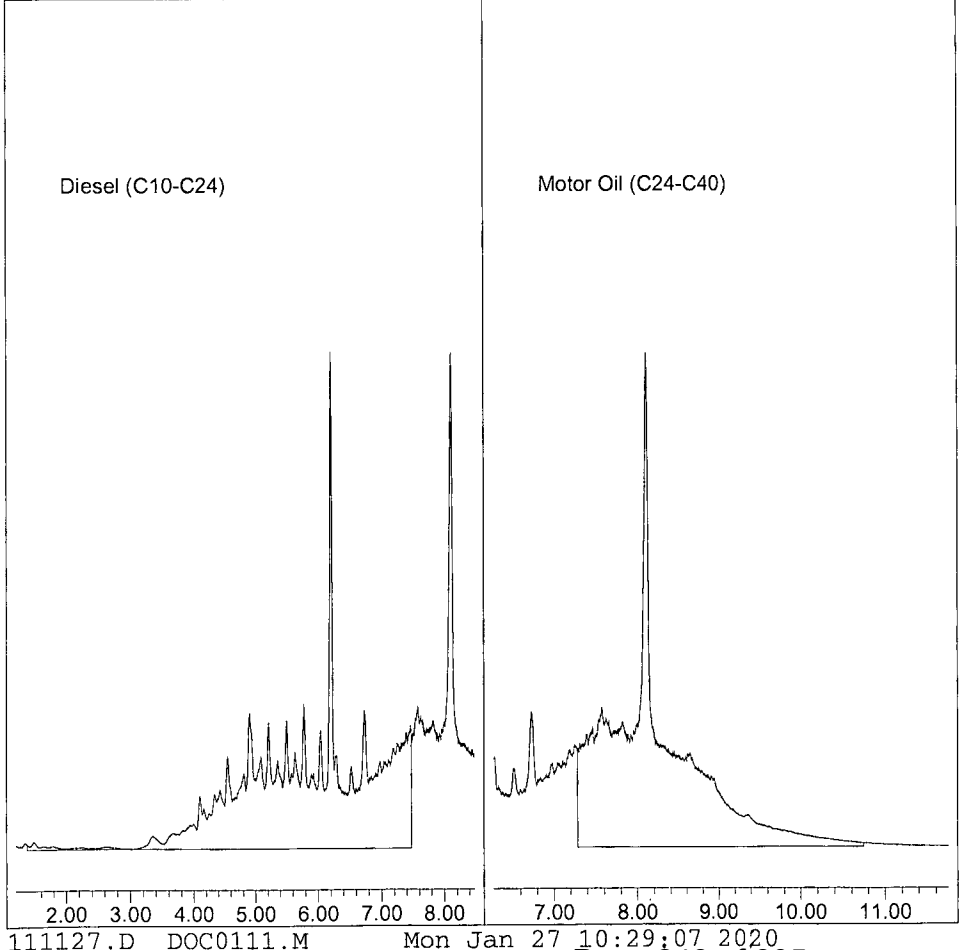
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SA Ortho-Terphenyl(S)	6.21	119706456	69.611 ppb
Surrogate Spike 75.000		Recovery =	92.81%
4) SA Octacosane(S)	8.11	152994592	91.871 ppb
Surrogate Spike 75.000		Recovery =	122.49%
Target Compounds			
1) HATM Diesel (C10-C24)	4.42	1939971420	1161.653 ppb
2) HBTM Motor Oil (C24-C40)	9.01	1483223015	1244.876 ppb
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200111\111127.D
Sample : 200122A LCS-1 2/800





111127.D DOC0111.M Mon Jan 27 10:29:07 2020

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200127\127017.D Vial: 17
Acq On : 1-27-20 17:09:51 Operator: BT
Sample : 200122A LCS-1 2/800 SG Inst : Apollo
Misc : water Multiplr: 2.50
IntFile : events.e
Quant Time: Jan 28 11:30 2020 Quant Results File: DOC0127.RES

Method : G:\APOLLO\DATA\200127\DOC0127.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Jan 28 07:54:11 2020
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SA Ortho-Terphenyl(S)	6.20	101634008	71.064 ppb
Surrogate Spike 75.000	Recovery =		94.75%
4) SA Octacosane(S)	8.11	110504483	75.417 ppb
Surrogate Spike 75.000	Recovery =		100.56%
Target Compounds			
1) HATM Diesel (C10-C24)	4.42	1689583762	1073.091 ppb
2) HBTM Motor Oil (C24-C40)	9.01	1382041837	1141.363 ppb
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200127\127017.D Vial: 17
Acq On : 1-27-20 17:09:51 Operator: BT
Sample : 200122A LCS-1 2/800 SG Inst : Apollo
Misc : water Multiplr: 2.50
IntFile : events.e
Quant Time: Jan 28 11:34 2020 Quant Results File: DEC1120.RES

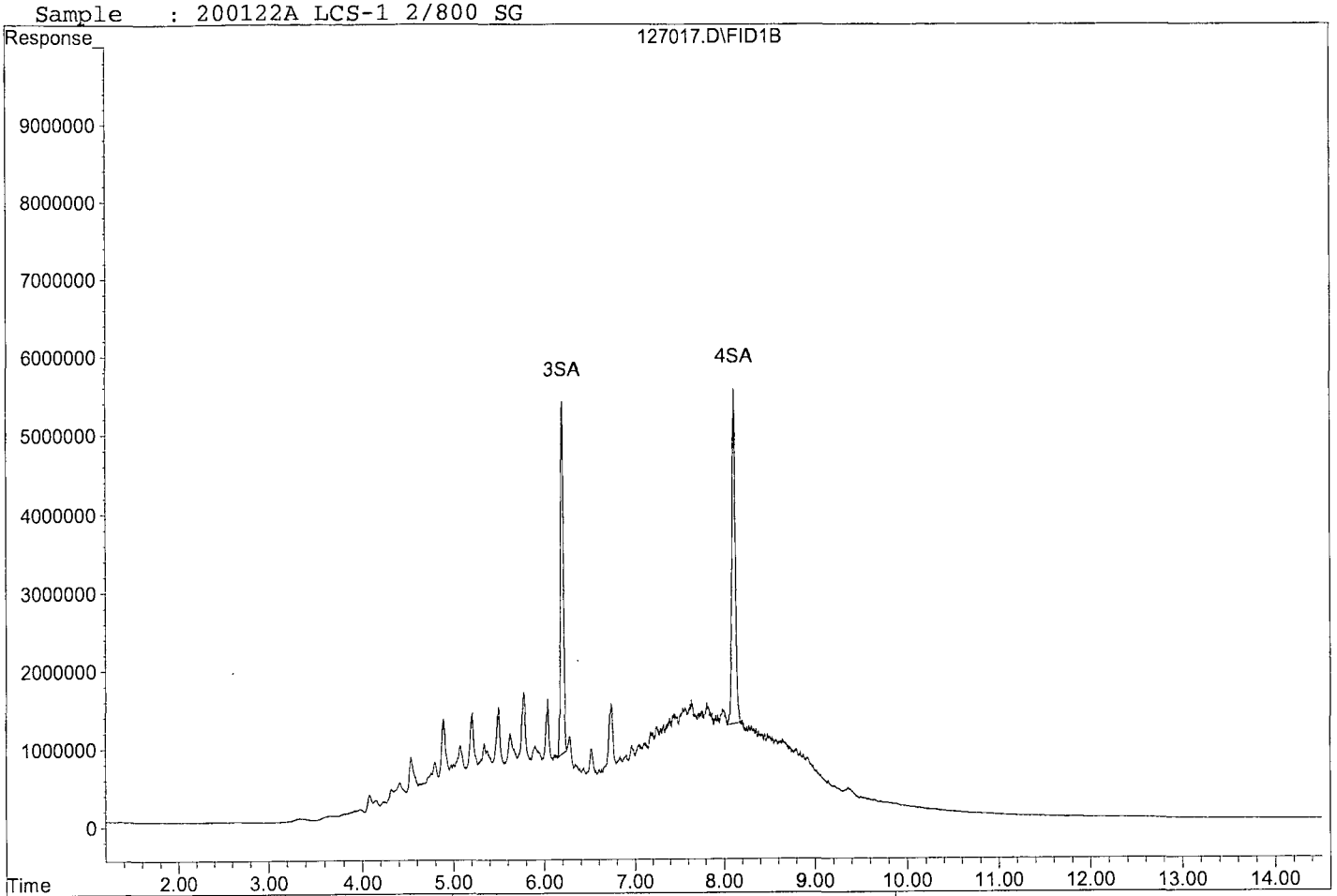
Method : G:\APOLLO\DATA\191115\DEC1120.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Sat Jan 18 07:19:37 2020
Response via : Multiple Level Calibration

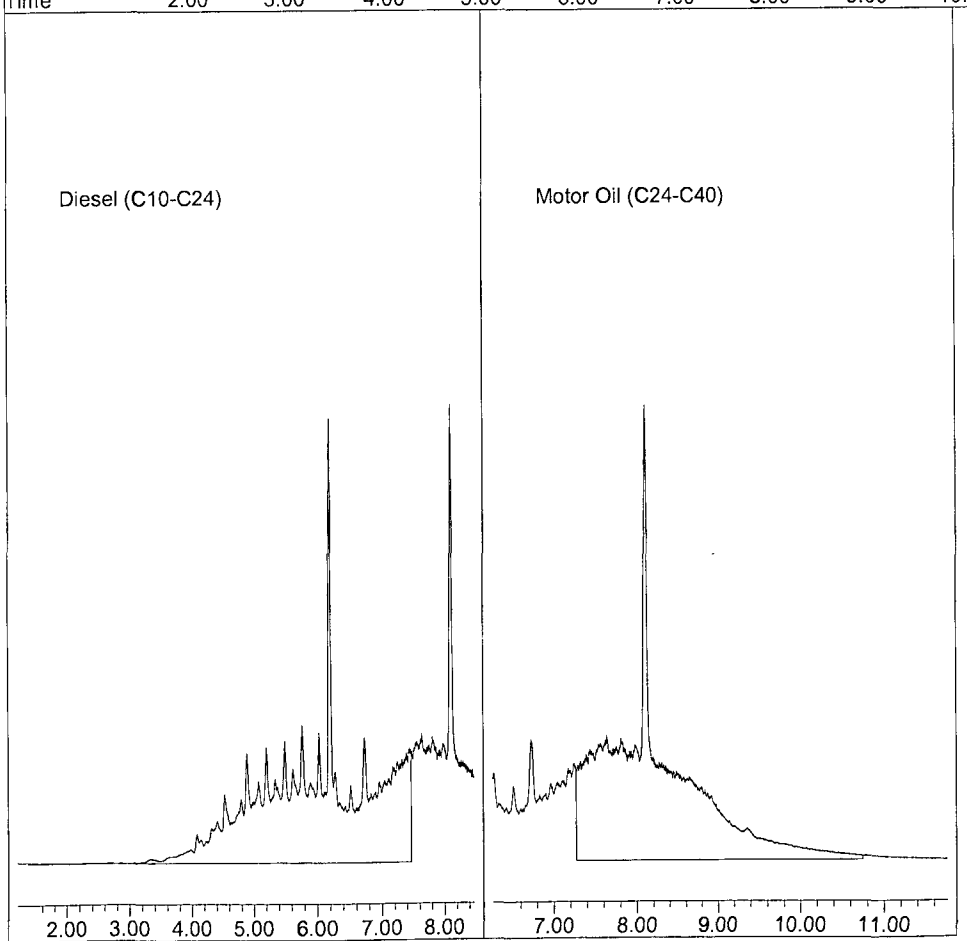
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
1) SC Decanoic Acid(S)	0.00	0	N.D.	ppb d \
Surrogate Spike 60.000	Recovery	=	0.00%	
Target Compounds				
Target Compounds				

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200127\127017.D
Sample : 200122A LCS-1 2/800 SG





127017.D DOC0127.M Tue Jan 28 11:40:19 2020

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200111\111128.D Vial: 28
Acq On : 1-25-20 13:29:25 Operator: BT
Sample : 200122A LCSD-1 2/800 Inst : Apollo
Misc : water Multiplr: 2.50
IntFile : events.e
Quant Time: Jan 27 9:56 2020 Quant Results File: DOC0111.RES

Method : G:\APOLLO\DATA\200111\DOC0111.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Mon Jan 13 07:59:04 2020
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

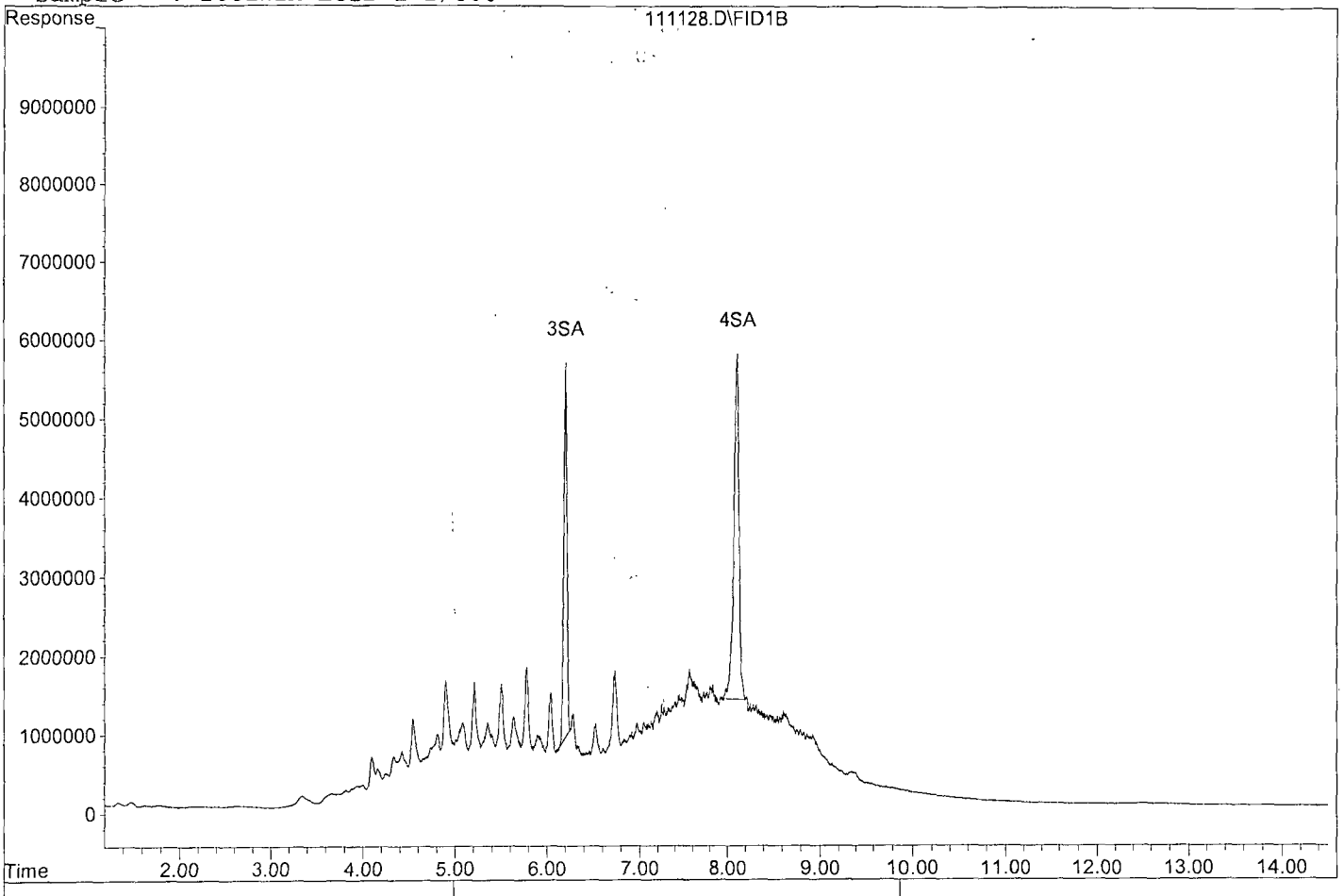
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SA Ortho-Terphenyl(S)	6.21	112475869	65.407 ppb
Surrogate Spike 75.000		Recovery =	87.21%
4) SA Octacosane(S)	8.11	168469097	101.163 ppb
Surrogate Spike 75.000		Recovery =	134.88%
Target Compounds			
1) HATM Diesel (C10-C24)	4.42	1922613809	1151.260 ppb
2) HBTM Motor Oil (C24-C40)	9.01	1469574421	1233.421 ppb

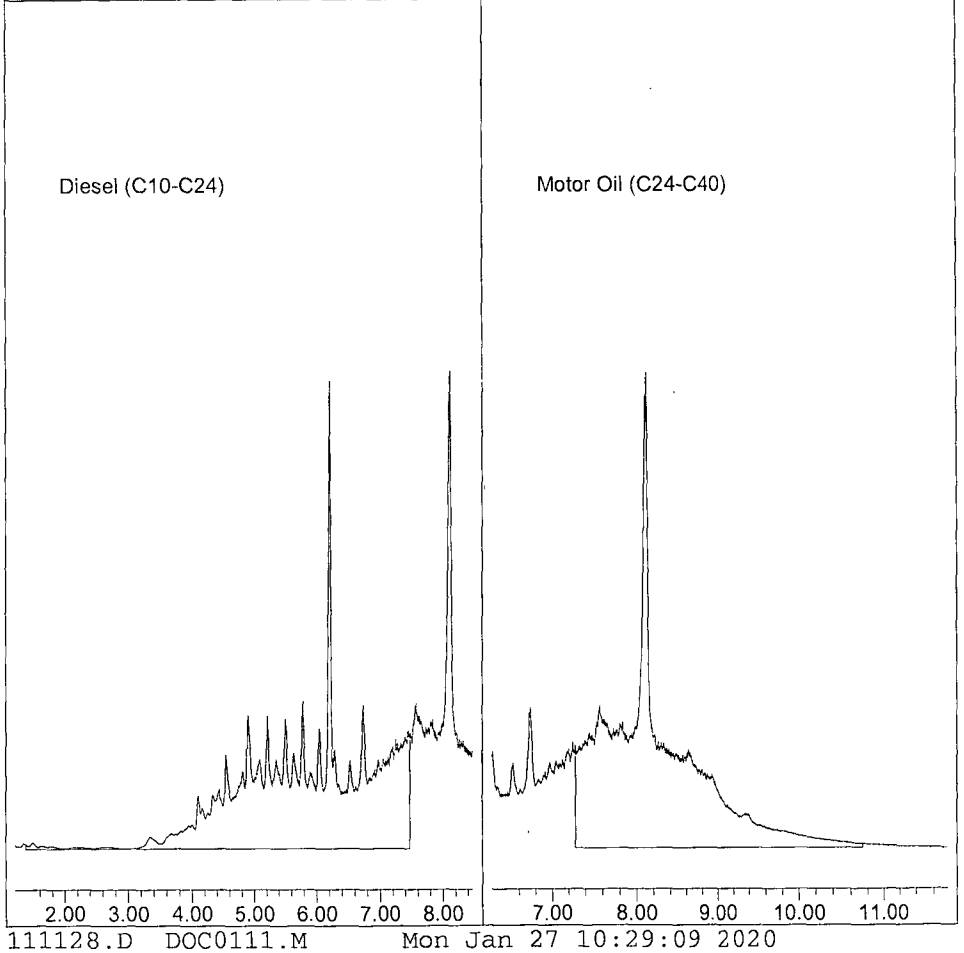
Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\200111\111128.D
Sample : 200122A LCSD-1 2/800





111128.D DOC0111.M Mon Jan 27 10:29:09 2020

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200127\127018.D Vial: 18
Acq On : 1-27-20 17:29:28 Operator: BT
Sample : 200122A LCSD-1 2/800 SG Inst : Apollo
Misc : water Multiplr: 2.50
IntFile : events.e
Quant Time: Jan 28 11:30 2020 Quant Results File: DOC0127.RES

Method : G:\APOLLO\DATA\200127\DOC0127.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Jan 28 07:54:11 2020
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
3) SA Ortho-Terphenyl(S)	6.20	101117415	70.703	ppb
Surrogate Spike 75.000		Recovery =	94.27%	
4) SA Octacosane(S)	8.11	111387302	76.019	ppb
Surrogate Spike 75.000		Recovery =	101.36%	
Target Compounds				
1) HATM Diesel (C10-C24)	4.42	1732471022	1100.329	ppb
2) HBTM Motor Oil (C24-C40)	9.01	1443843370	1192.402	ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200127\127018.D Vial: 18
Acq On : 1-27-20 17:29:28 Operator: BT
Sample : 200122A LCSD-1 2/800 SG Inst : Apollo
Misc : water Multiplr: 2.50
IntFile : events.e
Quant Time: Jan 28 11:34 2020 Quant Results File: DEC1120.RES

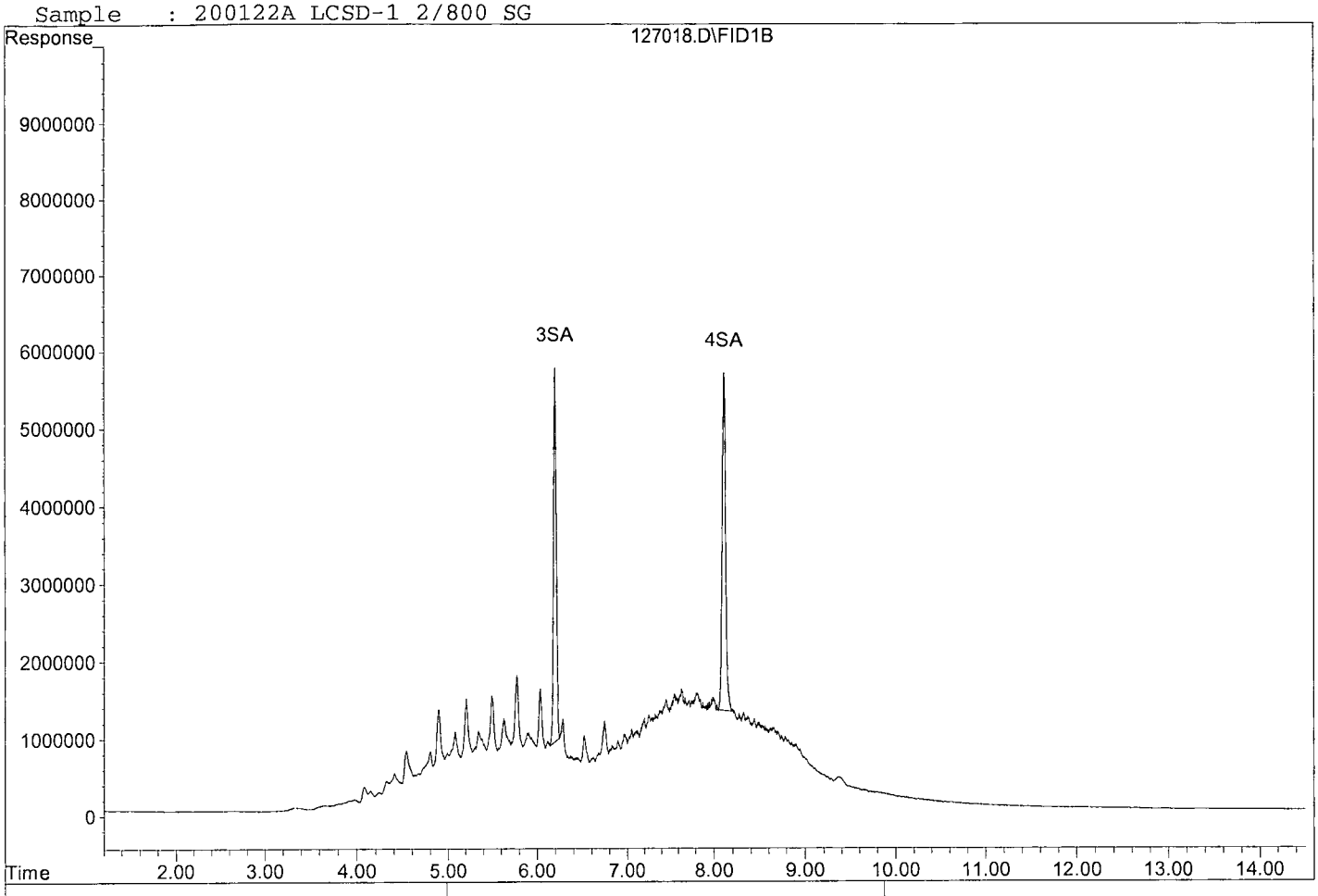
Method : G:\APOLLO\DATA\191115\DEC1120.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Sat Jan 18 07:19:37 2020
Response via : Multiple Level Calibration

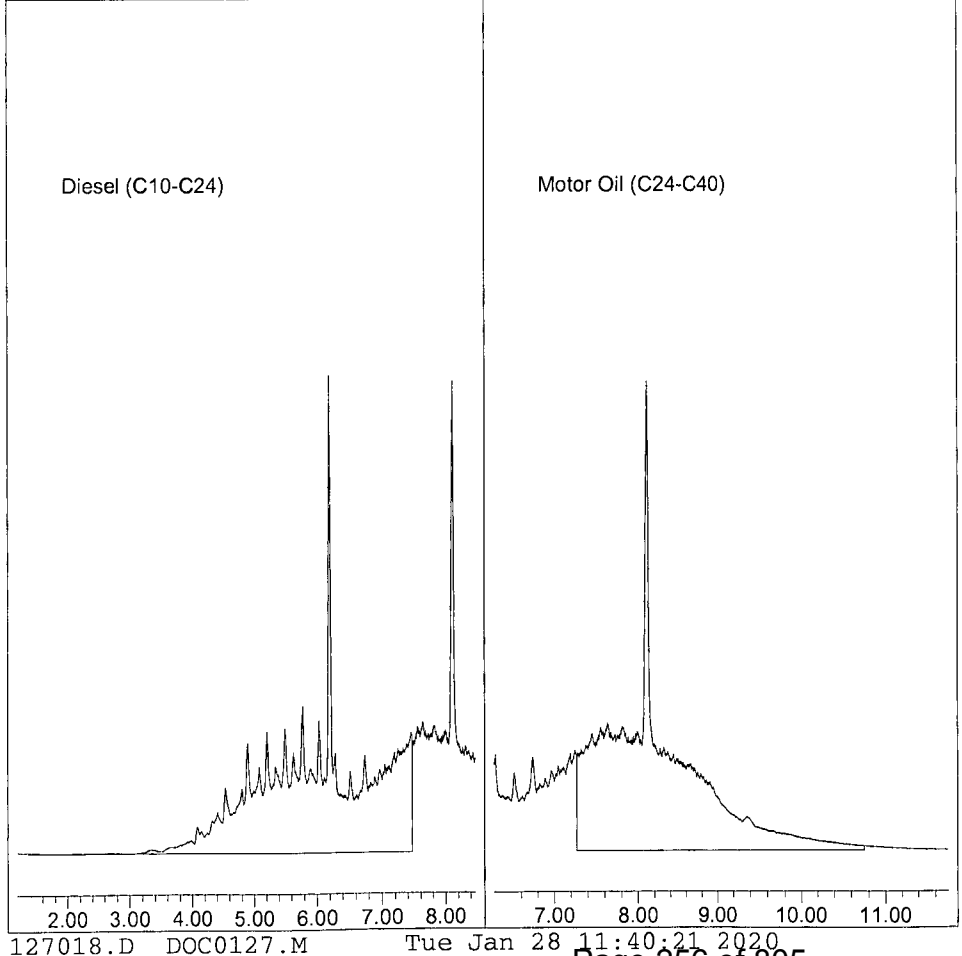
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
1) SC Decanoic Acid(S)	0.00	0	N.D.	ppb d
Surrogate Spike 60.000	Recovery	=	0.00%	
Target Compounds				
Target Compounds				

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200127\127018.D
Sample : 200122A LCSD-1 2/800 SG





Diesel / Motor Oil Calibration Curve

Prepared: 01/27/20

Expires: 06/23/20

Prepared By (Initials): SS

Methylene Chloride Lot No. 58059

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	APPL Mix Name	Conc. (ug/mL)	Reference to APPL Prep Date	Exp. Date	Exp. Date (Manufacturer)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/mL)
Diesel / Motor Oil Calibration STD	APPL	Diesel / Motor Oil - 1	2,000	Prepared 01/27/20	06/23/20	N/A	5uL	1mL	MC	10
Diesel / Motor Oil Calibration STD	APPL	Diesel / Motor Oil -2	2,000	Prepared 01/27/20	06/23/20	N/A	25uL	1mL	MC	50
Diesel / Motor Oil Calibration STD	APPL	Diesel / Motor Oil - 3	2,000	Prepared 01/27/20	06/23/20	N/A	125uL	1mL	MC	250
Diesel / Motor Oil Calibration STD	APPL	Diesel / Motor Oil - 4	2,000	Prepared 01/27/20	06/23/20	N/A	500uL	1mL	MC	1000
Diesel / Motor Oil Calibration STD	APPL	Diesel / Motor Oil - 5	2,000	Prepared 01/27/20	06/23/20	N/A	750uL	1mL	MC	1500
Diesel / Motor Oil Calibration STD	APPL	Diesel / Motor Oil - 6	2,000	Prepared 01/27/20	06/23/20	N/A	100uL	100uL	N/A	2,000

Diesel / Motor Oil Calibration Curve

Prepared: 01/11/20

Expires: 06/23/20

Prepared By (Initials): SS

Methylene Chloride Lot No. 58059

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	APPL Mix Name	Conc. (ug/mL)	Reference to APPL Prep Date	Exp. Date	Exp. Date (Manufacturer)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/mL)
Diesel / Motor Oil Calibration STD	APPL	Diesel / Motor Oil - 1	2,000	Prepared 01/11/20	06/23/20	N/A	5uL	1mL	MC	10
Diesel / Motor Oil Calibration STD	APPL	Diesel / Motor Oil -2	2,000	Prepared 01/11/20	06/23/20	N/A	25uL	1mL	MC	50
Diesel / Motor Oil Calibration STD	APPL	Diesel / Motor Oil - 3	2,000	Prepared 01/11/20	06/23/20	N/A	125uL	1mL	MC	250
Diesel / Motor Oil Calibration STD	APPL	Diesel / Motor Oil - 4	2,000	Prepared 01/11/20	06/23/20	N/A	500uL	1mL	MC	1000
Diesel / Motor Oil Calibration STD	APPL	Diesel / Motor Oil - 5	2,000	Prepared 01/11/20	06/23/20	N/A	750uL	1mL	MC	1500
Diesel / Motor Oil Calibration STD	APPL	Diesel / Motor Oil - 6	2,000	Prepared 01/11/20	06/23/20	N/A	100uL	100uL	N/A	2,000

Diesel Motor Oil Mix

Prepared: 01/15/20 **Prepared By (Initials): SS**

Expires: 01/15/21

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	Supplier Part No.	Conc. (ug/mL)	Lot Number - QA Number	Exp. Date (1 yr.)	Exp. Date (Manufacturer)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/mL)
Diesel Fuel #2	Restek	31258	50,000	**A0149169-49607**	**01/15/21**	**06/30/26**	2.4 mL	4.8 mL	NA	25,000
Motor Oil Composite	Restek	31464	50,000	**A0153577-49614**	**01/15/21**	**11/30/26**	2.4 mL			25,000

Decanoic Acid Standard

Prepared: 01/24/20

Expires: 01/24/21

Prepared By (Initials): SS

Methylene Chloride Lot No. 58059

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	Supplier Part No.	Conc. (ug/mL)	Lot Number - QA Number	Exp. Date (1 yr.)	Exp. Date (Manufacturer)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/mL)
Decanoic Acid	O2SI	011729-01-05-5PAK	1,000	**397380**	01/24/21	12/30/21	600uL	10mL	MC	60

THC Surrogate

Prepared: 01/06/20 **Prepared By (Initials): BT**

Expires: 01/06/21

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	Supplier Part No.	Conc (ug/mL)	Lot Number - QA Number	Exp. Date (1 yr.)	Exp. Date (Manufacturer)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/mL)
O-terphenyl / Octacosane Mix	Phenova	ALQ-130161	600	**CL13256-49649**	**01/06/21**	**02/28/24**	N/A	N/A	N/A	600

Decanoic Acid Calibration Curve

Prepared: 11/20/19

Expires: 05/20/20

Prepared By (Initials): BT

Methylene Chloride Lot No. 58059

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	APPL Mix Name	Conc. (ug/mL)	Reference To APPL Prep Date	Exp. Date	Exp Date (Manufacturer)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/mL)
Decanoic Acid STD	APPL	Decanoic Acid-1	60	Prepared 08/07/19	08/06/20	N/A	50uL	1mL	MC	3
Decanoic Acid STD	APPL	Decanoic Acid-2	60	Prepared 08/07/19	08/06/20	N/A	100uL	1mL	MC	6
Decanoic Acid STD	APPL	Decanoic Acid-3	60	Prepared 08/07/19	08/06/20	N/A	400uL	1mL	MC	24
Decanoic Acid STD	APPL	Decanoic Acid-4	60	Prepared 08/07/19	08/06/20	N/A	600uL	1mL	MC	36
Decanoic Acid STD	APPL	Decanoic Acid-5	60	Prepared 08/07/19	08/06/20	N/A	800uL	1mL	MC	48
Decanoic Acid STD	APPL	Decanoic Acid-6	60	Prepared 08/07/19	08/06/20	N/A	100uL	100uL	N/A	60

_LIQ005SGC

Organic Extraction Worksheet

Method	Continuous Liq/Liq TPH- 3520C w/SGC	Extraction Set	200122A	Extraction Method	LIQ005SGC	Units	mL

Spiked ID 1	Diesel Motor Oil Mix 1-15-20 1-15-21		Surrogate ID 1	THC Surrogate 1-6-20 1-6-21	
Spiked ID 2	Decanoic Acid Std 1-24-20 1-24-21		Surrogate ID 2		
Spiked ID 3			Surrogate ID 3		
Spiked ID 4			Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	NO	
Spiked ID 7			Ext. Start Time:	01/22/20 14:00	
Spiked ID 8			Ext. End Time:	01/23/20 8:00	
			GC Requires Extract By:		

pH1	2	01/22/20 12:20	Water Bath Temp 1 °C	35/38.5 °C
pH2			Water Bath Temp 2 °C	35/34.5
pH3			Water Bath Temp 3 °C	35/34.4 °C

Spiked By: DL **Date** 01/22/20 **Witnessed By:** KY **Date** 01/22/20

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	200122A Blk		0.050	2	0.100	1	800	2	2	01/22/20 12:30	*
						equip	E-HP30 c-wb1				
2	200122A LCS-1		0.04,0.05	1,2	0.100	1	800	2	2	01/22/20 12:30	*
						equip	E-HP17 E-WB2				
3	200122A LCSD-1		0.04,0.05	1,2	0.100	1	800	2	2	01/22/20 12:30	*
						equip	E-HP16 E-WB3				
4	BA06136	BA06136W16	0.050	2	0.100	1	800	2	2	01/22/20 12:30	91264 *
						equip	E-HP15 E-WB1				
5	BA06138	BA06138W15	0.050	2	0.100	1	800	2	2	01/22/20 12:30	91264 *
						equip	E-HP14 E-WB2				
6	BA06139	BA06139W08	0.050	2	0.100	1	800	2	2	01/22/20 12:30	91264 *
						equip	E-HP13 E-WB3				
7	BA06141	BA06141W13	0.050	2	0.100	1	800	2	2	01/22/20 12:30	91264 *
						equip	E-HP12 E-WB1				
8	BA06143	BA06143W16	0.050	2	0.100	1	800	2	2	01/22/20 12:30	91264 *
						equip	E-HP11 E-WB2				

SS 1/28/2020

Solvent and Lot#	
1+1 HCL (5mLs)	6-15-19
PH Strips	hc 863463
Filter Paper	400171
B. Sodium Sulfate	2019020631
SILICA GEL (*)	050627t
Dichloromethane	59239

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	SS
Date	1/25/2020
Time	8:30
Refrigerator	Hbart

	Technician's Initials
Scanned By	DL
Sample Preparation	DL
Extraction	DL
Concentration	DL,DS

Modified	01/24/20 2:05:10 PM

Reviewed By: SS **Date** 1/28/2020

Injection Log

Directory: G:\APOLLO\DATA\200111\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	3	111003.D	1	Diesel Motor Oil-1 1/11/20	water	1-11-20 11:35:53
2	4	111004.D	1	Diesel Motor Oil-2 1/11/20	water	1-11-20 11:55:28
3	5	111005.D	1	Diesel Motor Oil-3 1/11/20	water	1-11-20 12:15:09
4	6	111006.D	1	Diesel Motor Oil-4 1/11/20	water	1-11-20 12:34:51
5	7	111007.D	1	Diesel Motor Oil-5 1/11/20	water	1-11-20 12:53:51
6	8	111008.D	1	Diesel Motor Oil-6 1/11/20	water	1-11-20 13:13:29
7	9	111009.D	1	Diesel Motor Oil-SS 12/23/19	water	1-11-20 13:33:12
8	25	111125.D	1	Diesel/Motor Oil - CCV 12/23/19	water	1-25-20 12:30:22
9	26	111126.D	2.5	200122A BLK 2/800	water	1-25-20 12:49:57
10	27	111127.D	2.5	200122A LCS-1 2/800	water	1-25-20 13:09:40
11	28	111128.D	2.5	200122A LCSD-1 2/800	water	1-25-20 13:29:25
12	29	111129.D	2.5	BA06136W16 2/800	water	1-25-20 13:49:10
13	30	111130.D	2.5	BA06138W15 2/800	water	1-25-20 14:08:57
14	31	111131.D	2.5	BA06139W08 2/800	water	1-25-20 14:28:42
15	32	111132.D	2.5	BA06141W13 2/800	water	1-25-20 14:48:28
16	33	111133.D	2.5	BA06143W16 2/800	water	1-25-20 15:08:16
17	34	111134.D	1	Diesel/Motor Oil - CCV 12/23/19	water	1-25-20 15:28:06

Injection Log

Directory: G:\APOLLO\DATA\191115\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	78	1115178.D	1	Decanoic Acid - 1 11/20/19	water	11-20-19 10:33:58
2	79	1115179.D	1	Decanoic Acid - 2 11/20/19	water	11-20-19 10:53:46
3	80	1115180.D	1	Decanoic Acid - 3 11/20/19	water	11-20-19 11:13:35
4	81	1115181.D	1	Decanoic Acid - 4 11/20/19	water	11-20-19 11:33:26
5	82	1115182.D	1	Decanoic Acid - 5 11/20/19	water	11-20-19 11:52:35
6	83	1115183.D	1	Decanoic Acid - 6 11/20/19	water	11-20-19 12:12:26
7	6	127006.D	1	Diesel Motor Oil - 1 1/27/20	water	1-27-20 13:00:22
10	11	127011.D	1	Diesel Motor Oil - 2 1/27/20	water	1-27-20 15:11:37
9	9	127009.D	1	Diesel Motor Oil - 3 12/23/19	water	1-27-20 14:07:03
11	12	127012.D	1	Diesel Motor Oil - 4 1/27/20	water	1-27-20 15:31:22
12	13	127013.D	1	Diesel Motor Oil - 5 1/27/20	water	1-27-20 15:51:02
13	14	127014.D	1	Diesel Motor Oil - 6 1/27/20	water	1-27-20 16:10:47
14	15	127015.D	1	Diesel Motor Oil - SS 12/23/19	water	1-27-20 16:30:32
8	8	127008.D	1	Decanoic Acid - 5 1/27/20	water	1-27-20 13:48:05
15	16	127016.D	2.5	200122A BLK 2/800 SG	water	1-27-20 16:50:14
16	17	127017.D	2.5	200122A LCS-1 2/800 SG	water	1-27-20 17:09:51
17	18	127018.D	2.5	200122A LCSD-1 2/800 SG	water	1-27-20 17:29:28
18	19	127019.D	2.5	BA06136W16 2/800 SG	water	1-27-20 17:48:25
19	20	127020.D	2.5	BA06138W15 2/800 SG	water	1-27-20 18:08:05
20	21	127021.D	2.5	BA06139W08 2/800 SG	water	1-27-20 18:27:36
21	26	127026.D	1	Diesel Motor Oil - CCV 12/23/19	water	1-28-20 8:10:17
22	27	127027.D	1	Decanoic Acid - CCV 1/27/20	water	1-28-20 8:28:56

ORGANICS
Calibration Data

PAH by GCMS SIM
EPA 8270 SIM

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Initial Cal. Date: 01/13/20
Matrix: Instrument: Linus
Initials:

		Compound	0113L004 D 0.1	0113L005.D 0.2	0113L006 D 0.5	0113L007.D 2.5	0113L003.D 5	0113L008.D 25	0113L009 D 50				Avg	%RSD	Type	r^2	Q	MRF
1	I	Napthalene-D8(IS)																
2	S	Surrogate Recovery (NBZ)	0.3575	0.3153	0.2912	0.2963	0.2934	0.2750	0.3083				0.31	8.6	S			
3	TM	Naphthalene	1.149	1.117	1.067	1.075	1.035	1.025	0.9925				1.1	5.1	TM			0.700
4	S	2-methylnaphthalene-D10 (2M	1.266	1.244	1.195	1.252	1.200	1.246	1.163				1.2	3.1	S			
5	TM	2-Methylnaphthalene	0.6232	0.6106	0.5931	0.6047	0.5645	0.5839	0.5313				0.59	5.3	TM			0.400
6	TM	1-Methylnaphthalene	0.6633	0.6479	0.6224	0.6211	0.5920	0.6144	0.5537				0.62	5.8	TM			
7	I	Acenaphthene-D10(IS)																
8	S	Surrogate Recovery (FBP)	1.759	1.682	1.668	1.706	1.688	1.628	1.577				1.7	3.4	S			
9	TM	Acenaphthylene	4.638	4.590	4.448	4.525	4.479	4.276	3.884				4.4	5.8	TM			0.900
10	*TM	Acenaphthene	1.435	1.362	1.280	1.275	1.258	1.274	1.190				1.3	6.1	*TM			0.900
11	TM	Fluorene	1.661	1.650	1.607	1.640	1.651	1.590	1.551				1.6	2.5	TM			0.900
12	TML	Pentachlorophenol	0.3168	0.1274	0.1289	0.2039	0.2721	0.3681	0.3838				0.26	41	TML	0.999		0.050
13	I	Phenanthrene-D10(IS)																
14	TM	Phenanthrene	1.317	1.177	1.164	1.143	1.108	1.064	0.9831				1.1	9.1	TM			0.700
15	TM	Anthracene	1.184	1.122	1.065	1.062	1.058	1.006	0.9403				1.1	7.3	TM			0.700
16	S	Fluoranthene-D10 (FRT)	1.599	1.505	1.469	1.502	1.477	1.392	1.348				1.5	5.5	S			
17	*TM	Fluoranthene	1.913	1.675	1.638	1.596	1.575	1.430					1.6	9.7	*TM			0.600
18	I	Chrysene-D12(IS)																
19	TM	Pyrene	1.474	1.280	1.244	1.217	1.245	1.203	1.182				1.3	7.8	TM			0.600
20	S	Surrogate Recovery (TPH)	1.398	1.089	1.024	0.9991	0.9994	0.9558	0.9090				1.1	15	S			
21	TM	Benz (a) anthracene	1.657	1.271	1.239	1.189	1.249	1.227	1.163				1.3	13	TM			0.800
22	TM	Chrysene	1.607	1.254	1.199	1.154	1.165	1.140	1.134				1.2	14	TM			0.700
23	TM	Indeno (1,2,3-cd) pyrene	1.891	1.546	1.448	1.421	1.408	1.494	1.504				1.5	11	TM			0.500
24	I	Perylene-D12(IS)																
25	TM	Benzo (b) fluoranthene	1.449	1.186	1.047	1.150	1.168	1.100	1.068				1.2	12	TM			0.700
26	TML	Benzo (k) fluoranthene	1.580	1.171	1.177	1.050	1.072	1.075	1.055				1.2	16	TML	1.000		0.700
27	*TM	Benzo (a) pyrene	1.354	1.078	1.012	1.013	1.049	1.020	0.9854				1.1	12	*TM			0.700
28	TM	Dibenz (a,h) anthracene	1.416	1.091	1.063	1.042	1.024	1.054	1.059				1.1	12	TM			0.400
29	TM	Benzo (g,h,i) perylene	1.371	1.086	1.044	1.027	1.026	1.048	1.053				1.1	11	TM			0.500
30																		
31																		
32																		
33																		
34																		
35																		

Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L200113P\0113L003.D Vial: 88
Acq On : 13 Jan 20 14:59 Operator: MA
Sample : 5.0 SIM PCP 09/10/19 (0) Inst : Linus
Misc : Multiplr: 1.00

Quant Time: Jan 14 9:41 2020 Quant Results File: L0113PCP.RES

Quant Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 09:17:12 2020
Response via : Initial Calibration
DataAcq Meth : SIM_2

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Napthalene-D8(IS)	4.20	136	142465	2.50000 ppb		0.00
7) Acenaphthene-D10(IS)	6.19	164	70312	2.50000 ppb		0.00
13) Phenanthrene-D10(IS)	7.92	188	147923	2.50000 ppb		0.00
18) Chrysene-D12(IS)	11.04	240	193025	2.50000 ppb		0.00
24) Perylene-D12(IS)	13.47	264	226184	2.50000 ppb		0.00
System Monitoring Compounds						
2) Surrogate Recovery (NBZ)	3.41	82	83596	4.67099 ppb		0.00
Spiked Amount 5.000			Recovery	= 93.420%		
4) 2-methylnaphthalene-D10 (2	4.97	152	341988	4.75169 ppb		0.00
Spiked Amount 5.000			Recovery	= 95.040%		
8) Surrogate Recovery (FBP)	5.43	172	237384	4.86847 ppb		0.00
Spiked Amount 5.000			Recovery	= 97.360%		
16) Fluoranthene-D10 (FRT)	9.30	212	436829	4.83834 ppb		0.00
Spiked Amount 5.000			Recovery	= 96.760%		
20) Surrogate Recovery (TPH)	9.79	244	385818	5.20247 ppb		0.00
Spiked Amount 5.000			Recovery	= 104.040%		
Target Compounds						Qvalue
3) Naphthalene	4.23	128	294773	4.69771 ppb		99
5) 2-Methylnaphthalene	5.01	141	160832	4.62803 ppb		92
6) 1-Methylnaphthalene	5.12	141	168685	4.64680 ppb		92
9) Acenaphthylene	6.04	152	629792	4.89686 ppb		99
10) Acenaphthene	6.23	154	176954	4.67421 ppb		98
11) Fluorene	6.83	166	232144	4.90831 ppb		94
12) Pentachlorophenol	7.73	266	38263	4.18468 ppb		96
14) Phenanthrene	7.94	178	327677	4.69325 ppb		98
15) Anthracene	8.00	178	313146	4.79848 ppb		99
17) Fluoranthene	9.33	202	465935	4.60747 ppb	#	86
19) Pyrene	9.59	202	480458	4.75259 ppb	#	86
21) Benz (a) anthracene	11.02	228	482316	4.69530 ppb		100
22) Chrysene	11.08	228	449760	4.73930 ppb	#	97
23) Indeno (1,2,3-cd) pyrene	14.95	276	543643	4.44026 ppb	#	82
25) Benzo (b) fluoranthene	12.83	252	528222	4.82916 ppb	#	94
26) Benzo (k) fluoranthene	12.88	252	484802	4.66534 ppb	#	90
27) Benzo (a) pyrene	13.38	252	474453	4.71788 ppb	#	93
28) Dibenz (a,h) anthracene	14.99	278	463038	4.46641 ppb	#	85
29) Benzo (g,h,i) perylene	15.33	276	464028	4.52947 ppb	#	74

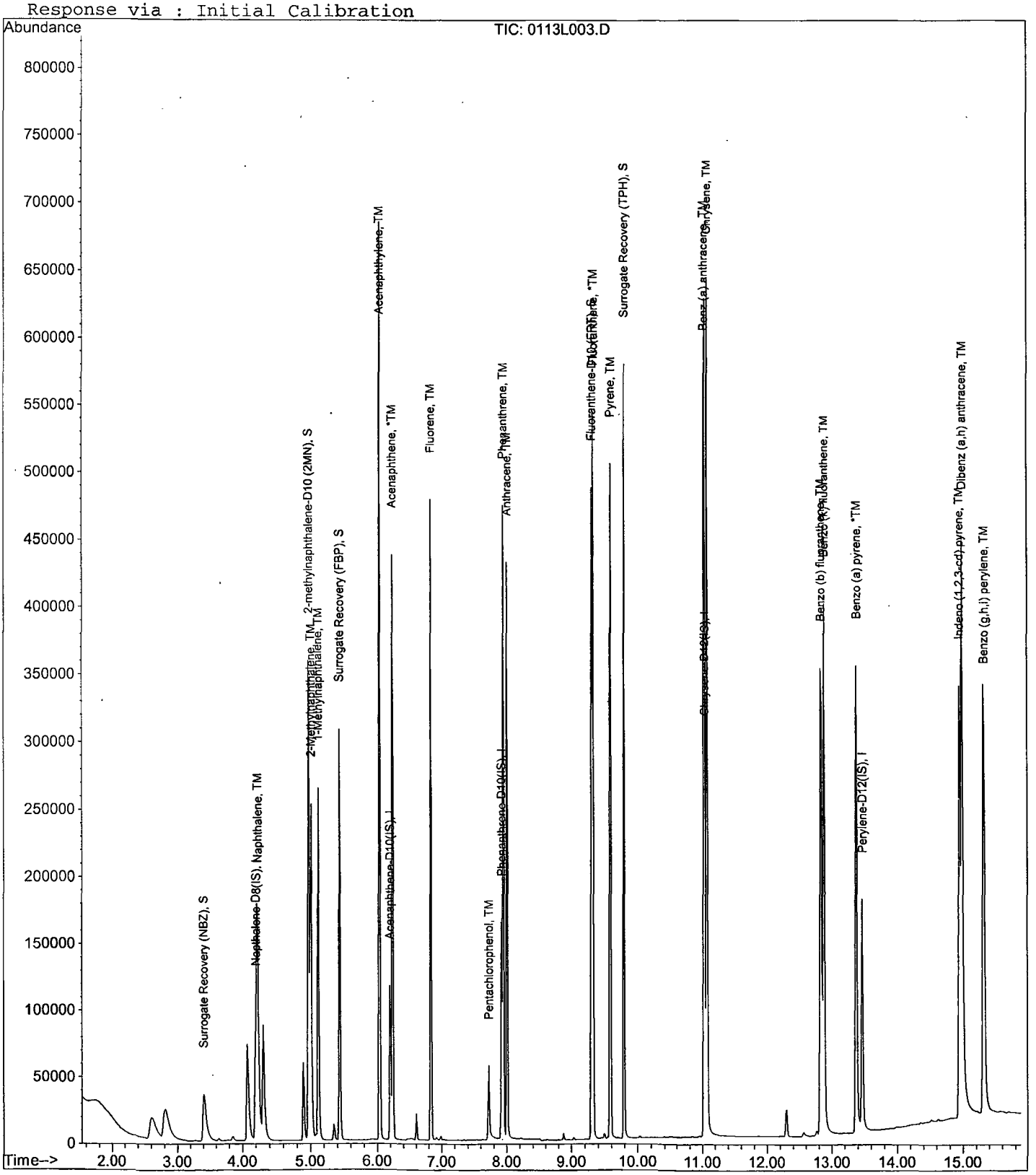
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L200113P\0113L003.D Vial: 88
Acq On : 13 Jan 20 14:59 Operator: MA
Sample : 5.0 SIM PCP 09/10/19 (0) Inst : Linus
Misc : Multiplr: 1.00

Quant Time: Jan 14 9:41 2020 Quant Results File: L0113PCP.RES

Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 09:45:39 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L200113P\0113L004.D Vial: 4
Acq On : 13 Jan 20 15:43 Operator: MA
Sample : 0.1 SIM PCP 09/10/19 Inst : Linus
Misc : Multiplr: 1.00

Quant Time: Jan 14 9:41 2020 Quant Results File: L0113PCP.RES

Quant Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 09:17:12 2020
Response via : Initial Calibration
DataAcq Meth : SIM_2

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Napthalene-D8(IS)	4.20	136	182920	2.50000	ppb		0.00
7) Acenaphthene-D10(IS)	6.19	164	93583	2.50000	ppb		0.00
13) Phenanthrene-D10(IS)	7.92	188	189919	2.50000	ppb		0.00
18) Chrysene-D12(IS)	11.03	240	255292	2.50000	ppb		-0.01
24) Perylene-D12(IS)	13.47	264	299330	2.50000	ppb		0.00
System Monitoring Compounds							
2) Surrogate Recovery (NBZ)	3.41	82	2616	0.11384	ppb		0.00
Spiked Amount 5.000			Recovery	= 2.280%			
4) 2-methylnaphthalene-D10 (2	4.97	152	9265	0.10026	ppb		0.00
Spiked Amount 5.000			Recovery	= 2.000%			
8) Surrogate Recovery (FBP)	5.43	172	6583	0.10144	ppb		0.00
Spiked Amount 5.000			Recovery	= 2.020%			
16) Fluoranthene-D10 (FRT)	9.30	212	12145	0.10477	ppb		0.00
Spiked Amount 5.000			Recovery	= 2.100%			
20) Surrogate Recovery (TPH)	9.79	244	14279	-0.11979	ppb		0.00
Spiked Amount 5.000			Recovery	= -2.400%			
Target Compounds							Qvalue
3) Naphthalene	4.23	128	8409	0.10437	ppb		99
5) 2-Methylnaphthalene	5.01	141	4560	0.10220	ppb		94
6) 1-Methylnaphthalene	5.12	141	4853	0.10412	ppb		94
9) Acenaphthylene	6.04	152	17362	0.10143	ppb		99
10) Acenaphthene	6.23	154	5372	0.10661	ppb		99
11) Fluorene	6.83	166	6218	0.09878	ppb		94
12) Pentachlorophenol	7.73	266	1186	0.73851	ppb		95
14) Phenanthrene	7.94	178	10006	0.11162	ppb		97
15) Anthracene	8.00	178	8992	0.10732	ppb		98
17) Fluoranthene	9.33	202	14530	0.11191	ppb	#	83
19) Pyrene	9.59	202	15048	0.11255	ppb	#	83
21) Benz (a) anthracene	11.02	228	16919	0.12453	ppb		98
22) Chrysene	11.08	228	16407	0.13072	ppb	#	95
23) Indeno (1,2,3-cd) pyrene	14.95	276	19315	0.11928	ppb	#	73
25) Benzo (b) fluoranthene	12.83	252	17349	0.11985	ppb	#	90
26) Benzo (k) fluoranthene	12.87	252	18918	0.13756	ppb	#	90
27) Benzo (a) pyrene	13.37	252	16209	0.12179	ppb	#	95
28) Dibenz (a,h) anthracene	14.99	278	16954	0.12357	ppb	#	84
29) Benzo (g,h,i) perylene	15.32	276	16418	0.12110	ppb	#	79

(#) = qualifier out of range (m) = manual integration

Quantitation Report

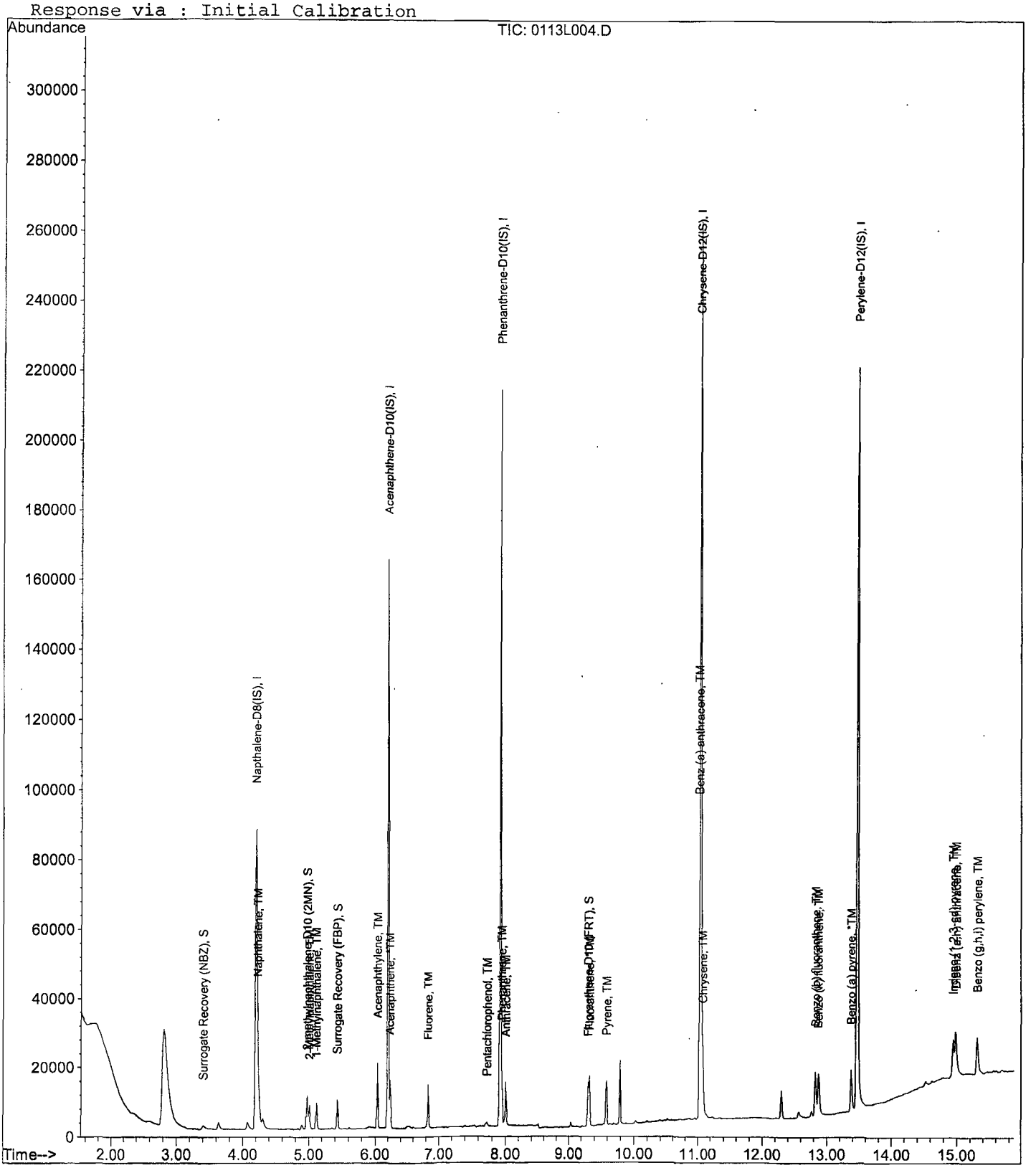
Data File : M:\LINUS\DATA\L200113P\0113L004.D
Acq On : 13 Jan 20 15:43
Sample : 0.1 SIM PCP 09/10/19
Misc :

Vial: 4
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Jan 14 9:41 2020

Quant Results File: L0113PCP.RES

Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 09:45:39 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L200113P\0113L005.D Vial: 5
Acq On : 13 Jan 20 16:05 Operator: MA
Sample : 0.25 SIM PCP 09/10/19 Inst : Linus
Misc : Multiplr: 1.00

Quant Time: Jan 14 9:41 2020 Quant Results File: L0113PCP.RES

Quant Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 09:17:12 2020
Response via : Initial Calibration
DataAcq Meth : SIM_2

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	4.20	136	139992	2.50000 ppb	0.00
7) Acenaphthene-D10(IS)	6.19	164	72066	2.50000 ppb	0.00
13) Phenanthrene-D10(IS)	7.92	188	147860	2.50000 ppb	0.00
18) Chrysene-D12(IS)	11.03	240	199568	2.50000 ppb	-0.01
24) Perylene-D12(IS)	13.46	264	234666	2.50000 ppb	-0.01
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	3.41	82	4414	0.25099 ppb	0.00
Spiked Amount 5.000			Recovery	= 5.020%	
4) 2-methylnaphthalene-D10 (2	4.97	152	17420	0.24631 ppb	0.00
Spiked Amount 5.000			Recovery	= 4.920%	
8) Surrogate Recovery (FBP)	5.43	172	12118	0.24248 ppb	0.00
Spiked Amount 5.000			Recovery	= 4.840%	
16) Fluoranthene-D10 (FRT)	9.30	212	22255	0.24660 ppb	0.00
Spiked Amount 5.000			Recovery	= 4.940%	
20) Surrogate Recovery (TPH)	9.78	244	21725	0.02520 ppb	-0.01
Spiked Amount 5.000			Recovery	= 0.500%	
Target Compounds					Qvalue
3) Naphthalene	4.23	128	15642	0.25369 ppb	98
5) 2-Methylnaphthalene	5.01	141	8548	0.25032 ppb	96
6) 1-Methylnaphthalene	5.12	141	9070	0.25427 ppb	94
9) Acenaphthylene	6.04	152	33075	0.25091 ppb	99
10) Acenaphthene	6.23	154	9817	0.25300 ppb	98
11) Fluorene	6.83	166	11891	0.24530 ppb	94
12) Pentachlorophenol	7.73	266	918	0.73893 ppb	95
14) Phenanthrene	7.94	178	17401	0.24934 ppb	97
15) Anthracene	8.00	178	16592	0.25436 ppb	98
17) Fluoranthene	9.33	202	24772	0.24507 ppb #	81
19) Pyrene	9.58	202	25545	0.24440 ppb	95
21) Benz (a) anthracene	11.02	228	25375	0.23892 ppb	97
22) Chrysene	11.07	228	25033	0.25513 ppb	99
23) Indeno (1,2,3-cd) pyrene	14.93	276	30863	0.24381 ppb #	80
25) Benzo (b) fluoranthene	12.82	252	27828	0.24522 ppb #	93
26) Benzo (k) fluoranthene	12.87	252	27472	0.25481 ppb #	90
27) Benzo (a) pyrene	13.37	252	25297	0.24246 ppb #	94
28) Dibenz (a,h) anthracene	14.98	278	25593	0.23794 ppb #	86
29) Benzo (g,h,i) perylene	15.30	276	25493	0.23985 ppb #	82

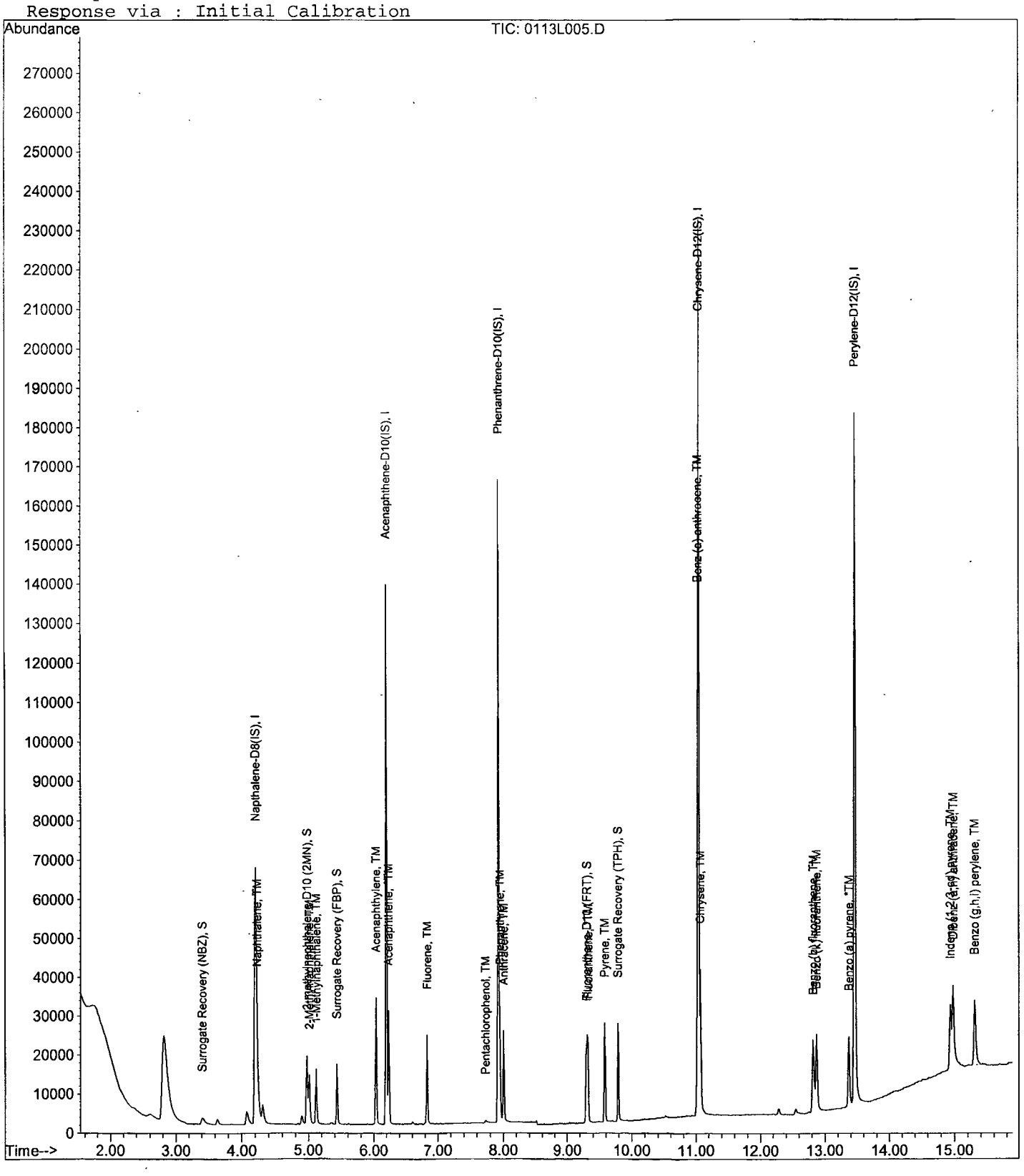
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L200113P\0113L005.D Vial: 5
Acq On : 13 Jan 20 16:05 Operator: MA
Sample : 0.25 SIM PCP 09/10/19 Inst : Linus
Misc : Multiplr: 1.00

Quant Time: Jan 14 9:41 2020 Quant Results File: L0113PCP.RES

Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 09:45:39 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L200113P\0113L006.D Vial: 6
Acq On : 13 Jan 20 16:26 Operator: MA
Sample : 0.5 SIM PCP 09/10/19 Inst : Linus
Misc : Multiplr: 1.00

Quant Time: Jan 14 9:41 2020 Quant Results File: L0113PCP.RES

Quant Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 09:17:12 2020
Response via : Initial Calibration
DataAcq Meth : SIM_2

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Napthalene-D8(IS)	4.20	136	166417	2.50000 ppb		0.00
7) Acenaphthene-D10(IS)	6.19	164	84916	2.50000 ppb		0.00
13) Phenanthrene-D10(IS)	7.92	188	175436	2.50000 ppb		0.00
18) Chrysene-D12(IS)	11.03	240	232237	2.50000 ppb		-0.01
24) Perylene-D12(IS)	13.46	264	275167	2.50000 ppb		-0.01
System Monitoring Compounds						
2) Surrogate Recovery (NBZ)	3.41	82	9691	0.46356 ppb		0.00
Spiked Amount 5.000			Recovery	= 9.280%		
4) 2-methylnaphthalene-D10 (2	4.97	152	39780	0.47317 ppb		0.00
Spiked Amount 5.000			Recovery	= 9.460%		
8) Surrogate Recovery (FBP)	5.43	172	28323	0.48097 ppb		0.00
Spiked Amount 5.000			Recovery	= 9.620%		
16) Fluoranthene-D10 (FRT)	9.29	212	51554	0.48146 ppb		-0.01
Spiked Amount 5.000			Recovery	= 9.620%		
20) Surrogate Recovery (TPH)	9.78	244	47543	0.28779 ppb		-0.01
Spiked Amount 5.000			Recovery	= 5.760%		
Target Compounds						Qvalue
3) Naphthalene	4.23	128	35497	0.48428 ppb		99
5) 2-Methylnaphthalene	5.01	141	19740	0.48627 ppb		93
6) 1-Methylnaphthalene	5.12	141	20714	0.48849 ppb		91
9) Acenaphthylene	6.04	152	75537	0.48632 ppb		99
10) Acenaphthene	6.23	154	21733	0.47534 ppb		99
11) Fluorene	6.83	166	27284	0.47766 ppb		94
12) Pentachlorophenol	7.73	266	2189	0.82348 ppb		91
14) Phenanthrene	7.94	178	40832	0.49311 ppb		98
15) Anthracene	8.00	178	37385	0.48303 ppb		98
17) Fluoranthene	9.32	202	57464	0.47913 ppb		93
19) Pyrene	9.58	202	57781	0.47505 ppb		94
21) Benz (a) anthracene	11.02	228	57542	0.46558 ppb		96
22) Chrysene	11.07	228	55677	0.48763 ppb		98
23) Indeno (1,2,3-cd) pyrene	14.94	276	67267	0.45665 ppb	#	80
25) Benzo (b) fluoranthene	12.82	252	57618	0.43299 ppb	#	92
26) Benzo (k) fluoranthene	12.87	252	64759	0.51225 ppb	#	89
27) Benzo (a) pyrene	13.37	252	55671	0.45504 ppb	#	93
28) Dibenz (a,h) anthracene	14.98	278	58499	0.46383 ppb	#	86
29) Benzo (g,h,i) perylene	15.30	276	57456	0.46100 ppb	#	81

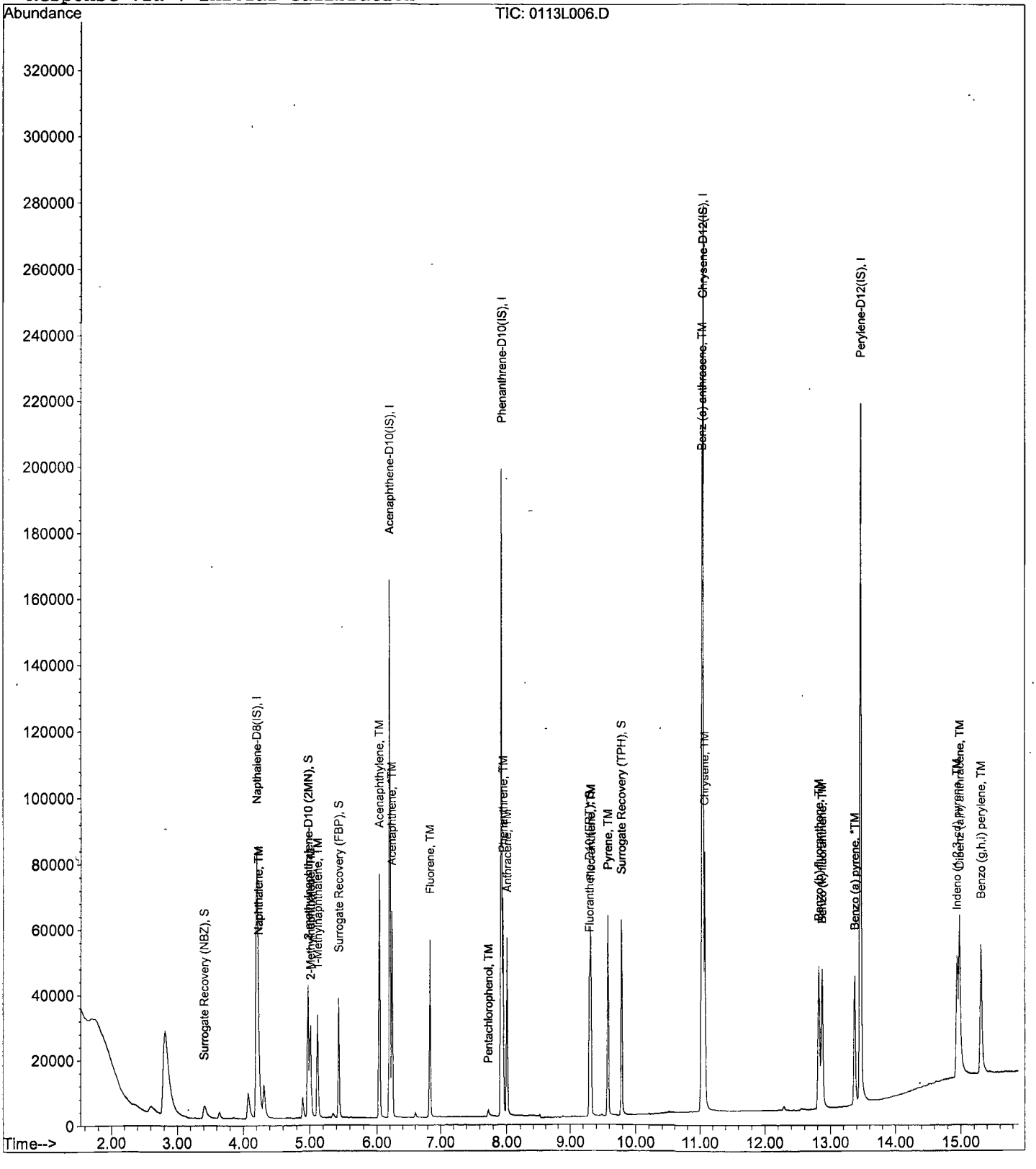
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L200113P\0113L006.D Vial: 6
Acq On : 13 Jan 20 16:26 Operator: MA
Sample : 0.5 SIM PCP 09/10/19 Inst : Linus
Misc : Multiplr: 1.00

Quant Time: Jan 14 9:41 2020 Quant Results File: L0113PCP.RES

Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 09:45:39 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L200113P\0113L007.D Vial: 7
Acq On : 13 Jan 20 16:48 Operator: MA
Sample : 2.5 SIM PCP 09/10/19 Inst : Linus
Misc : Multiplr: 1.00

Quant Time: Jan 14 9:41 2020 Quant Results File: L0113PCP.RES

Quant Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 09:17:12 2020
Response via : Initial Calibration
DataAcq Meth : SIM_2

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Napthalene-D8(IS)	4.20	136	124911	2.50000 ppb		0.00
7) Acenaphthene-D10(IS)	6.19	164	63938	2.50000 ppb		0.00
13) Phenanthrene-D10(IS)	7.92	188	134311	2.50000 ppb		0.00
18) Chrysene-D12(IS)	11.03	240	178972	2.50000 ppb		-0.01
24) Perylene-D12(IS)	13.46	264	210319	2.50000 ppb		-0.01
System Monitoring Compounds						
2) Surrogate Recovery (NBZ)	3.41	82	37017	2.35902 ppb		0.00
Spiked Amount 5.000			Recovery	= 47.180%		
4) 2-methylnaphthalene-D10 (2	4.97	152	156336	2.47744 ppb		0.00
Spiked Amount 5.000			Recovery	= 49.540%		
8) Surrogate Recovery (FBP)	5.43	172	109067	2.45983 ppb		0.00
Spiked Amount 5.000			Recovery	= 49.200%		
16) Fluoranthene-D10 (FRT)	9.29	212	201671	2.46010 ppb		-0.01
Spiked Amount 5.000			Recovery	= 49.200%		
20) Surrogate Recovery (TPH)	9.78	244	178817	2.46400 ppb		-0.01
Spiked Amount 5.000			Recovery	= 49.280%		
Target Compounds						Qvalue
3) Naphthalene	4.23	128	134284	2.44079 ppb		99
5) 2-Methylnaphthalene	5.01	141	75534	2.47898 ppb		93
6) 1-Methylnaphthalene	5.12	141	77579	2.43741 ppb		92
9) Acenaphthylene	6.04	152	289336	2.47397 ppb		98
10) Acenaphthene	6.23	154	81546	2.36876 ppb		98
11) Fluorene	6.83	166	104879	2.43856 ppb		92
12) Pentachlorophenol	7.73	266	13035	1.97816 ppb		94
14) Phenanthrene	7.94	178	153482	2.42108 ppb		97
15) Anthracene	8.00	178	142641	2.40727 ppb		98
17) Fluoranthene	9.32	202	214315	2.33407 ppb		94
19) Pyrene	9.58	202	217868	2.32433 ppb		93
21) Benz (a) anthracene	11.02	228	212782	2.23406 ppb		97
22) Chrysene	11.07	228	206585	2.34780 ppb		99
23) Indeno (1,2,3-cd) pyrene	14.93	276	254376	2.24078 ppb	#	80
25) Benzo (b) fluoranthene	12.82	252	241795	2.37731 ppb	#	93
26) Benzo (k) fluoranthene	12.87	252	220737	2.28443 ppb	#	90
27) Benzo (a) pyrene	13.37	252	213128	2.27917 ppb	#	93
28) Dibenz (a,h) anthracene	14.98	278	219101	2.27284 ppb	#	85
29) Benzo (g,h,i) perylene	15.30	276	216035	2.26783 ppb	#	80

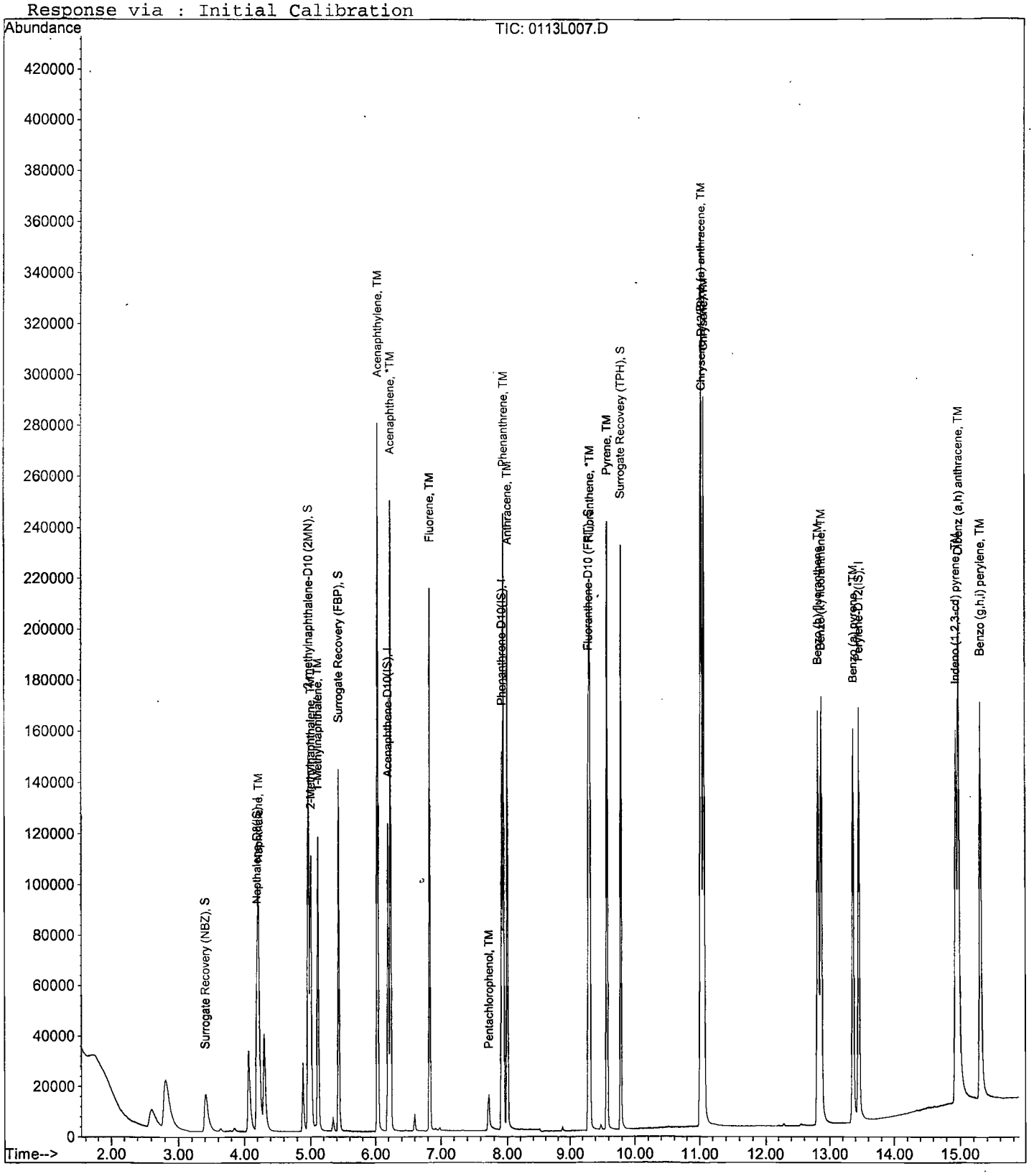
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L200113P\0113L007.D Vial: 7
Acq On : 13 Jan 20 16:48 Operator: MA
Sample : 2.5 SIM PCP 09/10/19 Inst : Linus
Misc : Multiplr: 1.00

Quant Time: Jan 14 9:41 2020 Quant Results File: L0113PCP.RES

Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 09:45:39 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L200113P\0113L008.D Vial: 8
Acq On : 13 Jan 20 17:10 Operator: MA
Sample : 25 SIM PCP 09/10/19 Inst : Linus
Misc : Multiplr: 1.00

Quant Time: Jan 14 9:41 2020 Quant Results File: L0113PCP.RES

Quant Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 09:17:12 2020
Response via : Initial Calibration
DataAcq Meth : SIM_2

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Napthalene-D8(IS)	4.20	136	132250	2.50000 ppb		0.00
7) Acenaphthene-D10(IS)	6.19	164	70869	2.50000 ppb		0.00
13) Phenanthrene-D10(IS)	7.92	188	152595	2.50000 ppb		0.00
18) Chrysene-D12(IS)	11.04	240	190630	2.50000 ppb		0.00
24) Perylene-D12(IS)	13.47	264	230401	2.50000 ppb		0.00
System Monitoring Compounds						
2) Surrogate Recovery (NBZ)	3.41	82	363625	21.88716 ppb		0.00
Spiked Amount 5.000			Recovery	= 437.740%		
4) 2-methylnaphthalene-D10 (2	4.97	152	1648284	24.67072 ppb		0.00
Spiked Amount 5.000			Recovery	= 493.420%		
8) Surrogate Recovery (FBP)	5.43	172	1153649	23.47403 ppb		0.00
Spiked Amount 5.000			Recovery	= 469.480%		
16) Fluoranthene-D10 (FRT)	9.30	212	2124681	22.81258 ppb		0.00
Spiked Amount 5.000			Recovery	= 456.260%		
20) Surrogate Recovery (TPH)	9.79	244	1822110	25.91102 ppb		0.00
Spiked Amount 5.000			Recovery	= 518.220%		
Target Compounds						Qvalue
3) Naphthalene	4.23	128	1355207	23.26571 ppb		98
5) 2-Methylnaphthalene	5.01	141	772195	23.93665 ppb		91
6) 1-Methylnaphthalene	5.12	141	812530	24.11179 ppb		90
9) Acenaphthylene	6.04	152	3030272	23.37628 ppb		98
10) Acenaphthene	6.24	154	903060	23.66671 ppb		84
11) Fluorene	6.83	166	1127127	23.64397 ppb		91
12) Pentachlorophenol	7.73	266	260871	24.52292 ppb		93
14) Phenanthrene	7.95	178	1624188	22.55066 ppb		95
15) Anthracene	8.01	178	1534860	22.79928 ppb		95
17) Fluoranthene	9.33	202	2181426	20.91091 ppb		93
19) Pyrene	9.59	202	2293914	22.97600 ppb		90
21) Benz (a) anthracene	11.03	228	2339377	23.05972 ppb		96
22) Chrysene	11.08	228	2173997	23.19610 ppb		98
23) Indeno (1,2,3-cd) pyrene	14.97	276	2847468	23.54920 ppb	#	67
25) Benzo (b) fluoranthene	12.84	252	2533452	22.73766 ppb	#	92
26) Benzo (k) fluoranthene	12.89	252	2477702	23.40698 ppb	#	90
27) Benzo (a) pyrene	13.38	252	2350924	22.94932 ppb		95
28) Dibenz (a,h) anthracene	15.00	278	2429243	23.00330 ppb	#	85
29) Benzo (g,h,i) perylene	15.34	276	2415655	23.14810 ppb	#	79

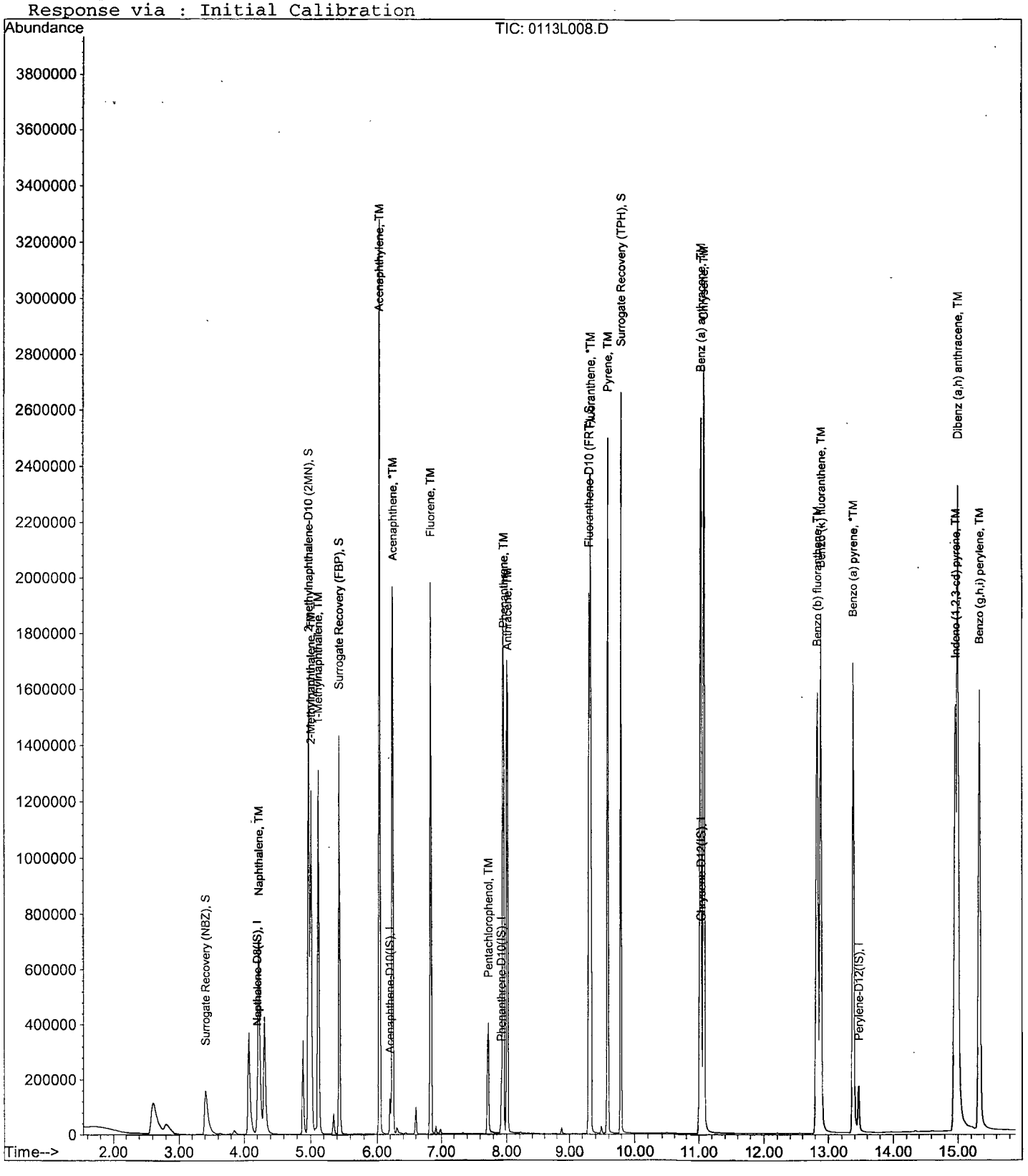
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L200113P\0113L008.D Vial: 8
Acq On : 13 Jan 20 17:10 Operator: MA
Sample : 25 SIM PCP 09/10/19 Inst : Linus
Misc : Multiplr: 1.00

Quant Time: Jan 14 9:41 2020 Quant Results File: L0113PCP.RES

Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 09:45:39 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L200113P\0113L009.D Vial: 9
Acq On : 13 Jan 20 17:32 Operator: MA
Sample : 50 SIM PCP 09/10/19 Inst : Linus
Misc : Multiplr: 1.00

Quant Time: Jan 14 9:42 2020 Quant Results File: L0113PCP.RES

Quant Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 09:17:12 2020
Response via : Initial Calibration
DataAcq Meth : SIM_2

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Napthalene-D8(IS)	4.20	136	139719	2.50000 ppb		0.00
7) Acenaphthene-D10(IS)	6.19	164	70415	2.50000 ppb		0.00
13) Phenanthrene-D10(IS)	7.92	188	146169	2.50000 ppb		0.00
18) Chrysene-D12(IS)	11.05	240	184151	2.50000 ppb		0.01
24) Perylene-D12(IS)	13.47	264	224065	2.50000 ppb		0.00
System Monitoring Compounds						
2) Surrogate Recovery (NBZ)	3.41	82	861548	49.08574 ppb		0.00
Spiked Amount 5.000			Recovery = 981.720%			
4) 2-methylnaphthalene-D10 (2	4.97	152	3248750	46.02633 ppb		0.00
Spiked Amount 5.000			Recovery = 920.520%			
8) Surrogate Recovery (FBP)	5.43	172	2220973	45.48291 ppb		0.00
Spiked Amount 5.000			Recovery = 909.660%			
16) Fluoranthene-D10 (FRT)	9.32	212	3941442	44.17950 ppb		0.01
Spiked Amount 5.000			Recovery = 883.600%			
20) Surrogate Recovery (TPH)	9.79	244	3347885	49.52931 ppb		0.00
Spiked Amount 5.000			Recovery = 990.580%			
Target Compounds						Qvalue
3) Naphthalene	4.23	128	2773429	45.06796 ppb		98
5) 2-Methylnaphthalene	5.01	141	1484555	43.55849 ppb		92
6) 1-Methylnaphthalene	5.12	141	1547336	43.46252 ppb		91
9) Acenaphthylene	6.04	152	5470157	42.47024 ppb		97
10) Acenaphthene	6.24	154	1675761	44.20023 ppb		91
11) Fluorene	6.84	166	2184846	46.12745 ppb		88
12) Pentachlorophenol	7.73	266	540481	50.42270 ppb		95
14) Phenanthrene	7.95	178	2873879	41.65590 ppb		97
15) Anthracene	8.01	178	2748934	42.62866 ppb		97
17) Fluoranthene	9.34	202	3961424	39.64320 ppb	#	90
19) Pyrene	9.60	202	4352710	45.13092 ppb	#	81
21) Benz (a) anthracene	11.03	228	4282462	43.69830 ppb		97
22) Chrysene	11.09	228	4174742	46.11081 ppb		96
23) Indeno (1,2,3-cd) pyrene	14.98	276	5539626	47.42584 ppb	#	79
25) Benzo (b) fluoranthene	12.85	252	4784839	44.15813 ppb	#	93
26) Benzo (k) fluoranthene	12.91	252	4726666	45.91573 ppb	#	87
27) Benzo (a) pyrene	13.40	252	4415736	44.32459 ppb	#	90
28) Dibenz (a,h) anthracene	15.02	278	4746500	46.21713 ppb	#	83
29) Benzo (g,h,i) perylene	15.36	276	4719226	46.50093 ppb	#	83

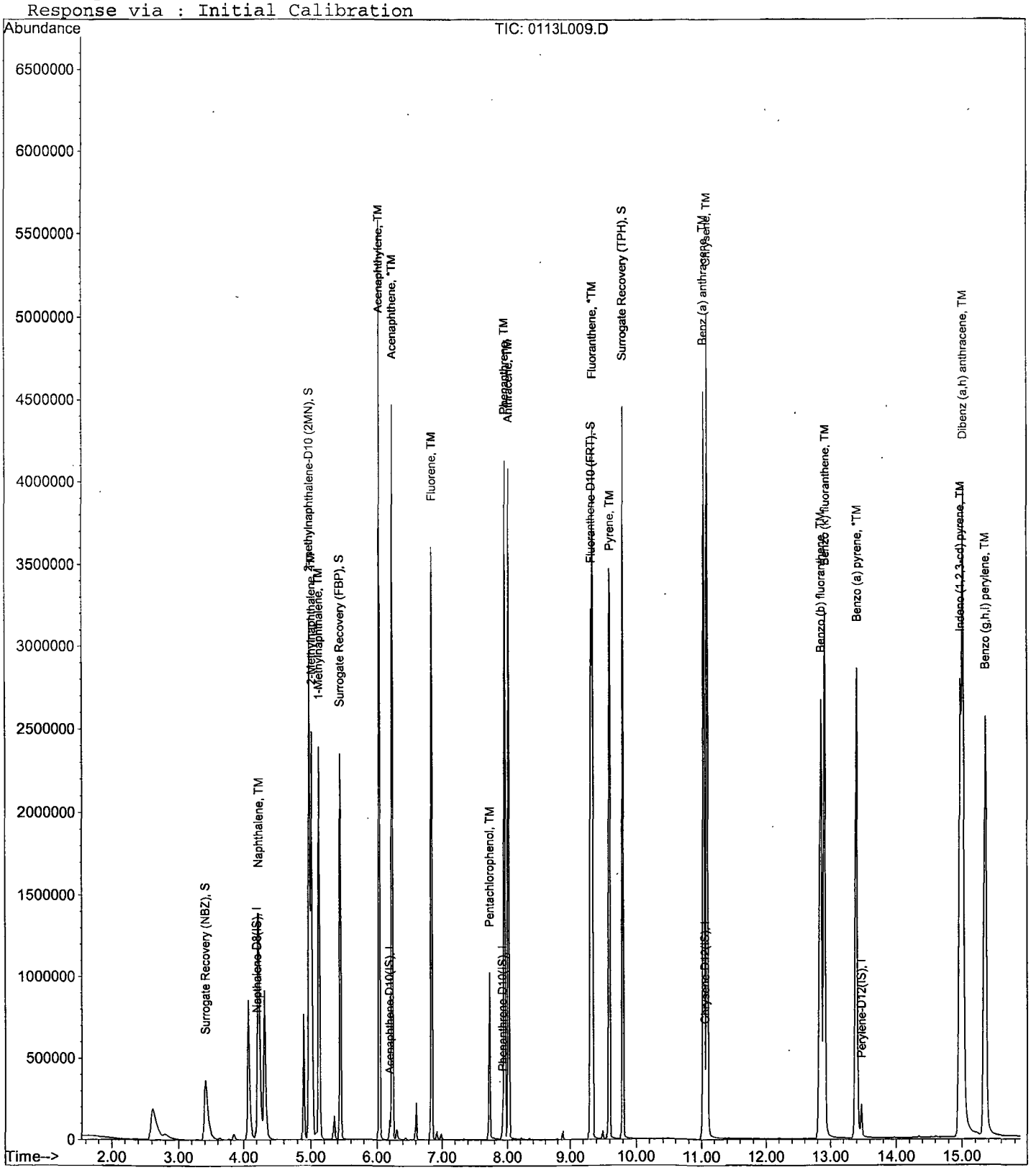
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L200113P\0113L009.D Vial: 9
Acq On : 13 Jan 20 17:32 Operator: MA
Sample : 50 SIM PCP 09/10/19 Inst : Linus
Misc : Multiplr: 1.00

Quant Time: Jan 14 9:42 2020 Quant Results File: L0113PCP.RES

Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 09:45:39 2020
Response via : Initial Calibration



PAH by GCMS SIM
EPA 8270 SIM

Form 7

Second Source Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Date Analyzed: 01/13/20
Matrix: Instrument: Linus
Initial Cal. Date: 01/13/20
Data File: 0113L010.D

		Compound	MEAN	CCRF	%D		%Drift
1	TM	Naphthalene	1.066	0.9911	7.0	TM	
2	TM	2-Methylnaphthalene	0.5873	0.5561	5.3	TM	
3	TM	1-Methylnaphthalene	0.6164	0.5575	9.6	TM	
4	TM	Acenaphthylene	4.406	4.080	7.4	TM	
5	*TM	Acenaphthene	1.296	1.185	8.6	*TM	
6	TM	Fluorene	1.622	1.497	7.7	TM	
7	TML	Pentachlorophenol	0.2573	0.2626	2.1	TML	19
8	TM	Phenanthrene	1.137	1.087	4.4	TM	
9	TM	Anthracene	1.063	1.088	2.4	TM	
10	*TM	Fluoranthene	1.638	1.535	6.3	*TM	
11	TM	Pyrene	1.264	1.213	4.0	TM	
12	TM	Benz (a) anthracene	1.285	1.212	5.7	TM	
13	TM	Chrysene	1.236	1.091	12	TM	
14	TM	Indeno (1,2,3-cd) pyrene	1.531	1.495	2.3	TM	
15	TM	Benzo (b) fluoranthene	1.167	1.050	10	TM	
16	TML	Benzo (k) fluoranthene	1.168	1.077	7.8	TML	0.39
17	*TM	Benzo (a) pyrene	1.073	1.019	5.1	*TM	
18	TM	Dibenz (a,h) anthracene	1.107	1.031	6.8	TM	
19	TM	Benzo (g,h,i) perylene	1.094	1.020	6.8	TM	
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			6.4		

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L200113P\0113L010.D Vial: 10
Acq On : 13 Jan 20 17:54 Operator: MA
Sample : SS SIM PCP 01/07/20 Inst : Linus
Misc : Multiplr: 1.00

Quant Time: Jan 14 10:11 2020 Quant Results File: L0113PCP.RES

Quant Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 10:07:16 2020
Response via : Initial Calibration
DataAcq Meth : SIM_2

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Napthalene-D8(IS)	4.20	136	137049	2.50000 ppb		0.00
7) Acenaphthene-D10(IS)	6.19	164	73342	2.50000 ppb		0.00
13) Phenanthrene-D10(IS)	7.92	188	143388	2.50000 ppb		0.00
18) Chrysene-D12(IS)	11.03	240	185022	2.50000 ppb		-0.01
24) Perylene-D12(IS)	13.46	264	223282	2.50000 ppb		-0.01
System Monitoring Compounds						
2) Surrogate Recovery (NBZ)	0.00	82	0d	0.00000 ppb		
Spiked Amount 5.000			Recovery =	0.000%		
4) 2-methylnaphthalene-D10 (2	0.00	152	0d	0.00000 ppb		
Spiked Amount 5.000			Recovery =	0.000%		
8) Surrogate Recovery (FBP)	0.00	172	0d	0.00000 ppb		
Spiked Amount 5.000			Recovery =	0.000%		
16) Fluoranthene-D10 (FRT)	0.00	212	0d	0.00000 ppb		
Spiked Amount 5.000			Recovery =	0.000%		
20) Surrogate Recovery (TPH)	0.00	244	0d	0.00000 ppb		
Spiked Amount 5.000			Recovery =	0.000%		
Target Compounds						Qvalue
3) Naphthalene	4.21	128	271657	4.64994 ppb		100
5) 2-Methylnaphthalene	5.01	141	152425	4.73419 ppb		92
6) 1-Methylnaphthalene	5.12	141	152810	4.52231 ppb		91
9) Acenaphthylene	6.04	152	598474	4.63048 ppb		98
10) Acenaphthene	6.23	154	173773	4.56904 ppb		97
11) Fluorene	6.83	166	219524	4.61475 ppb		91
12) Pentachlorophenol	7.71	266	38516m	4.06536 ppb		99
14) Phenanthrene	7.94	178	311611	4.78047 ppb		96
15) Anthracene	8.00	178	311899	5.11783 ppb		97
17) Fluoranthene	9.32	202	440235	4.68695 ppb	#	90
19) Pyrene	9.58	202	448976	4.80127 ppb		91
21) Benz (a) anthracene	11.02	228	448345	4.71418 ppb		96
22) Chrysene	11.07	228	403762	4.41339 ppb	#	98
23) Indeno (1,2,3-cd) pyrene	14.93	276	553182	4.88371 ppb	#	75
25) Benzo (b) fluoranthene	12.82	252	468839	4.49960 ppb	#	92
26) Benzo (k) fluoranthene	12.87	252	480847	5.01949 ppb	#	89
27) Benzo (a) pyrene	13.36	252	454826	4.74588 ppb		97
28) Dibenz (a,h) anthracene	14.98	278	460460	4.65759 ppb	#	84
29) Benzo (g,h,i) perylene	15.30	276	455427	4.66225 ppb	#	79

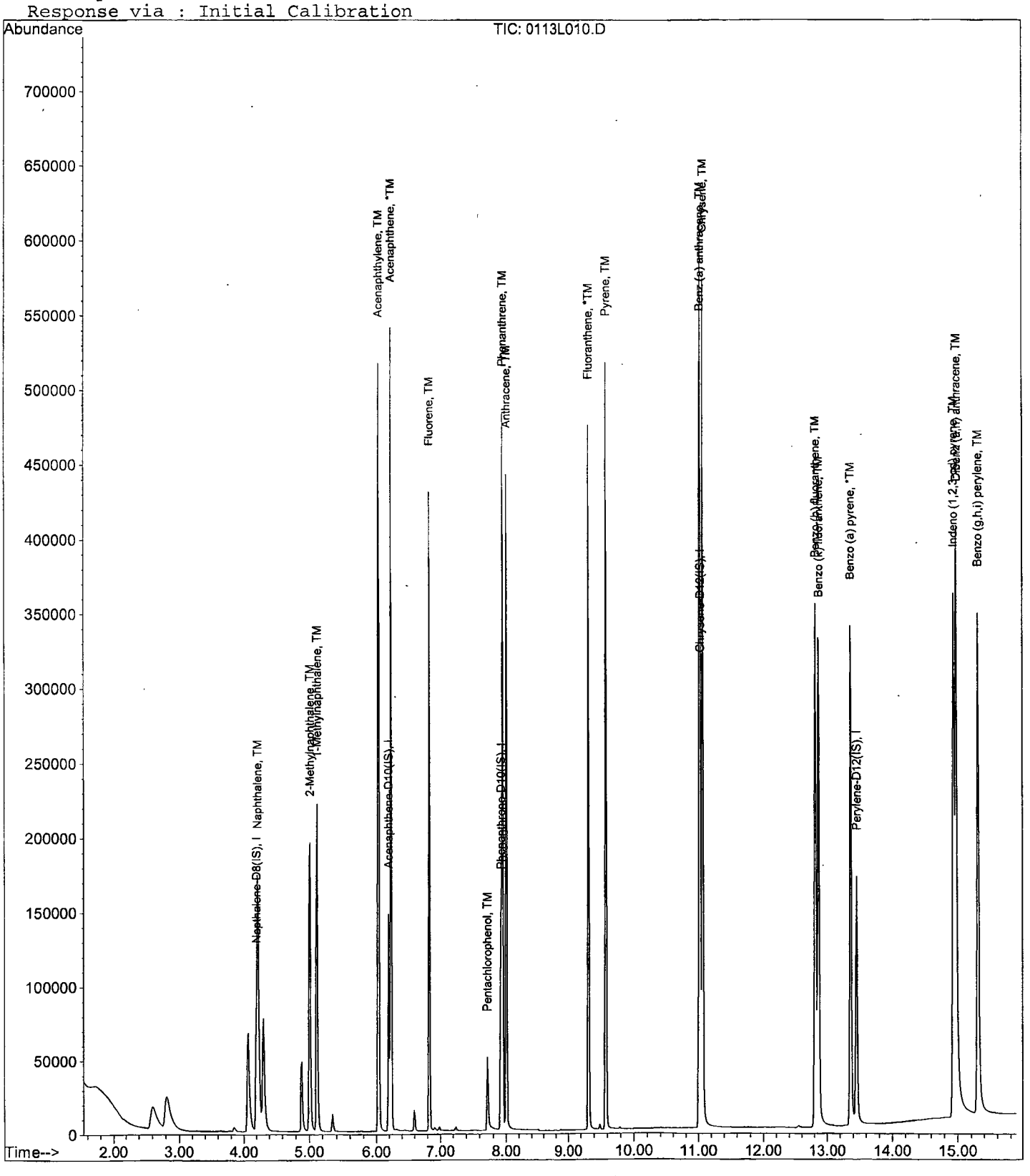
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L200113P\0113L010.D Vial: 10
Acq On : 13 Jan 20 17:54 Operator: MA
Sample : SS SIM PCP 01/07/20 Inst : Linus
Misc : Multiplr: 1.00

Quant Time: Jan 14 10:11 2020 Quant Results File: L0113PCP.RES

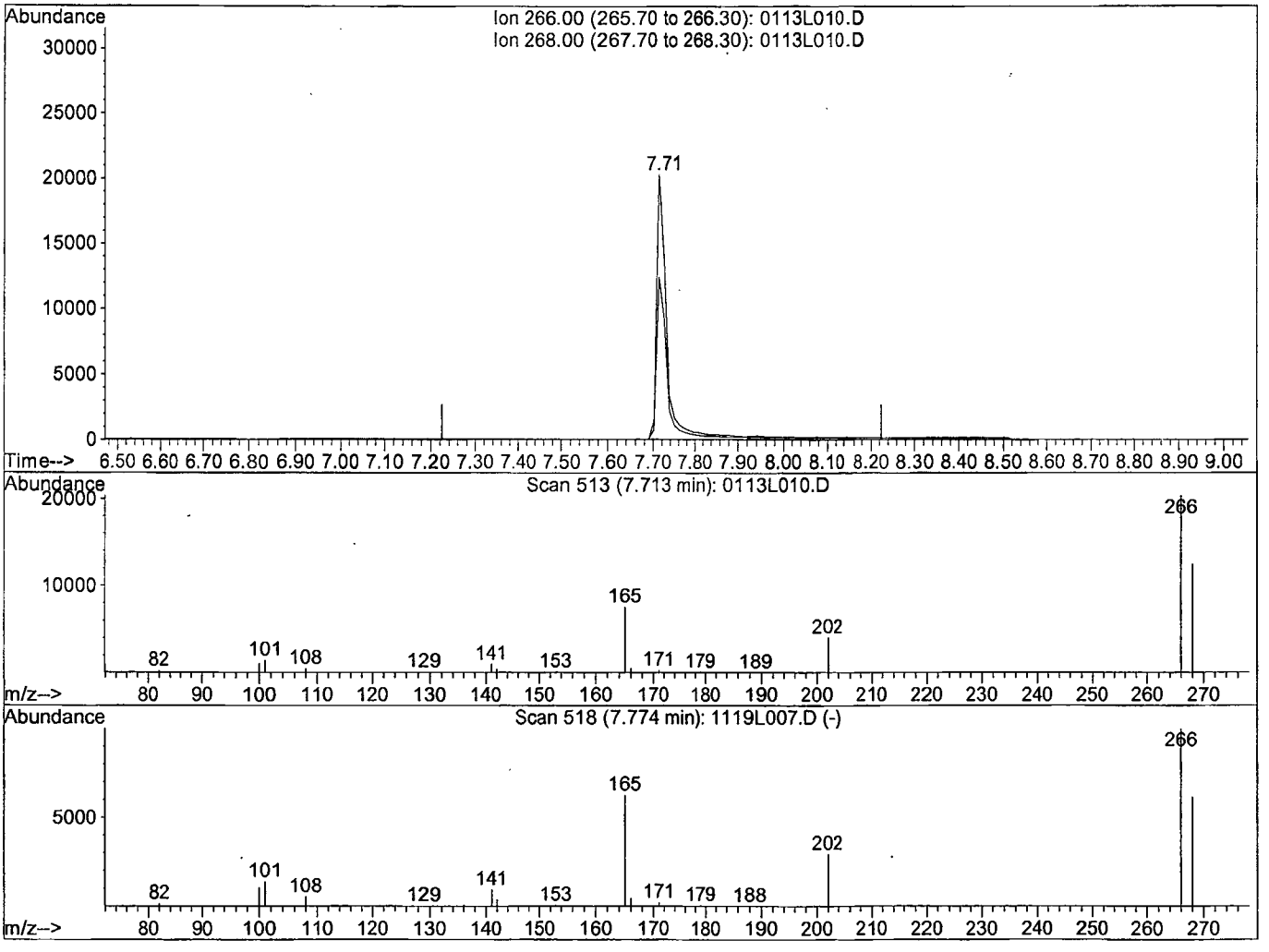
Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 10:07:16 2020
Response via : Initial Calibration



Quantitation Report

Data File : M:\LINUS\DATA\L200113P\0113L010.D Vial: 10
Acq On : 13 Jan 20 17:54 Operator: MA
Sample : SS SIM PCP 01/07/20 Inst : Linus
Misc : Multiplr: 1.00
Quant Time: Jan 14 10:10 2020 Quant Results File: temp.res

Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 10:07:16 2020
Response via : Multiple Level Calibration



TIC: 0113L010.D

(12) Pentachlorophenol (TM)

7.71min 3.7692ppb

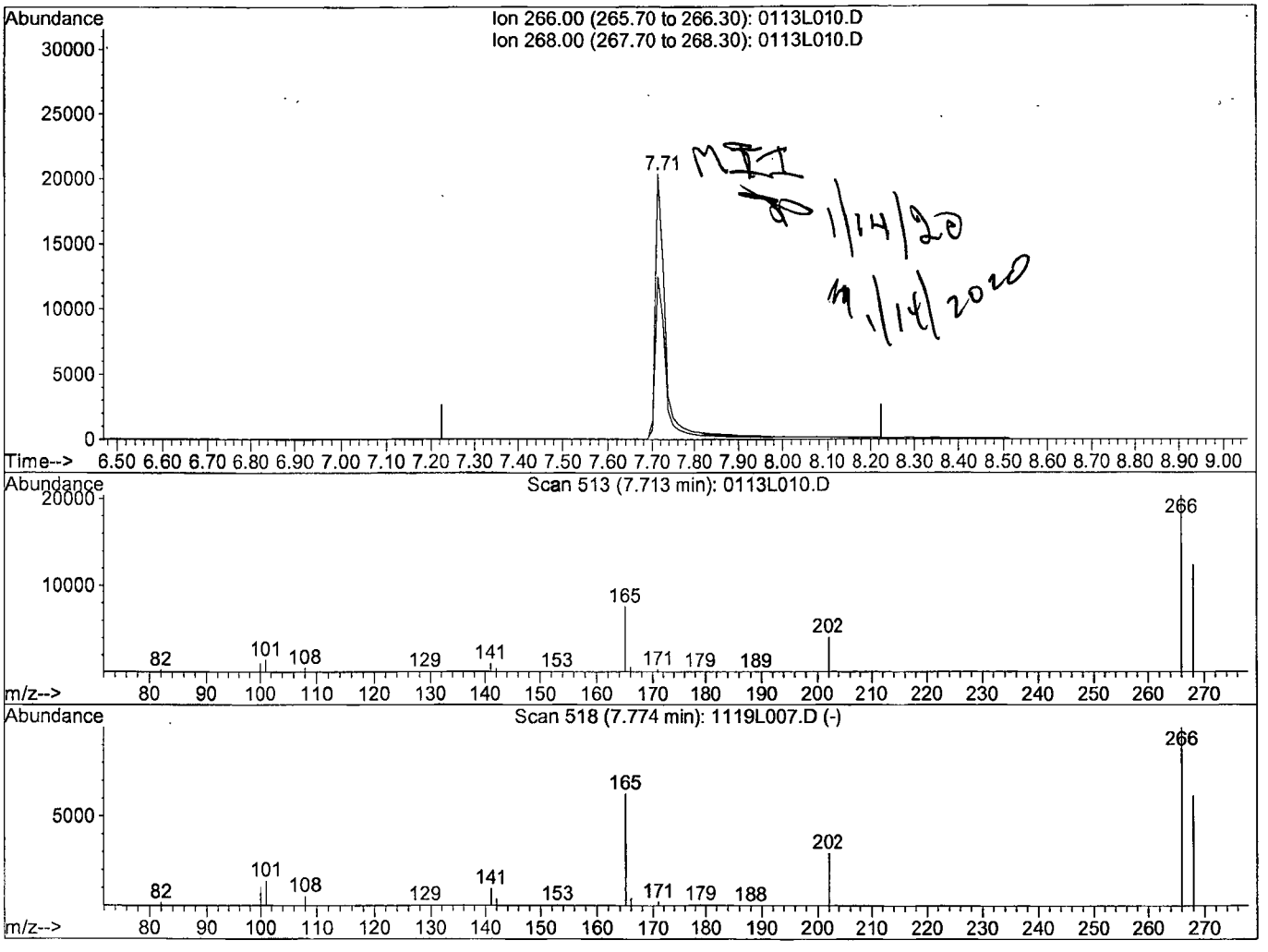
response 35161

Ion	Exp%	Act%
266.00	100	100
268.00	61.50	61.05
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report

Data File : M:\LINUS\DATA\L200113P\0113L010.D Vial: 10
Acq On : 13 Jan 20 17:54 Operator: MA
Sample : SS SIM PCP 01/07/20 Inst : Linus
Misc : Multiplr: 1.00
Quant Time: Jan 14 10:11 2020 Quant Results File: temp.res

Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 10:07:16 2020
Response via : Multiple Level Calibration



TIC: 0113L010.D

(12) Pentachlorophenol (TM)

7.71min 4.0654ppb m

response 38516

Ion	Exp%	Act%
266.00	100	100
268.00	61.50	61.19
0.00	0.00	0.00
0.00	0.00	0.00

PAH by GCMS SIM
EPA 8270 SIM

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 01/24/20
Instrument: Linus
Initial Cal. Date: 01/13/20
Data File: 0113L150.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Napthalene-D8(IS)	ISTD			I	
2	S	Surrogate Recovery (NBZ)	0.3053	0.3317	8.7	S	
3	TM	Naphthalene	1.066	1.176	10	TM	
4	S	2-methylnaphthalene-D10 (2MN)	1.224	1.361	11	S	
5	TM	2-Methylnaphthalene	0.5873	0.6532	11	TM	
6	TM	1-Methylnaphthalene	0.6164	0.6798	10	TM	
7	I	Acenaphthene-D10(IS)	ISTD			I	
8	S	Surrogate Recovery (FBP)	1.672	1.670	0.16	S	
9	TM	Acenaphthylene	4.406	4.531	2.8	TM	
10	*TM	Acenaphthene	1.296	1.295	0.13	*TM	
11	TM	Fluorene	1.622	1.676	3.4	TM	
12	TML	Pentachlorophenol	0.2573	0.3018	17	TML	8.5
13	I	Phenanthrene-D10(IS)	ISTD			I	
14	TM	Phenanthrene	1.137	1.215	6.9	TM	
15	TM	Anthracene	1.063	1.153	8.5	TM	
16	S	Fluoranthene-D10 (FRT)	1.470	1.505	2.3	S	
17	*TM	Fluoranthene	1.638	1.700	3.8	*TM	
18	I	Chrysene-D12(IS)	ISTD			I	
19	TM	Pyrene	1.264	1.338	5.9	TM	
20	S	Surrogate Recovery (TPH)	1.053	1.029	2.4	S	
21	TM	Benz (a) anthracene	1.285	1.371	6.7	TM	
22	TM	Chrysene	1.236	1.235	0.12	TM	
23	TM	Indeno (1,2,3-cd) pyrene	1.531	1.700	11	TM	
24	I	Perylene-D12(IS)	ISTD			I	
25	TM	Benzo (b) fluoranthene	1.167	1.261	8.1	TM	
26	TML	Benzo (k) fluoranthene	1.168	1.197	2.5	TML	12
27	*TM	Benzo (a) pyrene	1.073	1.147	6.9	*TM	
28	TM	Dibenz (a,h) anthracene	1.107	1.231	11	TM	
29	TM	Benzo (g,h,i) perylene	1.094	1.239	13	TM	
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			6.8		

Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L200113P\0113L150.D Vial: 50
Acq On : 24 Jan 20 12:18 Operator: MA
Sample : 5ug/mL SIM PCP 01/16/20 (1) Inst : Linus
Misc : Multiplr: 1.00

Quant Time: Jan 24 12:35 2020 Quant Results File: L0113PCP.RES

Quant Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 10:14:53 2020
Response via : Initial Calibration
DataAcq Meth : SIM_2

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Napthalene-D8(IS)	4.19	136	118617	2.50000 ppb		-0.01
7) Acenaphthene-D10(IS)	6.18	164	66046	2.50000 ppb		-0.01
13) Phenanthrene-D10(IS)	7.91	188	131055	2.50000 ppb		-0.01
18) Chrysene-D12(IS)	11.02	240	169396	2.50000 ppb		-0.02
24) Perylene-D12(IS)	13.43	264	198400	2.50000 ppb		-0.03
System Monitoring Compounds						
2) Surrogate Recovery (NBZ)	3.41	82	78694	5.43283 ppb		0.00
Spiked Amount 5.000			Recovery	= 108.660%		
4) 2-methylnaphthalene-D10 (2	4.96	152	322914	5.56122 ppb		-0.01
Spiked Amount 5.000			Recovery	= 111.220%		
8) Surrogate Recovery (FBP)	5.42	172	220558	4.99209 ppb		-0.01
Spiked Amount 5.000			Recovery	= 99.840%		
16) Fluoranthene-D10 (FRT)	9.28	212	394367	5.11673 ppb		-0.02
Spiked Amount 5.000			Recovery	= 102.340%		
20) Surrogate Recovery (TPH)	9.77	244	348487	4.88232 ppb		-0.02
Spiked Amount 5.000			Recovery	= 97.640%		
Target Compounds						Qvalue
3) Naphthalene	4.21	128	278889	5.51552 ppb		100
5) 2-Methylnaphthalene	5.00	141	154950	5.56045 ppb		100
6) 1-Methylnaphthalene	5.11	141	161264	5.51410 ppb		100
9) Acenaphthylene	6.02	152	598511	5.14231 ppb		100
10) Acenaphthene	6.22	154	171028	4.99363 ppb		98
11) Fluorene	6.82	166	221435	5.16914 ppb		97
12) Pentachlorophenol	7.71	266	39868	4.57341 ppb		99
14) Phenanthrene	7.93	178	318439	5.34494 ppb		99
15) Anthracene	7.99	178	302107	5.42365 ppb		98
17) Fluoranthene	9.30	202	445465	5.18894 ppb		97
19) Pyrene	9.57	202	453293	5.29459 ppb		96
21) Benz (a) anthracene	11.00	228	464511	5.33470 ppb		99
22) Chrysene	11.05	228	418275	4.99378 ppb		98
23) Indeno (1,2,3-cd) pyrene	14.92	276	575885	5.55313 ppb	#	91
25) Benzo (b) fluoranthene	12.79	252	500288	5.40359 ppb		100
26) Benzo (k) fluoranthene	12.85	252	475017	5.58884 ppb		100
27) Benzo (a) pyrene	13.35	252	455268	5.34626 ppb	#	98
28) Dibenz (a,h) anthracene	14.96	278	488523	5.56117 ppb	#	97
29) Benzo (g,h,i) perylene	15.29	276	491774	5.66571 ppb	#	97

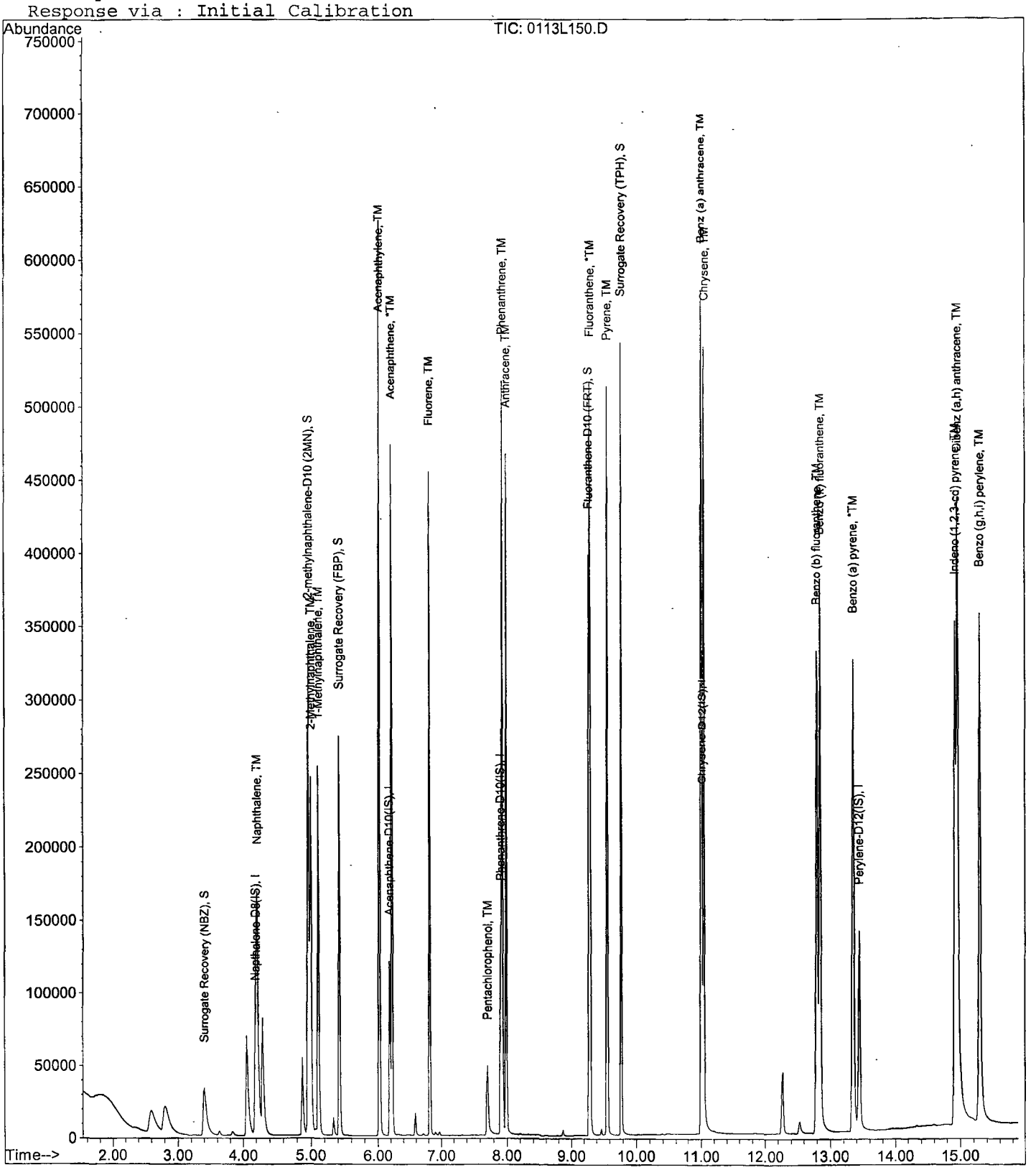
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L200113P\0113L150.D Vial: 50
Acq On : 24 Jan 20 12:18 Operator: MA
Sample : 5ug/mL SIM PCP 01/16/20 (1) Inst : Linus
Misc : Multiplr: 1.00

Quant Time: Jan 24 12:35 2020 Quant Results File: L0113PCP.RES

Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 10:14:53 2020
Response via : Initial Calibration



PAH by GCMS SIM
EPA 8270 SIM

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 01/24/20
Instrument: Linus
Initial Cal. Date: 01/13/20
Data File: 0113L159.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Napthalene-D8(IS)	ISTD			I	
2	S	Surrogate Recovery (NBZ)	0.3053	0.3278	7.4	S	
3	TM	Naphthalene	1.066	1.181	11	TM	
4	S	2-methylnaphthalene-D10 (2MN)	1.224	1.361	11	S	
5	TM	2-Methylnaphthalene	0.5873	0.6527	11	TM	
6	TM	1-Methylnaphthalene	0.6164	0.6748	9.5	TM	
7	I	Acenaphthene-D10(IS)	ISTD			I	
8	S	Surrogate Recovery (FBP)	1.672	1.685	0.76	S	
9	TM	Acenaphthylene	4.406	4.526	2.7	TM	
10	*TM	Acenaphthene	1.296	1.287	0.70	*TM	
11	TM	Fluorene	1.622	1.671	3.1	TM	
12	TML	Pentachlorophenol	0.2573	0.2863	11	TML	13
13	I	Phenanthrene-D10(IS)	ISTD			I	
14	TM	Phenanthrene	1.137	1.207	6.2	TM	
15	TM	Anthracene	1.063	1.118	5.2	TM	
16	S	Fluoranthene-D10 (FRT)	1.470	1.484	0.94	S	
17	*TM	Fluoranthene	1.638	1.636	0.09	*TM	
18	I	Chrysene-D12(IS)	ISTD			I	
19	TM	Pyrene	1.264	1.346	6.6	TM	
20	S	Surrogate Recovery (TPH)	1.053	1.039	1.4	S	
21	TM	Benz (a) anthracene	1.285	1.326	3.2	TM	
22	TM	Chrysene	1.236	1.275	3.1	TM	
23	TM	Indeno (1,2,3-cd) pyrene	1.531	1.720	12	TM	
24	I	Perylene-D12(IS)	ISTD			I	
25	TM	Benzo (b) fluoranthene	1.167	1.232	5.6	TM	
26	TML	Benzo (k) fluoranthene	1.168	1.249	6.9	TML	17
27	*TM	Benzo (a) pyrene	1.073	1.143	6.5	*TM	
28	TM	Dibenz (a,h) anthracene	1.107	1.259	14	TM	
29	TM	Benzo (g,h,i) perylene	1.094	1.262	15	TM	
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			6.5		

Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L200113P\0113L159.D Vial: 59
Acq On : 24 Jan 20 16:06 Operator: MA
Sample : 5ug/mL SIM PCP 01/16/20 (1) Inst : Linus
Misc : Multiplr: 1.00

Quant Time: Jan 24 16:26 2020 Quant Results File: L0113PCP.RES

Quant Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 10:14:53 2020
Response via : Initial Calibration
DataAcq Meth : SIM_2

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Napthalene-D8(IS)	4.19	136	116351	2.50000 ppb		-0.01
7) Acenaphthene-D10(IS)	6.18	164	64386	2.50000 ppb		-0.01
13) Phenanthrene-D10(IS)	7.91	188	128605	2.50000 ppb		-0.01
18) Chrysene-D12(IS)	11.02	240	162751	2.50000 ppb		-0.02
24) Perylene-D12(IS)	13.45	264	188599	2.50000 ppb		-0.02
System Monitoring Compounds						
2) Surrogate Recovery (NBZ)	3.41	82	76291	5.36951 ppb		0.00
Spiked Amount 5.000			Recovery	= 107.400%		
4) 2-methylnaphthalene-D10 (2	4.96	152	316699	5.56041 ppb		-0.01
Spiked Amount 5.000			Recovery	= 111.200%		
8) Surrogate Recovery (FBP)	5.42	172	217000	5.03818 ppb		-0.01
Spiked Amount 5.000			Recovery	= 100.760%		
16) Fluoranthene-D10 (FRT)	9.28	212	381724	5.04704 ppb		-0.02
Spiked Amount 5.000			Recovery	= 100.940%		
20) Surrogate Recovery (TPH)	9.77	244	338089	4.93004 ppb		-0.02
Spiked Amount 5.000			Recovery	= 98.600%		
Target Compounds						Qvalue
3) Naphthalene	4.21	128	274761	5.53971 ppb		100
5) 2-Methylnaphthalene	5.00	141	151889	5.55676 ppb		99
6) 1-Methylnaphthalene	5.11	141	157026	5.47376 ppb		99
9) Acenaphthylene	6.02	152	582775	5.13621 ppb		100
10) Acenaphthene	6.22	154	165770	4.96489 ppb		99
11) Fluorene	6.82	166	215193	5.15294 ppb		98
12) Pentachlorophenol	7.71	266	36868	4.37254 ppb		100
14) Phenanthrene	7.93	178	310479	5.31062 ppb		99
15) Anthracene	7.99	178	287562	5.26088 ppb		99
17) Fluoranthene	9.30	202	420822	4.99527 ppb	#	93
19) Pyrene	9.57	202	438246	5.32783 ppb		94
21) Benz (a) anthracene	11.01	228	431754	5.16096 ppb		96
22) Chrysene	11.05	228	414888	5.15558 ppb		100
23) Indeno (1,2,3-cd) pyrene	14.92	276	559878	5.61920 ppb	#	93
25) Benzo (b) fluoranthene	12.80	252	464641	5.27937 ppb	#	97
26) Benzo (k) fluoranthene	12.85	252	471195	5.83522 ppb		99
27) Benzo (a) pyrene	13.35	252	431091	5.32543 ppb	#	98
28) Dibenz (a,h) anthracene	14.97	278	474785	5.68565 ppb		99
29) Benzo (g,h,i) perylene	15.29	276	475946	5.76831 ppb	#	95

(#) = qualifier out of range (m) = manual integration

Quantitation Report

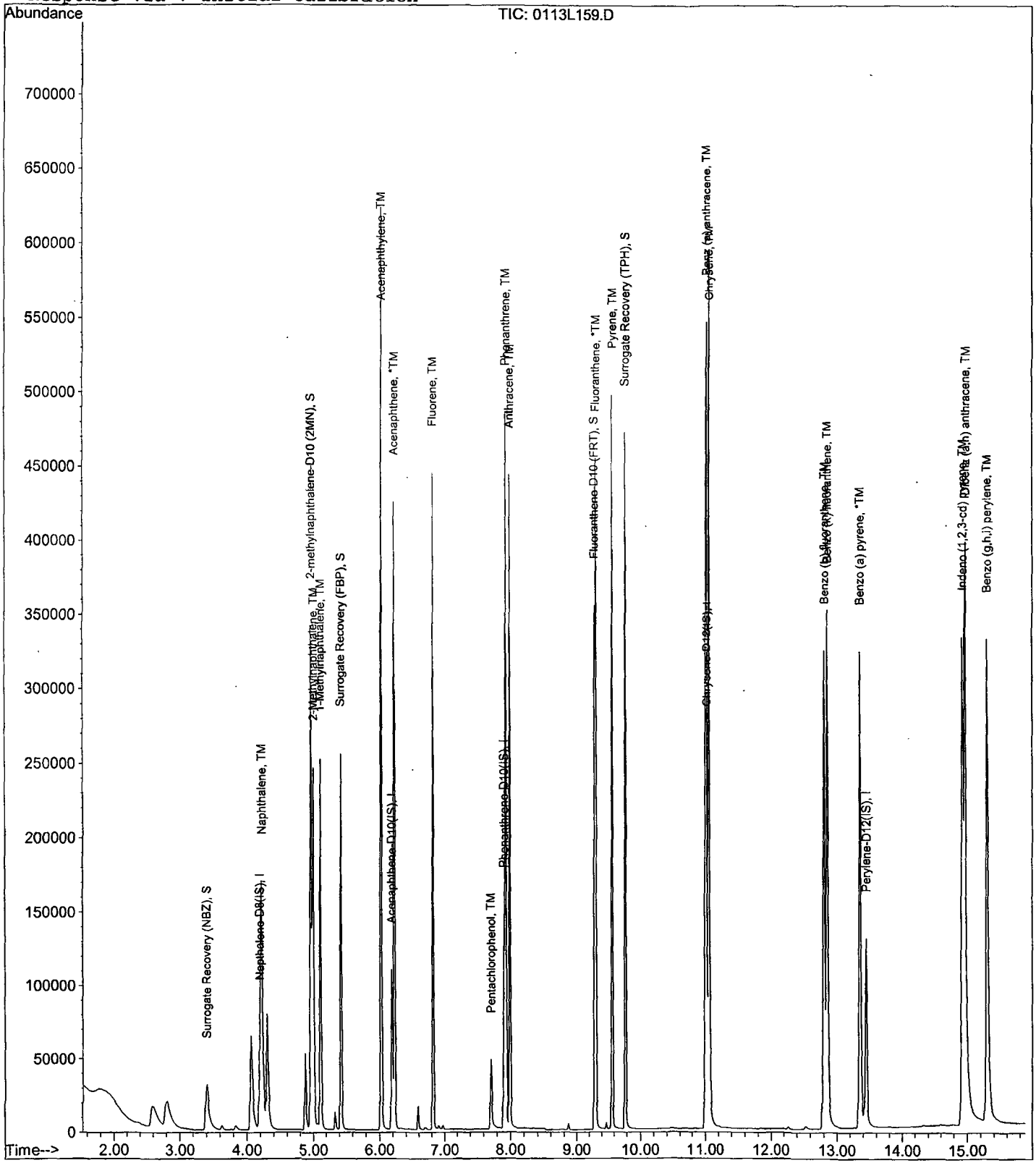
Data File : M:\LINUS\DATA\L200113P\0113L159.D
Acq On : 24 Jan 20 16:06
Sample : 5ug/mL SIM PCP 01/16/20 (1)
Misc :

Vial: 59
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Jan 24 16:26 2020

Quant Results File: L0113PCP.RES

Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 10:14:53 2020
Response via : Initial Calibration



ORGANICS
Raw Data

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L200113P\0113L154.D Vial: 54
Acq On : 24 Jan 20 14:05 Operator: MA
Sample : BA06136W14 1/800 Inst : Linus
Misc : Multiplr: 1.25

Quant Time: Jan 24 14:35 2020 Quant Results File: L0113PCP.RES

Quant Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 10:14:53 2020
Response via : Initial Calibration
DataAcq Meth : SIM_2

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	4.19	136	117152	2.50000 ppb	-0.01
7) Acenaphthene-D10(IS)	6.18	164	65997	2.50000 ppb	-0.01
13) Phenanthrene-D10(IS)	7.91	188	123854	2.50000 ppb	-0.01
18) Chrysene-D12(IS)	11.02	240	165303	2.50000 ppb	-0.02
24) Perylene-D12(IS)	13.45	264	192741	2.50000 ppb	-0.02
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	3.41	82	1127032	98.47552 ppb	0.00
Spiked Amount 6.250			Recovery	= 1575.616%	
4) 2-methylnaphthalene-D10 (2	4.96	152	251433	5.48041 ppb	-0.01
Spiked Amount 6.250			Recovery	= 87.680%	
8) Surrogate Recovery (FBP)	5.43	172	2816167	79.73517 ppb	0.00
Spiked Amount 6.250			Recovery	= 1275.760%	
16) Fluoranthene-D10 (FRT)	9.28	212	320828	5.50576 ppb	-0.02
Spiked Amount 6.250			Recovery	= 88.096%	
20) Surrogate Recovery (TPH)	9.79	244	4742327	85.10669 ppb	0.00
Spiked Amount 6.250			Recovery	= 1361.712%	

Target Compounds Qvalue

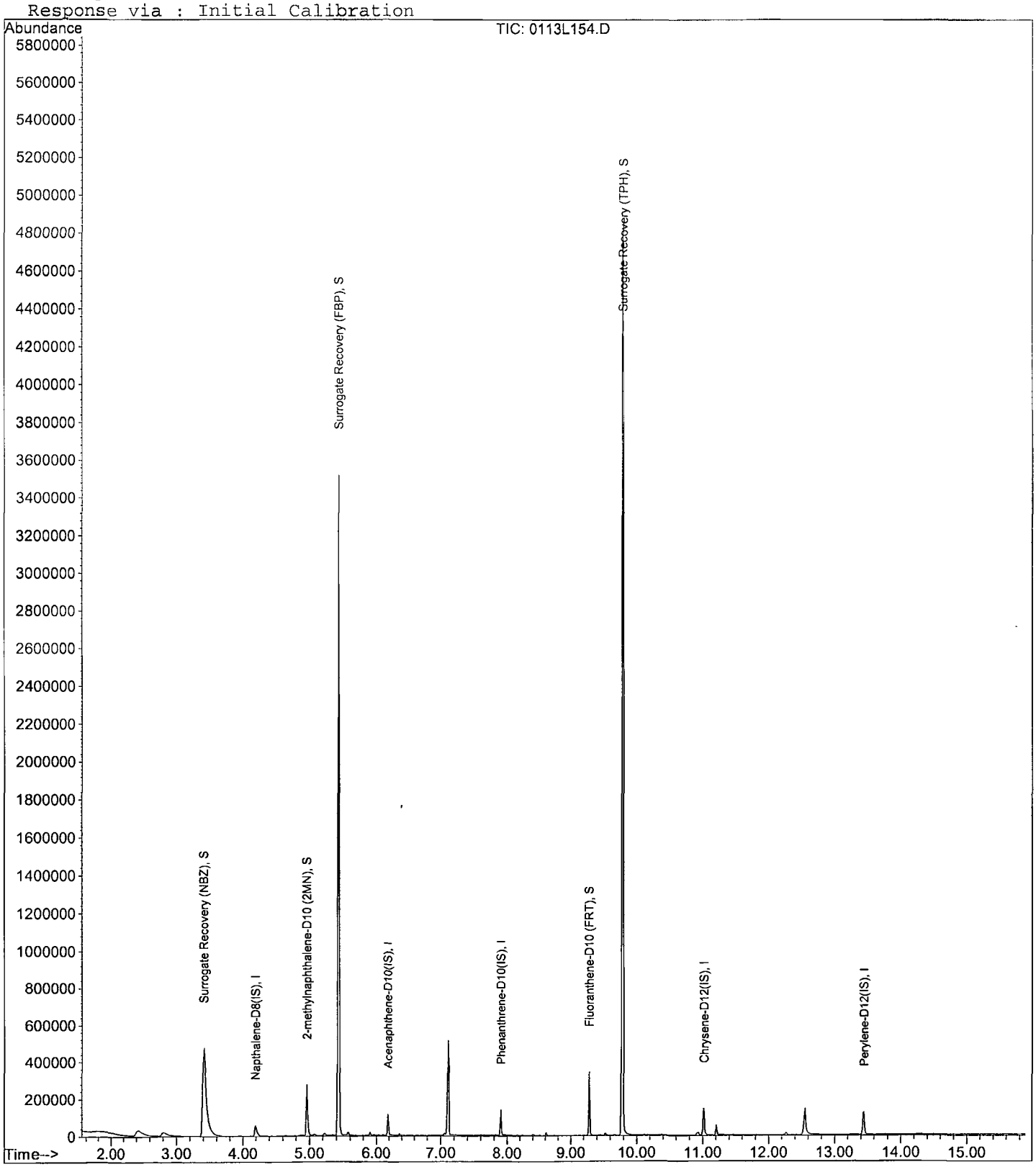
(#) = qualifier out of range (m) = manual integration
0113L154.D L0113PCP.M Mon Jan 27 10:37:19 2020 Page 1

Quantitation Report

Data File : M:\LINUS\DATA\L200113P\0113L154.D Vial: 54
Acq On : 24 Jan 20 14:05 Operator: MA
Sample : BA06136W14 1/800 Inst : Linus
Misc : Multiplr: 1.25

Quant Time: Jan 24 14:35 2020 Quant Results File: L0113PCP.RES

Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 10:14:53 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L200113P\0113L155.D Vial: 55
Acq On : 24 Jan 20 14:27 Operator: MA
Sample : BA06138W13 1/800 Inst : Linus
Misc : Multiplr: 1.25

Quant Time: Jan 24 14:52 2020 Quant Results File: L0113PCP.RES

Quant Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 10:14:53 2020
Response via : Initial Calibration
DataAcq Meth : SIM_2

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	4.19	136	114561	2.50000 ppb	-0.01
7) Acenaphthene-D10(IS)	6.19	164	47867	2.50000 ppb	0.00
13) Phenanthrene-D10(IS)	7.91	188	122824	2.50000 ppb	-0.01
18) Chrysene-D12(IS)	11.02	240	146489	2.50000 ppb	-0.02
24) Perylene-D12(IS)	13.45	264	5813	2.50000 ppb	-0.02
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	3.41	82	1049770	93.79919 ppb	0.00
Spiked Amount 6.250			Recovery	= 1500.784%	
4) 2-methylnaphthalene-D10 (2	4.96	152	235603	5.25151 ppb	-0.01
Spiked Amount 6.250			Recovery	= 84.032%	
8) Surrogate Recovery (FBP)	5.43	172	2614047	102.04528 ppb	0.00
Spiked Amount 6.250			Recovery	= 1632.720%	
16) Fluoranthene-D10 (FRT)	9.29	212	288052	4.98474 ppb	-0.01
Spiked Amount 6.250			Recovery	= 79.760%	
20) Surrogate Recovery (TPH)	9.78	244	3670715	74.33589 ppb	-0.01
Spiked Amount 6.250			Recovery	= 1189.376%	
Target Compounds					Qvalue
3) Naphthalene	4.21	128	2012843	51.52114 ppb	97
5) 2-Methylnaphthalene	5.00	141	485284	22.53900 ppb	98
6) 1-Methylnaphthalene	5.11	141	514529	22.77022 ppb	99
10) Acenaphthene	6.23	154	10050	0.50610 ppb	87
11) Fluorene	6.82	166	8071	0.32495 ppb	97

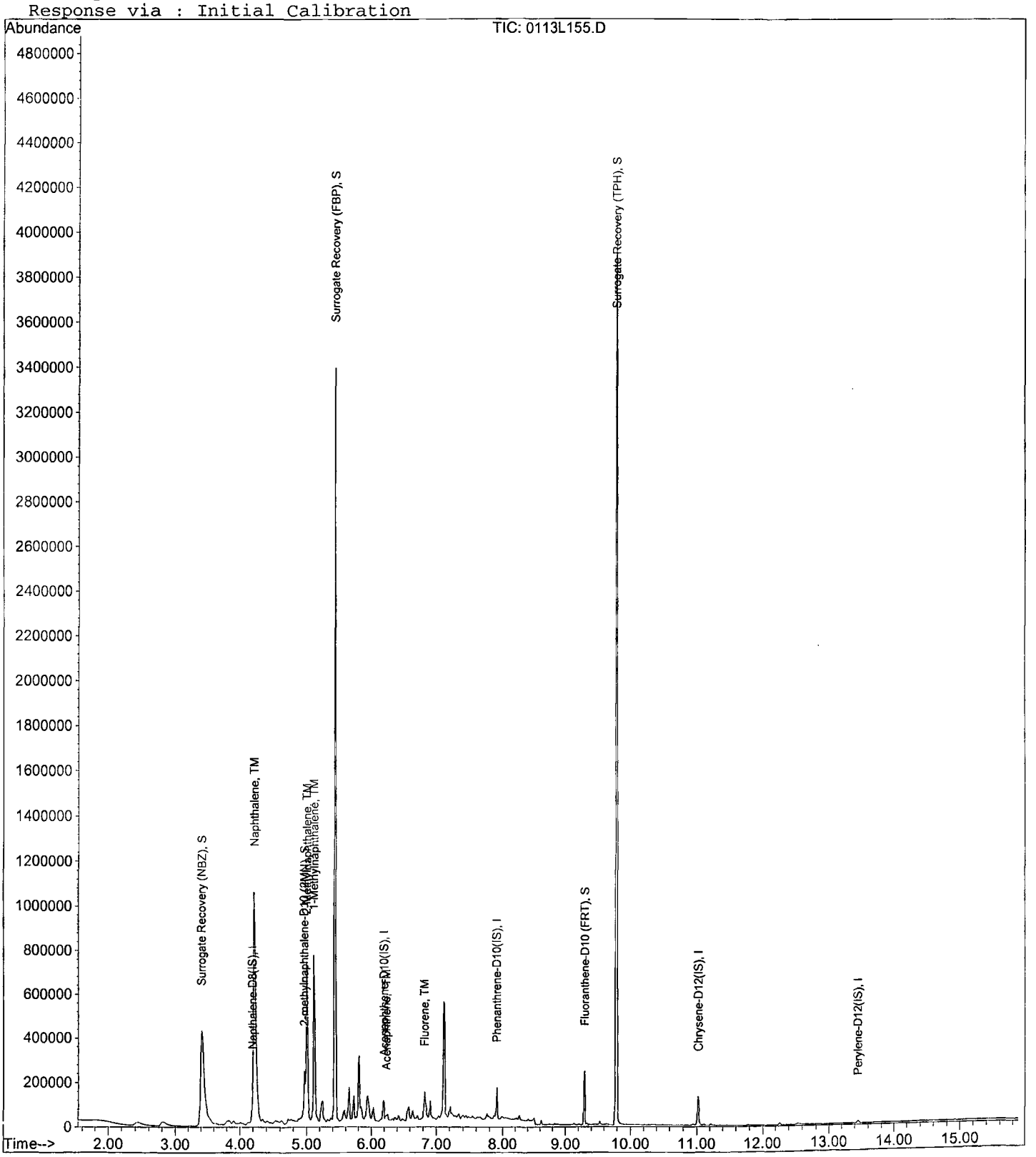
(#) = qualifier out of range (m) = manual integration

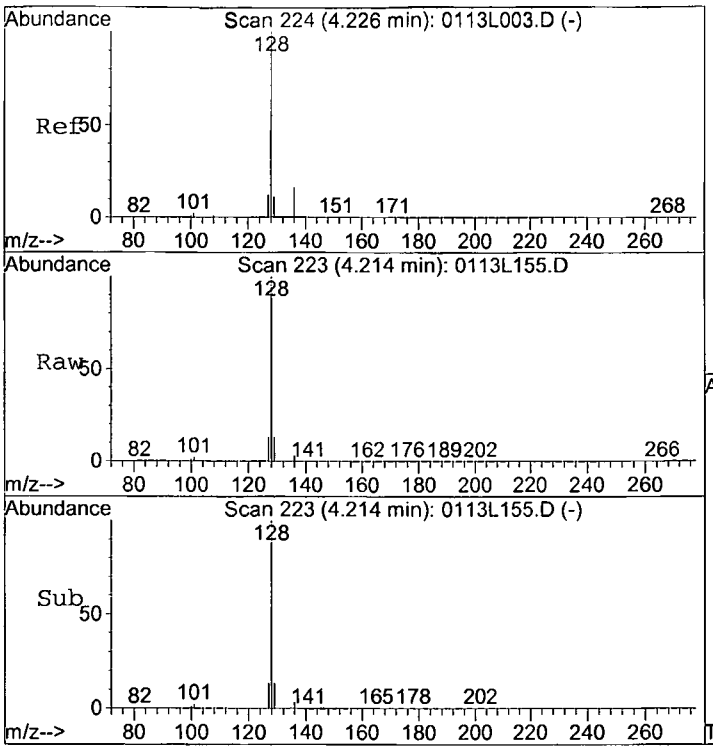
Quantitation Report

Data File : M:\LINUS\DATA\L200113P\0113L155.D Vial: 55
Acq On : 24 Jan 20 14:27 Operator: MA
Sample : BA06138W13 1/800 Inst : Linus
Misc : Multiplr: 1.25

Quant Time: Jan 24 14:52 2020 Quant Results File: L0113PCP.RES

Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 10:14:53 2020
Response via : Initial Calibration

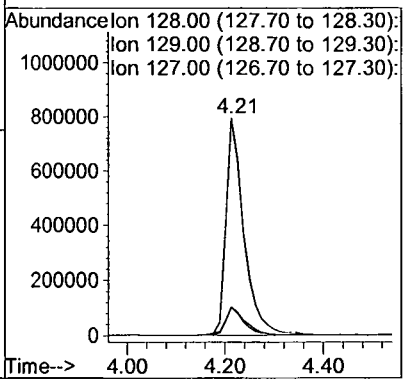


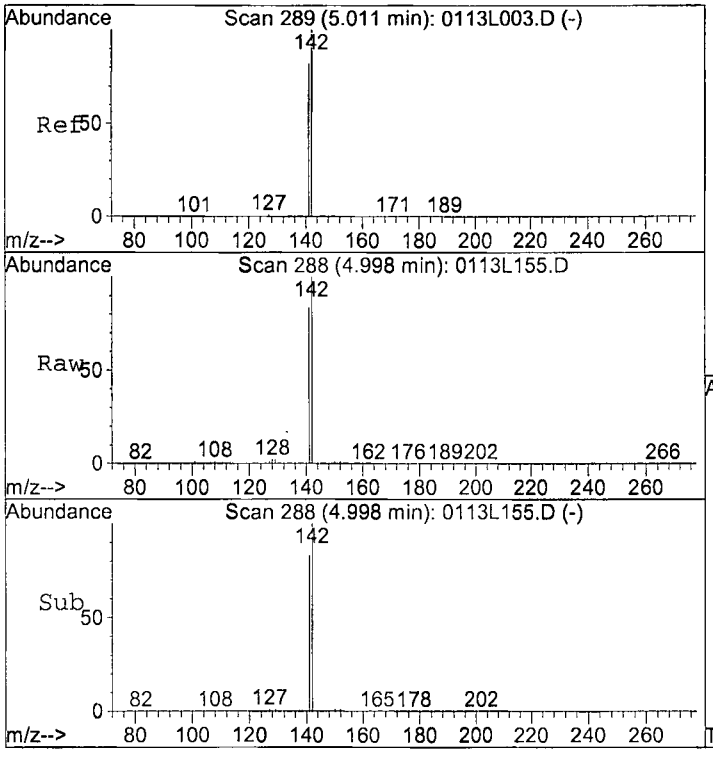


#3
Naphthalene
Concen: 51.52114 ppb
RT: 4.21 min Scan# 223
Delta R.T. -0.01 min
Lab File: 0113L155.D
Acq: 24 Jan 20 14:27

Tgt Ion:128 Resp: 2012843

Ion	Ratio	Lower	Upper
128	100		
129	13.0	7.7	14.3
127	12.8	8.6	16.0

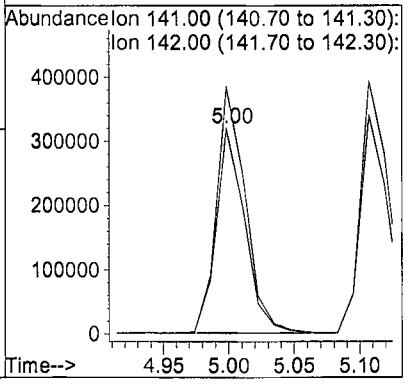


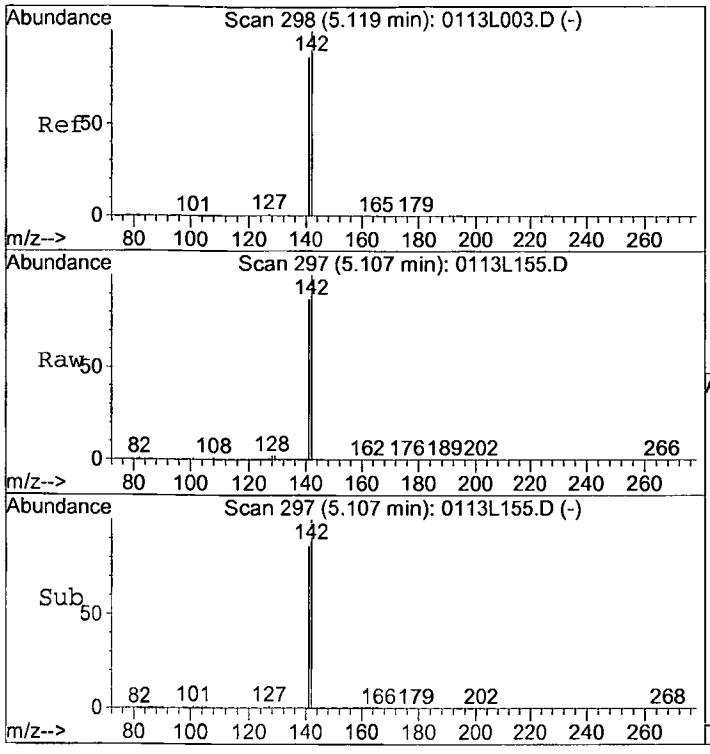


#5
2-Methylnaphthalene
Concen: 22.53900 ppb
RT: 5.00 min Scan# 288
Delta R.T. -0.01 min
Lab File: 0113L155.D
Acq: 24 Jan 20 14:27

Tgt Ion:141 Resp: 485284

Ion	Ratio	Lower	Upper
141	100		
142	120.4	85.8	159.4

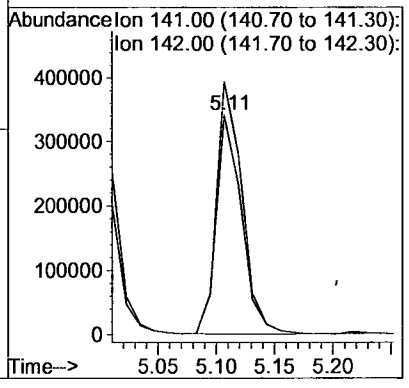


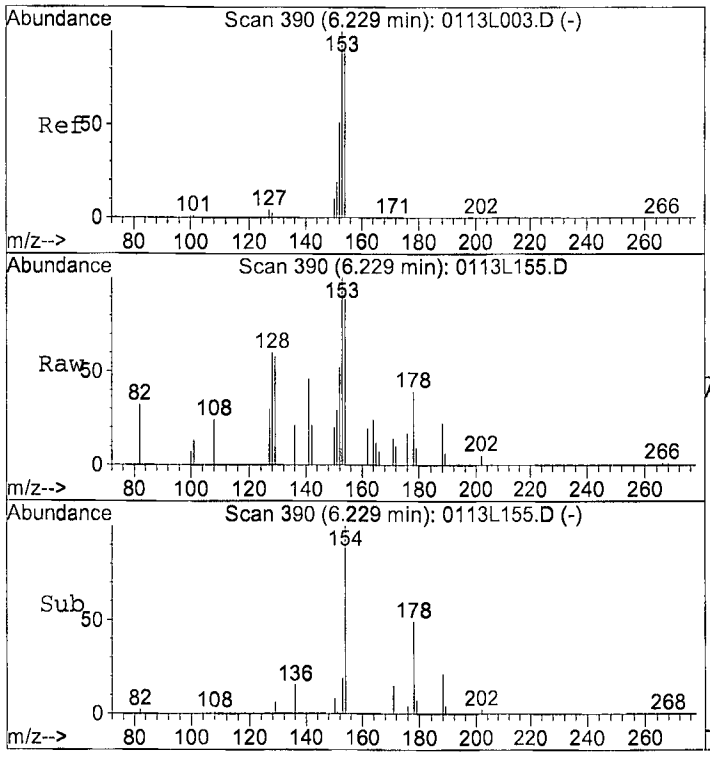


#6
1-Methylnaphthalene
Concen: 22.77022 ppb
RT: 5.11 min Scan# 297
Delta R.T. -0.01 min
Lab File: 0113L155.D
Acq: 24 Jan 20 14:27

Tgt Ion:141 Resp: 514529

Ion	Ratio	Lower	Upper
141	100		
142	115.6	81.9	152.1

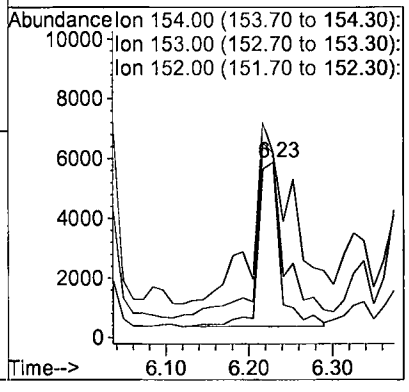


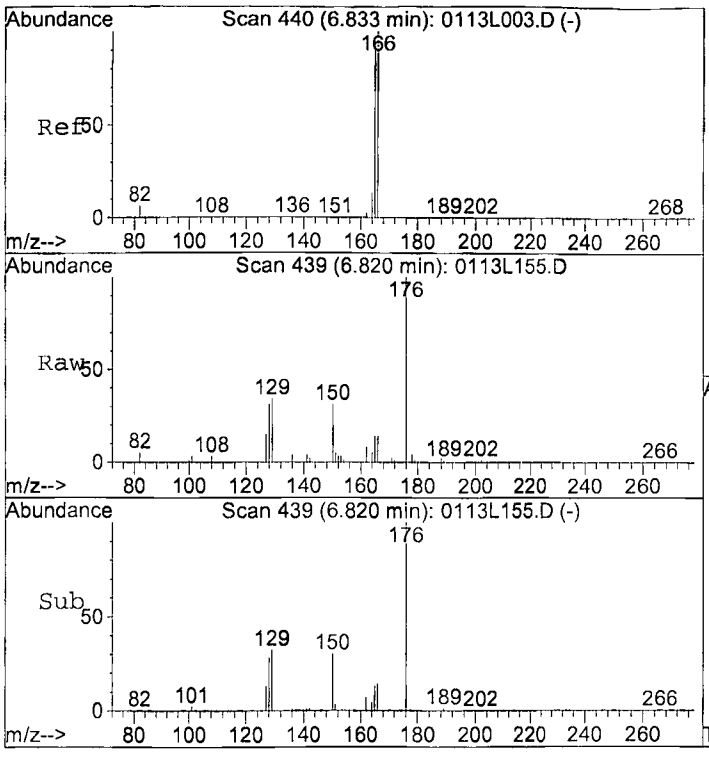


#10
Acenaphthene
Concen: 0.50610 ppb
RT: 6.23 min Scan# 390
Delta R.T. -0.00 min
Lab File: 0113L155.D
Acq: 24 Jan 20 14:27

Tgt Ion:154 Resp: 10050

Ion	Ratio	Lower	Upper
154	100		
153	98.8	76.2	141.6
152	91.8	76.9	142.9

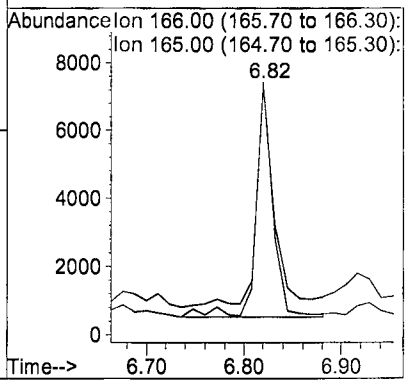




#11
Fluorene
Concen: 0.32495 ppb
RT: 6.82 min Scan# 439
Delta R.T. -0.01 min
Lab File: 0113L155.D
Acq: 24 Jan 20 14:27

Tgt Ion:166 Resp: 8071

Ion	Ratio	Lower	Upper
166	100		
165	94.6	64.4	119.6



Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L200113P\0113L156.D Vial: 56
Acq On : 24 Jan 20 14:49 Operator: MA
Sample : BA06139W11 1/800 Inst : Linus
Misc : Multiplr: 1.25

Quant Time: Jan 24 15:07 2020 Quant Results File: L0113PCP.RES

Quant Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 10:14:53 2020
Response via : Initial Calibration
DataAcq Meth : SIM_2

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	4.19	136	109136	2.50000 ppb	-0.01
7) Acenaphthene-D10(IS)	6.19	164	61103	2.50000 ppb	0.00
13) Phenanthrene-D10(IS)	7.91	188	117903	2.50000 ppb	-0.01
18) Chrysene-D12(IS)	11.02	240	155781	2.50000 ppb	-0.02
24) Perylene-D12(IS)	13.45	264	183086	2.50000 ppb	-0.02
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	3.41	82	1086225	101.88107 ppb	0.00
Spiked Amount 6.250			Recovery	= 1630.096%	
4) 2-methylnaphthalene-D10 (2	4.96	152	248632	5.81741 ppb	-0.01
Spiked Amount 6.250			Recovery	= 93.072%	
8) Surrogate Recovery (FBP)	5.43	172	2669181	81.62651 ppb	0.00
Spiked Amount 6.250			Recovery	= 1306.032%	
16) Fluoranthene-D10 (FRT)	9.29	212	312408	5.63187 ppb	-0.01
Spiked Amount 6.250			Recovery	= 90.112%	
20) Surrogate Recovery (TPH)	9.78	244	3812069	72.59374 ppb	-0.01
Spiked Amount 6.250			Recovery	= 1161.504%	
Target Compounds					Qvalue
3) Naphthalene	4.21	128	2110002	56.69271 ppb	97
5) 2-Methylnaphthalene	5.00	141	480944	23.44780 ppb	98
6) 1-Methylnaphthalene	5.11	141	516040	23.97229 ppb	99
10) Acenaphthene	6.22	154	10694	0.42187 ppb	97
11) Fluorene	6.82	166	7442	0.23472 ppb	96

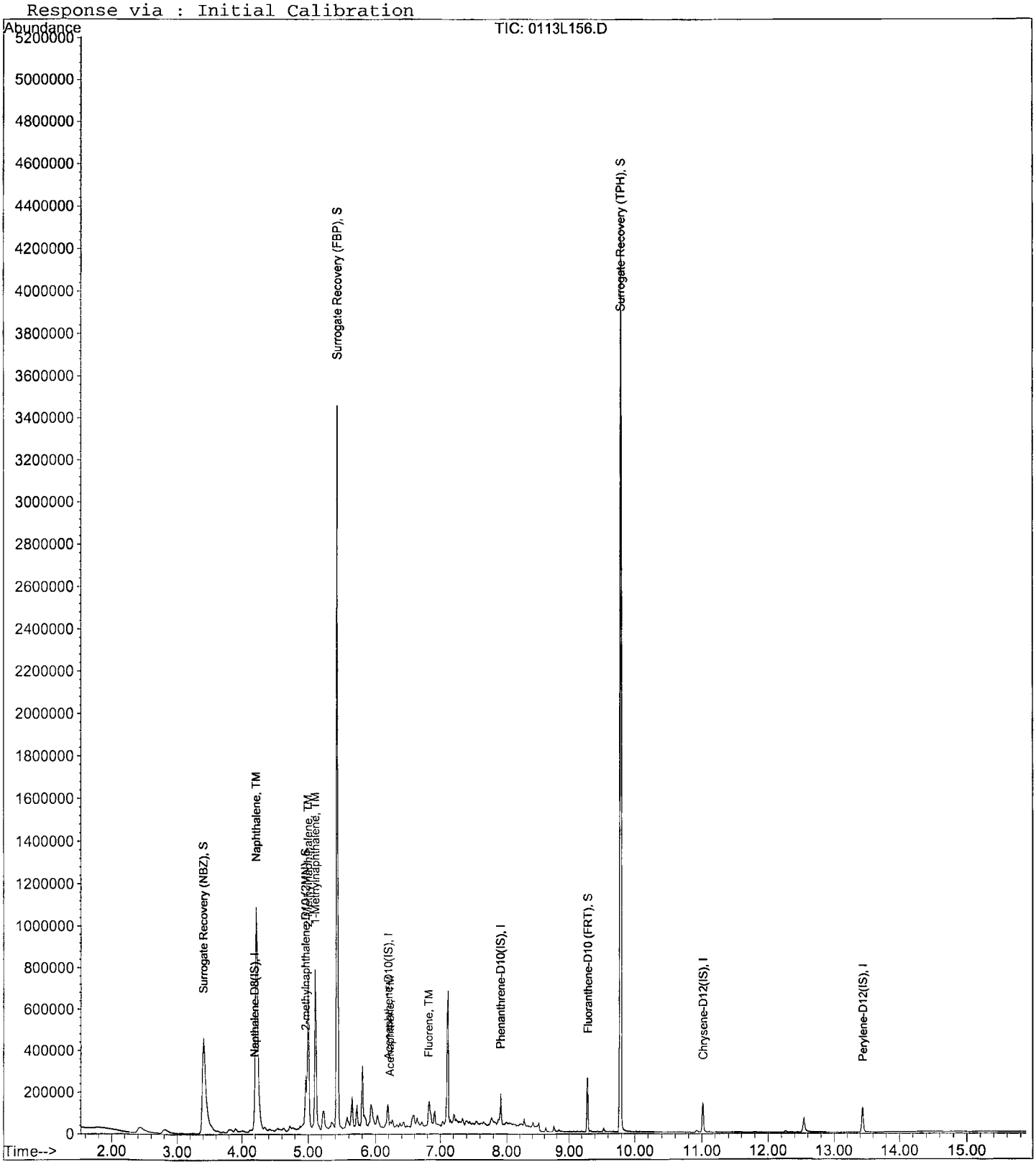
(#) = qualifier out of range (m) = manual integration

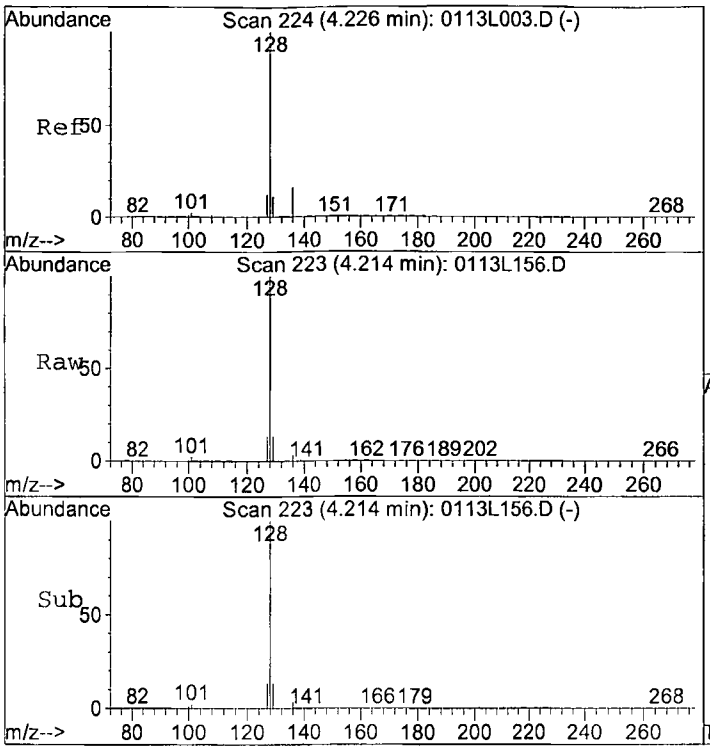
Quantitation Report

Data File : M:\LINUS\DATA\L200113P\0113L156.D Vial: 56
Acq On : 24 Jan 20 14:49 Operator: MA
Sample : BA06139W11 1/800 Inst : Linus
Misc : Multiplr: 1.25

Quant Time: Jan 24 15:07 2020 Quant Results File: L0113PCP.RES

Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 10:14:53 2020
Response via : Initial Calibration

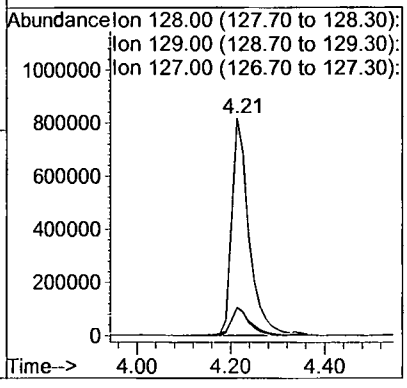


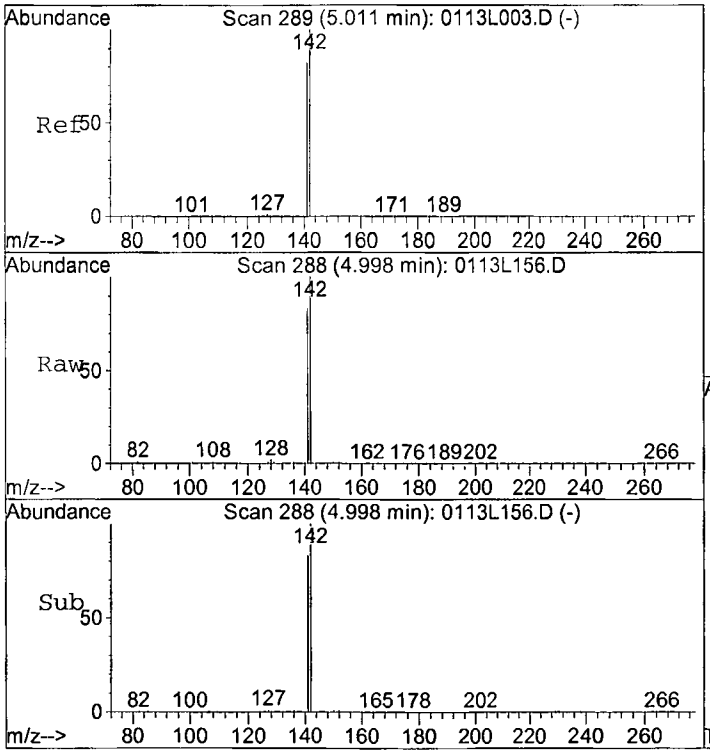


#3
Naphthalene
Concen: 56.69271 ppb
RT: 4.21 min Scan# 223
Delta R.T. -0.01 min
Lab File: 0113L156.D
Acq: 24 Jan 20 14:49

Tgt Ion:128 Resp: 2110002

Ion	Ratio	Lower	Upper
128	100		
129	13.0	7.7	14.3
127	12.8	8.6	16.0

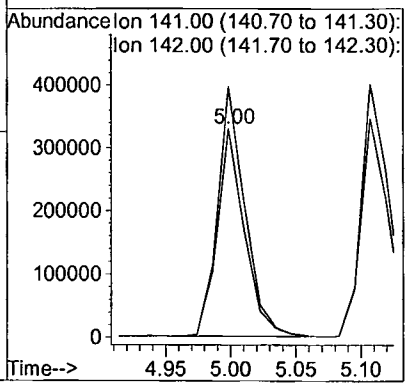


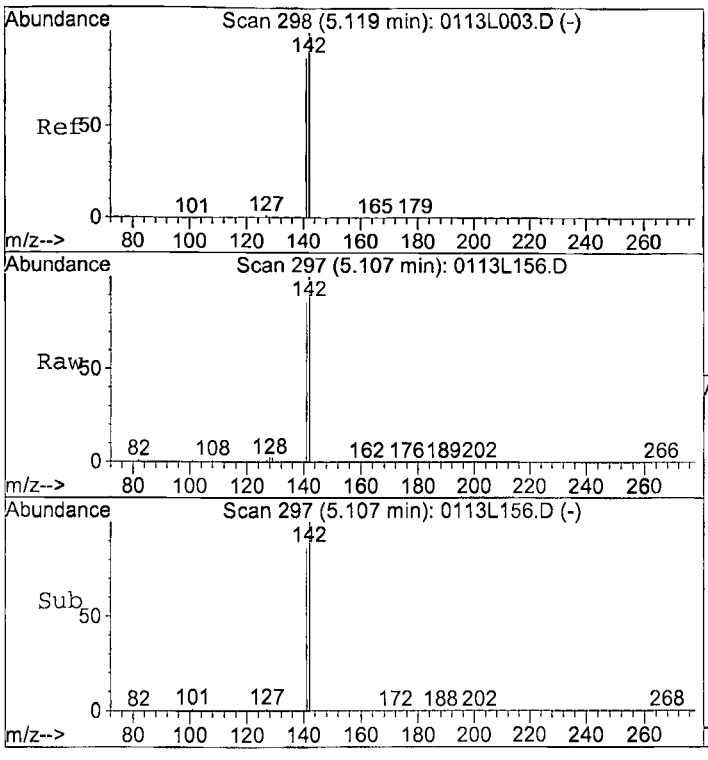


#5
2-Methylnaphthalene
Concen: 23.44780 ppb
RT: 5.00 min Scan# 288
Delta R.T. -0.01 min
Lab File: 0113L156.D
Acq: 24 Jan 20 14:49

Tgt Ion:141 Resp: 480944

Ion	Ratio	Lower	Upper
141	100		
142	120.4	85.8	159.4

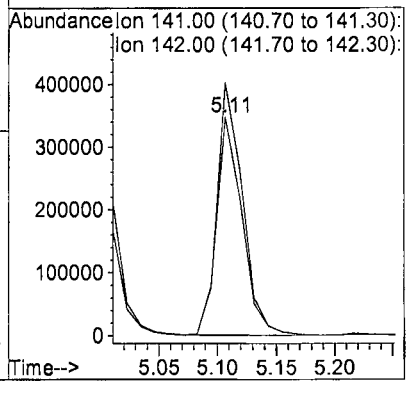


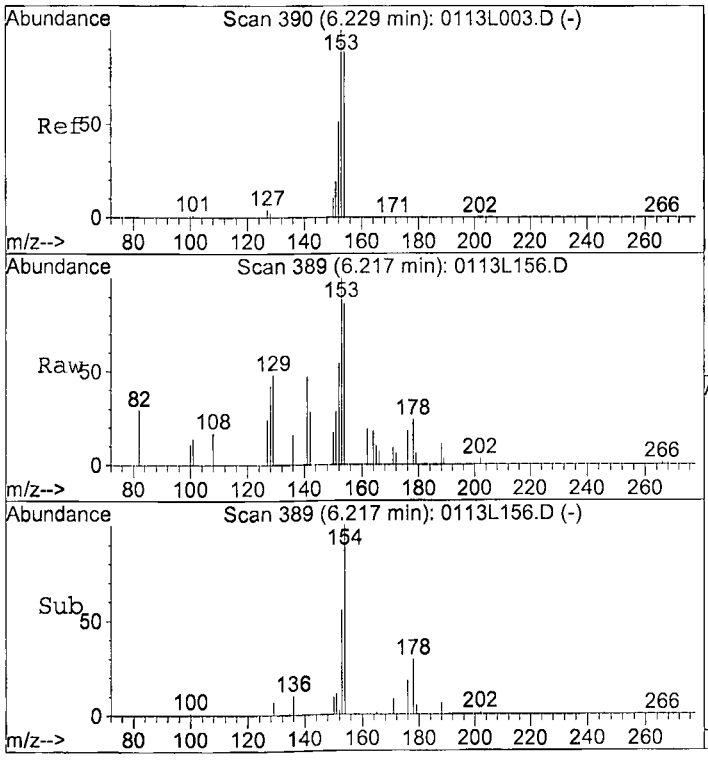


#6
1-Methylnaphthalene
Concen: 23.97229 ppb
RT: 5.11 min Scan# 297
Delta R.T. -0.01 min
Lab File: 0113L156.D
Acq: 24 Jan 20 14:49

Tgt Ion:141 Resp: 516040

Ion	Ratio	Lower	Upper
141	100		
142	116.0	81.9	152.1

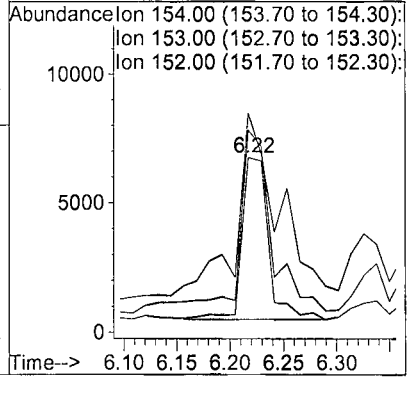


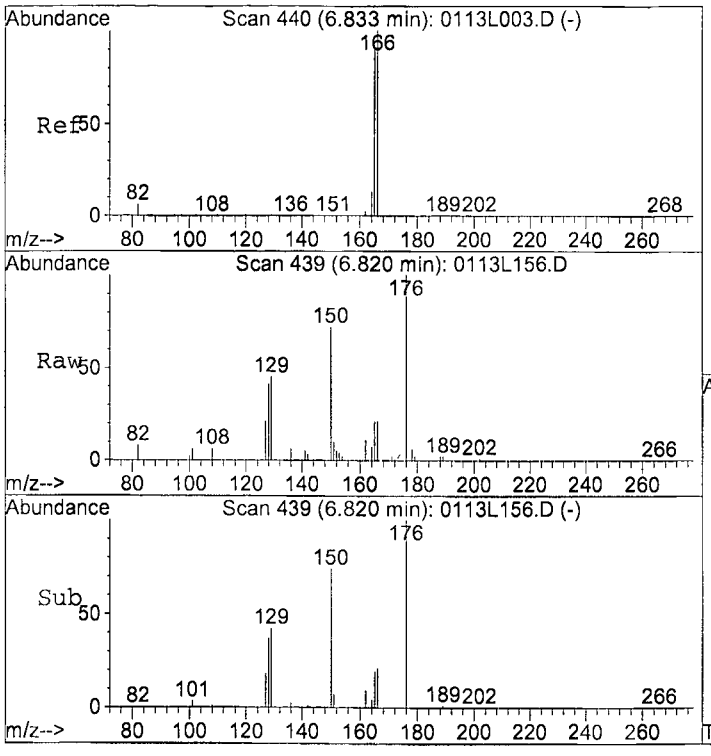


#10
Acenaphthene
Concen: 0.42187 ppb
RT: 6.22 min Scan# 389
Delta R.T. -0.01 min
Lab File: 0113L156.D
Acq: 24 Jan 20 14:49

Tgt Ion:154 Resp: 10694

Ion	Ratio	Lower	Upper
154	100		
153	111.8	76.2	141.6
152	106.9	76.9	142.9

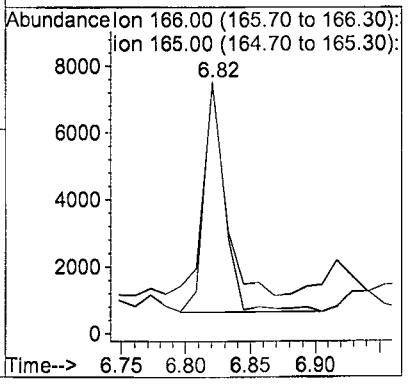




#11
Fluorene
Concen: 0.23472 ppb
RT: 6.82 min Scan# 439
Delta R.T. -0.01 min
Lab File: 0113L156.D
Acq: 24 Jan 20 14:49

Tgt Ion:166 Resp: 7442

Ion	Ratio	Lower	Upper
166	100		
165	87.9	64.4	119.6



Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L200113P\0113L157.D Vial: 57
Acq On : 24 Jan 20 15:11 Operator: MA
Sample : BA06141W14 1/800 Inst : Linus
Misc : Multiplr: 1.25

Quant Time: Jan 24 15:30 2020 Quant Results File: L0113PCP.RES

Quant Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 10:14:53 2020
Response via : Initial Calibration
DataAcq Meth : SIM_2

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	4.19	136	113654	2.50000 ppb	-0.01
7) Acenaphthene-D10(IS)	6.18	164	63586	2.50000 ppb	-0.01
13) Phenanthrene-D10(IS)	7.91	188	120989	2.50000 ppb	-0.01
18) Chrysene-D12(IS)	11.01	240	156513	2.50000 ppb	-0.03
24) Perylene-D12(IS)	13.43	264	186864	2.50000 ppb	-0.03
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	3.41	82	1095031	98.62418 ppb	0.00
Spiked Amount 6.250			Recovery	= 1577.984%	
4) 2-methylnaphthalene-D10 (2	4.96	152	240414	5.40151 ppb	-0.01
Spiked Amount 6.250			Recovery	= 86.432%	
8) Surrogate Recovery (FBP)	5.43	172	2681658	78.80570 ppb	0.00
Spiked Amount 6.250			Recovery	= 1260.896%	
16) Fluoranthene-D10 (FRT)	9.28	212	310411	5.45314 ppb	-0.02
Spiked Amount 6.250			Recovery	= 87.248%	
20) Surrogate Recovery (TPH)	9.78	244	4384322	83.10075 ppb	-0.01
Spiked Amount 6.250			Recovery	= 1329.616%	

Target Compounds Qvalue

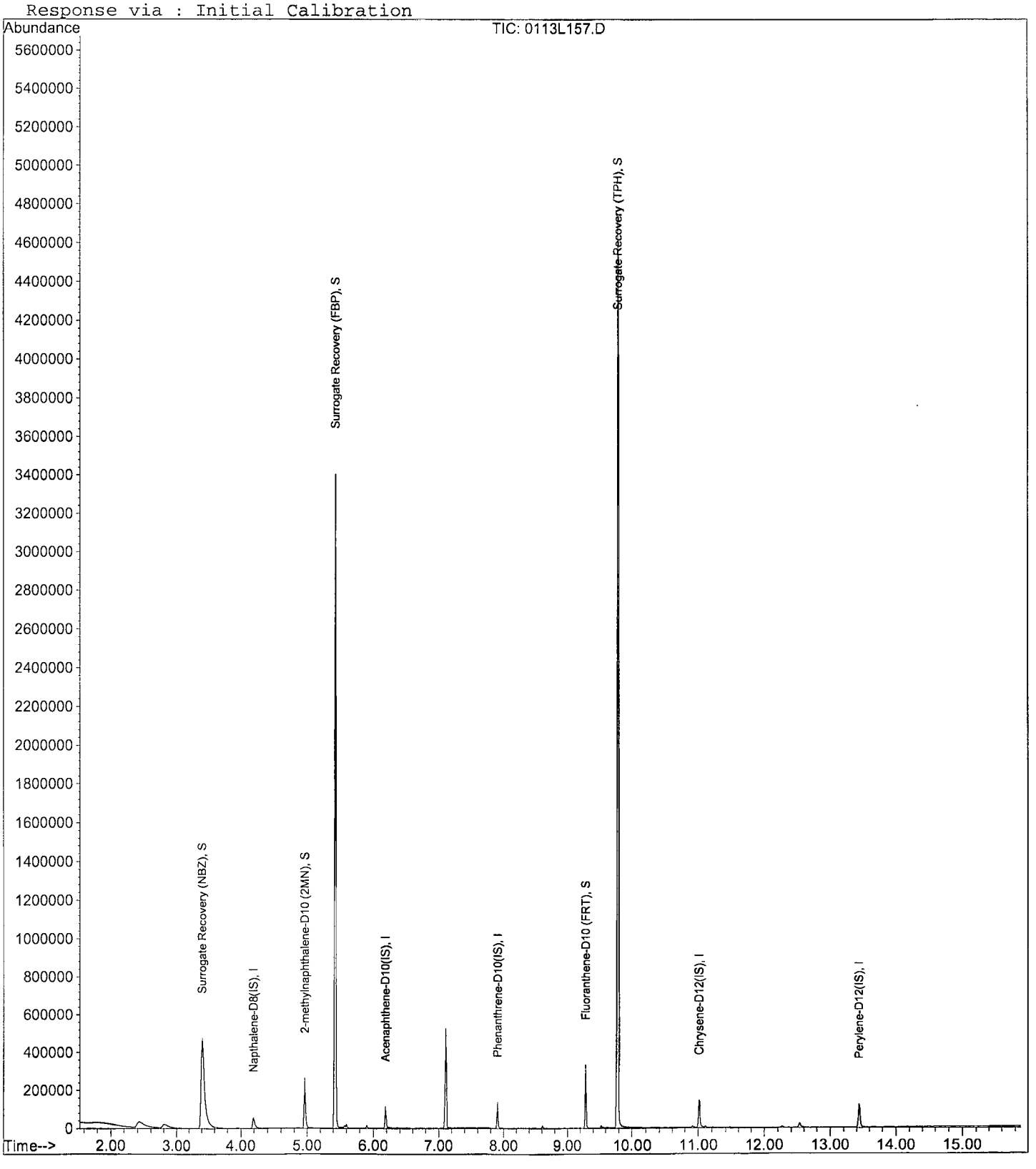
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L200113P\0113L157.D Vial: 57
Acq On : 24 Jan 20 15:11 Operator: MA
Sample : BA06141W14 1/800 Inst : Linus
Misc : Multiplr: 1.25

Quant Time: Jan 24 15:30 2020 Quant Results File: L0113PCP.RES

Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 10:14:53 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L200113P\0113L158.D Vial: 58
Acq On : 24 Jan 20 15:33 Operator: MA
Sample : BA06143W13 1/800 Inst : Linus
Misc : Multiplr: 1.25

Quant Time: Jan 24 16:03 2020 Quant Results File: L0113PCP.RES

Quant Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 10:14:53 2020
Response via : Initial Calibration
DataAcq Meth : SIM_2

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	4.19	136	115888	2.50000 ppb	-0.01
7) Acenaphthene-D10(IS)	6.18	164	64602	2.50000 ppb	-0.01
13) Phenanthrene-D10(IS)	7.91	188	120668	2.50000 ppb	-0.01
18) Chrysene-D12(IS)	11.01	240	159629	2.50000 ppb	-0.03
24) Perylene-D12(IS)	13.43	264	186207	2.50000 ppb	-0.03
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	3.41	82	978514	86.43115 ppb	0.00
Spiked Amount 6.250			Recovery	= 1382.896%	
4) 2-methylnaphthalene-D10 (2	4.96	152	221744	4.88600 ppb	-0.01
Spiked Amount 6.250			Recovery	= 78.176%	
8) Surrogate Recovery (FBP)	5.43	172	2584304	74.75037 ppb	0.00
Spiked Amount 6.250			Recovery	= 1196.000%	
16) Fluoranthene-D10 (FRT)	9.28	212	311015	5.47828 ppb	-0.02
Spiked Amount 6.250			Recovery	= 87.648%	
20) Surrogate Recovery (TPH)	9.78	244	4539776	84.36757 ppb	-0.01
Spiked Amount 6.250			Recovery	= 1349.888%	

Target Compounds Qvalue

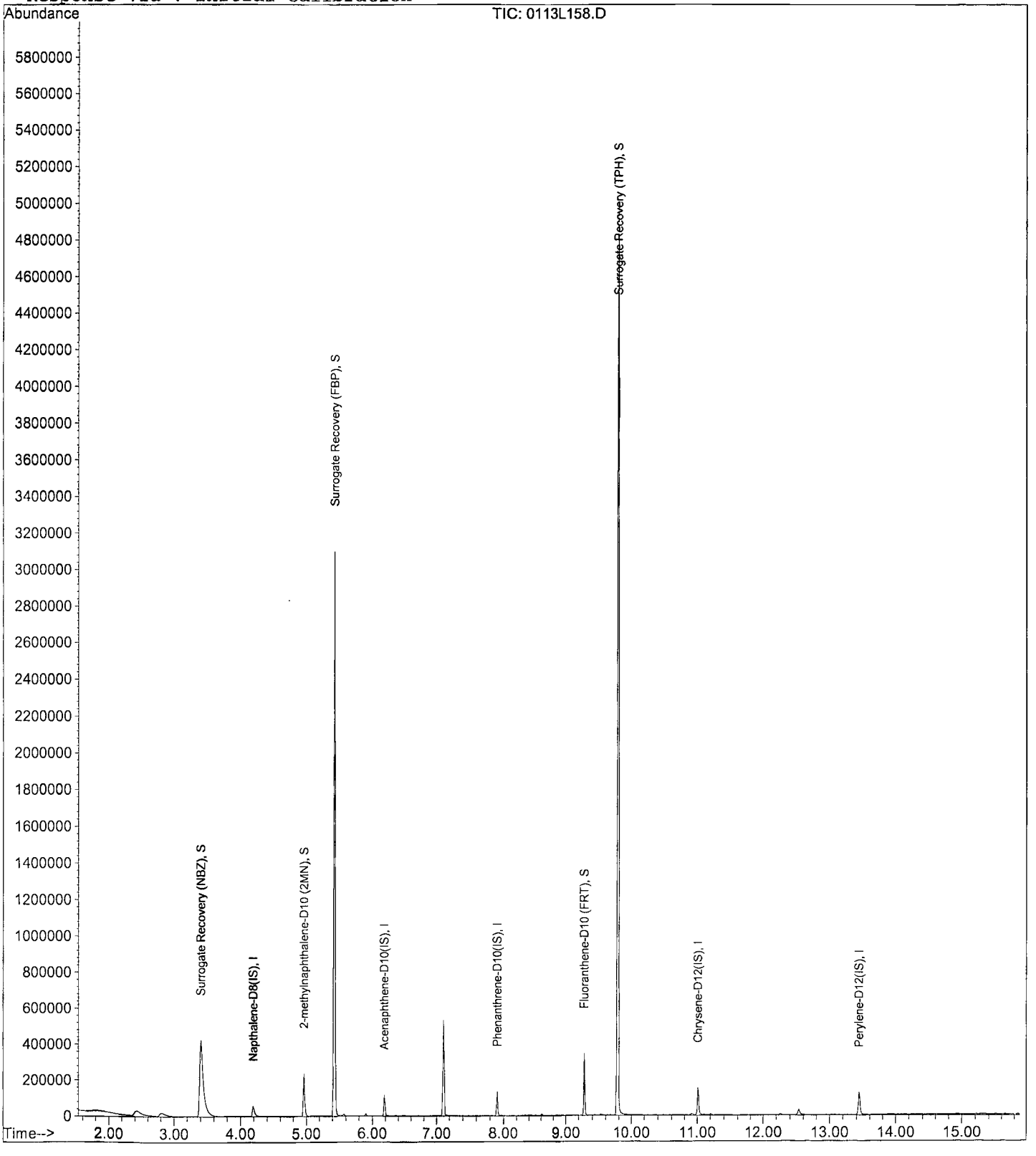
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L200113P\0113L158.D Vial: 58
Acq On : 24 Jan 20 15:33 Operator: MA
Sample : BA06143W13 1/800 Inst : Linus
Misc : Multiplr: 1.25

Quant Time: Jan 24 16:03 2020 Quant Results File: L0113PCP.RES

Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 10:14:53 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L200113P\0113L151.D Vial: 51
Acq On : 24 Jan 20 12:59 Operator: MA
Sample : 200122A BLK 1/800 Inst : Linus
Misc : Multiplr: 1.25

Quant Time: Jan 24 13:20 2020 Quant Results File: L0113PCP.RES

Quant Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 10:14:53 2020
Response via : Initial Calibration
DataAcq Meth : SIM_2

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	4.19	136	121568	2.50000 ppb	-0.01
7) Acenaphthene-D10(IS)	6.18	164	67630	2.50000 ppb	-0.01
13) Phenanthrene-D10(IS)	7.91	188	127184	2.50000 ppb	-0.01
18) Chrysene-D12(IS)	11.02	240	166397	2.50000 ppb	-0.02
24) Perylene-D12(IS)	13.45	264	195684	2.50000 ppb	-0.02
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	3.41	82	1101288	92.73066 ppb	0.00
Spiked Amount 6.250			Recovery	= 1483.696%	
4) 2-methylnaphthalene-D10 (2	4.96	152	244877	5.14362 ppb	-0.01
Spiked Amount 6.250			Recovery	= 82.304%	
8) Surrogate Recovery (FBP)	5.43	172	2762166	76.31785 ppb	0.00
Spiked Amount 6.250			Recovery	= 1221.088%	
16) Fluoranthene-D10 (FRT)	9.28	212	317121	5.29966 ppb	-0.02
Spiked Amount 6.250			Recovery	= 84.800%	
20) Surrogate Recovery (TPH)	9.79	244	4675058	83.34785 ppb	0.00
Spiked Amount 6.250			Recovery	= 1333.568%	

Target Compounds Qvalue

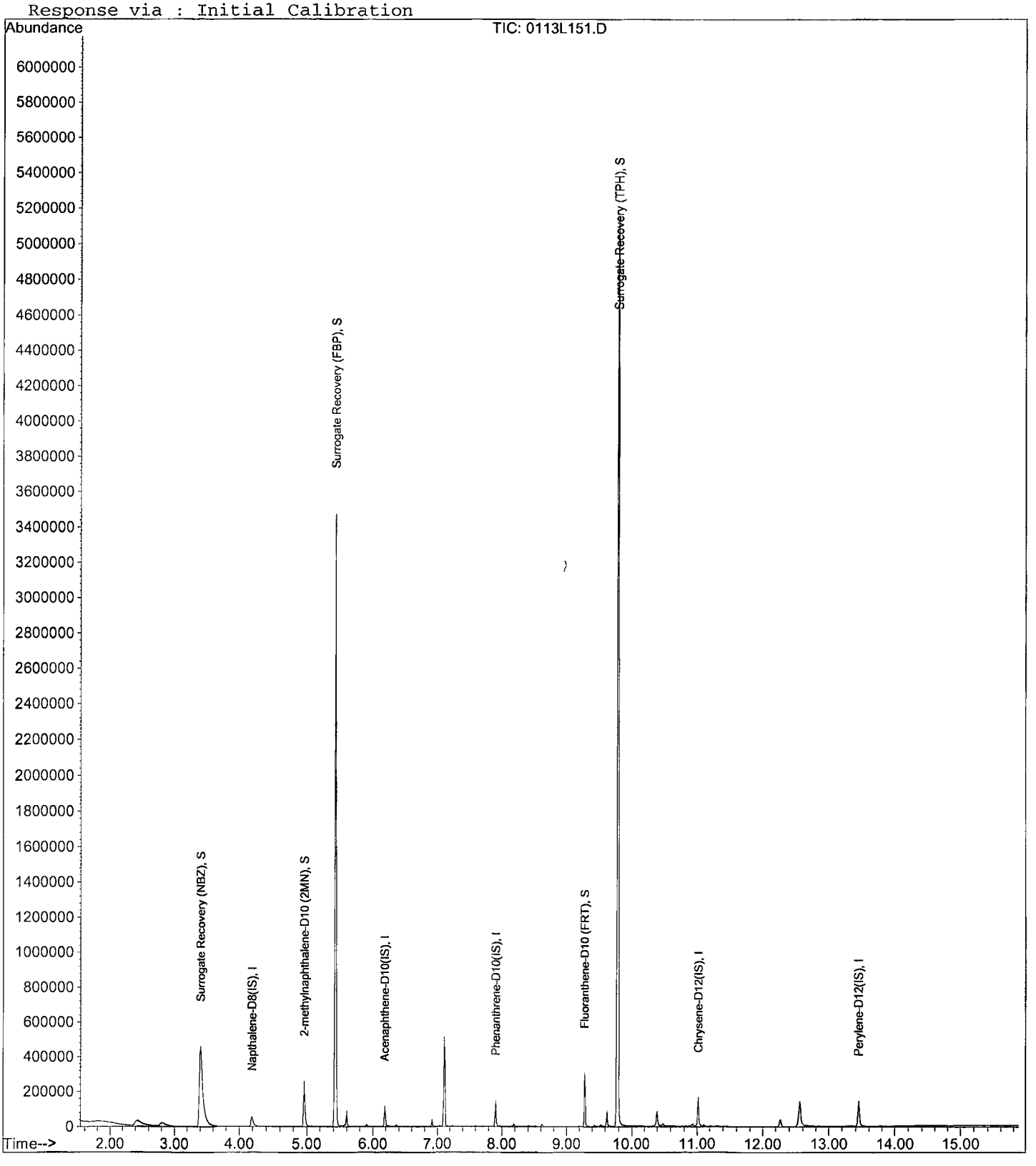
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L200113P\0113L151.D Vial: 51
Acq On : 24 Jan 20 12:59 Operator: MA
Sample : 200122A BLK 1/800 Inst : Linus
Misc : Multiplr: 1.25

Quant Time: Jan 24 13:20 2020 Quant Results File: L0113PCP.RES

Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 10:14:53 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L200113P\0113L152.D Vial: 52
Acq On : 24 Jan 20 13:21 Operator: MA
Sample : 200122A LCS-2 1/800 Inst : Linus
Misc : Multiplr: 1.25

Quant Time: Jan 24 13:37 2020 Quant Results File: L0113PCP.RES

Quant Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 10:14:53 2020
Response via : Initial Calibration
DataAcq Meth : SIM_2

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Napthalene-D8(IS)	4.19	136	113076	2.50000 ppb		-0.01
7) Acenaphthene-D10(IS)	6.18	164	61444	2.50000 ppb		-0.01
13) Phenanthrene-D10(IS)	7.91	188	117922	2.50000 ppb		-0.01
18) Chrysene-D12(IS)	11.01	240	152812	2.50000 ppb		-0.03
24) Perylene-D12(IS)	13.43	264	176072	2.50000 ppb		-0.03
System Monitoring Compounds						
2) Surrogate Recovery (NBZ)	3.35	82	575	0.05205 ppb		-0.06
Spiked Amount 6.250			Recovery	= 0.832%		
4) 2-methylnaphthalene-D10 (2	4.96	152	245175	5.53664 ppb		-0.01
Spiked Amount 6.250			Recovery	= 88.592%		
8) Surrogate Recovery (FBP)	5.38	172	83	0.00252 ppb		-0.05
Spiked Amount 6.250			Recovery	= 0.048%		
16) Fluoranthene-D10 (FRT)	9.28	212	327339	5.90008 ppb		-0.02
Spiked Amount 6.250			Recovery	= 94.400%		
20) Surrogate Recovery (TPH)	9.77	244	1926	0.03739 ppb		-0.02
Spiked Amount 6.250			Recovery	= 0.592%		
Target Compounds						Qvalue
3) Naphthalene	4.21	128	203198	5.26940 ppb		100
5) 2-Methylnaphthalene	5.00	141	115957	5.45635 ppb		100
6) 1-Methylnaphthalene	5.11	141	121240	5.43588 ppb		100
9) Acenaphthylene	6.02	152	455523	5.25865 ppb		100
10) Acenaphthene	6.22	154	132022	5.17932 ppb		98
11) Fluorene	6.82	166	175351	5.49993 ppb		97
12) Pentachlorophenol	7.71	266	291	0.87066 ppb		91
14) Phenanthrene	7.93	178	256477	5.98045 ppb		99
15) Anthracene	7.99	178	223597	5.57655 ppb		99
17) Fluoranthene	9.30	202	357330	5.78233 ppb		97
19) Pyrene	9.57	202	367461	5.94730 ppb		97
21) Benz (a) anthracene	11.00	228	354126	5.63544 ppb		99
22) Chrysene	11.05	228	353915	5.85494 ppb		98
23) Indeno (1,2,3-cd) pyrene	14.92	276	465514	6.22000 ppb	#	91
25) Benzo (b) fluoranthene	12.79	252	412478	6.27516 ppb		99
26) Benzo (k) fluoranthene	12.85	252	366132	6.05528 ppb		100
27) Benzo (a) pyrene	13.35	252	341759	5.65281 ppb		99
28) Dibenz (a,h) anthracene	14.97	278	397546	6.37426 ppb		98
29) Benzo (g,h,i) perylene	15.29	276	402133	6.52559 ppb		97

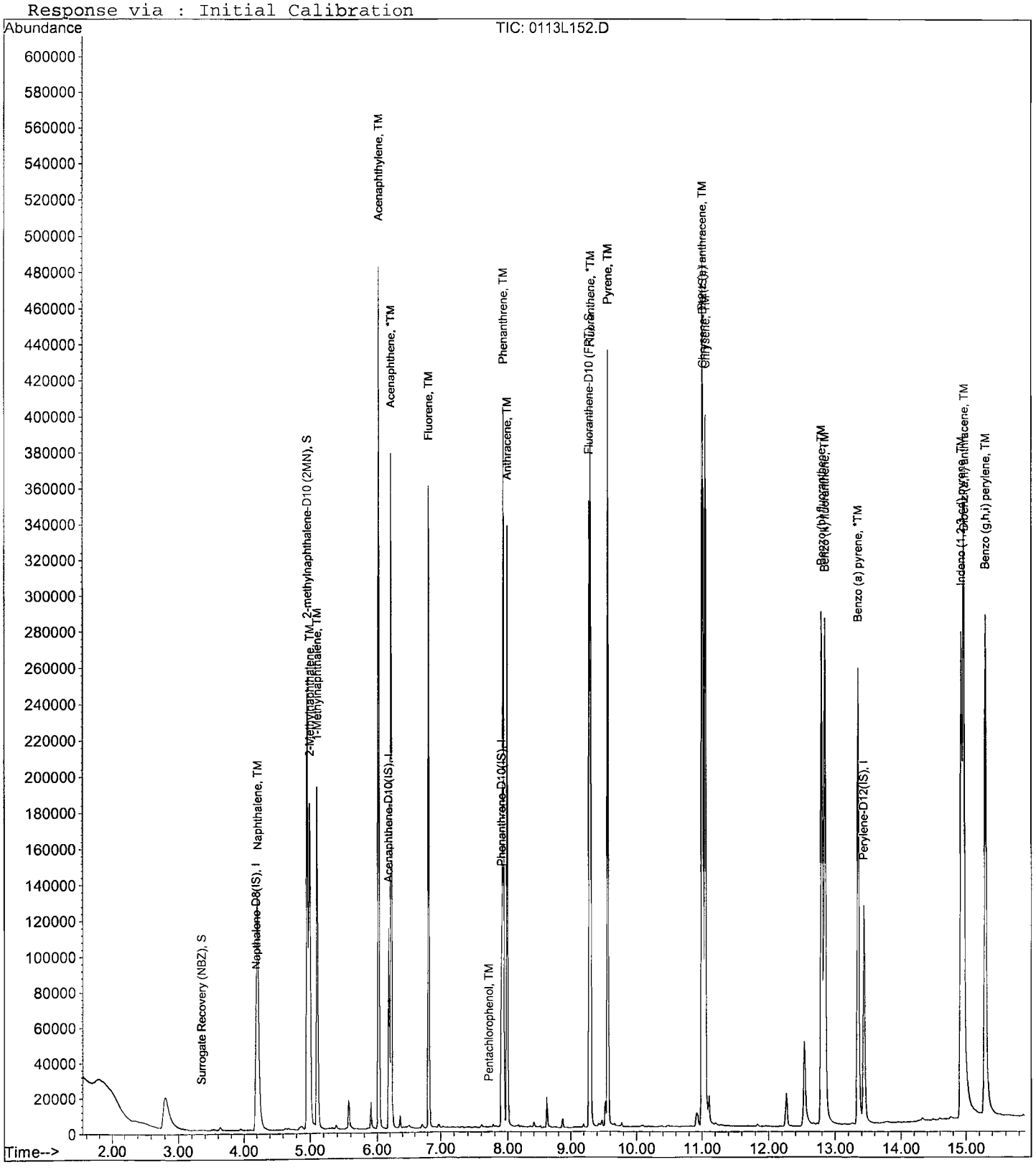
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L200113P\0113L152.D Vial: 52
Acq On : 24 Jan 20 13:21 Operator: MA
Sample : 200122A LCS-2 1/800 Inst : Linus
Misc : Multiplr: 1.25

Quant Time: Jan 24 13:37 2020 Quant Results File: L0113PCP.RES

Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 10:14:53 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L200113P\0113L153.D Vial: 53
Acq On : 24 Jan 20 13:43 Operator: MA
Sample : 200122A LCSD-2 1/800 Inst : Linus
Misc : Multiplr: 1.25

Quant Time: Jan 24 14:16 2020 Quant Results File: L0113PCP.RES

Quant Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 10:14:53 2020
Response via : Initial Calibration
DataAcq Meth : SIM_2

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Napthalene-D8(IS)	4.19	136	118054	2.50000 ppb		-0.01
7) Acenaphthene-D10(IS)	6.18	164	65234	2.50000 ppb		-0.01
13) Phenanthrene-D10(IS)	7.91	188	124230	2.50000 ppb		-0.01
18) Chrysene-D12(IS)	11.01	240	161641	2.50000 ppb		-0.03
24) Perylene-D12(IS)	13.43	264	188234	2.50000 ppb		-0.03
System Monitoring Compounds						
2) Surrogate Recovery (NBZ)	3.37	82	668	0.05792 ppb		-0.04
Spiked Amount 6.250			Recovery =	0.928%		
4) 2-methylnaphthalene-D10 (2	4.96	152	259402	5.61091 ppb		-0.01
Spiked Amount 6.250			Recovery =	89.776%		
8) Surrogate Recovery (FBP)	5.38	172	80	0.00229 ppb		-0.05
Spiked Amount 6.250			Recovery =	0.032%		
16) Fluoranthene-D10 (FRT)	9.28	212	327839	5.60905 ppb		-0.02
Spiked Amount 6.250			Recovery =	89.744%		
20) Surrogate Recovery (TPH)	9.77	244	635	0.01165 ppb		-0.02
Spiked Amount 6.250			Recovery =	0.192%		
Target Compounds						Qvalue
3) Naphthalene	4.21	128	218953	5.43854 ppb		100
5) 2-Methylnaphthalene	5.00	141	123229	5.55402 ppb		99
6) 1-Methylnaphthalene	5.11	141	127403	5.47133 ppb		99
9) Acenaphthylene	6.02	152	472249	5.13500 ppb		100
10) Acenaphthene	6.22	154	137385	5.07658 ppb		99
11) Fluorene	6.82	166	178486	5.27301 ppb		97
12) Pentachlorophenol	7.71	266	164	0.85268 ppb		83
14) Phenanthrene	7.93	178	266107	5.88993 ppb		99
15) Anthracene	7.99	178	230316	5.45245 ppb		99
17) Fluoranthene	9.30	202	360552	5.53821 ppb		95
19) Pyrene	9.57	202	376588	5.76210 ppb		97
21) Benz (a) anthracene	11.00	228	358808	5.39806 ppb		99
22) Chrysene	11.05	228	362496	5.66934 ppb		99
23) Indeno (1,2,3-cd) pyrene	14.92	276	481127	6.07748 ppb	#	89
25) Benzo (b) fluoranthene	12.79	252	419127	5.96433 ppb		99
26) Benzo (k) fluoranthene	12.85	252	382806	5.91994 ppb		100
27) Benzo (a) pyrene	13.35	252	353892	5.47529 ppb		99
28) Dibenz (a,h) anthracene	14.96	278	411992	6.17907 ppb	#	97
29) Benzo (g,h,i) perylene	15.29	276	413719	6.27983 ppb		97

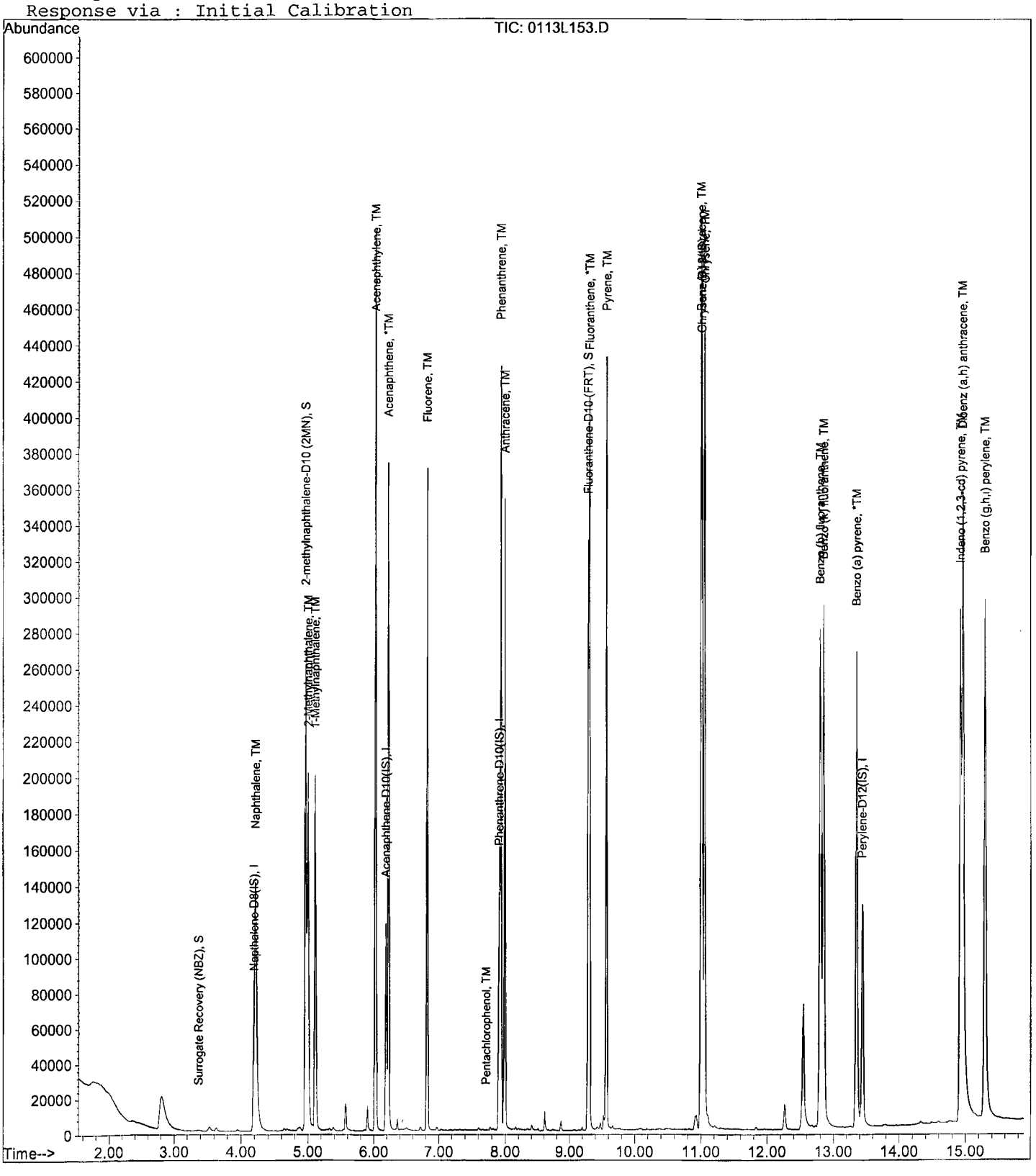
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L200113P\0113L153.D Vial: 53
Acq On : 24 Jan 20 13:43 Operator: MA
Sample : 200122A LCSD-2 1/800 Inst : Linus
Misc : Multiplr: 1.25

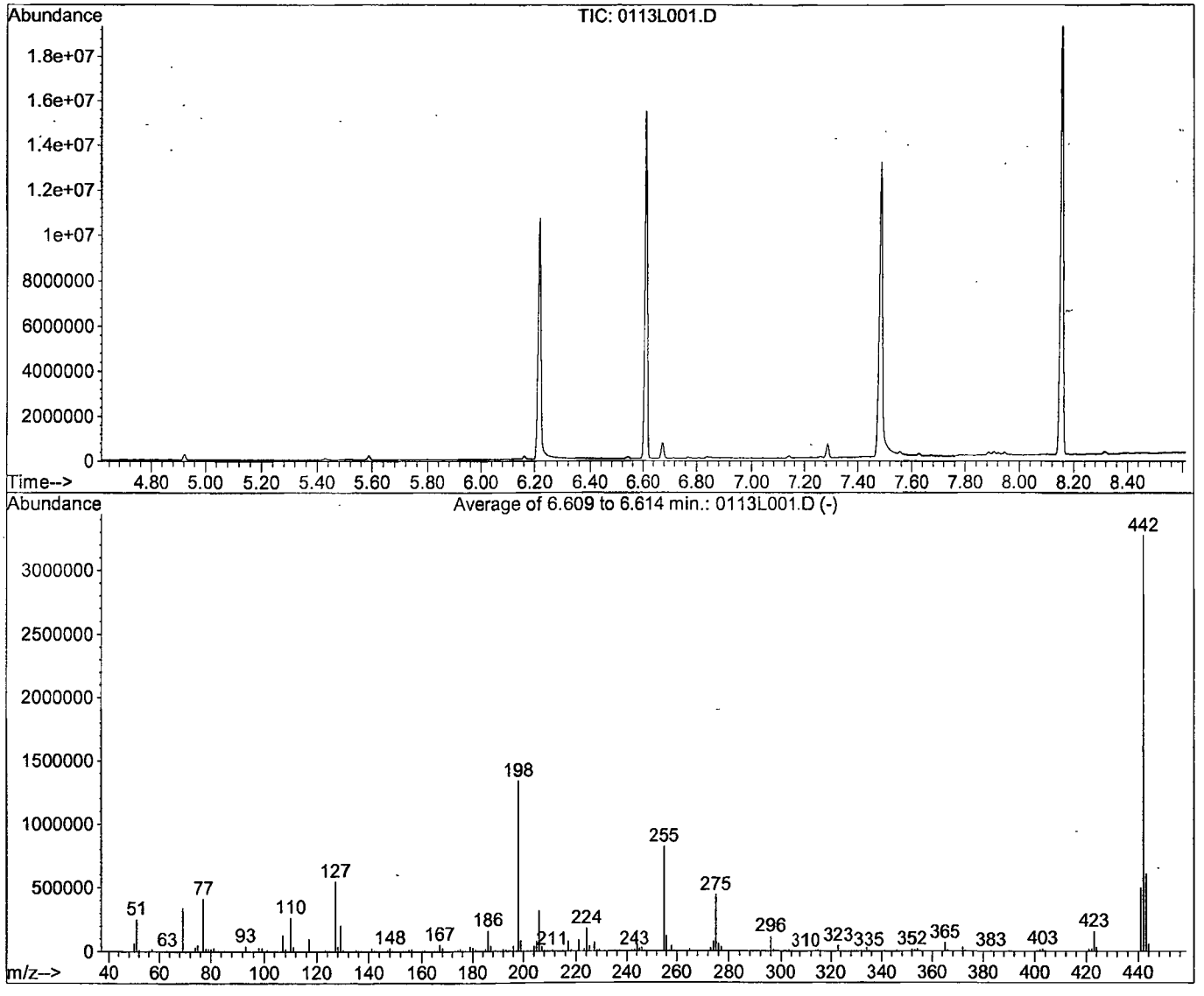
Quant Time: Jan 24 14:16 2020 Quant Results File: L0113PCP.RES

Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 10:14:53 2020
Response via : Initial Calibration



Data File : M:\LINUS\DATA\L200113P\0113L001.D Vial: 86
Acq On : 13 Jan 20 13:07 Operator: MA
Sample : SV Tune 10/01/19 Inst : Linus
Misc : Multiplr: 1.00

Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270



Spectrum Information: Average of 6.609 to 6.614 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	19.0	255177	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.3	1117	PASS
127	198	10	80	41.1	551011	PASS
197	198	0.00	2	0.0	0	PASS
198	198	100	100	100.0	1340245	PASS
199	198	5	9	6.5	87608	PASS
275	198	10	60	33.0	442112	PASS
365	198	1	100	5.1	68096	PASS
441	442	0.01	24	15.2	497451	PASS
442	198	50	500	244.5	3276971	PASS
443	442	15	24	18.6	609451	PASS

Data File Name:	**0113L001.D**
Data File Path:	**M:\LINUS\DATA\L200113P**
Operator:	**MA**
Date Acquired:	**13 Jan 2020 13:07**
Method File:	**DFTPP2.M**
Sample Name:	**SV Tune 10/01/19**
Vial Number:	**86**
Instrument Name:	**Linus**

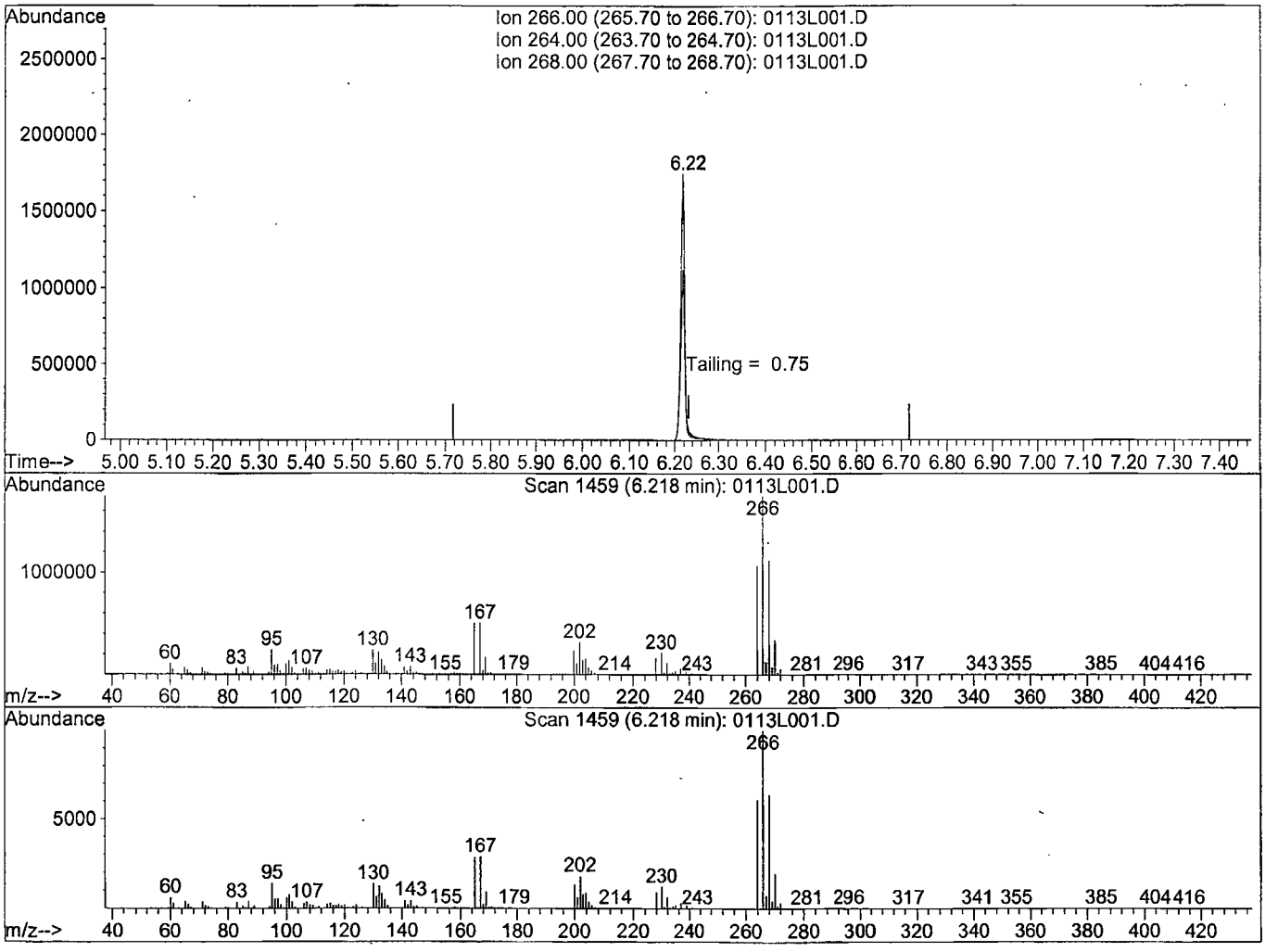
#	Name	Ret Time	Target Response
1)	DDT	8.16	137090000
2)	DDD	7.91	1495930
3)	DDE	7.63	676631

Breakdown **1.56**

Quantitation Report

Data File : M:\LINUS\DATA\L200113P\0113L001.D Vial: 86
Acq On : 13 Jan 20 13:07 Operator: MA
Sample : SV Tune 10/01/19 Inst : Linus
Misc : Multiplr: 1.00
Quant Time: Jan 14 10:19 2020 Quant Results File: temp.res

Method : M:\LINUS\DATA\L200113P\DFTPP2.M (Chemstation Integrator)
Title :
Last Update : Tue Jan 14 10:19:04 2020
Response via : Single Level Calibration



TIC: 0113L001.D

(5) Pentachlorophenol

6.22min 0.0000

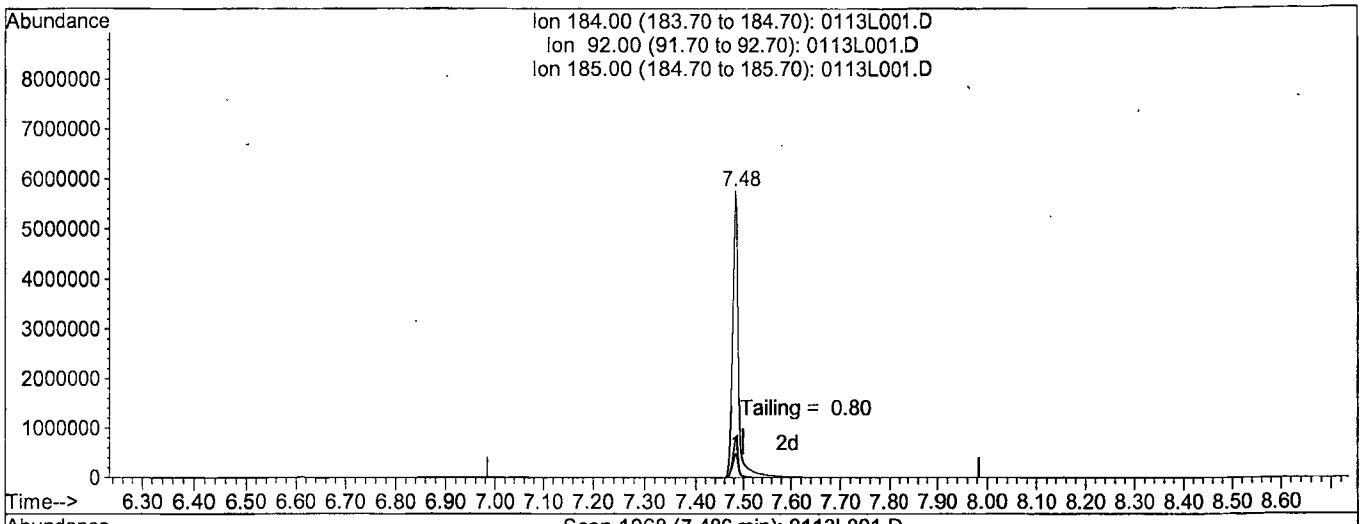
response 11875602

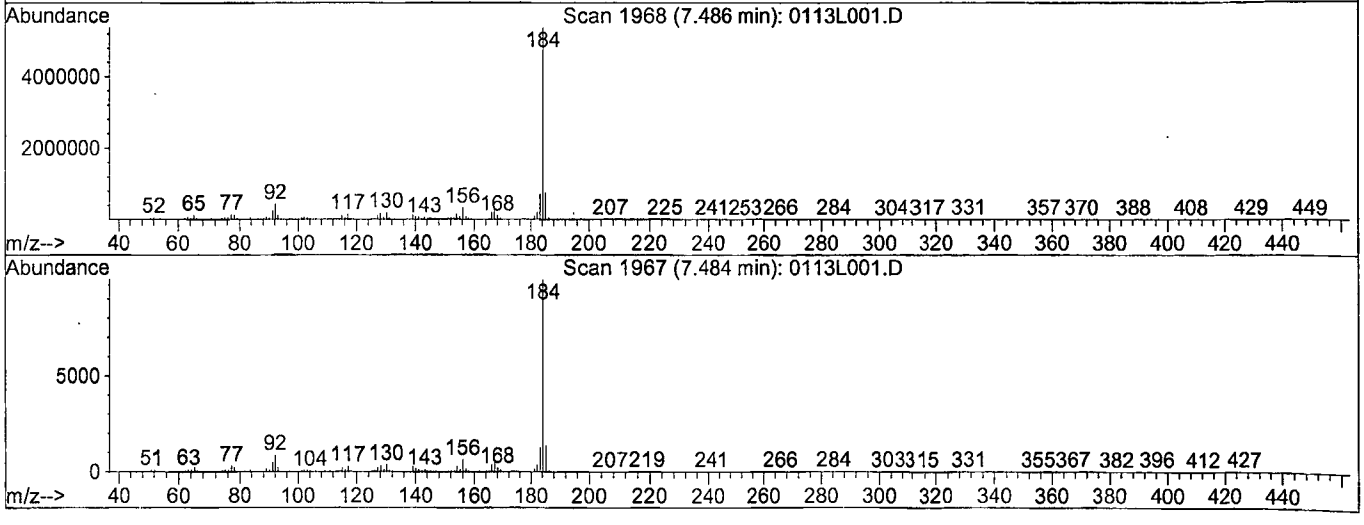
Ion	Exp%	Act%
266.00	100	100
264.00	61.10	61.52
268.00	64.00	64.03
0.00	0.00	0.00

Quantitation Report

Data File : M:\LINUS\DATA\L200113P\0113L001.D Vial: 86
Acq On : 13 Jan 20 13:07 Operator: MA
Sample : SV Tune 10/01/19 Inst : Linus
Misc : Multiplr: 1.00
Quant Time: Jan 14 10:19 2020 Quant Results File: temp.res

Method : M:\LINUS\DATA\L200113P\DFTPP2.M (Chemstation Integrator)
Title :
Last Update : Tue Jan 14 10:19:04 2020
Response via : Single Level Calibration





TIC: 0113L001.D

(6) Benzidine

7.49min 0.0000

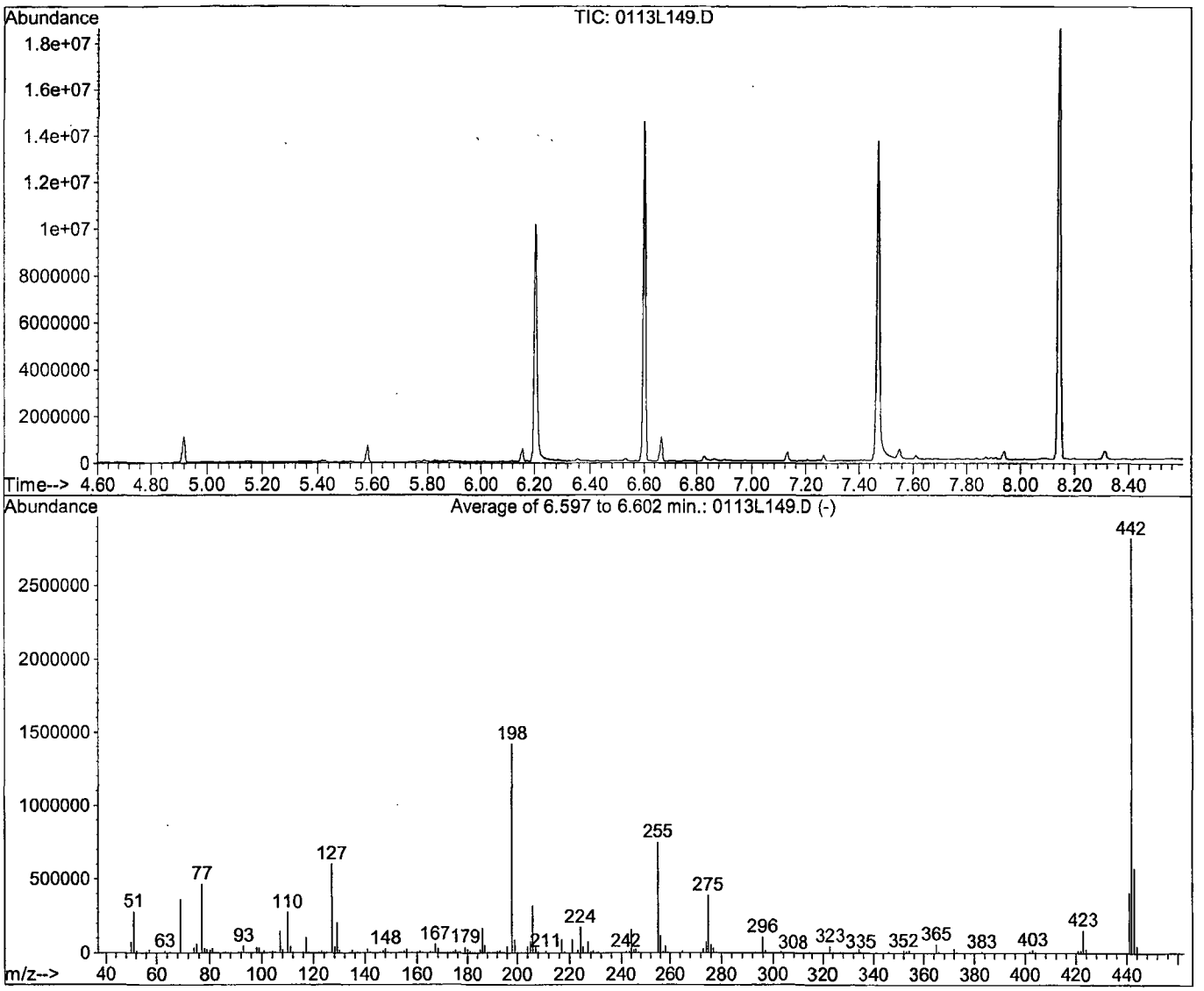
response 49346083

Ion	Exp%	Act%
184.00	100	100
92.00	8.60	8.86
185.00	13.60	13.35
0.00	0.00	0.00

DFTPP

Data File : M:\LINUS\DATA\L200113P\0113L149.D Vial: 49
Acq On : 24 Jan 20 12:03 Operator: MA
Sample : SV TUNE 10/01/19 Inst : Linus
Misc : Multiplr: 1.00

Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270



AutoFind: Scans 1611, 1612, 1613; Background Corrected with Scan 1602

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	19.8	281255	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.2	731	PASS
127	198	10	80	42.4	603249	PASS
197	198	0.00	2	0.0	0	PASS
198	198	100	100	100.0	1422507	PASS
199	198	5	9	6.2	88016	PASS
275	198	10	60	27.5	391659	PASS
365	198	1	100	4.2	59472	PASS
441	442	0.01	24	14.5	409557	PASS
442	198	50	500	198.6	2825387	PASS
443	442	15	24	20.5	578389	PASS

Data File Name:	**0113L149.D**
Data File Path:	**M:\LINUS\DATA\L200113P**
Operator:	**MA**
Date Acquired:	**24 Jan 2020 12:03**
Method File:	**DFTPP2.M**
Sample Name:	**SV TUNE 10/01/19**
Vial Number:	**49**
Instrument Name:	**Linus**

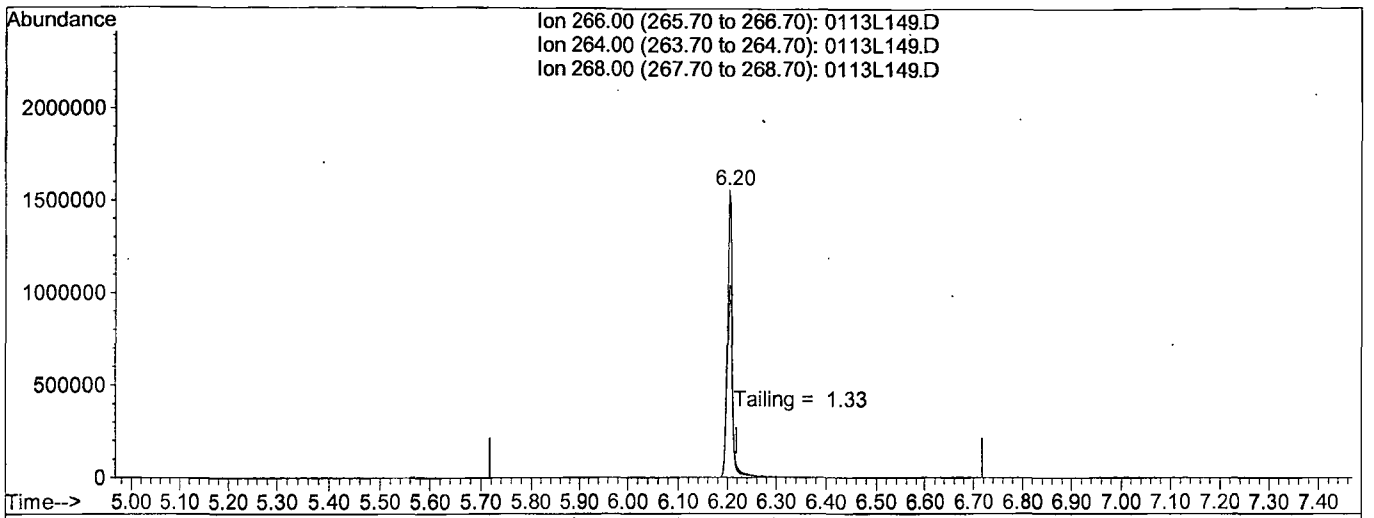
#	Name	Ret Time	Target Response
1)	DDT	8.16	134312000
2)	DDD	7.91	743128
3)	DDE	7.63	1139810

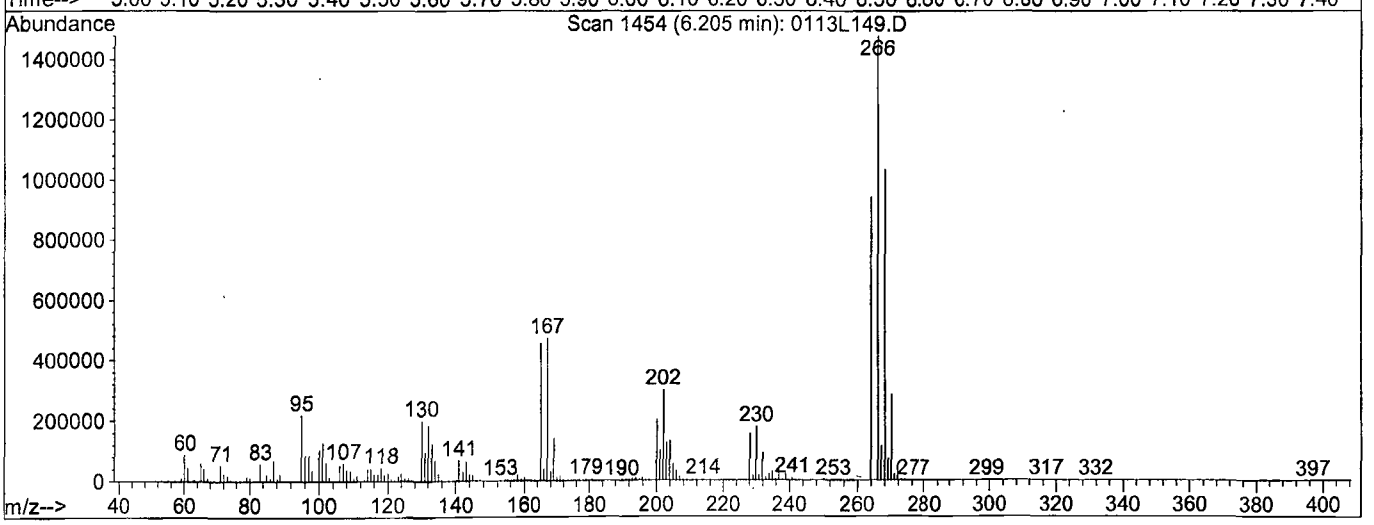
Breakdown **1.38**

Quantitation Report

Data File : M:\LINUS\DATA\L200113P\0113L149.D Vial: 49
Acq On : 24 Jan 20 12:03 Operator: MA
Sample : SV TUNE 10/01/19 Inst : Linus
Misc : Multiplr: 1.00
Quant Time: Jan 24 12:32 2020 Quant Results File: temp.res

Method : M:\LINUS\DATA\L200113P\DFTPP2.M (Chemstation Integrator)
Title :
Last Update : Tue Jan 14 10:19:04 2020
Response via : Single Level Calibration





TIC: 0113L149.D

(5) Pentachlorophenol

6.20min 0.0000

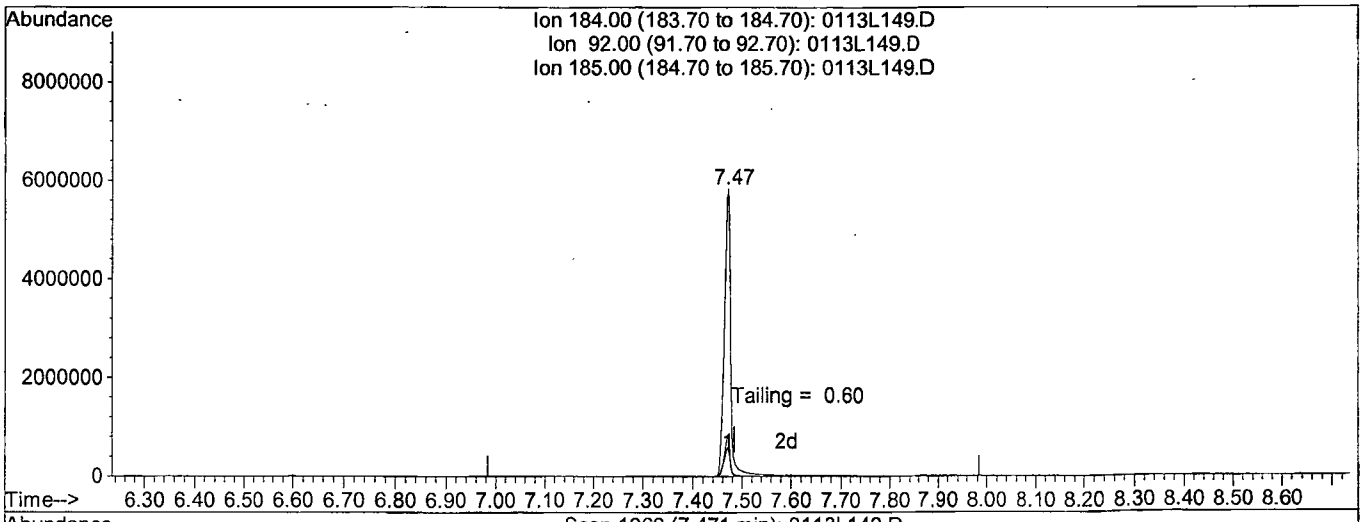
response 10934609

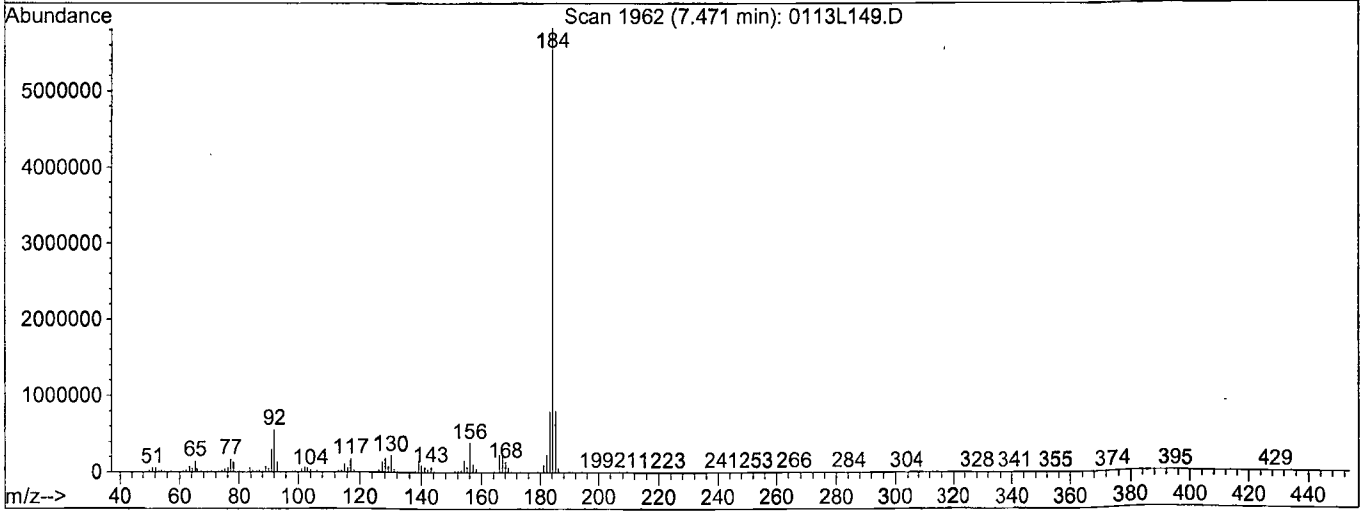
Ion	Exp%	Act%
266.00	100	100
264.00	61.10	62.80
268.00	64.00	69.64
0.00	0.00	0.00

Quantitation Report

Data File : M:\LINUS\DATA\L200113P\0113L149.D Vial: 49
Acq On : 24 Jan 20 12:03 Operator: MA
Sample : SV TUNE 10/01/19 Inst : Linus
Misc : Multiplr: 1.00
Quant Time: Jan 24 12:32 2020 Quant Results File: temp.res

Method : M:\LINUS\DATA\L200113P\DFTPP2.M (Chemstation Integrator)
Title :
Last Update : Tue Jan 14 10:19:04 2020
Response via : Single Level Calibration





TIC: 0113L149.D

(6) Benzidine

7.47min 0.0000

response 49398168

Ion	Exp%	Act%
184.00	100	100
92.00	8.60	9.50
185.00	13.60	12.92
0.00	0.00	0.00

Name of Final Standard	Semivolatile (SV) Tuning Solution	Prep'd By (Initials)	JP
Prep Date	10/01/19		
Exp Date	11/30/20		

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from contianer Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
Semivolatile GC/MS Tuning Standard	Ultra Scientific	GCM-150-1	1,000 ug/mL	CR3789A-41241	11/30/20	1,250 uL	25 mL	MC #58240	50 ug/mL

Name of Final Standard	SIM PCP Continuing Calibration	Prep'd By (initials)	JP
Prep Date	01/16/20		
Exp Date	01/24/20		

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from container Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
PAH SIMPCP	APPL	PAH SIMPCP	100 ug/mL	09/10/19	09/10/20	10 uL	200uL	MC DW717 180uL	5.0 ug/mL
SIM 2S SURROGATE	APPL	SIM 2S SURROGATE	100 ug/mL	05/17/19	01/24/20	10 uL	*	*	*
SV Internal Standard	APPL	SV Internal Standard	2000 ug/mL	07/10/19	07/10/20	4 uL	*	*	*

Name of Final Standard	SIM 2S Surrogate	Prep'd By (Initials)	GA
Prep Date	05/17/19		
Exp Date	05/17/20		

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from contianer Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
SIM Surrogate Mix	Restek	33913	2000 ug/mL	A0137718 - 39318	04/30/24	250 uL	5 mL	Acetone #030817A	100 ug/mL
8270 B/N surrog mix	Restek	31086	5000 ug/mL	A0141697 - 40112	08/31/24	100 uL	*	*	*

Name of Final Standard	8270 SIM PAH Internal Standard	Prep'd By (Initials)	GA
Prep Date	07/10/19		
Exp Date	07/10/20		

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from contianer Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
SV Internal Standard	Restek	31206	2000 ug/mL	A0144261-40464	11/30/24	350 uL	5,600 uL	MC 56258 5,250 uL	125 ug/mL

Name of Final Standard	PAH SIM PCP STD	Prep'd By (Initials)	GA
Prep Date	09/07/18		
Exp Date	11/08/19		

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from contianer Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
110780-01	O2SI	110780-01	200 ug/mL	327601-38573	11/08/19	1000 uL	2 mL	MC 56258	100
10018	Absolute	10018	2000 ug/mL	062718-39449	06/27/23	100 uL	*	*	*

Name of Final Standard PAH SIM PCP STD

Prep'd By (Initials) MA

Prep Date 09/10/19
Exp Date 09/10/20

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from contianer Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
PAH SIM	Phenova	ALO-130490	200 ug/mL	**CL13121-41226**	**12/31/22**	1000 uL	2 mL	**MC 58341**	100
10018	Absolute	10018	2000 ug/mL	**051719-41155**	**05/17/24**	100 uL	*	*	*

Name of Final Standard 8270 PAH SIM PCP Second Source

Prep'd By (Initials) MA

Prep Date 09/10/19
Exp Date 11/08/19

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from container Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
PAH SIMPCP SS Stock	O2SI	PAH SIMPCP SS Stock	100 ug/mL	**09/07/18**	**11/08/19**	10 uL	200uL	**MC 56341** 195uL	5 ug/mL
SV Internal Standard	APPL	SV Internal Standard	2000 ug/mL	**07/10/19**	**07/10/20**	4 uL	*	*	*

Name of Final Standard SIM PCP Curve **Prep'd By (Initials)** MA

Prep Date 09/10/19
Exp Date 01/24/20

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from container Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
0.5 ug/mL SIM PCP	APPL	0.5 ug/mL SIM PCP	0.5 ug/mL	09/10/19	01/24/20	20 uL	100uL	MC 58341 80uL	0.1 ug/mL
SV Internal Standard	APPL	SV Internal Standard	2000 ug/mL	07/10/19	07/10/20	2 uL	*	*	*
2.5 ug/mL SIM PCP	APPL	2.5 ug/mL SIM PCP	2.5 ug/mL	09/10/19	01/24/20	10 uL	100uL	MC 58341 90uL	0.25 ug/mL
SV Internal Standard	APPL	SV Internal Standard	2000 ug/mL	07/10/19	07/10/20	2 uL	*	*	*
2.5 ug/mL SIM PCP	APPL	2.5 ug/mL SIM PCP	2.5 ug/mL	09/10/19	01/24/20	20 uL	100uL	MC 58341 80uL	0.5 ug/mL
SV Internal Standard	APPL	SV Internal Standard	2000 ug/mL	07/10/19	07/10/20	2 uL	*	*	*
PAH SIMPCP	APPL	PAH SIMPCP	100 ug/mL	09/10/19	09/10/20	5 uL	200uL	MC 58341 190 uL	2.5 ug/mL
SIM 2S SURROGATE	APPL	SIM 2S SURROGATE	100 ug/mL	05/17/19	01/24/20	5 uL	*	*	*
SV Internal Standard	APPL	SV Internal Standard	2000	07/10/19	07/10/20	4 uL	*	*	*
PAH SIMPCP	APPL	PAH SIMPCP	100 ug/mL	09/10/19	09/10/20	10 uL	200uL	MC 58341 180 uL	5.0 ug/mL
SIM 2S SURROGATE	APPL	SIM 2S SURROGATE	100 ug/mL	05/17/19	01/24/20	10 uL	*	*	*
SV Internal Standard	APPL	SV Internal Standard	2000 ug/mL	07/10/19	07/10/20	4 uL	*	*	*
PAH SIMPCP	APPL	PAH SIMPCP	100 ug/mL	09/10/19	09/10/20	25 uL	100 uL	MC 58341 50 uL	25 ug/mL
SIM 2S SURROGATE	APPL	SIM 2S SURROGATE	100 ug/mL	05/17/19	01/24/20	25 uL	*	*	*
SV Internal Standard	APPL	SV Internal Standard	2000 ug/mL	07/10/19	07/10/20	2 uL	*	*	*
PAH SIMPCP	APPL	PAH SIMPCP	100 ug/mL	09/10/19	09/10/20	50 uL	100uL	na	50 ug/mL
SIM 2S SURROGATE	APPL	SIM 2S SURROGATE	100 ug/mL	05/17/19	01/24/20	50 uL	*	*	*
SV Internal Standard	APPL	SV Internal Standard	2000 ug/mL	07/10/19	07/10/20	2 uL	*	*	*

Organic Extraction Worksheet

Method	Continuous Liquid/Liquid SVOC 3520C	Extraction Set	200122A	Extraction Method	LIQ003	Units	mL

Spiked ID 1	8270T Spike 1-20-20 1-20-21		Surrogate ID 1	8270 Surrogate 11-19-19 11-19-20	
Spiked ID 2	Sim Spike 12-19-19 11-13-20		Surrogate ID 2	SIM Surrogate 12-17-19 12-17-20	
Spiked ID 3			Surrogate ID 3		
Spiked ID 4			Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	NO	
Spiked ID 7			Ext. Start Time:	01/22/20 12:30	
Spiked ID 8			Ext. End Time:	01/24/20 12:35	
			GC Requires Extract By:		

pH1	2	01/22/20 12:45	Water Bath Temp 1 °C	75/74.9 E-WB6 °
pH2	14	01/23/20 14:50	Water Bath Temp 2 °C	
pH3			Water Bath Temp 3 °C	

Spiked By: DL **Date** 01/22/20 **Witnessed By:** KY **Date** 01/22/20

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	200122A Blk				1,0.050	1,2	800	1	2/1	01/22/20 12:30	
						equip	EHP-51 E-WB6				
2	200122A LCS-1		1	1	1	1	800	1	2/1	01/22/20 12:30	
						equip	EHP-50 E-WB6				
3	200122A LCS-2		0.125	2	0.050	2	800	1	2/1	01/22/20 12:30	
						equip	EHP-49 E-WB6				
4	200122A LCSD-1		1	1	1	1	800	1	2/1	01/22/20 12:30	
						equip	EHP-48 E-WB6				
5	200122A LCSD-2		0.125	2	0.050	2	800	1	2/1	01/22/20 12:30	
						equip	EHP-47 E-WB6				
6	BA06136	BA06136W14			1,0.050	1,2	800	1	2/1	01/22/20 12:30	91264
						equip	EHP-25 E-WB6				
7	BA06138	BA06138W13			1,0.050	1,2	800	1	2/1	01/22/20 12:30	91264
						equip	EHP-26 E-WB6				
8	BA06139	BA06139W11			1,0.050	1,2	800	1	2/1	01/22/20 12:30	91264
						equip	EHP-27 E-WB6				
9	BA06141	BA06141W14			1,0.050	1,2	800	1	2/1	01/22/20 12:30	91264
						equip	EHP-28 E-WB6				
10	BA06143	BA06143W13			1,0.050	1,2	800	1	2/1	01/22/20 12:30	91264
						equip	EHP-29 E-WB6				

Solvent and Lot#	
PH Strips	HC863463
Dichloromethane (DCM)	59239
1+1 H2SO4	12-17-19
10N NaOH	11-20-19
Filter Paper	400171
Na2SO4	2019020631

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	MA
Date	
Time	
Refrigerator	GC-C

	Technician's Initials
Scanned By	DL
Sample Preparation	DL
Extraction	DL
Concentration	KY, DS, DL

Modified	01/26/20 7:05:25 AM

Reviewed By: KY **Date** 01/26/20

Injection Log

Directory: M:\LINUS\DATA\L200113P\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	86	0113L001.D	1	SV Tune 10/01/19		13 Jan 20 13:07
2	87	0113L002.D	1	5.0 SIM PCP 09/10/19 (3)		13 Jan 20 14:11
3	88	0113L003.D	1	5.0 SIM PCP 09/10/19 (0)		13 Jan 20 14:59
4	4	0113L004.D	1	0.1 SIM PCP 09/10/19		13 Jan 20 15:43
5	5	0113L005.D	1	0.25 SIM PCP 09/10/19		13 Jan 20 16:05
6	6	0113L006.D	1	0.5 SIM PCP 09/10/19		13 Jan 20 16:26
7	7	0113L007.D	1	2.5 SIM PCP 09/10/19		13 Jan 20 16:48
8	8	0113L008.D	1	25 SIM PCP 09/10/19		13 Jan 20 17:10
9	9	0113L009.D	1	50 SIM PCP 09/10/19		13 Jan 20 17:32
10	10	0113L010.D	1	SS SIM PCP 01/07/20		13 Jan 20 17:54
11	49	0113L149.D	1	SV TUNE 10/01/19		24 Jan 20 12:03
12	50	0113L150.D	1	5ug/mL SIM PCP 01/16/20 (1)		24 Jan 20 12:18
13	51	0113L151.D	1.25	200122A BLK 1/800		24 Jan 20 12:59
14	52	0113L152.D	1.25	200122A LCS-2 1/800		24 Jan 20 13:21
15	53	0113L153.D	1.25	200122A LCSD-2 1/800		24 Jan 20 13:43
16	54	0113L154.D	1.25	BA06136W14 1/800		24 Jan 20 14:05
17	55	0113L155.D	1.25	BA06138W13 1/800		24 Jan 20 14:27
18	56	0113L156.D	1.25	BA06139W11 1/800		24 Jan 20 14:49
19	57	0113L157.D	1.25	BA06141W14 1/800		24 Jan 20 15:11
20	58	0113L158.D	1.25	BA06143W13 1/800		24 Jan 20 15:33
21	59	0113L159.D	1	5ug/mL SIM PCP 01/16/20 (1)		24 Jan 20 16:06

ORGANICS
Calibration Data

Semi-Volatile Analysis by GC-MS
EPA 8270

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Initial Cal. Date: 12/19/19
Matrix: Instrument: Yoda
Initials:

			1219Y004.D	1219Y005.D	1219Y006.D	1219Y007 D	1219Y008 D	1219Y003 D	1219Y009 D	1219Y010.D	1219Y011 D							
		Compound	4	5	10	20	40	50	60	80	91		Avg	%RSD	Type	r^2	Q	MRF
1	I	1,4-dichlorobenzene-D4(IS)	ISTD															
2		1,4-Dioxane	0.5052	0.5856	0.6410	0.5627	0.5805	0.5963	0.6744	0.6671	0.6074		0.60	8.8				
3	TM	n-Nitrosodimethylamine	1.092	1.156	1.069	0.9475	1.038	1.123	1.210	1.250	1.165		1.1	8.3	TM			
4	TM	Pyridine	2.280	2.408	2.771	2.400	2.420	2.500	2.834	2.907	2.763		2.6	8.9	TM			
5	S	2-Fluorophenol (S)	1.525	1.320	1.432	1.300	1.319	1.484	1.561	1.672	1.583		1.5	9.1	S			
6	S	Phenol-D6 (S)	1.895	1.660	1.756	1.615	1.647	1.920	2.000	2.210	2.108		1.9	11	S			
7	*TM	Phenol	1.874	1.910	2.112	1.928	2.040	2.339	2.470	2.610	2.555		2.2	13	*TM			0.800
8	TM	Aniline	1.334	1.308	1.389	1.427	1.419	1.463	1.661	1.551	1.396		1.4	7.6	TM			
9	TM	Bis (2-chloroethyl) ether	0.9219	0.9198	1.036	0.9251	0.9557	1.056	1.119	1.151	1.107		1.0	9.1	TM			0.700
10	TM	2-Chlorophenol	1.386	1.438	1.555	1.396	1.440	1.608	1.703	1.757	1.686		1.6	9.2	TM			0.800
11	TM	1,3-DCB	1.540	1.631	1.750	1.502	1.582	1.715	1.840	1.921	1.849		1.7	8.7	TM			
12	*TM	1,4-DCB	1.544	1.652	1.762	1.558	1.630	1.757	1.903	1.978	1.905		1.7	9.1	*TM			
13	TM	Benzyl alcohol	0.7777	0.8093	0.9119	0.8082	0.8456	0.9912	1.002	1.065	1.018		0.91	12	TM			
14	TM	1,2-DCB	1.448	1.499	1.651	1.429	1.487	1.659	1.774	1.842	1.807		1.6	10.0	TM			
15	TM	2-Methylphenol	1.219	1.234	1.309	1.185	1.252	1.417	1.495	1.568	1.511		1.4	11	TM			0.700
16	TM	Bis (2-chloroisopropyl) ether	1.212	1.245	1.332	1.184	1.244	1.395	1.475	1.549	1.485		1.3	10.0	TM			
17	TM	Acetophenone	2.010	2.013	2.231	2.067	2.158	2.442	2.558	2.698	2.600		2.3	12	TM			0.010
18	TM	3&4-Methylphenol	1.542	1.554	1.716	1.541	1.629	1.904	1.973	2.123	2.050		1.8	13	TM			0.600
19	**TM	n-Nitrosodi-n-propylamine	1.263	1.297	1.414	1.295	1.361	1.591	1.666	1.776	1.701		1.5	13	**TM			0.500
20	TM	Hexachloroethane	0.6270	0.6828	0.7293	0.6605	0.6729	0.7406	0.7887	0.8348	0.8027		0.73	9.8	TM			0.300
21	I	Napthalene-D8(IS)	ISTD															
22	S	Nitrobenzene-D5(S)	0.5318	0.4774	0.4864	0.4745	0.4719	0.4933	0.5032	0.5240	0.5147		0.50	4.5	S			
23	TM	Nitrobenzene	0.4642	0.5003	0.5125	0.4754	0.5054	0.5308	0.5427	0.5516	0.5571		0.52	6.4	TM			0.200
24	TM	Isophorone	0.7546	0.7674	0.8060	0.7539	0.7961	0.8472	0.8485	0.8787	0.8684		0.81	6.0	TM			0.400
25	*TM	2-Nitrophenol	0.1803	0.1912	0.2042	0.1970	0.2076	0.2181	0.2244	0.2306	0.2309		0.21	8.6	*TM			0.100
26	TM	2,4-Dimethylphenol	0.3048	0.3153	0.3305	0.3095	0.3230	0.3472	0.3501	0.3640	0.3704		0.33	7.1	TM			0.200
27	TML	Benzoic acid	0.0946	0.1138	0.1879	0.2336	0.2825	0.2721	0.2855	0.3030	0.3030		0.23	35	TML	0.998		
28	TM	Bis (2-chloroethoxy) methane	0.3781	0.3943	0.4143	0.3907	0.4119	0.4361	0.4454	0.4624	0.4662		0.42	7.6	TM			0.300
29	*TM	2,4-Dichlorophenol	0.2893	0.2989	0.3168	0.3008	0.3208	0.3413	0.3480	0.3629	0.3610		0.33	8.5	*TM			0.200
30	TM	1,2,4-Trichlorobenzene	0.3149	0.3503	0.3569	0.3288	0.3583	0.3733	0.3895	0.4028	0.4041		0.36	8.6	TM			
31	TM	3,4-Dimethylphenol	0.5088	0.4953	0.5614	0.5223	0.5395	0.5890	0.5844	0.6060	0.6089		0.56	7.6	TM			
32	TM	Naphthalene	0.9866	1.025	1.068	1.000	1.055	1.118	1.145	1.187	1.210		1.1	7.4	TM			0.700
33	TM	4-Chloroaniline	0.4130	0.4102	0.4466	0.4160	0.4341	0.4535	0.4589	0.4596	0.4467		0.44	4.6	TM			0.010
34	TM	2,6-Dichlorophenol	0.2696	0.2967	0.3074	0.2937	0.3088	0.3382	0.3396	0.3625	0.3634		0.32	10	TM			
35	TM	Hexachloropropene	0.2671	0.2881	0.2978	0.2893	0.3112	0.3320	0.3401	0.3527	0.3589		0.32	10	TM			

Semi-Volatile Analysis by GC-MS
EPA 8270

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Initial Cal. Date: 12/19/19
Matrix: Instrument: Yoda Initials:

		Compound	4	5	10	20	40	50	60	80	91		Avg	%RSD	Type		Q	
36	*TM	Hexachlorobutadiene	0.2198	0.2305	0.2457	0.2253	0.2401	0.2518	0.2615	0.2734	0.2764		0.25	8.3	*TM			0.010
37	TM	Caprolactum	0.1360	0.1418	0.1459	0.1372	0.1421	0.1515	0.1509	0.1569	0.1569		0.15	5.4	TM			0.010
38	*TM	4-Chloro-3-methylphenol	0.3433	0.3492	0.3767	0.3527	0.3826	0.4117	0.4148	0.4325	0.4262		0.39	8.9	*TM			0.200
39	TM	2-Methylnaphthalene	0.6528	0.6825	0.7189	0.6672	0.7074	0.7659	0.7721	0.8038	0.8214		0.73	8.3	TM			0.400
40	TM	1-Methylnaphthalene	0.6774	0.7258	0.7430	0.6772	0.7340	0.7929	0.8094	0.8459	0.8492		0.76	8.6	TM			
41	I	Acenaphthene-D10(IS)	ISTD															
42	**TML	Hexachlorocyclopentadiene	0.1728	0.2331	0.2484	0.3602	0.4060	0.4718	0.4812	0.5045	0.4482		0.37	33	**TML	0.991		0.050
43	TM	1,2,4,5-Tetrachlorobenzene	0.5593	0.5899	0.5937	0.5643	0.6173	0.6743	0.6677	0.7241	0.7440		0.64	11	TM			0.010
44	*TM	2,4,6-Trichlorophenol	0.3671	0.3707	0.4007	0.3830	0.4055	0.4458	0.4421	0.4627	0.4769		0.42	9.8	*TM			0.200
45	TM	2,4,5-Trichlorophenol	0.4207	0.4236	0.4252	0.4143	0.4421	0.4723	0.4724	0.4964	0.5050		0.45	7.7	TM			0.200
46	S	2-Fluorobiphenyl(S)	1.577	1.423	1.350	1.366	1.373	1.489	1.494	1.591	1.634		1.5	7.2	S			
47	TM	1,1'-Biphenyl	1.395	1.444	1.455	1.418	1.494	1.625	1.612	1.736	1.784		1.6	9.2	TM			0.010
48	TM	2-Chloronaphthalene	1.127	1.156	1.195	1.149	1.201	1.307	1.296	1.382	1.417		1.2	8.5	TM			0.800
49	TM	2-Nitroaniline	0.4167	0.4376	0.4565	0.4486	0.4606	0.5021	0.4976	0.5202	0.5237		0.47	8.1	TM			0.010
50	TM	Dimethyl phthalate	1.422	1.455	1.461	1.410	1.474	1.591	1.590	1.671	1.690		1.5	7.0	TM			0.010
51	TM	2,6-DNT	0.2885	0.2872	0.3086	0.3140	0.3290	0.3597	0.3549	0.3784	0.3815		0.33	11	TM			0.200
52	TM	Acenaphthylene	1.710	1.793	1.808	1.775	1.875	2.023	2.023	2.114	2.167		1.9	8.5	TM			0.900
53	TM	3-Nitroaniline	0.3591	0.3544	0.3786	0.3695	0.3887	0.4218	0.4188	0.4298	0.4424		0.40	8.3	TM			0.010
54	*TM	Acenaphthene	1.085	1.127	1.137	1.078	1.162	1.275	1.255	1.332	1.363		1.2	8.9	*TM			0.900
55	**TML	2,4-Dinitrophenol	0.0287	0.0331	0.0777	0.1240	0.1723	0.1832	0.1984	0.2141	0.2201		0.14	55	**TML	0.993		0.010
56	**TM	4-Nitrophenol	0.0290	0.0284	0.0307	0.0282	0.0302	0.0332	0.0320	0.0336	0.0352		0.03	7.9	**TM			0.010
57	TM	Dibenzofuran	1.623	1.671	1.677	1.629	1.734	1.930	1.924	2.084	2.153		1.8	11	TM			0.800
58	TM	2,4-DNT	0.3958	0.4169	0.4457	0.4462	0.4784	0.5343	0.5256	0.5800	0.5904		0.49	14	TM			0.200
59	TM	2,3,4,6-Tetrachlorophenol	0.2835	0.3006	0.3178	0.3136	0.3386	0.3682	0.3763	0.3904	0.3993		0.34	12	TM			0.010
60	TM	Diethyl phthalate	1.467	1.516	1.534	1.474	1.545	1.655	1.632	1.704	1.733		1.6	6.3	TM			0.010
61	TM	4-Chlorophenyl phenyl ether		0.7633	0.7429	0.7444	0.8104	0.9246	0.9212	1.040	1.072		0.88	15	TM			0.400
62	TM	Fluorene	1.306	1.349	1.363	1.361	1.475	1.673	1.668	1.846	1.932		1.6	15	TM			0.900
63	TM	4-Nitroaniline	0.3151	0.3031	0.3294	0.3142	0.3263	0.3501	0.3462	0.3402	0.3445		0.33	5.0	TM			0.010
64	S	2,4,6-Tribromophenol(S)	0.2342	0.2311	0.2068	0.2116	0.2324	0.2576	0.2590	0.2918	0.3127		0.25	14	S			
65	I	Phenanthrene-D10(IS)	ISTD															
66	TM	4,6-Dinitro-2-methylphenol			0.1237	0.1331	0.1507	0.1615	0.1663	0.1780	0.1783		0.16	14	TM			0.010
67	TM	Diphenyl amine		0.5674	0.5878	0.5670	0.6272	0.6767	0.6917	0.7384	0.7531		0.65	11	TM			
68	*TM	n-Nitrosodiphenylamine		0.5674	0.5878	0.5670	0.6272	0.6767	0.6917	0.7384	0.7531		0.65	11	*TM			0.010
69	TM	1,2-Diphenylhydrazine	0.8725	0.8825	0.9231	0.8661	0.9237	0.9667	0.9904	1.038	1.013		0.94	6.7	TM			
70	TM	4-Bromophenyl phenyl ether	0.2168	0.2117	0.2303	0.2234	0.2447	0.2591	0.2603	0.2775	0.2827		0.25	11	TM			0.100

Semi-Volatile Analysis by GC-MS
EPA 8270

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Initial Cal. Date: 12/19/19
Matrix: Instrument: Yoda Initials:

		Compound	4	5	10	20	40	50	60	80	91		Avg	%RSD	Type		Q	
71	TM	Hexachlorobenzene	0.2189	0.2230	0.2350	0.2209	0.2419	0.2639	0.2678	0.2781	0.2827		0.25	10	TM			0.100
72	TM	Atrazine		0.2202	0.2285	0.2039	0.2199	0.2039	0.2312	0.2400	0.2413		0.22	6.5	TM			0.010
73	*TM	Pentachlorophenol				0.1167	0.1380	0.1587	0.1560	0.1693	0.1761		0.15	14	*TM			0.050
74	TM	Phenanthrene	1.008	1.029	1.058	1.008	1.079	1.131	1.159	1.215	1.247		1.1	8.0	TM			0.700
75	TM	Anthracene	1.024	1.060	1.108	1.058	1.130	1.203	1.210	1.282	1.310		1.2	8.9	TM			0.700
76	TM	Carbazol	0.9547	0.9719	1.001	0.9555	1.020	1.099	1.107	1.168	1.177		1.1	8.5	TM			0.010
77	TM	Di-n-butylphthalate	1.254	1.280	1.325	1.308	1.422	1.524	1.557	1.600	1.659		1.4	11	TM			0.010
78		2-Nitrodiphenylamine	0.2581	0.2591	0.2987	0.3023	0.3376	0.3611	0.3621	0.3733	0.3885		0.33	15				
79	*TM	Fluoranthene	1.136	1.164	1.219	1.161	1.277	1.377	1.374	1.473	1.455		1.3	10	*TM			0.600
80	I	Chrysene-D12(IS)	ISTD															
81	TM	Benzidine	0.4294	0.4321	0.4090	0.3966	0.3741						0.41	5.9	TM			
82	TM	Pyrene	1.234	1.320	1.294	1.198	1.211	1.149	1.140	1.104	1.141		1.2	6.1	TM			0.600
83	S	Terphenyl-D14(S)	1.144	1.050	0.9741	0.9361	0.9110	0.8552	0.8740	0.8455	0.9945		0.95	10	S			
84	TM	Butyl benzylphthalate	0.6241	0.6476	0.6440	0.6034	0.6057	0.5784	0.5714	0.5550	0.5770		0.60	5.5	TM			0.010
85	TM	3,3'-Dichlorobenzidine	0.4406	0.4474	0.4653	0.4210	0.4166	0.4318	0.3803	0.3533	0.3523		0.41	9.9	TM			0.010
86	TM	Benz (a) anthracene	1.378	1.384	1.377	1.254	1.272	1.281	1.262	1.262	1.284		1.3	4.3	TM			0.800
87	TM	Bis (2-ethylhexyl) phthalate	0.9872	1.026	1.020	0.9806	0.9843	1.006	0.9951	1.003	1.032		1.0	1.9	TM			0.010
88	TM	Chrysene	1.126	1.256	1.202	1.146	1.157	1.110	1.070	1.065	1.090		1.1	5.5	TM			0.700
89	*TM	Di-n-octylphthalate	1.492	1.569	1.601	1.470	1.479	1.480	1.436	1.394	1.414		1.5	4.6	*TM			0.010
90	I	Perylene-D12(IS)	ISTD															
91	TM	Benzo (b) fluoranthene	1.200	1.183	1.189	1.231	1.306	1.417	1.414	1.408	1.411		1.3	8.2	TM			0.700
92	TM	Benzo (k) fluoranthene	1.036	1.129	1.146	1.047	1.126	1.214	1.174	1.322	1.406		1.2	10	TM			0.700
93	*TM	Benzo (a) pyrene	1.048	1.092	1.101	1.069	1.126	1.226	1.213	1.267	1.293		1.2	7.8	*TM			0.700
94	TM	Indeno (1,2,3-cd) pyrene	1.218	1.270	1.279	1.250	1.330	1.445	1.416	1.464	1.494		1.4	7.7	TM			0.500
95	TM	Dibenz (a,h) anthracene	1.044	1.127	1.135	1.106	1.175	1.293	1.267	1.331	1.359		1.2	9.2	TM			0.400
96	TM	Benzo (g,h,i) perylene	0.9656	1.022	1.029	1.003	1.043	1.124	1.098	1.126	1.148		1.1	6.0	TM			0.500
97																		
98																		
99																		
100																		
101																		
102																		
103																		
104																		
105																		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y003.D Vial: 3
Acq On : 19 Dec 19 9:06 Operator: MA,SS
Sample : 50ug/ml 8270 11/21/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.38	152	196599	40.00000 ppb	0.00
21) Napthalene-D8(IS)	6.83	136	821661	40.00000 ppb	0.00
41) Acenaphthene-D10(IS)	8.84	164	498864	40.00000 ppb	0.00
65) Phenanthrene-D10(IS)	10.57	188	965840	40.00000 ppb	0.00
80) Chrysene-D12(IS)	13.67	240	1196016	40.00000 ppb	0.00
90) Perylene-D12(IS)	15.49	264	1033039	40.00000 ppb	0.00
System Monitoring Compounds					
5) 2-Fluorophenol (S)	3.82	112	729337	101.21407 ppb	0.00
Spiked Amount 200.000			Recovery =	50.607%	
6) Phenol-D6 (S)	5.00	99	943605	102.78046 ppb	0.00
Spiked Amount 200.000			Recovery =	51.390%	
22) Nitrobenzene-D5(S)	6.01	82	506628	49.57999 ppb	0.00
Spiked Amount 100.000			Recovery =	49.580%	
46) 2-Fluorobiphenyl(S)	8.06	172	928304	50.38731 ppb	0.00
Spiked Amount 100.000			Recovery =	50.387%	
64) 2,4,6-Tribromophenol(S)	9.77	330	321251	103.61865 ppb	0.00
Spiked Amount 200.000			Recovery =	51.810%	
83) Terphenyl-D14(S)	12.43	244	1278597	44.83129 ppb	0.00
Spiked Amount 100.000			Recovery =	44.831%	
Target Compounds					Qvalue
3) n-Nitrosodimethylamine	1.91	42	275394	50.17040 ppb	100
4) Pyridine	1.92	79	614275	48.30945 ppb	100
7) Phenol	5.02	94	574851	53.05712 ppb	100
8) Aniline	5.01	93	359488	50.84319 ppb	100
9) Bis (2-chloroethyl) ether	5.08	63	259464	51.69417 ppb	100
10) 2-Chlorophenol	5.15	128	395131	51.79401 ppb	100
11) 1,3-DCB	5.31	146	421373	50.33398 ppb	100
12) 1,4-DCB	5.40	146	431772	50.39583 ppb	100
13) Benzyl alcohol	5.54	108	243593	54.20799 ppb	100
14) 1,2-DCB	5.57	146	407782	51.15484 ppb	100
15) 2-Methylphenol	5.68	107	348274	52.31608 ppb	100
16) Bis (2-chloroisopropyl) et	5.69	45	342864	51.79894 ppb	100
17) Acetophenone	5.84	105	600018	52.87990 ppb	100
18) 3&4-Methylphenol	5.86	107	935580	106.86276 ppb	100
19) n-Nitrosodi-n-propylamine	5.85	70	391093	53.58916 ppb	100
20) Hexachloroethane	5.95	117	182011	50.96658 ppb	100
23) Nitrobenzene	6.04	77	545143	51.47563 ppb	100
24) Isophorone	6.31	82	870177	52.07890 ppb	100
25) 2-Nitrophenol	6.39	139	223955	52.07765 ppb	100
26) 2,4-Dimethylphenol	6.44	122	356638	51.82729 ppb	100
27) Benzoic acid	6.60	105	279476	47.48334 ppb	100
28) Bis (2-chloroethoxy) metha	6.54	93	447865	51.64725 ppb	100
29) 2,4-Dichlorophenol	6.68	162	350537	52.24411 ppb	100
30) 1,2,4-Trichlorobenzene	6.76	180	383401	51.23105 ppb	100
31) 3,4-Dimethylphenol	6.79	107	604918	52.84249 ppb	100
32) Naphthalene	6.84	128	1148204	51.36025 ppb	100
33) 4-Chloroaniline	6.91	127	465735	51.81136 ppb	100
34) 2,6-Dichlorophenol	6.92	162	347372	52.84673 ppb	100
35) Hexachloropropene	6.95	213	340941	52.64986 ppb	100
36) Hexachlorobutadiene	6.98	225	258626	50.94087 ppb	100
37) Caprolactum	7.34	55	155640	51.68587 ppb	100
38) 4-Chloro-3-methylphenol	7.48	107	422799	53.08472 ppb	100

(#) = qualifier out of range (m) = manual integration

Data File : M:\YODA\DATA\Y191219\1219Y003.D Vial: 3
Acq On : 19 Dec 19 9:06 Operator: MA,SS
Sample : 50ug/ml 8270 11/21/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	2-Methylnaphthalene	7.63	142	786668	52.28541	ppb	100
40)	1-Methylnaphthalene	7.75	142	814338	52.04963	ppb	100
42)	Hexachlorocyclopentadiene	7.82	237	294208	51.41653	ppb	100
43)	1,2,4,5-Tetrachlorobenzene	7.84	216	420454	52.91044	ppb	100
44)	2,4,6-Trichlorophenol	7.97	196	277989	53.43197	ppb	100
45)	2,4,5-Trichlorophenol	8.02	196	294494	52.19170	ppb	100
47)	1,1'-Biphenyl	8.17	154	1013613	52.38680	ppb	100
48)	2-Chloronaphthalene	8.20	162	814737	52.35985	ppb	100
49)	2-Nitroaniline	8.32	65	313105	52.99430	ppb	100
50)	Dimethyl phthalate	8.53	163	992101	52.01547	ppb	100
51)	2,6-DNT	8.61	165	224309	53.92342	ppb	100
52)	Acenaphthylene	8.68	152	1261631	52.66138	ppb	100
53)	3-Nitroaniline	8.32	138	263026	53.26882	ppb	100
54)	Acenaphthene	8.89	154	794988	53.04993	ppb	100
55)	2,4-Dinitrophenol	8.92	184	114232	46.68381	ppb	100
56)	4-Nitrophenol	8.60	65	20732	53.32779	ppb	100
57)	Dibenzofuran	9.08	168	1203351	52.86739	ppb	100
58)	2,4-DNT	9.07	165	333192	54.48047	ppb	100
59)	2,3,4,6-Tetrachlorophenol	9.24	232	229610	53.65092	ppb	100
60)	Diethyl phthalate	9.35	149	1031999	52.22569	ppb	100
61)	4-Chlorophenyl phenyl ethe	9.48	204	576562	52.69605	ppb	100
62)	Fluorene	9.48	166	1043084	53.86740	ppb	100
63)	4-Nitroaniline	8.80	138	218292	53.05517	ppb	100
66)	4,6-Dinitro-2-methylphenol	9.56	198	195000	51.78616	ppb	100
67)	Diphenyl amine	9.63	169	1633943	103.92069	ppb	100
68)	n-Nitrosodiphenylamine	9.63	169	1633943	103.92069	ppb	100
69)	1,2-Diphenylhydrazine	9.67	77	1167037	51.32296	ppb	100
70)	4-Bromophenyl phenyl ether	10.05	248	312755	52.83109	ppb	100
71)	Hexachlorobenzene	10.13	284	318617	53.20114	ppb	100
72)	Atrazine	10.25	200	123091	22.79679	ppb	100
73)	Pentachlorophenol	10.36	266	191605	52.04610	ppb	100
74)	Phenanthrene	10.60	178	1365637	51.23790	ppb	100
75)	Anthracene	10.67	178	1452175	52.12221	ppb	100
76)	Carbazol	10.85	167	1327202	52.32019	ppb	100
77)	Di-n-butylphthalate	11.25	149	1840279	53.05379	ppb	100
78)	2-Nitrodiphenylamine	11.43	167	218003	27.62865	ppb	100
79)	Fluoranthene	11.99	202	1662853	53.26539	ppb	100
81)	Benzidine	12.14	184	328745	26.93277	ppb	100
82)	Pyrene	12.25	202	1717114	47.89582	ppb	100
84)	Butyl benzylphthalate	13.00	149	864776	48.14287	ppb	100
85)	3,3'-Dichlorobenzidine	13.62	252	645596	52.39866	ppb	100
86)	Benz (a) anthracene	13.66	228	1915683	49.05514	ppb	100
87)	Bis (2-ethylhexyl) phthala	13.67	149	1504164	50.11549	ppb	100
88)	Chrysene	13.69	228	1660091	48.87974	ppb	100
89)	Di-n-octylphthalate	14.42	149	2213014	49.95022	ppb	100
91)	Benzo (b) fluoranthene	14.96	252	1830066	54.23818	ppb	100
92)	Benzo (k) fluoranthene	14.99	252	1567732	51.53429	ppb	100
93)	Benzo (a) pyrene	15.42	252	1583146	52.86784	ppb	100
94)	Indeno (1,2,3-cd) pyrene	17.36	276	1864158	53.40274	ppb	100
95)	Dibenz (a,h) anthracene	17.40	278	1668227	53.64701	ppb	100
96)	Benzo (g,h,i) perylene	17.93	276	1451452	52.91619	ppb	100

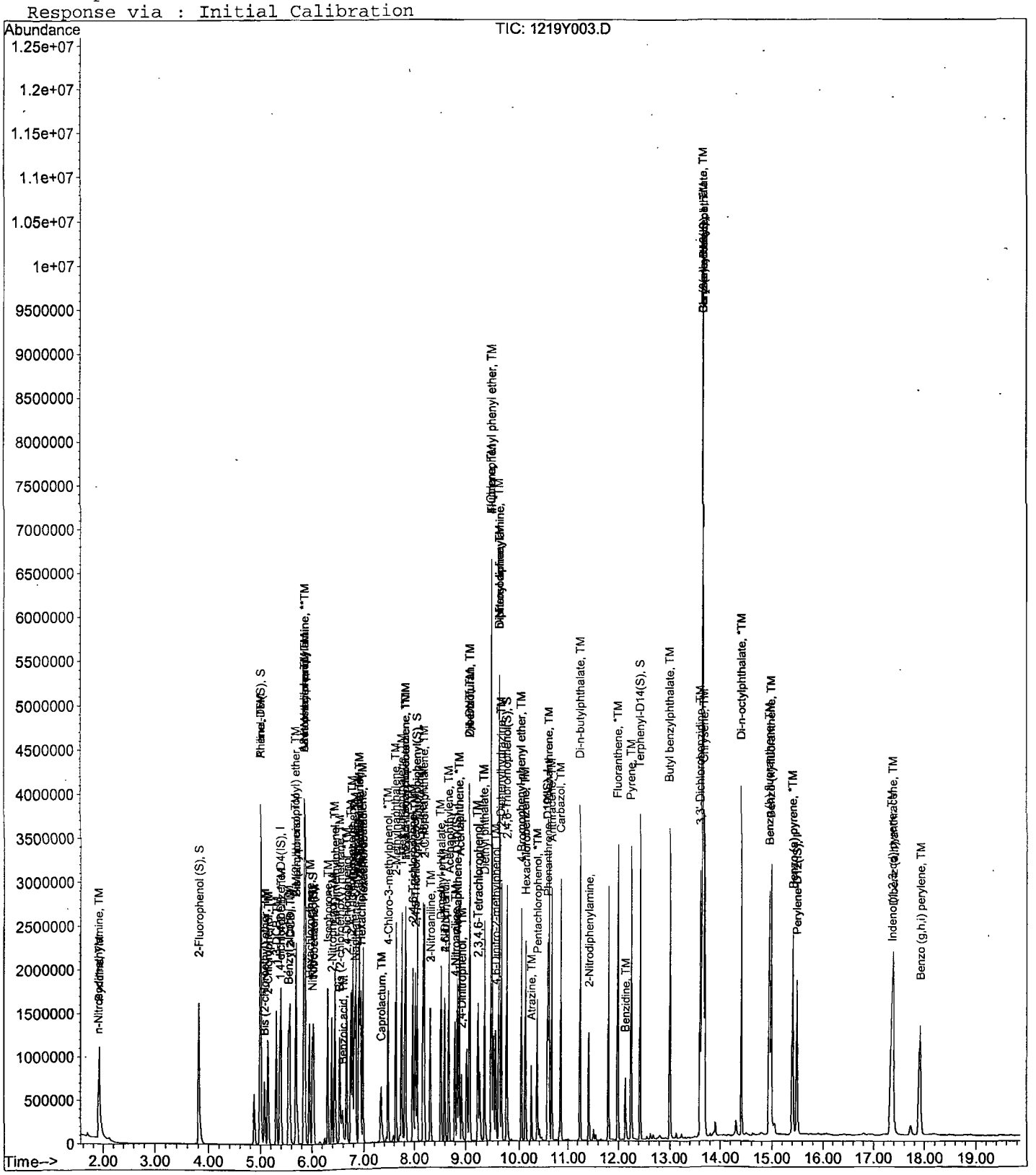
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y191219\1219Y003.D Vial: 3
Acq On : 19 Dec 19 9:06 Operator: MA,SS
Sample : 50ug/ml 8270 11/21/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y004.D Vial: 4
Acq On : 19 Dec 19 9:33 Operator: MA,SS
Sample : 4ug/ml 8270 11/21/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.38	152	172988	40.00000 ppb	0.00
21) Napthalene-D8(IS)	6.82	136	714555	40.00000 ppb	0.00
41) Acenaphthene-D10(IS)	8.84	164	436036	40.00000 ppb	0.00
65) Phenanthrene-D10(IS)	10.57	188	836785	40.00000 ppb	0.00
80) Chrysene-D12(IS)	13.66	240	796002	40.00000 ppb	0.00
90) Perylene-D12(IS)	15.49	264	872764	40.00000 ppb	0.00
System Monitoring Compounds					
5) 2-Fluorophenol (S)	3.81	112	52772	8.32303 ppb	0.00
Spiked Amount 200.000			Recovery =	4.162%	
6) Phenol-D6 (S)	4.99	99	65554	8.11493 ppb	0.00
Spiked Amount 200.000			Recovery =	4.058%	
22) Nitrobenzene-D5(S)	6.00	82	37998	4.27597 ppb	0.00
Spiked Amount 100.000			Recovery =	4.276%	
46) 2-Fluorobiphenyl(S)	8.05	172	68746	4.26912 ppb	0.00
Spiked Amount 100.000			Recovery =	4.269%	
64) 2,4,6-Tribromophenol(S)	9.76	330	20427	7.53803 ppb	0.00
Spiked Amount 200.000			Recovery =	3.769%	
83) Terphenyl-D14(S)	12.42	244	91079	4.79831 ppb	0.00
Spiked Amount 100.000			Recovery =	4.798%	

Target Compounds Qvalue

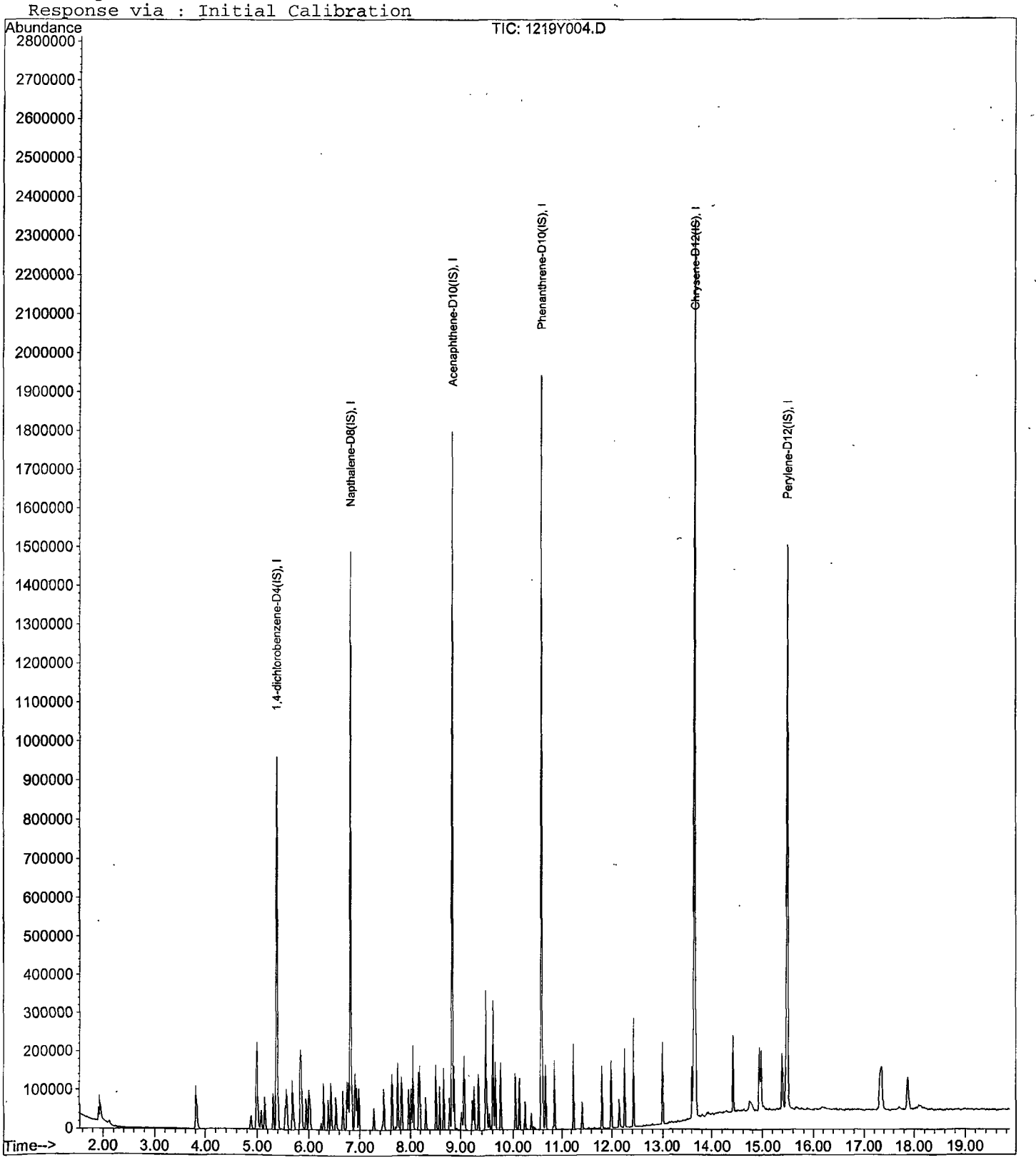
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y191219\1219Y004.D Vial: 4
Acq On : 19 Dec 19 9:33 Operator: MA,SS
Sample : 4ug/ml 8270 11/21/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y005.D Vial: 5
Acq On : 19 Dec 19 10:01 Operator: MA,SS
Sample : 5ug/ml 8270 11/21/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.38	152	171722	40.00000 ppb	0.00
21) Napthalene-D8(IS)	6.82	136	688709	40.00000 ppb	0.00
41) Acenaphthene-D10(IS)	8.84	164	415788	40.00000 ppb	0.00
65) Phenanthrene-D10(IS)	10.57	188	806286	40.00000 ppb	0.00
80) Chrysene-D12(IS)	13.66	240	749085	40.00000 ppb	0.00
90) Perylene-D12(IS)	15.48	264	827486	40.00000 ppb	0.00
System Monitoring Compounds					
5) 2-Fluorophenol (S)	3.82	112	56647	9.00005 ppb	0.00
Spiked Amount 200.000			Recovery	= 4.500%	
6) Phenol-D6 (S)	4.99	99	71276	8.88831 ppb	0.00
Spiked Amount 200.000			Recovery	= 4.444%	
22) Nitrobenzene-D5(S)	6.00	82	41101	4.79873 ppb	0.00
Spiked Amount 100.000			Recovery	= 4.799%	
46) 2-Fluorobiphenyl(S)	8.05	172	73943	4.81547 ppb	0.00
Spiked Amount 100.000			Recovery	= 4.815%	
64) 2,4,6-Tribromophenol(S)	9.76	330	24023	9.29674 ppb	0.00
Spiked Amount 200.000			Recovery	= 4.649%	
83) Terphenyl-D14(S)	12.43	244	98299	5.50304 ppb	0.00
Spiked Amount 100.000			Recovery	= 5.503%	

Target Compounds Qvalue

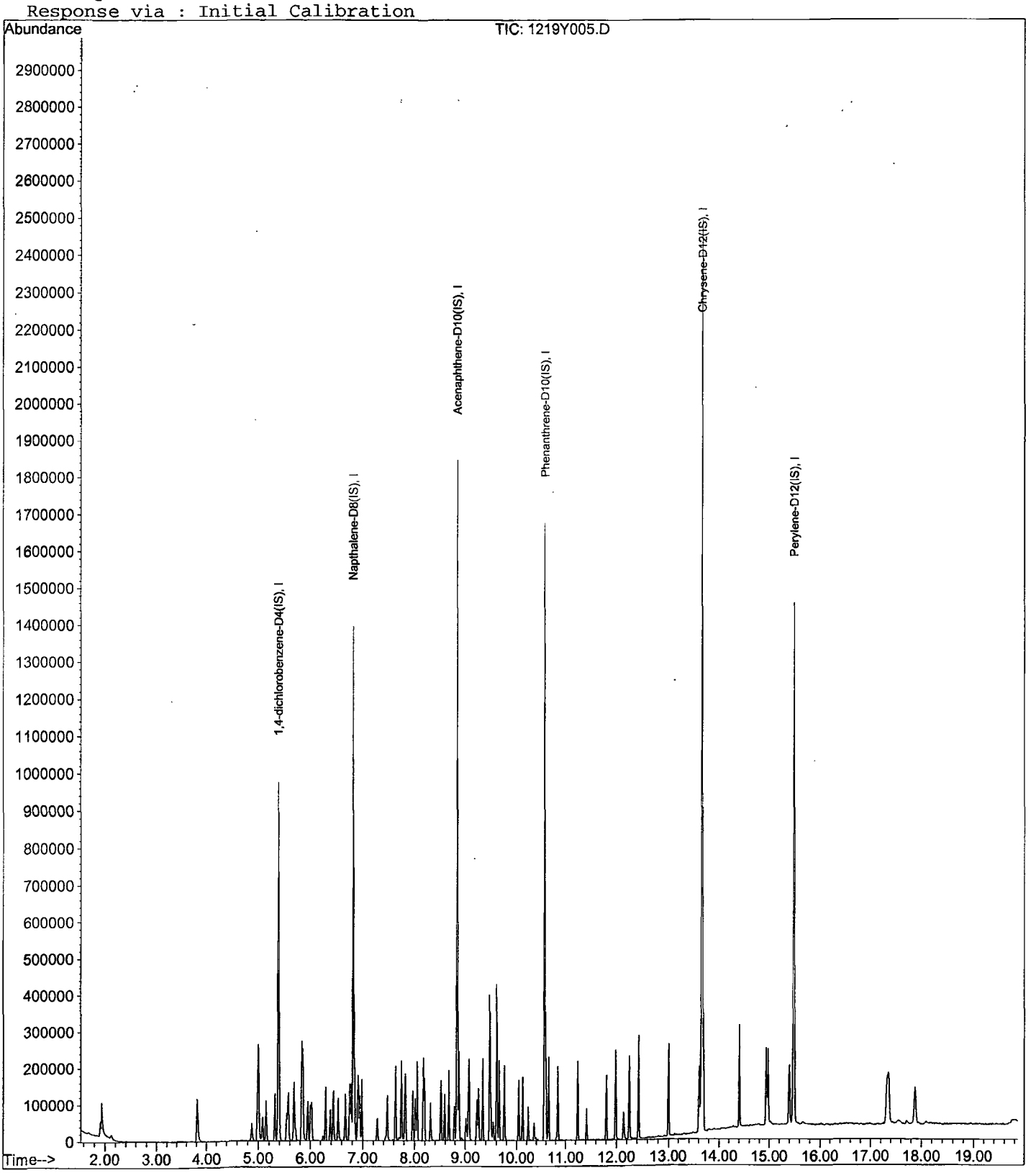
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y191219\1219Y005.D Vial: 5
Acq On : 19 Dec 19 10:01 Operator: MA,SS
Sample : 5ug/ml 8270 11/21/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y006.D Vial: 6
Acq On : 19 Dec 19 10:28 Operator: MA,SS
Sample : 10ug/ml 8270 11/21/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.38	152	160128	40.00000 ppb	0.00
21) Napthalene-D8(IS)	6.82	136	678749	40.00000 ppb	0.00
41) Acenaphthene-D10(IS)	8.84	164	424690	40.00000 ppb	0.00
65) Phenanthrene-D10(IS)	10.57	188	801834	40.00000 ppb	0.00
80) Chrysene-D12(IS)	13.66	240	780754	40.00000 ppb	0.00
90) Perylene-D12(IS)	15.49	264	843433	40.00000 ppb	0.00
System Monitoring Compounds					
5) 2-Fluorophenol (S)	3.81	112	114683	19.54005 ppb	0.00
Spiked Amount 200.000			Recovery =	9.770%	
6) Phenol-D6 (S)	4.99	99	140612	18.80428 ppb	0.00
Spiked Amount 200.000			Recovery =	9.402%	
22) Nitrobenzene-D5(S)	6.00	82	82528	9.77692 ppb	0.00
Spiked Amount 100.000			Recovery =	9.777%	
46) 2-Fluorobiphenyl(S)	8.05	172	143294	9.13627 ppb	0.00
Spiked Amount 100.000			Recovery =	9.136%	
64) 2,4,6-Tribromophenol(S)	9.76	330	43913	16.63783 ppb	0.00
Spiked Amount 200.000			Recovery =	8.319%	
83) Terphenyl-D14(S)	12.42	244	190140	10.21278 ppb	0.00
Spiked Amount 100.000			Recovery =	10.213%	
Target Compounds					Qvalue
18) 3&4-Methylphenol	5.85	107	137362	19.26310 ppb	99
67) Diphenyl amine	9.61	169	235673	18.05492 ppb	99
68) n-Nitrosodiphenylamine	9.61	169	235673	18.05492 ppb	99

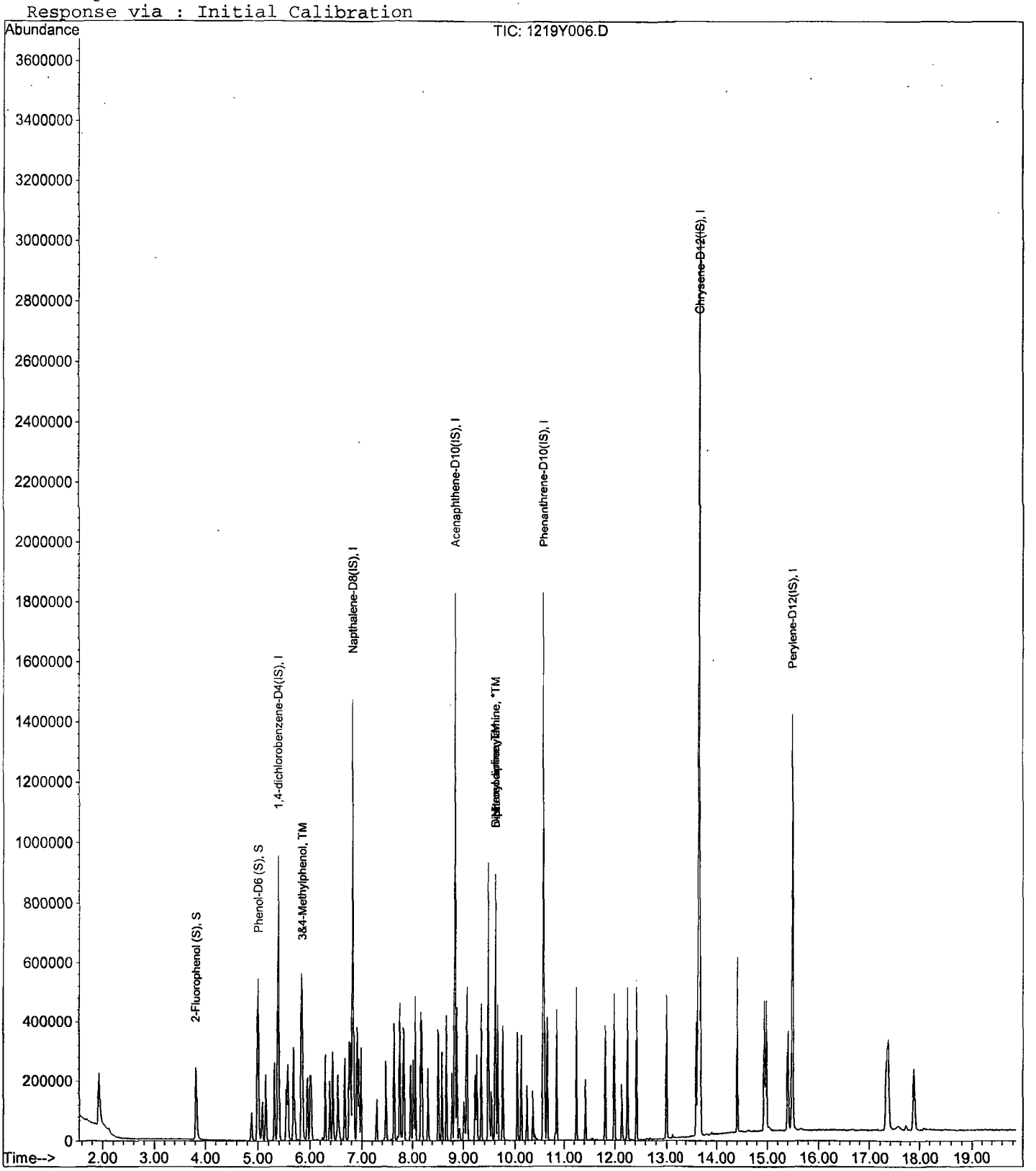
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y191219\1219Y006.D Vial: 6
Acq On : 19 Dec 19 10:28 Operator: MA,SS
Sample : 10ug/ml 8270 11/21/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y007.D Vial: 7
Acq On : 19 Dec 19 10:56 Operator: MA,SS
Sample : 20ug/ml 8270 11/21/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.38	152	194747	40.00000 ppb		0.00
21) Napthalene-D8(IS)	6.82	136	781182	40.00000 ppb		0.00
41) Acenaphthene-D10(IS)	8.84	164	473595	40.00000 ppb		0.00
65) Phenanthrene-D10(IS)	10.57	188	902012	40.00000 ppb		0.00
80) Chrysene-D12(IS)	13.66	240	912227	40.00000 ppb		0.00
90) Perylene-D12(IS)	15.49	264	942777	40.00000 ppb		0.00
System Monitoring Compounds						
5) 2-Fluorophenol (S)	3.82	112	253075	35.45459 ppb		0.00
Spiked Amount 200.000			Recovery =	17.728%		
6) Phenol-D6 (S)	4.99	99	314450	34.57661 ppb		-0.01
Spiked Amount 200.000			Recovery =	17.289%		
22) Nitrobenzene-D5(S)	6.01	82	185338	19.07753 ppb		0.00
Spiked Amount 100.000			Recovery =	19.078%		
46) 2-Fluorobiphenyl(S)	8.06	172	323480	18.49496 ppb		0.00
Spiked Amount 100.000			Recovery =	18.495%		
64) 2,4,6-Tribromophenol(S)	9.77	330	100215	34.04876 ppb		0.00
Spiked Amount 200.000			Recovery =	17.025%		
83) Terphenyl-D14(S)	12.43	244	426966	19.62795 ppb		0.00
Spiked Amount 100.000			Recovery =	19.628%		
Target Compounds						Qvalue
4) Pyridine	1.92	79	233730	18.55642 ppb		98
7) Phenol	5.00	94	187775	17.49592 ppb	#	74
8) Aniline	5.00	93	138944	19.83804 ppb	#	95
9) Bis (2-chloroethyl) ether	5.08	63	90085	18.11872 ppb		96
10) 2-Chlorophenol	5.14	128	135911	17.98472 ppb		92
11) 1,3-DCB	5.31	146	146244	17.63531 ppb		97
12) 1,4-DCB	5.39	146	151686	17.87295 ppb		97
13) Benzyl alcohol	5.54	108	78697	17.67939 ppb		99
14) 1,2-DCB	5.57	146	139110	17.61682 ppb		99
15) 2-Methylphenol	5.68	107	115359	17.49348 ppb		97
16) Bis (2-chloroisopropyl) et	5.69	45	115311	17.58653 ppb	#	78
17) Acetophenone	5.83	105	201308	17.91010 ppb		98
18) 3&4-Methylphenol	5.85	107	300091	34.60262 ppb		97
19) n-Nitrosodi-n-propylamine	5.84	70	126055	17.43683 ppb		98
20) Hexachloroethane	5.95	117	64312	18.17985 ppb		94
23) Nitrobenzene	6.03	77	185983	18.47162 ppb		95
24) Isophorone	6.29	82	294453	18.53577 ppb		99
25) 2-Nitrophenol	6.39	139	76958	18.82282 ppb		95
26) 2,4-Dimethylphenol	6.44	122	120904	18.48043 ppb		97
27) Benzoic acid	6.55	105	91223	18.97597 ppb		98
28) Bis (2-chloroethoxy) metha	6.54	93	152615	18.51133 ppb		98
29) 2,4-Dichlorophenol	6.67	162	117474	18.41559 ppb		95
30) 1,2,4-Trichlorobenzene	6.76	180	128436	18.05125 ppb		99
31) 3,4-Dimethylphenol	6.78	107	204008	18.74452 ppb		98
32) Naphthalene	6.84	128	390776	18.38554 ppb		99
33) 4-Chloroaniline	6.91	127	162474	19.01124 ppb		96
34) 2,6-Dichlorophenol	6.92	162	114733	18.35913 ppb		98
35) Hexachloropropene	6.94	213	112998	18.35394 ppb		99
36) Hexachlorobutadiene	6.98	225	87981	18.22735 ppb		99
37) Caprolactum	7.31	55	53587	18.71761 ppb		97
38) 4-Chloro-3-methylphenol	7.47	107	137771	18.19424 ppb		96
39) 2-Methylnaphthalene	7.63	142	260607	18.21862 ppb		100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y007.D Vial: 7
Acq On : 19 Dec 19 10:56 Operator: MA,SS
Sample : 20ug/ml 8270 11/21/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
40)	1-Methylnaphthalene	7.74	142	264522	17.78341	ppb		98
42)	Hexachlorocyclopentadiene	7.82	237	85296	18.35365	ppb		100
43)	1,2,4,5-Tetrachlorobenzene	7.83	216	133618	17.71181	ppb		96
44)	2,4,6-Trichlorophenol	7.97	196	90696	18.36271	ppb		100
45)	2,4,5-Trichlorophenol	8.02	196	98112	18.31564	ppb		96
47)	1,1'-Biphenyl	8.17	154	335661	18.27366	ppb		98
48)	2-Chloronaphthalene	8.20	162	272066	18.41748	ppb		97
49)	2-Nitroaniline	8.31	65	106234	18.93990	ppb		92
50)	Dimethyl phthalate	8.52	163	333975	18.44445	ppb		99
51)	2,6-DNT	8.60	165	74351	18.82750	ppb		86
52)	Acenaphthylene	8.68	152	420370	18.48275	ppb		100
53)	3-Nitroaniline	8.32	138	87497	18.66563	ppb		95
54)	Acenaphthene	8.87	154	255265	17.94281	ppb		98
55)	2,4-Dinitrophenol	8.92	184	29356	17.54041	ppb		89
56)	4-Nitrophenol	8.60	65	6688	18.12107	ppb		98
57)	Dibenzofuran	9.08	168	385855	17.85643	ppb		100
58)	2,4-DNT	9.07	165	105670	18.20007	ppb		87
59)	2,3,4,6-Tetrachlorophenol	9.23	232	74261	18.27773	ppb	#	91
60)	Diethyl phthalate	9.35	149	348940	18.60076	ppb		97
62)	Fluorene	9.48	166	322306	17.53276	ppb		98
63)	4-Nitroaniline	8.79	138	74412	19.05057	ppb		97
66)	4,6-Dinitro-2-methylphenol	9.54	198	60050	17.07595	ppb		84
67)	Diphenyl amine	9.62	169	511426	34.82898	ppb		100
68)	n-Nitrosodiphenylamine	9.62	169	511426	34.82898	ppb		100
69)	1,2-Diphenylhydrazine	9.66	77	390616	18.39374	ppb		94
70)	4-Bromophenyl phenyl ether	10.04	248	100768	18.22640	ppb		94
71)	Hexachlorobenzene	10.13	284	99643	17.81524	ppb		93
74)	Phenanthrene	10.60	178	454835	18.27270	ppb		99
75)	Anthracene	10.66	178	477063	18.33464	ppb		99
76)	Carbazol	10.85	167	430950	18.19081	ppb		98
77)	Di-n-butylphthalate	11.25	149	590040	18.21407	ppb		99
79)	Fluoranthene	11.98	202	523700	17.96250	ppb		98
81)	Benzidine	12.14	184	180875	19.42829	ppb		98
82)	Pyrene	12.25	202	546244	19.97649	ppb		99
84)	Butyl benzylphthalate	13.00	149	275238	20.08958	ppb		92
85)	3,3'-Dichlorobenzidine	13.61	252	192045	20.43603	ppb		98
86)	Benz (a) anthracene	13.65	228	571831	19.19829	ppb		99
87)	Bis (2-ethylhexyl) phthala	13.66	149	447267	19.53789	ppb		98
88)	Chrysene	13.69	228	522873	20.18493	ppb		100
89)	Di-n-octylphthalate	14.41	149	670387	19.83868	ppb	#	92
91)	Benzo (b) fluoranthene	14.94	252	580450	18.84998	ppb		99
92)	Benzo (k) fluoranthene	14.98	252	493722	17.78340	ppb		99
93)	Benzo (a) pyrene	15.40	252	504143	18.44727	ppb		98
94)	Indeno (1,2,3-cd) pyrene	17.33	276	588328	18.46750	ppb		99
95)	Dibenz (a,h) anthracene	17.37	278	521335	18.37025	ppb		99
96)	Benzo (g,h,i) perylene	17.90	276	472757	18.88564	ppb		99

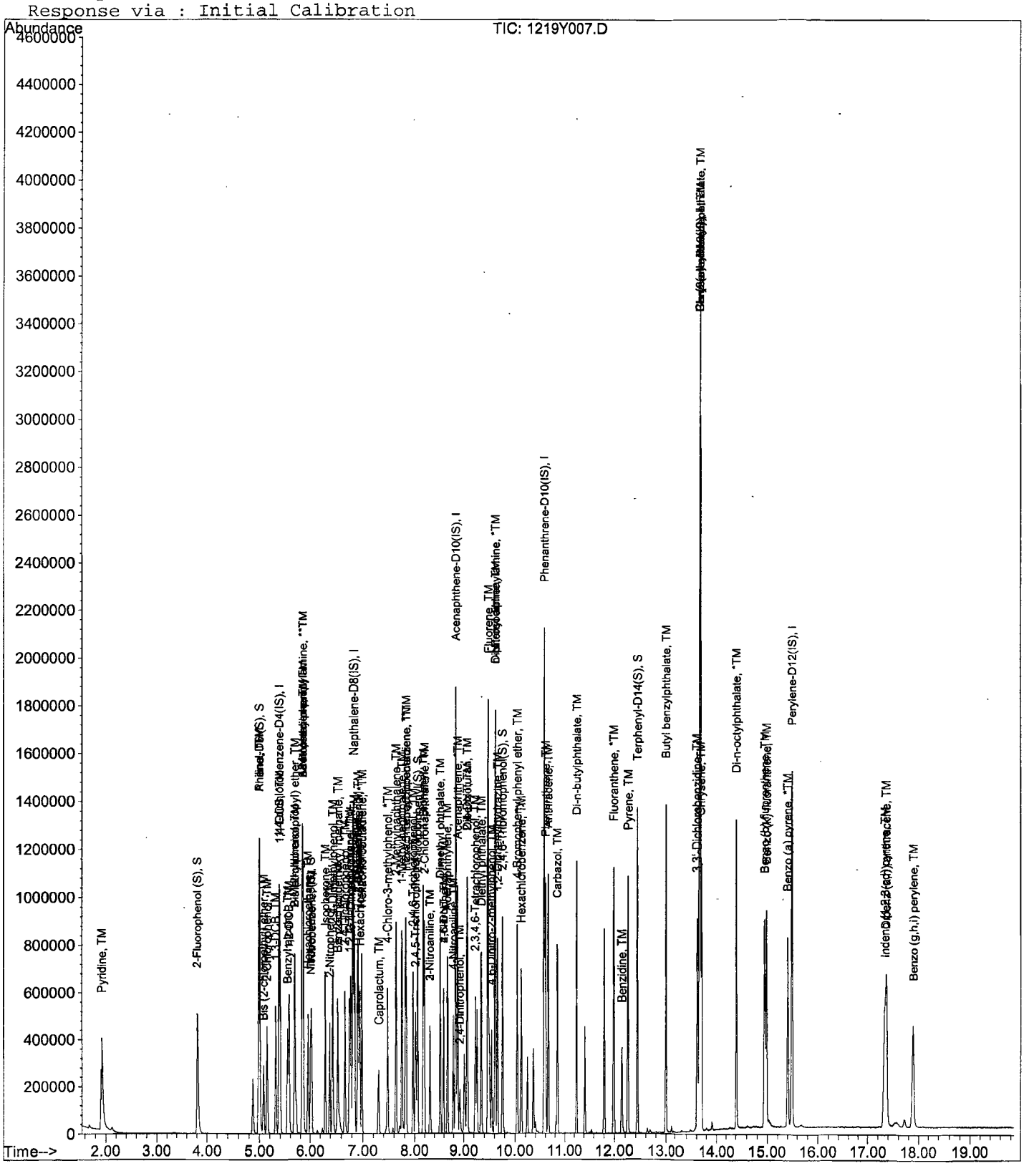
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y191219\1219Y007.D Vial: 7
Acq On : 19 Dec 19 10:56 Operator: MA,SS
Sample : 20ug/ml 8270 11/21/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y008.D Vial: 8
Acq On : 19 Dec 19 11:24 Operator: MA,SS
Sample : 40ug/ml 8270 11/21/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.38	152	182216	40.00000 ppb		0.00
21) Napthalene-D8(IS)	6.82	136	710542	40.00000 ppb		0.00
41) Acenaphthene-D10(IS)	8.84	164	434485	40.00000 ppb		0.00
65) Phenanthrene-D10(IS)	10.58	188	813606	40.00000 ppb		0.00
80) Chrysene-D12(IS)	13.66	240	894163	40.00000 ppb		0.00
90) Perylene-D12(IS)	15.49	264	870632	40.00000 ppb		0.00
System Monitoring Compounds						
5) 2-Fluorophenol (S)	3.82	112	480507	71.94609 ppb		0.00
Spiked Amount 200.000			Recovery =	35.973%		
6) Phenol-D6 (S)	5.00	99	600312	70.54921 ppb		0.00
Spiked Amount 200.000			Recovery =	35.275%		
22) Nitrobenzene-D5(S)	6.01	82	335277	37.94232 ppb		0.00
Spiked Amount 100.000			Recovery =	37.942%		
46) 2-Fluorobiphenyl(S)	8.06	172	596646	37.18391 ppb		0.00
Spiked Amount 100.000			Recovery =	37.184%		
64) 2,4,6-Tribromophenol(S)	9.77	330	201973	74.79872 ppb		0.00
Spiked Amount 200.000			Recovery =	37.400%		
83) Terphenyl-D14(S)	12.43	244	814625	38.20548 ppb		0.00
Spiked Amount 100.000			Recovery =	38.205%		
Target Compounds						Qvalue
3) n-Nitrosodimethylamine	1.91	42	188163	36.98470 ppb		96
4) Pyridine	1.93	79	440907	37.41201 ppb		99
7) Phenol	5.01	94	371632	37.00806 ppb		79
8) Aniline	5.01	93	258560	39.45523 ppb	#	91
9) Bis (2-chloroethyl) ether	5.08	63	174139	37.43306 ppb		97
10) 2-Chlorophenol	5.15	128	262410	37.11194 ppb		94
11) 1,3-DCB	5.31	146	288290	37.15515 ppb		99
12) 1,4-DCB	5.40	146	297071	37.41064 ppb		98
13) Benzyl alcohol	5.55	108	154077	36.99399 ppb		97
14) 1,2-DCB	5.57	146	270886	36.66402 ppb		100
15) 2-Methylphenol	5.69	107	228108	36.97000 ppb		98
16) Bis (2-chloroisopropyl) et	5.69	45	226589	36.93453 ppb	#	78
17) Acetophenone	5.83	105	393243	37.39230 ppb		98
18) 3&4-Methylphenol	5.85	107	593695	73.16504 ppb		97
19) n-Nitrosodi-n-propylamine	5.84	70	248031	36.66888 ppb		97
20) Hexachloroethane	5.95	117	122615	37.04471 ppb		94
23) Nitrobenzene	6.03	77	359196	39.22163 ppb		95
24) Isophorone	6.30	82	565650	39.14758 ppb		98
25) 2-Nitrophenol	6.39	139	147502	39.66353 ppb		93
26) 2,4-Dimethylphenol	6.45	122	229476	38.56303 ppb		98
27) Benzoic acid	6.58	105	202255	40.40161 ppb		99
28) Bis (2-chloroethoxy) metha	6.54	93	292655	39.02644 ppb		98
29) 2,4-Dichlorophenol	6.67	162	227943	39.28553 ppb		96
30) 1,2,4-Trichlorobenzene	6.75	180	254586	39.33847 ppb		96
31) 3,4-Dimethylphenol	6.78	107	383358	38.72525 ppb		98
32) Naphthalene	6.85	128	749802	38.78445 ppb		100
33) 4-Chloroaniline	6.91	127	308474	39.68328 ppb		97
34) 2,6-Dichlorophenol	6.92	162	219445	38.60574 ppb		97
35) Hexachloropropene	6.95	213	221138	39.48974 ppb		99
36) Hexachlorobutadiene	6.99	225	170617	38.86148 ppb		100
37) Caprolactum	7.32	55	100984	38.77985 ppb		95
38) 4-Chloro-3-methylphenol	7.48	107	271819	39.46556 ppb		95

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y008.D Vial: 8
Acq On : 19 Dec 19 11:24 Operator: MA,SS
Sample : 40ug/ml 8270 11/21/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
39)	2-Methylnaphthalene	7.63	142	502608	38.62970 ppb		99
40)	1-Methylnaphthalene	7.75	142	521546	38.54859 ppb		98
42)	Hexachlorocyclopentadiene	7.82	237	176384	36.58253 ppb		99
43)	1,2,4,5-Tetrachlorobenzene	7.83	216	268214	38.75357 ppb		97
44)	2,4,6-Trichlorophenol	7.97	196	176195	38.88432 ppb		99
45)	2,4,5-Trichlorophenol	8.02	196	192075	39.08438 ppb		94
47)	1,1'-Biphenyl	8.17	154	649127	38.52004 ppb		98
48)	2-Chloronaphthalene	8.20	162	521946	38.51358 ppb		97
49)	2-Nitroaniline	8.31	65	200138	38.89341 ppb		95
50)	Dimethyl phthalate	8.53	163	640502	38.55712 ppb		99
51)	2,6-DNT	8.60	165	142948	39.45629 ppb		86
52)	Acenaphthylene	8.67	152	814666	39.04333 ppb		99
53)	3-Nitroaniline	8.32	138	168892	39.27271 ppb		93
54)	Acenaphthene	8.88	154	504832	38.67929 ppb		99
55)	2,4-Dinitrophenol	8.92	184	74846	36.78536 ppb		86
56)	4-Nitrophenol	8.60	65	13109	38.71590 ppb		95
57)	Dibenzofuran	9.08	168	753264	37.99707 ppb		98
58)	2,4-DNT	9.07	165	207839	39.01941 ppb		89
59)	2,3,4,6-Tetrachlorophenol	9.23	232	147125	39.47119 ppb		94
60)	Diethyl phthalate	9.35	149	671228	39.00159 ppb		98
61)	4-Chlorophenyl phenyl ethe	9.47	204	352091	36.94829 ppb		88
62)	Fluorene	9.48	166	641030	38.00953 ppb		98
63)	4-Nitroaniline	8.79	138	141770	39.56230 ppb		88
66)	4,6-Dinitro-2-methylphenol	9.56	198	122593	38.64878 ppb		99
67)	Diphenyl amine	9.62	169	1020591	77.05626 ppb		100
68)	n-Nitrosodiphenylamine	9.62	169	1020591	77.05626 ppb		100
69)	1,2-Diphenylhydrazine	9.66	77	751770	39.24670 ppb		94
70)	4-Bromophenyl phenyl ether	10.05	248	199129	39.93106 ppb		88
71)	Hexachlorobenzene	10.12	284	196806	39.01049 ppb	#	84
72)	Atrazine	10.24	200	89439	19.66371 ppb		99
73)	Pentachlorophenol	10.35	266	112272	36.20294 ppb		96
74)	Phenanthrene	10.60	178	877664	39.09087 ppb		99
75)	Anthracene	10.66	178	919645	39.18457 ppb		99
76)	Carbazol	10.85	167	830000	38.84199 ppb		98
77)	Di-n-butylphthalate	11.25	149	1156611	39.58322 ppb		98
78)	2-Nitrodiphenylamine	11.42	167	137354	20.66472 ppb		92
79)	Fluoranthene	11.99	202	1038608	39.49426 ppb		98
81)	Benzidine	12.14	184	334522	36.65784 ppb		99
82)	Pyrene	12.26	202	1083004	40.40627 ppb		100
84)	Butyl benzylphthalate	13.00	149	541594	40.32946 ppb		87
85)	3,3'-Dichlorobenzidine	13.61	252	372475	40.43680 ppb		100
86)	Benz (a) anthracene	13.65	228	1137597	38.96454 ppb		99
87)	Bis (2-ethylhexyl) phthala	13.66	149	880088	39.22141 ppb		97
88)	Chrysene	13.69	228	1034971	40.76106 ppb		99
89)	Di-n-octylphthalate	14.41	149	1322580	39.92965 ppb		97
91)	Benzo (b) fluoranthene	14.95	252	1137431	39.99867 ppb		98
92)	Benzo (k) fluoranthene	14.99	252	981428	38.27939 ppb		98
93)	Benzo (a) pyrene	15.40	252	980057	38.83327 ppb		98
94)	Indeno (1,2,3-cd) pyrene	17.34	276	1157206	39.33449 ppb		99
95)	Dibenz (a,h) anthracene	17.37	278	1022289	39.00732 ppb		98
96)	Benzo (g,h,i) perylene	17.91	276	908299	39.29134 ppb		98

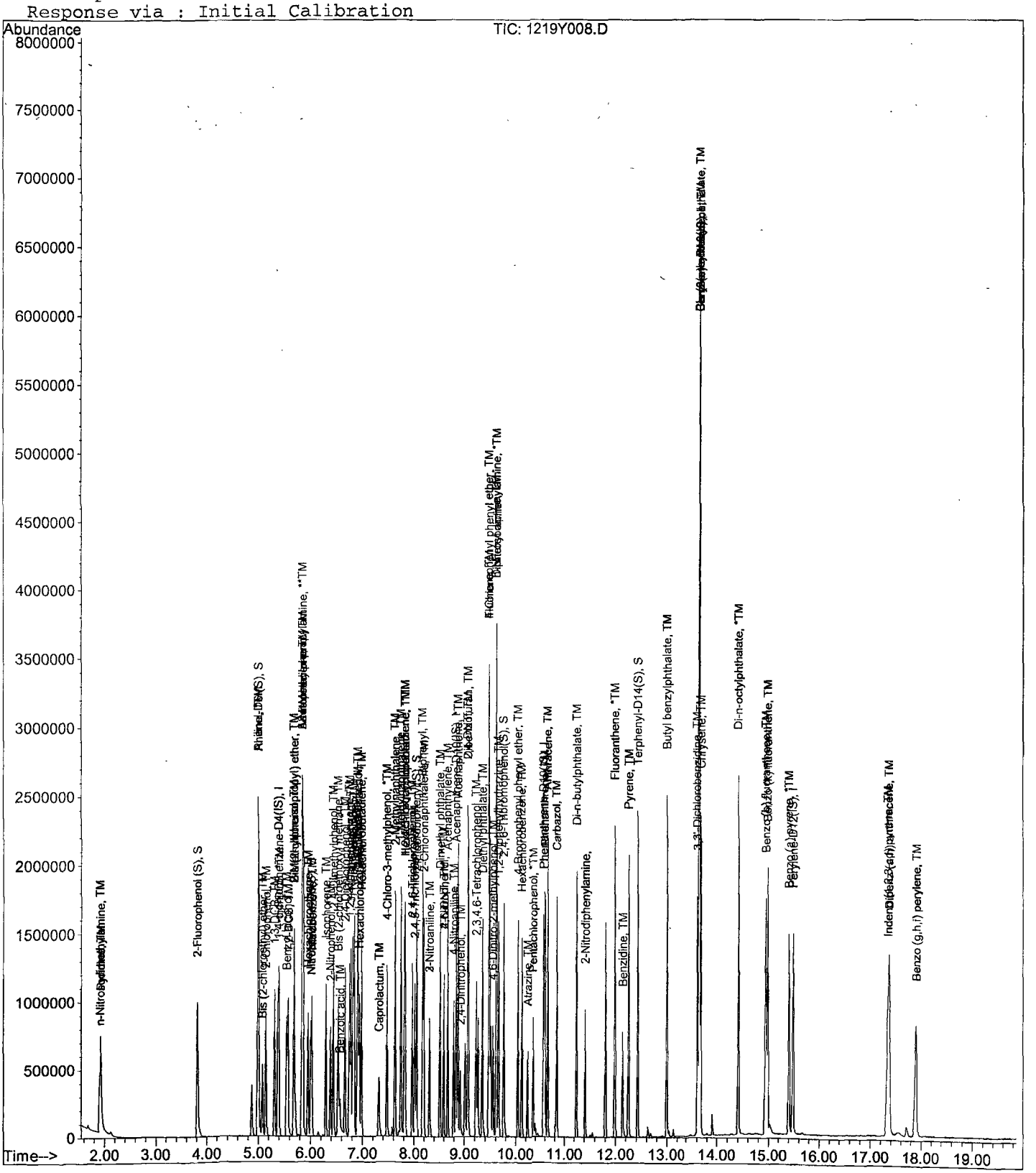
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y191219\1219Y008.D Vial: 8
Acq On : 19 Dec 19 11:24 Operator: MA,SS
Sample : 40ug/ml 8270 11/21/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y009.D Vial: 9
Acq On : 19 Dec 19 11:51 Operator: MA,SS
Sample : 60ug/ml 8270 11/21/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.38	152	160953	40.00000 ppb	0.00
21) Napthalene-D8(IS)	6.82	136	685348	40.00000 ppb	0.00
41) Acenaphthene-D10(IS)	8.84	164	424996	40.00000 ppb	0.00
65) Phenanthrene-D10(IS)	10.57	188	796514	40.00000 ppb	0.00
80) Chrysene-D12(IS)	13.67	240	1005038	40.00000 ppb	0.00
90) Perylene-D12(IS)	15.49	264	865168	40.00000 ppb	0.00
System Monitoring Compounds					
5) 2-Fluorophenol (S)	3.82	112	753971	127.80550 ppb	0.00
Spiked Amount 200.000			Recovery =	63.903%	
6) Phenol-D6 (S)	5.00	99	965746	128.48885 ppb	0.00
Spiked Amount 200.000			Recovery =	64.245%	
22) Nitrobenzene-D5(S)	6.01	82	517338	60.69782 ppb	0.00
Spiked Amount 100.000			Recovery =	60.698%	
46) 2-Fluorobiphenyl(S)	8.06	172	952099	60.66112 ppb	0.00
Spiked Amount 100.000			Recovery =	60.661%	
64) 2,4,6-Tribromophenol(S)	9.77	330	330216	125.02270 ppb	0.00
Spiked Amount 200.000			Recovery =	62.512%	
83) Terphenyl-D14(S)	12.43	244	1317552	54.97558 ppb	0.00
Spiked Amount 100.000			Recovery =	54.976%	
Target Compounds					Qvalue
3) n-Nitrosodimethylamine	1.91	42	292234	65.02884 ppb	100
4) Pyridine	1.92	79	684285	65.73377 ppb	98
7) Phenol	5.02	94	596449	67.24251 ppb	95
8) Aniline	5.01	93	400896	69.25679 ppb	95
9) Bis (2-chloroethyl) ether	5.09	63	270061	65.72167 ppb	94
10) 2-Chlorophenol	5.15	128	411267	65.84829 ppb	99
11) 1,3-DCB	5.31	146	444136	64.80266 ppb	98
12) 1,4-DCB	5.40	146	459470	65.50576 ppb	96
13) Benzyl alcohol	5.54	108	241965	65.77083 ppb	97
14) 1,2-DCB	5.57	146	428400	65.64329 ppb	99
15) 2-Methylphenol	5.68	107	361008	66.23892 ppb	99
16) Bis (2-chloroisopropyl) et	5.69	45	356163	65.72491 ppb	99
17) Acetophenone	5.84	105	617676	66.49198 ppb	99
18) 3&4-Methylphenol	5.86	107	952694	132.91717 ppb	99
19) n-Nitrosodi-n-propylamine	5.85	70	402101	67.29988 ppb	98
20) Hexachloroethane	5.95	117	190409	65.12647 ppb	97
23) Nitrobenzene	6.04	77	557986	63.16784 ppb	99
24) Isophorone	6.31	82	872286	62.58851 ppb	99
25) 2-Nitrophenol	6.39	139	230690	64.31331 ppb	99
26) 2,4-Dimethylphenol	6.44	122	359953	62.71309 ppb	100
27) Benzoic acid	6.60	105	293487	58.72692 ppb	99
28) Bis (2-chloroethoxy) metha	6.55	93	457869	63.30278 ppb	97
29) 2,4-Dichlorophenol	6.68	162	357701	63.91535 ppb	100
30) 1,2,4-Trichlorobenzene	6.76	180	400374	64.13977 ppb	98
31) 3,4-Dimethylphenol	6.79	107	600730	62.91404 ppb	100
32) Naphthalene	6.84	128	1176746	63.10625 ppb	99
33) 4-Chloroaniline	6.91	127	471729	62.91587 ppb	98
34) 2,6-Dichlorophenol	6.92	162	349158	63.68349 ppb	98
35) Hexachloropropene	6.95	213	349669	64.73761 ppb	100
36) Hexachlorobutadiene	6.98	225	268805	63.47650 ppb	100
37) Caprolactum	7.34	55	155158	61.77408 ppb	97
38) 4-Chloro-3-methylphenol	7.48	107	426464	64.19474 ppb	100

(#) = qualifier out of range (m) = manual integration

Data File : M:\YODA\DATA\Y191219\1219Y009.D Vial: 9
Acq On : 19 Dec 19 11:51 Operator: MA,SS
Sample : 60ug/ml 8270 11/21/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	2-Methylnaphthalene	7.63	142	793770	63.25069	ppb		99
40)	1-Methylnaphthalene	7.75	142	832076	63.76134	ppb		100
42)	Hexachlorocyclopentadiene	7.82	237	306752	62.07183	ppb		99
43)	1,2,4,5-Tetrachlorobenzene	7.84	216	425660	62.87574	ppb		99
44)	2,4,6-Trichlorophenol	7.97	196	281816	63.58234	ppb		98
45)	2,4,5-Trichlorophenol	8.02	196	301154	62.64854	ppb		97
47)	1,1'-Biphenyl	8.18	154	1027471	62.33279	ppb		97
48)	2-Chloronaphthalene	8.20	162	825988	62.30917	ppb		99
49)	2-Nitroaniline	8.32	65	317213	63.02131	ppb		100
50)	Dimethyl phthalate	8.53	163	1013833	62.39365	ppb		99
51)	2,6-DNT	8.61	165	226254	63.84462	ppb		99
52)	Acenaphthylene	8.68	152	1289574	63.18347	ppb		100
53)	3-Nitroaniline	8.32	138	266968	63.46450	ppb		100
54)	Acenaphthene	8.89	154	800171	62.67644	ppb		100
55)	2,4-Dinitrophenol	8.93	184	126506	58.66929	ppb	#	78
56)	4-Nitrophenol	8.60	65	20413	61.63346	ppb		97
57)	Dibenzofuran	9.08	168	1226638	63.25710	ppb		99
58)	2,4-DNT	9.07	165	335087	64.31335	ppb		96
59)	2,3,4,6-Tetrachlorophenol	9.24	232	239911	65.80120	ppb		99
60)	Diethyl phthalate	9.35	149	1040635	61.81596	ppb		99
61)	4-Chlorophenyl phenyl ethe	9.48	204	587260	63.00279	ppb		99
62)	Fluorene	9.48	166	1063405	64.46185	ppb		99
63)	4-Nitroaniline	8.80	138	220693	62.96160	ppb		95
66)	4,6-Dinitro-2-methylphenol	9.56	198	198681	63.98043	ppb		99
67)	Diphenyl amine	9.63	169	1652863	127.47170	ppb		100
68)	n-Nitrosodiphenylamine	9.63	169	1652863	127.47170	ppb		100
69)	1,2-Diphenylhydrazine	9.67	77	1183313	63.10133	ppb		99
70)	4-Bromophenyl phenyl ether	10.05	248	310984	63.69937	ppb		97
71)	Hexachlorobenzene	10.13	284	320014	64.79369	ppb		100
72)	Atrazine	10.24	200	138142	31.02308	ppb		96
73)	Pentachlorophenol	10.36	266	186384	61.39058	ppb		99
74)	Phenanthrene	10.60	178	1384259	62.97746	ppb		99
75)	Anthracene	10.66	178	1445744	62.92265	ppb		99
76)	Carbazol	10.85	167	1323037	63.24352	ppb		99
77)	Di-n-butylphthalate	11.25	149	1860030	65.02262	ppb		99
78)	2-Nitrodiphenylamine	11.42	167	216308	33.24157	ppb		91
79)	Fluoranthene	11.99	202	1641246	63.74949	ppb		99
81)	Benzidine	12.14	184	513732	50.08562	ppb		99
82)	Pyrene	12.25	202	1718860	57.05497	ppb		100
84)	Butyl benzylphthalate	13.00	149	861484	57.07291	ppb		96
85)	3,3'-Dichlorobenzidine	13.62	252	573326	55.37523	ppb		98
86)	Benz (a) anthracene	13.65	228	1901953	57.95823	ppb		100
87)	Bis (2-ethylhexyl) phthala	13.67	149	1500100	59.47733	ppb		99
88)	Chrysene	13.69	228	1612879	56.51364	ppb		100
89)	Di-n-octylphthalate	14.41	149	2164466	58.13779	ppb	#	89
91)	Benzo (b) fluoranthene	14.96	252	1834489	64.91869	ppb		99
92)	Benzo (k) fluoranthene	14.99	252	1524121	59.82190	ppb		99
93)	Benzo (a) pyrene	15.41	252	1574220	62.77002	ppb		98
94)	Indeno (1,2,3-cd) pyrene	17.36	276	1835591	62.78747	ppb		99
95)	Dibenz (a,h) anthracene	17.39	278	1644729	63.15402	ppb		99
96)	Benzo (g,h,i) perylene	17.92	276	1423801	61.97998	ppb		98

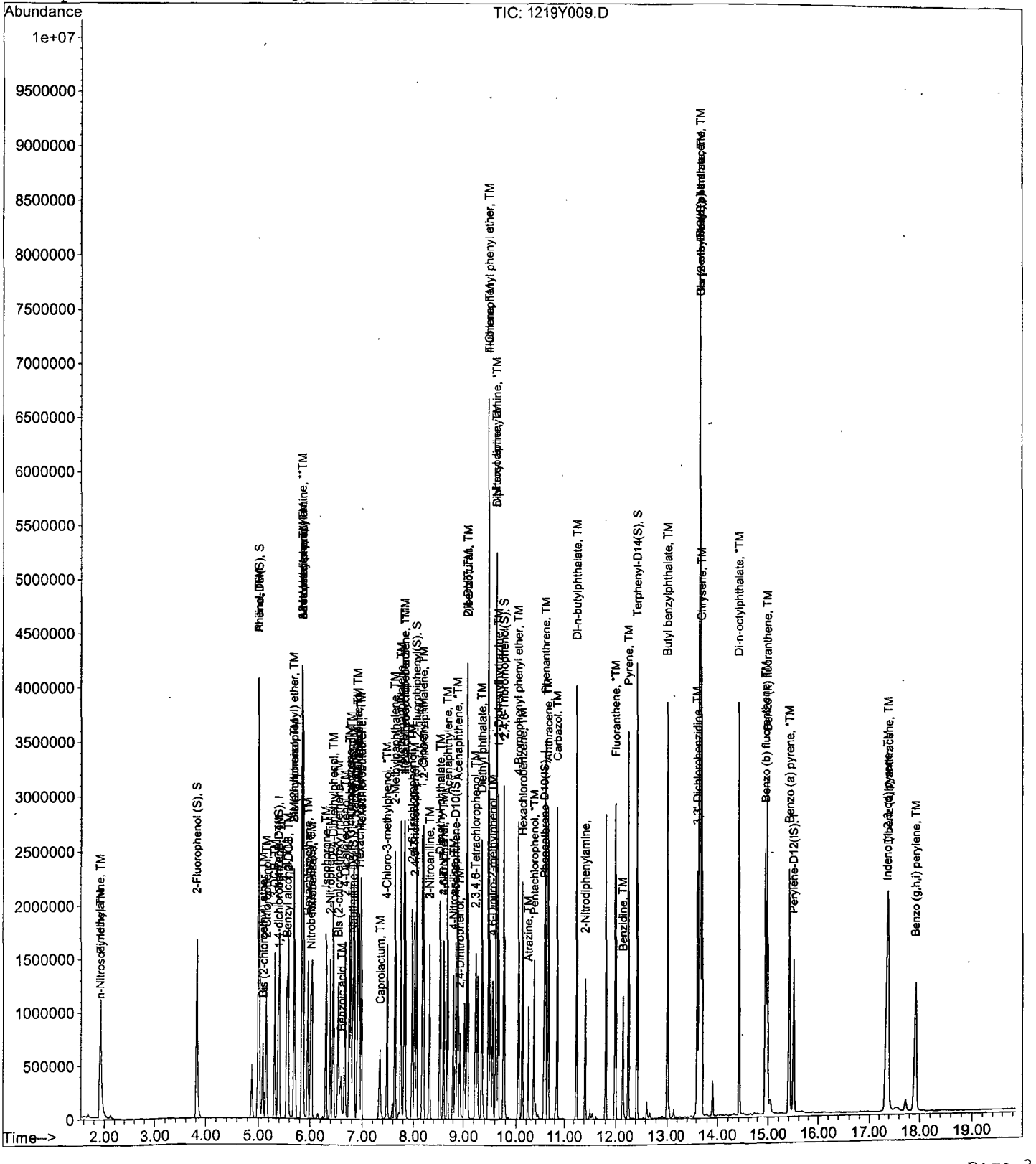
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y191219\1219Y009.D Vial: 9
Acq On : 19 Dec 19 11:51 Operator: MA,SS
Sample : 60ug/ml 8270 11/21/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y010.D Vial: 10
Acq On : 19 Dec 19 12:19 Operator: MA,SS
Sample : 80ug/ml 8270 11/21/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.38	152	160754	40.00000 ppb	0.00
21) Napthalene-D8(IS)	6.83	136	692959	40.00000 ppb	0.00
41) Acenaphthene-D10(IS)	8.84	164	424996	40.00000 ppb	0.00
65) Phenanthrene-D10(IS)	10.58	188	805372	40.00000 ppb	0.00
80) Chrysene-D12(IS)	13.67	240	1113628	40.00000 ppb	0.00
90) Perylene-D12(IS)	15.49	264	871956	40.00000 ppb	0.00
System Monitoring Compounds					
5) 2-Fluorophenol (S)	3.82	112	1075001	182.44881 ppb	0.00
Spiked Amount 200.000			Recovery =	91.225%	
6) Phenol-D6 (S)	5.01	99	1420883	189.27713 ppb	0.01
Spiked Amount 200.000			Recovery =	94.638%	
22) Nitrobenzene-D5(S)	6.02	82	726169	84.26361 ppb	0.01
Spiked Amount 100.000			Recovery =	84.264%	
46) 2-Fluorobiphenyl(S)	8.06	172	1352303	86.15933 ppb	0.00
Spiked Amount 100.000			Recovery =	86.159%	
64) 2,4,6-Tribromophenol(S)	9.78	330	496073	187.81763 ppb	0.01
Spiked Amount 200.000			Recovery =	93.909%	
83) Terphenyl-D14(S)	12.43	244	1883191	70.91511 ppb	0.00
Spiked Amount 100.000			Recovery =	70.915%	
Target Compounds					Qvalue
3) n-Nitrosodimethylamine	1.91	42	401885	89.53944 ppb	99
4) Pyridine	1.93	79	934760	89.90605 ppb	98
7) Phenol	5.02	94	839274	94.73526 ppb	88
8) Aniline	5.01	93	498688	86.25749 ppb	85
9) Bis (2-chloroethyl) ether	5.09	63	369777	90.09981 ppb	97
10) 2-Chlorophenol	5.16	128	564852	90.55087 ppb	97
11) 1,3-DCB	5.31	146	617727	90.24242 ppb	99
12) 1,4-DCB	5.41	146	635798	90.75672 ppb	96
13) Benzyl alcohol	5.55	108	342328	93.16664 ppb	96
14) 1,2-DCB	5.57	146	592153	90.84732 ppb	100
15) 2-Methylphenol	5.69	107	504104	92.60913 ppb	99
16) Bis (2-chloroisopropyl) et	5.69	45	497984	92.00976 ppb	91
17) Acetophenone	5.85	105	867366	93.48636 ppb	88
18) 3&4-Methylphenol	5.87	107	1364847	190.65532 ppb	96
19) n-Nitrosodi-n-propylamine	5.85	70	570874	95.66579 ppb	96
20) Hexachloroethane	5.95	117	268399	91.91539 ppb	98
23) Nitrobenzene	6.04	77	764484	85.59428 ppb	97
24) Isophorone	6.32	82	1217808	86.42078 ppb	99
25) 2-Nitrophenol	6.39	139	319613	88.12521 ppb	99
26) 2,4-Dimethylphenol	6.45	122	504451	86.92306 ppb	97
27) Benzoic acid	6.62	105	419869	81.40378 ppb	98
28) Bis (2-chloroethoxy) metha	6.55	93	640818	87.62335 ppb	98
29) 2,4-Dichlorophenol	6.68	162	502883	88.87008 ppb	99
30) 1,2,4-Trichlorobenzene	6.76	180	558246	88.44856 ppb	99
31) 3,4-Dimethylphenol	6.79	107	839926	86.99873 ppb	99
32) Naphthalene	6.84	128	1644894	87.24311 ppb	100
33) 4-Chloroaniline	6.92	127	636919	84.01473 ppb	94
34) 2,6-Dichlorophenol	6.93	162	502385	90.62439 ppb	94
35) Hexachloropropene	6.95	213	488764	89.49574 ppb	100
36) Hexachlorobutadiene	6.98	225	378957	88.50528 ppb	99
37) Caprolactum	7.36	55	217497	85.64244 ppb	97
38) 4-Chloro-3-methylphenol	7.49	107	599365	89.23025 ppb	95

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y010.D Vial: 10
Acq On : 19 Dec 19 12:19 Operator: MA,SS
Sample : 80ug/ml 8270 11/21/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	2-Methylnaphthalene	7.63	142	1113998	87.79274	ppb		100
40)	1-Methylnaphthalene	7.75	142	1172330	88.84806	ppb		99
42)	Hexachlorocyclopentadiene	7.82	237	428800	85.24955	ppb		98
43)	1,2,4,5-Tetrachlorobenzene	7.84	216	615504	90.91826	ppb		100
44)	2,4,6-Trichlorophenol	7.97	196	393255	88.72482	ppb		100
45)	2,4,5-Trichlorophenol	8.02	196	421934	87.77419	ppb		97
47)	1,1'-Biphenyl	8.18	154	1475278	89.49955	ppb		97
48)	2-Chloronaphthalene	8.20	162	1174670	88.61232	ppb		99
49)	2-Nitroaniline	8.32	65	442197	87.85212	ppb		97
50)	Dimethyl phthalate	8.53	163	1419958	87.38754	ppb		100
51)	2,6-DNT	8.61	165	321665	90.76781	ppb		90
52)	Acenaphthylene	8.68	152	1796603	88.02567	ppb		100
53)	3-Nitroaniline	8.32	138	365367	86.85624	ppb		96
54)	Acenaphthene	8.89	154	1132422	88.70127	ppb		100
55)	2,4-Dinitrophenol	8.93	184	181951	81.43622	ppb		87
56)	4-Nitrophenol	8.61	65	28530	86.14131	ppb		100
57)	Dibenzofuran	9.08	168	1771319	91.34602	ppb		99
58)	2,4-DNT	9.08	165	492992	94.62011	ppb		89
59)	2,3,4,6-Tetrachlorophenol	9.24	232	331804	91.00501	ppb		99
60)	Diethyl phthalate	9.36	149	1448375	86.03660	ppb		97
61)	4-Chlorophenyl phenyl ethe	9.48	204	883654	94.80072	ppb		99
62)	Fluorene	9.48	166	1569501	95.14055	ppb		100
63)	4-Nitroaniline	8.80	138	289183	82.50114	ppb		92
66)	4,6-Dinitro-2-methylphenol	9.56	198	286670	91.29983	ppb	#	77
67)	Diphenyl amine	9.63	169	2378602	181.42435	ppb		100
68)	n-Nitrosodiphenylamine	9.63	169	2378602	181.42435	ppb		100
69)	1,2-Diphenylhydrazine	9.67	77	1671934	88.17691	ppb		99
70)	4-Bromophenyl phenyl ether	10.05	248	446909	90.53429	ppb		96
71)	Hexachlorobenzene	10.13	284	447867	89.68291	ppb		96
72)	Atrazine	10.25	200	193291	42.93067	ppb		99
73)	Pentachlorophenol	10.36	266	272701	88.83349	ppb		100
74)	Phenanthrene	10.60	178	1957324	88.06988	ppb		100
75)	Anthracene	10.67	178	2064260	88.85398	ppb		100
76)	Carbazol	10.85	167	1880718	88.91287	ppb		99
77)	Di-n-butylphthalate	11.25	149	2576769	89.08752	ppb		99
78)	2-Nitrodiphenylamine	11.43	167	300682	45.69969	ppb		97
79)	Fluoranthene	12.00	202	2372919	91.15549	ppb		99
81)	Benzidine	12.14	184	645213	56.77039	ppb		100
82)	Pyrene	12.26	202	2459441	73.67696	ppb		100
84)	Butyl benzylphthalate	13.00	149	1236168	73.90991	ppb		99
85)	3,3'-Dichlorobenzidine	13.62	252	786783	68.58216	ppb		100
86)	Benz (a) anthracene	13.66	228	2811632	77.32433	ppb		100
87)	Bis (2-ethylhexyl) phthala	13.67	149	2233399	79.91714	ppb		98
88)	Chrysene	13.69	228	2371032	74.97755	ppb		100
89)	Di-n-octylphthalate	14.42	149	3105415	75.27828	ppb		100
91)	Benzo (b) fluoranthene	14.96	252	2455809	86.22935	ppb		99
92)	Benzo (k) fluoranthene	14.99	252	2306290	89.81741	ppb		99
93)	Benzo (a) pyrene	15.42	252	2209159	87.40166	ppb		99
94)	Indeno (1,2,3-cd) pyrene	17.37	276	2551188	86.58555	ppb		98
95)	Dibenz (a,h) anthracene	17.41	278	2321142	88.43297	ppb		99
96)	Benzo (g,h,i) perylene	17.94	276	1961989	84.74315	ppb		99

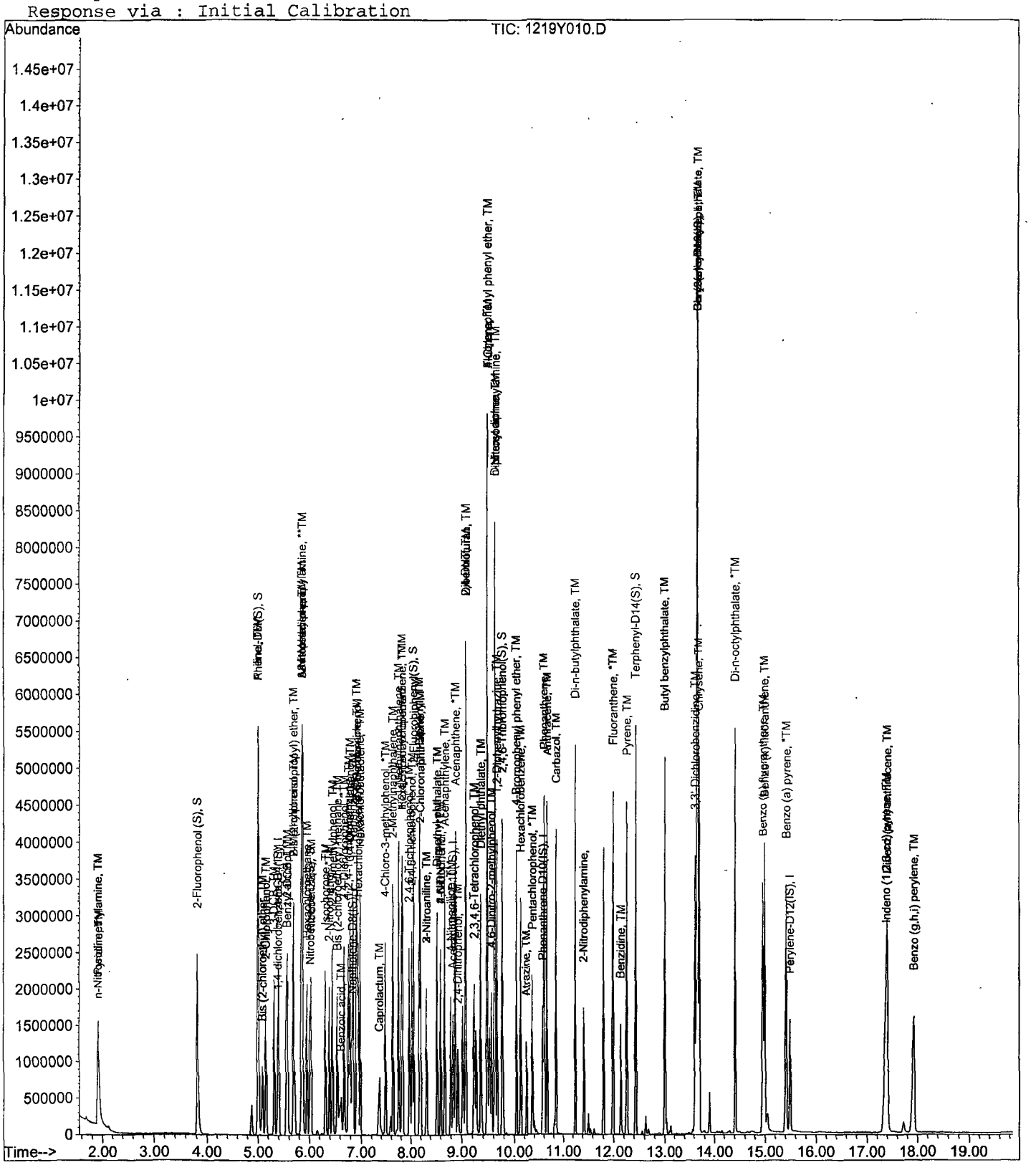
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y191219\1219Y010.D Vial: 10
Acq On : 19 Dec 19 12:19 Operator: MA,SS
Sample : 80ug/ml 8270 11/21/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y011.D Vial: 11
Acq On : 19 Dec 19 12:46 Operator: MA,SS
Sample : 100ug/ml 8270 11/21/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.39	152	167721	40.00000 ppb	0.00
21) Napthalene-D8(IS)	6.82	136	690825	40.00000 ppb	0.00
41) Acenaphthene-D10(IS)	8.85	164	415501	40.00000 ppb	0.00
65) Phenanthrene-D10(IS)	10.57	188	801375	40.00000 ppb	0.00
80) Chrysene-D12(IS)	13.66	240	1091847	40.00000 ppb	0.00
90) Perylene-D12(IS)	15.49	264	847047	40.00000 ppb	0.00
System Monitoring Compounds					
5) 2-Fluorophenol (S)	3.83	112	1327145	215.88621 ppb	0.00
Spiked Amount 200.000			Recovery	= 107.943%	
6) Phenol-D6 (S)	5.00	99	1768177	225.75631 ppb	0.00
Spiked Amount 200.000			Recovery	= 112.878%	
22) Nitrobenzene-D5(S)	6.02	82	888862	103.46088 ppb	0.00
Spiked Amount 100.000			Recovery	= 103.461%	
46) 2-Fluorobiphenyl(S)	8.06	172	1696969	110.58977 ppb	0.00
Spiked Amount 100.000			Recovery	= 110.590%	
64) 2,4,6-Tribromophenol(S)	9.78	330	649730	251.61496 ppb	0.00
Spiked Amount 200.000			Recovery	= 125.808%	
83) Terphenyl-D14(S)	12.44	244	2470353	94.88156 ppb	0.00
Spiked Amount 100.000			Recovery	= 94.882%	
Target Compounds					Qvalue
3) n-Nitrosodimethylamine	1.90	42	444670	94.95651 ppb	93
4) Pyridine	1.92	79	1054326	97.19369 ppb	99
7) Phenol	5.02	94	975068	105.49142 ppb	96
8) Aniline	5.01	93	532480	88.27659 ppb	97
9) Bis (2-chloroethyl) ether	5.09	63	422559	98.68376 ppb	98
10) 2-Chlorophenol	5.15	128	643242	98.83407 ppb	96
11) 1,3-DCB	5.32	146	705388	98.76806 ppb	98
12) 1,4-DCB	5.40	146	726887	99.44911 ppb	97
13) Benzyl alcohol	5.55	108	388291	101.28607 ppb	99
14) 1,2-DCB	5.57	146	689593	101.40173 ppb	99
15) 2-Methylphenol	5.69	107	576392	101.49063 ppb	99
16) Bis (2-chloroisopropyl) et	5.69	45	566462	100.31448 ppb	80
17) Acetophenone	5.85	105	992228	102.50184 ppb	98
18) 3&4-Methylphenol	5.87	107	1564530	209.47066 ppb	100
19) n-Nitrosodi-n-propylamine	5.86	70	649091	104.25487 ppb	100
20) Hexachloroethane	5.95	117	306272	100.52845 ppb	93
23) Nitrobenzene	6.04	77	875644	98.34300 ppb	93
24) Isophorone	6.31	82	1364800	97.15113 ppb	100
25) 2-Nitrophenol	6.40	139	362836	100.35190 ppb	90
26) 2,4-Dimethylphenol	6.45	122	582120	100.61623 ppb	97
27) Benzoic acid	6.63	105	476161	92.04260 ppb	97
28) Bis (2-chloroethoxy) metha	6.55	93	732731	100.50073 ppb	100
29) 2,4-Dichlorophenol	6.68	162	567413	100.58365 ppb	96
30) 1,2,4-Trichlorobenzene	6.76	180	635162	100.94600 ppb	98
31) 3,4-Dimethylphenol	6.80	107	956954	99.42657 ppb	97
32) Naphthalene	6.85	128	1900914	101.13354 ppb	100
33) 4-Chloroaniline	6.92	127	702041	92.89091 ppb	97
34) 2,6-Dichlorophenol	6.93	162	571198	103.35574 ppb	96
35) Hexachloropropene	6.94	213	564125	103.61389 ppb	100
36) Hexachlorobutadiene	6.99	225	434421	101.77230 ppb	99
37) Caprolactum	7.36	55	246611	97.40644 ppb	95
38) 4-Chloro-3-methylphenol	7.48	107	669864	100.03382 ppb	91

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y011.D Vial: 11
Acq On : 19 Dec 19 12:46 Operator: MA,SS
Sample : 100ug/ml 8270 11/21/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
39)	2-Methylnaphthalene	7.64	142	1291010	102.05711 ppb		99
40)	1-Methylnaphthalene	7.75	142	1334685	101.46501 ppb		100
42)	Hexachlorocyclopentadiene	7.82	237	423680	86.11588 ppb		100
43)	1,2,4,5-Tetrachlorobenzene	7.84	216	703291	106.25957 ppb		98
44)	2,4,6-Trichlorophenol	7.97	196	450783	104.02822 ppb		99
45)	2,4,5-Trichlorophenol	8.03	196	477360	101.57366 ppb		94
47)	1,1'-Biphenyl	8.18	154	1686770	104.66841 ppb		98
48)	2-Chloronaphthalene	8.21	162	1339298	103.33995 ppb		97
49)	2-Nitroaniline	8.33	65	495048	100.59966 ppb		91
50)	Dimethyl phthalate	8.53	163	1597157	100.53896 ppb		99
51)	2,6-DNT	8.61	165	360589	104.07665 ppb	#	75
52)	Acenaphthylene	8.68	152	2048709	102.67159 ppb		99
53)	3-Nitroaniline	8.33	138	418230	101.69501 ppb		96
54)	Acenaphthene	8.88	154	1288641	103.24434 ppb		99
55)	2,4-Dinitrophenol	8.93	184	208042	94.10192 ppb		96
56)	4-Nitrophenol	8.61	65	33255	102.70213 ppb		98
57)	Dibenzofuran	9.09	168	2035181	107.35164 ppb		93
58)	2,4-DNT	9.08	165	558092	109.56255 ppb		97
59)	2,3,4,6-Tetrachlorophenol	9.24	232	377431	105.88489 ppb		96
60)	Diethyl phthalate	9.36	149	1638573	99.55906 ppb		99
61)	4-Chlorophenyl phenyl ethe	9.48	204	1013272	111.19063 ppb		94
62)	Fluorene	9.49	166	1826006	113.21893 ppb		99
63)	4-Nitroaniline	8.80	138	325641	95.02525 ppb		82
66)	4,6-Dinitro-2-methylphenol	9.57	198	325138	104.06776 ppb		97
67)	Diphenyl amine	9.63	169	2746000	210.49174 ppb		100
68)	n-Nitrosodiphenylamine	9.63	169	2746000	210.49174 ppb		100
69)	1,2-Diphenylhydrazine	9.66	77	1846029	97.84419 ppb		96
70)	4-Bromophenyl phenyl ether	10.05	248	515407	104.93130 ppb		83
71)	Hexachlorobenzene	10.13	284	515422	103.72521 ppb		89
72)	Atrazine	10.25	200	217511	48.55098 ppb		96
73)	Pentachlorophenol	10.36	266	321253	105.17146 ppb		98
74)	Phenanthrene	10.60	178	2272938	102.78104 ppb		100
75)	Anthracene	10.67	178	2388824	103.33737 ppb		100
76)	Carbazol	10.86	167	2146142	101.96712 ppb		98
77)	Di-n-butylphthalate	11.26	149	3023885	105.06726 ppb		98
78)	2-Nitrodiphenylamine	11.43	167	350286	53.50438 ppb		97
79)	Fluoranthene	11.99	202	2652267	102.39480 ppb		98
81)	Benzidine	12.14	184	709638	63.68453 ppb		99
82)	Pyrene	12.26	202	2834840	86.61682 ppb		99
84)	Butyl benzylphthalate	13.01	149	1433320	87.40709 ppb	#	79
85)	3,3'-Dichlorobenzidine	13.62	252	875135	77.80538 ppb		99
86)	Benz (a) anthracene	13.66	228	3190283	89.48810 ppb		100
87)	Bis (2-ethylhexyl) phthala	13.66	149	2564215	93.58504 ppb		99
88)	Chrysene	13.70	228	2706844	87.30426 ppb		100
89)	Di-n-octylphthalate	14.42	149	3511144	86.81146 ppb		97
91)	Benzo (b) fluoranthene	14.95	252	2718531	98.26115 ppb		98
92)	Benzo (k) fluoranthene	15.00	252	2709650	108.62927 ppb		99
93)	Benzo (a) pyrene	15.42	252	2492274	101.50223 ppb		98
94)	Indeno (1,2,3-cd) pyrene	17.37	276	2878800	100.57766 ppb		100
95)	Dibenz (a,h) anthracene	17.40	278	2618904	102.71152 ppb		99
96)	Benzo (g,h,i) perylene	17.94	276	2213051	98.39806 ppb		100

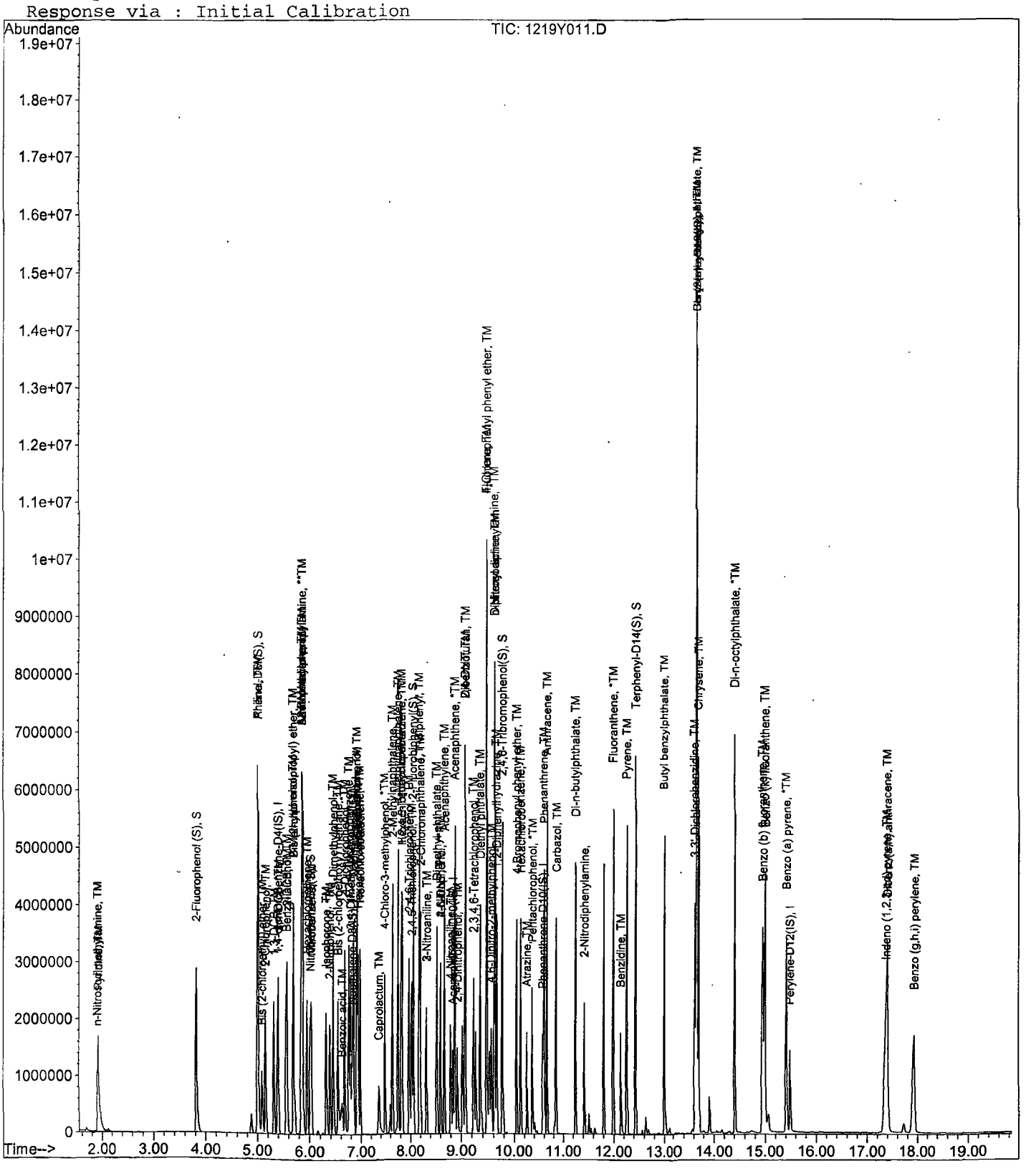
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y191219\1219Y011.D Vial: 11
Acq On : 19 Dec 19 12:46 Operator: MA,SS
Sample : 100ug/ml 8270 11/21/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration



Semi-Volatile Analysis by GC-MS
EPA 8270

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 12/19/19
Instrument: Yoda
Initial Cal. Date: 12/19/19
Data File: 1219Y012.D

		Compound	MEAN	CCRF	%D		%Drift
1		1,4-Dioxane	0.6022	0.6376	5.9		
2	TM	n-Nitrosodimethylamine	1.117	1.180	5.6	TM	
3	TM	Pyridine	2.587	2.639	2.0	TM	
4	*TM	Phenol	2.204	2.243	1.7	*TM	
5	TM	Aniline	1.439	1.657	15	TM	
6	TM	Bis (2-chloroethyl) ether	1.021	1.080	5.7	TM	
7	TM	2-Chlorophenol	1.552	1.607	3.6	TM	
8	TM	1,3-DCB	1.703	1.753	2.9	TM	
9	*TM	1,4-DCB	1.743	1.793	2.8	*TM	
10	TM	Benzyl alcohol	0.9143	0.9743	6.6	TM	
11	TM	1,2-DCB	1.622	1.674	3.2	TM	
12	TM	2-Methylphenol	1.354	1.404	3.7	TM	
13	TM	Bis (2-chloroisopropyl) ether	1.347	1.393	3.4	TM	
14	TM	Acetophenone	2.309	2.421	4.9	TM	
15	TM	3&4-Methylphenol	1.781	1.810	1.6	TM	
16	**TM	n-Nitrosodi-n-propylamine	1.485	1.540	3.7	**TM	
17	TM	Hexachloroethane	0.7266	0.7587	4.4	TM	
18	TM	Nitrobenzene	0.5156	0.5309	3.0	TM	
19	TM	Isophorone	0.8134	0.8514	4.7	TM	
20	*TM	2-Nitrophenol	0.2094	0.2223	6.2	*TM	
21	TM	2,4-Dimethylphenol	0.3350	0.3505	4.6	TM	
22	TML	Benzoic acid	0.2307	0.3085	34	TML	6.6
23	TM	Bis (2-chloroethoxy) methane	0.4222	0.4476	6.0	TM	
24	*TM	2,4-Dichlorophenol	0.3266	0.3400	4.1	*TM	
25	TM	1,2,4-Trichlorobenzene	0.3643	0.3811	4.6	TM	
26	TM	3,4-Dimethylphenol	0.5573	0.5842	4.8	TM	
27	TM	Naphthalene	1.088	1.154	6.0	TM	
28	TM	4-Chloroaniline	0.4376	0.4640	6.0	TM	
29	TM	2,6-Dichlorophenol	0.3200	0.3394	6.1	TM	
30	TM	Hexachloropropene	0.3152	0.3339	5.9	TM	
31	*TM	Hexachlorobutadiene	0.2472	0.2560	3.6	*TM	
32	TM	Caprolactum	0.1466	0.1538	4.9	TM	
33	*TM	4-Chloro-3-methylphenol	0.3877	0.4161	7.3	*TM	
34	TM	2-Methylnaphthalene	0.7325	0.7990	9.1	TM	
35	TM	1-Methylnaphthalene	0.7616	0.7886	3.5	TM	
36	**TML	Hexachlorocyclopentadiene	0.3696	0.4521	22	**TML	1.1
37	TM	1,2,4,5-Tetrachlorobenzene	0.6372	0.6766	6.2	TM	
38	*TM	2,4,6-Trichlorophenol	0.4172	0.4464	7.0	*TM	
39	TM	2,4,5-Trichlorophenol	0.4524	0.4860	7.4	TM	
40	TM	1,1'-Biphenyl	1.551	1.646	6.1	TM	
		Average			6.2		

Semi-Volatile Analysis by GC-MS
EPA 8270

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 12/19/19
Instrument: Yoda
Cal. Date: 12/19/19
Data File: 1219Y012.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	2-Chloronaphthalene	1.248	1.287	3.1	TM	
42	TM	2-Nitroaniline	0.4737	0.5330	13	TM	
43	TM	Dimethyl phthalate	1.529	1.612	5.4	TM	
44	TM	2,6-DNT	0.3335	0.3594	7.8	TM	
45	TM	Acenaphthylene	1.921	2.039	6.2	TM	
46	TM	3-Nitroaniline	0.3959	0.4440	12	TM	
47	*TM	Acenaphthene	1.202	1.272	5.8	*TM	
48	**TML	2,4-Dinitrophenol	0.1391	0.1930	39	**TML	2.4
49	**TM	4-Nitrophenol	0.0312	0.0331	6.3	**TM	
50	TM	Dibenzofuran	1.825	1.991	9.1	TM	
51	TM	2,4-DNT	0.4904	0.5209	6.2	TM	
52	TM	2,3,4,6-Tetrachlorophenol	0.3432	0.3772	9.9	TM	
53	TM	Diethyl phthalate	1.584	1.664	5.0	TM	
54	TM	4-Chlorophenyl phenyl ether	0.8773	0.8972	2.3	TM	
55	TM	Fluorene	1.553	1.642	5.8	TM	
56	TM	4-Nitroaniline	0.3299	0.3692	12	TM	
57	TM	4,6-Dinitro-2-methylphenol	0.1559	0.1668	7.0	TM	
58	TM	Diphenyl amine	0.6512	0.7094	8.9	TM	
59	*TM	n-Nitrosodiphenylamine	0.6512	0.7094	8.9	*TM	
60	TM	1,2-Diphenylhydrazine	0.9417	0.9917	5.3	TM	
61	TM	4-Bromophenyl phenyl ether	0.2452	0.2643	7.8	TM	
62	TM	Hexachlorobenzene	0.2480	0.2730	10	TM	
63	TM	Atrazine	0.2236	0.2354	5.3	TM	
64	*TM	Pentachlorophenol	0.1525	0.1514	0.68	*TM	
65	TM	Phenanthrene	1.104	1.206	9.2	TM	
66	TM	Anthracene	1.154	1.246	8.0	TM	
67	TM	Carbazol	1.051	1.136	8.1	TM	
68	TM	Di-n-butylphthalate	1.437	1.529	6.5	TM	
69		2-Nitrodiphenylamine	0.3268	0.3682	13		
70	*TM	Fluoranthene	1.293	1.392	7.7	*TM	
71	TM	Benzidine	0.4082	0.3716	9.0	TM	
72	TM	Pyrene	1.199	1.267	5.7	TM	
73	TM	Butyl benzylphthalate	0.6008	0.6332	5.4	TM	
74	TM	3,3'-Dichlorobenzidine	0.4121	0.4458	8.2	TM	
75	TM	Benz (a) anthracene	1.306	1.401	7.3	TM	
76	TM	Bis (2-ethylhexyl) phthalate	1.004	1.044	4.0	TM	
77	TM	Chrysene	1.136	1.200	5.6	TM	
78	*TM	Di-n-octylphthalate	1.482	1.554	4.8	*TM	
79	TM	Benzo (b) fluoranthene	1.306	1.367	4.6	TM	
80	TM	Benzo (k) fluoranthene	1.178	1.349	14	TM	
		Average			8.1		

Semi-Volatile Analysis by GC-MS
EPA 8270

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 12/19/19
Instrument: Yoda
Cal. Date: 12/19/19
Data File: 1219Y012.D

		Compound	MEAN	CCRF	%D	%Drift	
81	*TM	Benzo (a) pyrene	1.160	1.260	8.7	*TM	
82	TM	Indeno (1,2,3-cd) pyrene	1.352	1.394	3.1	TM	
83	TM	Dibenz (a,h) anthracene	1.204	1.302	8.1	TM	
84	TM	Benzo (g,h,i) perylene	1.062	1.208	14	TM	
85							
86							
87							
88							
89							
90							
91							
92							
93							
94							
95							
96							
97							
98							
99							
100							
101							
102							
103							
104							
105							
106							
107							
108							
109							
110							
111							
112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			8.5		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y012.D Vial: 12
Acq On : 19 Dec 19 13:14 Operator: MA,SS
Sample : SS 8270 11/22/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.38	152	154648	40.00000 ppb	0.00
21) Napthalene-D8(IS)	6.82	136	627218	40.00000 ppb	0.00
41) Acenaphthene-D10(IS)	8.84	164	380731	40.00000 ppb	0.00
65) Phenanthrene-D10(IS)	10.57	188	716758	40.00000 ppb	0.00
80) Chrysene-D12(IS)	13.66	240	829696	40.00000 ppb	0.00
90) Perylene-D12(IS)	15.48	264	760670	40.00000 ppb	-0.01
System Monitoring Compounds					
5) 2-Fluorophenol (S)	0.00	112	0	0.00000 ppb	
Spiked Amount 200.000			Recovery =	0.000%	
6) Phenol-D6 (S)	0.00	99	0	0.00000 ppb	
Spiked Amount 200.000			Recovery =	0.000%	
22) Nitrobenzene-D5(S)	5.95	82	52711	6.75760 ppb	-0.06
Spiked Amount 100.000			Recovery =	6.758%	
46) 2-Fluorobiphenyl(S)	8.02	172	554	0.03940 ppb	-0.04
Spiked Amount 100.000			Recovery =	0.039%	
64) 2,4,6-Tribromophenol(S)	0.00	330	0	0.00000 ppb	
Spiked Amount 200.000			Recovery =	0.000%	
83) Terphenyl-D14(S)	12.43	244	297	0.01501 ppb	0.00
Spiked Amount 100.000			Recovery =	0.015%	
Target Compounds					Qvalue
3) n-Nitrosodimethylamine	1.90	42	228024	52.80932 ppb	98
4) Pyridine	1.92	79	510199	51.00889 ppb	99
7) Phenol	5.00	94	433587	50.87467 ppb	79
8) Aniline	5.00	93	320384	57.60447 ppb #	92
9) Bis (2-chloroethyl) ether	5.08	63	208721	52.86493 ppb	99
10) 2-Chlorophenol	5.15	128	310728	51.77926 ppb	99
11) 1,3-DCB	5.31	146	338803	51.44923 ppb	98
12) 1,4-DCB	5.39	146	346514	51.41595 ppb	99
13) Benzyl alcohol	5.54	108	188349	53.28425 ppb	98
14) 1,2-DCB	5.57	146	323570	51.60169 ppb	98
15) 2-Methylphenol	5.68	107	271451	51.83733 ppb	99
16) Bis (2-chloroisopropyl) et	5.69	45	269286	51.71896 ppb	86
17) Acetophenone	5.84	105	467976	52.43085 ppb	97
18) 3&4-Methylphenol	5.86	107	699849	101.62178 ppb	99
19) n-Nitrosodi-n-propylamine	5.84	70	297756	51.86739 ppb	93
20) Hexachloroethane	5.95	117	146655	52.20615 ppb	96
23) Nitrobenzene	6.03	77	416218	51.48566 ppb	93
24) Isophorone	6.30	82	667515	52.33466 ppb	98
25) 2-Nitrophenol	6.39	139	174251	53.08111 ppb	98
26) 2,4-Dimethylphenol	6.44	122	274826	52.31942 ppb	99
27) Benzoic acid	6.58	105	241867	53.28837 ppb	98
28) Bis (2-chloroethoxy) metha	6.54	93	350898	53.00967 ppb	98
29) 2,4-Dichlorophenol	6.68	162	266533	52.03896 ppb	99
30) 1,2,4-Trichlorobenzene	6.76	180	298756	52.29628 ppb	100
31) 3,4-Dimethylphenol	6.79	107	458062	52.41857 ppb	99
32) Naphthalene	6.84	128	904563	53.00552 ppb	100
33) 4-Chloroaniline	6.91	127	363799	53.01781 ppb	98
34) 2,6-Dichlorophenol	6.92	162	266063	53.02515 ppb	98
35) Hexachloropropene	6.94	213	261770	52.95562 ppb	98
36) Hexachlorobutadiene	6.98	225	200685	51.78252 ppb	99
37) Caprolactum	7.32	55	120598	52.46442 ppb	93
38) 4-Chloro-3-methylphenol	7.47	107	326264	53.66349 ppb	90

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y012.D Vial: 12
Acq On : 19 Dec 19 13:14 Operator: MA,SS
Sample : SS 8270 11/22/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	2-Methylnaphthalene	7.63	142	626418	54.54154	ppb		99
40)	1-Methylnaphthalene	7.75	142	618310	51.77181	ppb		99
42)	Hexachlorocyclopentadiene	7.82	237	215168	49.43015	ppb		99
43)	1,2,4,5-Tetrachlorobenzene	7.84	216	321980	53.09037	ppb		99
44)	2,4,6-Trichlorophenol	7.97	196	212425	53.49868	ppb		99
45)	2,4,5-Trichlorophenol	8.02	196	231296	53.71023	ppb		96
47)	1,1'-Biphenyl	8.17	154	783426	53.05320	ppb		99
48)	2-Chloronaphthalene	8.20	162	612398	51.56780	ppb		99
49)	2-Nitroaniline	8.32	65	253652	56.25244	ppb		98
50)	Dimethyl phthalate	8.52	163	767054	52.69465	ppb		98
51)	2,6-DNT	8.60	165	171054	53.88004	ppb	#	66
52)	Acenaphthylene	8.68	152	970447	53.07569	ppb		100
53)	3-Nitroaniline	8.32	138	211306	56.07253	ppb		99
54)	Acenaphthene	8.87	154	605219	52.91767	ppb		99
55)	2,4-Dinitrophenol	8.92	184	91847	48.82234	ppb		96
56)	4-Nitrophenol	8.60	65	15775	53.16743	ppb		98
57)	Dibenzofuran	9.08	168	947587	54.54797	ppb		100
58)	2,4-DNT	9.07	165	247899	53.11106	ppb		94
59)	2,3,4,6-Tetrachlorophenol	9.24	232	179532	54.96575	ppb		98
60)	Diethyl phthalate	9.35	149	791693	52.49593	ppb		99
61)	4-Chlorophenyl phenyl ethe	9.48	204	426980	51.13326	ppb		98
62)	Fluorene	9.48	166	781637	52.89027	ppb		99
63)	4-Nitroaniline	8.80	138	175684	55.94819	ppb		89
66)	4,6-Dinitro-2-methylphenol	9.55	198	149456	53.48414	ppb		90
67)	Diphenyl amine	9.62	169	1271157	108.94241	ppb		99
68)	n-Nitrosodiphenylamine	9.62	169	1271157	108.94241	ppb		99
69)	1,2-Diphenylhydrazine	9.66	77	888538	52.65453	ppb		98
70)	4-Bromophenyl phenyl ether	10.04	248	236821	53.90613	ppb		97
71)	Hexachlorobenzene	10.13	284	244573	55.02919	ppb		97
72)	Atrazine	10.24	200	105442	26.31441	ppb		97
73)	Pentachlorophenol	10.36	266	135671	49.65935	ppb		99
74)	Phenanthrene	10.60	178	1080229	54.61406	ppb		99
75)	Anthracene	10.66	178	1116406	53.99563	ppb		100
76)	Carbazol	10.85	167	1017680	54.06002	ppb		99
77)	Di-n-butylphthalate	11.25	149	1370271	53.23188	ppb		99
78)	2-Nitrodiphenylamine	11.42	167	164948	28.16935	ppb		89
79)	Fluoranthene	11.99	202	1247416	53.84374	ppb		99
81)	Benzidine	12.14	184	385367	45.51080	ppb		99
82)	Pyrene	12.25	202	1314061	52.83625	ppb		99
84)	Butyl benzylphthalate	13.00	149	656686	52.69920	ppb		91
85)	3,3'-Dichlorobenzidine	13.62	252	462307	54.08886	ppb	#	99
86)	Benz (a) anthracene	13.65	228	1453439	53.65073	ppb		99
87)	Bis (2-ethylhexyl) phthala	13.66	149	1082924	52.01071	ppb	#	98
88)	Chrysene	13.69	228	1244504	52.82157	ppb		100
89)	Di-n-octylphthalate	14.41	149	1611191	52.42256	ppb	#	91
91)	Benzo (b) fluoranthene	14.94	252	1300001	52.32418	ppb		99
92)	Benzo (k) fluoranthene	14.99	252	1282239	57.24188	ppb		98
93)	Benzo (a) pyrene	15.41	252	1198281	54.34376	ppb		99
94)	Indeno (1,2,3-cd) pyrene	17.35	276	1325649	51.57388	ppb		99
95)	Dibenz (a,h) anthracene	17.38	278	1237782	54.05738	ppb		100
96)	Benzo (g,h,i) perylene	17.91	276	1148610	56.86944	ppb		99

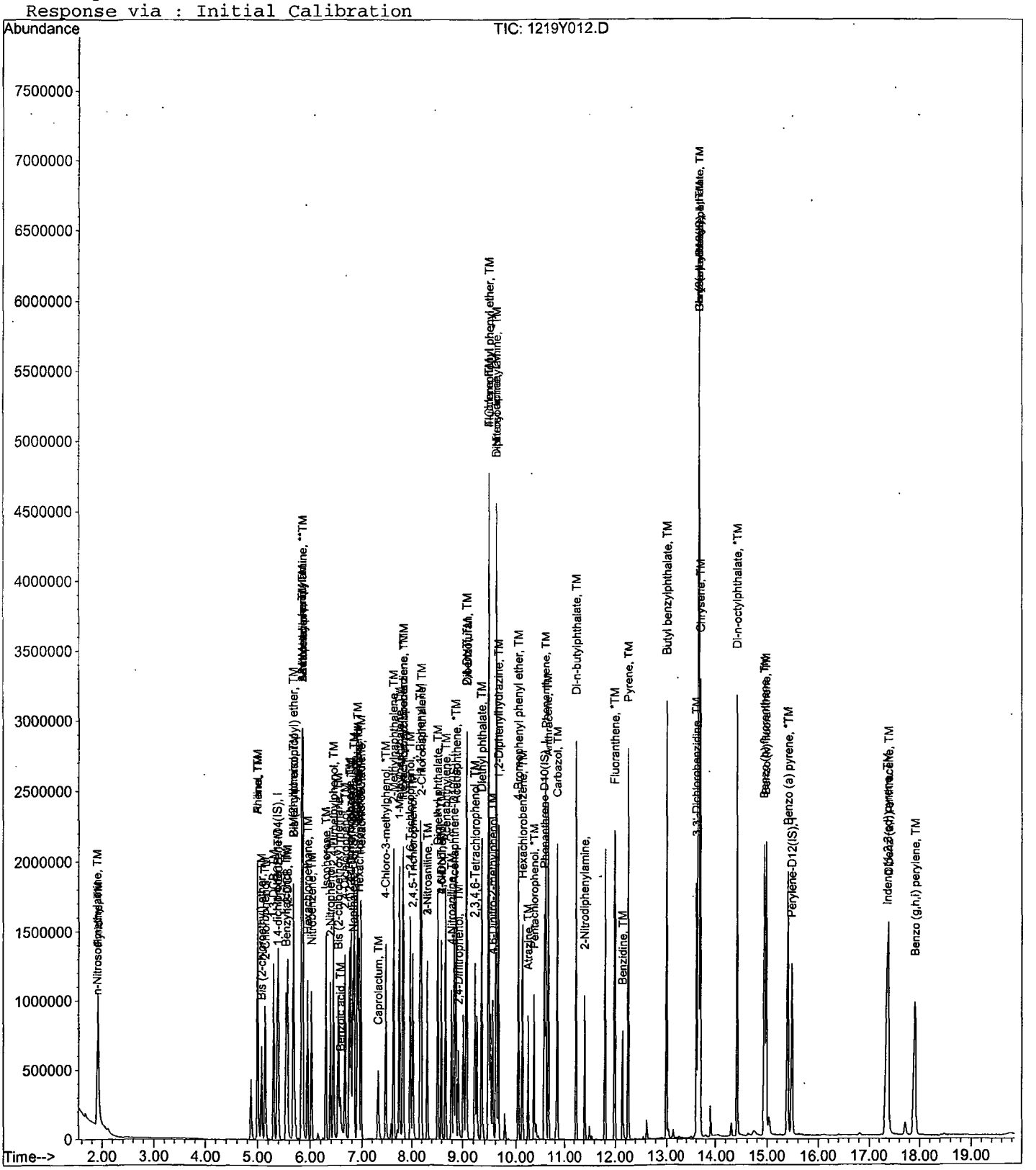
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y191219\1219Y012.D Vial: 12
Acq On : 19 Dec 19 13:14 Operator: MA,SS
Sample : SS 8270 11/22/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration



Semi-Volatile Analysis by GC-MS
EPA 8270

Form 7

Continuing Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Date Analyzed: 01/24/20
Matrix: Instrument: Yoda
Initial Cal. Date: 12/19/19
Data File: 1219Y217.D

		Compound	MEAN	CCRF	%D		%Drift	
1	I	1,4-dichlorobenzene-D4(IS)	ISTD			I		
2		1,4-Dioxane	0.6022	0.6609	9.7			
3	TM	n-Nitrosodimethylamine	1.117	1.366	22	TM		*NT
4	TM	Pyridine	2.587	3.046	18	TM		
5	S	2-Fluorophenol (S)	1.466	1.462	0.26	S		
6	S	Phenol-D6 (S)	1.868	2.056	10	S		
7	*TM	Phenol	2.204	2.512	14	*TM		
8	TM	Aniline	1.439	1.442	0.23	TM		
9	TM	Bis (2-chloroethyl) ether	1.021	1.160	14	TM		
10	TM	2-Chlorophenol	1.552	1.662	7.1	TM		
11	TM	1,3-DCB	1.703	1.744	2.4	TM		
12	*TM	1,4-DCB	1.743	1.793	2.9	*TM		
13	TM	Benzyl alcohol	0.9143	1.037	13	TM		
14	TM	1,2-DCB	1.622	1.711	5.5	TM		
15	TM	2-Methylphenol	1.354	1.539	14	TM		
16	TM	Bis (2-chloroisopropyl) ether	1.347	1.584	18	TM		
17	TM	Acetophenone	2.309	2.693	17	TM		
18	TM	3&4-Methylphenol	1.781	2.098	18	TM		
19	**TM	n-Nitrosodi-n-propylamine	1.485	1.784	20	**TM		
20	TM	Hexachloroethane	0.7266	0.7759	6.8	TM		
21	I	Napthalene-D8(IS)	ISTD			I		
22	S	Nitrobenzene-D5(S)	0.4975	0.5018	0.88	S		
23	TM	Nitrobenzene	0.5156	0.5499	6.7	TM		
24	TM	Isophorone	0.8134	0.8943	9.9	TM		
25	*TM	2-Nitrophenol	0.2094	0.2192	4.7	*TM		
26	TM	2,4-Dimethylphenol	0.3350	0.3651	9.0	TM		
27	TML	Benzoic acid	0.2307	0.3355	45	TML	15	
28	TM	Bis (2-chloroethoxy) methane	0.4222	0.4546	7.7	TM		
29	*TM	2,4-Dichlorophenol	0.3266	0.3525	7.9	*TM		
30	TM	1,2,4-Trichlorobenzene	0.3643	0.3783	3.8	TM		
31	TM	3,4-Dimethylphenol	0.5573	0.6191	11	TM		
32	TM	Naphthalene	1.088	1.165	7.0	TM		
33	TM	4-Chloroaniline	0.4376	0.4762	8.8	TM		
34	TM	2,6-Dichlorophenol	0.3200	0.3585	12	TM		
35	TM	Hexachloropropene	0.3152	0.3441	9.2	TM		
36	*TM	Hexachlorobutadiene	0.2472	0.2659	7.6	*TM		
37	TM	Caprolactum	0.1466	0.1700	16	TM		
38	*TM	4-Chloro-3-methylphenol	0.3877	0.4321	11	*TM		
39	TM	2-Methylnaphthalene	0.7325	0.8159	11	TM		
40	TM	1-Methylnaphthalene	0.7616	0.8455	11	TM		
		Average			10.9			

Semi-Volatile Analysis by GC-MS
EPA 8270

Form 7

Continuing Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Date Analyzed: 01/24/20
Matrix: 0 Instrument: Yoda
Cal. Date: 12/19/19
Data File: 1219Y217.D

		Compound	MEAN	CCRF	%D		%Drift	
41	I	Acenaphthene-D10(IS)	ISTD			I		
42	**TML	Hexachlorocyclopentadiene	0.3696	0.3907	5.7	**TML	14	
43	TM	1,2,4,5-Tetrachlorobenzene	0.6372	0.6786	6.5	TM		
44	*TM	2,4,6-Trichlorophenol	0.4172	0.4454	6.8	*TM		
45	TM	2,4,5-Trichlorophenol	0.4524	0.4671	3.2	TM		
46	S	2-Fluorobiphenyl(S)	1.477	1.486	0.58	S		
47	TM	1,1'-Biphenyl	1.551	1.700	9.6	TM		
48	TM	2-Chloronaphthalene	1.248	1.330	6.6	TM		
49	TM	2-Nitroaniline	0.4737	0.5270	11	TM		
50	TM	Dimethyl phthalate	1.529	1.655	8.2	TM		
51	TM	2,6-DNT	0.3335	0.3628	8.8	TM		
52	TM	Acenaphthylene	1.921	2.082	8.4	TM		
53	TM	3-Nitroaniline	0.3959	0.4291	8.4	TM		
54	*TM	Acenaphthene	1.202	1.293	7.6	*TM		
55	**TML	2,4-Dinitrophenol	0.1391	0.2148	54	**TML	7.1	
56	**TM	4-Nitrophenol	0.0312	0.0356	14	**TM		
57	TM	Dibenzofuran	1.825	2.032	11	TM		
58	TM	2,4-DNT	0.4904	0.5678	16	TM		
59	TM	2,3,4,6-Tetrachlorophenol	0.3432	0.3716	8.3	TM		
60	TM	Diethyl phthalate	1.584	1.728	9.1	TM		
61	TM	4-Chlorophenyl phenyl ether	0.8773	1.010	15	TM		
62	TM	Fluorene	1.553	1.789	15	TM		
63	TM	4-Nitroaniline	0.3299	0.3451	4.6	TM		
64	S	2,4,6-Tribromophenol(S)	0.2486	0.2721	9.5	S		
65	I	Phenanthrene-D10(IS)	ISTD			I		
66	TM	4,6-Dinitro-2-methylphenol	0.1559	0.1592	2.1	TM		
67	TM	Diphenyl amine	0.6512	0.7022	7.8	TM		
68	*TM	n-Nitrosodiphenylamine	0.6512	0.7022	7.8	*TM		
69	TM	1,2-Diphenylhydrazine	0.9417	1.018	8.1	TM		
70	TM	4-Bromophenyl phenyl ether	0.2452	0.2605	6.3	TM		
71	TM	Hexachlorobenzene	0.2480	0.2625	5.8	TM		
72	TM	Atrazine	0.2236	0.1503	33	TM		*NT
73	*TM	Pentachlorophenol	0.1525	0.1605	5.3	*TM		
74	TM	Phenanthrene	1.104	1.178	6.7	TM		
75	TM	Anthracene	1.154	1.234	6.9	TM		
76	TM	Carbazol	1.051	1.127	7.2	TM		
77	TM	Di-n-butylphthalate	1.437	1.563	8.8	TM		
78		2-Nitrodiphenylamine	0.3268	0.3707	13			
79	*TM	Fluoranthene	1.293	1.394	7.8	*TM		
80	I	Chrysene-D12(IS)	ISTD			I		
		Average			10.1			

Semi-Volatile Analysis by GC-MS
EPA 8270

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 01/24/20
Instrument: Yoda
Cal. Date: 12/19/19
Data File: 1219Y217.D

		Compound	MEAN	CCRF	%D	%Drift		
81	TM	Benzidine	0.4082	0.1894	54	TM		*NT
82	TM	Pyrene	1.199	1.101	8.1	TM		
83	S	Terphenyl-D14(S)	0.9538	0.8163	14	S		
84	TM	Butyl benzylphthalate	0.6008	0.5510	8.3	TM		
85	TM	3,3'-Dichlorobenzidine	0.4121	0.4278	3.8	TM		
86	TM	Benz (a) anthracene	1.306	1.357	3.9	TM		
87	TM	Bis (2-ethylhexyl) phthalate	1.004	1.088	8.4	TM		
88	TM	Chrysene	1.136	1.022	10	TM		
89	*TM	Di-n-octylphthalate	1.482	1.367	7.7	*TM		
90	I	Perylene-D12(IS)	ISTD			I		
91	TM	Benzo (b) fluoranthene	1.306	1.490	14	TM		
92	TM	Benzo (k) fluoranthene	1.178	1.247	5.9	TM		
93	*TM	Benzo (a) pyrene	1.160	1.258	8.5	*TM		
94	TM	Indeno (1,2,3-cd) pyrene	1.352	1.457	7.8	TM		
95	TM	Dibenz (a,h) anthracene	1.204	1.326	10	TM		
96	TM	Benzo (g,h,i) perylene	1.062	1.116	5.1	TM		
97								
98								
99								
100								
101								
102								
103								
104								
105								
106								
107								
108								
109								
110								
111								
112								
113								
114								
115								
116								
117								
118								
119								
120								
		Average			11.3			

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y217.D Vial: 17
Acq On : 24 Jan 20 12:06 Operator: MA,SS
Sample : 50ug/ml 8270 01/06/20 (1) Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 24 13:00 2020 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.38	152	218453	40.00000 ppb	0.00
21) Napthalene-D8(IS)	6.82	136	959258	40.00000 ppb	0.00
41) Acenaphthene-D10(IS)	8.84	164	609190	40.00000 ppb	0.00
65) Phenanthrene-D10(IS)	10.56	188	1206628	40.00000 ppb	0.00
80) Chrysene-D12(IS)	13.66	240	1600310	40.00000 ppb	0.00
90) Perylene-D12(IS)	15.49	264	1247240	40.00000 ppb	0.00
System Monitoring Compounds					
5) 2-Fluorophenol (S)	3.81	112	798583	99.73693 ppb	0.00
Spiked Amount 200.000			Recovery	= 49.869%	
6) Phenol-D6 (S)	5.00	99	1122922	110.07614 ppb	0.00
Spiked Amount 200.000			Recovery	= 55.038%	
22) Nitrobenzene-D5(S)	6.01	82	601725	50.43970 ppb	0.00
Spiked Amount 100.000			Recovery	= 50.440%	
46) 2-Fluorobiphenyl(S)	8.05	172	1131363	50.28776 ppb	0.00
Spiked Amount 100.000			Recovery	= 50.288%	
64) 2,4,6-Tribromophenol(S)	9.77	330	414459	109.47235 ppb	0.00
Spiked Amount 200.000			Recovery	= 54.736%	
83) Terphenyl-D14(S)	12.43	244	1632853	42.78855 ppb	0.00
Spiked Amount 100.000			Recovery	= 42.789%	
Target Compounds					Qvalue
2) 1,4-Dioxane	1.68	58	18046	5.48679	87
3) n-Nitrosodimethylamine	1.91	42	372908	61.13896 ppb	99
4) Pyridine	1.92	79	831885	58.87838 ppb	98
7) Phenol	5.01	94	686032	56.98441 ppb	82
8) Aniline	5.00	93	393728	50.11503 ppb #	83
9) Bis (2-chloroethyl) ether	5.08	63	316631	56.77292 ppb	98
10) 2-Chlorophenol	5.14	128	453763	53.52921 ppb	95
11) 1,3-DCB	5.30	146	476238	51.19670 ppb	99
12) 1,4-DCB	5.40	146	489705	51.43964 ppb	97
13) Benzyl alcohol	5.54	108	283283	56.73386 ppb	100
14) 1,2-DCB	5.56	146	467262	52.75243 ppb	99
15) 2-Methylphenol	5.68	107	420273	56.81578 ppb	98
16) Bis (2-chloroisopropyl) et	5.68	45	432541	58.80978 ppb	83
17) Acetophenone	5.84	105	735351	58.32360 ppb	91
18) 3&4-Methylphenol	5.86	107	1145578	117.75881 ppb	98
19) n-Nitrosodi-n-propylamine	5.84	70	487260	60.08706 ppb	93
20) Hexachloroethane	5.94	117	211885	53.39632 ppb	96
23) Nitrobenzene	6.03	77	659407	53.33374 ppb	94
24) Isophorone	6.30	82	1072383	54.97451 ppb	98
25) 2-Nitrophenol	6.38	139	262843	52.35332 ppb	90
26) 2,4-Dimethylphenol	6.44	122	437743	54.48881 ppb	98
27) Benzoic acid	6.62	105	402244	57.59071 ppb	97
28) Bis (2-chloroethoxy) metha	6.54	93	545142	53.84767 ppb	99
29) 2,4-Dichlorophenol	6.67	162	422681	53.96019 ppb	97
30) 1,2,4-Trichlorobenzene	6.75	180	453555	51.91193 ppb	98
31) 3,4-Dimethylphenol	6.78	107	742297	55.54202 ppb	99
32) Naphthalene	6.84	128	1396899	53.52176 ppb	100
33) 4-Chloroaniline	6.91	127	570987	54.40885 ppb	97
34) 2,6-Dichlorophenol	6.92	162	429820	56.01021 ppb	96
35) Hexachloropropene	6.94	213	412635	54.58098 ppb	99
36) Hexachlorobutadiene	6.97	225	318835	53.79196 ppb	99
37) Caprolactum	7.34	55	203868	57.99051 ppb	91

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y217.D Vial: 17
Acq On : 24 Jan 20 12:06 Operator: MA,SS
Sample : 50ug/ml 8270 01/06/20 (1) Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 24 13:00 2020 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
38)	4-Chloro-3-methylphenol	7.47	107	518074	55.71660	ppb		89
39)	2-Methylnaphthalene	7.63	142	978363	55.69886	ppb		100
40)	1-Methylnaphthalene	7.74	142	1013798	55.50366	ppb		100
42)	Hexachlorocyclopentadiene	7.81	237	297536	43.23715	ppb		100
43)	1,2,4,5-Tetrachlorobenzene	7.83	216	516753	53.25193	ppb		99
44)	2,4,6-Trichlorophenol	7.97	196	339147	53.38152	ppb		100
45)	2,4,5-Trichlorophenol	8.02	196	355690	51.62095	ppb		99
47)	1,1'-Biphenyl	8.17	154	1294675	54.79486	ppb		98
48)	2-Chloronaphthalene	8.20	162	1013127	53.31804	ppb		97
49)	2-Nitroaniline	8.32	65	401302	55.62114	ppb		96
50)	Dimethyl phthalate	8.52	163	1260579	54.12229	ppb		100
51)	2,6-DNT	8.60	165	276267	54.38625	ppb	#	63
52)	Acenaphthylene	8.67	152	1585183	54.18371	ppb		100
53)	3-Nitroaniline	8.32	138	326720	54.18505	ppb		97
54)	Acenaphthene	8.88	154	984547	53.80097	ppb		100
55)	2,4-Dinitrophenol	8.93	184	163550	53.57479	ppb		83
56)	4-Nitrophenol	8.60	65	27081	57.04354	ppb		97
57)	Dibenzofuran	9.08	168	1547280	55.66649	ppb		97
58)	2,4-DNT	9.07	165	432396	57.89717	ppb		91
59)	2,3,4,6-Tetrachlorophenol	9.23	232	282979	54.14645	ppb		93
60)	Diethyl phthalate	9.35	149	1315894	54.53247	ppb		98
61)	4-Chlorophenyl phenyl ethe	9.47	204	768797	57.54043	ppb		92
62)	Fluorene	9.48	166	1362647	57.62614	ppb		99
63)	4-Nitroaniline	8.79	138	262755	52.29621	ppb	#	76
66)	4,6-Dinitro-2-methylphenol	9.56	198	240054	51.02932	ppb		94
67)	Diphenyl amine	9.62	169	2118117	107.83180	ppb		99
68)	n-Nitrosodiphenylamine	9.62	169	2118117	107.83180	ppb		99
69)	1,2-Diphenylhydrazine	9.66	77	1535835	54.06341	ppb		95
70)	4-Bromophenyl phenyl ether	10.05	248	392901	53.12516	ppb		85
71)	Hexachlorobenzene	10.12	284	395850	52.90716	ppb	#	83
72)	Atrazine	10.24	200	113339	16.80191	ppb		98
73)	Pentachlorophenol	10.36	266	242131	52.64577	ppb		99
74)	Phenanthrene	10.60	178	1776073	53.33946	ppb		99
75)	Anthracene	10.66	178	1860863	53.46259	ppb		100
76)	Carbazol	10.85	167	1699182	53.61718	ppb		99
77)	Di-n-butylphthalate	11.24	149	2357662	54.40591	ppb		99
78)	2-Nitrodiphenylamine	11.42	167	279558	28.35965	ppb		95
79)	Fluoranthene	11.98	202	2102324	53.90421	ppb	#	97
81)	Benzidine	12.13	184	378835	23.19556	ppb		99
82)	Pyrene	12.25	202	2203294	45.93078	ppb		99
84)	Butyl benzylphthalate	13.00	149	1102286	45.86226	ppb		81
85)	3,3'-Dichlorobenzidine	13.62	252	855832	51.91355	ppb		99
86)	Benz (a) anthracene	13.65	228	2715290	51.96488	ppb		99
87)	Bis (2-ethylhexyl) phthala	13.66	149	2176482	54.19569	ppb		100
88)	Chrysene	13.69	228	2044325	44.98625	ppb		99
89)	Di-n-octylphthalate	14.41	149	2734985	46.13612	ppb		97
91)	Benzo (b) fluoranthene	14.95	252	2322288	57.00607	ppb		99
92)	Benzo (k) fluoranthene	14.99	252	1944626	52.94528	ppb		99
93)	Benzo (a) pyrene	15.42	252	1961335	54.24866	ppb		99
94)	Indeno (1,2,3-cd) pyrene	17.36	276	2272042	53.90932	ppb		100
95)	Dibenz (a,h) anthracene	17.40	278	2067796	55.07630	ppb		99
96)	Benzo (g,h,i) perylene	17.93	276	1740632	52.56051	ppb		99

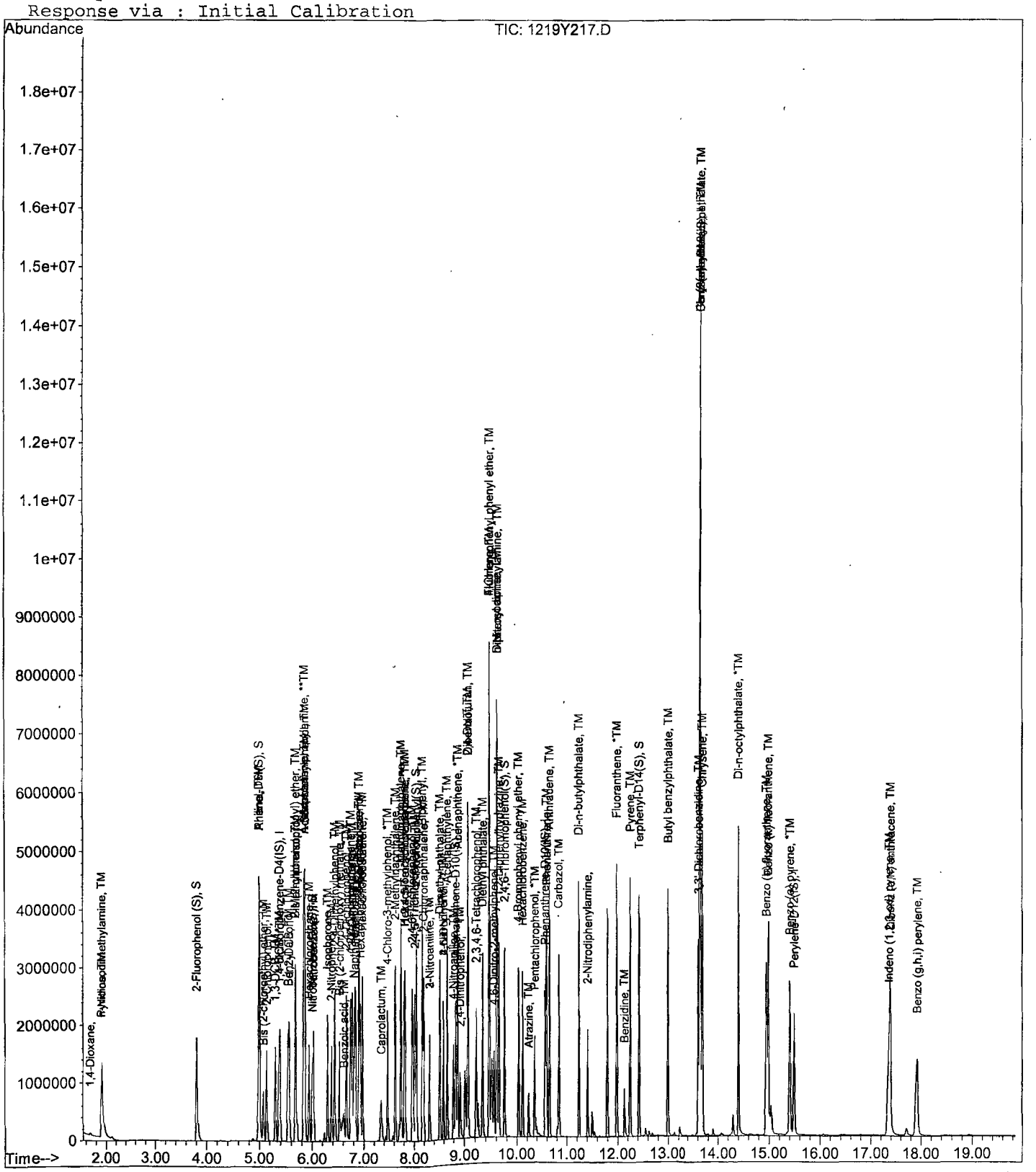
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y191219\1219Y217.D Vial: 17
Acq On : 24 Jan 20 12:06 Operator: MA,SS
Sample : 50ug/ml 8270 01/06/20 (1) Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 24 13:00 2020 Quant Results File: Y1219.RES

Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration



Semi-Volatile Analysis by GC-MS
EPA 8270

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Date Analyzed: 01/24/20
Matrix: Instrument: Yoda
Initial Cal. Date: 12/19/19
Data File: 1219Y228.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	1,4-dichlorobenzene-D4(IS)	ISTD			I	
2		1,4-Dioxane	0.6022	0.7651	27		
3	TM	n-Nitrosodimethylamine	1.117	1.310	17	TM	
4	TM	Pyridine	2.587	2.933	13	TM	
5	S	2-Fluorophenol (S)	1.466	1.433	2.3	S	
6	S	Phenol-D6 (S)	1.868	1.853	0.78	S	
7	*TM	Phenol	2.204	2.310	4.8	*TM	
8	TM	Aniline	1.439	1.086	25	TM	
9	TM	Bis (2-chloroethyl) ether	1.021	1.117	9.4	TM	
10	TM	2-Chlorophenol	1.552	1.649	6.3	TM	
11	TM	1,3-DCB	1.703	1.789	5.1	TM	
12	*TM	1,4-DCB	1.743	1.831	5.1	*TM	
13	TM	Benzyl alcohol	0.9143	0.9849	7.7	TM	
14	TM	1,2-DCB	1.622	1.706	5.2	TM	
15	TM	2-Methylphenol	1.354	1.460	7.8	TM	
16	TM	Bis (2-chloroisopropyl) ether	1.347	1.513	12	TM	
17	TM	Acetophenone	2.309	2.525	9.4	TM	
18	TM	3&4-Methylphenol	1.781	1.920	7.8	TM	
19	**TM	n-Nitrosodi-n-propylamine	1.485	1.621	9.2	**TM	
20	TM	Hexachloroethane	0.7266	0.7847	8.0	TM	
21	I	Napthalene-D8(IS)	ISTD			I	
22	S	Nitrobenzene-D5(S)	0.4975	0.4985	0.22	S	
23	TM	Nitrobenzene	0.5156	0.5591	8.4	TM	
24	TM	Isophorone	0.8134	0.8889	9.3	TM	
25	*TM	2-Nitrophenol	0.2094	0.2236	6.8	*TM	
26	TM	2,4-Dimethylphenol	0.3350	0.3645	8.8	TM	
27	TML	Benzoic acid	0.2307	0.3571	55	TML	22
28	TM	Bis (2-chloroethoxy) methane	0.4222	0.4606	9.1	TM	
29	*TM	2,4-Dichlorophenol	0.3266	0.3591	9.9	*TM	
30	TM	1,2,4-Trichlorobenzene	0.3643	0.3952	8.5	TM	
31	TM	3,4-Dimethylphenol	0.5573	0.6097	9.4	TM	
32	TM	Naphthalene	1.088	1.163	6.9	TM	
33	TM	4-Chloroaniline	0.4376	0.3536	19	TM	
34	TM	2,6-Dichlorophenol	0.3200	0.3463	8.2	TM	
35	TM	Hexachloropropene	0.3152	0.3455	9.6	TM	
36	*TM	Hexachlorobutadiene	0.2472	0.2718	10.0	*TM	
37	TM	Caprolactum	0.1466	0.1663	13	TM	
38	*TM	4-Chloro-3-methylphenol	0.3877	0.4257	9.8	*TM	
39	TM	2-Methylnaphthalene	0.7325	0.7925	8.2	TM	
40	TM	1-Methylnaphthalene	0.7616	0.8228	8.0	TM	
		Average			10.6		

Semi-Volatile Analysis by GC-MS
EPA 8270

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 01/24/20
Instrument: Yoda
Cal. Date: 12/19/19
Data File: 1219Y228.D

		Compound	MEAN	CCRF	%D		%Drift
41	I	Acenaphthene-D10(IS)	ISTD			I	
42	**TML	Hexachlorocyclopentadiene	0.3696	0.3705	0.26	**TML	18
43	TM	1,2,4,5-Tetrachlorobenzene	0.6372	0.6850	7.5	TM	
44	*TM	2,4,6-Trichlorophenol	0.4172	0.4551	9.1	*TM	
45	TM	2,4,5-Trichlorophenol	0.4524	0.4669	3.2	TM	
46	S	2-Fluorobiphenyl(S)	1.477	1.458	1.3	S	
47	TM	1,1'-Biphenyl	1.551	1.684	8.6	TM	
48	TM	2-Chloronaphthalene	1.248	1.339	7.4	TM	
49	TM	2-Nitroaniline	0.4737	0.5252	11	TM	
50	TM	Dimethyl phthalate	1.529	1.664	8.8	TM	
51	TM	2,6-DNT	0.3335	0.3769	13	TM	
52	TM	Acenaphthylene	1.921	2.087	8.6	TM	
53	TM	3-Nitroaniline	0.3959	0.4390	11	TM	
54	*TM	Acenaphthene	1.202	1.278	6.4	*TM	
55	**TML	2,4-Dinitrophenol	0.1391	0.2222	60	**TML	10
56	**TM	4-Nitrophenol	0.0312	0.0357	14	**TM	
57	TM	Dibenzofuran	1.825	1.984	8.7	TM	
58	TM	2,4-DNT	0.4904	0.5595	14	TM	
59	TM	2,3,4,6-Tetrachlorophenol	0.3432	0.3706	8.0	TM	
60	TM	Diethyl phthalate	1.584	1.766	11	TM	
61	TM	4-Chlorophenyl phenyl ether	0.8773	0.9565	9.0	TM	
62	TM	Fluorene	1.553	1.730	11	TM	
63	TM	4-Nitroaniline	0.3299	0.3229	2.1	TM	
64	S	2,4,6-Tribromophenol(S)	0.2486	0.2445	1.7	S	
65	I	Phenanthrene-D10(IS)	ISTD			I	
66	TM	4,6-Dinitro-2-methylphenol	0.1559	0.1653	6.0	TM	
67	TM	Diphenyl amine	0.6512	0.6977	7.1	TM	
68	*TM	n-Nitrosodiphenylamine	0.6512	0.6977	7.1	*TM	
69	TM	1,2-Diphenylhydrazine	0.9417	1.037	10	TM	
70	TM	4-Bromophenyl phenyl ether	0.2452	0.2642	7.8	TM	
71	TM	Hexachlorobenzene	0.2480	0.2669	7.6	TM	
72	TM	Atrazine	0.2236	0.1352	40	TM	
73	*TM	Pentachlorophenol	0.1525	0.1513	0.74	*TM	
74	TM	Phenanthrene	1.104	1.186	7.5	TM	
75	TM	Anthracene	1.154	1.258	9.0	TM	
76	TM	Carbazol	1.051	1.136	8.1	TM	
77	TM	Di-n-butylphthalate	1.437	1.557	8.4	TM	
78		2-Nitrodiphenylamine	0.3268	0.3802	16		
79	*TM	Fluoranthene	1.293	1.416	9.5	*TM	
80	I	Chrysene-D12(IS)	ISTD			I	
		Average			10.3		

Semi-Volatile Analysis by GC-MS
EPA 8270

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Date Analyzed: 01/24/20
Matrix: 0 Instrument: Yoda
Cal. Date: 12/19/19
Data File: 1219Y228.D

		Compound	MEAN	CCRF	%D	%Drift		
81	TM	Benzidine	0.4082	0.0572	86	TM		*NT
82	TM	Pyrene	1.199	1.254	4.6	TM		
83	S	Terphenyl-D14(S)	0.9538	0.8659	9.2	S		
84	TM	Butyl benzylphthalate	0.6008	0.6300	4.9	TM		
85	TM	3,3'-Dichlorobenzidine	0.4121	0.3913	5.0	TM		
86	TM	Benz (a) anthracene	1.306	1.387	6.2	TM		
87	TM	Bis (2-ethylhexyl) phthalate	1.004	1.110	11	TM		
88	TM	Chrysene	1.136	1.181	4.0	TM		
89	*TM	Di-n-octylphthalate	1.482	1.527	3.0	*TM		
90	I	Perylene-D12(IS)	ISTD			I		
91	TM	Benzo (b) fluoranthene	1.306	1.418	8.5	TM		
92	TM	Benzo (k) fluoranthene	1.178	1.379	17	TM		
93	*TM	Benzo (a) pyrene	1.160	1.290	11	*TM		
94	TM	Indeno (1,2,3-cd) pyrene	1.352	1.483	9.7	TM		
95	TM	Dibenz (a,h) anthracene	1.204	1.323	9.9	TM		
96	TM	Benzo (g,h,i) perylene	1.062	1.136	7.0	TM		
97								
98								
99								
100								
101								
102								
103								
104								
105								
106								
107								
108								
109								
110								
111								
112								
113								
114								
115								
116								
117								
118								
119								
120								
		Average			13.1			

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y228.D Vial: 28
Acq On : 24 Jan 20 19:00 Operator: MA,SS
Sample : 50ug/ml 8270 01/06/20 (2) Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 27 8:05 2020 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.38	152	155987	40.00000 ppb		0.00
21) Napthalene-D8(IS)	6.81	136	646037	40.00000 ppb		-0.01
41) Acenaphthene-D10(IS)	8.84	164	398635	40.00000 ppb		0.00
65) Phenanthrene-D10(IS)	10.56	188	769261	40.00000 ppb		-0.01
80) Chrysene-D12(IS)	13.65	240	900732	40.00000 ppb		-0.01
90) Perylene-D12(IS)	15.48	264	778664	40.00000 ppb		-0.01
System Monitoring Compounds						
5) 2-Fluorophenol (S)	3.82	112	558839	97.74449 ppb		0.00
Spiked Amount 200.000			Recovery =	48.872%		
6) Phenol-D6 (S)	5.00	99	722780	99.22459 ppb		0.00
Spiked Amount 200.000			Recovery =	49.613%		
22) Nitrobenzene-D5(S)	6.01	82	402583	50.10810 ppb		0.00
Spiked Amount 100.000			Recovery =	50.108%		
46) 2-Fluorobiphenyl(S)	8.05	172	726672	49.36011 ppb		-0.01
Spiked Amount 100.000			Recovery =	49.360%		
64) 2,4,6-Tribromophenol(S)	9.76	330	243637	98.34300 ppb		-0.01
Spiked Amount 200.000			Recovery =	49.172%		
83) Terphenyl-D14(S)	12.42	244	974889	45.38832 ppb		-0.01
Spiked Amount 100.000			Recovery =	45.388%		
Target Compounds						Qvalue
2) 1,4-Dioxane	1.68	58	14918	6.35210		93
3) n-Nitrosodimethylamine	1.90	42	255381	58.63738 ppb		97
4) Pyridine	1.92	79	571899	56.68675 ppb		98
7) Phenol	5.00	94	450333	52.38598 ppb		85
8) Aniline	5.00	93	211712	37.73869 ppb	#	73
9) Bis (2-chloroethyl) ether	5.08	63	217770	54.68339 ppb		95
10) 2-Chlorophenol	5.14	128	321598	53.13059 ppb		94
11) 1,3-DCB	5.31	146	348893	52.52666 ppb		99
12) 1,4-DCB	5.39	146	357063	52.52643 ppb		98
13) Benzyl alcohol	5.54	108	192033	53.86012 ppb		99
14) 1,2-DCB	5.56	146	332695	52.60147 ppb		99
15) 2-Methylphenol	5.68	107	284738	53.90791 ppb		99
16) Bis (2-chloroisopropyl) et	5.68	45	295026	56.17618 ppb		84
17) Acetophenone	5.83	105	492316	54.68437 ppb		99
18) 3&4-Methylphenol	5.86	107	748774	107.79264 ppb		96
19) n-Nitrosodi-n-propylamine	5.84	70	316024	54.57703 ppb		97
20) Hexachloroethane	5.94	117	152998	53.99661 ppb		91
23) Nitrobenzene	6.03	77	451482	54.22093 ppb		94
24) Isophorone	6.29	82	717826	54.63975 ppb		98
25) 2-Nitrophenol	6.39	139	180562	53.40135 ppb		93
26) 2,4-Dimethylphenol	6.44	122	294360	54.40577 ppb		97
27) Benzoic acid	6.59	105	288365	61.04075 ppb		96
28) Bis (2-chloroethoxy) metha	6.54	93	371964	54.55521 ppb		99
29) 2,4-Dichlorophenol	6.67	162	289975	54.96665 ppb		96
30) 1,2,4-Trichlorobenzene	6.75	180	319168	54.24187 ppb		98
31) 3,4-Dimethylphenol	6.78	107	492363	54.70253 ppb		100
32) Naphthalene	6.84	128	939430	53.44509 ppb		99
33) 4-Chloroaniline	6.91	127	285587	40.40730 ppb		96
34) 2,6-Dichlorophenol	6.92	162	279647	54.10891 ppb		94
35) Hexachloropropene	6.94	213	279035	54.80397 ppb		99
36) Hexachlorobutadiene	6.97	225	219531	54.99526 ppb		100
37) Caprolactum	7.33	55	134312	56.72842 ppb		95

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y228.D Vial: 28
Acq On : 24 Jan 20 19:00 Operator: MA,SS
Sample : 50ug/ml 8270 01/06/20 (2) Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 27 8:05 2020 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
38)	4-Chloro-3-methylphenol	7.47	107	343787	54.89848 ppb		92
39)	2-Methylnaphthalene	7.63	142	639964	54.09783 ppb		100
40)	1-Methylnaphthalene	7.74	142	664433	54.01314 ppb		100
42)	Hexachlorocyclopentadiene	7.81	237	184640	41.20069 ppb		100
43)	1,2,4,5-Tetrachlorobenzene	7.83	216	341326	53.75254 ppb		99
44)	2,4,6-Trichlorophenol	7.97	196	226754	54.54252 ppb		99
45)	2,4,5-Trichlorophenol	8.02	196	232673	51.60333 ppb		96
47)	1,1'-Biphenyl	8.17	154	839325	54.28584 ppb		97
48)	2-Chloronaphthalene	8.19	162	667429	53.67756 ppb		98
49)	2-Nitroaniline	8.31	65	261703	55.43124 ppb		94
50)	Dimethyl phthalate	8.52	163	829228	54.40732 ppb		99
51)	2,6-DNT	8.60	165	187795	56.49649 ppb		85
52)	Acenaphthylene	8.67	152	1039886	54.31908 ppb		100
53)	3-Nitroaniline	8.32	138	218732	55.43620 ppb		95
54)	Acenaphthene	8.88	154	637006	53.19545 ppb		100
55)	2,4-Dinitrophenol	8.92	184	110736	55.20067 ppb		97
56)	4-Nitrophenol	8.60	65	17771	57.20461 ppb		98
57)	Dibenzofuran	9.07	168	988368	54.34016 ppb		97
58)	2,4-DNT	9.07	165	278819	57.05259 ppb		94
59)	2,3,4,6-Tetrachlorophenol	9.23	232	184675	54.00092 ppb		96
60)	Diethyl phthalate	9.34	149	879746	55.71459 ppb		100
61)	4-Chlorophenyl phenyl ethe	9.47	204	476610	54.51323 ppb		97
62)	Fluorene	9.47	166	861855	55.69904 ppb		100
63)	4-Nitroaniline	8.79	138	160910	48.94177 ppb		92
66)	4,6-Dinitro-2-methylphenol	9.55	198	158914	52.98741 ppb		85
67)	Diphenyl amine	9.62	169	1341770	107.14568 ppb		99
68)	n-Nitrosodiphenylamine	9.62	169	1341770	107.14568 ppb		99
69)	1,2-Diphenylhydrazine	9.65	77	997115	55.05589 ppb		99
70)	4-Bromophenyl phenyl ether	10.04	248	254042	53.87935 ppb	#	81
71)	Hexachlorobenzene	10.12	284	256633	53.80169 ppb		89
72)	Atrazine	10.23	200	65019	15.11886 ppb		92
73)	Pentachlorophenol	10.35	266	145525	49.63070 ppb		97
74)	Phenanthrene	10.59	178	1140765	53.73827 ppb		100
75)	Anthracene	10.66	178	1209757	54.51719 ppb		100
76)	Carbazol	10.84	167	1092104	54.05399 ppb		98
77)	Di-n-butylphthalate	11.24	149	1496896	54.18210 ppb		100
78)	2-Nitrodiphenylamine	11.42	167	182776	29.08358 ppb		98
79)	Fluoranthene	11.98	202	1361389	54.75263 ppb		99
81)	Benzidine	12.13	184	64373	7.00272 ppb		99
82)	Pyrene	12.25	202	1411515	52.27877 ppb		99
84)	Butyl benzylphthalate	12.99	149	709329	52.43454 ppb		97
85)	3,3'-Dichlorobenzidine	13.61	252	440625	47.48647 ppb		100
86)	Benz (a) anthracene	13.65	228	1561598	53.09718 ppb		99
87)	Bis (2-ethylhexyl) phthala	13.65	149	1250166	55.30773 ppb		99
88)	Chrysene	13.69	228	1329842	51.99223 ppb		100
89)	Di-n-octylphthalate	14.40	149	1719182	51.52482 ppb	#	89
91)	Benzo (b) fluoranthene	14.95	252	1380258	54.27068 ppb		99
92)	Benzo (k) fluoranthene	14.98	252	1342544	58.54902 ppb		99
93)	Benzo (a) pyrene	15.41	252	1255184	55.60894 ppb		99
94)	Indeno (1,2,3-cd) pyrene	17.35	276	1443135	54.84719 ppb		99
95)	Dibenz (a,h) anthracene	17.39	278	1288083	54.95419 ppb		99
96)	Benzo (g,h,i) perylene	17.91	276	1105736	53.48155 ppb		98

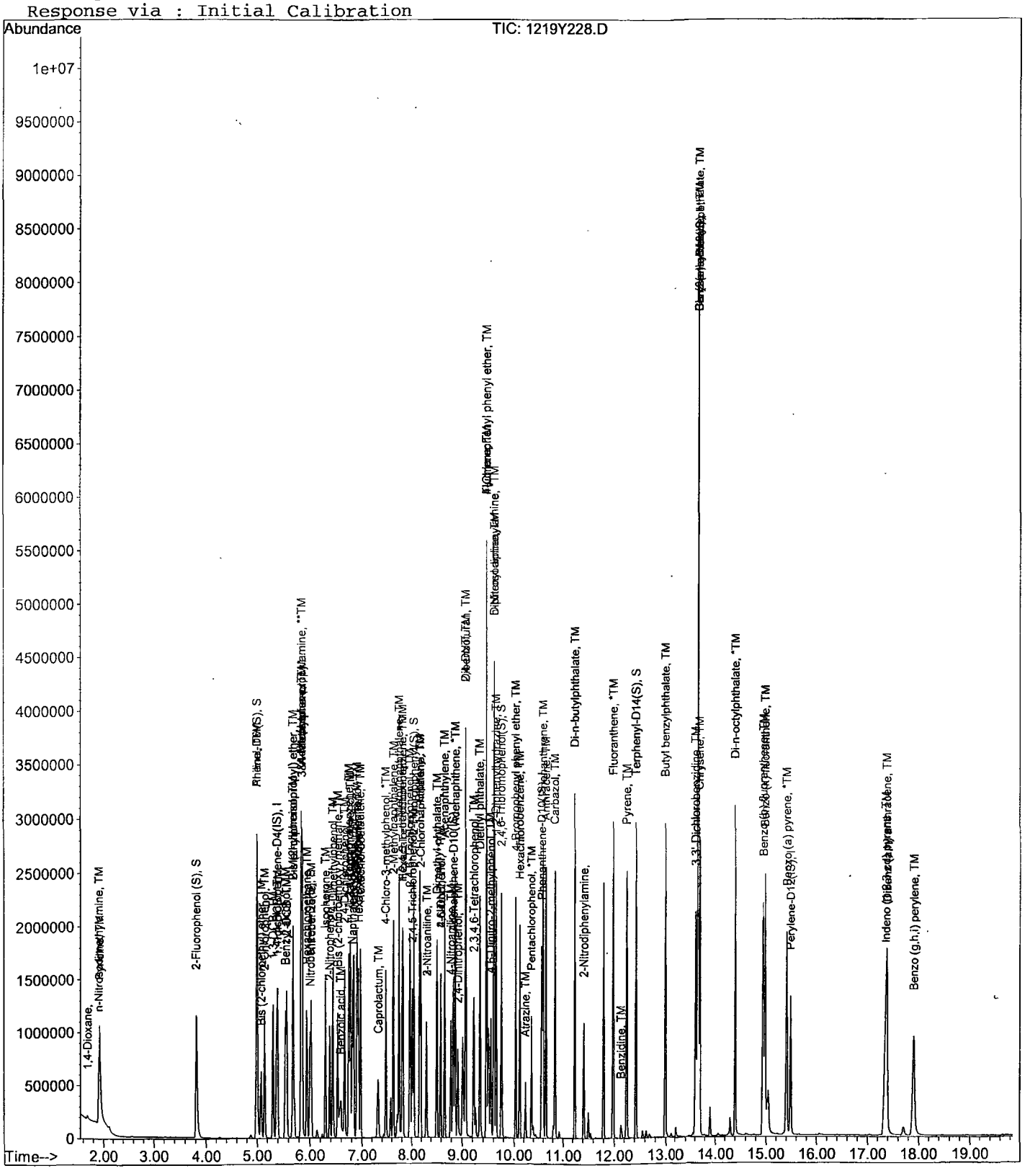
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y191219\1219Y228.D Vial: 28
Acq On : 24 Jan 20 19:00 Operator: MA,SS
Sample : 50ug/ml 8270 01/06/20 (2) Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 27 8:05 2020 Quant Results File: Y1219.RES

Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration



ORGANICS
Raw Data

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y223.D Vial: 23
Acq On : 24 Jan 20 16:41 Operator: MA,SS
Sample : BA06136W14 1/800 Inst : Yoda
Misc : Multiplr: 1.25

Quant Time: Jan 27 8:13 2020 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.38	152	136295	40.00000	ppb	0.00
21) Napthalene-D8(IS)	6.81	136	571321	40.00000	ppb	-0.01
41) Acenaphthene-D10(IS)	8.83	164	422631	40.00000	ppb	-0.01
65) Phenanthrene-D10(IS)	10.56	188	859055	40.00000	ppb	-0.01
80) Chrysene-D12(IS)	13.66	240	810539	40.00000	ppb	-0.01
90) Perylene-D12(IS)	15.48	264	863011	40.00000	ppb	-0.01
System Monitoring Compounds						
5) 2-Fluorophenol (S)	3.81	112	975585	244.11202	ppb	-0.01
Spiked Amount 250.000			Recovery = 97.645%			
6) Phenol-D6 (S)	4.99	99	1326626	260.54348	ppb	-0.01
Spiked Amount 250.000			Recovery = 104.217%			
22) Nitrobenzene-D5(S)	6.00	82	750438	132.02450	ppb	-0.01
Spiked Amount 125.000			Recovery = 105.619%			
46) 2-Fluorobiphenyl(S)	8.05	172	1420843	113.79099	ppb	-0.01
Spiked Amount 125.000			Recovery = 91.033%			
64) 2,4,6-Tribromophenol(S)	9.76	330	549216	261.37706	ppb	-0.01
Spiked Amount 250.000			Recovery = 104.551%			
83) Terphenyl-D14(S)	12.43	244	2184539	141.27993	ppb	0.00
Spiked Amount 125.000			Recovery = 113.024%			

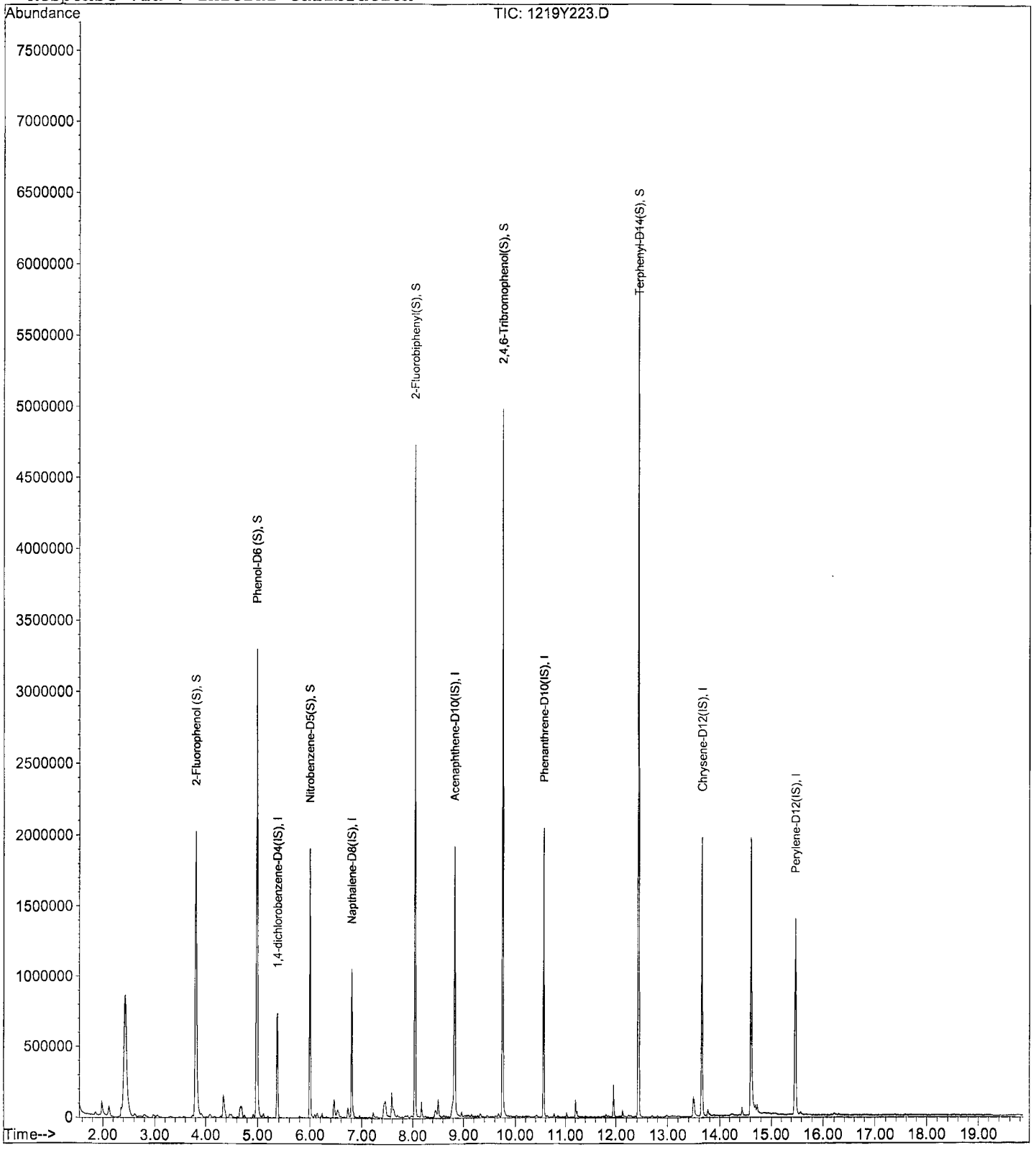
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Data File : M:\YODA\DATA\Y191219\1219Y223.D Vial: 23
Acq On : 24 Jan 20 16:41 Operator: MA,SS
Sample : BA06136W14 1/800 Inst : Yoda
Misc : Multiplr: 1.25

Quant Time: Jan 27 8:13 2020 Quant Results File: Y1219.RES

Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y224.D Vial: 24
Acq On : 24 Jan 20 17:09 Operator: MA,SS
Sample : BA06138W13 1/800 Inst : Yoda
Misc : Multiplr: 1.25

Quant Time: Jan 27 8:14 2020 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.38	152	135372	40.00000	ppb	0.00
21) Napthalene-D8(IS)	6.82	136	580969	40.00000	ppb	-0.01
41) Acenaphthene-D10(IS)	8.83	164	424875	40.00000	ppb	-0.01
65) Phenanthrene-D10(IS)	10.56	188	864648	40.00000	ppb	-0.01
80) Chrysene-D12(IS)	13.66	240	805450	40.00000	ppb	-0.01
90) Perylene-D12(IS)	15.48	264	528741	40.00000	ppb	-0.01
System Monitoring Compounds						
5) 2-Fluorophenol (S)	3.82	112	801374	201.88794	ppb	0.00
Spiked Amount 250.000			Recovery = 80.755%			
6) Phenol-D6 (S)	5.00	99	578253	114.34065	ppb	0.00
Spiked Amount 250.000			Recovery = 45.736%			
22) Nitrobenzene-D5(S)	6.00	82	700390	121.17328	ppb	-0.01
Spiked Amount 125.000			Recovery = 96.938%			
46) 2-Fluorobiphenyl(S)	8.05	172	1317442	104.95266	ppb	-0.01
Spiked Amount 125.000			Recovery = 83.962%			
64) 2,4,6-Tribromophenol(S)	9.76	330	540368	255.80797	ppb	-0.01
Spiked Amount 250.000			Recovery = 102.323%			
83) Terphenyl-D14(S)	12.43	244	1636376	106.49742	ppb	0.00
Spiked Amount 125.000			Recovery = 85.198%			

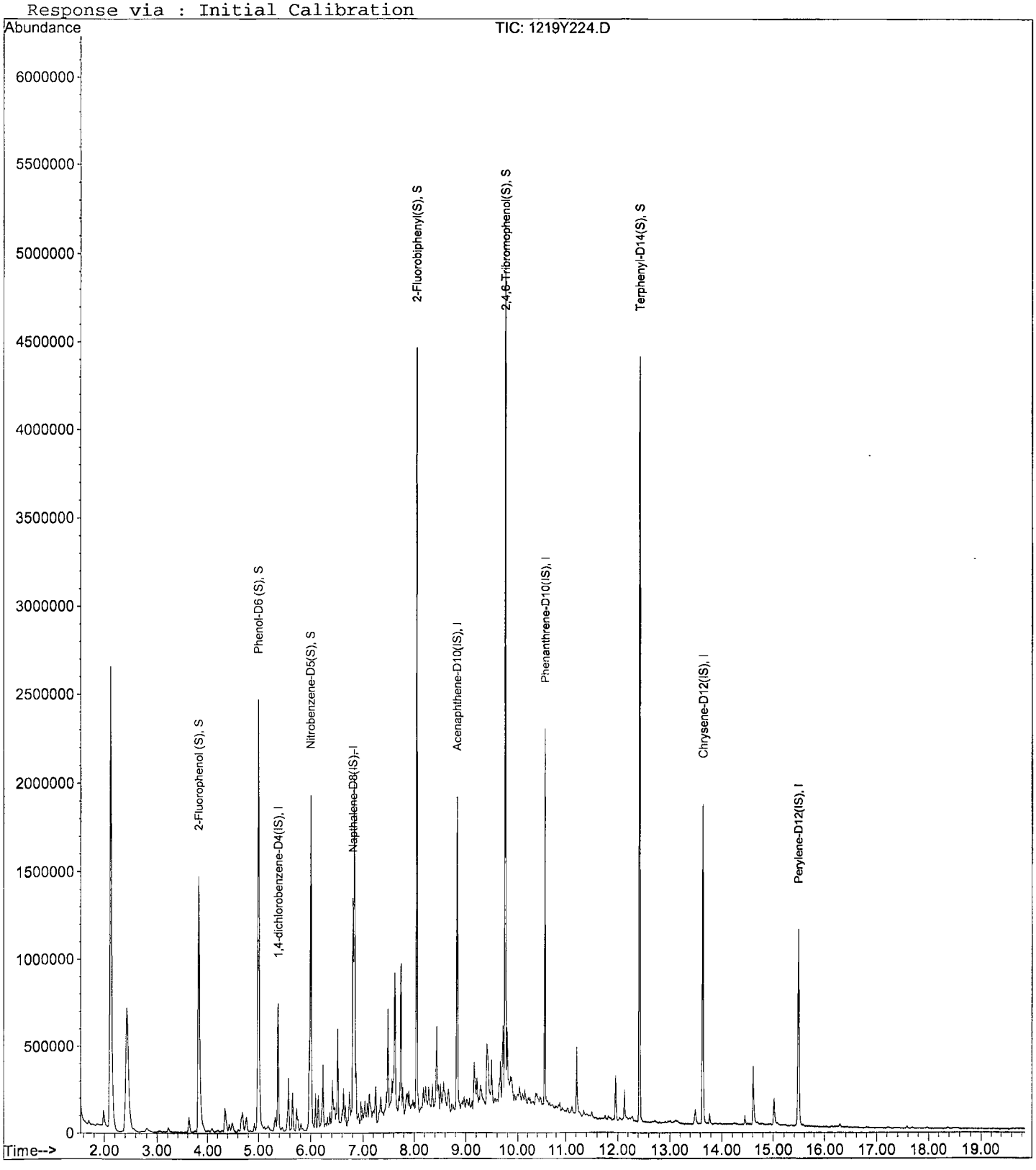
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Data File : M:\YODA\DATA\Y191219\1219Y224.D Vial: 24
Acq On : 24 Jan 20 17:09 Operator: MA,SS
Sample : BA06138W13 1/800 Inst : Yoda
Misc : Multiplr: 1.25

Quant Time: Jan 27 8:14 2020 Quant Results File: Y1219.RES

Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y225.D Vial: 25
Acq On : 24 Jan 20 17:36 Operator: MA,SS
Sample : BA06139W11 1/800 Inst : Yoda
Misc : Multiplr: 1.25

Quant Time: Jan 27 8:16 2020 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.38	152	140595	40.00000 ppb	0.00
21) Napthalene-D8(IS)	6.82	136	607022	40.00000 ppb	0.00
41) Acenaphthene-D10(IS)	8.83	164	458238	40.00000 ppb	0.00
65) Phenanthrene-D10(IS)	10.56	188	907222	40.00000 ppb	0.00
80) Chrysene-D12(IS)	13.66	240	858754	40.00000 ppb	0.00
90) Perylene-D12(IS)	15.48	264	907498	40.00000 ppb	0.00
System Monitoring Compounds					
5) 2-Fluorophenol (S)	3.81	112	879163	213.25710 ppb	0.00
Spiked Amount 250.000			Recovery	= 85.303%	
6) Phenol-D6 (S)	4.99	99	1175171	223.73958 ppb	0.00
Spiked Amount 250.000			Recovery	= 89.496%	
22) Nitrobenzene-D5(S)	6.00	82	724242	119.92208 ppb	0.00
Spiked Amount 125.000			Recovery	= 95.938%	
46) 2-Fluorobiphenyl(S)	8.05	172	1380764	101.98857 ppb	0.00
Spiked Amount 125.000			Recovery	= 81.591%	
64) 2,4,6-Tribromophenol(S)	9.76	330	559983	245.79292 ppb	0.00
Spiked Amount 250.000			Recovery	= 98.317%	
83) Terphenyl-D14(S)	12.43	244	1731919	105.71908 ppb	0.00
Spiked Amount 125.000			Recovery	= 84.575%	

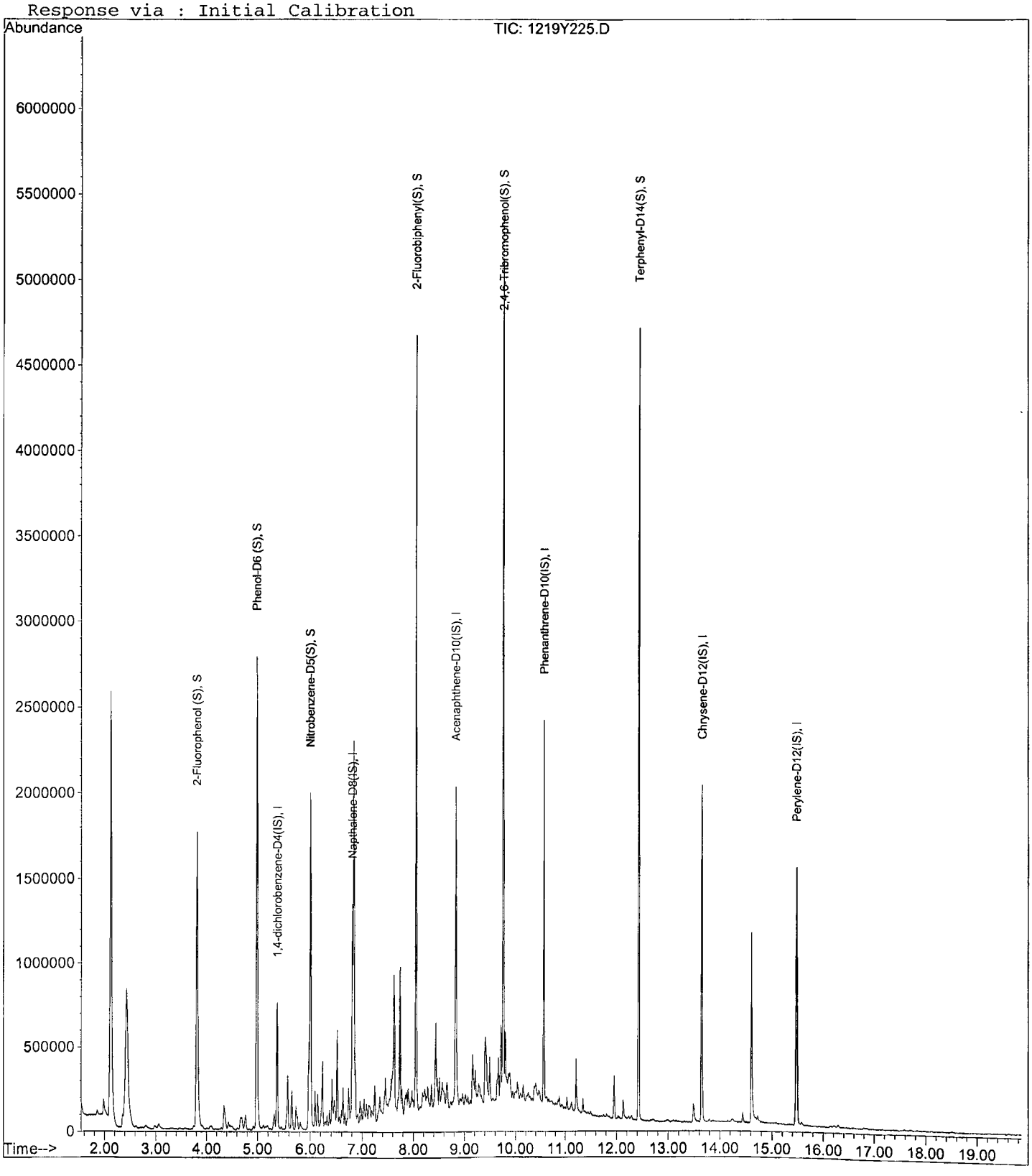
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Data File : M:\YODA\DATA\Y191219\1219Y225.D Vial: 25
Acq On : 24 Jan 20 17:36 Operator: MA,SS
Sample : BA06139W11 1/800 Inst : Yoda
Misc : Multiplr: 1.25

Quant Time: Jan 27 8:16 2020 Quant Results File: Y1219.RES

Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y226.D Vial: 26
Acq On : 24 Jan 20 18:04 Operator: MA,SS
Sample : BA06141W14 1/800 Inst : Yoda
Misc : Multiplr: 1.25

Quant Time: Jan 27 8:16 2020 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.38	152	145037	40.00000 ppb	0.00
21) Napthalene-D8(IS)	6.81	136	612272	40.00000 ppb	-0.02
41) Acenaphthene-D10(IS)	8.83	164	451124	40.00000 ppb	0.00
65) Phenanthrene-D10(IS)	10.57	188	895431	40.00000 ppb	0.00
80) Chrysene-D12(IS)	13.65	240	833032	40.00000 ppb	-0.02
90) Perylene-D12(IS)	15.48	264	882013	40.00000 ppb	0.00
System Monitoring Compounds					
5) 2-Fluorophenol (S)	3.81	112	998708	234.83547 ppb	0.00
Spiked Amount 250.000			Recovery =	93.934%	
6) Phenol-D6 (S)	4.99	99	1334980	246.38121 ppb	0.00
Spiked Amount 250.000			Recovery =	98.552%	
22) Nitrobenzene-D5(S)	6.00	82	765272	125.62941 ppb	0.00
Spiked Amount 125.000			Recovery =	100.503%	
46) 2-Fluorobiphenyl(S)	8.05	172	1416403	106.27082 ppb	0.00
Spiked Amount 125.000			Recovery =	85.017%	
64) 2,4,6-Tribromophenol(S)	9.76	330	544788	242.89425 ppb	0.00
Spiked Amount 250.000			Recovery =	97.158%	
83) Terphenyl-D14(S)	12.43	244	2161754	136.03140 ppb	0.00
Spiked Amount 125.000			Recovery =	108.825%	

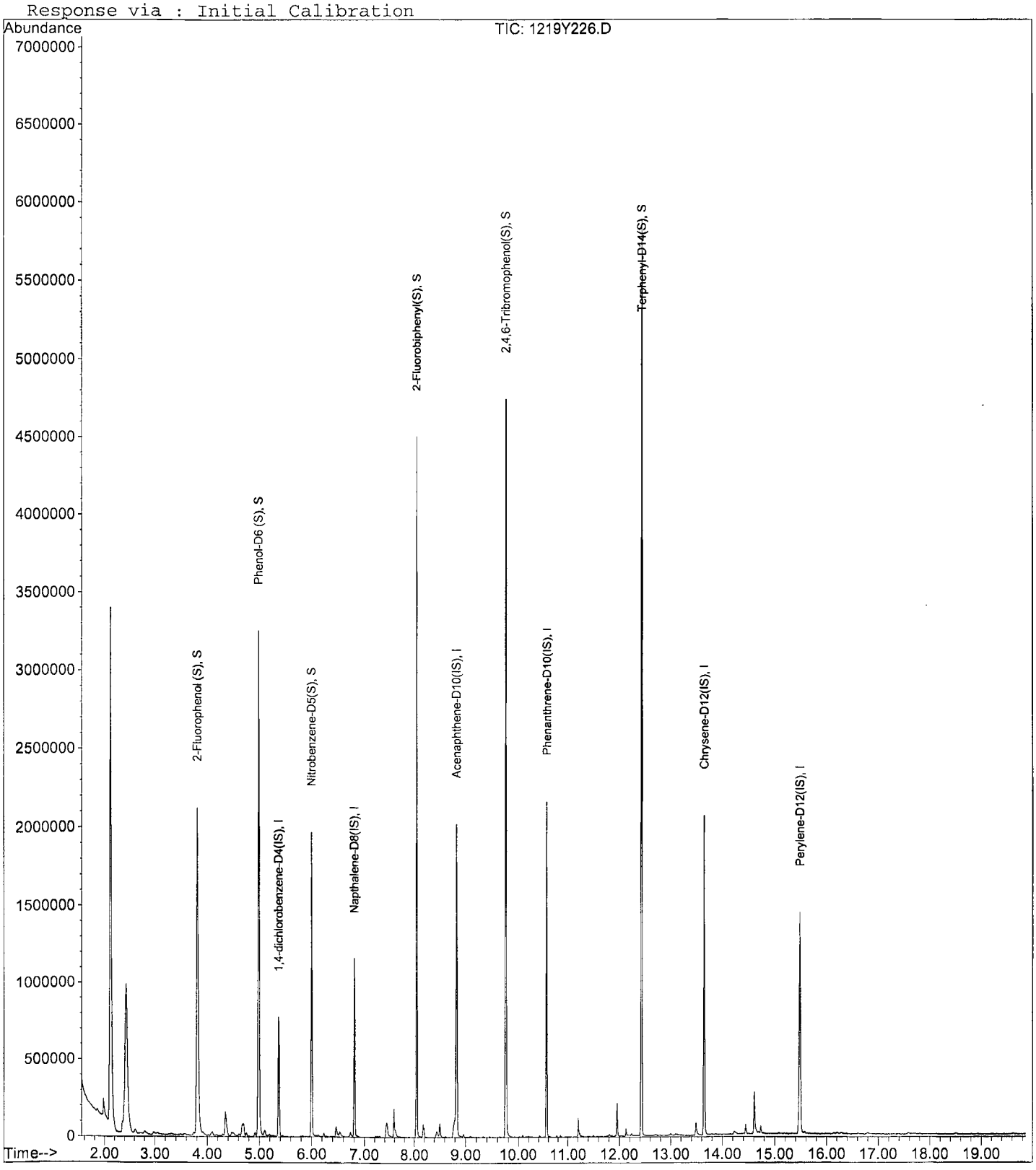
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Data File : M:\YODA\DATA\Y191219\1219Y226.D Vial: 26
Acq On : 24 Jan 20 18:04 Operator: MA,SS
Sample : BA06141W14 1/800 Inst : Yoda
Misc : Multiplr: 1.25

Quant Time: Jan 27 8:16 2020 Quant Results File: Y1219.RES

Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y227.D Vial: 27
Acq On : 24 Jan 20 18:32 Operator: MA,SS
Sample : BA06143W13 1/800 Inst : Yoda
Misc : Multiplr: 1.25

Quant Time: Jan 27 8:17 2020 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.37	152	145675	40.00000 ppb	0.00
21) Napthalene-D8(IS)	6.81	136	624772	40.00000 ppb	-0.02
41) Acenaphthene-D10(IS)	8.83	164	452958	40.00000 ppb	0.00
65) Phenanthrene-D10(IS)	10.57	188	896951	40.00000 ppb	0.00
80) Chrysene-D12(IS)	13.65	240	829336	40.00000 ppb	-0.02
90) Perylene-D12(IS)	15.49	264	887194	40.00000 ppb	0.00
System Monitoring Compounds					
5) 2-Fluorophenol (S)	3.81	112	852442	199.56473 ppb	0.00
Spiked Amount 250.000			Recovery = 79.826%		
6) Phenol-D6 (S)	4.99	99	1174415	215.79838 ppb	0.00
Spiked Amount 250.000			Recovery = 86.319%		
22) Nitrobenzene-D5(S)	6.00	82	680788	109.52423 ppb	0.00
Spiked Amount 125.000			Recovery = 87.619%		
46) 2-Fluorobiphenyl(S)	8.05	172	1354501	101.21492 ppb	0.00
Spiked Amount 125.000			Recovery = 80.972%		
64) 2,4,6-Tribromophenol(S)	9.76	330	558767	248.11810 ppb	0.00
Spiked Amount 250.000			Recovery = 99.247%		
83) Terphenyl-D14(S)	12.43	244	2272144	143.61504 ppb	0.00
Spiked Amount 125.000			Recovery = 114.892%		

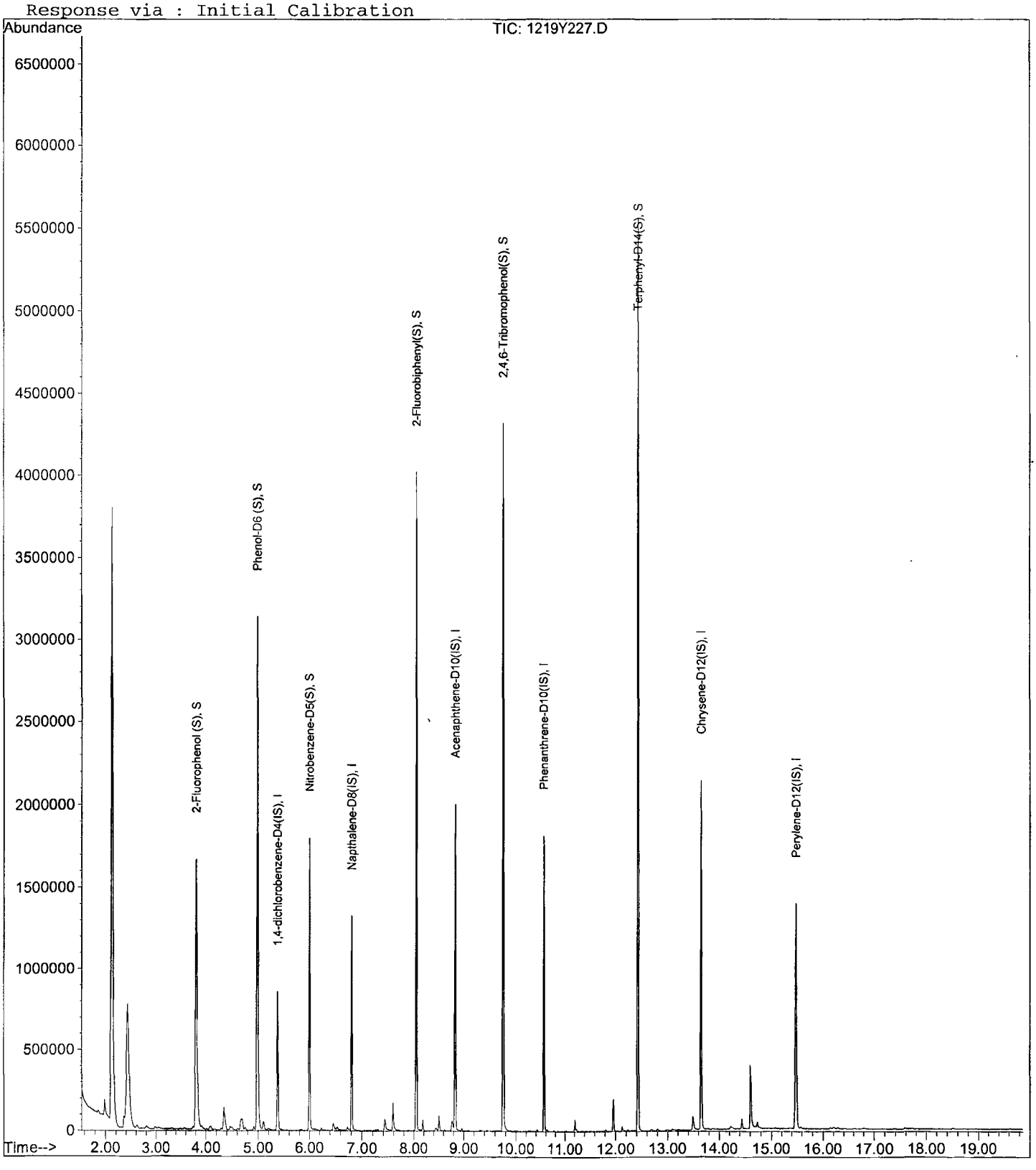
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Data File : M:\YODA\DATA\Y191219\1219Y227.D Vial: 27
Acq On : 24 Jan 20 18:32 Operator: MA,SS
Sample : BA06143W13 1/800 Inst : Yoda
Misc : Multiplr: 1.25

Quant Time: Jan 27 8:17 2020 Quant Results File: Y1219.RES

Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y220.D Vial: 20
Acq On : 24 Jan 20 15:17 Operator: MA,SS
Sample : 200122A BLK 1/800 Inst : Yoda
Misc : Multiplr: 1.25

Quant Time: Jan 27 8:12 2020 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.37	152	130711	40.00000 ppb	0.00
21) Napthalene-D8(IS)	6.81	136	520111	40.00000 ppb	-0.02
41) Acenaphthene-D10(IS)	8.83	164	395671	40.00000 ppb	0.00
65) Phenanthrene-D10(IS)	10.56	188	812273	40.00000 ppb	0.00
80) Chrysene-D12(IS)	13.66	240	774802	40.00000 ppb	0.00
90) Perylene-D12(IS)	15.48	264	817396	40.00000 ppb	0.00
System Monitoring Compounds					
5) 2-Fluorophenol (S)	3.80	112	873278	227.84755 ppb	-0.02
Spiked Amount 250.000			Recovery = 91.139%		
6) Phenol-D6 (S)	4.99	99	1167128	239.01105 ppb	0.00
Spiked Amount 250.000			Recovery = 95.604%		
22) Nitrobenzene-D5(S)	6.00	82	692696	133.86484 ppb	0.00
Spiked Amount 125.000			Recovery = 107.092%		
46) 2-Fluorobiphenyl(S)	8.05	172	1305114	111.64451 ppb	0.00
Spiked Amount 125.000			Recovery = 89.316%		
64) 2,4,6-Tribromophenol(S)	9.76	330	502822	255.60284 ppb	0.00
Spiked Amount 250.000			Recovery = 102.241%		
83) Terphenyl-D14(S)	12.43	244	2162556	146.30906 ppb	0.00
Spiked Amount 125.000			Recovery = 117.047%		

Target Compounds Qvalue

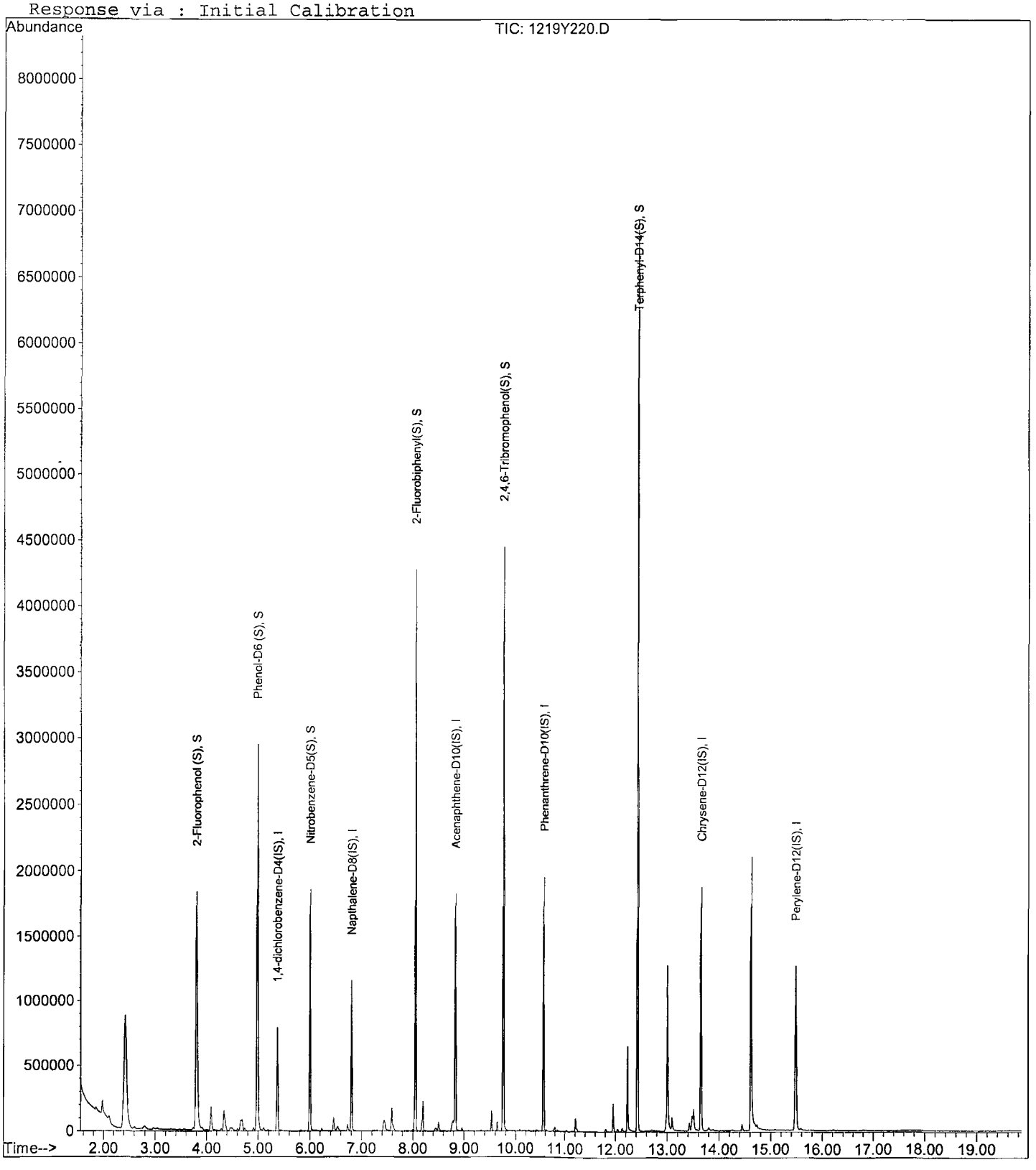
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y191219\1219Y220.D Vial: 20
Acq On : 24 Jan 20 15:17 Operator: MA,SS
Sample : 200122A BLK 1/800 Inst : Yoda
Misc : Multiplr: 1.25

Quant Time: Jan 27 8:12 2020 Quant Results File: Y1219.RES

Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y221.D Vial: 21
Acq On : 24 Jan 20 15:45 Operator: MA,SS
Sample : 200122A LCS-1 1/800 Inst : Yoda
Misc : Multiplr: 1.25

Quant Time: Jan 27 8:05 2020 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.38	152	131156	40.00000	ppb		0.00
21) Napthalene-D8(IS)	6.82	136	557550	40.00000	ppb		0.00
41) Acenaphthene-D10(IS)	8.83	164	402644	40.00000	ppb		0.00
65) Phenanthrene-D10(IS)	10.57	188	799819	40.00000	ppb		0.00
80) Chrysene-D12(IS)	13.66	240	946727	40.00000	ppb		0.00
90) Perylene-D12(IS)	15.48	264	822014	40.00000	ppb		0.00
System Monitoring Compounds							
5) 2-Fluorophenol (S)	3.82	112	1073403	279.11207	ppb		0.00
Spiked Amount 250.000			Recovery	= 111.645%			
6) Phenol-D6 (S)	5.00	99	1481312	302.32217	ppb		0.00
Spiked Amount 250.000			Recovery	= 120.929%			
22) Nitrobenzene-D5(S)	6.01	82	787934	142.04499	ppb		0.00
Spiked Amount 125.000			Recovery	= 113.636%			
46) 2-Fluorobiphenyl(S)	8.05	172	1478045	124.24804	ppb		0.00
Spiked Amount 125.000			Recovery	= 99.398%			
64) 2,4,6-Tribromophenol(S)	9.77	330	592315	295.88104	ppb		0.00
Spiked Amount 250.000			Recovery	= 118.352%			
83) Terphenyl-D14(S)	12.43	244	2379425	131.74734	ppb		0.00
Spiked Amount 125.000			Recovery	= 105.398%			
Target Compounds							Qvalue
2) 1,4-Dioxane	1.68	58	12233	7.74373			87
3) n-Nitrosodimethylamine	1.91	42	260565	88.94310	ppb		95
4) Pyridine	1.92	79	503092	74.13441	ppb		94
7) Phenol	5.02	94	469167	81.13701	ppb		92
8) Aniline	5.00	93	270848	71.77566	ppb	#	70
9) Bis (2-chloroethyl) ether	5.08	63	209441	78.18606	ppb		95
10) 2-Chlorophenol	5.14	128	310856	76.34856	ppb		95
11) 1,3-DCB	5.31	146	304658	68.18838	ppb		99
12) 1,4-DCB	5.40	146	319661	69.90897	ppb		97
13) Benzyl alcohol	5.54	108	188971	78.79467	ppb		98
14) 1,2-DCB	5.56	146	301785	70.93482	ppb		99
15) 2-Methylphenol	5.68	107	274540	77.27214	ppb		94
16) Bis (2-chloroisopropyl) et	5.68	45	286274	81.03713	ppb		84
17) Acetophenone	5.83	105	475629	78.54125	ppb		100
18) 3&4-Methylphenol	5.85	107	722931	154.71964	ppb		98
19) n-Nitrosodi-n-propylamine	5.84	70	309610	79.49046	ppb		95
20) Hexachloroethane	5.94	117	119084	62.48048	ppb		96
23) Nitrobenzene	6.03	77	466116	81.07820	ppb		94
24) Isophorone	6.30	82	715390	78.87075	ppb		99
25) 2-Nitrophenol	6.38	139	179447	76.86801	ppb		94
26) 2,4-Dimethylphenol	6.44	122	277418	74.26504	ppb		99
27) Benzoic acid	6.60	105	273327	83.29965	ppb		97
28) Bis (2-chloroethoxy) metha	6.54	93	354004	75.20160	ppb		98
29) 2,4-Dichlorophenol	6.67	162	283338	77.79061	ppb		99
30) 1,2,4-Trichlorobenzene	6.75	180	278865	68.64247	ppb		98
31) 3,4-Dimethylphenol	6.78	107	476374	76.65733	ppb		98
32) Naphthalene	6.83	128	904309	74.51502	ppb		100
33) 4-Chloroaniline	6.90	127	277586	56.88562	ppb		95
34) 2,6-Dichlorophenol	6.91	162	275068	77.08719	ppb		100
35) Hexachloropropene	6.94	213	130959	37.25394	ppb		99
36) Hexachlorobutadiene	6.97	225	161758	58.69198	ppb		98
37) Caprolactum	7.33	55	131157	80.23446	ppb		96

(#) = qualifier out of range (m) = manual integration

Data File : M:\YODA\DATA\Y191219\1219Y221.D Vial: 21
Acq On : 24 Jan 20 15:45 Operator: MA,SS
Sample : 200122A LCS-1 1/800 Inst : Yoda
Misc : Multiplr: 1.25

Quant Time: Jan 27 8:05 2020 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

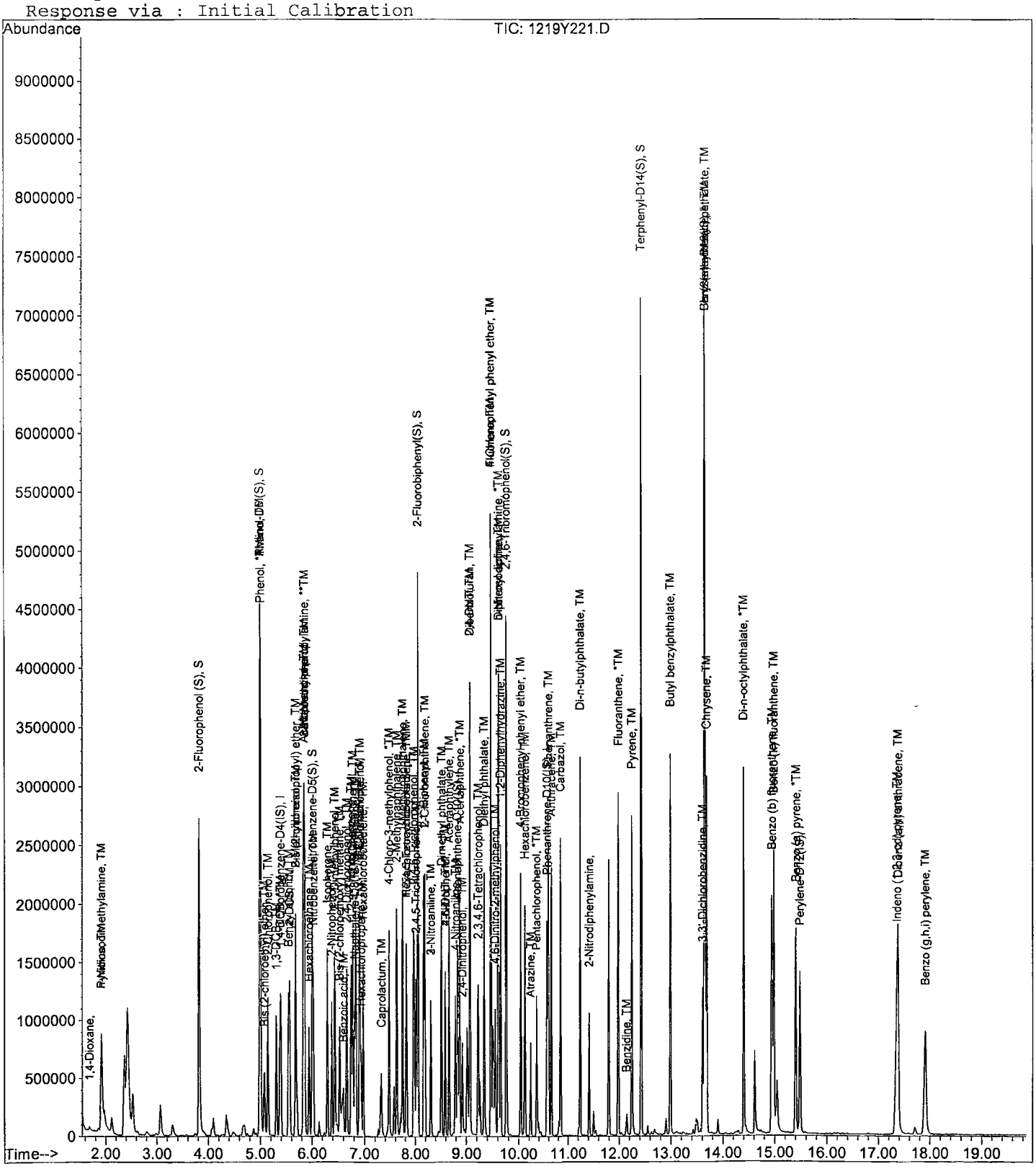
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
38)	4-Chloro-3-methylphenol	7.47	107	341691	79.02927	ppb		94
39)	2-Methylnaphthalene	7.62	142	602207	73.73161	ppb		100
40)	1-Methylnaphthalene	7.74	142	634224	74.67487	ppb		100
42)	Hexachlorocyclopentadiene	7.81	237	54928	18.53482	ppb		99
43)	1,2,4,5-Tetrachlorobenzene	7.83	216	306289	59.69326	ppb		100
44)	2,4,6-Trichlorophenol	7.97	196	225122	67.01352	ppb		99
45)	2,4,5-Trichlorophenol	8.02	196	237978	65.31798	ppb		93
47)	1,1'-Biphenyl	8.17	154	799032	63.95652	ppb		97
48)	2-Chloronaphthalene	8.19	162	632318	62.93430	ppb		99
49)	2-Nitroaniline	8.31	65	255331	66.92889	ppb		95
50)	Dimethyl phthalate	8.52	163	887596	72.07140	ppb		99
51)	2,6-DNT	8.60	165	178803	66.56968	ppb		87
52)	Acenaphthylene	8.67	152	984079	63.61519	ppb		100
53)	3-Nitroaniline	8.31	138	207274	65.01149	ppb		95
54)	Acenaphthene	8.88	154	621024	64.18057	ppb		100
55)	2,4-Dinitrophenol	8.92	184	107463	66.62428	ppb		96
56)	4-Nitrophenol	8.60	65	17979	71.62240	ppb		96
57)	Dibenzofuran	9.07	168	965432	65.68832	ppb		97
58)	2,4-DNT	9.07	165	272616	69.03487	ppb		94
59)	2,3,4,6-Tetrachlorophenol	9.23	232	186769	67.58683	ppb		98
60)	Diethyl phthalate	9.34	149	869311	68.13198	ppb		99
61)	4-Chlorophenyl phenyl ethe	9.47	204	461124	65.27107	ppb		98
62)	Fluorene	9.47	166	836319	66.88822	ppb		100
63)	4-Nitroaniline	8.79	138	160369	60.36445	ppb		91
66)	4,6-Dinitro-2-methylphenol	9.55	198	158436	63.51209	ppb		87
67)	Diphenyl amine	9.62	169	1249714	119.97735	ppb		99
68)	n-Nitrosodiphenylamine	9.62	169	1249714	119.97735	ppb		99
69)	1,2-Diphenylhydrazine	9.66	77	984384	65.34542	ppb		99
70)	4-Bromophenyl phenyl ether	10.04	248	251117	64.03021	ppb		97
71)	Hexachlorobenzene	10.12	284	248960	62.74874	ppb		89
72)	Atrazine	10.23	200	103538	28.94481	ppb		92
73)	Pentachlorophenol	10.35	266	150203	61.58620	ppb		100
74)	Phenanthrene	10.59	178	1130819	64.04314	ppb		99
75)	Anthracene	10.66	178	1166765	63.21363	ppb		99
76)	Carbazol	10.84	167	1080203	64.27782	ppb		98
77)	Di-n-butylphthalate	11.24	149	1484721	64.61020	ppb		100
78)	2-Nitrodiphenylamine	11.42	167	181408	34.70381	ppb		98
79)	Fluoranthene	11.99	202	1351649	65.35498	ppb		100
81)	Benzidine	12.13	184	30997	4.01018	ppb		99
82)	Pyrene	12.25	202	1376229	60.61937	ppb		99
84)	Butyl benzylphthalate	12.99	149	692958	60.91966	ppb		99
85)	3,3'-Dichlorobenzidine	13.61	252	297322	38.10734	ppb		99
86)	Benz (a) anthracene	13.65	228	1519423	61.44150	ppb		99
87)	Bis (2-ethylhexyl) phthala	13.66	149	1247306	65.62541	ppb		98
88)	Chrysene	13.68	228	1318738	61.31656	ppb		99
89)	Di-n-octylphthalate	14.40	149	1681300	59.92674	ppb	#	89
91)	Benzo (b) fluoranthene	14.95	252	1376291	64.07611	ppb		100
92)	Benzo (k) fluoranthene	14.98	252	1292202	66.72712	ppb		99
93)	Benzo (a) pyrene	15.41	252	1204589	63.19126	ppb		100
94)	Indeno (1,2,3-cd) pyrene	17.35	276	1432100	64.44685	ppb		99
95)	Dibenz (a,h) anthracene	17.38	278	1279803	64.65186	ppb		100
96)	Benzo (g,h,i) perylene	17.92	276	1092988	62.59632	ppb		100

(#) = qualifier out of range (m) = manual integration

Data File : M:\YODA\DATA\Y191219\1219Y221.D Vial: 21
Acq On : 24 Jan 20 15:45 Operator: MA,SS
Sample : 200122A LCS-1 1/800 Inst : Yoda
Misc : Multiplr: 1.25

Quant Time: Jan 27 8:05 2020 Quant Results File: Y1219.RES

Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y222.D Vial: 22
Acq On : 24 Jan 20 16:13 Operator: MA,SS
Sample : 200122A LCSD-1 1/800 Inst : Yoda
Misc : Multiplr: 1.25

Quant Time: Jan 27 8:05 2020 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.38	152	132891	40.00000	ppb		0.00
21) Napthalene-D8(IS)	6.82	136	559491	40.00000	ppb		0.00
41) Acenaphthene-D10(IS)	8.83	164	428312	40.00000	ppb		0.00
65) Phenanthrene-D10(IS)	10.57	188	867577	40.00000	ppb		0.00
80) Chrysene-D12(IS)	13.66	240	1006095	40.00000	ppb		0.00
90) Perylene-D12(IS)	15.48	264	879231	40.00000	ppb		0.00
System Monitoring Compounds							
5) 2-Fluorophenol (S)	3.82	112	998173	256.16172	ppb		0.00
Spiked Amount 250.000			Recovery	= 102.465%			
6) Phenol-D6 (S)	5.00	99	1374685	276.89764	ppb		0.00
Spiked Amount 250.000			Recovery	= 110.759%			
22) Nitrobenzene-D5(S)	6.01	82	730024	131.14868	ppb		0.00
Spiked Amount 125.000			Recovery	= 104.919%			
46) 2-Fluorobiphenyl(S)	8.05	172	1353997	106.99922	ppb		0.00
Spiked Amount 125.000			Recovery	= 85.599%			
64) 2,4,6-Tribromophenol(S)	9.77	330	526161	247.08367	ppb		0.00
Spiked Amount 250.000			Recovery	= 98.834%			
83) Terphenyl-D14(S)	12.43	244	2113521	110.11897	ppb		0.00
Spiked Amount 125.000			Recovery	= 88.095%			
Target Compounds							Qvalue
2) 1,4-Dioxane	1.68	58	12574	7.85567			100
3) n-Nitrosodimethylamine	1.91	42	235480	79.33098	ppb		96
4) Pyridine	1.92	79	482839	70.22106	ppb		95
7) Phenol	5.02	94	438187	74.79001	ppb		93
8) Aniline	5.00	93	274752	71.85963	ppb	#	72
9) Bis (2-chloroethyl) ether	5.07	63	199070	73.34425	ppb		94
10) 2-Chlorophenol	5.15	128	290013	70.29941	ppb		95
11) 1,3-DCB	5.31	146	283779	62.68601	ppb		97
12) 1,4-DCB	5.40	146	291328	62.88081	ppb		96
13) Benzyl alcohol	5.54	108	180712	74.36717	ppb		95
14) 1,2-DCB	5.56	146	280497	65.07028	ppb		99
15) 2-Methylphenol	5.68	107	259836	72.17873	ppb		99
16) Bis (2-chloroisopropyl) et	5.68	45	269074	75.17380	ppb		91
17) Acetophenone	5.83	105	448742	73.13391	ppb		97
18) 3&4-Methylphenol	5.85	107	674651	142.50180	ppb		99
19) n-Nitrosodi-n-propylamine	5.84	70	287314	72.80303	ppb		97
20) Hexachloroethane	5.94	117	110309	57.12083	ppb		96
23) Nitrobenzene	6.03	77	438714	76.04704	ppb		95
24) Isophorone	6.30	82	662708	72.80916	ppb		99
25) 2-Nitrophenol	6.38	139	166529	71.08698	ppb		93
26) 2,4-Dimethylphenol	6.44	122	258803	69.04143	ppb		100
27) Benzoic acid	6.59	105	254800	77.74540	ppb		97
28) Bis (2-chloroethoxy) metha	6.53	93	334453	70.80187	ppb		98
29) 2,4-Dichlorophenol	6.67	162	265166	72.54891	ppb		98
30) 1,2,4-Trichlorobenzene	6.75	180	261716	64.19776	ppb		98
31) 3,4-Dimethylphenol	6.78	107	450470	72.23742	ppb		99
32) Naphthalene	6.83	128	838164	68.82507	ppb		100
33) 4-Chloroaniline	6.90	127	283647	57.92605	ppb		97
34) 2,6-Dichlorophenol	6.92	162	254459	71.06417	ppb		94
35) Hexachloropropene	6.94	213	122787	34.80807	ppb		98
36) Hexachlorobutadiene	6.97	225	150615	54.45929	ppb		99
37) Caprolactum	7.32	55	126066	76.85253	ppb		93

(#) = qualifier out of range (m) = manual integration

Data File : M:\YODA\DATA\Y191219\1219Y222.D Vial: 22
Acq On : 24 Jan 20 16:13 Operator: MA,SS
Sample : 200122A LCSD-1 1/800 Inst : Yoda
Misc : Multiplr: 1.25

Quant Time: Jan 27 8:05 2020 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
38) 4-Chloro-3-methylphenol	7.47	107	315887	72.80763	ppb		96
39) 2-Methylnaphthalene	7.62	142	566613	69.13296	ppb		100
40) 1-Methylnaphthalene	7.74	142	588354	69.03371	ppb		100
42) Hexachlorocyclopentadiene	7.81	237	56080	17.98138	ppb		99
43) 1,2,4,5-Tetrachlorobenzene	7.83	216	284716	52.16350	ppb		100
44) 2,4,6-Trichlorophenol	7.97	196	208825	58.43701	ppb		98
45) 2,4,5-Trichlorophenol	8.02	196	217042	56.00163	ppb		92
47) 1,1'-Biphenyl	8.16	154	747874	56.27429	ppb		99
48) 2-Chloronaphthalene	8.19	162	589313	55.13900	ppb		100
49) 2-Nitroaniline	8.31	65	237593	58.54701	ppb		95
50) Dimethyl phthalate	8.52	163	814593	62.17979	ppb		99
51) 2,6-DNT	8.60	165	170242	59.58396	ppb		90
52) Acenaphthylene	8.67	152	915761	55.65113	ppb		100
53) 3-Nitroaniline	8.31	138	194670	57.39913	ppb		95
54) Acenaphthene	8.88	154	576452	56.00403	ppb		99
55) 2,4-Dinitrophenol	8.92	184	106216	62.50014	ppb		87
56) 4-Nitrophenol	8.59	65	16916	63.34933	ppb		99
57) Dibenzofuran	9.07	168	882717	56.46105	ppb		97
58) 2,4-DNT	9.07	165	251332	59.83096	ppb		94
59) 2,3,4,6-Tetrachlorophenol	9.23	232	172926	58.82725	ppb		97
60) Diethyl phthalate	9.34	149	817167	60.20709	ppb		99
61) 4-Chlorophenyl phenyl ethe	9.47	204	417859	55.60243	ppb		100
62) Fluorene	9.47	166	759483	57.10271	ppb		99
63) 4-Nitroaniline	8.79	138	153310	54.24907	ppb		95
66) 4,6-Dinitro-2-methylphenol	9.55	198	147371	54.46259	ppb		91
67) Diphenyl amine	9.62	169	1177904	104.25147	ppb		99
68) n-Nitrosodiphenylamine	9.62	169	1177904	104.25147	ppb		99
69) 1,2-Diphenylhydrazine	9.66	77	911459	55.77909	ppb		99
70) 4-Bromophenyl phenyl ether	10.04	248	230177	54.10712	ppb		99
71) Hexachlorobenzene	10.12	284	230617	53.58589	ppb		92
72) Atrazine	10.23	200	97922	25.23683	ppb		95
73) Pentachlorophenol	10.35	266	138336	52.29061	ppb		99
74) Phenanthrene	10.59	178	1026102	53.57396	ppb		99
75) Anthracene	10.66	178	1061272	53.00755	ppb		99
76) Carbazol	10.84	167	1010363	55.42643	ppb		99
77) Di-n-butylphthalate	11.24	149	1375332	55.17565	ppb		100
78) 2-Nitrodiphenylamine	11.42	167	167332	29.51096	ppb		100
79) Fluoranthene	11.99	202	1229381	54.80055	ppb		99
81) Benzidine	12.13	184	123512	15.03623	ppb		99
82) Pyrene	12.25	202	1264593	52.41520	ppb		99
84) Butyl benzylphthalate	12.99	149	644571	53.32208	ppb		96
85) 3,3'-Dichlorobenzidine	13.61	252	299808	36.15852	ppb		99
86) Benz (a) anthracene	13.65	228	1410789	53.68228	ppb		100
87) Bis (2-ethylhexyl) phthala	13.66	149	1149560	56.91365	ppb	#	97
88) Chrysene	13.68	228	1210711	52.97189	ppb		100
89) Di-n-octylphthalate	14.40	149	1562289	52.39895	ppb	#	91
91) Benzo (b) fluoranthene	14.95	252	1263297	54.98795	ppb		100
92) Benzo (k) fluoranthene	14.98	252	1192878	57.58962	ppb		99
93) Benzo (a) pyrene	15.41	252	1109988	54.43931	ppb		99
94) Indeno (1,2,3-cd) pyrene	17.35	276	1317356	55.42525	ppb		99
95) Dibenz (a,h) anthracene	17.38	278	1180349	55.74739	ppb		100
96) Benzo (g,h,i) perylene	17.91	276	1016510	54.42786	ppb		99

(#) = qualifier out of range (m) = manual integration

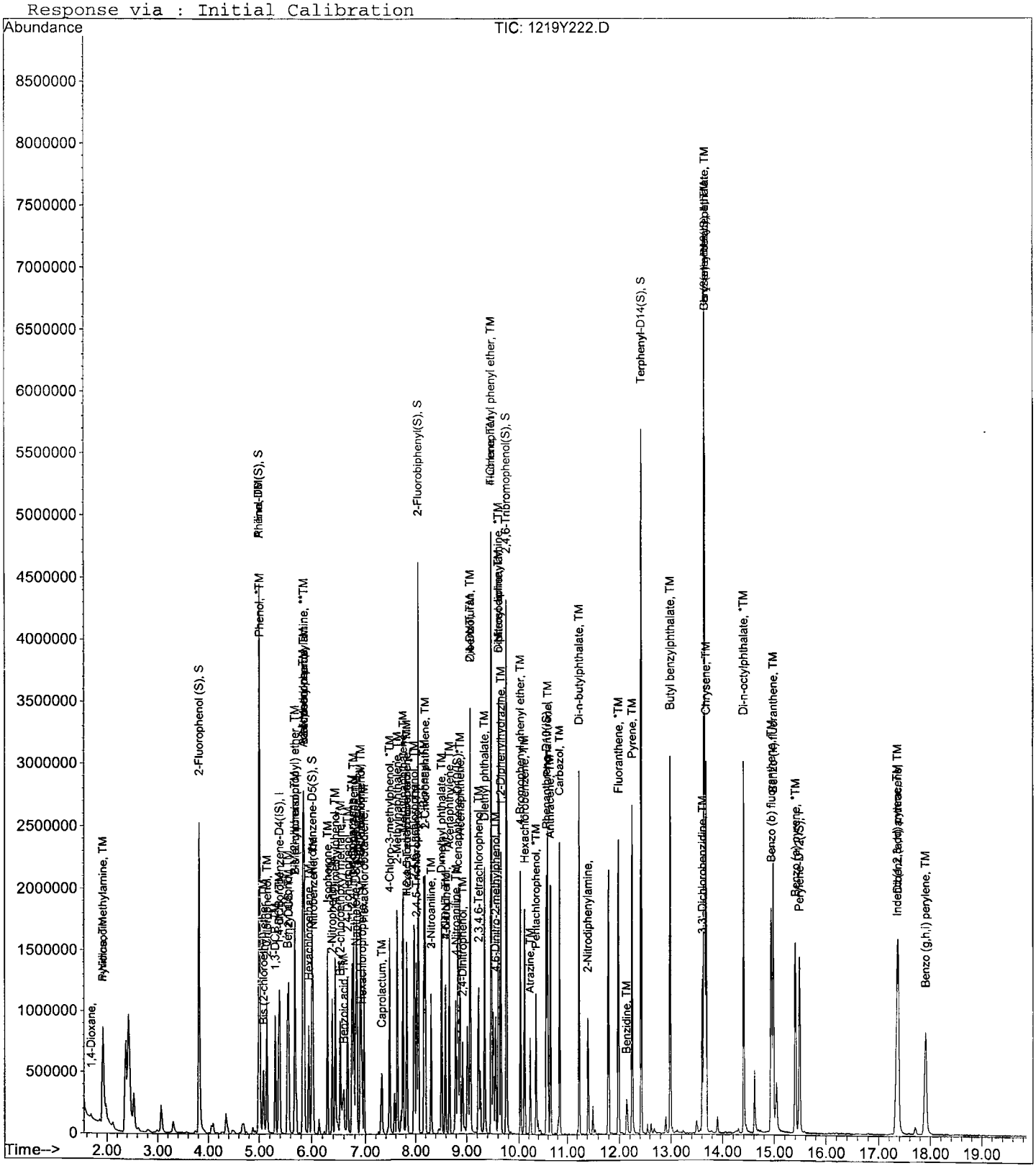
Quantitation Report

Data File : M:\YODA\DATA\Y191219\1219Y222.D
Acq On : 24 Jan 20 16:13
Sample : 200122A LCSD-1 1/800
Misc :

Vial: 22
Operator: MA,SS
Inst : Yoda
Multiplr: 1.25

Quant Time: Jan 27 8:05 2020 Quant Results File: Y1219.RES

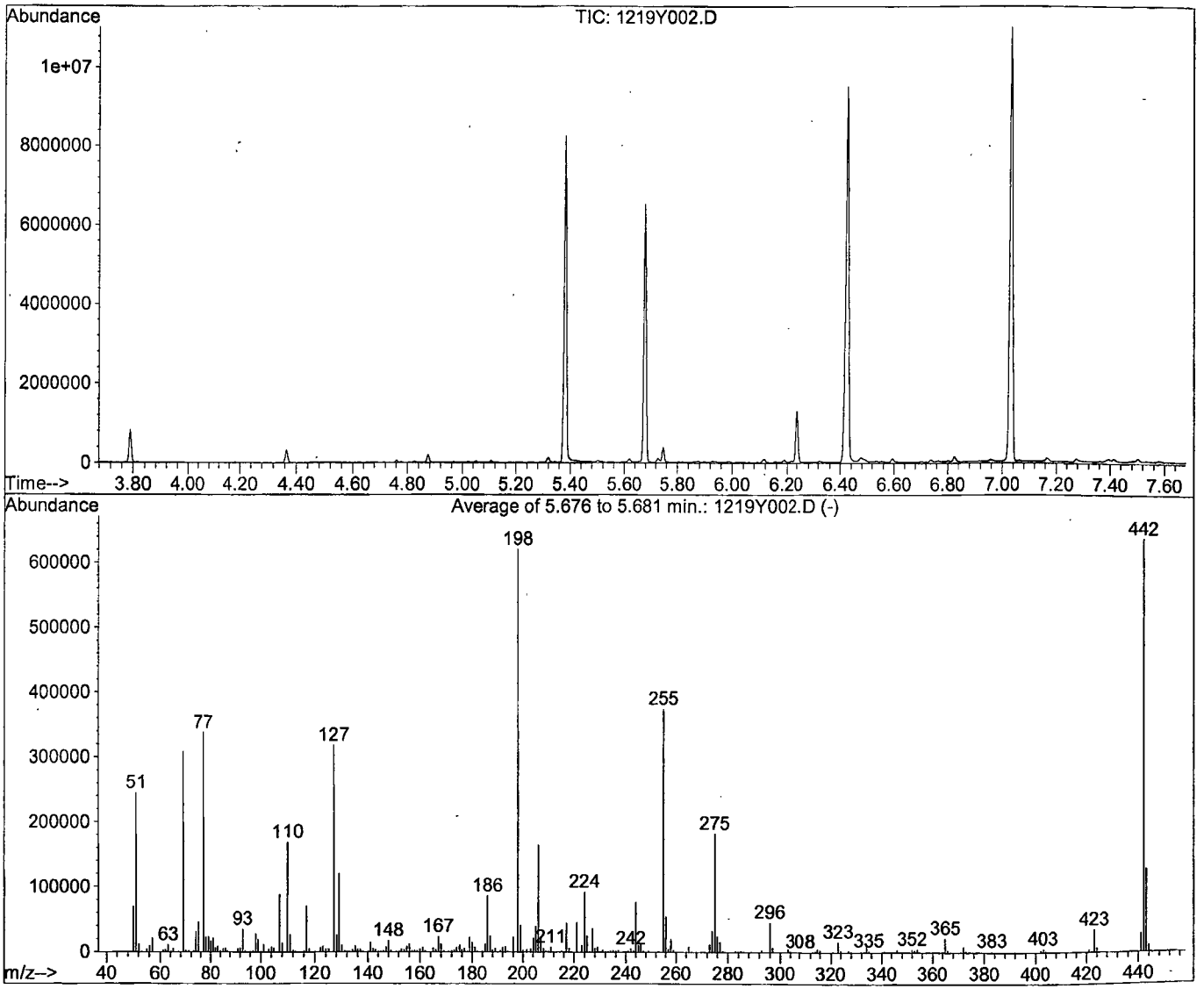
Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration



Data File : M:\YODA\DATA\Y191219\1219Y002.D
Acq On : 19 Dec 19 8:50
Sample : SV TUNE 10/01/19
Misc :

Vial: 2
Operator: MA,SS
Inst : Yoda
Multiplr: 1.00

Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C



Spectrum Information: Average of 5.676 to 5.681 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	39.5	245061	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	1.0	3141	PASS
127	198	10	80	51.3	318211	PASS
197	198	0.00	2	0.0	0	PASS
198	198	100	100	100.0	620800	PASS
199	198	5	9	6.7	41381	PASS
275	198	10	60	29.4	182251	PASS
365	198	1	100	3.5	21877	PASS
441	442	0.01	24	4.6	29075	PASS
442	198	50	500	102.9	638805	PASS
443	442	15	24	20.0	127973	PASS

Data File Name:	**1219Y002.D**
Data File Path:	**M:\YODA\DATA\Y191219**
Operator:	**MA,SS**
Date Acquired:	**19 Dec 2019 08:50**
Method File:	**DFTPP2.M**
Sample Name:	**SV TUNE 10/01/19**
Vial Number:	**2**
Instrument Name:	**Yoda**

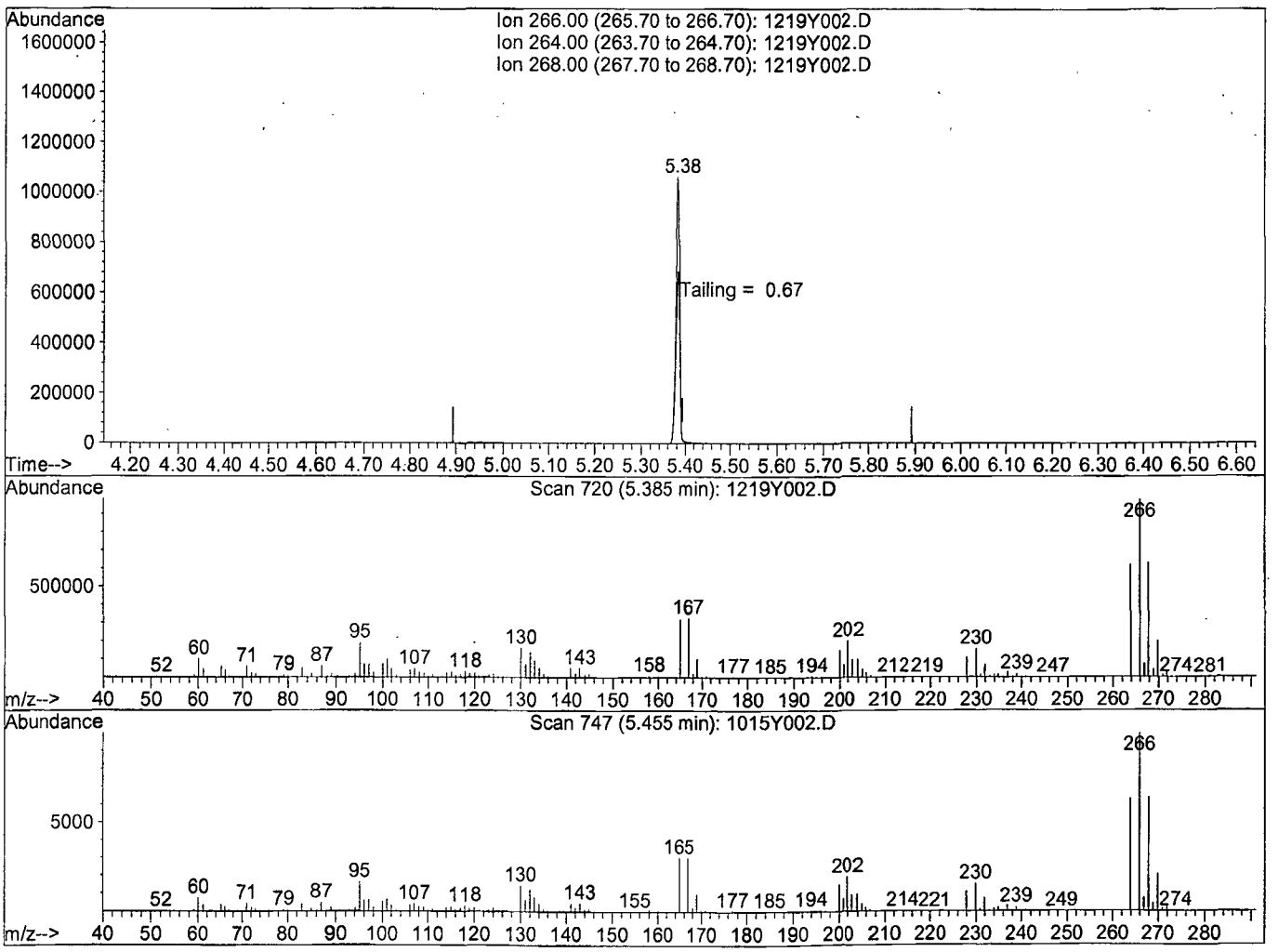
#	Name	Ret Time	Target Response
1)	DDT	7.02	83598600
2)	DDD	6.79	322054
3)	DDE	6.59	610218

Breakdown **1.10**

Quantitation Report

Data File : M:\YODA\DATA\Y191219\1219Y002.D Vial: 2
Acq On : 19 Dec 19 8:50 Operator: MA,SS
Sample : SV TUNE 10/01/19 Inst : Yoda
Misc : Multiplr: 1.00
Quant Time: Dec 19 16:49 2019 Quant Results File: temp.res

Method : M:\YODA\DATA\Y191219\DFTPP2.M (Chemstation Integrator)
Title :
Last Update : Tue Dec 10 08:34:10 2019
Response via : Single Level Calibration



TIC: 1219Y002.D

(5) Pentachlorophenol

5.38min 0.0000

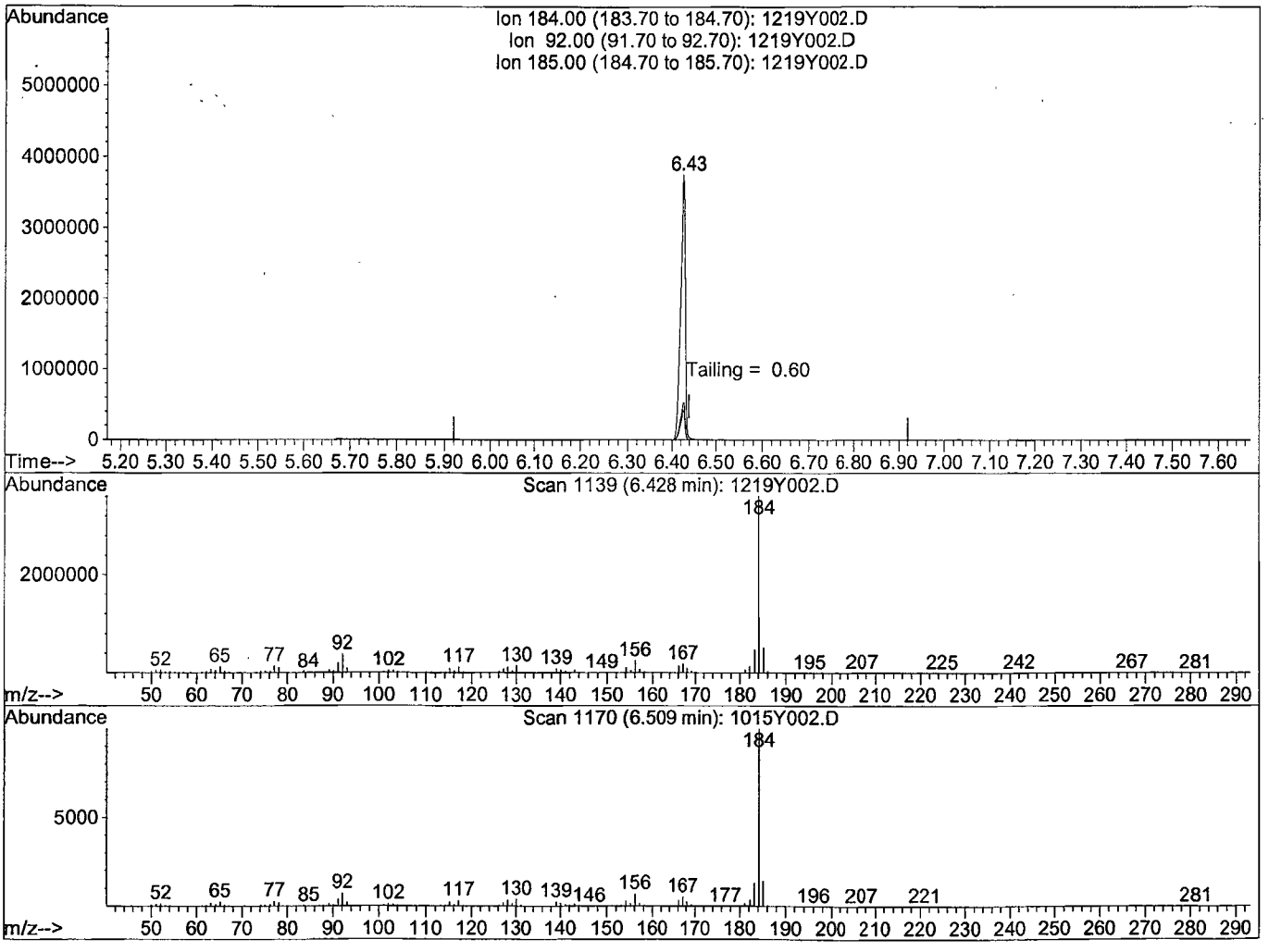
response 6507700

Ion	Exp%	Act%
266.00	100	100
264.00	65.60	64.20
268.00	64.10	63.98
0.00	0.00	0.00

Quantitation Report

Data File : M:\YODA\DATA\Y191219\1219Y002.D Vial: 2
Acq On : 19 Dec 19 8:50 Operator: MA,SS
Sample : SV TUNE 10/01/19 Inst : Yoda
Misc : Multiplr: 1.00
Quant Time: Dec 19 16:49 2019 Quant Results File: temp.res

Method : M:\YODA\DATA\Y191219\DFTPP2.M (Chemstation Integrator)
Title :
Last Update : Tue Dec 10 08:34:10 2019
Response via : Single Level Calibration



TIC: 1219Y002.D

(6) Benzidine

6.43min 0.0000

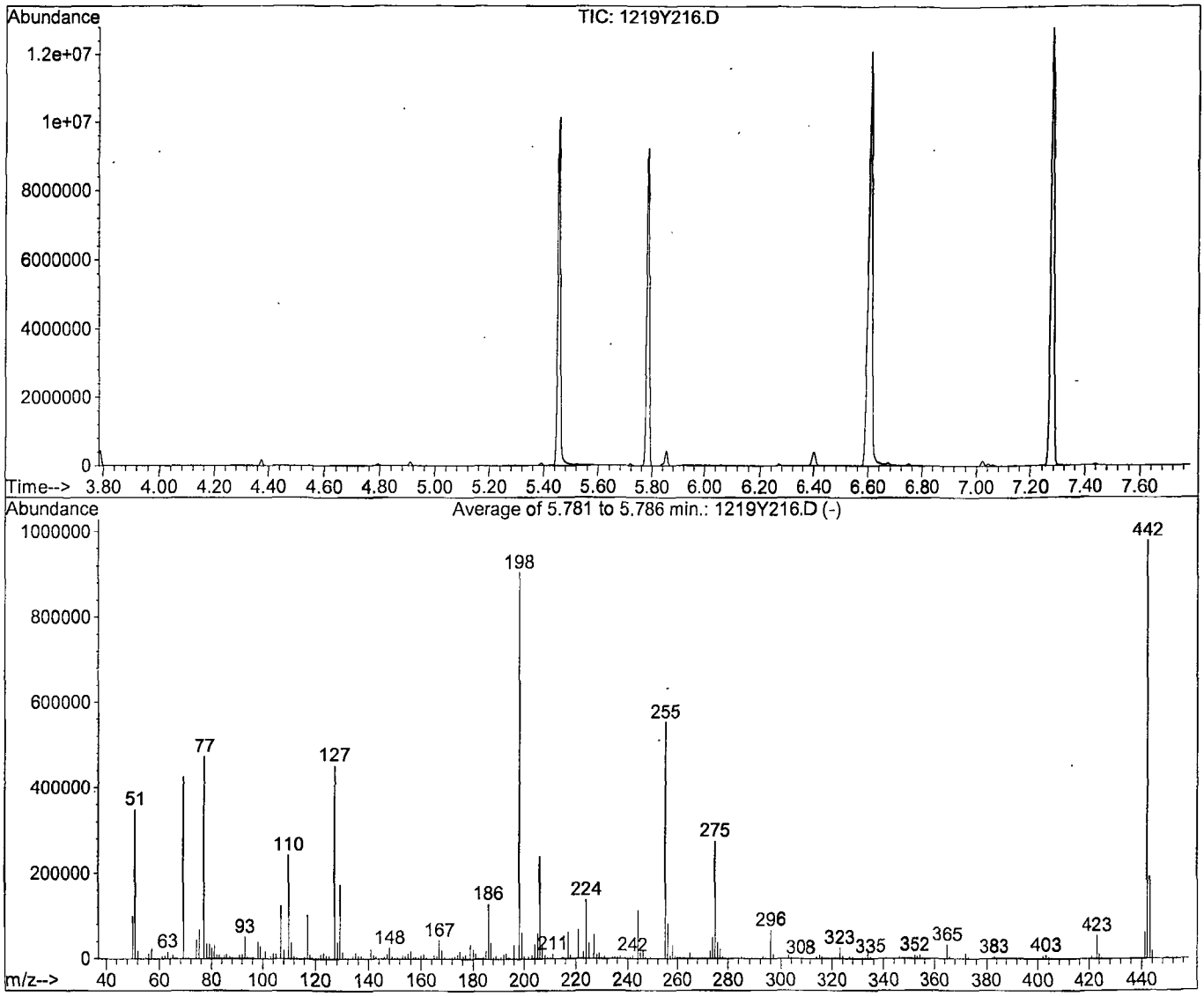
response 29741628

Ion	Exp%	Act%
184.00	100	100
92.00	10.30	10.56
185.00	14.50	14.29
0.00	0.00	0.00

Data File : M:\YODA\DATA\Y191219\1219Y216.D
Acq On : 24 Jan 20 11:51
Sample : SV TUNE 10/01/19
Misc :

Vial: 16
Operator: MA,SS
Inst : Yoda
Multiplr: 1.00

Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C



Spectrum Information: Average of 5.781 to 5.786 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	38.7	349322	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.2	753	PASS
127	198	10	80	50.1	452416	PASS
197	198	0.00	2	0.0	0	PASS
198	198	100	100	100.0	903701	PASS
199	198	5	9	6.8	61704	PASS
275	198	10	60	30.4	275157	PASS
365	198	1	100	3.6	32208	PASS
441	442	0.01	24	6.2	61163	PASS
442	198	50	500	108.4	979413	PASS
443	442	15	24	19.6	191957	PASS

Data File Name:	**1219Y216.D**
Data File Path:	**M:\YODA\DATA\Y191219**
Operator:	**MA,SS**
Date Acquired:	**24 Jan 2020 11:51**
Method File:	**DFTPP2.M**
Sample Name:	**SV TUNE 10/01/19**
Vial Number:	**16**
Instrument Name:	**Yoda**

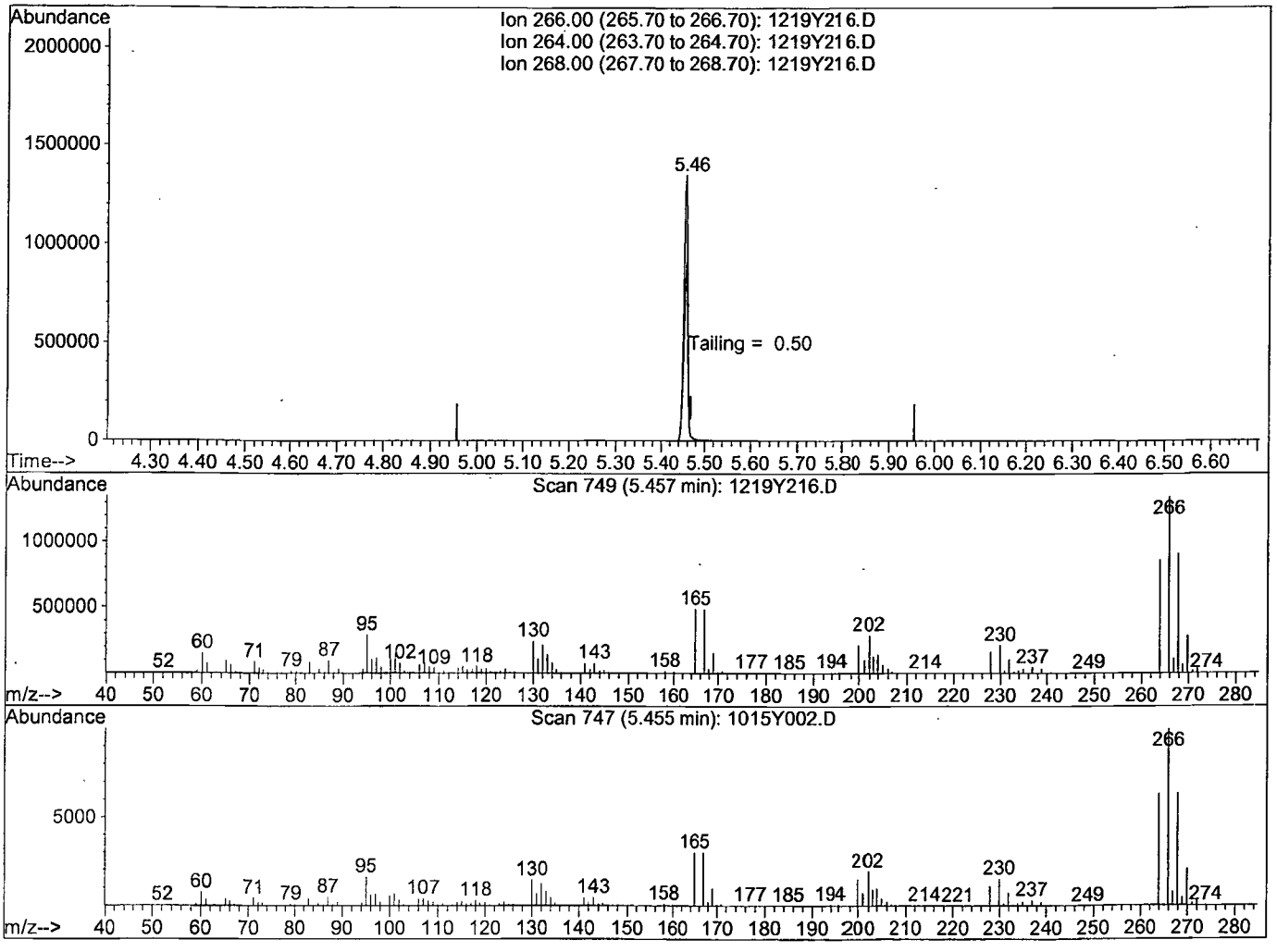
#	Name	Ret Time	Target Response
1)	DDT	7.28	109301000
2)	DDD	7.02	981272
3)	DDE	6.79	119412

Breakdown **1.00**

Quantitation Report

Data File : M:\YODA\DATA\Y191219\1219Y216.D Vial: 16
Acq On : 24 Jan 20 11:51 Operator: MA,SS
Sample : SV TUNE 10/01/19 Inst : Yoda
Misc : Multiplr: 1.00
Quant Time: Jan 27 8:38 2020 Quant Results File: temp.res

Method : M:\YODA\DATA\Y191219\DFTPP2.M (Chemstation Integrator)
Title :
Last Update : Mon Jan 27 08:38:00 2020
Response via : Single Level Calibration



TIC: 1219Y216.D

(5) Pentachlorophenol

5.46min 0.0000

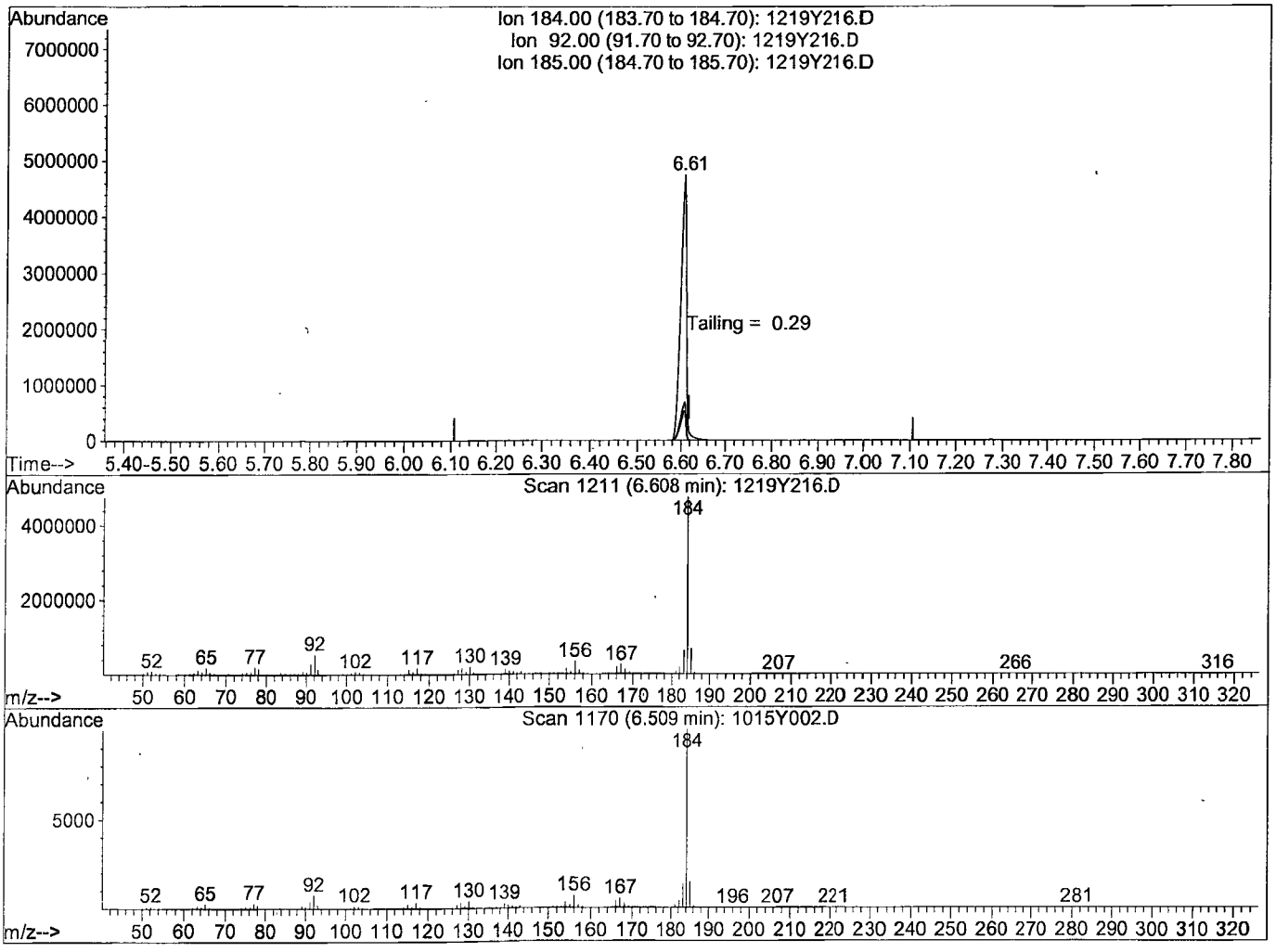
response 9065317

Ion	Exp%	Act%
266.00	100	100
264.00	63.10	63.40
268.00	63.80	65.70
0.00	0.00	0.00

Quantitation Report

Data File : M:\YODA\DATA\Y191219\1219Y216.D Vial: 16
Acq On : 24 Jan 20 11:51 Operator: MA,SS
Sample : SV TUNE 10/01/19 Inst : Yoda
Misc : Multiplr: 1.00
Quant Time: Jan 27 8:38 2020 Quant Results File: temp.res

Method : M:\YODA\DATA\Y191219\DFTPP2.M (Chemstation Integrator)
Title :
Last Update : Mon Jan 27 08:38:00 2020
Response via : Single Level Calibration



TIC: 1219Y216.D

(6) Benzidine

6.61min 0.0000

response 44346224

Ion	Exp%	Act%
184.00	100	100
92.00	7.50	10.53#
185.00	14.30	14.34
0.00	0.00	0.00

Name of Final Standard	8270 Full Scan Stock Spike	Prep'd By (Initials)	JP
Prep Date	011/21/2019		
Exp Date	011/21/2020		

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from contianer Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
10001	Absolute	10001	2000	081419 - 49302	08/14/22	1.0 mL	11 mL	NA	181.82 ug/mL
10002	Absolute	10002	2000	090919- 49211	09/09/22	1.0 mL	*	*	181.82 ug/mL
10004	Absolute	10004	2000	071618- 99221	07/16/23	1.0 mL	*	*	181.82 ug/mL
10005	Absolute	10005	2000	032018- 40234	03/20/23	1.0 mL	*	*	181.82 ug/mL
10006	Absolute	10006	2000	030119- 49242	03/01/22	1.0 mL	*	*	181.82 ug/mL
10007	Absolute	10007	2000	080116- 40254	08/01/21	1.0 mL	*	*	181.82 ug/mL
10018	Absolute	10018	2000	051719- 49262	05/17/24	1.0 mL	*	*	181.82 ug/mL
70023	Absolute	70023	1000	012819- 49268	01/28/24	1.0 mL	*	*	90.91ug/mL
82705	Absolute	82705	2000	090919- 49293	09/09/22	1.0 mL	*	*	181.82 ug/mL
94552	Absolute	94552	various	053119- 49284	05/31/21	1.0 mL	*	*	various
72304	Absolute	70023	1000	090519- 49455 - 41159	09/05/24	1.0 mL	*	*	90.91ug/mL

Name of Final Standard	8270 Internal Standard Ampules (2)	Prep'd By (Initials)	JP
Prep Date	11/20/19		
Exp Date	11/20/20		

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from contianer Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
Semivolatile Internal Standard	Restek	31206	2000 ug/mL	**A0151843-49411 A0151843-49412**	**07/31/25**	2 mL	2 mL	NA	2000ug/mL

Name of Final Standard	8270 SS STOCK
Prep Date	11/20/19
Exp Date	11/20/20

Prep'd By (Initials): JP

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from contianer Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
10001	Absolute	10001	2000 ug/mL	051019-40534	05/10/21	1.0 mL	20 mL	**Methanol Lot 208858**	100 ug/mL
10002	Absolute	10002	2000 ug/mL	020217-39199	02/02/20	1.0 mL	*	*	100 ug/mL
10004	Absolute	10004	2000 ug/mL	051018-39196	05/10/21	1.0 mL	*	*	100 ug/mL
10005	Absolute	10005	2000 ug/mL	031618-39207	03/16/23	1.0 mL	*	*	100 ug/mL
10006	Absolute	10006	2000 ug/mL	011718-39208	01/17/21	1.0 mL	*	*	100 ug/mL
10007	Absolute	10007	2000 ug/mL	060118-39213	06/01/23	1.0 mL	*	*	100 ug/mL
10018	Absolute	10018	2000 ug/mL	062718-40535	06/27/23	1.0 mL	*	*	100 ug/mL
70023	Absolute	70023	1000 ug/mL	051618-39214	05/16/23	1.0 mL	*	*	50 ug/mL
82705	Absolute	82705	2000 ug/mL	090617-40540	09/06/20	1.0 mL	*	*	100 ug/mL
94552	Absolute	94552	various	013118-40542	01/31/20	1.0 mL	*	*	various
72304	Absolute	72304	1000 ug/mL	110719-49477	11/07/24	1.0 mL	*	*	50 ug/mL

Name of Final Standard	8270 Full Scan Second Source
Prep Date	11/22/19
Exp Date	11/22/20

Prep'd By (Initials): JP

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from container Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
8270 SS Stock	APPL	8270 SS Stock	100:50 ug/mL	**11/20/19**	**11/20/20**	100 uL	200uL	**MC DW717 150uL**	50:25 ug/mL
SV Internal Standard	APPL	SV Internal Standard	2000 ug/mL	**11/20/19**	**11/20/19**	4 uL	*	*	*

Name of Final Standard	8270 Full Scan Standard Curve	Prep'd By (Initials)	JP
Prep Date	011/21/2019		
Exp Date	011/21/2020		

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from container Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
8270 Stock	APPL	8270 Stock	182:91 ug/mL	011/21/2019	011/21/2020	4.4 uL	200uL	MC DW717 150uL	4 ug/mL
8270 Surrogate	APPL	8270 Surrogate	200:400 ug/mL	07/10/19	06/24/20	4 uL	*	*	*
SV Internal Standard	APPL	SV Internal Standard	2000 ug/mL	011/20/2019	07/31/25	4 uL	*	*	*
8270 Stock	APPL	8270 Stock	182:91 ug/mL	011/21/2019	011/21/2020	11 uL	400uL	MC DW717 150uL	5 ug/mL
8270 Surrogate	APPL	8270 Surrogate	200:400 ug/mL	07/10/19	06/24/20	10 uL	*	*	*
SV Internal Standard	APPL	SV Internal Standard	2000 ug/mL	011/20/2019	07/31/25	8 uL	*	*	*
8270 Stock	APPL	8270 Stock	182:91 ug/mL	011/21/2019	011/21/2020	11 uL	200uL	MC DW717 150uL	10 ug/mL
8270 Surrogate	APPL	8270 Surrogate	200:400 ug/mL	07/10/19	06/24/20	10 uL	*	*	*
SV Internal Standard	APPL	SV Internal Standard	2000 ug/mL	011/20/2019	07/31/25	4 uL	*	*	*
8270 Stock	APPL	8270 Stock	182:91 ug/mL	011/21/2019	011/21/2020	11 uL	100uL	MC DW717 150uL	20 ug/mL
8270 Surrogate	APPL	8270 Surrogate	200:400 ug/mL	07/10/19	06/24/20	10 uL	*	*	*
SV Internal Standard	APPL	SV Internal Standard	2000 ug/mL	011/20/2019	07/31/25	2 uL	*	*	*
8270 Stock	APPL	8270 Stock	182:91 ug/mL	011/21/2019	011/21/2020	22 uL	100uL	MC DW717 150uL	40 ug/mL
8270 Surrogate	APPL	8270 Surrogate	200:400 ug/mL	07/10/19	06/24/20	20 uL	*	*	*
SV Internal Standard	APPL	SV Internal Standard	2000 ug/mL	011/20/2019	07/31/25	2 uL	*	*	*
8270 Stock	APPL	8270 Stock	182:91 ug/mL	011/21/2019	011/21/2020	55 uL	200 uL	MC DW717 150uL	50 ug/mL
8270 Surrogate	APPL	8270 Surrogate	200:400 ug/mL	07/10/19	06/24/20	50 uL	*	*	*
SV Internal Standard	APPL	SV Internal Standard	2000 ug/mL	011/20/2019	07/31/25	4 uL	*	*	*
8270 Stock	APPL	8270 Stock	182:91 ug/mL	011/21/2019	011/21/2020	33 uL	100uL	MC DW717 150uL	60 ug/mL
8270 Surrogate	APPL	8270 Surrogate	200:400 ug/mL	07/10/19	06/24/20	30 uL	*	*	*
SV Internal Standard	APPL	SV Internal Standard	2000 ug/mL	011/20/2019	07/31/25	2 uL	*	*	*
8270 Stock	APPL	8270 Stock	182:91 ug/mL	011/21/2019	011/21/2020	44 uL	100uL	MC DW717 150uL	80 ug/mL
8270 Surrogate	APPL	8270 Surrogate	200:400 ug/mL	07/10/19	06/24/20	40 uL	*	*	*
SV Internal Standard	APPL	SV Internal Standard	2000 ug/mL	011/20/2019	07/31/25	2 uL	*	*	*
8270 Stock	APPL	8270 Stock	182:91 ug/mL	011/21/2019	011/21/2020	50 uL	100uL	na	91 ug/mL
8270 Surrogate	APPL	8270 Surrogate	200:400 ug/mL	07/10/19	06/24/20	50 uL	*	*	*
SV Internal Standard	APPL	SV Internal Standard	2000 ug/mL	011/20/2019	07/31/25	2 uL	*	*	*

Name of Final Standard	**Semivolatile (SV) Tuning Solution**
Prep Date	**10/01/19**
Exp Date	**11/30/20**

Prep'd By (Initials) **JP**

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from contianer Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
Semivolatile GC/MS Tuning Standard	Ultra Scientific	GCM-150-1	1,000 ug/mL	CR3789-38879	11/30/20	1,250 uL	25 mL	MC #58240	50 ug/mL

Name of Final Standard	**8270 Full Scan Spike**
Prep Date	**12/04/19**
Exp Date	**12/04/20**

Prep'd By (Initials) **JP**

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from contianer Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
10001	Absolute	10001	2000	081419 - 49299	08/14/22	1.0 mL	40 mL	**Methanol Lot# 208858**	50 ug/mL
10002	Absolute	10002	2000	090919-49208	09/09/22	1.0 mL	*	*	50 ug/mL
10004	Absolute	10004	2000	071618-49218	07/16/23	1.0 mL	*	*	50 ug/mL
10005	Absolute	10005	2000	032018-49228	03/20/23	1.0 mL	*	*	50 ug/mL
10006	Absolute	10006	2000	030119-49239	03/01/22	1.0 mL	*	*	50 ug/mL
10007	Absolute	10007	2000	080116-40249	08/01/21	1.0 mL	*	*	50 ug/mL
10018	Absolute	10018	2000	051719-49259	05/17/24	1.0 mL	*	*	50 ug/mL
70023	Absolute	70023	1000	012819-49275	01/28/24	1.0 mL	*	*	25 ug/mL
82705	Absolute	82705	2000	090919-49290	09/09/22	1.0 mL	*	*	50 ug/mL
94552	Absolute	94552	various	053119-49286	05/31/21	1.0 mL	*	*	various

Name of Final Standard	8270 Full Scan Standard Curve	Prep'd By (Initials)	JP
Prep Date	01/16/20		
Exp Date	06/24/20		

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from container Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc (range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
8270 Stock	APPL	8270 Stock	182:91 ug/mL	011/21/2019	011/21/2020	55 uL	200 uL	MC DW717 150uL	50 ug/mL
8270 Surrogate	APPL	8270 Surrogate	200:400 ug/mL	07/10/19	06/24/20	50 uL	"	"	"
SV Internal Standard	APPL	SV Internal Standard	2000 ug/mL	011/20/2019	07/31/25	4 uL	"	"	"

Organic Extraction Worksheet

Method	Continuous Liquid/Liquid SVOC 3520C	Extraction Set	200122A	Extraction Method	LIQ003	Units	mL

Spiked ID 1	8270T Spike 1-20-20 1-20-21		Surrogate ID 1	8270 Surrogate 11-19-19 11-19-20	
Spiked ID 2	Sim Spike 12-19-19 11-13-20		Surrogate ID 2	SIM Surrogate 12-17-19 12-17-20	
Spiked ID 3			Surrogate ID 3		
Spiked ID 4			Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	NO	
Spiked ID 7			Ext. Start Time:	01/22/20 12:30	
Spiked ID 8			Ext. End Time:	01/24/20 12:35	
			GC Requires Extract By:		

pH1	2	01/22/20 12:45	Water Bath Temp 1 °C	75/74.9 E-WB6 °
pH2	14	01/23/20 14:50	Water Bath Temp 2 °C	
pH3			Water Bath Temp 3 °C	

Spiked By: DL **Date** 01/22/20 **Witnessed By:** KY **Date** 01/22/20

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	200122A Blk				1,0.050	1,2	800	1	2/1	01/22/20 12:30	
						equip	EHP-51 E-WB6				
2	200122A LCS-1		1	1	1	1	800	1	2/1	01/22/20 12:30	
						equip	EHP-50 E-WB6				
3	200122A LCS-2		0.125	2	0.050	2	800	1	2/1	01/22/20 12:30	
						equip	EHP-49 E-WB6				
4	200122A LCSD-1		1	1	1	1	800	1	2/1	01/22/20 12:30	
						equip	EHP-48 E-WB6				
5	200122A LCSD-2		0.125	2	0.050	2	800	1	2/1	01/22/20 12:30	
						equip	EHP-47 E-WB6				
6	BA06136	BA06136W14			1,0.050	1,2	800	1	2/1	01/22/20 12:30	91264
						equip	EHP-25 E-WB6				
7	BA06138	BA06138W13			1,0.050	1,2	800	1	2/1	01/22/20 12:30	91264
						equip	EHP-26 E-WB6				
8	BA06139	BA06139W11			1,0.050	1,2	800	1	2/1	01/22/20 12:30	91264
						equip	EHP-27 E-WB6				
9	BA06141	BA06141W14			1,0.050	1,2	800	1	2/1	01/22/20 12:30	91264
						equip	EHP-28 E-WB6				
10	BA06143	BA06143W13			1,0.050	1,2	800	1	2/1	01/22/20 12:30	91264
						equip	EHP-29 E-WB6				

Solvent and Lot#	
PH Strips	HC863463
Dichloromethane (DCM)	59239
1+1 H2SO4	12-17-19
10N NaOH	11-20-19
Filter Paper	400171
Na2SO4	2019020631

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	MA
Date	1/24/20
Time	1245
Refrigerator	GC-C

	Technician's Initials
Scanned By	DL
Sample Preparation	DL
Extraction	DL
Concentration	KY, DS, DL

Modified	01/26/20 7:05:25 AM

Reviewed By: KY **Date** 01/26/20

Injection Log

Directory: M:\YODA\DATA\Y191219\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	2	1219Y002.D	1	SV TUNE 10/01/19		19 Dec 19 8:50
2	3	1219Y003.D	1	50ug/ml 8270 11/21/19		19 Dec 19 9:06
3	4	1219Y004.D	1	4ug/ml 8270 11/21/19		19 Dec 19 9:33
4	5	1219Y005.D	1	5ug/ml 8270 11/21/19		19 Dec 19 10:01
5	6	1219Y006.D	1	10ug/ml 8270 11/21/19		19 Dec 19 10:28
6	7	1219Y007.D	1	20ug/ml 8270 11/21/19		19 Dec 19 10:56
7	8	1219Y008.D	1	40ug/ml 8270 11/21/19		19 Dec 19 11:24
8	9	1219Y009.D	1	60ug/ml 8270 11/21/19		19 Dec 19 11:51
9	10	1219Y010.D	1	80ug/ml 8270 11/21/19		19 Dec 19 12:19
10	11	1219Y011.D	1	100ug/ml 8270 11/21/19		19 Dec 19 12:46
11	12	1219Y012.D	1	SS 8270 11/22/19		19 Dec 19 13:14
12	16	1219Y216.D	1	SV TUNE 10/01/19		24 Jan 20 11:51
13	17	1219Y217.D	1	50ug/ml 8270 01/06/20 (1)		24 Jan 20 12:06
14	20	1219Y220.D	1.25	200122A BLK 1/800		24 Jan 20 15:17
15	21	1219Y221.D	1.25	200122A LCS-1 1/800		24 Jan 20 15:45
16	22	1219Y222.D	1.25	200122A LCSD-1 1/800		24 Jan 20 16:13
17	23	1219Y223.D	1.25	BA06136W14 1/800		24 Jan 20 16:41
18	24	1219Y224.D	1.25	BA06138W13 1/800		24 Jan 20 17:09
19	25	1219Y225.D	1.25	BA06139W11 1/800		24 Jan 20 17:36
20	26	1219Y226.D	1.25	BA06141W14 1/800		24 Jan 20 18:04
21	27	1219Y227.D	1.25	BA06143W13 1/800		24 Jan 20 18:32
22	28	1219Y228.D	1	50ug/ml 8270 01/06/20 (2)		24 Jan 20 19:00

ORGANICS
Calibration Data

2MEE
EPA 8270

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Initial Cal. Date: 01/22/20
Matrix: Instrument: Yoda

Initials:

		Compound	0122Y003.D	0122Y004.D	0122Y005.D	0122Y006.D	0122Y007 D	0122Y008 D	0122Y009 D	0122Y010.D			Avg	%RSD	Type	r^2	Q	MRF
			1	2	3	4	5	6	7	8								
1	I	1,4-dichlorobenzene-D4(IS)																
2	TM	2-(2-Methoxyethoxy)ethanol	0.1821	0.2585	0.2387	0.2203	0.2137	0.2203	0.2856	0.2603			0.23	14	TM			
3	I	Napthalene-D8(IS)																
4	I	Acenaphthene-D10(IS)																
5	I	Phenanthrene-D10(IS)																
6	I	Chrysene-D12(IS)																
7	I	Perylene-D12(IS)																
8																		
9																		
10																		
11																		
12																		
13																		
14																		
15																		
16																		
17																		
18																		
19																		
20																		
21																		
22																		
23																		
24																		
25																		
26																		
27																		
28																		
29																		
30																		
31																		
32																		
33																		
34																		
35																		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y200122M\0122Y003.D Vial: 3
Acq On : 22 Jan 20 15:46 Operator: MA,SS
Sample : 50ug/ml MEE 01/22/20 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 23 10:02 2020 Quant Results File: YMEE0122.RES

Quant Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 10:01:29 2020
Response via : Initial Calibration
DataAcq Meth : GED

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.15	152	171017	40.00000	ppb	0.00
3) Napthalene-D8(IS)	6.56	136	665562	40.00000	ppb	0.00
4) Acenaphthene-D10(IS)	8.59	164	409494	40.00000	ppb	0.00
5) Phenanthrene-D10(IS)	10.31	188	788135	40.00000	ppb	0.00
6) Chrysene-D12(IS)	13.39	240	679346	40.00000	ppb	0.00
7) Perylene-D12(IS)	15.12	264	699262	40.00000	ppb	0.00

System Monitoring Compounds

Target Compounds						Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.33	45	38926	38.75395	ppb	99

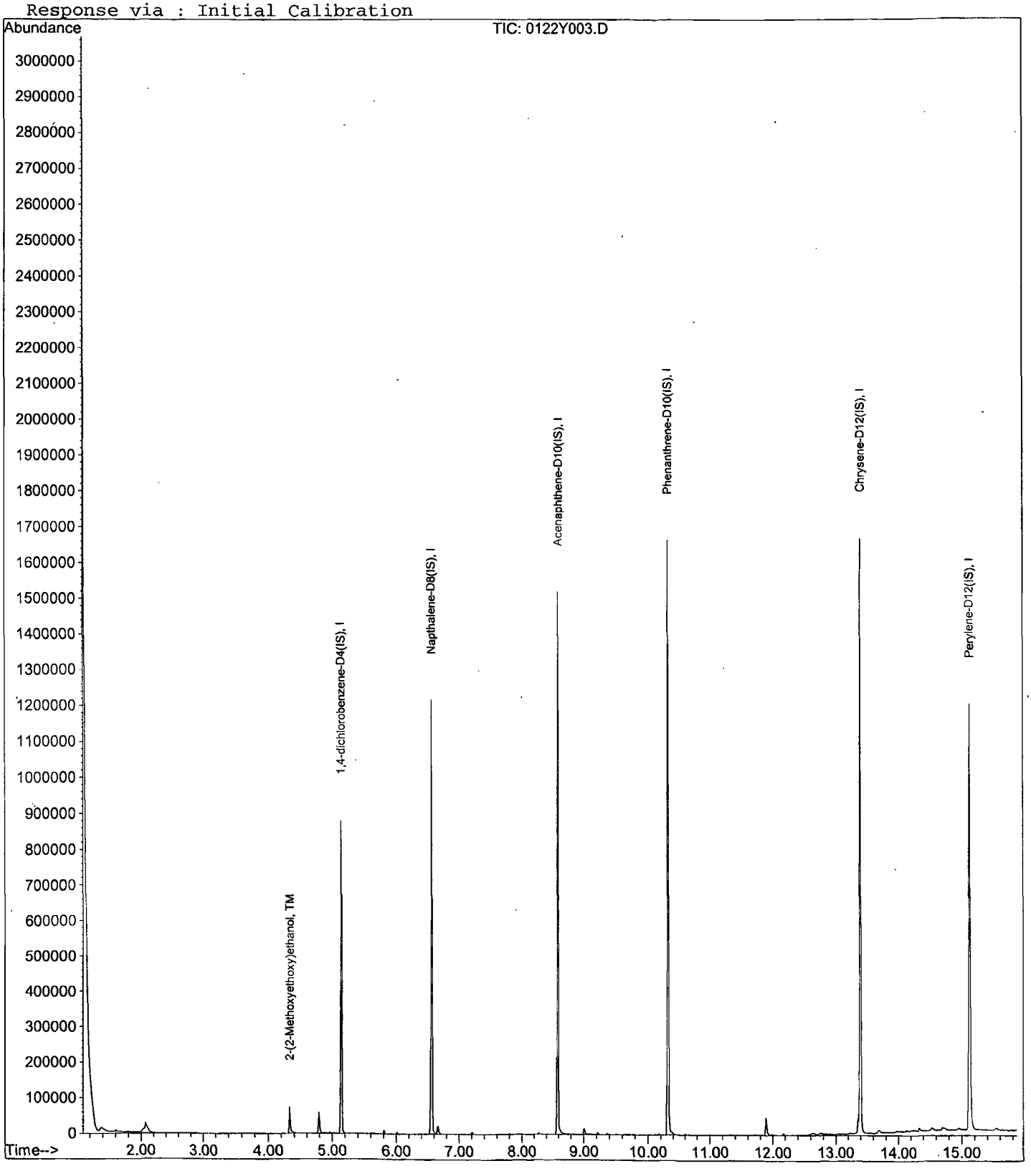
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y200122M\0122Y003.D Vial: 3
Acq On : 22 Jan 20 15:46 Operator: MA,SS
Sample : 50ug/ml MEE 01/22/20 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 23 10:02 2020 Quant Results File: YMEE0122.RES

Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 10:01:29 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y200122M\0122Y004.D Vial: 4
Acq On : 22 Jan 20 16:10 Operator: MA,SS
Sample : 100ug/ml MEE 01/22/20 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 23 10:02 2020 Quant Results File: YMEE0122.RES

Quant Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 10:01:29 2020
Response via : Initial Calibration
DataAcq Meth : GED

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.15	152	158778	40.00000	ppb	0.00
3) Napthalene-D8(IS)	6.57	136	642353	40.00000	ppb	0.00
4) Acenaphthene-D10(IS)	8.58	164	393654	40.00000	ppb	0.00
5) Phenanthrene-D10(IS)	10.31	188	759584	40.00000	ppb	0.00
6) Chrysene-D12(IS)	13.39	240	664524	40.00000	ppb	0.00
7) Perylene-D12(IS)	15.12	264	676233	40.00000	ppb	0.00

System Monitoring Compounds

Target Compounds						Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.32	45	102613	110.03417	ppb	98

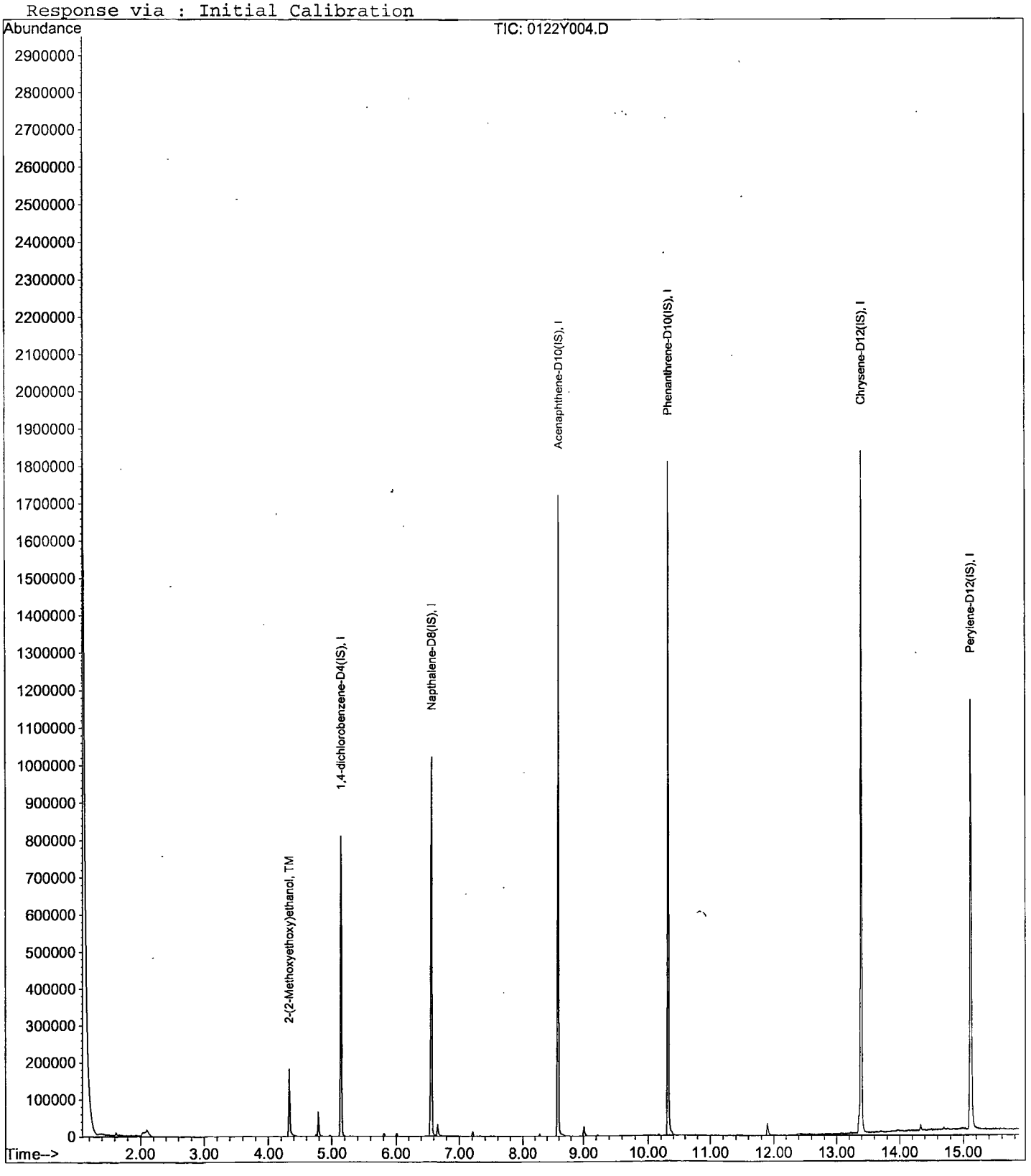
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y200122M\0122Y004.D Vial: 4
Acq On : 22 Jan 20 16:10 Operator: MA,SS
Sample : 100ug/ml MEE 01/22/20 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 23 10:02 2020 Quant Results File: YMEE0122.RES

Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 10:01:29 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y200122M\0122Y005.D Vial: 5
Acq On : 22 Jan 20 16:33 Operator: MA,SS
Sample : 200ug/ml MEE 01/22/20 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 23 10:02 2020 Quant Results File: YMEE0122.RES

Quant Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 10:01:29 2020
Response via : Initial Calibration
DataAcq Meth : GED

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.15	152	155385	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.57	136	636024	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.58	164	388934	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	10.31	188	754620	40.00000 ppb	0.00
6) Chrysene-D12(IS)	13.39	240	621602	40.00000 ppb	0.00
7) Perylene-D12(IS)	15.12	264	626915	40.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.33	45	185455	203.20994 ppb	100

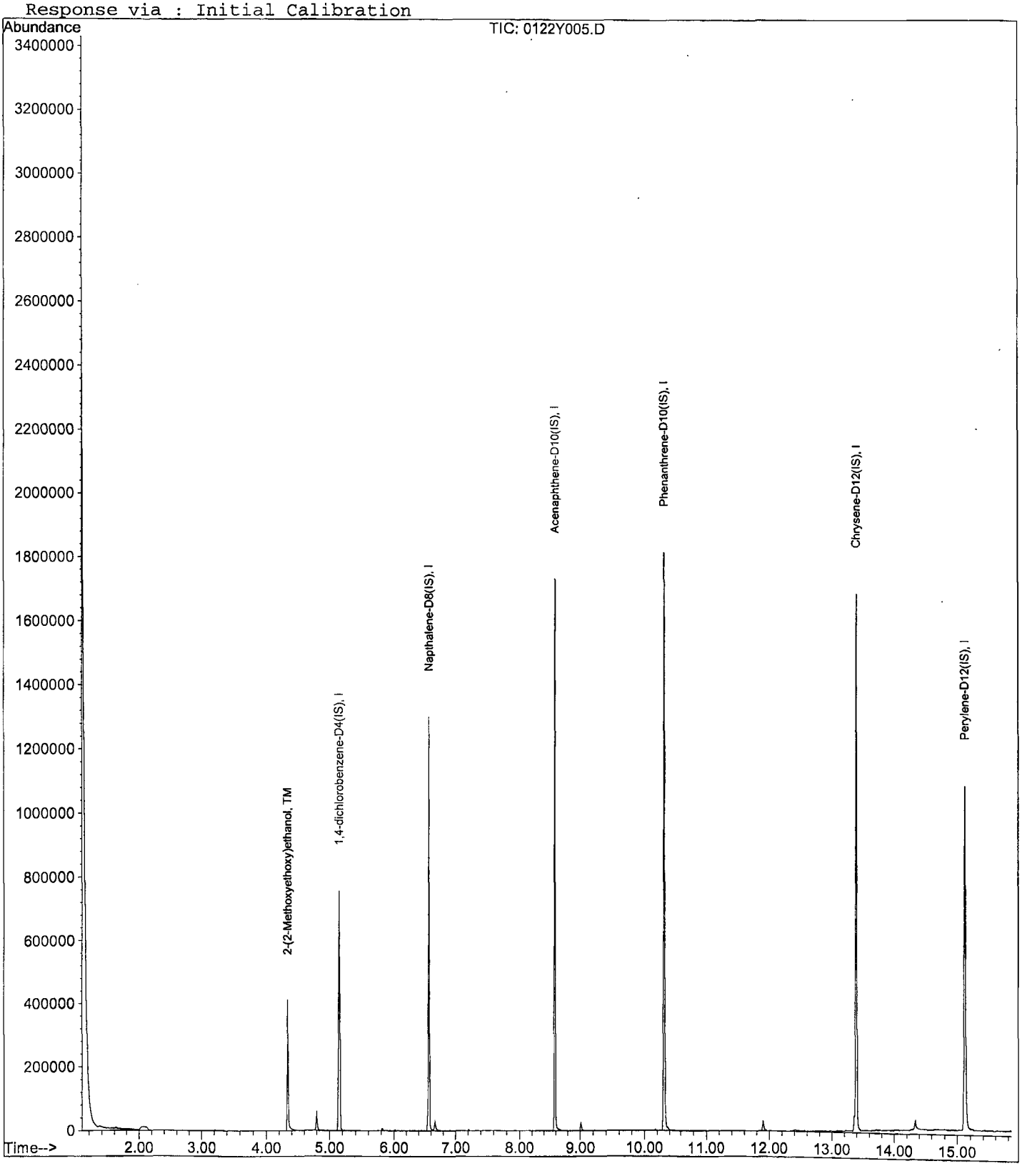
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y200122M\0122Y005.D Vial: 5
Acq On : 22 Jan 20 16:33 Operator: MA,SS
Sample : 200ug/ml MEE 01/22/20 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 23 10:02 2020 Quant Results File: YMEE0122.RES

Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 10:01:29 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y200122M\0122Y006.D Vial: 6
Acq On : 22 Jan 20 16:57 Operator: MA,SS
Sample : 400ug/ml MEE 01/22/20 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 23 10:02 2020 Quant Results File: YMEE0122.RES

Quant Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 10:01:29 2020
Response via : Initial Calibration
DataAcq Meth : GED

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.15	152	156027	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.57	136	648446	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.58	164	399790	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	10.31	188	767514	40.00000 ppb	0.00
6) Chrysene-D12(IS)	13.39	240	672840	40.00000 ppb	0.00
7) Perylene-D12(IS)	15.12	264	695421	40.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.34	45	343734	375.09237 ppb	98

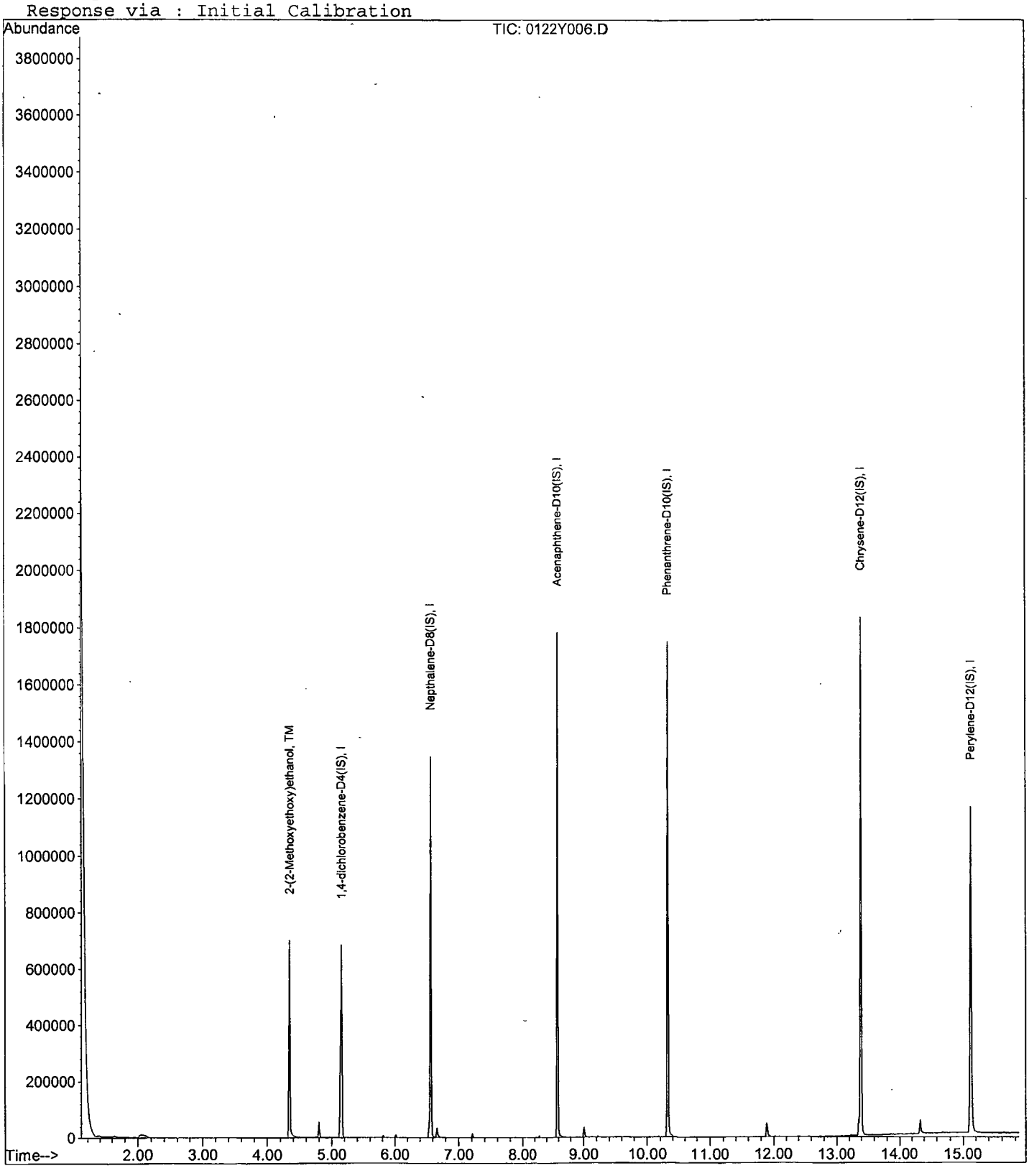
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y200122M\0122Y006.D Vial: 6
Acq On : 22 Jan 20 16:57 Operator: MA,SS
Sample : 400ug/ml MEE 01/22/20 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 23 10:02 2020 Quant Results File: YMEE0122.RES

Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 10:01:29 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y200122M\0122Y007.D Vial: 7
Acq On : 22 Jan 20 17:21 Operator: MA,SS
Sample : 500ug/ml MEE 01/22/20 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 23 10:02 2020 Quant Results File: YMEE0122.RES

Quant Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 10:01:29 2020
Response via : Initial Calibration
DataAcq Meth : GED

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.15	152	160036	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.57	136	657892	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.59	164	410790	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	10.31	188	788159	40.00000 ppb	0.00
6) Chrysene-D12(IS)	13.39	240	699023	40.00000 ppb	0.00
7) Perylene-D12(IS)	15.12	264	751183	40.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.34	45	427461	454.77262 ppb	100

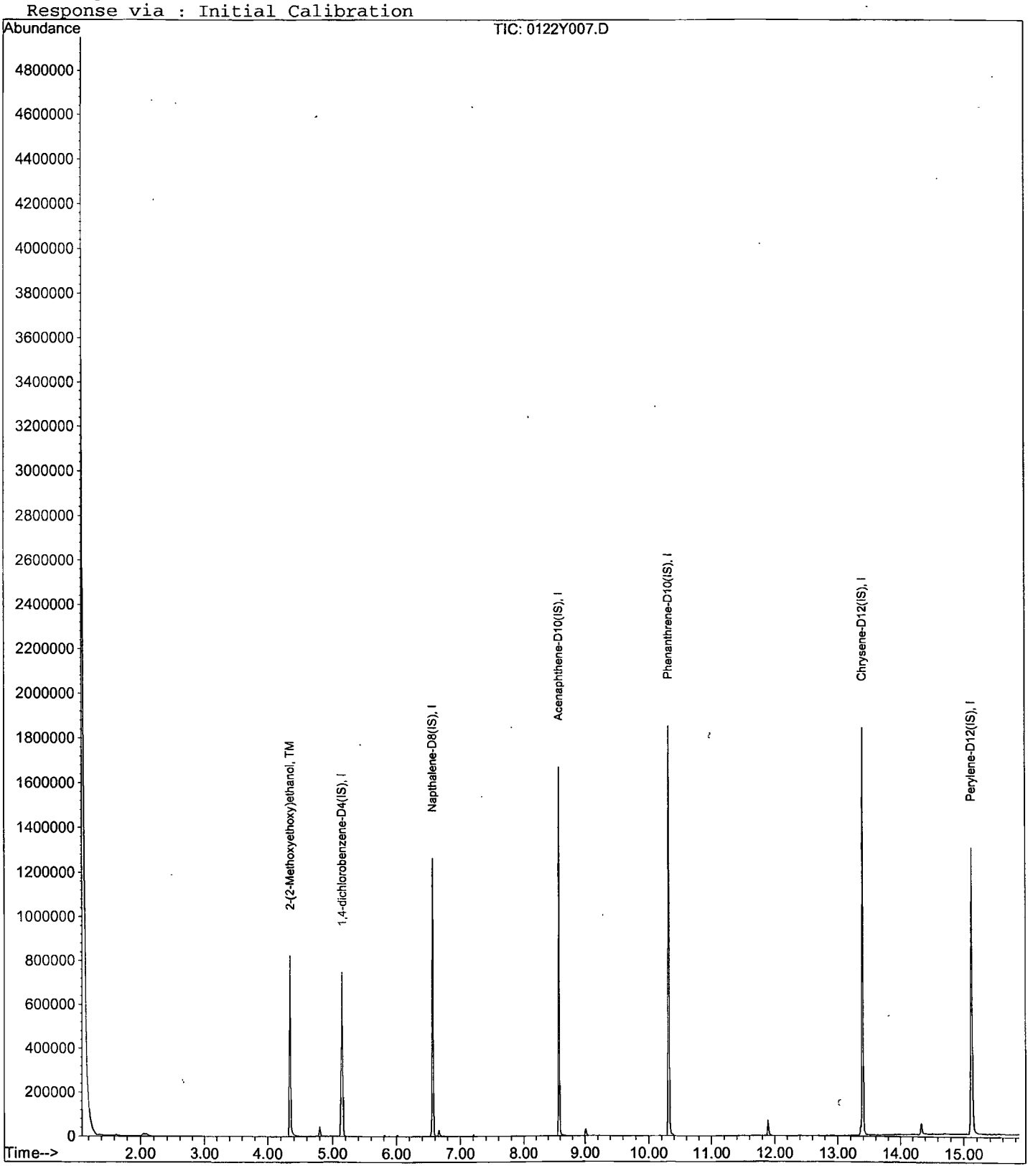
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y200122M\0122Y007.D Vial: 7
Acq On : 22 Jan 20 17:21 Operator: MA,SS
Sample : 500ug/ml MEE 01/22/20 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 23 10:02 2020 Quant Results File: YMEE0122.RES

Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 10:01:29 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y200122M\0122Y008.D Vial: 8
Acq On : 22 Jan 20 17:45 Operator: MA,SS
Sample : 600ug/ml MEE 01/22/20 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 23 10:02 2020 Quant Results File: YMEE0122.RES

Quant Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 10:01:29 2020
Response via : Initial Calibration
DataAcq Meth : GED

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.15	152	156507	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.57	136	664381	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.59	164	408801	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	10.31	188	788845	40.00000 ppb	0.00
6) Chrysene-D12(IS)	13.39	240	676569	40.00000 ppb	0.00
7) Perylene-D12(IS)	15.12	264	692003	40.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.35	45	517114	562.55893 ppb	99

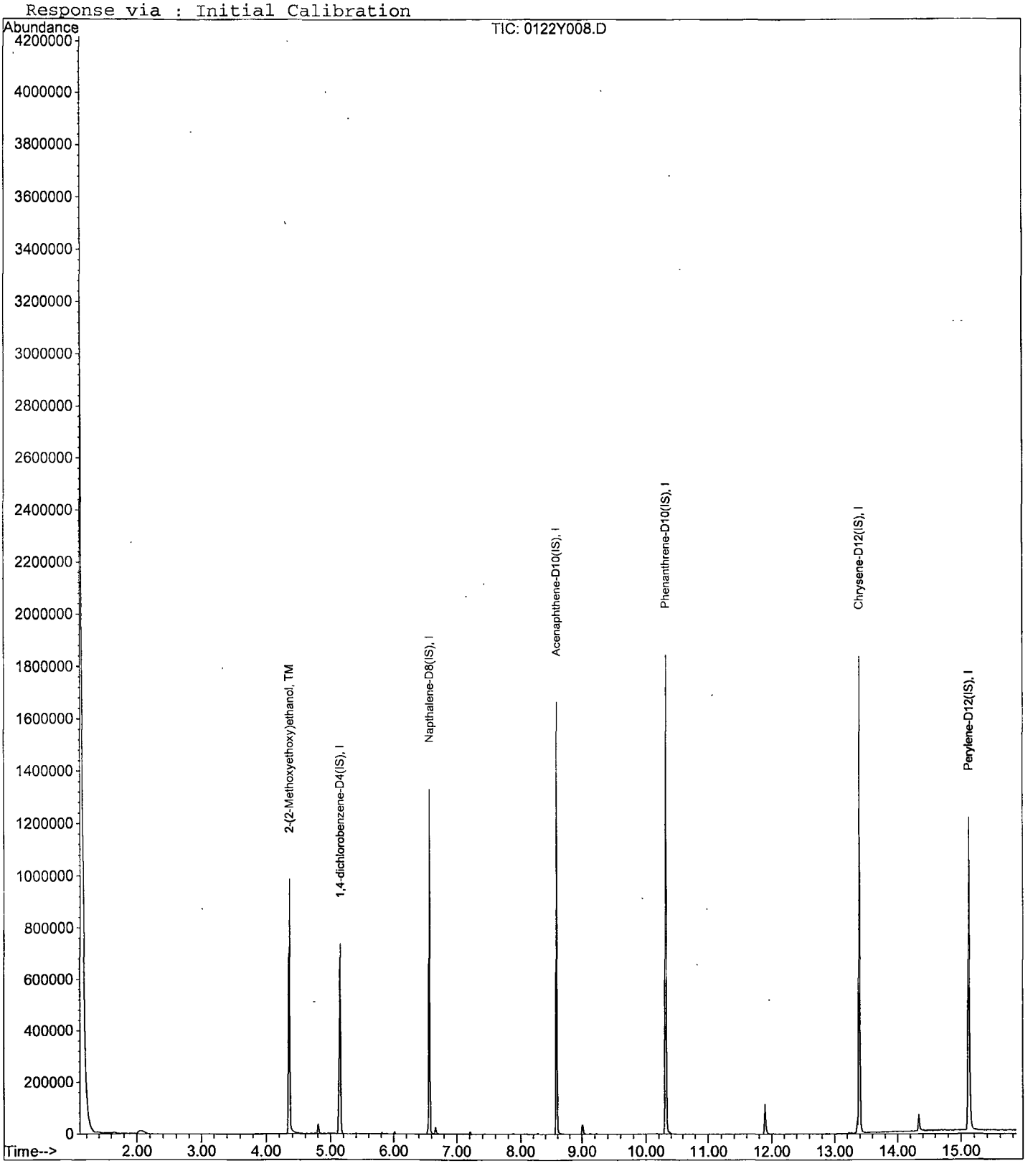
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y200122M\0122Y008.D Vial: 8
Acq On : 22 Jan 20 17:45 Operator: MA,SS
Sample : 600ug/ml MEE 01/22/20 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 23 10:02 2020 Quant Results File: YMEE0122.RES

Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 10:01:29 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y200122M\0122Y009.D Vial: 9
Acq On : 22 Jan 20 18:08 Operator: MA,SS
Sample : 800ug/ml MEE 01/22/20 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 23 10:02 2020 Quant Results File: YMEE0122.RES

Quant Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 10:01:29 2020
Response via : Initial Calibration
DataAcq Meth : GED

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.15	152	125205	40.00000	ppb	0.00
3) Napthalene-D8(IS)	6.57	136	550099	40.00000	ppb	0.00
4) Acenaphthene-D10(IS)	8.58	164	372511	40.00000	ppb	0.00
5) Phenanthrene-D10(IS)	10.31	188	750924	40.00000	ppb	0.00
6) Chrysene-D12(IS)	13.39	240	643830	40.00000	ppb	0.00
7) Perylene-D12(IS)	15.12	264	637032	40.00000	ppb	0.00

System Monitoring Compounds

Target Compounds						Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.36	45	715213	972.58871	ppb	98

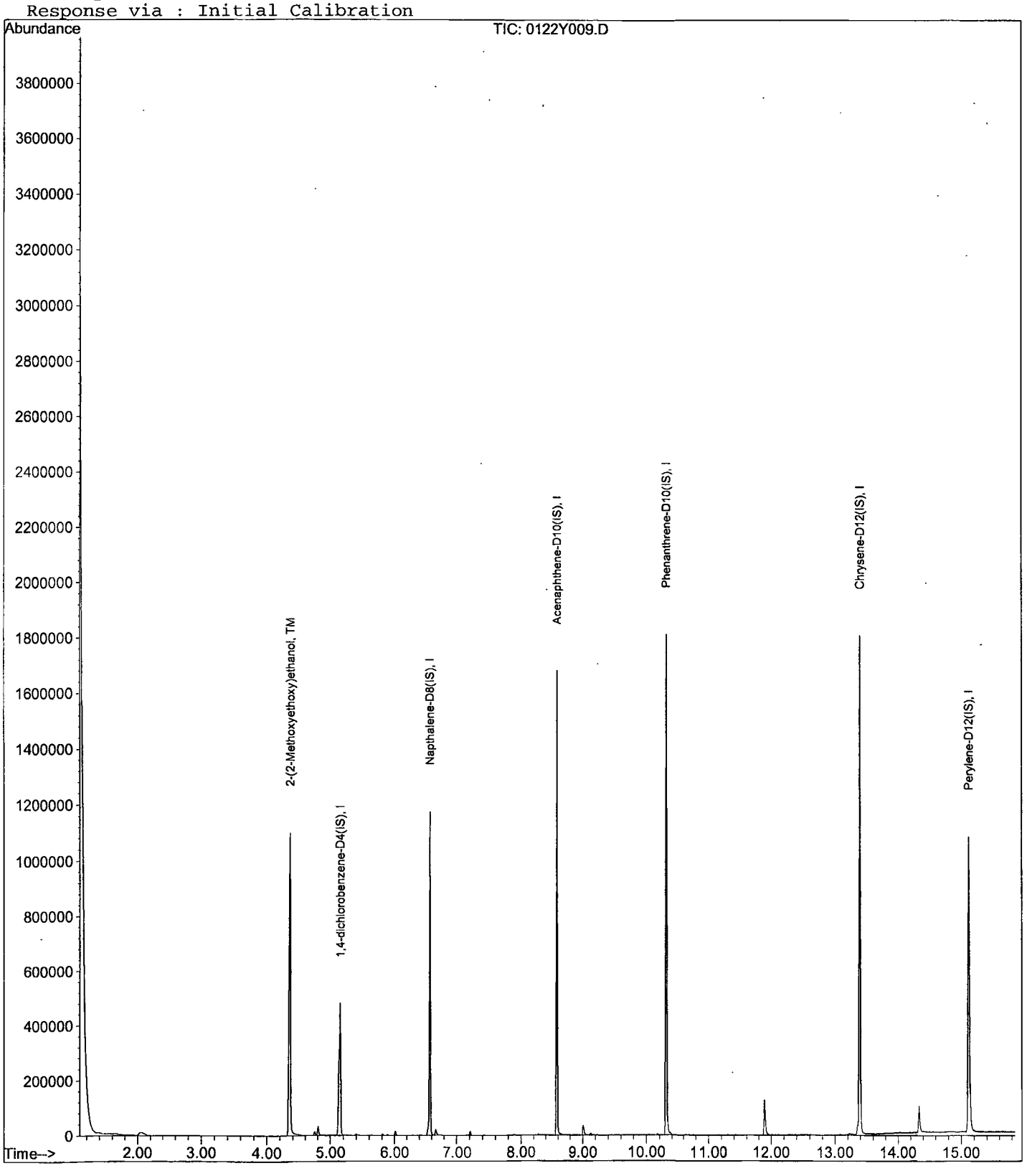
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y200122M\0122Y009.D Vial: 9
Acq On : 22 Jan 20 18:08 Operator: MA,SS
Sample : 800ug/ml MEE 01/22/20 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 23 10:02 2020 Quant Results File: YMEE0122.RES

Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 10:01:29 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y200122M\0122Y010.D Vial: 10
Acq On : 22 Jan 20 18:32 Operator: MA,SS
Sample : 1000ug/ml MEE 01/22/20 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 23 10:02 2020 Quant Results File: YMEE0122.RES

Quant Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 10:01:29 2020
Response via : Initial Calibration
DataAcq Meth : GED

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.15	152	145736	40.00000	ppb	0.00
3) Napthalene-D8(IS)	6.57	136	643934	40.00000	ppb	0.00
4) Acenaphthene-D10(IS)	8.58	164	429609	40.00000	ppb	0.00
5) Phenanthrene-D10(IS)	10.31	188	848518	40.00000	ppb	0.00
6) Chrysene-D12(IS)	13.39	240	708250	40.00000	ppb	0.00
7) Perylene-D12(IS)	15.12	264	727830	40.00000	ppb	0.00

System Monitoring Compounds

Target Compounds						Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.36	45	948330	1107.91933	ppb	99

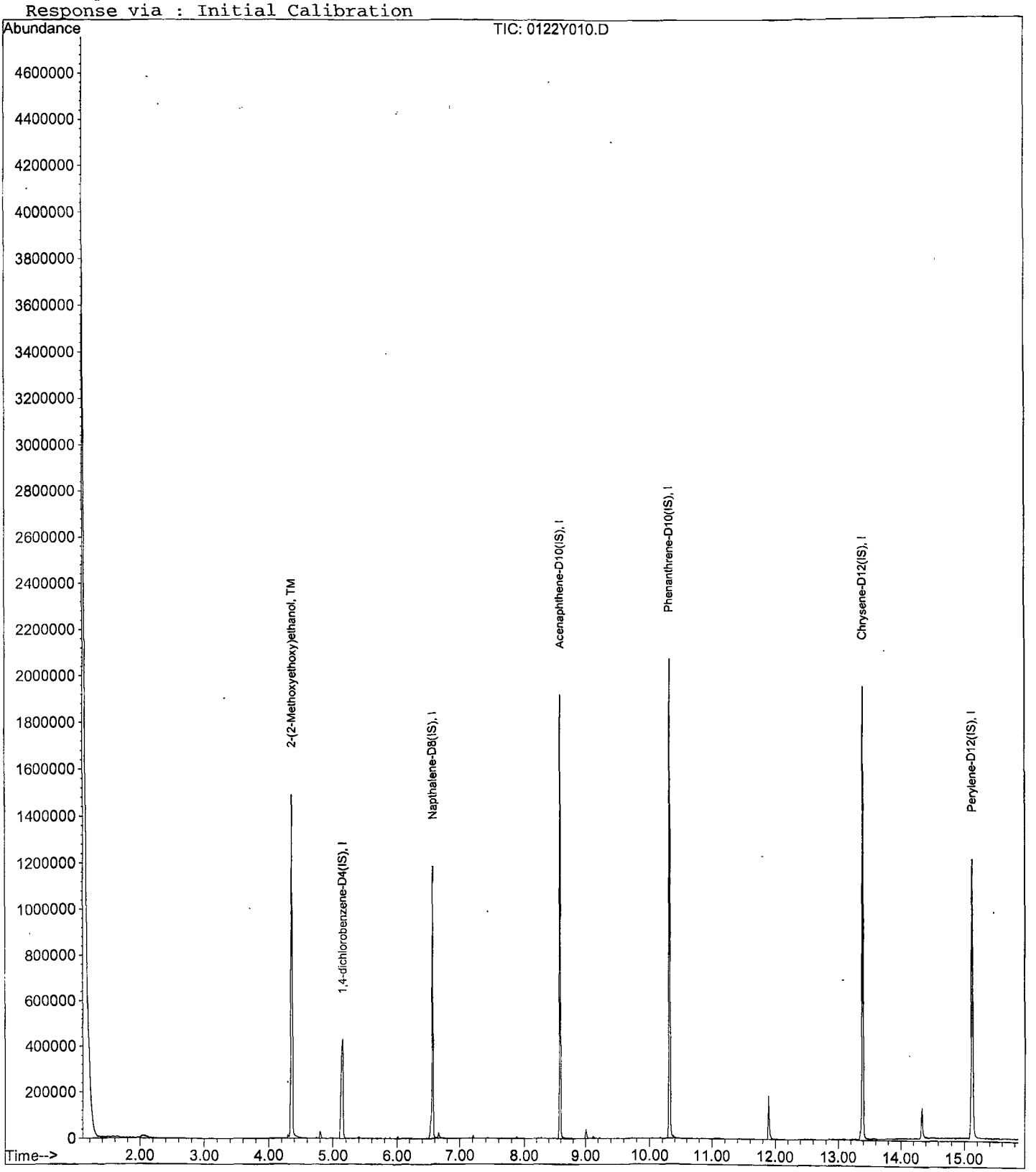
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y200122M\0122Y010.D Vial: 10
Acq On : 22 Jan 20 18:32 Operator: MA,SS
Sample : 1000ug/ml MEE 01/22/20 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 23 10:02 2020 Quant Results File: YMEE0122.RES

Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 10:01:29 2020
Response via : Initial Calibration



2MEE
EPA 8270

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 01/22/20
Instrument: Yoda
Initial Cal. Date: 01/22/20
Data File: 0122Y011.D

		Compound	MEAN	CCRF	%D		%Drift
1	TM	2-(2-Methoxyethoxy)ethanol	0.2349	0.2425	3.2	TM	
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			3.2		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y200122M\0122Y011.D Vial: 11
Acq On : 22 Jan 20 18:55 Operator: MA,SS
Sample : SS MEE 01/22/20 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 23 9:55 2020 Quant Results File: YMEE0122.RES

Quant Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 09:54:44 2020
Response via : Initial Calibration
DataAcq Meth : GED

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.15	152	173956	40.00000	ppb	0.00
3) Napthalene-D8(IS)	6.57	136	686273	40.00000	ppb	0.00
4) Acenaphthene-D10(IS)	8.59	164	422630	40.00000	ppb	0.00
5) Phenanthrene-D10(IS)	10.31	188	806716	40.00000	ppb	0.00
6) Chrysene-D12(IS)	13.39	240	723146	40.00000	ppb	0.00
7) Perylene-D12(IS)	0.00	264	0	0.00000	ppb	-14.73

System Monitoring Compounds

Target Compounds						Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.33	45	527290	516.09021	ppb	93

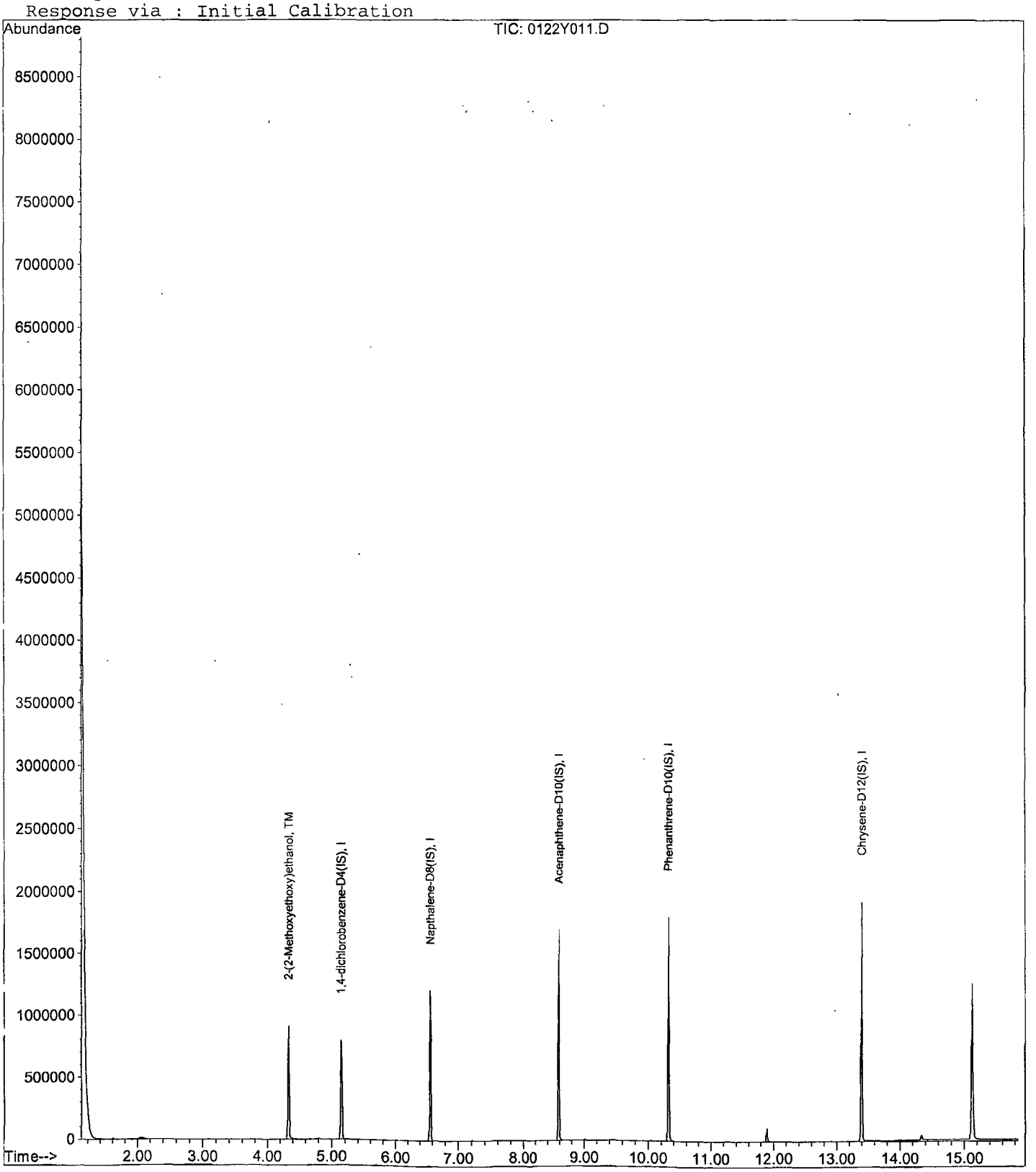
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y200122M\0122Y011.D Vial: 11
Acq On : 22 Jan 20 18:55 Operator: MA,SS
Sample : SS MEE 01/22/20 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 23 9:55 2020 Quant Results File: YMEE0122.RES

Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 09:54:44 2020
Response via : Initial Calibration



2MEE
EPA 8270

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 01/24/20
Instrument: Yoda
Initial Cal. Date: 01/22/20
Data File: 1219Y218.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	1,4-dichlorobenzene-D4(IS)	ISTD			I	
2	TM	2-(2-Methoxyethoxy)ethanol	0.2349	0.2224	5.4	TM	
3	I	Napthalene-D8(IS)	ISTD			I	
4	I	Acenaphthene-D10(IS)	ISTD			I	
5	I	Phenanthrene-D10(IS)	ISTD			I	
6	I	Chrysene-D12(IS)	ISTD			I	
7	I	Perylene-D12(IS)	ISTD			I	
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			5.4		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y218.D Vial: 18
Acq On : 24 Jan 20 13:23 Operator: MA,SS
Sample : 500ug/ml 2MEE 01/22/20 (0) Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 24 13:44 2020 Quant Results File: YMEE0122.RES

Quant Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 16:28:09 2020
Response via : Initial Calibration
DataAcq Meth : GED

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.14	152	167718	40.00000	ppb	-0.01
3) Napthalene-D8(IS)	6.56	136	676400	40.00000	ppb	-0.01
4) Acenaphthene-D10(IS)	8.58	164	428742	40.00000	ppb	0.00
5) Phenanthrene-D10(IS)	10.31	188	839373	40.00000	ppb	0.00
6) Chrysene-D12(IS)	13.39	240	732730	40.00000	ppb	0.00
7) Perylene-D12(IS)	15.12	264	762790	40.00000	ppb	0.00
System Monitoring Compounds						
Target Compounds						Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.33	45	466154	473.22234	ppb	100

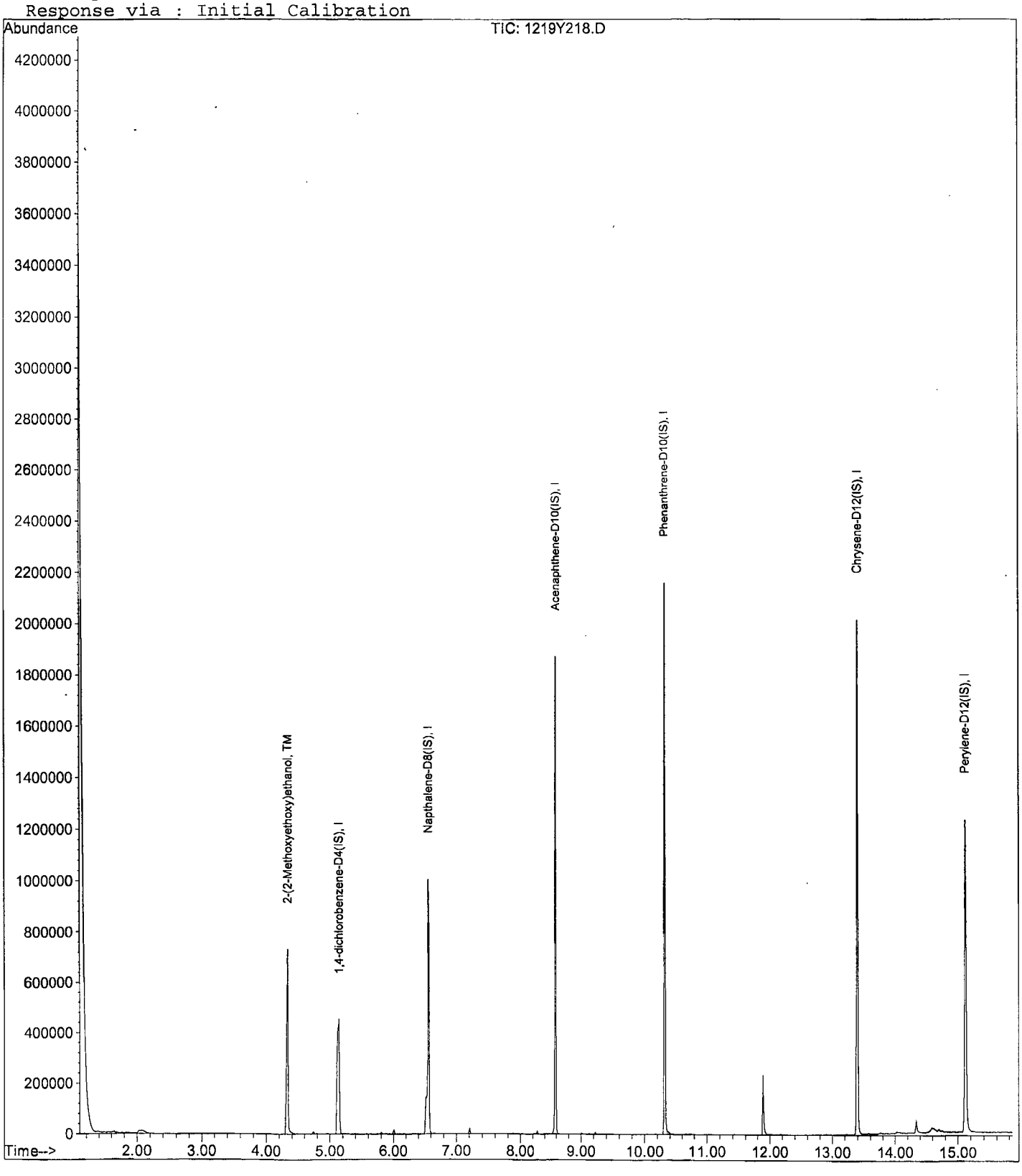
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y191219\1219Y218.D Vial: 18
Acq On : 24 Jan 20 13:23 Operator: MA,SS
Sample : 500ug/ml 2MEE 01/22/20 (0) Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 24 13:44 2020 Quant Results File: YMEE0122.RES

Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 16:28:09 2020
Response via : Initial Calibration



2MEE
EPA 8270

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 01/24/20
Instrument: Yoda
Initial Cal. Date: 01/22/20
Data File: 1219Y239.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	1,4-dichlorobenzene-D4(IS)	ISTD			I	
2	TM	2-(2-Methoxyethoxy)ethanol	0.2349	0.2402	2.2	TM	
3	I	Napthalene-D8(IS)	ISTD			I	
4	I	Acenaphthene-D10(IS)	ISTD			I	
5	I	Phenanthrene-D10(IS)	ISTD			I	
6	I	Chrysene-D12(IS)	ISTD			I	
7	I	Perylene-D12(IS)	ISTD			I	
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			2.2		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y239.D Vial: 39
Acq On : 24 Jan 20 23:23 Operator: MA,SS
Sample : 600ug/ml 2MEE 01/22/20 (0) Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 27 8:10 2020 Quant Results File: YMEE0122.RES

Quant Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 16:28:09 2020
Response via : Initial Calibration
DataAcq Meth : GED

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.16	152	143090	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.57	136	610531	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.59	164	370789	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	10.31	188	716328	40.00000 ppb	0.00
6) Chrysene-D12(IS)	13.39	240	610567	40.00000 ppb	0.00
7) Perylene-D12(IS)	15.12	264	629331	40.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.37	45	515482	613.36603 ppb	100

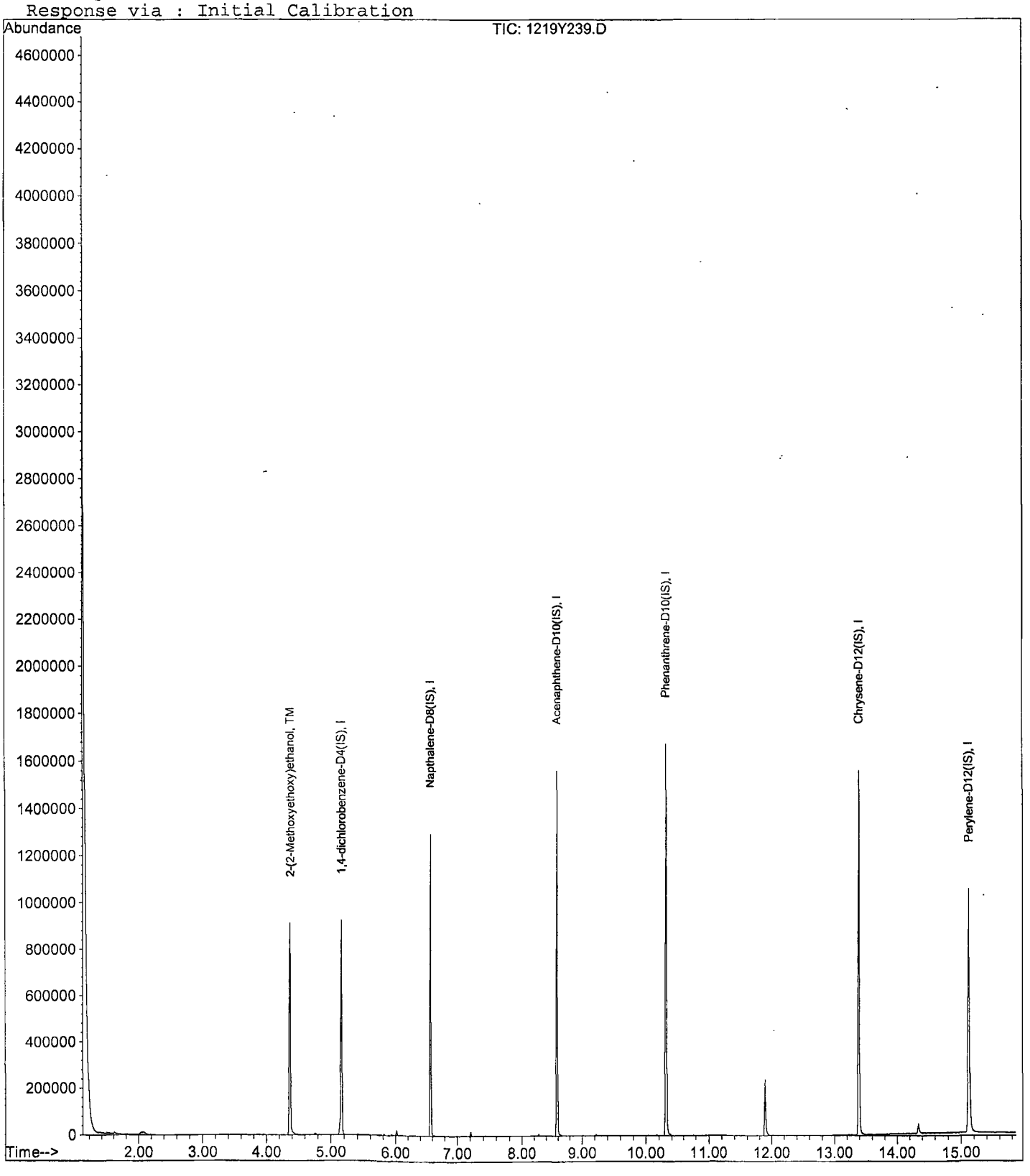
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y191219\1219Y239.D Vial: 39
Acq On : 24 Jan 20 23:23 Operator: MA,SS
Sample : 600ug/ml 2MEE 01/22/20 (0) Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 27 8:10 2020 Quant Results File: YMEE0122.RES

Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 16:28:09 2020
Response via : Initial Calibration



ORGANICS
Raw Data

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y232.D Vial: 32
Acq On : 24 Jan 20 20:38 Operator: MA,SS
Sample : BA06136W11 2/500 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 27 8:10 2020 Quant Results File: YMEE0122.RES

Quant Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 16:28:09 2020
Response via : Initial Calibration
DataAcq Meth : GED

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.16	152	137416	40.00000	ppb	0.00
3) Napthalene-D8(IS)	6.57	136	600991	40.00000	ppb	0.00
4) Acenaphthene-D10(IS)	8.58	164	416094	40.00000	ppb	0.00
5) Phenanthrene-D10(IS)	10.31	188	822086	40.00000	ppb	0.00
6) Chrysene-D12(IS)	13.39	240	635776	40.00000	ppb	0.00
7) Perylene-D12(IS)	15.12	264	634609	40.00000	ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

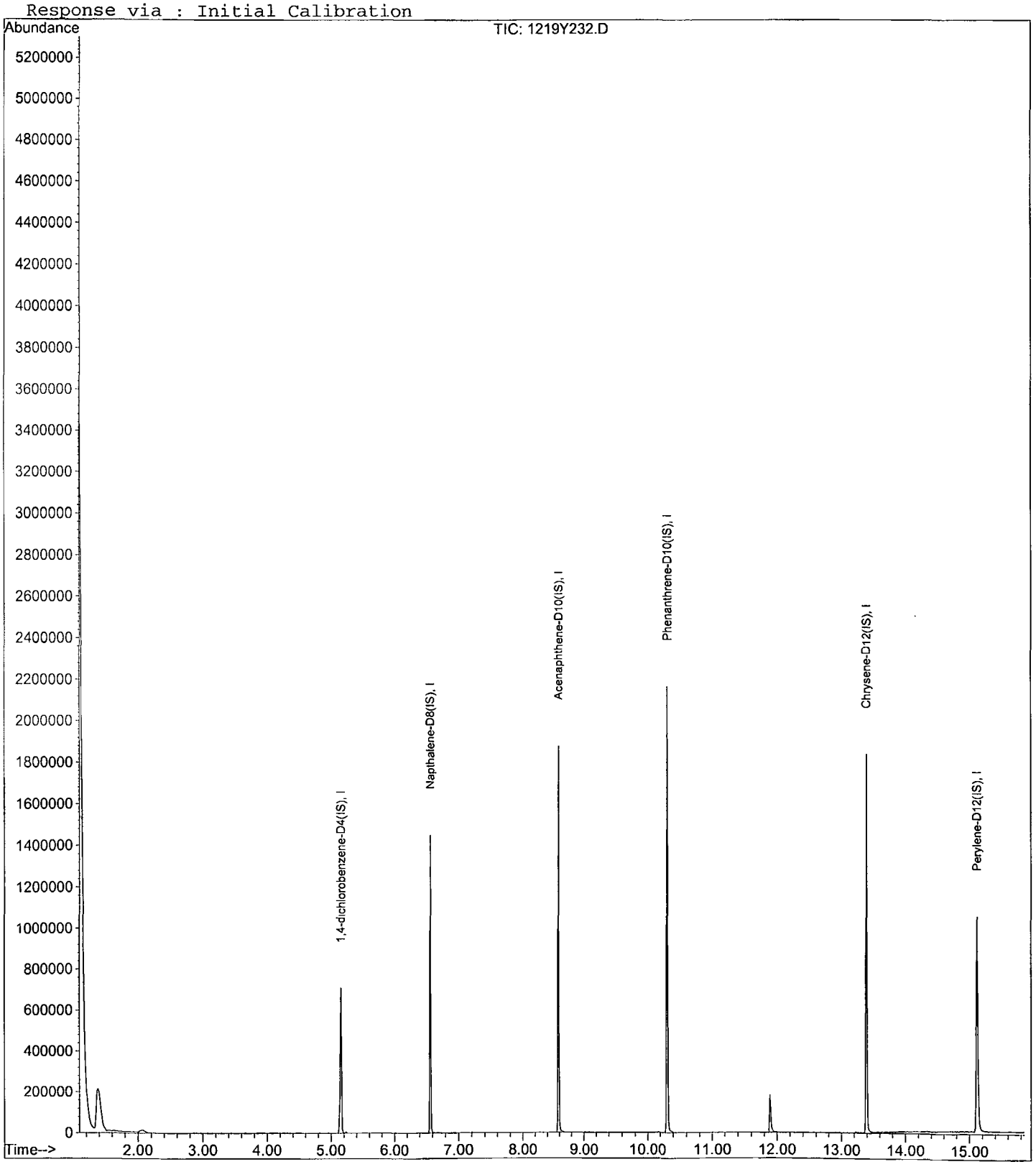
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y191219\1219Y232.D Vial: 32
Acq On : 24 Jan 20 20:38 Operator: MA,SS
Sample : BA06136W11 2/500 Inst : Yoda
Misc : - Multiplr: 1.00

Quant Time: Jan 27 8:10 2020 Quant Results File: YMEE0122.RES

Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 16:28:09 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y233.D Vial: 33
Acq On : 24 Jan 20 21:02 Operator: MA,SS
Sample : BA06138W11 2/250 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 27 8:10 2020 Quant Results File: YMEE0122.RES

Quant Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 16:28:09 2020
Response via : Initial Calibration
DataAcq Meth : GED

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.15	152	141120	40.00000	ppb	0.00
3) Napthalene-D8(IS)	6.57	136	640192	40.00000	ppb	0.00
4) Acenaphthene-D10(IS)	8.58	164	404375	40.00000	ppb	0.00
5) Phenanthrene-D10(IS)	10.31	188	738357	40.00000	ppb	0.00
6) Chrysene-D12(IS)	13.39	240	664273	40.00000	ppb	0.00
7) Perylene-D12(IS)	15.13	264	981819	40.00000	ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

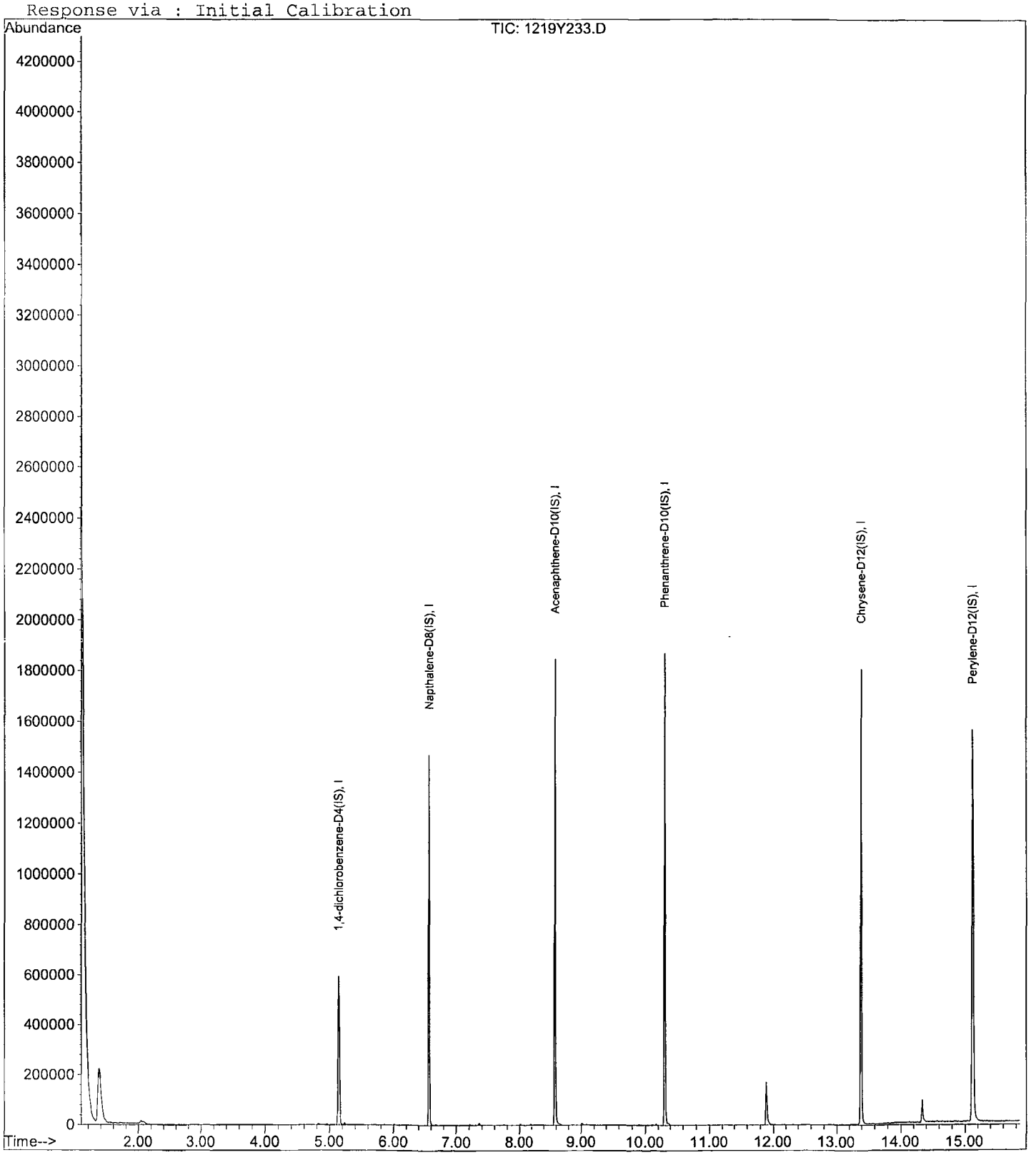
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y191219\1219Y233.D Vial: 33
Acq On : 24 Jan 20 21:02 Operator: MA,SS
Sample : BA06138W11 2/250 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 27 8:10 2020 Quant Results File: YMEE0122.RES

Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 16:28:09 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y234.D Vial: 34
Acq On : 24 Jan 20 21:25 Operator: MA,SS
Sample : BA06139W06 2/250 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 27 8:10 2020 Quant Results File: YMEE0122.RES

Quant Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 16:28:09 2020
Response via : Initial Calibration
DataAcq Meth : GED

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.15	152	136088	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.57	136	612397	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.58	164	386655	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	10.31	188	713124	40.00000 ppb	0.00
6) Chrysene-D12(IS)	13.39	240	578148	40.00000 ppb	0.00
7) Perylene-D12(IS)	15.12	264	879019	40.00000 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

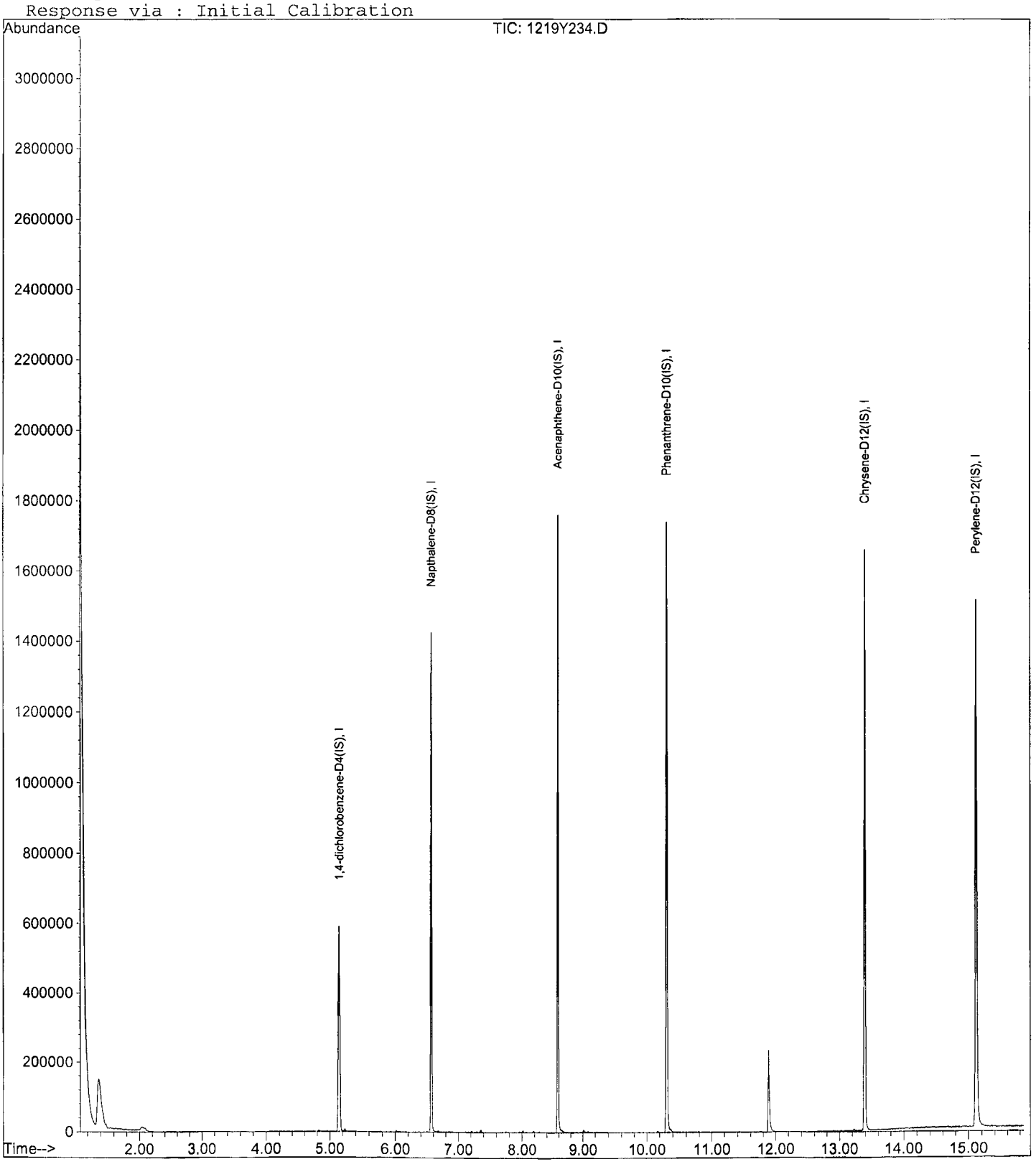
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y191219\1219Y234.D Vial: 34
Acq On : 24 Jan 20 21:25 Operator: MA,SS
Sample : BA06139W06 2/250 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 27 8:10 2020 Quant Results File: YMEE0122.RES

Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 16:28:09 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y235.D Vial: 35
Acq On : 24 Jan 20 21:49 Operator: MA,SS
Sample : BA06141W11 2/500 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 27 8:10 2020 Quant Results File: YMEE0122.RES

Quant Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 16:28:09 2020
Response via : Initial Calibration
DataAcq Meth : GED

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.16	152	127978	40.00000	ppb	0.00
3) Napthalene-D8(IS)	6.57	136	555190	40.00000	ppb	0.00
4) Acenaphthene-D10(IS)	8.58	164	344716	40.00000	ppb	0.00
5) Phenanthrene-D10(IS)	10.31	188	638860	40.00000	ppb	0.00
6) Chrysene-D12(IS)	13.39	240	530234	40.00000	ppb	0.00
7) Perylene-D12(IS)	15.12	264	550733	40.00000	ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

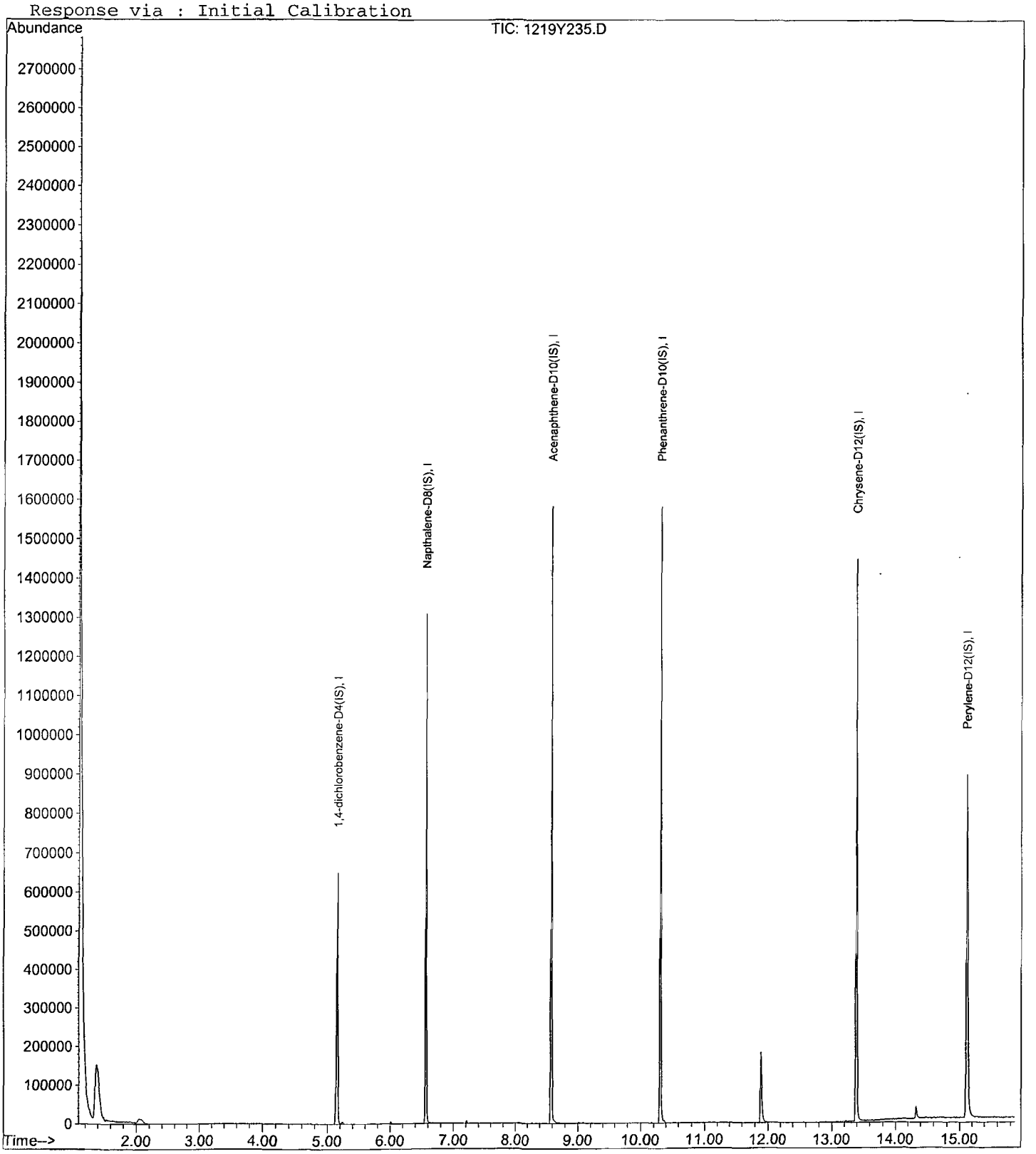
(#) = qualifier out of range (m) = manual integration

Data File : M:\YODA\DATA\Y191219\1219Y235.D
Acq On : 24 Jan 20 21:49
Sample : BA06141W11 2/500
Misc :

Vial: 35
Operator: MA,SS
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 27 8:10 2020 Quant Results File: YMEE0122.RES

Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 16:28:09 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y236.D Vial: 36
Acq On : 24 Jan 20 22:12 Operator: MA,SS
Sample : BA06143W10 2/500 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 27 8:10 2020 Quant Results File: YMEE0122.RES

Quant Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 16:28:09 2020
Response via : Initial Calibration
DataAcq Meth : GED

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.15	152	127692	40.00000	ppb	0.00
3) Napthalene-D8(IS)	6.57	136	585953	40.00000	ppb	0.00
4) Acenaphthene-D10(IS)	8.58	164	361958	40.00000	ppb	0.00
5) Phenanthrene-D10(IS)	10.31	188	642761	40.00000	ppb	0.00
6) Chrysene-D12(IS)	13.39	240	563364	40.00000	ppb	0.00
7) Perylene-D12(IS)	15.12	264	568154	40.00000	ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

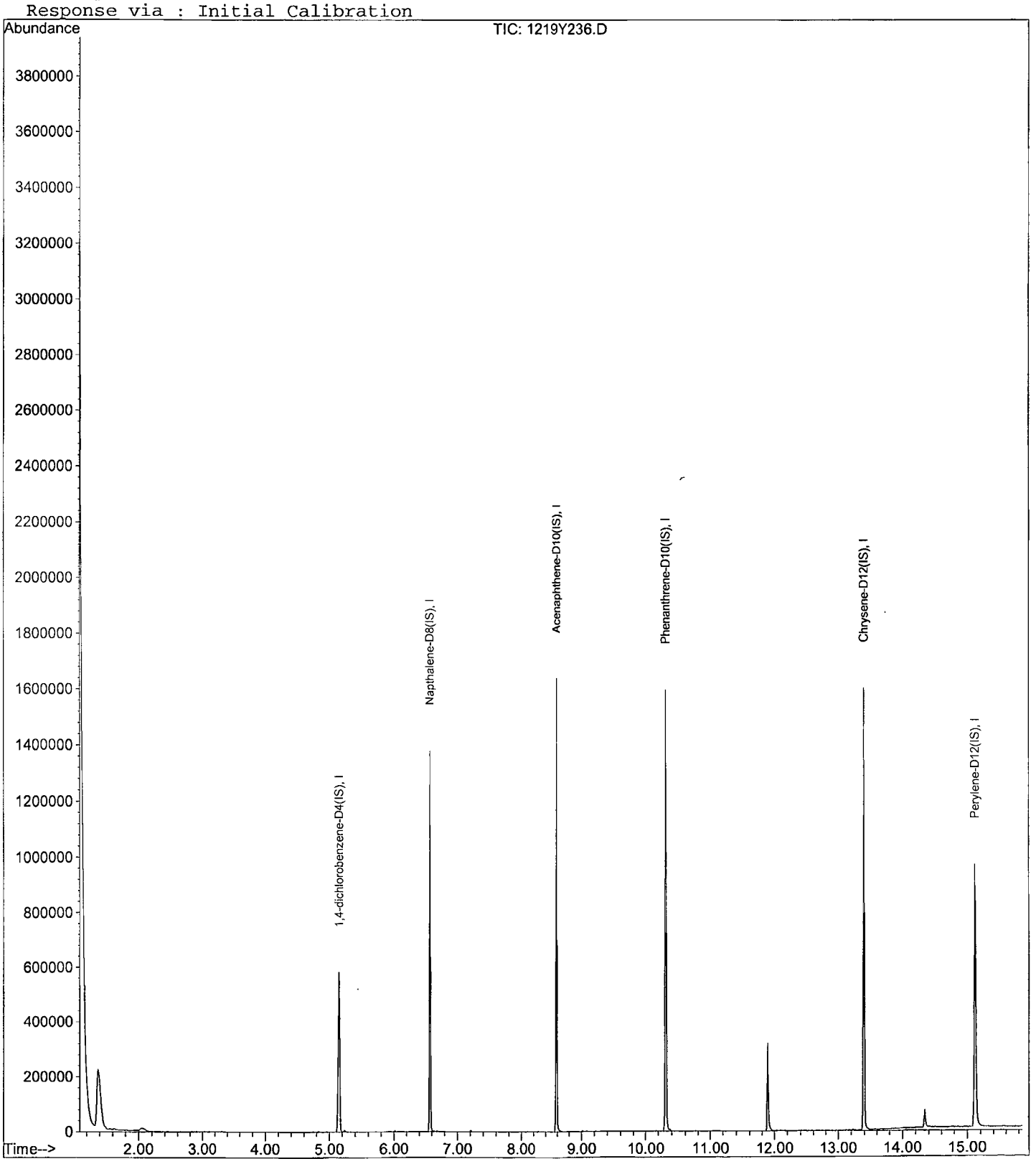
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y191219\1219Y236.D Vial: 36
Acq On : 24 Jan 20 22:12 Operator: MA,SS
Sample : BA06143W10 2/500 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 27 8:10 2020 Quant Results File: YMEE0122.RES

Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 16:28:09 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y229.D Vial: 29
Acq On : 24 Jan 20 19:27 Operator: MA,SS
Sample : 200124A BLK 2/500 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 27 8:10 2020 Quant Results File: YMEE0122.RES

Quant Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 16:28:09 2020
Response via : Initial Calibration
DataAcq Meth : GED

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.16	152	130313	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.57	136	533820	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.58	164	394384	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	10.31	188	785793	40.00000 ppb	0.00
6) Chrysene-D12(IS)	13.39	240	626912	40.00000 ppb	0.00
7) Perylene-D12(IS)	15.12	264	626844	40.00000 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

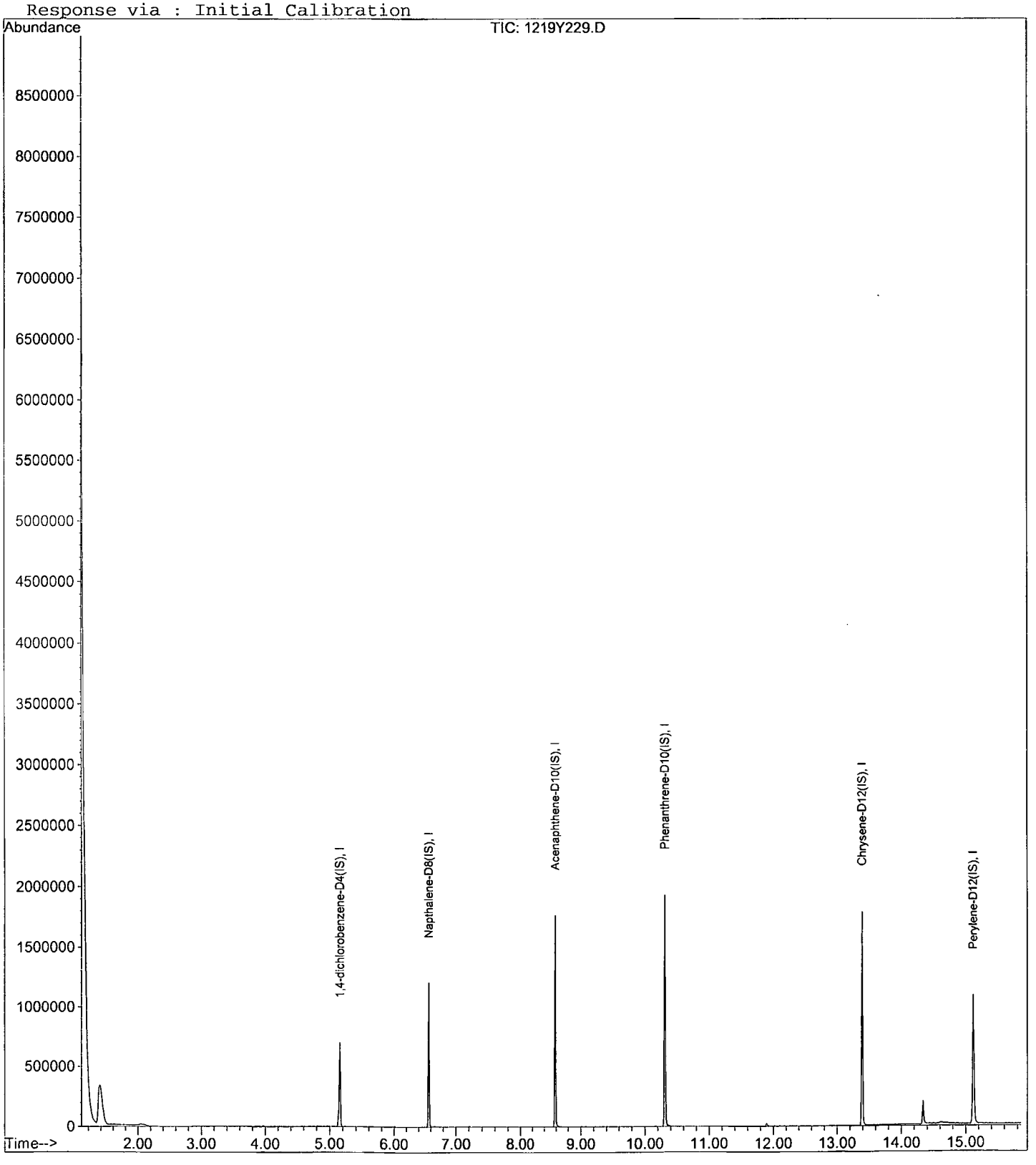
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y191219\1219Y229.D Vial: 29
Acq On : 24 Jan 20 19:27 Operator: MA,SS
Sample : 200124A BLK 2/500 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 27 8:10 2020 Quant Results File: YMEE0122.RES

Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 16:28:09 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y230.D Vial: 30
Acq On : 24 Jan 20 19:51 Operator: MA,SS
Sample : 200124A LCS-1 2/500 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 27 8:10 2020 Quant Results File: YMEE0122.RES

Quant Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 16:28:09 2020
Response via : Initial Calibration
DataAcq Meth : GED

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.16	152	126776	40.00000	ppb	0.00
3) Napthalene-D8(IS)	6.57	136	539160	40.00000	ppb	0.00
4) Acenaphthene-D10(IS)	8.59	164	390935	40.00000	ppb	0.00
5) Phenanthrene-D10(IS)	10.31	188	785216	40.00000	ppb	0.00
6) Chrysene-D12(IS)	13.39	240	647953	40.00000	ppb	0.00
7) Perylene-D12(IS)	15.12	264	660643	40.00000	ppb	0.00

System Monitoring Compounds

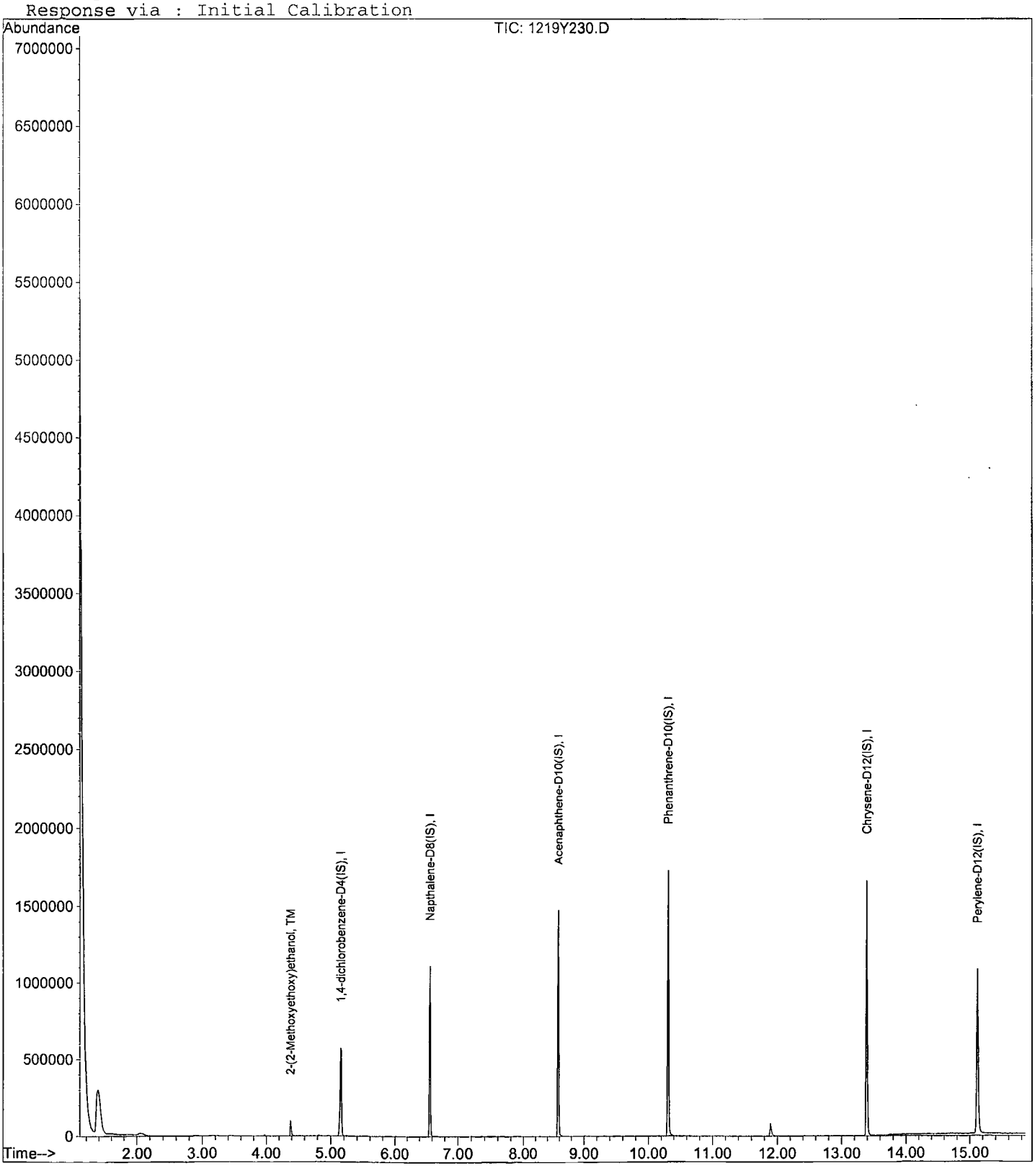
Target Compounds						Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.38	45	50226	67.45390	ppb	98

(#) = qualifier out of range (m) = manual integration

Data File : M:\YODA\DATA\Y191219\1219Y230.D Vial: 30
Acq On : 24 Jan 20 19:51 Operator: MA,SS
Sample : 200124A LCS-1 2/500 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 27 8:10 2020 Quant Results File: YMEE0122.RES

Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 16:28:09 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y231.D Vial: 31
Acq On : 24 Jan 20 20:15 Operator: MA,SS
Sample : 200124A LCSD-1 2/500 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 27 8:10 2020 Quant Results File: YMEE0122.RES

Quant Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 16:28:09 2020
Response via : Initial Calibration
DataAcq Meth : GED

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.16	152	135026	40.00000	ppb	0.00
3) Napthalene-D8(IS)	6.57	136	594325	40.00000	ppb	0.00
4) Acenaphthene-D10(IS)	8.58	164	418530	40.00000	ppb	0.00
5) Phenanthrene-D10(IS)	10.31	188	822402	40.00000	ppb	0.00
6) Chrysene-D12(IS)	13.39	240	657779	40.00000	ppb	0.00
7) Perylene-D12(IS)	15.12	264	645856	40.00000	ppb	0.00

System Monitoring Compounds

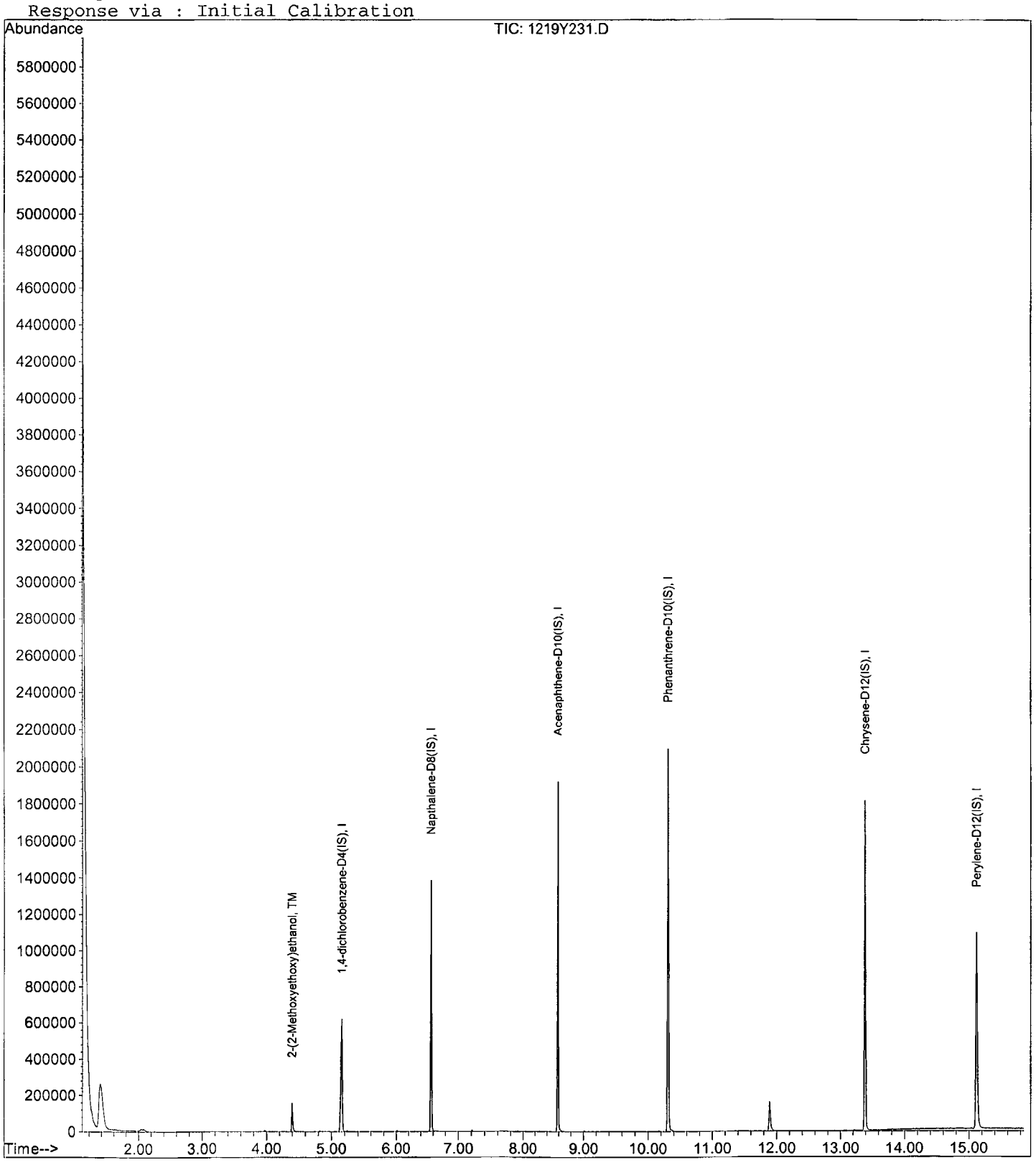
Target Compounds						Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.40	45	71424	90.06214	ppb	99

(#) = qualifier out of range (m) = manual integration
1219Y231.D YMEE0122.M Mon Jan 27 09:05:14 2020 Page 1

Data File : M:\YODA\DATA\Y191219\1219Y231.D Vial: 31
Acq On : 24 Jan 20 20:15 Operator: MA,SS
Sample : 200124A LCSD-1 2/500 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 27 8:10 2020 Quant Results File: YMEE0122.RES

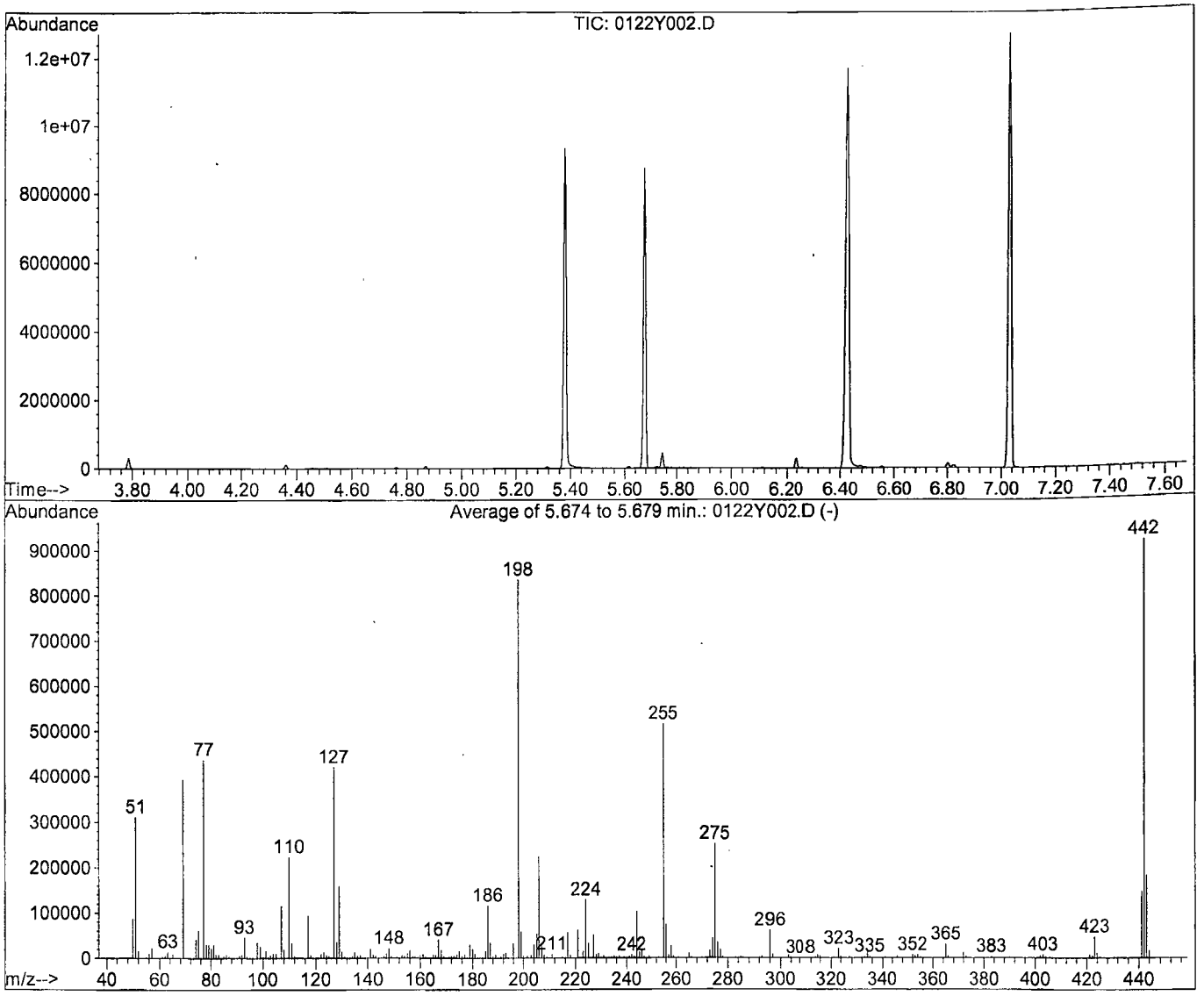
Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 16:28:09 2020
Response via : Initial Calibration



Data File : M:\YODA\DATA\Y200122M\0122Y002.D
Acq On : 22 Jan 20 15:31
Sample : SV Tune 10/11/18
Misc :

Vial: 2
Operator: MA,SS
Inst : Yoda
Multiplr: 1.00

Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C



Spectrum Information: Average of 5.674 to 5.679 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	37.2	310756	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.2	963	PASS
127	198	10	80	50.4	420821	PASS
197	198	0.00	2	0.0	0	PASS
198	198	100	100	100.0	835008	PASS
199	198	5	9	7.1	58973	PASS
275	198	10	60	30.1	251435	PASS
365	198	1	100	3.7	30675	PASS
441	442	0.01	24	15.9	145797	PASS
442	198	50	500	109.9	917909	PASS
443	442	15	24	19.8	181739	PASS

Data File Name:	**0122Y002.D**
Data File Path:	**M:\YODA\DATA\Y200122M**
Operator:	**MA,SS**
Date Acquired:	**22 Jan 2020 15:31**
Method File:	**DFTPP2.M**
Sample Name:	**SV Tune 10/11/18**
Vial Number:	**2**
Instrument Name:	**Yoda**

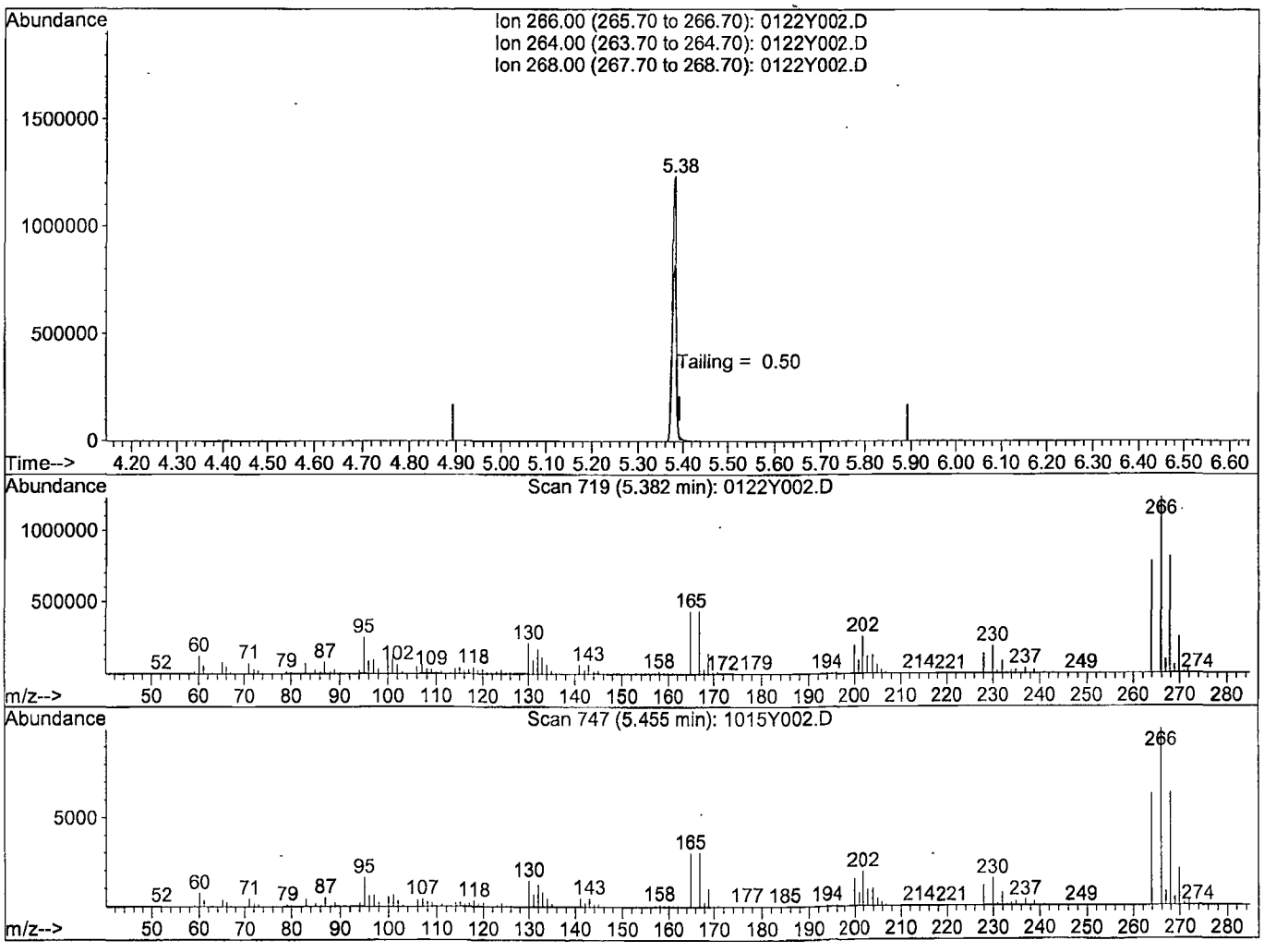
#	Name	Ret Time	Target Response
1)	DDT	7.02	96603900
2)	DDD	6.79	987534
3)	DDE	6.59	119819

Breakdown **1.13**

Quantitation Report

Data File : M:\YODA\DATA\Y200122M\0122Y002.D Vial: 2
Acq On : 22 Jan 20 15:31 Operator: MA,SS
Sample : SV Tune 10/11/18 Inst : Yoda
Misc : Multiplr: 1.00
Quant Time: Jan 23 9:58 2020 Quant Results File: temp.res

Method : M:\YODA\DATA\Y191219\DFTPP2.M (Chemstation Integrator)
Title :
Last Update : Tue Dec 10 08:34:10 2019
Response via : Single Level Calibration



TIC: 0122Y002.D

(5) Pentachlorophenol

5.38min 0.0000

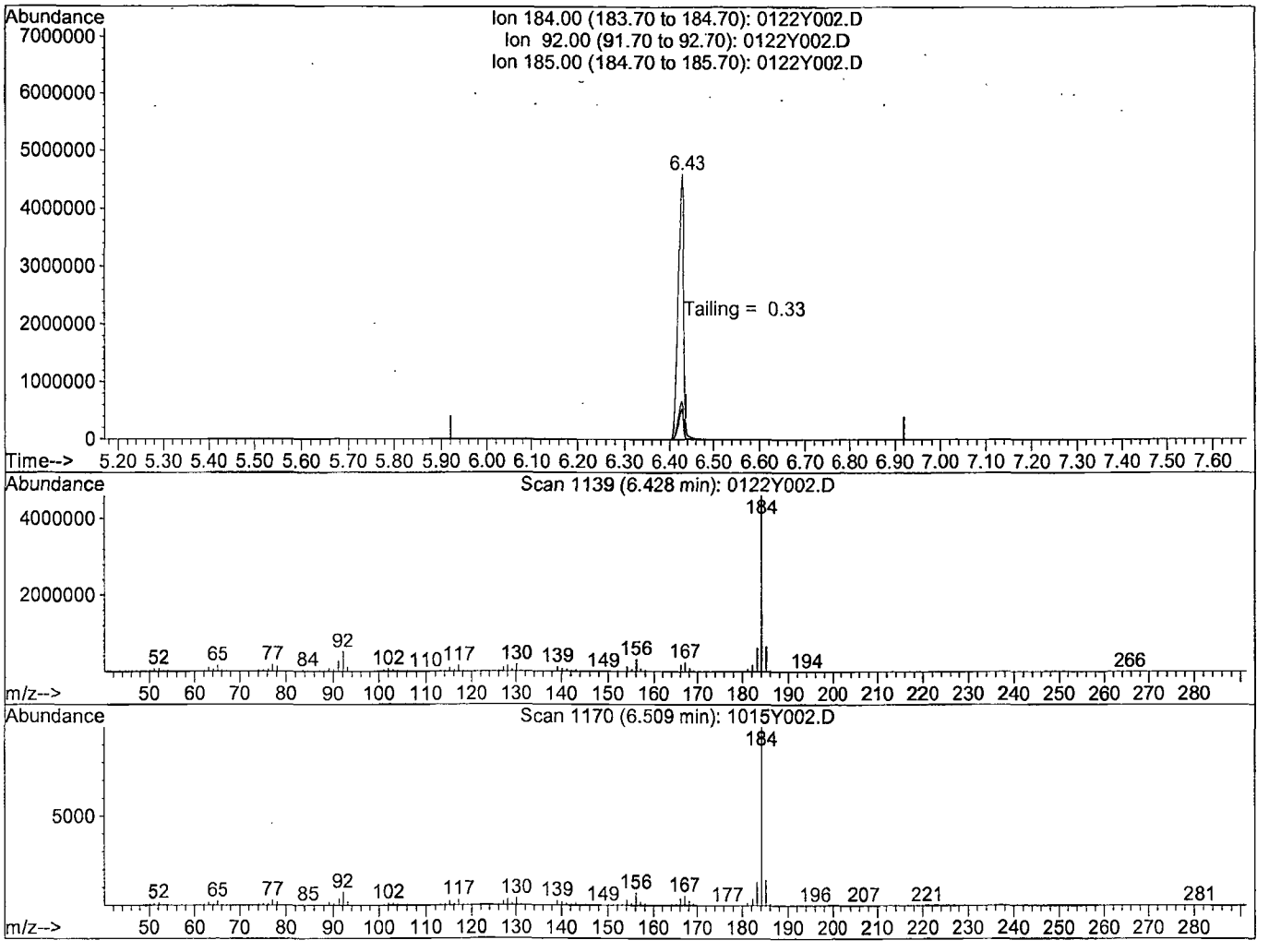
response 7823618

Ion	Exp%	Act%
266.00	100	100
264.00	65.60	63.49
268.00	64.10	65.10
0.00	0.00	0.00

Quantitation Report

Data File : M:\YODA\DATA\Y200122M\0122Y002.D Vial: 2
Acq On : 22 Jan 20 15:31 Operator: MA,SS
Sample : SV Tune 10/11/18 Inst : Yoda
Misc : Multiplr: 1.00
Quant Time: Jan 23 9:58 2020 Quant Results File: temp.res

Method : M:\YODA\DATA\Y191219\DFTPP2.M (Chemstation Integrator)
Title :
Last Update : Tue Dec 10 08:34:10 2019
Response via : Single Level Calibration



TIC: 0122Y002.D

(6) Benzidine

6.43min 0.0000

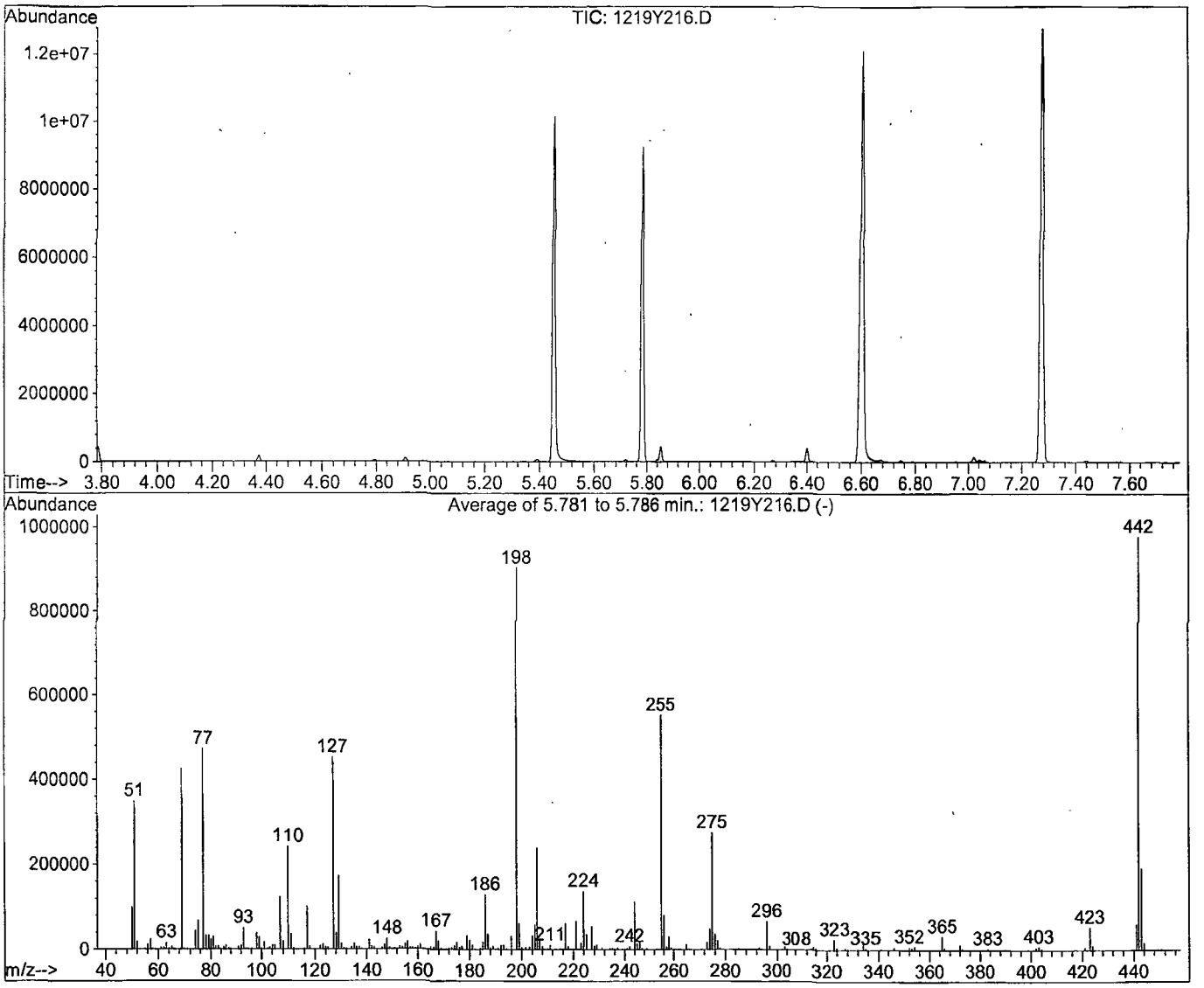
response 41313552

Ion	Exp%	Act%
184.00	100	100
92.00	10.30	10.42
185.00	14.50	14.34
0.00	0.00	0.00

Data File : M:\YODA\DATA\Y191219\1219Y216.D
Acq On : 24 Jan 20 11:51
Sample : SV TUNE 10/01/19
Misc :

Vial: 16
Operator: MA,SS
Inst : Yoda
Multiplr: 1.00

Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C



Spectrum Information: Average of 5.781 to 5.786 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	38.7	349322	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.2	753	PASS
127	198	10	80	50.1	452416	PASS
197	198	0.00	2	0.0	0	PASS
198	198	100	100	100.0	903701	PASS
199	198	5	9	6.8	61704	PASS
275	198	10	60	30.4	275157	PASS
365	198	1	100	3.6	32208	PASS
441	442	0.01	24	6.2	61163	PASS
442	198	50	500	108.4	979413	PASS
443	442	15	24	19.6	191957	PASS

Data File Name:	**1219Y216.D**
Data File Path:	**M:\YODA\DATA\Y191219**
Operator:	**MA,SS**
Date Acquired:	**24 Jan 2020 11:51**
Method File:	**DFTPP2.M**
Sample Name:	**SV TUNE 10/01/19**
Vial Number:	**16**
Instrument Name:	**Yoda**

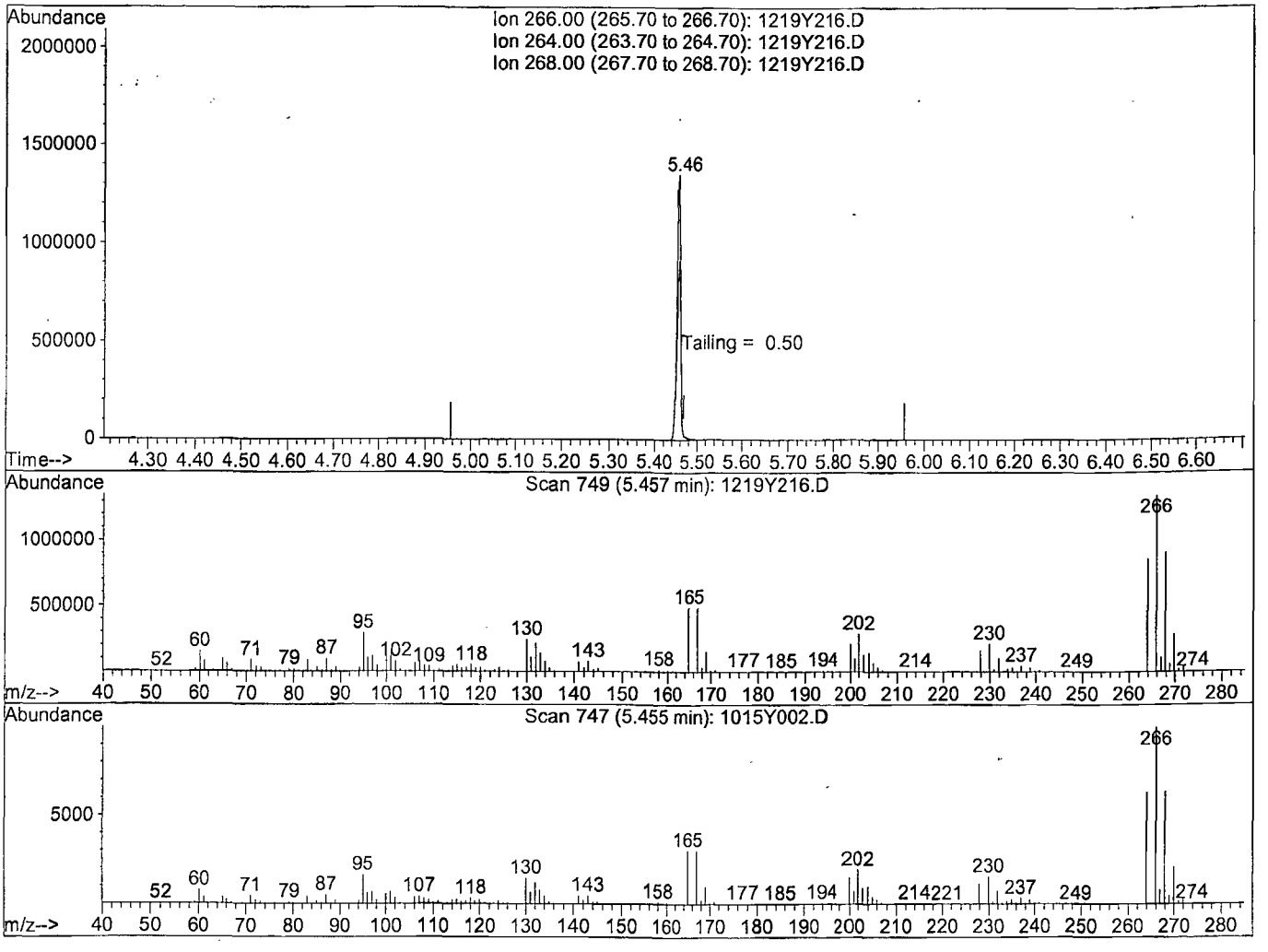
#	Name	Ret Time	Target Response
1)	DDT	7.28	109301000
2)	DDD	7.02	981272
3)	DDE	6.79	119412

Breakdown **1.00**

Quantitation Report

Data File : M:\YODA\DATA\Y191219\1219Y216.D Vial: 16
Acq On : 24 Jan 20 11:51 Operator: MA,SS
Sample : SV TUNE 10/01/19 Inst : Yoda
Misc : Multiplr: 1.00
Quant Time: Jan 27 8:38 2020 Quant Results File: temp.res

Method : M:\YODA\DATA\Y191219\DFTPP2.M (Chemstation Integrator)
Title :
Last Update : Mon Jan 27 08:38:00 2020
Response via : Single Level Calibration



TIC: 1219Y216.D

(5) Pentachlorophenol

5.46min 0.0000

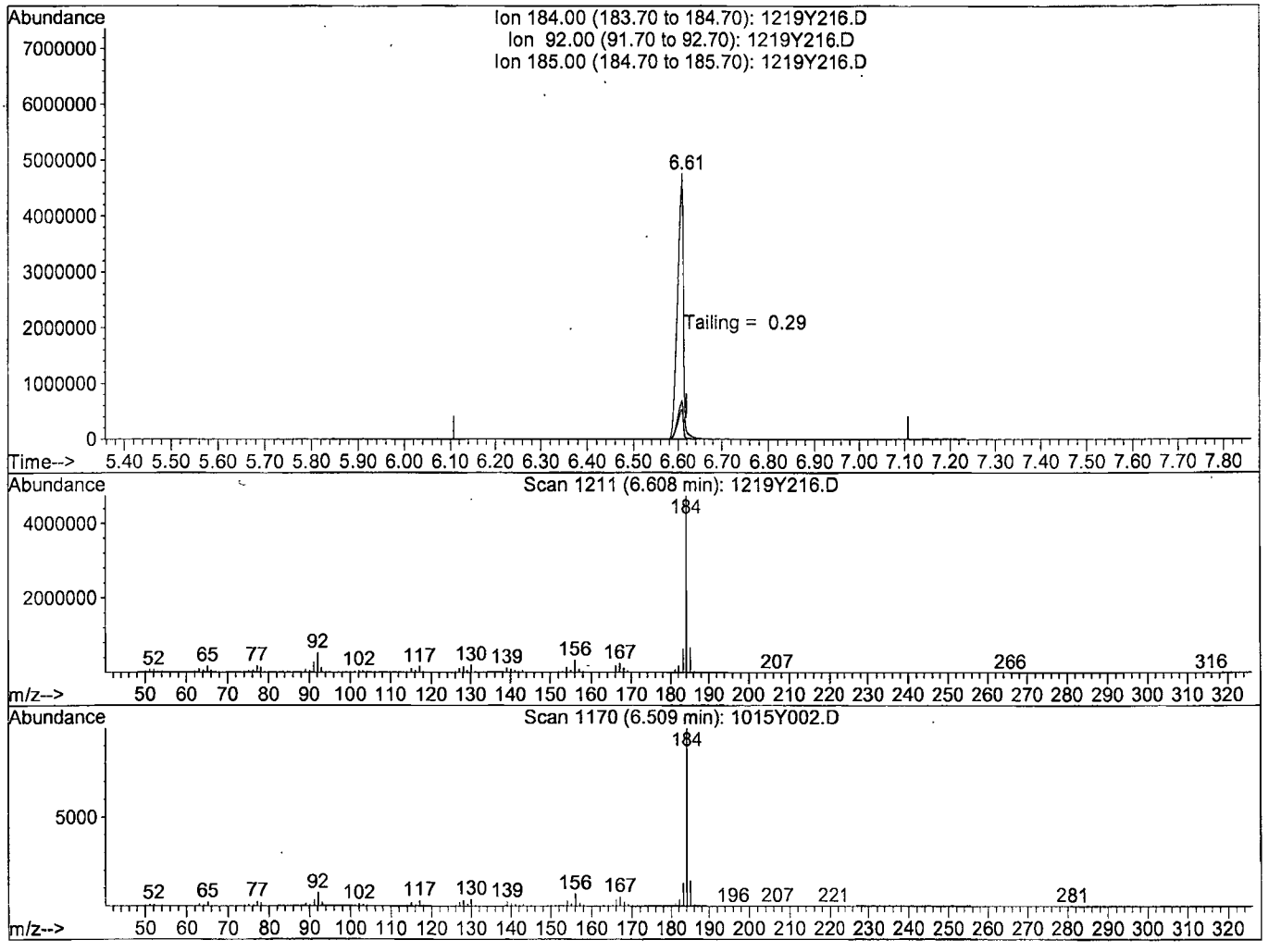
response 9065317

Ion	Exp%	Act%
266.00	100	100
264.00	63.10	63.40
268.00	63.80	65.70
0.00	0.00	0.00

Quantitation Report

Data File : M:\YODA\DATA\Y191219\1219Y216.D Vial: 16
Acq On : 24 Jan 20 11:51 Operator: MA,SS
Sample : SV TUNE 10/01/19 Inst : Yoda
Misc : Multiplr: 1.00
Quant Time: Jan 27 8:38 2020 Quant Results File: temp.res

Method : M:\YODA\DATA\Y191219\DFTPP2.M (Chemstation Integrator)
Title :
Last Update : Mon Jan 27 08:38:00 2020
Response via : Single Level Calibration



TIC: 1219Y216.D

(6) Benzidine

6.61min 0.0000

response 44346224

Ion	Exp%	Act%
184.00	100	100
92.00	7.50	10.53#
185.00	14.30	14.34
0.00	0.00	0.00

Name of Final Standard: MEE Curve
Prep'd By (Initials): JP
Prep Date: 01/22/20
Exp Date: 11/05/20

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from container Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
MEE M STD Stock	APPL		2000 ug/mL	11/05/19	11/05/20	5 uL	200uL	Methanol 195uL Lot# 235140	50 ug/mL
SV Internal Standard	APPL	8270 Internal Standard	2000 ug/mL	11/20/19	11/20/20	4 uL	"	"	"
MEE M STD Stock	APPL		2000 ug/mL	11/05/19	11/05/20	5 uL	100uL	Methanol 95uL Lot# 235140	100 ug/mL
SV Internal Standard	APPL	8271 Internal Standard	2000 ug/mL	11/20/19	11/20/20	2 uL	"	"	"
MEE M STD Stock	APPL		2000 ug/mL	11/05/19	11/05/20	10 uL	100uL	Methanol 90uL Lot# 235140	200 ug/mL
SV Internal Standard	APPL	8272 Internal Standard	2000 ug/mL	11/20/19	11/20/20	2 uL	"	"	"
MEE M STD Stock	APPL		2000 ug/mL	11/05/19	11/05/20	20 uL	100uL	Methanol 80 uL Lot# 235140	400 ug/mL
SV Internal Standard	APPL	8273 Internal Standard	2000 ug/mL	11/20/19	11/20/20	2 uL	"	"	"
MEE M STD Stock	APPL		2000 ug/mL	11/05/19	11/05/20	50 uL	200 uL	Methanol 150 uL Lot# 235140	500 ug/mL
SV Internal Standard	APPL	8274 Internal Standard	2000 ug/mL	11/20/19	11/20/20	4 uL	"	"	"
MEE M STD Stock	APPL		2000 ug/mL	11/05/19	11/05/20	30 uL	100uL	Methanol 70 uL Lot# 235140	600 ug/mL
SV Internal Standard	APPL	8275 Internal Standard	2000 ug/mL	11/20/19	11/20/20	2 uL	"	"	"
MEE M STD Stock	APPL		2000 ug/mL	11/05/19	11/05/20	40 uL	100uL	Methanol 60 uL Lot# 235140	800 ug/mL
SV Internal Standard	APPL	8276 Internal Standard	2000 ug/mL	11/20/19	11/20/20	2 uL	"	"	"
MEE M STD Stock	APPL		2000 ug/mL	11/05/19	11/05/20	50 uL	100uL	Methanol 50uL Lot# 235140	1000 ug/mL
SV Internal Standard	APPL	8277 Internal Standard	2000 ug/mL	11/20/19	11/20/20	2 uL	"	"	"

Name of Final Standard: MEE Second Source
Prep'd By (Initials): JP
Prep Date: 01/22/20
Exp Date: 10/28/20

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from container Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
MEE SS	APPL		2000 ug/mL	10/28/19	10/28/20	50 uL	200uL	Methanol 150uL Lot# 235140	500 ug/mL
SV Internal Standard	APPL	8277 Internal Standard	2000 ug/mL	11/20/19	11/20/20	4 uL	"	"	"

_MWE2MEE

Organic Extraction Worksheet

Method	Solid Phase Extraction of 2MEE in Water	Extraction Set	191106A	Extraction Method	MWE2MEE	Units	mL

Spiked ID 1	Diethylene Glycol 1-31-19 EXP 1-31-20		Surrogate ID 1		
Spiked ID 2	2MEE SS 10320ug/mL 10/28/19 exp 10/28/20		Surrogate ID 2		
Spiked ID 3	Diethylene Glycol 11-5-19 exp 11-5-20		Surrogate ID 3		
Spiked ID 4			Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	no	
Spiked ID 7			Ext. Start Time:	11/06/19 6:25	
Spiked ID 8			Ext. End Time:	11/06/19 13:30	
			GC Requires Extract By:		

M STD AND SS PREPARATION MA 1/21/20

pH1			Water Bath Temp 1 °C		
pH2			Water Bath Temp 2 °C		
pH3			Water Bath Temp 3 °C		

Spiked By: DL **Date** 11/06/19 **Witnessed By:** CFM **Date** 11/06/19

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	191106A Blk				NA	NA equip	500	2	7Y	11/06/19 6:25	
2	191106A LCS-1		0.040	1	NA	NA equip	500	2	7Y	11/06/19 6:25	
3	191106A LCSD-1		0.040	1	NA	NA equip	500	2	7Y	11/06/19 6:25	
4	BA02214	BA02214W18			NA	NA equip	500	2	7Y	11/06/19 6:25	90611
5	BA02216	BA02216W10			NA	NA equip	500	2	7Y	11/06/19 6:25	90611
6	BA02301	BA02301W22			NA	NA equip	500	2	7Y	11/06/19 6:25	90625
7	M STD		1	3	na	na equip	500	2	7Y	11/06/19 6:25	
8	SS		0.097	2	NA	NA equip	500	2	7Y	11/06/19 6:25	

Solvent and Lot#	
ENVI-Carb Plus 400MG/1ML	11694501
Reverible Tube Lot:	11694501
PH Strip	HC863463
Di Water	11/6/19
Dichloromethane	59130
Methanol	59129

Extraction COC Transfer	
Extraction lab employee Initials	SS
GC analyst's initials	MA
Date	
Time	
Refrigerator	Hobart

	Technician's Initials
Scanned By	DL
Sample Preparation	DL
Extraction	DL
Concentration	DL

Modified	11/06/19 6:07:34 AM

Reviewed By: **Date**

Name of Final Standard Diethylene Glycol

Prep'd By (Initials) MA

Prep Date 11/05/19

Exp Date 11/05/20

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from contianer Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc.(range)
Diethylene glycol methyl ether	AccuStandard	S-72273	2000 ug/mL	**218101558-39890**	**12/01/20**	1.0 mL	2 mL	**Methanol #208858**	1000 ug/mL

Given to Extraction to do **MEE M STD Stock** (used for ICAL) Final concentration 2000ug/L

Name of Final Standard 2MEE Second Source Stock

Prep'd By (Initials) JP

Prep Date 10/28/19

Exp Date 10/28/20

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from contianer Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
Methoxyethanol-Neat	Chem Service	N-12404-1G	Neat 99.5%	**7079100 - 39417**	**07/31/22**	0.1022g	10 mL	**MC #56258**	10220 ug/mL

Given to Extraction to do **MEE SS** (used for ICAL SS)

0.097ml were spiked in 500ml of water and extracted on 04/29/19 . Final concentration is 2000ug/L

Organic Extraction Worksheet

Method	Solid Phase Extraction of 2MEE in Water	Extraction Set	200124A	Extraction Method	MWE2MEE	Units	mL

Spiked ID 1	Diethylene Glycol 1-31-19 EXP 1-31-20		Surrogate ID 1		
Spiked ID 2	2MEE SS 10320ug/mL 10-28-19 10-28-20		Surrogate ID 2		
Spiked ID 3			Surrogate ID 3		
Spiked ID 4			Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	YES	
Spiked ID 7			Ext. Start Time:	01/24/20 8:00	
Spiked ID 8			Ext. End Time:	01/24/20 13:55	
			GC Requires Extract By:		

pH1			Water Bath Temp 1 °C	
pH2			Water Bath Temp 2 °C	
pH3			Water Bath Temp 3 °C	

Spiked By: DL **Date** 01/24/20 **Witnessed By:** CFM **Date** 01/24/20

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	200124A Blk				NA	NA equip	500	2	7	01/24/20 8:00	
2	200124A LCS-1		0.040	1	NA	NA equip	500	2	7	01/24/20 8:00	
3	200124A LCSD-1		0.040	1	NA	NA equip	500	2	7	01/24/20 8:00	
4	BA06136	BA06136W11			NA	NA equip	500	2	7	01/24/20 8:00	91264
5	BA06138	BA06138W11			NA	NA equip	250	2	7	01/24/20 8:00	91264 CARTRIDGE CLOGGED EXTRACT ONLY 250ML
6	BA06139	BA06139W06			NA	NA equip	250	2	7	01/24/20 8:00	91264 CARTRIDGE CLOGGED EXTRACT ONLY 250ML
7	BA06141	BA06141W11			NA	NA equip	500	2	7	01/24/20 8:00	91264
8	BA06143	BA06143W10			NA	NA equip	500	2	7	01/24/20 8:00	91264
9	BA06275	BA06275W10			NA	NA equip	500	2	7	01/24/20 8:00	91282
10	BA06279	BA06279W10			NA	NA equip	500	2	7	01/24/20 8:00	91282

Solvent and Lot#	
ENVI-Carb Plus 400MG/1ML	.
Reverible Tube Lot:	11694501
PH Strip	HC 863463
Di Water	1-24-20
Dichloromethane	59239
Methanol	59129

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	JP
Date	1/24/20
Time	1405
Refrigerator	HOBART

	Technician's Initials
Scanned By	DL
Sample Preparation	DL
Extraction	DL
Concentration	DL

Modified	01/26/20 7:16:05 AM

Reviewed By: KY **Date** 01/26/20

Injection Log

Directory: M:\YODA\DATA\Y191219\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	2	1219Y002.D	1	SV TUNE 10/01/19		19 Dec 19 8:50
2	3	1219Y003.D	1	50ug/ml 8270 11/21/19		19 Dec 19 9:06
3	4	1219Y004.D	1	4ug/ml 8270 11/21/19		19 Dec 19 9:33
4	5	1219Y005.D	1	5ug/ml 8270 11/21/19		19 Dec 19 10:01
5	6	1219Y006.D	1	10ug/ml 8270 11/21/19		19 Dec 19 10:28
6	7	1219Y007.D	1	20ug/ml 8270 11/21/19		19 Dec 19 10:56
7	8	1219Y008.D	1	40ug/ml 8270 11/21/19		19 Dec 19 11:24
8	9	1219Y009.D	1	60ug/ml 8270 11/21/19		19 Dec 19 11:51
9	10	1219Y010.D	1	80ug/ml 8270 11/21/19		19 Dec 19 12:19
10	11	1219Y011.D	1	100ug/ml 8270 11/21/19		19 Dec 19 12:46
11	12	1219Y012.D	1	SS 8270 11/22/19		19 Dec 19 13:14
12	16	1219Y216.D	1	SV TUNE 10/01/19		24 Jan 20 11:51
13	18	1219Y218.D	1	500ug/ml 2MEE 01/22/20 (0)		24 Jan 20 13:23
14	29	1219Y229.D	1	200124A BLK 2/500		24 Jan 20 19:27
15	30	1219Y230.D	1	200124A LCS-1 2/500		24 Jan 20 19:51
16	31	1219Y231.D	1	200124A LCSD-1 2/500		24 Jan 20 20:15
17	32	1219Y232.D	1	BA06136W11 2/500		24 Jan 20 20:38
18	33	1219Y233.D	1	BA06138W11 2/250		24 Jan 20 21:02
19	34	1219Y234.D	1	BA06139W06 2/250		24 Jan 20 21:25
20	35	1219Y235.D	1	BA06141W11 2/500		24 Jan 20 21:49
21	36	1219Y236.D	1	BA06143W10 2/500		24 Jan 20 22:12
22	39	1219Y239.D	1	600ug/ml 2MEE 01/22/20 (0)		24 Jan 20 23:23

ORGANICS
Calibration Data

VOLATILE ORGANIC ANALYSIS
VOLATILE ORGANIC COMPOUNDS

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Initial Cal. Date: 01/21/20
Matrix: Instrument: Loki Initials: DP

			0121L02.D	0121L03.D	0121L04.D	0121L05.D	0121L06.D	0121L07.D	0121L08.D	0121L09.D	0121L10.D							
		Compound	1	2	3	4	5	6	7	8	9		Avg	%RSD	Type	r^2	Q	MRF
1	I	Fluorobenzene (IS)																
2	TM	Chlorotrifluoroethene		0.1432	0.1486	0.1502	0.1303	0.1338	0.1265	0.1340	0.1329		0.14	6.4	TM			
3	TML	Dichlorodifluoromethane		0.3917	0.3106	0.3606	0.2461	0.2410	0.2432	0.2657	0.2489		0.29	21	TML	0.999		
4	TML	Freon 114		0.4227	0.3443	0.3825	0.2735	0.2827	0.2681	0.2718	0.2721		0.31	19	TML	1.000		
5	TM**L	Chloromethane		0.4977	0.4627	0.4187	0.3216	0.3151	0.3051	0.2937			0.37	23	TM**L	1.000		
6	TM*	Vinyl chloride		0.3744	0.4027	0.4730	0.3851	0.3850	0.3615	0.3854	0.3523		0.39	9.5	TM*			
7	TM	2-Chloro-1,1,1-trifluoroethane		0.4340	0.4230	0.4283	0.3959	0.3771	0.3643	0.3779	0.3736		0.40	7.0	TM			
8	TML	Bromomethane		0.4420	0.4063	0.3607	0.2779	0.2691	0.2457	0.2389			0.32	26	TML	1.000		
9	TML	Chloroethane		0.2417	0.2770	0.2474	0.2098	0.2085	0.1860	0.1838	0.1741		0.22	17	TML	1.000		
10	TM	Dichlorofluoromethane		0.6644	0.6634	0.6283	0.5594	0.5465	0.5190	0.5296	0.5119		0.58	11	TM			
11	TM	Trichlorofluoromethane		0.5267	0.5748	0.5946	0.4613	0.4632	0.4649	0.4553	0.4320		0.50	12	TM			
12	TML	Diethyl ether		0.0711	0.0504	0.0709	0.0544	0.0526	0.0524	0.0557	0.0605		0.06	14	TML	0.999		
13	TMQ	Acrolein		0.0336	0.0340	0.0366	0.0334	0.0311	0.0336	0.0376	0.0390		0.03	7.5	TMQ	0.991		
14	TML	Acetone		0.4019	0.3229	0.2053	0.0976	0.0962	0.0834	0.0802	0.0831		0.17	74	TML	0.990		
15	TM	Freon-113		0.2818	0.3315	0.3243	0.2607	0.2636	0.2471	0.2622	0.2493		0.28	12	TM			
16	TM*	1,1-DCE		0.4851	0.5081	0.4727	0.3901	0.3884	0.3739	0.3985	0.3863		0.43	13	TM*			
17	TMQ	t-Butanol	0.0117	0.0142	0.0149	0.0135	0.0156	0.0167	0.0208				0.02	19	TMQ	0.991		
18	TM	2-Propanol													TM			
19	TM	Acetonitrile		0.0462	0.0400	0.0384	0.0383	0.0327	0.0310	0.0348	0.0379		0.04	13	TM			
20	TM	Methyl Acetate		0.2456	0.3259	0.2701	0.2147	0.2222	0.2134	0.2270	0.2524		0.25	15	TM			
21	TML	Iodomethane		0.1783	0.1440	0.1442	0.1531	0.1842	0.1962	0.2474	0.2852		0.19	27	TML	0.995		
22	TM	Acrylonitrile		0.1476	0.1280	0.1281	0.1292	0.1242	0.1171	0.1183	0.1219		0.13	7.5	TM			
23	TML	Methylene chloride		0.4697	0.4259	0.4070	0.3451	0.3308	0.3097	0.3241	0.3063		0.36	17	TML	1.000		
24	TML	Carbon disulfide		0.8553	0.8015	0.7336	0.6408	0.5908	0.5504	0.5781	0.5493		0.66	18	TML	1.000		
25	TM	Methyl t-butyl ether (MtBE)		0.4792	0.4078	0.4601	0.4282	0.4265	0.4438	0.4723	0.5070		0.45	7.2	TM			
26	TM	Trans-1,2-DCE		0.4888	0.4369	0.4472	0.4024	0.3927	0.3849	0.4039	0.3876		0.42	8.7	TM			
27	TM	Diisopropyl Ether		1.084	0.9941	0.9840	0.8676	0.8336	0.8095	0.8648	0.8430		0.91	11	TM			
28	TM**	2,2-Dichloro-1,1,1-trifluoroethane													TM**			
29	TM**	1,1-DCA		0.6451	0.6418	0.6544	0.5619	0.5535	0.5296	0.5376	0.5151		0.58	9.9	TM**			
30	TM	Vinyl Acetate		1.084	0.9941	0.9840	0.8676	0.8336	0.8095	0.8648	0.8430		0.91	11	TM			
31	TM	Ethyl tert Butyl Ether													TM			
32	TML	MEK (2-Butanone)		0.0976	0.0609	0.0439	0.0355	0.0326	0.0337	0.0355	0.0405		0.05	47	TML	0.997		
33	TM	Cis-1,2-DCE		0.5381	0.5758	0.5313	0.4594	0.4308	0.4126	0.4157	0.4118		0.47	14	TM			
34	TML	2,2-Dichloropropane		0.5542	0.6700	0.5686	0.4601	0.4212	0.3987	0.4008	0.3893		0.48	21	TML	1.000		
35	TM	2-Methylpentane													TM			

VOLATILE ORGANIC ANALYSIS
VOLATILE ORGANIC COMPOUNDS

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Initial Cal. Date: 01/21/20
Matrix: Instrument: Loki Initials: DP

		Compound	1	2	3	4	5	6	7	8	9		Avg	%RSD	Type		Q	MRF
36	TM	3-Methylpentane													TM			
37	TM*	Chloroform		0.5084	0.6041	0.5777	0.5449	0.5409	0.5159	0.5350	0.5164		0.54	6.1	TM*			
38	TM	Bromochloromethane		0.1941	0.2303	0.2553	0.2147	0.2219	0.2081	0.2161	0.1945		0.22	9.2	TM			
39	S	Dibromofluoromethane(S)	0.7537	0.6971	0.5490	0.5827	0.5863	0.5703	0.5573	0.5732	0.5195		0.60	13	S			
40	TM	1,1,1-TCA		0.6059	0.5607	0.5323	0.4494	0.4590	0.4327	0.4495	0.4292		0.49	14	TM			
41	TM	Cyclohexane		0.2494	0.3166	0.2838	0.2370	0.2610	0.2568	0.2844	0.3242		0.28	11	TM			
42	TM	1,1-Dichloropropene		0.2147	0.3061	0.3259	0.2803	0.2675	0.2791	0.3054	0.3215		0.29	13	TM			
43	TM	2,2,4-Trimethylpentane		0.5425	0.5594	0.6001	0.5009	0.5035	0.5485	0.5960	0.6819		0.57	10	TM			
44	S	1,2-DCA-D4(S)	0.9141	0.8271	0.7000	0.7189	0.7083	0.6938	0.6706	0.7007	0.6318		0.73	12	S			
45	TM	Carbon Tetrachloride		0.3848	0.4714	0.5011	0.4192	0.4152	0.3970	0.3970	0.3939		0.42	9.9	TM			
46	TM	Tert Amyl Methyl Ether													TM			
47	TM	Methylcyclopentane													TM			
48	TM	1,2-DCA		0.4821	0.4227	0.4206	0.4521	0.4190	0.4147	0.4295	0.4066		0.43	5.7	TM			
49	TM	Benzene		1.148	1.005	1.092	0.9577	0.9872	0.9799	1.039	1.030		1.0	6.2	TM			
50	TM	TCE		0.3457	0.3419	0.3473	0.3179	0.2970	0.2968	0.3219	0.3144		0.32	6.3	TM			
51	TM	2-Pentanone		0.1150	0.1149	0.1190	0.1181	0.1235	0.1320	0.1525	0.1675		0.13	15	TM			
52	TM*	1,2-Dichloropropane		0.3063	0.3413	0.2835	0.2917	0.2837	0.2811	0.2982	0.2885		0.30	6.7	TM*			
53	TM	Bromodichloromethane		0.5331	0.4442	0.4951	0.4207	0.4442	0.4134	0.4369	0.4198		0.45	9.3	TM			
54	TM	Methyl Cyclohexane		0.3043	0.2713	0.3004	0.2407	0.2557	0.2669	0.3053	0.3550		0.29	13	TM			
55	TM	Dibromomethane		0.2689	0.2602	0.2307	0.2383	0.2568	0.2484	0.2558	0.2452		0.25	5.0	TM			
56	TML	2-Chloroethyl vinyl ether			0.0215	0.0283	0.0467	0.0771	0.1280	0.1634	0.2010		0.10	74	TML	0.994		
57	TM	MIBK (methyl isobutyl ketone)		0.1337	0.1875	0.1897	0.2036	0.1860	0.2005	0.1985	0.2160		0.19	13	TM			
58	TM	1-Bromo-2-chloroethane		0.3922	0.4292	0.4281	0.3841	0.3997	0.3992	0.4205	0.4082		0.41	4.1	TM			
59	TM	Cis-1,3-Dichloropropene		0.3974	0.3942	0.3960	0.4004	0.3937	0.4065	0.4420	0.4577		0.41	6.0	TM			
60	TM*	Toluene		0.9680	1.001	1.089	1.116	1.098	1.137	1.218	1.213		1.1	8.1	TM*			
61	TML	Trans-1,3-Dichloropropene		0.2409	0.3154	0.3724	0.3499	0.3577	0.3862	0.4234	0.4281		0.36	17	TML	1.000		
62	TM	1,1,2-TCA		0.3162	0.3016	0.3053	0.2993	0.2798	0.2894	0.3026	0.2835		0.30	4.1	TM			
63	TML	2-Hexanone		0.0203	0.0687	0.0819	0.0590	0.0746	0.0829	0.0908	0.1123		0.07	36	TML	0.993		
64	I	Chlorobenzene-D5 (IS)																
65	S	Toluene-D8(S)	2.398	2.190	1.750	1.872	1.918	1.990	2.011	2.106	2.024		2.0	9.3	S			
66	TM	1,2-EDB		0.2542	0.2990	0.2680	0.2599	0.2718	0.2697	0.2852	0.2936		0.28	5.8	TM			
67	TM	Tetrachloroethene		0.3577	0.3642	0.4029	0.3510	0.3664	0.3370	0.3540	0.3602		0.36	5.3	TM			
68	TM	1-Chlorohexane		0.2614	0.2758	0.2583	0.2266	0.2528	0.2615	0.2956	0.3524		0.27	14	TM			
69	TM	1,1,1,2-Tetrachloroethane		0.4056	0.3334	0.4182	0.3561	0.3516	0.3403	0.3484	0.3435		0.36	8.7	TM			
70	TML	m&p-Xylene		0.6738	0.6948	0.7239	0.6988	0.7889	0.8592	0.9865	1.081		0.81	19	TML	0.998		

VOLATILE ORGANIC ANALYSIS
VOLATILE ORGANIC COMPOUNDS

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Initial Cal. Date: 01/21/20
Matrix: Instrument: Loki Initials: DP

		Compound	1	2	3	4	5	6	7	8	9		Avg	%RSD	Type		Q	MRF
71	TML	o-Xylene		0.6892	0.6834	0.7420	0.7240	0.7874	0.8407	0.9553	1.077		0.81	17	TML	0.997		
72	TML	Styrene		0.5117	0.5323	0.5413	0.5575	0.6182	0.7051	0.8421	0.9351		0.66	24	TML	0.997		
73	S	4-Bromofluorobenzene(S)	0.7914	0.6381	0.5587	0.6241	0.6636	0.6990	0.7582	0.8011	0.7907		0.70	12	S			
74	TM	1,3-Dichloropropane		0.4747	0.4294	0.4338	0.4145	0.4535	0.4460	0.4765	0.4794		0.45	5.4	TM			
75	TM	Dibromochloromethane		0.3833	0.3497	0.4093	0.3553	0.3633	0.3488	0.3663	0.3602		0.37	5.5	TM			
76	TM**	Chlorobenzene		0.8706	0.7764	0.8610	0.7531	0.8007	0.7542	0.8065	0.8226		0.81	5.5	TM**			
77	TM*	Ethylbenzene		1.348	1.049	0.9763	0.9833	1.041	1.118	1.257	1.370		1.1	14	TM*			
78	TM**	Bromoform		0.2881	0.2937	0.2608	0.2497	0.2707	0.2680	0.2732	0.2759		0.27	5.2	TM**			
79	I	1,4-Dichlorobenzene-D (IS)																
80	TM	Isopropylbenzene		1.015	1.024	1.033	0.9272	0.9688	0.9658	1.091	1.256		1.0	9.9	TM			
81	TM**	1,1,2,2-Tetrachloroethane		0.6695	0.6974	0.7285	0.6717	0.6380	0.5686	0.5816	0.5422		0.64	10	TM**			
82	TM	1,2,3-Trichloropropane		0.1695	0.2434	0.2486	0.2072	0.2149	0.1914	0.2002	0.1928		0.21	13	TM			
83	TML	t-1,4-Dichloro-2-Butene		0.0382	0.0674	0.0948	0.0978	0.1053	0.1114	0.1195	0.1259		0.10	31	TML	0.999		
84	TM	Bromobenzene		0.6896	0.6667	0.6523	0.6401	0.6293	0.5899	0.6139	0.6002		0.64	5.3	TM			
85	TM	n-Propylbenzene		2.035	2.073	1.964	1.850	2.003	2.046	2.279	2.475		2.1	9.4	TM			
86	TM	4-Ethyltoluene		1.516	1.409	1.490	1.537	1.683	1.759	1.965	2.092		1.7	14	TM			
87	TM	2-Chlorotoluene		0.7806	0.7801	0.8314	0.7457	0.8137	0.8195	0.9111	0.9107		0.82	7.3	TM			
88	TML	1,3,5-Trimethylbenzene		1.344	1.282	1.292	1.296	1.532	1.658	1.843	1.871		1.5	16	TML	1.000		
89	TM	4-Chlorotoluene		0.7806	0.7801	0.7654	0.7144	0.8618	0.9105	0.9607	0.9834		0.84	12	TM			
90	TM	Tert-Butylbenzene		1.211	1.282	1.135	1.336	1.262	1.249	1.376	1.526		1.3	9.1	TM			
91	TML	1,2,4-Trimethylbenzene		1.465	1.291	1.215	1.153	1.404	1.495	1.767	1.878		1.5	18	TML	0.998		
92	TM	Sec-Butylbenzene		1.674	1.724	1.685	1.624	1.765	1.892	2.108	2.283		1.8	13	TM			
93	TM	p-Isopropyltoluene		1.442	1.566	1.545	1.429	1.650	1.749	1.908	2.054		1.7	13	TM			
94	TM	Benzyl Chloride		0.5789	0.6132	0.5839	0.5514	0.5294	0.5686	0.5666	0.6323		0.58	5.7	TM			
95	TM	1,3-DCB		1.218	1.174	1.086	1.074	1.118	1.093	1.148	1.127		1.1	4.3	TM			
96	TM	1,4-DCB		1.390	1.274	1.226	1.156	1.223	1.165	1.177	1.157		1.2	6.5	TM			
97	TM	n-Butylbenzene		1.493	1.357	1.245	1.178	1.268	1.346	1.552	1.760		1.4	14	TM			
98	TM	1,2-DCB		1.395	1.205	1.170	1.064	1.056	1.031	1.059	1.083		1.1	11	TM			
99	TML	Hexachloroethane		0.6760	0.4868	0.4918	0.4392	0.4467	0.4059	0.3847	0.3763		0.46	21	TML	1.000		
100	TML	1,2-Dibromo-3-chloropropane		0.0734	0.1186	0.1572	0.1001	0.1102	0.1168	0.1245	0.1325		0.12	21	TML	0.999		
101	TM	1,2,4-Trichlorobenzene		0.7525	0.5790	0.5847	0.5478	0.5493	0.5589	0.6202	0.7512		0.62	14	TM			
102	TM	Hexachlorobutadiene		0.2887	0.3094	0.2501	0.2343	0.2420	0.2214	0.2251	0.2476		0.25	12	TM			
103	TML	Naphthalene		1.461	0.8091	0.7420	0.6573	0.7381	0.8615	1.011			0.90	30	TML	0.992		
104	TML	1,2,3-Trichlorobenzene		0.3828	0.2813	0.2955	0.2512	0.3050	0.3008	0.3281	0.4278		0.32	18	TML	0.990		
105																		

Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\200121\0121L02.D Vial: 2
Acq On : 21 Jan 20 7:43 Operator:
Sample : 0.3ug/L VOC STD 1/21/20 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 21 13:14 2020 Quant Results File: L0121W.RES

Quant Method : M:\LOKI\DATA\200121\L0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 13:13:27 2020
Response via : Initial Calibration
DataAcq Meth : L8260

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Fluorobenzene (IS)	5.06	96	208128	25.00 ppb		0.00
64) Chlorobenzene-D5 (IS)	8.68	117	205440	25.00 ppb		0.00
79) 1,4-Dichlorobenzene-D (IS)	11.23	152	100456	25.00 ppb		0.00
System Monitoring Compounds						
39) Dibromofluoromethane(S)	4.09	111	31375	6.29 ppb		0.00
Spiked Amount 25.000			Recovery =	25.176%		
44) 1,2-DCA-D4(S)	4.56	65	38048	6.27 ppb		0.00
Spiked Amount 25.000			Recovery =	25.060%		
65) Toluene-D8(S)	7.07	98	98524	5.91 ppb		0.00
Spiked Amount 25.000			Recovery =	23.640%		
73) 4-Bromofluorobenzene(S)	9.99	95	32515	5.63 ppb		0.00
Spiked Amount 25.000			Recovery =	22.520%		
Target Compounds						Qvalue
2) Chlorotrifluoroethene	0.74	116	3249	2.84 ppb	#	86
3) Dichlorodifluoromethane	0.75	85	977	0.13 ppb		95
4) Freon 114	0.82	85	949	0.15 ppb		98
5) Chloromethane	0.85	50	1620	-1.05 ppb		99
6) Vinyl chloride	0.91	62	992	0.31 ppb		91
7) 2-Chloro-1,1,1-trifluoroet	0.97	118	10201	3.09 ppb		100
8) Bromomethane	1.09	94	1164	-1.21 ppb		92
9) Chloroethane	1.15	64	761	-0.62 ppb	#	71
10) Dichlorofluoromethane	1.27	67	1531	0.32 ppb		100
11) Trichlorofluoromethane	1.30	101	1427	0.35 ppb		98
12) Diethyl ether	1.94	74	46	0.94 ppb	#	39
13) Acrolein	1.57	56	1530	5.27 ppb	#	72
14) Acetone	1.68	43	1941	1.12 ppb	#	88
15) Freon-113	1.65	101	936	0.41 ppb		91
16) 1,1-DCE	1.64	61	1215	0.34 ppb	#	89
17) t-Butanol	2.14	59	977	-8.58 ppb	#	23
19) Acetonitrile	1.89	41	3973	12.76 ppb	#	46
20) Methyl Acetate	1.94	43	1568	0.76 ppb		97
21) Iodomethane	1.73	142	555	2.71 ppb	#	72
22) Acrylonitrile	2.21	53	408	0.39 ppb		91
23) Methylene chloride	2.00	84	1374	-0.14 ppb		97
24) Carbon disulfide	1.77	76	2627	-0.11 ppb		95
25) Methyl t-butyl ether (MtBE	2.26	73	1054	0.28 ppb	#	93
26) Trans-1,2-DCE	2.24	61	1329	0.38 ppb	#	72
27) Diisopropyl Ether	2.80	45	3023	0.40 ppb	#	81
29) 1,1-DCA	2.65	63	1722	0.36 ppb		86
30) Vinyl Acetate	2.80	45	3023	0.40 ppb	#	81
32) MEK (2-Butanone)	3.42	43	490	2.45 ppb	#	53
33) Cis-1,2-DCE	3.35	61	1477	0.38 ppb		89
34) 2,2-Dichloropropane	3.32	77	1308	-0.38 ppb		90
37) Chloroform	3.85	83	1619	0.36 ppb		80
38) Bromochloromethane	3.66	130	475	0.26 ppb	#	45
40) 1,1,1-TCA	4.07	97	1428	0.35 ppb		99
41) Cyclohexane	4.14	56	698	0.30 ppb	#	59
42) 1,1-Dichloropropene	4.33	75	677	0.28 ppb		92
43) 2,2,4-Trimethylpentane	4.83	57	1227	0.26 ppb		98
45) Carbon Tetrachloride	4.32	117	1168	0.33 ppb		96
48) 1,2-DCA	4.67	62	1020	0.28 ppb	#	75
49) Benzene	4.63	78	2706	0.32 ppb	#	70

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\200121\0121L02.D Vial: 2
Acq On : 21 Jan 20 7:43 Operator:
Sample : 0.3ug/L VOC STD 1/21/20 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 21 13:14 2020 Quant Results File: L0121W.RES

Quant Method : M:\LOKI\DATA\200121\L0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 13:13:27 2020
Response via : Initial Calibration
DataAcq Meth : L8260

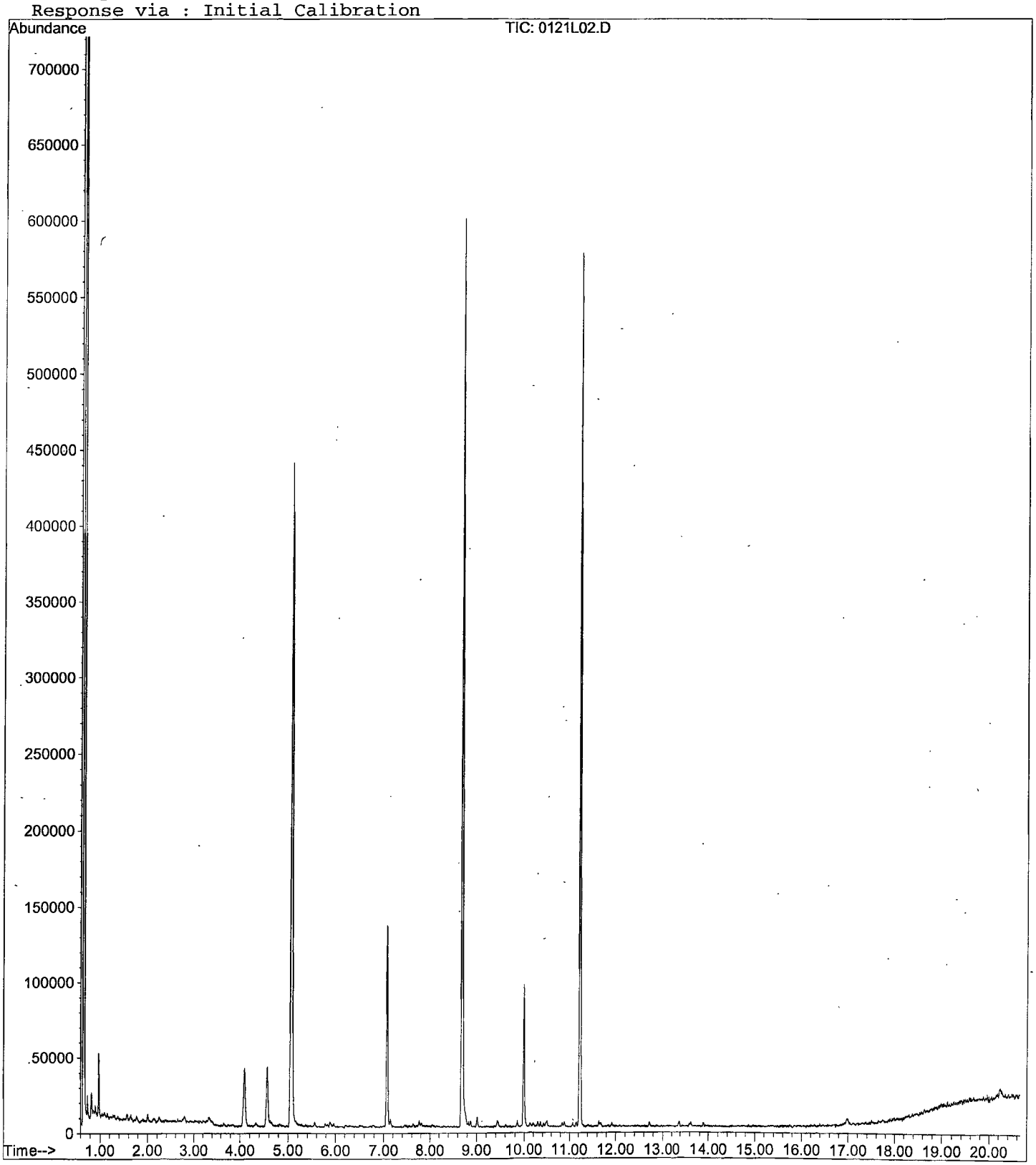
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
50)	TCE	5.55	130	902	0.34	ppb	#	84
51)	2-Pentanone	5.89	43	5645	5.20	ppb	#	86
52)	1,2-Dichloropropane	5.82	63	801	0.32	ppb		82
53)	Bromodichloromethane	6.22	83	1012	0.27	ppb		94
54)	Methyl Cyclohexane	5.79	83	632	0.26	ppb	#	60
55)	Dibromomethane	5.97	174	587	0.28	ppb		87
56)	2-Chloroethyl vinyl ether	6.54	63	1091	27.71	ppb	#	100
58)	1-Bromo-2-chloroethane	6.54	63	1091	0.32	ppb		96
59)	Cis-1,3-Dichloropropene	6.78	75	982	0.29	ppb		92
60)	Toluene	7.14	91	2576	0.28	ppb		98
61)	Trans-1,3-Dichloropropene	7.45	75	894	1.09	ppb	#	75
62)	1,1,2-TCA	7.63	97	803	0.32	ppb	#	85
63)	2-Hexanone	7.87	43	130	2.60	ppb	#	24
66)	1,2-EDB	8.14	107	626	0.28	ppb	#	49
67)	Tetrachloroethene	7.76	166	1055	0.35	ppb		85
68)	1-Chlorohexane	8.76	91	722	0.32	ppb		83
69)	1,1,1,2-Tetrachloroethane	8.82	131	1375	0.46	ppb		82
70)	m&p-Xylene	9.01	91	3788	3.93	ppb		92
71)	o-Xylene	9.43	91	2151	2.08	ppb		79
72)	Styrene	9.45	104	1378	2.28	ppb		91
74)	1,3-Dichloropropane	7.81	76	1249	0.34	ppb		85
75)	Dibromochloromethane	8.05	129	1078	0.36	ppb	#	57
76)	Chlorobenzene	8.72	112	2411	0.36	ppb		93
77)	Ethylbenzene	8.87	91	2891	0.31	ppb		97
78)	Bromoform	9.61	173	778	0.35	ppb		88
80)	Isopropylbenzene	9.85	105	1431	0.34	ppb		95
81)	1,1,2,2-Tetrachloroethane	10.18	83	1135	0.44	ppb		90
82)	1,2,3-Trichloropropane	10.21	110	211	0.25	ppb	#	14
83)	t-1,4-Dichloro-2-Butene	10.27	53	49	1.24	ppb	#	22
84)	Bromobenzene	10.12	156	751	0.29	ppb		75
85)	n-Propylbenzene	10.30	91	3096	0.37	ppb		90
86)	4-Ethyltoluene	10.43	105	1667	0.25	ppb	#	74
87)	2-Chlorotoluene	10.36	91	925	0.28	ppb		94
88)	1,3,5-Trimethylbenzene	10.50	105	1851	1.33	ppb		92
89)	4-Chlorotoluene	10.47	91	907	0.27	ppb		97
90)	Tert-Butylbenzene	10.84	119	1368	0.26	ppb		91
91)	1,2,4-Trimethylbenzene	10.89	105	1888	1.89	ppb	#	75
92)	Sec-Butylbenzene	11.08	105	1947	0.26	ppb	#	59
93)	p-Isopropyltoluene	11.25	119	2215	0.33	ppb		85
94)	Benzyl Chloride	11.42	91	604	0.26	ppb	#	80
95)	1,3-DCB	11.15	146	1592	0.35	ppb	#	77
96)	1,4-DCB	11.25	146	1860	0.38	ppb	#	88
97)	n-Butylbenzene	11.69	91	1747	0.31	ppb		85
98)	1,2-DCB	11.64	146	1555	0.34	ppb		89
99)	Hexachloroethane	11.92	117	564	-0.58	ppb	#	84
100)	1,2-Dibromo-3-chloropropan	12.48	157	50	1.06	ppb	#	44
101)	1,2,4-Trichlorobenzene	13.38	180	1520	0.61	ppb		90
102)	Hexachlorobutadiene	13.59	225	498	0.49	ppb	#	82
103)	Naphthalene	13.62	128	2821	1.77	ppb	#	90
104)	1,2,3-Trichlorobenzene	13.88	182	606	2.86	ppb		99

(#) = qualifier out of range (m) = manual integration

Data File : M:\LOKI\DATA\200121\0121L02.D Vial: 2
Acq On : 21 Jan 20 7:43 Operator:
Sample : 0.3ug/L VOC STD 1/21/20 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 21 13:14 2020 Quant Results File: L0121W.RES

Method : M:\LOKI\DATA\200121\L0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 13:19:21 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\200121\0121L03.D Vial: 3
Acq On : 21 Jan 20 8:11 Operator:
Sample : 0.5ug/L VOC STD 1/21/20 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 21 13:14 2020 Quant Results File: L0121W.RES

Quant Method : M:\LOKI\DATA\200121\L0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 13:13:27 2020
Response via : Initial Calibration
DataAcq Meth : L8260

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene (IS)	5.06	96	201920	25.00	ppb		0.00
64) Chlorobenzene-D5 (IS)	8.69	117	202560	25.00	ppb		0.00
79) 1,4-Dichlorobenzene-D (IS)	11.23	152	99408	25.00	ppb		0.00
System Monitoring Compounds							
39) Dibromofluoromethane(S)	4.09	111	28152	5.82	ppb		0.00
Spiked Amount 25.000			Recovery = 23.284%				
44) 1,2-DCA-D4(S)	4.56	65	33403	5.67	ppb		0.00
Spiked Amount 25.000			Recovery = 22.676%				
65) Toluene-D8(S)	7.07	98	88713	5.40	ppb		0.00
Spiked Amount 25.000			Recovery = 21.588%				
73) 4-Bromofluorobenzene(S)	9.99	95	25850	4.54	ppb		0.00
Spiked Amount 25.000			Recovery = 18.160%				
Target Compounds							Qvalue
2) Chlorotrifluoroethene	0.74	116	5781	5.21	ppb		93
3) Dichlorodifluoromethane	0.76	85	1582	0.44	ppb		100
4) Freon 114	0.82	85	1707	0.51	ppb		87
5) Chloromethane	0.85	50	2010	-0.84	ppb		90
6) Vinyl chloride	0.91	62	1512	0.48	ppb	#	63
7) 2-Chloro-1,1,1-trifluoroet	0.97	118	17525	5.47	ppb		99
8) Bromomethane	1.09	94	1785	-0.83	ppb		92
9) Chloroethane	1.15	64	976	-0.45	ppb	#	67
10) Dichlorofluoromethane	1.27	67	2683	0.57	ppb		90
11) Trichlorofluoromethane	1.30	101	2127	0.53	ppb	#	81
12) Diethyl ether	1.94	74	287	1.43	ppb		92
13) Acrolein	1.57	56	6787	24.10	ppb	#	60
14) Acetone	1.67	43	1623	0.73	ppb		94
15) Freon-113	1.65	101	1138	0.51	ppb	#	80
16) 1,1-DCE	1.63	61	1959	0.57	ppb		95
17) t-Butanol	2.15	59	2859	28.67	ppb		97
19) Acetonitrile	1.88	41	9324	30.87	ppb		85
20) Methyl Acetate	1.93	43	992	0.50	ppb	#	77
21) Iodomethane	1.73	142	720	2.79	ppb		84
22) Acrylonitrile	2.21	53	596	0.58	ppb	#	78
23) Methylene chloride	2.00	84	1897	0.09	ppb		91
24) Carbon disulfide	1.77	76	3454	0.09	ppb	#	82
25) Methyl t-butyl ether (MtBE	2.26	73	1935	0.53	ppb		90
26) Trans-1,2-DCE	2.24	61	1974	0.58	ppb		91
27) Diisopropyl Ether	2.79	45	4377	0.60	ppb		91
29) 1,1-DCA	2.64	63	2605	0.56	ppb	#	74
30) Vinyl Acetate	2.79	45	4377	0.60	ppb		91
32) MEK (2-Butanone)	3.41	43	394	2.20	ppb	#	53
33) Cis-1,2-DCE	3.35	61	2173	0.57	ppb		87
37) Chloroform	3.83	83	2053	0.47	ppb		81
38) Bromochloromethane	3.66	130	784	0.45	ppb	#	67
40) 1,1,1-TCA	4.07	97	2447	0.62	ppb	#	74
41) Cyclohexane	4.15	56	1007	0.45	ppb	#	66
42) 1,1-Dichloropropene	4.34	75	867	0.37	ppb		97
43) 2,2,4-Trimethylpentane	4.83	57	2191	0.48	ppb		99
45) Carbon Tetrachloride	4.32	117	1554	0.46	ppb	#	70
48) 1,2-DCA	4.68	62	1947	0.56	ppb	#	75
49) Benzene	4.64	78	4638	0.56	ppb		89
50) TCE	5.56	130	1396	0.54	ppb	#	72

(#) = qualifier out of range (m) = manual integration

Data File : M:\LOKI\DATA\200121\0121L03.D Vial: 3
Acq On : 21 Jan 20 8:11 Operator:
Sample : 0.5ug/L VOC STD 1/21/20 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 21 13:14 2020 Quant Results File: L0121W.RES

Quant Method : M:\LOKI\DATA\200121\L0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 13:13:27 2020
Response via : Initial Calibration
DataAcq Meth : L8260

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
51)	2-Pentanone	5.89	43	23218	22.06	ppb	#	87
52)	1,2-Dichloropropane	5.83	63	1237	0.52	ppb		86
53)	Bromodichloromethane	6.22	83	2153	0.59	ppb		92
54)	Methyl Cyclohexane	5.78	83	1229	0.53	ppb	#	64
55)	Dibromomethane	5.97	174	1086	0.54	ppb		88
56)	2-Chloroethyl vinyl ether	6.54	63	1534	27.97	ppb	#	100
57)	MIBK (methyl isobutyl ket	7.03	43	540	0.35	ppb	#	69
58)	1-Bromo-2-chloroethane	6.54	63	1584	0.48	ppb		86
59)	Cis-1,3-Dichloropropene	6.77	75	1605	0.48	ppb	#	77
60)	Toluene	7.14	91	3909	0.44	ppb	#	75
61)	Trans-1,3-Dichloropropene	7.46	75	973	1.12	ppb	#	57
62)	1,1,2-TCA	7.63	97	1277	0.53	ppb	#	74
63)	2-Hexanone	7.99	43	82	2.56	ppb	#	24
66)	1,2-EDB	8.14	107	1030	0.46	ppb	#	77
67)	Tetrachloroethene	7.76	166	1449	0.49	ppb		93
68)	1-Chlorohexane	8.76	91	1059	0.48	ppb		95
69)	1,1,1,2-Tetrachloroethane	8.82	131	1643	0.56	ppb		87
70)	m&p-Xylene	9.01	91	5459	4.12	ppb	#	80
71)	o-Xylene	9.43	91	2792	2.16	ppb		88
72)	Styrene	9.44	104	2073	2.37	ppb		87
74)	1,3-Dichloropropane	7.81	76	1923	0.53	ppb		86
75)	Dibromochloromethane	8.05	129	1553	0.52	ppb		80
76)	Chlorobenzene	8.72	112	3527	0.54	ppb		90
77)	Ethylbenzene	9.01	91	5459	0.59	ppb		90
78)	Bromoform	9.60	173	1167	0.53	ppb	#	33
80)	Isopropylbenzene	9.85	105	2017	0.49	ppb		90
81)	1,1,2,2-Tetrachloroethane	10.18	83	1331	0.53	ppb		97
82)	1,2,3-Trichloropropane	10.20	110	337	0.41	ppb	#	62
83)	t-1,4-Dichloro-2-Butene	10.24	53	76	1.29	ppb	#	22
84)	Bromobenzene	10.13	156	1371	0.54	ppb		89
85)	n-Propylbenzene	10.29	91	4045	0.49	ppb		93
86)	4-Ethyltoluene	10.43	105	3015	0.45	ppb	#	81
87)	2-Chlorotoluene	10.48	91	1552	0.47	ppb		85
88)	1,3,5-Trimethylbenzene	10.50	105	2672	1.44	ppb		96
89)	4-Chlorotoluene	10.48	91	1552	0.46	ppb		91
90)	Tert-Butylbenzene	10.84	119	2408	0.47	ppb		99
91)	1,2,4-Trimethylbenzene	10.89	105	2912	2.03	ppb		83
92)	Sec-Butylbenzene	11.08	105	3329	0.45	ppb	#	87
93)	p-Isopropyltoluene	11.25	119	2867	0.43	ppb		97
94)	Benzyl Chloride	11.41	91	1151	0.50	ppb		99
95)	1,3-DCB	11.16	146	2421	0.54	ppb		84
96)	1,4-DCB	11.25	146	2763	0.57	ppb		92
97)	n-Butylbenzene	11.68	91	2968	0.53	ppb		98
98)	1,2-DCB	11.64	146	2774	0.62	ppb		93
100)	1,2-Dibromo-3-chloropropan	12.47	157	146	1.24	ppb	#	32
101)	1,2,4-Trichlorobenzene	13.37	180	1496	0.61	ppb		78
102)	Hexachlorobutadiene	13.58	225	574	0.57	ppb	#	59
103)	Naphthalene	13.62	128	2905	1.80	ppb		95
104)	1,2,3-Trichlorobenzene	13.89	182	761	2.96	ppb	#	68

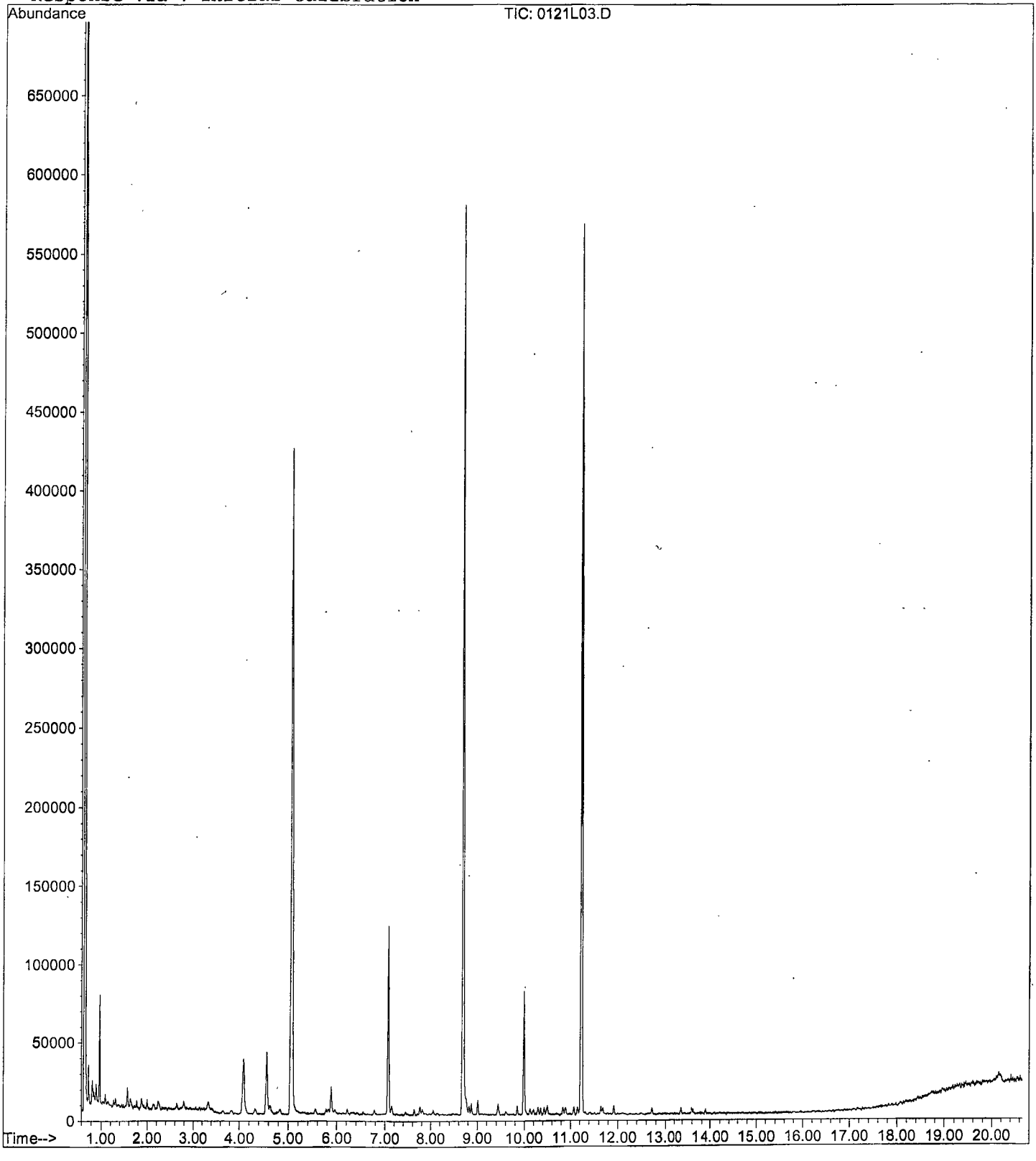
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LOKI\DATA\200121\0121L03.D Vial: 3
Acq On : 21 Jan 20 8:11 Operator:
Sample : 0.5ug/L VOC STD 1/21/20 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 21 13:14 2020 Quant Results File: L0121W.RES

Method : M:\LOKI\DATA\200121\L0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 13:19:21 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\LOKI\DATA\200121\0121L04.D Vial: 4
Acq On : 21 Jan 20 8:40 Operator:
Sample : 1ug/L VOC STD 1/21/20 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 21 13:11 2020 Quant Results File: L0121W.RES

Quant Method : M:\LOKI\DATA\200121\L0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 13:10:39 2020
Response via : Initial Calibration
DataAcq Meth : L8260

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene (IS)	5.06	96	213888	25.00	ppb		0.00
64) Chlorobenzene-D5 (IS)	8.69	117	218176	25.00	ppb		0.00
79) 1,4-Dichlorobenzene-D (IS)	11.23	152	106008	25.00	ppb		0.00
System Monitoring Compounds							
39) Dibromofluoromethane(S)	4.09	111	46972	9.17	ppb		0.00
Spiked Amount 25.000			Recovery = 36.676%				
44) 1,2-DCA-D4(S)	4.56	65	59885	9.60	ppb		0.00
Spiked Amount 25.000			Recovery = 38.380%				
65) Toluene-D8(S)	7.07	98	152735	8.63	ppb		0.00
Spiked Amount 25.000			Recovery = 34.504%				
73) 4-Bromofluorobenzene(S)	9.99	95	48760	7.95	ppb		0.00
Spiked Amount 25.000			Recovery = 31.800%				
Target Compounds							Qvalue
2) Chlorotrifluoroethene	0.74	116	12710	10.81	ppb		99
3) Dichlorodifluoromethane	0.76	85	2657m	-38.84	ppb		98
4) Freon 114	0.82	85	2946	1.00	ppb		87
6) Vinyl chloride	0.91	62	3445	1.03	ppb		90
7) 2-Chloro-1,1,1-trifluoroet	0.97	118	36193	10.66	ppb		99
9) Chloroethane	1.15	64	2370	0.45	ppb		98
10) Dichlorofluoromethane	1.27	67	5676	1.15	ppb		93
11) Trichlorofluoromethane	1.30	101	4918	1.16	ppb		97
12) Diethyl ether	1.95	74	431	1.68	ppb	#	39
13) Acrolein	1.57	56	14537	48.73	ppb	#	63
14) Acetone	1.68	43	2763	2.23	ppb	#	79
15) Freon-113	1.65	101	2836	1.19	ppb		80
16) 1,1-DCE	1.64	61	4347	1.19	ppb		98
17) t-Butanol	2.15	59	6386	58.87	ppb		97
19) Acetonitrile	1.88	41	17118	53.50	ppb	#	82
20) Methyl Acetate	1.94	43	2788	1.32	ppb	#	77
21) Iodomethane	1.73	142	1232	2.98	ppb	#	55
22) Acrylonitrile	2.21	53	1095	1.01	ppb	#	34
23) Methylene chloride	2.00	84	3644	0.71	ppb		99
24) Carbon disulfide	1.77	76	6857	0.77	ppb		99
25) Methyl t-butyl ether (MtBE	2.27	73	3489	0.90	ppb		96
26) Trans-1,2-DCE	2.24	61	3738	1.05	ppb	#	81
27) Diisopropyl Ether	2.80	45	8505	1.09	ppb		98
29) 1,1-DCA	2.64	63	5491	1.11	ppb		90
30) Vinyl Acetate	2.80	45	8505	1.09	ppb		98
32) MEK (2-Butanone)	3.41	43	521	2.50	ppb	#	53
33) Cis-1,2-DCE	3.34	61	4926	1.22	ppb		91
34) 2,2-Dichloropropane	3.34	77	5732	0.95	ppb		89
37) Chloroform	3.84	83	5168	1.11	ppb		97
38) Bromochloromethane	3.66	130	1970	1.06	ppb		98
40) 1,1,1-TCA	4.08	97	4797	1.14	ppb		97
41) Cyclohexane	4.14	56	2709	1.14	ppb	#	87
42) 1,1-Dichloropropene	4.36	75	2619	1.06	ppb	#	58
43) 2,2,4-Trimethylpentane	4.83	57	4786	0.99	ppb		99
45) Carbon Tetrachloride	4.32	117	4033	1.12	ppb		89
48) 1,2-DCA	4.67	62	3616	0.98	ppb		99
49) Benzene	4.63	78	8602	0.98	ppb		97
50) TCE	5.56	130	2925	1.06	ppb		94
51) 2-Pentanone	5.88	43	49130	44.07	ppb		92

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : M:\LOKI\DATA\200121\0121L04.D Vial: 4
Acq On : 21 Jan 20 8:40 Operator:
Sample : 1ug/L VOC STD 1/21/20 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 21 13:11 2020 Quant Results File: L0121W.RES

Quant Method : M:\LOKI\DATA\200121\L0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 13:10:39 2020
Response via : Initial Calibration
DataAcq Meth : L8260

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
52)	1,2-Dichloropropane	5.83	63	2920	1.15	ppb		87
53)	Bromodichloromethane	6.21	83	3800	0.98	ppb		80
54)	Methyl Cyclohexane	5.79	83	2321	0.94	ppb		86
55)	Dibromomethane	5.97	174	2226	1.04	ppb		79
56)	2-Chloroethyl vinyl ether	6.54	63	3652	29.00	ppb	#	100
57)	MIBK (methyl isobutyl ket	7.01	43	1604	0.99	ppb	#	72
58)	1-Bromo-2-chloroethane	6.54	63	3672	1.05	ppb		94
59)	Cis-1,3-Dichloropropene	6.78	75	3373	0.96	ppb		100
60)	Toluene	7.15	91	8561	0.91	ppb		98
61)	Trans-1,3-Dichloropropene	7.45	75	2698	1.57	ppb		96
62)	1,1,2-TCA	7.64	97	2580	1.01	ppb		91
63)	2-Hexanone	7.99	43	588	3.08	ppb	#	65
66)	1,2-EDB	8.14	107	2609	1.09	ppb	#	72
67)	Tetrachloroethene	7.76	166	3178	1.01	ppb		95
68)	1-Chlorohexane	8.76	91	2407	1.01	ppb		91
69)	1,1,1,2-Tetrachloroethane	8.82	131	2910	0.92	ppb		74
70)	m&p-Xylene	9.01	91	12127	4.78	ppb		93
71)	o-Xylene	9.43	91	5964	2.48	ppb		89
72)	Styrene	9.45	104	4645	2.66	ppb		92
74)	1,3-Dichloropropane	7.81	76	3747	0.95	ppb		94
75)	Dibromochloromethane	8.05	129	3052	0.95	ppb		83
76)	Chlorobenzene	8.72	112	6776	0.96	ppb		89
77)	Ethylbenzene	8.87	91	9157	0.92	ppb		99
78)	Bromoform	9.60	173	2563	1.08	ppb		94
80)	Isopropylbenzene	9.85	105	4341	0.99	ppb		92
81)	1,1,2,2-Tetrachloroethane	10.18	83	2957	1.09	ppb		96
82)	1,2,3-Trichloropropane	10.20	110	1032	1.17	ppb		81
83)	t-1,4-Dichloro-2-Butene	10.25	53	286	1.68	ppb	#	59
84)	Bromobenzene	10.13	156	2827	1.05	ppb		96
85)	n-Propylbenzene	10.30	91	8791	0.99	ppb		99
86)	4-Ethyltoluene	10.42	105	5974	0.84	ppb		96
87)	2-Chlorotoluene	10.48	91	3308	0.95	ppb		94
88)	1,3,5-Trimethylbenzene	10.50	105	5435	1.76	ppb		93
89)	4-Chlorotoluene	10.48	91	3308	0.92	ppb	#	88
90)	Tert-Butylbenzene	10.84	119	5438	0.99	ppb		98
91)	1,2,4-Trimethylbenzene	10.89	105	5475	2.33	ppb		100
92)	Sec-Butylbenzene	11.08	105	7311	0.93	ppb	#	82
93)	p-Isopropyltoluene	11.25	119	6640	0.94	ppb		88
94)	Benzyl Chloride	11.42	91	2600	1.06	ppb		89
95)	1,3-DCB	11.16	146	4977	1.04	ppb		90
96)	1,4-DCB	11.25	146	5402	1.04	ppb		93
97)	n-Butylbenzene	11.68	91	5754	0.97	ppb		98
98)	1,2-DCB	11.64	146	5110	1.06	ppb		99
99)	Hexachloroethane	11.91	117	2064	0.34	ppb	#	75
100)	1,2-Dibromo-3-chloropropan	12.48	157	503	1.86	ppb	#	72
101)	1,2,4-Trichlorobenzene	13.38	180	2455	0.94	ppb		86
102)	Hexachlorobutadiene	13.59	225	1312	1.23	ppb		90
103)	Naphthalene	13.62	128	3431	1.88	ppb	#	86
104)	1,2,3-Trichlorobenzene	13.89	182	1193	3.17	ppb		84

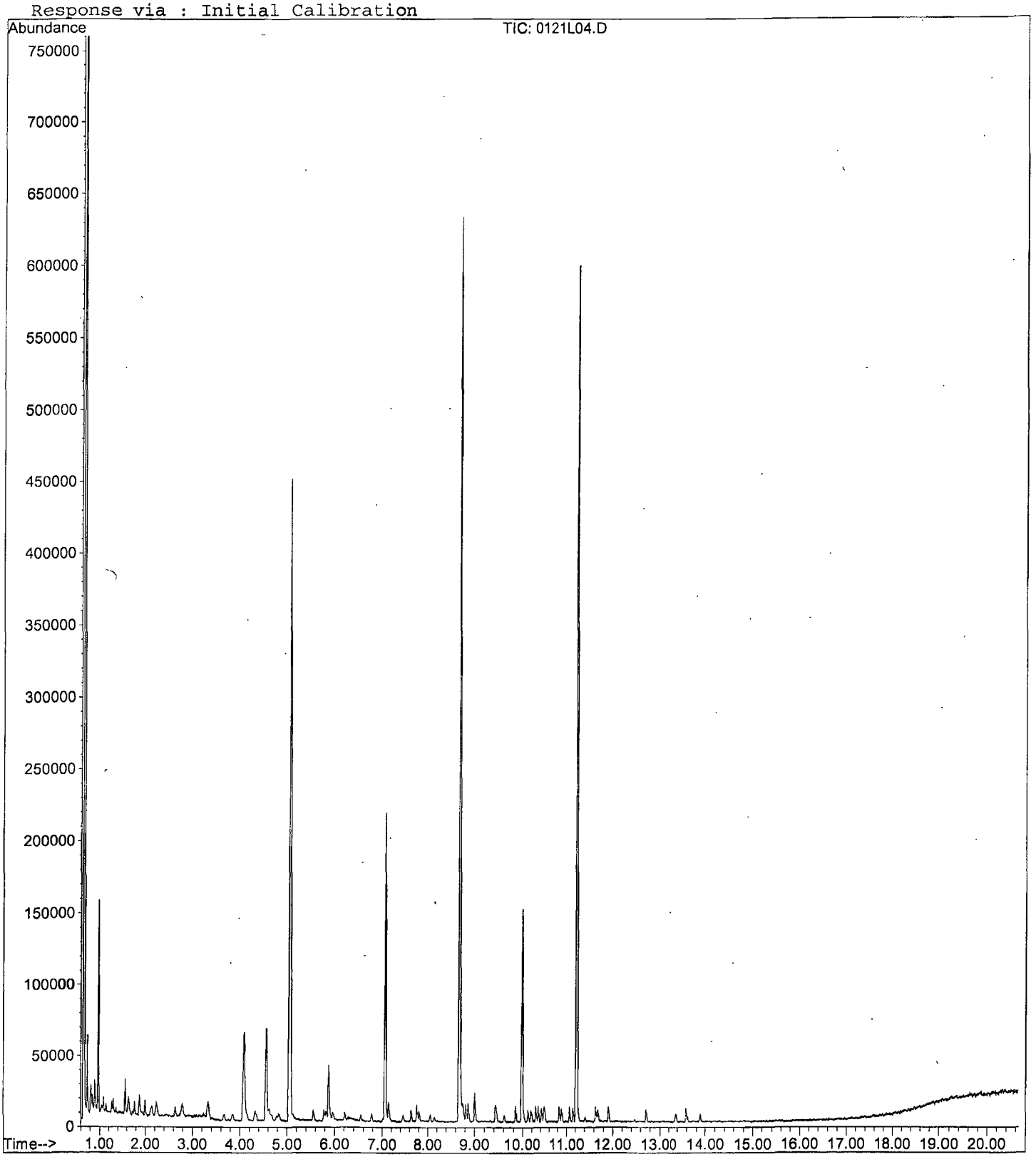
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LOKI\DATA\200121\0121L04.D Vial: 4
Acq On : 21 Jan 20 8:40 Operator:
Sample : 1ug/L VOC STD 1/21/20 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 21 13:11 2020 Quant Results File: L0121W.RES

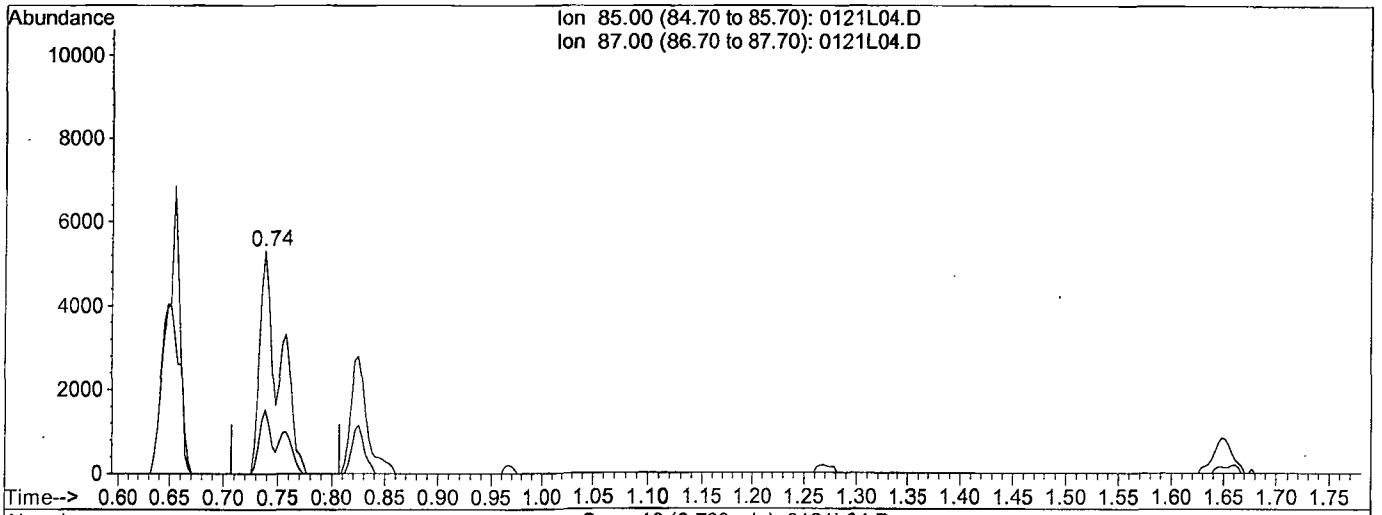
Method : M:\LOKI\DATA\200121\L0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 13:19:21 2020
Response via : Initial Calibration

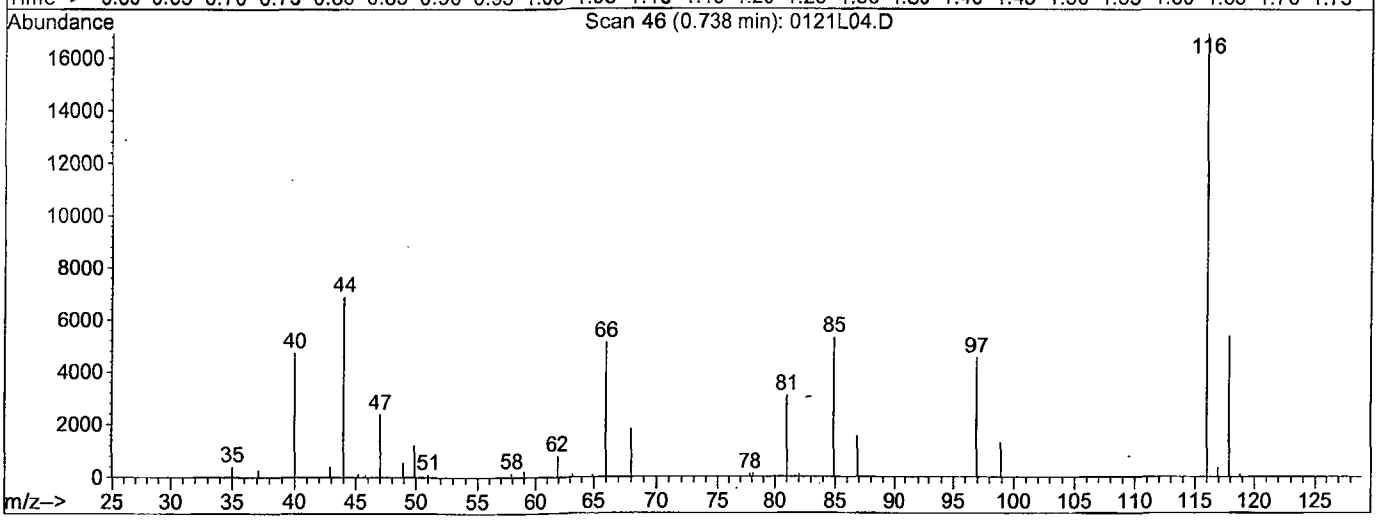


Quantitation Report

Data File : M:\LOKI\DATA\200121\0121L04.D Vial: 4
Acq On : 21 Jan 20 8:40 Operator:
Sample : 1ug/L VOC STD 1/21/20 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00
Quant Time: Jan 21 13:10 2020 Quant Results File: temp.res

Method : M:\LOKI\DATA\200121\L0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 13:10:39 2020
Response via : Multiple Level Calibration





TIC: 0121L04.D

(3) Dichlorodifluoromethane (TM)

0.74min -29.5217ppb

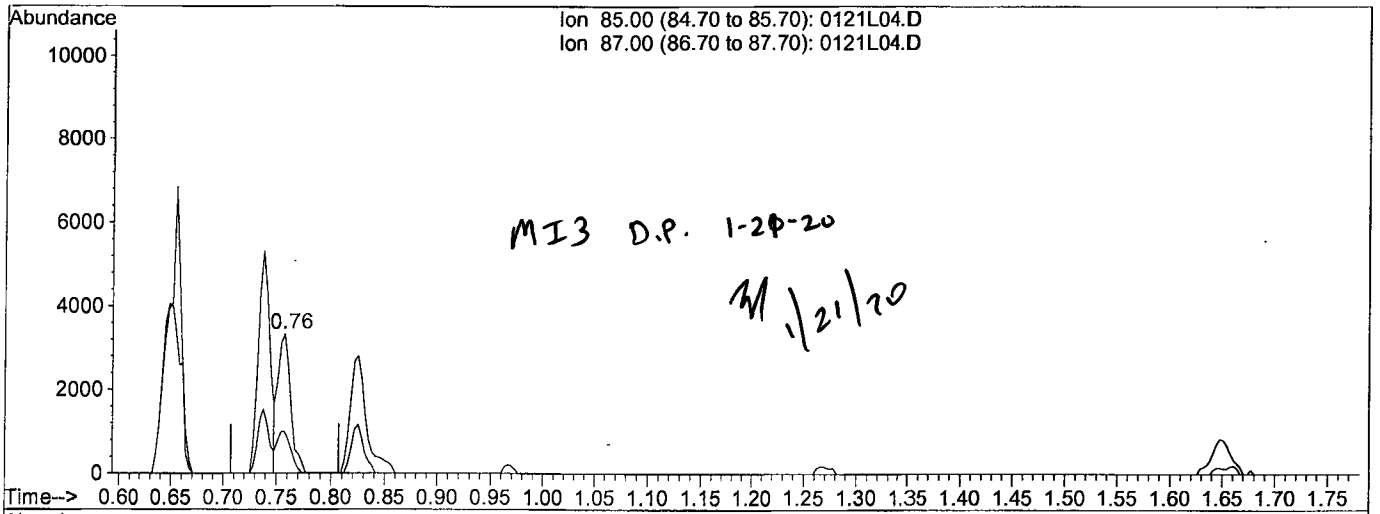
response 6688

Ion	Exp%	Act%
85.00	100	100
87.00	28.10	28.96
0.00	0.00	0.00
0.00	0.00	0.00

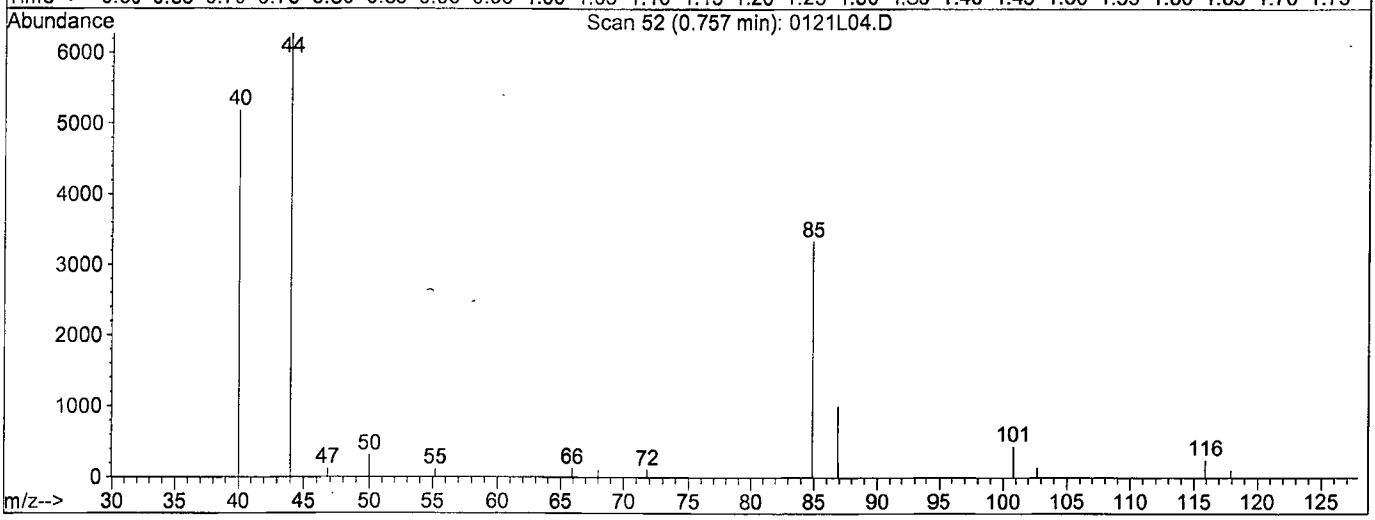
Quantitation Report

Data File : M:\LOKI\DATA\200121\0121L04.D Vial: 4
Acq On : 21 Jan 20 8:40 Operator:
Sample : 1ug/L VOC STD 1/21/20 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00
Quant Time: Jan 21 13:11 2020 Quant Results File: temp.res

Method : M:\LOKI\DATA\200121\L0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 13:10:39 2020
Response via : Multiple Level Calibration



MI3 D.P. 1-28-20
1/21/20



TIC: 0121L04.D

(3) Dichlorodifluoromethane (TM)

0.76min -38.8431ppb m

response 2657

Ion	Exp%	Act%
85.00	100	100
87.00	28.10	29.90
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\200121\0121L05.D Vial: 5
Acq On : 21 Jan 20 9:08 Operator:
Sample : 2ug/L VOC STD 1/21/20 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 21 13:14 2020 Quant Results File: L0121W.RES

Quant Method : M:\LOKI\DATA\200121\L0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 13:13:27 2020
Response via : Initial Calibration
DataAcq Meth : L8260

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene (IS)	5.06	96	204032	25.00	ppb		0.00
64) Chlorobenzene-D5 (IS)	8.69	117	211200	25.00	ppb		0.00
79) 1,4-Dichlorobenzene-D (IS)	11.23	152	106416	25.00	ppb		0.00
System Monitoring Compounds							
39) Dibromofluoromethane(S)	4.08	111	47559	9.73	ppb		0.00
Spiked Amount 25.000			Recovery = 38.928%				
44) 1,2-DCA-D4(S)	4.56	65	58672	9.86	ppb		0.00
Spiked Amount 25.000			Recovery = 39.420%				
65) Toluene-D8(S)	7.07	98	158126	9.23	ppb		0.00
Spiked Amount 25.000			Recovery = 36.904%				
73) 4-Bromofluorobenzene(S)	9.99	95	52727	8.88	ppb		0.00
Spiked Amount 25.000			Recovery = 35.524%				
Target Compounds							Qvalue
2) Chlorotrifluoroethene	0.74	116	24514	21.86	ppb		99
3) Dichlorodifluoromethane	0.75	85	5886	2.54	ppb		99
4) Freon 114	0.82	85	6244	2.55	ppb		100
5) Chloromethane	0.85	50	6835	1.42	ppb		95
6) Vinyl chloride	0.91	62	7721	2.43	ppb		96
7) 2-Chloro-1,1,1-trifluoroet	0.97	118	69912	21.59	ppb		95
8) Bromomethane	1.09	94	5887	1.50	ppb		98
9) Chloroethane	1.15	64	4039	1.71	ppb		90
10) Dichlorofluoromethane	1.27	67	10255	2.17	ppb		99
11) Trichlorofluoromethane	1.30	101	9705	2.39	ppb		86
12) Diethyl ether	1.94	74	1157	3.20	ppb	#	82
13) Acrolein	1.57	56	22424	78.80	ppb	#	69
14) Acetone	1.68	43	3351	3.32	ppb	#	87
15) Freon-113	1.65	101	5293	2.34	ppb		91
16) 1,1-DCE	1.63	61	7716	2.22	ppb		97
17) t-Butanol	2.15	59	8234	73.91	ppb		93
19) Acetonitrile	1.88	41	23479	76.92	ppb		97
20) Methyl Acetate	1.94	43	4408	2.19	ppb		100
21) Iodomethane	1.73	142	2354	3.49	ppb		93
22) Acrylonitrile	2.21	53	2091	2.02	ppb		97
23) Methylene chloride	2.00	84	6643	1.98	ppb		84
24) Carbon disulfide	1.77	76	11975	1.99	ppb		94
25) Methyl t-butyl ether (MtBE	2.27	73	7510	2.03	ppb		99
26) Trans-1,2-DCE	2.24	61	7300	2.14	ppb		95
27) Diisopropyl Ether	2.79	45	16062	2.16	ppb		98
29) 1,1-DCA	2.64	63	10681	2.26	ppb		96
30) Vinyl Acetate	2.79	45	16062	2.16	ppb		98
32) MEK (2-Butanone)	3.43	43	716	3.17	ppb	#	53
33) Cis-1,2-DCE	3.35	61	8672	2.25	ppb		88
34) 2,2-Dichloropropane	3.33	77	9281	2.16	ppb		95
37) Chloroform	3.84	83	9430	2.13	ppb		97
38) Bromochloromethane	3.66	130	4167	2.35	ppb	#	70
40) 1,1,1-TCA	4.07	97	8688	2.17	ppb		92
41) Cyclohexane	4.14	56	4632	2.05	ppb	#	88
42) 1,1-Dichloropropene	4.34	75	5320	2.27	ppb		82
43) 2,2,4-Trimethylpentane	4.83	57	9795	2.12	ppb		99
45) Carbon Tetrachloride	4.32	117	8179	2.37	ppb		86
48) 1,2-DCA	4.67	62	6865	1.95	ppb	#	87
49) Benzene	4.63	78	17821	2.12	ppb		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\200121\0121L05.D Vial: 5
Acq On : 21 Jan 20 9:08 Operator:
Sample : 2ug/L VOC STD 1/21/20 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 21 13:14 2020 Quant Results File: L0121W.RES

Quant Method : M:\LOKI\DATA\200121\L0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 13:13:27 2020
Response via : Initial Calibration
DataAcq Meth : L8260

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
50)	TCE	5.56	130	5669	2.15	ppb		91
51)	2-Pentanone	5.88	43	72840	68.50	ppb		95
52)	1,2-Dichloropropane	5.82	63	4627	1.91	ppb		99
53)	Bromodichloromethane	6.21	83	8081	2.20	ppb		97
54)	Methyl Cyclohexane	5.78	83	4903	2.09	ppb		88
55)	Dibromomethane	5.97	174	3765	1.84	ppb	#	81
56)	2-Chloroethyl vinyl ether	6.54	63	6887	30.81	ppb	#	100
57)	MIBK (methyl isobutyl ket	7.01	43	3096	2.00	ppb	#	79
58)	1-Bromo-2-chloroethane	6.54	63	6987	2.10	ppb		93
59)	Cis-1,3-Dichloropropene	6.78	75	6463	1.93	ppb		95
60)	Toluene	7.15	91	17777	1.97	ppb		96
61)	Trans-1,3-Dichloropropene	7.45	75	6079	2.57	ppb		99
62)	1,1,2-TCA	7.63	97	4984	2.05	ppb		92
63)	2-Hexanone	7.98	43	1336	3.92	ppb		98
66)	1,2-EDB	8.14	107	4528	1.95	ppb		85
67)	Tetrachloroethene	7.76	166	6808	2.23	ppb		95
68)	1-Chlorohexane	8.76	91	4364	1.89	ppb		91
69)	1,1,1,2-Tetrachloroethane	8.83	131	7066	2.31	ppb		100
70)	m&p-Xylene	9.01	91	24462	6.17	ppb		97
71)	o-Xylene	9.43	91	12537	3.22	ppb		96
72)	Styrene	9.45	104	9145	3.25	ppb		96
74)	1,3-Dichloropropane	7.81	76	7329	1.92	ppb		94
75)	Dibromochloromethane	8.05	129	6916	2.23	ppb		81
76)	Chlorobenzene	8.71	112	14547	2.14	ppb		95
77)	Ethylbenzene	8.87	91	16496	1.71	ppb		95
78)	Bromoform	9.61	173	4406	1.91	ppb	#	76
80)	Isopropylbenzene	9.85	105	8794	2.00	ppb		95
81)	1,1,2,2-Tetrachloroethane	10.18	83	6202	2.29	ppb		100
82)	1,2,3-Trichloropropane	10.20	110	2116	2.38	ppb	#	70
83)	t-1,4-Dichloro-2-Butene	10.25	53	807	2.64	ppb	#	57
84)	Bromobenzene	10.12	156	5553	2.05	ppb		97
85)	n-Propylbenzene	10.29	91	16724	1.88	ppb		96
86)	4-Ethyltoluene	10.43	105	12688	1.77	ppb		98
87)	2-Chlorotoluene	10.35	91	7078	2.02	ppb		93
88)	1,3,5-Trimethylbenzene	10.50	105	10996	2.45	ppb		97
89)	4-Chlorotoluene	10.47	91	6516	1.81	ppb	#	86
90)	Tert-Butylbenzene	10.84	119	9665	1.75	ppb		85
91)	1,2,4-Trimethylbenzene	10.89	105	10345	2.93	ppb		99
92)	Sec-Butylbenzene	11.08	105	14341	1.83	ppb		95
93)	p-Isopropyltoluene	11.25	119	13151	1.85	ppb		99
94)	Benzyl Chloride	11.41	91	4971	2.02	ppb		89
95)	1,3-DCB	11.15	146	9248	1.92	ppb		98
96)	1,4-DCB	11.26	146	10440	2.01	ppb		97
97)	n-Butylbenzene	11.68	91	10601	1.78	ppb		98
98)	1,2-DCB	11.64	146	9963	2.07	ppb		97
99)	Hexachloroethane	11.91	117	4187	1.67	ppb	#	84
100)	1,2-Dibromo-3-chloropropan	12.48	157	1338	3.33	ppb	#	78
101)	1,2,4-Trichlorobenzene	13.37	180	4978	1.89	ppb		98
102)	Hexachlorobutadiene	13.59	225	2129	1.98	ppb		90
103)	Naphthalene	13.62	128	6317	2.55	ppb		93
104)	1,2,3-Trichlorobenzene	13.89	182	2516	3.90	ppb		86

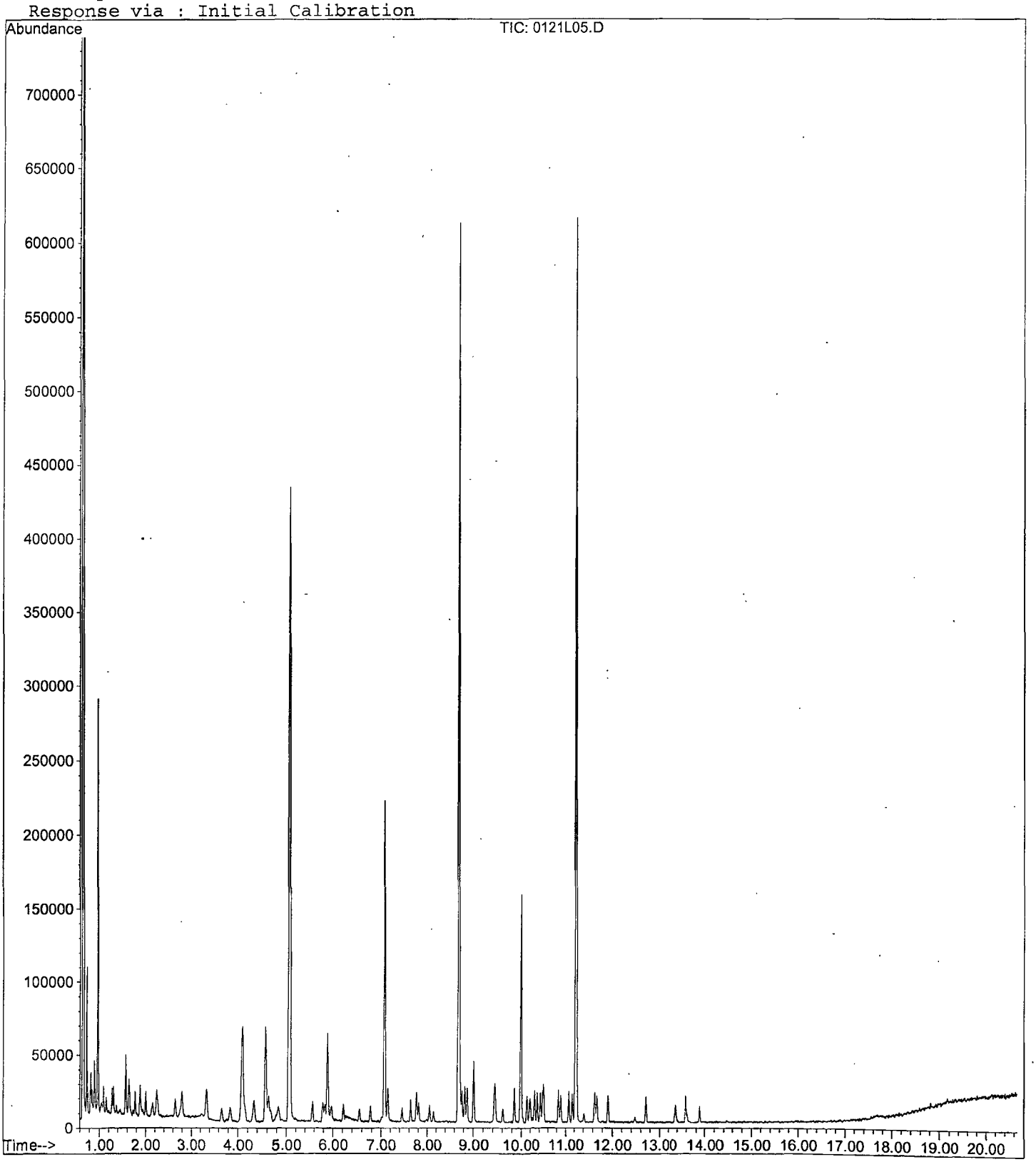
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LOKI\DATA\200121\0121L05.D Vial: 5
Acq On : 21 Jan 20 9:08 Operator:
Sample : 2ug/L VOC STD 1/21/20 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 21 13:14 2020 Quant Results File: L0121W.RES

Method : M:\LOKI\DATA\200121\L0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 13:19:21 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\200121\0121L06.D Vial: 6
Acq On : 21 Jan 20 9:37 Operator:
Sample : 5ug/L VOC STD 1/21/20 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 21 13:14 2020 Quant Results File: L0121W.RES

Quant Method : M:\LOKI\DATA\200121\L0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 13:13:27 2020
Response via : Initial Calibration
DataAcq Meth : L8260

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene (IS)	5.06	96	225472	25.00	ppb		0.00
64) Chlorobenzene-D5 (IS)	8.69	117	232896	25.00	ppb		0.00
79) 1,4-Dichlorobenzene-D (IS)	11.23	152	125928	25.00	ppb		0.00
System Monitoring Compounds							
39) Dibromofluoromethane(S)	4.09	111	132185	24.48	ppb		0.00
Spiked Amount 25.000			Recovery = 97.908%				
44) 1,2-DCA-D4(S)	4.56	65	159702	24.27	ppb		0.00
Spiked Amount 25.000			Recovery = 97.100%				
65) Toluene-D8(S)	7.07	98	446775	23.64	ppb		0.00
Spiked Amount 25.000			Recovery = 94.556%				
73) 4-Bromofluorobenzene(S)	9.99	95	154560	23.61	ppb		0.00
Spiked Amount 25.000			Recovery = 94.432%				
Target Compounds							Qvalue
2) Chlorotrifluoroethene	0.74	116	46995	37.92	ppb		99
3) Dichlorodifluoromethane	0.75	85	11097	4.58	ppb		90
4) Freon 114	0.82	85	12335	4.78	ppb		98
5) Chloromethane	0.85	50	14501	4.37	ppb	#	88
6) Vinyl chloride	0.91	62	17368	4.94	ppb		91
7) 2-Chloro-1,1,1-trifluoroet	0.97	118	142826	39.92	ppb		100
8) Bromomethane	1.09	94	12530	4.62	ppb		87
9) Chloroethane	1.15	64	9462	4.91	ppb		93
10) Dichlorofluoromethane	1.27	67	25227	4.84	ppb		96
11) Trichlorofluoromethane	1.30	101	20803	4.64	ppb		99
12) Diethyl ether	1.94	74	2453	5.36	ppb		92
13) Acrolein	1.57	56	30121	95.78	ppb	#	78
14) Acetone	1.68	43	4400	4.27	ppb	#	81
15) Freon-113	1.65	101	11757	4.70	ppb		90
16) 1,1-DCE	1.63	61	17590	4.58	ppb		98
17) t-Butanol	2.15	59	14025	99.39	ppb		99
19) Acetonitrile	1.88	41	34502	102.28	ppb	#	82
20) Methyl Acetate	1.94	43	9680	4.36	ppb		98
21) Iodomethane	1.73	142	6903	5.15	ppb		97
22) Acrylonitrile	2.21	53	5828	5.10	ppb	#	73
23) Methylene chloride	2.00	84	15562	4.96	ppb		90
24) Carbon disulfide	1.77	76	28896	5.16	ppb		99
25) Methyl t-butyl ether (MtBE	2.27	73	19309	4.73	ppb		94
26) Trans-1,2-DCE	2.24	61	18146	4.81	ppb		91
27) Diisopropyl Ether	2.79	45	39125	4.77	ppb		96
29) 1,1-DCA	2.64	63	25337	4.84	ppb		93
30) Vinyl Acetate	2.79	45	39125	4.77	ppb		96
32) MEK (2-Butanone)	3.43	43	1602	5.41	ppb		96
33) Cis-1,2-DCE	3.34	61	20715	4.87	ppb		91
34) 2,2-Dichloropropane	3.33	77	20746	5.16	ppb		94
37) Chloroform	3.84	83	24571	5.02	ppb		91
38) Bromochloromethane	3.66	130	9680	4.95	ppb		87
40) 1,1,1-TCA	4.07	97	20267	4.59	ppb		99
41) Cyclohexane	4.14	56	10688	4.28	ppb	#	85
42) 1,1-Dichloropropene	4.34	75	12642	4.87	ppb		100
43) 2,2,4-Trimethylpentane	4.83	57	22586	4.42	ppb		94
45) Carbon Tetrachloride	4.32	117	18904	4.96	ppb		93
48) 1,2-DCA	4.68	62	20389	5.25	ppb	#	91
49) Benzene	4.63	78	43187	4.65	ppb		92

(#) = qualifier out of range (m) = manual integration

Data File : M:\LOKI\DATA\200121\0121L06.D Vial: 6
Acq On : 21 Jan 20 9:37 Operator:
Sample : 5ug/L VOC STD 1/21/20 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 21 13:14 2020 Quant Results File: L0121W.RES

Quant Method : M:\LOKI\DATA\200121\L0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 13:13:27 2020
Response via : Initial Calibration
DataAcq Meth : L8260

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
50)	TCE	5.56	130	14336	4.92	ppb		90
51)	2-Pentanone	5.88	43	106473	90.60	ppb		94
52)	1,2-Dichloropropane	5.83	63	13154	4.91	ppb		82
53)	Bromodichloromethane	6.22	83	18973	4.67	ppb		90
54)	Methyl Cyclohexane	5.79	83	10856	4.19	ppb		93
55)	Dibromomethane	5.97	174	10744	4.76	ppb		91
56)	2-Chloroethyl vinyl ether	6.54	63	16794	35.24	ppb	#	100
57)	MIBK (methyl isobutyl ket	7.01	43	9181	5.37	ppb		90
58)	1-Bromo-2-chloroethane	6.54	63	17319	4.71	ppb		95
59)	Cis-1,3-Dichloropropene	6.78	75	18055	4.87	ppb		98
60)	Toluene	7.15	91	50318	5.05	ppb		96
61)	Trans-1,3-Dichloropropene	7.45	75	15779	4.90	ppb		90
62)	1,1,2-TCA	7.63	97	13497	5.04	ppb		99
63)	2-Hexanone	7.98	43	2661	5.10	ppb	#	82
66)	1,2-EDB	8.14	107	12104	4.72	ppb		95
67)	Tetrachloroethene	7.76	166	16348	4.85	ppb		96
68)	1-Chlorohexane	8.76	91	10557	4.15	ppb		96
69)	1,1,1,2-Tetrachloroethane	8.82	131	16585	4.92	ppb		83
70)	m&p-Xylene	9.01	91	65100	9.94	ppb		99
71)	o-Xylene	9.43	91	33725	5.20	ppb		94
72)	Styrene	9.45	104	25967	5.06	ppb		96
74)	1,3-Dichloropropane	7.81	76	19309	4.60	ppb		96
75)	Dibromochloromethane	8.05	129	16550	4.84	ppb		96
76)	Chlorobenzene	8.72	112	35080	4.67	ppb		97
77)	Ethylbenzene	8.87	91	45803	4.30	ppb		94
78)	Bromoform	9.61	173	11630	4.58	ppb		84
80)	Isopropylbenzene	9.85	105	23352	4.48	ppb		99
81)	1,1,2,2-Tetrachloroethane	10.18	83	16916	5.27	ppb		97
82)	1,2,3-Trichloropropane	10.20	110	5218	4.97	ppb		88
83)	t-1,4-Dichloro-2-Butene	10.25	53	2463	5.01	ppb		95
84)	Bromobenzene	10.12	156	16122	5.04	ppb		92
85)	n-Propylbenzene	10.29	91	46602	4.43	ppb		98
86)	4-Ethyltoluene	10.42	105	38704	4.57	ppb		95
87)	2-Chlorotoluene	10.35	91	18782	4.52	ppb		100
88)	1,3,5-Trimethylbenzene	10.50	105	32645	4.52	ppb		98
89)	4-Chlorotoluene	10.48	91	17992	4.23	ppb		95
90)	Tert-Butylbenzene	10.84	119	33636	5.15	ppb		97
91)	1,2,4-Trimethylbenzene	10.89	105	29033	4.69	ppb		98
92)	Sec-Butylbenzene	11.08	105	40910	4.40	ppb		96
93)	p-Isopropyltoluene	11.25	119	35997	4.28	ppb		91
94)	Benzyl Chloride	11.41	91	13887	4.77	ppb		95
95)	1,3-DCB	11.15	146	27061	4.76	ppb		93
96)	1,4-DCB	11.26	146	29108	4.73	ppb		98
97)	n-Butylbenzene	11.68	91	29659	4.21	ppb		96
98)	1,2-DCB	11.64	146	26797	4.70	ppb		98
99)	Hexachloroethane	11.91	117	11061	4.91	ppb		96
100)	1,2-Dibromo-3-chloropropan	12.47	157	2521	4.74	ppb		95
101)	1,2,4-Trichlorobenzene	13.37	180	13797	4.43	ppb		79
102)	Hexachlorobutadiene	13.59	225	5901	4.64	ppb		95
103)	Naphthalene	13.62	128	16554	4.34	ppb		93
104)	1,2,3-Trichlorobenzene	13.88	182	6326	5.47	ppb		95

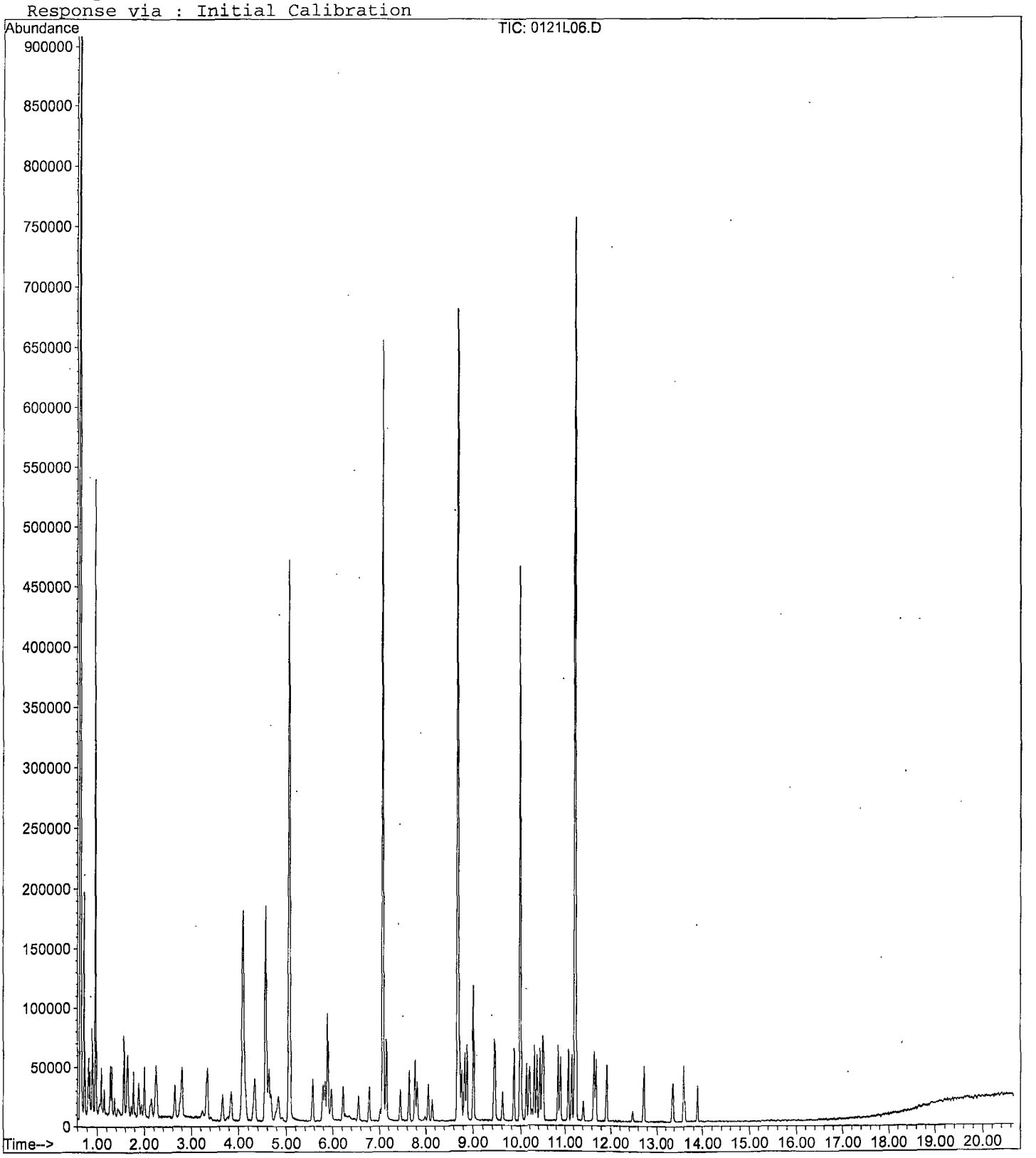
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LOKI\DATA\200121\0121L06.D Vial: 6
Acq On : 21 Jan 20 9:37 Operator:
Sample : 5ug/L VOC STD 1/21/20 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 21 13:14 2020 Quant Results File: L0121W.RES

Method : M:\LOKI\DATA\200121\L0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 13:19:21 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\LOKI\DATA\200121\0121L07.D Vial: 7
Acq On : 21 Jan 20 10:06 Operator:
Sample : 10ug/L VOC STD 1/21/20 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 21 13:12 2020 Quant Results File: L0121W.RES

Quant Method : M:\LOKI\DATA\200121\L0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 13:12:01 2020
Response via : Initial Calibration
DataAcq Meth : L8260

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	5.06	96	228544	25.00	ppb	0.00
64) Chlorobenzene-D5 (IS)	8.69	117	229056	25.00	ppb	0.00
79) 1,4-Dichlorobenzene-D (IS)	11.23	152	130680	25.00	ppb	0.00
System Monitoring Compounds						
39) Dibromofluoromethane(S)	4.09	111	130335	23.81	ppb	0.00
Spiked Amount 25.000			Recovery =	95.240%		
44) 1,2-DCA-D4(S)	4.56	65	158558	23.78	ppb	0.00
Spiked Amount 25.000			Recovery =	95.108%		
65) Toluene-D8(S)	7.07	98	455927	24.53	ppb	0.00
Spiked Amount 25.000			Recovery =	98.112%		
73) 4-Bromofluorobenzene(S)	9.99	95	160102	24.86	ppb	0.00
Spiked Amount 25.000			Recovery =	99.460%		
Target Compounds						Qvalue
2) Chlorotrifluoroethene	0.74	116	122361	97.40	ppb	100
3) Dichlorodifluoromethane	0.75	85	22028m	6.68	ppb	94
4) Freon 114	0.82	85	25840	10.16	ppb	100
5) Chloromethane	0.85	50	28805	10.29	ppb	100
6) Vinyl chloride	0.91	62	35192	9.87	ppb	100
7) 2-Chloro-1,1,1-trifluoroet	0.97	118	344693	95.04	ppb	100
8) Bromomethane	1.09	94	24596	10.69	ppb	100
9) Chloroethane	1.15	64	19063	10.89	ppb	99
10) Dichlorofluoromethane	1.27	67	49962	9.46	ppb	100
11) Trichlorofluoromethane	1.30	101	42341	9.33	ppb	100
12) Diethyl ether	1.94	74	4808	9.57	ppb	100
13) Acrolein	1.57	56	35572	111.59	ppb	100
14) Acetone	1.68	43	8790	10.13	ppb	100
15) Freon-113	1.65	101	24095	9.50	ppb	100
16) 1,1-DCE	1.63	61	35504	9.13	ppb	100
17) t-Butanol	2.15	59	19032	119.69	ppb	100
19) Acetonitrile	1.88	41	37345	109.22	ppb	100
20) Methyl Acetate	1.94	43	20310	9.02	ppb	100
21) Iodomethane	1.73	142	16836	8.91	ppb	100
22) Acrylonitrile	2.21	53	11350	9.79	ppb	100
23) Methylene chloride	2.00	84	30242	10.13	ppb	100
24) Carbon disulfide	1.77	76	54008	10.09	ppb	100
25) Methyl t-butyl ether (MtBE	2.27	73	38988	9.41	ppb	100
26) Trans-1,2-DCE	2.24	61	35898	9.39	ppb	100
27) Diisopropyl Ether	2.79	45	76202	9.16	ppb	100
29) 1,1-DCA	2.64	63	50596	9.54	ppb	100
30) Vinyl Acetate	2.79	45	76202	9.16	ppb	100
32) MEK (2-Butanone)	3.41	43	2978	9.11	ppb	100
33) Cis-1,2-DCE	3.34	61	39383	9.13	ppb	100
34) 2,2-Dichloropropane	3.33	77	38504	10.10	ppb	100
37) Chloroform	3.84	83	49446	9.96	ppb	100
38) Bromochloromethane	3.66	130	20286	10.23	ppb	100
40) 1,1,1-TCA	4.07	97	41959	9.37	ppb	100
41) Cyclohexane	4.14	56	23859	9.43	ppb	100
42) 1,1-Dichloropropene	4.34	75	24451	9.30	ppb	100
43) 2,2,4-Trimethylpentane	4.83	57	46033	8.89	ppb	100
45) Carbon Tetrachloride	4.32	117	37954	9.83	ppb	100
48) 1,2-DCA	4.68	62	38301	9.72	ppb	100
49) Benzene	4.63	78	90250	9.59	ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : M:\LOKI\DATA\200121\0121L07.D Vial: 7
Acq On : 21 Jan 20 10:06 Operator:
Sample : 10ug/L VOC STD 1/21/20 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 21 13:12 2020 Quant Results File: L0121W.RES

Quant Method : M:\LOKI\DATA\200121\L0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 13:12:01 2020
Response via : Initial Calibration
DataAcq Meth : L8260

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
50)	TCE	5.56	130	27150	9.20	ppb		100
51)	2-Pentanone	5.88	43	141160	118.51	ppb		100
52)	1,2-Dichloropropane	5.83	63	25936	9.56	ppb		100
53)	Bromodichloromethane	6.22	83	40608	9.85	ppb		100
54)	Methyl Cyclohexane	5.78	83	23374	8.89	ppb		100
55)	Dibromomethane	5.97	174	23472	10.25	ppb		100
56)	2-Chloroethyl vinyl ether	6.55	63	35647	44.11	ppb	#	100
57)	MIBK (methyl isobutyl ket	7.01	43	17003	9.82	ppb		100
58)	1-Bromo-2-chloroethane	6.55	63	36544	9.81	ppb		100
59)	Cis-1,3-Dichloropropene	6.77	75	35994	9.58	ppb		100
60)	Toluene	7.14	91	100378	9.94	ppb		100
61)	Trans-1,3-Dichloropropene	7.45	75	32698	9.15	ppb		100
62)	1,1,2-TCA	7.63	97	25580	9.41	ppb		100
63)	2-Hexanone	7.98	43	6823	9.12	ppb		100
66)	1,2-EDB	8.14	107	24903	9.88	ppb		100
67)	Tetrachloroethene	7.77	166	33573	10.13	ppb		100
68)	1-Chlorohexane	8.77	91	23160	9.26	ppb		100
69)	1,1,1,2-Tetrachloroethane	8.83	131	32217	9.71	ppb		100
70)	m&p-Xylene	9.01	91	144561	18.03	ppb		100
71)	o-Xylene	9.43	91	72145	9.14	ppb		100
72)	Styrene	9.45	104	56637	8.67	ppb		100
74)	1,3-Dichloropropane	7.81	76	41553	10.06	ppb		100
75)	Dibromochloromethane	8.05	129	33285	9.90	ppb		100
76)	Chlorobenzene	8.71	112	73361	9.94	ppb		100
77)	Ethylbenzene	8.87	91	95394	9.11	ppb		100
78)	Bromoform	9.61	173	24800	9.93	ppb		100
80)	Isopropylbenzene	9.85	105	50640	9.36	ppb		100
81)	1,1,2,2-Tetrachloroethane	10.18	83	33348	10.01	ppb		100
82)	1,2,3-Trichloropropane	10.20	110	11235	10.31	ppb		100
83)	t-1,4-Dichloro-2-Butene	10.25	53	5506	9.47	ppb		100
84)	Bromobenzene	10.12	156	32896	9.91	ppb		100
85)	n-Propylbenzene	10.29	91	104713	9.58	ppb		100
86)	4-Ethyltoluene	10.43	105	87963	10.01	ppb		100
87)	2-Chlorotoluene	10.35	91	42532	9.87	ppb		100
88)	1,3,5-Trimethylbenzene	10.50	105	80066	9.21	ppb		100
89)	4-Chlorotoluene	10.47	91	45048	10.20	ppb		100
90)	Tert-Butylbenzene	10.84	119	65966	9.73	ppb		100
91)	1,2,4-Trimethylbenzene	10.89	105	73389	9.07	ppb		100
92)	Sec-Butylbenzene	11.08	105	92282	9.57	ppb		100
93)	p-Isopropyltoluene	11.25	119	86237	9.89	ppb		100
94)	Benzyl Chloride	11.41	91	27675	9.16	ppb		100
95)	1,3-DCB	11.15	146	58419	9.89	ppb		100
96)	1,4-DCB	11.26	146	63920	10.01	ppb		100
97)	n-Butylbenzene	11.68	91	66264	9.06	ppb		100
98)	1,2-DCB	11.64	146	55190	9.32	ppb		100
99)	Hexachloroethane	11.91	117	23349	10.99	ppb		100
100)	1,2-Dibromo-3-chloropropan	12.47	157	5759	9.28	ppb		100
101)	1,2,4-Trichlorobenzene	13.37	180	28711	8.89	ppb		100
102)	Hexachlorobutadiene	13.59	225	12650	9.59	ppb		100
103)	Naphthalene	13.62	128	38582	8.42	ppb		100
104)	1,2,3-Trichlorobenzene	13.89	182	15941	9.69	ppb		100

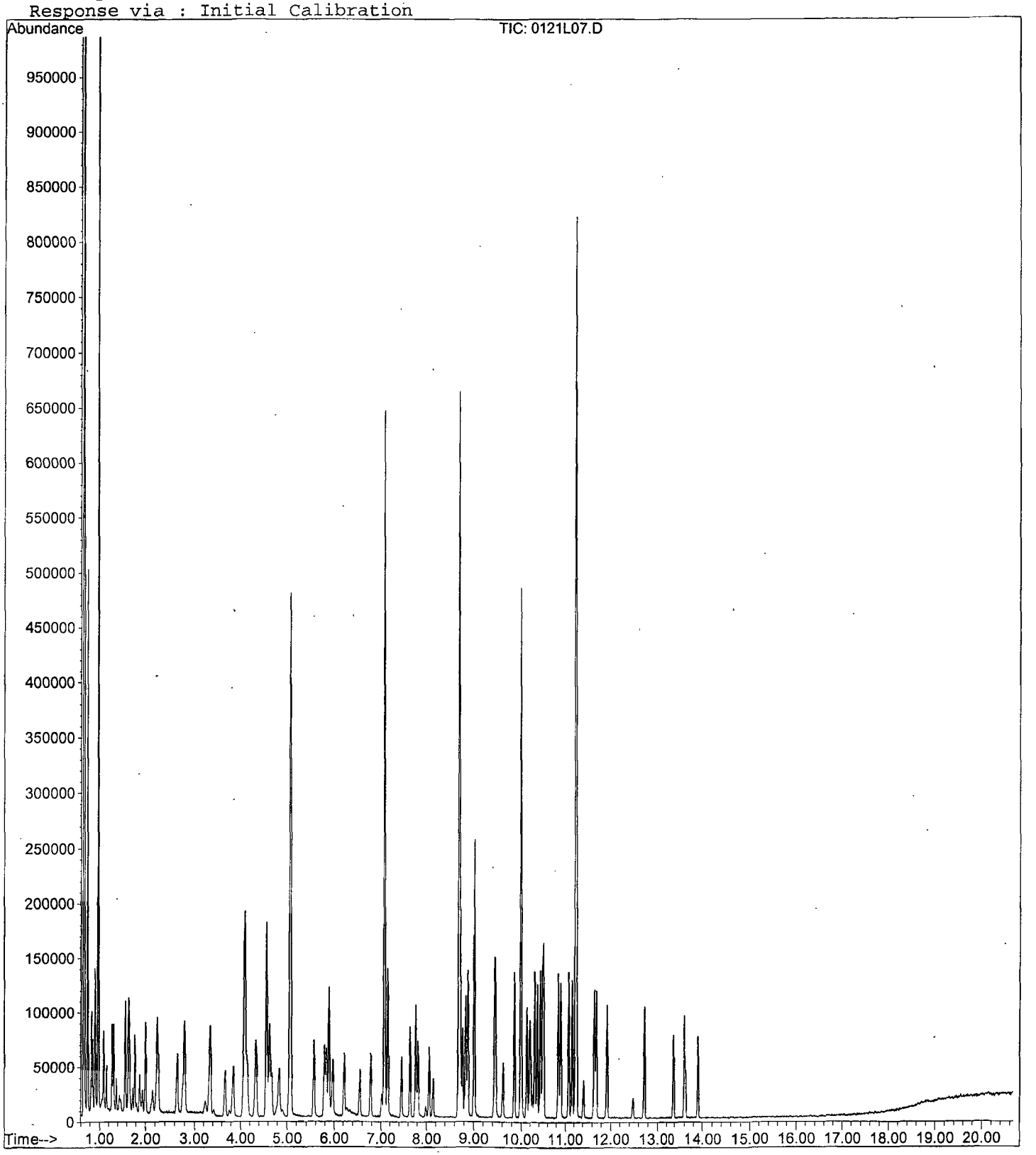
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LOKI\DATA\200121\0121L07.D Vial: 7
Acq On : 21 Jan 20 10:06 Operator:
Sample : 10ug/L VOC STD 1/21/20 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 21 13:12 2020 Quant Results File: L0121W.RES

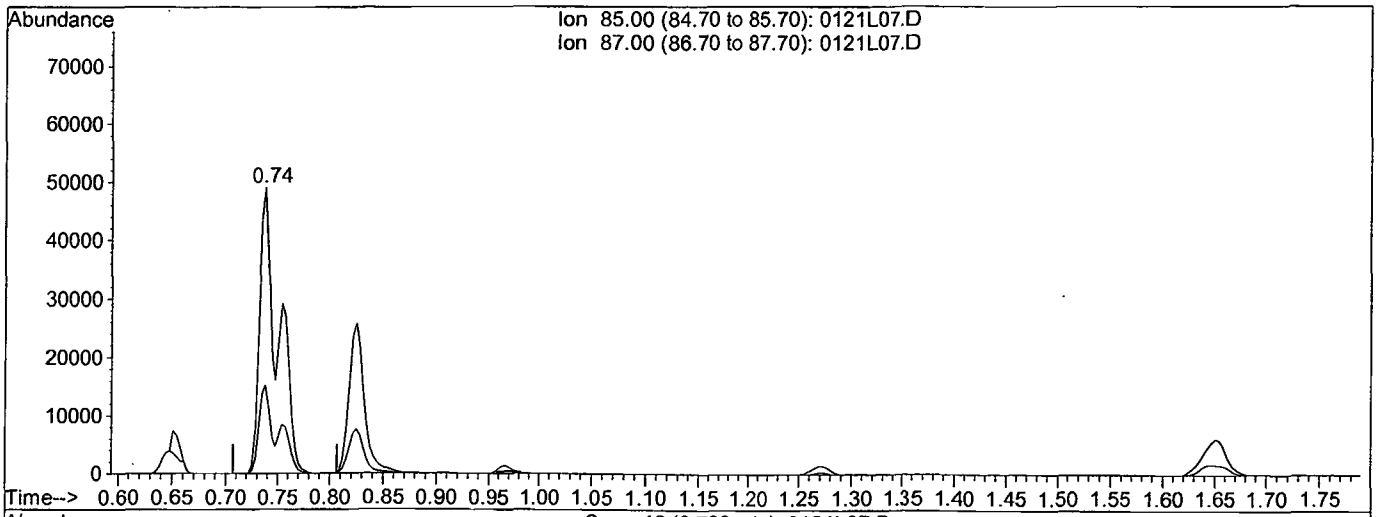
Method : M:\LOKI\DATA\200121\L0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 13:19:21 2020
Response via : Initial Calibration

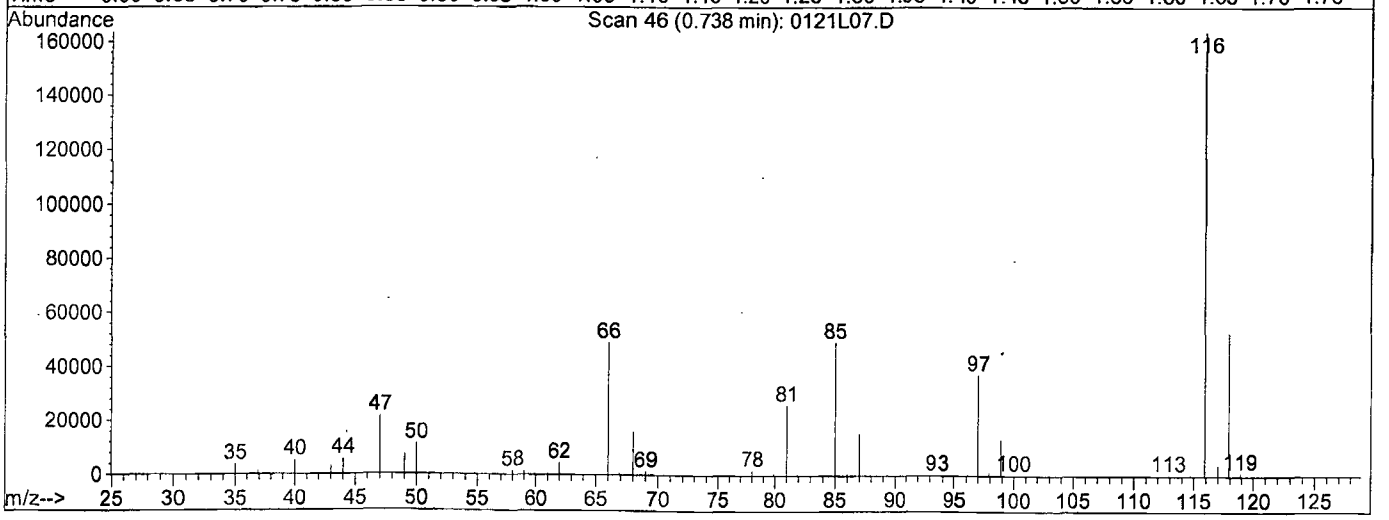


Quantitation Report

Data File : M:\LOKI\DATA\200121\0121L07.D Vial: 7
Acq On : 21 Jan 20 10:06 Operator:
Sample : 10ug/L VOC STD 1/21/20 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00
Quant Time: Jan 21 13:12 2020 Quant Results File: temp.res

Method : M:\LOKI\DATA\200121\L0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 13:12:01 2020
Response via : Multiple Level Calibration





TIC: 0121L07.D

(3) Dichlorodifluoromethane (TM)

0.74min 85.5435ppb

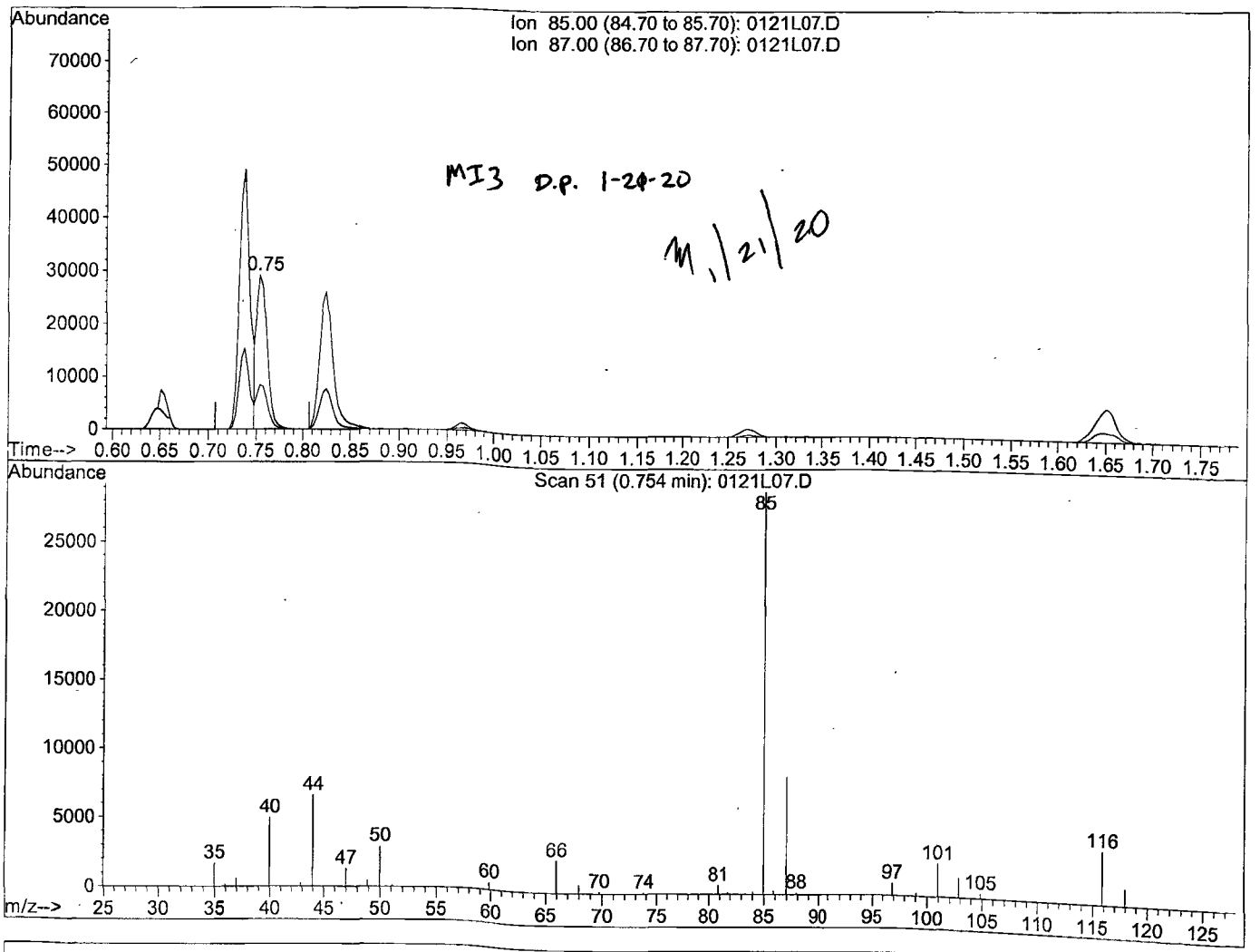
response 60626

Ion	Exp%	Act%
85.00	100	100
87.00	28.10	31.34
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report

Data File : M:\LOKI\DATA\200121\0121L07.D Vial: 7
Acq On : 21 Jan 20 10:06 Operator:
Sample : 10ug/L VOC STD 1/21/20 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00
Quant Time: Jan 21 13:12 2020 Quant Results File: temp.res

Method : M:\LOKI\DATA\200121\L0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 13:12:01 2020
Response via : Multiple Level Calibration



TIC: 0121L07.D

(3) Dichlorodifluoromethane (TM)

0.75min 6.6815ppb m

response 22028

Ion	Exp%	Act%
85.00	100	100
87.00	28.10	28.90
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\200121\0121L08.D Vial: 8
Acq On : 21 Jan 20 10:34 Operator:
Sample : 20ug/L VOC STD 1/21/20 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 21 13:14 2020 Quant Results File: L0121W.RES

Quant Method : M:\LOKI\DATA\200121\L0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 13:13:27 2020
Response via : Initial Calibration
DataAcq Meth : L8260

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Fluorobenzene (IS)	5.06	96	246144	25.00 ppb		0.00
64) Chlorobenzene-D5 (IS)	8.68	117	250496	25.00 ppb		0.00
79) 1,4-Dichlorobenzene-D (IS)	11.23	152	152384	25.00 ppb		0.00
System Monitoring Compounds						
39) Dibromofluoromethane(S)	4.09	111	274346	46.53 ppb		0.00
Spiked Amount 25.000			Recovery =	186.140%		
44) 1,2-DCA-D4(S)	4.56	65	330126	45.96 ppb		0.00
Spiked Amount 25.000			Recovery =	183.860%		
65) Toluene-D8(S)	7.07	98	1007384	49.56 ppb		0.00
Spiked Amount 25.000			Recovery =	198.224%		
73) 4-Bromofluorobenzene(S)	9.99	95	379841	53.94 ppb		0.00
Spiked Amount 25.000			Recovery =	215.772%		
Target Compounds						Qvalue
2) Chlorotrifluoroethene	0.74	116	149430	110.44 ppb		97
3) Dichlorodifluoromethane	0.75	85	47895	19.14 ppb		90
4) Freon 114	0.82	85	52790	19.52 ppb		92
5) Chloromethane	0.85	50	60072	21.61 ppb		95
6) Vinyl chloride	0.91	62	71192	18.54 ppb		98
7) 2-Chloro-1,1,1-trifluoroet	0.97	118	430374	110.17 ppb		100
8) Bromomethane	1.08	94	48384	21.07 ppb		97
9) Chloroethane	1.15	64	36634	20.33 ppb		96
10) Dichlorofluoromethane	1.27	67	102202	17.96 ppb		96
11) Trichlorofluoromethane	1.30	101	91544	18.72 ppb		98
12) Diethyl ether	1.94	74	10322	18.24 ppb		98
13) Acrolein	1.57	56	49560	144.36 ppb		86
14) Acetone	1.68	43	16416	18.86 ppb		98
15) Freon-113	1.65	101	48666	17.81 ppb		97
16) 1,1-DCE	1.63	61	73636	17.58 ppb		96
17) t-Butanol	2.16	59	30724	152.96 ppb		89
19) Acetonitrile	1.88	41	45721	124.16 ppb		91
20) Methyl Acetate	1.94	43	42015	17.32 ppb		98
21) Iodomethane	1.73	142	38630	16.17 ppb		96
22) Acrylonitrile	2.21	53	23056	18.47 ppb		95
23) Methylene chloride	2.00	84	60988	19.56 ppb		94
24) Carbon disulfide	1.77	76	108384	19.39 ppb		98
25) Methyl t-butyl ether (MtBE	2.26	73	87389	19.59 ppb		98
26) Trans-1,2-DCE	2.24	61	75784	18.41 ppb		94
27) Diisopropyl Ether	2.79	45	159410	17.79 ppb		98
29) 1,1-DCA	2.64	63	104281	18.27 ppb		97
30) Vinyl Acetate	2.79	45	159410	17.79 ppb		98
32) MEK (2-Butanone)	3.42	43	6639	17.80 ppb		98
33) Cis-1,2-DCE	3.34	61	81242	17.48 ppb		92
34) 2,2-Dichloropropane	3.33	77	78507	19.81 ppb		98
37) Chloroform	3.84	83	101594	19.01 ppb		98
38) Bromochloromethane	3.67	130	40987	19.19 ppb		84
40) 1,1,1-TCA	4.07	97	85205	17.67 ppb		95
41) Cyclohexane	4.14	56	50572	18.57 ppb	#	86
42) 1,1-Dichloropropene	4.34	75	54955	19.41 ppb		97
43) 2,2,4-Trimethylpentane	4.83	57	108012	19.36 ppb		95
45) Carbon Tetrachloride	4.32	117	78172	18.79 ppb		97
48) 1,2-DCA	4.67	62	81663	19.25 ppb		97
49) Benzene	4.63	78	192952	19.03 ppb		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\200121\0121L08.D Vial: 8
Acq On : 21 Jan 20 10:34 Operator:
Sample : 20ug/L VOC STD 1/21/20 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 21 13:14 2020 Quant Results File: L0121W.RES

Quant Method : M:\LOKI\DATA\200121\L0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 13:13:27 2020
Response via : Initial Calibration
DataAcq Meth : L8260

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
50)	TCE	5.56	130	58444	18.39	ppb		95
51)	2-Pentanone	5.88	43	194951	151.96	ppb		93
52)	1,2-Dichloropropane	5.83	63	55360	18.95	ppb		92
53)	Bromodichloromethane	6.22	83	81401	18.33	ppb		97
54)	Methyl Cyclohexane	5.79	83	52559	18.57	ppb		97
55)	Dibromomethane	5.97	174	48908	19.83	ppb		93
56)	2-Chloroethyl vinyl ether	6.55	63	75878	60.69	ppb	#	100
57)	MIBK (methyl isobutyl ket	7.01	43	39477	21.17	ppb		91
58)	1-Bromo-2-chloroethane	6.55	63	78615	19.59	ppb		98
59)	Cis-1,3-Dichloropropene	6.77	75	80038	19.78	ppb		98
60)	Toluene	7.15	91	223908	20.58	ppb		100
61)	Trans-1,3-Dichloropropene	7.45	75	76043	18.77	ppb		98
62)	1,1,2-TCA	7.63	97	56997	19.48	ppb		97
63)	2-Hexanone	7.98	43	16325	17.25	ppb		98
66)	1,2-EDB	8.14	107	54052	19.60	ppb		91
67)	Tetrachloroethene	7.76	166	67533	18.64	ppb		97
68)	1-Chlorohexane	8.76	91	52399	19.15	ppb		92
69)	1,1,1,2-Tetrachloroethane	8.82	131	68200	18.80	ppb		95
70)	m&p-Xylene	9.01	91	344362	35.16	ppb		97
71)	o-Xylene	9.43	91	168483	17.42	ppb		98
72)	Styrene	9.45	104	141300	17.09	ppb		94
74)	1,3-Dichloropropane	7.81	76	89371	19.78	ppb		98
75)	Dibromochloromethane	8.05	129	69903	19.01	ppb		96
76)	Chlorobenzene	8.72	112	151131	18.72	ppb		100
77)	Ethylbenzene	8.87	91	224007	19.56	ppb		96
78)	Bromoform	9.61	173	53708	19.67	ppb		91
80)	Isopropylbenzene	9.85	105	117736	18.66	ppb		100
81)	1,1,2,2-Tetrachloroethane	10.18	83	69315	17.85	ppb		96
82)	1,2,3-Trichloropropane	10.20	110	23329	18.36	ppb		98
83)	t-1,4-Dichloro-2-Butene	10.24	53	13583	18.76	ppb		90
84)	Bromobenzene	10.12	156	71917	18.57	ppb		97
85)	n-Propylbenzene	10.29	91	249409	19.57	ppb		98
86)	4-Ethyltoluene	10.43	105	214418	20.92	ppb		94
87)	2-Chlorotoluene	10.35	91	99900	19.89	ppb		97
88)	1,3,5-Trimethylbenzene	10.50	105	202073	18.66	ppb		99
89)	4-Chlorotoluene	10.47	91	111000	21.56	ppb		97
90)	Tert-Butylbenzene	10.84	119	152309	19.26	ppb		99
91)	1,2,4-Trimethylbenzene	10.89	105	182214	17.45	ppb		98
92)	Sec-Butylbenzene	11.08	105	230638	20.51	ppb		95
93)	p-Isopropyltoluene	11.25	119	213243	20.98	ppb		100
94)	Benzyl Chloride	11.41	91	69321	19.67	ppb		96
95)	1,3-DCB	11.15	146	133270	19.35	ppb		97
96)	1,4-DCB	11.25	146	142057	19.09	ppb		97
97)	n-Butylbenzene	11.68	91	164138	19.24	ppb		99
98)	1,2-DCB	11.64	146	125651	18.20	ppb		97
99)	Hexachloroethane	11.91	117	49478	20.75	ppb	#	85
100)	1,2-Dibromo-3-chloropropan	12.47	157	14243	18.59	ppb	#	75
101)	1,2,4-Trichlorobenzene	13.37	180	68130	18.09	ppb		85
102)	Hexachlorobutadiene	13.59	225	26992	17.55	ppb	#	90
103)	Naphthalene	13.62	128	105019	18.22	ppb		96
104)	1,2,3-Trichlorobenzene	13.89	182	36664	16.67	ppb		91

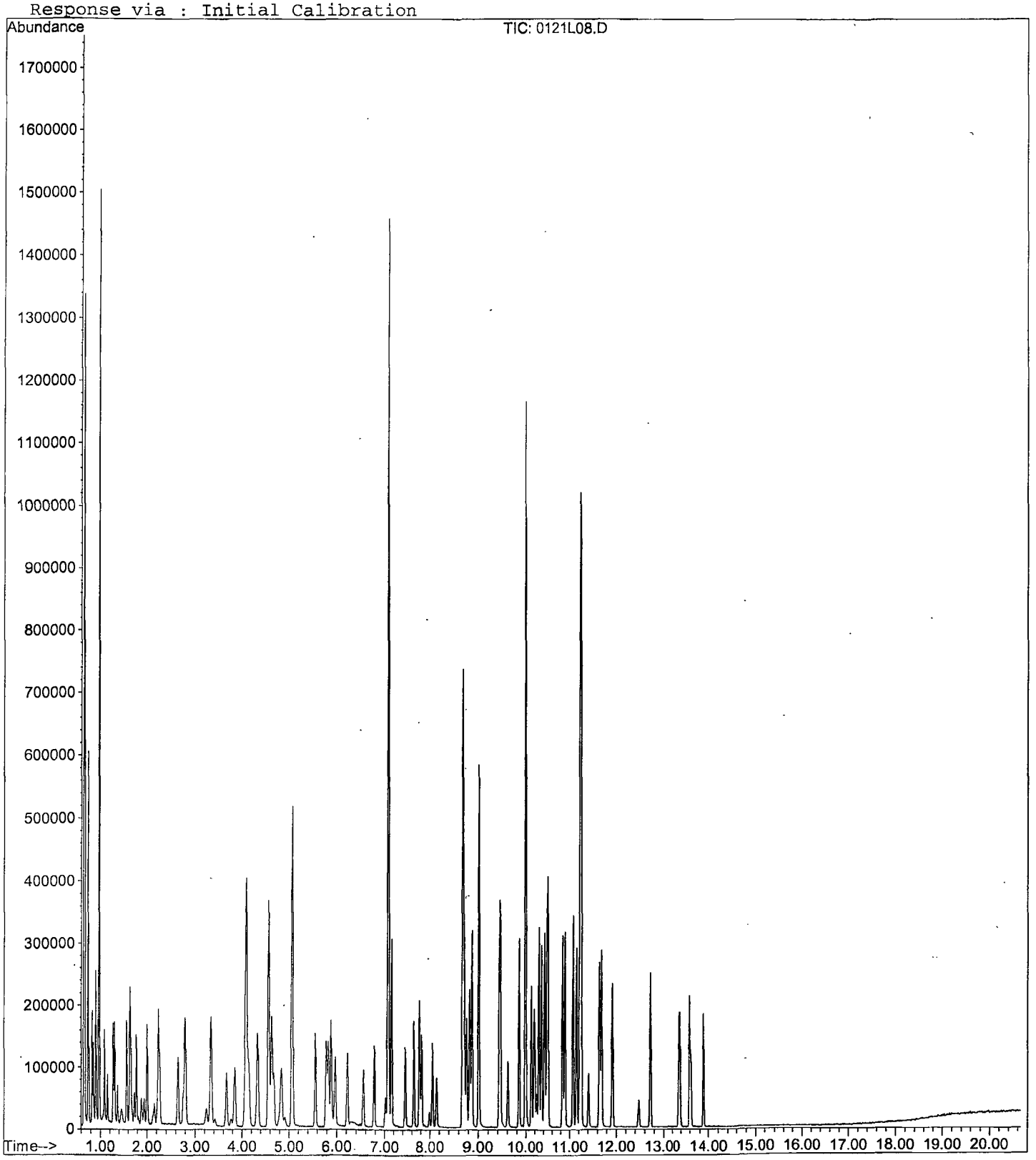
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LOKI\DATA\200121\0121L08.D Vial: 8
Acq On : 21 Jan 20 10:34 Operator:
Sample : 20ug/L VOC STD 1/21/20 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 21 13:14 2020 Quant Results File: L0121W.RES

Method : M:\LOKI\DATA\200121\L0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 13:19:21 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\200121\0121L09.D Vial: 9
Acq On : 21 Jan 20 11:03 Operator:
Sample : 40ug/L VOC STD 1/21/20 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 21 13:14 2020 Quant Results File: L0121W.RES

Quant Method : M:\LOKI\DATA\200121\L0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 13:13:27 2020
Response via : Initial Calibration
DataAcq Meth : L8260

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene (IS)	5.06	96	234688	25.00	ppb		0.00
64) Chlorobenzene-D5 (IS)	8.68	117	243456	25.00	ppb		0.00
79) 1,4-Dichlorobenzene-D (IS)	11.23	152	155072	25.00	ppb		0.00
System Monitoring Compounds							
39) Dibromofluoromethane(S)	4.09	111	269026	47.86	ppb		0.00
Spiked Amount 25.000			Recovery = 191.440%				
44) 1,2-DCA-D4(S)	4.56	65	328897	48.03	ppb		0.00
Spiked Amount 25.000			Recovery = 192.116%				
65) Toluene-D8(S)	7.07	98	1025267	51.89	ppb		0.00
Spiked Amount 25.000			Recovery = 207.576%				
73) 4-Bromofluorobenzene(S)	9.99	95	390041	56.99	ppb		0.00
Spiked Amount 25.000			Recovery = 227.972%				
Target Compounds							Qvalue
2) Chlorotrifluoroethene	0.74	116	176105	136.51	ppb		97
3) Dichlorodifluoromethane	0.75	85	99754	42.22	ppb		93
4) Freon 114	0.82	85	102061	39.85	ppb		91
5) Chloromethane	0.85	50	110281	43.26	ppb		96
6) Vinyl chloride	0.91	62	144704	39.53	ppb		97
7) 2-Chloro-1,1,1-trifluoroet	0.97	118	496608	133.34	ppb		100
8) Bromomethane	1.08	94	89719	42.74	ppb		98
9) Chloroethane	1.14	64	69027	41.30	ppb		97
10) Dichlorofluoromethane	1.27	67	198848	36.66	ppb		98
11) Trichlorofluoromethane	1.30	101	170952	36.67	ppb		95
12) Diethyl ether	1.94	74	20906	37.80	ppb		96
13) Acrolein	1.56	56	61848	188.94	ppb	#	40
14) Acetone	1.68	43	30110	37.91	ppb		92
15) Freon-113	1.65	101	98465	37.79	ppb		98
16) 1,1-DCE	1.63	61	149646	37.47	ppb		97
17) t-Butanol	2.15	59	49146	206.18	ppb		97
19) Acetonitrile	1.88	41	57248	163.05	ppb		96
20) Methyl Acetate	1.94	43	85229	36.85	ppb		99
21) Iodomethane	1.73	142	92891	37.01	ppb		98
22) Acrylonitrile	2.21	53	44415	37.32	ppb		97
23) Methylene chloride	2.00	84	121696	41.68	ppb		97
24) Carbon disulfide	1.77	76	217088	41.50	ppb		99
25) Methyl t-butyl ether (MtBE	2.26	73	177357	41.70	ppb		99
26) Trans-1,2-DCE	2.24	61	151647	38.64	ppb		95
27) Diisopropyl Ether	2.79	45	324724	38.01	ppb		99
29) 1,1-DCA	2.64	63	201885	37.09	ppb		100
30) Vinyl Acetate	2.79	45	324724	38.01	ppb		99
32) MEK (2-Butanone)	3.42	43	13330	36.40	ppb		88
33) Cis-1,2-DCE	3.34	61	156101	35.24	ppb		94
34) 2,2-Dichloropropane	3.33	77	150505	40.63	ppb		98
37) Chloroform	3.84	83	200884	39.42	ppb		100
38) Bromochloromethane	3.67	130	81152	39.86	ppb		82
40) 1,1,1-TCA	4.07	97	168791	36.71	ppb		97
41) Cyclohexane	4.14	56	106774	41.11	ppb		90
42) 1,1-Dichloropropene	4.34	75	114671	42.48	ppb		98
43) 2,2,4-Trimethylpentane	4.83	57	223788	42.07	ppb		95
45) Carbon Tetrachloride	4.32	117	149071	37.59	ppb		89
48) 1,2-DCA	4.67	62	161264	39.87	ppb		97
49) Benzene	4.63	78	390236	40.36	ppb		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\200121\0121L09.D Vial: 9
Acq On : 21 Jan 20 11:03 Operator:
Sample : 40ug/L VOC STD 1/21/20 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 21 13:14 2020 Quant Results File: L0121W.RES

Quant Method : M:\LOKI\DATA\200121\L0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 13:13:27 2020
Response via : Initial Calibration
DataAcq Meth : L8260

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
50)	TCE	5.56	130	120891	39.89	ppb		96
51)	2-Pentanone	5.88	43	250512	204.80	ppb		95
52)	1,2-Dichloropropane	5.83	63	111972	40.19	ppb		89
53)	Bromodichloromethane	6.21	83	164066	38.76	ppb		96
54)	Methyl Cyclohexane	5.78	83	114645	42.48	ppb		95
55)	Dibromomethane	5.97	174	96056	40.84	ppb		91
56)	2-Chloroethyl vinyl ether	6.54	63	153419	98.28	ppb	#	100
57)	MIBK (methyl isobutyl ket	7.01	43	74543	41.92	ppb		92
58)	1-Bromo-2-chloroethane	6.54	63	157882	41.26	ppb		93
59)	Cis-1,3-Dichloropropene	6.77	75	165978	43.02	ppb		98
60)	Toluene	7.14	91	457189	44.08	ppb		99
61)	Trans-1,3-Dichloropropene	7.45	75	159000	40.17	ppb		99
62)	1,1,2-TCA	7.63	97	113609	40.72	ppb		97
63)	2-Hexanone	7.98	43	34107	34.86	ppb		93
66)	1,2-EDB	8.14	107	111081	41.45	ppb		100
67)	Tetrachloroethene	7.76	166	137892	39.15	ppb		95
68)	1-Chlorohexane	8.76	91	115131	43.30	ppb		97
69)	1,1,1,2-Tetrachloroethane	8.82	131	135722	38.49	ppb		97
70)	m&p-Xylene	9.01	91	768550	76.19	ppb		96
71)	o-Xylene	9.43	91	372119	37.25	ppb		96
72)	Styrene	9.45	104	328040	37.90	ppb		95
74)	1,3-Dichloropropane	7.81	76	185616	42.27	ppb		98
75)	Dibromochloromethane	8.05	129	142670	39.92	ppb		97
76)	Chlorobenzene	8.72	112	314155	40.04	ppb		98
77)	Ethylbenzene	8.87	91	489821	44.01	ppb		96
78)	Bromoform	9.61	173	106430	40.11	ppb		90
80)	Isopropylbenzene	9.85	105	270784	42.18	ppb		99
81)	1,1,2,2-Tetrachloroethane	10.18	83	144310	36.51	ppb		98
82)	1,2,3-Trichloropropane	10.20	110	49665	38.41	ppb		92
83)	t-1,4-Dichloro-2-Butene	10.24	53	29660	38.95	ppb		93
84)	Bromobenzene	10.12	156	152314	38.65	ppb		97
85)	n-Propylbenzene	10.29	91	565454	43.60	ppb		98
86)	4-Ethyltoluene	10.42	105	487541	46.75	ppb		95
87)	2-Chlorotoluene	10.35	91	226066	44.22	ppb		98
88)	1,3,5-Trimethylbenzene	10.50	105	457218	40.17	ppb		98
89)	4-Chlorotoluene	10.47	91	238362	45.50	ppb		94
90)	Tert-Butylbenzene	10.84	119	341432	42.43	ppb		97
91)	1,2,4-Trimethylbenzene	10.89	105	438440	39.03	ppb		95
92)	Sec-Butylbenzene	11.08	105	523050	45.72	ppb		95
93)	p-Isopropyltoluene	11.25	119	473484	45.77	ppb		99
94)	Benzyl Chloride	11.41	91	140578	39.21	ppb		99
95)	1,3-DCB	11.15	146	284897	40.65	ppb		97
96)	1,4-DCB	11.25	146	292099	38.57	ppb		95
97)	n-Butylbenzene	11.68	91	385110	44.35	ppb		98
98)	1,2-DCB	11.64	146	262728	37.39	ppb		97
99)	Hexachloroethane	11.91	117	95447	40.20	ppb	#	89
100)	1,2-Dibromo-3-chloropropan	12.47	157	30899	38.55	ppb	#	77
101)	1,2,4-Trichlorobenzene	13.37	180	153880	40.15	ppb		90
102)	Hexachlorobutadiene	13.59	225	55840	35.68	ppb		93
103)	Naphthalene	13.62	128	250801	41.31	ppb		97
104)	1,2,3-Trichlorobenzene	13.89	182	81400	33.41	ppb		90

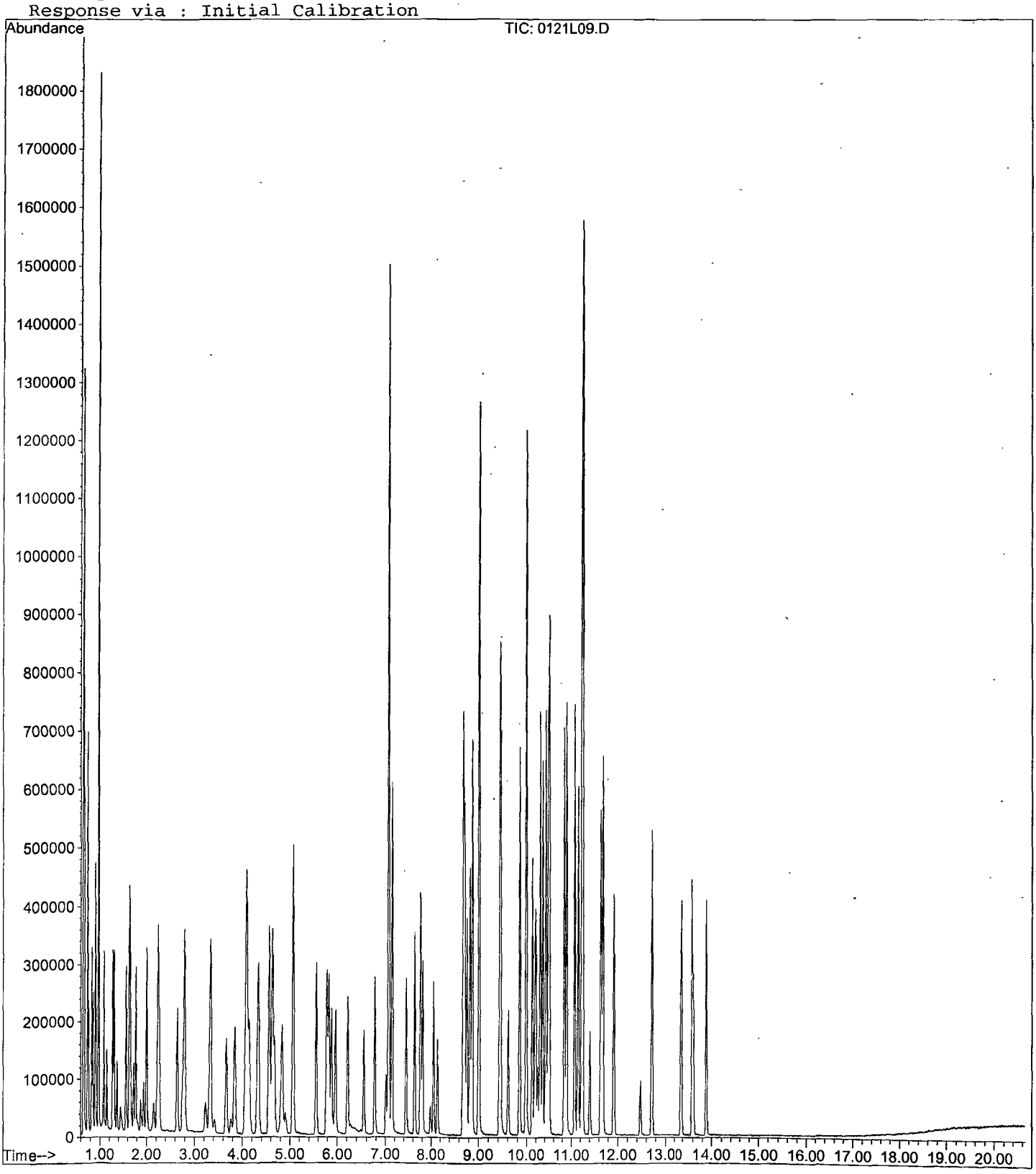
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LOKI\DATA\200121\0121L09.D Vial: 9
Acq On : 21 Jan 20 11:03 Operator:
Sample : 40ug/L VOC STD 1/21/20 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 21 13:14 2020 Quant Results File: L0121W.RES

Method : M:\LOKI\DATA\200121\L0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 13:19:21 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\200121\0121L10.D Vial: 10
Acq On : 21 Jan 20 11:32 Operator:
Sample : 100ug/L VOC STD 1/21/20 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 21 13:14 2020 Quant Results File: L0121W.RES

Quant Method : M:\LOKI\DATA\200121\L0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 13:13:27 2020
Response via : Initial Calibration
DataAcq Meth : L8260

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene (IS)	5.06	96	260032	25.00	ppb		0.00
64) Chlorobenzene-D5 (IS)	8.68	117	263040	25.00	ppb		0.00
79) 1,4-Dichlorobenzene-D (IS)	11.23	152	175744	25.00	ppb		0.00
System Monitoring Compounds							
39) Dibromofluoromethane(S)	4.09	111	540308	86.75	ppb		0.00
Spiked Amount 25.000			Recovery = 347.012%				
44) 1,2-DCA-D4(S)	4.56	65	657131	86.61	ppb		0.00
Spiked Amount 25.000			Recovery = 346.432%				
65) Toluene-D8(S)	7.07	98	2129931	99.78	ppb		0.00
Spiked Amount 25.000			Recovery = 399.124%				
73) 4-Bromofluorobenzene(S)	9.99	95	831989	112.52	ppb		0.00
Spiked Amount 25.000			Recovery = 450.076%				
Target Compounds							Qvalue
2) Chlorotrifluoroethene	0.73	116	221193	154.75	ppb		100
3) Dichlorodifluoromethane	0.75	85	258904	99.36	ppb		89
4) Freon 114	0.82	85	283007	100.14	ppb		92
5) Chloromethane	0.85	50	271720	98.40	ppb		94
6) Vinyl chloride	0.91	62	366400	90.34	ppb		97
7) 2-Chloro-1,1,1-trifluoroet	0.97	118	621722	150.66	ppb		98
8) Bromomethane	1.08	94	224049	98.67	ppb		97
9) Chloroethane	1.13	64	181066	99.34	ppb		99
10) Dichlorofluoromethane	1.27	67	532413	88.59	ppb		98
11) Trichlorofluoromethane	1.29	101	449353	87.00	ppb		98
12) Diethyl ether	1.94	74	62922	101.22	ppb		99
13) Acrolein	1.56	56	81120	223.66	ppb	#	1
14) Acetone	1.68	43	86461	101.05	ppb		97
15) Freon-113	1.64	101	259332	89.83	ppb		97
16) 1,1-DCE	1.63	61	401752	90.80	ppb		97
17) t-Butanol	2.16	59	106430	298.59	ppb		96
19) Acetonitrile	1.88	41	78877	202.76	ppb		96
20) Methyl Acetate	1.94	43	262512	102.43	ppb		97
21) Iodomethane	1.73	142	296650	102.00	ppb		94
22) Acrylonitrile	2.21	53	126794	96.14	ppb		98
23) Methylene chloride	2.00	84	318638	99.41	ppb		95
24) Carbon disulfide	1.77	76	571328	99.51	ppb		99
25) Methyl t-butyl ether (MtBE	2.27	73	527297	111.89	ppb		98
26) Trans-1,2-DCE	2.23	61	403157	92.72	ppb		93
27) Diisopropyl Ether	2.79	45	876843	92.63	ppb		96
29) 1,1-DCA	2.64	63	535790	88.83	ppb		99
30) Vinyl Acetate	2.79	45	876843	92.63	ppb		96
32) MEK (2-Butanone)	3.41	43	42086	101.90	ppb		97
33) Cis-1,2-DCE	3.34	61	428361	87.27	ppb		89
34) 2,2-Dichloropropane	3.32	77	404954	99.77	ppb		96
37) Chloroform	3.84	83	537105	95.12	ppb		99
38) Bromochloromethane	3.66	130	202353	89.70	ppb		90
40) 1,1,1-TCA	4.07	97	446399	87.62	ppb		96
41) Cyclohexane	4.14	56	337236	117.20	ppb		90
42) 1,1-Dichloropropene	4.34	75	334366	111.79	ppb		95
43) 2,2,4-Trimethylpentane	4.83	57	709262	120.35	ppb		91
45) Carbon Tetrachloride	4.32	117	409671	93.24	ppb		89
48) 1,2-DCA	4.67	62	422958	94.37	ppb		98
49) Benzene	4.63	78	1071323	100.00	ppb		100

(#) = qualifier out of range (m) = manual integration

Data File : M:\LOKI\DATA\200121\0121L10.D Vial: 10
Acq On : 21 Jan 20 11:32 Operator:
Sample : 100ug/L VOC STD 1/21/20 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 21 13:14 2020 Quant Results File: L0121W.RES

Quant Method : M:\LOKI\DATA\200121\L0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 13:13:27 2020
Response via : Initial Calibration
DataAcq Meth : L8260

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
50)	TCE	5.56	130	327001	97.37	ppb		98
51)	2-Pentanone	5.88	43	348412	257.08	ppb		90
52)	1,2-Dichloropropane	5.83	63	300071	97.21	ppb		86
53)	Bromodichloromethane	6.21	83	436626	93.09	ppb		96
54)	Methyl Cyclohexane	5.78	83	369244	123.50	ppb		91
55)	Dibromomethane	5.97	174	255018	97.87	ppb		96
56)	2-Chloroethyl vinyl ether	6.54	63	418134	202.13	ppb	#	100
57)	MIBK (methyl isobutyl ket	7.01	43	224708	114.04	ppb		96
58)	1-Bromo-2-chloroethane	6.54	63	424556	100.13	ppb		97
59)	Cis-1,3-Dichloropropene	6.77	75	476053	111.36	ppb		99
60)	Toluene	7.14	91	1261577	109.78	ppb		100
61)	Trans-1,3-Dichloropropene	7.45	75	445257	100.25	ppb		97
62)	1,1,2-TCA	7.63	97	294882	95.39	ppb		98
63)	2-Hexanone	7.98	43	116846	102.62	ppb		99
66)	1,2-EDB	8.14	107	308912	106.70	ppb		99
67)	Tetrachloroethene	7.76	166	379017	99.60	ppb		96
68)	1-Chlorohexane	8.76	91	370758	129.06	ppb		95
69)	1,1,1,2-Tetrachloroethane	8.82	131	361374	94.84	ppb		94
70)	m&p-Xylene	9.01	91	2274672	202.61	ppb		96
71)	o-Xylene	9.43	91	1133391	101.65	ppb		97
72)	Styrene	9.45	104	983913	101.50	ppb		96
74)	1,3-Dichloropropane	7.81	76	504424	106.31	ppb		98
75)	Dibromochloromethane	8.05	129	379016	98.14	ppb		97
76)	Chlorobenzene	8.72	112	865474	102.10	ppb		99
77)	Ethylbenzene	8.87	91	1441547	119.88	ppb		97
78)	Bromoform	9.61	173	290278	101.24	ppb		93
80)	Isopropylbenzene	9.85	105	883008	121.36	ppb		99
81)	1,1,2,2-Tetrachloroethane	10.18	83	381169	85.10	ppb		98
82)	1,2,3-Trichloropropane	10.20	110	135509	92.46	ppb		91
83)	t-1,4-Dichloro-2-Butene	10.24	53	88508	100.70	ppb		99
84)	Bromobenzene	10.12	156	421916	94.48	ppb		99
85)	n-Propylbenzene	10.29	91	1740023	118.39	ppb		98
86)	4-Ethyltoluene	10.42	105	1470695	124.43	ppb		96
87)	2-Chlorotoluene	10.35	91	640189	110.51	ppb		98
88)	1,3,5-Trimethylbenzene	10.50	105	1315229	100.28	ppb		99
89)	4-Chlorotoluene	10.47	91	691298	116.43	ppb		93
90)	Tert-Butylbenzene	10.84	119	1072909	117.65	ppb		98
91)	1,2,4-Trimethylbenzene	10.89	105	1320130	100.97	ppb		95
92)	Sec-Butylbenzene	11.08	105	1604715	123.76	ppb		97
93)	p-Isopropyltoluene	11.25	119	1443758	123.14	ppb		100
94)	Benzyl Chloride	11.41	91	444502	109.39	ppb		99
95)	1,3-DCB	11.15	146	792367	99.77	ppb		97
96)	1,4-DCB	11.25	146	813413	94.76	ppb		97
97)	n-Butylbenzene	11.68	91	1236941	125.70	ppb		97
98)	1,2-DCB	11.64	146	761423	95.61	ppb		97
99)	Hexachloroethane	11.91	117	264531	99.69	ppb	#	89
100)	1,2-Dibromo-3-chloropropan	12.47	157	93109	100.91	ppb	#	83
101)	1,2,4-Trichlorobenzene	13.37	180	528091	121.57	ppb		87
102)	Hexachlorobutadiene	13.59	225	174080	98.14	ppb		94
103)	Naphthalene	13.62	128	1025371	146.21	ppb		98
104)	1,2,3-Trichlorobenzene	13.88	182	300736	103.24	ppb		90

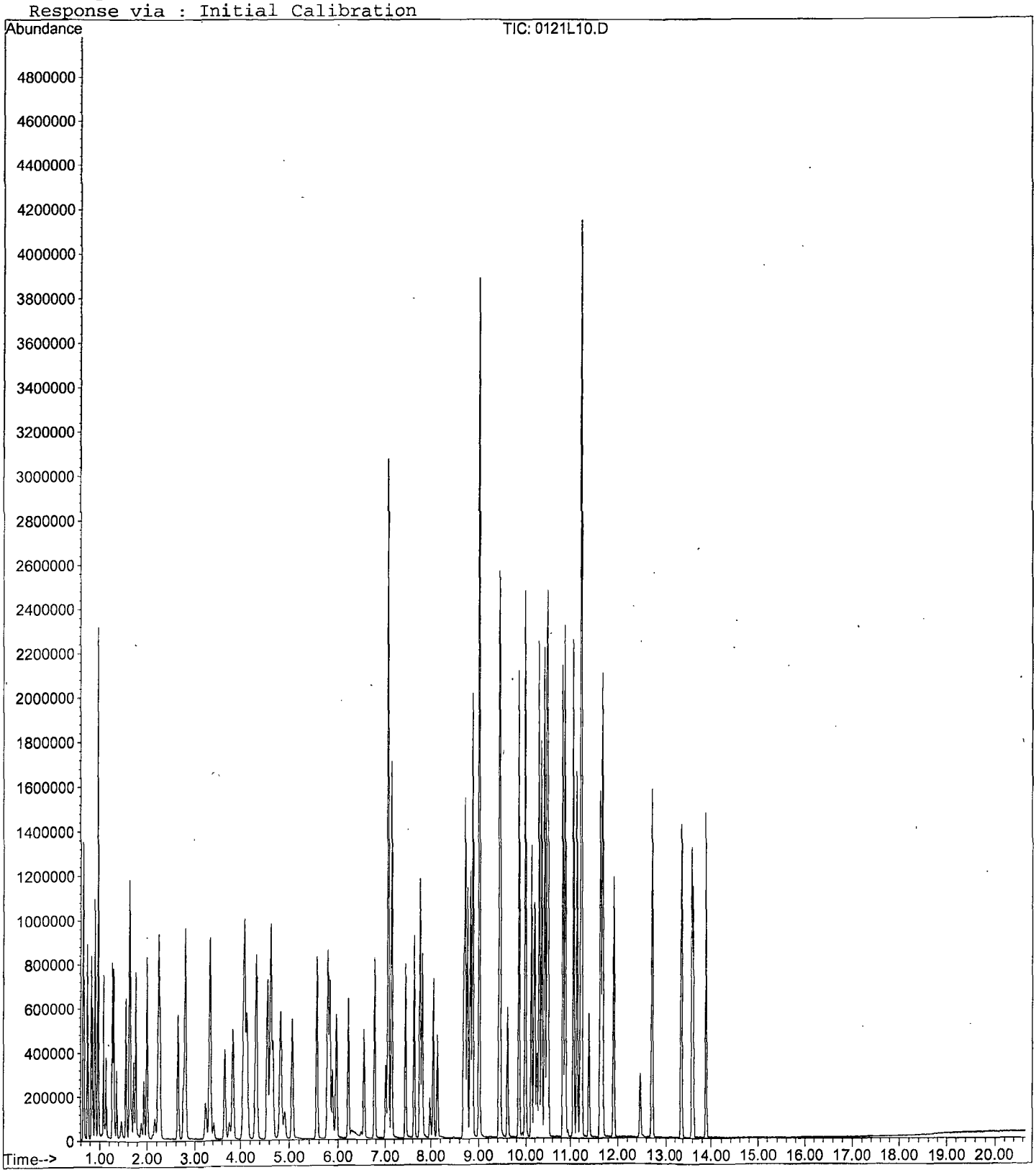
(#) = qualifier out of range (m) = manual integration

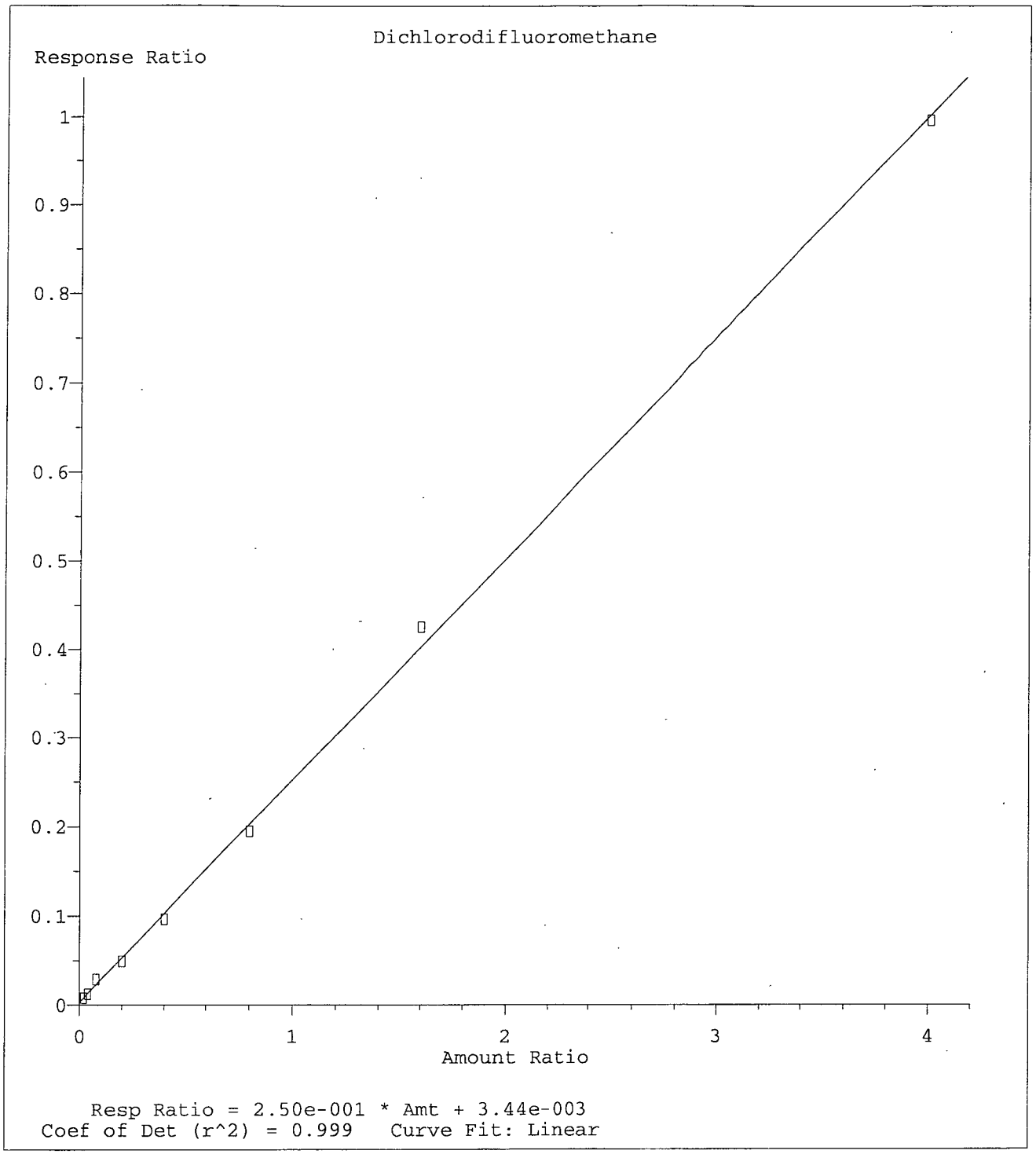
Quantitation Report

Data File : M:\LOKI\DATA\200121\0121L10.D Vial: 10
Acq On : 21 Jan 20 11:32 Operator:
Sample : 100ug/L VOC STD 1/21/20 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

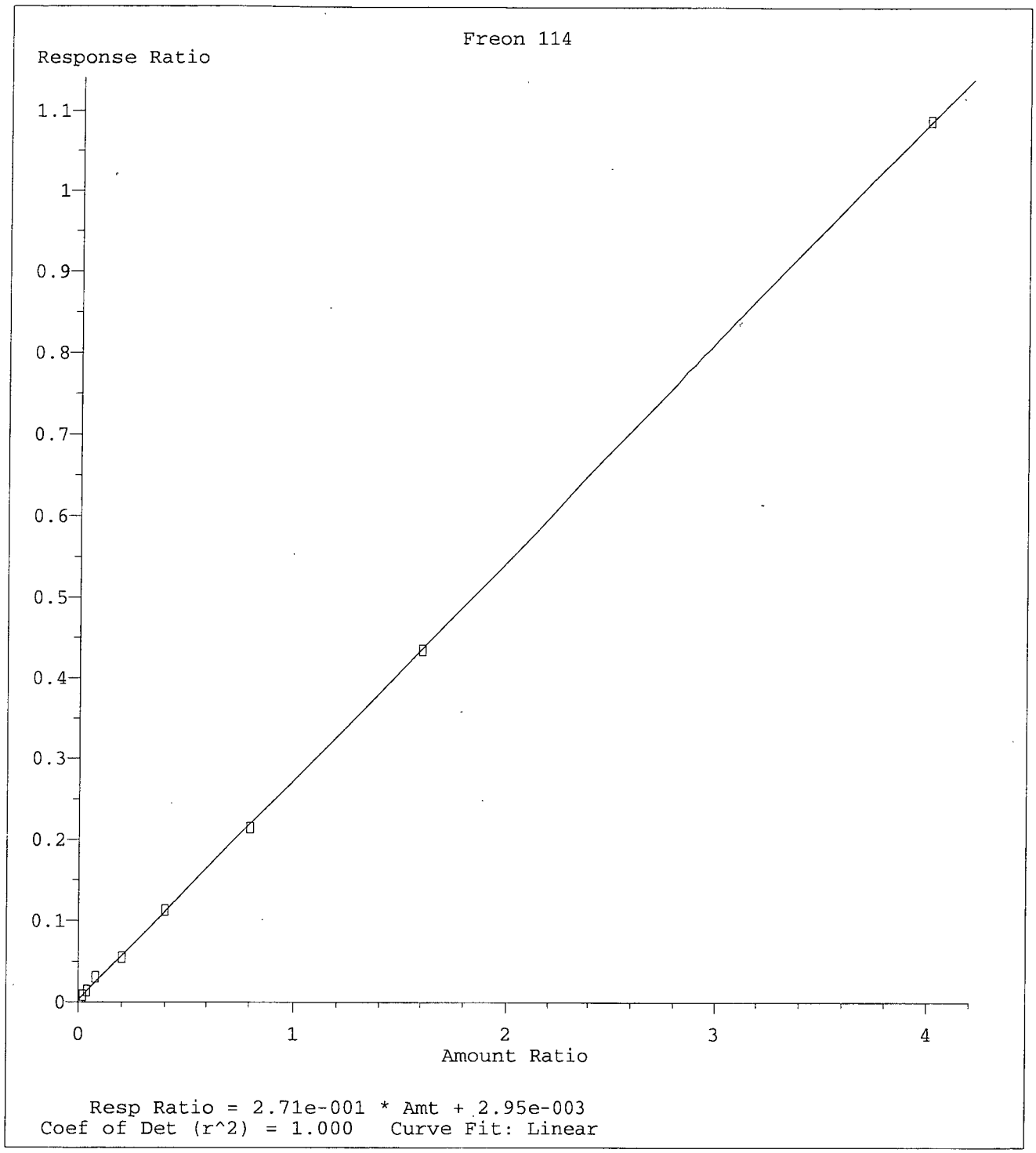
Quant Time: Jan 21 13:14 2020 Quant Results File: L0121W.RES

Method : M:\LOKI\DATA\200121\L0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 13:19:21 2020
Response via : Initial Calibration

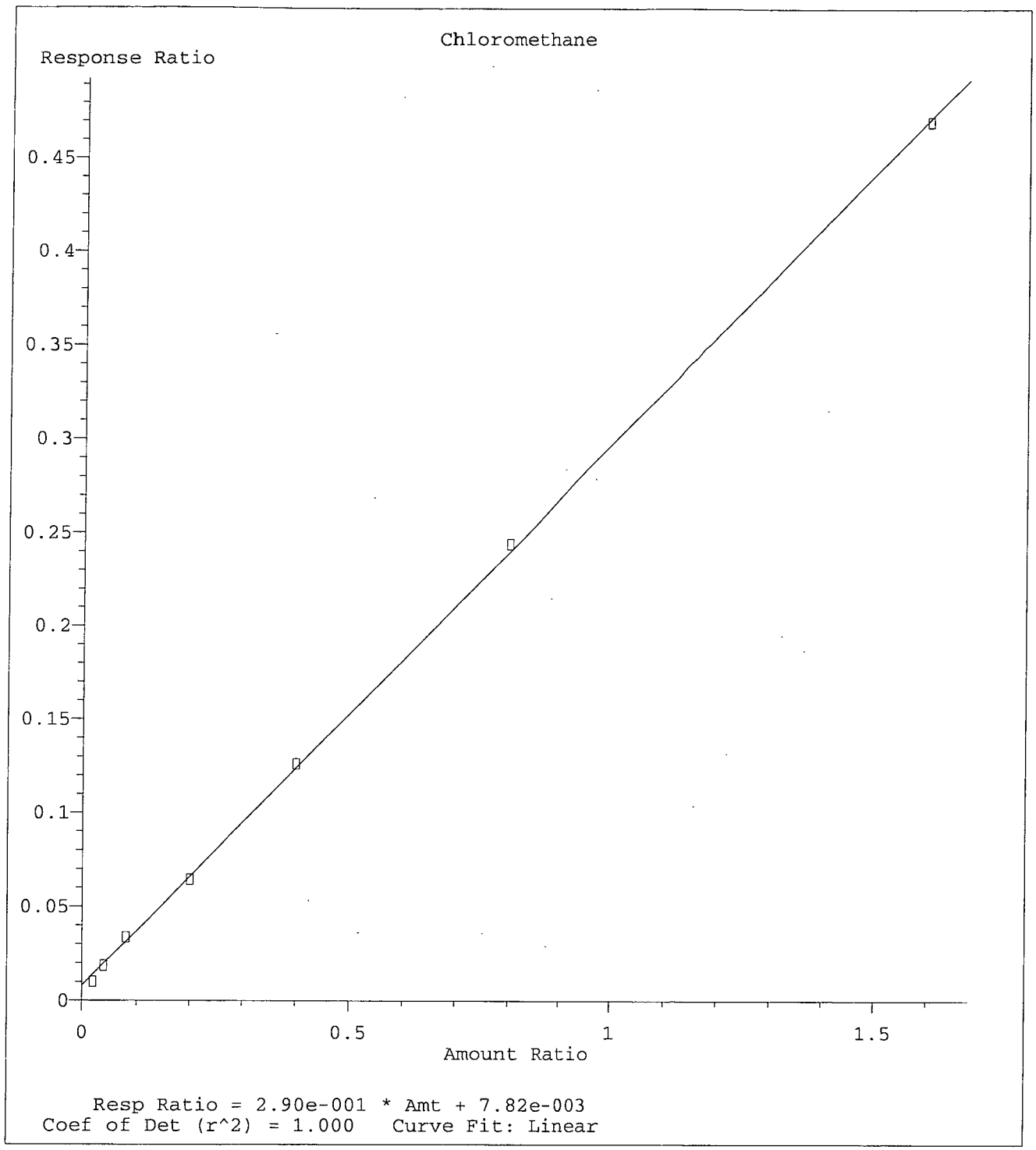




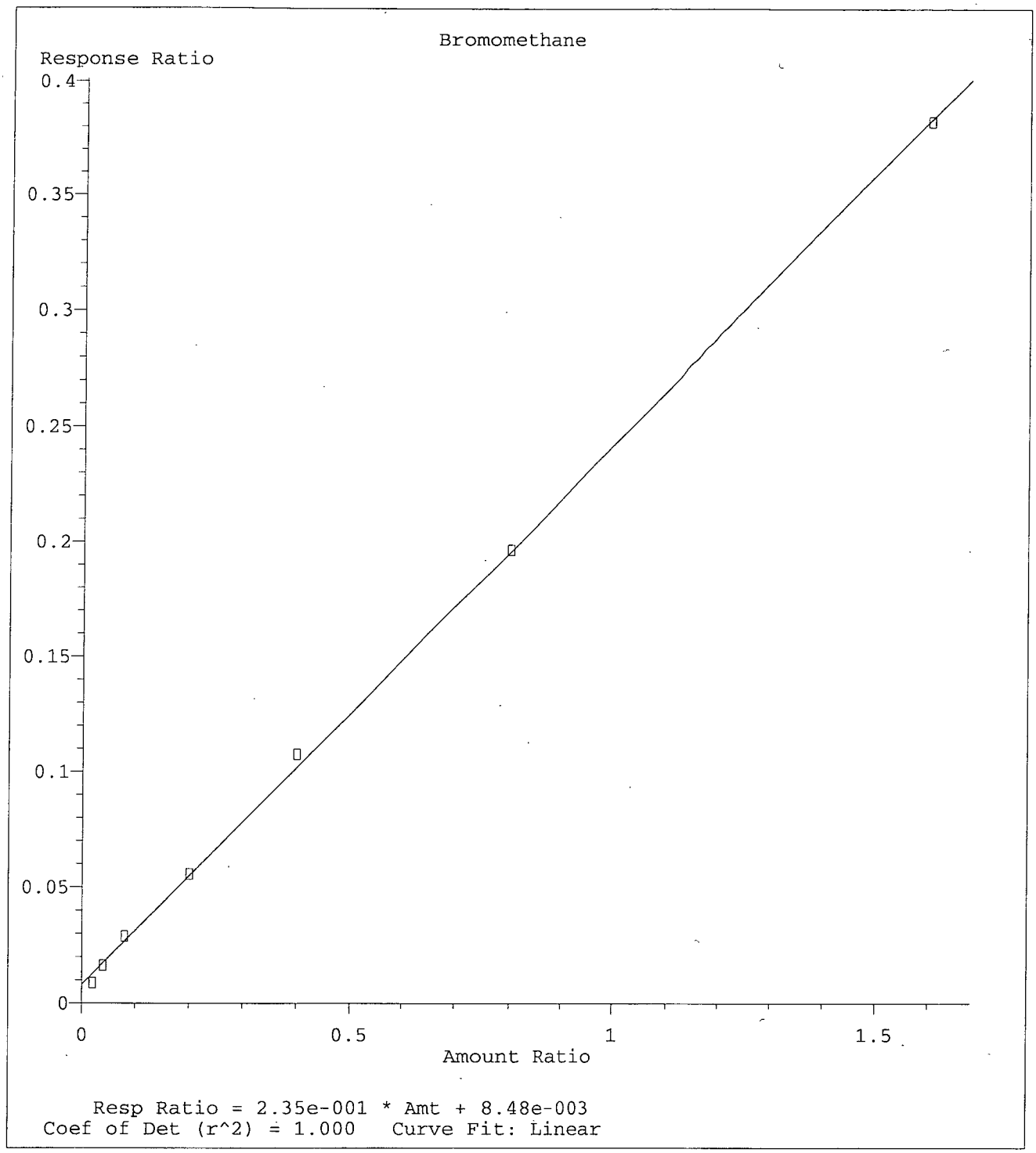
Method Name: M:\LOKI\DATA\200121\L0121W.M
Calibration Table Last Updated: Tue Jan 21 13:19:21 2020



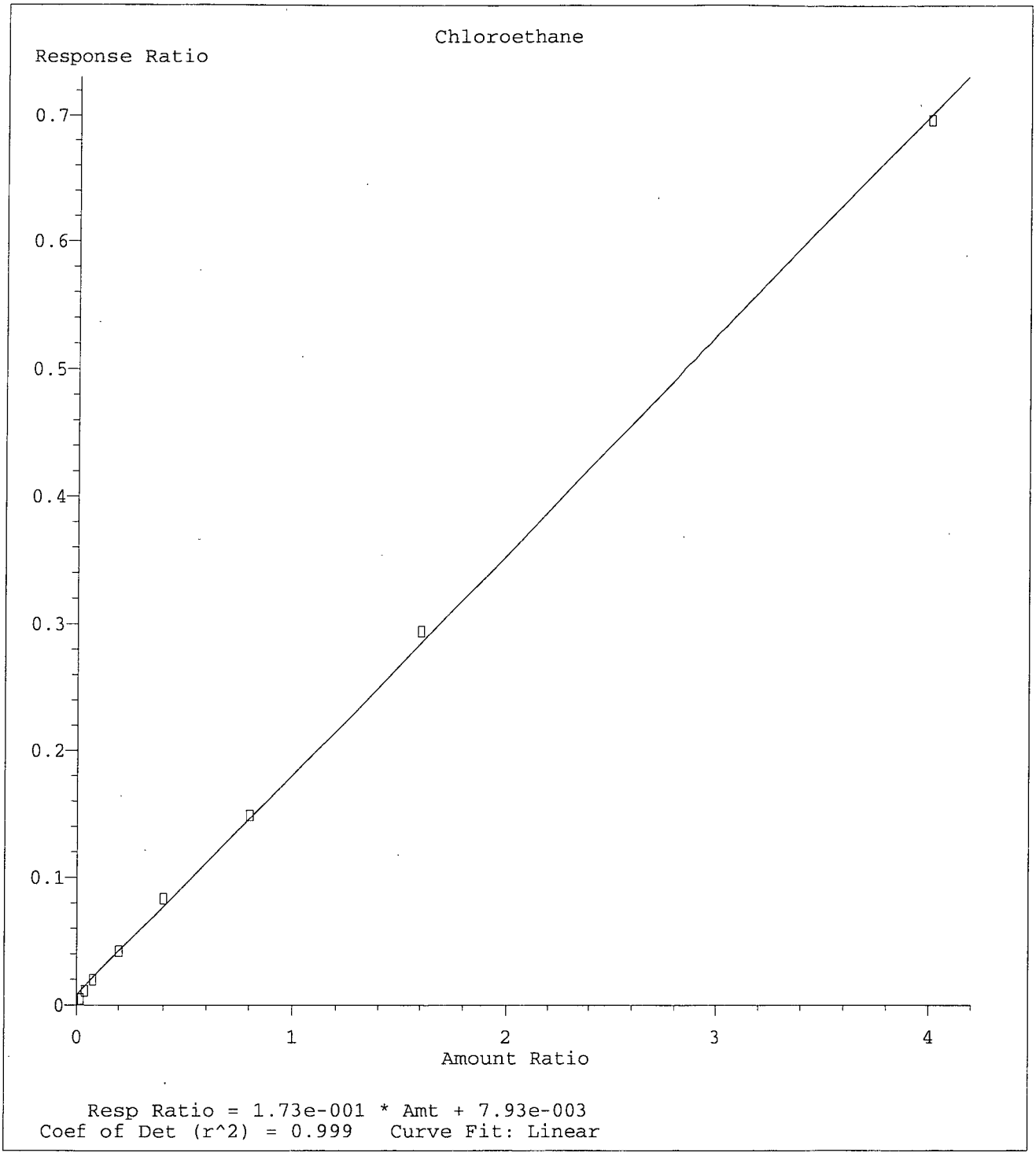
Method Name: M:\LOKI\DATA\200121\L0121W.M
Calibration Table Last Updated: Tue Jan 21 13:19:21 2020



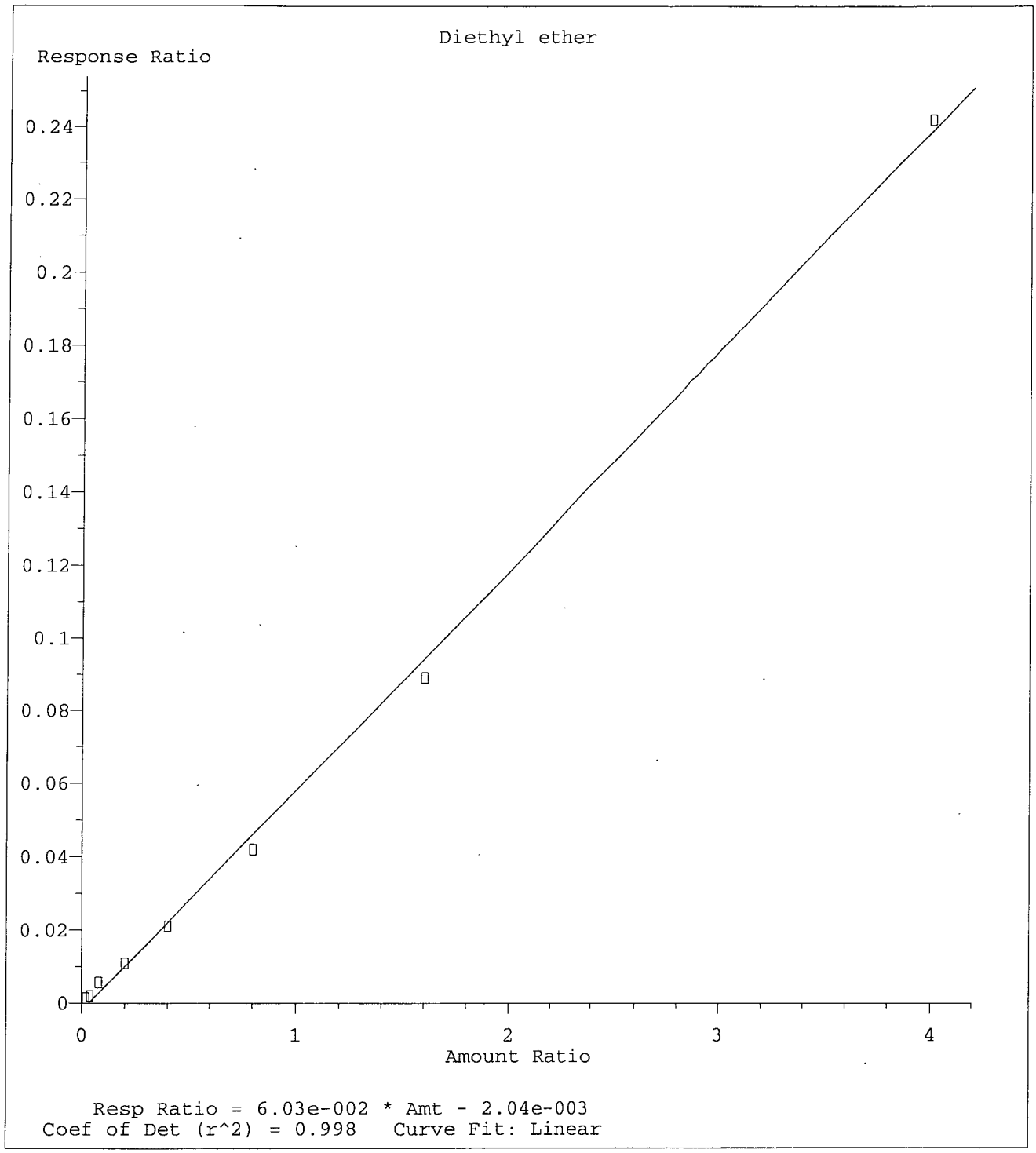
Method Name: M:\LOKI\DATA\200121\L0121W.M
Calibration Table Last Updated: Tue Jan 21 13:19:21 2020



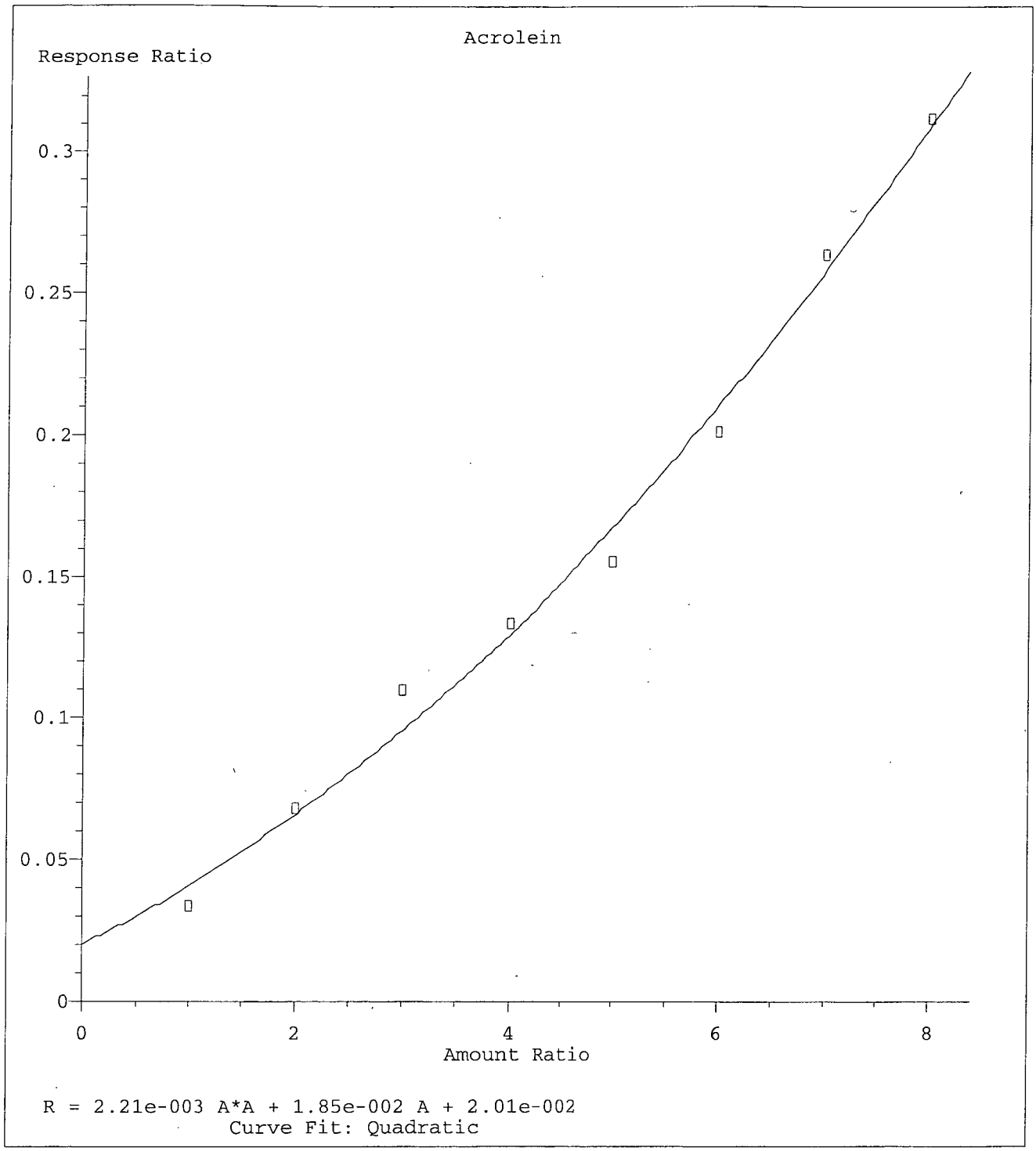
Method Name: M:\LOKI\DATA\200121\L0121W.M
Calibration Table Last Updated: Tue Jan 21 13:19:21 2020



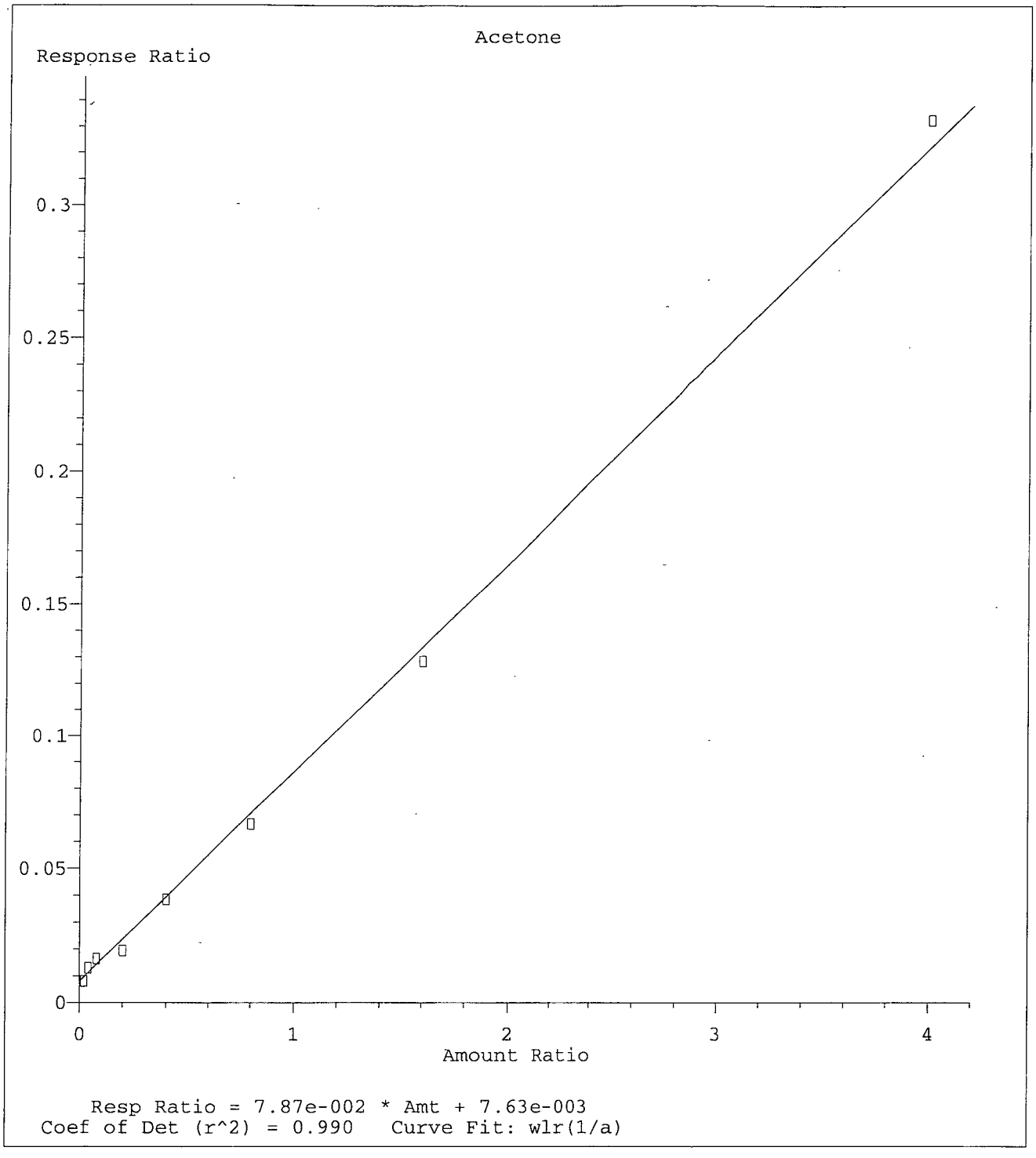
Method Name: M:\LOKI\DATA\200121\L0121W.M
Calibration Table Last Updated: Tue Jan 21 13:19:21 2020



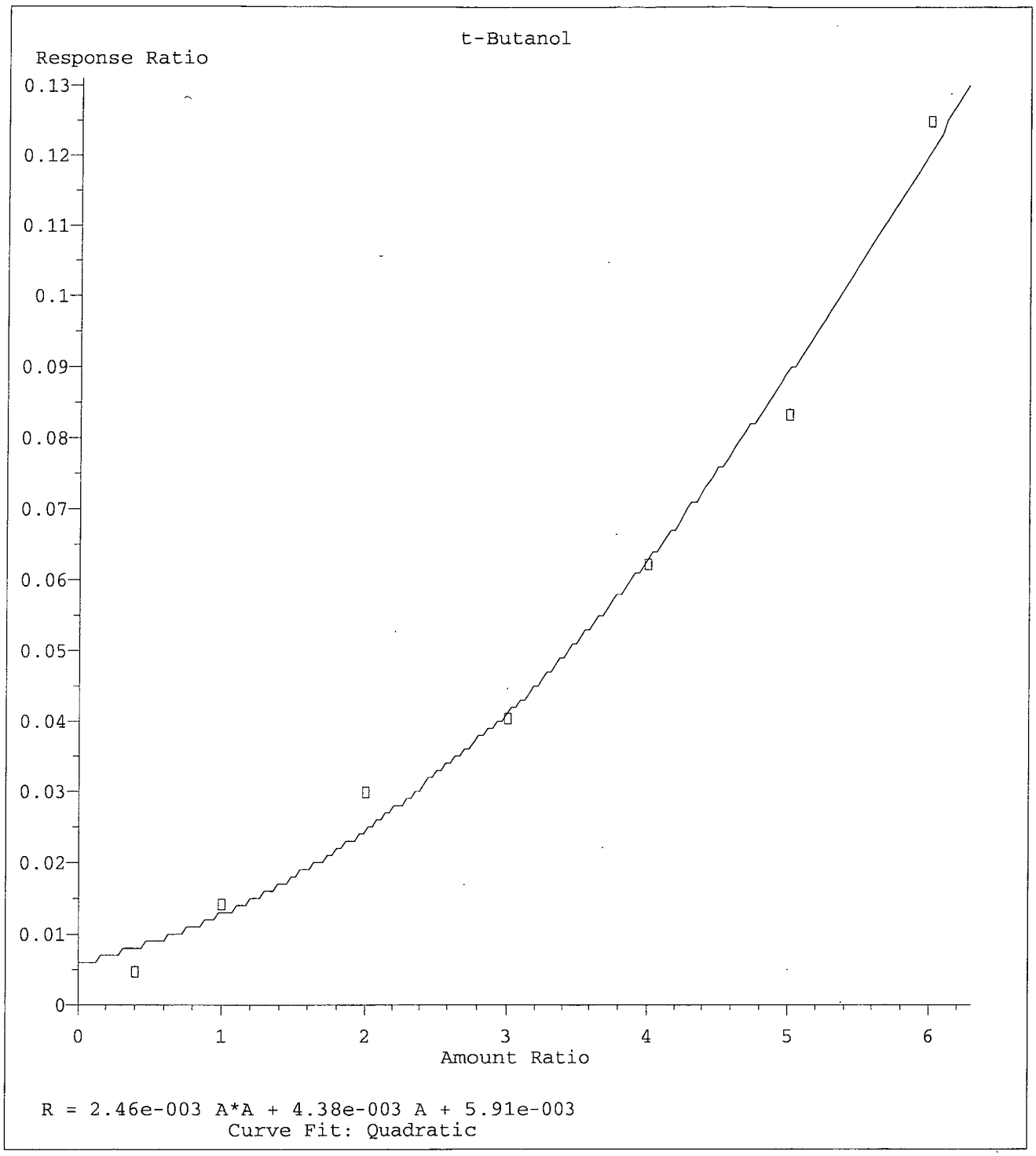
Method Name: M:\LOKI\DATA\200121\L0121W.M
Calibration Table Last Updated: Tue Jan 21 13:19:21 2020



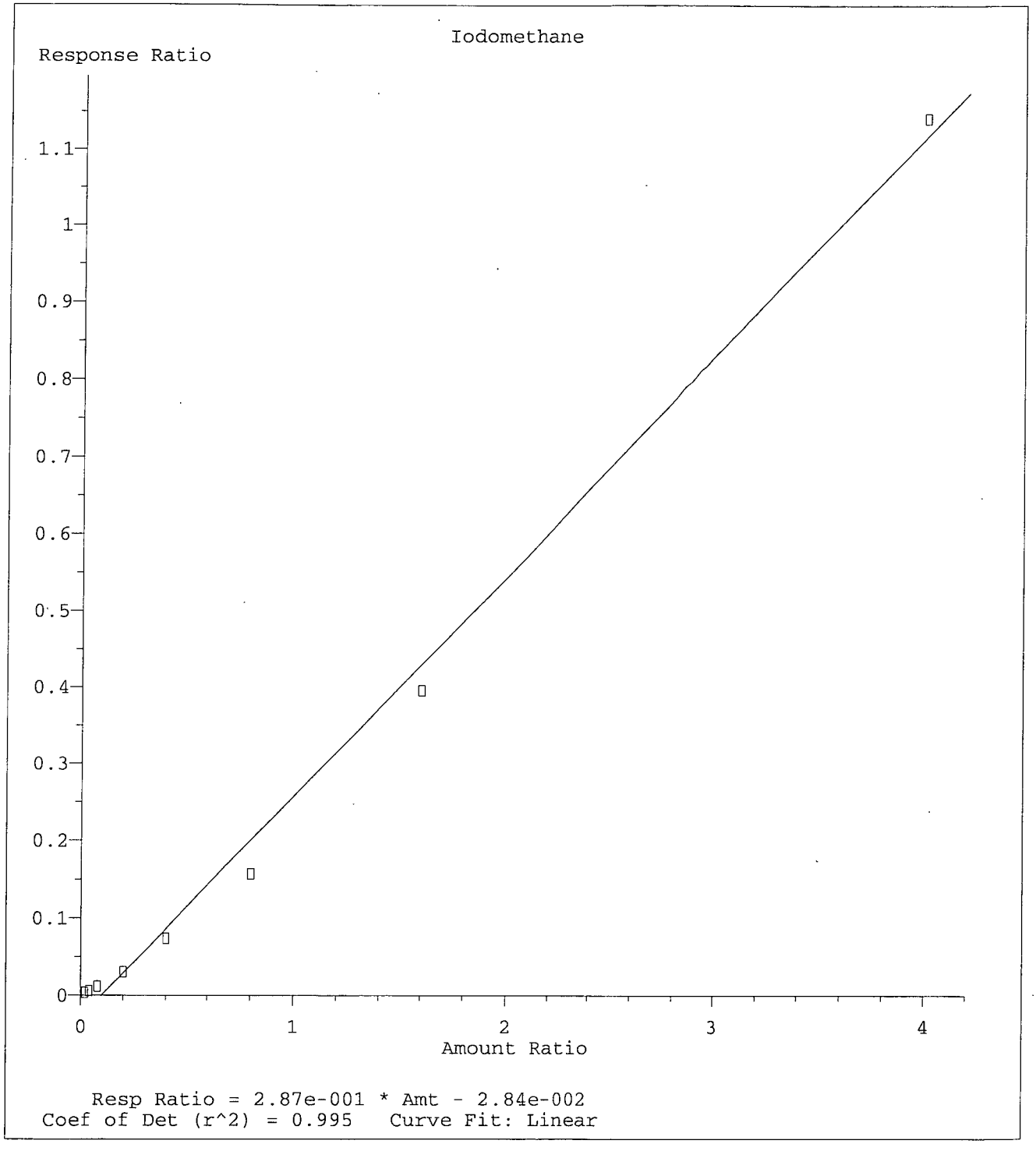
Method Name: M:\LOKI\DATA\200121\L0121W.M
Calibration Table Last Updated: Tue Jan 21 13:19:21 2020



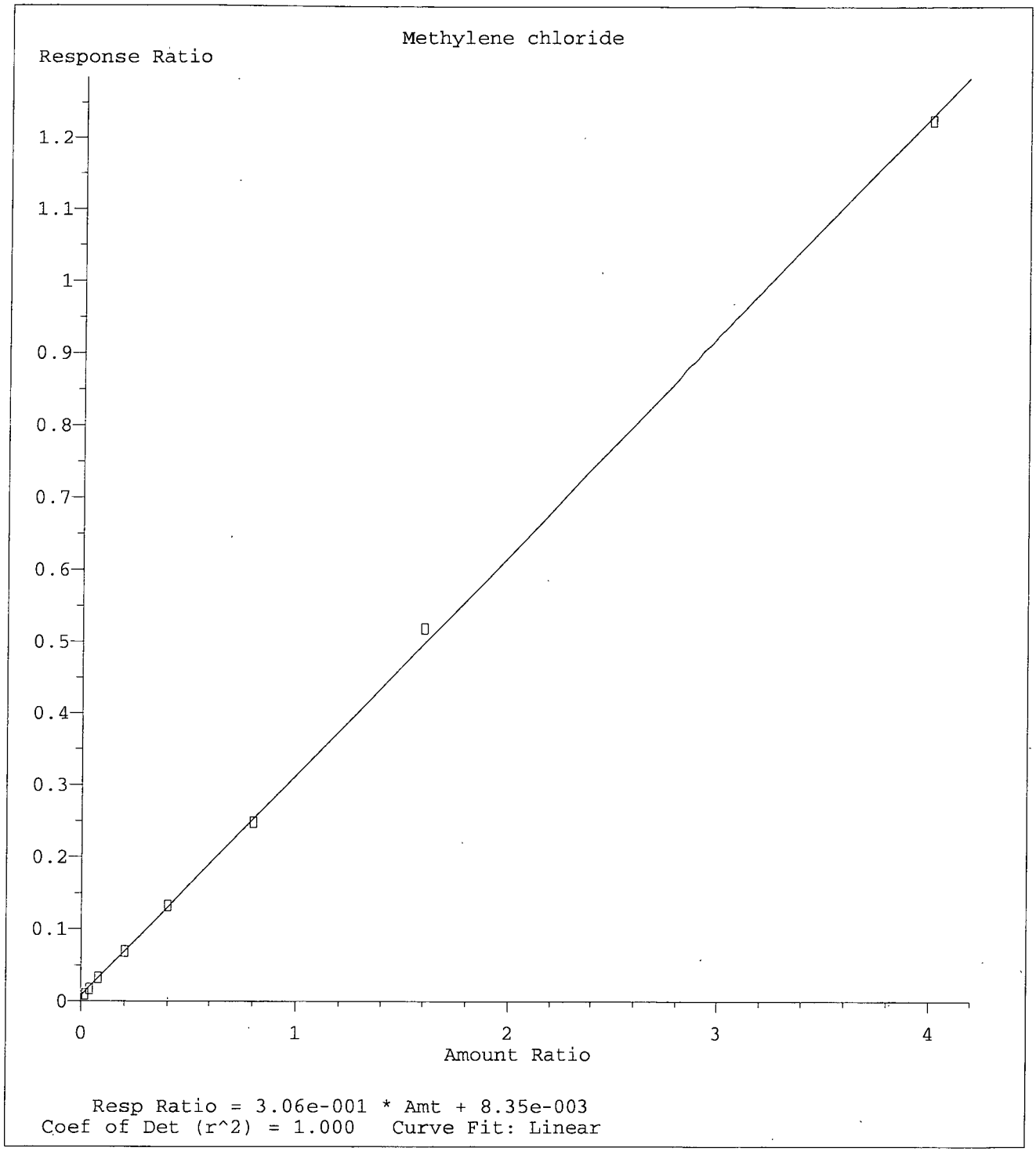
Method Name: M:\LOKI\DATA\200121\L0121W.M
Calibration Table Last Updated: Tue Jan 21 13:19:21 2020



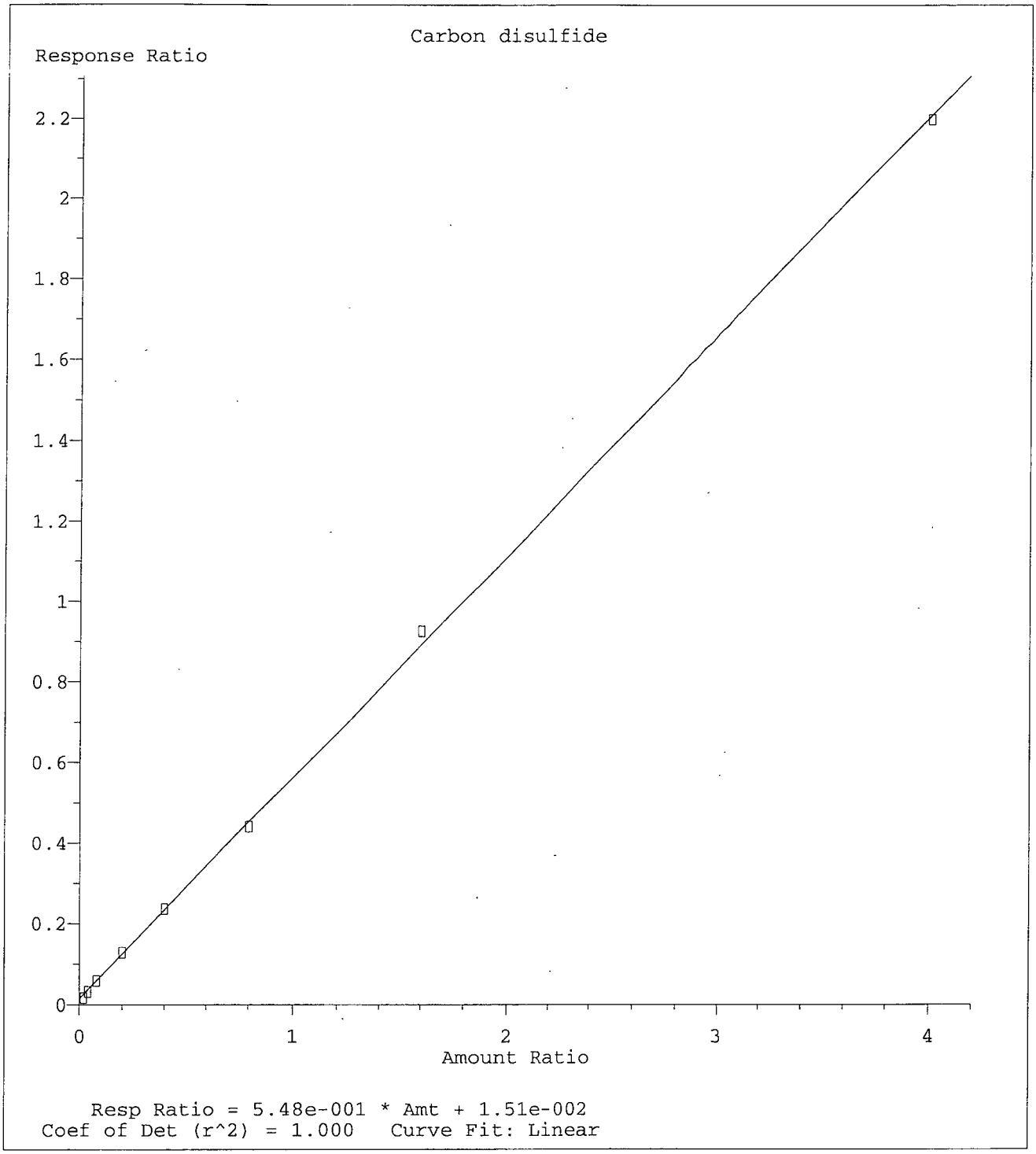
Method Name: M:\LOKI\DATA\200121\L0121W.M
Calibration Table Last Updated: Tue Jan 21 13:19:21 2020



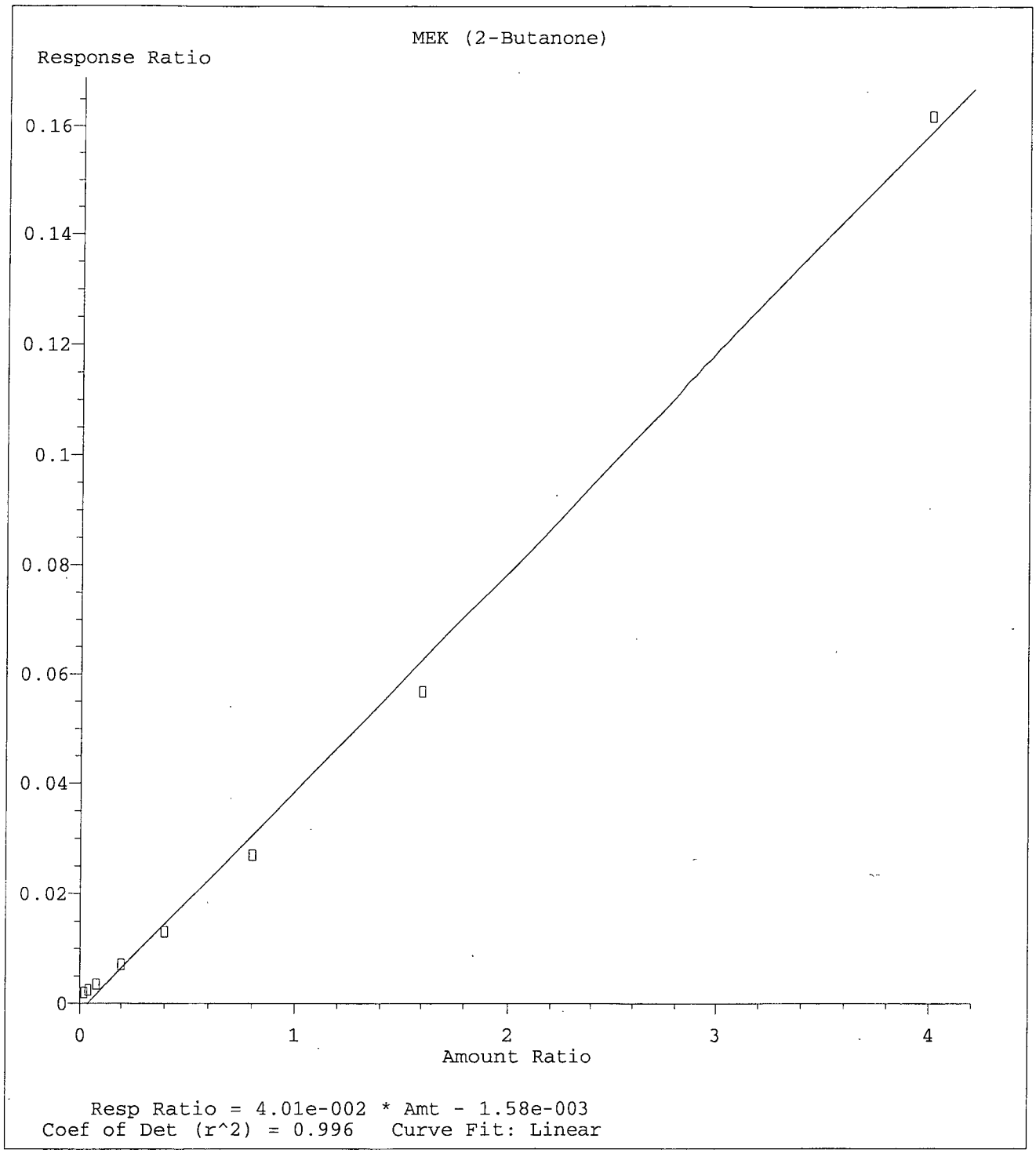
Method Name: M:\LOKI\DATA\200121\L0121W.M
Calibration Table Last Updated: Tue Jan 21 13:19:21 2020



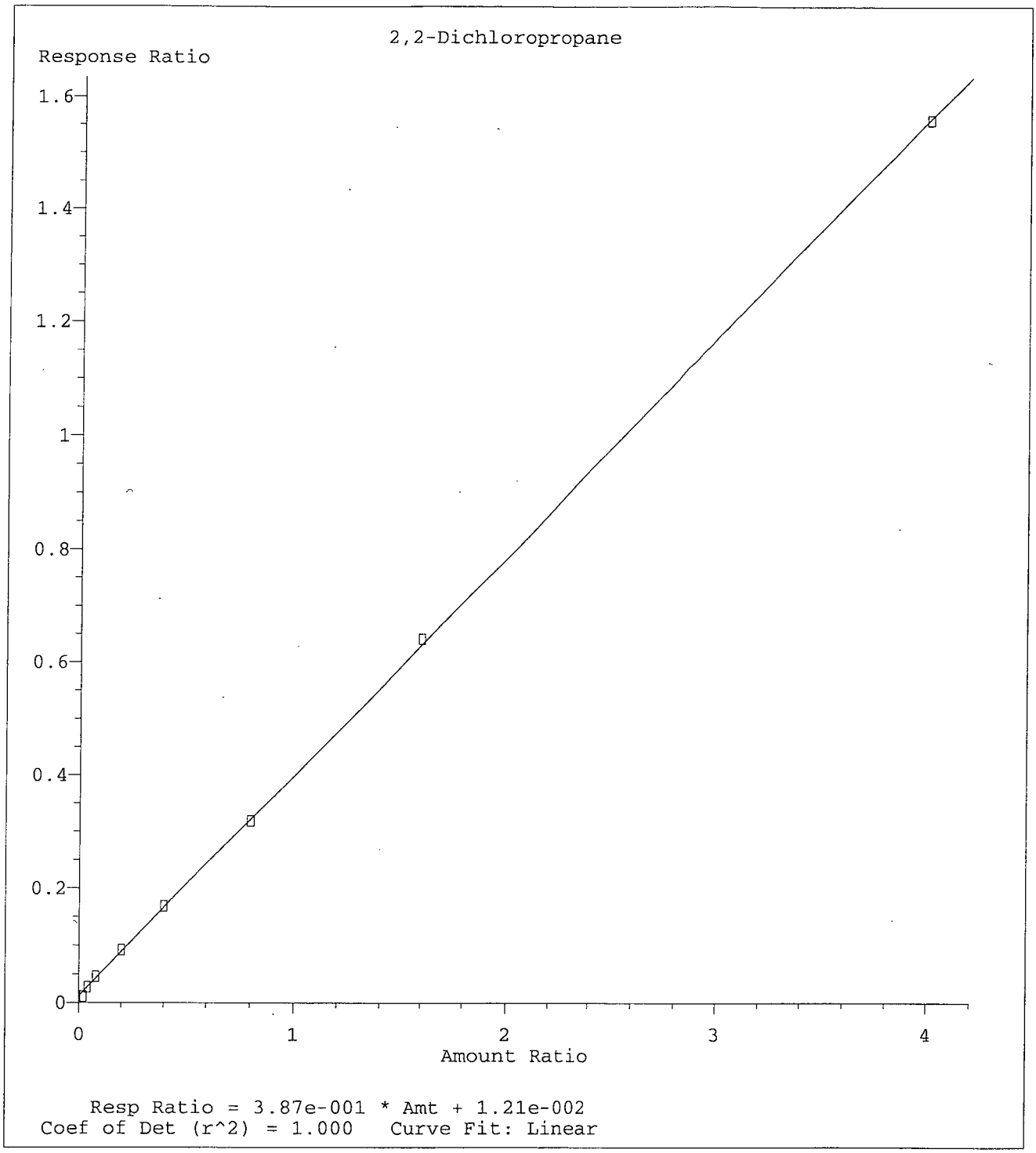
Method Name: M:\LOKI\DATA\200121\L0121W.M
Calibration Table Last Updated: Tue Jan 21 13:19:21 2020



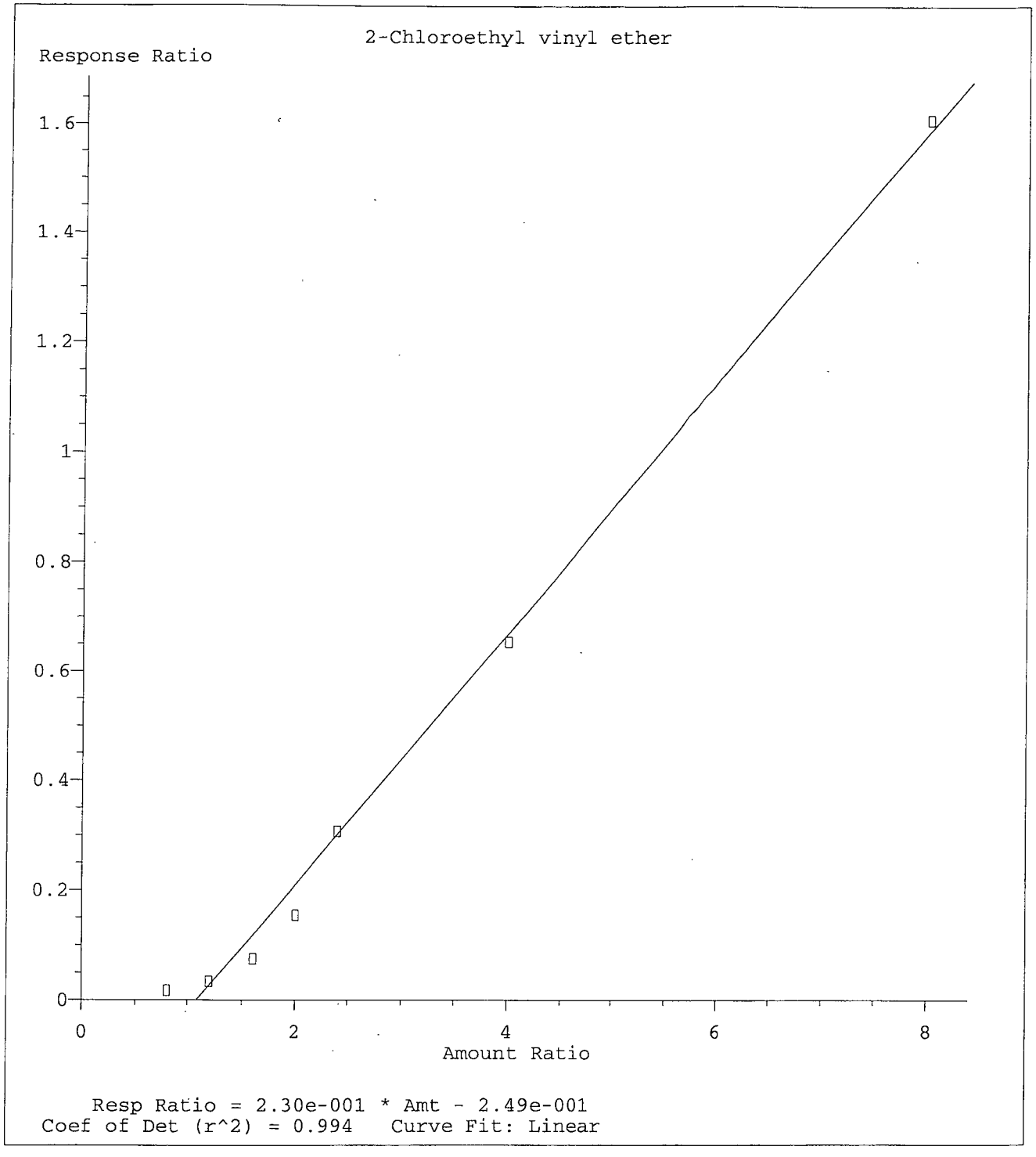
Method Name: M:\LOKI\DATA\200121\L0121W.M
Calibration Table Last Updated: Tue Jan 21 13:19:21 2020



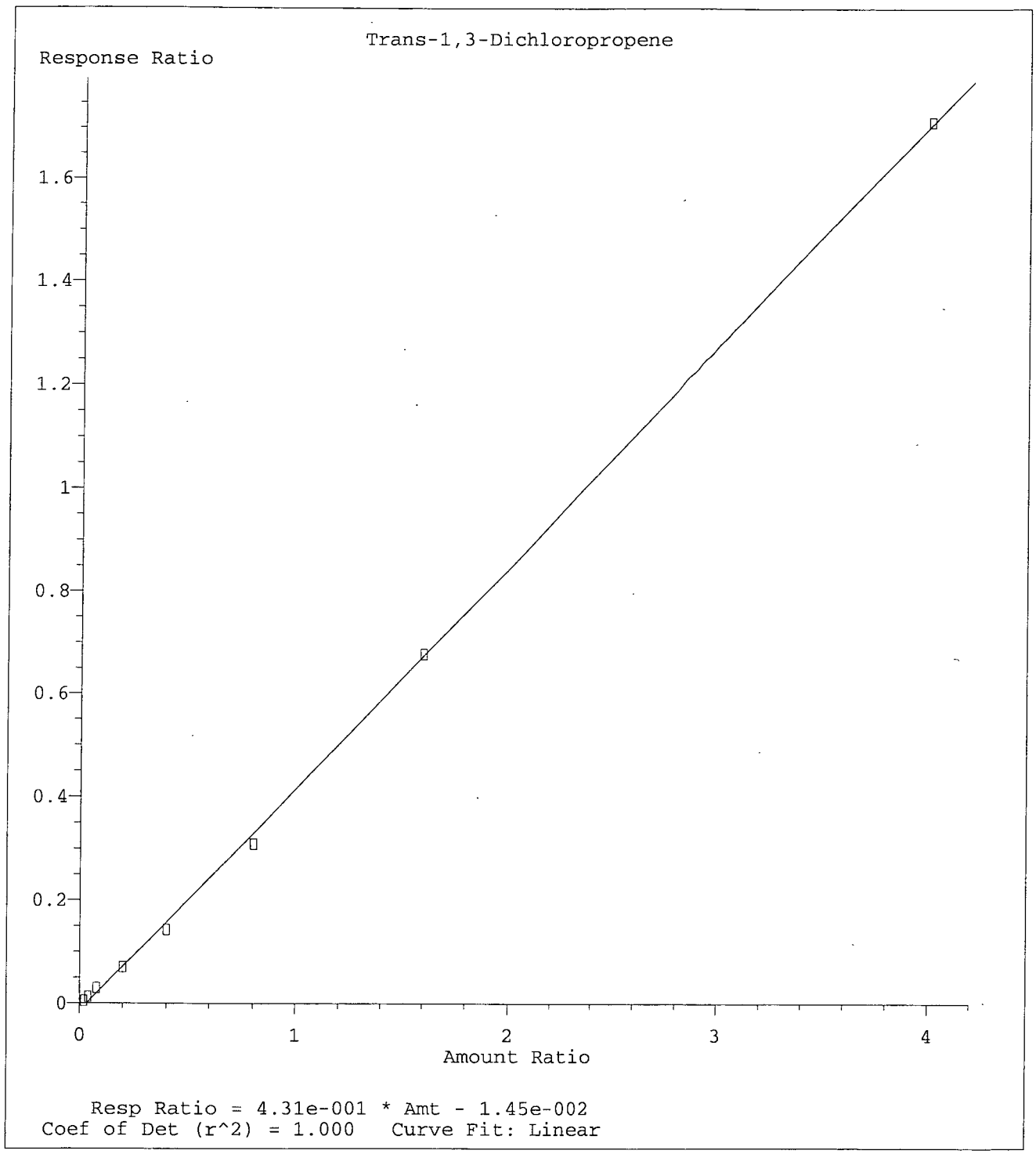
Method Name: M:\LOKI\DATA\200121\L0121W.M
Calibration Table Last Updated: Tue Jan 21 13:19:21 2020



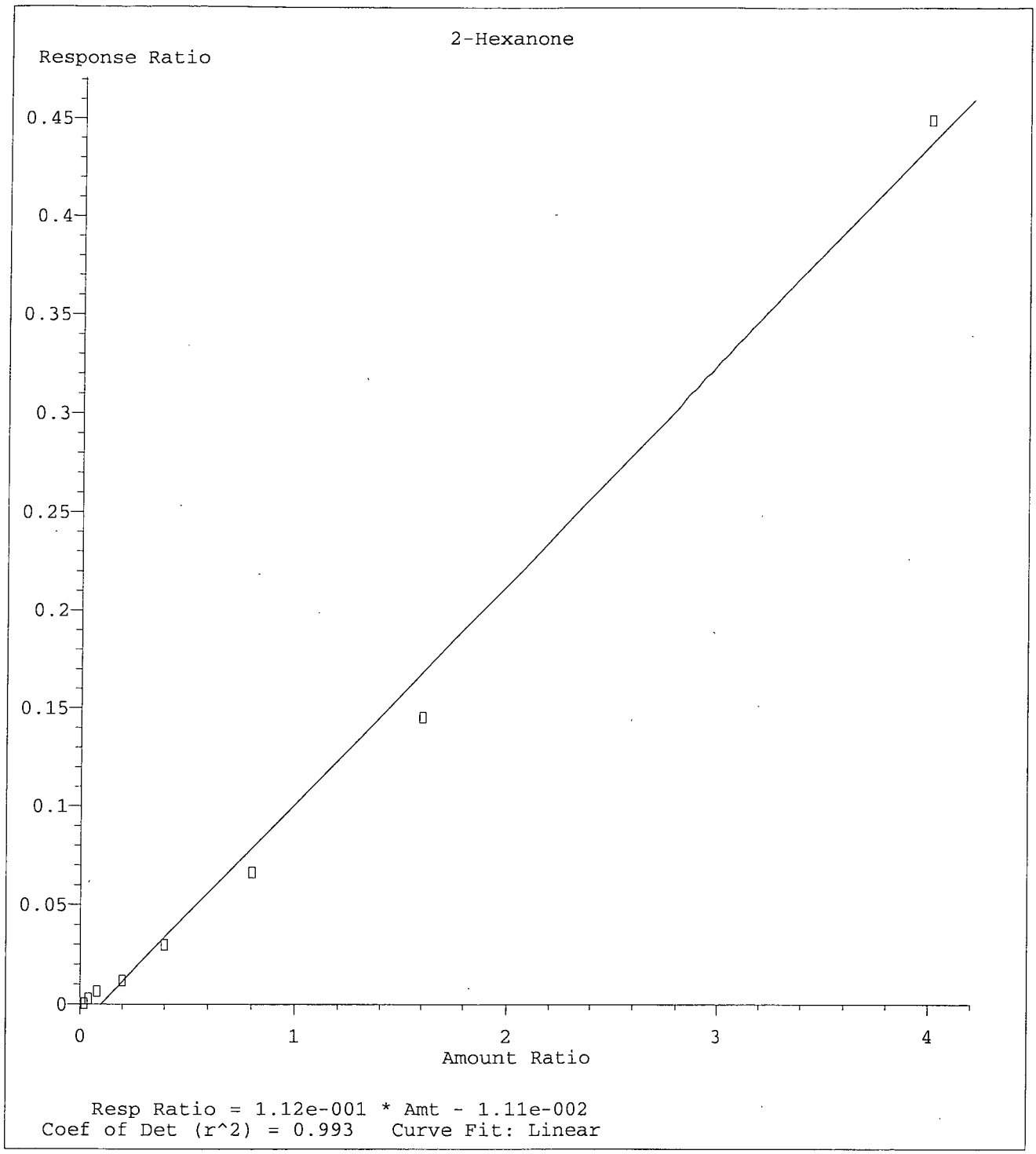
Method Name: M:\LOKI\DATA\200121\L0121W.M
Calibration Table Last Updated: Tue Jan 21 13:19:21 2020



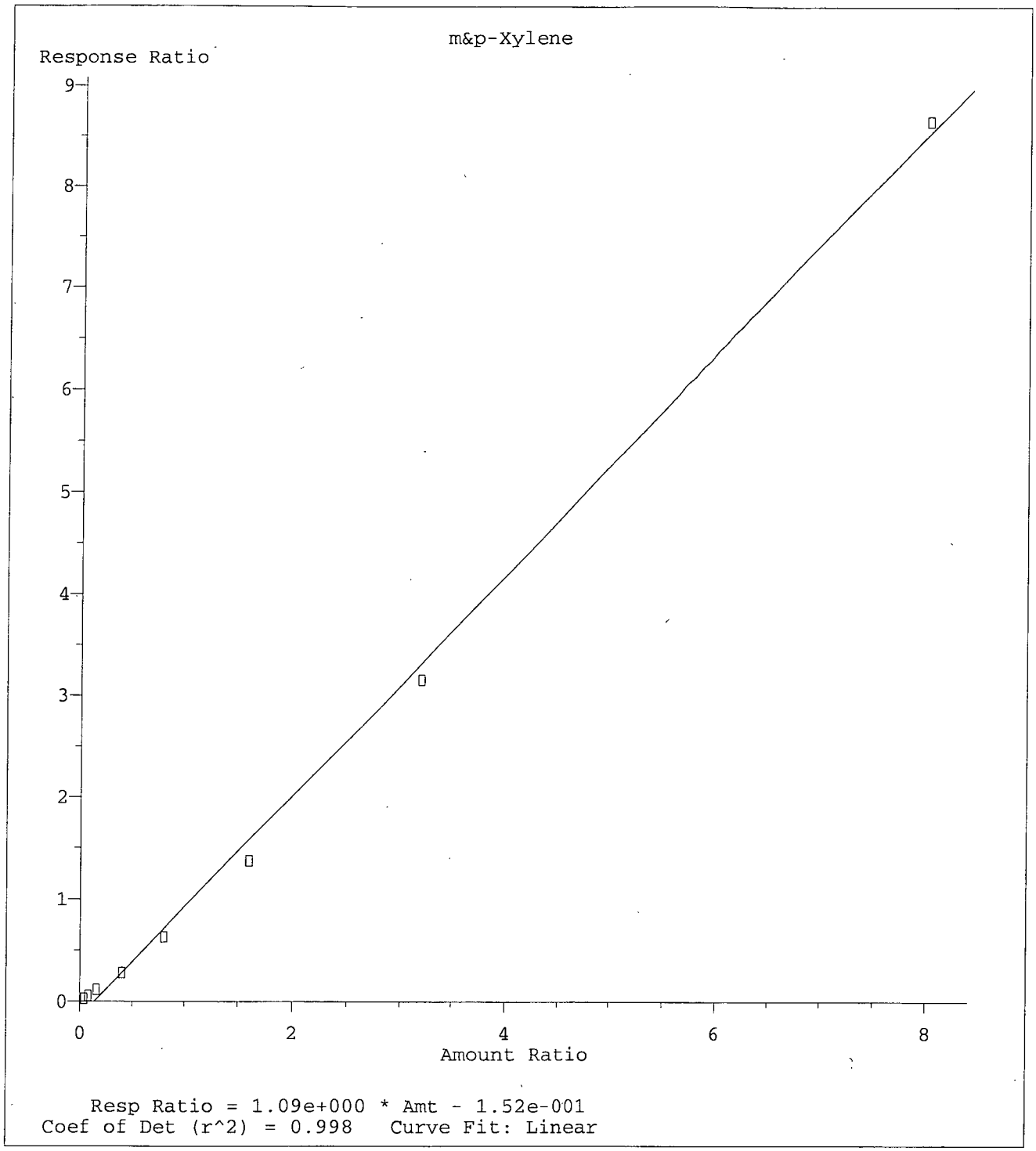
Method Name: M:\LOKI\DATA\200121\L0121W.M
Calibration Table Last Updated: Tue Jan 21 13:19:21 2020



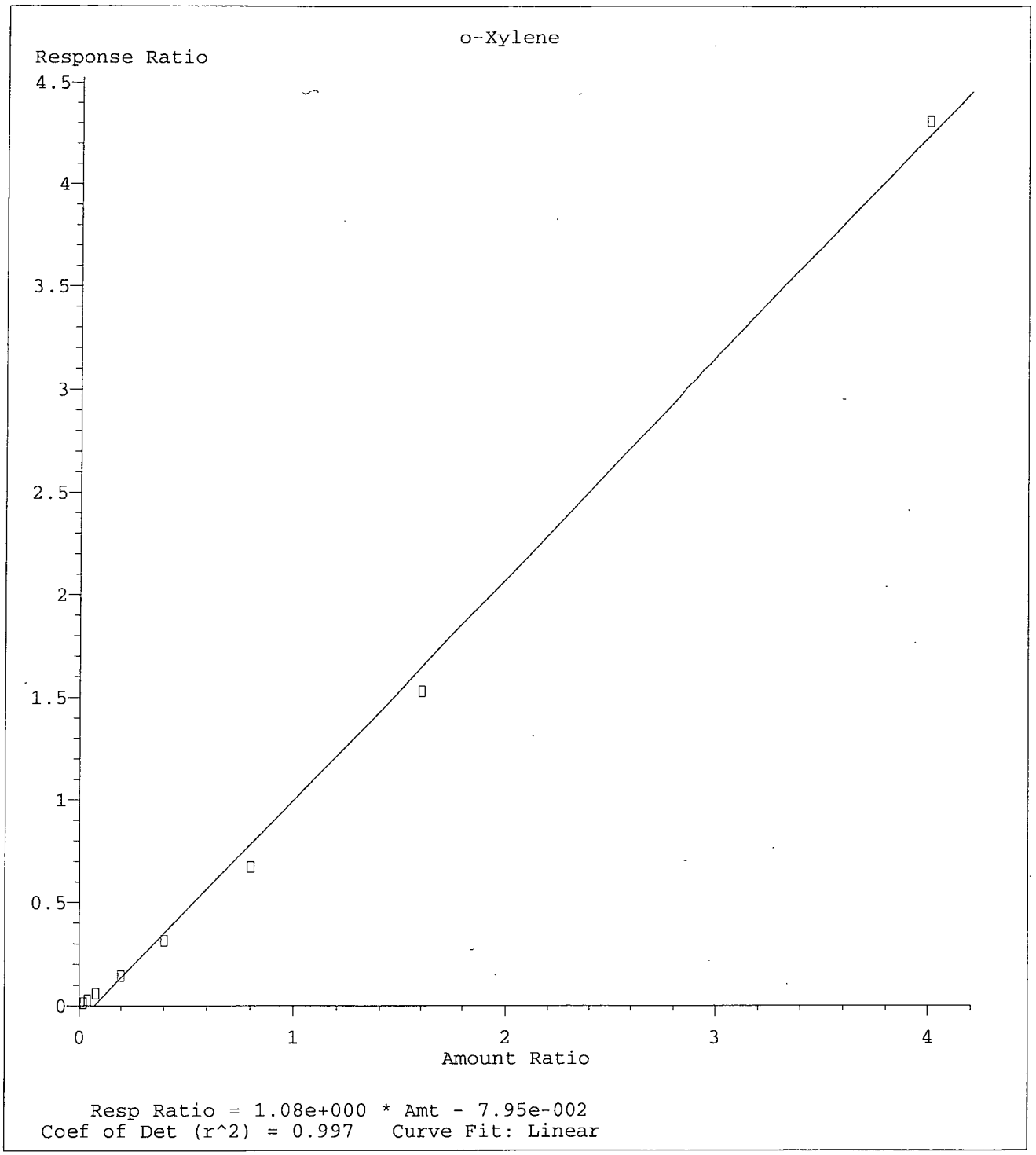
Method Name: M:\LOKI\DATA\200121\L0121W.M
Calibration Table Last Updated: Tue Jan 21 13:19:21 2020



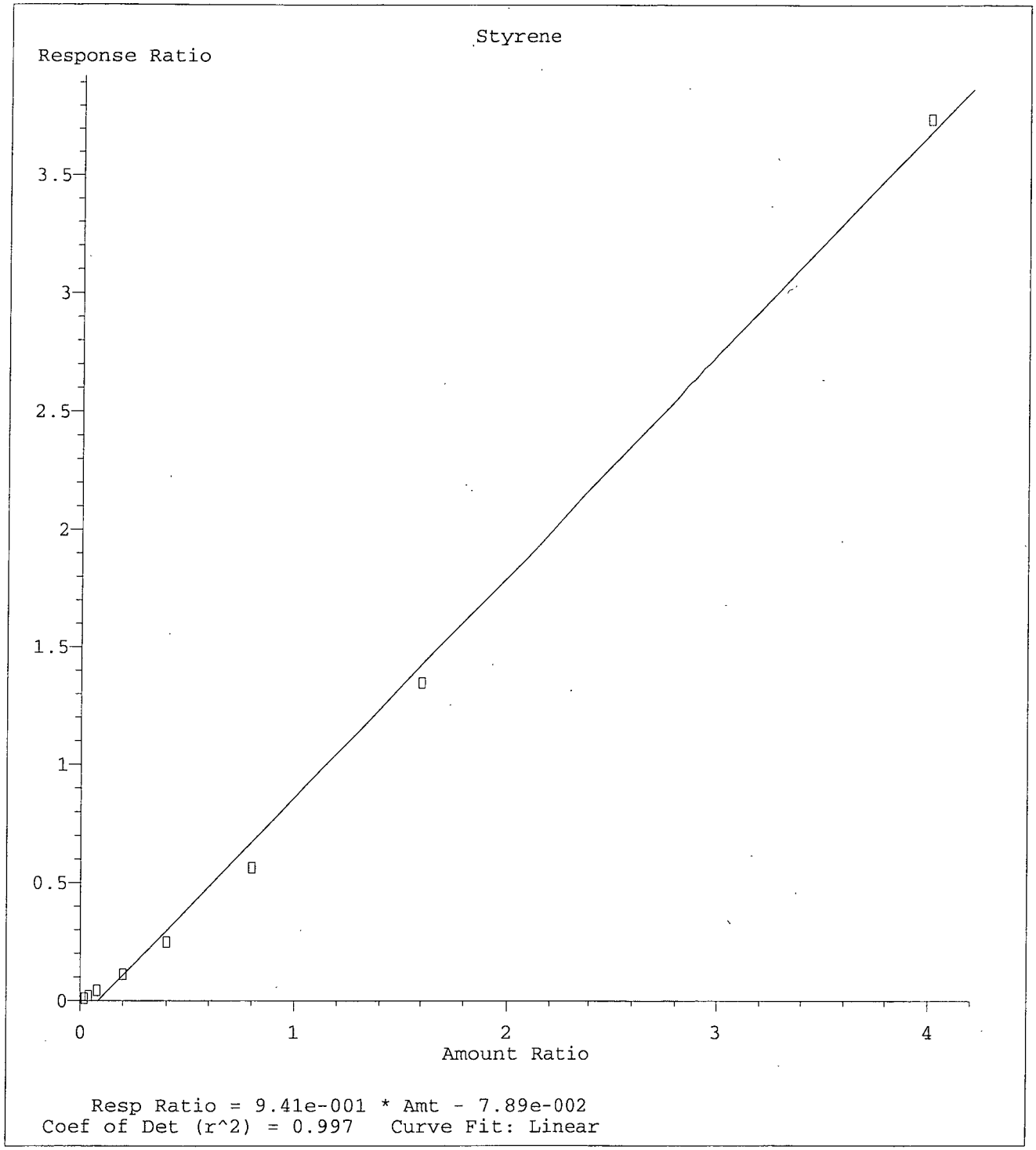
Method Name: M:\LOKI\DATA\200121\L0121W.M
Calibration Table Last Updated: Tue Jan 21 13:19:21 2020



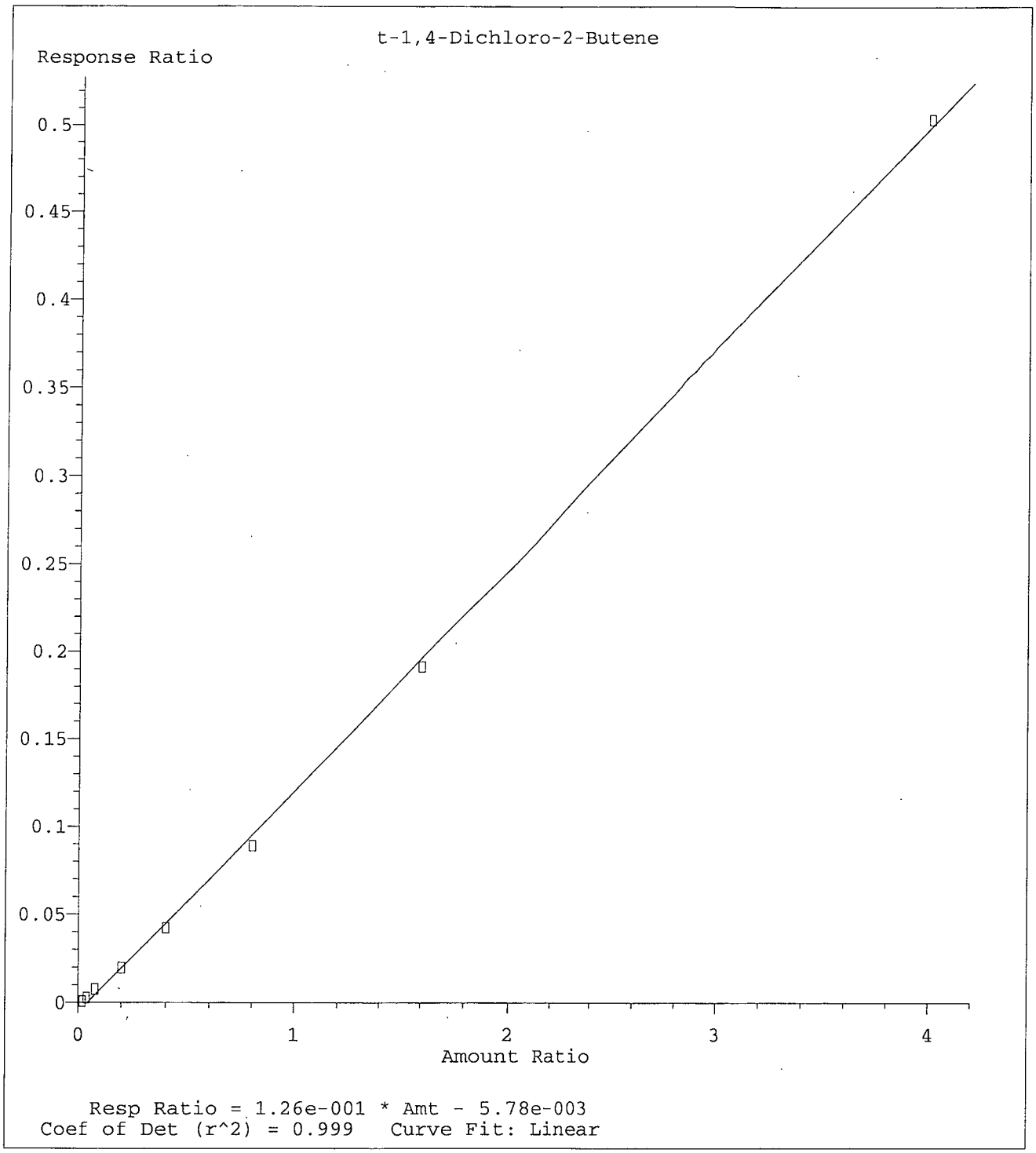
Method Name: M:\LOKI\DATA\200121\L0121W.M
Calibration Table Last Updated: Tue Jan 21 13:19:21 2020



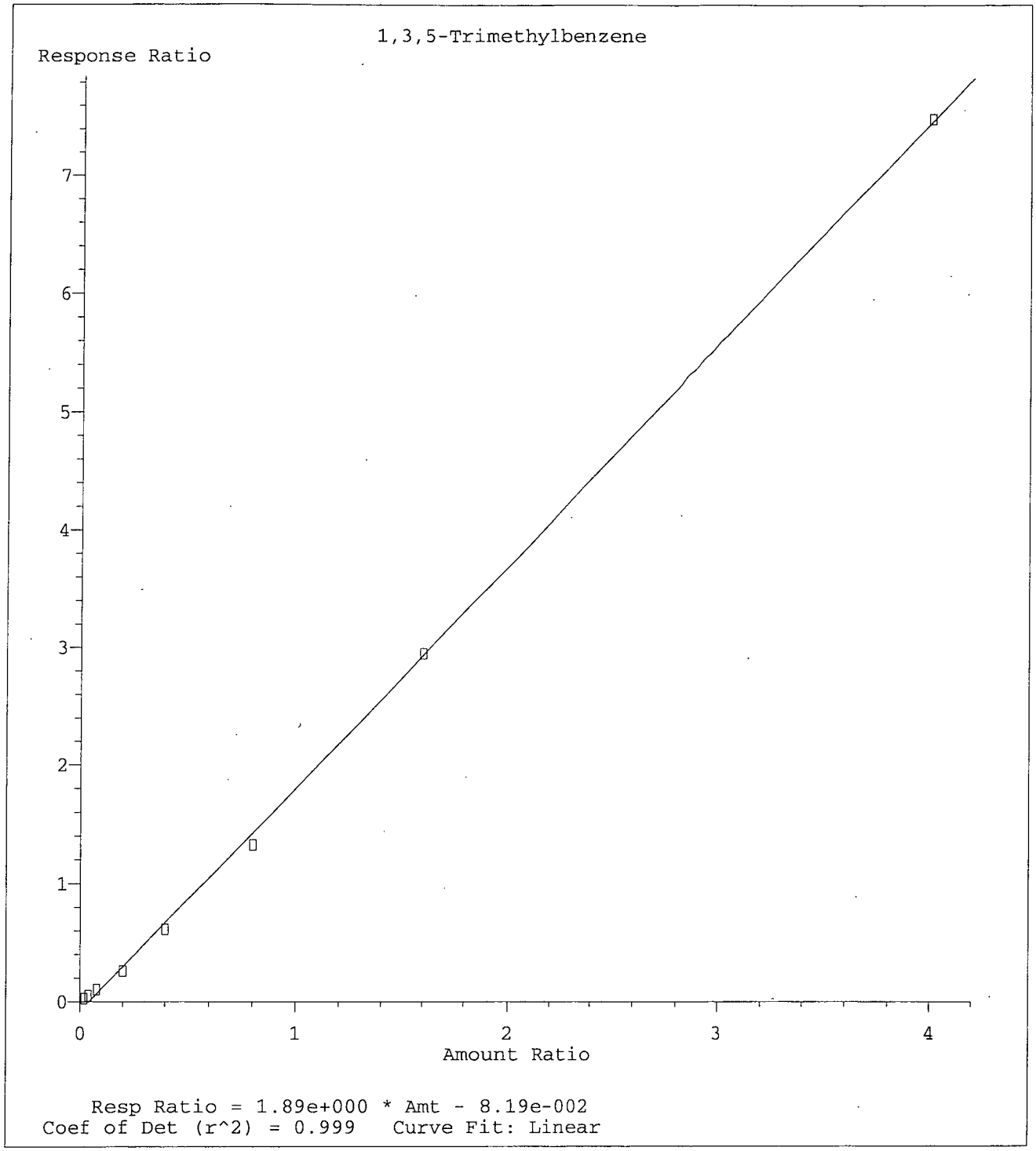
Method Name: M:\LOKI\DATA\200121\L0121W.M
Calibration Table Last Updated: Tue Jan 21 13:19:21 2020



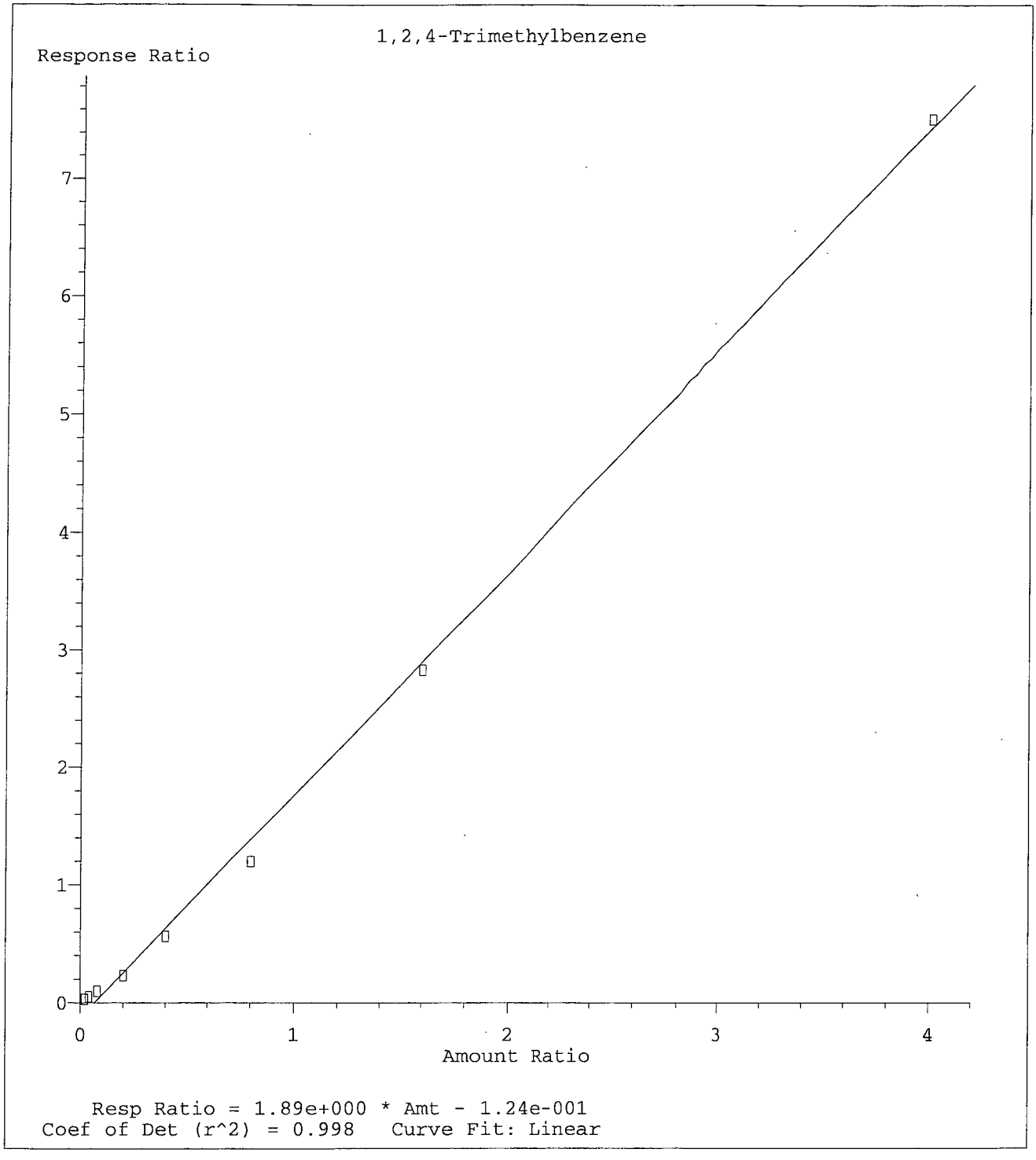
Method Name: M:\LOKI\DATA\200121\L0121W.M
Calibration Table Last Updated: Tue Jan 21 13:19:21 2020



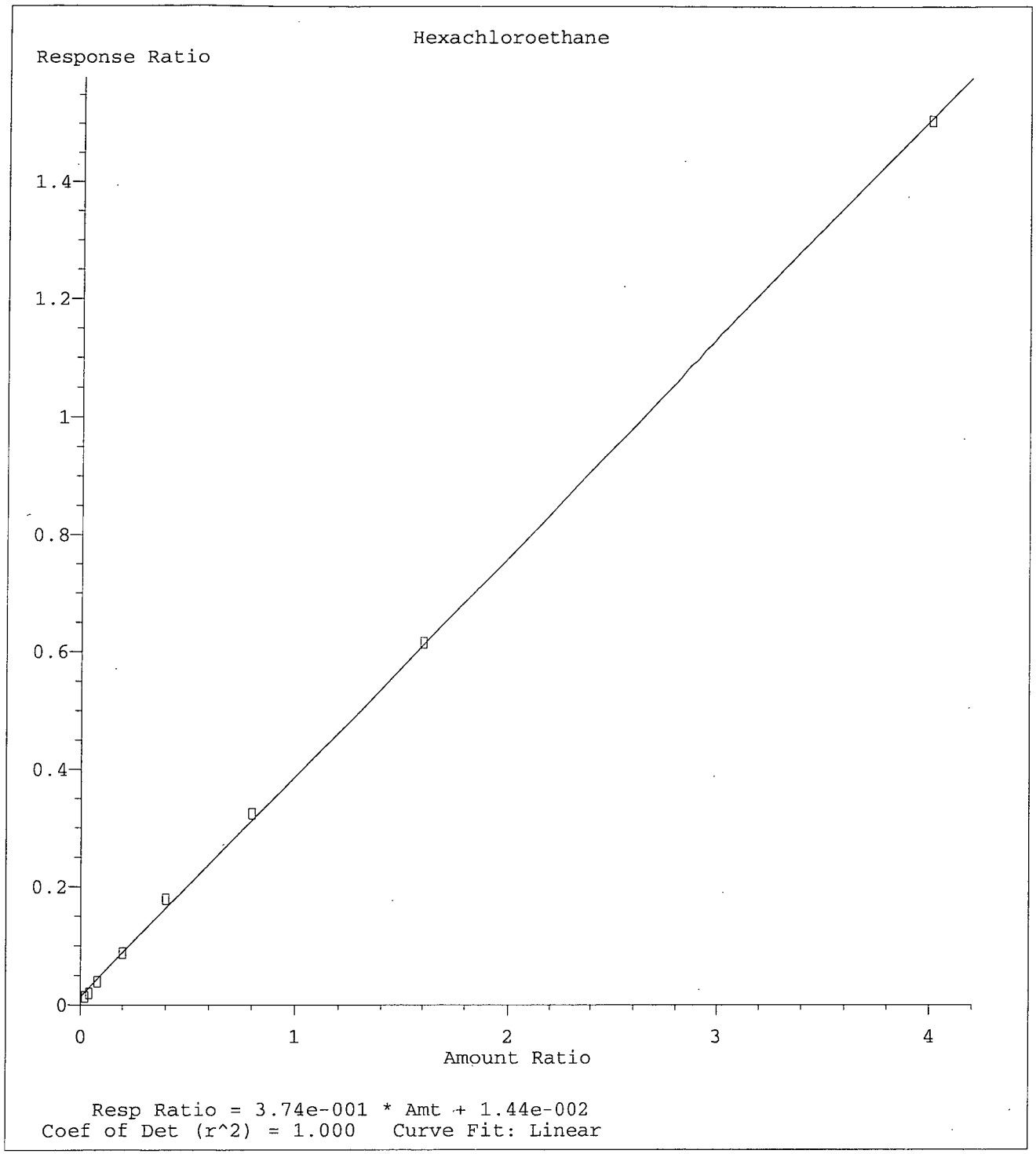
Method Name: M:\LOKI\DATA\200121\L0121W.M
Calibration Table Last Updated: Tue Jan 21 13:19:21 2020



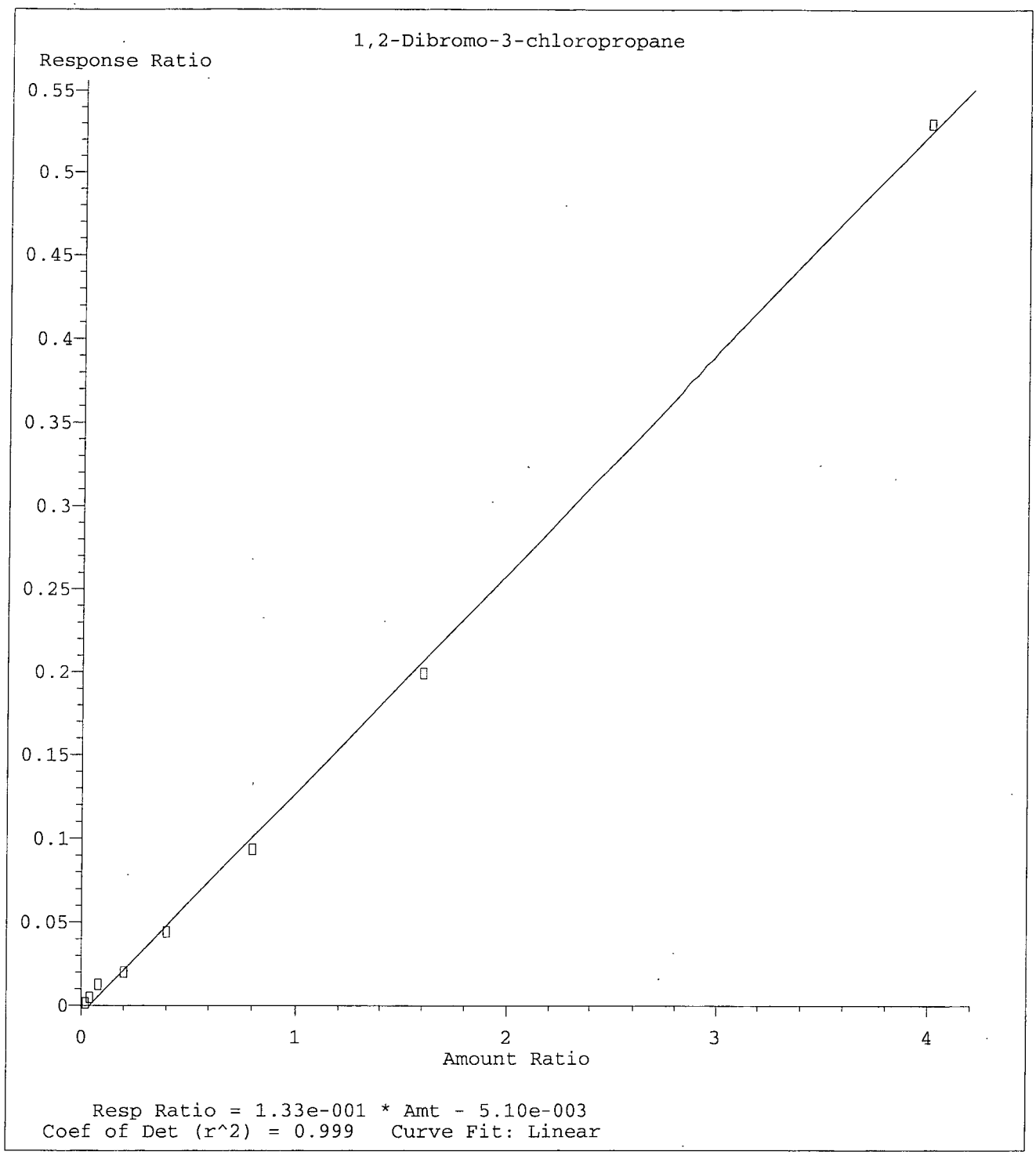
Method Name: M:\LOKI\DATA\200121\L0121W.M
Calibration Table Last Updated: Tue Jan 21 13:19:21 2020



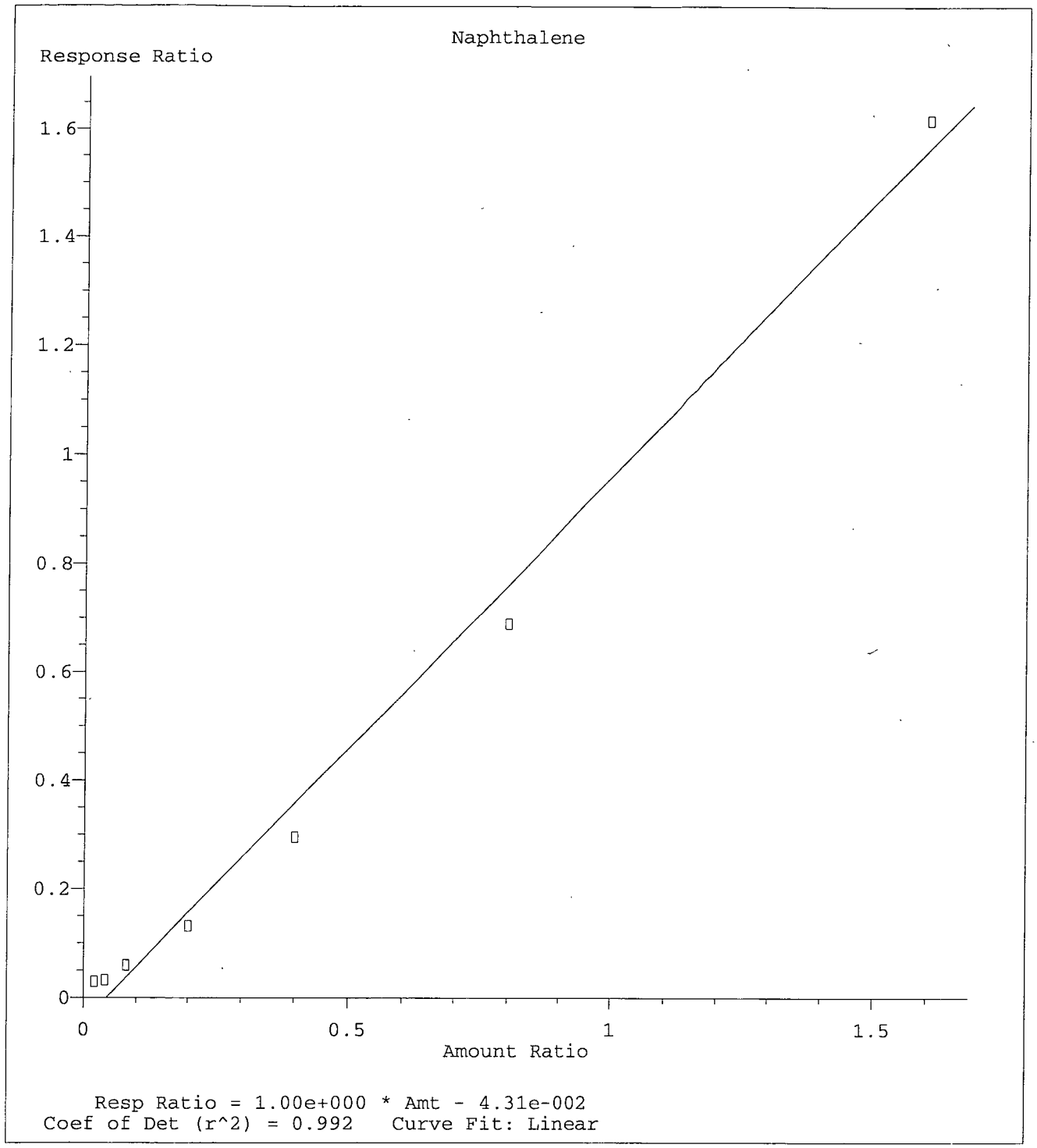
Method Name: M:\LOKI\DATA\200121\L0121W.M
Calibration Table Last Updated: Tue Jan 21 13:19:21 2020



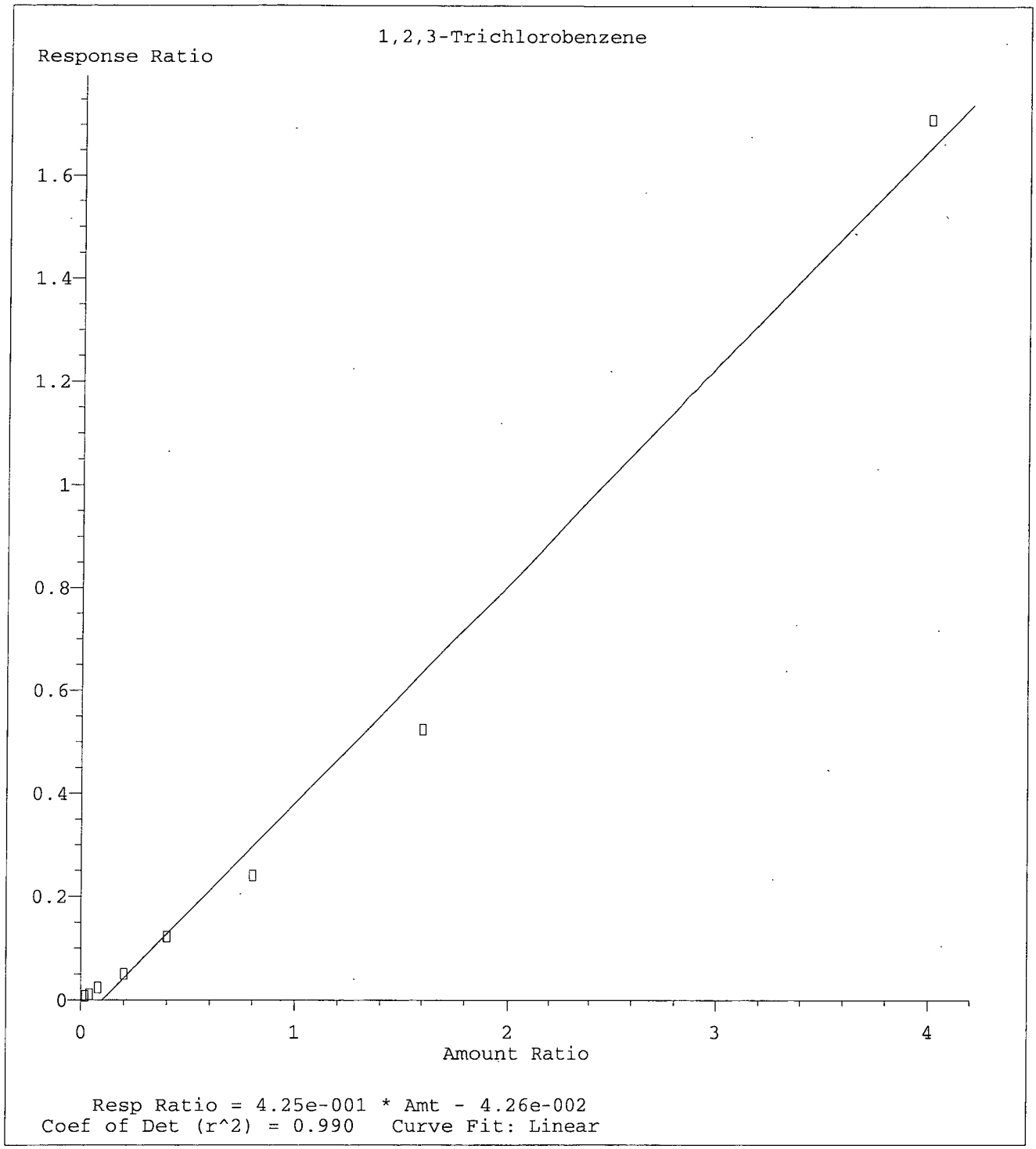
Method Name: M:\LOKI\DATA\200121\L0121W.M
Calibration Table Last Updated: Tue Jan 21 13:19:21 2020



Method Name: M:\LOKI\DATA\200121\L0121W.M
Calibration Table Last Updated: Tue Jan 21 13:19:21 2020



Method Name: M:\LOKI\DATA\200121\L0121W.M
Calibration Table Last Updated: Tue Jan 21 13:19:21 2020



Method Name: M:\LOKI\DATA\200121\L0121W.M
Calibration Table Last Updated: Tue Jan 21 13:19:21 2020

VOLATILE ORGANIC ANALYSIS
VOLATILE ORGANIC COMPOUNDS

Form 7

Second Source Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Date Analyzed: 01/21/20
Matrix: Instrument: Loki
Initial Cal. Date: 01/21/20
Data File: 0121L12.D

		Compound	MEAN	CCRF	%D	%Drift	
1	TM	Chlorotrifluoroethene	0.1374	0.1353	1.5	TM	
2	TML	Dichlorodifluoromethane	0.2885	0.2900	0.52	TML	13
3	TML	Freon 114	0.3147	0.2883	8.4	TML	3.7
4	TM**L	Chloromethane	0.3735	0.3616	3.2	TM**L	18
5	TM*	Vinyl chloride	0.3899	0.4545	17	TM*	
6	TM	2-Chloro-1,1,1-trifluoroethane	0.3967	0.3748	5.5	TM	
7	TML	Bromomethane	0.3201	0.2996	6.4	TML	19
8	TML	Chloroethane	0.2161	0.2566	19	TML	37 * NC
9	TM	Dichlorofluoromethane	0.5778	0.5372	7.0	TM	
10	TM	Trichlorofluoromethane	0.4966	0.4852	2.3	TM	
11	TML	Diethyl ether	0.0585	0.0563	3.7	TML	1.9
12	TMQ	Acrolein	0.0349	0.0267	23	TMQ	18
13	TML	Acetone	0.1713	0.1122	34	TML	18
14	TM	Freon-113	0.2776	0.2467	11	TM	
15	TM*	1,1-DCE	0.4254	0.3497	18	TM*	
16	TMQ	t-Butanol	0.0153	0.0194	27	TMQ	5.2
17	TM	2-Propanol	0.0000	0.0110	0.00	TM	
18	TM	Acetonitrile	0.0374	0.0358	4.3	TM	
19	TM	Methyl Acetate	0.2464	0.2355	4.4	TM	
20	TML	Iodomethane	0.1916	0.1882	1.7	TML	9.5
21	TM	Acrylonitrile	0.1268	0.1233	2.8	TM	
22	TML	Methylene chloride	0.3648	0.3221	12	TML	1.6
23	TML	Carbon disulfide	0.6625	0.6379	3.7	TML	9.5
24	TM	Methyl t-butyl ether (MtBE)	0.4531	0.4516	0.34	TM	
25	TM	Trans-1,2-DCE	0.4180	0.3535	15	TM	
26	TM	Diisopropyl Ether	0.9101	0.8193	10.0	TM	
27	TM**	2,2-Dichloro-1,1,1-trifluoroethane	0.0000	0.0007	0.00	TM**	
28	TM**	1,1-DCA	0.5799	0.4949	15	TM**	
29	TM	Vinyl Acetate	0.9101	0.8193	10.0	TM	
30	TM	Ethyl tert Butyl Ether	0.0000	0.0086	0.00	TM	
31	TML	MEK (2-Butanone)	0.0475	0.0421	11	TML	15
32	TM	Cis-1,2-DCE	0.4719	0.4044	14	TM	
33	TML	2,2-Dichloropropane	0.4829	0.3982	18	TML	5.0
34	TM	3-Methylpentane	0.0000	0.0006	0.00	TM	
35	TM*	Chloroform	0.5429	0.4718	13	TM*	
36	TM	Bromochloromethane	0.2169	0.1936	11	TM	
37	TM	1,1,1-TCA	0.4898	0.3927	20	TM	
38	TM	Cyclohexane	0.2766	0.2619	5.3	TM	
39	TM	1,1-Dichloropropene	0.2876	0.2588	10	TM	
40	TM	2,2,4-Trimethylpentane	0.5666	0.5289	6.7	TM	
		Average			9.4		

VOLATILE ORGANIC ANALYSIS
VOLATILE ORGANIC COMPOUNDS

Form 7

Second Source Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Date Analyzed: 01/21/20
Matrix: 0 Instrument: Loki
Cal. Date: 01/21/20
Data File: 0121L12.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	Carbon Tetrachloride	0.4224	0.3553	16	TM	
42	TM	Tert Amyl Methyl Ether	0.0000	0.0677	0.00	TM	
43	TM	Methylcyclopentane	0.0000	0.0015	0.00	TM	
44	TM	1,2-DCA	0.4309	0.3736	13	TM	
45	TM	Benzene	1.030	0.9007	13	TM	
46	TM	TCE	0.3229	0.2757	15	TM	
47	TM	2-Pentanone	0.1303	0.1386	6.4	TM	
48	TM*	1,2-Dichloropropane	0.2968	0.2470	17	TM*	
49	TM	Bromodichloromethane	0.4509	0.3806	16	TM	
50	TM	Methyl Cyclohexane	0.2875	0.2569	11	TM	
51	TM	Dibromomethane	0.2505	0.2164	14	TM	
52	TML	2-Chloroethyl vinyl ether	0.0951	0.0793	17	TML	11
53	TM	MIBK (methyl isobutyl ketone)	0.1894	0.2144	13	TM	
54	TM	1-Bromo-2-chloroethane	0.4076	0.4088	0.27	TM	
55	TM	Cis-1,3-Dichloropropene	0.4110	0.3650	11	TM	
56	TM*	Toluene	1.105	0.9958	9.9	TM*	
57	TML	Trans-1,3-Dichloropropene	0.3592	0.3463	3.6	TML	11
58	TM	1,1,2-TCA	0.2972	0.2606	12	TM	
59	TML	2-Hexanone	0.0738	0.0977	32	TML	12
60	TM	1,2-EDB	0.2752	0.2485	9.7	TM	
61	TM	Tetrachloroethene	0.3617	0.3352	7.3	TM	
62	TM	1-Chlorohexane	0.2730	0.2478	9.2	TM	
63	TM	1,1,1,2-Tetrachloroethane	0.3621	0.3225	11	TM	
64	TML	m&p-Xylene	0.8134	0.7283	10	TML	15
65	TML	o-Xylene	0.8124	0.7135	12	TML	15
66	TML	Styrene	0.6554	0.5555	15	TML	20
67	TM	1,3-Dichloropropane	0.4510	0.4104	9.0	TM	
68	TM	Dibromochloromethane	0.3670	0.3168	14	TM	
69	TM**	Chlorobenzene	0.8056	0.6957	14	TM**	
70	TM*	Ethylbenzene	1.143	0.9554	16	TM*	
71	TM**	Bromoform	0.2725	0.2272	17	TM**	
72	TM	Isopropylbenzene	1.035	0.8529	18	TM	
73	TM**	1,1,2,2-Tetrachloroethane	0.6372	0.6052	5.0	TM**	
74	TM	1,2,3-Trichloropropane	0.2085	0.2127	2.0	TM	
75	TML	t-1,4-Dichloro-2-Butene	0.0951	0.1137	20	TML	1.3
76	TM	Bromobenzene	0.6353	0.5438	14	TM	
77	TM	n-Propylbenzene	2.091	1.862	11	TM	
78	TM	4-Ethyltoluene	1.681	1.700	1.1	TM	
79	TM	2-Chlorotoluene	0.8241	0.7452	9.6	TM	
80	TML	1,3,5-Trimethylbenzene	1.515	1.383	8.7	TML	16
		Average			11.3		

VOLATILE ORGANIC ANALYSIS
VOLATILE ORGANIC COMPOUNDS

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 01/21/20
Instrument: Loki
Cal. Date: 01/21/20
Data File: 0121L12.D

		Compound	MEAN	CCRF	%D		%Drift
81	TM	4-Chlorotoluene	0.8446	0.7489	11	TM	
82	TM	Tert-Butylbenzene	1.297	1.172	9.7	TM	
83	TML	1,2,4-Trimethylbenzene	1.458	1.359	6.8	TML	12
84	TM	Sec-Butylbenzene	1.844	1.672	9.4	TM	
85	TM	p-Isopropyltoluene	1.668	1.563	6.3	TM	
86	TM	Benzyl Chloride	0.5780	0.5615	2.9	TM	
87	TM	1,3-DCB	1.130	1.058	6.3	TM	
88	TM	1,4-DCB	1.221	1.135	7.0	TM	
89	TM	n-Butylbenzene	1.400	1.220	13	TM	
90	TM	1,2-DCB	1.133	1.017	10	TM	
91	TML	Hexachloroethane	0.4634	0.4031	13	TML	1.8
92	TML	1,2-Dibromo-3-chloropropane	0.1167	0.1214	4.0	TML	1.2
93	TM	1,2,4-Trichlorobenzene	0.6179	0.5874	4.9	TM	
94	TM	Hexachlorobutadiene	0.2523	0.2390	5.3	TM	
95	TML	Naphthalene	0.8971	0.9913	10	TML	9.4
96	TML	1,2,3-Trichlorobenzene	0.3216	0.3026	5.9	TML	3.7
97							
98							
99							
100							
101							
102							
103							
104							
105							
106							
107							
108							
109							
110							
111							
112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			7.8		

Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\200121\0121L12.D Vial: 12
Acq On : 21 Jan 20 12:29 Operator:
Sample : (SS) 10ug/L VOC STD 1/21/20 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 21 13:19 2020 Quant Results File: L0121W.RES

Quant Method : M:\LOKI\DATA\200121\L0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 13:19:21 2020
Response via : Initial Calibration
DataAcq Meth : L8260

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene (IS)	5.06	96	242752	25.00	ppb		0.00
64) Chlorobenzene-D5 (IS)	8.69	117	244928	25.00	ppb		0.00
79) 1,4-Dichlorobenzene-D (IS)	11.23	152	135296	25.00	ppb		0.00
System Monitoring Compounds							
39) Dibromofluoromethane(S)	4.08	111	136470	23.47	ppb		0.00
Spiked Amount 25.000			Recovery =	93.888%			
44) 1,2-DCA-D4(S)	4.56	65	166592	23.52	ppb		0.00
Spiked Amount 25.000			Recovery =	94.076%			
65) Toluene-D8(S)	7.07	98	475233	23.91	ppb		0.00
Spiked Amount 25.000			Recovery =	95.636%			
73) 4-Bromofluorobenzene(S)	9.99	95	171793	24.95	ppb		0.00
Spiked Amount 25.000			Recovery =	99.808%			
Target Compounds							Qvalue
2) Chlorotrifluoroethene	0.74	116	131402	98.47	ppb		98
3) Dichlorodifluoromethane	0.75	85	28155	11.27	ppb		91
4) Freon 114	0.82	85	27997	10.37	ppb		83
5) Chloromethane	0.85	50	35114	11.78	ppb		94
6) Vinyl chloride	0.91	62	44136	11.66	ppb		96
7) 2-Chloro-1,1,1-trifluoroet	0.97	118	363961	94.48	ppb		98
8) Bromomethane	1.08	94	29093	11.87	ppb		97
9) Chloroethane	1.15	64	24918	13.67	ppb		93
10) Dichlorofluoromethane	1.27	67	52161	9.30	ppb		95
11) Trichlorofluoromethane	1.30	101	47111	9.77	ppb		96
12) Diethyl ether	1.94	74	5470	10.19	ppb		93
13) Acrolein	1.56	56	32379	102.68	ppb		94
14) Acetone	1.68	43	10899	11.84	ppb		92
15) Freon-113	1.65	101	23957	8.89	ppb		95
16) 1,1-DCE	1.63	61	33954	8.22	ppb		100
17) t-Butanol	2.15	59	23557	131.51	ppb		94
19) Acetonitrile	1.88	41	43428	119.58	ppb		99
20) Methyl Acetate	1.94	43	22869	9.56	ppb		100
21) Iodomethane	1.73	142	18279	9.05	ppb		89
22) Acrylonitrile	2.21	53	11973	9.72	ppb		93
23) Methylene chloride	2.00	84	31275	9.84	ppb		96
24) Carbon disulfide	1.77	76	61944	10.95	ppb		99
25) Methyl t-butyl ether (MtBE	2.27	73	43848	9.97	ppb		91
26) Trans-1,2-DCE	2.24	61	34322	8.46	ppb		95
27) Diisopropyl Ether	2.79	45	79551	9.00	ppb		99
29) 1,1-DCA	2.64	63	48055	8.53	ppb		99
30) Vinyl Acetate	2.79	45	79551	9.00	ppb		99
32) MEK (2-Butanone)	3.41	43	4084	11.47	ppb		92
33) Cis-1,2-DCE	3.34	61	39268	8.57	ppb		90
34) 2,2-Dichloropropane	3.32	77	38670	9.50	ppb		97
37) Chloroform	3.84	83	45817	8.69	ppb		95
38) Bromochloromethane	3.67	130	18803	8.93	ppb		92
40) 1,1,1-TCA	4.07	97	38127	8.02	ppb		94
41) Cyclohexane	4.14	56	25435	9.47	ppb	#	86
42) 1,1-Dichloropropene	4.34	75	25125	9.00	ppb		96
43) 2,2,4-Trimethylpentane	4.83	57	51358	9.33	ppb		96
45) Carbon Tetrachloride	4.33	117	34501	8.41	ppb		90
48) 1,2-DCA	4.67	62	36274	8.67	ppb		93
49) Benzene	4.63	78	87455	8.74	ppb		95

(#) = qualifier out of range (m) = manual integration

Data File : M:\LOKI\DATA\200121\0121L12.D Vial: 12
Acq On : 21 Jan 20 12:29 Operator:
Sample : (SS) 10ug/L VOC STD 1/21/20 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 21 13:19 2020 Quant Results File: L0121W.RES

Quant Method : M:\LOKI\DATA\200121\L0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 13:19:21 2020
Response via : Initial Calibration
DataAcq Meth : L8260

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
50)	TCE	5.56	130	26775	8.54	ppb		96
51)	2-Pentanone	5.88	43	168244	132.98	ppb		96
52)	1,2-Dichloropropane	5.83	63	23988	8.32	ppb		86
53)	Bromodichloromethane	6.22	83	36960	8.44	ppb		93
54)	Methyl Cyclohexane	5.78	83	24942	8.94	ppb		93
55)	Dibromomethane	5.97	174	21016	8.64	ppb		90
56)	2-Chloroethyl vinyl ether	6.54	63	38524	44.41	ppb	#	100
57)	MIBK (methyl isobutyl ket	7.01	43	20823	11.32	ppb	#	80
58)	1-Bromo-2-chloroethane	6.54	63	39690	10.03	ppb		97
59)	Cis-1,3-Dichloropropene	6.77	75	35441	8.88	ppb		98
60)	Toluene	7.14	91	96696	9.01	ppb		94
61)	Trans-1,3-Dichloropropene	7.44	75	33622	8.88	ppb		100
62)	1,1,2-TCA	7.63	97	25308	8.77	ppb		98
63)	2-Hexanone	7.98	43	9487	11.18	ppb		90
66)	1,2-EDB	8.14	107	24343	9.03	ppb		95
67)	Tetrachloroethene	7.76	166	32843	9.27	ppb		97
68)	1-Chlorohexane	8.76	91	24282	9.08	ppb		96
69)	1,1,1,2-Tetrachloroethane	8.82	131	31600	8.91	ppb		88
70)	m&p-Xylene	9.01	91	142707	16.92	ppb		96
71)	o-Xylene	9.43	91	69903	8.45	ppb		93
72)	Styrene	9.45	104	54421	8.00	ppb		90
74)	1,3-Dichloropropane	7.81	76	40211	9.10	ppb		97
75)	Dibromochloromethane	8.05	129	31035	8.63	ppb		95
76)	Chlorobenzene	8.72	112	68157	8.64	ppb		96
77)	Ethylbenzene	8.87	91	93604	8.36	ppb		96
78)	Bromoform	9.61	173	22255	8.34	ppb		86
80)	Isopropylbenzene	9.85	105	46160	8.24	ppb		99
81)	1,1,2,2-Tetrachloroethane	10.18	83	32751	9.50	ppb		96
82)	1,2,3-Trichloropropane	10.20	110	11510	10.20	ppb		83
83)	t-1,4-Dichloro-2-Butene	10.24	53	6151	10.13	ppb		100
84)	Bromobenzene	10.12	156	29429	8.56	ppb		92
85)	n-Propylbenzene	10.29	91	100766	8.91	ppb		97
86)	4-Ethyltoluene	10.43	105	92002	10.11	ppb		98
87)	2-Chlorotoluene	10.35	91	40331	9.04	ppb		97
88)	1,3,5-Trimethylbenzene	10.50	105	74824	8.42	ppb		99
89)	4-Chlorotoluene	10.47	91	40528	8.87	ppb		91
90)	Tert-Butylbenzene	10.84	119	63422	9.03	ppb		99
91)	1,2,4-Trimethylbenzene	10.89	105	73537	8.83	ppb		97
92)	Sec-Butylbenzene	11.08	105	90468	9.06	ppb		95
93)	p-Isopropyltoluene	11.25	119	84612	9.37	ppb		95
94)	Benzyl Chloride	11.41	91	30388	9.71	ppb		98
95)	1,3-DCB	11.15	146	57277	9.37	ppb		98
96)	1,4-DCB	11.25	146	61451	9.30	ppb		96
97)	n-Butylbenzene	11.68	91	66038	8.72	ppb		98
98)	1,2-DCB	11.64	146	55034	8.98	ppb		96
99)	Hexachloroethane	11.91	117	21814	9.82	ppb	#	86
100)	1,2-Dibromo-3-chloropropan	12.47	157	6569	10.12	ppb		86
101)	1,2,4-Trichlorobenzene	13.37	180	31788	9.51	ppb		83
102)	Hexachlorobutadiene	13.59	225	12933	9.47	ppb		89
103)	Naphthalene	13.62	128	53648	10.94	ppb		100
104)	1,2,3-Trichlorobenzene	13.89	182	16374	9.63	ppb	#	72

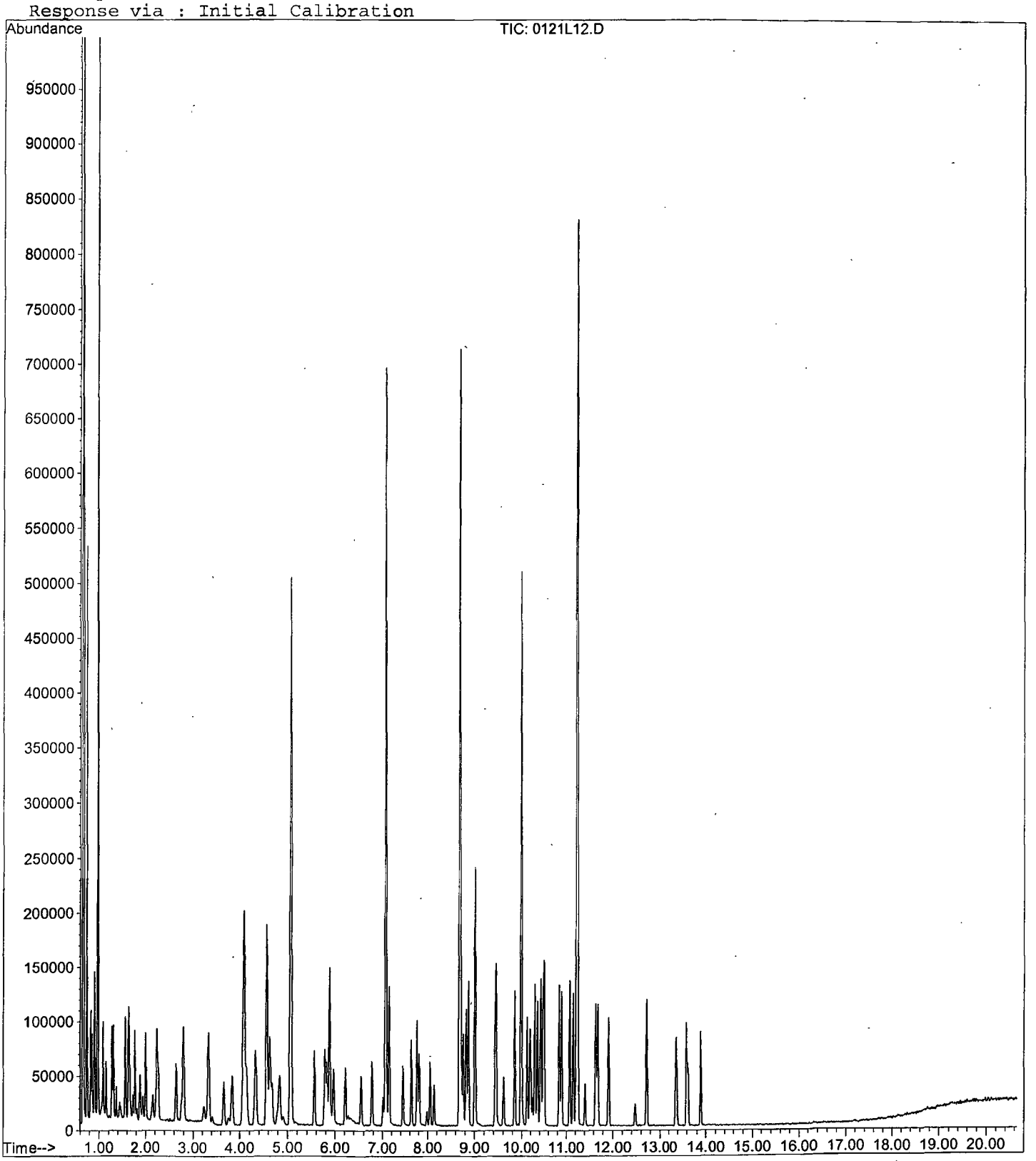
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LOKI\DATA\200121\0121L12.D Vial: 12
Acq On : 21 Jan 20 12:29 Operator:
Sample : (SS) 10ug/L VOC STD 1/21/20 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 21 13:19 2020 Quant Results File: L0121W.RES

Method : M:\LOKI\DATA\200121\L0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 13:19:21 2020
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS
VOLATILE ORGANIC COMPOUNDS

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 01/21/20
Instrument: Loki
Initial Cal. Date: 01/21/20
Data File: 0121L23.D

		Compound	MEAN	CCRF	%D	%Drift		
1	I	Fluorobenzene (IS)	ISTD			I		
2	TM	Chlorotrifluoroethene	0.1374	0.1262	8.1	TM		
3	TML	Dichlorodifluoromethane	0.2885	0.2587	10	TML	0.20	
4	TML	Freon 114	0.3147	0.2767	12	TML	0.59	
5	TM**L	Chloromethane	0.3735	0.3366	9.9	TM**L	9.2	
6	TM*	Vinyl chloride	0.3899	0.3867	0.83	TM*		
7	TM	2-Chloro-1,1,1-trifluoroethane	0.3967	0.3913	1.4	TM		
8	TML	Bromomethane	0.3201	0.3094	3.3	TML	23	*nt
9	TML	Chloroethane	0.2161	0.2070	4.2	TML	8.0	
10	TM	Dichlorofluoromethane	0.5778	0.5706	1.3	TM		
11	TM	Trichlorofluoromethane	0.4966	0.4695	5.5	TM		
12	TML	Diethyl ether	0.0585	0.0522	11	TML	5.0	
13	TMQ	Acrolein	0.0349	0.0354	1.6	TMQ	4.5	
14	TML	Acetone	0.1713	0.0990	42	TML	1.6	
15	TM	Freon-113	0.2776	0.2547	8.2	TM		
16	TM*	1,1-DCE	0.4254	0.4094	3.8	TM*		
17	TMQ	t-Butanol	0.0153	0.0189	24	TMQ	3.7	
18	TM	2-Propanol	0.0000	0.0111	0.00	TM		
19	TM	Acetonitrile	0.0374	0.0379	1.3	TM		
20	TM	Methyl Acetate	0.2464	0.2805	14	TM		
21	TML	Iodomethane	0.1916	0.1407	27	TML	26	*nt
22	TM	Acrylonitrile	0.1268	0.1381	8.9	TM		
23	TML	Methylene chloride	0.3648	0.3520	3.5	TML	8.2	
24	TML	Carbon disulfide	0.6625	0.5892	11	TML	0.59	
25	TM	Methyl t-butyl ether (MtBE)	0.4531	0.4866	7.4	TM		
26	TM	Trans-1,2-DCE	0.4180	0.4150	0.74	TM		
27	TM	Diisopropyl Ether	0.9101	0.8535	6.2	TM		
28	TM**	2,2-Dichloro-1,1,1-trifluoroethane	0.0000	0.0015	0.00	TM**		
29	TM**	1,1-DCA	0.5799	0.5690	1.9	TM**		
30	TM	Vinyl Acetate	0.9101	0.8535	6.2	TM		
31	TM	Ethyl tert Butyl Ether	0.0000	0.0097	0.00	TM		
32	TML	MEK (2-Butanone)	0.0475	0.0383	19	TML	5.2	
33	TM	Cis-1,2-DCE	0.4719	0.4421	6.3	TM		
34	TML	2,2-Dichloropropane	0.4829	0.3926	19	TML	6.4	
35	TM	2-Methylpentane	0.0000	0.0010	0.00	TM		
36	TM	3-Methylpentane	0.0000	0.0030	0.00	TM		
37	TM*	Chloroform	0.5429	0.5716	5.3	TM*		
38	TM	Bromochloromethane	0.2169	0.2226	2.6	TM		
39	S	Dibromofluoromethane(S)	0.5988	0.6019	0.52	S		
40	TM	1,1,1-TCA	0.4898	0.4675	4.6	TM		
		Average			7.5			

VOLATILE ORGANIC ANALYSIS
VOLATILE ORGANIC COMPOUNDS

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 01/21/20
Instrument: Loki
Cal. Date: 01/21/20
Data File: 0121L23.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	Cyclohexane	0.2766	0.2719	1.7	TM	
42	TM	1,1-Dichloropropene	0.2876	0.2884	0.31	TM	
43	TM	2,2,4-Trimethylpentane	0.5666	0.5091	10	TM	
44	S	1,2-DCA-D4(S)	0.7295	0.7497	2.8	S	
45	TM	Carbon Tetrachloride	0.4224	0.4164	1.4	TM	
46	TM	Tert Amyl Methyl Ether	0.0000	0.0025	0.00	TM	
47	TM	Methylcyclopentane	0.0000	0.0002	0.00	TM	
48	TM	1,2-DCA	0.4309	0.4279	0.70	TM	
49	TM	Benzene	1.030	1.021	0.90	TM	
50	TM	TCE	0.3229	0.3407	5.5	TM	
51	TM	2-Pentanone	0.1303	0.1418	8.8	TM	
52	TM*	1,2-Dichloropropane	0.2968	0.2971	0.10	TM*	
53	TM	Bromodichloromethane	0.4509	0.4545	0.79	TM	
54	TM	Methyl Cyclohexane	0.2875	0.2561	11	TM	
55	TM	Dibromomethane	0.2505	0.2573	2.7	TM	
56	TML	2-Chloroethyl vinyl ether	0.0951	0.0822	14	TML	10.0
57	TM	MIBK (methyl isobutyl ketone)	0.1894	0.2107	11	TM	
58	TM	1-Bromo-2-chloroethane	0.4076	0.4249	4.2	TM	
59	TM	Cis-1,3-Dichloropropene	0.4110	0.4066	1.1	TM	
60	TM*	Toluene	1.105	1.123	1.6	TM*	
61	TML	Trans-1,3-Dichloropropene	0.3592	0.3933	9.5	TML	0.26
62	TM	1,1,2-TCA	0.2972	0.3082	3.7	TM	
63	TML	2-Hexanone	0.0738	0.0906	23	TML	5.4
64	I	Chlorobenzene-D5 (IS)	ISTD			I	
65	S	Toluene-D8(S)	2.029	1.991	1.9	S	
66	TM	1,2-EDB	0.2752	0.2889	5.0	TM	
67	TM	Tetrachloroethene	0.3617	0.3440	4.9	TM	
68	TM	1-Chlorohexane	0.2730	0.2382	13	TM	
69	TM	1,1,1,2-Tetrachloroethane	0.3621	0.3431	5.2	TM	
70	TML	m&p-Xylene	0.8134	0.7842	3.6	TML	10
71	TML	o-Xylene	0.8124	0.7859	3.3	TML	8.8
72	TML	Styrene	0.6554	0.6547	0.11	TML	9.4
73	S	4-Bromofluorobenzene(S)	0.7028	0.7138	1.6	S	
74	TM	1,3-Dichloropropane	0.4510	0.4511	0.02	TM	
75	TM	Dibromochloromethane	0.3670	0.3620	1.4	TM	
76	TM**	Chlorobenzene	0.8056	0.7739	3.9	TM**	
77	TM*	Ethylbenzene	1.143	1.032	9.7	TM*	
78	TM**	Bromoform	0.2725	0.2674	1.9	TM**	
79	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
80	TM	Isopropylbenzene	1.035	0.9376	9.4	TM	
		Average			4.7		

VOLATILE ORGANIC ANALYSIS
VOLATILE ORGANIC COMPOUNDS

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 01/21/20
Instrument: Loki
Cal. Date: 01/21/20
Data File: 0121L23.D

		Compound	MEAN	CCRF	%D		%Drift
81	TM**	1,1,2,2-Tetrachloroethane	0.6372	0.5993	5.9	TM**	
82	TM	1,2,3-Trichloropropane	0.2085	0.2249	7.9	TM	
83	TML	t-1,4-Dichloro-2-Butene	0.0951	0.1110	17	TML	0.81
84	TM	Bromobenzene	0.6353	0.6002	5.5	TM	
85	TM	n-Propylbenzene	2.091	1.907	8.8	TM	
86	TM	4-Ethyltoluene	1.681	1.558	7.3	TM	
87	TM	2-Chlorotoluene	0.8241	0.8094	1.8	TM	
88	TML	1,3,5-Trimethylbenzene	1.515	1.464	3.3	TML	12
89	TM	4-Chlorotoluene	0.8446	0.8284	1.9	TM	
90	TM	Tert-Butylbenzene	1.297	1.376	6.1	TM	
91	TML	1,2,4-Trimethylbenzene	1.458	1.323	9.3	TML	14
92	TM	Sec-Butylbenzene	1.844	1.747	5.3	TM	
93	TM	p-Isopropyltoluene	1.668	1.561	6.4	TM	
94	TM	Benzyl Chloride	0.5780	0.4683	19	TM	
95	TM	1,3-DCB	1.130	1.121	0.79	TM	
96	TM	1,4-DCB	1.221	1.145	6.2	TM	
97	TM	n-Butylbenzene	1.400	1.181	16	TM	
98	TM	1,2-DCB	1.133	1.064	6.1	TM	
99	TML	Hexachloroethane	0.4634	0.4215	9.1	TML	3.1
100	TML	1,2-Dibromo-3-chloropropane	0.1167	0.1245	6.7	TML	3.5
101	TM	1,2,4-Trichlorobenzene	0.6179	0.5203	16	TM	
102	TM	Hexachlorobutadiene	0.2523	0.2297	9.0	TM	
103	TML	Naphthalene	0.8971	0.7023	22	TML	19
104	TML	1,2,3-Trichlorobenzene	0.3216	0.2770	14	TML	9.7
105							
106							
107							
108							
109							
110							
111							
112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			8.8		

Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\200121\0121L23.D Vial: 23
Acq On : 21 Jan 20 17:43 Operator:
Sample : 200121A CCV/LCS 10ug/L Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 22 8:33 2020 Quant Results File: L0121W.RES

Quant Method : M:\LOKI\DATA\200121\L0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 13:19:21 2020
Response via : Initial Calibration
DataAcq Meth : L8260

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Fluorobenzene (IS)	5.06	96	225408	25.00000 ppb		0.00
64) Chlorobenzene-D5 (IS)	8.68	117	235520	25.00000 ppb		0.00
79) 1,4-Dichlorobenzene-D (IS)	11.23	152	136960	25.00000 ppb		0.00
System Monitoring Compounds						
39) Dibromofluoromethane(S)	4.09	111	135674	25.13022 ppb		0.00
Spiked Amount 25.000			Recovery = 100.520%			
44) 1,2-DCA-D4(S)	4.56	65	168995	25.69439 ppb		0.00
Spiked Amount 25.000			Recovery = 102.776%			
65) Toluene-D8(S)	7.07	98	468971	24.53694 ppb		0.00
Spiked Amount 25.000			Recovery = 98.148%			
73) 4-Bromofluorobenzene(S)	9.99	95	168120	25.39349 ppb		0.00
Spiked Amount 25.000			Recovery = 101.572%			
Target Compounds						Qvalue
2) Chlorotrifluoroethene	0.74	116	113829	91.86702 ppb		99
3) Dichlorodifluoromethane	0.75	85	23329	10.01961 ppb		94
4) Freon 114	0.82	85	24952	9.94111 ppb		98
5) Chloromethane	0.85	50	30345	10.92007 ppb		93
6) Vinyl chloride	0.91	62	34864	9.91680 ppb		97
7) 2-Chloro-1,1,1-trifluoroet	0.97	118	352792	98.62218 ppb		99
8) Bromomethane	1.08	94	27893	12.28325 ppb		97
9) Chloroethane	1.15	64	18663	10.80362 ppb		96
10) Dichlorofluoromethane	1.27	67	51443	9.87445 ppb		95
11) Trichlorofluoromethane	1.30	101	42328	9.45358 ppb		98
12) Diethyl ether	1.94	74	4705	9.50322 ppb	#	71
13) Acrolein	1.56	56	39910	130.60599 ppb		97
14) Acetone	1.68	43	8928	10.16025 ppb		95
15) Freon-113	1.65	101	22962	9.17514 ppb		98
16) 1,1-DCE	1.63	61	36913	9.62429 ppb		98
17) t-Butanol	2.15	59	21348	129.57472 ppb		90
19) Acetonitrile	1.88	41	42683	126.57252 ppb		99
20) Methyl Acetate	1.94	43	25290	11.38403 ppb		90
21) Iodomethane	1.73	142	12690	7.39119 ppb		99
22) Acrylonitrile	2.21	53	12451	10.89133 ppb		89
23) Methylene chloride	2.00	84	31737	10.81886 ppb		95
24) Carbon disulfide	1.77	76	53120	10.05917 ppb		100
25) Methyl t-butyl ether (MtBE	2.26	73	43877	10.74024 ppb		96
26) Trans-1,2-DCE	2.24	61	37415	9.92648 ppb		95
27) Diisopropyl Ether	2.79	45	76957	9.37882 ppb		96
29) 1,1-DCA	2.64	63	51302	9.81251 ppb		98
30) Vinyl Acetate	2.79	45	76957	9.37882 ppb		96
32) MEK (2-Butanone)	3.42	43	3449	10.52449 ppb		99
33) Cis-1,2-DCE	3.34	61	39859	9.36741 ppb		90
34) 2,2-Dichloropropane	3.33	77	35397	9.35753 ppb		99
37) Chloroform	3.84	83	51536	10.52838 ppb		99
38) Bromochloromethane	3.66	130	20066	10.26140 ppb		82
40) 1,1,1-TCA	4.06	97	42151	9.54393 ppb		98
41) Cyclohexane	4.14	56	24511	9.82667 ppb		87
42) 1,1-Dichloropropene	4.34	75	26007	10.03076 ppb		94
43) 2,2,4-Trimethylpentane	4.83	57	45903	8.98529 ppb		97
45) Carbon Tetrachloride	4.32	117	37545	9.85734 ppb		88
48) 1,2-DCA	4.68	62	38580	9.92993 ppb		96
49) Benzene	4.63	78	92028	9.90984 ppb		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\200121\0121L23.D Vial: 23
Acq On : 21 Jan 20 17:43 Operator:
Sample : 200121A CCV/LCS 10ug/L Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 22 8:33 2020 Quant Results File: L0121W.RES

Quant Method : M:\LOKI\DATA\200121\L0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 13:19:21 2020
Response via : Initial Calibration
DataAcq Meth : L8260

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
50)	TCE	5.55	130	30720	10.55294	ppb		97
51)	2-Pentanone	5.88	43	159845	136.05835	ppb		94
52)	1,2-Dichloropropane	5.83	63	26785	10.00954	ppb		97
53)	Bromodichloromethane	6.21	83	40977	10.07874	ppb		92
54)	Methyl Cyclohexane	5.78	83	23089	8.90852	ppb		95
55)	Dibromomethane	5.97	174	23197	10.26989	ppb		92
56)	2-Chloroethyl vinyl ether	6.54	63	37041	45.02211	ppb	#	100
57)	MIBK (methyl isobutyl ket	7.01	43	18999	11.12339	ppb		95
58)	1-Bromo-2-chloroethane	6.54	63	38309	10.42290	ppb		95
59)	Cis-1,3-Dichloropropene	6.78	75	36660	9.89310	ppb		99
60)	Toluene	7.14	91	101260	10.16462	ppb		96
61)	Trans-1,3-Dichloropropene	7.45	75	35465	9.97353	ppb		99
62)	1,1,2-TCA	7.63	97	27788	10.36937	ppb		95
63)	2-Hexanone	7.98	43	8167	10.54095	ppb		90
66)	1,2-EDB	8.14	107	27217	10.49917	ppb		93
67)	Tetrachloroethene	7.76	166	32404	9.51031	ppb		92
68)	1-Chlorohexane	8.76	91	22441	8.72417	ppb		92
69)	1,1,1,2-Tetrachloroethane	8.82	131	32326	9.47522	ppb		91
70)	m&p-Xylene	9.01	91	147752	17.94751	ppb		92
71)	o-Xylene	9.43	91	74040	9.12354	ppb		99
72)	Styrene	9.45	104	61675	9.05618	ppb		95
74)	1,3-Dichloropropane	7.81	76	42494	10.00210	ppb		94
75)	Dibromochloromethane	8.05	129	34099	9.86153	ppb		98
76)	Chlorobenzene	8.72	112	72912	9.60671	ppb		95
77)	Ethylbenzene	8.87	91	97220	9.02965	ppb		96
78)	Bromoform	9.61	173	25189	9.81198	ppb		90
80)	Isopropylbenzene	9.85	105	51368	9.05889	ppb		98
81)	1,1,2,2-Tetrachloroethane	10.18	83	32833	9.40588	ppb		100
82)	1,2,3-Trichloropropane	10.20	110	12323	10.78936	ppb		86
83)	t-1,4-Dichloro-2-Butene	10.25	53	6081	9.91915	ppb		89
84)	Bromobenzene	10.12	156	32879	9.44756	ppb		98
85)	n-Propylbenzene	10.29	91	104480	9.12179	ppb		96
86)	4-Ethyltoluene	10.43	105	85359	9.26669	ppb		94
87)	2-Chlorotoluene	10.35	91	44343	9.82172	ppb		99
88)	1,3,5-Trimethylbenzene	10.50	105	80216	8.84843	ppb		96
89)	4-Chlorotoluene	10.47	91	45384	9.80821	ppb		93
90)	Tert-Butylbenzene	10.84	119	75407	10.61033	ppb		88
91)	1,2,4-Trimethylbenzene	10.89	105	72456	8.63917	ppb		99
92)	Sec-Butylbenzene	11.08	105	95699	9.47078	ppb		95
93)	p-Isopropyltoluene	11.25	119	85506	9.35786	ppb		98
94)	Benzyl Chloride	11.41	91	25653	8.10070	ppb		98
95)	1,3-DCB	11.15	146	61408	9.92130	ppb		96
96)	1,4-DCB	11.25	146	62748	9.38037	ppb		94
97)	n-Butylbenzene	11.68	91	64713	8.43857	ppb		98
98)	1,2-DCB	11.64	146	58278	9.38987	ppb		96
99)	Hexachloroethane	11.91	117	23089	10.31292	ppb	#	86
100)	1,2-Dibromo-3-chloropropan	12.47	157	6818	10.35351	ppb	#	89
101)	1,2,4-Trichlorobenzene	13.37	180	28506	8.42048	ppb		87
102)	Hexachlorobutadiene	13.59	225	12582	9.10194	ppb		94
103)	Naphthalene	13.62	128	38474	8.05939	ppb		97
104)	1,2,3-Trichlorobenzene	13.89	182	15175	9.03022	ppb		90

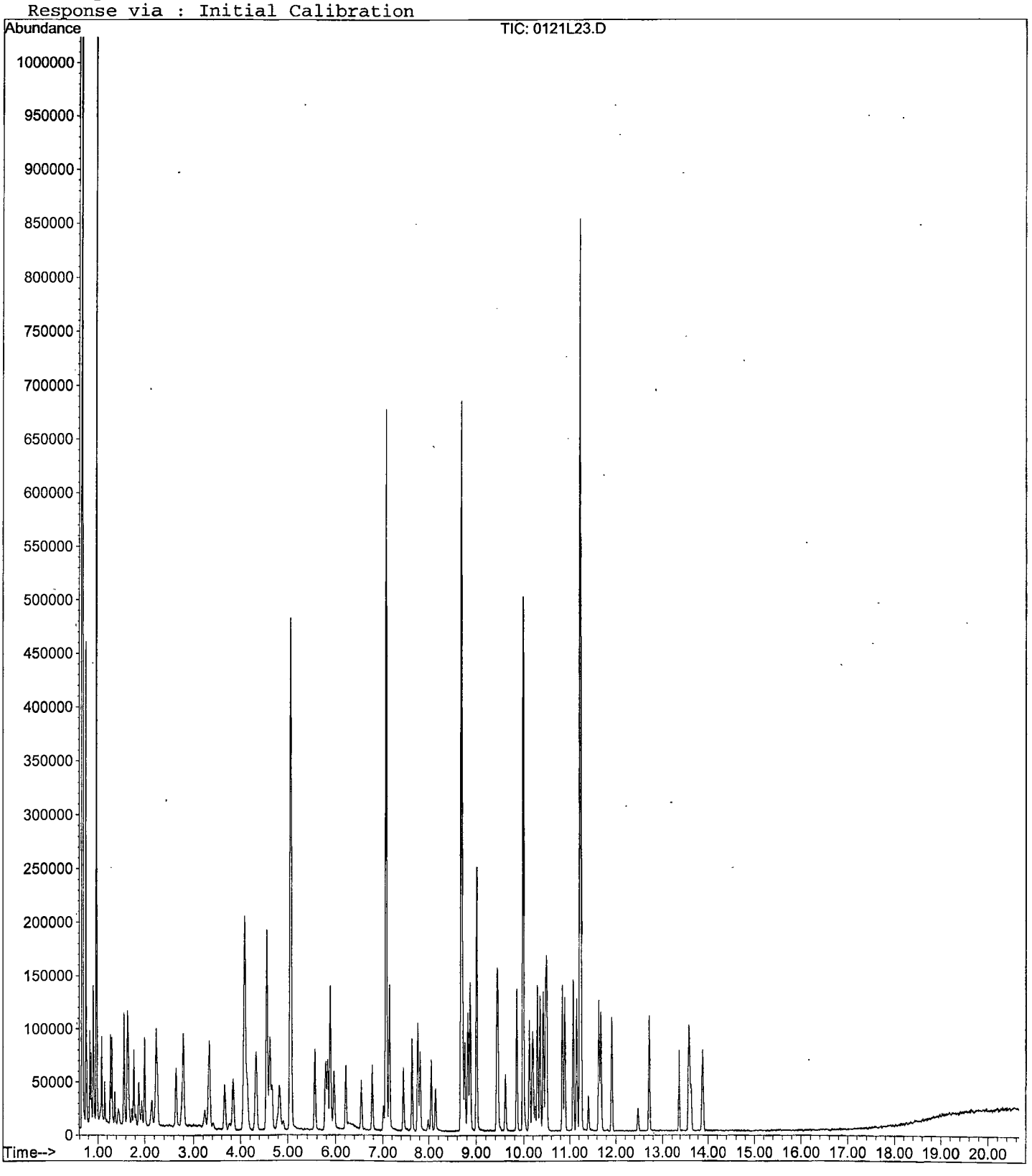
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LOKI\DATA\200121\0121L23.D Vial: 23
Acq On : 21 Jan 20 17:43 Operator:
Sample : 200121A CCV/LCS 10ug/L Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 22 8:33 2020 Quant Results File: L0121W.RES

Method : M:\LOKI\DATA\200121\L0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 13:19:21 2020
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS
VOLATILE ORGANIC COMPOUNDS

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 01/22/20
Instrument: Loki
Initial Cal. Date: 01/21/20
Data File: 0121L47.D

		Compound	MEAN	CCRF	%D		%Drift	
1	I	Fluorobenzene (IS)	ISTD			I		
2	TM	Chlorotrifluoroethene	0.1374	0.1312	4.5	TM		
3	TML	Dichlorodifluoromethane	0.2885	0.6950	141	TML	175	*nt
4	TML	Freon 114	0.3147	0.2860	9.1	TML	2.8	
5	TM**L	Chloromethane	0.3735	0.3593	3.8	TM**L	17	
6	TM*	Vinyl chloride	0.3899	0.4107	5.3	TM*		
7	TM	2-Chloro-1,1,1-trifluoroethane	0.3967	0.4024	1.4	TM		
8	TML	Bromomethane	0.3201	0.3274	2.3	TML	31	
9	TML	Chloroethane	0.2161	0.2305	6.7	TML	22	
10	TM	Dichlorofluoromethane	0.5778	0.5959	3.1	TM		
11	TM	Trichlorofluoromethane	0.4966	0.5202	4.7	TM		
12	TML	Diethyl ether	0.0585	0.0538	8.0	TML	2.3	
13	TMQ	Acrolein	0.0349	0.0295	15	TMQ	10	
14	TML	Acetone	0.1713	0.0982	43	TML	0.59	
15	TM	Freon-113	0.2776	0.2784	0.31	TM		
16	TM*	1,1-DCE	0.4254	0.4250	0.09	TM*		
17	TMQ	t-Butanol	0.0153	0.0181	18	TMQ	0.78	
18	TM	2-Propanol	0.0000	0.0007	0.00	TM		
19	TM	Acetonitrile	0.0374	0.0373	0.27	TM		
20	TM	Methyl Acetate	0.2464	0.2377	3.5	TM		
21	TML	Iodomethane	0.1916	0.1566	18	TML	21	
22	TM	Acrylonitrile	0.1268	0.1263	0.36	TM		
23	TML	Methylene chloride	0.3648	0.3552	2.6	TML	9.2	
24	TML	Carbon disulfide	0.6625	0.6377	3.7	TML	9.5	
25	TM	Methyl t-butyl ether (MtBE)	0.4531	0.4226	6.7	TM		
26	TM	Trans-1,2-DCE	0.4180	0.4227	1.1	TM		
27	TM	Diisopropyl Ether	0.9101	0.8843	2.8	TM		
28	TM**	2,2-Dichloro-1,1,1-trifluoroethane	0.0000	0.0010	0.00	TM**		
29	TM**	1,1-DCA	0.5799	0.5941	2.5	TM**		
30	TM	Vinyl Acetate	0.9101	0.8843	2.8	TM		
31	TM	Ethyl tert Butyl Ether	0.0000	0.0093	0.00	TM		
32	TML	MEK (2-Butanone)	0.0475	0.0393	17	TML	7.9	
33	TM	Cis-1,2-DCE	0.4719	0.4995	5.8	TM		
34	TML	2,2-Dichloropropane	0.4829	0.3728	23	TML	12	
35	TM	2-Methylpentane	0.0000	0.0013	0.00	TM		
36	TM	3-Methylpentane	0.0000	0.0009	0.00	TM		
37	TM*	Chloroform	0.5429	0.5741	5.7	TM*		
38	TM	Bromochloromethane	0.2169	0.2357	8.7	TM		
39	S	Dibromofluoromethane(S)	0.5988	0.5844	2.4	S		
40	TM	1,1,1-TCA	0.4898	0.5017	2.4	TM		
		Average			9.6			

VOLATILE ORGANIC ANALYSIS
VOLATILE ORGANIC COMPOUNDS

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Date Analyzed: 01/22/20
Matrix: 0 Instrument: Loki
Cal. Date: 01/21/20
Data File: 0121L47.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	Cyclohexane	0.2766	0.2869	3.7	TM	
42	TM	1,1-Dichloropropene	0.2876	0.2882	0.22	TM	
43	TM	2,2,4-Trimethylpentane	0.5666	0.4714	17	TM	
44	S	1,2-DCA-D4(S)	0.7295	0.7107	2.6	S	
45	TM	Carbon Tetrachloride	0.4224	0.4449	5.3	TM	
46	TM	Tert Amyl Methyl Ether	0.0000	0.0607	0.00	TM	
47	TM	Methylcyclopentane	0.0000	0.0013	0.00	TM	
48	TM	1,2-DCA	0.4309	0.4361	1.2	TM	
49	TM	Benzene	1.030	1.056	2.6	TM	
50	TM	TCE	0.3229	0.3532	9.4	TM	
51	TM	2-Pentanone	0.1303	0.1270	2.6	TM	
52	TM*	1,2-Dichloropropane	0.2968	0.3012	1.5	TM*	
53	TM	Bromodichloromethane	0.4509	0.4614	2.3	TM	
54	TM	Methyl Cyclohexane	0.2875	0.2748	4.4	TM	
55	TM	Dibromomethane	0.2505	0.2549	1.7	TM	
56	TML	2-Chloroethyl vinyl ether	0.0951	0.0854	10	TML	8.6
57	TM	MIBK (methyl isobutyl ketone)	0.1894	0.1867	1.5	TM	
58	TM	1-Bromo-2-chloroethane	0.4076	0.4398	7.9	TM	
59	TM	Cis-1,3-Dichloropropene	0.4110	0.3925	4.5	TM	
60	TM*	Toluene	1.105	1.178	6.6	TM*	
61	TML	Trans-1,3-Dichloropropene	0.3592	0.3812	6.1	TML	3.1
62	TM	1,1,2-TCA	0.2972	0.3040	2.3	TM	
63	TML	2-Hexanone	0.0738	0.0824	12	TML	1.9
64	I	Chlorobenzene-D5 (IS)	ISTD			I	
65	S	Toluene-D8(S)	2.029	1.959	3.4	S	
66	TM	1,2-EDB	0.2752	0.2731	0.76	TM	
67	TM	Tetrachloroethene	0.3617	0.3631	0.40	TM	
68	TM	1-Chlorohexane	0.2730	0.2514	7.9	TM	
69	TM	1,1,1,2-Tetrachloroethane	0.3621	0.3677	1.5	TM	
70	TML	m&p-Xylene	0.8134	0.8165	0.39	TML	7.3
71	TML	o-Xylene	0.8124	0.8237	1.4	TML	5.3
72	TML	Styrene	0.6554	0.6403	2.3	TML	11
73	S	4-Bromofluorobenzene(S)	0.7028	0.6939	1.3	S	
74	TM	1,3-Dichloropropane	0.4510	0.4474	0.80	TM	
75	TM	Dibromochloromethane	0.3670	0.3603	1.8	TM	
76	TM**	Chlorobenzene	0.8056	0.7940	1.4	TM**	
77	TM*	Ethylbenzene	1.143	1.076	5.9	TM*	
78	TM**	Bromoform	0.2725	0.2676	1.8	TM**	
79	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
80	TM	Isopropylbenzene	1.035	1.006	2.8	TM	
		Average			3.7		

VOLATILE ORGANIC ANALYSIS
VOLATILE ORGANIC COMPOUNDS

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Date Analyzed: 01/22/20
Matrix: 0 Instrument: Loki
Cal. Date: 01/21/20
Data File: 0121L47.D

		Compound	MEAN	CCRF	%D		%Drift
81	TM**	1,1,2,2-Tetrachloroethane	0.6372	0.5486	14	TM**	
82	TM	1,2,3-Trichloropropane	0.2085	0.2068	0.80	TM	
83	TML	t-1,4-Dichloro-2-Butene	0.0951	0.0992	4.4	TML	10
84	TM	Bromobenzene	0.6353	0.6590	3.7	TM	
85	TM	n-Propylbenzene	2.091	2.039	2.5	TM	
86	TM	4-Ethyltoluene	1.681	1.630	3.1	TM	
87	TM	2-Chlorotoluene	0.8241	0.8008	2.8	TM	
88	TML	1,3,5-Trimethylbenzene	1.515	1.550	2.4	TML	7.0
89	TM	4-Chlorotoluene	0.8446	0.8611	2.0	TM	
90	TM	Tert-Butylbenzene	1.297	1.298	0.05	TM	
91	TML	1,2,4-Trimethylbenzene	1.458	1.359	6.8	TML	12
92	TM	Sec-Butylbenzene	1.844	1.894	2.7	TM	
93	TM	p-Isopropyltoluene	1.668	1.654	0.81	TM	
94	TM	Benzyl Chloride	0.5780	0.3342	42	TM	
95	TM	1,3-DCB	1.130	1.157	2.4	TM	
96	TM	1,4-DCB	1.221	1.193	2.3	TM	
97	TM	n-Butylbenzene	1.400	1.220	13	TM	
98	TM	1,2-DCB	1.133	1.081	4.6	TM	
99	TML	Hexachloroethane	0.4634	0.4450	4.0	TML	9.4
100	TML	1,2-Dibromo-3-chloropropane	0.1167	0.1192	2.1	TML	0.46
101	TM	1,2,4-Trichlorobenzene	0.6179	0.5280	15	TM	
102	TM	Hexachlorobutadiene	0.2523	0.2315	8.2	TM	
103	TML	Naphthalene	0.8971	0.7044	21	TML	19
104	TML	1,2,3-Trichlorobenzene	0.3216	0.2674	17	TML	12
105							
106							
107							
108							
109							
110							
111							
112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			7.4		

Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\200121\0121L47.D Vial: 47
Acq On : 22 Jan 20 5:10 Operator:
Sample : Ending CCV 10ug/L 1/21/20 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 22 8:36 2020 Quant Results File: L0121W.RES

Quant Method : M:\LOKI\DATA\200121\L0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 13:19:21 2020
Response via : Initial Calibration
DataAcq Meth : L8260

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Fluorobenzene (IS)	5.06	96	230976	25.00000 ppb		0.00
64) Chlorobenzene-D5 (IS)	8.69	117	237376	25.00000 ppb		0.00
79) 1,4-Dichlorobenzene-D (IS)	11.23	152	134848	25.00000 ppb		0.00
System Monitoring Compounds						
39) Dibromofluoromethane(S)	4.09	111	134987	24.40024 ppb		0.00
Spiked Amount 25.000			Recovery = 97.600%			
44) 1,2-DCA-D4(S)	4.56	65	164144	24.35521 ppb		0.00
Spiked Amount 25.000			Recovery = 97.420%			
65) Toluene-D8(S)	7.07	98	465017	24.13983 ppb		0.00
Spiked Amount 25.000			Recovery = 96.560%			
73) 4-Bromofluorobenzene(S)	9.99	95	164711	24.68406 ppb		0.00
Spiked Amount 25.000			Recovery = 98.736%			
Target Compounds						Qvalue
2) Chlorotrifluoroethene	0.74	116	121260	95.50514 ppb		97
3) Dichlorodifluoromethane	0.74	85	64213	27.49565 ppb		99
4) Freon 114	0.82	85	26422	10.28209 ppb		93
5) Chloromethane	0.85	50	33196	11.70360 ppb		93
6) Vinyl chloride	0.91	62	37944	10.53271 ppb		99
7) 2-Chloro-1,1,1-trifluoroet	0.97	118	371821	101.43604 ppb		99
8) Bromomethane	1.08	94	30251	13.05329 ppb		99
9) Chloroethane	1.15	64	21300	12.16318 ppb		91
10) Dichlorofluoromethane	1.27	67	55057	10.31340 ppb		99
11) Trichlorofluoromethane	1.30	101	48059	10.47481 ppb		96
12) Diethyl ether	1.94	74	4971	9.77221 ppb		93
13) Acrolein	1.56	56	34057	112.06556 ppb		96
14) Acetone	1.68	43	9075	10.05909 ppb	#	80
15) Freon-113	1.65	101	25724	10.03100 ppb		95
16) 1,1-DCE	1.63	61	39267	9.99125 ppb		100
17) t-Butanol	2.15	59	20893	125.97504 ppb		94
19) Acetonitrile	1.88	41	43077	124.66152 ppb		90
20) Methyl Acetate	1.94	43	21962	9.64765 ppb		98
21) Iodomethane	1.72	142	14471	7.94547 ppb		96
22) Acrylonitrile	2.21	53	11672	9.96378 ppb		95
23) Methylene chloride	2.00	84	32815	10.92285 ppb		95
24) Carbon disulfide	1.77	76	58920	10.94526 ppb		99
25) Methyl t-butyl ether (MtBE	2.26	73	39040	9.32587 ppb		96
26) Trans-1,2-DCE	2.24	61	39051	10.11077 ppb		95
27) Diisopropyl Ether	2.79	45	81703	9.71719 ppb		97
29) 1,1-DCA	2.64	63	54893	10.24626 ppb		99
30) Vinyl Acetate	2.79	45	81703	9.71719 ppb		97
32) MEK (2-Butanone)	3.41	43	3632	10.78851 ppb		89
33) Cis-1,2-DCE	3.34	61	46152	10.58489 ppb		84
34) 2,2-Dichloropropane	3.33	77	34442	8.84614 ppb		96
37) Chloroform	3.84	83	53040	10.57443 ppb		96
38) Bromochloromethane	3.66	130	21772	10.86542 ppb		84
40) 1,1,1-TCA	4.07	97	46351	10.24191 ppb		94
41) Cyclohexane	4.14	56	26505	10.36992 ppb		80
42) 1,1-Dichloropropene	4.34	75	26626	10.02194 ppb		99
43) 2,2,4-Trimethylpentane	4.83	57	43551	8.31939 ppb		98
45) Carbon Tetrachloride	4.32	117	41103	10.53134 ppb		97
48) 1,2-DCA	4.67	62	40292	10.12058 ppb		99
49) Benzene	4.63	78	97608	10.25734 ppb		96

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\200121\0121L47.D Vial: 47
Acq On : 22 Jan 20 5:10 Operator:
Sample : Ending CCV 10ug/L 1/21/20 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 22 8:36 2020 Quant Results File: L0121W.RES

Quant Method : M:\LOKI\DATA\200121\L0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 13:19:21 2020
Response via : Initial Calibration
DataAcq Meth : L8260

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
50)	TCE	5.56	130	32634	10.94019	ppb		95
51)	2-Pentanone	5.88	43	146625	121.79701	ppb		94
52)	1,2-Dichloropropane	5.83	63	27832	10.15008	ppb		98
53)	Bromodichloromethane	6.22	83	42631	10.23279	ppb		90
54)	Methyl Cyclohexane	5.78	83	25391	9.56054	ppb		96
55)	Dibromomethane	5.97	174	23546	10.17311	ppb		93
56)	2-Chloroethyl vinyl ether	6.54	63	39447	45.72462	ppb	#	100
57)	MIBK (methyl isobutyl ket	7.01	43	17248	9.85480	ppb		92
58)	1-Bromo-2-chloroethane	6.54	63	40635	10.78924	ppb		91
59)	Cis-1,3-Dichloropropene	6.78	75	36260	9.54927	ppb		95
60)	Toluene	7.15	91	108823	10.66047	ppb		99
61)	Trans-1,3-Dichloropropene	7.45	75	35222	9.69226	ppb		95
62)	1,1,2-TCA	7.63	97	28088	10.22865	ppb		89
63)	2-Hexanone	7.98	43	7609	9.80781	ppb	#	73
66)	1,2-EDB	8.14	107	25930	9.92449	ppb		99
67)	Tetrachloroethene	7.76	166	34477	10.03961	ppb		97
68)	1-Chlorohexane	8.76	91	23875	9.20908	ppb		91
69)	1,1,1,2-Tetrachloroethane	8.82	131	34912	10.15321	ppb		94
70)	m&p-Xylene	9.01	91	155052	18.54263	ppb		93
71)	o-Xylene	9.43	91	78213	9.47380	ppb		93
72)	Styrene	9.45	104	60801	8.90392	ppb		96
74)	1,3-Dichloropropane	7.81	76	42477	9.91993	ppb		98
75)	Dibromochloromethane	8.05	129	34208	9.81570	ppb		97
76)	Chlorobenzene	8.72	112	75386	9.85501	ppb		96
77)	Ethylbenzene	8.87	91	102154	9.41373	ppb		94
78)	Bromoform	9.61	173	25408	9.81990	ppb		91
80)	Isopropylbenzene	9.85	105	54272	9.72092	ppb		100
81)	1,1,2,2-Tetrachloroethane	10.18	83	29593	8.61047	ppb		97
82)	1,2,3-Trichloropropane	10.20	110	11155	9.91969	ppb		96
83)	t-1,4-Dichloro-2-Butene	10.25	53	5351	8.98649	ppb		90
84)	Bromobenzene	10.12	156	35545	10.37358	ppb		96
85)	n-Propylbenzene	10.30	91	109958	9.75042	ppb		99
86)	4-Ethyltoluene	10.43	105	87920	9.69421	ppb		96
87)	2-Chlorotoluene	10.35	91	43192	9.71661	ppb		99
88)	1,3,5-Trimethylbenzene	10.50	105	83616	9.30422	ppb		93
89)	4-Chlorotoluene	10.48	91	46448	10.19538	ppb		99
90)	Tert-Butylbenzene	10.84	119	70010	10.00521	ppb		99
91)	1,2,4-Trimethylbenzene	10.89	105	73326	8.83403	ppb		91
92)	Sec-Butylbenzene	11.08	105	102139	10.26643	ppb		96
93)	p-Isopropyltoluene	11.25	119	89233	9.91870	ppb		96
94)	Benzyl Chloride	11.41	91	18028	5.78204	ppb		92
95)	1,3-DCB	11.15	146	62386	10.23718	ppb		95
96)	1,4-DCB	11.25	146	64343	9.76946	ppb		95
97)	n-Butylbenzene	11.68	91	65813	8.71642	ppb		99
98)	1,2-DCB	11.64	146	58291	9.53906	ppb		96
99)	Hexachloroethane	11.91	117	24003	10.94272	ppb	#	86
100)	1,2-Dibromo-3-chloropropan	12.48	157	6427	9.95360	ppb	#	78
101)	1,2,4-Trichlorobenzene	13.37	180	28481	8.54486	ppb		90
102)	Hexachlorobutadiene	13.59	225	12488	9.17543	ppb		93
103)	Naphthalene	13.62	128	37995	8.08048	ppb		98
104)	1,2,3-Trichlorobenzene	13.89	182	14423	8.80410	ppb		95

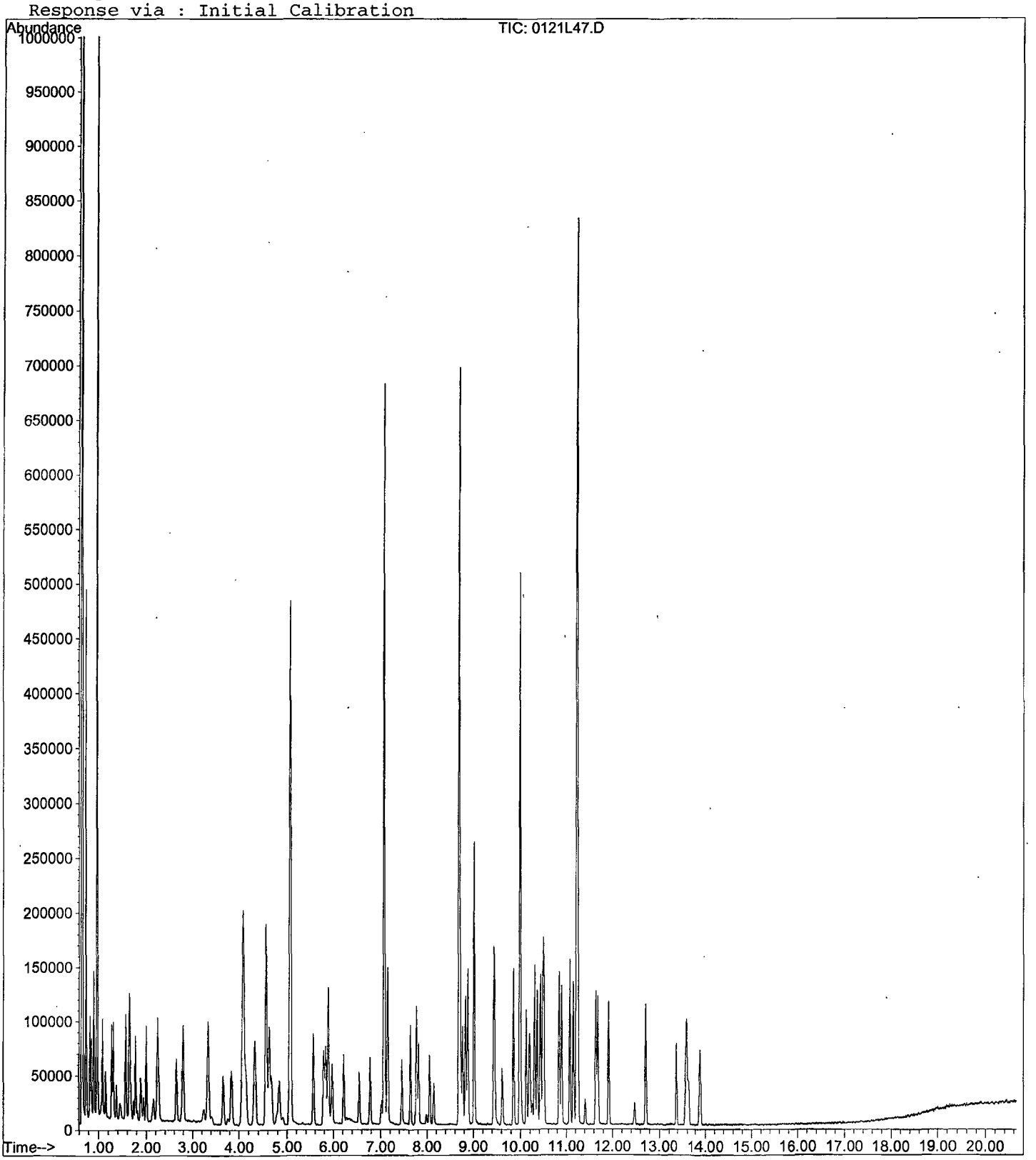
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LOKI\DATA\200121\0121L47.D Vial: 47
Acq On : 22 Jan 20 5:10 Operator:
Sample : Ending CCV 10ug/L 1/21/20 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 22 8:36 2020 Quant Results File: L0121W.RES

Method : M:\LOKI\DATA\200121\L0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 13:19:21 2020
Response via : Initial Calibration



ORGANICS
Raw Data

Quantitation Report (QT Reviewed)

Data File : M:\LOKI\DATA\200121\0121L33.D Vial: 33
Acq On : 21 Jan 20 22:30 Operator:
Sample : BA06135W01 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 22 8:41 2020 Quant Results File: L0121W.RES

Quant Method : M:\LOKI\DATA\200121\L0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 13:19:21 2020
Response via : Initial Calibration
DataAcq Meth : L8260

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.06	96	209088	25.00000 ppb	0.00
64) Chlorobenzene-D5 (IS)	8.69	117	210816	25.00000 ppb	0.00
79) 1,4-Dichlorobenzene-D (IS)	11.23	152	101000	25.00000 ppb	0.00
System Monitoring Compounds					
39) Dibromofluoromethane(S)	4.09	111	133498	26.65721 ppb	0.00
Spiked Amount 25.000			Recovery = 106.628%		
44) 1,2-DCA-D4(S)	4.56	65	154231	25.27996 ppb	0.00
Spiked Amount 25.000			Recovery = 101.120%		
65) Toluene-D8(S)	7.07	98	408574	23.88192 ppb	0.00
Spiked Amount 25.000			Recovery = 95.528%		
73) 4-Bromofluorobenzene(S)	9.99	95	132322	22.32849 ppb	0.00
Spiked Amount 25.000			Recovery = 89.312%		

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

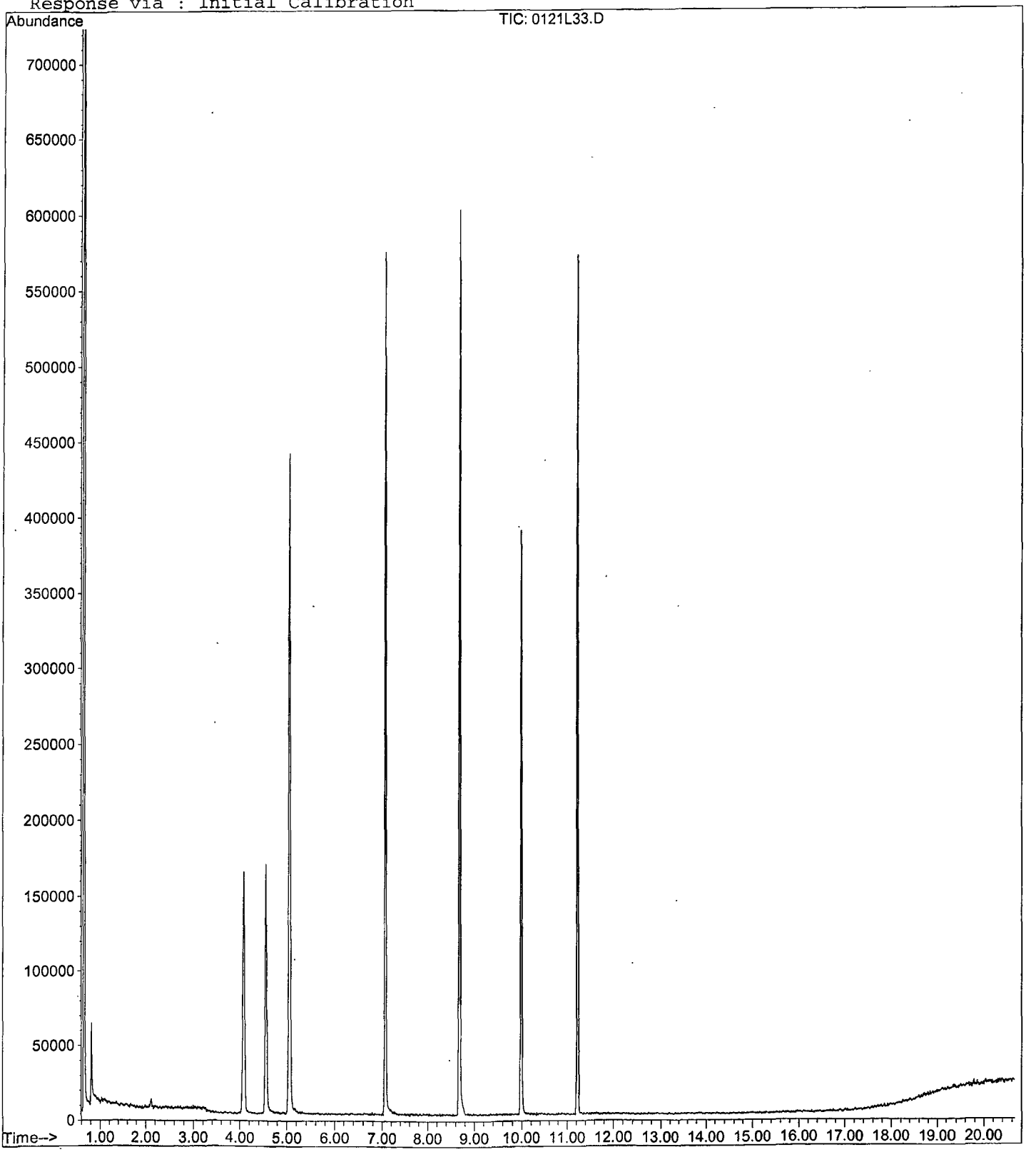
Quantitation Report

Data File : M:\LOKI\DATA\200121\0121L33.D
Acq On : 21 Jan 20 22:30
Sample : BA06135W01
Misc : IS&S:12/19/19

Vial: 33
Operator:
Inst : Loki
Multiplr: 1.00

Quant Time: Jan 22 8:41 2020 Quant Results File: L0121W.RES

Method : M:\LOKI\DATA\200121\L0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 13:19:21 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\LOKI\DATA\200121\0121L34.D Vial: 34
Acq On : 21 Jan 20 22:58 Operator:
Sample : BA06136W01 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 22 8:42 2020 Quant Results File: L0121W.RES

Quant Method : M:\LOKI\DATA\200121\L0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 13:19:21 2020
Response via : Initial Calibration
DataAcq Meth : L8260

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.07	96	203904	25.00000 ppb	0.00
64) Chlorobenzene-D5 (IS)	8.69	117	207488	25.00000 ppb	0.00
79) 1,4-Dichlorobenzene-D (IS)	11.23	152	98936	25.00000 ppb	0.00
System Monitoring Compounds					
39) Dibromofluoromethane(S)	4.09	111	134288	27.49669 ppb	0.00
Spiked Amount 25.000			Recovery = 109.988%		
44) 1,2-DCA-D4(S)	4.56	65	156427	26.29176 ppb	0.00
Spiked Amount 25.000			Recovery = 105.168%		
65) Toluene-D8(S)	7.07	98	417678	24.80566 ppb	0.00
Spiked Amount 25.000			Recovery = 99.224%		
73) 4-Bromofluorobenzene(S)	9.99	95	134529	23.06501 ppb	0.00
Spiked Amount 25.000			Recovery = 92.260%		

Target Compounds Qvalue

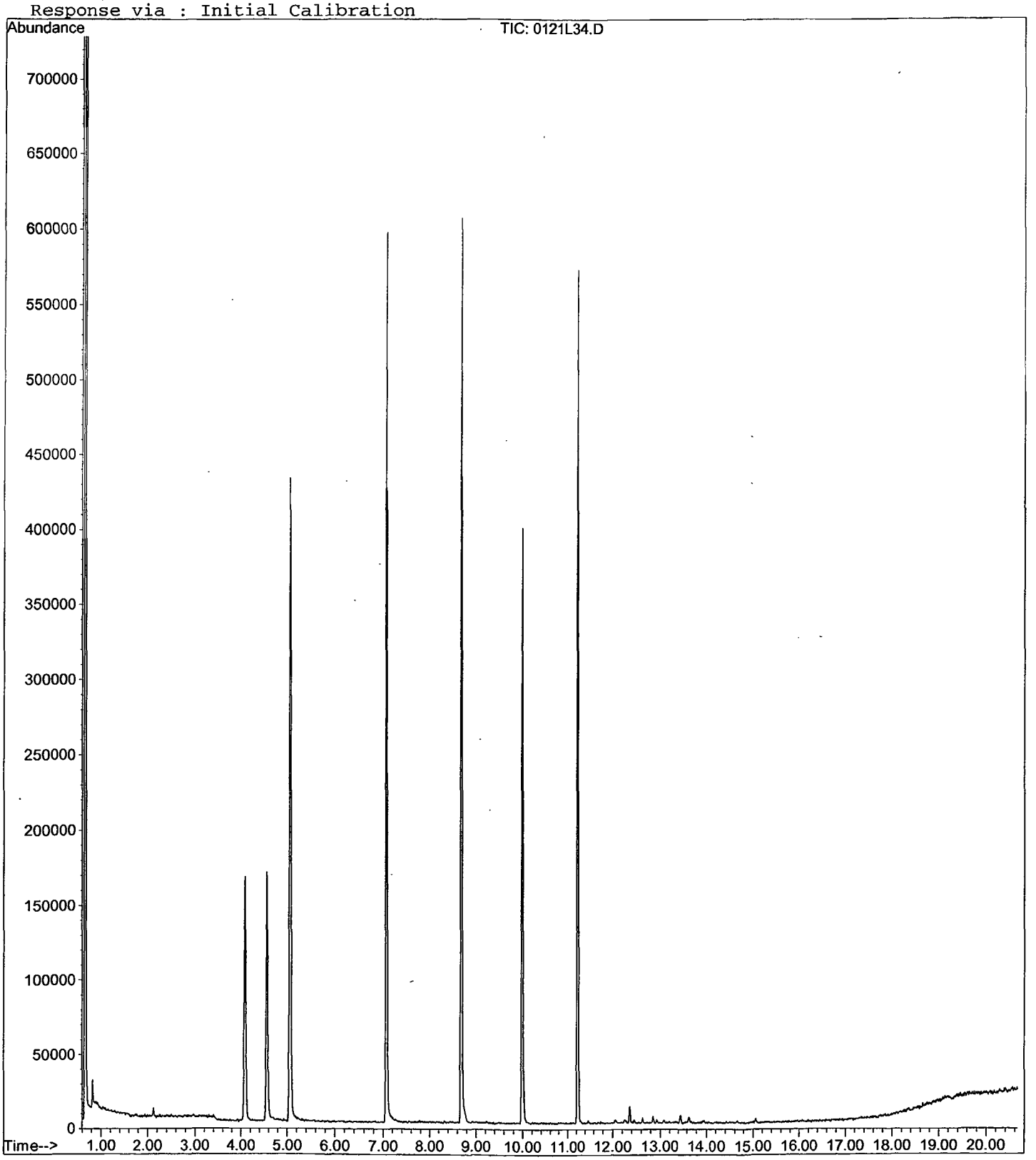
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LOKI\DATA\200121\0121L34.D Vial: 34
Acq On : 21 Jan 20 22:58 Operator:
Sample : BA06136W01 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 22 8:42 2020 Quant Results File: L0121W.RES

Method : M:\LOKI\DATA\200121\L0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 13:19:21 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\LOKI\DATA\200121\0121L35.D Vial: 35
Acq On : 21 Jan 20 23:27 Operator:
Sample : BA06137W01 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 22 8:47 2020 Quant Results File: L0121W.RES

Quant Method : M:\LOKI\DATA\200121\L0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 13:19:21 2020
Response via : Initial Calibration
DataAcq Meth : L8260

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.06	96	201024	25.00000 ppb	0.00
64) Chlorobenzene-D5 (IS)	8.69	117	197504	25.00000 ppb	0.00
79) 1,4-Dichlorobenzene-D (IS)	11.23	152	98072	25.00000 ppb	0.00
System Monitoring Compounds					
39) Dibromofluoromethane(S)	4.09	111	133009	27.62499 ppb	0.00
Spiked Amount 25.000			Recovery = 110.500%		
44) 1,2-DCA-D4(S)	4.56	65	157246	26.80806 ppb	0.00
Spiked Amount 25.000			Recovery = 107.232%		
65) Toluene-D8(S)	7.07	98	409674	25.56022 ppb	0.00
Spiked Amount 25.000			Recovery = 102.240%		
73) 4-Bromofluorobenzene(S)	9.99	95	130199	23.45106 ppb	0.00
Spiked Amount 25.000			Recovery = 93.804%		

Target Compounds Qvalue

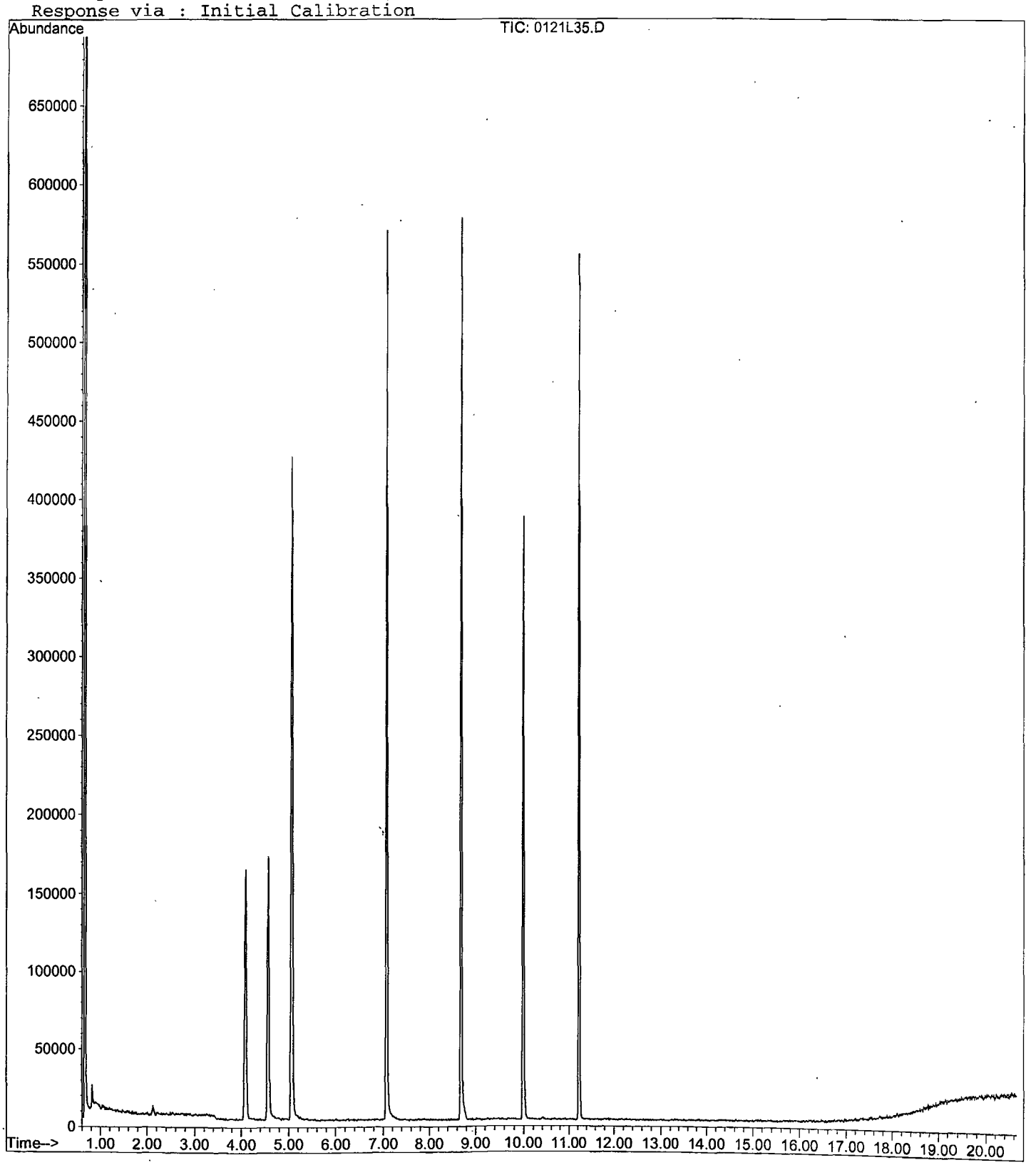
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LOKI\DATA\200121\0121L35.D Vial: 35
Acq On : 21 Jan 20 23:27 Operator:
Sample : BA06137W01 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 22 8:47 2020 Quant Results File: L0121W.RES

Method : M:\LOKI\DATA\200121\L0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 13:19:21 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\LOKI\DATA\200121\0121L36.D Vial: 36
Acq On : 21 Jan 20 23:55 Operator:
Sample : BA06138W01 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 22 8:51 2020 Quant Results File: L0121W.RES

Quant Method : M:\LOKI\DATA\200121\L0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 13:19:21 2020
Response via : Initial Calibration
DataAcq Meth : L8260

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.06	96	207104	25.00000 ppb	0.00
64) Chlorobenzene-D5 (IS)	8.69	117	224704	25.00000 ppb	0.00
79) 1,4-Dichlorobenzene-D (IS)	11.23	152	117552	25.00000 ppb	0.00
System Monitoring Compounds					
39) Dibromofluoromethane(S)	4.09	111	126465	25.49476 ppb	0.00
Spiked Amount 25.000			Recovery = 101.980%		
44) 1,2-DCA-D4(S)	4.56	65	156829	25.95205 ppb	0.00
Spiked Amount 25.000			Recovery = 103.808%		
65) Toluene-D8(S)	7.07	98	414080	22.70783 ppb	0.00
Spiked Amount 25.000			Recovery = 90.832%		
73) 4-Bromofluorobenzene(S)	9.99	95	142048	22.48822 ppb	0.00
Spiked Amount 25.000			Recovery = 89.952%		

Target Compounds Qvalue

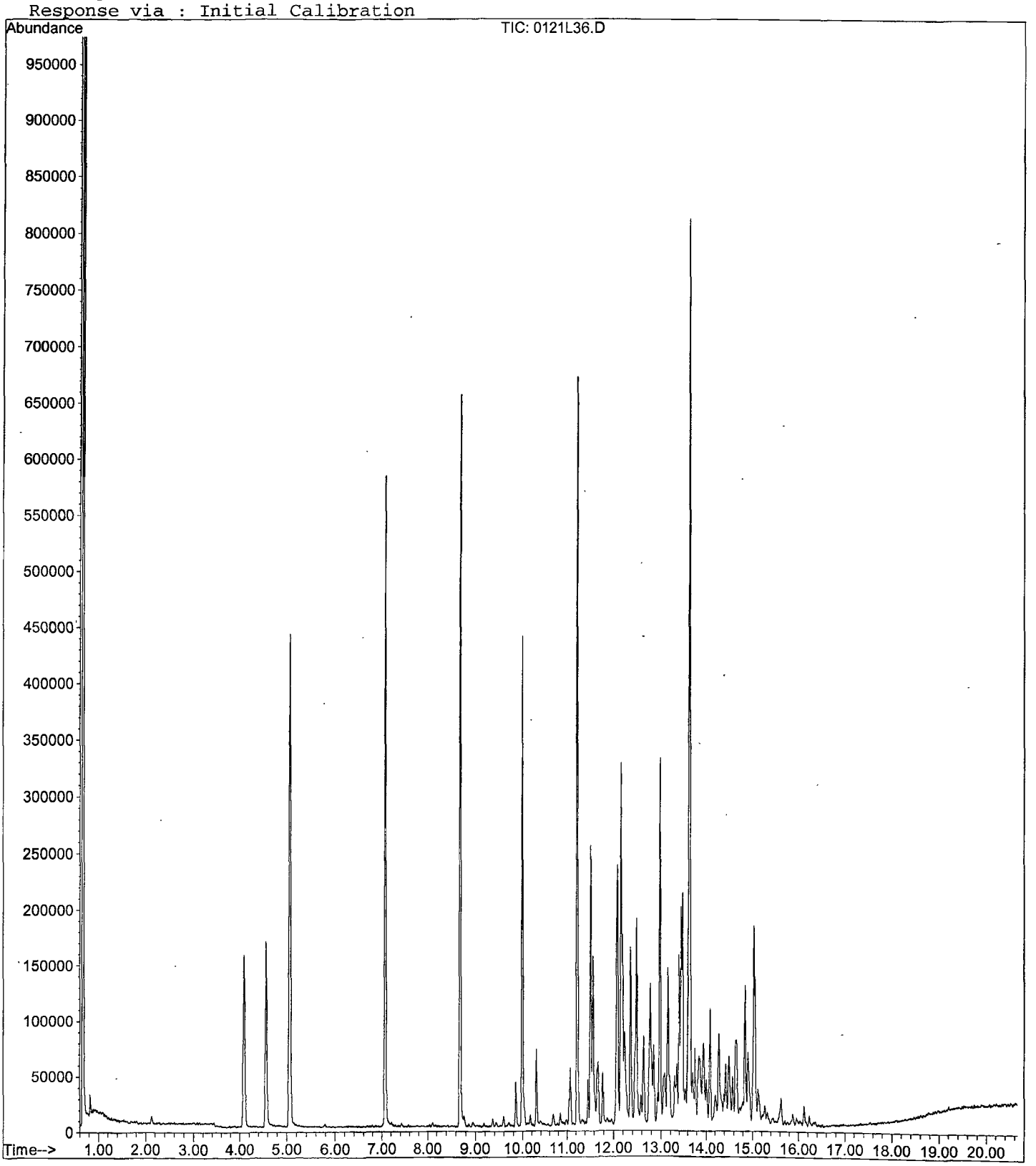
(#) = qualifier out of range (m) = manual integration
0121L36.D L0121W.M Wed Jan 22 09:11:16 2020 Page 1

Quantitation Report

Data File : M:\LOKI\DATA\200121\0121L36.D Vial: 36
Acq On : 21 Jan 20 23:55 Operator:
Sample : BA06138W01 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 22 8:51 2020 Quant Results File: L0121W.RES

Method : M:\LOKI\DATA\200121\L0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 13:19:21 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\LOKI\DATA\200121\0121L37.D Vial: 37
Acq On : 22 Jan 20 00:24 Operator:
Sample : BA06139W01 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 22 8:54 2020 Quant Results File: L0121W.RES

Quant Method : M:\LOKI\DATA\200121\L0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 13:19:21 2020
Response via : Initial Calibration
DataAcq Meth : L8260

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.06	96	214784	25.00000 ppb	0.00
64) Chlorobenzene-D5 (IS)	8.69	117	227136	25.00000 ppb	0.00
79) 1,4-Dichlorobenzene-D (IS)	11.23	152	120648	25.00000 ppb	0.00
System Monitoring Compounds					
39) Dibromofluoromethane(S)	4.09	111	127929	24.86773 ppb	0.00
Spiked Amount 25.000			Recovery =	99.472%	
44) 1,2-DCA-D4(S)	4.56	65	152568	24.34419 ppb	0.00
Spiked Amount 25.000			Recovery =	97.376%	
65) Toluene-D8(S)	7.07	98	421176	22.84966 ppb	0.00
Spiked Amount 25.000			Recovery =	91.400%	
73) 4-Bromofluorobenzene(S)	9.99	95	149522	23.41800 ppb	0.00
Spiked Amount 25.000			Recovery =	93.672%	

Target Compounds Qvalue

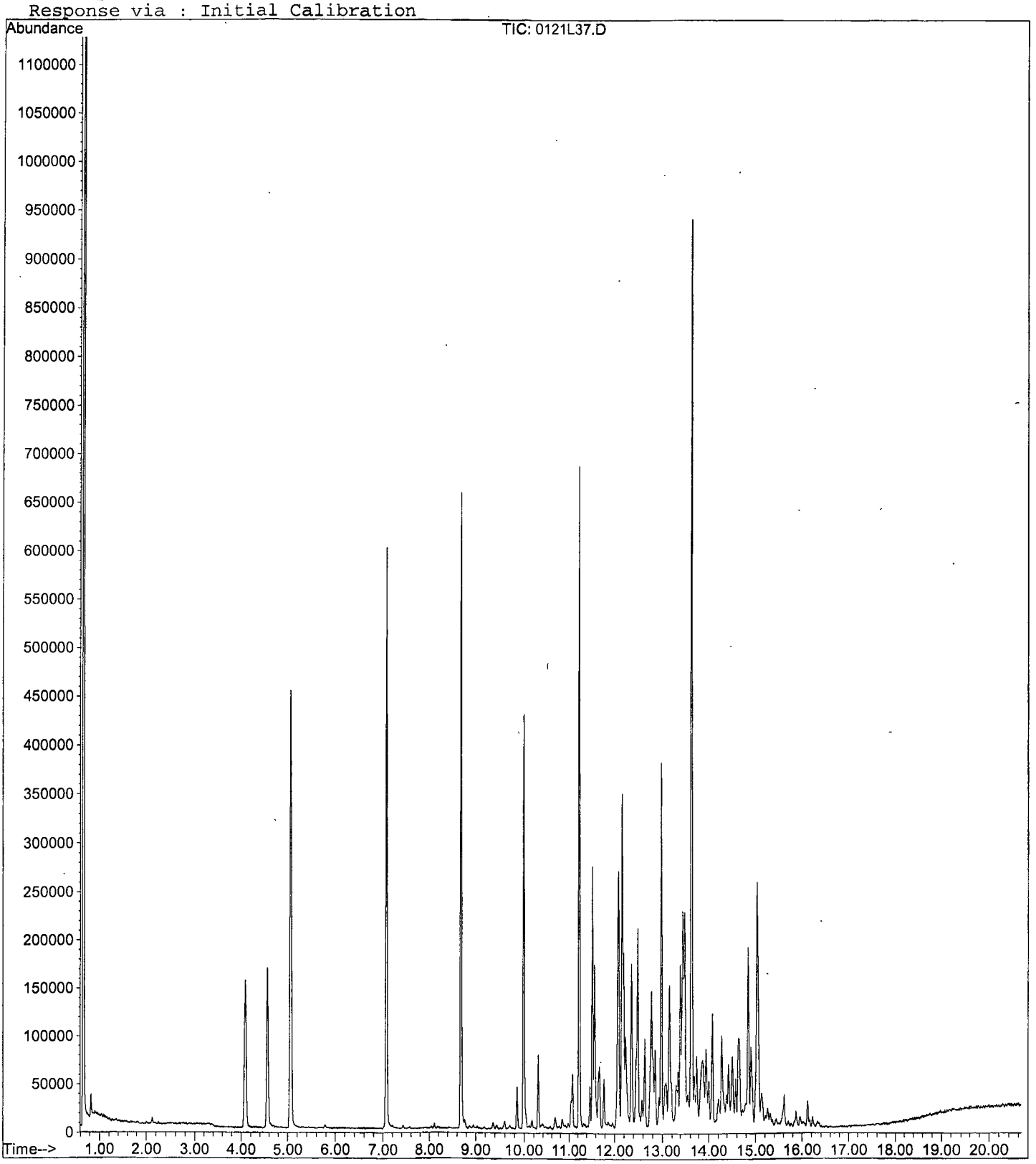
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LOKI\DATA\200121\0121L37.D Vial: 37
Acq On : 22 Jan 20 00:24 Operator:
Sample : BA06139W01 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 22 8:54 2020 Quant Results File: L0121W.RES

Method : M:\LOKI\DATA\200121\L0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 13:19:21 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\LOKI\DATA\200121\0121L38.D Vial: 38
Acq On : 22 Jan 20 00:52 Operator:
Sample : BA06140W01 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 22 8:55 2020 Quant Results File: L0121W.RES

Quant Method : M:\LOKI\DATA\200121\L0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 13:19:21 2020
Response via : Initial Calibration
DataAcq Meth : L8260

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.06	96	223104	25.00000 ppb	0.00
64) Chlorobenzene-D5 (IS)	8.68	117	225536	25.00000 ppb	0.00
79) 1,4-Dichlorobenzene-D (IS)	11.23	152	107824	25.00000 ppb	0.00
System Monitoring Compounds					
39) Dibromofluoromethane(S)	4.09	111	135976	25.44626 ppb	0.00
Spiked Amount 25.000			Recovery = 101.784%		
44) 1,2-DCA-D4(S)	4.56	65	160766	24.69566 ppb	0.00
Spiked Amount 25.000			Recovery = 98.784%		
65) Toluene-D8(S)	7.07	98	445034	24.31529 ppb	0.00
Spiked Amount 25.000			Recovery = 97.260%		
73) 4-Bromofluorobenzene(S)	9.99	95	144334	22.76583 ppb	0.00
Spiked Amount 25.000			Recovery = 91.064%		

Target Compounds Qvalue

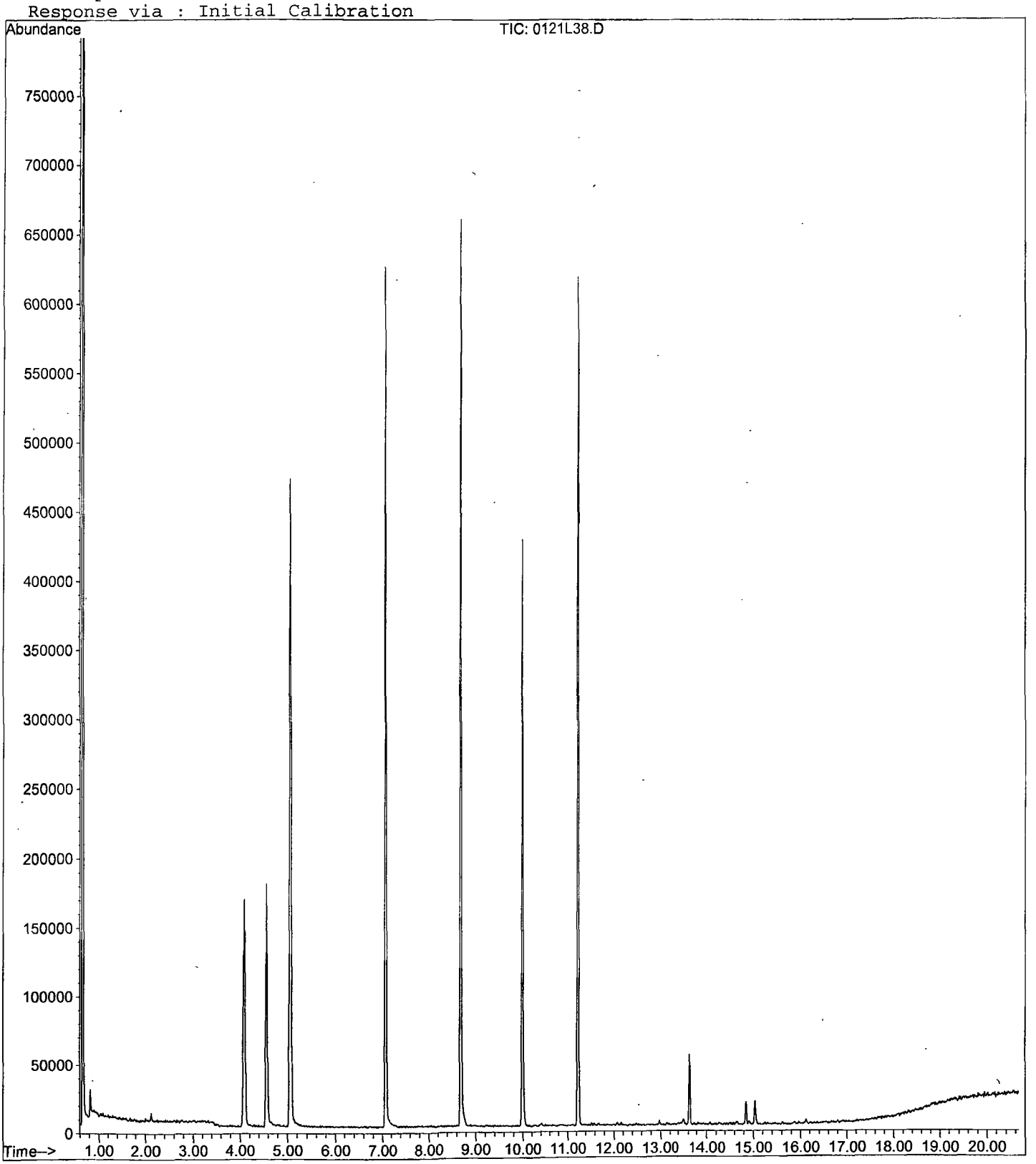
(#) = qualifier out of range (m) = manual integration
0121L38.D L0121W.M Wed Jan 22 09:11:21 2020 Page 1

Quantitation Report

Data File : M:\LOKI\DATA\200121\0121L38.D Vial: 38
Acq On : 22 Jan 20 00:52 Operator:
Sample : BA06140W01 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 22 8:55 2020 Quant Results File: L0121W.RES

Method : M:\LOKI\DATA\200121\L0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 13:19:21 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\LOKI\DATA\200121\0121L39.D Vial: 39
Acq On : 22 Jan 20 1:21 Operator:
Sample : BA06141W04 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 22 8:57 2020 Quant Results File: L0121W.RES

Quant Method : M:\LOKI\DATA\200121\L0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 13:19:21 2020
Response via : Initial Calibration
DataAcq Meth : L8260

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.06	96	218368	25.00000 ppb	0.00
64) Chlorobenzene-D5 (IS)	8.69	117	226304	25.00000 ppb	0.00
79) 1,4-Dichlorobenzene-D (IS)	11.23	152	110960	25.00000 ppb	0.00
System Monitoring Compounds					
39) Dibromofluoromethane(S)	4.09	111	136030	26.00846 ppb	0.00
Spiked Amount 25.000			Recovery = 104.032%		
44) 1,2-DCA-D4(S)	4.56	65	162534	25.50874 ppb	0.00
Spiked Amount 25.000			Recovery = 102.036%		
65) Toluene-D8(S)	7.07	98	441883	24.06119 ppb	0.00
Spiked Amount 25.000			Recovery = 96.244%		
73) 4-Bromofluorobenzene(S)	9.99	95	142432	22.38959 ppb	0.00
Spiked Amount 25.000			Recovery = 89.560%		

Target Compounds Qvalue

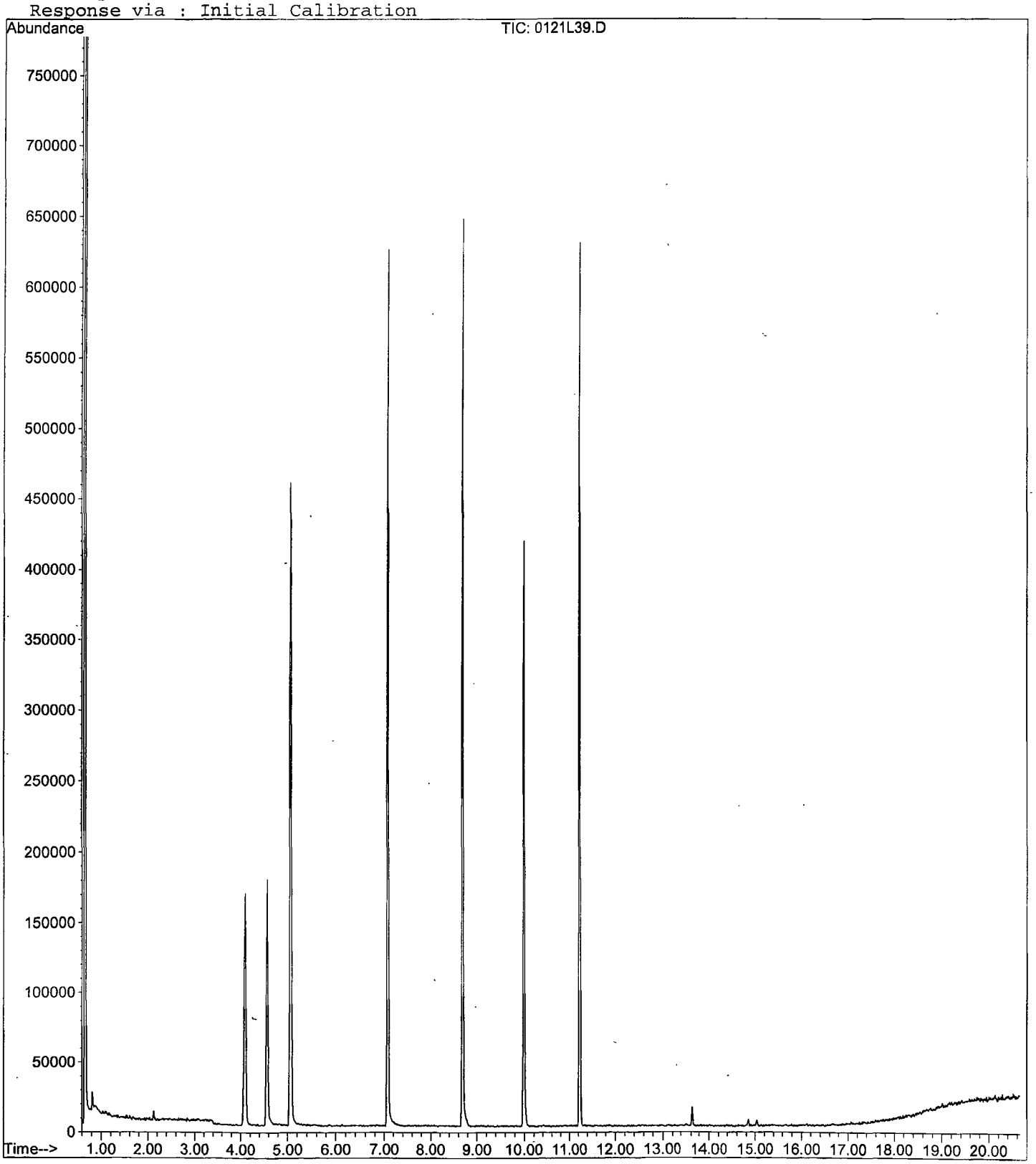
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LOKI\DATA\200121\0121L39.D Vial: 39
Acq On : 22 Jan 20 1:21 Operator:
Sample : BA06141W04 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 22 8:57 2020 Quant Results File: L0121W.RES

Method : M:\LOKI\DATA\200121\L0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 13:19:21 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\LOKI\DATA\200121\0121L40.D Vial: 40
Acq On : 22 Jan 20 1:50 Operator:
Sample : BA06142W01 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 22 8:58 2020 Quant Results File: L0121W.RES

Quant Method : M:\LOKI\DATA\200121\L0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 13:19:21 2020
Response via : Initial Calibration
DataAcq Meth : L8260

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.06	96	214016	25.00000 ppb	0.00
64) Chlorobenzene-D5 (IS)	8.69	117	215424	25.00000 ppb	0.00
79) 1,4-Dichlorobenzene-D (IS)	11.23	152	105456	25.00000 ppb	0.00
System Monitoring Compounds					
39) Dibromofluoromethane(S)	4.09	111	138011	26.92381 ppb	0.00
Spiked Amount 25.000			Recovery	= 107.696%	
44) 1,2-DCA-D4(S)	4.56	65	156980	25.13806 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.552%	
65) Toluene-D8(S)	7.07	98	433360	24.78888 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.156%	
73) 4-Bromofluorobenzene(S)	9.99	95	143217	23.65001 ppb	0.00
Spiked Amount 25.000			Recovery	= 94.600%	

Target Compounds Qvalue

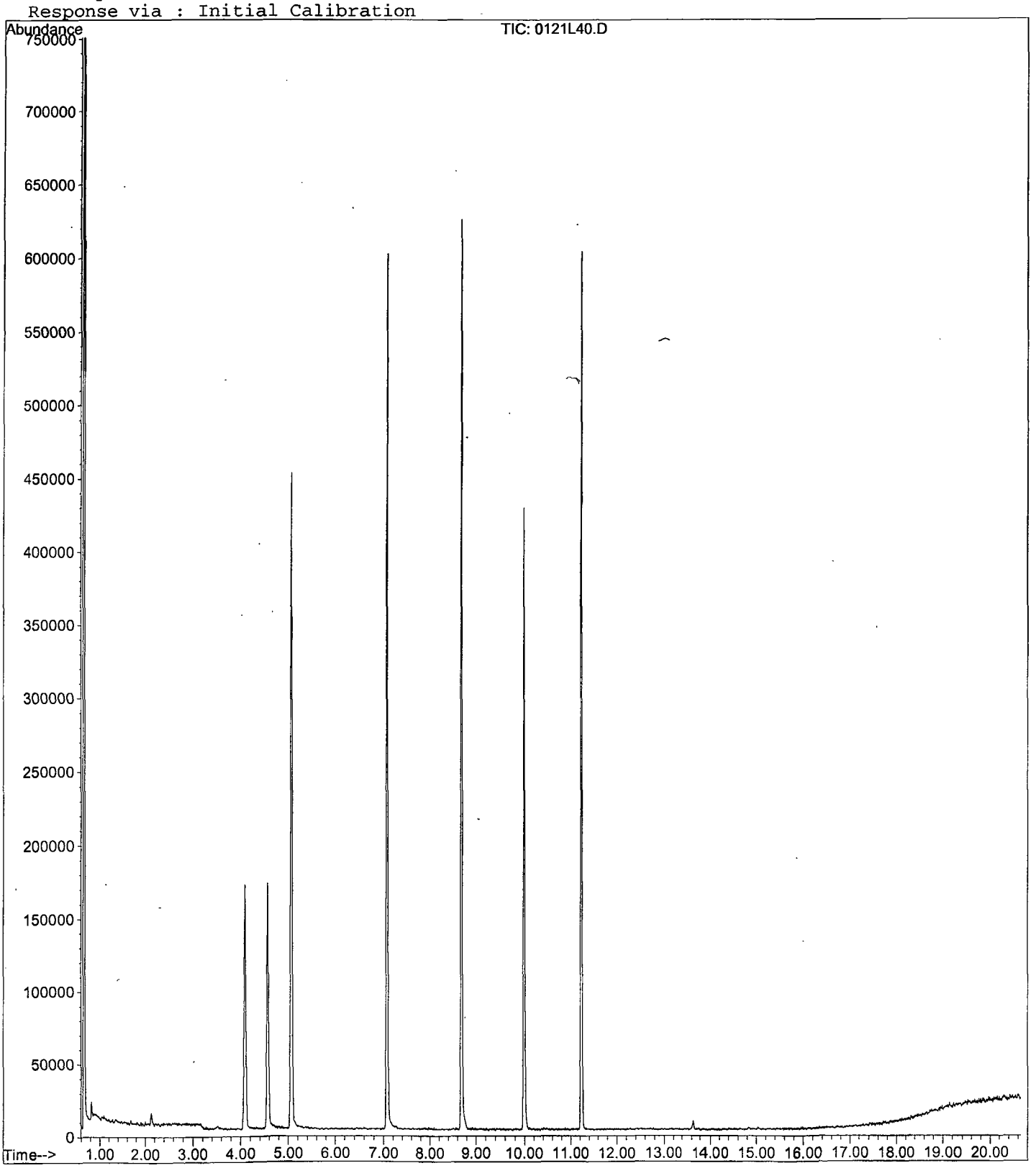
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LOKI\DATA\200121\0121L40.D Vial: 40
Acq On : 22 Jan 20 1:50 Operator:
Sample : BA06142W01 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 22 8:58 2020 Quant Results File: L0121W.RES

Method : M:\LOKI\DATA\200121\L0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 13:19:21 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\LOKI\DATA\200121\0121L41.D Vial: 41
Acq On : 22 Jan 20 2:18 Operator:
Sample : BA06143W01 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 22 9:00 2020 Quant Results File: L0121W.RES

Quant Method : M:\LOKI\DATA\200121\L0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 13:19:21 2020
Response via : Initial Calibration
DataAcq Meth : L8260

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.06	96	217792	25.00000 ppb	0.00
64) Chlorobenzene-D5 (IS)	8.69	117	217280	25.00000 ppb	0.00
79) 1,4-Dichlorobenzene-D (IS)	11.23	152	102848	25.00000 ppb	0.00
System Monitoring Compounds					
39) Dibromofluoromethane(S)	4.09	111	131021	25.11701 ppb	0.00
Spiked Amount 25.000			Recovery = 100.468%		
44) 1,2-DCA-D4(S)	4.56	65	156960	24.69908 ppb	0.00
Spiked Amount 25.000			Recovery = 98.796%		
65) Toluene-D8(S)	7.07	98	421754	23.91892 ppb	0.00
Spiked Amount 25.000			Recovery = 95.676%		
73) 4-Bromofluorobenzene(S)	9.99	95	137222	22.46647 ppb	0.00
Spiked Amount 25.000			Recovery = 89.864%		

Target Compounds Qvalue

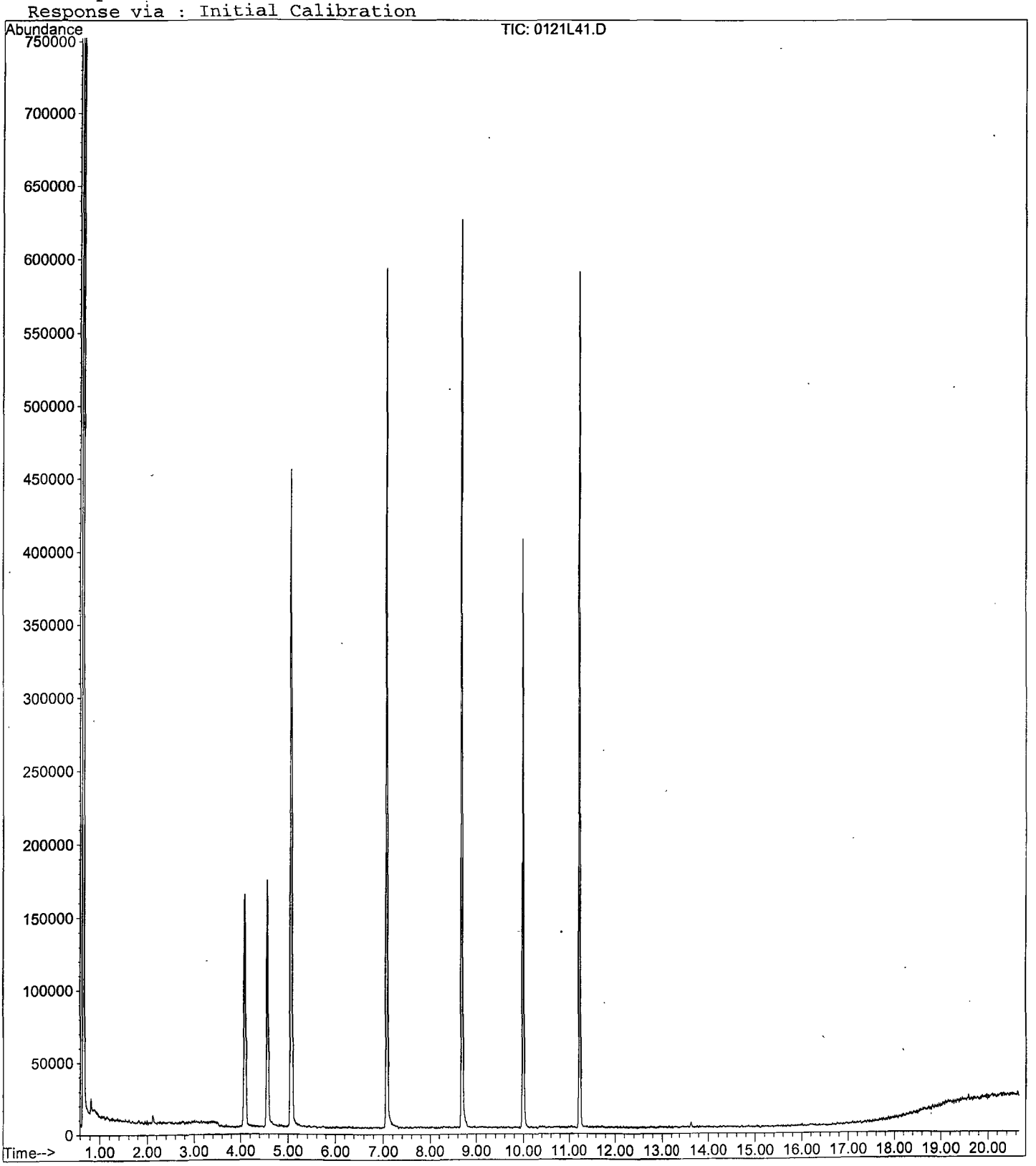
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LOKI\DATA\200121\0121L41.D Vial: 41
Acq On : 22 Jan 20 2:18 Operator:
Sample : BA06143W01 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 22 9:00 2020 Quant Results File: L0121W.RES

Method : M:\LOKI\DATA\200121\L0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 13:19:21 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\LOKI\DATA\200121\0121L32.D Vial: 32
Acq On : 21 Jan 20 22:01 Operator:
Sample : 200121A BLK Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 22 8:38 2020 Quant Results File: L0121W.RES

Quant Method : M:\LOKI\DATA\200121\L0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 13:19:21 2020
Response via : Initial Calibration
DataAcq Meth : L8260

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.06	96	212928	25.00000 ppb	0.00
64) Chlorobenzene-D5 (IS)	8.69	117	213312	25.00000 ppb	0.00
79) 1,4-Dichlorobenzene-D (IS)	11.23	152	101976	25.00000 ppb	0.00
System Monitoring Compounds					
39) Dibromofluoromethane(S)	4.09	111	129531	25.39861 ppb	0.00
Spiked Amount 25.000			Recovery = 101.596%		
44) 1,2-DCA-D4(S)	4.56	65	161003	25.91403 ppb	0.00
Spiked Amount 25.000			Recovery = 103.656%		
65) Toluene-D8(S)	7.07	98	418306	24.16467 ppb	0.00
Spiked Amount 25.000			Recovery = 96.660%		
73) 4-Bromofluorobenzene(S)	9.99	95	131215	21.88260 ppb	0.00
Spiked Amount 25.000			Recovery = 87.532%		

Target Compounds Qvalue

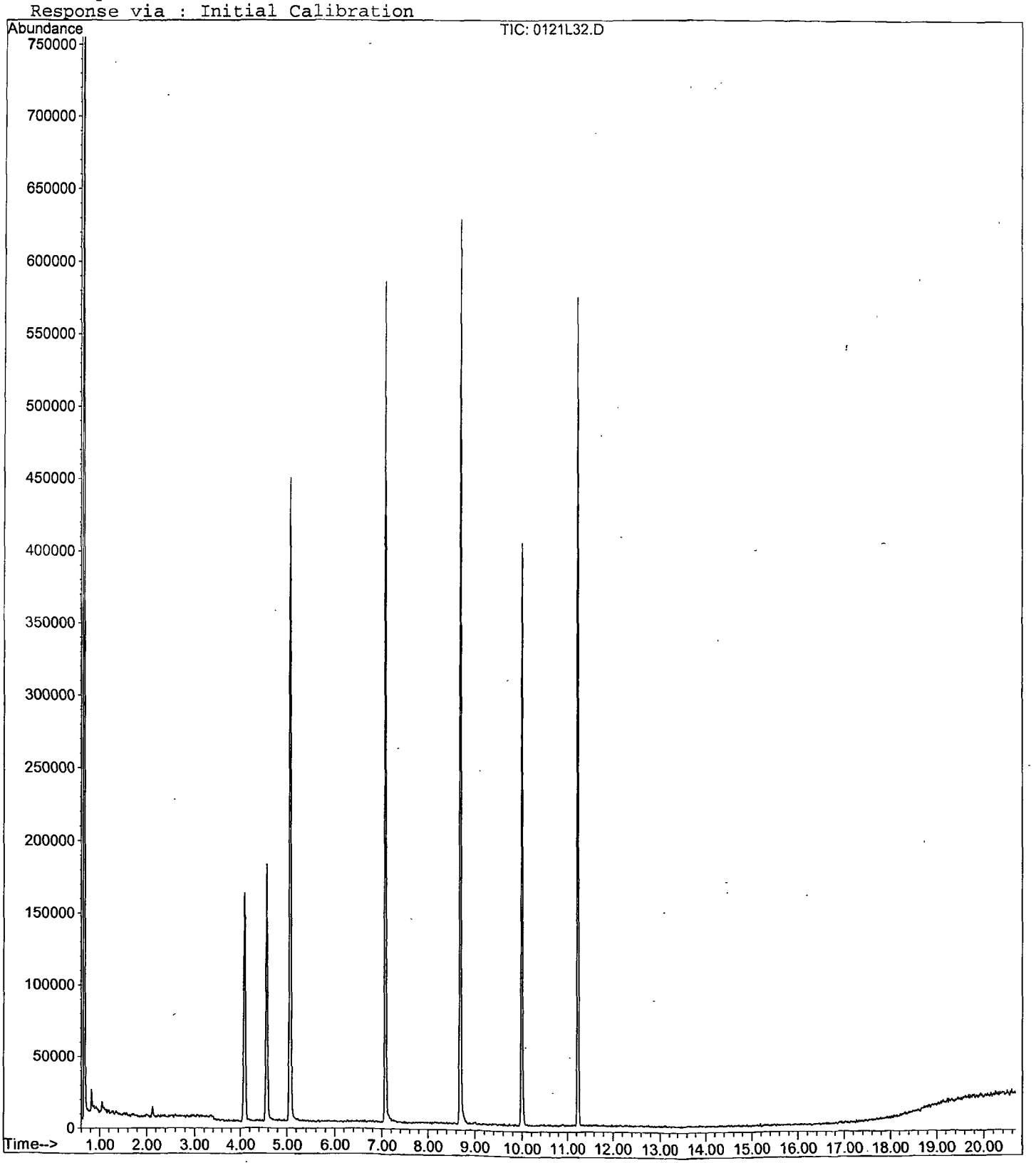
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LOKI\DATA\200121\0121L32.D Vial: 32
Acq On : 21 Jan 20 22:01 Operator:
Sample : 200121A BLK Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 22 8:38 2020 Quant Results File: L0121W.RES

Method : M:\LOKI\DATA\200121\L0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 13:19:21 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\200121\0121L23.D Vial: 23
Acq On : 21 Jan 20 17:43 Operator:
Sample : 200121A CCV/LCS 10ug/L Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 22 8:33 2020 Quant Results File: L0121W.RES

Quant Method : M:\LOKI\DATA\200121\L0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 13:19:21 2020
Response via : Initial Calibration
DataAcq Meth : L8260

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene (IS)	5.06	96	225408	25.00000	ppb		0.00
64) Chlorobenzene-D5 (IS)	8.68	117	235520	25.00000	ppb		0.00
79) 1,4-Dichlorobenzene-D (IS)	11.23	152	136960	25.00000	ppb		0.00
System Monitoring Compounds							
39) Dibromofluoromethane(S)	4.09	111	135674	25.13022	ppb		0.00
Spiked Amount 25.000			Recovery = 100.520%				
44) 1,2-DCA-D4(S)	4.56	65	168995	25.69439	ppb		0.00
Spiked Amount 25.000			Recovery = 102.776%				
65) Toluene-D8(S)	7.07	98	468971	24.53694	ppb		0.00
Spiked Amount 25.000			Recovery = 98.148%				
73) 4-Bromofluorobenzene(S)	9.99	95	168120	25.39349	ppb		0.00
Spiked Amount 25.000			Recovery = 101.572%				
Target Compounds							Qvalue
2) Chlorotrifluoroethene	0.74	116	113829	91.86702	ppb		99
3) Dichlorodifluoromethane	0.75	85	23329	10.01961	ppb		94
4) Freon 114	0.82	85	24952	9.94111	ppb		98
5) Chloromethane	0.85	50	30345	10.92007	ppb		93
6) Vinyl chloride	0.91	62	34864	9.91680	ppb		97
7) 2-Chloro-1,1,1-trifluoroet	0.97	118	352792	98.62218	ppb		99
8) Bromomethane	1.08	94	27893	12.28325	ppb		97
9) Chloroethane	1.15	64	18663	10.80362	ppb		96
10) Dichlorofluoromethane	1.27	67	51443	9.87445	ppb		95
11) Trichlorofluoromethane	1.30	101	42328	9.45358	ppb		98
12) Diethyl ether	1.94	74	4705	9.50322	ppb	#	71
13) Acrolein	1.56	56	39910	130.60599	ppb		97
14) Acetone	1.68	43	8928	10.16025	ppb		95
15) Freon-113	1.65	101	22962	9.17514	ppb		98
16) 1,1-DCE	1.63	61	36913	9.62429	ppb		98
17) t-Butanol	2.15	59	21348	129.57472	ppb		90
19) Acetonitrile	1.88	41	42683	126.57252	ppb		99
20) Methyl Acetate	1.94	43	25290	11.38403	ppb		90
21) Iodomethane	1.73	142	12690	7.39119	ppb		99
22) Acrylonitrile	2.21	53	12451	10.89133	ppb		89
23) Methylene chloride	2.00	84	31737	10.81886	ppb		95
24) Carbon disulfide	1.77	76	53120	10.05917	ppb		100
25) Methyl t-butyl ether (MtBE	2.26	73	43877	10.74024	ppb		96
26) Trans-1,2-DCE	2.24	61	37415	9.92648	ppb		95
27) Diisopropyl Ether	2.79	45	76957	9.37882	ppb		96
29) 1,1-DCA	2.64	63	51302	9.81251	ppb		98
30) Vinyl Acetate	2.79	45	76957	9.37882	ppb		96
32) MEK (2-Butanone)	3.42	43	3449	10.52449	ppb		99
33) Cis-1,2-DCE	3.34	61	39859	9.36741	ppb		90
34) 2,2-Dichloropropane	3.33	77	35397	9.35753	ppb		99
37) Chloroform	3.84	83	51536	10.52838	ppb		99
38) Bromochloromethane	3.66	130	20066	10.26140	ppb		82
40) 1,1,1-TCA	4.06	97	42151	9.54393	ppb		98
41) Cyclohexane	4.14	56	24511	9.82667	ppb		87
42) 1,1-Dichloropropene	4.34	75	26007	10.03076	ppb		94
43) 2,2,4-Trimethylpentane	4.83	57	45903	8.98529	ppb		97
45) Carbon Tetrachloride	4.32	117	37545	9.85734	ppb		88
48) 1,2-DCA	4.68	62	38580	9.92993	ppb		96
49) Benzene	4.63	78	92028	9.90984	ppb		98

(#) = qualifier out of range (m) = manual integration

Data File : M:\LOKI\DATA\200121\0121L23.D Vial: 23
Acq On : 21 Jan 20 17:43 Operator:
Sample : 200121A CCV/LCS 10ug/L Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 22 8:33 2020 Quant Results File: L0121W.RES

Quant Method : M:\LOKI\DATA\200121\L0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 13:19:21 2020
Response via : Initial Calibration
DataAcq Meth : L8260

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
50)	TCE	5.55	130	30720	10.55294 ppb		97
51)	2-Pentanone	5.88	43	159845	136.05835 ppb		94
52)	1,2-Dichloropropane	5.83	63	26785	10.00954 ppb		97
53)	Bromodichloromethane	6.21	83	40977	10.07874 ppb		92
54)	Methyl Cyclohexane	5.78	83	23089	8.90852 ppb		95
55)	Dibromomethane	5.97	174	23197	10.26989 ppb		92
56)	2-Chloroethyl vinyl ether	6.54	63	37041	45.02211 ppb	#	100
57)	MIBK (methyl isobutyl ket	7.01	43	18999	11.12339 ppb		95
58)	1-Bromo-2-chloroethane	6.54	63	38309	10.42290 ppb		95
59)	Cis-1,3-Dichloropropene	6.78	75	36660	9.89310 ppb		99
60)	Toluene	7.14	91	101260	10.16462 ppb		96
61)	Trans-1,3-Dichloropropene	7.45	75	35465	9.97353 ppb		99
62)	1,1,2-TCA	7.63	97	27788	10.36937 ppb		95
63)	2-Hexanone	7.98	43	8167	10.54095 ppb		90
66)	1,2-EDB	8.14	107	27217	10.49917 ppb		93
67)	Tetrachloroethene	7.76	166	32404	9.51031 ppb		92
68)	1-Chlorohexane	8.76	91	22441	8.72417 ppb		92
69)	1,1,1,2-Tetrachloroethane	8.82	131	32326	9.47522 ppb		91
70)	m&p-Xylene	9.01	91	147752	17.94751 ppb		92
71)	o-Xylene	9.43	91	74040	9.12354 ppb		99
72)	Styrene	9.45	104	61675	9.05618 ppb		95
74)	1,3-Dichloropropane	7.81	76	42494	10.00210 ppb		94
75)	Dibromochloromethane	8.05	129	34099	9.86153 ppb		98
76)	Chlorobenzene	8.72	112	72912	9.60671 ppb		95
77)	Ethylbenzene	8.87	91	97220	9.02965 ppb		96
78)	Bromoform	9.61	173	25189	9.81198 ppb		90
80)	Isopropylbenzene	9.85	105	51368	9.05889 ppb		98
81)	1,1,2,2-Tetrachloroethane	10.18	83	32833	9.40588 ppb		100
82)	1,2,3-Trichloropropane	10.20	110	12323	10.78936 ppb		86
83)	t-1,4-Dichloro-2-Butene	10.25	53	6081	9.91915 ppb		89
84)	Bromobenzene	10.12	156	32879	9.44756 ppb		98
85)	n-Propylbenzene	10.29	91	104480	9.12179 ppb		96
86)	4-Ethyltoluene	10.43	105	85359	9.26669 ppb		94
87)	2-Chlorotoluene	10.35	91	44343	9.82172 ppb		99
88)	1,3,5-Trimethylbenzene	10.50	105	80216	8.84843 ppb		96
89)	4-Chlorotoluene	10.47	91	45384	9.80821 ppb		93
90)	Tert-Butylbenzene	10.84	119	75407	10.61033 ppb		88
91)	1,2,4-Trimethylbenzene	10.89	105	72456	8.63917 ppb		99
92)	Sec-Butylbenzene	11.08	105	95699	9.47078 ppb		95
93)	p-Isopropyltoluene	11.25	119	85506	9.35786 ppb		98
94)	Benzyl Chloride	11.41	91	25653	8.10070 ppb		98
95)	1,3-DCB	11.15	146	61408	9.92130 ppb		96
96)	1,4-DCB	11.25	146	62748	9.38037 ppb		94
97)	n-Butylbenzene	11.68	91	64713	8.43857 ppb		98
98)	1,2-DCB	11.64	146	58278	9.38987 ppb		96
99)	Hexachloroethane	11.91	117	23089	10.31292 ppb	#	86
100)	1,2-Dibromo-3-chloropropan	12.47	157	6818	10.35351 ppb	#	89
101)	1,2,4-Trichlorobenzene	13.37	180	28506	8.42048 ppb		87
102)	Hexachlorobutadiene	13.59	225	12582	9.10194 ppb		94
103)	Naphthalene	13.62	128	38474	8.05939 ppb		97
104)	1,2,3-Trichlorobenzene	13.89	182	15175	9.03022 ppb		90

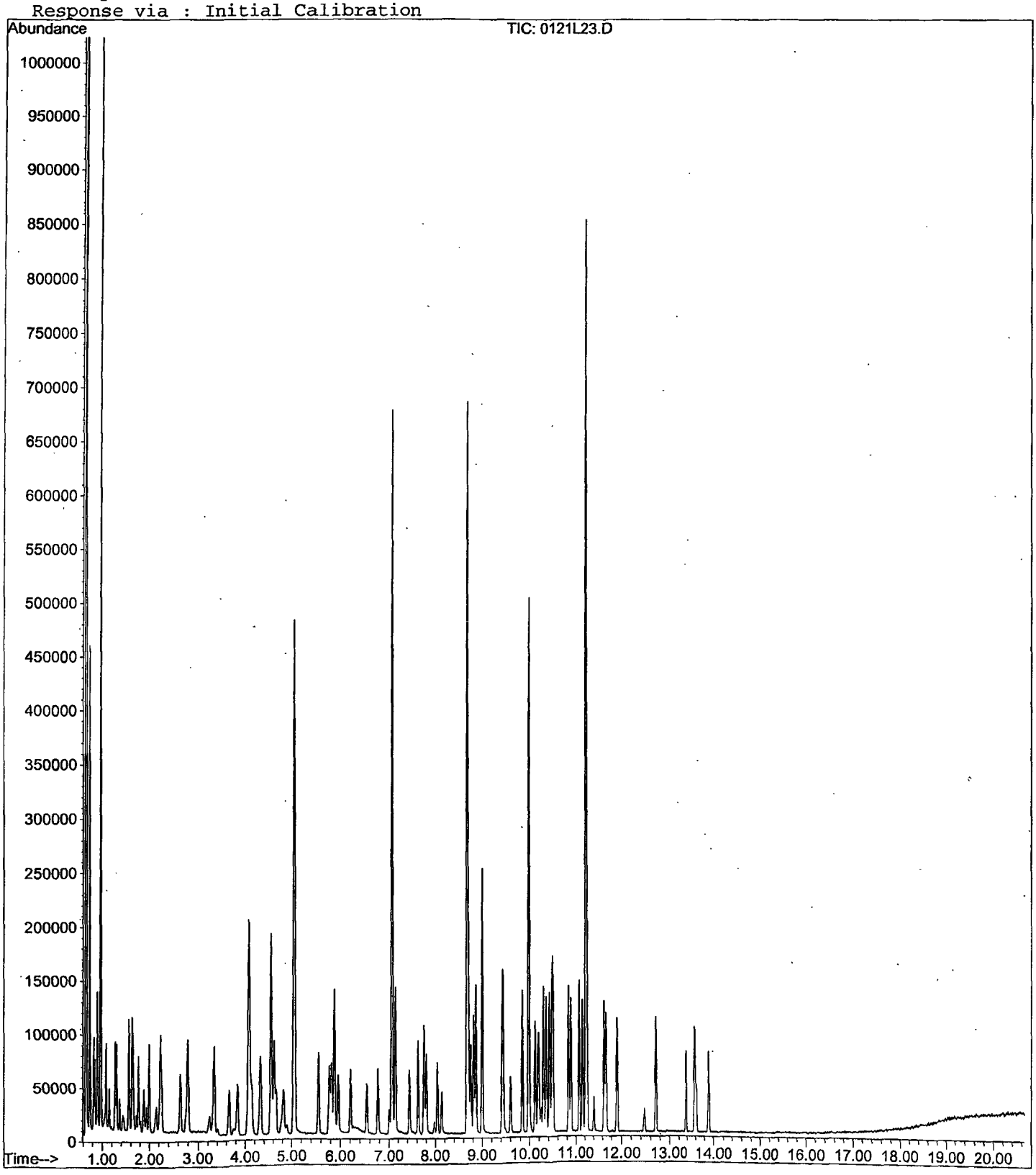
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LOKI\DATA\200121\0121L23.D Vial: 23
Acq On : 21 Jan 20 17:43 Operator:
Sample : 200121A CCV/LCS 10ug/L Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 22 8:33 2020 Quant Results File: L0121W.RES

Method : M:\LOKI\DATA\200121\L0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 13:19:21 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\200121\0121L24.D Vial: 24
Acq On : 21 Jan 20 18:12 Operator:
Sample : 200121A LCSD 10ug/L Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 22 8:34 2020 Quant Results File: L0121W.RES

Quant Method : M:\LOKI\DATA\200121\L0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 13:19:21 2020
Response via : Initial Calibration
DataAcq Meth : L8260

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Fluorobenzene (IS)	5.06	96	236992	25.00000 ppb		0.00
64) Chlorobenzene-D5 (IS)	8.68	117	245312	25.00000 ppb		0.00
79) 1,4-Dichlorobenzene-D (IS)	11.23	152	136960	25.00000 ppb		0.00
System Monitoring Compounds						
39) Dibromofluoromethane(S)	4.09	111	142010	25.01810 ppb		0.00
Spiked Amount 25.000			Recovery	= 100.072%		
44) 1,2-DCA-D4(S)	4.56	65	172423	24.93419 ppb		0.00
Spiked Amount 25.000			Recovery	= 99.736%		
65) Toluene-D8(S)	7.07	98	486726	24.44938 ppb		0.00
Spiked Amount 25.000			Recovery	= 97.796%		
73) 4-Bromofluorobenzene(S)	9.99	95	177053	25.67528 ppb		0.00
Spiked Amount 25.000			Recovery	= 102.700%		
Target Compounds						Qvalue
2) Chlorotrifluoroethene	0.74	116	117210	89.97192 ppb		98
3) Dichlorodifluoromethane	0.74	85	60960	25.41433 ppb		91
4) Freon 114	0.82	85	25235	9.55208 ppb		84
5) Chloromethane	0.85	50	28969	9.85335 ppb		94
6) Vinyl chloride	0.91	62	36648	9.91472 ppb		95
7) 2-Chloro-1,1,1-trifluoroet	0.97	118	352040	93.60166 ppb		98
8) Bromomethane	1.08	94	26721	11.11165 ppb		96
9) Chloroethane	1.15	64	19811	10.91864 ppb		100
10) Dichlorofluoromethane	1.27	67	53064	9.68774 ppb		99
11) Trichlorofluoromethane	1.30	101	43369	9.21263 ppb		91
12) Diethyl ether	1.94	74	5543	10.54680 ppb	#	87
13) Acrolein	1.56	56	39430	124.09159 ppb		95
14) Acetone	1.68	43	9798	10.71150 ppb		97
15) Freon-113	1.65	101	24351	9.25456 ppb		98
16) 1,1-DCE	1.63	61	38007	9.42516 ppb		97
17) t-Butanol	2.15	59	22514	129.81768 ppb		94
19) Acetonitrile	1.88	41	43418	122.45878 ppb	#	84
20) Methyl Acetate	1.94	43	23958	10.25731 ppb		98
21) Iodomethane	1.73	142	15761	8.28158 ppb		87
22) Acrylonitrile	2.21	53	13256	11.02871 ppb		92
23) Methylene chloride	2.00	84	32055	10.36630 ppb		97
24) Carbon disulfide	1.77	76	54312	9.76324 ppb		100
25) Methyl t-butyl ether (MtBE	2.27	73	46770	10.88881 ppb		98
26) Trans-1,2-DCE	2.24	61	38390	9.68731 ppb		95
27) Diisopropyl Ether	2.79	45	80585	9.34093 ppb		93
29) 1,1-DCA	2.64	63	52282	9.51117 ppb		99
30) Vinyl Acetate	2.79	45	80585	9.34093 ppb		93
32) MEK (2-Butanone)	3.42	43	3537	10.28967 ppb	#	69
33) Cis-1,2-DCE	3.34	61	44148	9.86825 ppb		95
34) 2,2-Dichloropropane	3.33	77	38611	9.73756 ppb		92
37) Chloroform	3.83	83	53143	10.32601 ppb		98
38) Bromochloromethane	3.66	130	21201	10.31188 ppb		100
40) 1,1,1-TCA	4.06	97	43009	9.26220 ppb		100
41) Cyclohexane	4.14	56	25033	9.54539 ppb		92
42) 1,1-Dichloropropene	4.34	75	27195	9.97627 ppb		98
43) 2,2,4-Trimethylpentane	4.83	57	46818	8.71644 ppb		99
45) Carbon Tetrachloride	4.32	117	37216	9.29336 ppb		88
48) 1,2-DCA	4.68	62	40309	9.86783 ppb		99
49) Benzene	4.63	78	95812	9.81301 ppb		100

(#) = qualifier out of range (m) = manual integration

Data File : M:\LOKI\DATA\200121\0121L24.D Vial: 24
Acq On : 21 Jan 20 18:12 Operator:
Sample : 200121A LCSD 10ug/L Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 22 8:34 2020 Quant Results File: L0121W.RES

Quant Method : M:\LOKI\DATA\200121\L0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 13:19:21 2020
Response via : Initial Calibration
DataAcq Meth : L8260

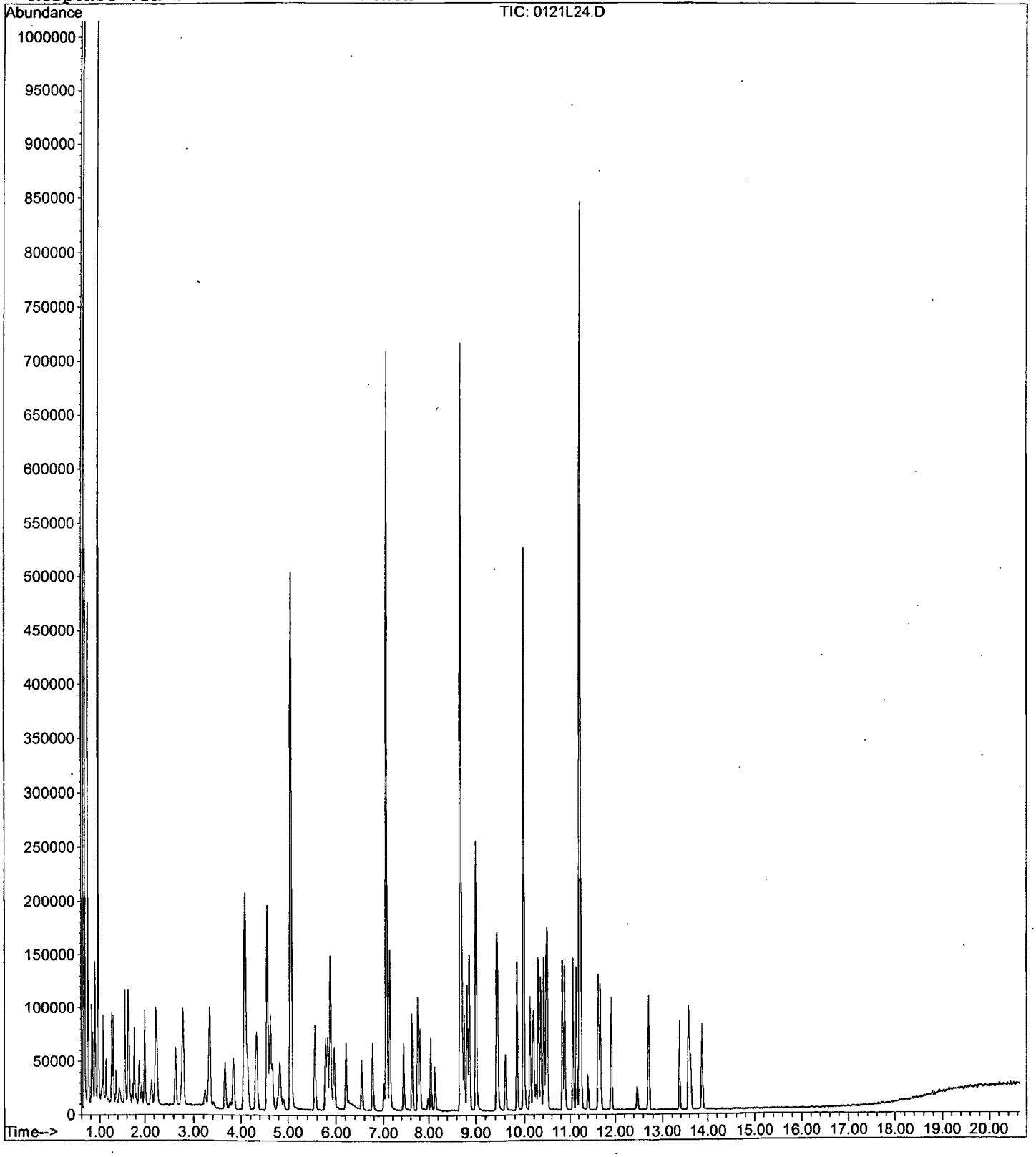
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
50)	TCE	5.56	130	32150	10.50434 ppb		96
51)	2-Pentanone	5.88	43	168625	136.51606 ppb		96
52)	1,2-Dichloropropane	5.83	63	27879	9.90912 ppb		94
53)	Bromodichloromethane	6.22	83	42903	10.03666 ppb		98
54)	Methyl Cyclohexane	5.78	83	24084	8.83821 ppb		98
55)	Dibromomethane	5.97	174	24074	10.13720 ppb		98
56)	2-Chloroethyl vinyl ether	6.54	63	39221	45.14904 ppb	#	100
57)	MIBK (methyl isobutyl ket	7.01	43	20144	11.21729 ppb		94
58)	1-Bromo-2-chloroethane	6.54	63	39774	10.29255 ppb		97
59)	Cis-1,3-Dichloropropene	6.77	75	38297	9.82970 ppb		98
60)	Toluene	7.14	91	108216	10.33191 ppb		98
61)	Trans-1,3-Dichloropropene	7.45	75	35633	9.56822 ppb		95
62)	1,1,2-TCA	7.63	97	28247	10.02543 ppb		96
63)	2-Hexanone	7.98	43	8630	10.58166 ppb		87
66)	1,2-EDB	8.14	107	28108	10.41007 ppb		96
67)	Tetrachloroethene	7.76	166	34970	9.85374 ppb		97
68)	1-Chlorohexane	8.76	91	23420	8.74133 ppb		95
69)	1,1,1,2-Tetrachloroethane	8.82	131	32974	9.27936 ppb		95
70)	m&p-Xylene	9.01	91	151594	17.73155 ppb		95
71)	o-Xylene	9.43	91	79138	9.31424 ppb		92
72)	Styrene	9.45	104	61565	8.76649 ppb		92
74)	1,3-Dichloropropane	7.81	76	46959	10.61186 ppb		100
75)	Dibromochloromethane	8.05	129	36357	10.09485 ppb		97
76)	Chlorobenzene	8.71	112	75310	9.52658 ppb		97
77)	Ethylbenzene	8.87	91	101216	9.02554 ppb		94
78)	Bromoform	9.61	173	26726	9.99513 ppb		98
80)	Isopropylbenzene	9.85	105	54104	9.54139 ppb		98
81)	1,1,2,2-Tetrachloroethane	10.18	83	34052	9.75509 ppb		95
82)	1,2,3-Trichloropropane	10.20	110	12098	10.59236 ppb		96
83)	t-1,4-Dichloro-2-Butene	10.25	53	5675	9.33316 ppb		97
84)	Bromobenzene	10.12	156	34926	10.03575 ppb		95
85)	n-Propylbenzene	10.29	91	109283	9.54113 ppb		98
86)	4-Ethyltoluene	10.42	105	91047	9.88419 ppb		94
87)	2-Chlorotoluene	10.35	91	41651	9.22545 ppb		97
88)	1,3,5-Trimethylbenzene	10.50	105	85259	9.33649 ppb		98
89)	4-Chlorotoluene	10.47	91	46120	9.96727 ppb		93
90)	Tert-Butylbenzene	10.84	119	67815	9.54207 ppb		91
91)	1,2,4-Trimethylbenzene	10.89	105	77073	9.08491 ppb		99
92)	Sec-Butylbenzene	11.08	105	98422	9.74026 ppb		96
93)	p-Isopropyltoluene	11.24	119	90266	9.87880 ppb		97
94)	Benzyl Chloride	11.41	91	25844	8.16101 ppb		99
95)	1,3-DCB	11.15	146	62563	10.10791 ppb		98
96)	1,4-DCB	11.25	146	65830	9.84110 ppb		94
97)	n-Butylbenzene	11.68	91	66574	8.68125 ppb		100
98)	1,2-DCB	11.64	146	58896	9.48944 ppb		95
99)	Hexachloroethane	11.91	117	23546	10.53604 ppb		89
100)	1,2-Dibromo-3-chloropropan	12.47	157	6968	10.56011 ppb	#	76
101)	1,2,4-Trichlorobenzene	13.37	180	31068	9.17728 ppb		89
102)	Hexachlorobutadiene	13.59	225	12546	9.07590 ppb		89
103)	Naphthalene	13.62	128	47412	9.68286 ppb		98
104)	1,2,3-Trichlorobenzene	13.88	182	14081	8.56002 ppb	#	68

(#) = qualifier out of range (m) = manual integration

Data File : M:\LOKI\DATA\200121\0121L24.D Vial: 24
Acq On : 21 Jan 20 18:12 Operator:
Sample : 200121A LCSD 10ug/L Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 22 8:34 2020 Quant Results File: L0121W.RES

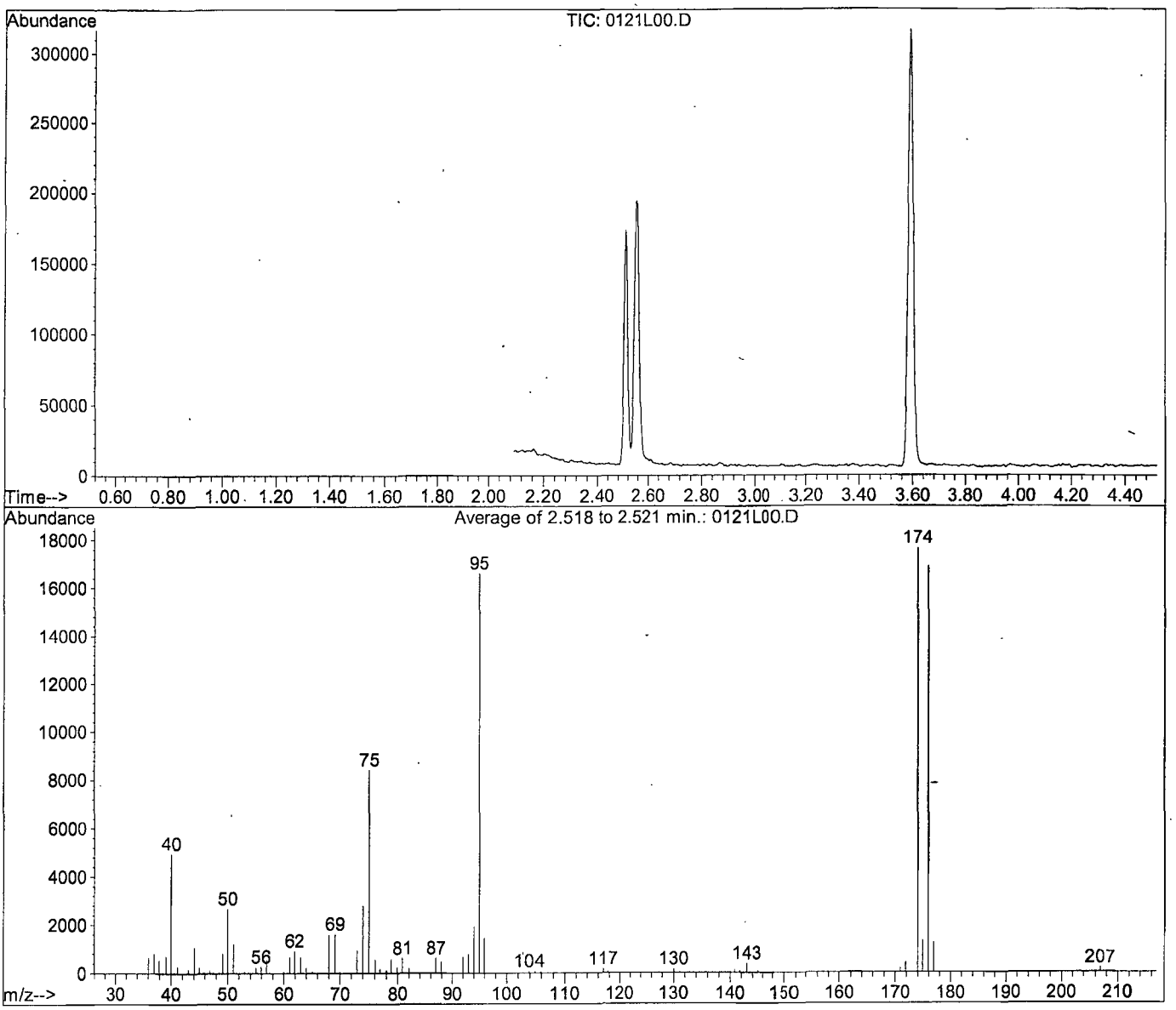
Method : M:\LOKI\DATA\200121\L0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 13:19:21 2020
Response via : Initial Calibration



Data File : M:\LOKI\DATA\200121\0121L00.D
Acq On : 21 Jan 20 6:34
Sample : 25ug/L BFB STD 12/29/19
Misc : 2uL

Vial: 1
Operator:
Inst : Loki
Multiplr: 1.00

Method : M:\LOKI\DATA\200121\L0121W.M (RTE Integrator)
Title : METHOD 8260B



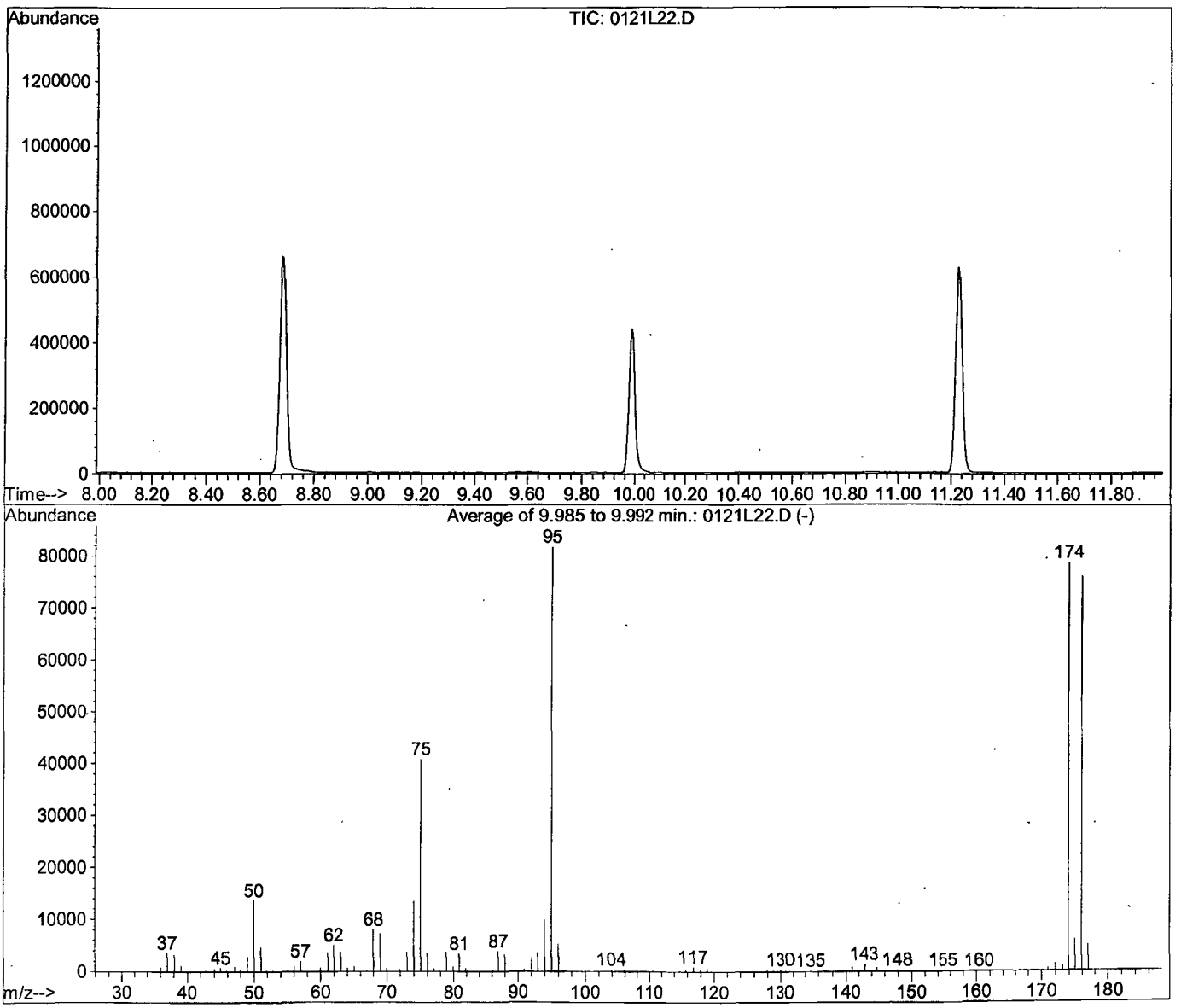
Spectrum Information: Average of 2.518 to 2.521 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	16.0	2663	PASS
75	95	30	60	50.6	8405	PASS
95	95	100	100	100.0	16605	PASS
96	95	5	9	8.8	1456	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	200	106.3	17643	PASS
175	174	5	9	7.5	1329	PASS
176	174	95	101	95.8	16900	PASS
177	176	5	9	7.3	1240	PASS

Data File : M:\LOKI\DATA\200121\0121L22.D
Acq On : 21 Jan 20 17:15
Sample : 25ug/L BFB STD 12/29/19
Misc : IS&S:12/19/19

Vial: 22
Operator:
Inst : Loki
Multiplr: 1.00

Method : M:\LOKI\DATA\200121\L0121W.M (RTE Integrator)
Title : METHOD 8260B



Spectrum Information: Average of 9.985 to 9.992 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	16.6	13581	PASS
75	95	30	60	49.9	40760	PASS
95	95	100	100	100.0	81733	PASS
96	95	5	9	6.5	5294	PASS
173	174	0.00	2	1.2	974	PASS
174	95	50	200	96.4	78797	PASS
175	174	5	9	7.7	6030	PASS
176	174	95	101	96.6	76128	PASS
177	176	5	9	6.5	4932	PASS

Loki 8260 Standard Prep

Loki 8260 Water Calibration Curve

Prepared By (Initials): CH

0.3ug/L

Prepared: 01/21/20

Expires: 02/20/20

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	APPL Mix Name	Conc. (ug/mL)	Reference To APPL Prep Date	Exp. Date	Exp. Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/L)
VOA STD. 9	O2SI	0.3ug/L	5	Prepared 01/15/20	03/15/20	N/A	3uL	50mL	P&T Water	0.3
VOA STD. 1	O2SI		50	Prepared 01/15/20	03/15/20	N/A	5uL			5
VOA STD. 12	O2SI		5	Prepared 01/15/20	03/15/20	N/A	3uL			0.3
VOA STD. 14	Absolute		5	Prepared 12/12/19	02/10/20	N/A	3uL			0.3
VOA STD. 34	Absolute		50	Prepared 01/20/20	03/20/20	N/A	3uL			3
VOA STD. TBA	Various		5	Prepared 12/12/19	01/15/20	N/A	2uL			10

0.5ug/L

Prepared: 01/21/20

Expires: 02/20/20

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	APPL Mix Name	Conc. (ug/mL)	Reference To APPL Prep Date	Exp. Date	Exp. Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/L)
VOA STD. 9	O2SI	0.5ug/L	5	Prepared 01/15/20	03/15/20	N/A	5uL	50mL	P&T Water	0.5
VOA STD. 1	O2SI		50	Prepared 01/15/20	03/15/20	N/A	10uL			10
VOA STD. 12	O2SI		5	Prepared 01/15/20	03/15/20	N/A	5uL			0.5
VOA STD. 14	Absolute		5	Prepared 12/12/19	02/10/20	N/A	5uL			0.5
VOA STD. 34	Absolute		50	Prepared 01/20/20	03/20/20	N/A	5uL			5
VOA STD. TBA	Various		250	Prepared 01/15/20	01/15/20	N/A	5uL			25

1.0ug/L

Prepared: 01/21/20

Expires: 02/20/20

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	APPL Mix Name	Conc. (ug/mL)	Reference To APPL Prep Date	Exp. Date	Exp. Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/L)
VOA STD. 9	O2SI	1.0ug/L	5	Prepared 01/15/20	03/15/20	N/A	10uL	50mL	P&T Water	1
VOA STD. 1	O2SI		50	Prepared 01/15/20	03/15/20	N/A	20uL			20
VOA STD. 12	O2SI		5	Prepared 01/15/20	03/15/20	N/A	10uL			1
VOA STD. 14	Absolute		5	Prepared 12/12/19	02/10/20	N/A	10uL			1
VOA STD. 34	Absolute		50	Prepared 01/20/20	03/20/20	N/A	10uL			10
VOA STD. TBA	Various		250	Prepared 01/15/20	01/15/20	N/A	10uL			50

2.0ug/L

Prepared: 01/21/20

Expires: 02/20/20

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	APPL Mix Name	Conc. (ug/mL)	Reference To APPL Prep Date	Exp. Date	Exp. Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/L)
VOA STD. 9	O2SI	2.0ug/L	5	Prepared 01/15/20	03/15/20	N/A	20uL	50mL	P&T Water	2
VOA STD. 1	O2SI		50	Prepared 01/15/20	03/15/20	N/A	30uL			30
VOA STD. 12	O2SI		5	Prepared 01/15/20	03/15/20	N/A	20uL			2
VOA STD. 14	Absolute		5	Prepared 12/12/19	02/10/20	N/A	20uL			2
VOA STD. 34	Absolute		50	Prepared 01/20/20	03/20/20	N/A	20uL			20
VOA STD. TBA	Various		250	Prepared 01/15/20	01/15/20	N/A	15uL			75

5ug/L

Prepared: 01/21/20

Expires: 02/20/20

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	APPL Mix Name	Conc. (ug/mL)	Reference To APPL Prep Date	Exp. Date	Exp. Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/L)
VOA STD. 7	Various	5ug/L	50	Prepared 01/15/20	01/15/20	N/A	5uL	50mL	P&T Water	5
VOA STD. 8	Phenova		50	Prepared 01/15/20	01/15/20	N/A	5uL			5
VOA STD. 1	O2SI		50	Prepared 01/15/20	03/15/20	N/A	40uL			40
VOA STD. 2	O2SI		50	Prepared 01/15/20	03/15/20	N/A	5uL			5
VOA STD. 4	Absolute		50	Prepared 12/12/19	02/10/20	N/A	5uL			5
VOA STD. 34	Absolute		50	Prepared 01/20/20	03/20/20	N/A	40uL			40
VOA STD. TBA	Various		250	Prepared 01/15/20	01/15/20	N/A	20uL			100

10ug/L

Prepared: 01/21/20

Expires: 02/20/20

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	APPL Mix Name	Conc. (ug/mL)	Reference To APPL Prep Date	Exp. Date	Exp. Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/L)
VOA STD. 7	Various	10ug/L	50	Prepared 01/15/20	01/15/20	N/A	10uL	50mL	P&T Water	10
VOA STD. 8	Phenova		50	Prepared 01/15/20	01/15/20	N/A	10uL			10
VOA STD. 1	O2SI		50	Prepared 01/15/20	03/15/20	N/A	50uL			50
VOA STD. 2	O2SI		50	Prepared 01/15/20	03/15/20	N/A	10uL			10
VOA STD. 4	Absolute		50	Prepared 12/12/19	02/10/20	N/A	10uL			10

VOA STD. 34	Absolute		50	Prepared 01/20/20	03/20/20	N/A	100uL			100
VOA STD. TBA	Various		250	Prepared 01/15/20	01/15/20	N/A	25uL			125

20ug/L

Prepared: 01/21/20

Expires: 02/20/20

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	APPL Mix Name	Conc. (ug/mL)	Reference To APPL Prep Date	Exp. Date	Exp. Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/L)
VOA STD. 7	Various	20ug/L	50	Prepared 01/15/20	01/15/20	N/A	20uL	50mL	P&T Water	20
VOA STD. 8	Phenova		50	Prepared 01/15/20	01/15/20	N/A	20uL			20
VOA STD. 1	O2SI		50	Prepared 01/15/20	03/15/20	N/A	60uL			60
VOA STD. 2	O2SI		50	Prepared 01/15/20	03/15/20	N/A	20uL			20
VOA STD. 4	Absolute		50	Prepared 12/12/19	02/10/20	N/A	20uL			20
VOA STD. 34	Absolute		50	Prepared 01/20/20	03/20/20	N/A	120uL			120
VOA STD. TBA	Various		250	Prepared 01/15/20	01/15/20	N/A	30uL			150

40ug/L

Prepared: 01/21/20

Expires: 02/20/20

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	APPL Mix Name	Conc. (ug/mL)	Reference To APPL Prep Date	Exp. Date	Exp. Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/L)
VOA STD. 7	Various	40ug/L	50	Prepared 01/15/20	01/15/20	N/A	40uL	50mL	P&T Water	40
VOA STD. 8	Phenova		50	Prepared 01/15/20	01/15/20	N/A	40uL			40
VOA STD. 1	O2SI		50	Prepared 01/15/20	03/15/20	N/A	100uL			100
VOA STD. 2	O2SI		50	Prepared 01/15/20	03/15/20	N/A	40uL			40
VOA STD. 4	Absolute		50	Prepared 12/12/19	02/10/20	N/A	40uL			40
VOA STD. 34	Absolute		50	Prepared 01/20/20	03/20/20	N/A	140uL			140
VOA STD. TBA	Various		250	Prepared 01/15/20	01/15/20	N/A	35uL			175

100ug/L

Prepared: 01/21/20

Expires: 02/20/20

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	APPL Mix Name	Conc. (ug/mL)	Reference To APPL Prep Date	Exp. Date	Exp. Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/L)
VOA STD. 7	Various	100ug/L	50	Prepared 01/15/20	01/15/20	N/A	100uL	50mL	P&T Water	100
VOA STD. 8	Phenova		50	Prepared 01/15/20	01/15/20	N/A	100uL			100
VOA STD. 1	O2SI		50	Prepared 01/15/20	03/15/20	N/A	200uL			200
VOA STD. 2	O2SI		50	Prepared 01/15/20	03/15/20	N/A	100uL			100
VOA STD. 4	Absolute		50	Prepared 12/12/19	02/10/20	N/A	100uL			100
VOA STD 34	Absolute		50	Prepared 01/20/20	03/20/20	N/A	160uL			160
VOA STD. TBA	Various		250	Prepared 01/15/20	01/15/20	N/A	40uL			200

Loki 8260 Water Second Source (SS)

Prepared: 01/21/20

Expires: 02/20/20

Prepared By (Initials): CH

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	APPL Mix Name	Conc. (ug/mL)	Reference To APPL Prep Date	Exp. Date	Exp Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/L)
VOA STD. 4	Phenova	8260 Water SS	50	Prepared 01/15/20	01/15/20	N/A	10uL	50mL	P&T Water	10
VOA STD. Gases	O2SI	8260 Water SS	50	Prepared 01/15/20	03/15/20	N/A	10uL			10
VOA STD. 6	Various	8260 Water SS	50	Prepared 01/15/20	01/01/20	N/A	10uL			10
VOA STD. 24	Absolute	8260 Water SS	50	Prepared 12/12/19	02/10/20	N/A	10uL			10
VOA STD. 44	Absolute	8260 Water SS	50	Prepared 01/20/20	03/20/20	N/A	100uL			100
VOA STD. 2-CEVE	Absolute	8260 Water SS	50	Prepared 01/15/20	03/15/20	N/A	100uL			50
Voa STD. TBA	Various	8260 Water SS	250	Prepared 01/15/20	01/01/20	N/A	25uL			250

8260 Water Continuing Calibrations (CCV)/ Lab Control Spikes (LCS)

Prepared: 01/21/20

Expires: 01/22/20

Prepared By (Initials): CH

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	APPL Mix Name	Conc. (ug/mL)	Reference To APPL Prep Date	Exp. Date	Exp. Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/L)
VOA STD. 7	Various	CCV/ LCS	50	Prepared 01/15/20	01/15/20	N/A	10uL	50mL	P&T Water	10
VOA STD. 8	Phenova	CCV/ LCS	50	Prepared 01/15/20	01/15/20	N/A	10uL			10
VOA STD. 1	O2SI	CCV/ LCS	50	Prepared 01/15/20	03/15/20	N/A	10uL			10
VOA STD 2	O2SI	CCV/ LCS	50	Prepared 01/15/20	03/15/20	N/A	10uL			10
VOA STD. 4	Absolute	CCV/ LCS	50	Prepared 12/12/19	02/10/20	N/A	10uL			10
VOA STD. 34	Absolute	CCV/ LCS	50	Prepared 01/20/20	03/20/20	N/A	100uL			100
VOA STD. TBA	Various	CCV/ LCS	250	Prepared 01/15/20	01/15/20	N/A	25uL			125

LCS (X4 Ketones)

Prepared: 01/21/20

Expires: 01/22/20

Prepared By (Initials): CH

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	APPL Mix Name	Conc. (ug/mL)	Reference To APPL Prep Date	Exp. Date	Exp. Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/L)
VOA STD. 7	Various	LCS X4 Ketones	50	Prepared 01/15/20	01/15/20	N/A	10uL	50mL	P&T	10
VOA STD. 8	Phenova	LCS X4 Ketones	50	Prepared 01/15/20	01/15/20	N/A	10uL			10
VOA STD. 1	O2SI	LCS X4 Ketones	50	Prepared 01/15/20	03/15/20	N/A	10uL			10

VOA STD. 2	O2SI	LCS X4 Ketones	50	Prepared 01/15/20	03/15/20	N/A	40uL		Water	40
VOA STD. 4	Absolute	LCS X4 Ketones	50	Prepared 12/12/19	02/10/20	N/A	10uL			10
VOA STD. 34	Absolute	LCS X4 Ketones	50	Prepared 01/20/20	03/20/20	N/A	100uL			100
VOA STD. TBA	Various	LCS X4 Ketones	250	Prepared 01/15/20	01/15/20	N/A	25uL			125

Primary and Secondary Working Standards

Primary Standards

VOA STD 7

Prepared: 01/15/20 A
Expires: 01/15/20
Prepared By (Initials): CH
Methanol Lot No. DW117-US-0095

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	Supplier P/N#	Conc. (ug/mL)	Lot Number - QA Number	Exp. Date (1 yr)	Exp. Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/mL)
VOA Gasses STD	Phenova	ALO-101206	2,000	**CL14052-49486**	**01/15/21**	**08/31/24**	100uL	4mL	Methanol	50
Hexachloroethane	Absolute	70199	1,000	**091818-449637**	**01/15/21**	**09/18/23**	200uL			50
Benzyl Chloride	Accusta	M-8010-01	1,000	**219041664-49373**	**01/15/20**	**05/22/21**	200uL			50

VOA STD 8

Prepared: 01/15/20 B
Expires: 01/15/20
Prepared By (Initials): CH
Methanol Lot No. DW117-US-0095

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	Supplier P/N#	Conc. (ug/mL)	Lot Number - QA Number	Exp. Date (1 yr)	Exp. Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/mL)
VOA Additions STD	Phenova	ALO-130175	2,000	**CL12744-49503**	**01/15/21**	**08/31/20**	100uL	4mL	Methanol	50
502.2 Cal. Std.	Phenova	ALO-101200	2,000	**CL14379-49511**	**01/15/21**	**10/31/24**	100uL			50
Vinyl Acetate	Phenova	ALO-101228	2,000	**CL14746-49650**	**01/06/21**	**01/15/20**	100uL			50

VOA STD TBA

Prepared: 01/15/20 C
Expires: 01/15/20
Prepared By (Initials): CH
Methanol Lot No. DW117-US-0095

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	Supplier P/N#	Conc. (ug/mL)	Lot Number - QA Number	Exp. Date (1 yr)	Exp. Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/mL)
Custom VOC Mix	Phenova	ALO-130176	2,000	**CL12929-49513**	**01/15/21**	**11/30/20**	500uL	4mL	Methanol	250
Acrolein	Phenova	ALO-130549	10,000	**CL14750-49651**	**1/6/221**	**01/15/20**	100uL			250

VOA STD 1

Prepared: 01/15/20 D
Expires: 03/15/20
Prepared By (Initials): CH
Methanol Lot No. DW117-US-0095

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	Supplier P/N#	Conc. (ug/mL)	Lot Number - QA Number	Exp. Date (1 yr)	Exp. Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/mL)
2-CEVE	Absolute	82408	2,000	**11419-49531**	**01/15/21**	**11/14/22**	50	2mL	Methanol	50

VOA STD 2

Prepared: 01/15/20 E
Expires: 03/15/20
Prepared By (Initials): CH
Methanol Lot No. DW117-US-0095

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	Supplier P/N#	Conc. (ug/mL)	Lot Number - QA Number	Exp. Date (1 yr)	Exp. Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/mL)
Ketones Std.	Phenova	ALO-109211	2,000	**CL12730-49390**	**01/15/21**	**08/31/28**	100	4mL	Methanol	50

VOA STD 9

Prepared: 01/15/20 F
Expires: 03/15/20
Prepared By (Initials): CH
Methanol Lot No. DW117-US-0095

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	APPL Mix Name	Conc. (ug/mL)	Reference To APPL Prep Date	Exp. Date (1 yr)	Exp. Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/mL)
VOA STD 7		VOA STD. 9	50	Prepared 01/15/20	**01/15/21**	N/A	200uL	2mL	Methanol	5
VOA STD. 8			50	Prepared 01/15/20	**01/15/21**	N/A	200uL			5

VOA STD. 10

Prepared: 01/15/20 G
Expires: 03/15/20
Prepared By (Initials): CH
Methanol Lot No. DW117-US-0095

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	APPL Mix Name	Conc. (ug/mL)	Reference To APPL Prep Date	Exp. Date (1 yr)	Exp. Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/mL)
VOA STD. 1		VOA STD. 10	50	Prepared 01/15/20	**01/15/21**	N/A	200uL	2mL	Methanol	5

VOA STD. 12

Prepared: 01/15/20 H
Expires: 03/15/20
Prepared By (Initials): CH
Methanol Lot No. DW117-US-0095

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	APPL Mix Name	Conc. (ug/mL)	Reference To APPL Prep Date	Exp. Date (1 yr)	Exp. Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc (ug/mL)
VOA STD. 2		VOA STD. 12	50	Prepared 01/15/20	**01/15/21**	N/A	200uL	2mL	Methanol	5

Second Source (SS) Standards

VOA STD. 3

Prepared: 01/15/20 I
Expires: 01/15/20
Prepared By (Initials): CH
Methanol Lot No. DW117-US-0095

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	Supplier P/N#	Conc. (ug/mL)	Lot Number - QA Number	Exp. Date (1 yr)	Exp. Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/mL)
Ketones Standard	Phenova	ALO-101211	2,000	**CL12730-41080**	**01/15/20**	**08/31/28**	50uL	2mL	Methanol	50

VOA STD. Gases

Prepared: 01/15/20 J
Expires: 03/15/20
Prepared By (Initials): CH
Methanol Lot No. DW117-US-0095

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	Supplier P/N#	Conc. (ug/mL)	Lot Number - QA Number	Exp. Date (1 yr)	Exp. Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/mL)
8260 Gases (SS)	Phenova	ALO-101206	2,000	**CL14057-49495**	**01/15/21**	**08/31/24**	50uL	2mL	Methanol	50

VOA STD. 6

Prepared: 01/15/20 K
Expires: 01/01/20
Prepared By (Initials): CH
Methanol Lot No. DW117-US-0095

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	Supplier P/N#	Conc. (ug/mL)	Lot Number - QA Number	Exp. Date (1 yr)	Exp. Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/mL)
502.2 Calibration STD. (54-compounds)	Phenova	ALO-101200	2,000	**CL12490-40929**	**01/15/21**	**05/31/23**	50uL	2mL	Methanol	50
Vinyl Acetate	Phenova	ALO-101228	2,000	**CL14694-49582**	**12/11/20**	**01/01/20**	50uL			50
Hexachloroethane	Accustan	AS-E0011	1,000	**219061767-41301**	**01/06/21**	**06/28/29**	100uL			50
Benzyl Chloride	Accustan	M-8010-01	200	219041664-49643	**01/15/21**	**05/22/21**	500uL			50

VOA STD. TBA

Prepared: 01/15/20 L
Expires: 01/01/20
Prepared By (Initials): CH
Methanol Lot No. DW117-US-0095

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	Supplier P/N#	Conc. (ug/mL)	Lot Number - QA Number	Exp. Date (1 yr)	Exp. Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/mL)
Custom VOA Mix (4-3)	Phenova	ALO-130176	2,000	**CL12228-49384**	**12/12/20**	**11/30/20**	250uL	2mL	Methanol	250
Acrolein	Phenova	ALO-101224	10,000	**CL14689-49583**	**12/11/20**	**01/01/20**	50uL			250

VOA STD. 0

Prepared: 01/15/20 M
Expires: 03/15/20
Prepared By (Initials): CH
Methanol Lot No. DW117-US-0095

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	Supplier P/N#	Conc. (ug/mL)	Lot Number - QA Number	Exp. Date (1 yr)	Exp. Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/mL)
VOA Addition STD.	Phenova	ALO-130175	2,000	**CL12622-49500**	**01/15/21**	**06/30/20**	50uL	2mL	Methanol	50

VOA STD. 2-CEVE

Prepared: 01/15/20 N
Expires: 03/15/20
Prepared By (Initials): CH
Methanol Lot No. DW117-US-0095

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	Supplier P/N#	Conc. (ug/mL)	Lot Number - QA Number	Exp. Date (1 yr)	Exp. Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/mL)
2-CEVE (SS)	Absolute	82408	2,000	**121119-49631**	**01/06/21**	**12/11/22**	50uL			50

Primary and Secondary BSSW Standards

Primary Standards

VOA STD 34

Prepared: 01/20/20 AA
Expires: 03/20/20
Prepared By (Initials): DG
Methanol Lot No. DW117-US-0095

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	Supplier P/N#	Conc. (ug/mL)	Lot Number - QA Number	Exp. Date (1 yr)	Exp. Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/mL)
2-Propanol	Absolute	70941	1,000	**070119-41194**	**01/20/21**	**07/01/24**	200uL	4mL	Methanol	50
Chlorotrifluorethene	Absolute	71605	1,000	**071619-41181**	**01/20/21**	**07/16/20**	200uL			50
2-Chloro-1,1,1-trifluoroethane	Absolute	34271	10,000	**011719-41184**	**01/20/21**	**01/17/24**	20uL			50

Secondary Standards

VOA STD 44

Prepared: 01/20/20 AB
Expires: 03/20/20
Prepared By (Initials): DG
Methanol Lot No. DW117-US-0095

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	Supplier P/N#	Conc. (ug/mL)	Lot Number - QA Number	Exp. Date (1 yr)	Exp. Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/mL)
2-Propanol	Absolute	70941	1,000	**031419-41190**	**01/20/21**	**03/14/24**	200uL	4mL	Methanol	50
Chlorotrifluorethene	Absolute	71605	1,000	**071519-41175**	**01/20/21**	**07/15/20**	200uL			50
2-Chloro-1,1,1-trifluoroethane	Absolute	34271	10,000	**071519-41188**	**01/20/21**	07/15/24	20uL			50

Injection Log

Directory: M:\LOKI\DATA\200121\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	1	0121L00.D	1	25ug/L BFB STD 12/29/19	2uL	21 Jan 20 6:34
2	2	0121L02.D	1	0.3ug/L VOC STD 1/21/20	IS&S:12/19/19	21 Jan 20 7:43
3	3	0121L03.D	1	0.5ug/L VOC STD 1/21/20	IS&S:12/19/19	21 Jan 20 8:11
4	4	0121L04.D	1	1ug/L VOC STD 1/21/20	IS&S:12/19/19	21 Jan 20 8:40
5	5	0121L05.D	1	2ug/L VOC STD 1/21/20	IS&S:12/19/19	21 Jan 20 9:08
6	6	0121L06.D	1	5ug/L VOC STD 1/21/20	IS&S:12/19/19	21 Jan 20 9:37
7	7	0121L07.D	1	10ug/L VOC STD 1/21/20	IS&S:12/19/19	21 Jan 20 10:06
8	8	0121L08.D	1	20ug/L VOC STD 1/21/20	IS&S:12/19/19	21 Jan 20 10:34
9	9	0121L09.D	1	40ug/L VOC STD 1/21/20	IS&S:12/19/19	21 Jan 20 11:03
10	10	0121L10.D	1	100ug/L VOC STD 1/21/20	IS&S:12/19/19	21 Jan 20 11:32
11	12	0121L12.D	1	(SS) 10ug/L VOC STD 1/21/20	IS&S:12/19/19	21 Jan 20 12:29
12	22	0121L22.D	1	25ug/L BFB STD 12/29/19	IS&S:12/19/19	21 Jan 20 17:15
13	23	0121L23.D	1	200121A CCV/LCS 10ug/L	IS&S:12/19/19	21 Jan 20 17:43
14	24	0121L24.D	1	200121A LCSD 10ug/L	IS&S:12/19/19	21 Jan 20 18:12
15	32	0121L32.D	1	200121A BLK	IS&S:12/19/19	21 Jan 20 22:01
16	33	0121L33.D	1	BA06135W01	IS&S:12/19/19	21 Jan 20 22:30
17	34	0121L34.D	1	BA06136W01	IS&S:12/19/19	21 Jan 20 22:58
18	35	0121L35.D	1	BA06137W01	IS&S:12/19/19	21 Jan 20 23:27
19	36	0121L36.D	1	BA06138W01	IS&S:12/19/19	21 Jan 20 23:55
20	37	0121L37.D	1	BA06139W01	IS&S:12/19/19	22 Jan 20 00:24
21	38	0121L38.D	1	BA06140W01	IS&S:12/19/19	22 Jan 20 00:52
22	39	0121L39.D	1	BA06141W04	IS&S:12/19/19	22 Jan 20 1:21
23	40	0121L40.D	1	BA06142W01	IS&S:12/19/19	22 Jan 20 1:50
24	41	0121L41.D	1	BA06143W01	IS&S:12/19/19	22 Jan 20 2:18
25	47	0121L47.D	1	Ending CCV 10ug/L 1/21/20	IS&S:12/19/19	22 Jan 20 5:10

ORGANICS
Calibration Data

VOLATILE ORGANIC ANALYSIS
VOLATILE ORGANIC COMPOUNDS

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Initial Cal. Date: 01/21/20
Matrix: Instrument: Loki
Initials:

		Compound	1	2	3	4	5	6	7	8	9		Avg	%RSD	Type	r^2	Q	MRF
			0121L02.D	0121L03.D	0121L04.D	0121L05.D	0121L06.D	0121L07.D	0121L08.D	0121L09.D	0121L10.D							
1	I	Fluorobenzene (IS)																
2	S	Dibromofluoromethane(S)	0.7537	0.6971	0.5490	0.5827	0.5863	0.5703	0.5573	0.5732	0.5195		0.60	13	S			
3	S	1,2-DCA-D4(S)	0.9141	0.8271	0.7000	0.7189	0.7083	0.6938	0.6706	0.7007	0.6318		0.73	12	S			
4	I	Chlorobenzene-D5 (IS)																
5	S	Toluene-D8(S)	2.398	2.190	1.750	1.872	1.918	1.990	2.011	2.106	2.024		2.0	9.3	S			
6	S	4-Bromofluorobenzene(S)	0.7914	0.6381	0.5587	0.6241	0.6636	0.6990	0.7582	0.8011	0.7907		0.70	12	S			
7	I	1,4-Dichlorobenzene-D (IS)																
8																		
9																		
10																		
11																		
12																		
13																		
14																		
15																		
16																		
17																		
18																		
19																		
20																		
21																		
22																		
23																		
24																		
25																		
26																		
27																		
28																		
29																		
30																		
31																		
32																		
33																		
34																		
35																		

Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\200121\0121L02.D Vial: 2
Acq On : 21 Jan 20 7:43 Operator:
Sample : 0.3ug/L VOC STD 1/21/20 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 22 11:00 2020 Quant Results File: L0121SUR.RES

Quant Method : M:\LOKI\DATA\200121\L0121SUR.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 13:19:21 2020
Response via : Initial Calibration
DataAcq Meth : L8260

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.06	96	208128	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	8.68	117	205440	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	11.23	152	100456	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.09	111	31375	6.29393 ppb	0.00
Spiked Amount 25.000			Recovery	= 25.176%	
3) 1,2-DCA-D4(S)	4.56	65	38048	6.26520 ppb	0.00
Spiked Amount 25.000			Recovery	= 25.060%	
5) Toluene-D8(S)	7.07	98	98524	5.90961 ppb	0.00
Spiked Amount 25.000			Recovery	= 23.640%	
6) 4-Bromofluorobenzene(S)	9.99	95	32515	5.63027 ppb	0.00
Spiked Amount 25.000			Recovery	= 22.520%	

Target Compounds Qvalue

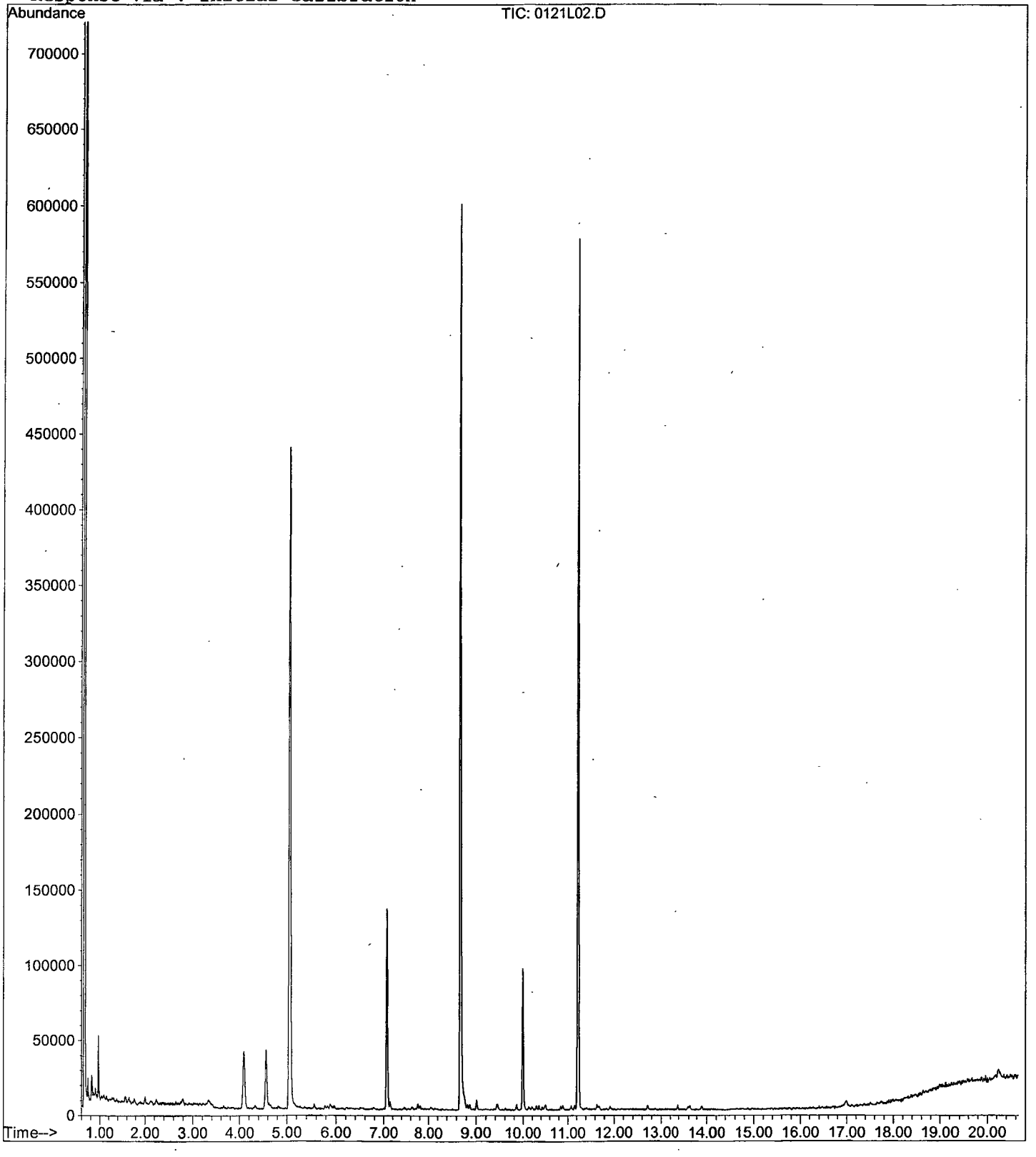
(#) = qualifier out of range (m) = manual integration
0121L02.D L0121SUR.M Wed Jan 22 11:01:09 2020 Page 1

Quantitation Report

Data File : M:\LOKI\DATA\200121\0121L02.D Vial: 2
Acq On : 21 Jan 20 7:43 Operator:
Sample : 0.3ug/L VOC STD 1/21/20 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 22 11:00 2020 Quant Results File: L0121SUR.RES

Method : M:\LOKI\DATA\200121\L0121SUR.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 13:19:21 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\200121\0121L03.D Vial: 3
Acq On : 21 Jan 20 8:11 Operator:
Sample : 0.5ug/L VOC STD 1/21/20 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 22 11:00 2020 Quant Results File: L0121SUR.RES

Quant Method : M:\LOKI\DATA\200121\L0121SUR.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 13:19:21 2020
Response via : Initial Calibration
DataAcq Meth : L8260

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.06	96	201920	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	8.69	117	202560	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	11.23	152	99408	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.09	111	28152	5.82102 ppb	0.00
Spiked Amount 25.000			Recovery	= 23.284%	
3) 1,2-DCA-D4(S)	4.56	65	33403	5.66944 ppb	0.00
Spiked Amount 25.000			Recovery	= 22.676%	
5) Toluene-D8(S)	7.07	98	88713	5.39679 ppb	0.00
Spiked Amount 25.000			Recovery	= 21.588%	
6) 4-Bromofluorobenzene(S)	9.99	95	25850	4.53981 ppb	0.00
Spiked Amount 25.000			Recovery	= 18.160%	

Target Compounds Qvalue

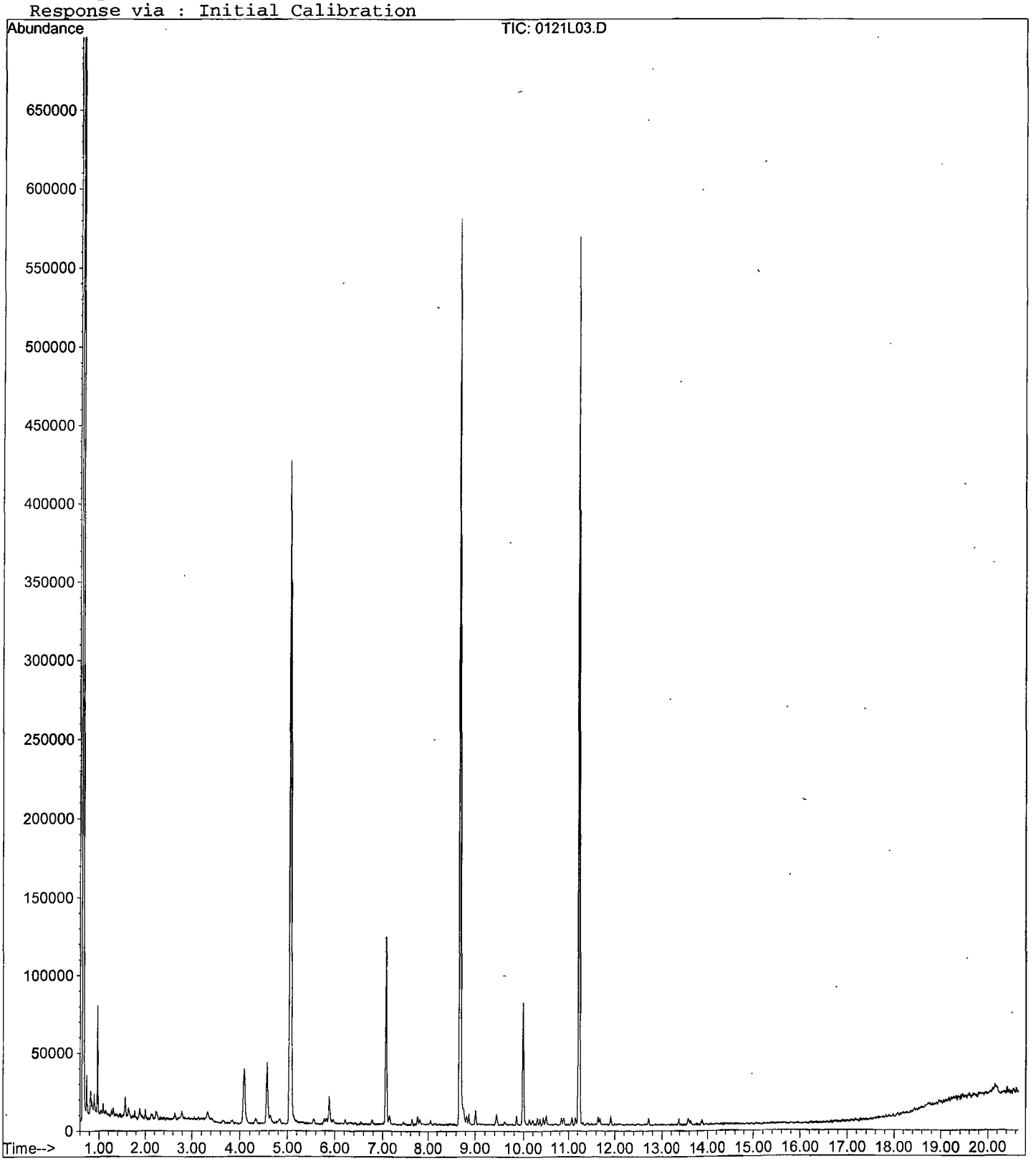
(#) = qualifier out of range (m) = manual integration
0121L03.D L0121SUR.M Wed Jan 22 11:01:10 2020 Page 1

Quantitation Report

Data File : M:\LOKI\DATA\200121\0121L03.D Vial: 3
Acq On : 21 Jan 20 8:11 Operator:
Sample : 0.5ug/L VOC STD 1/21/20 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 22 11:00 2020 Quant Results File: L0121SUR.RES

Method : M:\LOKI\DATA\200121\L0121SUR.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 13:19:21 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\200121\0121L04.D Vial: 4
Acq On : 21 Jan 20 8:40 Operator:
Sample : 1ug/L VOC STD 1/21/20 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 22 11:00 2020 Quant Results File: L0121SUR.RES

Quant Method : M:\LOKI\DATA\200121\L0121SUR.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 13:19:21 2020
Response via : Initial Calibration
DataAcq Meth : L8260

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.06	96	213888	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	8.69	117	218176	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	11.23	152	106008	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.09	111	46972	9.16899 ppb	0.00
Spiked Amount 25.000			Recovery	= 36.676%	
3) 1,2-DCA-D4(S)	4.56	65	59885	9.59545 ppb	0.00
Spiked Amount 25.000			Recovery	= 38.380%	
5) Toluene-D8(S)	7.07	98	152735	8.62648 ppb	0.00
Spiked Amount 25.000			Recovery	= 34.504%	
6) 4-Bromofluorobenzene(S)	9.99	95	48760	7.95037 ppb	0.00
Spiked Amount 25.000			Recovery	= 31.800%	

Target Compounds Qvalue

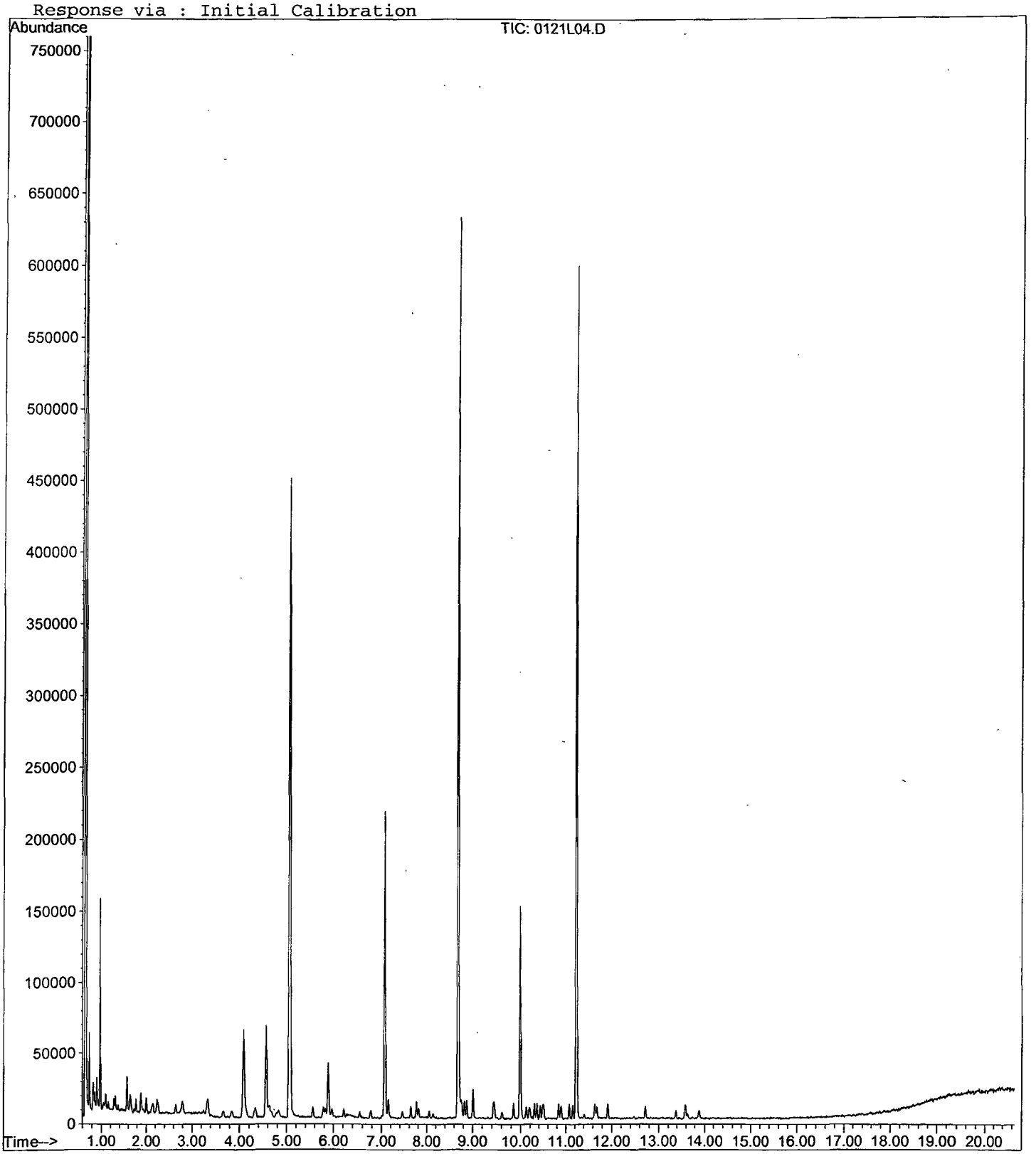
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LOKI\DATA\200121\0121L04.D Vial: 4
Acq On : 21 Jan 20 8:40 Operator:
Sample : 1ug/L VOC STD 1/21/20 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 22 11:00 2020 Quant Results File: L0121SUR.RES

Method : M:\LOKI\DATA\200121\L0121SUR.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 13:19:21 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\200121\0121L05.D Vial: 5
Acq On : 21 Jan 20 9:08 Operator:
Sample : 2ug/L VOC STD 1/21/20 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 22 11:00 2020 Quant Results File: L0121SUR.RES

Quant Method : M:\LOKI\DATA\200121\L0121SUR.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 13:19:21 2020
Response via : Initial Calibration
DataAcq Meth : L8260

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.06	96	204032	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	8.69	117	211200	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	11.23	152	106416	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.08	111	47559	9.73203 ppb	0.00
Spiked Amount 25.000			Recovery	= 38.928%	
3) 1,2-DCA-D4(S)	4.56	65	58672	9.85522 ppb	0.00
Spiked Amount 25.000			Recovery	= 39.420%	
5) Toluene-D8(S)	7.07	98	158126	9.22596 ppb	0.00
Spiked Amount 25.000			Recovery	= 36.904%	
6) 4-Bromofluorobenzene(S)	9.99	95	52727	8.88116 ppb	0.00
Spiked Amount 25.000			Recovery	= 35.524%	

Target Compounds Qvalue

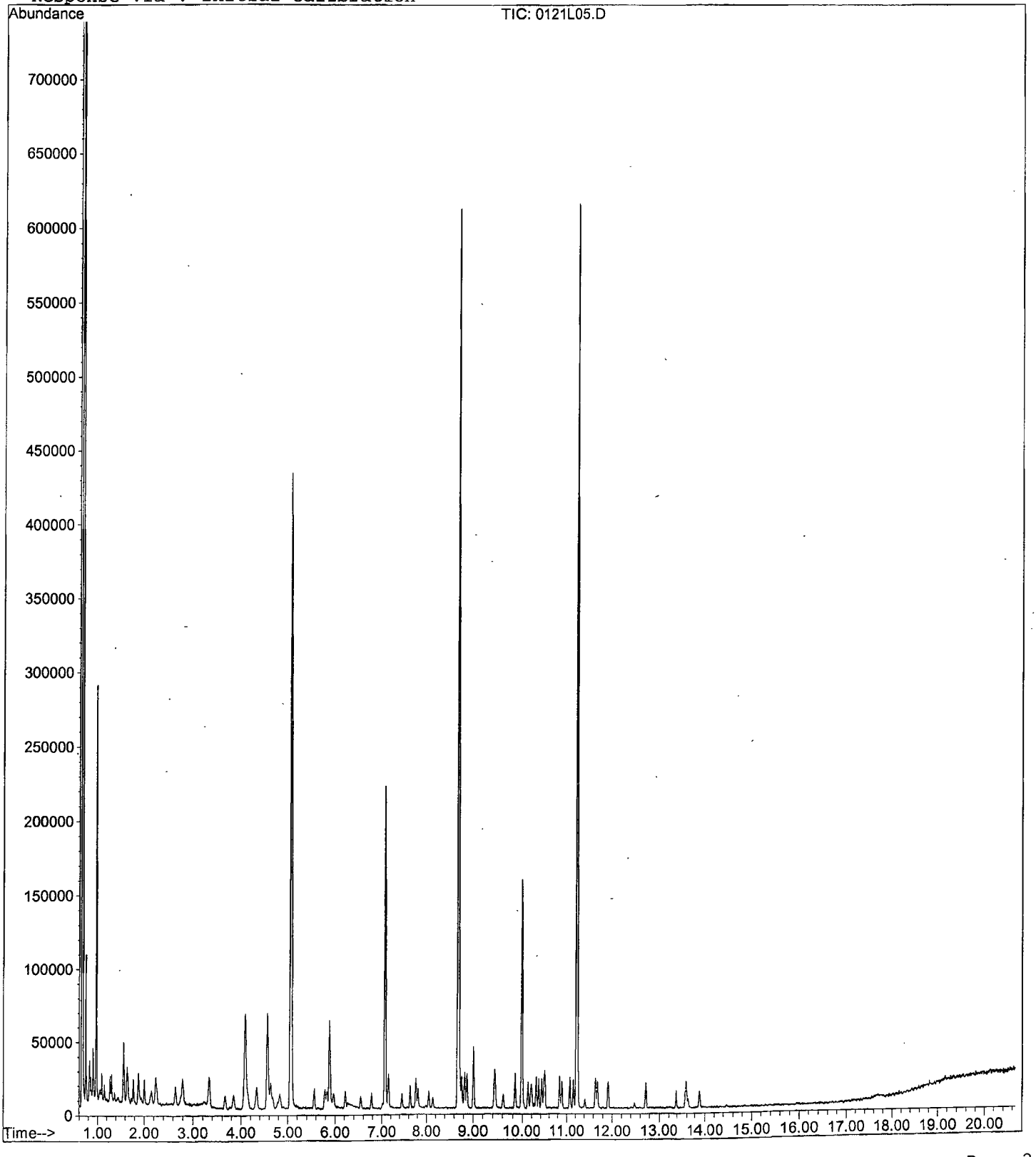
(#) = qualifier out of range (m) = manual integration
0121L05.D L0121SUR.M Wed Jan 22 11:01:14 2020 Page 1

Quantitation Report

Data File : M:\LOKI\DATA\200121\0121L05.D Vial: 5
Acq On : 21 Jan 20 9:08 Operator:
Sample : 2ug/L VOC STD 1/21/20 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 22 11:00 2020 Quant Results File: L0121SUR.RES

Method : M:\LOKI\DATA\200121\L0121SUR.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 13:19:21 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\200121\0121L06.D Vial: 6
Acq On : 21 Jan 20 9:37 Operator:
Sample : 5ug/L VOC STD 1/21/20 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 22 11:00 2020 Quant Results File: L0121SUR.RES

Quant Method : M:\LOKI\DATA\200121\L0121SUR.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 13:19:21 2020
Response via : Initial Calibration
DataAcq Meth : L8260

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	5.06	96	225472	25.00000	ppb	0.00
4) Chlorobenzene-D5 (IS)	8.69	117	232896	25.00000	ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	11.23	152	125928	25.00000	ppb	0.00
System Monitoring Compounds						
2) Dibromofluoromethane(S)	4.09	111	132185	24.47702	ppb	0.00
Spiked Amount 25.000			Recovery =	97.908%		
3) 1,2-DCA-D4(S)	4.56	65	159702	24.27457	ppb	0.00
Spiked Amount 25.000			Recovery =	97.100%		
5) Toluene-D8(S)	7.07	98	446775	23.63899	ppb	0.00
Spiked Amount 25.000			Recovery =	94.556%		
6) 4-Bromofluorobenzene(S)	9.99	95	154560	23.60836	ppb	0.00
Spiked Amount 25.000			Recovery =	94.432%		

Target Compounds Qvalue

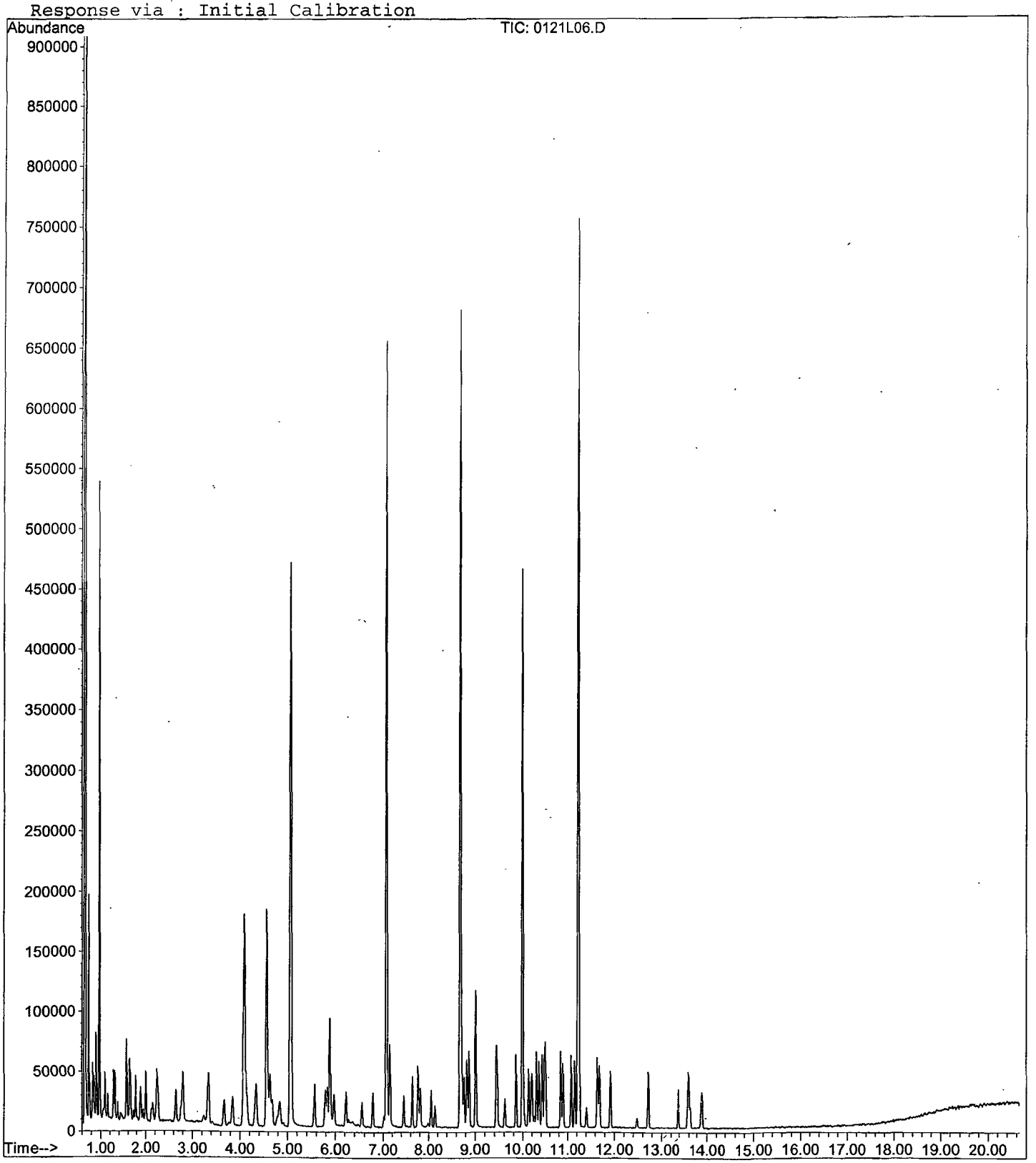
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LOKI\DATA\200121\0121L06.D Vial: 6
Acq On : 21 Jan 20 9:37 Operator:
Sample : 5ug/L VOC STD 1/21/20 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 22 11:00 2020 Quant Results File: L0121SUR.RES

Method : M:\LOKI\DATA\200121\L0121SUR.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 13:19:21 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\200121\0121L07.D Vial: 7
Acq On : 21 Jan 20 10:06 Operator:
Sample : 10ug/L VOC STD 1/21/20 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 22 11:00 2020 Quant Results File: L0121SUR.RES

Quant Method : M:\LOKI\DATA\200121\L0121SUR.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 13:19:21 2020
Response via : Initial Calibration
DataAcq Meth : L8260

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.06	96	228544	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	8.69	117	229056	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	11.23	152	130680	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.09	111	130335	23.81005 ppb	0.00
Spiked Amount 25.000			Recovery =	95.240%	
3) 1,2-DCA-D4(S)	4.56	65	158558	23.77673 ppb	0.00
Spiked Amount 25.000			Recovery =	95.108%	
5) Toluene-D8(S)	7.07	98	455927	24.52764 ppb	0.00
Spiked Amount 25.000			Recovery =	98.112%	
6) 4-Bromofluorobenzene(S)	9.99	95	160102	24.86485 ppb	0.00
Spiked Amount 25.000			Recovery =	99.460%	

Target Compounds Qvalue

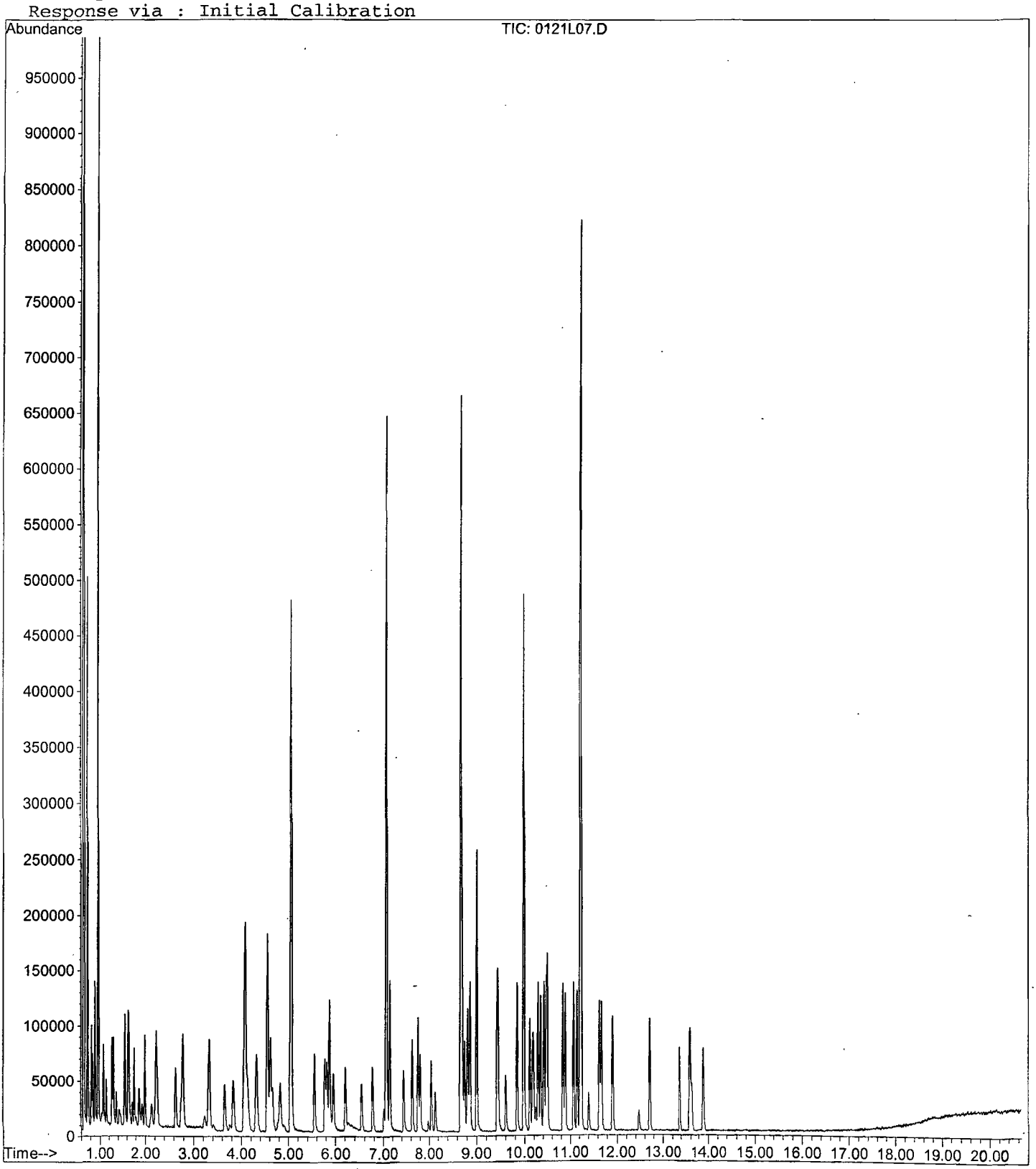
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LOKI\DATA\200121\0121L07.D Vial: 7
Acq On : 21 Jan 20 10:06 Operator:
Sample : 10ug/L VOC STD 1/21/20 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 22 11:00 2020 Quant Results File: L0121SUR.RES

Method : M:\LOKI\DATA\200121\L0121SUR.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 13:19:21 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\200121\0121L08.D Vial: 8
Acq On : 21 Jan 20 10:34 Operator:
Sample : 20ug/L VOC STD 1/21/20 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 22 11:00 2020 Quant Results File: L0121SUR.RES

Quant Method : M:\LOKI\DATA\200121\L0121SUR.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 13:19:21 2020
Response via : Initial Calibration
DataAcq Meth : L8260

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.06	96	246144	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	8.68	117	250496	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	11.23	152	152384	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.09	111	274346	46.53486 ppb	0.00
Spiked Amount 25.000			Recovery	= 186.140%	
3) 1,2-DCA-D4(S)	4.56	65	330126	45.96468 ppb	0.00
Spiked Amount 25.000			Recovery	= 183.860%	
5) Toluene-D8(S)	7.07	98	1007384	49.55602 ppb	0.00
Spiked Amount 25.000			Recovery	= 198.224%	
6) 4-Bromofluorobenzene(S)	9.99	95	379841	53.94259 ppb	0.00
Spiked Amount 25.000			Recovery	= 215.772%	

Target Compounds Qvalue

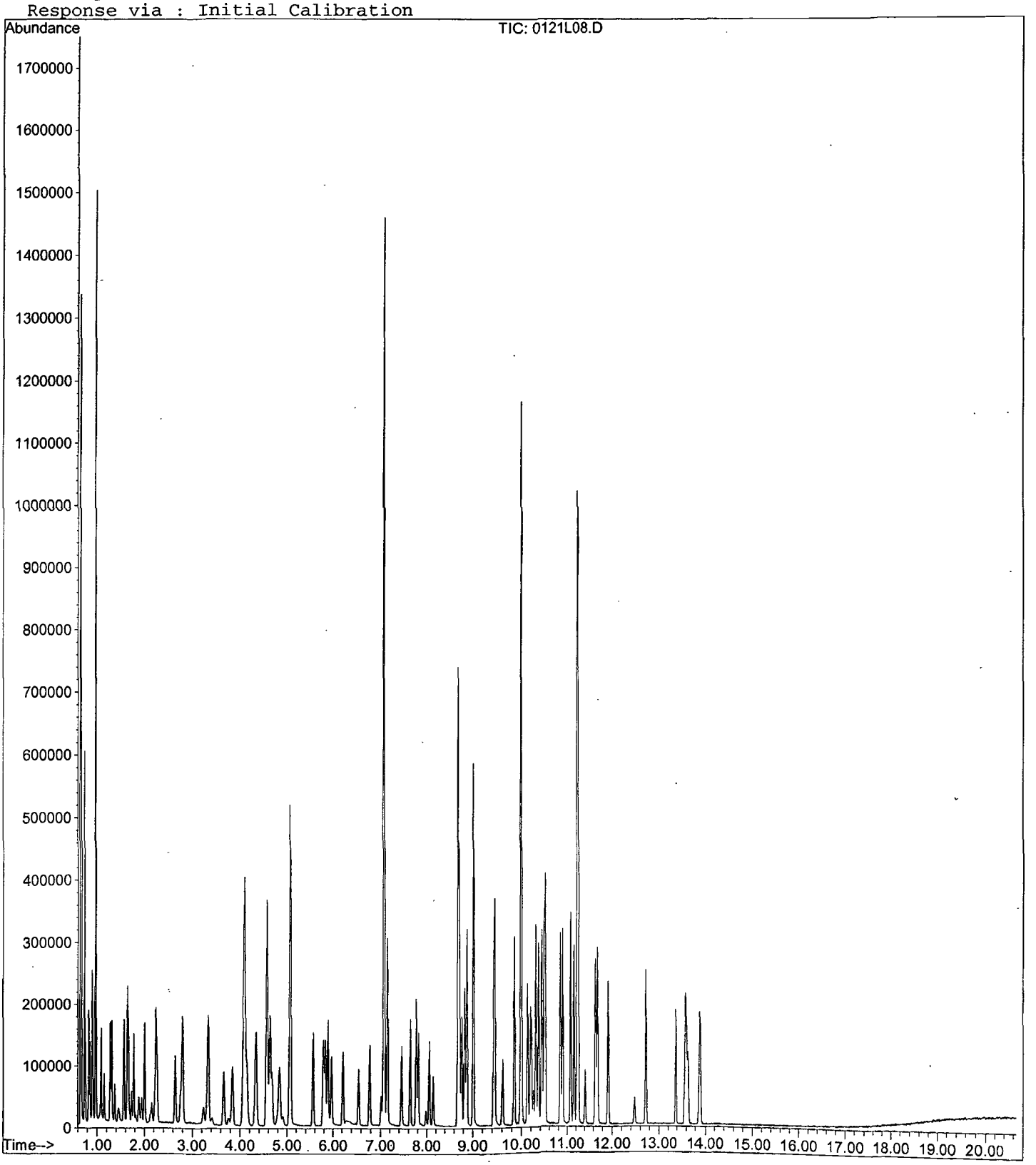
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LOKI\DATA\200121\0121L08.D Vial: 8
Acq On : 21 Jan 20 10:34 Operator:
Sample : 20ug/L VOC STD 1/21/20 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 22 11:00 2020 Quant Results File: L0121SUR.RES

Method : M:\LOKI\DATA\200121\L0121SUR.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 13:19:21 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\200121\0121L09.D Vial: 9
Acq On : 21 Jan 20 11:03 Operator:
Sample : 40ug/L VOC STD 1/21/20 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 22 11:00 2020 Quant Results File: L0121SUR.RES

Quant Method : M:\LOKI\DATA\200121\L0121SUR.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 13:19:21 2020
Response via : Initial Calibration
DataAcq Meth : L8260

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.06	96	234688	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	8.68	117	243456	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	11.23	152	155072	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.09	111	269026	47.85996 ppb	0.00
Spiked Amount 25.000			Recovery = 191.440%		
3) 1,2-DCA-D4(S)	4.56	65	328897	48.02891 ppb	0.00
Spiked Amount 25.000			Recovery = 192.116%		
5) Toluene-D8(S)	7.07	98	1025267	51.89418 ppb	0.00
Spiked Amount 25.000			Recovery = 207.576%		
6) 4-Bromofluorobenzene(S)	9.99	95	390041	56.99287 ppb	0.00
Spiked Amount 25.000			Recovery = 227.972%		

Target Compounds Qvalue

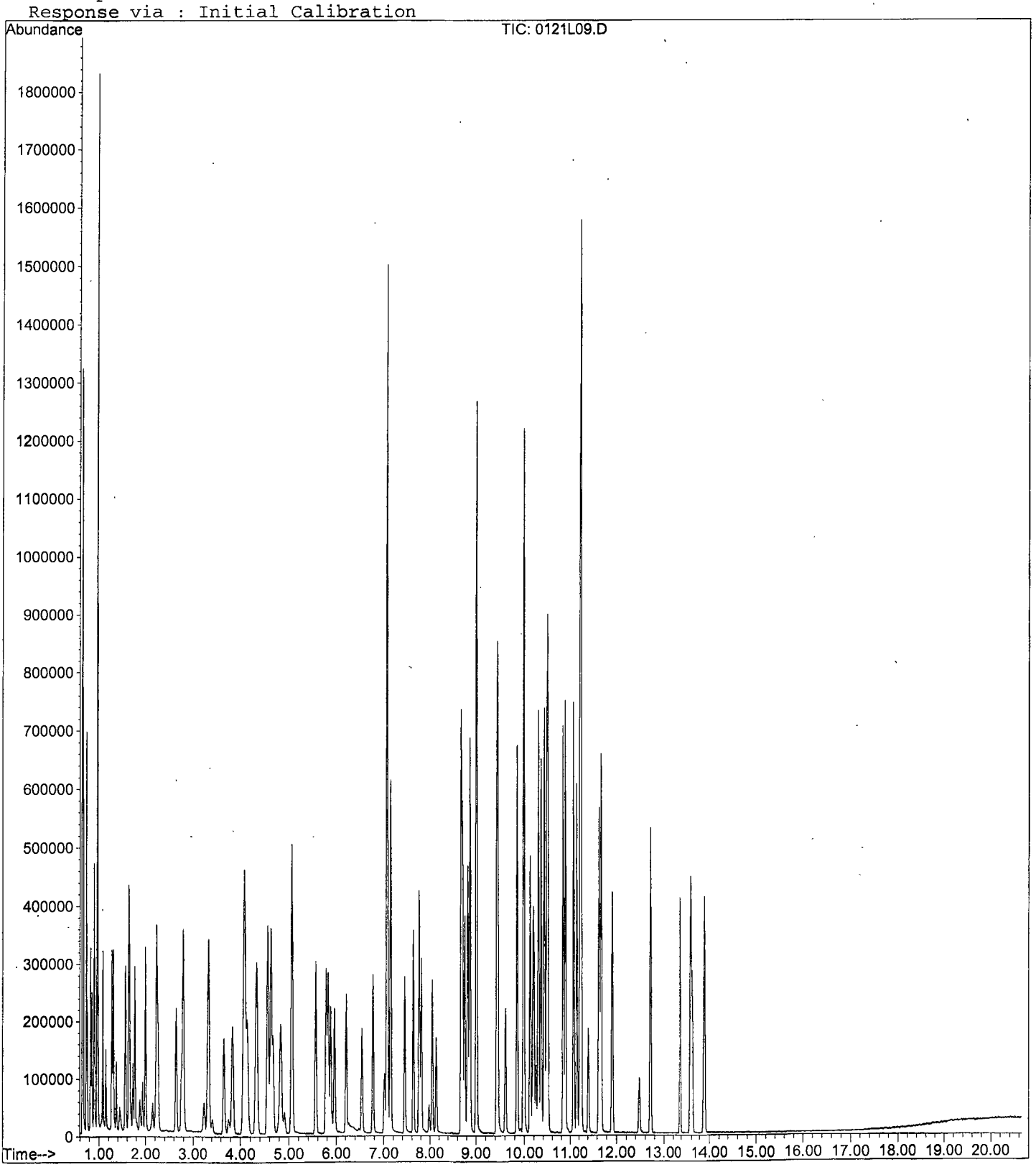
(#) = qualifier out of range (m) = manual integration
0121L09.D L0121SUR.M Wed Jan 22 11:01:22 2020 Page 1

Quantitation Report

Data File : M:\LOKI\DATA\200121\0121L09.D Vial: 9
Acq On : 21 Jan 20 11:03 Operator:
Sample : 40ug/L VOC STD 1/21/20 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 22 11:00 2020 Quant Results File: L0121SUR.RES

Method : M:\LOKI\DATA\200121\L0121SUR.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 13:19:21 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\200121\0121L10.D Vial: 10
Acq On : 21 Jan 20 11:32 Operator:
Sample : 100ug/L VOC STD 1/21/20 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 22 11:00 2020 Quant Results File: L0121SUR.RES

Quant Method : M:\LOKI\DATA\200121\L0121SUR.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 13:19:21 2020
Response via : Initial Calibration
DataAcq Meth : L8260

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.06	96	260032	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	8.68	117	263040	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	11.23	152	175744	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.09	111	540308	86.75282 ppb	0.00
Spiked Amount 25.000			Recovery	= 347.012%	
3) 1,2-DCA-D4(S)	4.56	65	657131	86.60818 ppb	0.00
Spiked Amount 25.000			Recovery	= 346.432%	
5) Toluene-D8(S)	7.07	98	2129931	99.78054 ppb	0.00
Spiked Amount 25.000			Recovery	= 399.124%	
6) 4-Bromofluorobenzene(S)	9.99	95	831989	112.51918 ppb	0.00
Spiked Amount 25.000			Recovery	= 450.076%	

Target Compounds Qvalue

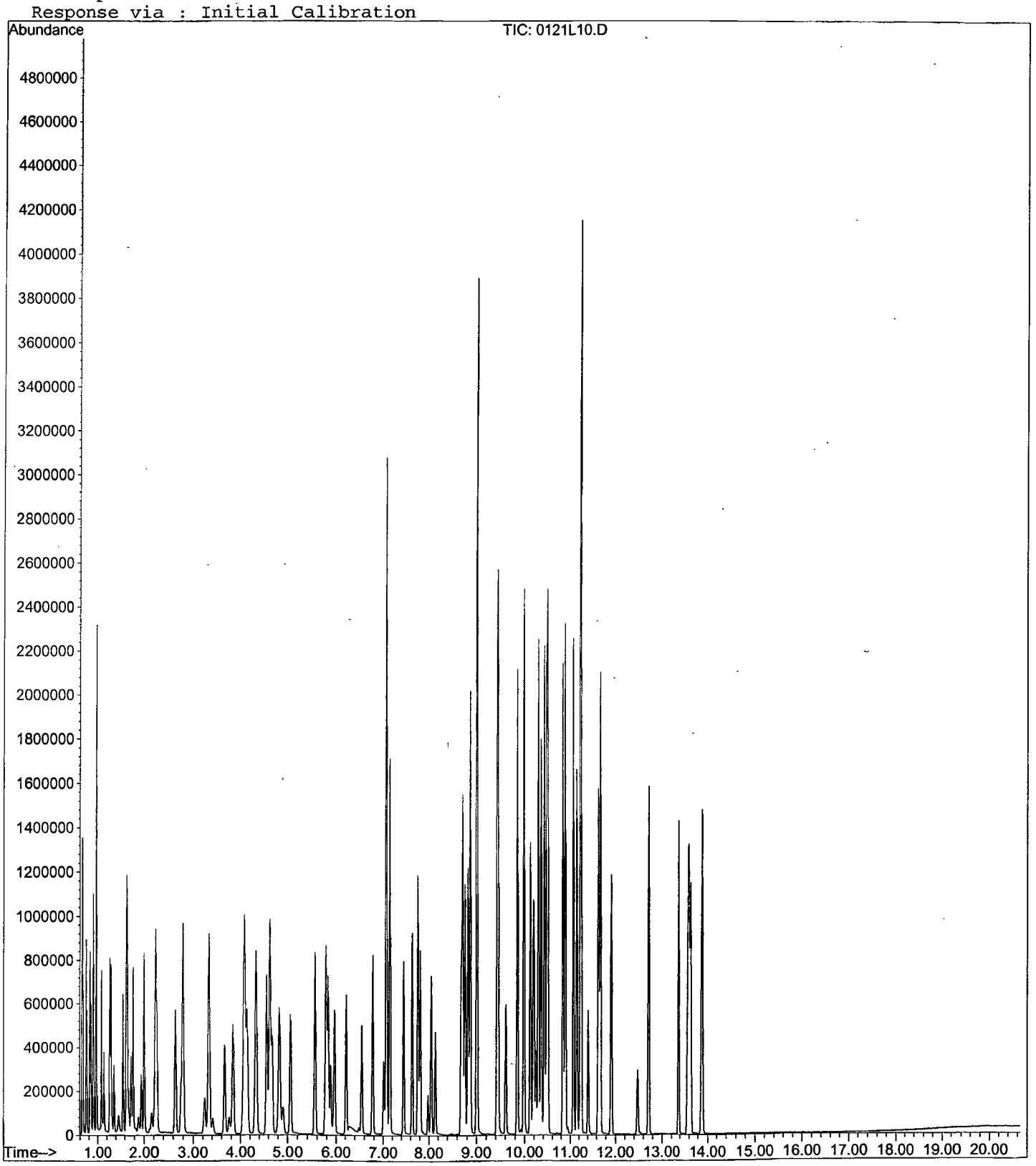
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LOKI\DATA\200121\0121L10.D Vial: 10
Acq On : 21 Jan 20 11:32 Operator:
Sample : 100ug/L VOC STD 1/21/20 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 22 11:00 2020 Quant Results File: L0121SUR.RES

Method : M:\LOKI\DATA\200121\L0121SUR.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 13:19:21 2020
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS
VOLATILE ORGANIC COMPOUNDS

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Initial Cal. Date: 01/21/20
Matrix: Instrument: Loki
Initials: DP

			0121L14.D	0121L15.D	0121L16.D	0121L17.D	0121L18.D	0121L19.D	0121L20.D									
		Compound	1	2	3	4	5	6	7				Avg	%RSD	Type	r^2	Q	MRF
1	I	Fluorobenzene (IS)																
2	TMHBL	Gasoline C6-C10	16.5	6.727	3.754	1.623	1.015	0.9137	0.8101				4.5	128	TMHBL	0.997		
3	I	Chlorobenzene-D5 (IS)																
4	I	1,4-Dichlorobenzene-D (IS)																
5																		
6																		
7																		
8																		
9																		
10																		
11																		
12																		
13																		
14																		
15																		
16																		
17																		
18																		
19																		
20																		
21																		
22																		
23																		
24																		
25																		
26																		
27																		
28																		
29																		
30																		
31																		
32																		
33																		
34																		
35																		

Quantitation Report (QT Reviewed)

Data File : M:\LOKI\DATA\200121\0121L14.D Vial: 14
Acq On : 21 Jan 20 13:26 Operator:
Sample : 20ug/L GAS STD 1/21/20 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 21 16:33 2020 Quant Results File: LGAS0121.RES

Quant Method : M:\LOKI\DATA\200121\LGAS0121.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Dec 23 14:45:21 2019
Response via : Initial Calibration
DataAcq Meth : L8260

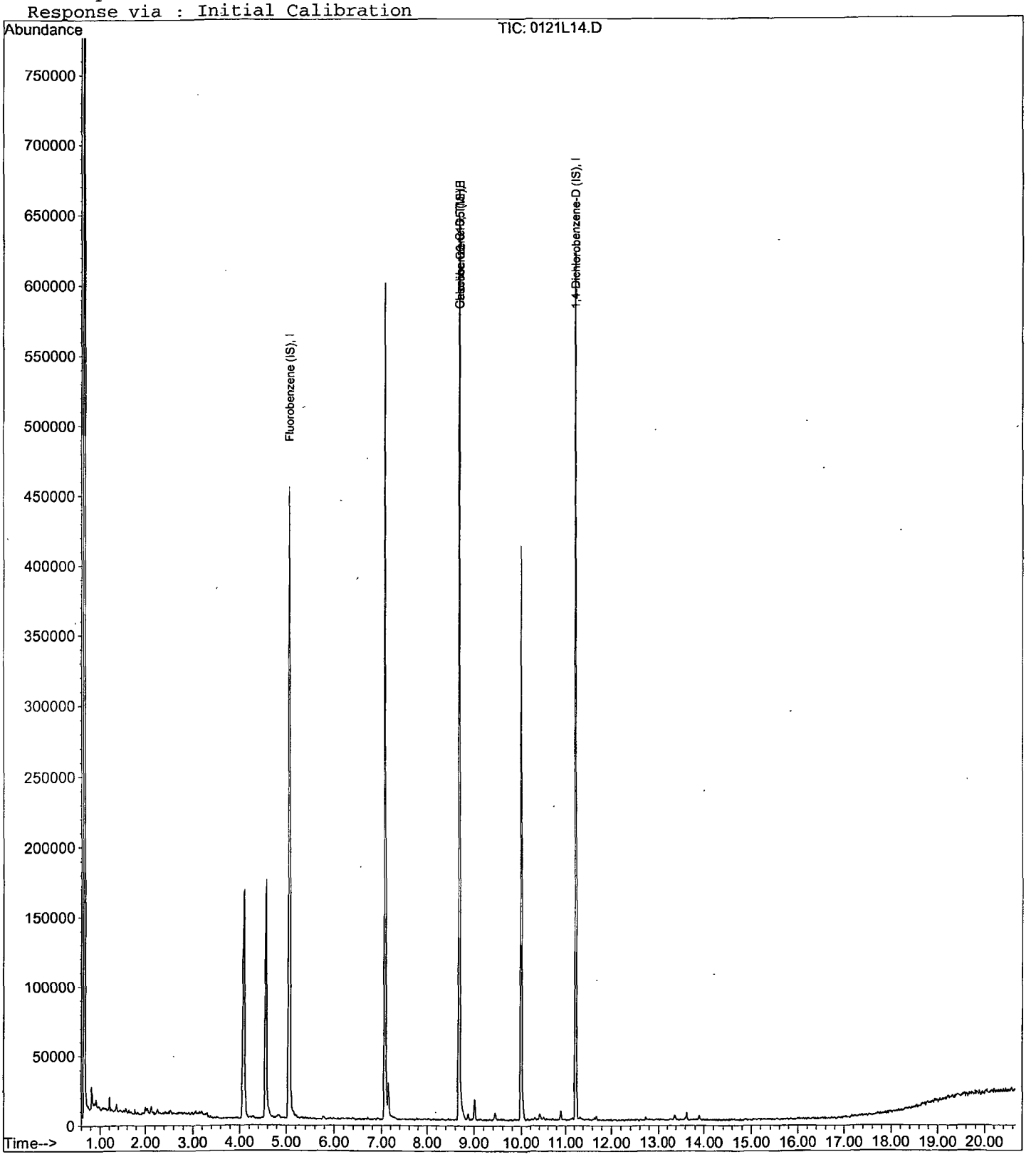
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.06	TIC	450876	25.00 ppb	0.00
3) Chlorobenzene-D5 (IS)	8.69	TIC	643270	25.00 ppb	0.00
4) 1,4-Dichlorobenzene-D (IS)	11.23	TIC	619995	25.00 ppb	0.00
System Monitoring Compounds					
Target Compounds					Qvalue
2) Gasoline C6-C10	8.69	TIC	5966065m	66.21 ppb	100

(#) = qualifier out of range (m) = manual integration

Data File : M:\LOKI\DATA\200121\0121L14.D Vial: 14
Acq On : 21 Jan 20 13:26 Operator:
Sample : 20ug/L GAS STD 1/21/20 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 21 16:33 2020 Quant Results File: LGAS0121.RES

Method : M:\LOKI\DATA\200121\LGAS0121.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 16:34:55 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\LOKI\DATA\200121\0121L15.D Vial: 15
Acq On : 21 Jan 20 13:55 Operator:
Sample : 50ug/L GAS STD 1/21/20 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 21 16:33 2020 Quant Results File: LGAS0121.RES

Quant Method : M:\LOKI\DATA\200121\LGAS0121.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Dec 23 14:45:21 2019
Response via : Initial Calibration
DataAcq Meth : L8260

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	5.06	TIC	448288	25.00	ppb	0.00
3) Chlorobenzene-D5 (IS)	8.68	TIC	633671	25.00	ppb	0.00
4) 1,4-Dichlorobenzene-D (IS)	11.23	TIC	588643	25.00	ppb	0.00
System Monitoring Compounds						
Target Compounds						Qvalue
2) Gasoline C6-C10	8.68	TIC	6031660m	66.48	ppb	100

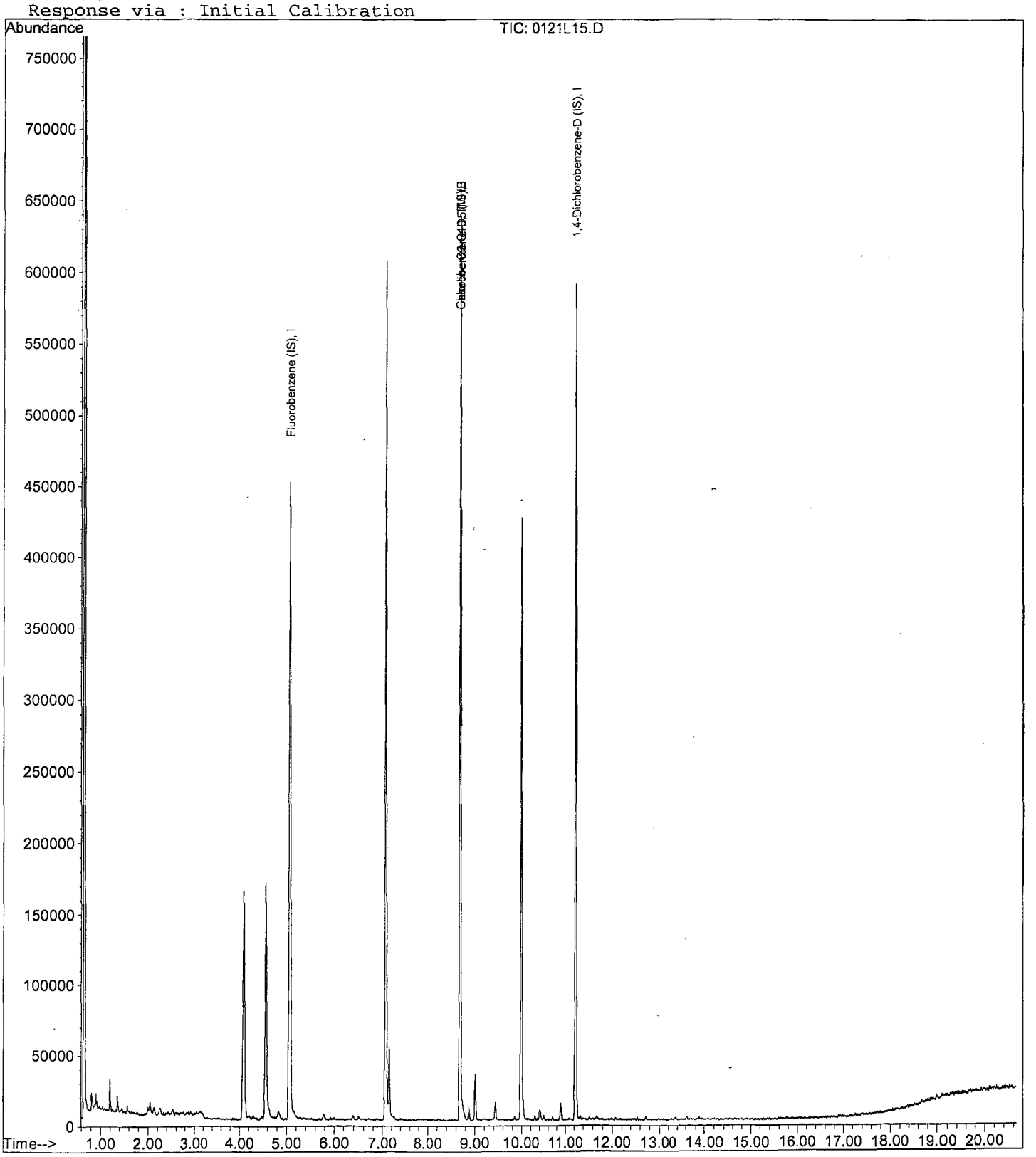
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LOKI\DATA\200121\0121L15.D Vial: 15
Acq On : 21 Jan 20 13:55 Operator:
Sample : 50ug/L GAS STD 1/21/20 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 21 16:33 2020 Quant Results File: LGAS0121.RES

Method : M:\LOKI\DATA\200121\LGAS0121.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 16:34:55 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\LOKI\DATA\200121\0121L16.D Vial: 16
Acq On : 21 Jan 20 14:23 Operator:
Sample : 100ug/L GAS STD 1/21/20 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 21 16:33 2020 Quant Results File: LGAS0121.RES

Quant Method : M:\LOKI\DATA\200121\LGAS0121.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Dec 23 14:45:21 2019
Response via : Initial Calibration
DataAcq Meth : L8260

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	5.06	TIC	423921	25.00	ppb	0.00
3) Chlorobenzene-D5 (IS)	8.69	TIC	602958	25.00	ppb	0.00
4) 1,4-Dichlorobenzene-D (IS)	11.23	TIC	577561	25.00	ppb	0.00

System Monitoring Compounds

Target Compounds						Qvalue
2) Gasoline C6-C10	8.69	TIC	6365921m	133.07	ppb	100

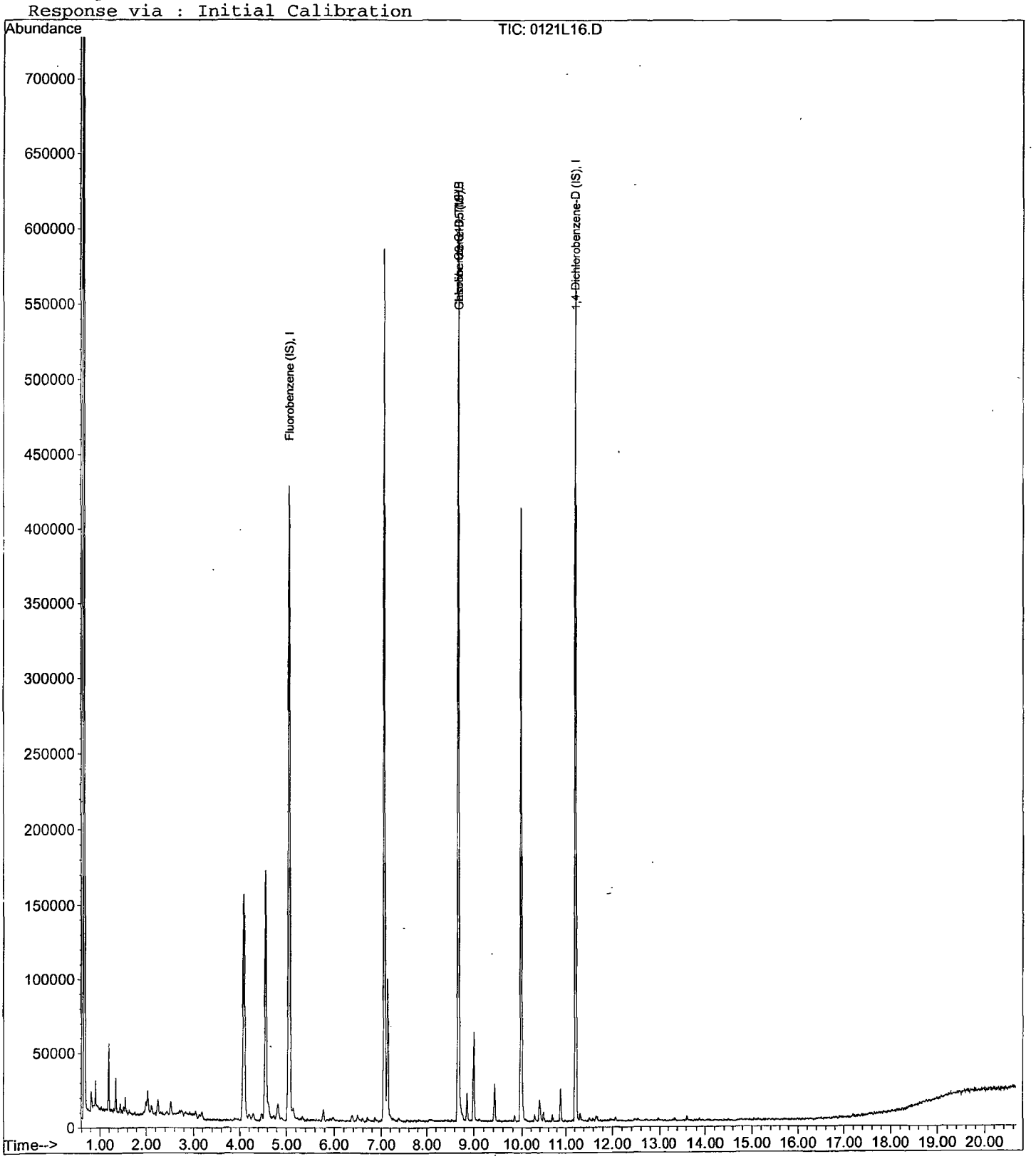
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LOKI\DATA\200121\0121L16.D Vial: 16
Acq On : 21 Jan 20 14:23 Operator:
Sample : 100ug/L GAS STD 1/21/20 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 21 16:33 2020 Quant Results File: LGAS0121.RES

Method : M:\LOKI\DATA\200121\LGAS0121.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 16:34:55 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\LOKI\DATA\200121\0121L17.D Vial: 17
Acq On : 21 Jan 20 14:52 Operator:
Sample : 300ug/L GAS STD 1/21/20 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 21 16:34 2020 Quant Results File: LGAS0121.RES

Quant Method : M:\LOKI\DATA\200121\LGAS0121.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Dec 23 14:45:21 2019
Response via : Initial Calibration
DataAcq Meth : L8260

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.06	TIC	451070	25.00 ppb	0.00
3) Chlorobenzene-D5 (IS)	8.68	TIC	641366	25.00 ppb	0.00
4) 1,4-Dichlorobenzene-D (IS)	11.23	TIC	627607	25.00 ppb	0.00
System Monitoring Compounds					
Target Compounds					Qvalue
2) Gasoline C6-C10	8.68	TIC	8787277m	330.61 ppb	100

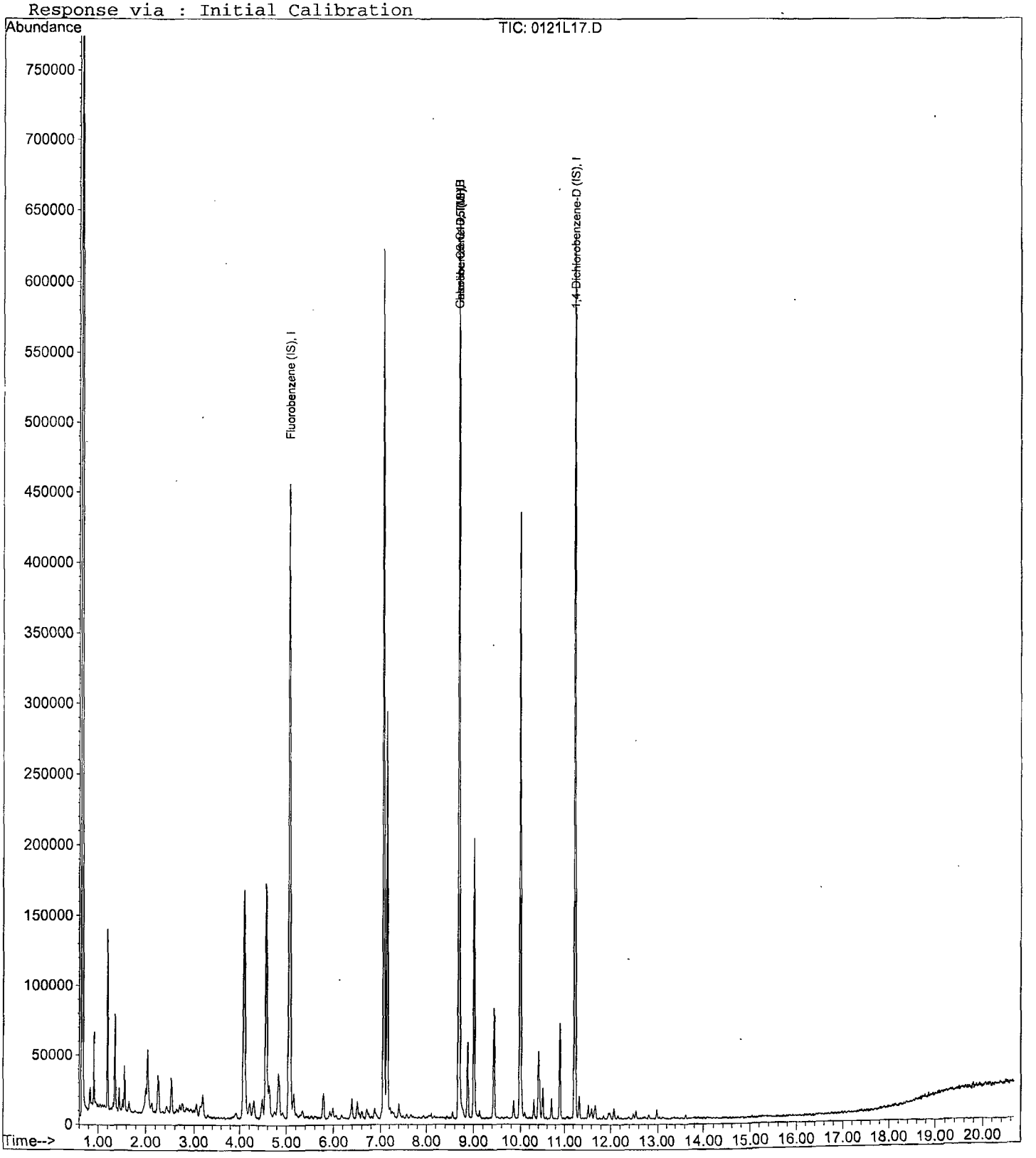
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LOKI\DATA\200121\0121L17.D Vial: 17
Acq On : 21 Jan 20 14:52 Operator:
Sample : 300ug/L GAS STD 1/21/20 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 21 16:34 2020 Quant Results File: LGAS0121.RES

Method : M:\LOKI\DATA\200121\LGAS0121.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 16:34:55 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\LOKI\DATA\200121\0121L18.D Vial: 18
Acq On : 21 Jan 20 15:20 Operator:
Sample : 600ug/L GAS STD 1/21/20 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 21 16:34 2020 Quant Results File: LGAS0121.RES

Quant Method : M:\LOKI\DATA\200121\LGAS0121.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Dec 23 14:45:21 2019
Response via : Initial Calibration
DataAcq Meth : L8260

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	5.06	TIC	489434	25.00	ppb	0.00
3) Chlorobenzene-D5 (IS)	8.69	TIC	688579	25.00	ppb	0.00
4) 1,4-Dichlorobenzene-D (IS)	11.23	TIC	713470	25.00	ppb	0.00
System Monitoring Compounds						
Target Compounds						Qvalue
2) Gasoline C6-C10	8.69	TIC	11918745m	551.08	ppb	100

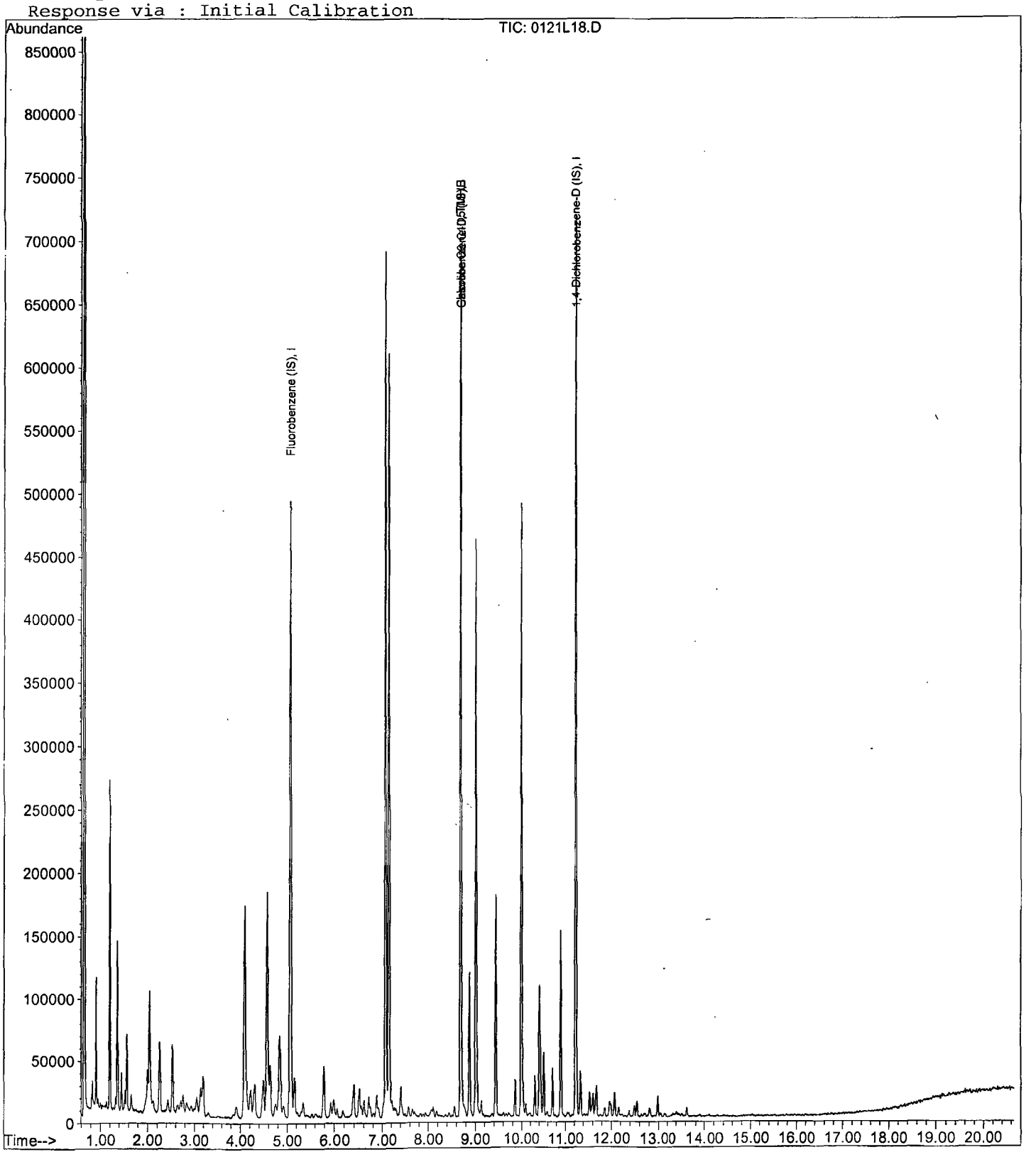
(#) = qualifier out of range (m) = manual integration
0121L18.D LGAS0121.M Tue Jan 21 16:40:36 2020 Page 1

Quantitation Report

Data File : M:\LOKI\DATA\200121\0121L18.D Vial: 18
Acq On : 21 Jan 20 15:20 Operator:
Sample : 600ug/L GAS STD 1/21/20 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 21 16:34 2020 Quant Results File: LGAS0121.RES

Method : M:\LOKI\DATA\200121\LGAS0121.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 16:34:55 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\LOKI\DATA\200121\0121L19.D Vial: 19
Acq On : 21 Jan 20 15:49 Operator:
Sample : 800ug/L GAS STD 1/21/20 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 21 16:34 2020 Quant Results File: LGAS0121.RES

Quant Method : M:\LOKI\DATA\200121\LGAS0121.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Dec 23 14:45:21 2019
Response via : Initial Calibration
DataAcq Meth : L8260

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	5.06	TIC	491351	25.00	ppb	0.00
3) Chlorobenzene-D5 (IS)	8.69	TIC	690154	25.00	ppb	0.00
4) 1,4-Dichlorobenzene-D (IS)	11.23	TIC	732052	25.00	ppb	0.00

System Monitoring Compounds

Target Compounds						Qvalue
2) Gasoline C6-C10	7.15	TIC	14365664m	778.48	ppb	100

(#) = qualifier out of range (m) = manual integration
0121L19.D LGAS0121.M Tue Jan 21 16:40:39 2020 Page 1

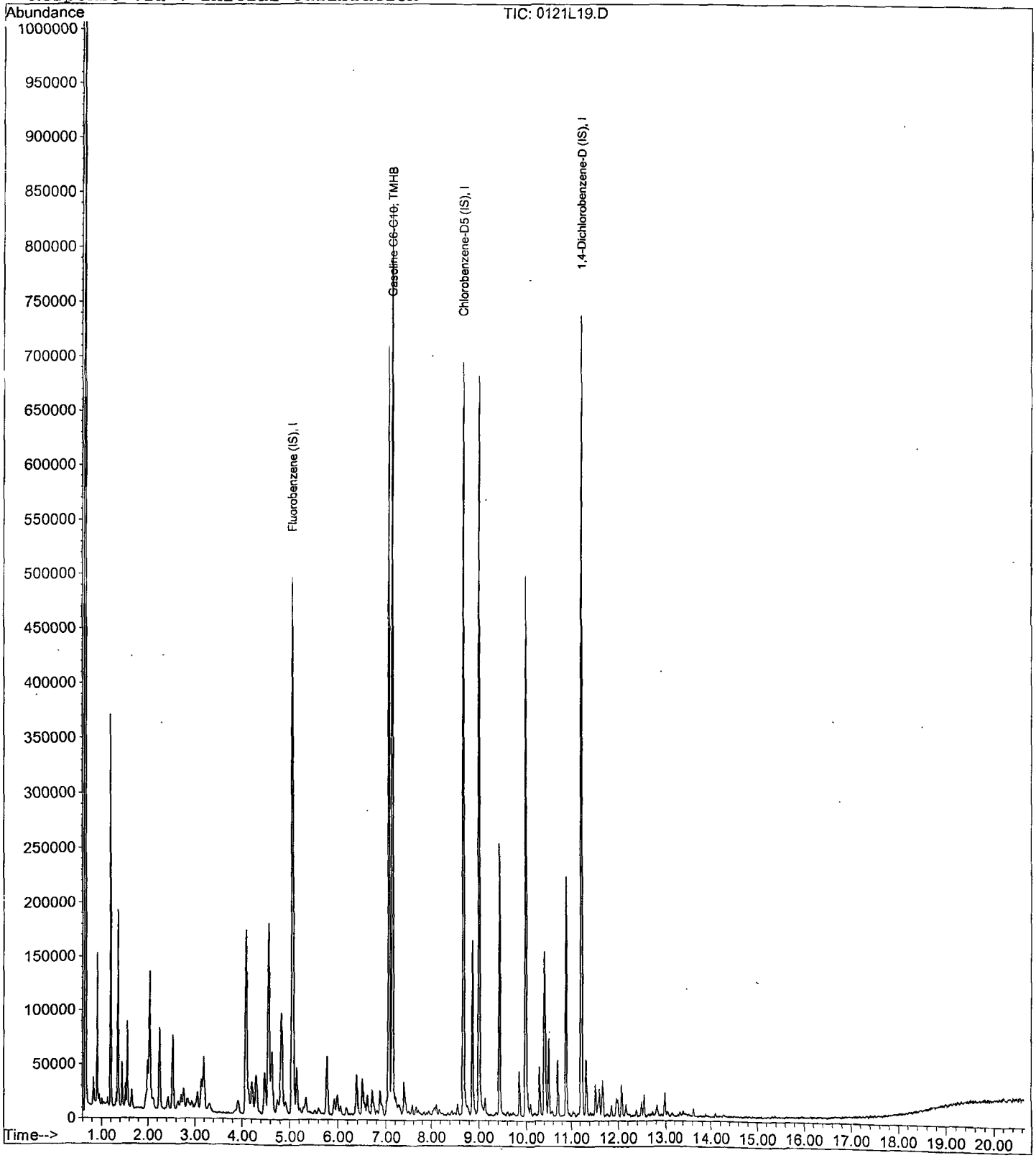
Data File : M:\LOKI\DATA\200121\0121L19.D
Acq On : 21 Jan 20 15:49
Sample : 800ug/L GAS STD 1/21/20
Misc : IS&S:12/19/19

Vial: 19
Operator:
Inst : Loki
Multiplr: 1.00

Quant Time: Jan 21 16:34 2020

Quant Results File: LGAS0121.RES

Method : M:\LOKI\DATA\200121\LGAS0121.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 16:34:55 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\LOKI\DATA\200121\0121L20.D Vial: 20
Acq On : 21 Jan 20 16:18 Operator:
Sample : 1000ug/L GAS STD 1/21/20 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 21 16:40 2020 Quant Results File: LGAS0121.RES

Quant Method : M:\LOKI\DATA\200121\LGAS0121.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 16:34:55 2020
Response via : Initial Calibration
DataAcq Meth : L8260

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	5.06	TIC	497458	25.00	ppb	0.00
3) Chlorobenzene-D5 (IS)	8.68	TIC	706509	25.00	ppb	0.00
4) 1,4-Dichlorobenzene-D (IS)	11.23	TIC	740081	25.00	ppb	0.00

System Monitoring Compounds

Target Compounds						Qvalue
2) Gasoline C6-C10	7.14	TIC	16120077m	930.90	ppb	100

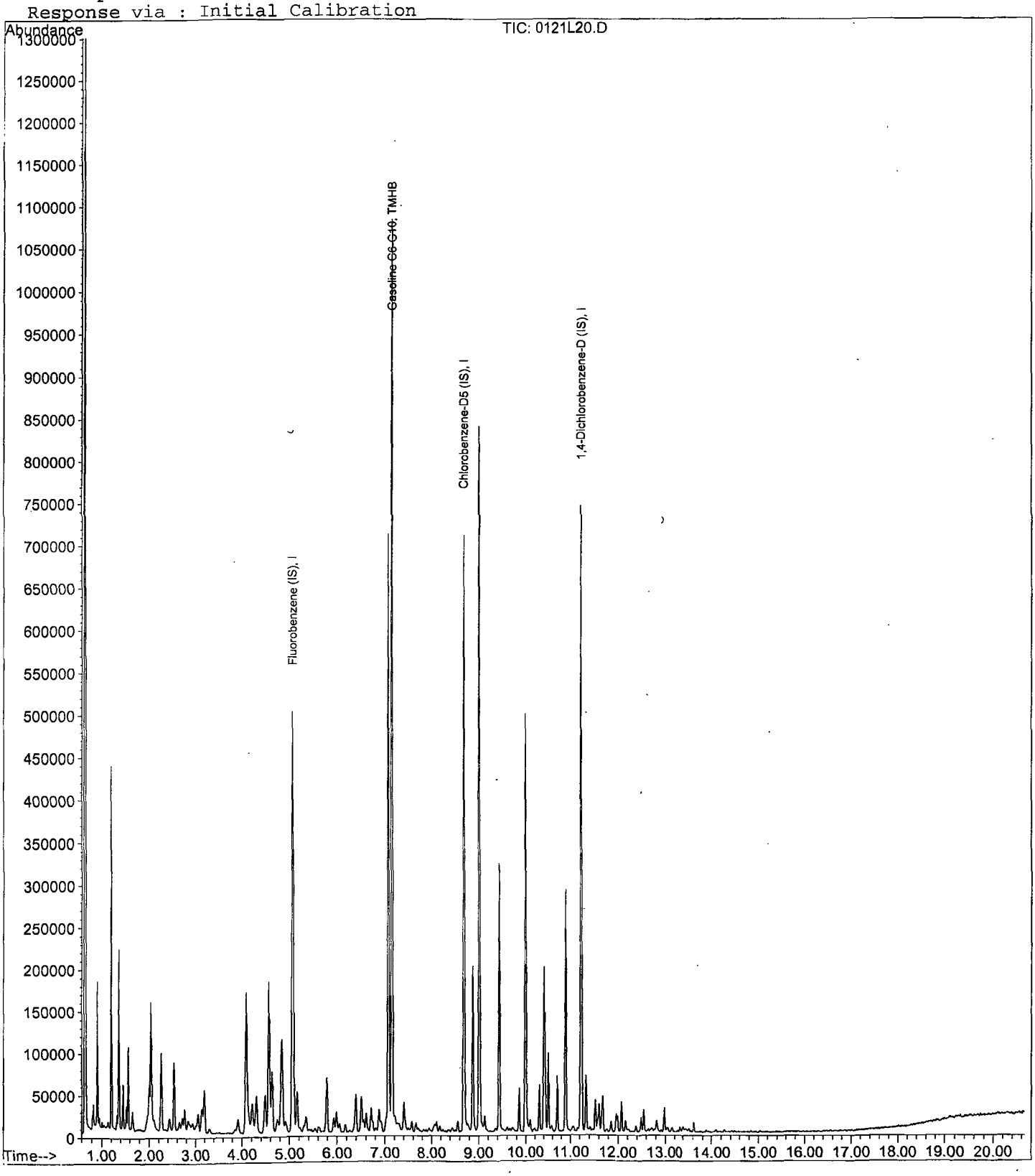
(#) = qualifier out of range (m) = manual integration
0121L20.D LGAS0121.M Tue Jan 21 16:40:41 2020 Page 1

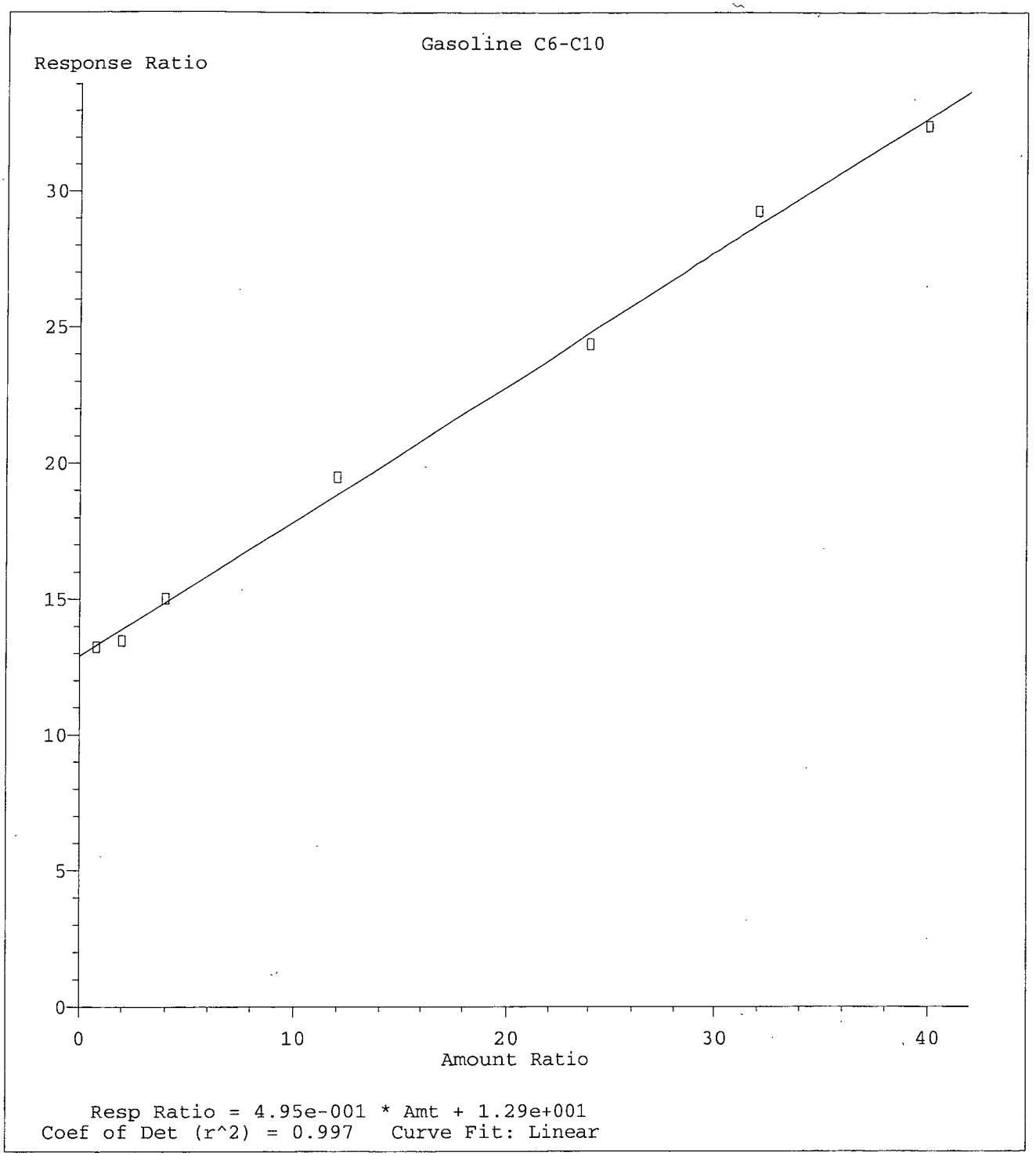
Data File : M:\LOKI\DATA\200121\0121L20.D
Acq On : 21 Jan 20 16:18
Sample : 1000ug/L GAS STD 1/21/20
Misc : IS&S:12/19/19

Vial: 20
Operator:
Inst : Loki
Multiplr: 1.00

Quant Time: Jan 21 16:40 2020 Quant Results File: LGAS0121.RES

Method : M:\LOKI\DATA\200121\LGAS0121.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 16:34:55 2020
Response via : Initial Calibration





Method Name: M:\LOKI\DATA\200121\LGAS0121.M
Calibration Table Last Updated: Tue Jan 21 16:34:55 2020

VOLATILE ORGANIC ANALYSIS
VOLATILE ORGANIC COMPOUNDS

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 01/21/20
Instrument: Loki
Initial Cal. Date: 01/21/20
Data File: 0121L21.D

		Compound	MEAN	CCRF	%D		%Drift
1	TMHB	Gasoline C6-C10	4.483	1.555	65	TMHBL	3.2
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			65.0		

VOLATILE ORGANIC ANALYSIS
VOLATILE ORGANIC COMPOUNDS

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 01/21/20
Instrument: Loki
Initial Cal. Date: 01/21/20
Data File: 0121L21.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Fluorobenzene (IS)	ISTD			I	
2	S	Dibromofluoromethane(S)	0.5988	0.6019	0.51	S	
3	S	1,2-DCA-D4(S)	0.7295	0.7201	1.3	S	
4	I	Chlorobenzene-D5 (IS)	ISTD			I	
5	S	Toluene-D8(S)	2.029	1.909	5.9	S	
6	S	4-Bromofluorobenzene(S)	0.7028	0.6584	6.3	S	
7	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			3.5		

Quantitation Report (QT Reviewed)

Data File : M:\LOKI\DATA\200121\0121L21.D Vial: 21
Acq On : 21 Jan 20 16:46 Operator:
Sample : (SS)300ug/L GAS STD 1/21/20 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 21 17:08 2020 Quant Results File: LGAS0121.RES

Quant Method : M:\LOKI\DATA\200121\LGAS0121.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 16:34:55 2020
Response via : Initial Calibration
DataAcq Meth : L8260

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	5.06	TIC	469283	25.00	ppb	0.00
3) Chlorobenzene-D5 (IS)	8.68	TIC	673614	25.00	ppb	0.00
4) 1,4-Dichlorobenzene-D (IS)	11.23	TIC	653087	25.00	ppb	0.00
System Monitoring Compounds						
Target Compounds						Qvalue
2) Gasoline C6-C10	8.68	TIC	8754108m	290.28	ppb	100

(#) = qualifier out of range (m) = manual integration
0121L21.D LGAS0121.M Tue Jan 21 17:08:16 2020 Page 1

Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\200121\0121L21.D Vial: 21
Acq On : 21 Jan 20 16:46 Operator:
Sample : (SS)300ug/L GAS STD 1/21/20 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 22 11:04 2020 Quant Results File: L0121SUR.RES

Quant Method : M:\LOKI\DATA\200121\L0121SUR.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 13:19:21 2020
Response via : Initial Calibration
DataAcq Meth : L8260

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.06	96	222464	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	8.68	117	232832	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	11.23	152	113856	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.09	111	133893	25.12853 ppb	0.00
Spiked Amount 25.000			Recovery =	100.516%	
3) 1,2-DCA-D4(S)	4.56	65	160201	24.67966 ppb	0.00
Spiked Amount 25.000			Recovery =	98.720%	
5) Toluene-D8(S)	7.07	98	444520	23.52614 ppb	0.00
Spiked Amount 25.000			Recovery =	94.104%	
6) 4-Bromofluorobenzene(S)	9.99	95	153308	23.42356 ppb	0.00
Spiked Amount 25.000			Recovery =	93.696%	

Target Compounds Qvalue

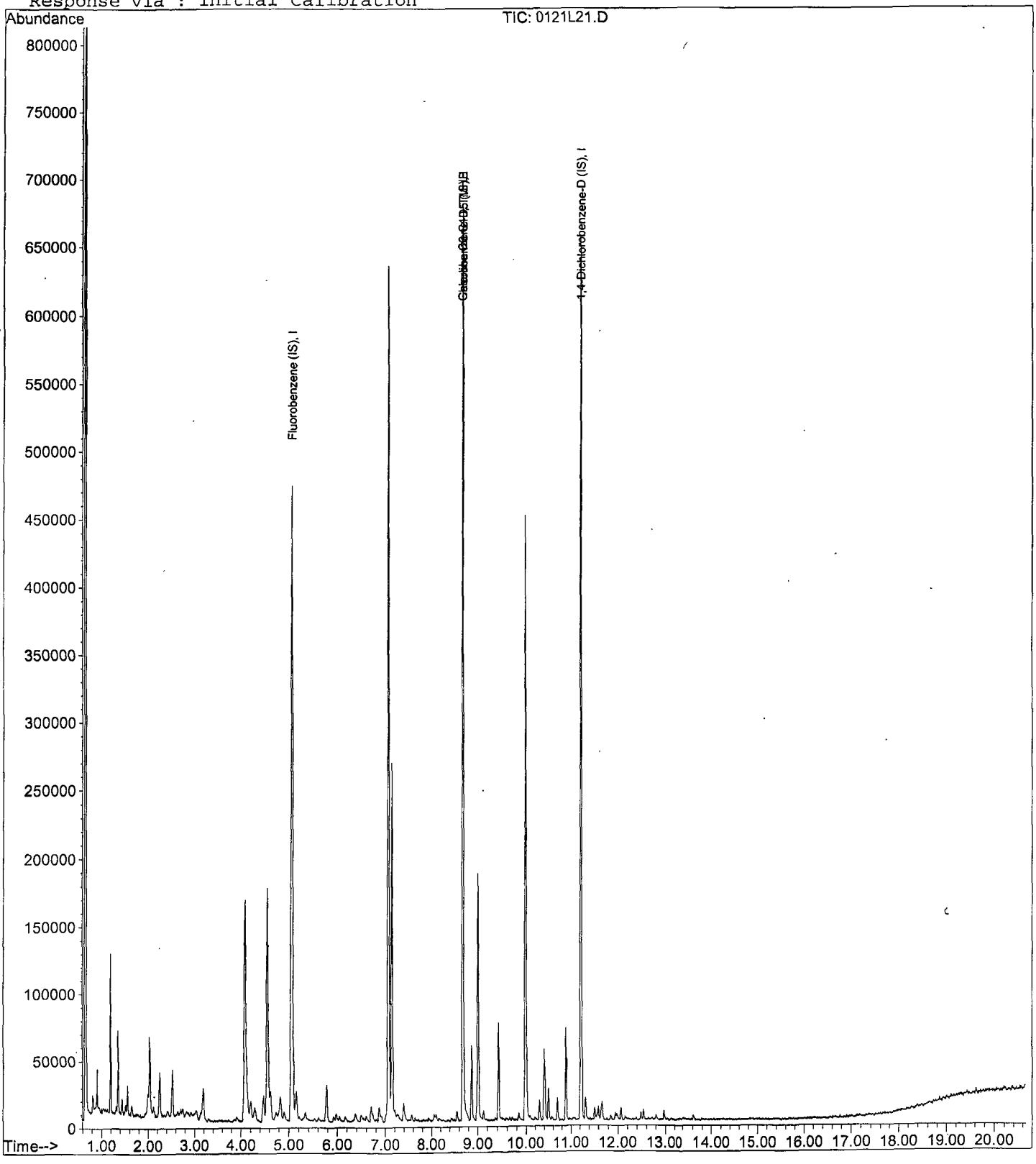
(#) = qualifier out of range (m) = manual integration
0121L21.D L0121SUR.M Wed Jan 22 11:04:32 2020 Page 1

Quantitation Report

Data File : M:\LOKI\DATA\200121\0121L21.D Vial: 21
Acq On : 21 Jan 20 16:46 Operator:
Sample : (SS)300ug/L GAS STD 1/21/20 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 21 17:08 2020 Quant Results File: LGAS0121.RES

Method : M:\LOKI\DATA\200121\LGAS0121.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 16:34:55 2020
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS
VOLATILE ORGANIC COMPOUNDS

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 01/21/20
Instrument: Loki
Initial Cal. Date: 01/21/20
Data File: 0121L27.D

		Compound	MEAN	CCRF	%D	%Drift	
1	I	Fluorobenzene (IS)	ISTD			I	
2	TMHB	Gasoline C6-C10	4.483	1.477	67	TMHBL	19
3	I	Chlorobenzene-D5 (IS)	ISTD			I	
4	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			67.0		

VOLATILE ORGANIC ANALYSIS
VOLATILE ORGANIC COMPOUNDS

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 01/21/20
Instrument: Loki
Initial Cal. Date: 01/21/20
Data File: 0121L27.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Fluorobenzene (IS)	ISTD			I	
2	S	Dibromofluoromethane(S)	0.5988	0.6097	1.8	S	
3	S	1,2-DCA-D4(S)	0.7295	0.7100	2.7	S	
4	I	Chlorobenzene-D5 (IS)	ISTD			I	
5	S	Toluene-D8(S)	2.029	2.059	1.5	S	
6	S	4-Bromofluorobenzene(S)	0.7028	0.6857	2.4	S	
7	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			2.1		

Quantitation Report (QT Reviewed)

Data File : M:\LOKI\DATA\200121\0121L27.D Vial: 27
Acq On : 21 Jan 20 19:38 Operator:
Sample : 200121A CCV/LCS 300ug/L Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 22 11:07 2020 Quant Results File: LGAS0121.RES

Quant Method : M:\LOKI\DATA\200121\LGAS0121.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 16:34:55 2020
Response via : Initial Calibration
DataAcq Meth : L8260

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	5.06	TIC	471812	25.00000	ppb	0.00
3) Chlorobenzene-D5 (IS)	8.68	TIC	644517	25.00000	ppb	0.00
4) 1,4-Dichlorobenzene-D (IS)	11.23	TIC	644051	25.00000	ppb	0.00

System Monitoring Compounds

Target Compounds						Qvalue
2) Gasoline C6-C10	8.68	TIC	8359689m	243.02992	ppb	100

(#) = qualifier out of range (m) = manual integration
0121L27.D LGAS0121.M Wed Jan 22 11:07:27 2020

Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\200121\0121L27.D Vial: 27
Acq On : 21 Jan 20 19:38 Operator:
Sample : 200121A CCV/LCS 300ug/L Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 22 11:47 2020 Quant Results File: L0121SUR.RES

Quant Method : M:\LOKI\DATA\200121\L0121SUR.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 13:19:21 2020
Response via : Initial Calibration
DataAcq Meth : L8260

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.06	96	223680	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	8.68	117	218304	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	11.23	152	113024	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.09	111	136370	25.45427 ppb	0.00
Spiked Amount 25.000			Recovery = 101.816%		
3) 1,2-DCA-D4(S)	4.56	65	158820	24.33390 ppb	0.00
Spiked Amount 25.000			Recovery = 97.336%		
5) Toluene-D8(S)	7.07	98	449585	25.37770 ppb	0.00
Spiked Amount 25.000			Recovery = 101.512%		
6) 4-Bromofluorobenzene(S)	9.99	95	149701	24.39460 ppb	0.00
Spiked Amount 25.000			Recovery = 97.580%		

Target Compounds Qvalue

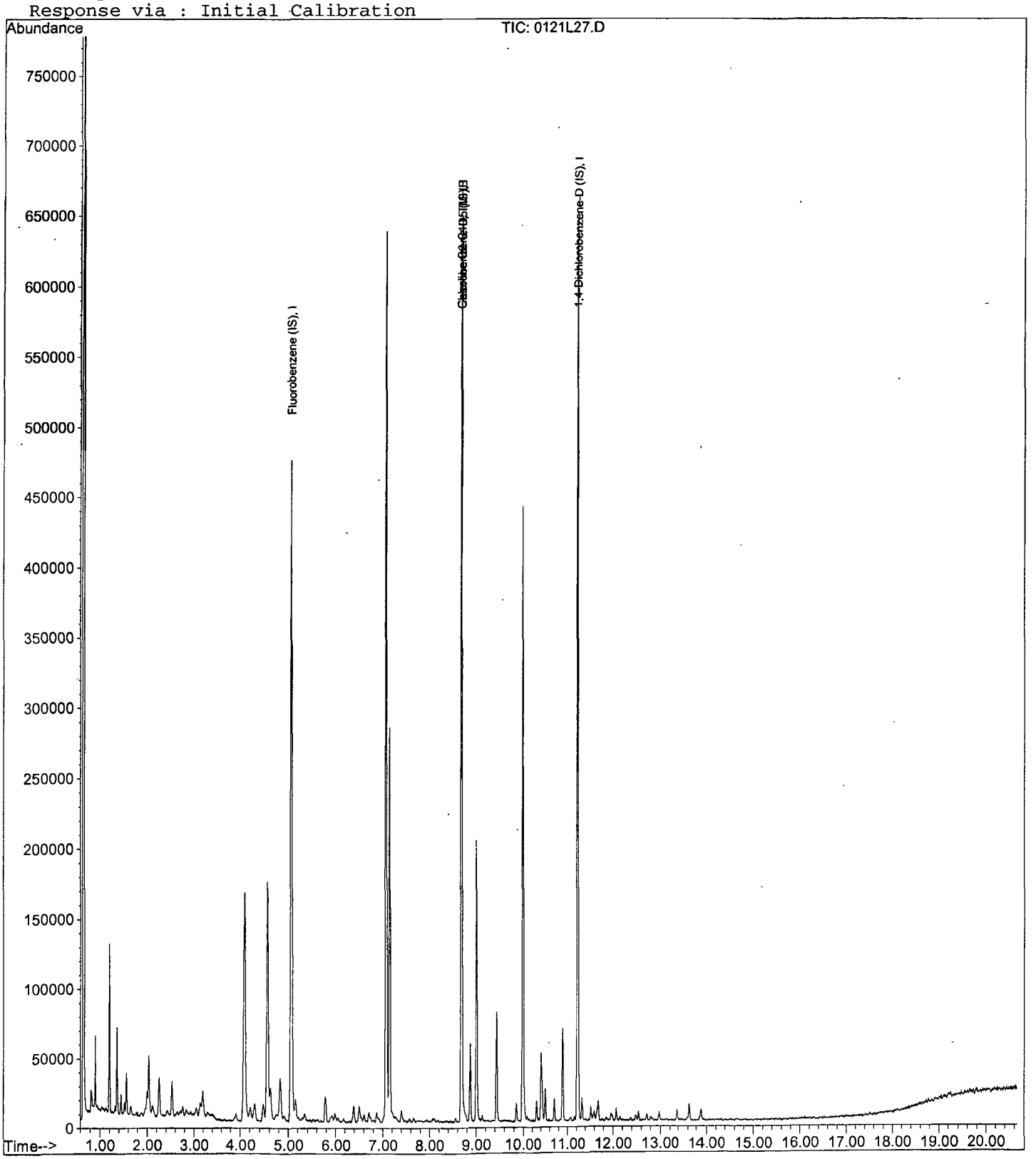
(#) = qualifier out of range (m) = manual integration
0121L27.D L0121SUR.M Wed Jan 22 11:49:58 2020 Page 1

Quantitation Report

Data File : M:\LOKI\DATA\200121\0121L27.D Vial: 27
Acq On : 21 Jan 20 19:38 Operator:
Sample : 200121A CCV/LCS 300ug/L Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 22 11:07 2020 Quant Results File: LGAS0121.RES

Method : M:\LOKI\DATA\200121\LGAS0121.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 16:34:55 2020
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS
VOLATILE ORGANIC COMPOUNDS

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 01/22/20
Instrument: Loki
Initial Cal. Date: 01/21/20
Data File: 0121L48.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Fluorobenzene (IS)	ISTD			I	
2	TMHB	Gasoline C6-C10	4.483	1.475	67	TMHBL	19
3	I	Chlorobenzene-D5 (IS)	ISTD			I	
4	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			67.0		

VOLATILE ORGANIC ANALYSIS
VOLATILE ORGANIC COMPOUNDS

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 01/22/20
Instrument: Loki
Initial Cal. Date: 01/21/20
Data File: 0121L48.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Fluorobenzene (IS)	ISTD			I	
2	S	Dibromofluoromethane(S)	0.5988	0.6167	3.0	S	
3	S	1,2-DCA-D4(S)	0.7295	0.7254	0.56	S	
4	I	Chlorobenzene-D5 (IS)	ISTD			I	
5	S	Toluene-D8(S)	2.029	1.983	2.3	S	
6	S	4-Bromofluorobenzene(S)	0.7028	0.6543	6.9	S	
7	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			3.2		

Quantitation Report (QT Reviewed)

Data File : M:\LOKI\DATA\200121\0121L48.D Vial: 48
Acq On : 22 Jan 20 5:38 Operator:
Sample : Ending CCV 300ug/L 1/21/20 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 22 11:12 2020 Quant Results File: LGAS0121.RES

Quant Method : M:\LOKI\DATA\200121\LGAS0121.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 16:34:55 2020
Response via : Initial Calibration
DataAcq Meth : L8260

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	5.06	TIC	466144	25.00000	ppb	0.00
3) Chlorobenzene-D5 (IS)	8.68	TIC	655509	25.00000	ppb	0.00
4) 1,4-Dichlorobenzene-D (IS)	11.23	TIC	633129	25.00000	ppb	0.00
System Monitoring Compounds						
Target Compounds						Qvalue
2) Gasoline C6-C10	8.68	TIC	8249763m	242.00115	ppb	100

(#) = qualifier out of range (m) = manual integration
0121L48.D LGAS0121.M Wed Jan 22 11:13:10 2020

Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\200121\0121L48.D Vial: 48
Acq On : 22 Jan 20 5:38 Operator:
Sample : Ending CCV 300ug/L 1/21/20 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 22 11:47 2020 Quant Results File: L0121SUR.RES

Quant Method : M:\LOKI\DATA\200121\L0121SUR.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 13:19:21 2020
Response via : Initial Calibration
DataAcq Meth : L8260

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.06	96	222656	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	8.69	117	229056	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	11.23	152	109744	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.09	111	137313	25.74816 ppb	0.00
Spiked Amount 25.000			Recovery = 102.992%		
3) 1,2-DCA-D4(S)	4.56	65	161505	24.85909 ppb	0.00
Spiked Amount 25.000			Recovery = 99.436%		
5) Toluene-D8(S)	7.07	98	454143	24.43167 ppb	0.00
Spiked Amount 25.000			Recovery = 97.728%		
6) 4-Bromofluorobenzene(S)	9.99	95	149869	23.27560 ppb	0.00
Spiked Amount 25.000			Recovery = 93.104%		

Target Compounds Qvalue

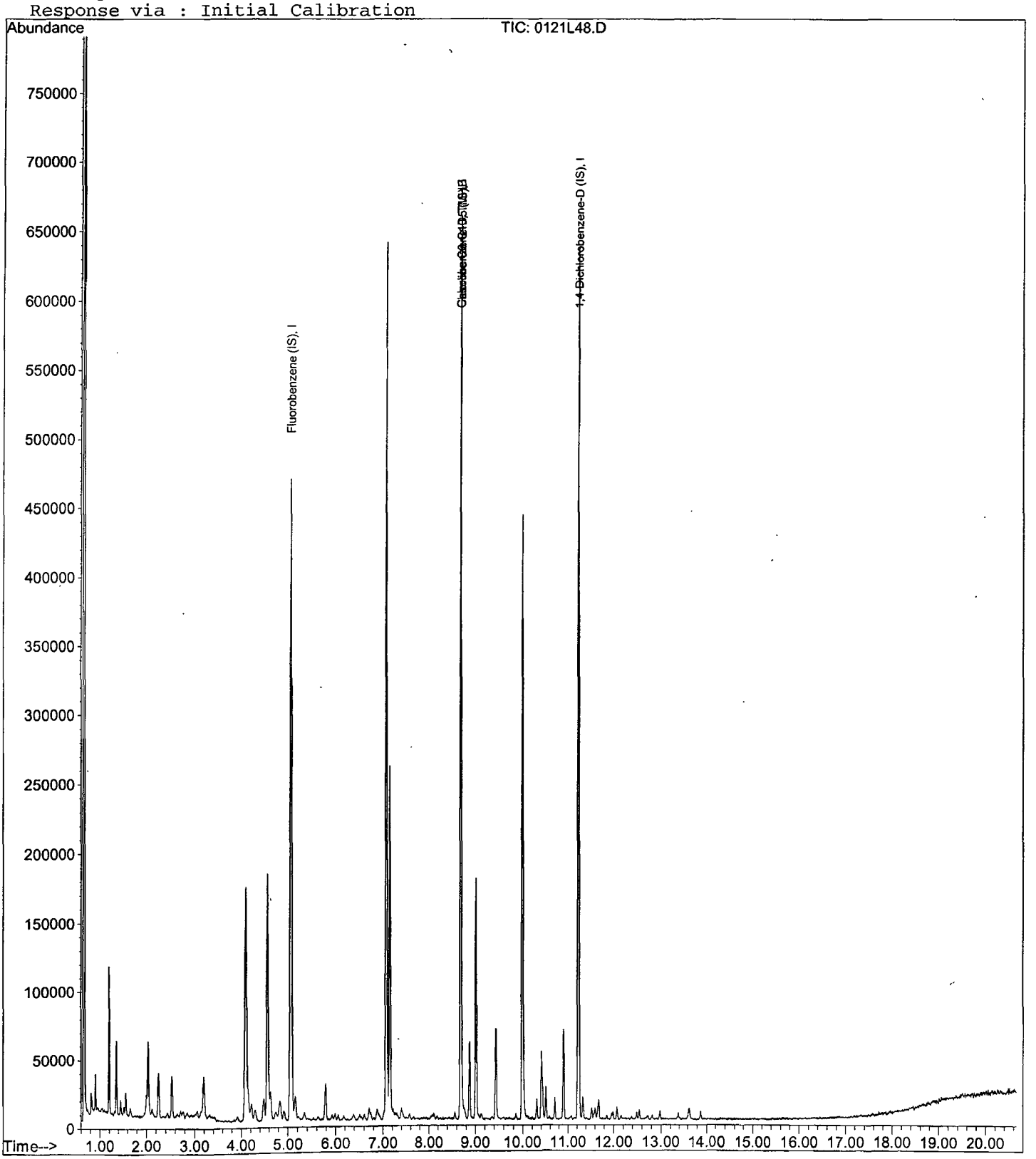
(#) = qualifier out of range (m) = manual integration
0121L48.D L0121SUR.M Wed Jan 22 11:49:08 2020 Page 1

Quantitation Report

Data File : M:\LOKI\DATA\200121\0121L48.D Vial: 48
Acq On : 22 Jan 20 5:38 Operator:
Sample : Ending CCV 300ug/L 1/21/20 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 22 11:12 2020 Quant Results File: LGAS0121.RES

Method : M:\LOKI\DATA\200121\LGAS0121.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 16:34:55 2020
Response via : Initial Calibration



ORGANICS
Raw Data

Quantitation Report (QT Reviewed)

Data File : M:\LOKI\DATA\200121\0121L33.D Vial: 33
Acq On : 21 Jan 20 22:30 Operator:
Sample : BA06135W01 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 22 11:15 2020 Quant Results File: LGAS0121.RES

Quant Method : M:\LOKI\DATA\200121\LGAS0121.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 16:34:55 2020
Response via : Initial Calibration
DataAcq Meth : L8260

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	5.06	TIC	437814	25.00000	ppb	0.00
3) Chlorobenzene-D5 (IS)	8.69	TIC	598688	25.00000	ppb	0.00
4) 1,4-Dichlorobenzene-D (IS)	11.23	TIC	569736	25.00000	ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\200121\0121L33.D Vial: 33
Acq On : 21 Jan 20 22:30 Operator:
Sample : BA06135W01 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 22 11:47 2020 Quant Results File: L0121SUR.RES

Quant Method : M:\LOKI\DATA\200121\L0121SUR.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 13:19:21 2020
Response via : Initial Calibration
DataAcq Meth : L8260

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.06	96	209088	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	8.69	117	210816	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	11.23	152	101000	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.09	111	133498	26.65721 ppb	0.00
Spiked Amount 25.000			Recovery = 106.628%		
3) 1,2-DCA-D4(S)	4.56	65	154231	25.27996 ppb	0.00
Spiked Amount 25.000			Recovery = 101.120%		
5) Toluene-D8(S)	7.07	98	408574	23.88192 ppb	0.00
Spiked Amount 25.000			Recovery = 95.528%		
6) 4-Bromofluorobenzene(S)	9.99	95	132322	22.32849 ppb	0.00
Spiked Amount 25.000			Recovery = 89.312%		

Target Compounds Qvalue

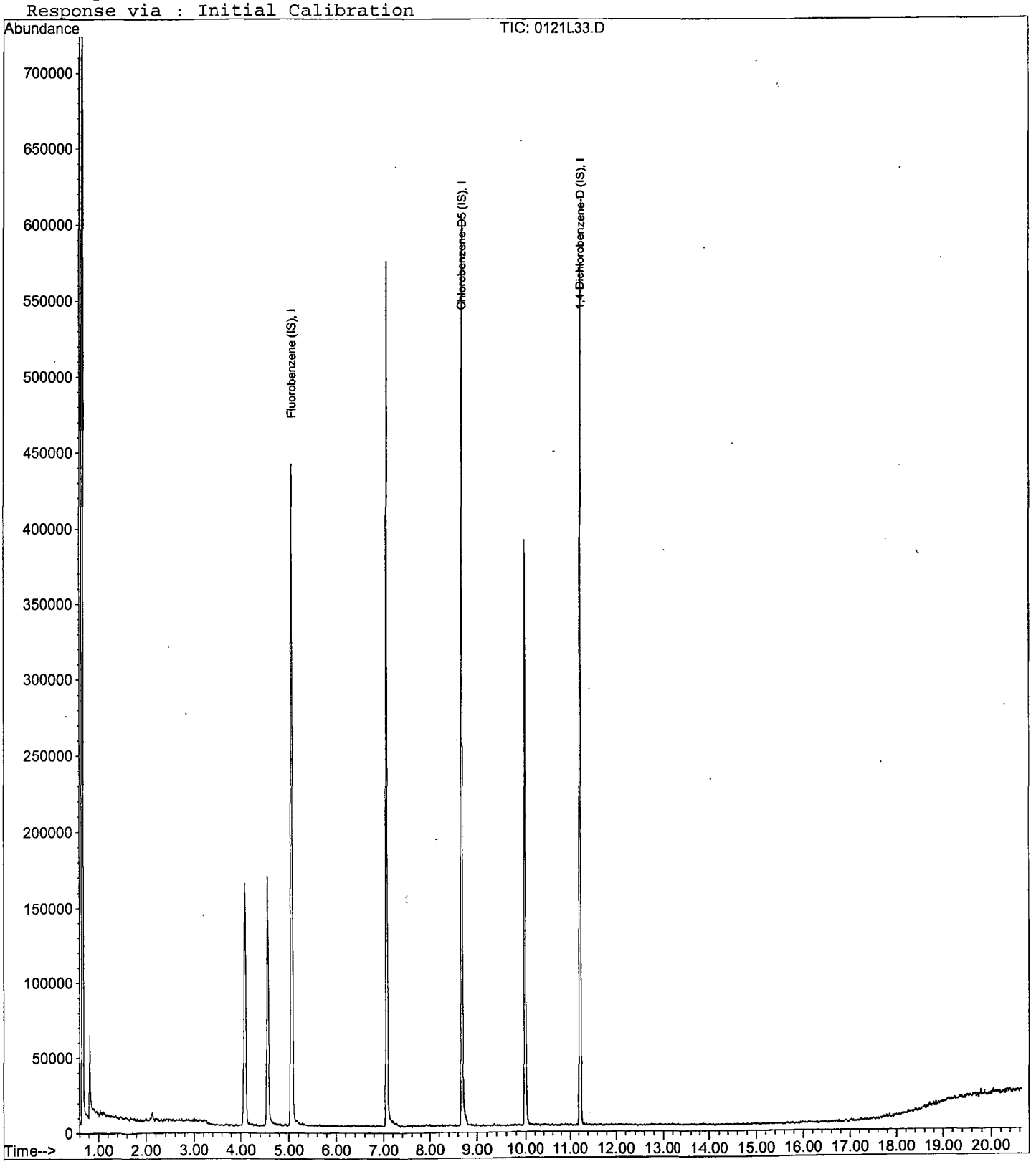
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LOKI\DATA\200121\0121L33.D Vial: 33
Acq On : 21 Jan 20 22:30 Operator:
Sample : BA06135W01 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 22 11:15 2020 Quant Results File: LGAS0121.RES

Method : M:\LOKI\DATA\200121\LGAS0121.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 16:34:55 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\LOKI\DATA\200121\0121L34.D Vial: 34
Acq On : 21 Jan 20 22:58 Operator:
Sample : BA06136W01 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 22 11:16 2020 Quant Results File: LGAS0121.RES

Quant Method : M:\LOKI\DATA\200121\LGAS0121.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 16:34:55 2020
Response via : Initial Calibration
DataAcq Meth : L8260

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	5.06	TIC	430034	25.00000	ppb	0.00
3) Chlorobenzene-D5 (IS)	8.69	TIC	603209	25.00000	ppb	0.00
4) 1,4-Dichlorobenzene-D (IS)	11.23	TIC	569224	25.00000	ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\200121\0121L34.D Vial: 34
Acq On : 21 Jan 20 22:58 Operator:
Sample : BA06136W01 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 22 11:47 2020 Quant Results File: L0121SUR.RES

Quant Method : M:\LOKI\DATA\200121\L0121SUR.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 13:19:21 2020
Response via : Initial Calibration
DataAcq Meth : L8260

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.07	96	203904	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	8.69	117	207488	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	11.23	152	98936	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.09	111	134288	27.49669 ppb	0.00
Spiked Amount 25.000			Recovery = 109.988%		
3) 1,2-DCA-D4(S)	4.56	65	156427	26.29176 ppb	0.00
Spiked Amount 25.000			Recovery = 105.168%		
5) Toluene-D8(S)	7.07	98	417678	24.80566 ppb	0.00
Spiked Amount 25.000			Recovery = 99.224%		
6) 4-Bromofluorobenzene(S)	9.99	95	134529	23.06501 ppb	0.00
Spiked Amount 25.000			Recovery = 92.260%		

Target Compounds Qvalue

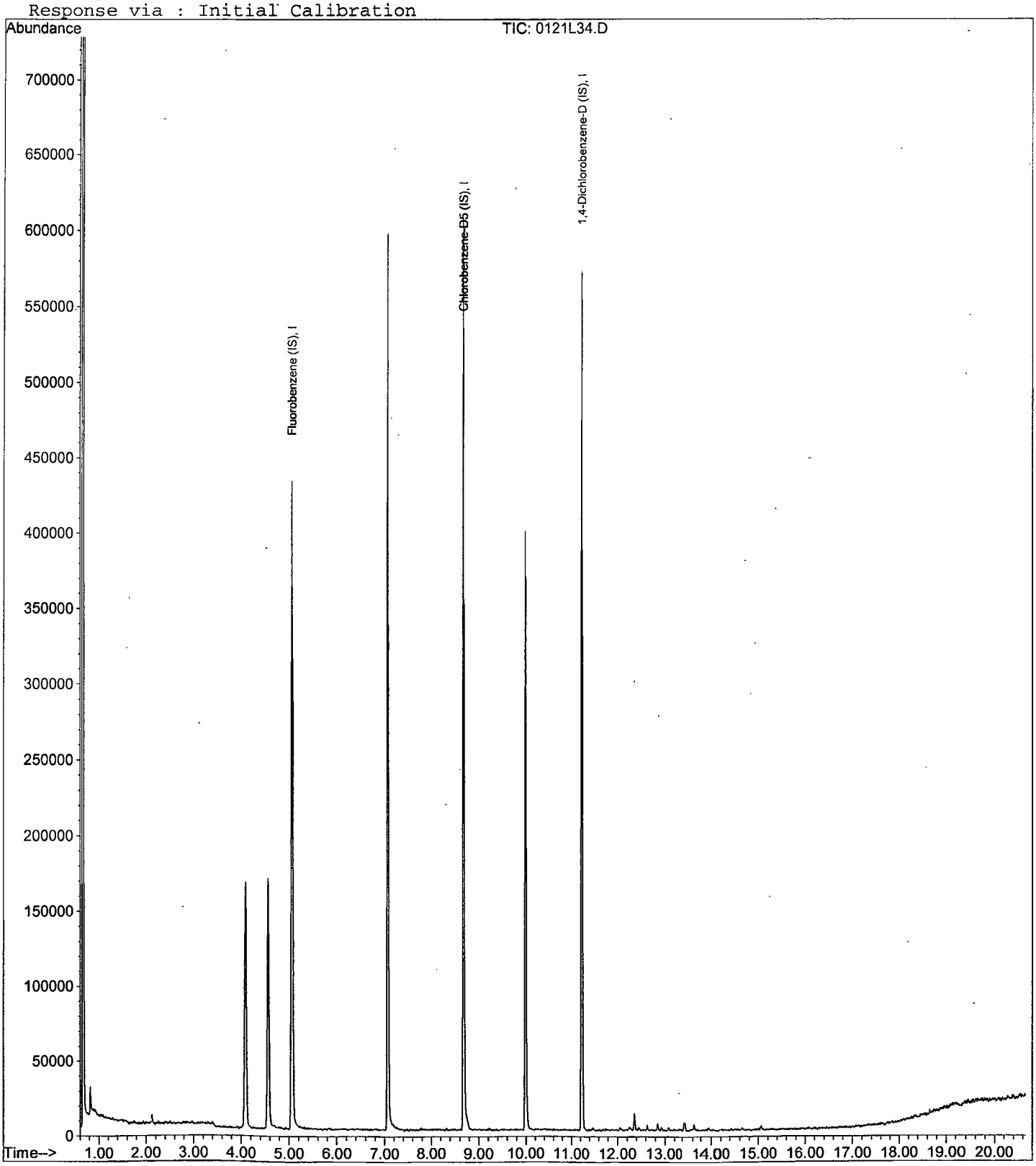
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LOKI\DATA\200121\0121L34.D Vial: 34
Acq On : 21 Jan 20 22:58 Operator:
Sample : BA06136W01 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 22 11:16 2020 Quant Results File: LGAS0121.RES

Method : M:\LOKI\DATA\200121\LGAS0121.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 16:34:55 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\LOKI\DATA\200121\0121L35.D Vial: 35
Acq On : 21 Jan 20 23:27 Operator:
Sample : BA06137W01 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 22 11:16 2020 Quant Results File: LGAS0121.RES

Quant Method : M:\LOKI\DATA\200121\LGAS0121.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 16:34:55 2020
Response via : Initial Calibration
DataAcq Meth : L8260

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	5.06	TIC	422135	25.00000	ppb	0.00
3) Chlorobenzene-D5 (IS)	8.69	TIC	574609	25.00000	ppb	0.00
4) 1,4-Dichlorobenzene-D (IS)	11.23	TIC	552016	25.00000	ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\200121\0121L35.D Vial: 35
Acq On : 21 Jan 20 23:27 Operator:
Sample : BA06137W01 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 22 11:47 2020 Quant Results File: L0121SUR.RES

Quant Method : M:\LOKI\DATA\200121\L0121SUR.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 13:19:21 2020
Response via : Initial Calibration
DataAcq Meth : L8260

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.06	96	201024	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	8.69	117	197504	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	11.23	152	98072	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.09	111	133009	27.62499 ppb	0.00
Spiked Amount 25.000			Recovery	= 110.500%	
3) 1,2-DCA-D4(S)	4.56	65	157246	26.80806 ppb	0.00
Spiked Amount 25.000			Recovery	= 107.232%	
5) Toluene-D8(S)	7.07	98	409674	25.56022 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.240%	
6) 4-Bromofluorobenzene(S)	9.99	95	130199	23.45106 ppb	0.00
Spiked Amount 25.000			Recovery	= 93.804%	

Target Compounds Qvalue

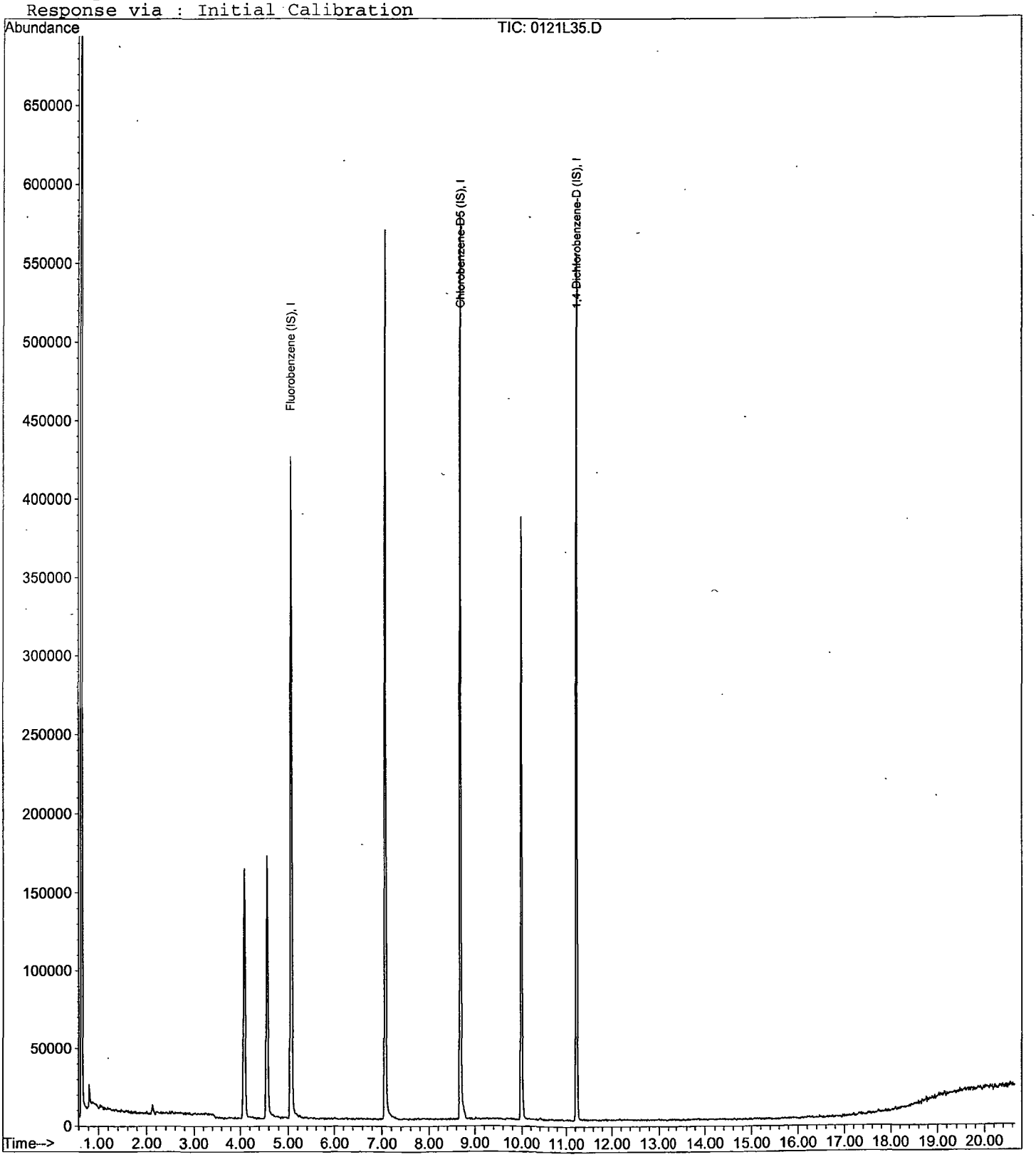
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LOKI\DATA\200121\0121L35.D Vial: 35
Acq On : 21 Jan 20 23:27 Operator:
Sample : BA06137W01 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 22 11:16 2020 Quant Results File: LGAS0121.RES

Method : M:\LOKI\DATA\200121\LGAS0121.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 16:34:55 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\LOKI\DATA\200121\0121L36.D Vial: 36
Acq On : 21 Jan 20 23:55 Operator:
Sample : BA06138W01 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 22 11:17 2020 Quant Results File: LGAS0121.RES

Quant Method : M:\LOKI\DATA\200121\LGAS0121.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 16:34:55 2020
Response via : Initial Calibration
DataAcq Meth : L8260

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	5.06	TIC	439391	25.00000	ppb	0.00
3) Chlorobenzene-D5 (IS)	8.69	TIC	652454	25.00000	ppb	0.00
4) 1,4-Dichlorobenzene-D (IS)	11.23	TIC	667297	25.00000	ppb	0.00

System Monitoring Compounds

Target Compounds						Qvalue
2) Gasoline C6-C10	8.69	TIC	6173445m	57.83585	ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\200121\0121L36.D Vial: 36
Acq On : 21 Jan 20 23:55 Operator:
Sample : BA06138W01 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 22 11:47 2020 Quant Results File: L0121SUR.RES

Quant Method : M:\LOKI\DATA\200121\L0121SUR.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 13:19:21 2020
Response via : Initial Calibration
DataAcq Meth : L8260

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.06	96	207104	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	8.69	117	224704	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	11.23	152	117552	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.09	111	126465	25.49476 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.980%	
3) 1,2-DCA-D4(S)	4.56	65	156829	25.95205 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.808%	
5) Toluene-D8(S)	7.07	98	414080	22.70783 ppb	0.00
Spiked Amount 25.000			Recovery	= 90.832%	
6) 4-Bromofluorobenzene(S)	9.99	95	142048	22.48822 ppb	0.00
Spiked Amount 25.000			Recovery	= 89.952%	

Target Compounds Qvalue

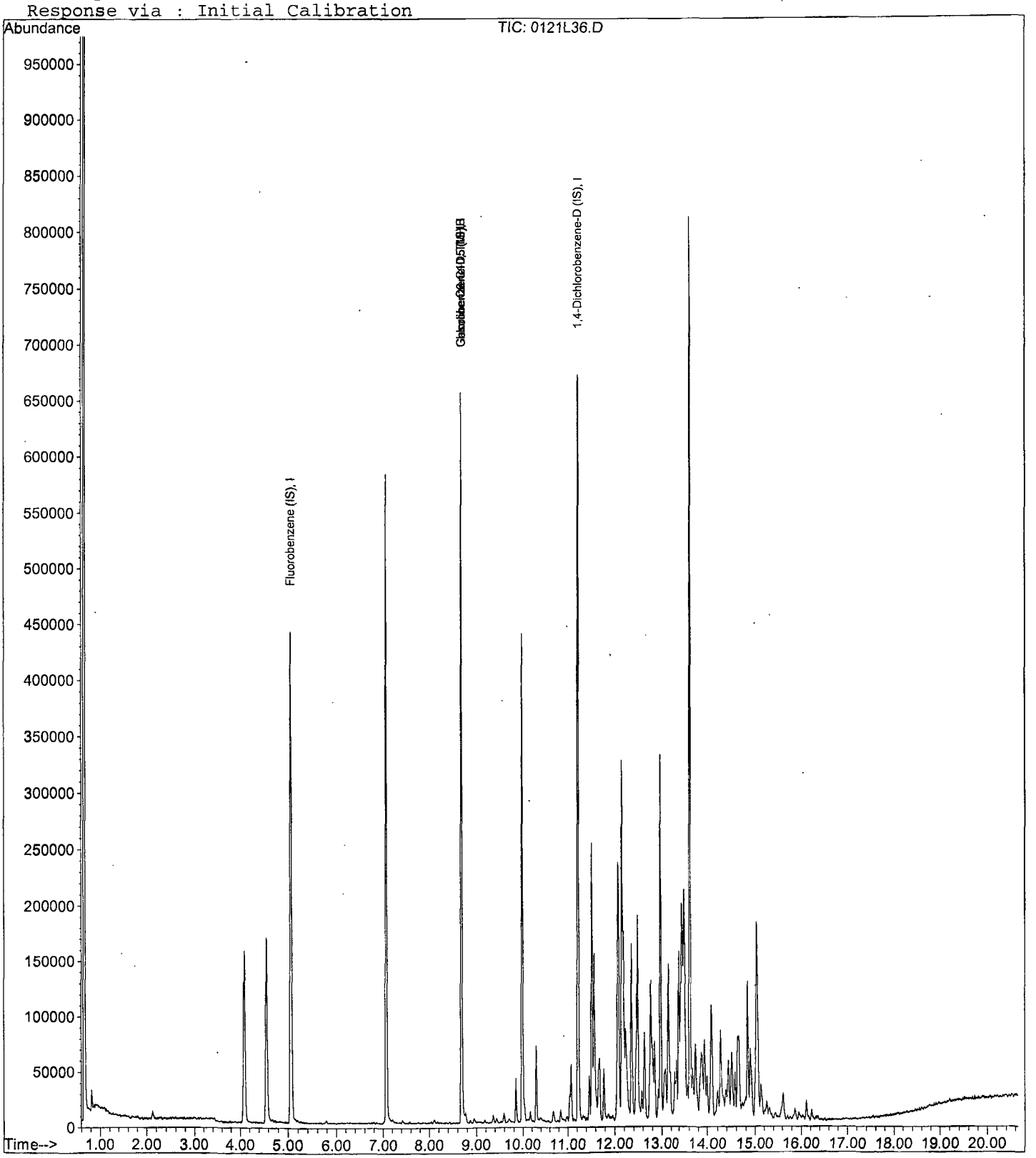
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LOKI\DATA\200121\0121L36.D Vial: 36
Acq On : 21 Jan 20 23:55 Operator:
Sample : BA06138W01 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 22 11:17 2020 Quant Results File: LGAS0121.RES

Method : M:\LOKI\DATA\200121\LGAS0121.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 16:34:55 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\LOKI\DATA\200121\0121L37.D Vial: 37
Acq On : 22 Jan 20 00:24 Operator:
Sample : BA06139W01 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 22 11:19 2020 Quant Results File: LGAS0121.RES

Quant Method : M:\LOKI\DATA\200121\LGAS0121.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 16:34:55 2020
Response via : Initial Calibration
DataAcq Meth : L8260

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	5.06	TIC	450234	25.00000	ppb	0.00
3) Chlorobenzene-D5 (IS)	8.69	TIC	655247	25.00000	ppb	0.00
4) 1,4-Dichlorobenzene-D (IS)	11.23	TIC	681477	25.00000	ppb	0.00

System Monitoring Compounds

Target Compounds						Qvalue
2) Gasoline C6-C10	8.69	TIC	6245119m	48.79016	ppb	100

(#) = qualifier out of range (m) = manual integration
0121L37.D LGAS0121.M Wed Jan 22 11:27:13 2020 Page 1

Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\200121\0121L37.D Vial: 37
Acq On : 22 Jan 20 00:24 Operator:
Sample : BA06139W01 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 22 11:47 2020 Quant Results File: L0121SUR.RES

Quant Method : M:\LOKI\DATA\200121\L0121SUR.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 13:19:21 2020
Response via : Initial Calibration
DataAcq Meth : L8260

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.06	96	214784	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	8.69	117	227136	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	11.23	152	120648	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.09	111	127929	24.86773 ppb	0.00
Spiked Amount 25.000			Recovery =	99.472%	
3) 1,2-DCA-D4(S)	4.56	65	152568	24.34419 ppb	0.00
Spiked Amount 25.000			Recovery =	97.376%	
5) Toluene-D8(S)	7.07	98	421176	22.84966 ppb	0.00
Spiked Amount 25.000			Recovery =	91.400%	
6) 4-Bromofluorobenzene(S)	9.99	95	149522	23.41800 ppb	0.00
Spiked Amount 25.000			Recovery =	93.672%	

Target Compounds Qvalue

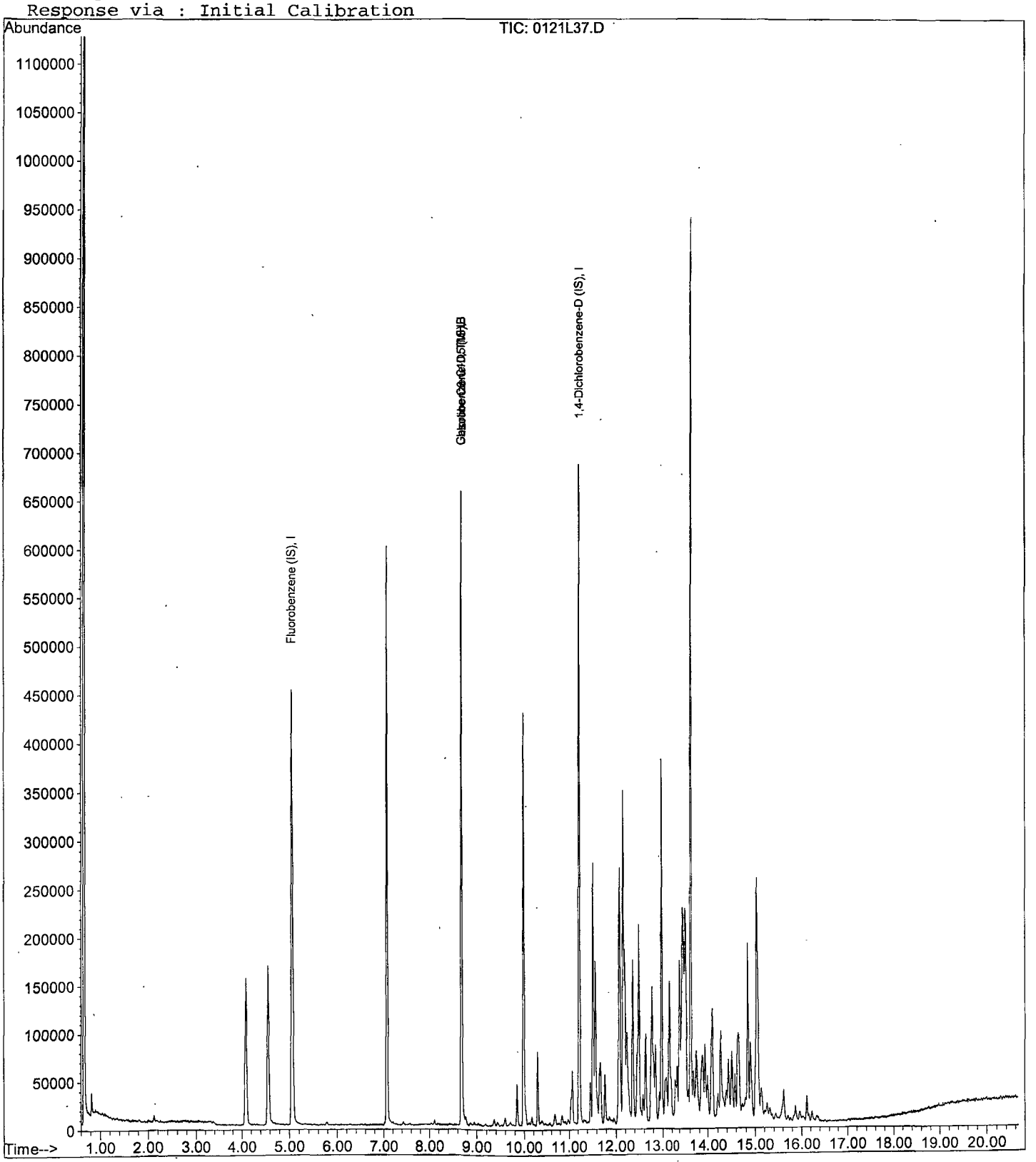
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LOKI\DATA\200121\0121L37.D Vial: 37
Acq On : 22 Jan 20 00:24 Operator:
Sample : BA06139W01 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 22 11:19 2020 Quant Results File: LGAS0121.RES

Method : M:\LOKI\DATA\200121\LGAS0121.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 16:34:55 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\LOKI\DATA\200121\0121L38.D Vial: 38
Acq On : 22 Jan 20 00:52 Operator:
Sample : BA06140W01 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 22 11:20 2020 Quant Results File: LGAS0121.RES

Quant Method : M:\LOKI\DATA\200121\LGAS0121.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 16:34:55 2020
Response via : Initial Calibration
DataAcq Meth : L8260

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	5.06	TIC	468175	25.00000	ppb	0.00
3) Chlorobenzene-D5 (IS)	8.68	TIC	655906	25.00000	ppb	0.00
4) 1,4-Dichlorobenzene-D (IS)	11.23	TIC	614569	25.00000	ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\200121\0121L38.D Vial: 38
Acq On : 22 Jan 20 00:52 Operator:
Sample : BA06140W01 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 22 11:47 2020 Quant Results File: L0121SUR.RES

Quant Method : M:\LOKI\DATA\200121\L0121SUR.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 13:19:21 2020
Response via : Initial Calibration
DataAcq Meth : L8260

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.06	96	223104	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	8.68	117	225536	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	11.23	152	107824	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.09	111	135976	25.44626 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.784%	
3) 1,2-DCA-D4(S)	4.56	65	160766	24.69566 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.784%	
5) Toluene-D8(S)	7.07	98	445034	24.31529 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.260%	
6) 4-Bromofluorobenzene(S)	9.99	95	144334	22.76583 ppb	0.00
Spiked Amount 25.000			Recovery	= 91.064%	

Target Compounds Qvalue

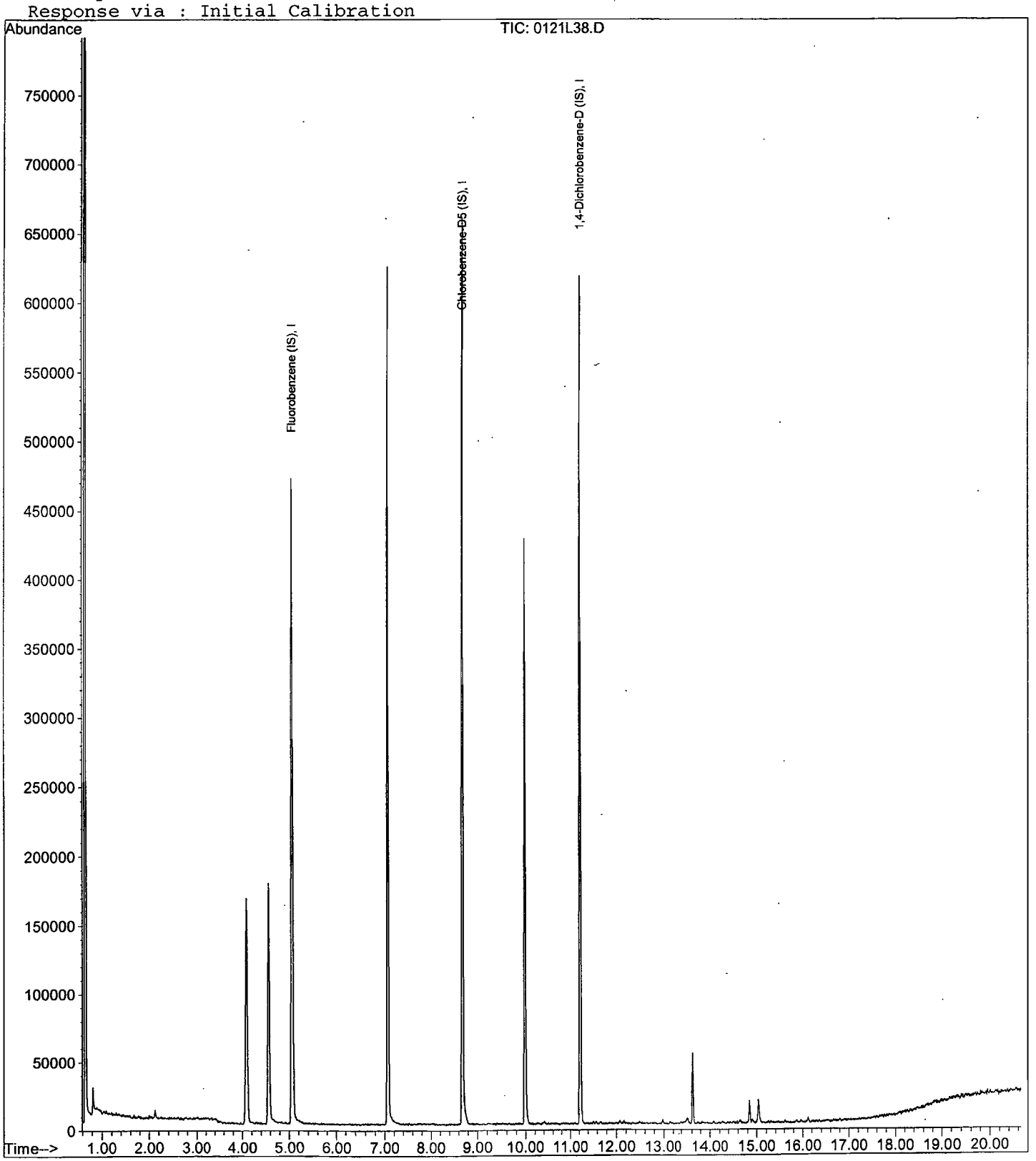
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LOKI\DATA\200121\0121L38.D Vial: 38
Acq On : 22 Jan 20 00:52 Operator:
Sample : BA06140W01 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 22 11:20 2020 Quant Results File: LGAS0121.RES

Method : M:\LOKI\DATA\200121\LGAS0121.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 16:34:55 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\LOKI\DATA\200121\0121L39.D Vial: 39
Acq On : 22 Jan 20 1:21 Operator:
Sample : BA06141W04 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 22 11:21 2020 Quant Results File: LGAS0121.RES

Quant Method : M:\LOKI\DATA\200121\LGAS0121.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 16:34:55 2020
Response via : Initial Calibration
DataAcq Meth : L8260

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	5.06	TIC	457027	25.00000	ppb	0.00
3) Chlorobenzene-D5 (IS)	8.69	TIC	643982	25.00000	ppb	0.00
4) 1,4-Dichlorobenzene-D (IS)	11.23	TIC	627124	25.00000	ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\200121\0121L39.D Vial: 39
Acq On : 22 Jan 20 1:21 Operator:
Sample : BA06141W04 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 22 11:47 2020 Quant Results File: L0121SUR.RES

Quant Method : M:\LOKI\DATA\200121\L0121SUR.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 13:19:21 2020
Response via : Initial Calibration
DataAcq Meth : L8260

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.06	96	218368	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	8.69	117	226304	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	11.23	152	110960	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.09	111	136030	26.00846 ppb	0.00
Spiked Amount 25.000			Recovery = 104.032%		
3) 1,2-DCA-D4(S)	4.56	65	162534	25.50874 ppb	0.00
Spiked Amount 25.000			Recovery = 102.036%		
5) Toluene-D8(S)	7.07	98	441883	24.06119 ppb	0.00
Spiked Amount 25.000			Recovery = 96.244%		
6) 4-Bromofluorobenzene(S)	9.99	95	142432	22.38959 ppb	0.00
Spiked Amount 25.000			Recovery = 89.560%		

Target Compounds Qvalue

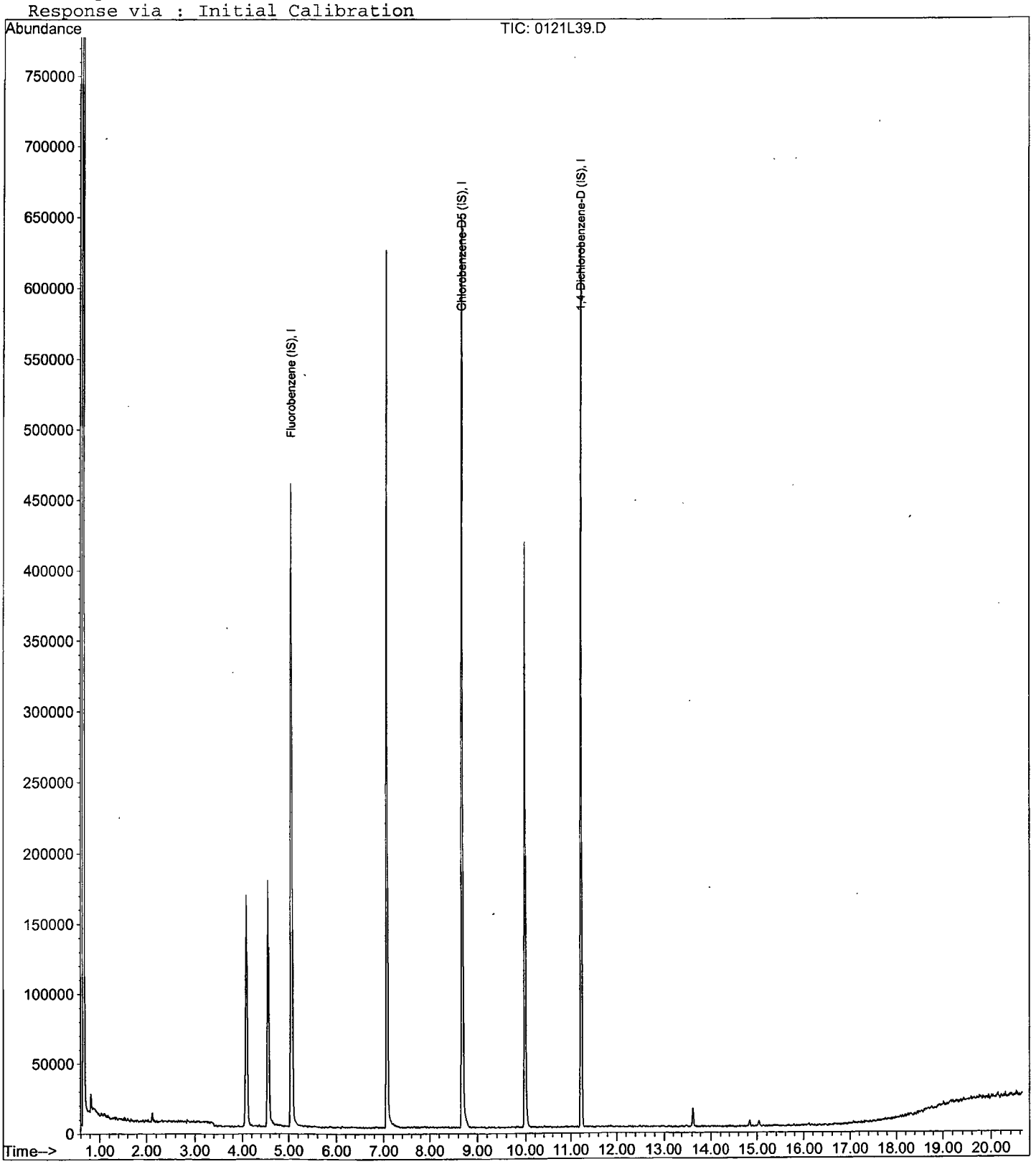
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LOKI\DATA\200121\0121L39.D Vial: 39
Acq On : 22 Jan 20 1:21 Operator:
Sample : BA06141W04 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 22 11:21 2020 Quant Results File: LGAS0121.RES

Method : M:\LOKI\DATA\200121\LGAS0121.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 16:34:55 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\LOKI\DATA\200121\0121L40.D Vial: 40
Acq On : 22 Jan 20 1:50 Operator:
Sample : BA06142W01 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 22 11:21 2020 Quant Results File: LGAS0121.RES

Quant Method : M:\LOKI\DATA\200121\LGAS0121.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 16:34:55 2020
Response via : Initial Calibration
DataAcq Meth : L8260

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	5.06	TIC	448659	25.00000	ppb	0.00
3) Chlorobenzene-D5 (IS)	8.69	TIC	621703	25.00000	ppb	0.00
4) 1,4-Dichlorobenzene-D (IS)	11.23	TIC	599692	25.00000	ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\200121\0121L40.D Vial: 40
Acq On : 22 Jan 20 1:50 Operator:
Sample : BA06142W01 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 22 11:47 2020 Quant Results File: L0121SUR.RES

Quant Method : M:\LOKI\DATA\200121\L0121SUR.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 13:19:21 2020
Response via : Initial Calibration
DataAcq Meth : L8260

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.06	96	214016	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	8.69	117	215424	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	11.23	152	105456	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.09	111	138011	26.92381 ppb	0.00
Spiked Amount 25.000			Recovery = 107.696%		
3) 1,2-DCA-D4(S)	4.56	65	156980	25.13806 ppb	0.00
Spiked Amount 25.000			Recovery = 100.552%		
5) Toluene-D8(S)	7.07	98	433360	24.78888 ppb	0.00
Spiked Amount 25.000			Recovery = 99.156%		
6) 4-Bromofluorobenzene(S)	9.99	95	143217	23.65001 ppb	0.00
Spiked Amount 25.000			Recovery = 94.600%		

Target Compounds Qvalue

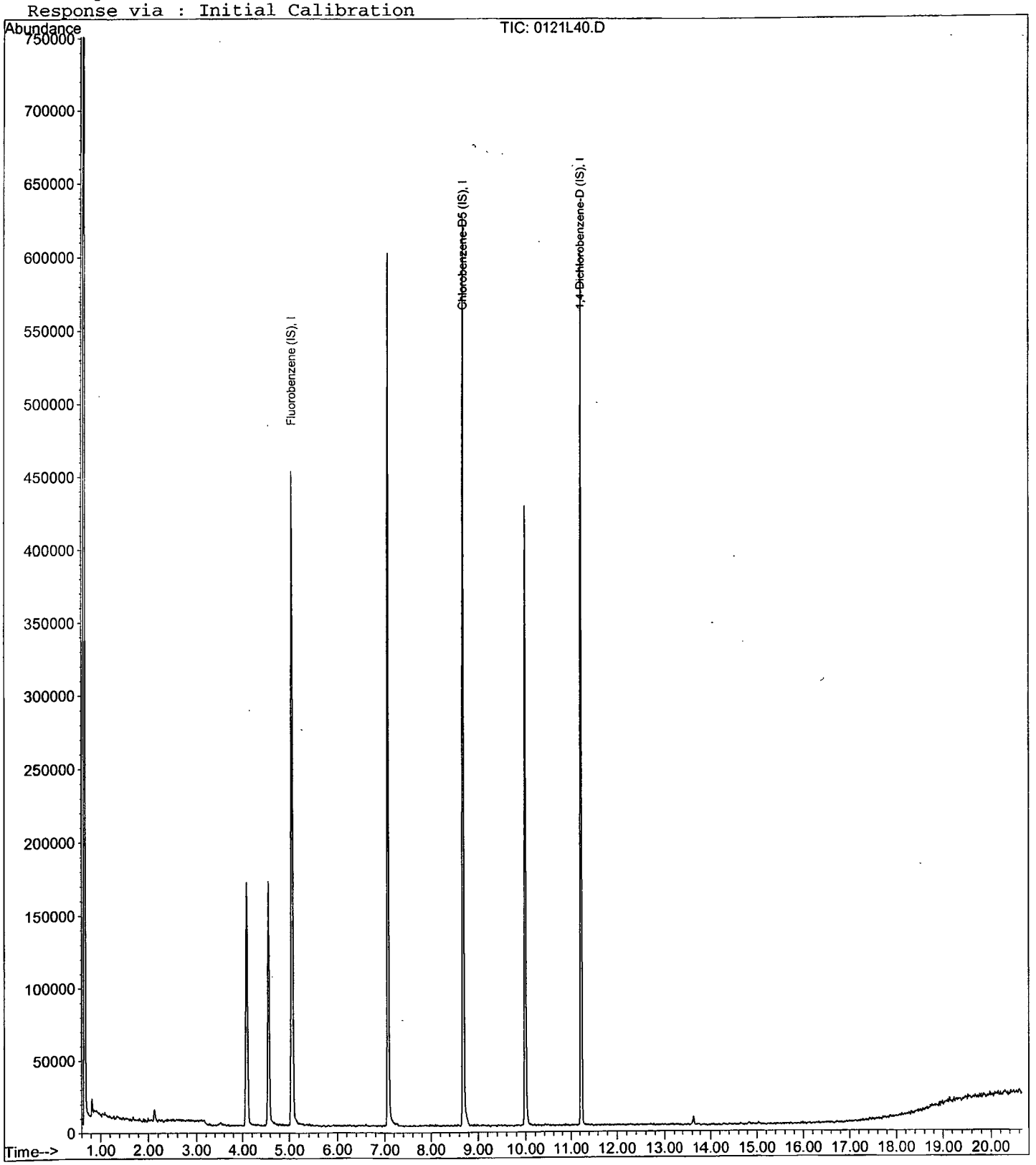
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LOKI\DATA\200121\0121L40.D Vial: 40
Acq On : 22 Jan 20 1:50 Operator:
Sample : BA06142W01 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 22 11:21 2020 Quant Results File: LGAS0121.RES

Method : M:\LOKI\DATA\200121\LGAS0121.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 16:34:55 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\LOKI\DATA\200121\0121L41.D Vial: 41
Acq On : 22 Jan 20 2:18 Operator:
Sample : BA06143W01 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 22 11:22 2020 Quant Results File: LGAS0121.RES

Quant Method : M:\LOKI\DATA\200121\LGAS0121.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 16:34:55 2020
Response via : Initial Calibration
DataAcq Meth : L8260

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	5.06	TIC	450027	25.00000	ppb	0.00
3) Chlorobenzene-D5 (IS)	8.69	TIC	622669	25.00000	ppb	0.00
4) 1,4-Dichlorobenzene-D (IS)	11.23	TIC	587637	25.00000	ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\200121\0121L41.D Vial: 41
Acq On : 22 Jan 20 2:18 Operator:
Sample : BA06143W01 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 22 11:47 2020 Quant Results File: L0121SUR.RES

Quant Method : M:\LOKI\DATA\200121\L0121SUR.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 13:19:21 2020
Response via : Initial Calibration
DataAcq Meth : L8260

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.06	96	217792	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	8.69	117	217280	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	11.23	152	102848	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.09	111	131021	25.11701 ppb	0.00
Spiked Amount 25.000			Recovery = 100.468%		
3) 1,2-DCA-D4(S)	4.56	65	156960	24.69908 ppb	0.00
Spiked Amount 25.000			Recovery = 98.796%		
5) Toluene-D8(S)	7.07	98	421754	23.91892 ppb	0.00
Spiked Amount 25.000			Recovery = 95.676%		
6) 4-Bromofluorobenzene(S)	9.99	95	137222	22.46647 ppb	0.00
Spiked Amount 25.000			Recovery = 89.864%		

Target Compounds Qvalue

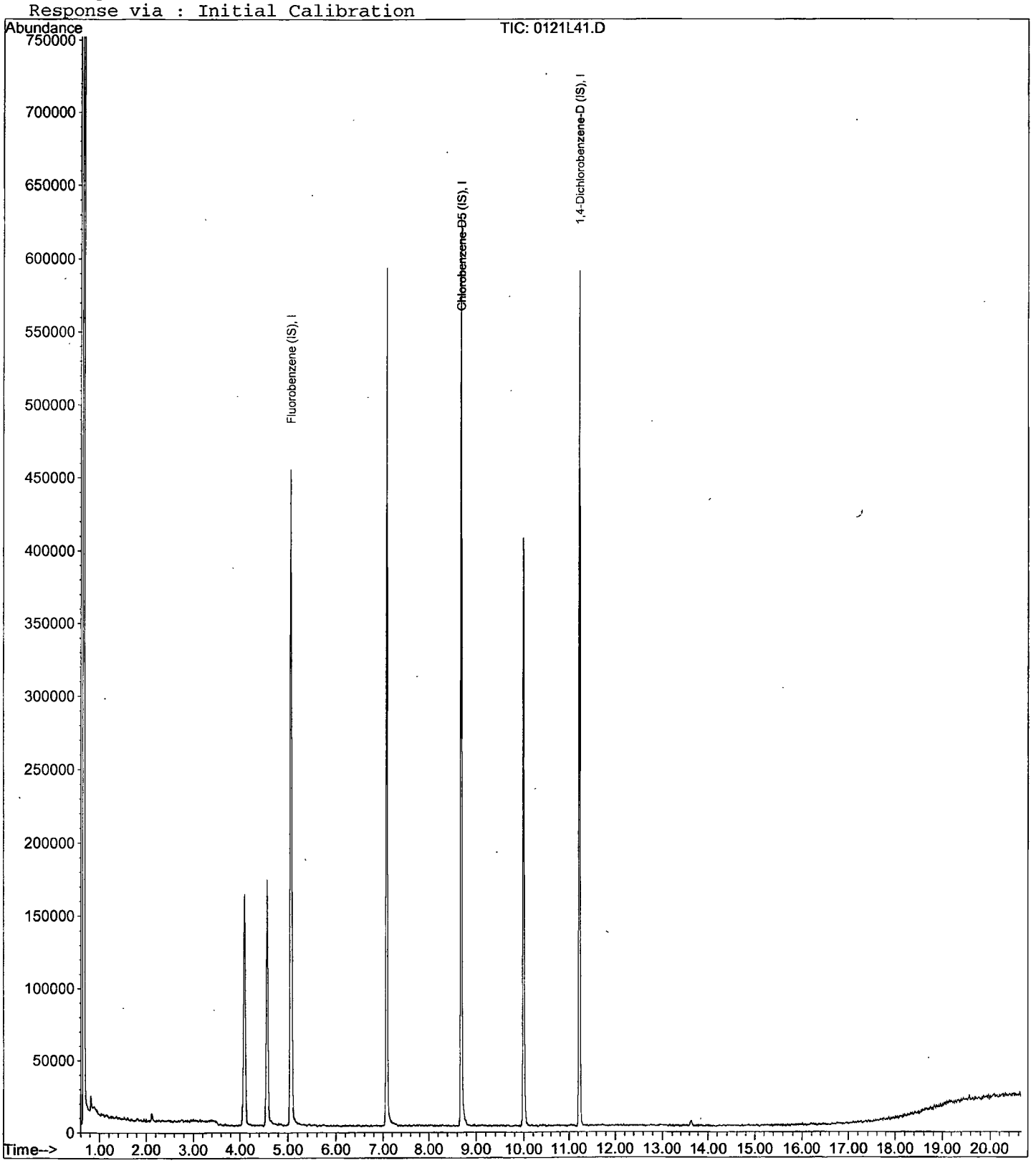
(#) = qualifier out of range (m) = manual integration
0121L41.D L0121SUR.M Wed Jan 22 11:49:01 2020 Page 1

Quantitation Report

Data File : M:\LOKI\DATA\200121\0121L41.D Vial: 41
Acq On : 22 Jan 20 2:18 Operator:
Sample : BA06143W01 Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 22 11:22 2020 Quant Results File: LGAS0121.RES

Method : M:\LOKI\DATA\200121\LGAS0121.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 16:34:55 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\LOKI\DATA\200121\0121L32.D Vial: 32
Acq On : 21 Jan 20 22:01 Operator:
Sample : 200121A BLK Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 22 11:12 2020 Quant Results File: LGAS0121.RES

Quant Method : M:\LOKI\DATA\200121\LGAS0121.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 16:34:55 2020
Response via : Initial Calibration
DataAcq Meth : L8260

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.06	TIC	445474	25.00000 ppb	0.00
3) Chlorobenzene-D5 (IS)	8.69	TIC	625157	25.00000 ppb	0.00
4) 1,4-Dichlorobenzene-D (IS)	11.23	TIC	571865	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
0121L32.D LGAS0121.M Wed Jan 22 11:12:10 2020 Page 1

Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\200121\0121L32.D Vial: 32
Acq On : 21 Jan 20 22:01 Operator:
Sample : 200121A BLK Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 22 11:47 2020 Quant Results File: L0121SUR.RES

Quant Method : M:\LOKI\DATA\200121\L0121SUR.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 13:19:21 2020
Response via : Initial Calibration
DataAcq Meth : L8260

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.06	96	212928	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	8.69	117	213312	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	11.23	152	101976	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.09	111	129531	25.39861 ppb	0.00
Spiked Amount 25.000			Recovery = 101.596%		
3) 1,2-DCA-D4(S)	4.56	65	161003	25.91403 ppb	0.00
Spiked Amount 25.000			Recovery = 103.656%		
5) Toluene-D8(S)	7.07	98	418306	24.16467 ppb	0.00
Spiked Amount 25.000			Recovery = 96.660%		
6) 4-Bromofluorobenzene(S)	9.99	95	131215	21.88260 ppb	0.00
Spiked Amount 25.000			Recovery = 87.532%		

Target Compounds Qvalue

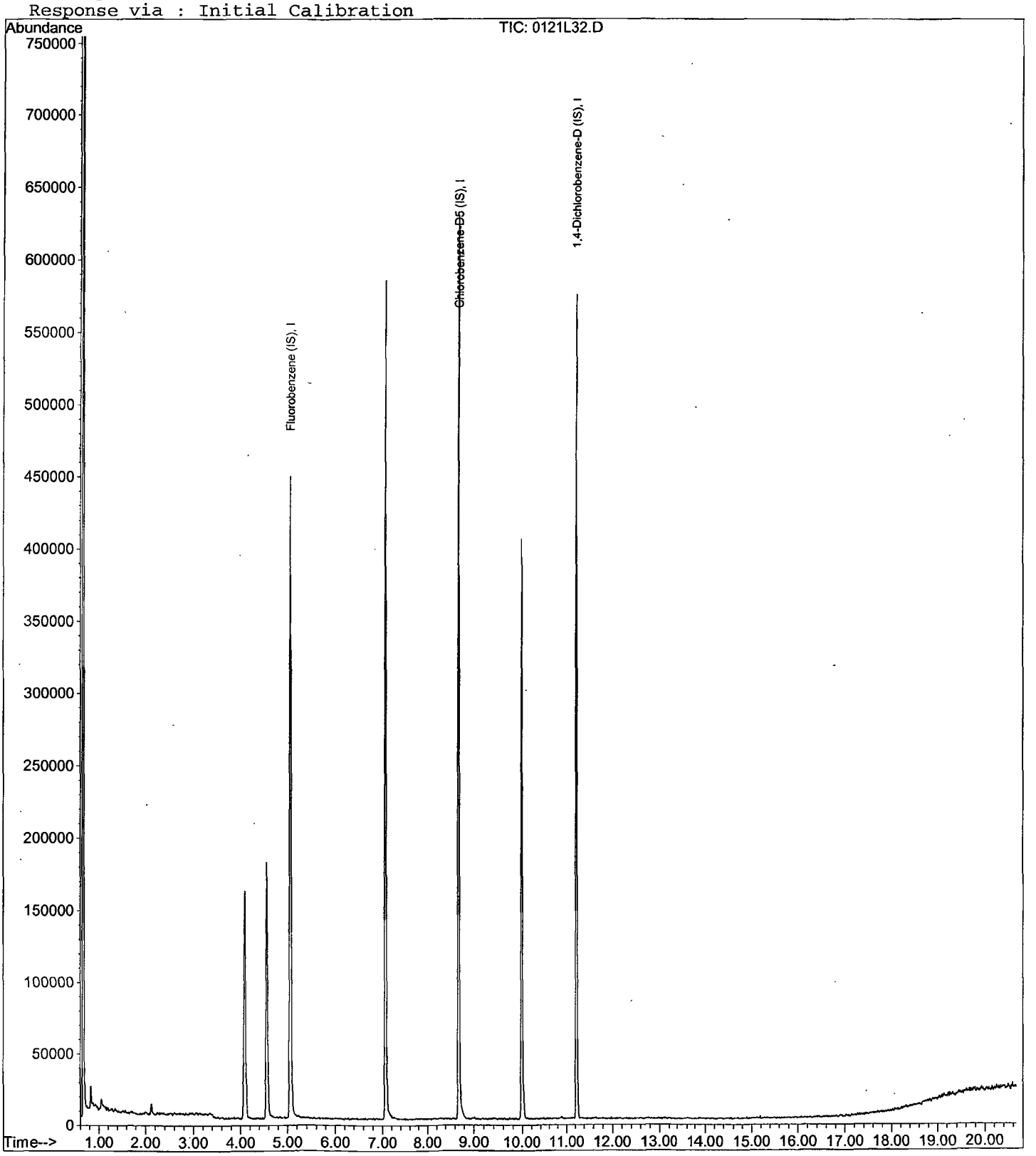
(#) = qualifier out of range (m) = manual integration
0121L32.D L0121SUR.M Wed Jan 22 11:48:50 2020 Page 1

Quantitation Report

Data File : M:\LOKI\DATA\200121\0121L32.D Vial: 32
Acq On : 21 Jan 20 22:01 Operator:
Sample : 200121A BLK Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 22 11:12 2020 Quant Results File: LGAS0121.RES

Method : M:\LOKI\DATA\200121\LGAS0121.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 16:34:55 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\LOKI\DATA\200121\0121L27.D Vial: 27
Acq On : 21 Jan 20 19:38 Operator:
Sample : 200121A CCV/LCS 300ug/L Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 22 11:07 2020 Quant Results File: LGAS0121.RES

Quant Method : M:\LOKI\DATA\200121\LGAS0121.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 16:34:55 2020
Response via : Initial Calibration
DataAcq Meth : L8260

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	5.06	TIC	471812	25.00000	ppb	0.00
3) Chlorobenzene-D5 (IS)	8.68	TIC	644517	25.00000	ppb	0.00
4) 1,4-Dichlorobenzene-D (IS)	11.23	TIC	644051	25.00000	ppb	0.00

System Monitoring Compounds

Target Compounds						Qvalue
2) Gasoline C6-C10	8.68	TIC	.8359689m	243.02992	ppb	100

(#) = qualifier out of range (m) = manual integration
0121L27.D LGAS0121.M Wed Jan 22 11:07:27 2020 Page 1

Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\200121\0121L27.D Vial: 27
Acq On : 21 Jan 20 19:38 Operator:
Sample : 200121A CCV/LCS 300ug/L Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 22 11:47 2020 Quant Results File: L0121SUR.RES

Quant Method : M:\LOKI\DATA\200121\L0121SUR.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 13:19:21 2020
Response via : Initial Calibration
DataAcq Meth : L8260

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.06	96	223680	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	8.68	117	218304	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	11.23	152	113024	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.09	111	136370	25.45427 ppb	0.00
Spiked Amount 25.000			Recovery = 101.816%		
3) 1,2-DCA-D4(S)	4.56	65	158820	24.33390 ppb	0.00
Spiked Amount 25.000			Recovery = 97.336%		
5) Toluene-D8(S)	7.07	98	449585	25.37770 ppb	0.00
Spiked Amount 25.000			Recovery = 101.512%		
6) 4-Bromofluorobenzene(S)	9.99	95	149701	24.39460 ppb	0.00
Spiked Amount 25.000			Recovery = 97.580%		

Target Compounds Qvalue

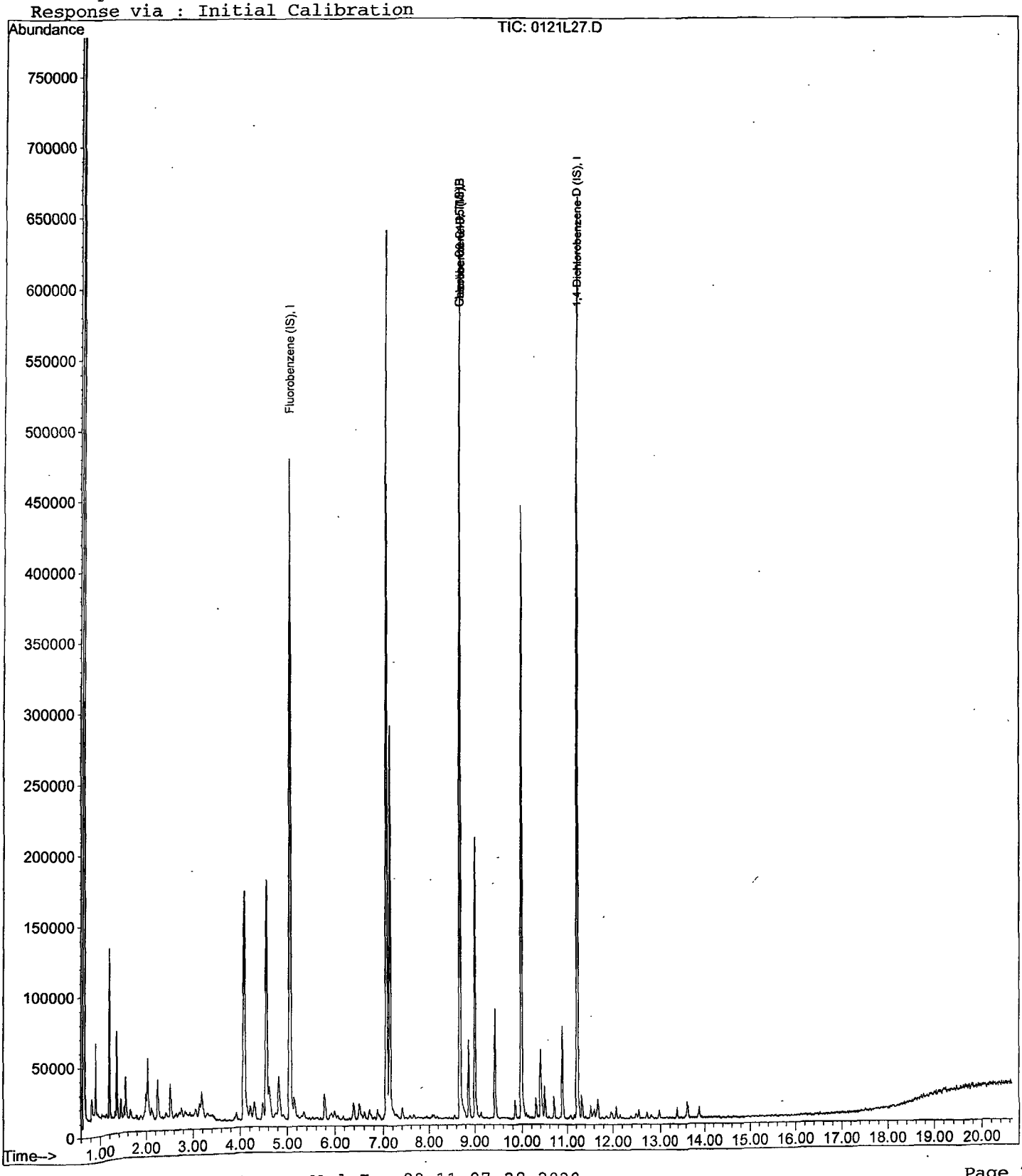
(#) = qualifier out of range (m) = manual integration
0121L27.D L0121SUR.M Wed Jan 22 11:49:58 2020 Page 1

Quantitation Report

Data File : M:\LOKI\DATA\200121\0121L27.D Vial: 27
Acq On : 21 Jan 20 19:38 Operator:
Sample : 200121A CCV/LCS 300ug/L Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 22 11:07 2020 Quant Results File: LGAS0121.RES

Method : M:\LOKI\DATA\200121\LGAS0121.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 16:34:55 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\LOKI\DATA\200121\0121L28.D Vial: 28
Acq On : 21 Jan 20 20:07 Operator:
Sample : 200121A LCSD 300ug/L Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 22 11:08 2020 Quant Results File: LGAS0121.RES

Quant Method : M:\LOKI\DATA\200121\LGAS0121.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 16:34:55 2020
Response via : Initial Calibration
DataAcq Meth : L8260

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	5.06	TIC	469880	25.00000	ppb	0.00
3) Chlorobenzene-D5 (IS)	8.69	TIC	666370	25.00000	ppb	0.00
4) 1,4-Dichlorobenzene-D (IS)	11.23	TIC	654363	25.00000	ppb	0.00

System Monitoring Compounds

Target Compounds						Qvalue
2) Gasoline C6-C10	8.69	TIC	8415506m	252.70507	ppb	100

(#) = qualifier out of range (m) = manual integration
0121L28.D LGAS0121.M Wed Jan 22 11:08:08 2020 Page 1

Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\200121\0121L28.D Vial: 28
Acq On : 21 Jan 20 20:07 Operator:
Sample : 200121A LCSD 300ug/L Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 22 11:47 2020 Quant Results File: L0121SUR.RES

Quant Method : M:\LOKI\DATA\200121\L0121SUR.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 13:19:21 2020
Response via : Initial Calibration
DataAcq Meth : L8260

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.06	96	220032	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	8.69	117	229504	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	11.23	152	112688	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.09	111	135871	25.78160 ppb	0.00
Spiked Amount 25.000			Recovery = 103.128%		
3) 1,2-DCA-D4(S)	4.56	65	162627	25.33031 ppb	0.00
Spiked Amount 25.000			Recovery = 101.320%		
5) Toluene-D8(S)	7.07	98	455292	24.44567 ppb	0.00
Spiked Amount 25.000			Recovery = 97.784%		
6) 4-Bromofluorobenzene(S)	9.99	95	155166	24.05122 ppb	0.00
Spiked Amount 25.000			Recovery = 96.204%		

Target Compounds Qvalue

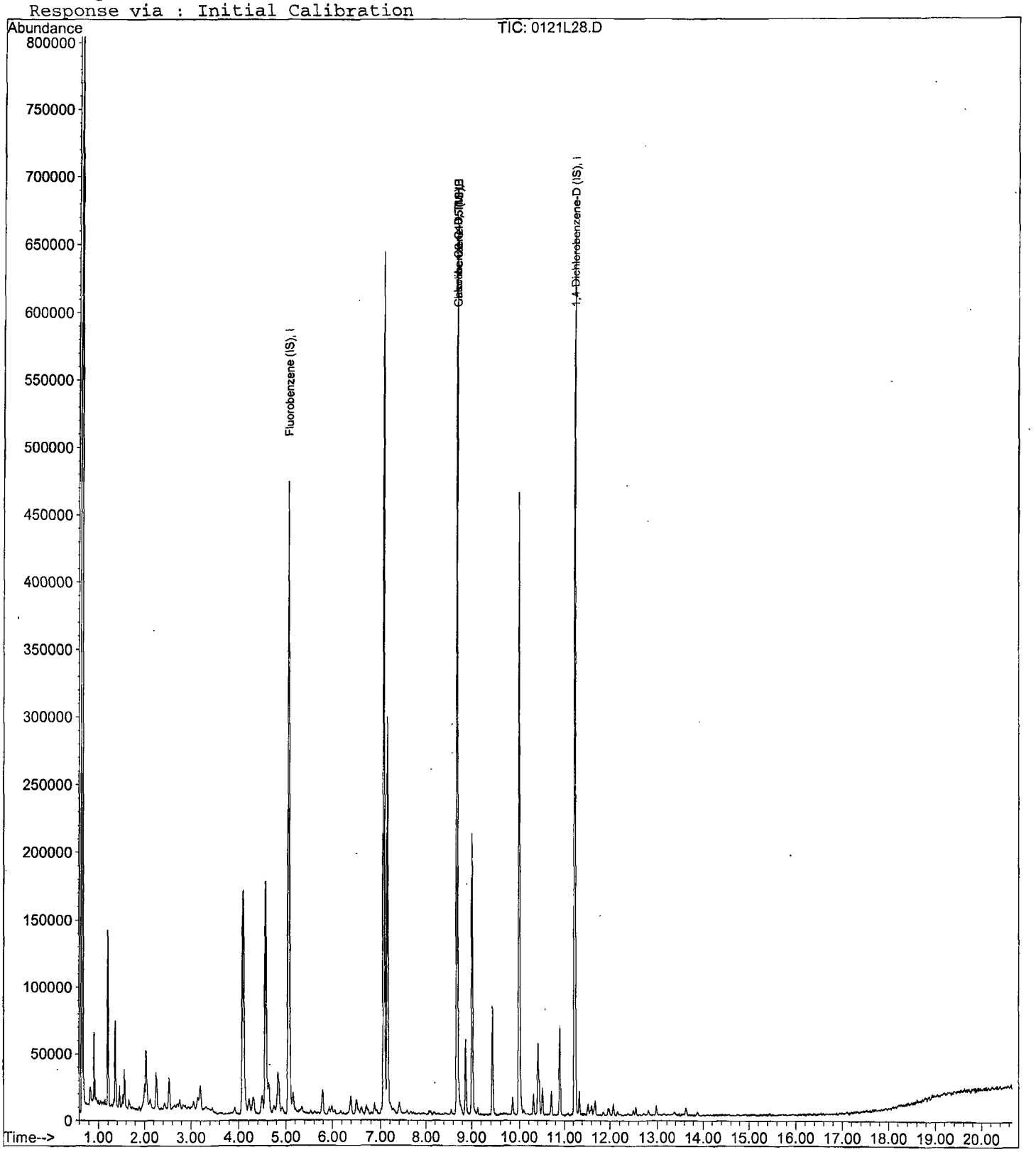
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LOKI\DATA\200121\0121L28.D Vial: 28
Acq On : 21 Jan 20 20:07 Operator:
Sample : 200121A LCSD 300ug/L Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 22 11:08 2020 Quant Results File: LGAS0121.RES

Method : M:\LOKI\DATA\200121\LGAS0121.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 16:34:55 2020
Response via : Initial Calibration



Loki Gas Standard Prep

Gas Primary Working Standard

Prepared: 01/06/20 — **Prepared By (Initials):** DG
Expires: 01/05/21
Methanol Lot No. 58019-00962

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	Supplier P/N#	Conc. (ug/mL)	Lot Number - QA Number	Exp. Date (1 yr)	Exp. Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/mL)
50,000ug/mL Gas STD	Restek	30205	50,000	A0132443-39859	01/06/21	12/31/24	80uL	2mL	Methanol	2,000

Gas Second Source (SS) Working Standard

Prepared: 01/06/20 — **Prepared By (Initials):** CH
Expires: 01/05/21
Methanol Lot No. 58019-00962

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	Supplier P/N#	Conc. (ug/mL)	Lot Number - QA Number	Exp. Date (1 yr)	Exp. Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/mL)
Gasoline (50,000ppm)	Phenova	ALO-101543	50,000	CL11750-40999	01/06/21	02/28/27	80uL	2mL	Methanol	2,000

Loki Gas Calibration Curve

Prepared: 01/21/20 — **Prepared By (Initials):** DG
Expires: 03/21/20

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	APPL Mix Name	Conc. (ug/mL)	Reference To APPL Prep Date	Exp. Date	Exp. Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/L)
VOA Gasses Standards	Phenova	20ug/L	2,000	Prepared 01/06/20	01/05/21	N/A	1uL	100mL	P&T Water	20
VOA Gasses Standards	Phenova	50ug/L	2,000	Prepared 01/06/20	01/05/21	N/A	2.5uL	100mL	P&T Water	50
VOA Gasses Standards	Phenova	100ug/L	2,000	Prepared 01/06/20	01/05/21	N/A	5uL	100mL	P&T Water	100
VOA Gasses Standards	Phenova	300ug/L	2,000	Prepared 01/06/20	01/05/21	N/A	15uL	100mL	P&T Water	300
VOA Gasses Standards	Phenova	600ug/L	2,000	Prepared 01/06/20	01/05/21	N/A	30uL	100mL	P&T Water	600
VOA Gasses Standards	Phenova	800ug/L	2,000	Prepared 01/06/20	01/05/21	N/A	40uL	100mL	P&T Water	800
VOA Gasses Standards	Phenova	1,000ug/L	2,000	Prepared 01/06/20	01/05/21	N/A	50uL	100mL	P&T Water	1,000

Loki Gas Second Source

Prepared: 01/21/20 — **Prepared By (Initials):** DG
Expires: 03/21/20

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	APPL Mix Name	Conc. (ug/mL)	Reference To APPL Prep Date	Exp. Date	Exp. Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/L)
50,000ug/mL Gas STD	Phenova	SS 300ug/L	2,000	Prepared 01/06/20	01/05/21	N/A	15uL	100mL	P&T Water	300

Loki Gas Continuing Calibrations/Lab Control Spikes

Prepared: 01/21/20 — **Prepared By (Initials):** DG
Expires: 01/22/20

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	Supplier P/N#	Conc. (ug/mL)	Lot Number - QA Number	Exp. Date (1 yr)	Exp. Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/mL)
VOA Gasses Standards	Phenova	300ug/L	2,000	Prepared 01/06/20	01/05/21	N/A	15uL	100mL	P&T Water	300

Injection Log

Directory: M:\LOKI\DATA\200121\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	2	0121L02.D	1	0.3ug/L VOC STD 1/21/20	IS&S:12/19/19	21 Jan 20 7:43
2	3	0121L03.D	1	0.5ug/L VOC STD 1/21/20	IS&S:12/19/19	21 Jan 20 8:11
3	4	0121L04.D	1	1ug/L VOC STD 1/21/20	IS&S:12/19/19	21 Jan 20 8:40
4	5	0121L05.D	1	2ug/L VOC STD 1/21/20	IS&S:12/19/19	21 Jan 20 9:08
5	6	0121L06.D	1	5ug/L VOC STD 1/21/20	IS&S:12/19/19	21 Jan 20 9:37
6	7	0121L07.D	1	10ug/L VOC STD 1/21/20	IS&S:12/19/19	21 Jan 20 10:06
7	8	0121L08.D	1	20ug/L VOC STD 1/21/20	IS&S:12/19/19	21 Jan 20 10:34
8	9	0121L09.D	1	40ug/L VOC STD 1/21/20	IS&S:12/19/19	21 Jan 20 11:03
9	10	0121L10.D	1	100ug/L VOC STD 1/21/20	IS&S:12/19/19	21 Jan 20 11:32
10	14	0121L14.D	1	20ug/L GAS STD 1/21/20	IS&S:12/19/19	21 Jan 20 13:26
11	15	0121L15.D	1	50ug/L GAS STD 1/21/20	IS&S:12/19/19	21 Jan 20 13:55
12	16	0121L16.D	1	100ug/L GAS STD 1/21/20	IS&S:12/19/19	21 Jan 20 14:23
13	17	0121L17.D	1	300ug/L GAS STD 1/21/20	IS&S:12/19/19	21 Jan 20 14:52
14	18	0121L18.D	1	600ug/L GAS STD 1/21/20	IS&S:12/19/19	21 Jan 20 15:20
15	19	0121L19.D	1	800ug/L GAS STD 1/21/20	IS&S:12/19/19	21 Jan 20 15:49
16	20	0121L20.D	1	1000ug/L GAS STD 1/21/20	IS&S:12/19/19	21 Jan 20 16:18
17	21	0121L21.D	1	(SS)300ug/L GAS STD 1/21/20	IS&S:12/19/19	21 Jan 20 16:46
18	27	0121L27.D	1	200121A CCV/LCS 300ug/L	IS&S:12/19/19	21 Jan 20 19:38
19	28	0121L28.D	1	200121A LCSD 300ug/L	IS&S:12/19/19	21 Jan 20 20:07
20	32	0121L32.D	1	200121A BLK	IS&S:12/19/19	21 Jan 20 22:01
21	33	0121L33.D	1	BA06135W01	IS&S:12/19/19	21 Jan 20 22:30
22	34	0121L34.D	1	BA06136W01	IS&S:12/19/19	21 Jan 20 22:58
23	35	0121L35.D	1	BA06137W01	IS&S:12/19/19	21 Jan 20 23:27
24	36	0121L36.D	1	BA06138W01	IS&S:12/19/19	21 Jan 20 23:55
25	37	0121L37.D	1	BA06139W01	IS&S:12/19/19	22 Jan 20 00:24
26	38	0121L38.D	1	BA06140W01	IS&S:12/19/19	22 Jan 20 00:52
27	39	0121L39.D	1	BA06141W04	IS&S:12/19/19	22 Jan 20 1:21
28	40	0121L40.D	1	BA06142W01	IS&S:12/19/19	22 Jan 20 1:50
29	41	0121L41.D	1	BA06143W01	IS&S:12/19/19	22 Jan 20 2:18
30	48	0121L48.D	1	Ending CCV 300ug/L 1/21/20	IS&S:12/19/19	22 Jan 20 5:38

ORGANICS
Calibration Data

RSK 175
RSK 175

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Initial Cal. Date: 10/02/19
Matrix: Instrument: 7890
Initials:

			1002R02.D	1002R03.D	1002R04.D	1002R05.D	1002R06.D	1002R07.D	1002R08.D								
		Compound	1	2	3	4	5	6	7				Avg	%RSD	Type	r^2	Q
1	ATM	Methane	63820	40452	36215	45202	48427	44031	45774				46274	19	ATM		
2	ATM	Ethane	42546	31037	26553	34655	37738	32771	32974				34039	15	ATM		
3	ATM	Ethene	32900	24299	20841	27689	29847	25551	26297				26775	15	ATM		
4																	
5																	
6																	
7																	
8																	
9																	
10																	
11																	
12																	
13																	
14																	
15																	
16																	
17																	
18																	
19																	
20																	
21																	
22																	
23																	
24																	
25																	
26																	
27																	
28																	
29																	
30																	
31																	
32																	
33																	
34																	
35																	

1.377886

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\191002RS\1002R02.D Vial: 2
Acq On : 2 Oct 19 17:45 Operator: GA
Sample : RSK STD 1 10/2/19 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Oct 2 18:11 2019 Quant Results File: RSK1002.RES

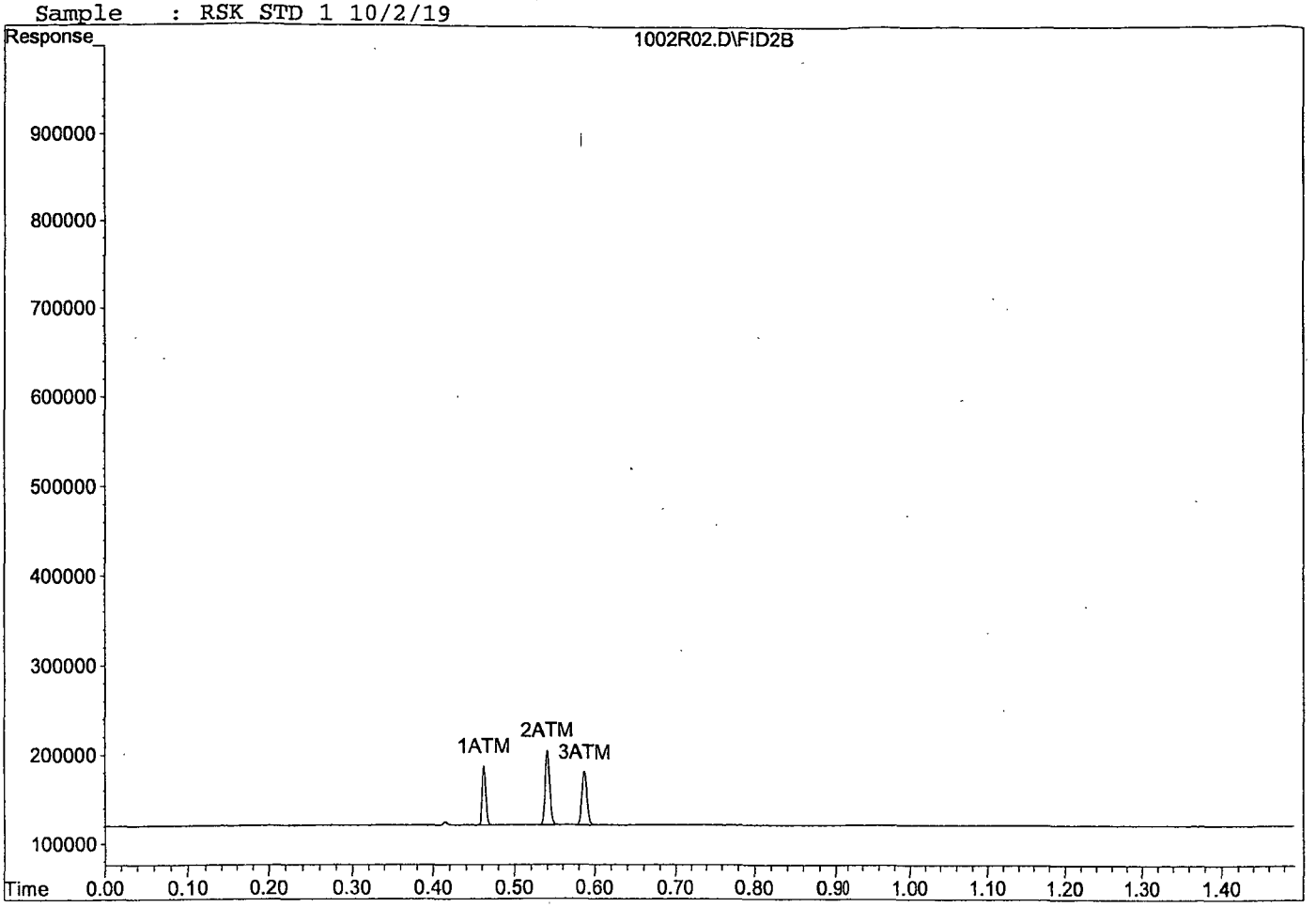
Method : G:\ROCKY\DATA\190929RS\RSK1002.M (Chemstation Integrator)
Title : RSK 175
Last Update : Wed Oct 02 18:14:49 2019
Response via : Multiple Level Calibration

Volume Inj. : 0.500 mL
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.46	66373	8.306 ppb
2) ATM Ethane	0.54	83177	6.216 ppb
3) ATM Ethene	0.59	60042	5.640 ppb

Target Compounds

Data File: G:\ROCKY\DATA\191002RS\1002R02.D
Sample : RSK STD 1 10/2/19



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\191002RS\1002R03.D Vial: 3
Acq On : 2 Oct 19 17:50 Operator: GA
Sample : RSK STD 2 10/2/19 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Oct 2 18:11 2019 Quant Results File: RSK1002.RES

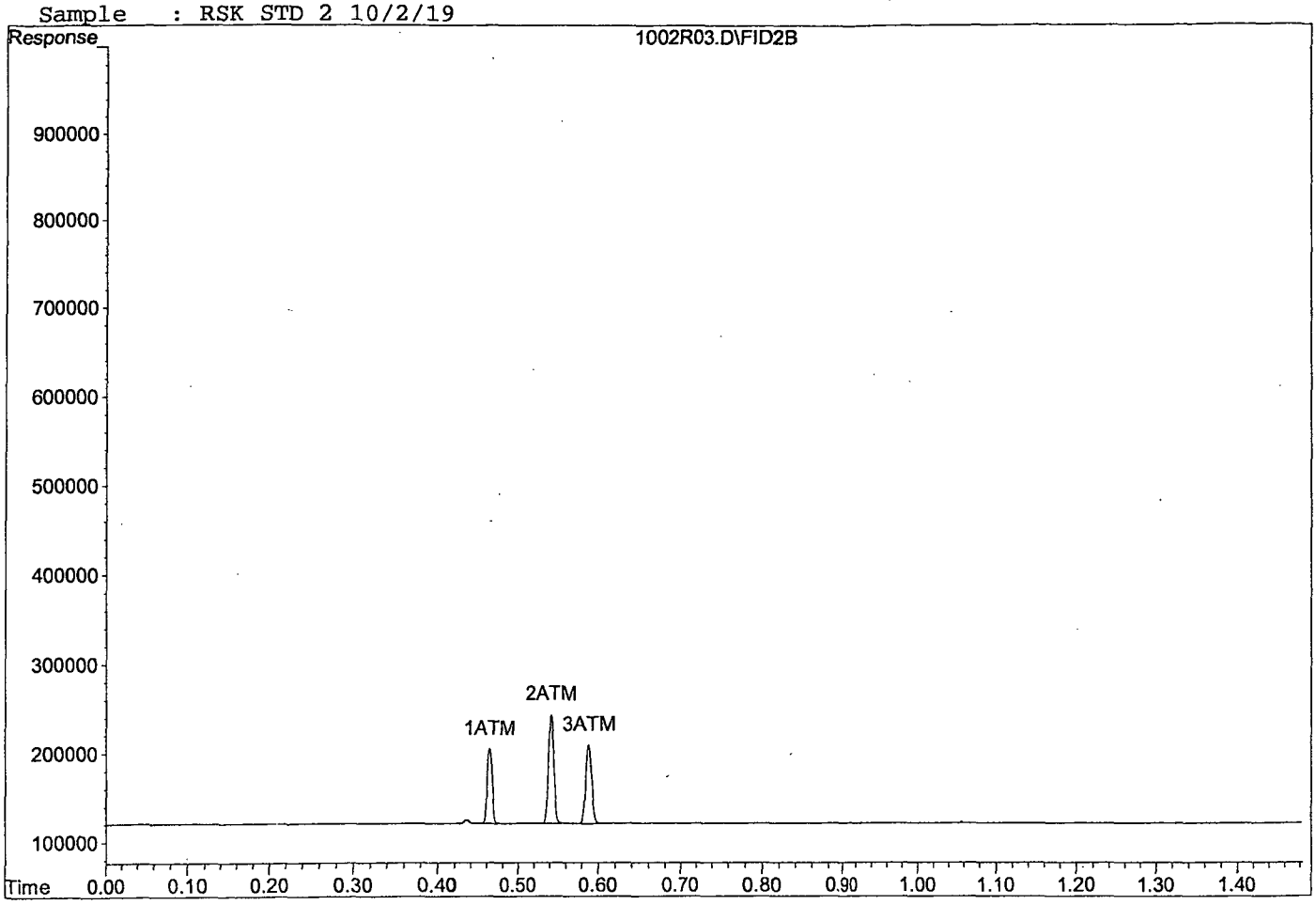
Method : G:\ROCKY\DATA\190929RS\RSK1002.M (Chemstation Integrator)
Title : RSK 175
Last Update : Wed Oct 02 18:14:49 2019
Response via : Multiple Level Calibration

Volume Inj. : 0.500 mL
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.46	84140	9.332 ppb
2) ATM Ethane	0.54	121200	9.058 ppb
3) ATM Ethene	0.59	88693	8.332 ppb

Target Compounds

Data File: G:\ROCKY\DATA\191002RS\1002R03.D
Sample : RSK STD 2 10/2/19



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\191002RS\1002R04.D Vial: 4
Acq On : 2 Oct 19 17:52 Operator: GA
Sample : RSK STD 3 10/2/19 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Oct 2 18:11 2019 Quant Results File: RSK1002.RES

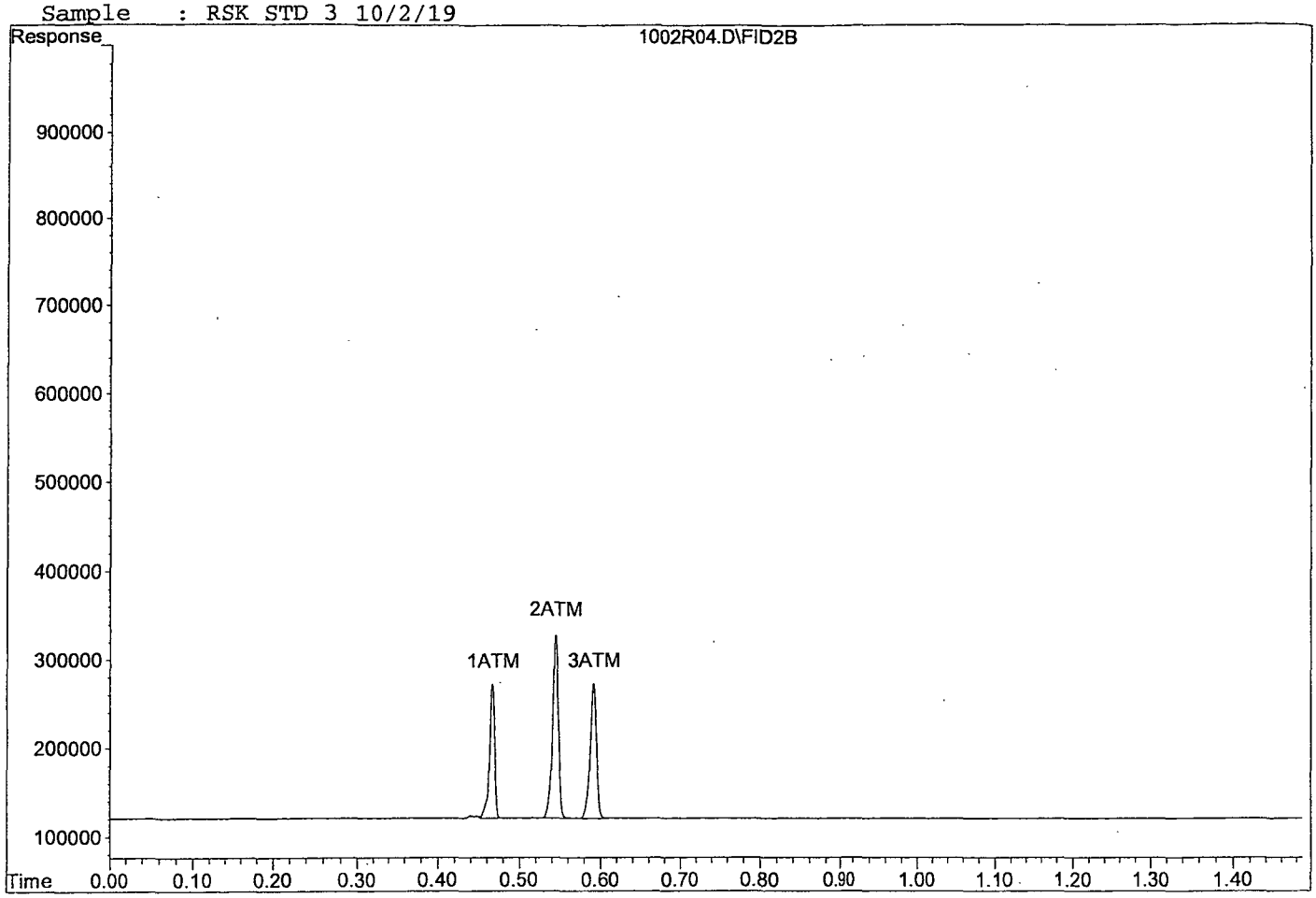
Method : G:\ROCKY\DATA\190929RS\RSK1002.M (Chemstation Integrator)
Title : RSK 175
Last Update : Wed Oct 02 18:14:49 2019
Response via : Multiple Level Calibration

Volume Inj. : 0.500 mL
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.47	151018	13.195 ppb
2) ATM Ethane	0.55	207113	15.479 ppb
3) ATM Ethene	0.59	152138	14.292 ppb

Target Compounds

Data File: G:\ROCKY\DATA\191002RS\1002R04.D
Sample : RSK STD 3 10/2/19



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\191002RS\1002R05.D Vial: 5
Acq On : 2 Oct 19 17:57 Operator: GA
Sample : RSK STD 4 10/2/19 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Oct 2 18:11 2019 Quant Results File: RSK1002.RES

Method : G:\ROCKY\DATA\190929RS\RSK1002.M (Chemstation Integrator)
Title : RSK 175
Last Update : Wed Oct 02 18:14:49 2019
Response via : Multiple Level Calibration

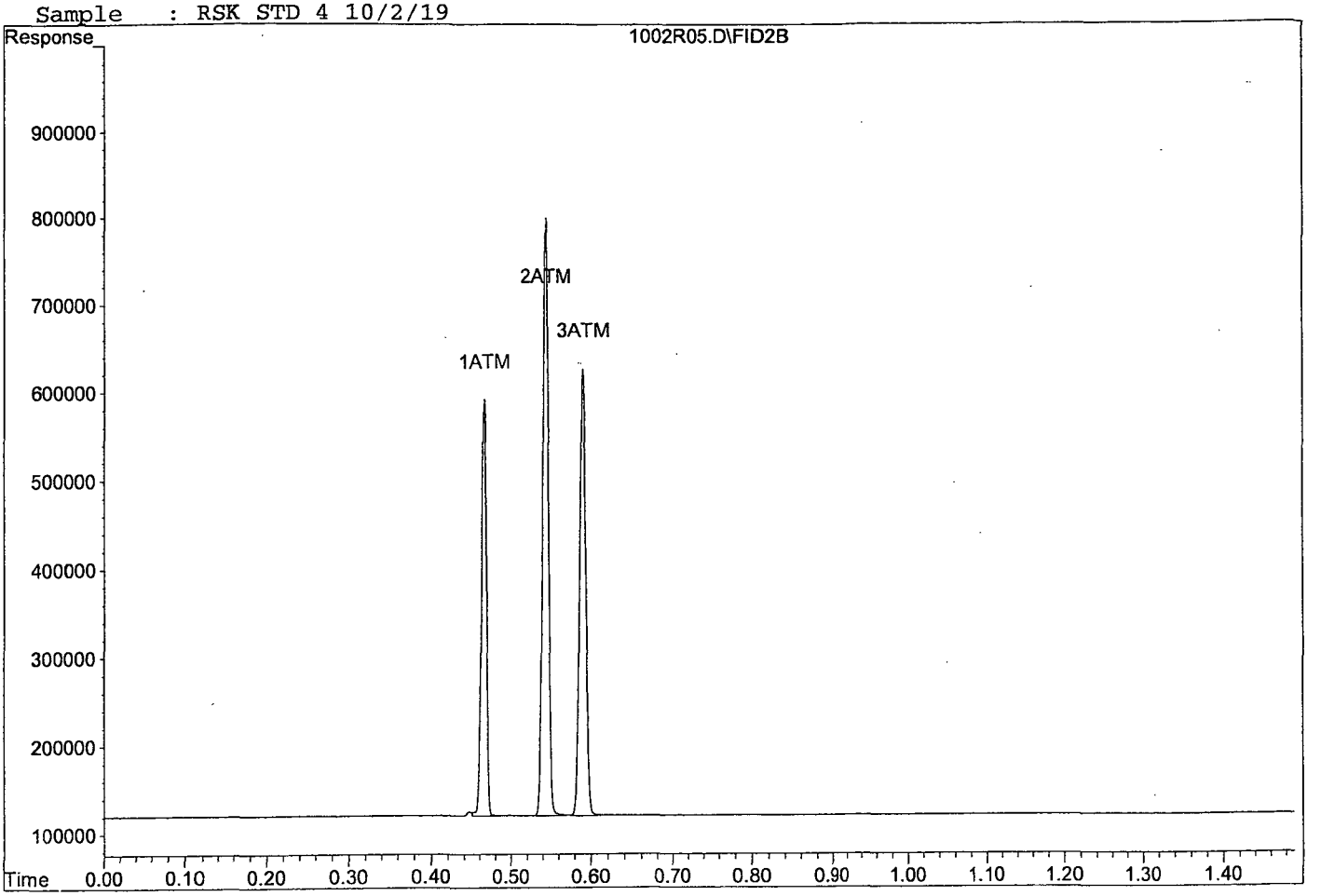
Volume Inj. : 0.500 mL
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.47	471234	31.689 ppb
2) ATM Ethane	0.54	677330	50.623 ppb
3) ATM Ethene	0.59	504779	47.419 ppb

Target Compounds

Quantitation Report

Data File: G:\ROCKY\DATA\191002RS\1002R05.D
Sample : RSK STD 4 10/2/19



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\191002RS\1002R06.D Vial: 6
Acq On : 2 Oct 19 17:59 Operator: GA
Sample : RSK STD 5 10/2/19 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Oct 2 18:11 2019 Quant Results File: RSK1002.RES

Method : G:\ROCKY\DATA\190929RS\RSK1002.M (Chemstation Integrator)
Title : RSK 175
Last Update : Wed Oct 02 18:14:49 2019
Response via : Multiple Level Calibration

Volume Inj. : 0.500 mL
Signal Phase : CARBOPACK
Signal Info :

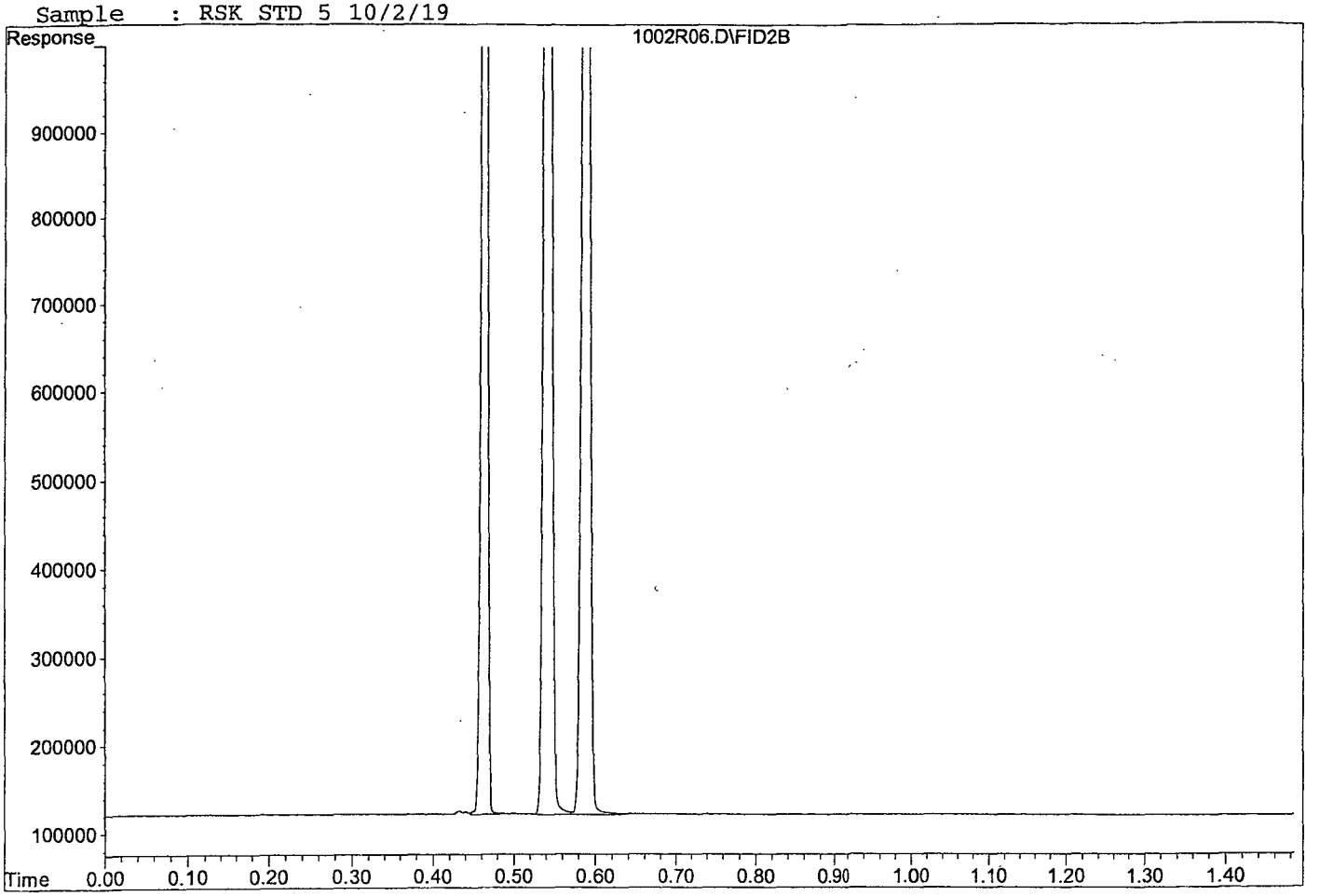
Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.46	2019402	121.105 ppb
2) ATM Ethane	0.54	2950189	220.492 ppb
3) ATM Ethene	0.59	2176445	204.454 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\191002RS\1002R06.D
Sample : RSK STD 5 10/2/19



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\191002RS\1002R07.D Vial: 7
Acq On : 2 Oct 19 18:05 Operator: GA
Sample : RSK STD 6 10/2/19 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Oct 2 18:11 2019 Quant Results File: RSK1002.RES

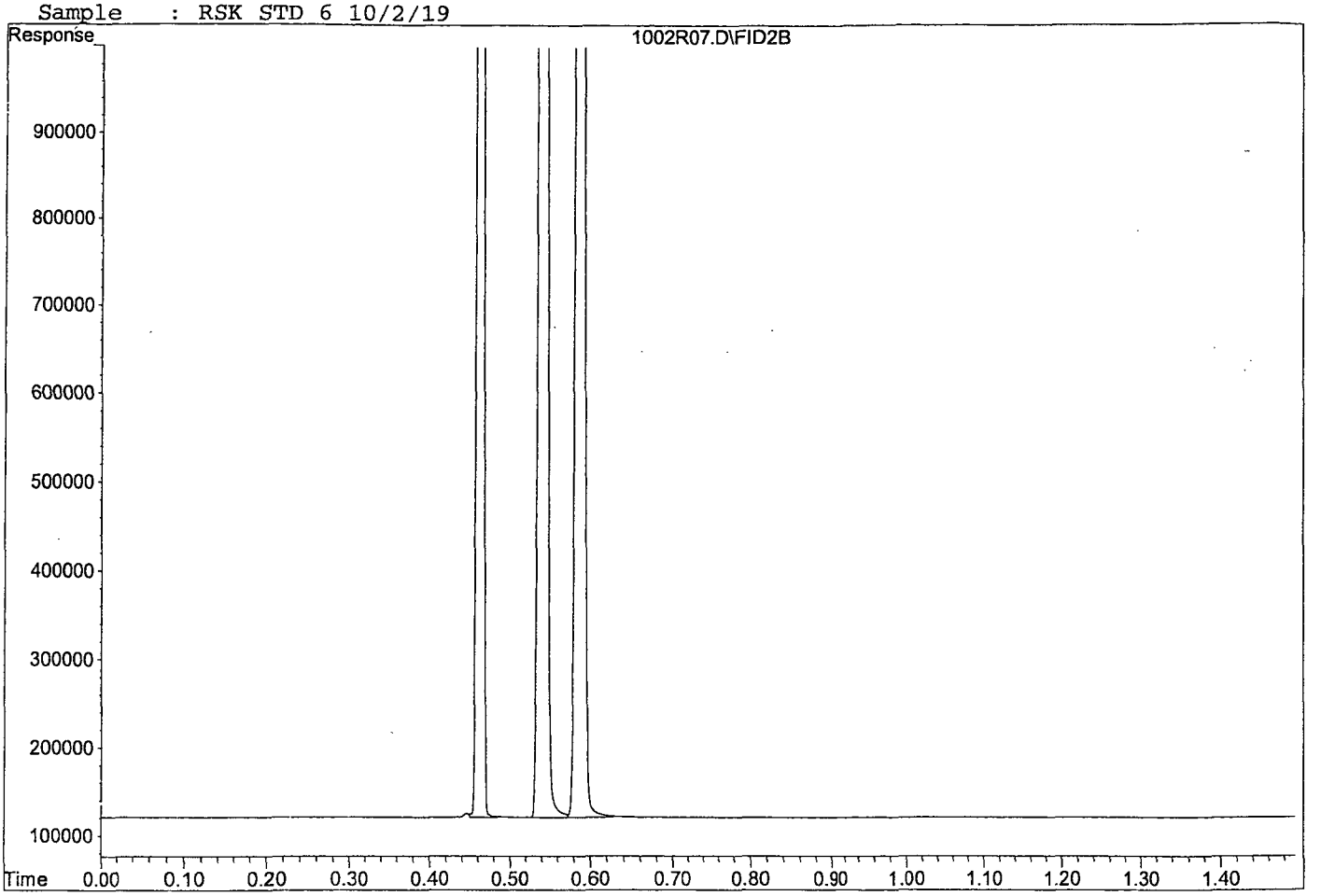
Method : G:\ROCKY\DATA\190929RS\RSK1002.M (Chemstation Integrator)
Title : RSK 175
Last Update : Wed Oct 02 18:14:49 2019
Response via : Multiple Level Calibration

Volume Inj. : 0.500 mL
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.46	4590194	269.583 ppb
2) ATM Ethane	0.54	6405030	478.702 ppb
3) ATM Ethene	0.59	4657966	437.567 ppb

Target Compounds

Data File: G:\ROCKY\DATA\191002RS\1002R07.D
Sample : RSK STD 6 10/2/19



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\191002RS\1002R08.D Vial: 8
Acq On : 2 Oct 19 18:07 Operator: GA
Sample : RSK STD 7 10/2/19 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Oct 2 18:11 2019 Quant Results File: RSK1002.RES

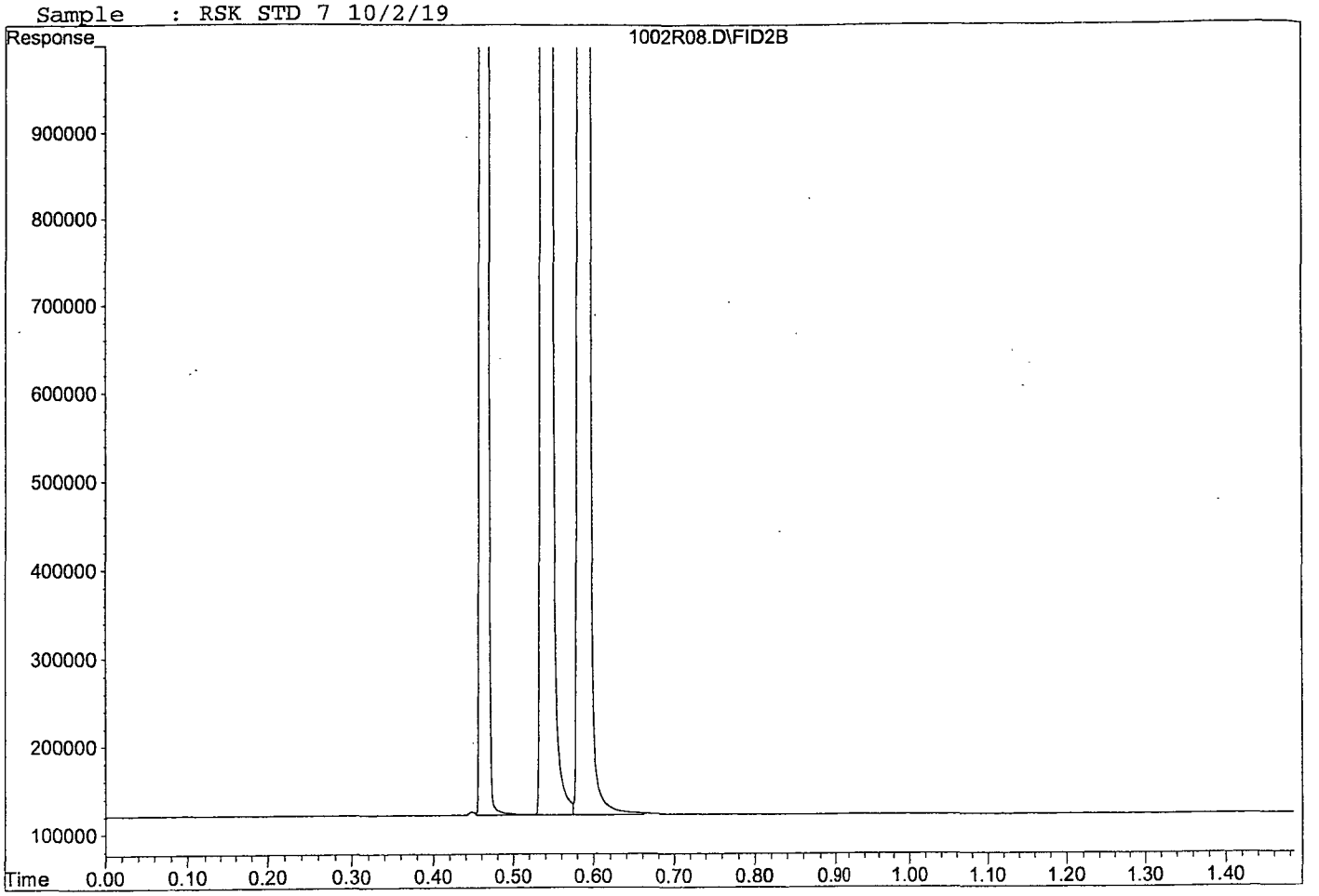
Method : G:\ROCKY\DATA\190929RS\RSK1002.M (Chemstation Integrator)
Title : RSK 175
Last Update : Wed Oct 02 18:14:49 2019
Response via : Multiple Level Calibration

Volume Inj. : 0.500 mL
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
1) ATM Methane	0.46	19087907	1106.909	ppb
2) ATM Ethane	0.54	25777712	1926.584	ppb
3) ATM Ethene	0.59	19176068	1801.389	ppb

Target Compounds

Data File: G:\ROCKY\DATA\191002RS\1002R08.D
Sample : RSK STD 7 10/2/19



Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 2 Oct 19 18:24
Instrument: 7890
Initial Cal. Date: 10/02/19
Data File: 1002R10.D

		Compound	MEAN	CCRF	%D		%Drift
1	ATM	Methane	46275	50203	8.5	ATM	
2	ATM	Ethane	34039	37011	8.7	ATM	
3	ATM	Ethene	26775	28699	7.2	ATM	
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			8.1		

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\191002RS\1002R10.D Vial: 10
Acq On : 2 Oct 19 18:24 Operator: GA
Sample : SS RSK STD 5 10/2/19 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Oct 2 18:27 2019 Quant Results File: RSK1002.RES

Method : G:\ROCKY\DATA\190929RS\RSK1002.M (Chemstation Integrator)
Title : RSK 175
Last Update : Wed Oct 02 18:14:49 2019
Response via : Multiple Level Calibration

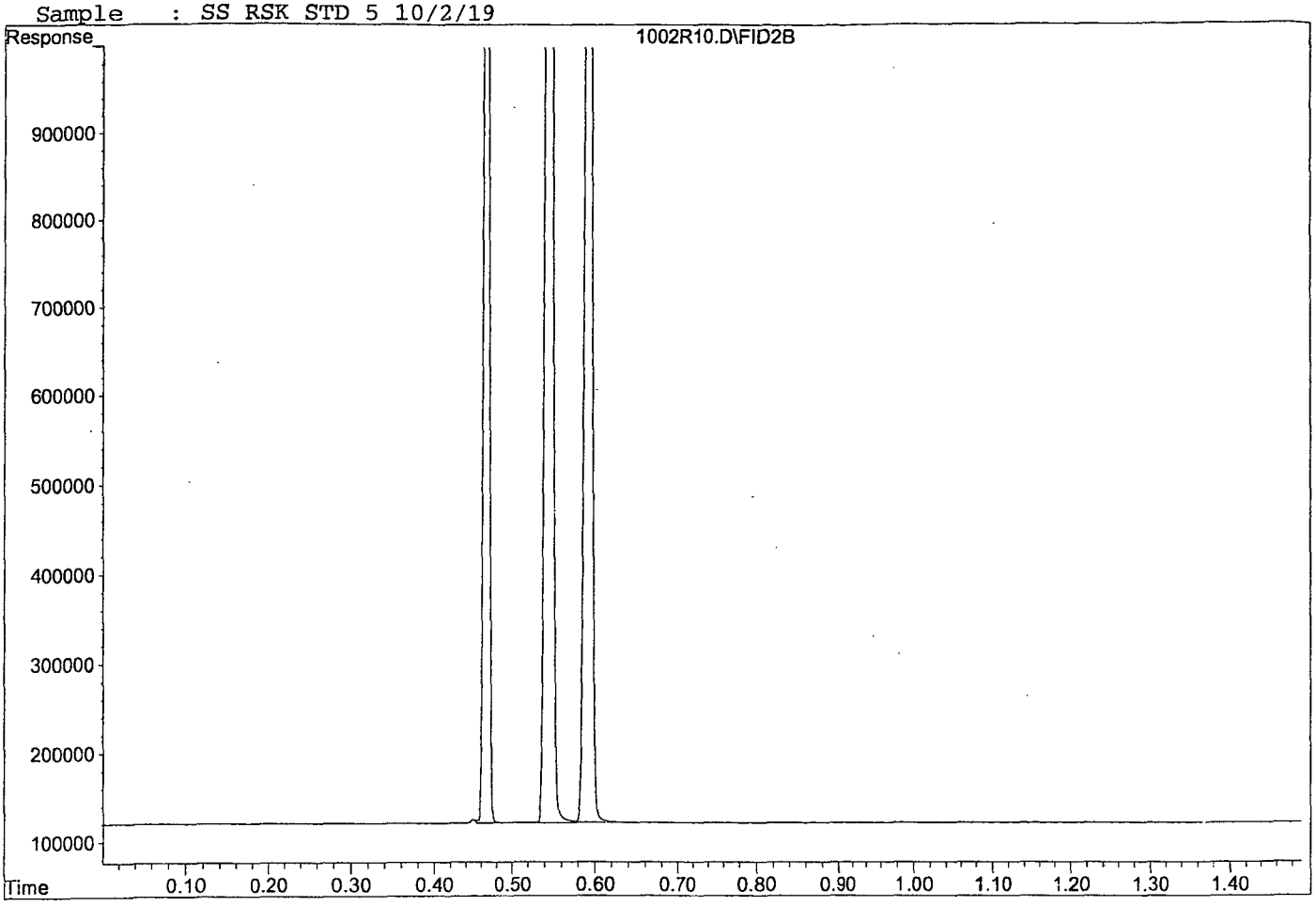
Volume Inj. : 0.500 mL
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.47	2093456	90.480 ppb
2) ATM Ethane	0.54	2893356	170.002 ppb
3) ATM Ethene	0.59	2092707	156.318 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\191002RS\1002R10.D
Sample : SS RSK STD 5 10/2/19



RSK 175
RSK 175

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 01/23/20
Instrument: 7890
Initial Cal. Date: 10/02/19
Data File: 0123R04.D

		Compound	MEAN	CCRF	%D		%Drift
1	ATM	Methane	46275	45880	0.85	ATM	
2	ATM	Ethane	34039	35832	5.3	ATM	
3	ATM	Ethene	26775	28751	7.4	ATM	
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			4.5		

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\191002RS\0123R04.D Vial: 4
Acq On : 23 Jan 20 14:46 Operator: GA
Sample : 200123A LCS/CCV RSK STD 5 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Jan 23 14:48 2020 Quant Results File: RSK1002.RES

Method : G:\ROCKY\DATA\190929RS\RSK1002.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Jan 23 14:45:26 2020
Response via : Multiple Level Calibration

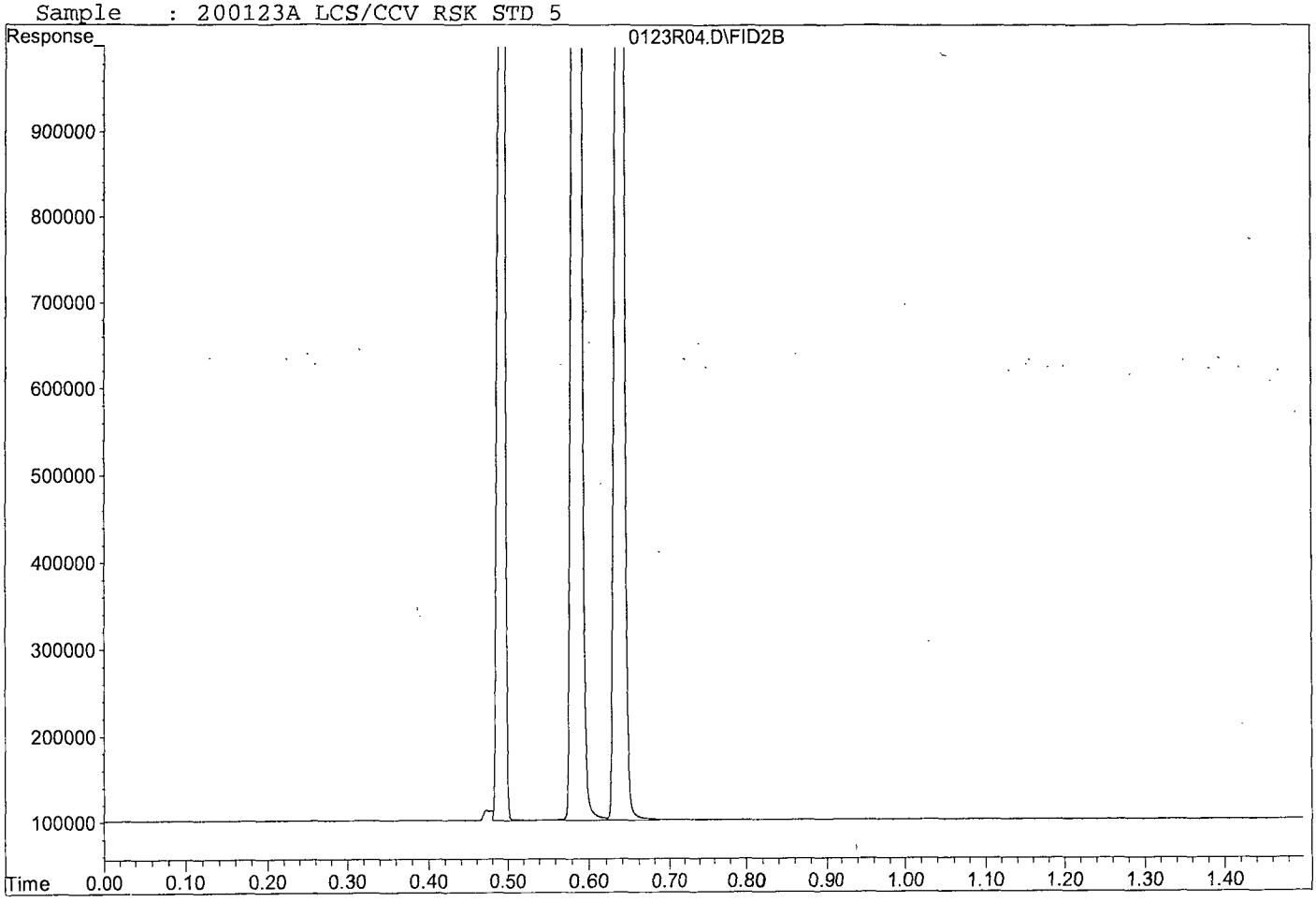
Volume Inj. : 0.500 mL
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.49	1913210	82.690 ppb
2) ATM Ethane	0.59	2801128	164.583 ppb
3) ATM Ethene	0.64	2096526	156.603 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\191002RS\0123R04.D
Sample : 200123A LCS/CCV RSK STD 5



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 01/23/20
Instrument: 7890
Initial Cal. Date: 10/02/19
Data File: 0123R18.D

		Compound	MEAN	CCRF	%D		%Drift
1	ATM	Methane	46275	51073	10	ATM	
2	ATM	Ethane	34039	37532	10	ATM	
3	ATM	Ethene	26775	30013	12	ATM	
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			10.7		

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\191002RS\0123R18.D Vial: 18
Acq On : 23 Jan 20 16:02 Operator: GA
Sample : ENDING CCV RSK STD 5 1/23/20 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Jan 23 16:05 2020 Quant Results File: RSK1002.RES

Method : G:\ROCKY\DATA\190929RS\RSK1002.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Jan 23 14:45:26 2020
Response via : Multiple Level Calibration

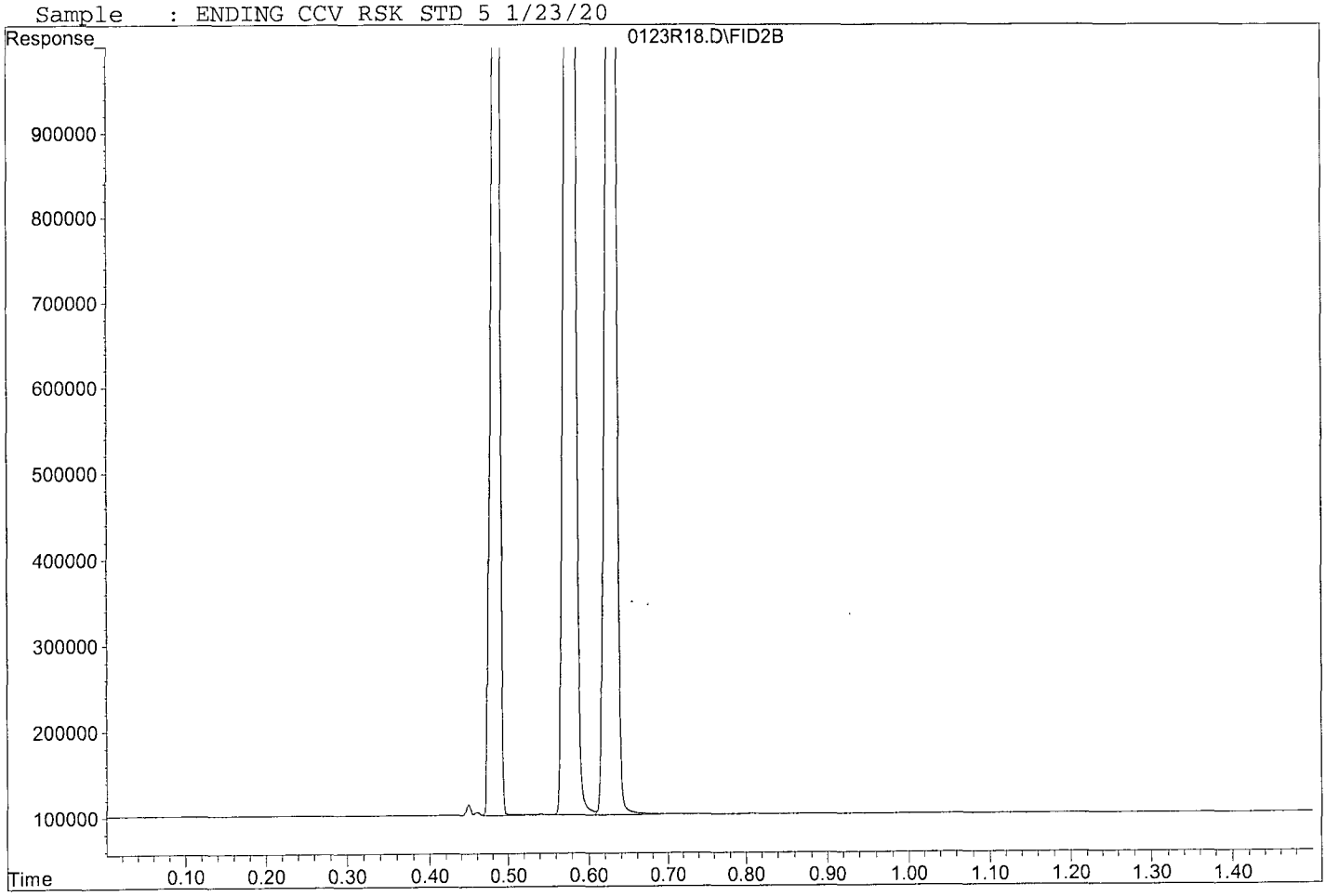
Volume Inj. : 0.500 mL
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.49	2129747	92.048 ppb
2) ATM Ethane	0.58	2934040	172.392 ppb
3) ATM Ethene	0.63	2188514	163.474 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\191002RS\0123R18.D
Sample : ENDING CCV RSK STD 5 1/23/20



ORGANICS
Raw Data

Quantitation Report (QT Reviewed)

Data File : G:\ROCKY\DATA\191002RS\0123R06.D Vial: 6
Acq On : 23 Jan 20 14:53 Operator: GA
Sample : BA06135W04 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Jan 23 15:01 2020 Quant Results File: RSK1002.RES

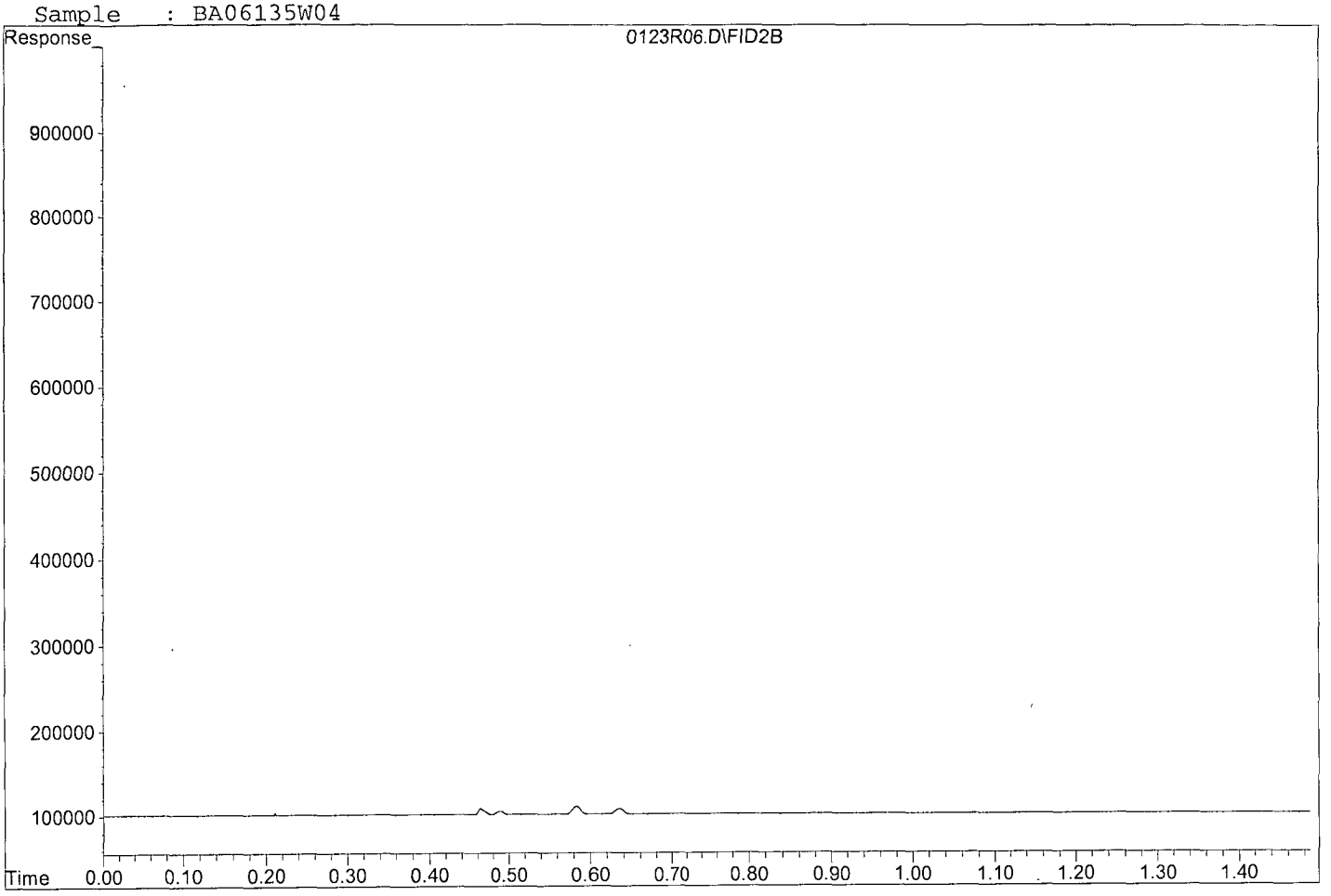
Method : G:\ROCKY\DATA\190929RS\RSK1002.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Jan 23 14:45:26 2020
Response via : Multiple Level Calibration

Volume Inj. : 0.500 mL
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units	
Target Compounds					
Target Compounds					
1) ATM Methane	0.00	0	N.D.	ppb	d
2) ATM Ethane	0.00	0	N.D.	ppb	d
3) ATM Ethene	0.00	0	N.D.	ppb	d

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\191002RS\0123R06.D
Sample : BA06135W04



Quantitation Report (QT Reviewed)

Data File : G:\ROCKY\DATA\191002RS\0123R07.D Vial: 7
Acq On : 23 Jan 20 15:02 Operator: GA
Sample : BA06136W04 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Jan 23 15:06 2020 Quant Results File: RSK1002.RES

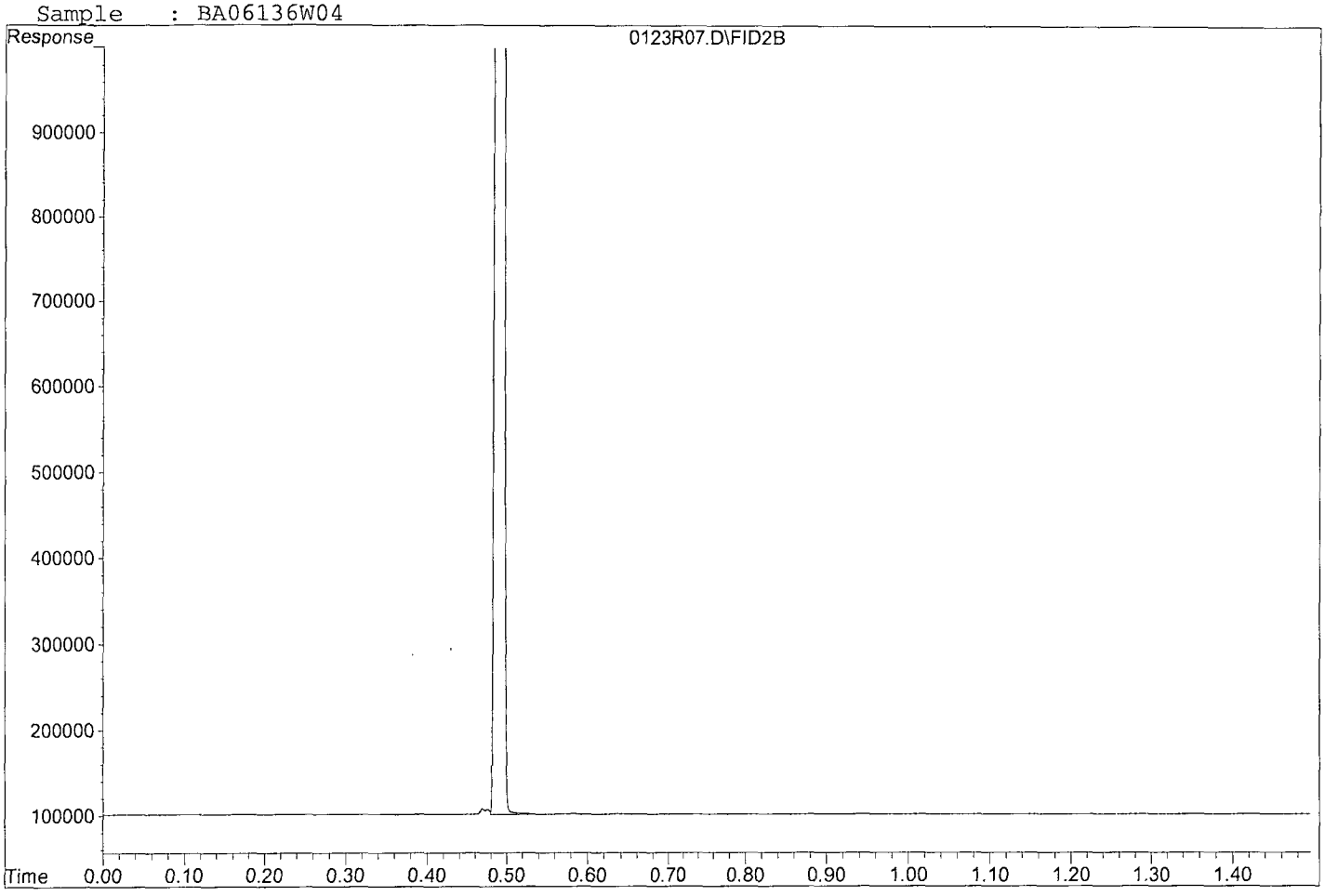
Method : G:\ROCKY\DATA\190929RS\RSK1002.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Jan 23 14:45:26 2020
Response via : Multiple Level Calibration

Volume Inj. : 0.500 mL
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units	
Target Compounds					
1) ATM Methane	0.49	5430691	234.716	ppb	
Target Compounds					
2) ATM Ethane	0.00	0	N.D.	ppb	d
3) ATM Ethene	0.00	0	N.D.	ppb	d

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\191002RS\0123R07.D
Sample : BA06136W04



Quantitation Report (QT Reviewed)

Data File : G:\ROCKY\DATA\191002RS\0123R08.D Vial: 8
Acq On : 23 Jan 20 15:06 Operator: GA
Sample : BA06137W04 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Jan 23 15:09 2020 Quant Results File: RSK1002.RES

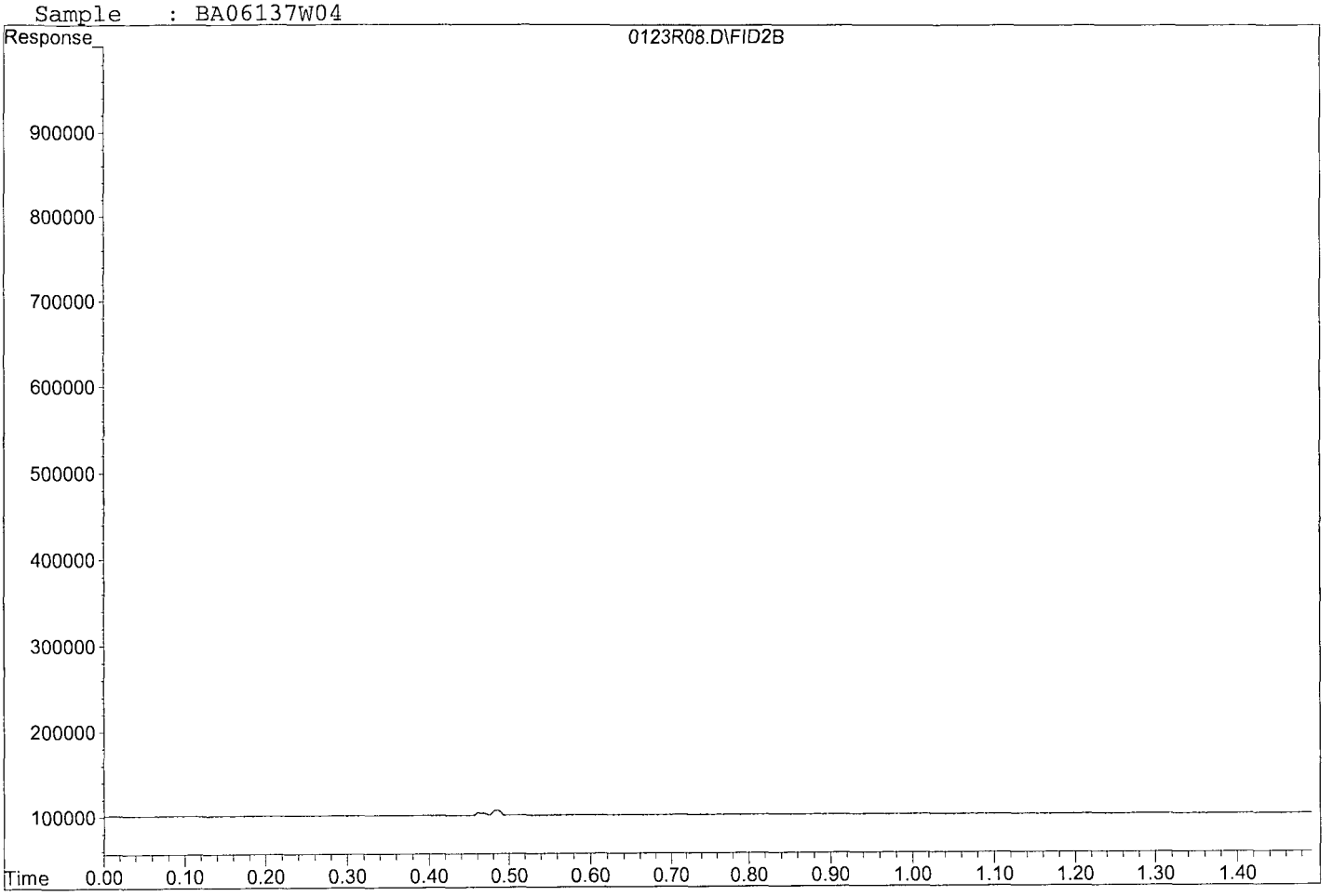
Method : G:\ROCKY\DATA\190929RS\RSK1002.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Jan 23 14:45:26 2020
Response via : Multiple Level Calibration

Volume Inj. : 0.500 mL
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units	
Target Compounds					
Target Compounds					
1) ATM Methane	0.00	0	N.D.	ppb	d
2) ATM Ethane	0.00	0	N.D.	ppb	d
3) ATM Ethene	0.00	0	N.D.	ppb	d

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\191002RS\0123R08.D
Sample : BA06137W04



Quantitation Report (QT Reviewed)

Data File : G:\ROCKY\DATA\191002RS\0123R09.D Vial: 9
Acq On : 23 Jan 20 15:10 Operator: GA
Sample : BA06138W04 E METHANE Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Jan 23 15:15 2020 Quant Results File: RSK1002.RES

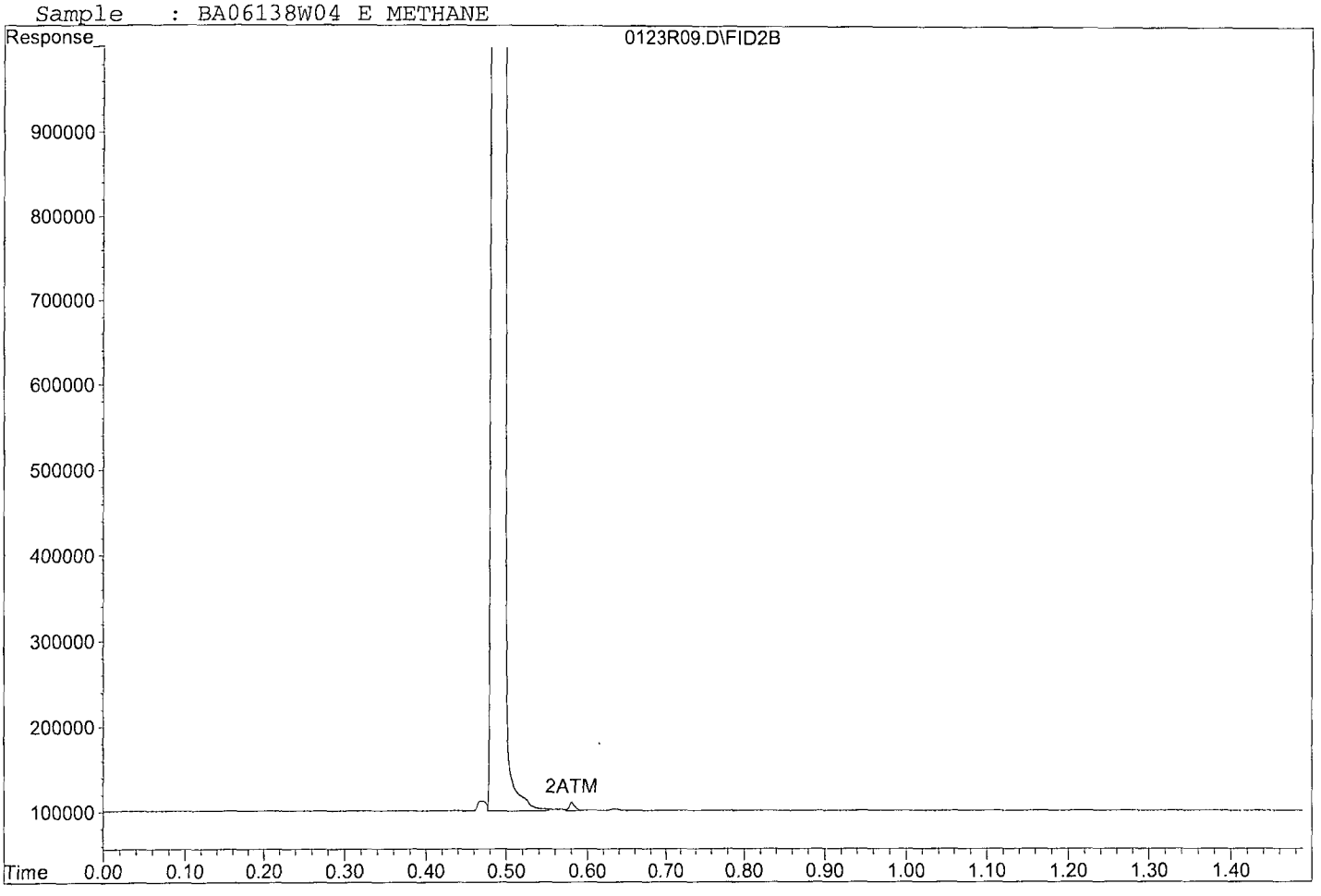
Method : G:\ROCKY\DATA\190929RS\RSK1002.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Jan 23 14:45:26 2020
Response via : Multiple Level Calibration

Volume Inj. : 0.500 mL
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units	
Target Compounds					
1) ATM Methane	0.49	84673592	3659.624	ppb	
2) ATM Ethane	0.58	10134	0.595	ppb	
Target Compounds					
3) ATM Ethene	0.00	0	N.D.	ppb	d

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\191002RS\0123R09.D
Sample : BA06138W04 E METHANE



Quantitation Report (QT Reviewed)

Data File : G:\ROCKY\DATA\191002RS\0123R11.D Vial: 11
Acq On : 23 Jan 20 15:32 Operator: GA
Sample : BA06138W04 DF10 Inst : 7890
Misc : Multiplr: 10.00
IntFile : autoint1.e
Quant Time: Jan 23 15:35 2020 Quant Results File: RSK1002.RES

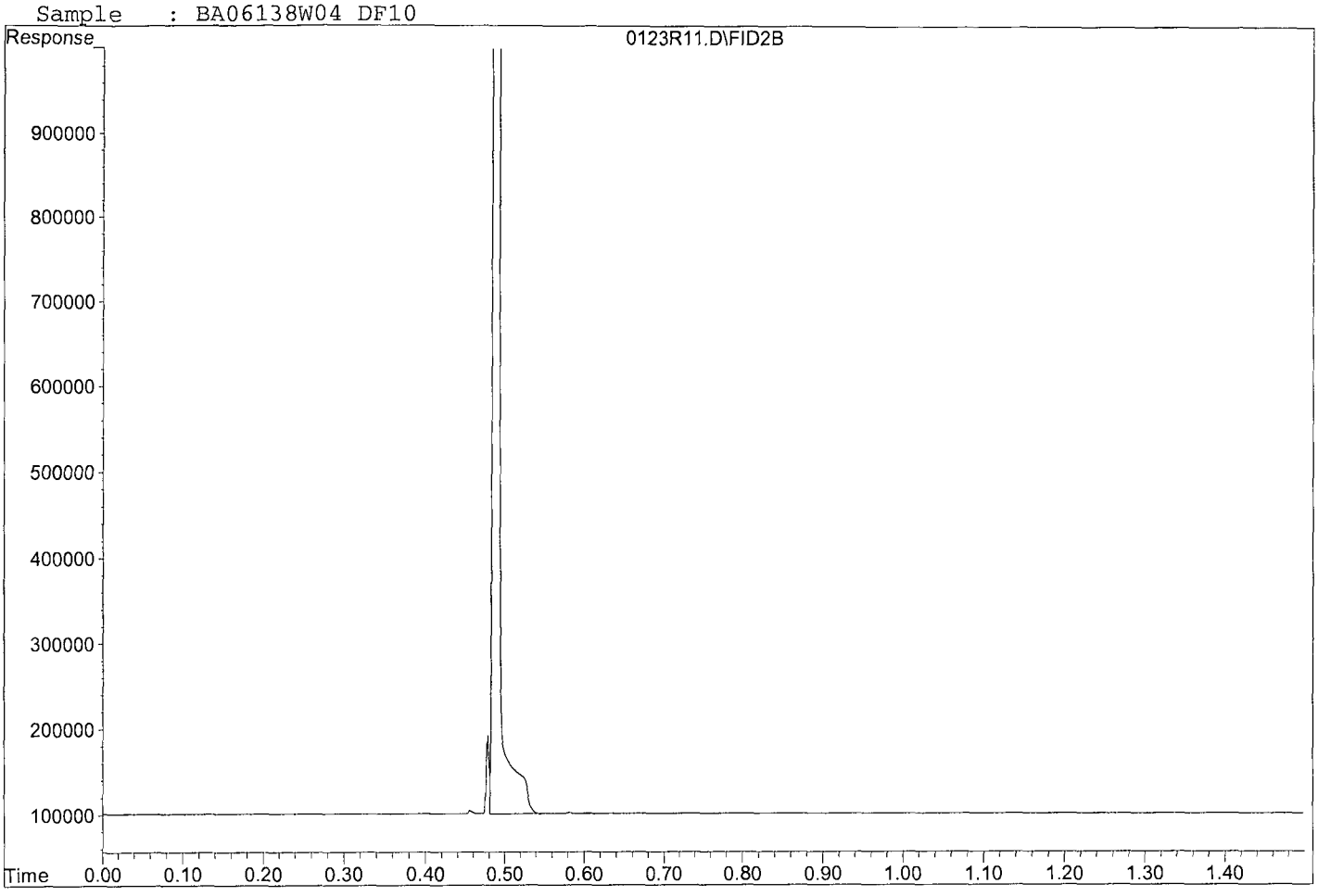
Method : G:\ROCKY\DATA\190929RS\RSK1002.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Jan 23 14:45:26 2020
Response via : Multiple Level Calibration

Volume Inj. : 0.500 mL
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units	
Target Compounds					
1) ATM Methane	0.49	19163149	8282.383	ppb	
Target Compounds					
2) ATM Ethane	0.00	0	N.D.	ppb	d
3) ATM Ethene	0.00	0	N.D.	ppb	d

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\191002RS\0123R11.D
Sample : BA06138W04 DF10



Quantitation Report (QT Reviewed)

Data File : G:\ROCKY\DATA\191002RS\0123R12.D Vial: 12
Acq On : 23 Jan 20 15:37 Operator: GA
Sample : BA06140W04 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Jan 23 15:40 2020 Quant Results File: RSK1002.RES

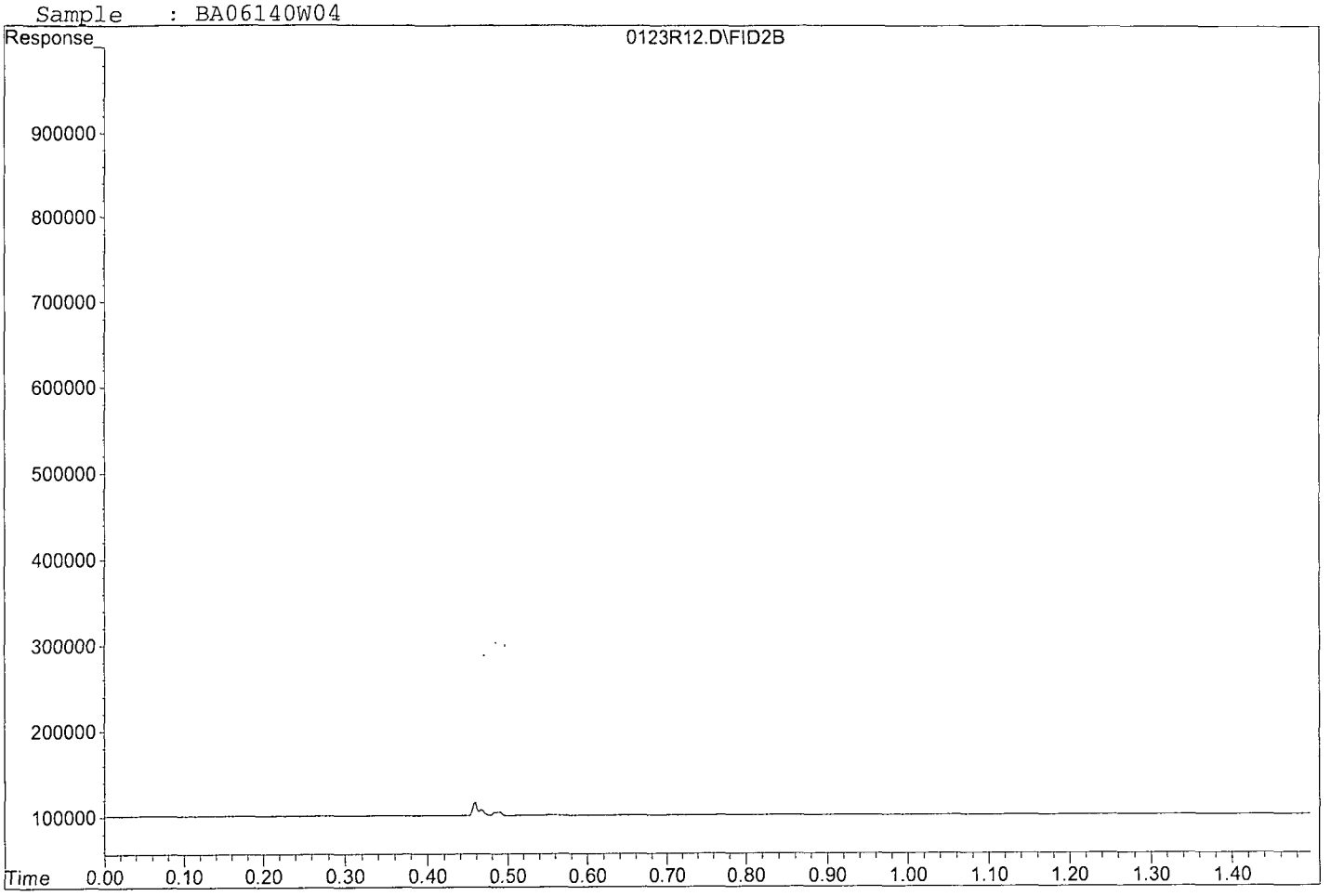
Method : G:\ROCKY\DATA\190929RS\RSK1002.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Jan 23 14:45:26 2020
Response via : Multiple Level Calibration

Volume Inj. : 0.500 mL
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units	
Target Compounds					
Target Compounds					
1) ATM Methane	0.00	0	N.D.	ppb	d
2) ATM Ethane	0.00	0	N.D.	ppb	d
3) ATM Ethene	0.00	0	N.D.	ppb	d

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\191002RS\0123R12.D
Sample : BA06140W04



Quantitation Report (QT Reviewed)

Data File : G:\ROCKY\DATA\191002RS\0123R13.D Vial: 13
Acq On : 23 Jan 20 15:41 Operator: GA
Sample : BA06141W03 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Jan 23 15:43 2020 Quant Results File: RSK1002.RES

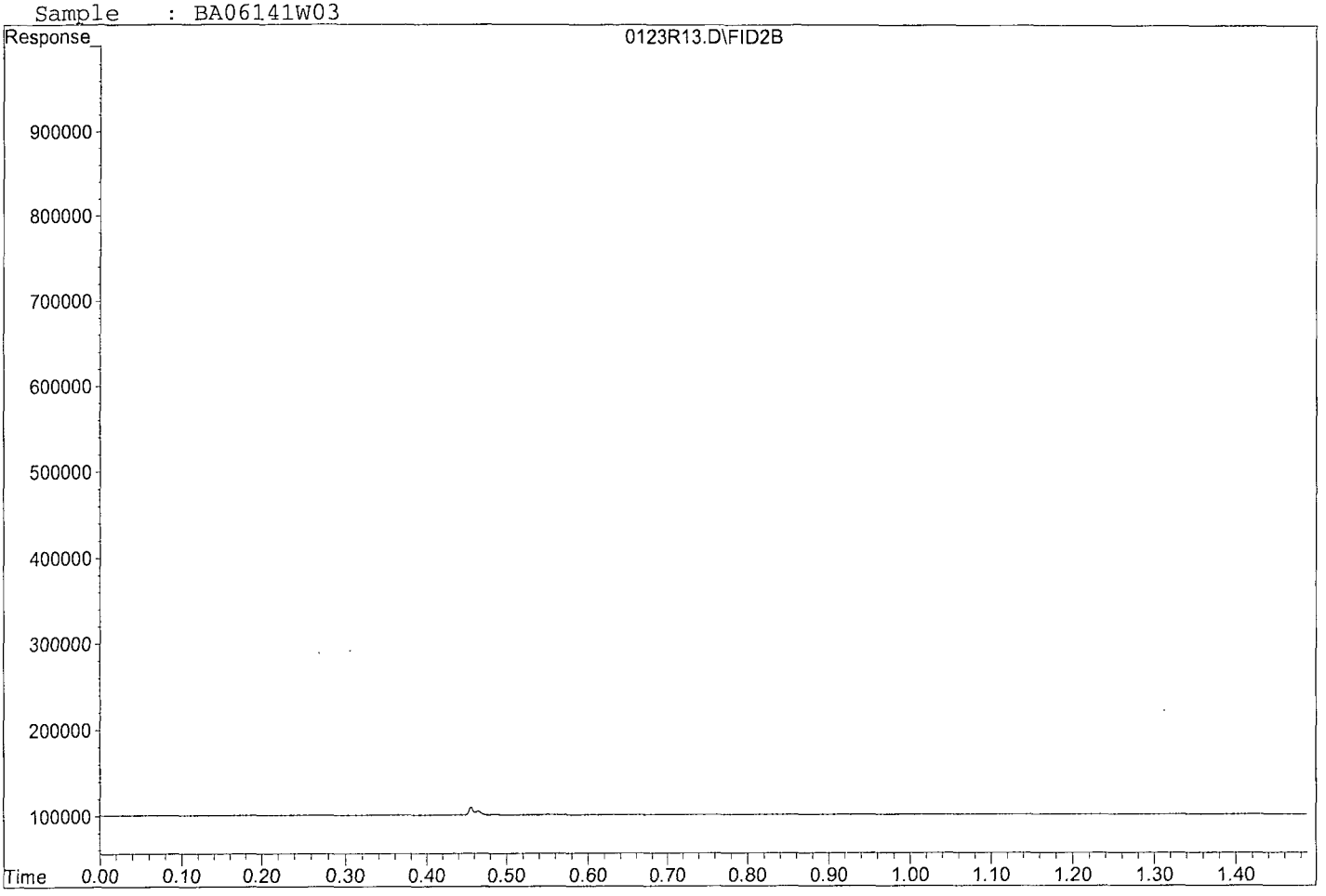
Method : G:\ROCKY\DATA\190929RS\RSK1002.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Jan 23 14:45:26 2020
Response via : Multiple Level Calibration

Volume Inj. : 0.500 mL
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units	
Target Compounds					
Target Compounds					
1) ATM Methane	0.00	0	N.D.	ppb	d
2) ATM Ethane	0.00	0	N.D.	ppb	d
3) ATM Ethene	0.00	0	N.D.	ppb	d

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\191002RS\0123R13.D
Sample : BA06141W03



Quantitation Report (QT Reviewed)

Data File : G:\ROCKY\DATA\191002RS\0123R14.D Vial: 14
Acq On : 23 Jan 20 15:44 Operator: GA
Sample : BA06142W04 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Jan 23 15:48 2020 Quant Results File: RSK1002.RES

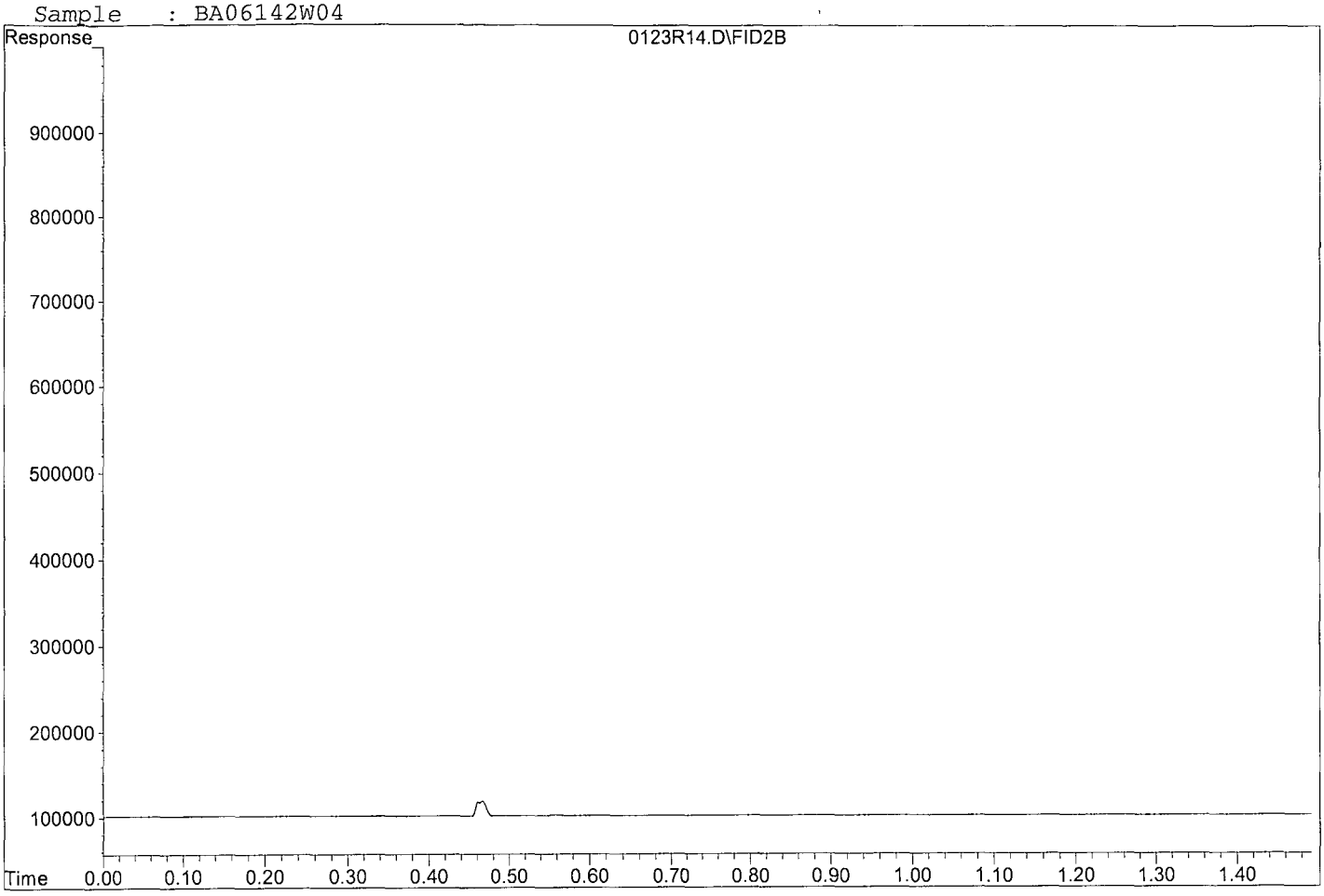
Method : G:\ROCKY\DATA\190929RS\RSK1002.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Jan 23 14:45:26 2020
Response via : Multiple Level Calibration

Volume Inj. : 0.500 mL
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units	
Target Compounds					
Target Compounds					
1) ATM Methane	0.00	0	N.D.	ppb	d
2) ATM Ethane	0.00	0	N.D.	ppb	d
3) ATM Ethene	0.00	0	N.D.	ppb	d

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\191002RS\0123R14.D
Sample : BA06142W04



Quantitation Report (QT Reviewed)

Data File : G:\ROCKY\DATA\191002RS\0123R15.D Vial: 15
Acq On : 23 Jan 20 15:48 Operator: GA
Sample : BA06143W04 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Jan 23 15:53 2020 Quant Results File: RSK1002.RES

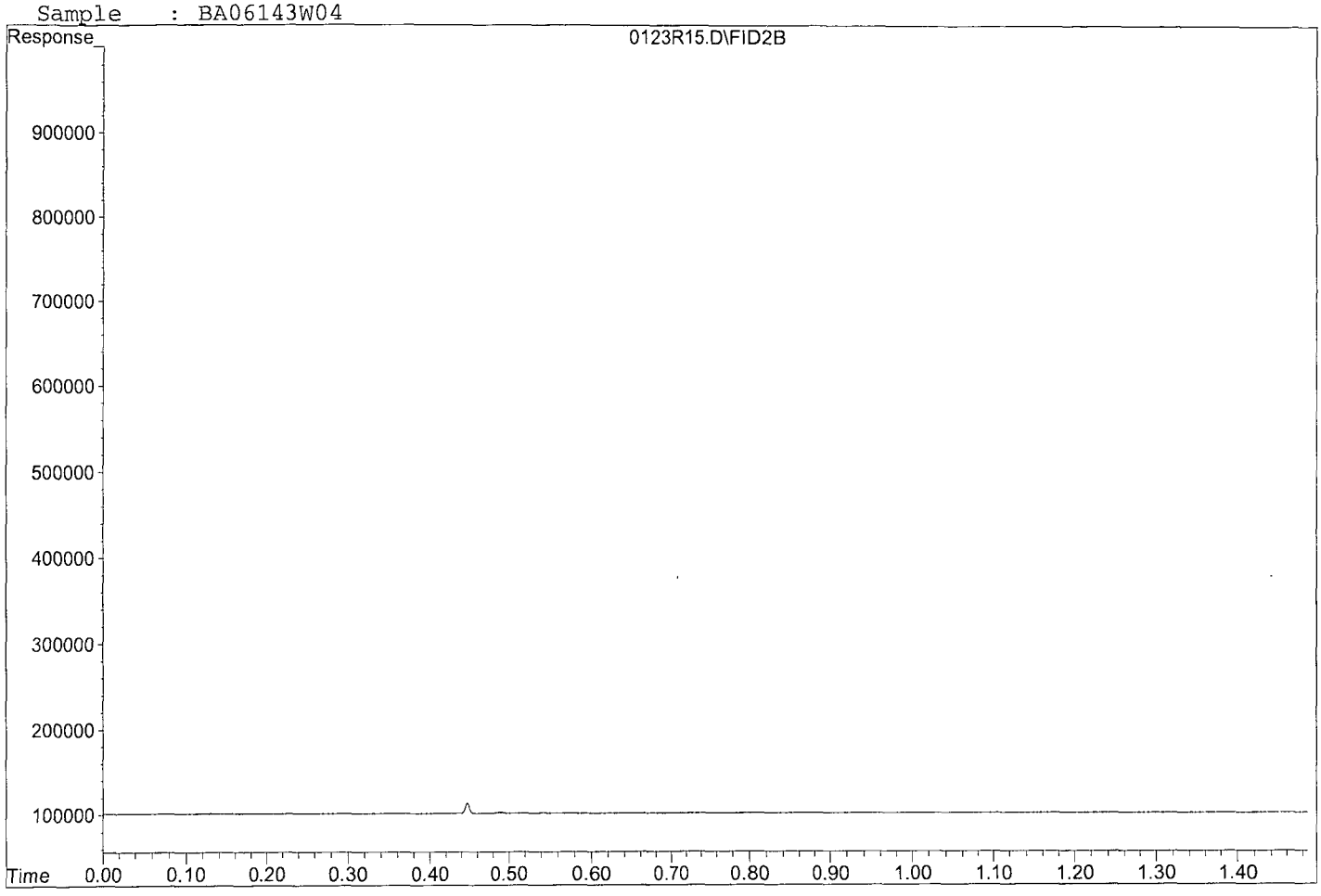
Method : G:\ROCKY\DATA\190929RS\RSK1002.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Jan 23 14:45:26 2020
Response via : Multiple Level Calibration

Volume Inj. : 0.500 mL
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units	
Target Compounds					
Target Compounds					
1) ATM Methane	0.00	0	N.D.	ppb	d
2) ATM Ethane	0.00	0	N.D.	ppb	d
3) ATM Ethene	0.00	0	N.D.	ppb	d

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\191002RS\0123R15.D
Sample : BA06143W04



Quantitation Report (QT Reviewed)

Data File : G:\ROCKY\DATA\191002RS\0123R16.D Vial: 16
Acq On : 23 Jan 20 15:54 Operator: GA
Sample : 200123A BLK Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Jan 24 8:53 2020 Quant Results File: RSK1002.RES

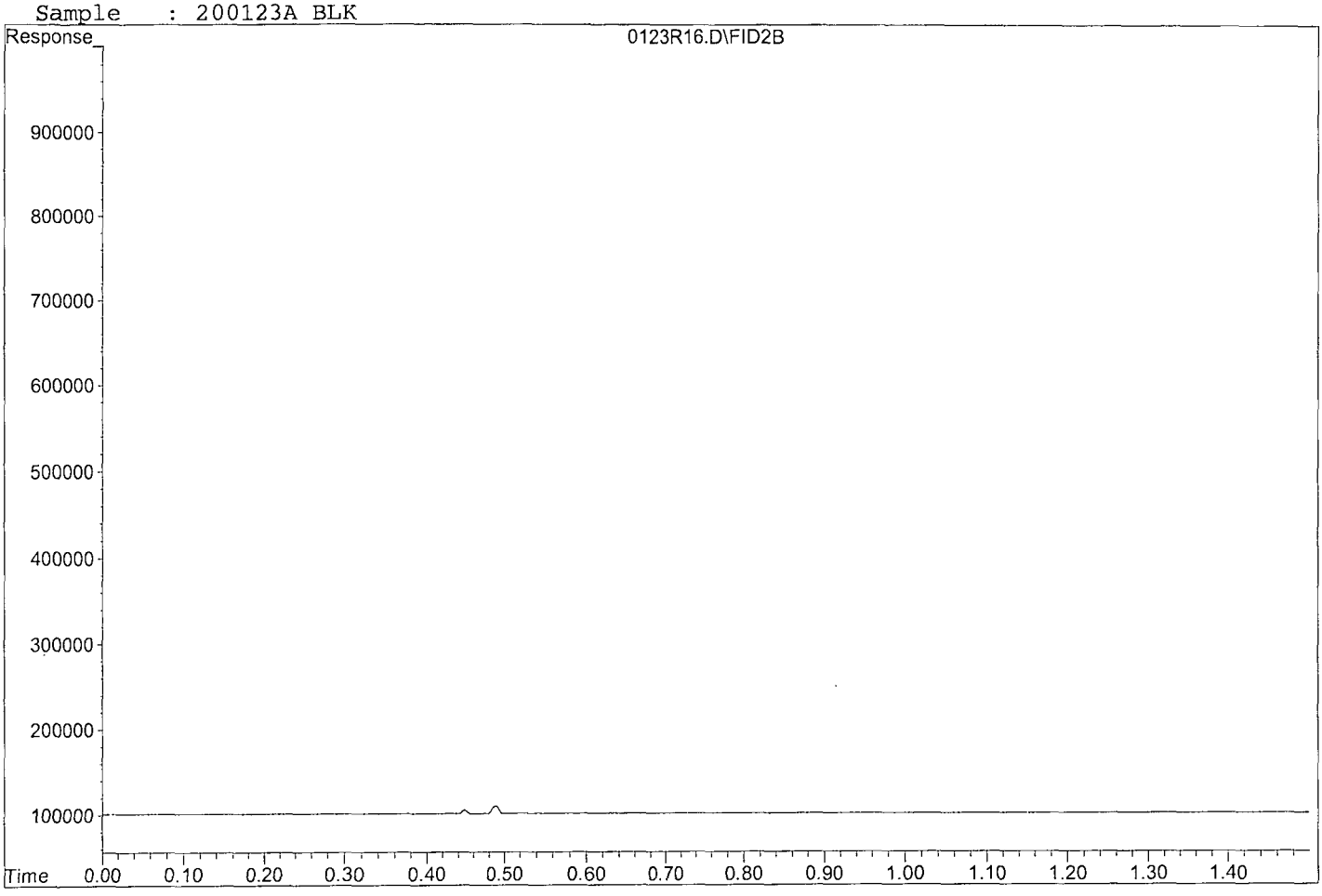
Method : G:\ROCKY\DATA\190929RS\RSK1002.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Jan 23 14:45:26 2020
Response via : Multiple Level Calibration

Volume Inj. : 0.500 mL
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units	
Target Compounds					
Target Compounds					
1) ATM Methane	0.00	0	N.D.	ppb	d
2) ATM Ethane	0.00	0	N.D.	ppb	d
3) ATM Ethene	0.00	0	N.D.	ppb	d

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\191002RS\0123R16.D
Sample : 200123A BLK



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\191002RS\0123R04.D Vial: 4
Acq On : 23 Jan 20 14:46 Operator: GA
Sample : 200123A LCS/CCV RSK STD 5 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Jan 23 14:48 2020 Quant Results File: RSK1002.RES

Method : G:\ROCKY\DATA\190929RS\RSK1002.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Jan 23 14:45:26 2020
Response via : Multiple Level Calibration

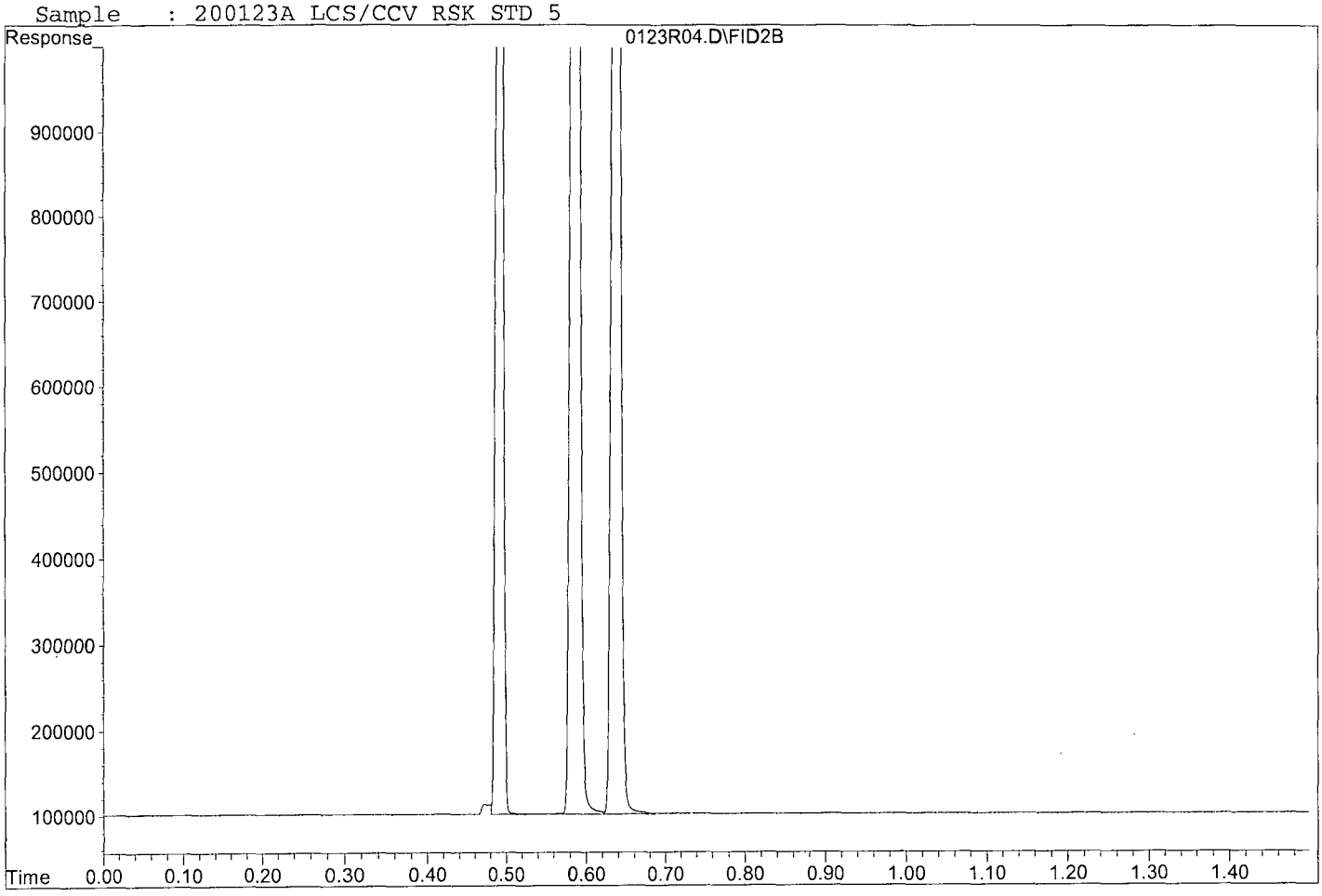
Volume Inj. : 0.500 mL
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
1) ATM Methane	0.49	1913210	82.690	ppb
2) ATM Ethane	0.59	2801128	164.583	ppb
3) ATM Ethene	0.64	2096526	156.603	ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\191002RS\0123R04.D
Sample : 200123A LCS/CCV RSK STD 5



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\191002RS\0123R05.D Vial: 5
Acq On : 23 Jan 20 14:50 Operator: GA
Sample : 200122A LCSD Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Jan 23 14:52 2020 Quant Results File: RSK1002.RES

Method : G:\ROCKY\DATA\190929RS\RSK1002.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Jan 23 14:45:26 2020
Response via : Multiple Level Calibration

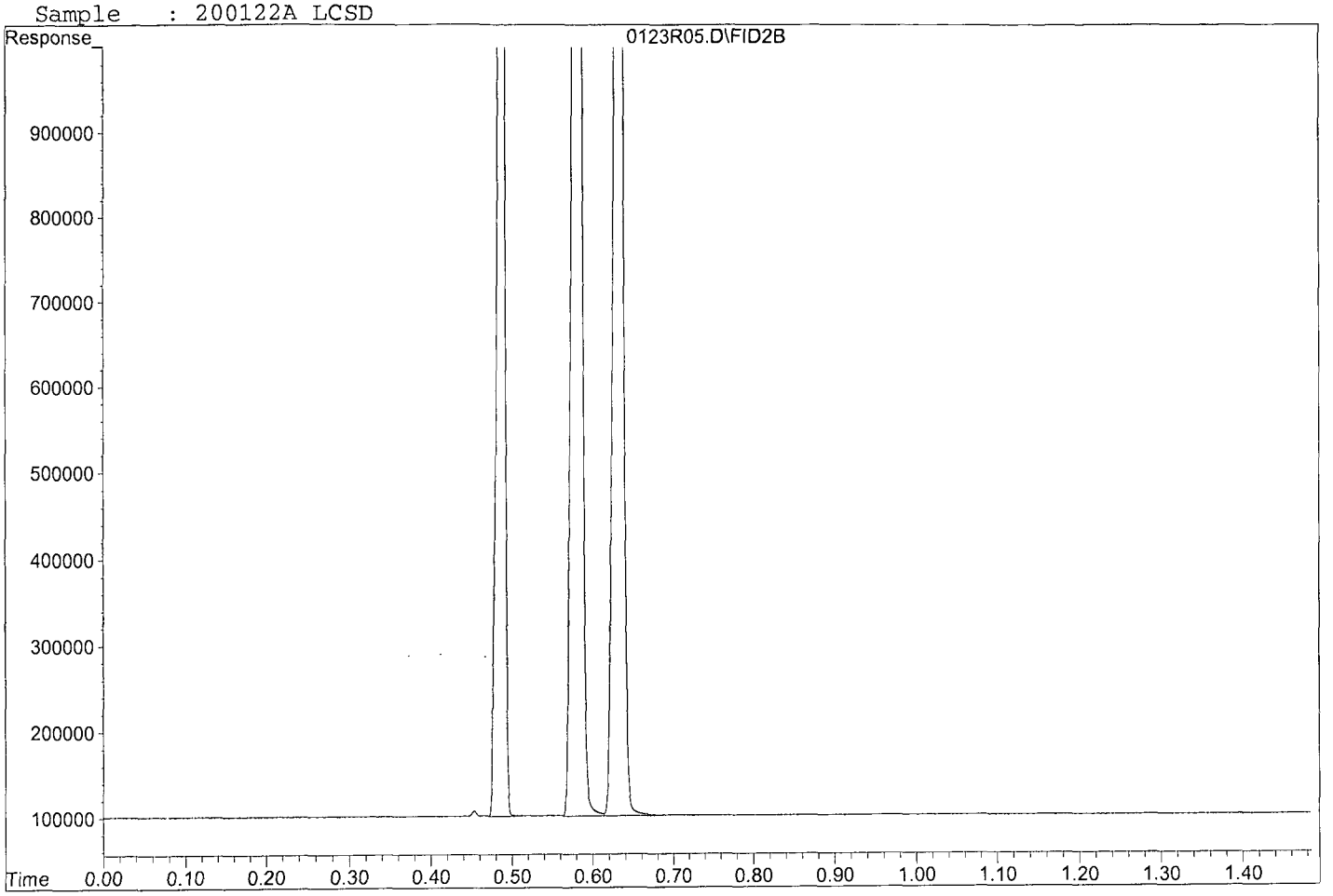
Volume Inj. : 0.500 mL
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
1) ATM Methane	0.49	1796108	77.628	ppb
2) ATM Ethane	0.58	2581901	151.702	ppb
3) ATM Ethene	0.63	1943606	145.181	ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\191002RS\0123R05.D
Sample : 200122A LCSD



Primary Stock Source

10,000ppmV **Manufacture Expiration:** 09/21/21

RSK Gas Mix (Scott Specialty Gas) CAT#X04NI97CP140001 LOT#160-401558175-1

1% Gas Concentration Moles = 10,000ppmV Methane, Ethane, Ethene

RSK Calibration Curve (prepared in 1.0 L Tedlar Bags at room temp) **01/02/19** **10/02/19**

Analyte	Conc Std 1 (1/2 = LOD) (ug/L)	Conc Std 2 (LOQ Chk) (ug/L)	Conc Std 3 (ug/L)	Conc Std 4 (ug/L)	Conc Std 5 (ug/L)	Conc Std 6 (ug/L)	Conc Std 7 (ug/L)
Methane (MW 16.04)	2.08	4.16	8.34	20.85	83.40	208.5	834.0
Ethane (MW 30.07)	3.91	7.81	15.6	39.09	156.35	390.9	1563.5
Ethene (MW 28.05)	3.65	7.30	14.6	36.46	145.84	364.6	1458.4
Stock Source	160-401558175-1	160-401558175-1	160-401558175-1	160-401558175-1	160-401558175-1	160-401558175-1	160-401558175-1
Stock Conc (ppmv)	10,000 ppmV	10,000 ppmV	10,000 ppmV	10,000 ppmV	10,000 ppmV	10,000 ppmV	10,000 ppmV
Stock Aliquot (mL)	0.010	0.020	0.040	0.100	0.400	1.00	4.00
Final Volume P&T Water	32 mL	32 mL	32 mL	32 mL	32 mL	32 mL	32 mL

Second Source Stock Standard 10,000ppmV **Manufacturer Exp date 9-21-2021**

RSK Gas Mix (Scott Specialty Gas) Cat.# 23452, Lot # 160-401303032-1-39774

1% Gas Concentration Moles = 10,000ppmV Methane, Ethane, Ethene

Second Source **Expires 10/03/19** **GA 10/02/19**

2.0mL of SS from tank into 980 mL Nitrogen

final conc: 13.3ug/L Methane, 25.0 ug/L Ethane, and 23.3 ug/L Ethene

CCV/LCS/LCSD **GA 01/23/20**

Spike 0.400mL of 10,000ppmV into 32mL DI water, with 8mL Nitrogen headspace

final conc: 83.40ug/L Methane, 156.35ug/L Ethane, and 145.84ug/L Ethene

Injection Log

Directory: G:\ROCKY\DATA\191002RS\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	2	1002R02.D	1	RSK STD 1 10/2/19		2 Oct 19 17:45
2	3	1002R03.D	1	RSK STD 2 10/2/19	191002A LCS RSK STD 2	2 Oct 19 17:50
3	4	1002R04.D	1	RSK STD 3 10/2/19		2 Oct 19 17:52
4	5	1002R05.D	1	RSK STD 4 10/2/19		2 Oct 19 17:57
5	6	1002R06.D	1	RSK STD 5 10/2/19		2 Oct 19 17:59
6	7	1002R07.D	1	RSK STD 6 10/2/19		2 Oct 19 18:05
7	8	1002R08.D	1	RSK STD 7 10/2/19		2 Oct 19 18:07
8	10	1002R10.D	1	SS RSK STD 5 10/2/19		2 Oct 19 18:24
9	4	0123R04.D	1	200123A LCS/CCV RSK STD 5		23 Jan 20 14:46
10	5	0123R05.D	1	200122A LCSD		23 Jan 20 14:50
11	6	0123R06.D	1	BA06135W04		23 Jan 20 14:53
12	7	0123R07.D	1	BA06136W04		23 Jan 20 15:02
13	8	0123R08.D	1	BA06137W04		23 Jan 20 15:06
14	9	0123R09.D	1	BA06138W04 E METHANE		23 Jan 20 15:10
15	11	0123R11.D	10	BA06138W04 DF10		23 Jan 20 15:32
16	12	0123R12.D	1	BA06140W04		23 Jan 20 15:37
17	13	0123R13.D	1	BA06141W03		23 Jan 20 15:41
18	14	0123R14.D	1	BA06142W04		23 Jan 20 15:44
19	15	0123R15.D	1	BA06143W04		23 Jan 20 15:48
20	16	0123R16.D	1	200123A BLK		23 Jan 20 15:54
21	18	0123R18.D	1	ENDING CCV RSK STD 5 1/23/20		23 Jan 20 16:02

INORGANIC ANALYSIS
Calibration Data

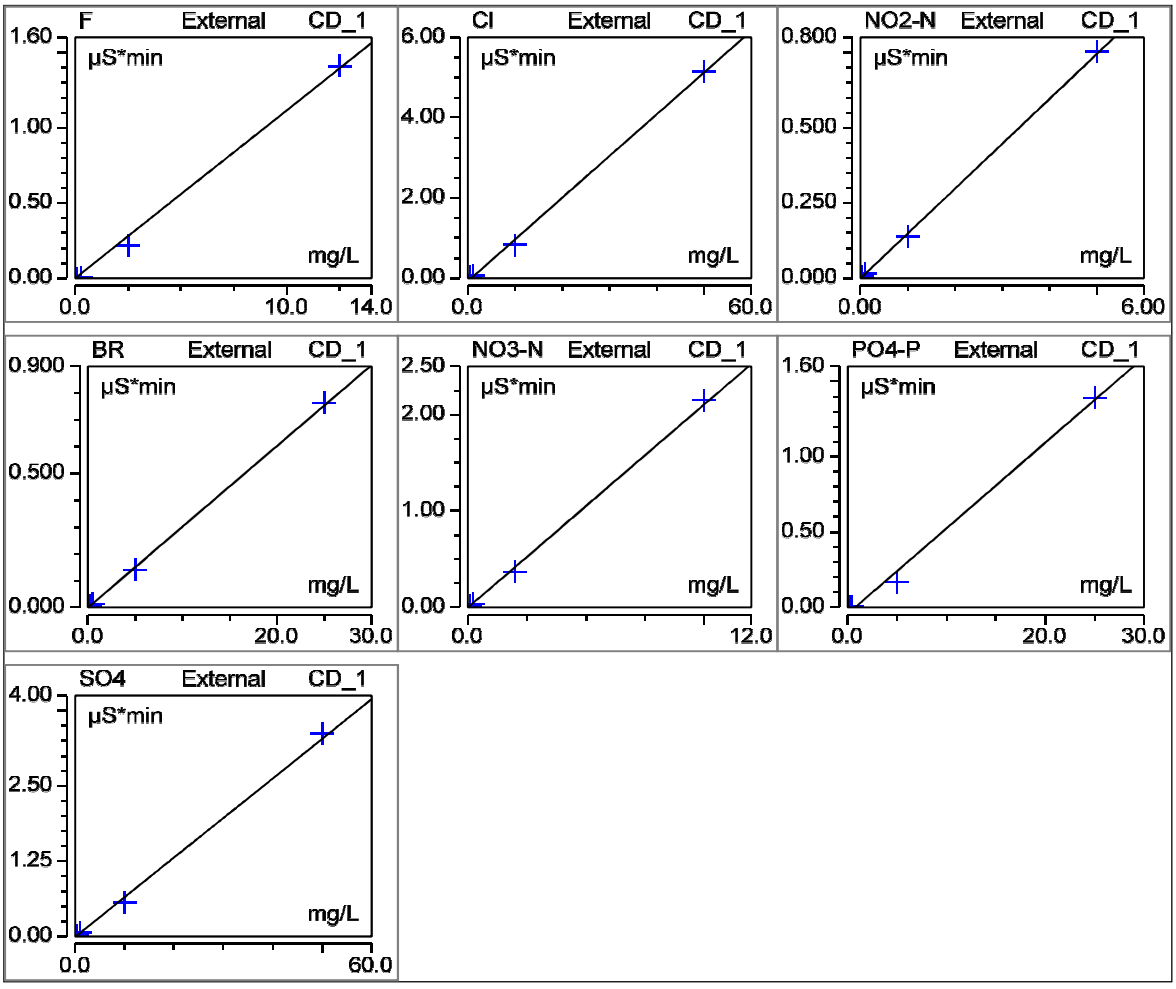
Calibration Batch Report

Sequence:	**191211 iCal**	*Injection Volume:*	**25.00**
Instrument Method:	**Anions IM**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**11-Dec-2019 / 17:45**	*Run Time:*	**5.1**

Calibration Summary

Peak Name	Eval.Type	Cal.Type	Points	Offset (C0)	Slope (C1)	Curve (C2)	Coeff.Det. %
F	Area	Lin	4.000	0.000	0.112	0.000	99.6503
Cl	Area	Lin, WithOffset	4.000	-0.075	0.104	0.000	99.8441
NO2-N	Area	Lin, WithOffset, 1/A	4.000	-0.001	0.149	0.000	99.9131
BR	Area	Lin, WithOffset, 1/A	4.000	-0.001	0.030	0.000	99.8927
NO3-N	Area	Lin, WithOffset, 1/A	4.000	-0.003	0.211	0.000	99.7164
PO4-P	Area	Lin, WithOffset	4.000	-0.043	0.057	0.000	99.4355
SO4	Area	Lin, WithOffset, 1/A	4.000	-0.007	0.066	0.000	99.6573

Injection Name	Amount mg/L CD_1 F	Amount mg/L CD_1 Cl	Amount mg/L CD_1 NO2-N	Amount mg/L CD_1 BR	Amount mg/L CD_1 NO3-N	Amount mg/L CD_1 PO4-P	Amount mg/L CD_1 SO4
ICAL1 191211	n.a.	1.0362	0.0421	0.2148	0.0904	0.8676	0.4483
ICAL2 191211	0.032	1.4780	0.1000	0.4912	0.1923	0.8876	0.9809
ICAL5 191211	1.943	8.6256	0.9361	4.6493	1.7730	3.6974	8.7377
ICAL8 191211	12.617	50.2602	5.0619	25.3447	10.2243	25.2474	51.2331

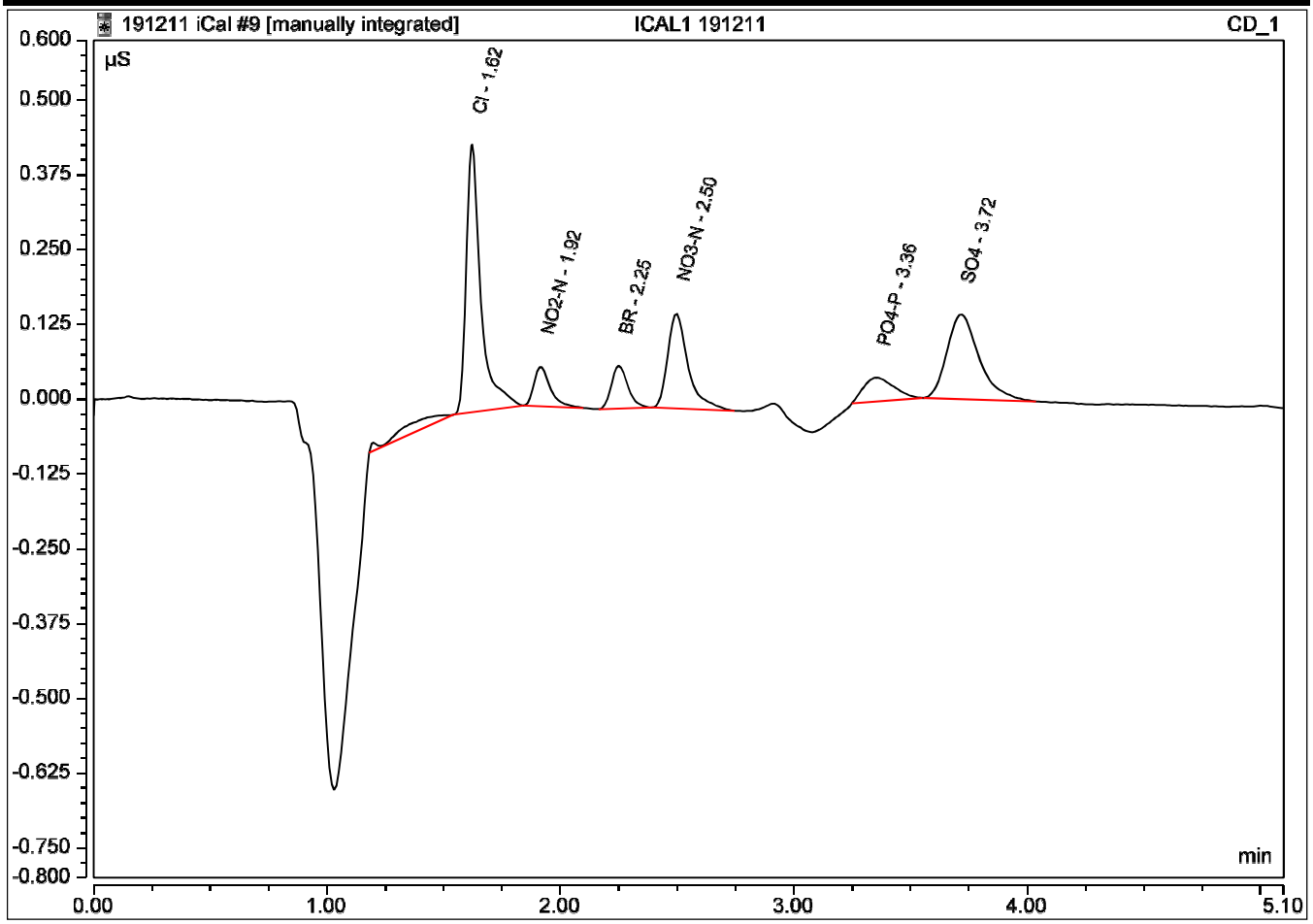


Logged on User: BW
Instrument: Charlie System_1
Sequence: 191211 iCal

Peak Integration Report

Sample Name:	**ICAL1 191211**	*Inj. Vol.:*	**25uL**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 191211**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**11-Dec-2019 / 17:23**	*Run Time:*	**5.10**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
2	1.62	**Cl**	bMB*	0.033	0.448	1.04	0.4	259.1%
3	1.92	**NO2-N**	BMB	0.005	0.066	0.04	0.04	105.2%
4	2.25	**BR**	BMB	0.006	0.072	0.21	0.2	107.4%
5	2.50	**NO3-N**	BMB	0.016	0.159	0.09	0.08	112.9%
6	3.36	**PO4-P**	BMB*	0.006	0.040	0.87	0.2	433.8%
7	3.72	**SO4**	BMB	0.023	0.142	0.45	0.4	112.1%

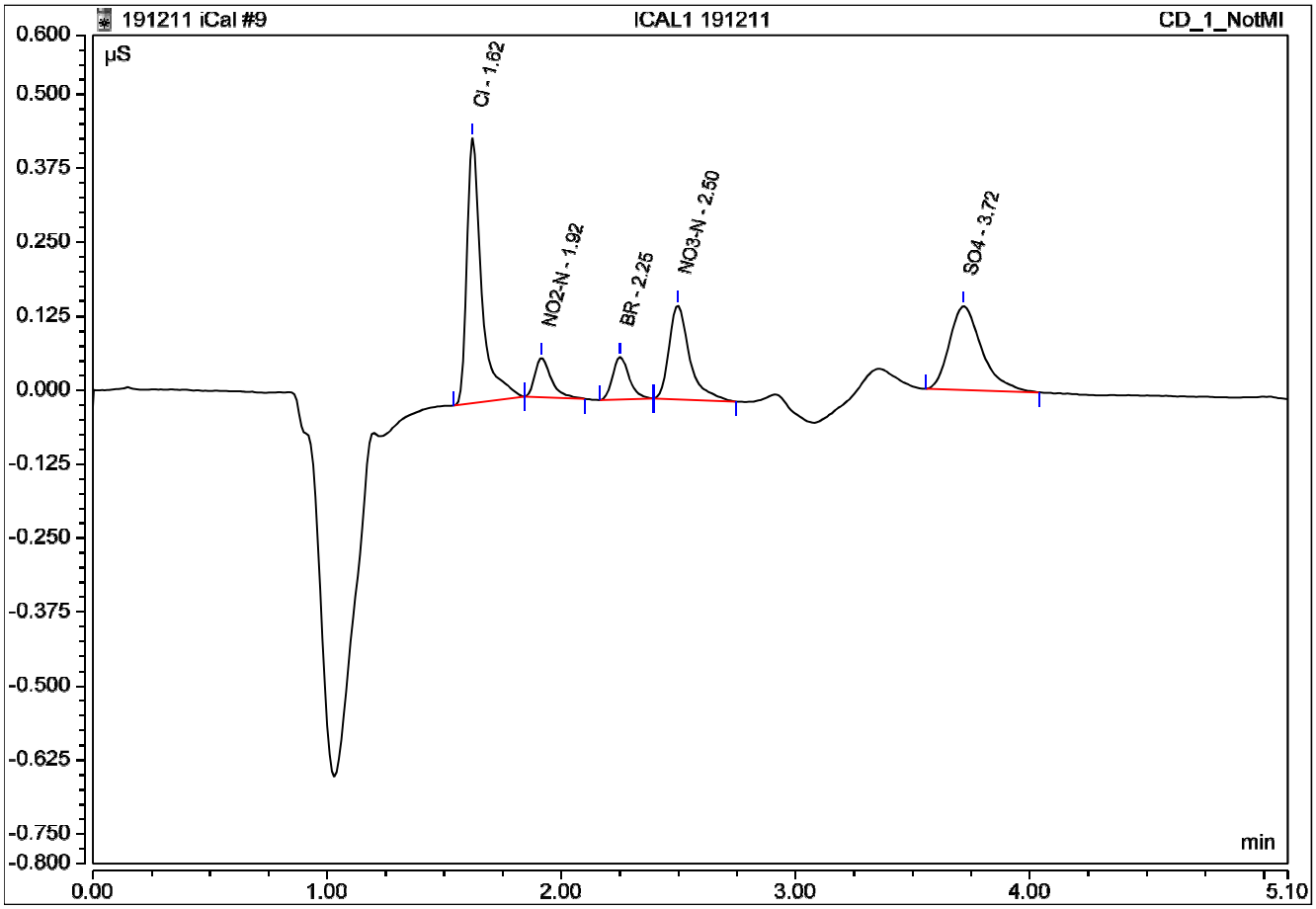


MI5 BW 191211

Not Manipulated Peak Integration Report

Sample Name:	**ICAL1 191211**	*Inj. Vol.:*	**25uL**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**Anion APM 191211**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**11-Dec-2019 / 17:23**	*Run Time:*	**5.10**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Ammount mg/L
2	1.62	**Cl**	bMB*	0.033	0.448	1.0366
3	1.92	**NO2-N**	BMB	0.005	0.066	0.0421
4	2.25	**BR**	BMB	0.006	0.072	0.2148
5	2.50	**NO3-N**	BMB	0.016	0.159	0.0904
6	n.a.	**PO4-P**	BMB*	n.a.	n.a.	n.a.
7	3.72	**SO4**	BMB	0.023	0.142	0.4461

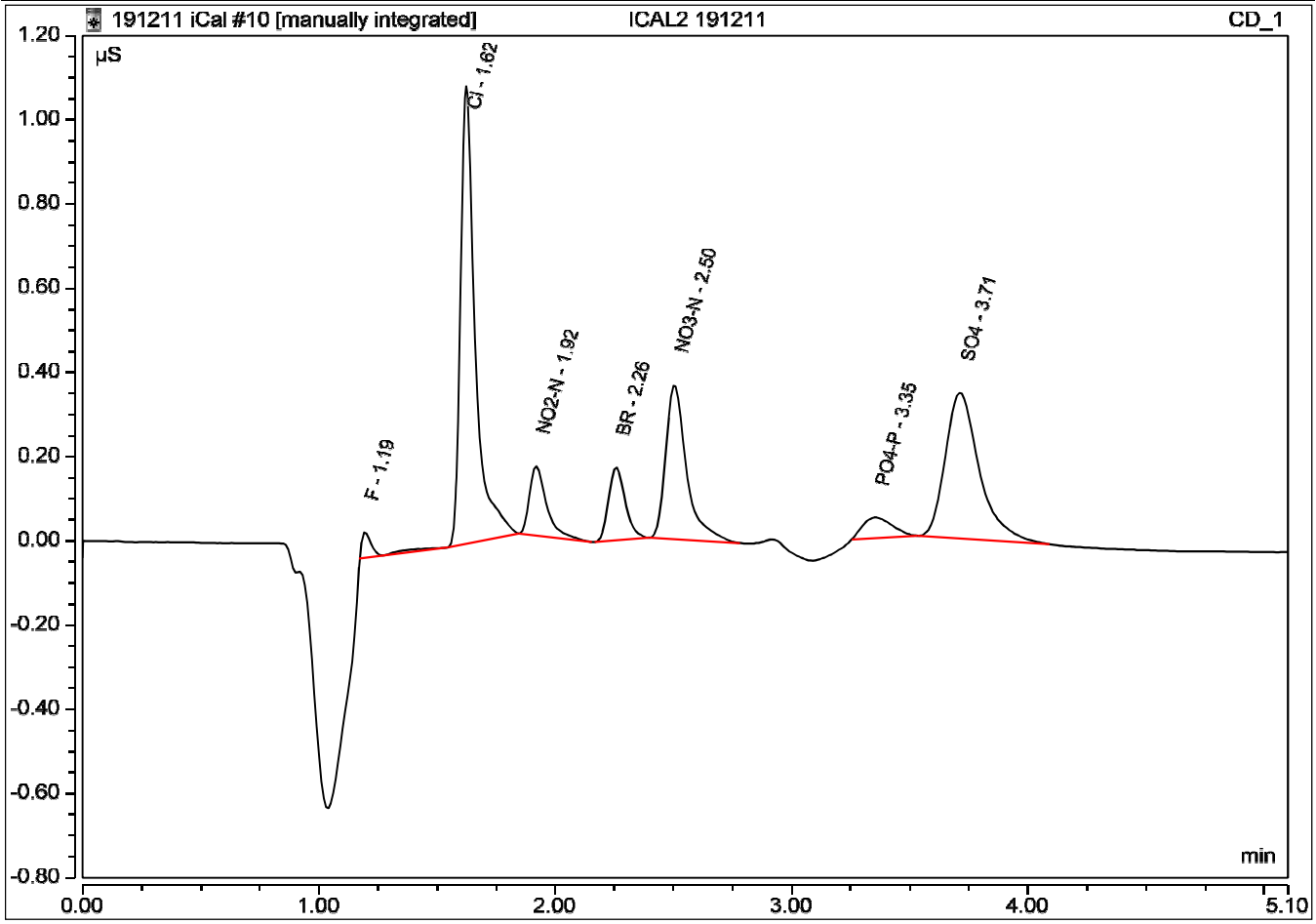


Logged on User: BW
Instrument: Charlie System_1
Sequence: 191211 iCal

Peak Integration Report

Sample Name:	**ICAL2 191211**	*Inj. Vol.:*	**25uL**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 191211**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**11-Dec-2019 / 17:30**	*Run Time:*	**5.10**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.19	**F**	Mb*	0.004	0.062	0.03	0.25	12.8%
2	1.62	**Cl**	bMB*	0.078	1.087	1.48	1	147.8%
3	1.92	**NO2-N**	BMB	0.014	0.165	0.10	0.1	100.0%
4	2.26	**BR**	BMB	0.014	0.174	0.49	0.5	98.2%
5	2.50	**NO3-N**	BMB	0.038	0.367	0.19	0.2	96.2%
6	3.35	**PO4-P**	MB*	0.007	0.050	0.89	0.5	177.5%
7	3.71	**SO4**	BMB	0.058	0.346	0.98	1	98.1%

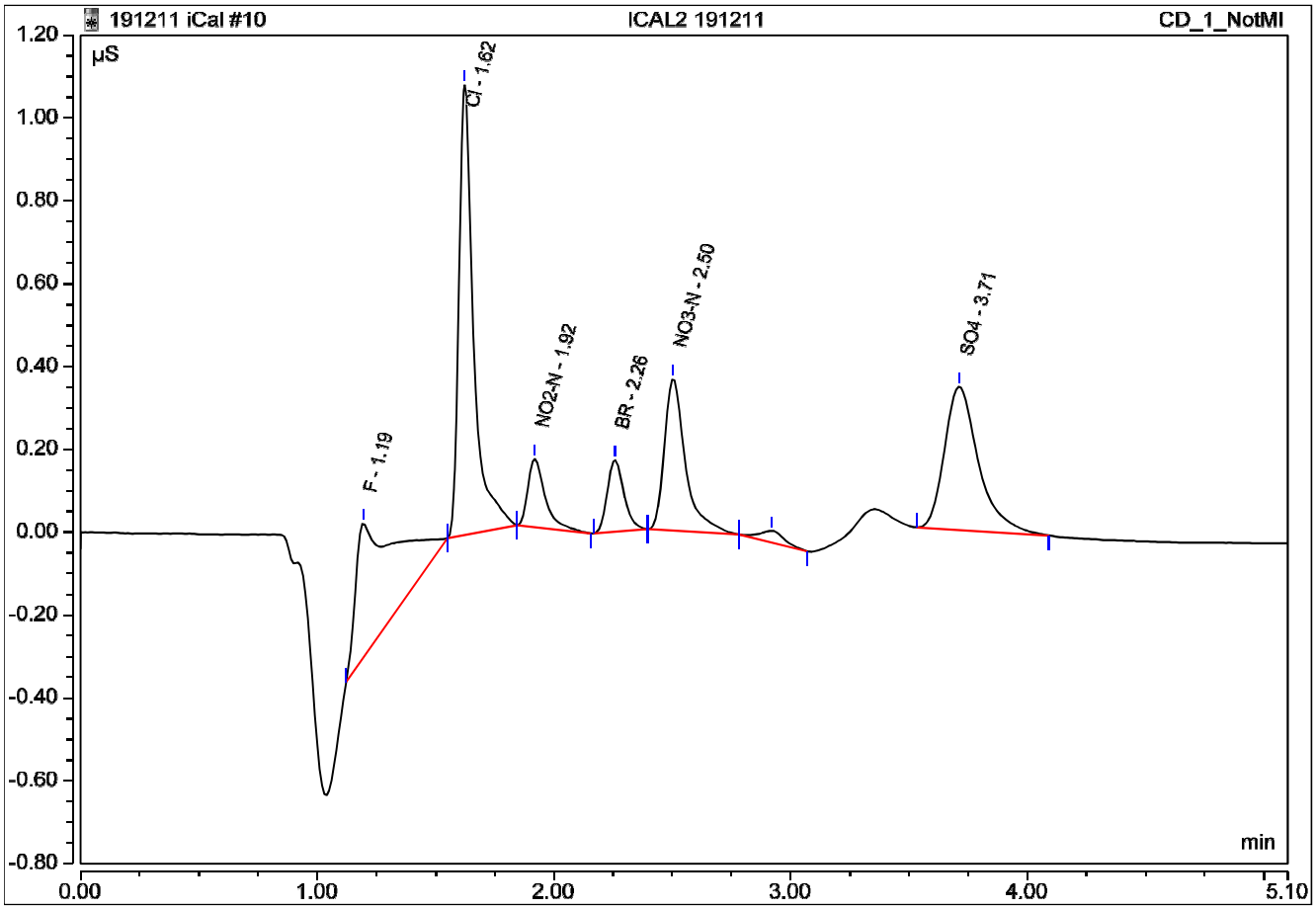


MI1/5 BW 191211

Not Manipulated Peak Integration Report

Sample Name:	**ICAL2 191211**	*Inj. Vol.:*	**25uL**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**Anion APM 191211**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**11-Dec-2019 / 17:30**	*Run Time:*	**5.10**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Ammount mg/L
1	1.19	**F**	Mb*	0.062	0.325	0.5474
2	1.62	**Cl**	bMB*	0.078	1.087	1.4772
3	1.92	**NO2-N**	BMB	0.014	0.165	0.1000
4	2.26	**BR**	BMB	0.014	0.174	0.4912
5	2.50	**NO3-N**	BMB	0.038	0.367	0.1923
6	n.a.	**PO4-P**	MB*	n.a.	n.a.	n.a.
7	3.71	**SO4**	BMB	0.058	0.346	0.9777

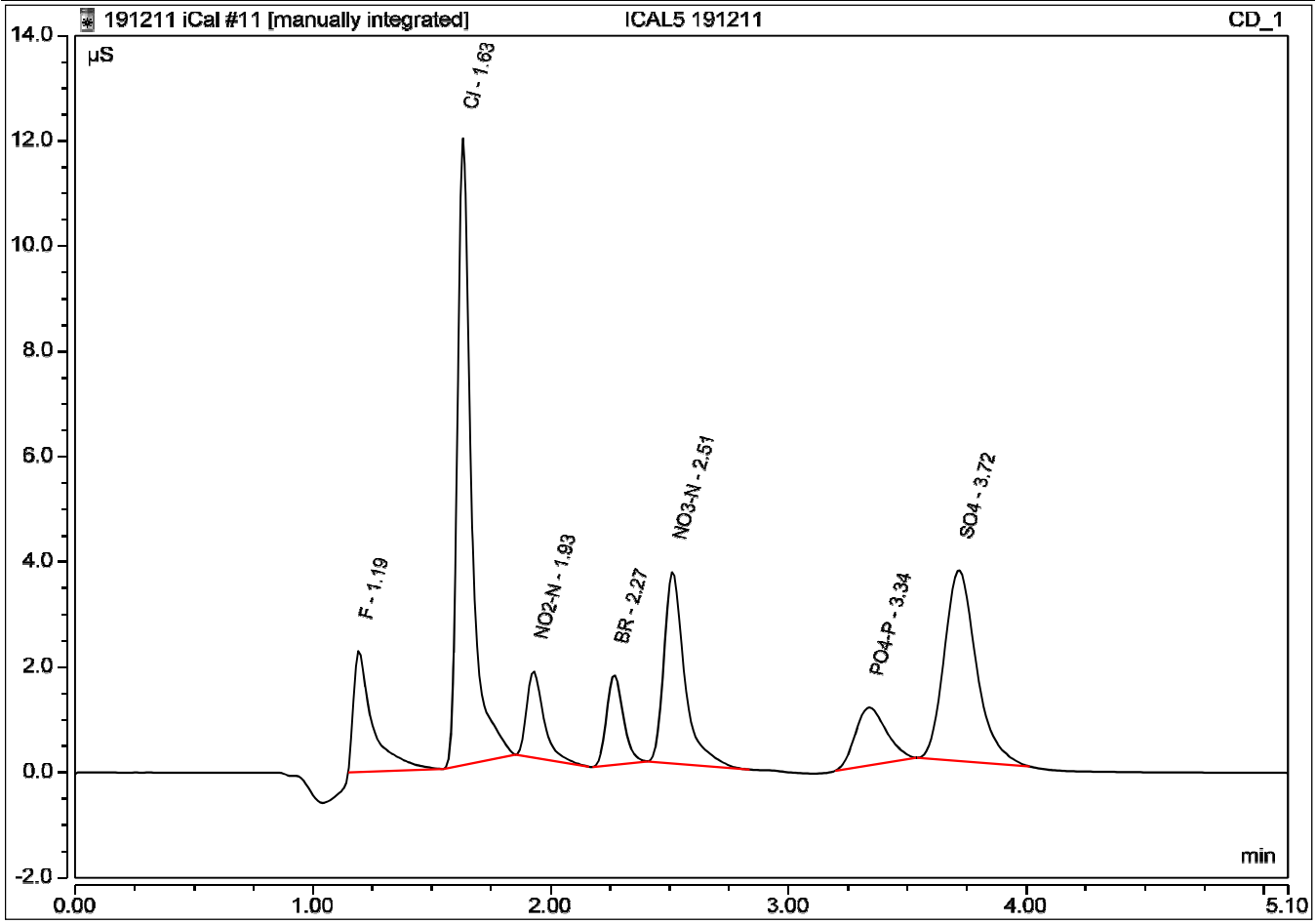


Logged on User: BW
Instrument: Charlie System_1
Sequence: 191211 iCal

Peak Integration Report

Sample Name:	**ICAL5 191211**	*Inj. Vol.:*	**25uL**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 191211**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**11-Dec-2019 / 17:38**	*Run Time:*	**5.10**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.19	**F**	MB*	0.217	2.312	1.94	2.5	77.7%
2	1.63	**Cl**	BMB	0.822	11.912	8.63	10	86.3%
3	1.93	**NO2-N**	BMB	0.139	1.641	0.94	1	93.6%
4	2.27	**BR**	BMB	0.140	1.709	4.65	5	93.0%
5	2.51	**NO3-N**	BMB	0.371	3.644	1.77	2	88.7%
6	3.34	**PO4-P**	BM *	0.167	1.100	3.70	5	73.9%
7	3.72	**SO4**	MB*	0.568	3.630	8.74	10	87.4%

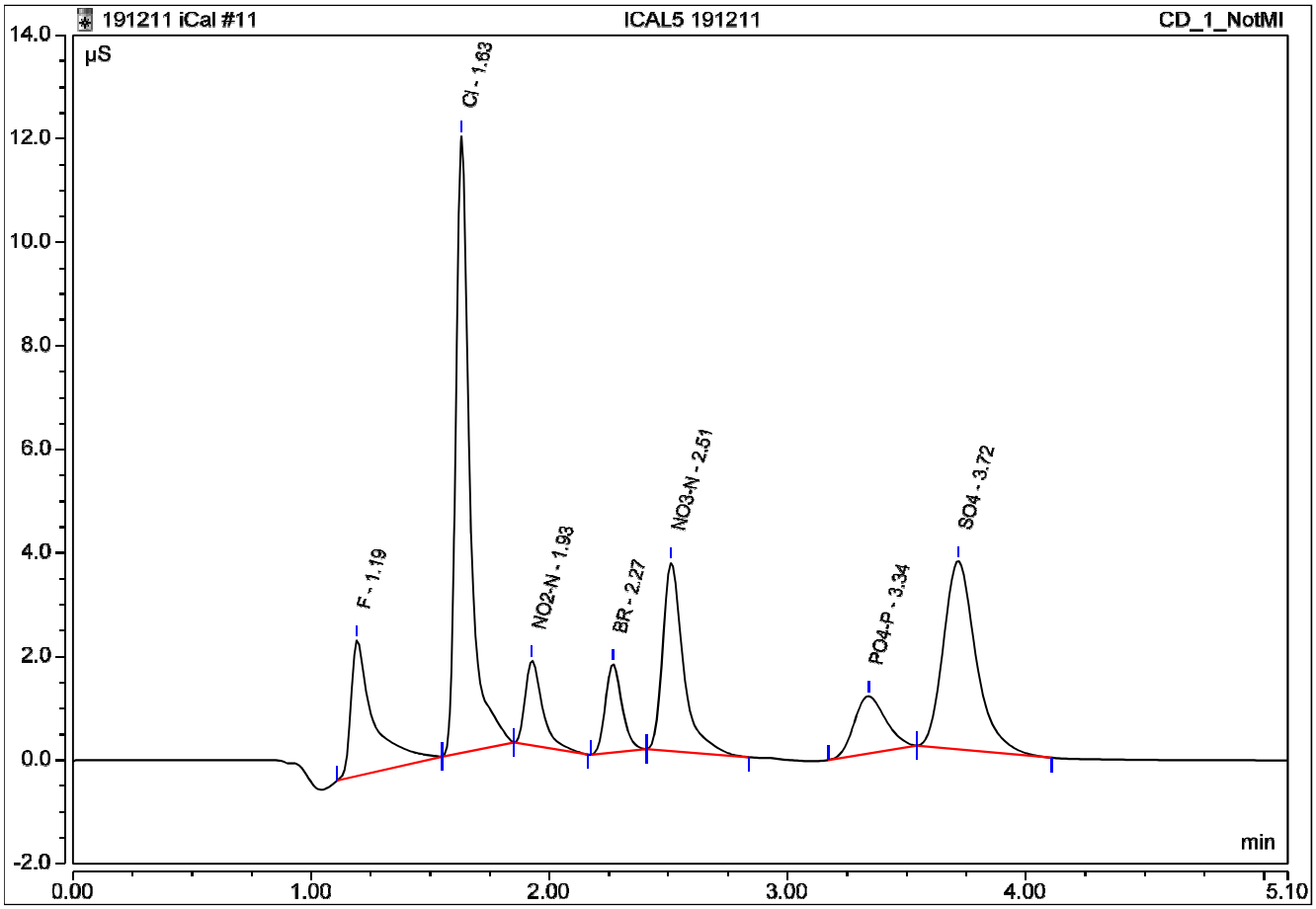


MI1 BW 191211

Not Manipulated Peak Integration Report

Sample Name:	**ICAL5 191211**	*Inj. Vol.:*	**25uL**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**Anion APM 191211**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**11-Dec-2019 / 17:38**	*Run Time:*	**5.10**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Ammount mg/L
1	1.19	**F**	MB*	0.293	2.631	2.5926
2	1.63	**Cl**	BMB	0.822	11.912	8.6259
3	1.93	**NO2-N**	BMB	0.139	1.641	0.9361
4	2.27	**BR**	BMB	0.140	1.709	4.6493
5	2.51	**NO3-N**	BMB	0.371	3.644	1.7730
6	3.34	**PO4-P**	BM *	0.170	1.110	5.0000
7	3.72	**SO4**	MB*	0.576	3.642	8.8442

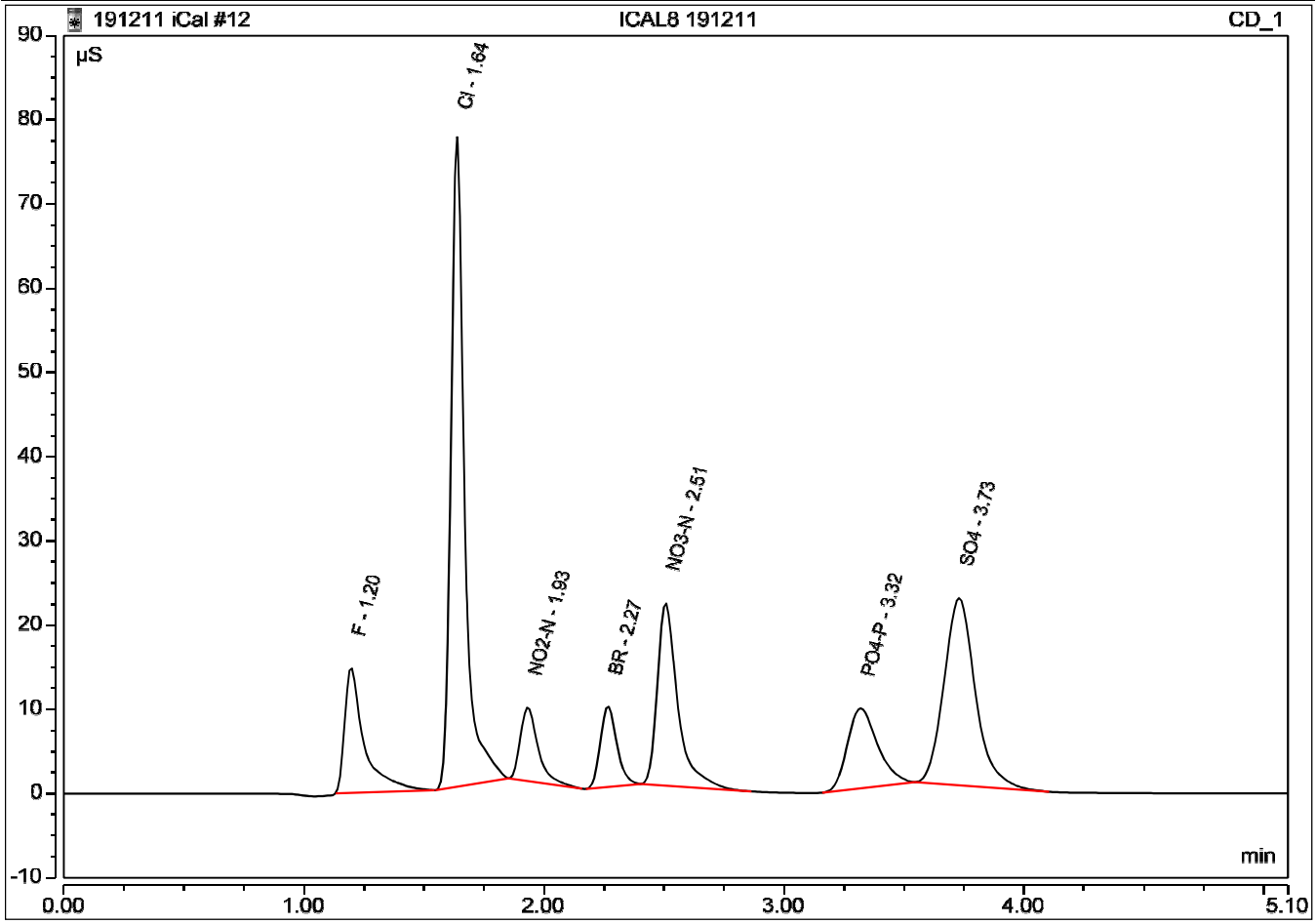


Logged on User: BW
Instrument: Charlie System_1
Sequence: 191211 iCal

Peak Integration Report

Sample Name:	**ICAL8 191211**	*Inj. Vol.:*	**25uL**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 191211**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**11-Dec-2019 / 17:45**	*Run Time:*	**5.10**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.20	**F**	BMB	1.409	14.923	12.62	12.5	100.9%
2	1.64	**Cl**	BMB	5.155	77.150	50.26	50	100.5%
3	1.93	**NO2-N**	BMB	0.754	8.758	5.06	5	101.2%
4	2.27	**BR**	BMB	0.765	9.575	25.34	25	101.4%
5	2.51	**NO3-N**	BMB	2.152	21.733	10.22	10	102.2%
6	3.32	**PO4-P**	BMB	1.391	9.520	25.25	25	101.0%
7	3.73	**SO4**	BMB	3.365	22.236	51.23	50	102.5%



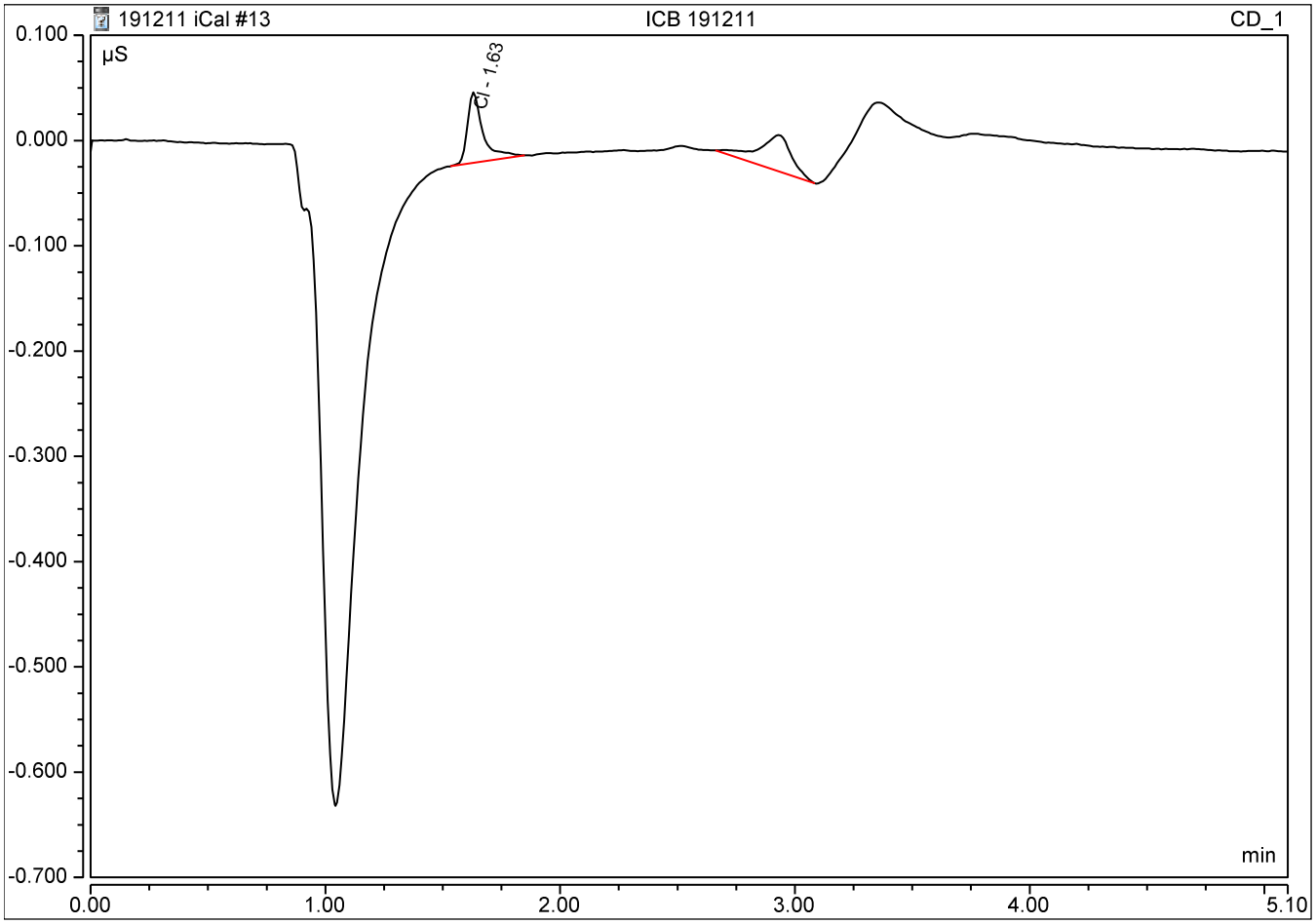
Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Logged on User: BW
Instrument: Charlie System_1
Sequence: 191211 iCal

Peak Integration Report

Sample Name:	**ICB 191211**	*Inj. Vol.:*	**25uL**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 191211**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**11-Dec-2019 / 17:53**	*Run Time:*	**5.10**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.63	**Cl**	BMB	0.005	0.067	0.77		



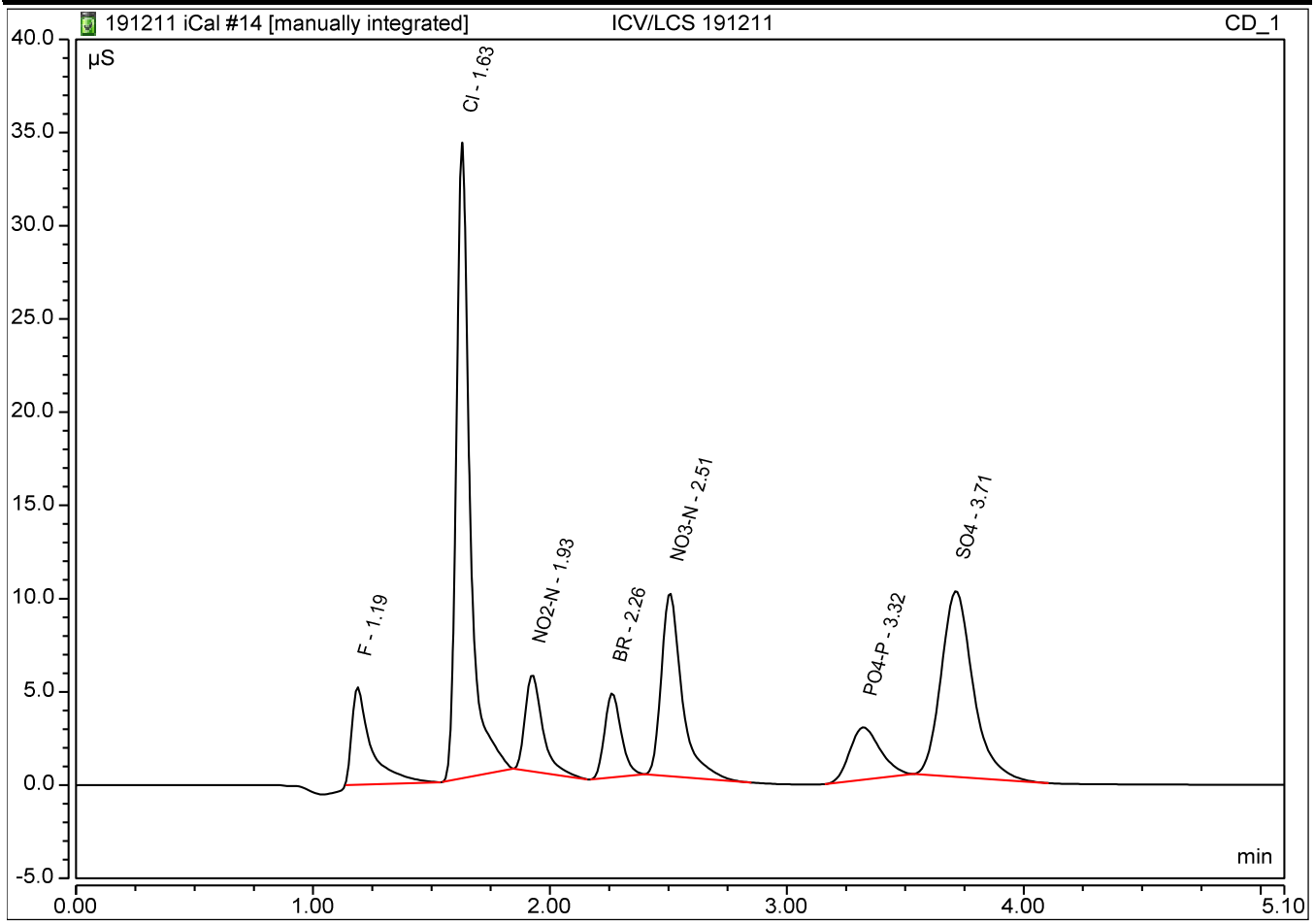
Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Logged on User: BW
Instrument: Charlie System_1
Sequence: 191211 iCal

Peak Integration Report

Sample Name:	**ICV/LCS 191211**	*Inj. Vol.:*	**25uL**
Injection Type:	**Check Standard**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 191211**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**11-Dec-2019 / 18:00**	*Run Time:*	**5.10**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.19	**F**	MB*	0.497	5.250	4.45	5	89.1%
2	1.63	**Cl**	BMB	2.294	34.096	22.77	25	91.1%
3	1.93	**NO2-N**	BMB	0.451	5.195	3.03	3.04	99.6%
4	2.26	**BR**	BMB	0.368	4.520	12.20	12.5	97.6%
5	2.51	**NO3-N**	BMB	0.995	9.844	4.73	5	94.7%
6	3.32	**PO4-P**	BMB	0.421	2.802	8.16	10	81.6%
7	3.71	**SO4**	BMB	1.558	9.976	23.77	25	95.1%



MI1 BW 191211
Algorithm Check
y = Peak Area
x = mg/L S04

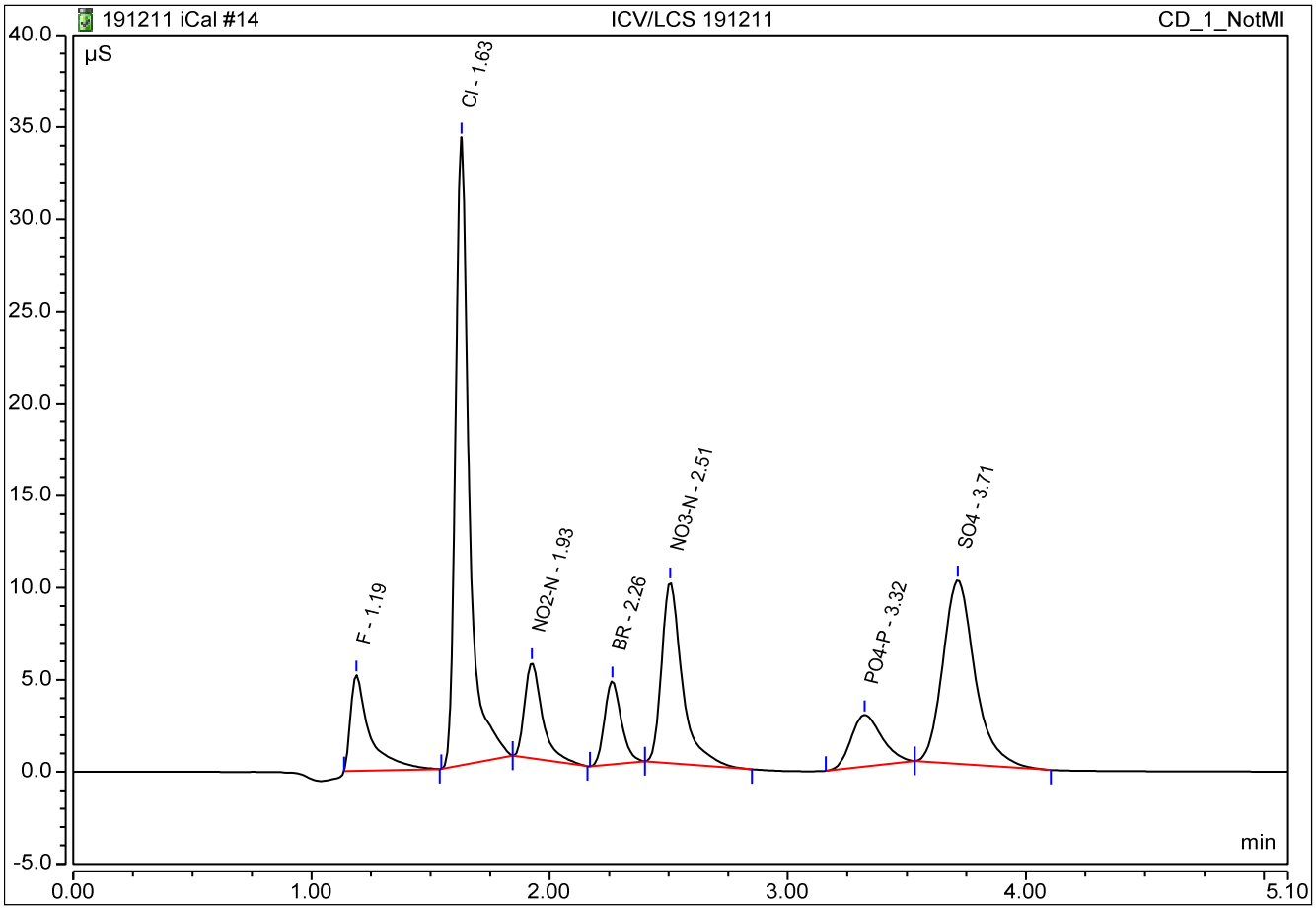
y = 0.0658 x + -0.0068
y = 1.5578 therefor x =

Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Not Manipulated Peak Integration Report

Sample Name:	**ICV/LCS 191211**	*Inj. Vol.:*	**25uL**
Injection Type:	**Check Standard**	*Dilution Factor:*	**1.0000**
Program:	**Anion APM 191211**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**11-Dec-2019 / 18:00**	*Run Time:*	**5.10**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Ammount mg/L
1	1.19	**F**	MB*	0.488	5.208	4.3178
2	1.63	**Cl**	BMB	2.294	34.096	22.7700
3	1.93	**NO2-N**	BMB	0.451	5.195	3.0268
4	2.26	**BR**	BMB	0.368	4.520	12.2044
5	2.51	**NO3-N**	BMB	0.995	9.844	4.7326
6	3.32	**PO4-P**	BMB	0.421	2.802	9.1043
7	3.71	**SO4**	BMB	1.558	9.976	23.7272

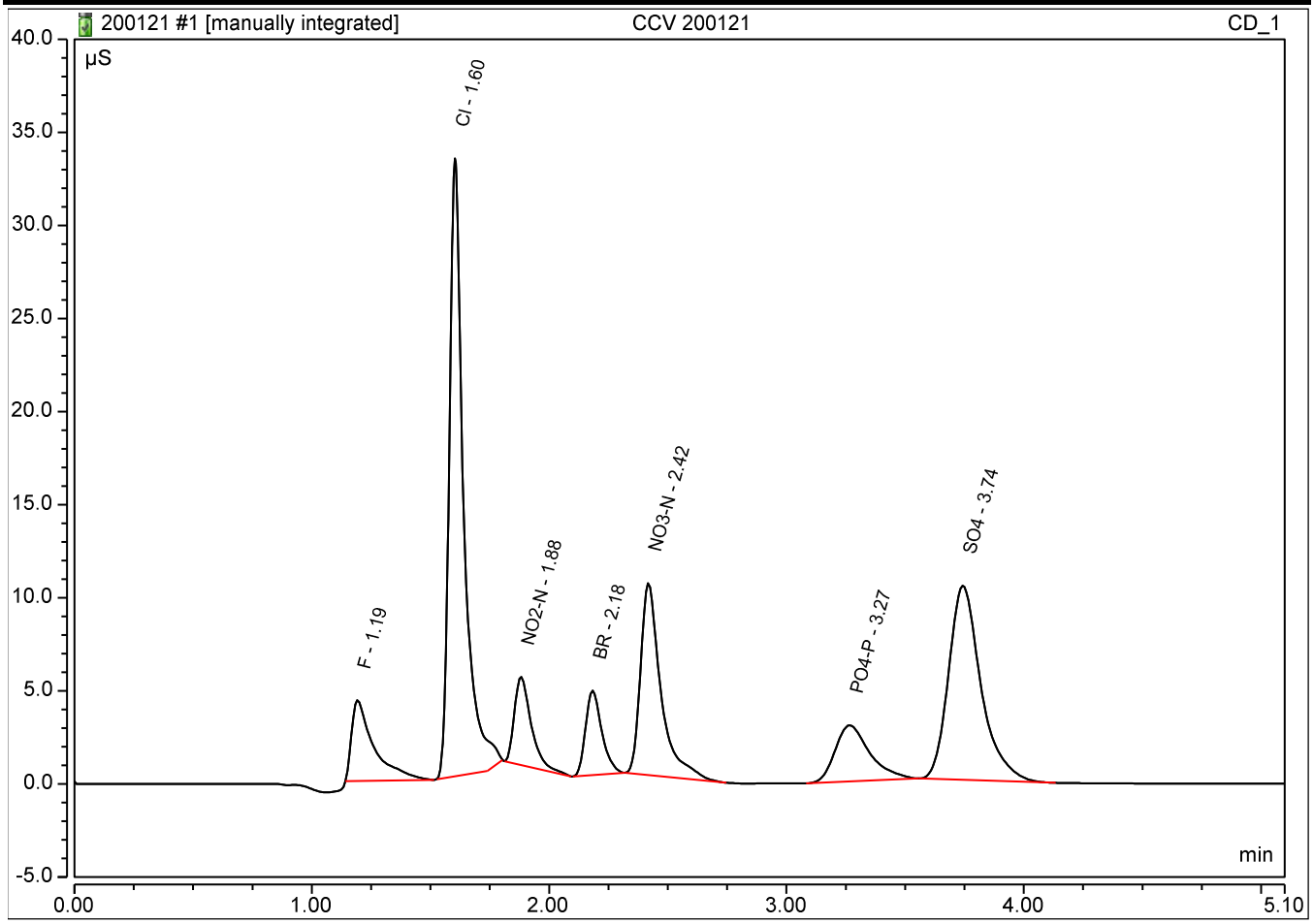


Logged on User: BW
Instrument: Charlie System_1
Sequence: 200121

Peak Integration Report

Sample Name:	**CCV 200121**	*Inj. Vol.:*	**25uL**
Injection Type:	**Check Standard**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 191211**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**21-Jan-2020 / 19:07**	*Run Time:*	**5.10**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.19	**F**	BMB	0.474	4.353	4.24	5	84.8%
2	1.60	**Cl**	BM *	2.293	33.184	25.28	25	101.1%
4	1.88	**NO2-N**	BMB	0.394	4.750	2.65	3.04	87.1%
5	2.18	**BR**	BMB	0.361	4.537	11.97	12.5	95.8%
6	2.42	**NO3-N**	BMB	1.028	10.317	4.89	5	97.8%
7	3.27	**PO4-P**	BMB	0.510	3.017	9.74	10	97.4%
8	3.74	**SO4**	BMB	1.649	10.432	25.16	25	100.7%



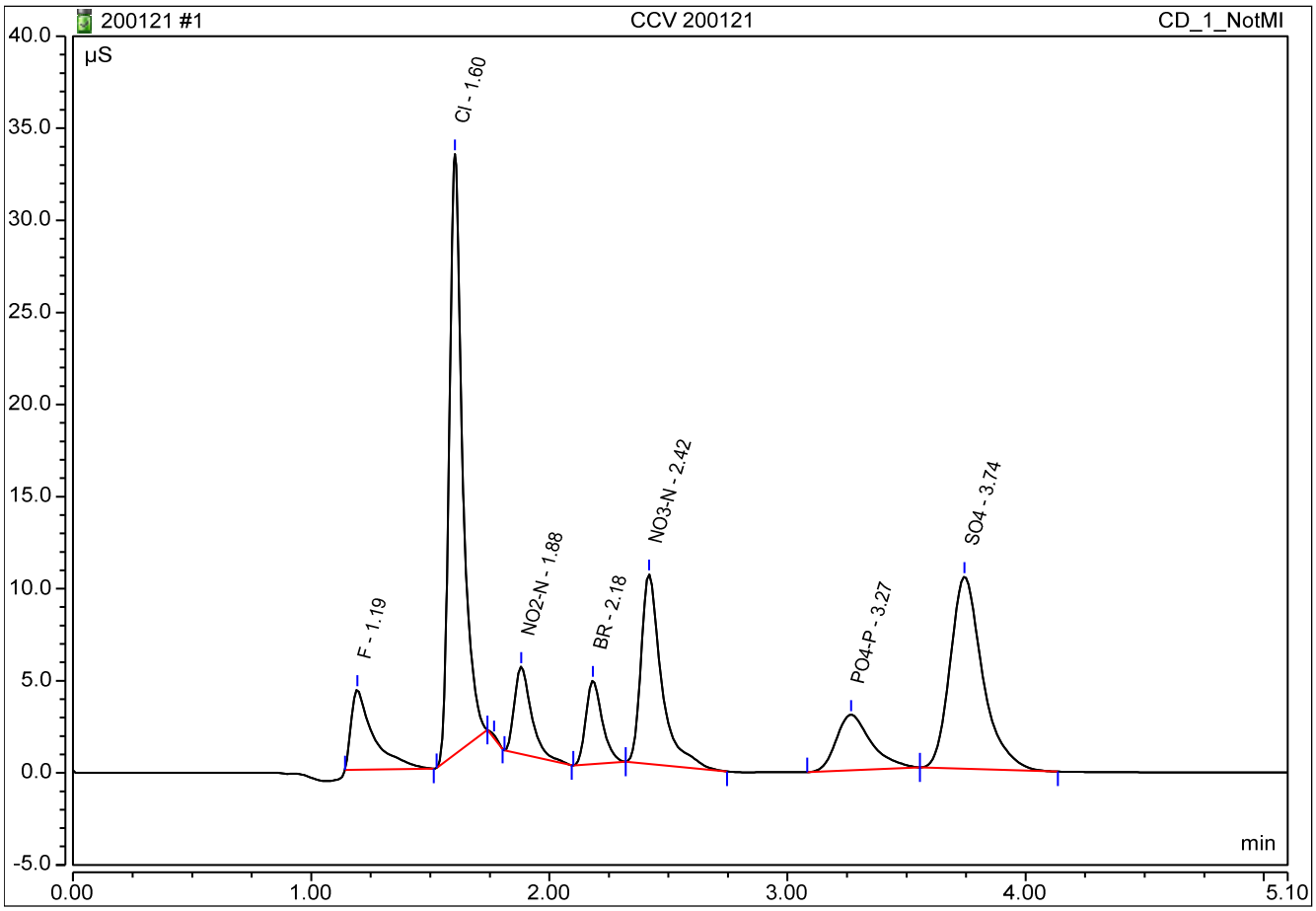
CD M1 200127

Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Not Manipulated Peak Integration Report

Sample Name:	**CCV 200121**	*Inj. Vol.:*	**25uL**
Injection Type:	**Check Standard**	*Dilution Factor:*	**1.0000**
Program:	**Anion APM 191211**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**21-Jan-2020 / 19:07**	*Run Time:*	**5.10**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Ammount mg/L
1	1.19	**F**	BMB	0.474	4.353	4.1928
2	1.60	**Cl**	BM *	2.119	32.599	23.3796
4	1.88	**NO2-N**	BMB	0.394	4.750	2.6491
5	2.18	**BR**	BMB	0.361	4.537	11.9703
6	2.42	**NO3-N**	BMB	1.028	10.317	4.8885
7	3.27	**PO4-P**	BMB	0.510	3.017	10.5726
8	3.74	**SO4**	BMB	1.649	10.432	25.1129

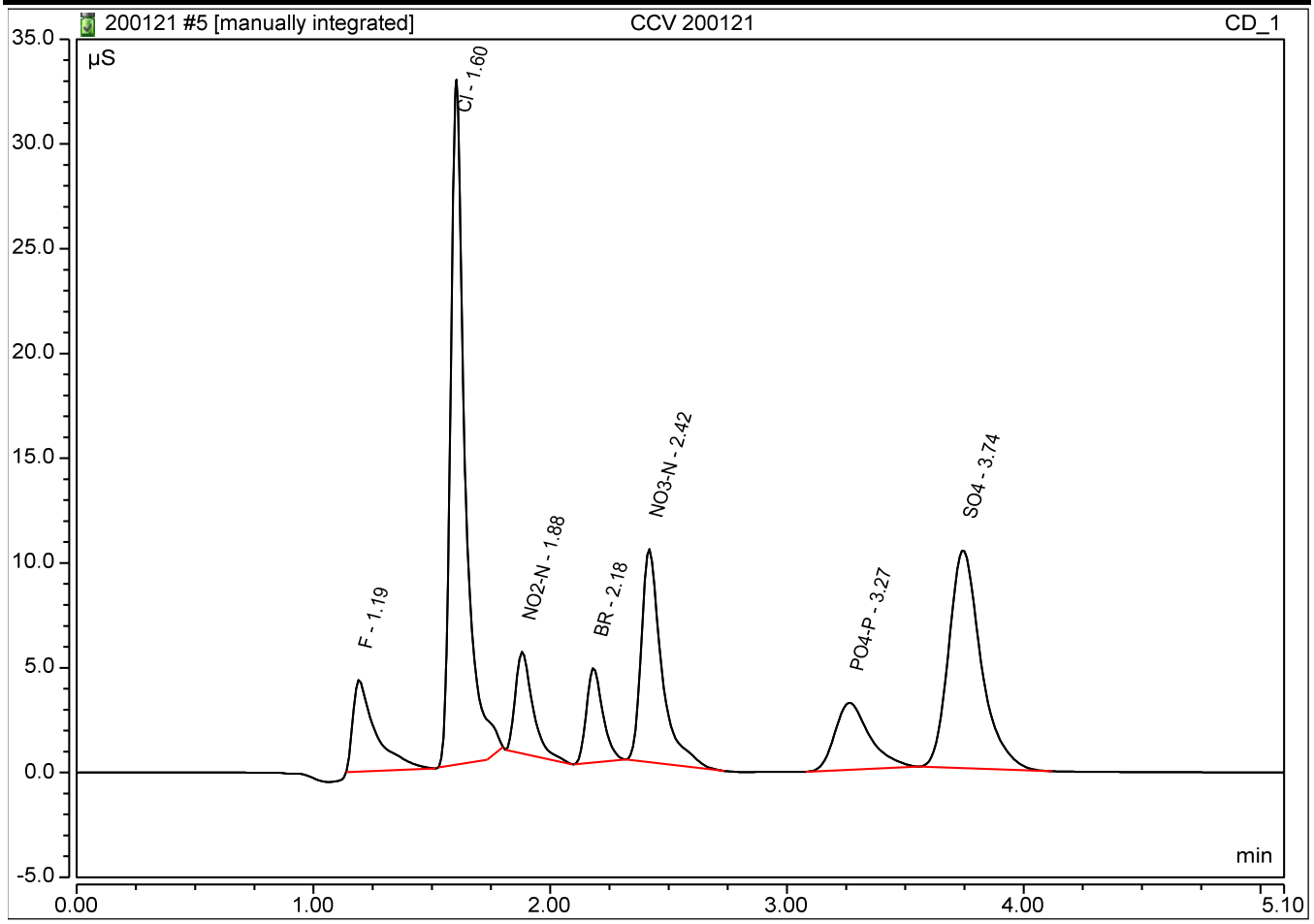


Logged on User: BW
Instrument: Charlie System_1
Sequence: 200121

Peak Integration Report

Sample Name:	**CCV 200121**	*Inj. Vol.:*	**25uL**
Injection Type:	**Check Standard**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 191211**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**21-Jan-2020 / 19:37**	*Run Time:*	**5.10**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.19	**F**	BMB	0.489	4.387	4.38	5	87.6%
2	1.60	**Cl**	BM *	2.282	32.689	25.17	25	100.7%
4	1.88	**NO2-N**	BMB	0.417	4.855	2.80	3.04	92.2%
5	2.18	**BR**	BMB	0.362	4.518	11.99	12.5	96.0%
6	2.42	**NO3-N**	BMB	1.018	10.192	4.84	5	96.9%
7	3.27	**PO4-P**	BMB	0.542	3.202	10.30	10	103.0%
8	3.74	**SO4**	BMB	1.647	10.414	25.13	25	100.5%



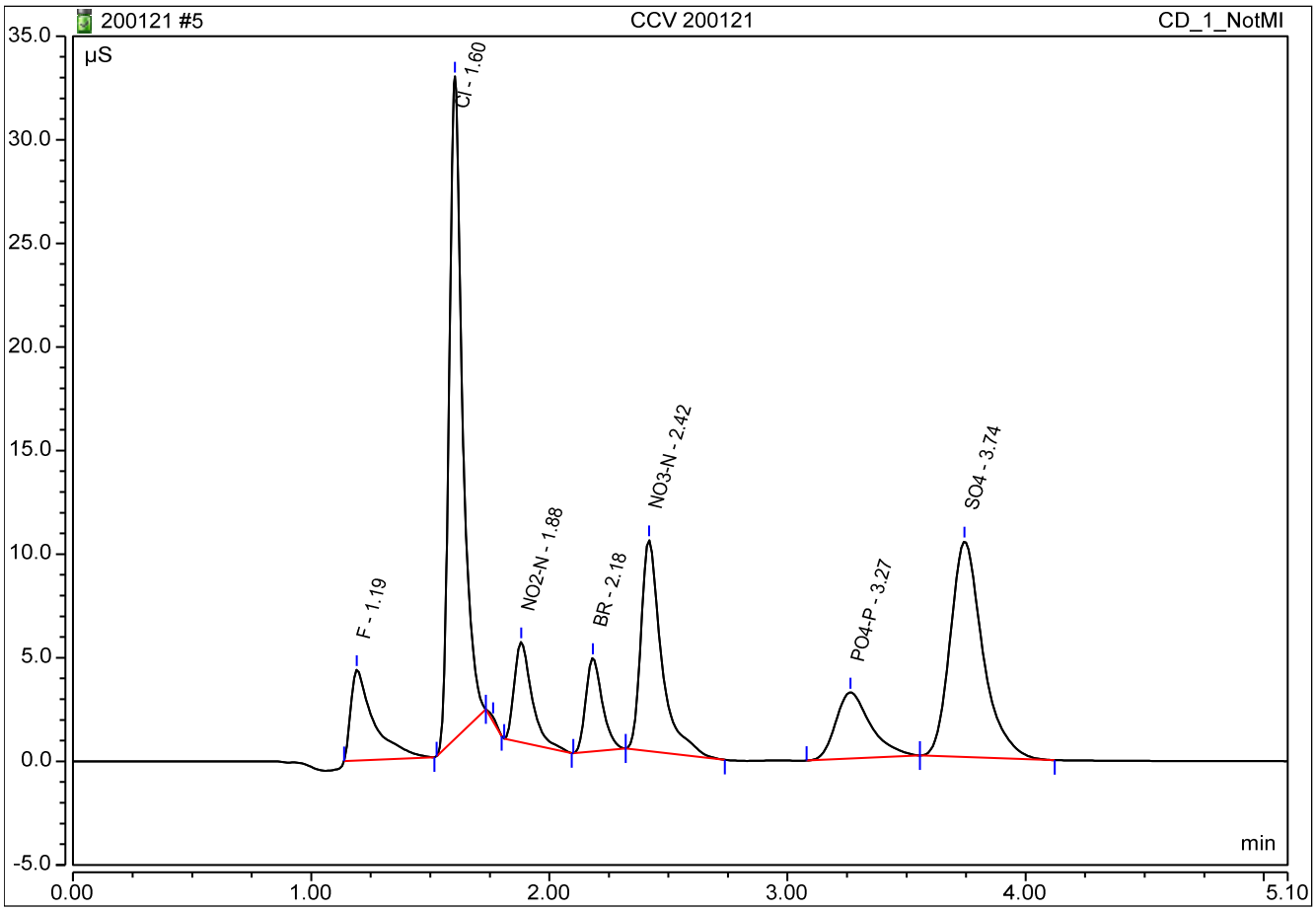
CD M1 200127

Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Not Manipulated Peak Integration Report

Sample Name:	**CCV 200121**	*Inj. Vol.:*	**25uL**
Injection Type:	**Check Standard**	*Dilution Factor:*	**1.0000**
Program:	**Anion APM 191211**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**21-Jan-2020 / 19:37**	*Run Time:*	**5.10**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Ammount mg/L
1	1.19	**F**	BMB	0.489	4.387	4.3318
2	1.60	**Cl**	BM *	2.086	31.982	23.0095
4	1.88	**NO2-N**	BMB	0.417	4.855	2.8037
5	2.18	**BR**	BMB	0.362	4.518	11.9939
6	2.42	**NO3-N**	BMB	1.018	10.192	4.8426
7	3.27	**PO4-P**	BMB	0.542	3.202	11.0951
8	3.74	**SO4**	BMB	1.647	10.414	25.0774

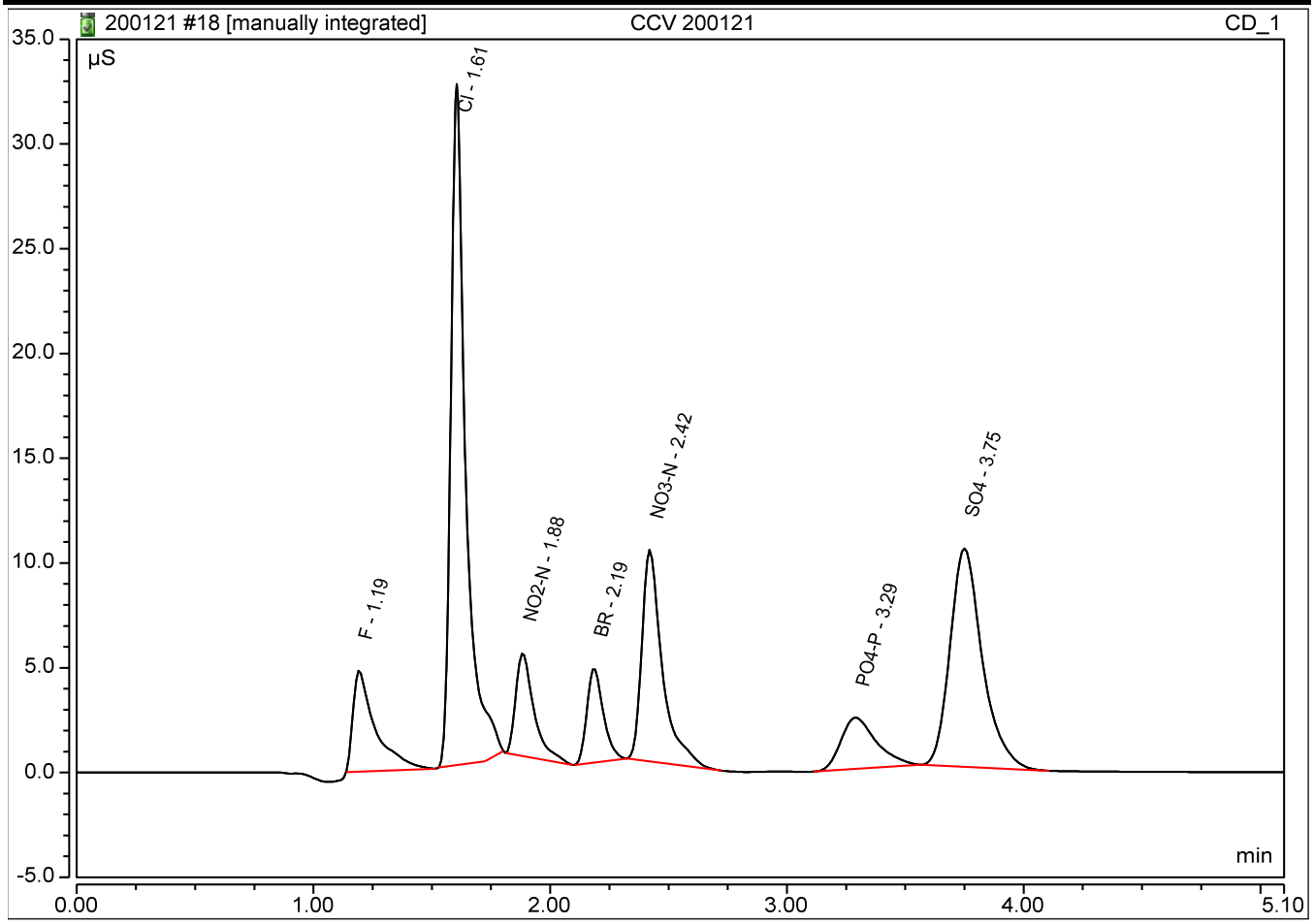


Logged on User: BW
Instrument: Charlie System_1
Sequence: 200121

Peak Integration Report

Sample Name:	**CCV 200121**	*Inj. Vol.:*	**25uL**
Injection Type:	**Check Standard**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 191211**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**21-Jan-2020 / 21:14**	*Run Time:*	**5.10**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.19	**F**	BMB	0.526	4.822	4.71	5	94.2%
2	1.61	**Cl**	BM *	2.279	32.505	25.13	25	100.5%
4	1.88	**NO2-N**	BMB	0.441	4.928	2.96	3.04	97.4%
5	2.19	**BR**	BMB	0.362	4.501	12.00	12.5	96.0%
6	2.42	**NO3-N**	BMB	1.008	10.095	4.80	5	95.9%
7	3.29	**PO4-P**	BMB	0.426	2.452	8.25	10	82.5%
8	3.75	**SO4**	BMB	1.645	10.428	25.10	25	100.4%



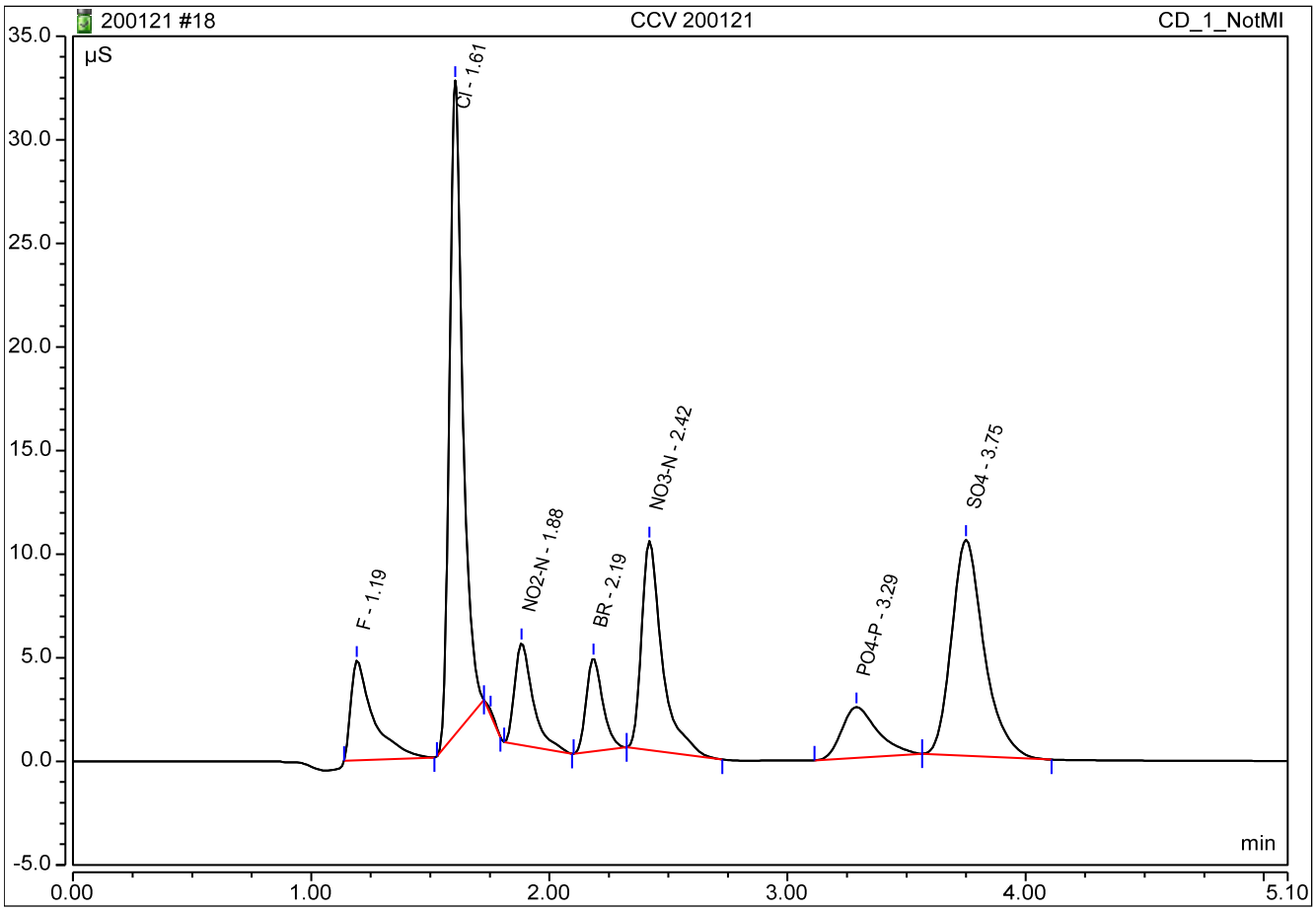
CD M1 200127

Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Not Manipulated Peak Integration Report

Sample Name:	**CCV 200121**	*Inj. Vol.:*	**25uL**
Injection Type:	**Check Standard**	*Dilution Factor:*	**1.0000**
Program:	**Anion APM 191211**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**21-Jan-2020 / 21:14**	*Run Time:*	**5.10**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Ammount mg/L
1	1.19	**F**	BMB	0.526	4.822	4.6590
2	1.61	**Cl**	BM *	2.040	31.557	22.5032
4	1.88	**NO2-N**	BMB	0.441	4.928	2.9611
5	2.19	**BR**	BMB	0.362	4.501	11.9993
6	2.42	**NO3-N**	BMB	1.008	10.095	4.7966
7	3.29	**PO4-P**	BMB	0.426	2.452	9.1839
8	3.75	**SO4**	BMB	1.645	10.428	25.0493

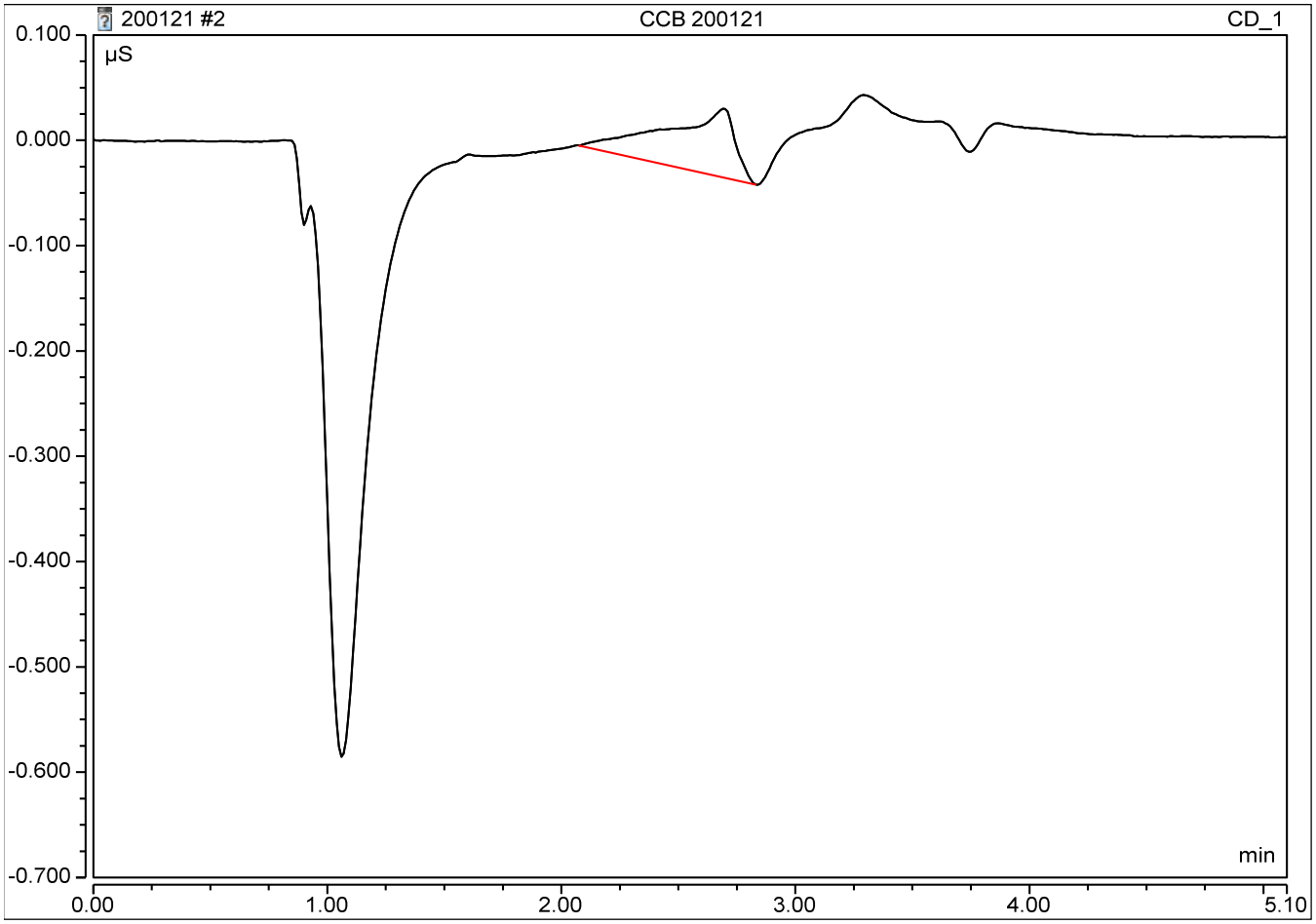


Logged on User: BW
Instrument: Charlie System_1
Sequence: 200121

Peak Integration Report

Sample Name:	**CCB 200121**	*Inj. Vol.:*	**25uL**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 191211**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**21-Jan-2020 / 19:14**	*Run Time:*	**5.10**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery

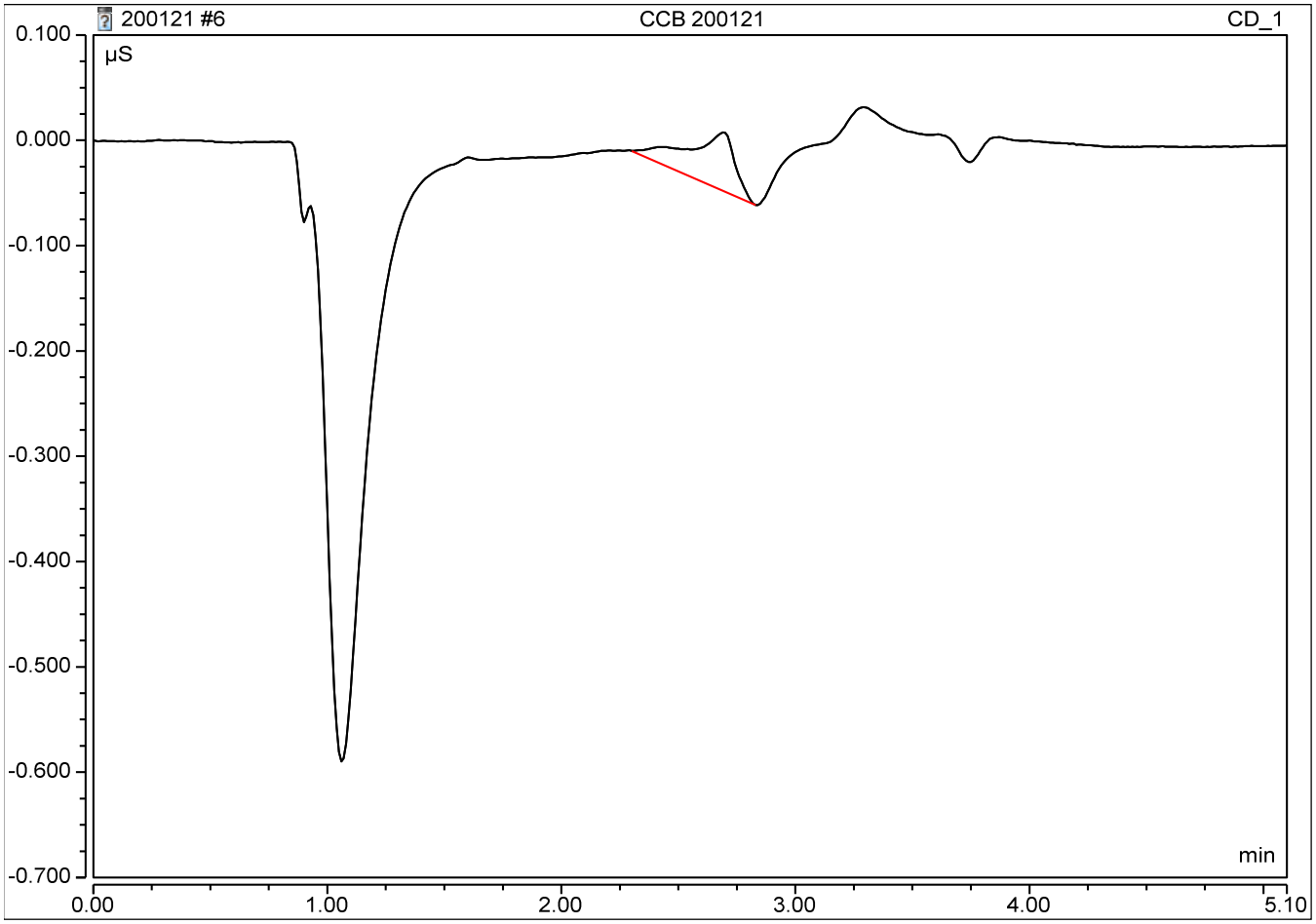


Logged on User: BW
Instrument: Charlie System_1
Sequence: 200121

Peak Integration Report

Sample Name:	**CCB 200121**	*Inj. Vol.:*	**25uL**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 191211**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**21-Jan-2020 / 19:44**	*Run Time:*	**5.10**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery

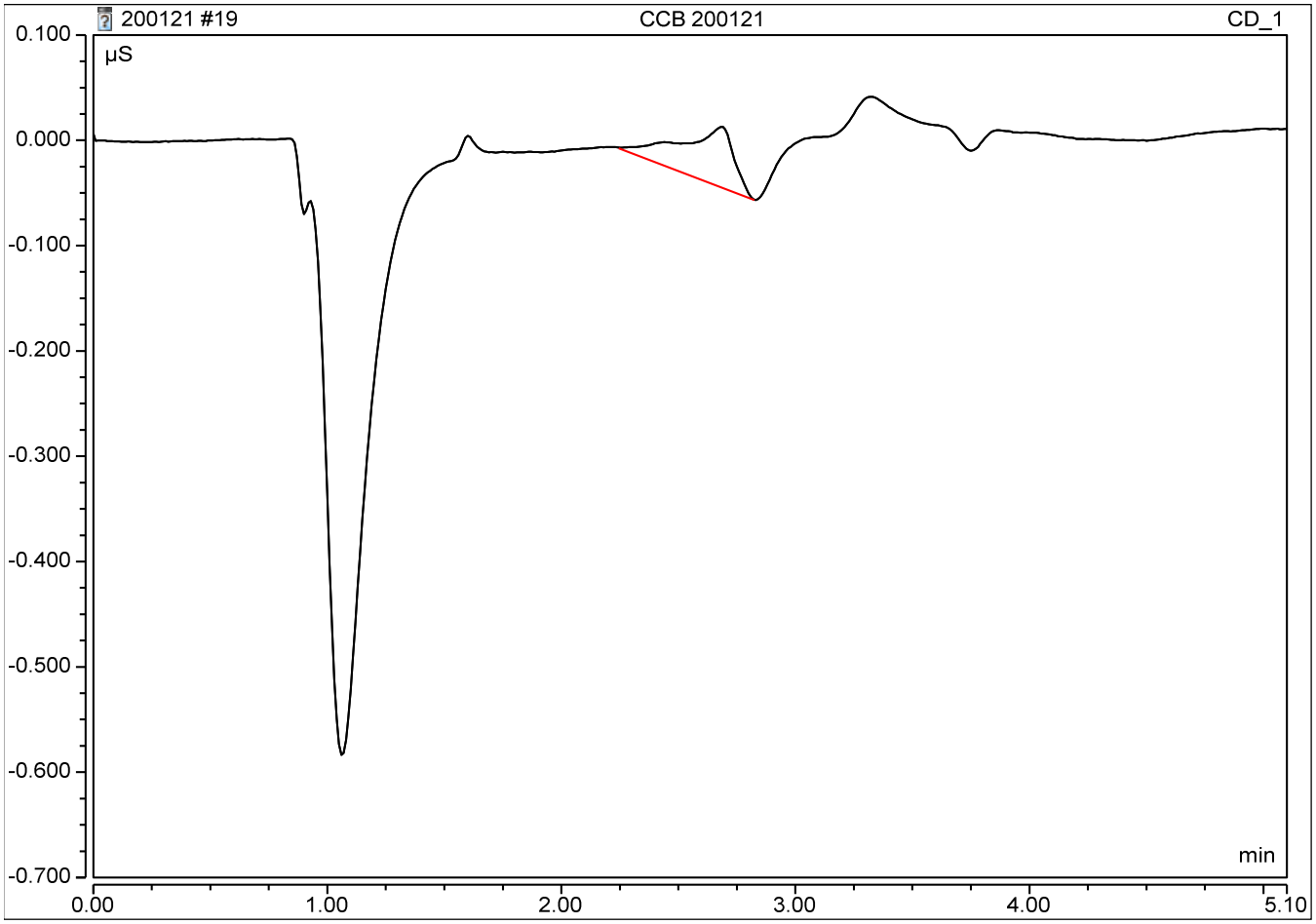


Logged on User: BW
Instrument: Charlie System_1
Sequence: 200121

Peak Integration Report

Sample Name:	**CCB 200121**	*Inj. Vol.:*	**25uL**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 191211**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**21-Jan-2020 / 21:22**	*Run Time:*	**5.10**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery



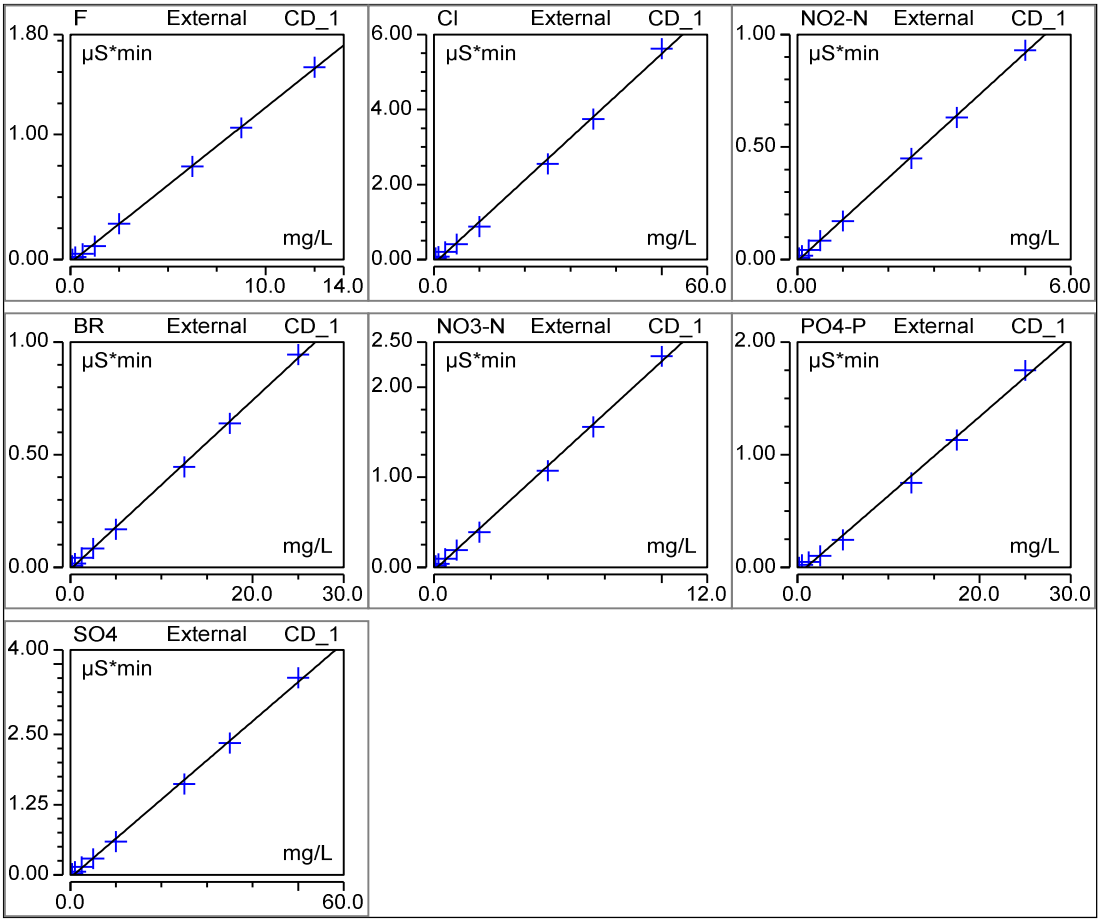
Calibration Batch Report

Sequence:	**200124 Soils & Calibration**	*Injection Volume:*	**25.00**
Instrument Method:	**Anions IM**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**24-Jan-2020 / 11:24**	*Run Time:*	**4**

Calibration Summary

Peak Name	Eval.Type	Cal.Type	Points	Offset (C0)	Slope (C1)	Curve (C2)	Coeff.Det. %
F	Area	Lin, WithOffset	8.000	-0.025	0.124	0.000	99.9488
Cl	Area	Lin, WithOffset	8.000	-0.113	0.112	0.000	99.7405
NO2-N	Area	Lin, WithOffset	8.000	-0.007	0.185	0.000	99.9513
BR	Area	Lin, WithOffset	8.000	-0.009	0.038	0.000	99.9109
NO3-N	Area	Lin, WithOffset	8.000	-0.035	0.232	0.000	99.7977
PO4-P	Area	Lin, WithOffset	7.000	-0.068	0.070	0.000	99.4792
SO4	Area	Lin, WithOffset	8.000	-0.048	0.070	0.000	99.8299

Injection Name	Amount mg/L CD_1 F	Amount mg/L CD_1 Cl	Amount mg/L CD_1 NO2-N	Amount mg/L CD_1 BR	Amount mg/L CD_1 NO3-N	Amount mg/L CD_1 PO4-P	Amount mg/L CD_1 SO4
Cal1 2020.01.24	0.228	1.3600	0.0722	0.4229	0.2234	n.a.	1.0723
Cal2 2020.01.24	0.362	1.7181	0.1262	0.6872	0.3116	1.2621	1.5442
Cal3 2020.01.24	0.586	2.8243	0.2660	1.3612	0.5638	1.6564	2.7826
Cal4 2020.01.24	1.070	4.7051	0.4917	2.4619	0.9732	2.3867	4.8512
Cal5 2020.01.24	2.511	8.8539	0.9620	4.7332	1.8368	4.4319	9.2057
Cal6 2020.01.24	6.197	23.7634	2.4619	12.1193	4.7654	11.6172	23.9660
Cal7 2020.01.24	8.687	34.4548	3.4470	17.2598	6.8658	17.0500	34.3918
Cal8 2020.01.24	12.585	51.2204	5.0630	25.4046	10.2400	25.8458	51.0861

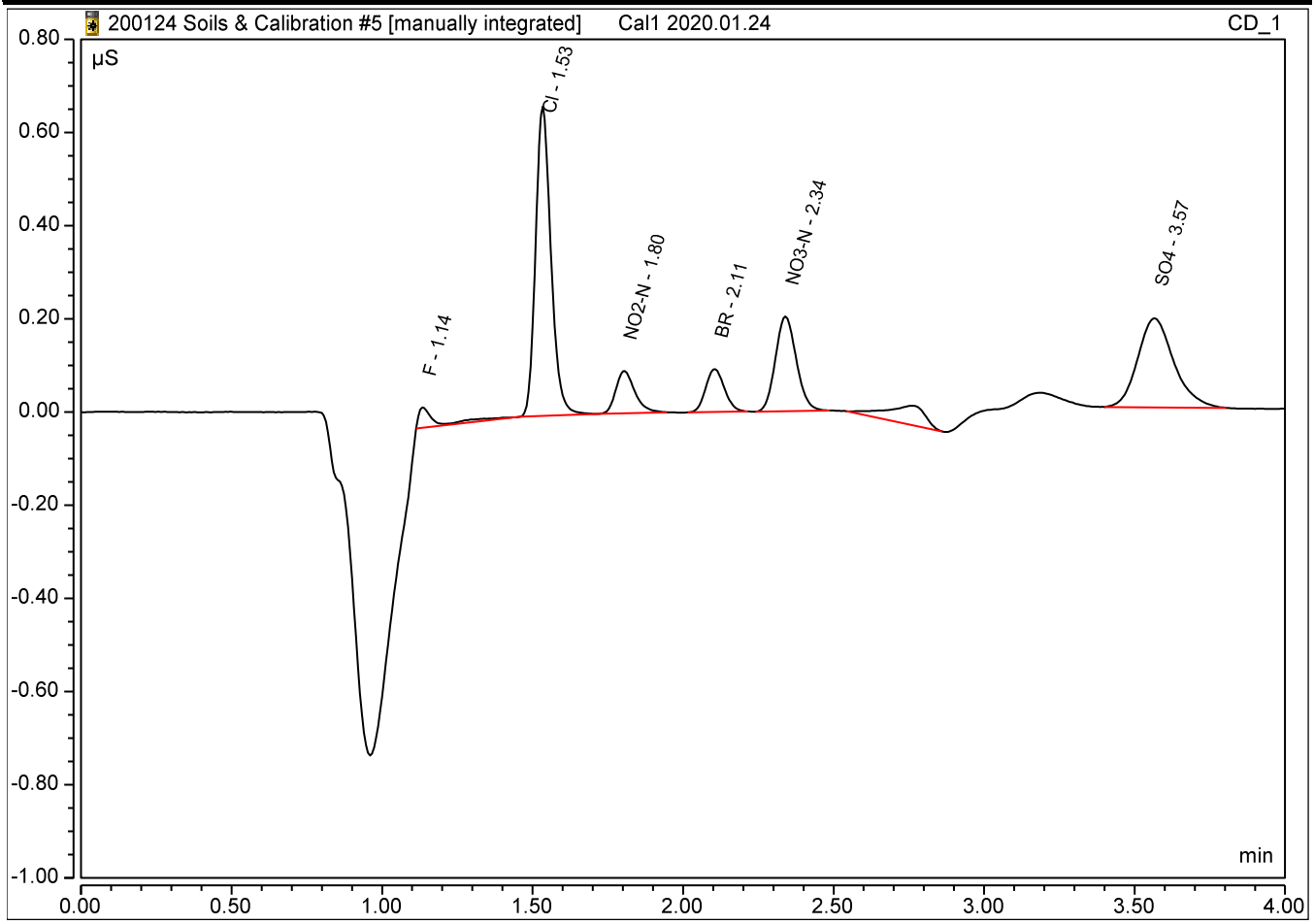


Logged on User: BW
Instrument: Charlie System_1
Sequence: 200124 Soils Calibration

Peak Integration Report

Sample Name:	**Cal1 2020.01.24**	*Inj. Vol.:*	**25uL**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**24-Jan-2020 / 10:39**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.14	**F**	BMB*	0.003	0.044	0.23	0.1	227.6%
2	1.53	**Cl**	BMB	0.039	0.664	1.36	0.4	340.0%
3	1.80	**NO2-N**	BMB	0.007	0.091	0.07	0.04	180.4%
4	2.11	**BR**	BMB	0.007	0.093	0.42	0.2	211.4%
5	2.34	**NO3-N**	BMB	0.016	0.204	0.22	0.08	279.3%
7	3.57	**SO4**	BMB	0.027	0.191	1.07	0.4	268.1%

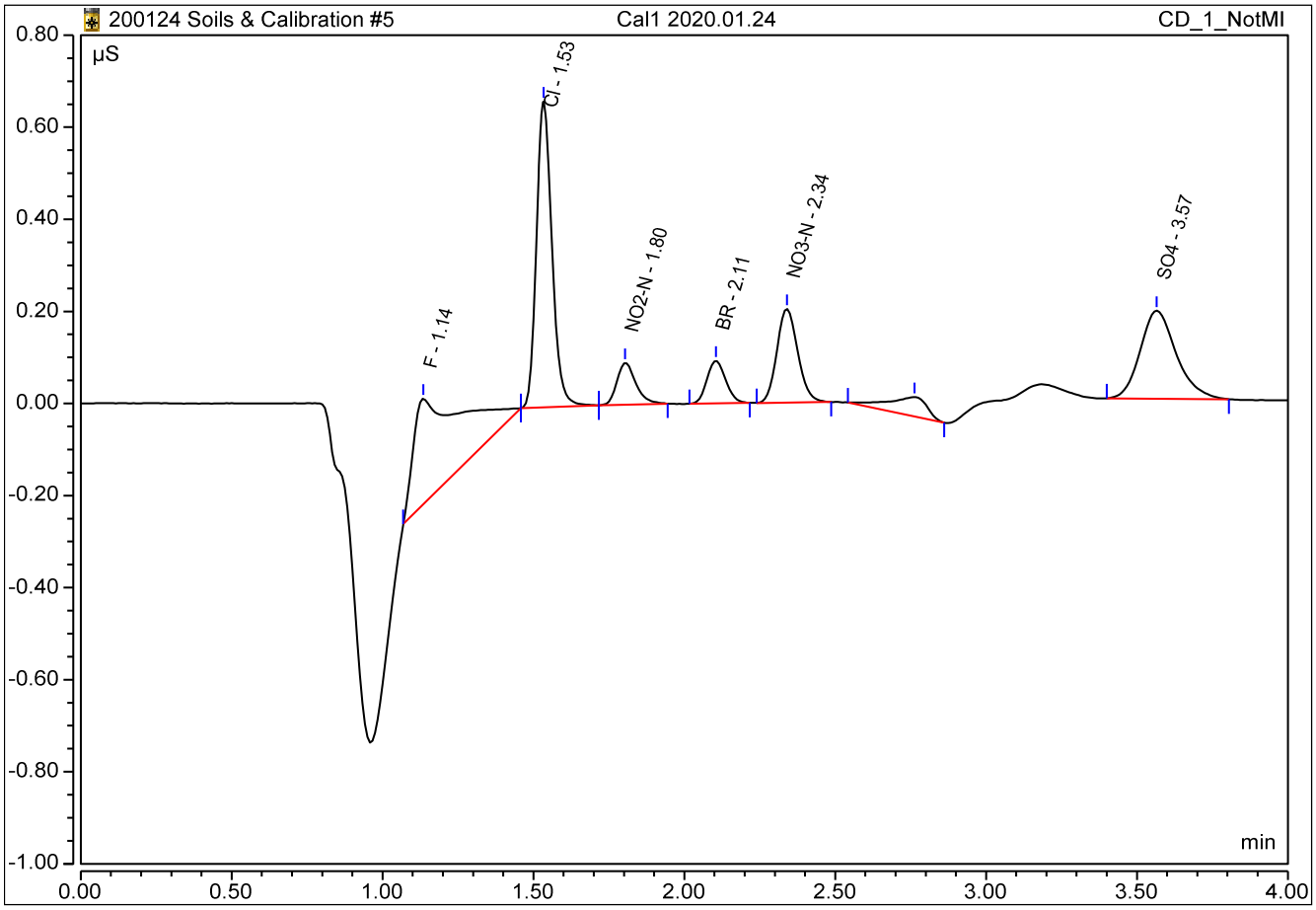


F, PO4 mi1 CD, 2020.01.24 HH

Not Manipulated Peak Integration Report

Sample Name:	**Cal1 2020.01.24**	*Inj. Vol.:*	**25uL**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**24-Jan-2020 / 10:39**	*Run Time:*	**4.00**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Ammount mg/L
1	1.14	**F**	BMB*	0.041	0.229	0.1940
2	1.53	**Cl**	BMB	0.039	0.664	1.3600
3	1.80	**NO2-N**	BMB	0.007	0.091	0.0722
4	2.11	**BR**	BMB	0.007	0.093	0.4229
5	2.34	**NO3-N**	BMB	0.016	0.204	0.2234
7	3.57	**SO4**	BMB	0.027	0.191	1.0723

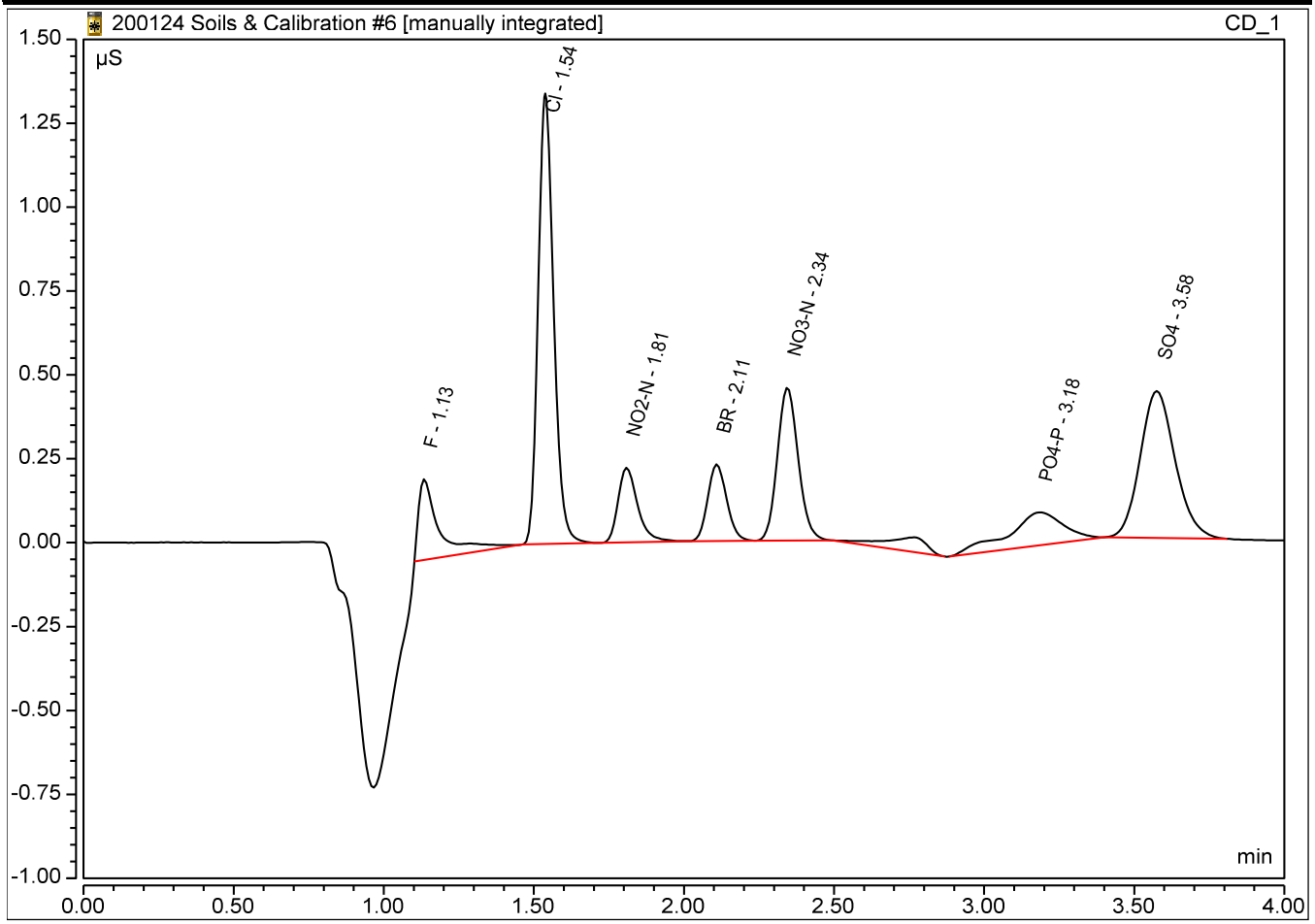


Logged on User: BW
Instrument: Charlie System_1
Sequence: 200124 Soils Calibration

Peak Integration Report

Sample Name:	**Cal2 2020.01.24**	*Inj. Vol.:*	**25uL**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**24-Jan-2020 / 10:46**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.13	**F**	BMB*	0.019	0.241	0.36	0.25	144.6%
2	1.54	**Cl**	BMB	0.080	1.343	1.72	1	171.8%
3	1.81	**NO2-N**	BMB	0.017	0.222	0.13	0.1	126.2%
4	2.11	**BR**	BMB	0.017	0.228	0.69	0.5	137.4%
5	2.34	**NO3-N**	BMB	0.037	0.456	0.31	0.2	155.8%
7	3.18	**PO4-P**	BMB	0.021	0.098	1.26	0.5	252.4%
8	3.58	**SO4**	BMB	0.059	0.438	1.54	1	154.4%



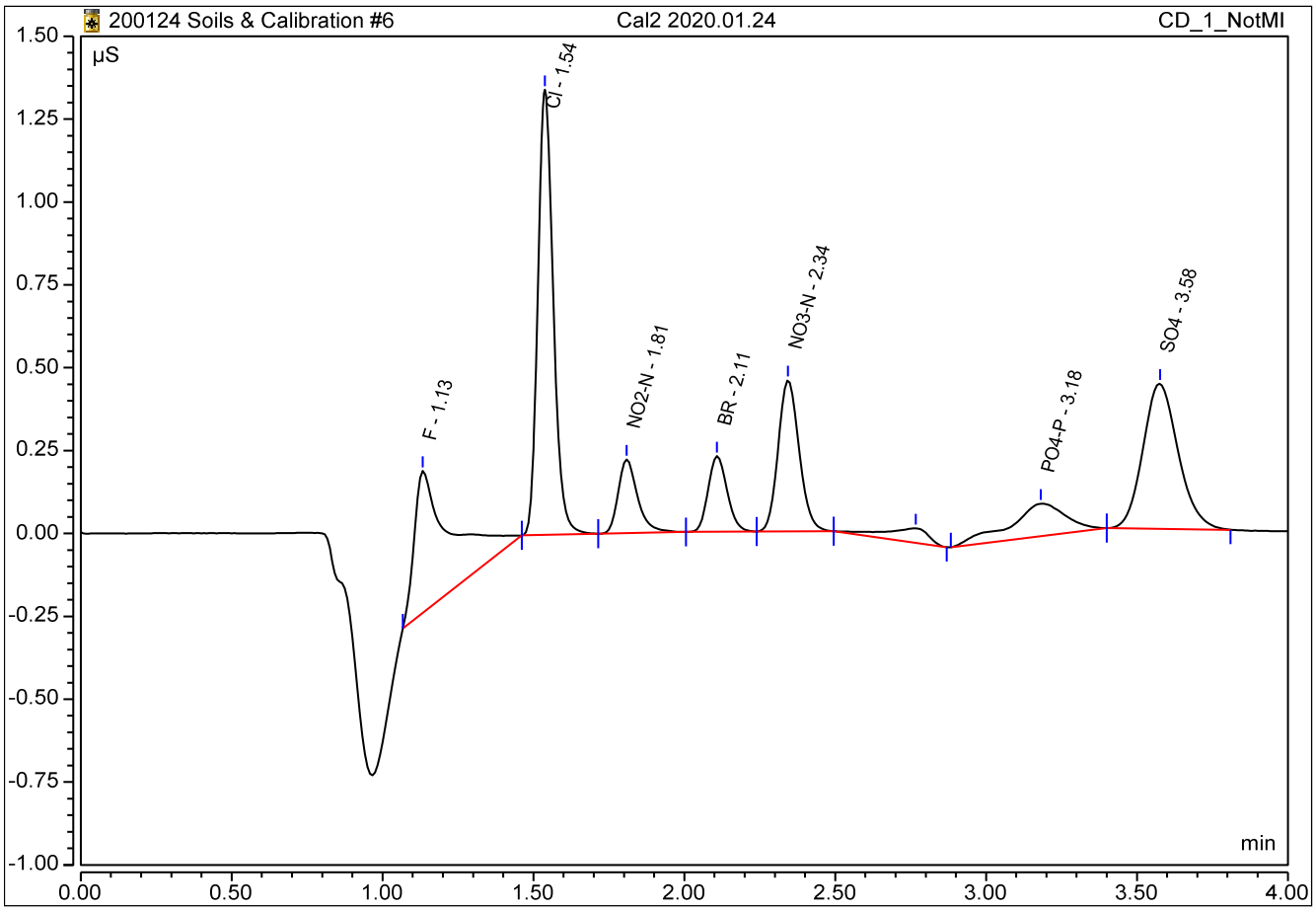
F, PO4 mi1 CD, 2020.01.24 HH

Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Not Manipulated Peak Integration Report

Sample Name:	**Cal2 2020.01.24**	*Inj. Vol.:*	**25uL**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**24-Jan-2020 / 10:46**	*Run Time:*	**4.00**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Ammount mg/L
1	1.13	**F**	BMB*	0.059	0.428	0.3466
2	1.54	**Cl**	BMB	0.080	1.343	1.7181
3	1.81	**NO2-N**	BMB	0.017	0.222	0.1262
4	2.11	**BR**	BMB	0.017	0.228	0.6872
5	2.34	**NO3-N**	BMB	0.037	0.456	0.3116
7	3.18	**PO4-P**	BMB	0.021	0.098	1.2621
8	3.58	**SO4**	BMB	0.059	0.438	1.5442

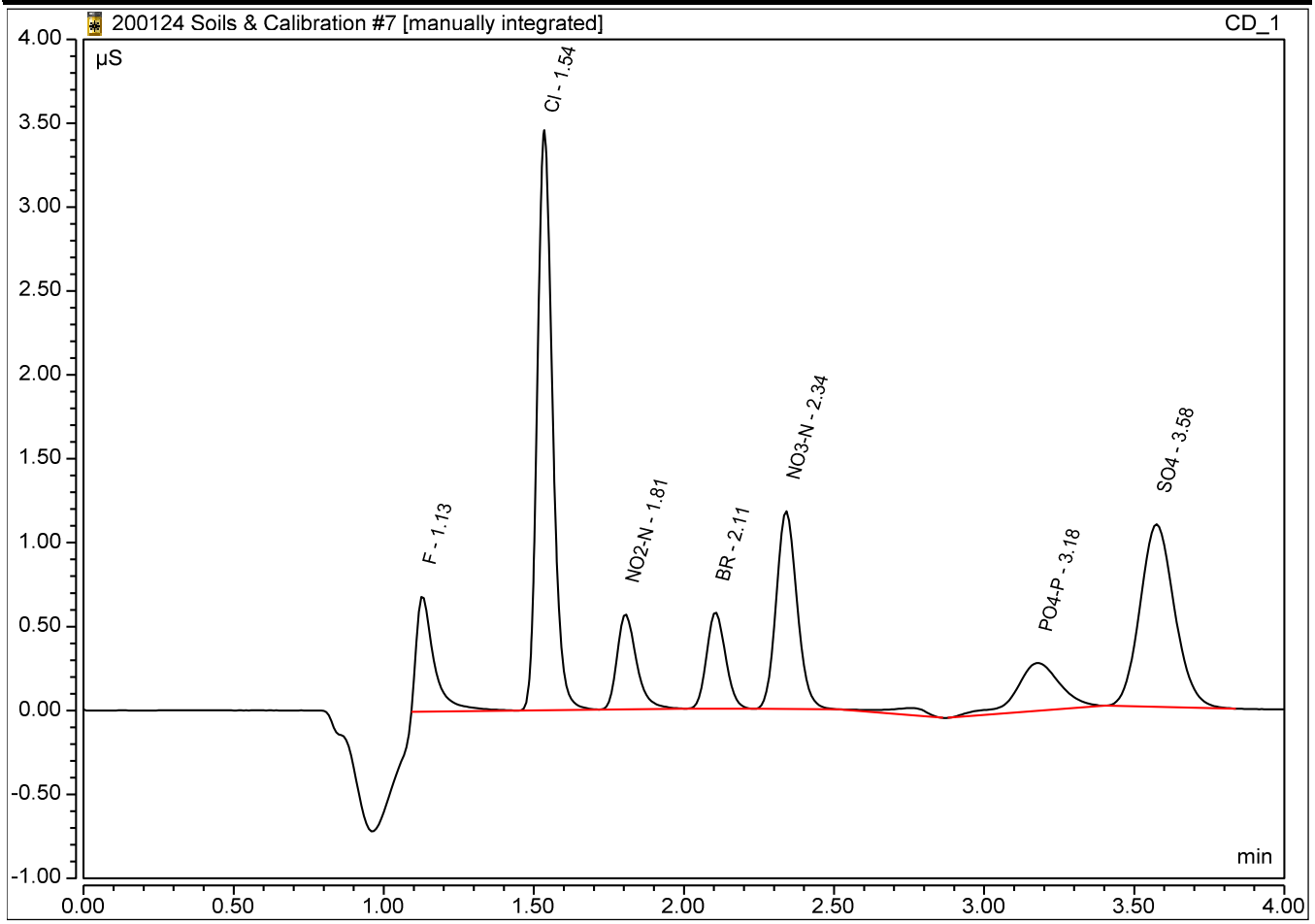


Logged on User: BW
Instrument: Charlie System_1
Sequence: 200124 Soils Calibration

Peak Integration Report

Sample Name:	**Cal3 2020.01.24**	*Inj. Vol.:*	**25uL**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**24-Jan-2020 / 10:52**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.13	**F**	BMB*	0.047	0.692	0.59	0.625	93.8%
2	1.54	**Cl**	BMB	0.203	3.456	2.82	2.5	113.0%
3	1.81	**NO2-N**	BMB	0.043	0.567	0.27	0.25	106.4%
4	2.11	**BR**	BMB	0.042	0.577	1.36	1.25	108.9%
5	2.34	**NO3-N**	BMB	0.095	1.180	0.56	0.5	112.8%
7	3.18	**PO4-P**	BMB	0.049	0.286	1.66	1.25	132.5%
8	3.58	**SO4**	BMB	0.145	1.089	2.78	2.5	111.3%



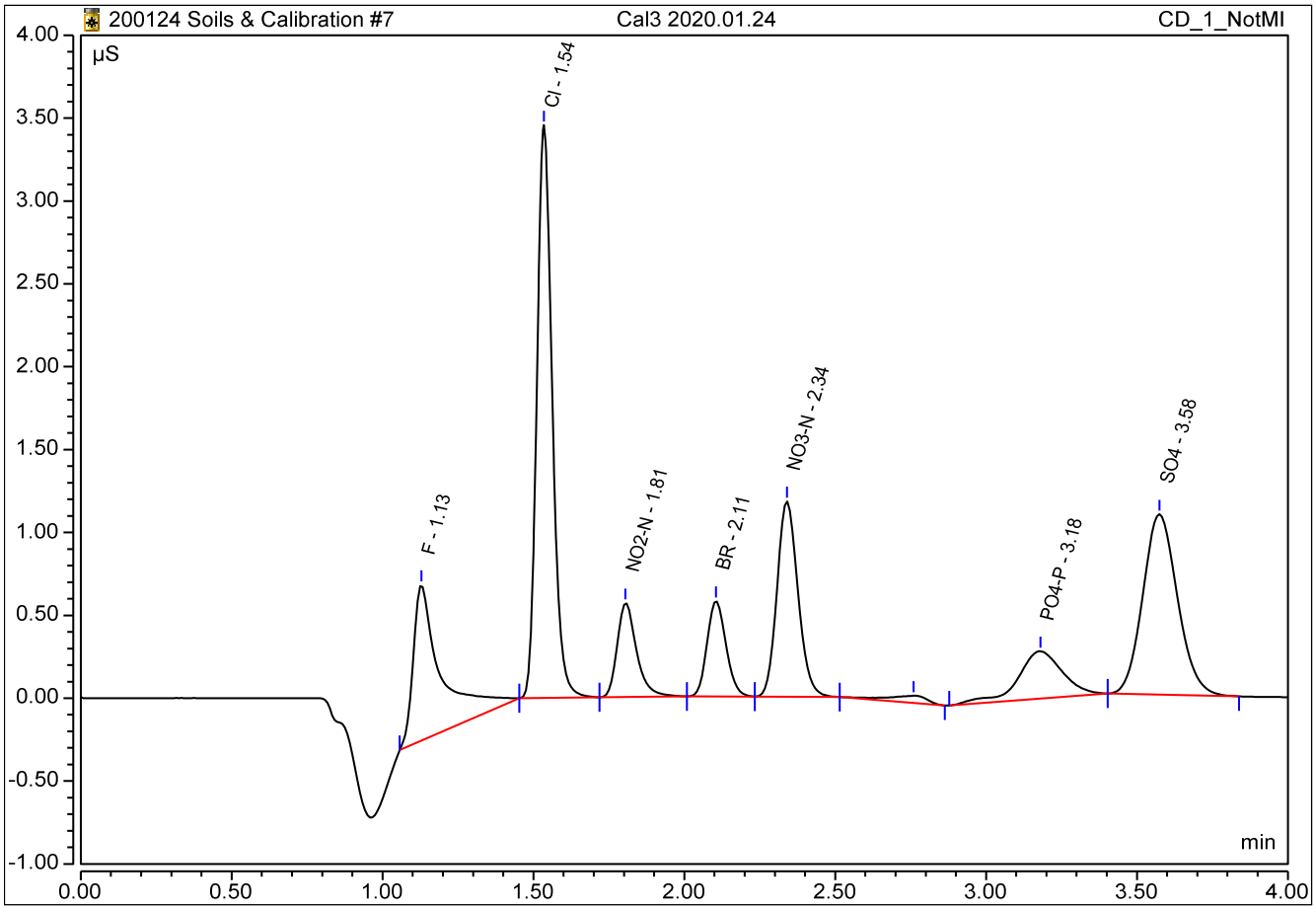
F, PO4 mi1 CD, 2020.01.24 HH

Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Not Manipulated Peak Integration Report

Sample Name:	**Cal3 2020.01.24**	*Inj. Vol.:*	**25uL**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**24-Jan-2020 / 10:52**	*Run Time:*	**4.00**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Ammount mg/L
1	1.13	**F**	BMB*	0.101	0.940	0.6915
2	1.54	**Cl**	BMB	0.203	3.456	2.8243
3	1.81	**NO2-N**	BMB	0.043	0.567	0.2660
4	2.11	**BR**	BMB	0.042	0.577	1.3612
5	2.34	**NO3-N**	BMB	0.095	1.180	0.5638
7	3.18	**PO4-P**	BMB	0.049	0.286	1.6564
8	3.58	**SO4**	BMB	0.145	1.089	2.7826

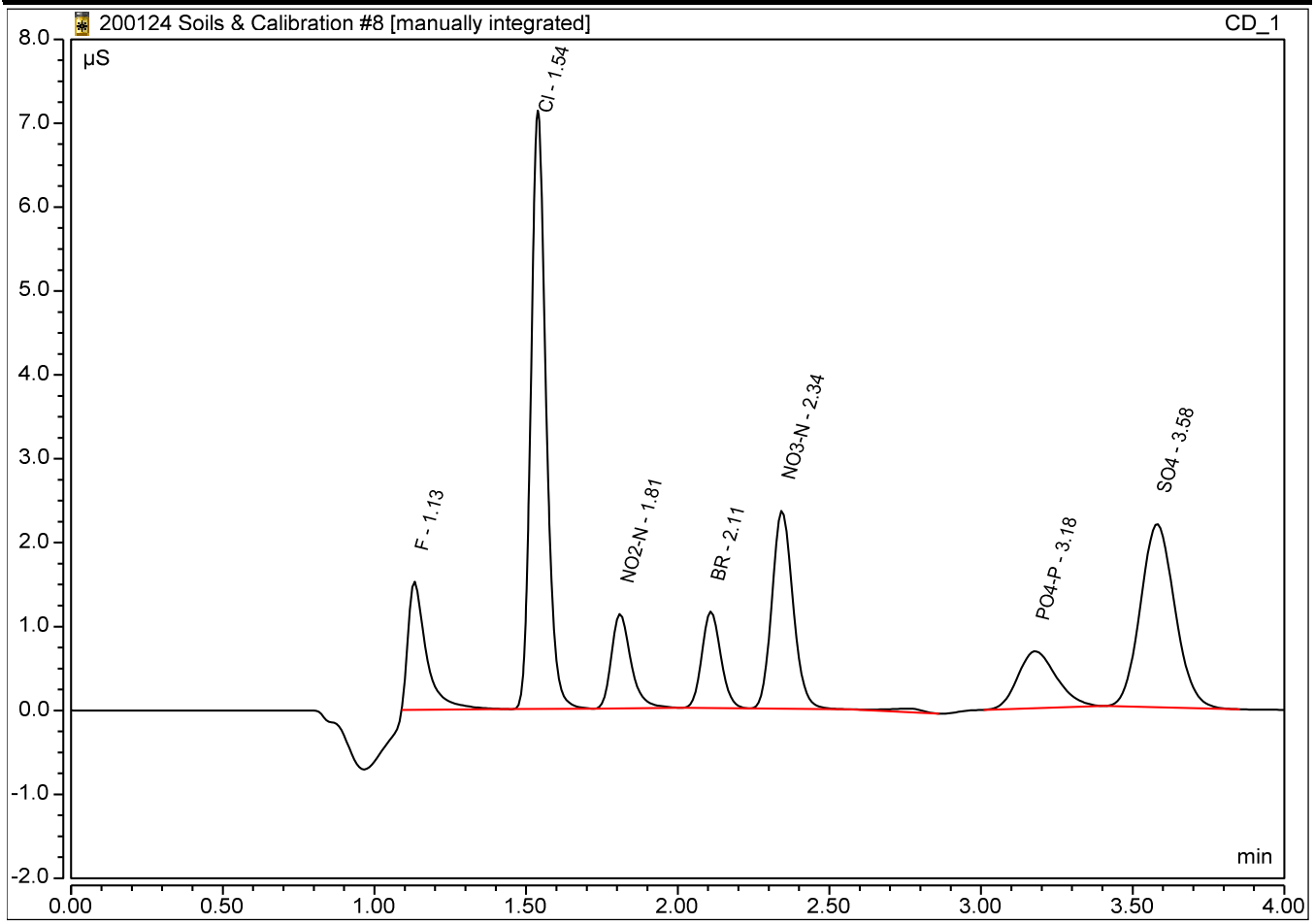


Logged on User: BW
Instrument: Charlie System_1
Sequence: 200124 Soils Calibration

Peak Integration Report

Sample Name:	**Cal4 2020.01.24**	*Inj. Vol.:*	**25uL**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**24-Jan-2020 / 10:58**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.13	**F**	BMB*	0.107	1.531	1.07	1.25	85.6%
2	1.54	**Cl**	BMB	0.414	7.133	4.71	5	94.1%
3	1.81	**NO2-N**	BMB	0.084	1.126	0.49	0.5	98.3%
4	2.11	**BR**	BMB	0.083	1.149	2.46	2.5	98.5%
5	2.34	**NO3-N**	BMB	0.191	2.361	0.97	1	97.3%
7	3.18	**PO4-P**	BMB	0.100	0.678	2.39	2.5	95.5%
8	3.58	**SO4**	BMB	0.289	2.186	4.85	5	97.0%



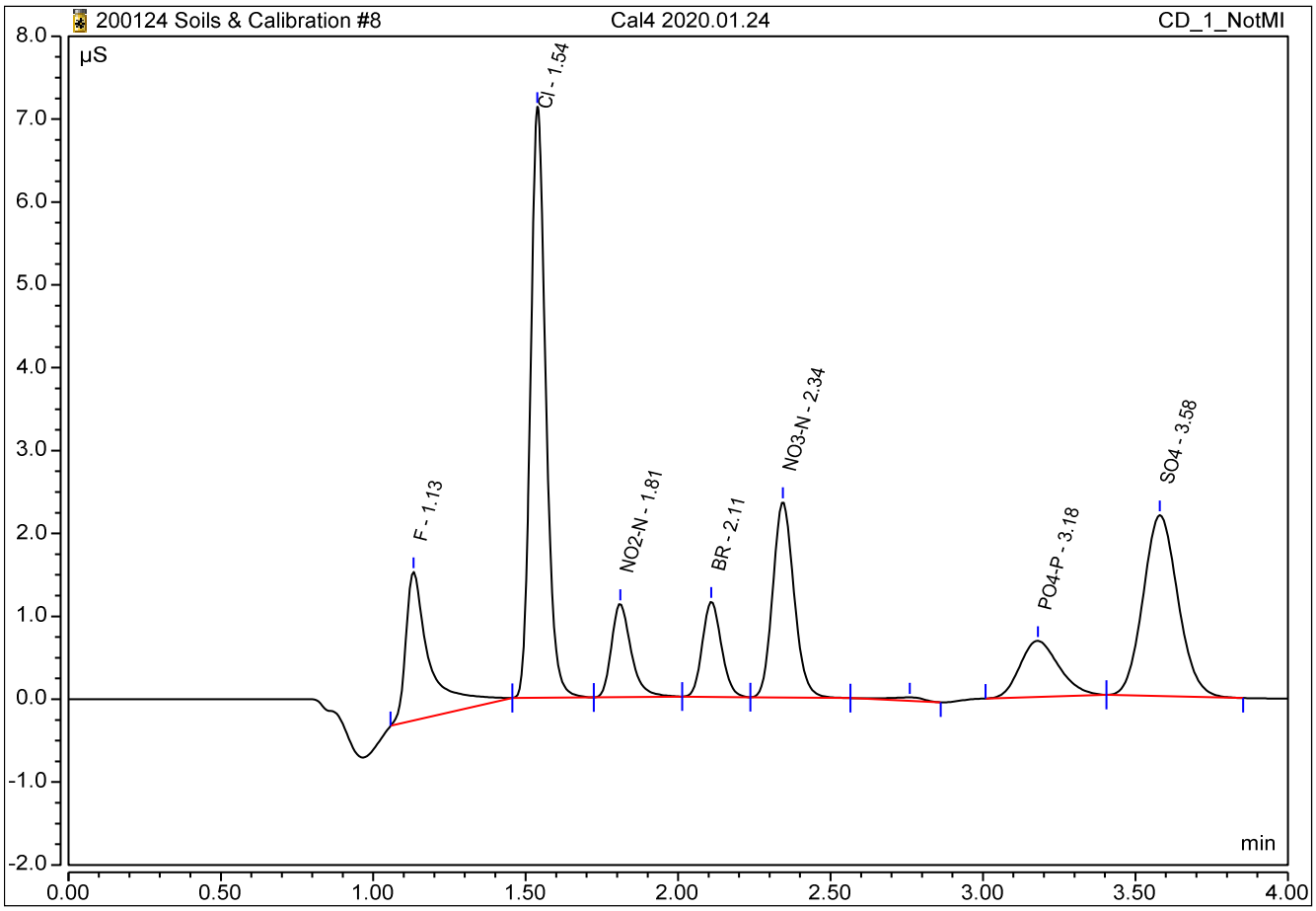
F, PO4 mi1 CD, 2020.01.24 HH

Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Not Manipulated Peak Integration Report

Sample Name:	**Cal4 2020.01.24**	*Inj. Vol.:*	**25uL**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**24-Jan-2020 / 10:58**	*Run Time:*	**4.00**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Ammount mg/L
1	1.13	**F**	BMB*	0.165	1.796	1.2337
2	1.54	**Cl**	BMB	0.414	7.133	4.7051
3	1.81	**NO2-N**	BMB	0.084	1.126	0.4917
4	2.11	**BR**	BMB	0.083	1.149	2.4619
5	2.34	**NO3-N**	BMB	0.191	2.361	0.9732
7	3.18	**PO4-P**	BMB	0.100	0.678	2.3867
8	3.58	**SO4**	BMB	0.289	2.186	4.8512

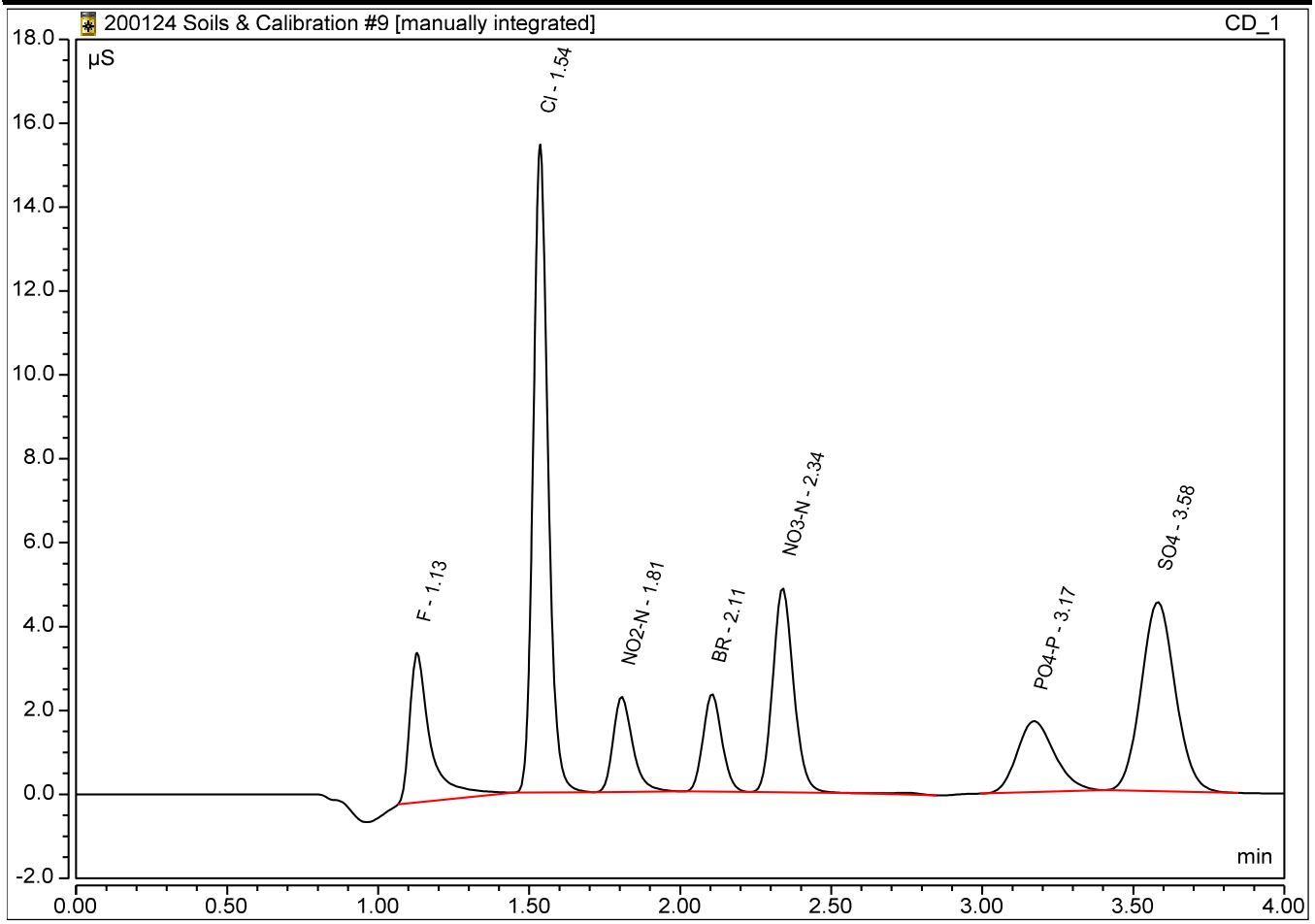


Logged on User: BW
Instrument: Charlie System_1
Sequence: 200124 Soils Calibration

Peak Integration Report

Sample Name:	**Cal5 2020.01.24**	*Inj. Vol.:*	**25uL**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**24-Jan-2020 / 11:05**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.13	**F**	BMB*	0.286	3.571	2.51	2.5	100.4%
2	1.54	**Cl**	BMB	0.878	15.449	8.85	10	88.5%
3	1.81	**NO2-N**	BMB	0.171	2.277	0.96	1	96.2%
4	2.11	**BR**	BMB	0.169	2.336	4.73	5	94.7%
5	2.34	**NO3-N**	BMB	0.391	4.883	1.84	2	91.8%
7	3.17	**PO4-P**	BMB	0.244	1.692	4.43	5	88.6%
8	3.58	**SO4**	BMB	0.592	4.514	9.21	10	92.1%



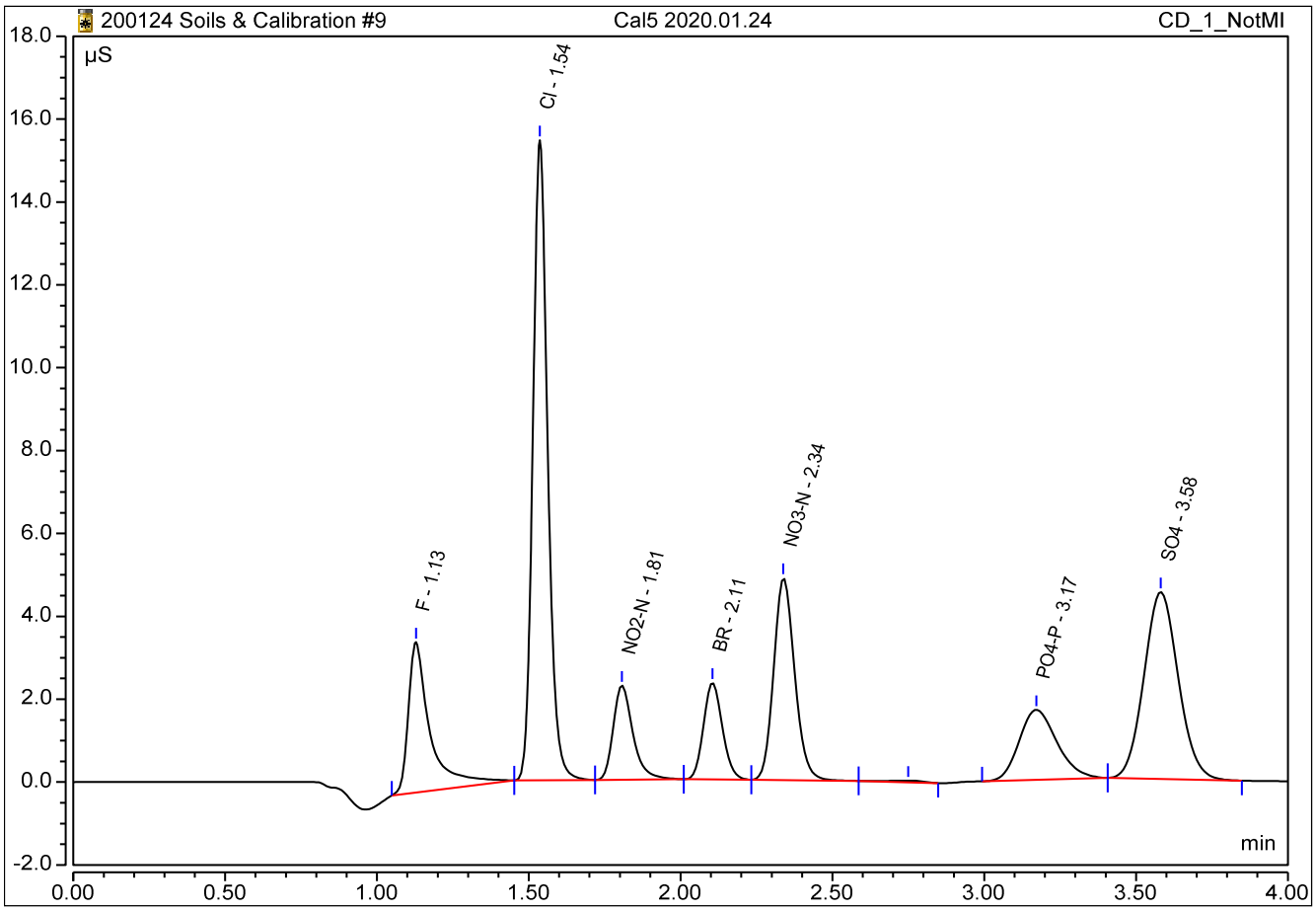
F, PO4 mi1 CD, 2020.01.24 HH

Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Not Manipulated Peak Integration Report

Sample Name:	**Cal5 2020.01.24**	*Inj. Vol.:*	**25uL**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**24-Jan-2020 / 11:05**	*Run Time:*	**4.00**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Ammount mg/L
1	1.13	**F**	BMB*	0.300	3.629	2.3591
2	1.54	**Cl**	BMB	0.878	15.449	8.8539
3	1.81	**NO2-N**	BMB	0.171	2.277	0.9620
4	2.11	**BR**	BMB	0.169	2.336	4.7332
5	2.34	**NO3-N**	BMB	0.391	4.883	1.8368
7	3.17	**PO4-P**	BMB	0.244	1.692	4.4319
8	3.58	**SO4**	BMB	0.592	4.514	9.2057

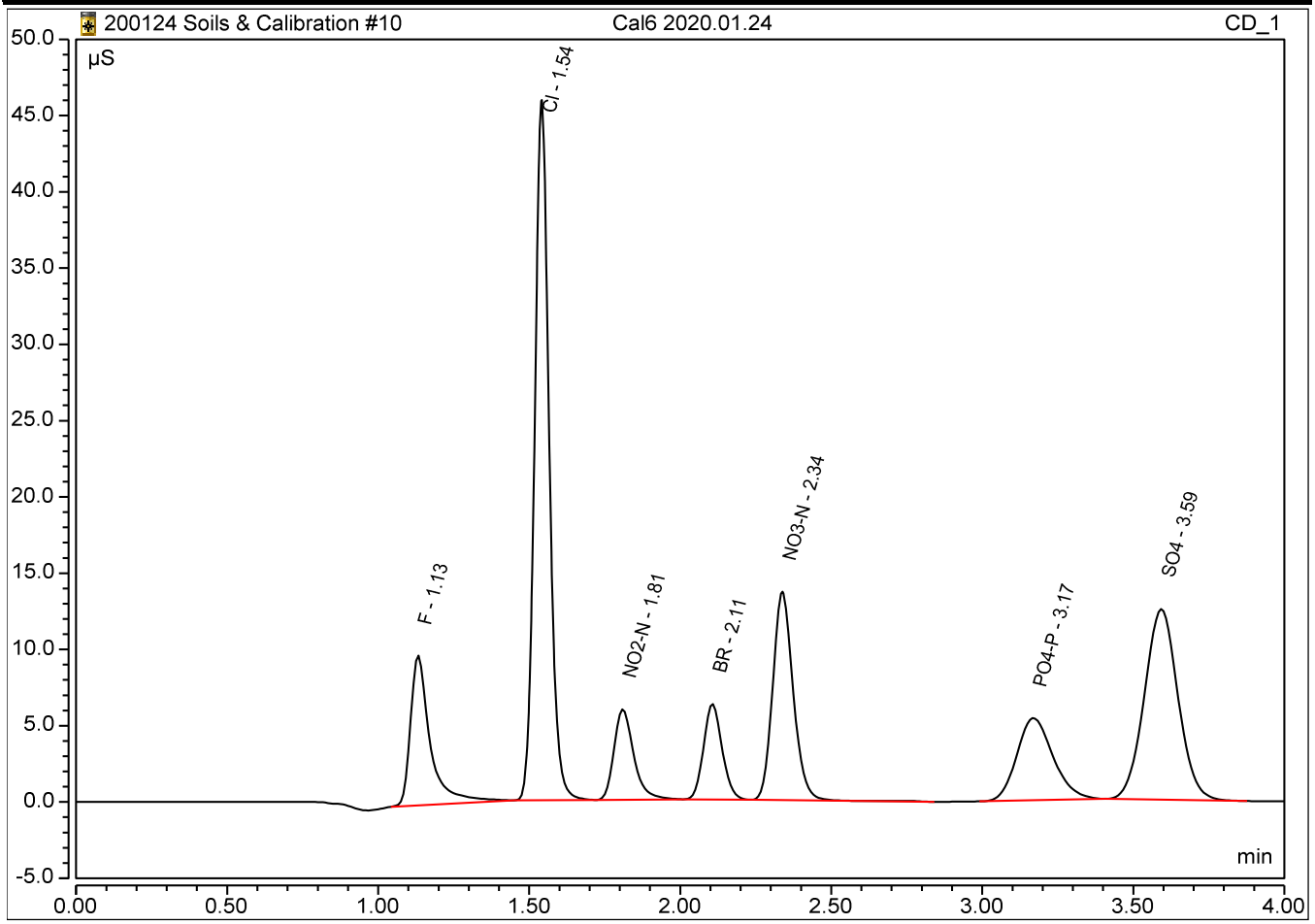


Logged on User: BW
Instrument: Charlie System_1
Sequence: 200124 Soils Calibration

Peak Integration Report

Sample Name:	**Cal6 2020.01.24**	*Inj. Vol.:*	**25uL**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**24-Jan-2020 / 11:11**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.13	**F**	BMB	0.744	9.837	6.20	6.25	99.2%
2	1.54	**Cl**	BMB	2.547	45.898	23.76	25	95.1%
3	1.81	**NO2-N**	BMB	0.449	5.934	2.46	2.5	98.5%
4	2.11	**BR**	BMB	0.446	6.270	12.12	12.5	97.0%
5	2.34	**NO3-N**	BMB	1.071	13.663	4.77	5	95.3%
7	3.17	**PO4-P**	BMB	0.749	5.390	11.62	12.5	92.9%
8	3.59	**SO4**	BMB	1.619	12.507	23.97	25	95.9%



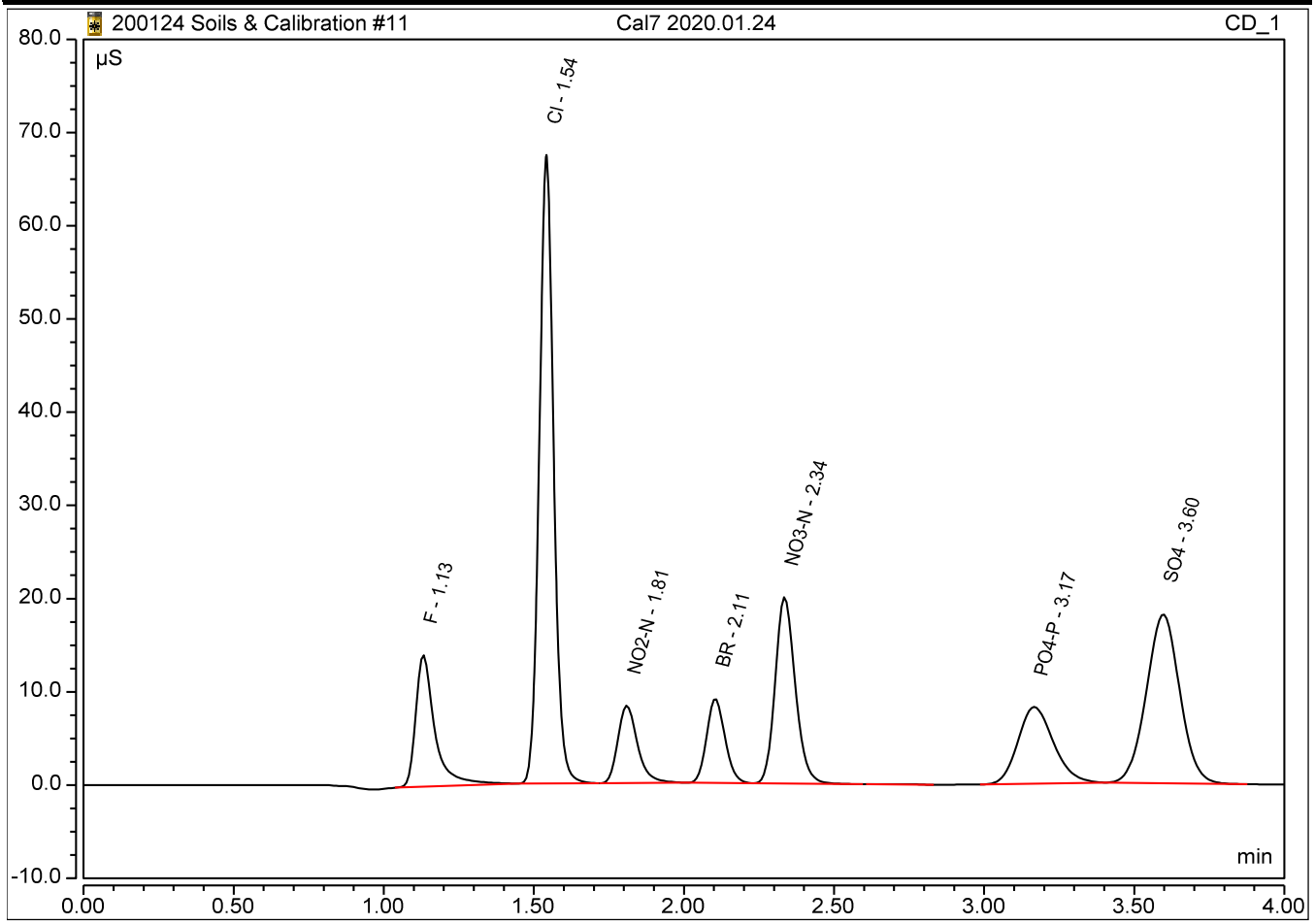
Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Logged on User: BW
Instrument: Charlie System_1
Sequence: 200124 Soils Calibration

Peak Integration Report

Sample Name:	**Cal7 2020.01.24**	*Inj. Vol.:*	**25uL**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**24-Jan-2020 / 11:18**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.13	**F**	BMB	1.053	14.161	8.69	8.75	99.3%
2	1.54	**Cl**	BMB	3.744	67.416	34.45	35	98.4%
3	1.81	**NO2-N**	BMB	0.631	8.309	3.45	3.5	98.5%
4	2.11	**BR**	BMB	0.639	9.051	17.26	17.5	98.6%
5	2.34	**NO3-N**	BMB	1.559	20.012	6.87	7	98.1%
7	3.17	**PO4-P**	BMB	1.131	8.229	17.05	17.5	97.4%
8	3.60	**SO4**	BMB	2.344	18.127	34.39	35	98.3%



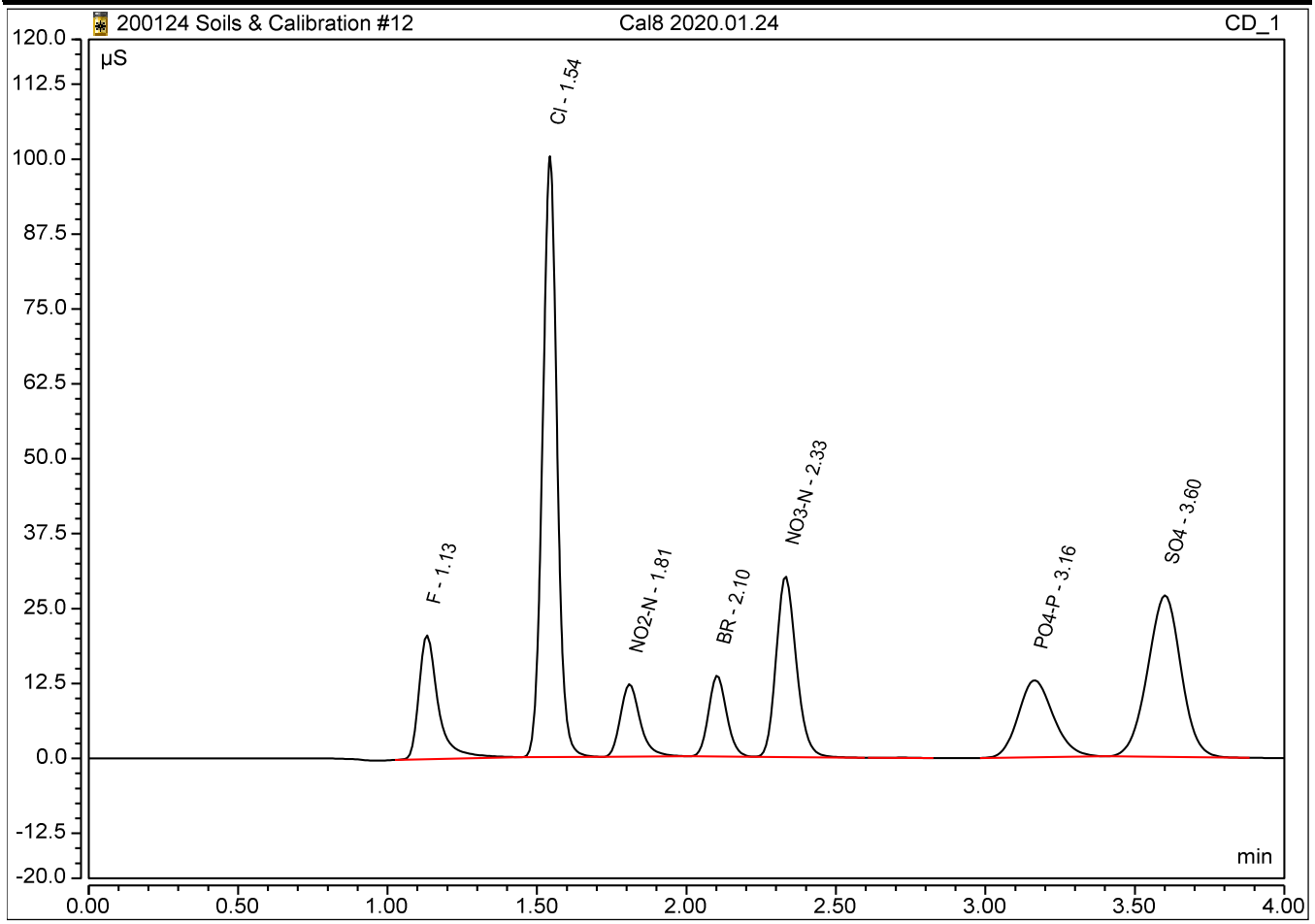
Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Logged on User: BW
Instrument: Charlie System_1
Sequence: 200124 Soils Calibration

Peak Integration Report

Sample Name:	**Cal8 2020.01.24**	*Inj. Vol.:*	**25uL**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**24-Jan-2020 / 11:24**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.13	**F**	BMB	1.537	20.700	12.59	12.5	100.7%
2	1.54	**Cl**	BMB	5.621	100.270	51.22	50	102.4%
3	1.81	**NO2-N**	BMB	0.930	12.106	5.06	5	101.3%
4	2.10	**BR**	BMB	0.945	13.502	25.40	25	101.6%
5	2.33	**NO3-N**	BMB	2.343	30.202	10.24	10	102.4%
7	3.16	**PO4-P**	BMB	1.749	12.851	25.85	25	103.4%
8	3.60	**SO4**	BMB	3.505	26.950	51.09	50	102.2%



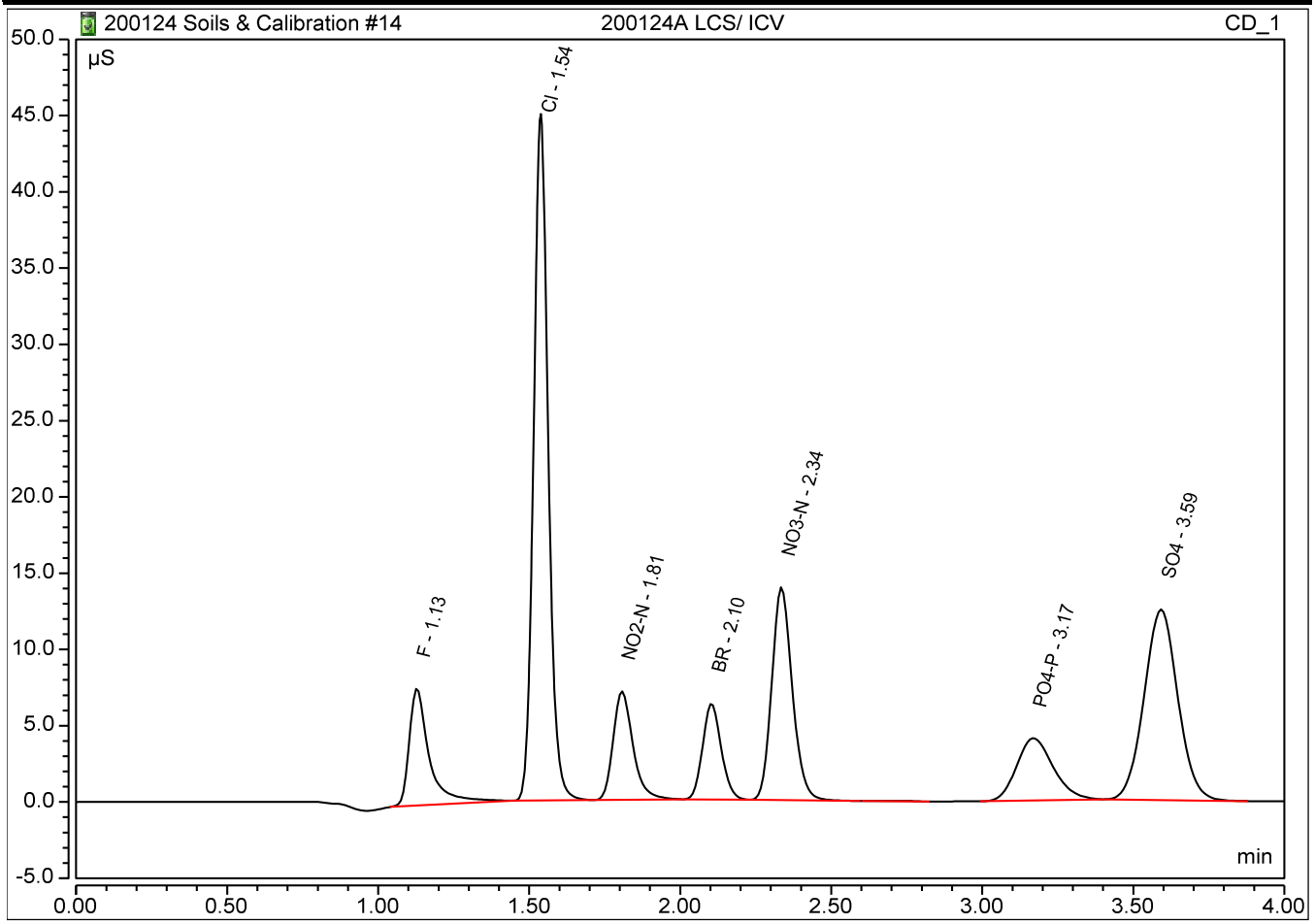
Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Logged on User: BW
Instrument: Charlie System_1
Sequence: 200124 Soils Calibration

Peak Integration Report

Sample Name:	**200124A LCS/ ICV**	*Inj. Vol.:*	**25uL**
Injection Type:	**Check Standard**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**24-Jan-2020 / 11:37**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.13	**F**	BMB	0.593	7.697	4.98	5	99.7%
2	1.54	**Cl**	BMB	2.516	45.013	23.48	25	93.9%
3	1.81	**NO2-N**	BMB	0.541	7.120	2.96	3.04	97.4%
4	2.10	**BR**	BMB	0.450	6.297	12.22	12.5	97.7%
5	2.34	**NO3-N**	BMB	1.099	13.953	4.89	5	97.7%
7	3.17	**PO4-P**	BMB	0.573	4.076	9.11	10	91.1%
8	3.59	**SO4**	BMB	1.618	12.498	23.96	25	95.9%



Algorithm Check
y = Peak Area
x = mg/L S04

y = 0.0695 x + -0.0480
y = 1.6184 therefor x = 23.97 CD 2020.01.24

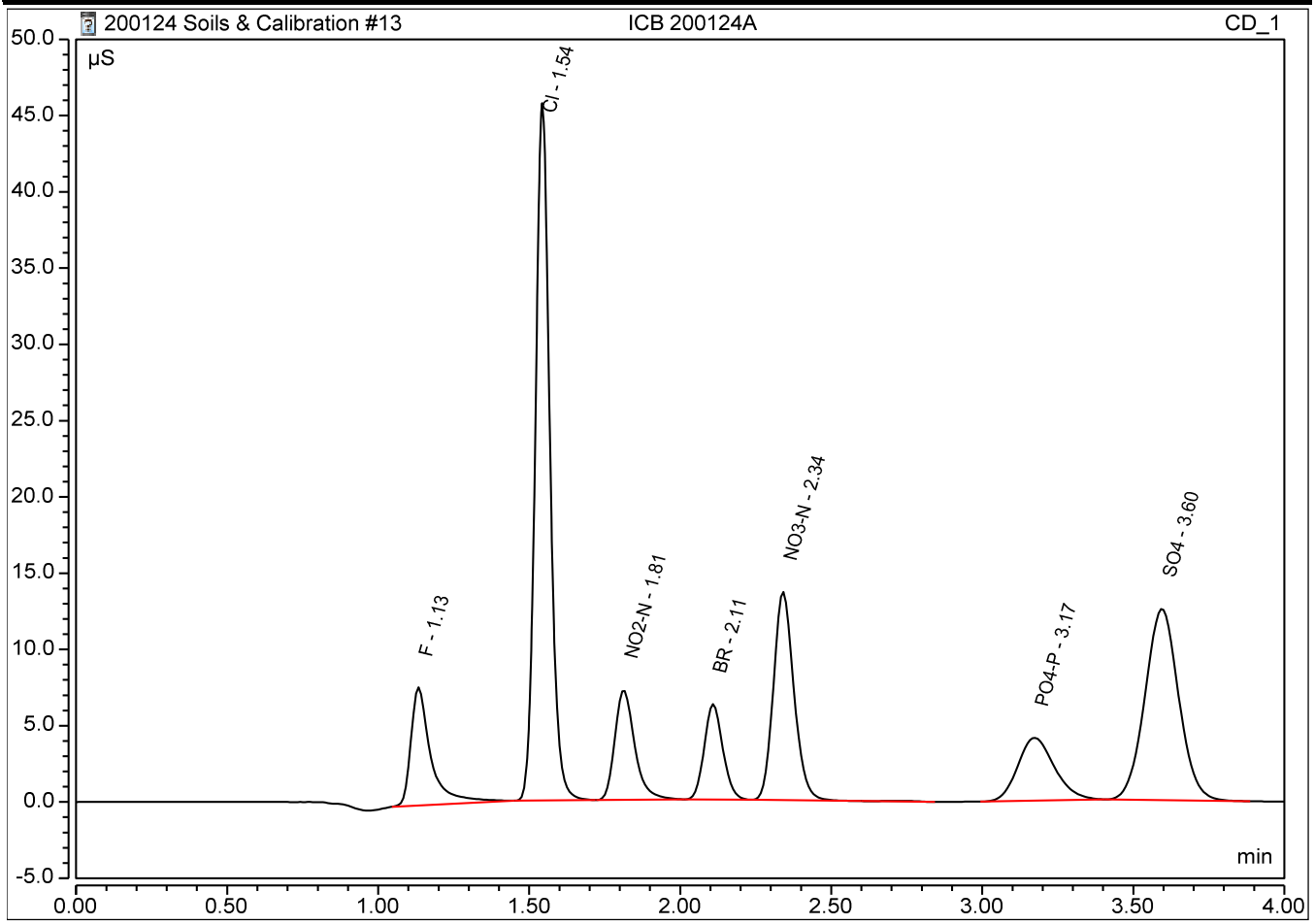
Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Logged on User: BW
Instrument: Charlie System_1
Sequence: 200124 Soils Calibration

Peak Integration Report

Sample Name:	**ICB 200124A**	*Inj. Vol.:*	**25uL**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**24-Jan-2020 / 11:30**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.13	**F**	BMB	0.595	7.739	5.00		
2	1.54	**Cl**	BMB	2.547	45.712	23.76		
3	1.81	**NO2-N**	BMB	0.548	7.202	3.00		
4	2.11	**BR**	BMB	0.446	6.258	12.13		
5	2.34	**NO3-N**	BMB	1.077	13.675	4.79		
7	3.17	**PO4-P**	BMB	0.579	4.119	9.19		
8	3.60	**SO4**	BMB	1.626	12.547	24.08		



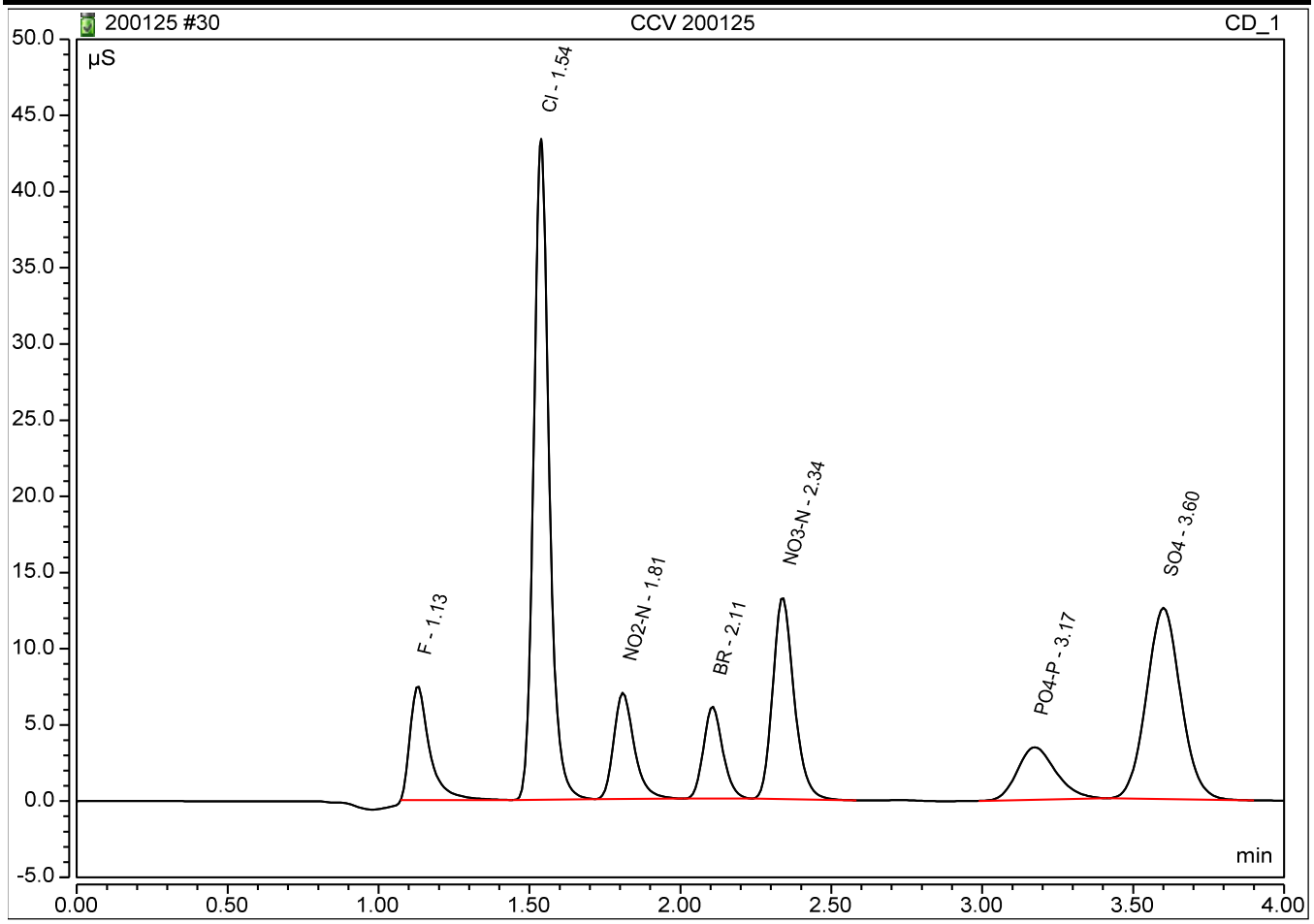
Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Logged on User: BW
Instrument: Charlie System_1
Sequence: 200125

Peak Integration Report

Sample Name:	**CCV 200125**	*Inj. Vol.:*	**25uL**
Injection Type:	**Check Standard**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**25-Jan-2020 / 12:15**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.13	**F**	BMB	0.562	7.519	4.74	5	94.7%
2	1.54	**Cl**	BMB	2.574	43.360	24.00	25	96.0%
3	1.81	**NO2-N**	BMB	0.550	6.974	3.01	3.04	98.9%
4	2.11	**BR**	BMB	0.449	6.052	12.21	12.5	97.7%
5	2.34	**NO3-N**	BMB	1.086	13.274	4.83	5	96.6%
6	3.17	**PO4-P**	BMB	0.509	3.444	8.20	10	82.0%
7	3.60	**SO4**	BMB	1.658	12.556	24.53	25	98.1%



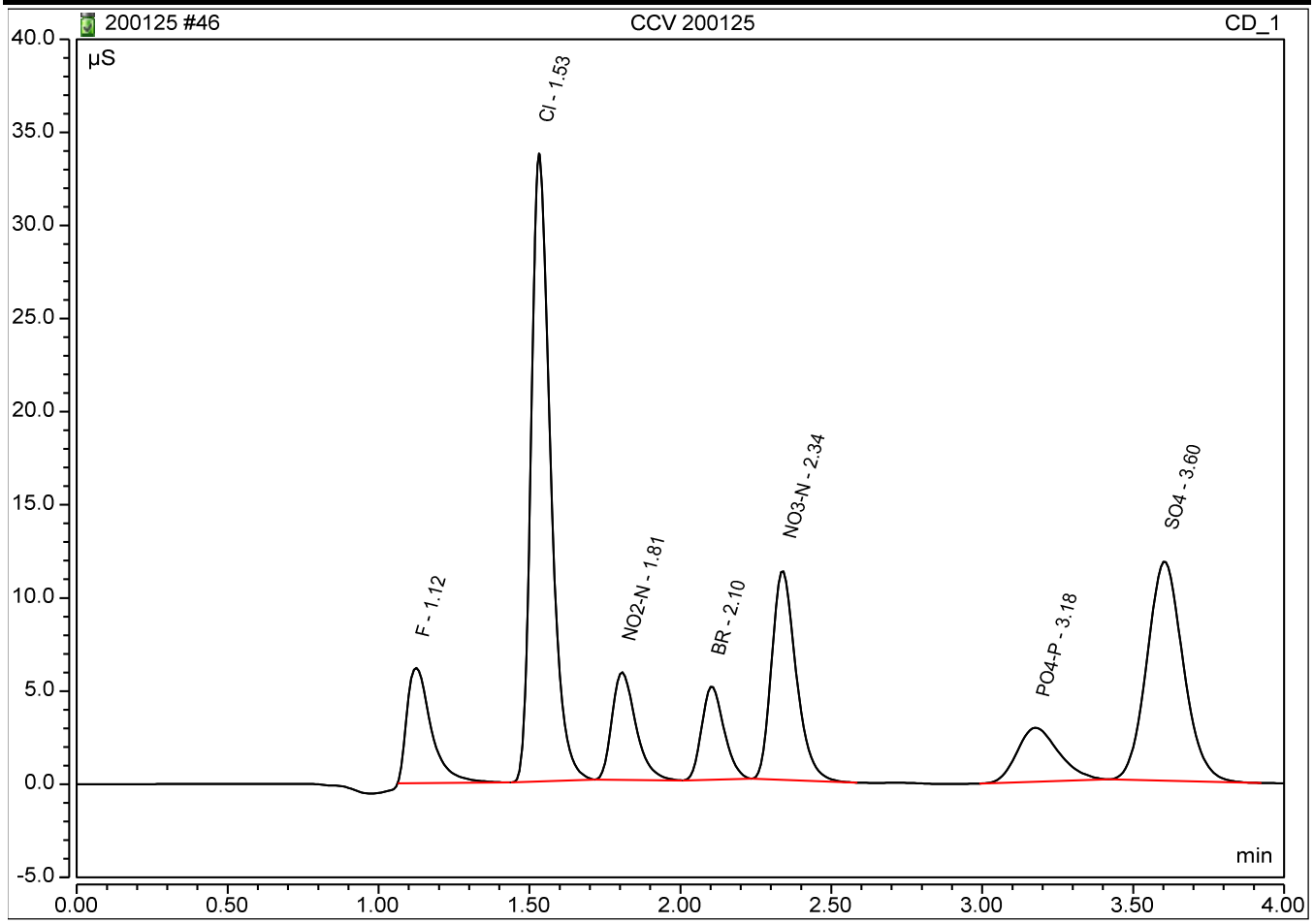
Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Logged on User: BW
Instrument: Charlie System_1
Sequence: 200125

Peak Integration Report

Sample Name:	**CCV 200125**	*Inj. Vol.:*	**25uL**
Injection Type:	**Check Standard**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**25-Jan-2020 / 13:58**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.12	**F**	BMB	0.579	6.190	4.87	5	97.4%
2	1.53	**Cl**	BMB	2.502	33.720	23.36	25	93.4%
3	1.81	**NO2-N**	BMB	0.530	5.779	2.90	3.04	95.4%
4	2.10	**BR**	BMB	0.429	5.017	11.66	12.5	93.3%
5	2.34	**NO3-N**	BMB	1.058	11.252	4.71	5	94.2%
6	3.18	**PO4-P**	BMB	0.463	2.895	7.55	10	75.5%
7	3.60	**SO4**	BMB	1.647	11.775	24.37	25	97.5%



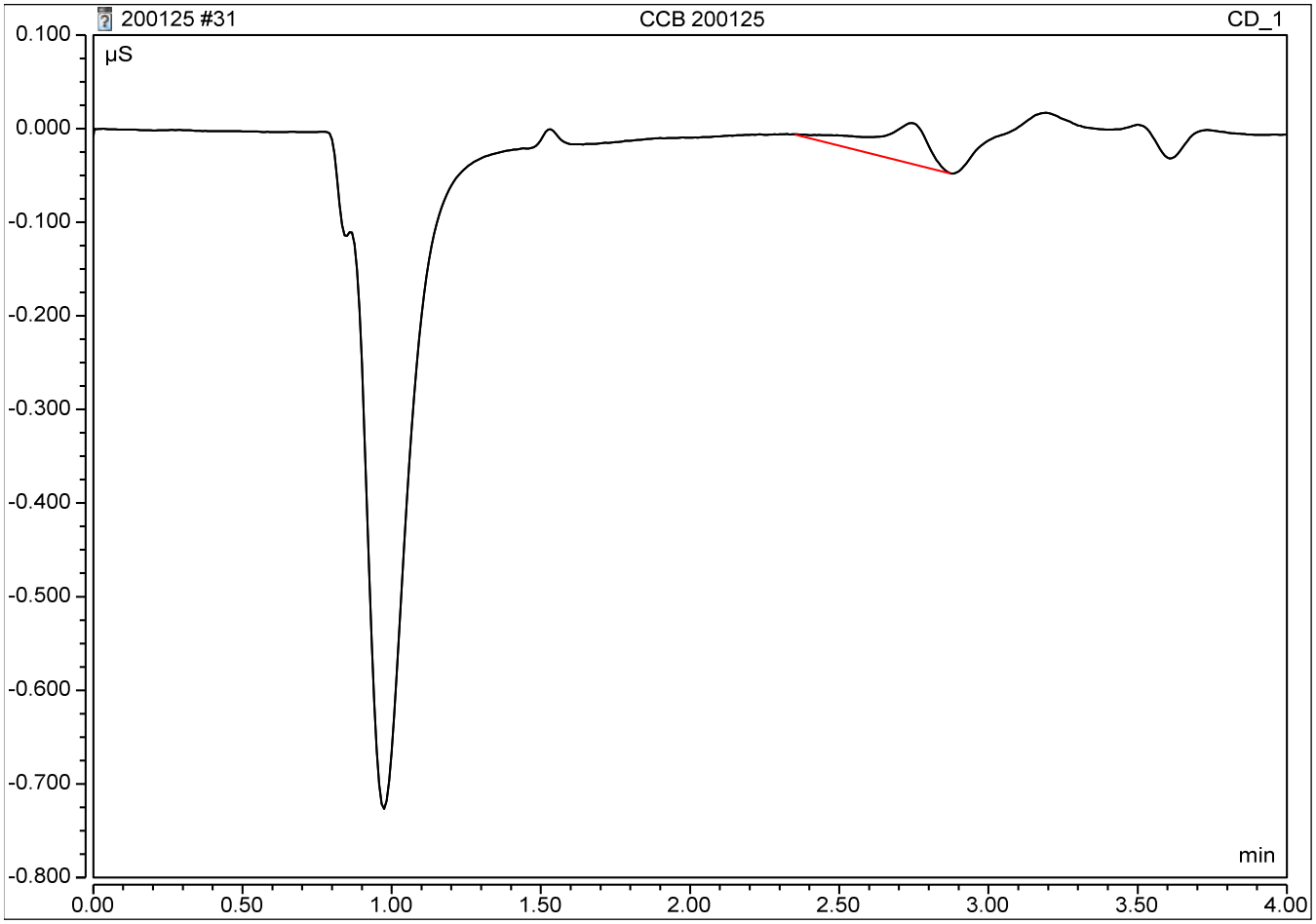
Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Logged on User: BW
Instrument: Charlie System_1
Sequence: 200125

Peak Integration Report

Sample Name:	**CCB 200125**	*Inj. Vol.:*	**25uL**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**25-Jan-2020 / 12:22**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery

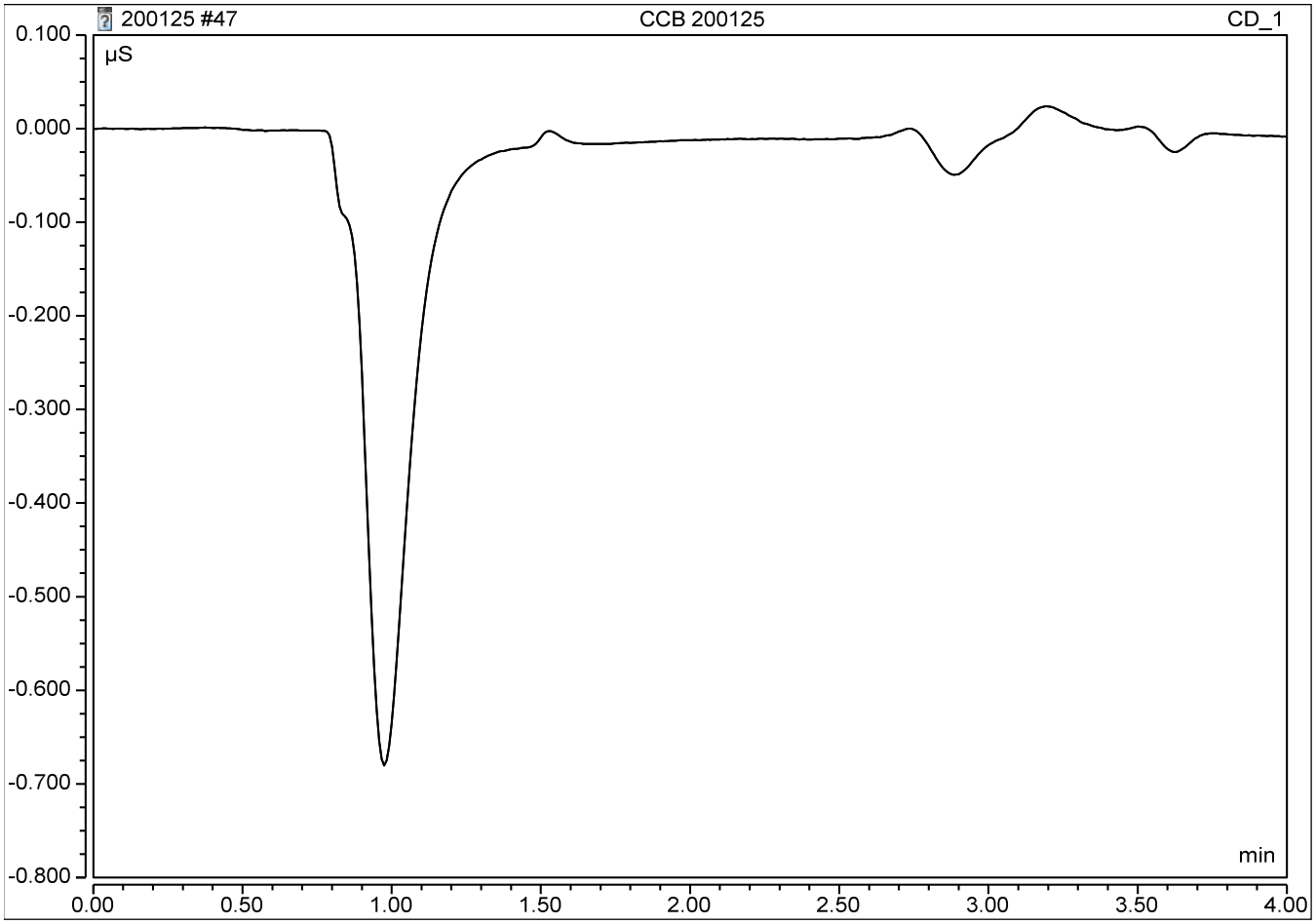


Logged on User: BW
Instrument: Charlie System_1
Sequence: 200125

Peak Integration Report

Sample Name:	**CCB 200125**	*Inj. Vol.:*	**25uL**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**25-Jan-2020 / 14:04**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery



Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

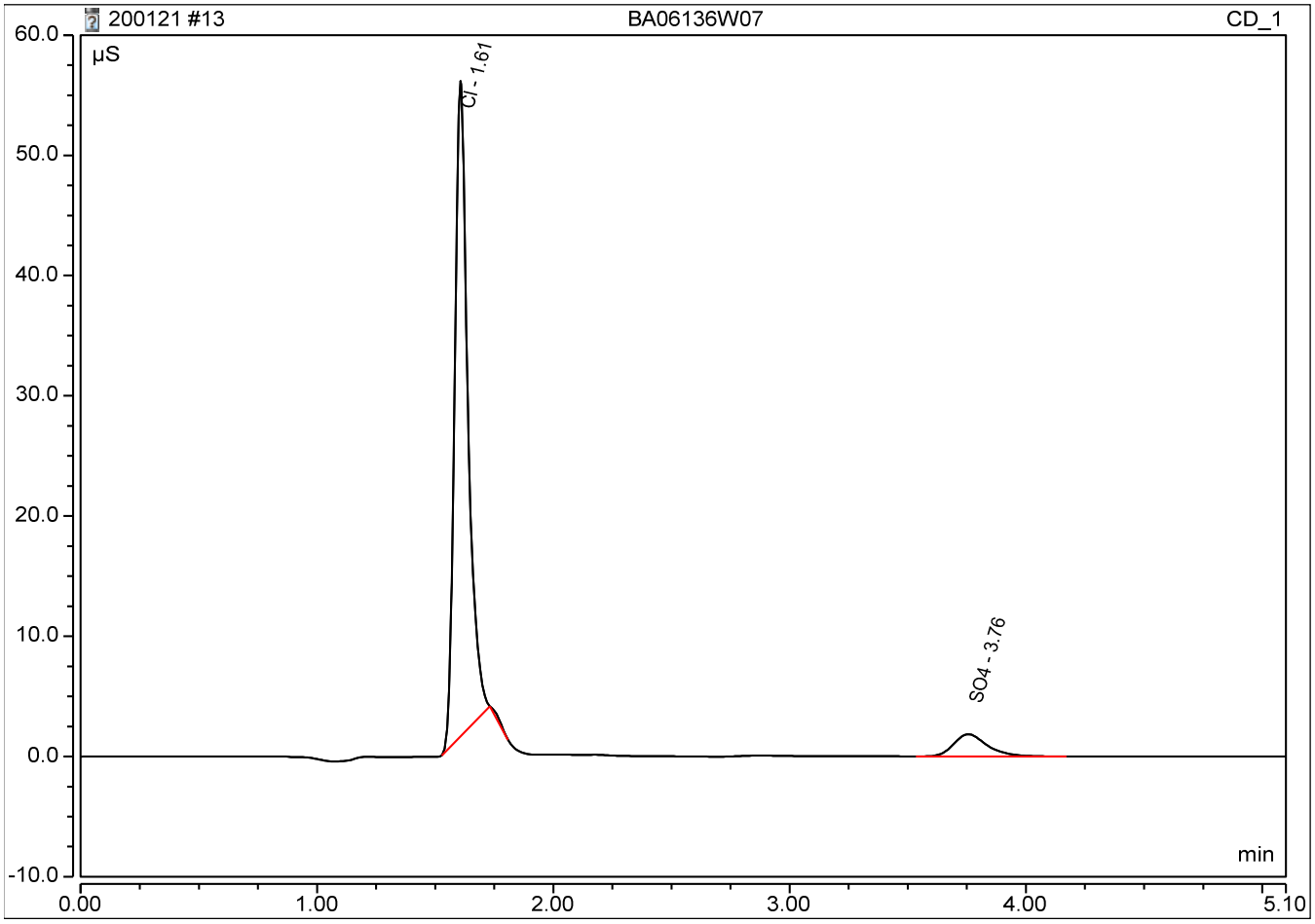
INORGANIC ANALYSIS
Raw Data

Logged on User: BW
Instrument: Charlie System_1
Sequence: 200121

Peak Integration Report

Sample Name:	**BA06136W07**	*Inj. Vol.:*	**25uL**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 191211**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**21-Jan-2020 / 20:37**	*Run Time:*	**5.10**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.61	**Cl**	BMB	3.548	54.522	39.09		
3	3.76	**SO4**	BMB	0.305	1.843	4.74		



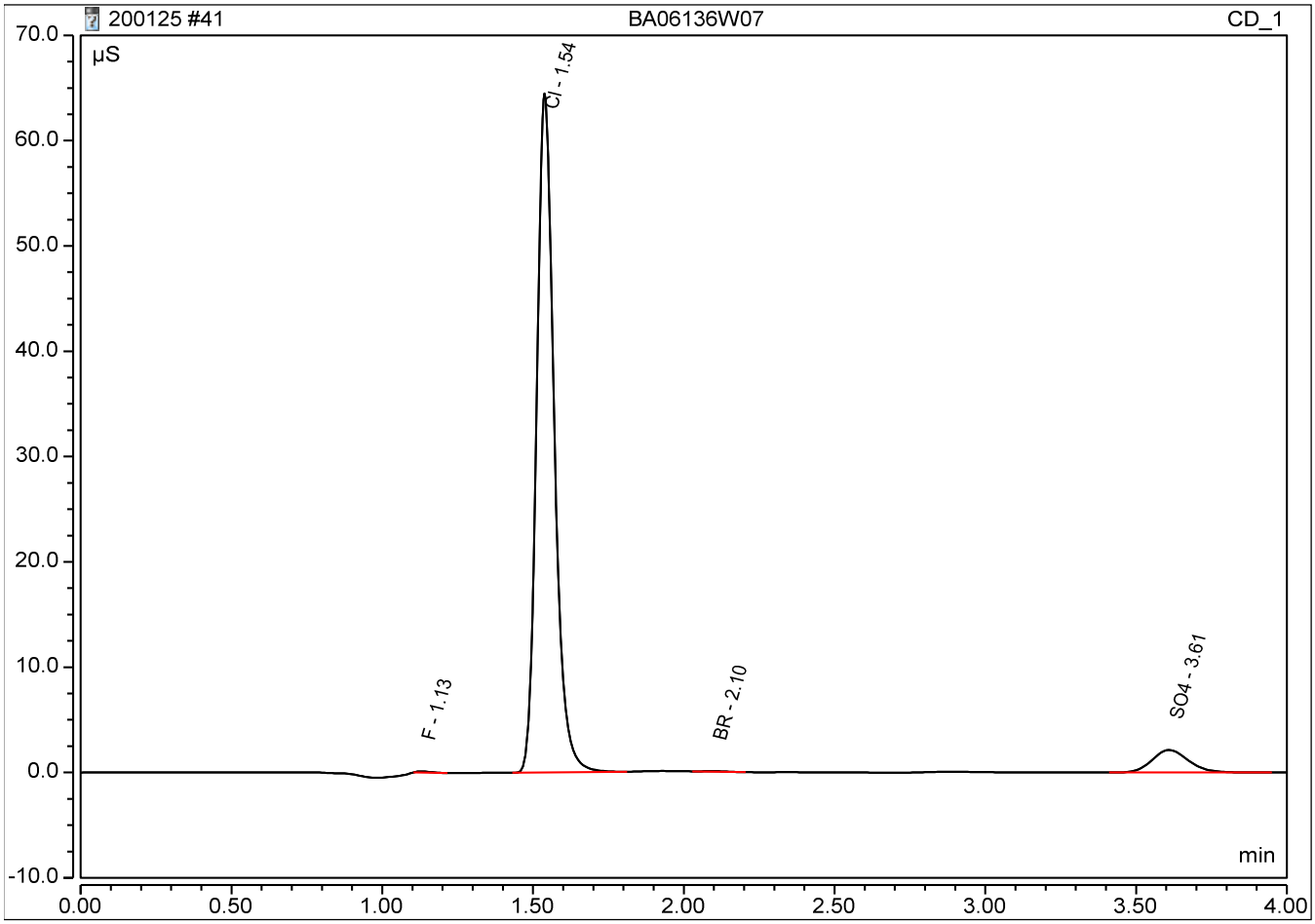
Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Logged on User: BW
Instrument: Charlie System_1
Sequence: 200125

Peak Integration Report

Sample Name:	**BA06136W07**	*Inj. Vol.:*	**25uL**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**25-Jan-2020 / 13:26**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.13	**F**	BMB	0.006	0.116	0.25		
2	1.54	**Cl**	BMB	4.339	64.472	39.77		
3	2.10	**BR**	BMB	0.004	0.052	0.35		
4	3.61	**SO4**	BMB	0.300	2.142	5.01		



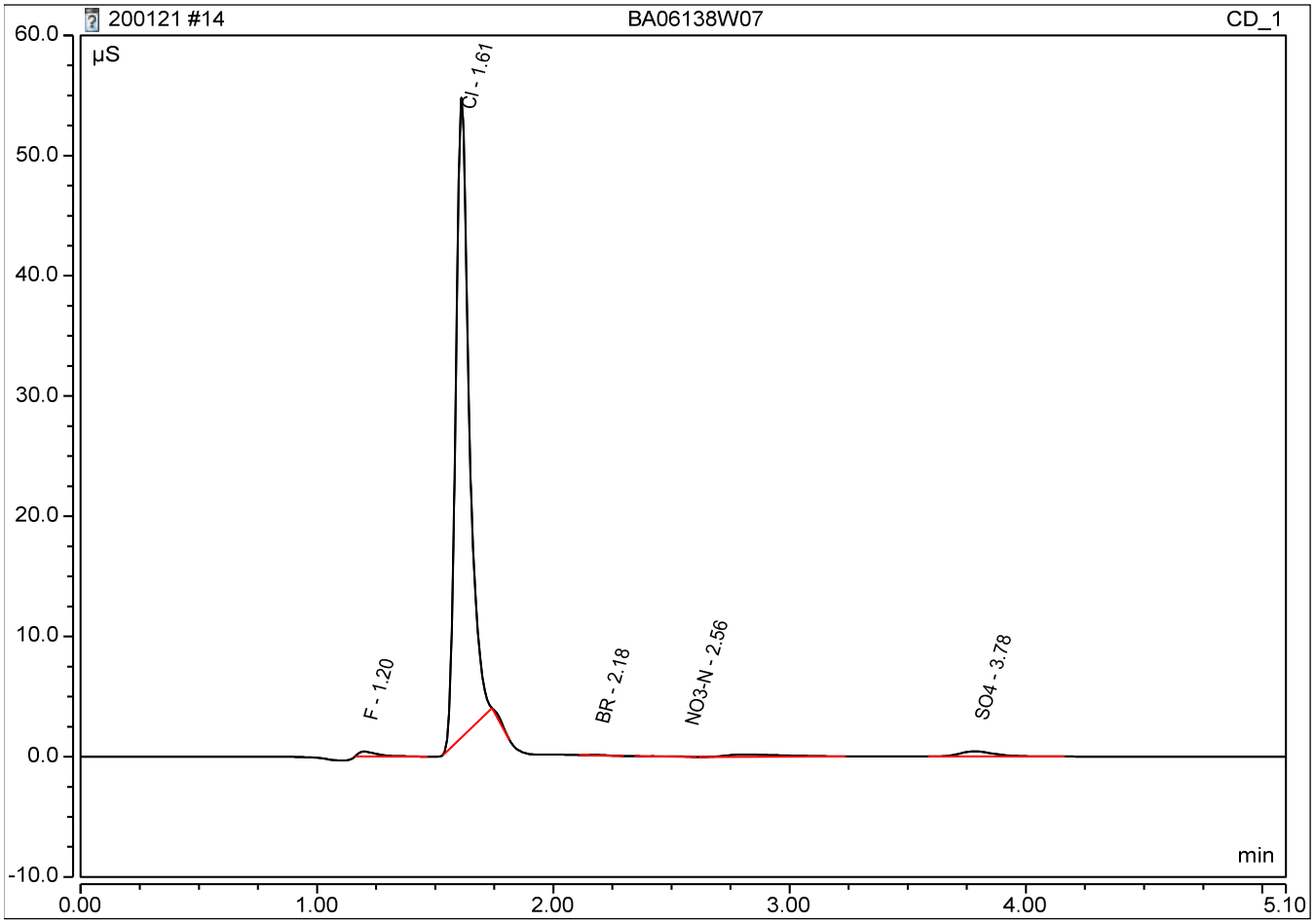
Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Logged on User: BW
Instrument: Charlie System_1
Sequence: 200121

Peak Integration Report

Sample Name:	**BA06138W07**	*Inj. Vol.:*	**25uL**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 191211**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**21-Jan-2020 / 20:44**	*Run Time:*	**5.10**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.20	**F**	BMB	0.038	0.425	0.34		
2	1.61	**Cl**	BMB	3.531	53.199	38.91		
4	2.18	**BR**	BMB	0.003	0.043	0.13		
5	2.56	**NO3-N**	BMB	0.004	0.029	0.03		
7	3.78	**SO4**	BMB	0.074	0.429	1.23		



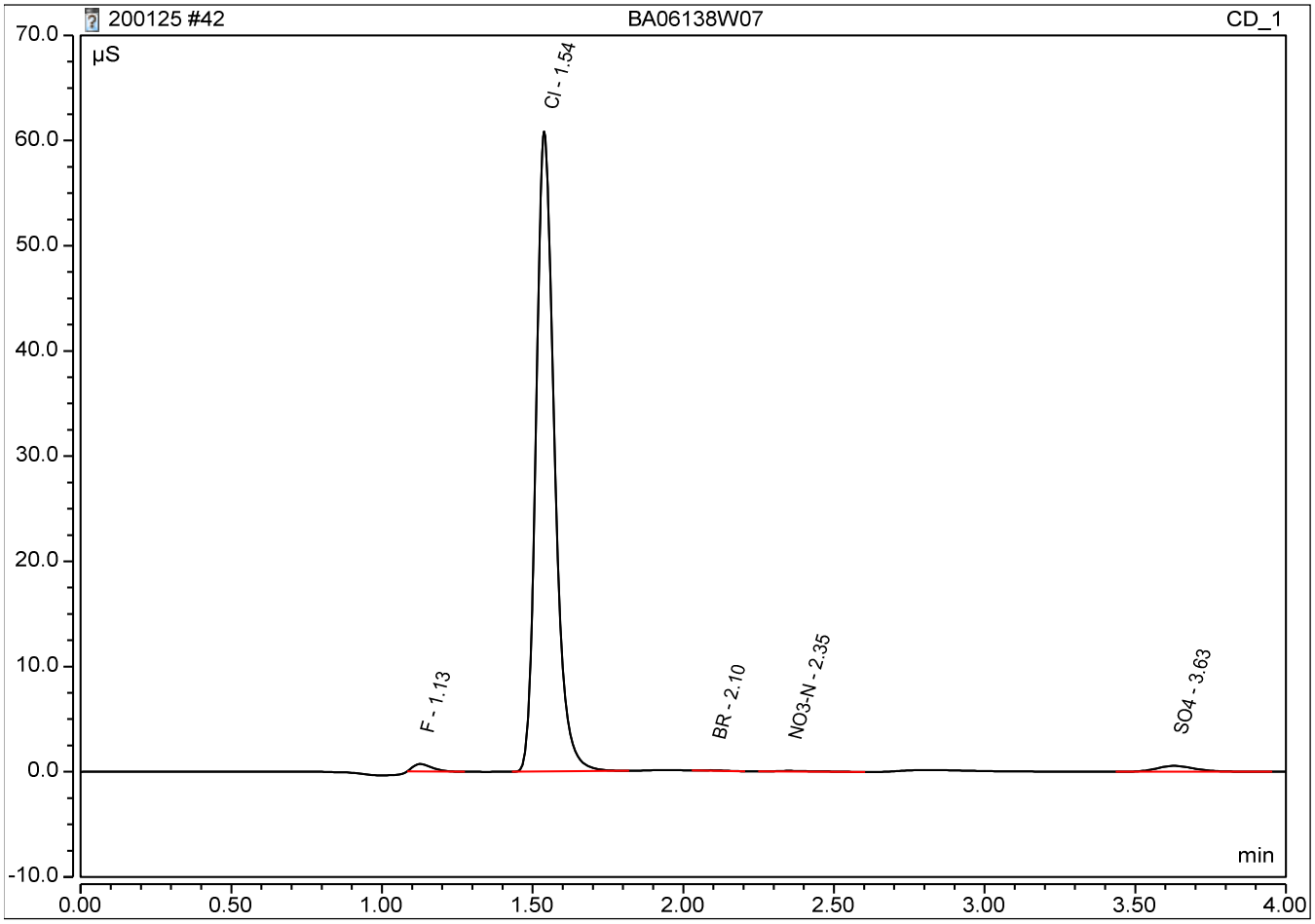
Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Logged on User: BW
Instrument: Charlie System_1
Sequence: 200125

Peak Integration Report

Sample Name:	**BA06138W07**	*Inj. Vol.:*	**25uL**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**25-Jan-2020 / 13:32**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.13	**F**	BMB	0.053	0.719	0.63		
2	1.54	**Cl**	BMB	4.290	60.856	39.33		
3	2.10	**BR**	BMB	0.004	0.048	0.35		
4	2.35	**NO3-N**	BMB	0.013	0.073	0.21		
5	3.63	**SO4**	BMB	0.082	0.555	1.87		



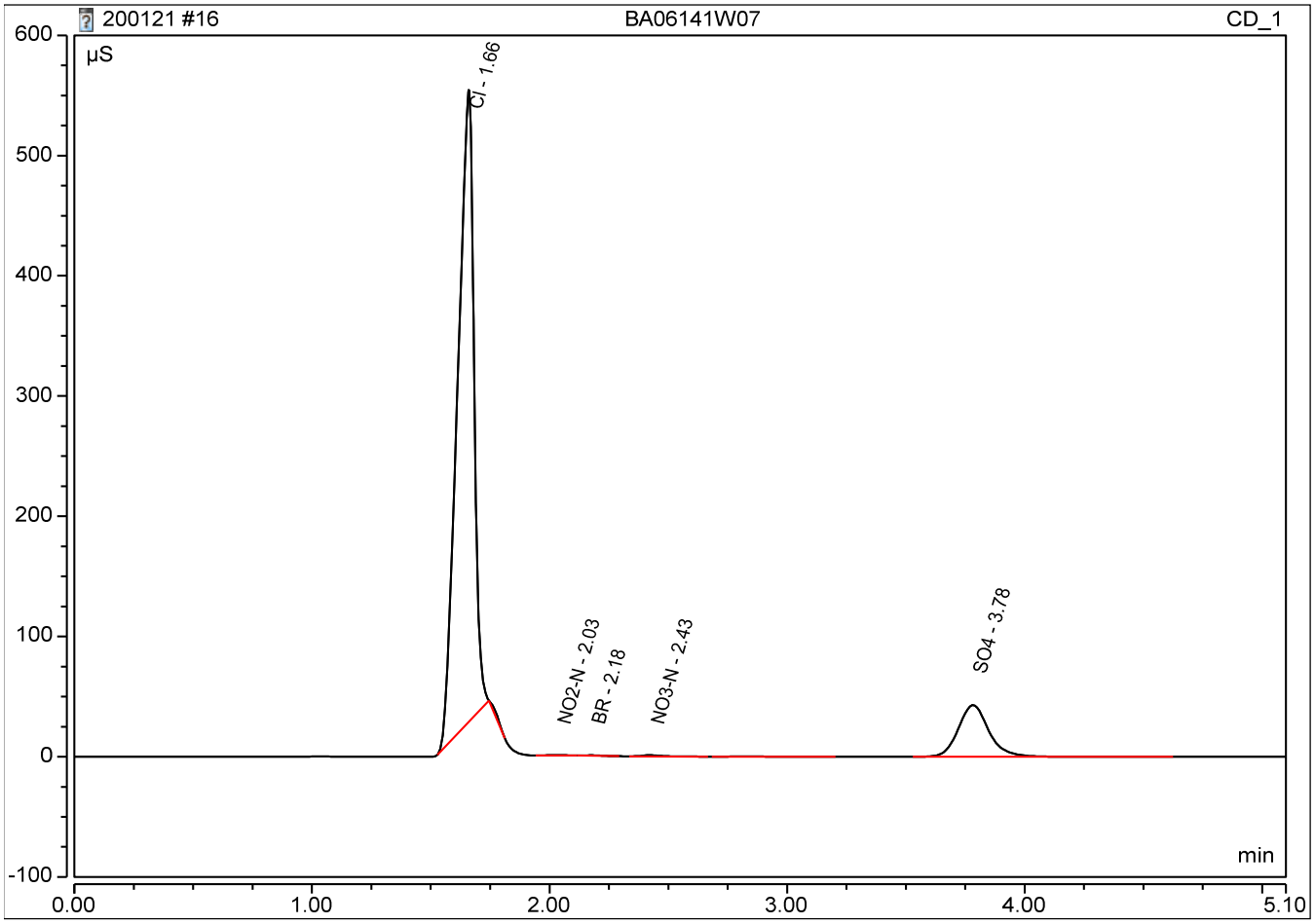
Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Logged on User: BW
Instrument: Charlie System_1
Sequence: 200121

Peak Integration Report

Sample Name:	**BA06141W07**	*Inj. Vol.:*	**25uL**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 191211**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**21-Jan-2020 / 20:59**	*Run Time:*	**5.10**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.66	**Cl**	BMB	42.087	525.671	463.11		
3	2.03	**NO2-N**	BMB	0.025	0.248	0.18		
4	2.18	**BR**	BMB	0.027	0.365	0.92		
5	2.43	**NO3-N**	BMB	0.094	0.996	0.46		
7	3.78	**SO4**	BMB	6.372	42.970	96.93		



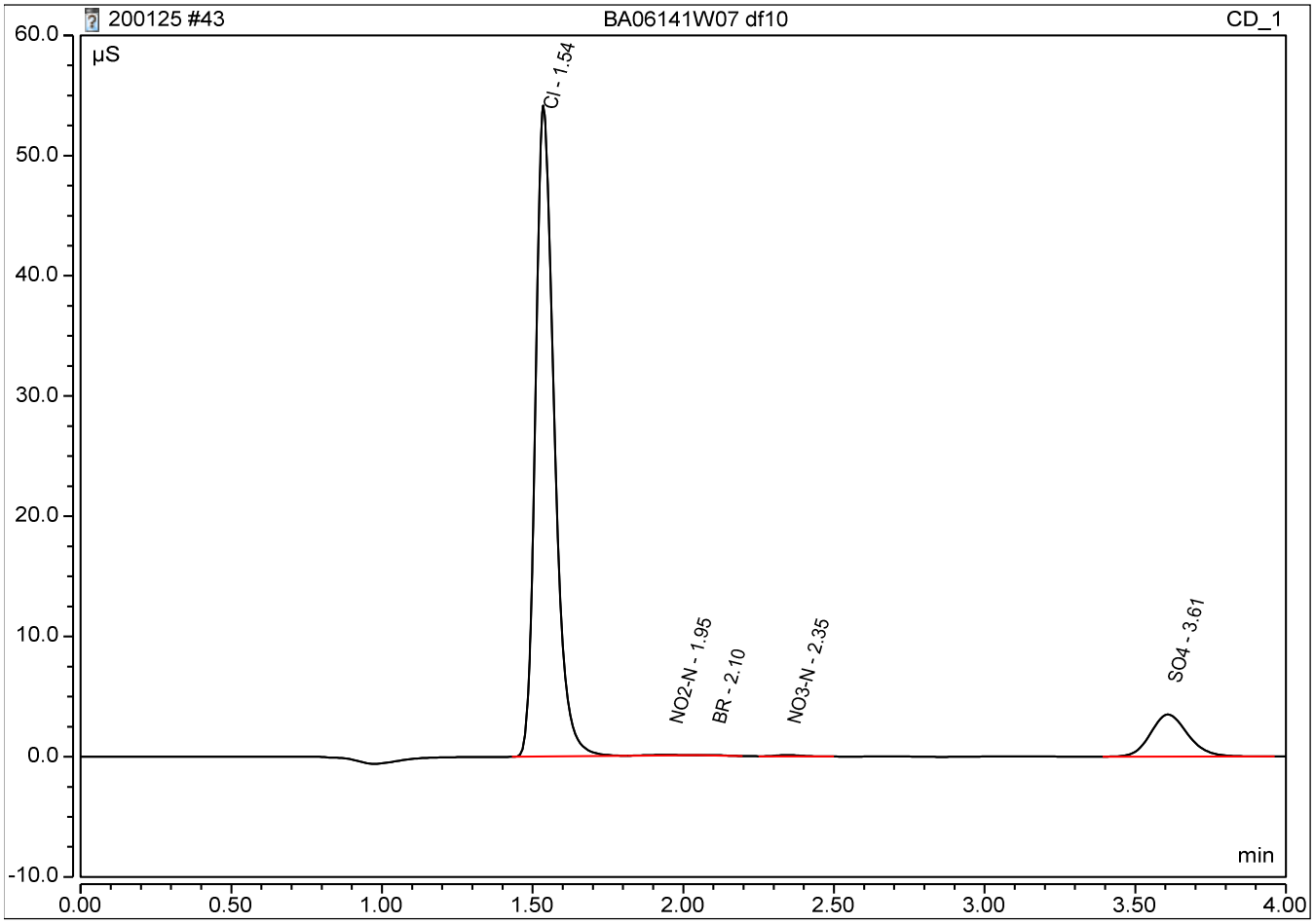
Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Logged on User: BW
Instrument: Charlie System_1
Sequence: 200125

Peak Integration Report

Sample Name:	**BA06141W07 df10**	*Inj. Vol.:*	**25uL**
Injection Type:	**Unknown**	*Dilution Factor:*	**10.00**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**25-Jan-2020 / 13:38**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.54	**Cl**	BMB	3.906	54.136	359.04		
2	1.95	**NO2-N**	BMB	0.006	0.047	0.70		
3	2.10	**BR**	BMB	0.003	0.033	3.18		
4	2.35	**NO3-N**	BMB	0.010	0.114	1.98		
5	3.61	**SO4**	BMB	0.503	3.502	79.18		



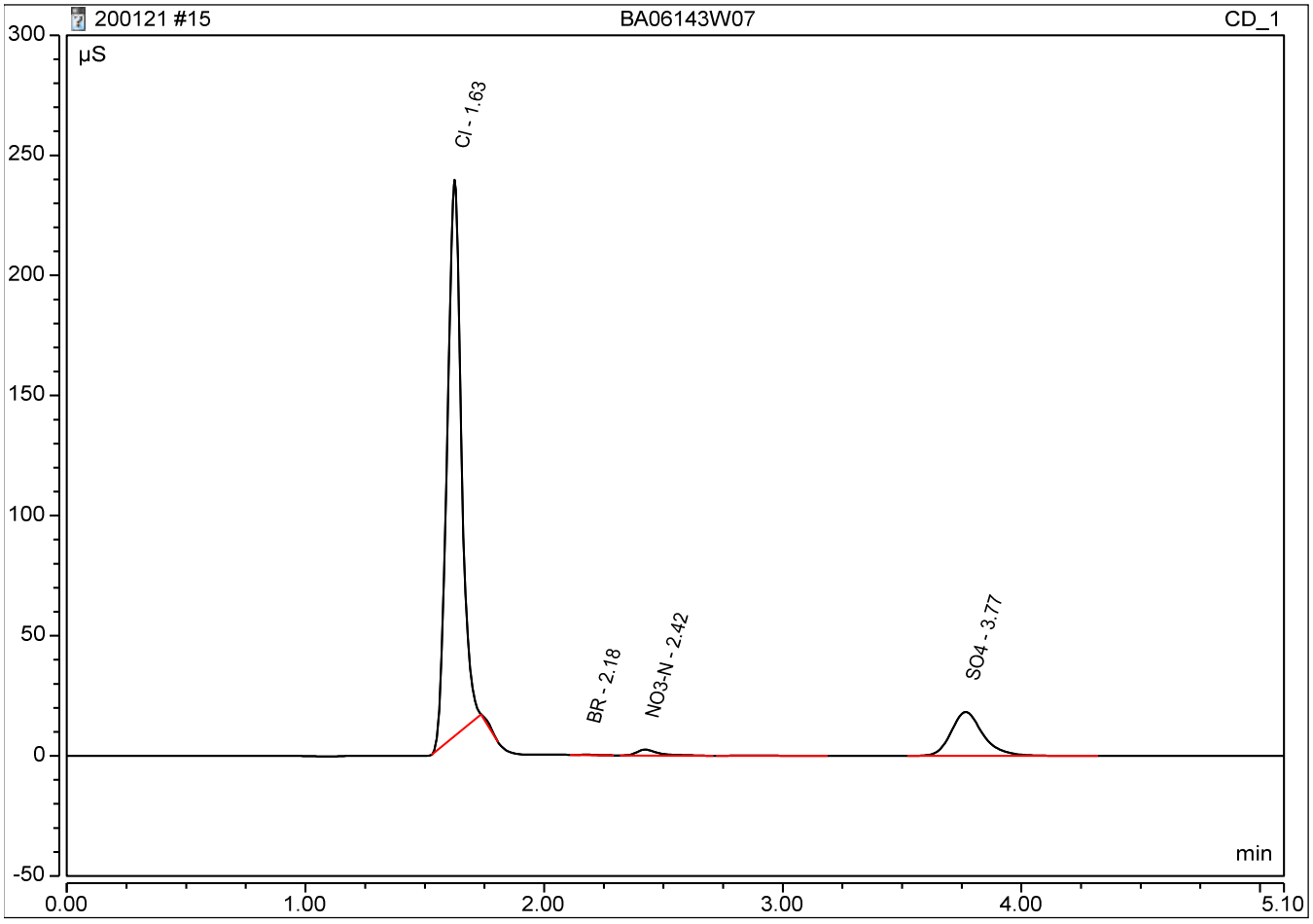
Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Logged on User: BW
Instrument: Charlie System_1
Sequence: 200121

Peak Integration Report

Sample Name:	**BA06143W07**	*Inj. Vol.:*	**25uL**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 191211**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**21-Jan-2020 / 20:52**	*Run Time:*	**5.10**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.63	**Cl**	BMB	15.939	231.570	175.42		
3	2.18	**BR**	BMB	0.011	0.155	0.40		
4	2.42	**NO3-N**	BMB	0.263	2.516	1.26		
6	3.77	**SO4**	BMB	2.816	18.287	42.89		



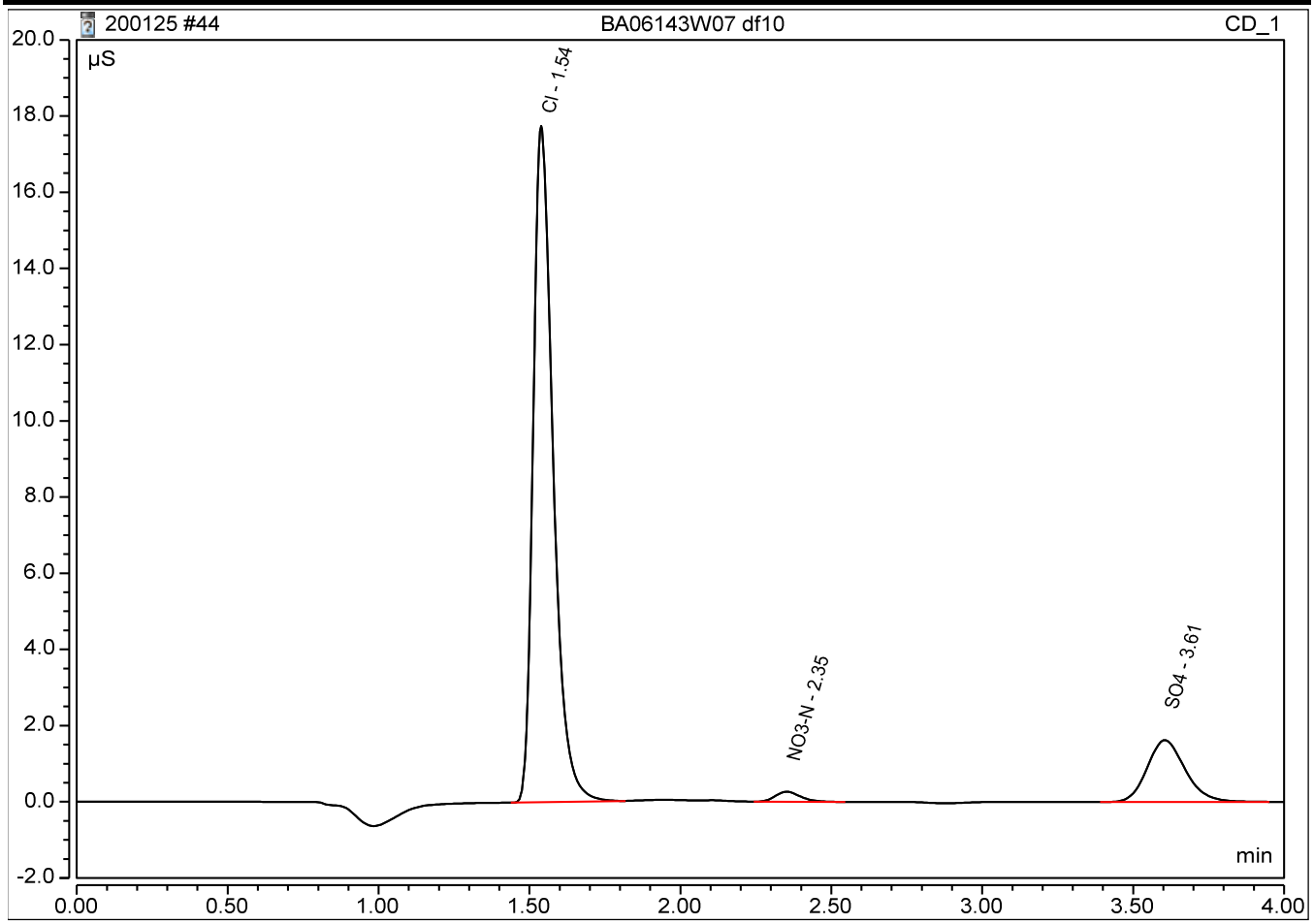
Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Logged on User: BW
Instrument: Charlie System_1
Sequence: 200125

Peak Integration Report

Sample Name:	**BA06143W07 df10**	*Inj. Vol.:*	**25uL**
Injection Type:	**Unknown**	*Dilution Factor:*	**10.00**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**25-Jan-2020 / 13:45**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.54	**Cl**	BMB	1.358	17.752	131.40		
2	2.35	**NO3-N**	BMB	0.025	0.263	2.62		
3	3.61	**SO4**	BMB	0.237	1.623	41.00		



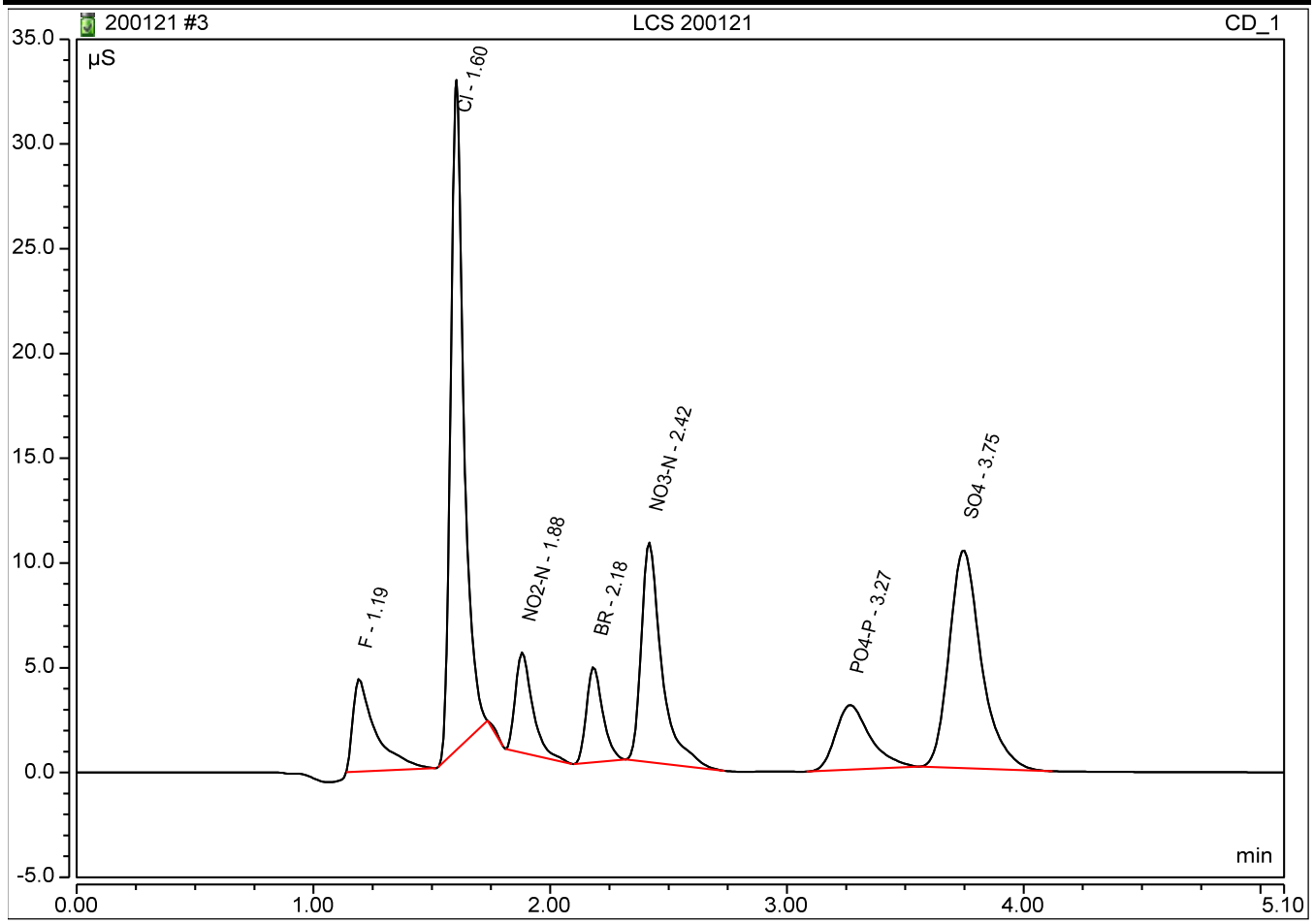
Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Logged on User: BW
Instrument: Charlie System_1
Sequence: 200121

Peak Integration Report

Sample Name:	**LCS 200121**	*Inj. Vol.:*	**25uL**
Injection Type:	**Check Standard**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 191211**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**21-Jan-2020 / 19:22**	*Run Time:*	**5.10**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.19	**F**	BMB	0.495	4.425	4.43	5	88.5%
2	1.60	**Cl**	BMB	2.084	31.987	22.98	25	91.9%
4	1.88	**NO2-N**	BMB	0.407	4.785	2.74	3.04	90.0%
5	2.18	**BR**	BMB	0.365	4.565	12.09	12.5	96.7%
6	2.42	**NO3-N**	BMB	1.049	10.495	4.99	5	99.8%
7	3.27	**PO4-P**	BMB	0.522	3.083	9.95	10	99.5%
8	3.75	**SO4**	BMB	1.645	10.401	25.09	25	100.4%



Algorithm Check
y = Peak Area
x = mg/L S04

y = 0.0658 x + -0.0068
y = 1.6445 therefor x = 25.09 HH 2020.01.21

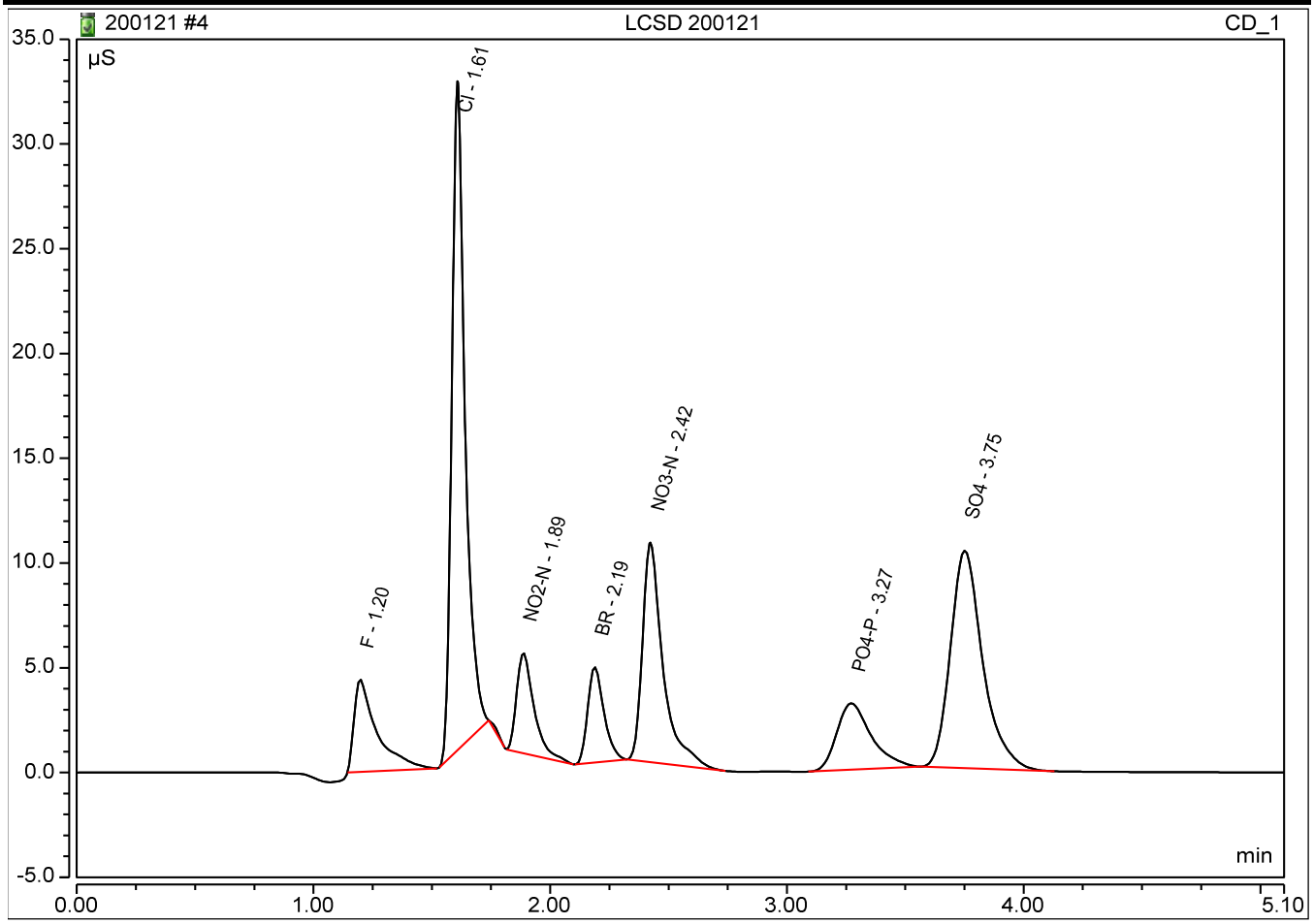
Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Logged on User: BW
Instrument: Charlie System_1
Sequence: 200121

Peak Integration Report

Sample Name:	**LCSD 200121**	*Inj. Vol.:*	**25uL**
Injection Type:	**Check Standard**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 191211**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**21-Jan-2020 / 19:29**	*Run Time:*	**5.10**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.20	**F**	BMB	0.494	4.414	4.42	5	88.4%
2	1.61	**Cl**	BMB	2.081	31.920	22.96	25	91.8%
4	1.89	**NO2-N**	BMB	0.410	4.796	2.76	3.04	90.7%
5	2.19	**BR**	BMB	0.365	4.563	12.10	12.5	96.8%
6	2.42	**NO3-N**	BMB	1.048	10.481	4.98	5	99.7%
7	3.27	**PO4-P**	BMB	0.538	3.174	10.22	10	102.2%
8	3.75	**SO4**	BMB	1.644	10.391	25.08	25	100.3%



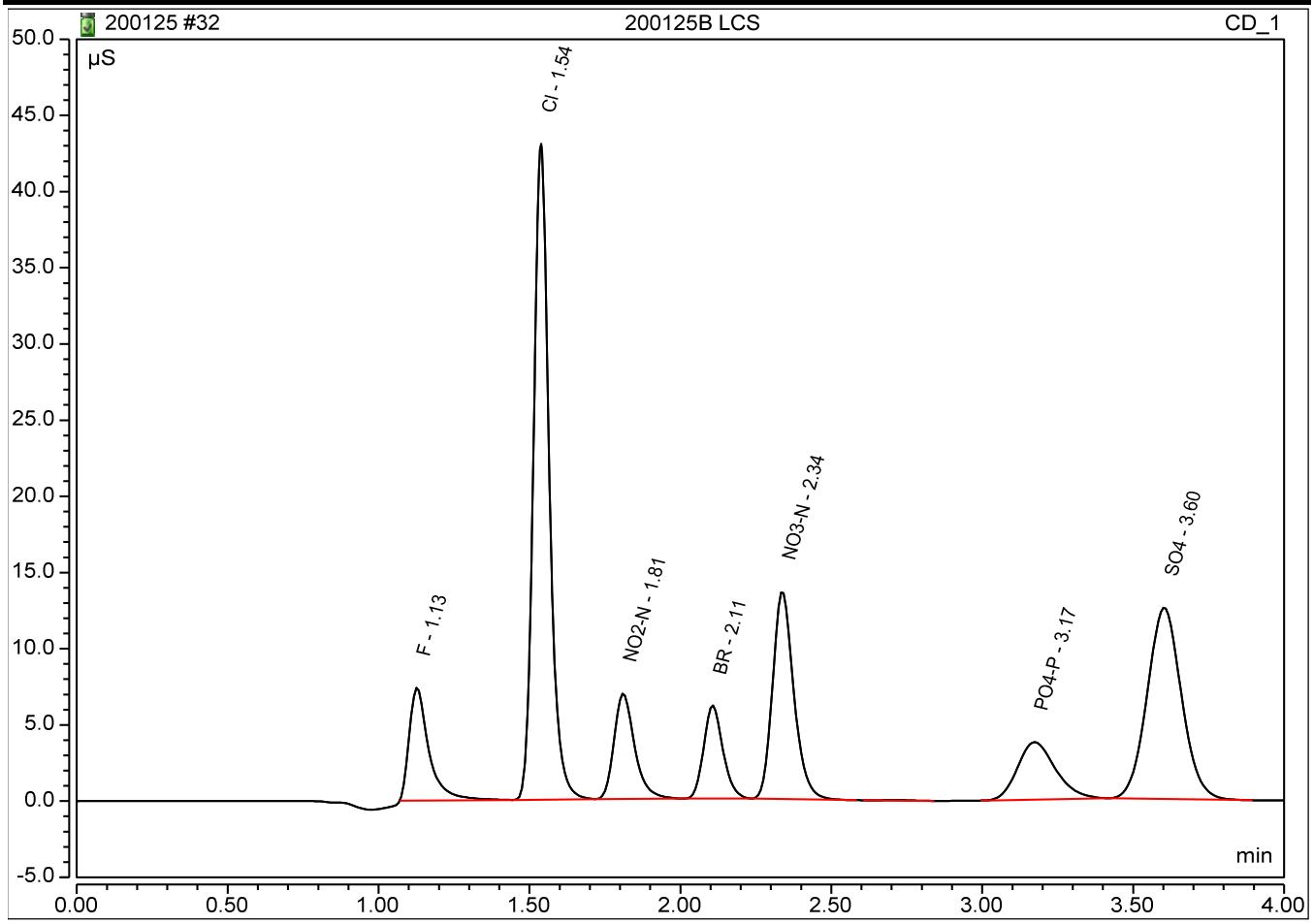
Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Logged on User: BW
Instrument: Charlie System_1
Sequence: 200125

Peak Integration Report

Sample Name:	**200125B LCS**	*Inj. Vol.:*	**25uL**
Injection Type:	**Check Standard**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**25-Jan-2020 / 12:28**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.13	**F**	BMB	0.560	7.431	4.71	5	94.3%
2	1.54	**Cl**	BMB	2.590	43.025	24.14	25	96.6%
3	1.81	**NO2-N**	BMB	0.548	6.931	3.00	3.04	98.6%
4	2.11	**BR**	BMB	0.452	6.121	12.27	12.5	98.2%
5	2.34	**NO3-N**	BMB	1.114	13.651	4.95	5	99.0%
7	3.17	**PO4-P**	BMB	0.550	3.765	8.78	10	87.8%
8	3.60	**SO4**	BMB	1.659	12.563	24.55	25	98.2%



Algorithm Check
y = Peak Area
x = mg/L S04

y = 0.0695 x + -0.0480
y = 1.6595 therefor x = 24.5683 CD

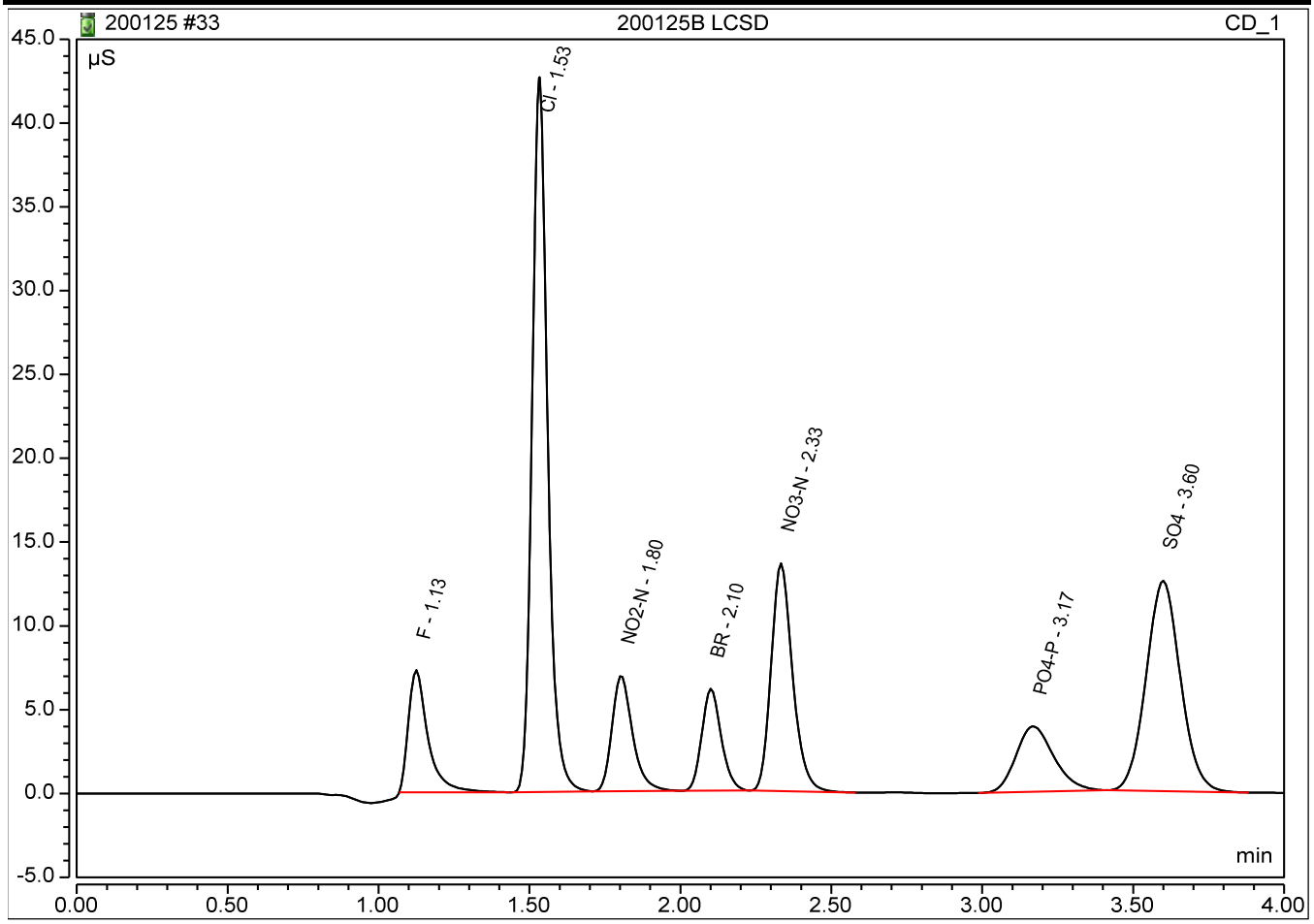
Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Logged on User: BW
Instrument: Charlie System_1
Sequence: 200125

Peak Integration Report

Sample Name:	**200125B LCSD**	*Inj. Vol.:*	**25uL**
Injection Type:	**Check Standard**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**25-Jan-2020 / 12:35**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.13	**F**	BMB	0.546	7.290	4.60	5	92.1%
2	1.53	**Cl**	BMB	2.537	42.637	23.67	25	94.7%
3	1.80	**NO2-N**	BMB	0.546	6.900	2.99	3.04	98.3%
4	2.10	**BR**	BMB	0.454	6.086	12.34	12.5	98.7%
5	2.33	**NO3-N**	BMB	1.120	13.590	4.97	5	99.5%
6	3.17	**PO4-P**	BMB	0.570	3.907	9.07	10	90.7%
7	3.60	**SO4**	BMB	1.657	12.548	24.52	25	98.1%



Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Anion Chromatography Working Standard

Prep Date: 12/10/19

Exp Date: 12/11/19

Prep'd By (Initials): BW

Initial Standard Information						Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	Supplier Part No.	Conc. (ug/mL)	Lot Number - QA Number	Exp. Date	Aliquot from Stock	Final Volume	Solvent	Final Standard Conc (µg/mL)
Ion Chromatography Standard Fluoride 1000 µg/mL in H2O	o2si	O2SI-062002-01-01	1000	687393-38-40744	10/30/20	312.5 µL	25 mL	Millipore Water	12.5
Ion Chromatography Standard Nitrite 1000 µg/mL in H2O	Inorganic Ventures	ICN021	1000	N2-NOX672889-40759	05/01/20	411 µL	25 mL	Millipore Water	5 as NO2-N
Ion Chromatography Standard Chloride 5000 µg/mL in H2O	o2si	062001-08-03	5000	10084781-1-39578	02/21/20	250 µL	25 mL	Millipore Water	50
Ortho-Phosphate as P Standard	Ultra Scientific	ICC-005A	1000	G34-CP-3323-39057	08/31/23	625 µL	25 mL	Millipore Water	25
Ion Chromatography Standard Nitrate as N 1000 µg/mL in H2O	o2si	062003-01-03	1000	880117-4-39577	02/21/20	250 µL	25 mL	Millipore Water	10
Bromide Standard	Ultra Scientific	ICC-001	1000	CR-5372-39521	12/31/21	625 µL	25 mL	Millipore Water	25
Sulfate Standard	Agilent	ICC-006	1000	CS-0688-41050	03/31/22	1250 µL	25 mL	Millipore Water	50

Anion Chromatography Calibration Curve

Prep Date: 12/10/19

Exp Date: 09/25/19

Prep'd By (Initials): BW

Initial Standard Information						Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	APPL Mix Name	Conc. Range (ug/mL)	Reference To APPL Prep Date	Exp. Date	Aliquot from Stock	Final Volume	Solvent	Final Standard Conc. Range (µg/mL)
Anion Chromatography Working Standard	Varies	ICal1	5.0-50.0	Prepared 12/10/19	09/25/19	200 µL	25000 µL	Millipore Water	0.04-0.40
Anion Chromatography Working Standard	Varies	ICal2	5.0-50.0	Prepared 12/10/19	09/25/19	20 µL	1000 µL	Millipore Water	0.1-1.0
Anion Chromatography Working Standard	Varies	ICal3	5.0-50.0	Prepared 12/10/19	09/25/19	50 µL	1000 µL	Millipore Water	0.25-2.5
Anion Chromatography Working Standard	Varies	ICal4	5.0-50.0	Prepared 12/10/19	09/25/19	100 µL	1000 µL	Millipore Water	0.5-5.0
Anion Chromatography Working Standard	Varies	ICal5	5.0-50.0	Prepared 12/10/19	09/25/19	200 µL	1000 µL	Millipore Water	1.0-10.0
Anion Chromatography Working Standard	Varies	ICal6	5.0-50.0	Prepared 12/10/19	09/25/19	500 µL	1000 µL	Millipore Water	2.5-25.0
Anion Chromatography Working Standard	Varies	ICal7	5.0-50.0	Prepared 12/10/19	09/25/19	700 µL	1000 µL	Millipore Water	3.5-35.0
Anion Chromatography Working Standard	Varies	ICal8	5.0-50.0	Prepared 12/10/19	09/25/19	1000 µL	1000 µL	Millipore Water	5.0-50.0

Anion Chromatography LCS/ICV

Prep Date: See injection Log

Exp Date: 24 hours after prep

Prep'd By (Initials): BW

Initial Standard Information						Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	Supplier Part No.	Conc. Range (ug/mL)	Lot Number - QA Number	Exp. Date	Aliquot from Stock	Final Volume	Solvent	Final Standard Conc (µg/mL)
Flouride	Inorganic Ventures	ICF1	993-999	K-F652018-39801**	04/23/20	125 µL	25 mL	Millipore Water	5
Nitrite	Inorganic Ventures	ICNO21	993-1001	M2-NOX660562-40468	08/25/21	250 µL	25 mL	Millipore Water	10
Chloride	Inorganic Ventures	ICCL1	995-1001	N2CL664868-39905	03/07/22	625 µL	25 mL	Millipore Water	25
O-Phosphate as P	Inorganic Ventures	ICPPO41	1001-1009	M2-POX655826-39803**	04/23/20	250 µL	25 mL	Millipore Water	10
Nitrate as N	Inorganic Ventures	ICNNO31	997-1005	P2-NOX675324-49391	02/14/23	125 µL	25 mL	Millipore Water	5
Ion Chromatography Standard Bromide, 1000 µg/mL in H2O	CPI International	4400-IC8M	995-1005	161681-8-39539	02/06/20	312.5 µL	25 mL	Millipore Water	12.5
Sulfate	Inorganic Ventures	ICSO41	998-1006	N2-SOX664928-39507**	05/27/20	625 µL	25 mL	Millipore Water	25

Anion Chromatography CCV

Prep Date: See injection Log

Exp Date: 24 hours after prep

**Recertified with CCV Standards listed below on 191021; extended exp. date by 6 mo.

Prep'd By (Initials): BW

Initial Standard Information						Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	Supplier Part No.	Conc. (ug/mL)	Lot Number - QA Number	Exp. Date	Aliquot from Stock	Final Volume	Solvent	Final Standard Conc (µg/mL)
Ion Chromatography Standard Fluoride 1000 µg/mL in H2O	o2si	O2SI-062002-01-01	1000	687393-38-40744	10/30/20	125 µL	25 mL	Millipore Water	5
Ion Chromatography Standard Nitrite 1000 µg/mL in H2O	Inorganic Ventures	ICN021	1000	N2-NOX672889-40759	05/01/20	250 µL	25 mL	Millipore Water	10
Ion Chromatography Standard Chloride 5000 µg/mL in H2O	o2si	062001-08-03	5000	10084781-1-39578	02/21/20	125 µL	25 mL	Millipore Water	25
Ortho-Phosphate as P Standard	Ultra Scientific	ICC-005A	1000	G34-CP-3323-39057	08/31/23	250 µL	25 mL	Millipore Water	10
Ion Chromatography Standard Nitrate as N 1000 µg/mL in H2O	o2si	062003-01-03	1000	880117-4-39577	02/21/20	125 µL	25 mL	Millipore Water	5
Bromide Standard	Ultra Scientific	ICC-001	1000	CR-5372-39521	12/31/21	312.5 µL	25 mL	Millipore Water	12.5
Sulfate Standard	Agilent	ICC-006	1000	CS-0688-41050	03/31/22	625 µL	25 mL	Millipore Water	25

Anion Chromatography Working Standard

Prep Date: 01/24/20

Exp Date: 01/25/20

Prep'd By (Initials): CD

Initial Standard Information						Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	Supplier Part No.	Conc. (ug/mL)	Lot Number - QA Number	Exp. Date	Aliquot from Stock	Final Volume	Solvent	Final Standard Conc (µg/mL)
Ion Chromatography Standard Fluoride 1000 µg/mL in H2O	o2si	O2SI-062002-01-01	1000	687393-38-40744	10/30/20	312.5 µL	25 mL	Millipore Water	12.5
Ion Chromatography Standard Nitrite 1000 µg/mL in H2O	Inorganic Ventures	ICN021	1000	N2-NOX672889-40759	05/01/20	411 µL	25 mL	Millipore Water	5 as NO2-N
Ion Chromatography Standard Chloride 5000 µg/mL in H2O	o2si	062001-08-03	5000	10084781-1-39578	02/21/20	250 µL	25 mL	Millipore Water	50
Ortho-Phosphate as P Standard	Ultra Scientific	ICC-005A	1000	G34-CP-3323-39057	08/31/23	625 µL	25 mL	Millipore Water	25
Ion Chromatography Standard Nitrate as N 1000 µg/mL in H2O	o2si	062003-01-03	1000	880117-4-39577	02/21/20	250 µL	25 mL	Millipore Water	10
Bromide Standard	Ultra Scientific	ICC-001	1000	CR-5372-39521	12/31/21	625 µL	25 mL	Millipore Water	25
Sulfate Standard	Agilent	ICC-006	1000	CS-0688-41050	03/31/22	1250 µL	25 mL	Millipore Water	50

Anion Chromatography Calibration Curve

Prep Date: 01/24/20

Exp Date: 01/25/20

Prep'd By (Initials): CD

Initial Standard Information						Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	APPL Mix Name	Conc. Range (ug/mL)	Reference To APPL Prep Date	Exp. Date	Aliquot from Stock	Final Volume	Solvent	Final Standard Conc. Range (µg/mL)
Anion Chromatography Working Standard	Varies	ICal1	5.0-50.0	Prepared 01/24/20	01/25/20	200 µL	25000 µL	Millipore Water	0.04-0.40
Anion Chromatography Working Standard	Varies	ICal2	5.0-50.0	Prepared 01/24/20	01/25/20	20 µL	1000 µL	Millipore Water	0.1-1.0
Anion Chromatography Working Standard	Varies	ICal3	5.0-50.0	Prepared 01/24/20	01/25/20	50 µL	1000 µL	Millipore Water	0.25-2.5
Anion Chromatography Working Standard	Varies	ICal4	5.0-50.0	Prepared 01/24/20	01/25/20	100 µL	1000 µL	Millipore Water	0.5-5.0
Anion Chromatography Working Standard	Varies	ICal5	5.0-50.0	Prepared 01/24/20	01/25/20	200 µL	1000 µL	Millipore Water	1.0-10.0
Anion Chromatography Working Standard	Varies	ICal6	5.0-50.0	Prepared 01/24/20	01/25/20	500 µL	1000 µL	Millipore Water	2.5-25.0
Anion Chromatography Working Standard	Varies	ICal7	5.0-50.0	Prepared 01/24/20	01/25/20	700 µL	1000 µL	Millipore Water	3.5-35.0
Anion Chromatography Working Standard	Varies	ICal8	5.0-50.0	Prepared 01/24/20	01/25/20	1000 µL	1000 µL	Millipore Water	5.0-50.0

Anion Chromatography LCS/ICV

Prep Date: See injection Log

Exp Date: 24 hours after prep

Prep'd By (Initials): CD

Initial Standard Information						Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	Supplier Part No.	Conc. Range (ug/mL)	Lot Number - QA Number	Exp. Date	Aliquot from Stock	Final Volume	Solvent	Final Standard Conc (µg/mL)
Flouride	Inorganic Ventures	ICF1	993-999	K-F652018-39801**	04/23/20	125 µL	25 mL	Millipore Water	5
Nitrite	Inorganic Ventures	ICNO21	993-1001	M2-NOX660562-40468	08/25/21	250 µL	25 mL	Millipore Water	10
Chloride	Inorganic Ventures	ICCL1	995-1001	N2CL664868-39905	03/07/22	625 µL	25 mL	Millipore Water	25
O-Phosphate as P	Inorganic Ventures	ICPPO41	1001-1009	M2-POX655826-39803**	04/23/20	250 µL	25 mL	Millipore Water	10
Nitrate as N	Inorganic Ventures	ICNNO31	997-1005	P2-NOX675324-49391	02/14/23	125 µL	25 mL	Millipore Water	5
Ion Chromatography Standard Bromide, 1000 µg/mL in H2O	CPI International	4400-IC8M	995-1005	161681-8-39539	02/06/20	312.5 µL	25 mL	Millipore Water	12.5
Sulfate	Inorganic Ventures	ICSO41	998-1006	N2-SOX664928-39507**	05/27/20	625 µL	25 mL	Millipore Water	25

Anion Chromatography CCV

Prep Date: See injection Log

Exp Date: 24 hours after prep

**Recertified with CCV Standards listed below on 191021; extended exp. date by 6 mo.

Prep'd By (Initials): CD

Initial Standard Information						Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	Supplier Part No.	Conc. (ug/mL)	Lot Number - QA Number	Exp. Date	Aliquot from Stock	Final Volume	Solvent	Final Standard Conc (µg/mL)
Ion Chromatography Standard Fluoride 1000 µg/mL in H2O	o2si	O2SI-062002-01-01	1000	687393-38-40744	10/30/20	125 µL	25 mL	Millipore Water	5
Ion Chromatography Standard Nitrite 1000 µg/mL in H2O	Inorganic Ventures	ICN021	1000	N2-NOX672889-40759	05/01/20	250 µL	25 mL	Millipore Water	10
Ion Chromatography Standard Chloride 5000 µg/mL in H2O	o2si	062001-08-03	5000	10084781-1-39578	02/21/20	125 µL	25 mL	Millipore Water	25
Ortho-Phosphate as P Standard	Ultra Scientific	ICC-005A	1000	G34-CP-3323-39057	08/31/23	250 µL	25 mL	Millipore Water	10
Ion Chromatography Standard Nitrate as N 1000 µg/mL in H2O	o2si	062003-01-03	1000	880117-4-39577	02/21/20	125 µL	25 mL	Millipore Water	5
Bromide Standard	Ultra Scientific	ICC-001	1000	CR-5372-39521	12/31/21	312.5 µL	25 mL	Millipore Water	12.5
Sulfate Standard	Agilent	ICC-006	1000	CS-0688-41050	03/31/22	625 µL	25 mL	Millipore Water	25

Method 300 and 9056 Injection Log

No.	Position	Injection Description	Inject Time		Type	Comment
1	BA1	ICAL1 191211xxx	11/Dec/2019	16:04	Unknown	F peak not present
2	BA2	ICAL2 191211xxx	11/Dec/2019	16:12	Unknown	
3	BA3	ICAL5 191211xxx	11/Dec/2019	16:19	Unknown	
4	BA4	ICAL8 191211xxx	11/Dec/2019	16:27	Unknown	Cl failed; curve below 0.995
5	R1	ICB 191211xxx	11/Dec/2019	16:34	Unknown	
6	R3	ICV/LCS 191211xxx	11/Dec/2019	16:42	Check Standard	
7	R3	LCSD 191211xxx	11/Dec/2019	16:49	Check Standard	
8	R3	LCS testxxx	11/Dec/2019	17:14	Check Standard	Replaced frit
9	BA1	ICAL1 191211	11/Dec/2019	17:23	Calibration Standard	
10	BA2	ICAL2 191211	11/Dec/2019	17:30	Calibration Standard	
11	BA3	ICAL5 191211	11/Dec/2019	17:38	Calibration Standard	
12	BA4	ICAL8 191211	11/Dec/2019	17:45	Calibration Standard	PO4-P cal curve @ 0.9945
13	R1	ICB 191211	11/Dec/2019	17:53	Unknown	
14	R3	ICV/LCS 191211	11/Dec/2019	18:00	Check Standard	F and PO4 failed (below 90)
15	R3	LCSD 191211	11/Dec/2019	18:08	Check Standard	F and PO4 failed (below 90)
16	GA4	BA03891W32	11/Dec/2019	18:15	Unknown	
17	GA5	BA03891W32 MS	11/Dec/2019	18:23	Unknown	F(2x spike) Br NO3(2x spike) NO2 I
18	GA6	BA03891W32 MSD	11/Dec/2019	18:30	Unknown	F(2x spike) Br NO3(2x spike) NO2 I
19	GB1	BA03891W32 DF5	11/Dec/2019	18:38	Unknown	
20	GA7	BA03891W32 MS DF5	11/Dec/2019	18:45	Unknown	Cl
21	GA8	BA03891W32 MSD DF5	11/Dec/2019	18:53	Unknown	Cl
22	R2	CCV 191211	11/Dec/2019	19:00	Check Standard	PO4 failed (below 90)
23	R1	CCB 191211	11/Dec/2019	19:08	Unknown	
24	R2	STOP	10/Dec/2019	20:47	Unknown	

Logged on User: BW
Instrument: Charlie System_1
Sequence: 200121

Method 300 and 9056 Injection Log

No.	Position	Injection Description	Inject Time		Type	Comment
1	R2	CCV 200121	21/Jan/2020	19:07	Check Standard	F NO2 fail
2	R1	CCB 200121	21/Jan/2020	19:14	Unknown	
3	R3	LCS 200121	21/Jan/2020	19:22	Check Standard	
4	R3	LCSD 200121	21/Jan/2020	19:29	Check Standard	
5	R2	CCV 200121	21/Jan/2020	19:37	Check Standard	
6	R1	CCB 200121	21/Jan/2020	19:44	Unknown	
7	BA1	BA05828W07 df10	21/Jan/2020	19:52	Unknown	df10 SO4
8	BA2	BA05829W07 df10	21/Jan/2020	19:59	Unknown	df10 SO4
9	BA3	BA06104W01	21/Jan/2020	20:07	Unknown	
10	BA4	BA06104W01 MS	21/Jan/2020	20:14	Unknown	
11	BA5	BA06104W01 MSD	21/Jan/2020	20:22	Unknown	
12	BA6	BA06105W01	21/Jan/2020	20:29	Unknown	
13	BA7	BA06136W07	21/Jan/2020	20:37	Unknown	
14	BA8	BA06138W07	21/Jan/2020	20:44	Unknown	
15	BB1	BA06143W07	21/Jan/2020	20:52	Unknown	
16	BB2	BA06141W07	21/Jan/2020	20:59	Unknown	
17	BB3	BA06146W04	21/Jan/2020	21:07	Unknown	
18	R2	CCV 200121	21/Jan/2020	21:14	Check Standard	
19	R1	CCB 200121	21/Jan/2020	21:22	Unknown	
20	R3	STOP	21/Jan/2020	21:27	Unknown	

Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Method 300 and 9056 Injection Log

No.	Position	Injection Description	Inject Time		Type	Comment
1	R2	CCV 20014A	24/Jan/2020	10:06	Check Standard	Cl NO3 SO4 fail
2	R1	CCB 200124A	24/Jan/2020	10:12	Unknown	
3	R2	CCV 20014A	24/Jan/2020	10:21	Check Standard	
4	R1	CCB 200124A	24/Jan/2020	10:28	Unknown	
5	BE1	Cal1 2020.01.24	24/Jan/2020	10:39	Calibration Standard	
6	BE2	Cal2 2020.01.24	24/Jan/2020	10:46	Calibration Standard	
7	BE3	Cal3 2020.01.24	24/Jan/2020	10:52	Calibration Standard	
8	BE4	Cal4 2020.01.24	24/Jan/2020	10:58	Calibration Standard	
9	BE5	Cal5 2020.01.24	24/Jan/2020	11:05	Calibration Standard	
10	BE6	Cal6 2020.01.24	24/Jan/2020	11:11	Calibration Standard	
11	BE7	Cal7 2020.01.24	24/Jan/2020	11:18	Calibration Standard	
12	BE8	Cal8 2020.01.24	24/Jan/2020	11:24	Calibration Standard	
13	R2	ICB 200124A	24/Jan/2020	11:30	Unknown	
14	R3	200124A LCS/ ICV	24/Jan/2020	11:37	Check Standard	
15	R3	200124A LCSD	24/Jan/2020	11:43	Check Standard	
16	R2	CCV 200124	24/Jan/2020	11:50	Check Standard	
17	R1	CCB	24/Jan/2020	11:56	Unknown	
18	GC1	Method LCS 191015	24/Jan/2020	14:41	Check Standard	half spike
19	GC2	Method LCSD 191015	24/Jan/2020	14:48	Check Standard	half spike
20	GC1	200124A LCS	24/Jan/2020	14:58	Check Standard	full spike
21	GC2	200124A LCSD	24/Jan/2020	15:04	Check Standard	full spike
22	GC3	200124A BLK	24/Jan/2020	15:11	Unknown	
23	GC4	BA06100S04	24/Jan/2020	15:17	Unknown	
24	GC5	BA06100S04 MS	24/Jan/2020	15:24	Unknown	half spike
25	GC6	BA06100S04 MSD	24/Jan/2020	15:30	Unknown	half spike
26	GC7	BA06101S04	24/Jan/2020	15:36	Unknown	
27	GC8	BA06102S04	24/Jan/2020	15:43	Unknown	
28	GD1	BA06103S04	24/Jan/2020	15:49	Unknown	
29	R2	CCV 200124	24/Jan/2020	15:55	Check Standard	
30	R1	CCB	24/Jan/2020	16:02	Unknown	
31	R3	STOP	n.a.		Unknown	

Method 300 and 9056 Injection Log

No.	Position	Injection Description	Inject Time		Type	Comment
1	R2	CCV 200125	25/Jan/2020	09:10	Check Standard	
2	R1	CCB	25/Jan/2020	09:16	Unknown	
3	R3	200125A LCS	25/Jan/2020	09:23	Check Standard	
4	R3	200125A LCSD	25/Jan/2020	09:29	Check Standard	
5	RA3	BA05746W01	25/Jan/2020	09:36	Unknown	
6	RB3	BA06265W07 df5	25/Jan/2020	09:42	Unknown	
7	RB4	BA06290W06 df10	25/Jan/2020	09:48	Unknown	
8	RB5	BA06291W06 df5	25/Jan/2020	09:55	Unknown	
9	RB6	BA06292W06 df20	25/Jan/2020	10:01	Unknown	
10	RB7	BA06293W06 df10	25/Jan/2020	10:08	Unknown	
11	RB8	BA06272W11 df5	25/Jan/2020	10:14	Unknown	
12	RC1	BA06272W11 df5 MS	25/Jan/2020	10:21	Unknown	
13	RC2	BA06272W11 df5 MSD	25/Jan/2020	10:27	Unknown	
14	RC3	BA06275W07	25/Jan/2020	10:33	Unknown	
15	RC4	BA06276W07 df2	25/Jan/2020	10:40	Unknown	
16	RE7	BA05777W07 df2	25/Jan/2020	10:46	Unknown	
17	R2	CCV 200125	25/Jan/2020	10:52	Check Standard	
18	R1	CCB 200125	25/Jan/2020	10:59	Unknown	
19	RC5	BA06279W07 df20	25/Jan/2020	11:05	Unknown	
20	RE4	BA06284W df2	25/Jan/2020	11:12	Unknown	
21	RC6	BA06299W18 df50	25/Jan/2020	11:18	Unknown	
22	RC7	BA06299W18 df50 MS	25/Jan/2020	11:24	Unknown	
23	RC8	BA06299W18 df50 MSD	25/Jan/2020	11:31	Unknown	
24	RD1	BA06300W06 df50	25/Jan/2020	11:37	Unknown	
25	RD2	BA06301W06 df50	25/Jan/2020	11:44	Unknown	
26	RD3	BA06302W06 df20	25/Jan/2020	11:50	Unknown	
27	RD4	BA06303W06 df10	25/Jan/2020	11:56	Unknown	
28	RD5	BA06304W06 df10	25/Jan/2020	12:03	Unknown	
29	RD6	BA06305W06	25/Jan/2020	12:09	Unknown	
30	R2	CCV 200125	25/Jan/2020	12:15	Check Standard	
31	R1	CCB 200125	25/Jan/2020	12:22	Unknown	
32	R3	200125B LCS	25/Jan/2020	12:28	Check Standard	
33	R3	200125B LCSD	25/Jan/2020	12:35	Check Standard	
34	RD7	BA06313W07	25/Jan/2020	12:41	Unknown	
35	RD8	BA06315W07	25/Jan/2020	12:47	Unknown	
36	RE1	BA06317W07 df2	25/Jan/2020	12:54	Unknown	
37	RE2	BA06319W10	25/Jan/2020	13:00	Unknown	
38	RE3	BA06324W04	25/Jan/2020	13:07	Unknown	
39	RE5	BA06324W04 MS	25/Jan/2020	13:13	Unknown	
40	RE6	BA06324W04 MSD	25/Jan/2020	13:19	Unknown	
41	GE1	BA06136W07	25/Jan/2020	13:26	Unknown	
42	GE2	BA06138W07	25/Jan/2020	13:32	Unknown	
43	GE3	BA06141W07 df10	25/Jan/2020	13:38	Unknown	
44	GE4	BA06143W07 df10	25/Jan/2020	13:45	Unknown	
45	GE5	BA06146W04	25/Jan/2020	13:51	Unknown	
46	R2	CCV 200125	25/Jan/2020	13:58	Check Standard	
47	R1	CCB 200125	25/Jan/2020	14:04	Unknown	
48	R3	STOP	25/Jan/2020	14:08	Unknown	

INORGANIC ANALYSIS
Calibration Data

A.P.P.L. INC.
2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: AECOM
ARF No: 91264 SDG: 91264
Initial Calibration Source: CPI
Continuing Calibration Source: Environmental Express
Analysis Date: 01/27/20

Analyte	Calibration Verification									M
	True CCV1	Found 14:13	%R(1)	True CCV1	Found 14:41	%R(1)	True CCV1	Found 15:04	%R(1)	
TOXN	3	2.8876	96.3	3	3.0182	101	3	2.7945	93.2	

(1) Control Limits: 90-110

A.P.P.L. INC.
2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: AECOM
ARF No: 91264 SDG: 91264
Initial Calibration Source: CPI
Continuing Calibration Source: Environmental Express
Analysis Date: 01/27/20

Analyte	Calibration Verification									M
	True CCV1	Found 15:09	%R(1)	True	Found	%R(1)	True	Found	%R(1)	
TOXN	3	2.8006	93.4							

(1) Control Limits: 90-110

A.P.P.L. INC.
3
BLANKS

Lab Name: A.P.P.L. INC. Contract: AECOM

ARF No.: 91264 SDG: 91264

Preparation Blank Matrix (soil/water): water

Preparation Blank Concentration Units (ug/L or mg/kg): mg/L

Analyte	Calibration Blanks										M
	CCB 01/27/20 14:16	C	CCB 01/27/20 14:43	C	CCB 01/27/20 15:05	C	CCB 01/27/20 15:10	C		C	
TOXN	.100	U	.100	U	.100	U	.100	U			

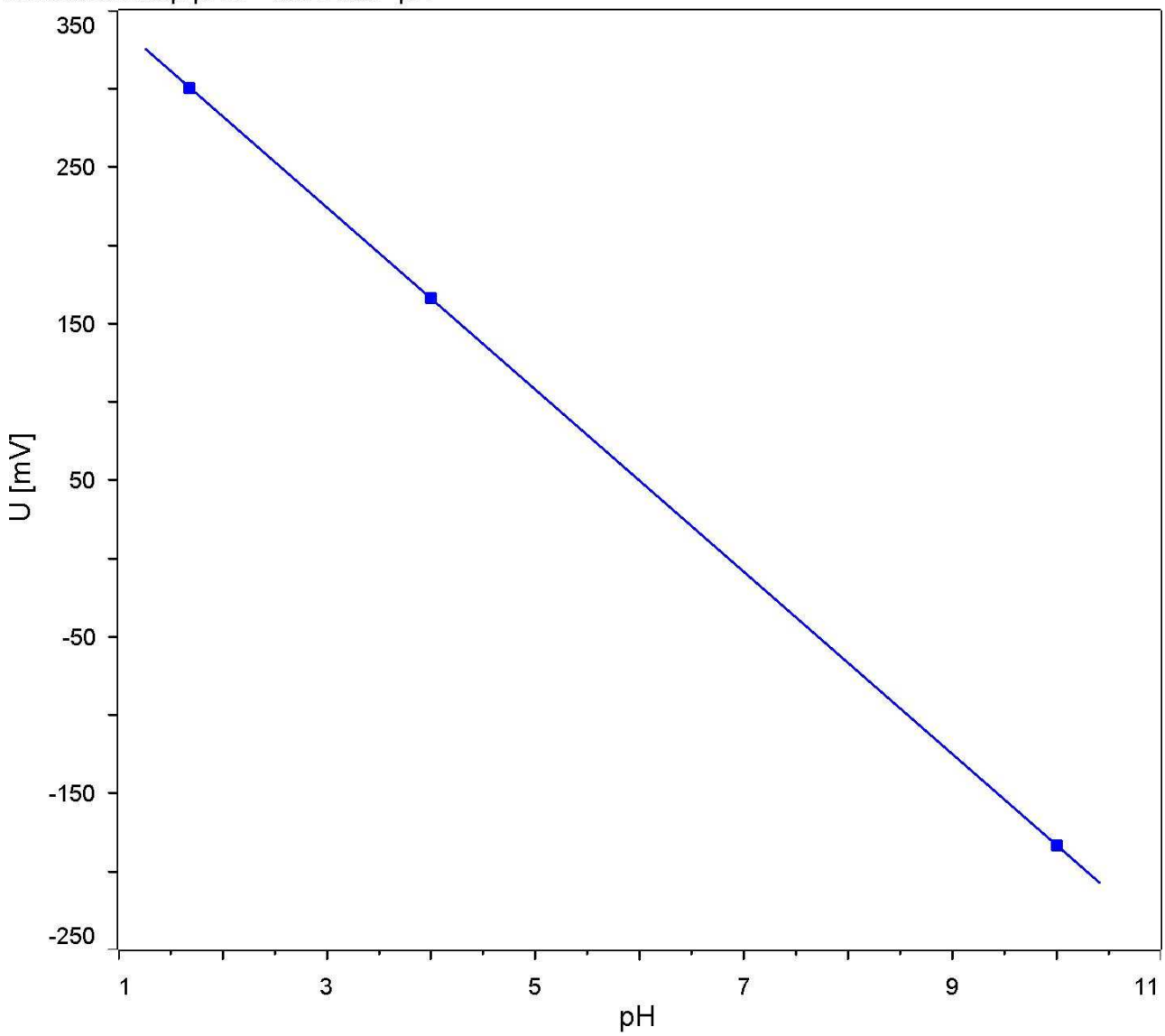
Timao Calibration Curve

2020-01-25 07:41:07

Calculations

Buffer 7	7.04	
Formula	'MEAS pH.EME'	
MEAS pH.EME	7.0404	
Slope	99.50	
Formula	'Calibration loop pH.SLO'	
Calibration loop pH.SLO	99.5	
pH(as)	6.85	
Formula	'Calibration loop pH.ENP'	
Calibration loop pH.ENP	6.853	
Res19	21.6	°C
Formula	'CAL MEAS pH.ETE'	
CAL MEAS pH.ETE	21.5793	

Calibration loop pH.1 - CAL LOOP pH



INORGANIC ANALYSIS
Raw Data

AQ2 Tray Report

Serial Number:	190170
Software Version:	2.1.0
Report Requested By:	Kyle S
Date & Time:	2020-01-27 15:19:49
Tray Number:	4
Tray Name:	200127A TOXN

Nitrite-N

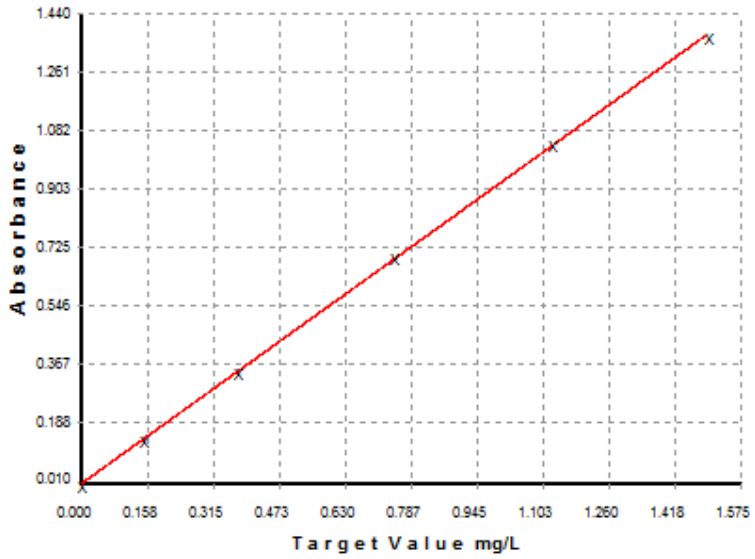
Calibration Chart

Type	Absorbance	Calc mg/L	Target mg/L	% Error
S1	0.0096	-0.0017	0.0000	
S90	0.1445	0.1461	0.1500	-2.59
S91	0.3547	0.3766	0.3750	0.43
S92	0.6982	0.7533	0.7500	0.44
S93	1.0456	1.1343	1.1250	0.83
S94	1.3712	1.4913	1.5000	-0.58
S0	0.0196	0.0092	0.0000	

Polynomial Order:	1
Correlation Coefficient:	0.9999
Carryover(%):	0.7
Calibration equation:	y = bx + a
y =:	Concentration mg/L
x =:	Measured absorbance
a =:	-1.228615E-002
b =:	1.096562E+000
Date & Time:	2020-01-27 12:58:18

Algorithm Check:
y=(1.096562)(0.678177)-1.228615E-002
y=0.7314 ✓

Calibration Graph



Reagents

Name	Batch	Prepared By	Expiry Date
Sulfa-NEDD		Joel	
NO2 Buffer		Joel	

Test Results

Cup Type	ID	Result	Units	QC Pro	Raw Data	Auto Dil.	Man Dil.	User	Time/Date
S1	Standard 1	0.0096			0.009640			KS	2020-01-27 12:50:33
S90	Standard 90	0.1445			0.144456			KS	2020-01-27 12:51:50
S91	Standard 91	0.3547			0.354659			KS	2020-01-27 12:53:08
S92	Standard 92	0.6982			0.698199			KS	2020-01-27 12:54:25
S93	Standard 93	1.0456			1.045629			KS	2020-01-27 12:55:43
S94	Standard 94	1.3712			1.371212			KS	2020-01-27 12:57:01
S0	Standard 0	0.0196			0.019628			KS	2020-01-27 12:58:18
CCV	CCV .75	0.7394	mg/L		0.685528			KS	2020-01-27 12:59:36
CCB	CCB	0.0046	mg/L		0.015439			KS	2020-01-27

							13:00:54
3	U1	ICV NO2	0.7219	mg/L	0.669531	KS	2020-01-27 13:02:13
4	U2	ICV NO3 TOXN	0.0046	mg/L	0.015354	KS	2020-01-27 13:03:31
5	U3	ICB NO2 NO3 TOXN	-0.0008	mg/L	0.010500	KS	2020-01-27 13:04:48
6	U28	200127A Blk NO2 NO3 TOXN pH5.28 Thing 0	-0.0001	mg/L	0.011093	KS	2020-01-27 13:06:07
7	U5	200127A LCS NO2 pH5.28	0.7314	mg/L	0.678177	KS	2020-01-27 13:07:25
8	U6	200127A LCSD NO2 pH5.28	0.7226	mg/L	0.670175	KS	2020-01-27 13:08:43
9	U7	200127A LCS NO3 TOXN pH5.28	0.0049	mg/L	0.015696	KS	2020-01-27 13:09:59
10	U8	200127A LCSD NO3 TOXN pH5.28	-0.0009	mg/L	0.010401	KS	2020-01-27 13:11:13
11	U9	1 ppm NO2	1.0193	mg/L	0.940773	KS	2020-01-27 13:12:28
12	U10	1 ppm NO3	0.0057	mg/L	0.016440	KS	2020-01-27 13:13:42
	CCV	CCV .75	0.7508	mg/L	0.695868	KS	2020-01-27 13:14:56
	CCB	CCB	0.0045	mg/L	0.015311	KS	2020-01-27 13:16:11
13	U11	BA06136W08 MS pH6.95	0.0016	mg/L	0.012693	KS	2020-01-27 13:17:25
14	U12	BA06136W08 MSD pH6.95	0.0012	mg/L	0.012282	KS	2020-01-27 13:18:39
15	U13	BA06136W08 pH6.02	-0.0009	mg/L	0.010387	KS	2020-01-27 13:19:52
16	U14	BA06138W08 pH7.53	-0.0007	mg/L	0.010556	KS	2020-01-27 13:21:08
17	U15	BA06141W08 pH5.89	-0.0009	mg/L	0.010344	KS	2020-01-27 13:22:21
18	U16	BA06143W08 pH7.01	-0.0005	mg/L	0.010768	KS	2020-01-27 13:23:35
19	U17	BA06272W12 pH6.77	-0.0000	mg/L	0.011164	KS	2020-01-27 13:24:49
20	U18	BA06275W08 pH5.92	0.0007	mg/L	0.011871	KS	2020-01-27 13:26:02
21	U19	BA06276W08 pH5.41	-0.0004	mg/L	0.010810	KS	2020-01-27 13:27:15
22	U20	BA06279W08 pH7.30	-0.0009	mg/L	0.010373	KS	2020-01-27 13:28:29
	CCV	CCV .75	0.7501	mg/L	0.695252	KS	2020-01-27 13:29:42
	CCB	CCB	0.0039	mg/L	0.014755	KS	2020-01-27 13:30:56
23	U21	BA06284W11 pH5.33	0.0000	mg/L	0.011234	KS	2020-01-27 13:32:11
24	U22	BA06313W08 pH6.82	-0.0001	mg/L	0.011093	KS	2020-01-27 13:32:49
25	U23	BA06315W08 pH6.47	-0.0002	mg/L	0.011008	KS	2020-01-27 13:34:58
26	U24	BA06317W08 pH6.25	0.0022	mg/L	0.013232	KS	2020-01-27 13:37:12
27	U25	BA06319W11 pH7.63	-0.0006	mg/L	0.010669	KS	2020-01-27 13:39:29
28	U26	BA06361W11 pH6.99	-0.0005	mg/L	0.010782	KS	2020-01-27 13:41:49
29	U27	BA06364W08 pH6.48	0.0001	mg/L	0.011319	KS	2020-01-27 13:44:13
	CCV	CCV .75	0.7493	mg/L	0.694502	KS	2020-01-27 13:46:35
	CCB	CCB	0.0034	mg/L	0.014313	KS	2020-01-27 13:48:48

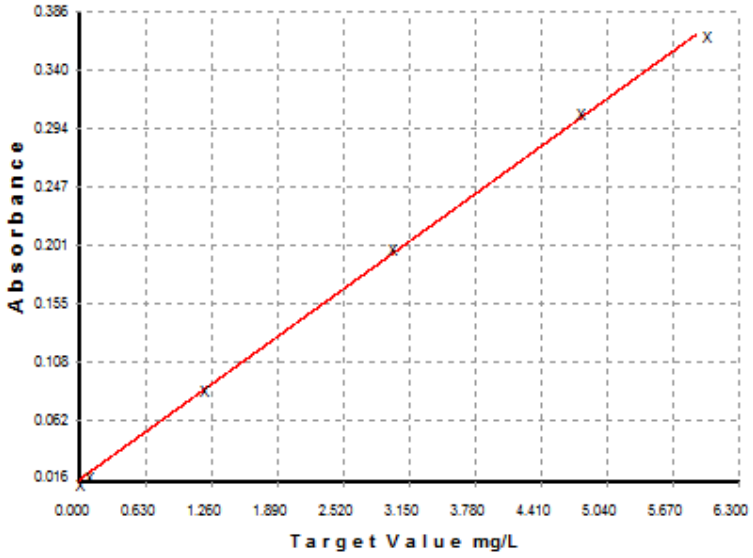
TOXN

Calibration Chart

Type	Absorbance	Calc mg/L	Target mg/L	% Error
S1	0.0158	-0.0336	0.0000	
S90	0.0221	0.0726	0.1000	-27.44
S91	0.0894	1.2059	1.2000	0.49
S92	0.2007	3.0791	3.0000	2.64
S93	0.3077	4.8815	4.8000	1.70
S94	0.3679	5.8945	6.0000	-1.76
S0	0.0162	-0.0273	0.0000	

Polynomial Order:	1
Correlation Coefficient:	0.9996
Carryover(%):	0.1
Calibration equation:	y = bx + a
y =:	Concentration mg/L
x =:	Measured absorbance
a =:	-2.994905E-001
b =:	1.683517E+001
Date & Time:	2020-01-27 14:11:30

Calibration Graph



Reagents

Name	Batch	Prepared By	Expiry Date
NO3 W Buffer		Joel	
Sulfa-NEDD		Joel	

Test Results

Cup	Type	ID	Result	Units	QC Pro	Raw Data	Auto Dil.	Man Dil.	User	Time/Date
	S1	Standard 1	0.0158			0.015796			KS	2020-01-27 13:57:50
	S90	Standard 90	0.0221			0.022100			KS	2020-01-27 14:00:07
	S91	Standard 91	0.0894			0.089419			KS	2020-01-27 14:02:25
	S92	Standard 92	0.2007			0.200684			KS	2020-01-27 14:04:41
	S93	Standard 93	0.3077			0.307750			KS	2020-01-27 14:06:57
	S94	Standard 94	0.3679			0.367922			KS	2020-01-27 14:09:12
	S0	Standard 0	0.0162			0.016168			KS	2020-01-27 14:11:30
	CCV	CCV	2.8876	mg/L		0.189309			KS	2020-01-27 14:13:48
	CCB	CCB	-0.0362	mg/L		0.015639			KS	2020-01-27 14:16:02
4	U2	ICV NO3 TOXN	2.9311	mg/L		0.191895			KS	2020-01-27 14:18:14
5	U3	ICB NO2 NO3 TOXN	-0.0220	mg/L		0.016483			KS	2020-01-27 14:20:29
6	U28	200127A Blk NO2 NO3 TOXN pH5.28 Thing 0	-0.0403ELL	mg/L		0.015396			KS	2020-01-27 14:22:48
9	U7	200127A LCS NO3 TOXN pH5.28	3.0156	mg/L		0.196917			KS	2020-01-27 14:25:05
10	U8	200127A LCSD NO3 TOXN pH5.28	2.8955	mg/L		0.189778			KS	2020-01-27 14:27:23
12	U10	1 ppm NO3	0.9568	mg/L		0.074626			KS	2020-01-27 14:29:41
13	U11	BA06136W08 MS pH6.95	-0.0078	mg/L		0.017328			KS	2020-01-27 14:31:59
14	U12	BA06136W08 MSD pH6.95	-0.0107	mg/L		0.017156			KS	2020-01-27 14:34:17
										2020-01-27

15	U13	BA06136W08 pH6.02	-0.0326	mg/L	0.015853	KS	14:36:35
16	U14	BA06138W08 pH7.53	-0.0213	mg/L	0.016526	KS	2020-01-27 14:38:53
	CCV	CCV	3.0182	mg/L	0.197069	KS	2020-01-27 14:41:12
	CCB	CCB	-0.0396	mg/L	0.015439	KS	2020-01-27 14:43:31
17	U15	BA06141W08 pH5.89	0.6315	mg/L	0.055300	KS	2020-01-27 14:45:50
18	U16	BA06143W08 pH7.01	1.3202	mg/L	0.096208	KS	2020-01-27 14:48:08
19	U17	BA06272W12 pH6.77	0.5599	mg/L	0.051049	KS	2020-01-27 14:50:27
20	U18	BA06275W08 pH5.92	1.5126	mg/L	0.107636	KS	2020-01-27 14:52:45
21	U19	BA06276W08 pH5.41	0.5092	mg/L	0.048038	KS	2020-01-27 14:55:04
22	U20	BA06279W08 pH7.30	1.0737	mg/L	0.081568	KS	2020-01-27 14:57:22
23	U21	BA06284W11 pH5.33	0.3486	mg/L	0.038495	KS	2020-01-27 14:59:41
24	U22	BA06313W08 pH6.82	0.7599	mg/L	0.062924	KS	2020-01-27 15:02:00
25	U23	BA06315W08 pH6.47	0.4512	mg/L	0.044590	KS	2020-01-27 15:02:39
26	U24	BA06317W08 pH6.25	1.7857	mg/L	0.123856	KS	2020-01-27 15:03:44
	CCV	CCV	2.7945	mg/L	0.183784	KS	2020-01-27 15:04:40
	CCB	CCB	-0.0573	mg/L	0.014384	KS	2020-01-27 15:05:38
27	U25	BA06319W11 pH7.63	0.2878	mg/L	0.034883	KS	2020-01-27 15:06:35
28	U26	BA06361W11 pH6.99	0.3337	mg/L	0.037608	KS	2020-01-27 15:07:31
29	U27	BA06364W08 pH6.48	0.1671	mg/L	0.027717	KS	2020-01-27 15:08:28
	CCV	CCV	2.8006	mg/L	0.184142	KS	2020-01-27 15:09:24
	CCB	CCB	-0.0456	mg/L	0.015083	KS	2020-01-27 15:10:21

Nitrate-N

Test Results

Cup	Type	ID	Result	Units	QC Pro	Raw Data	Auto Dil.	Man Dil.	User	Time/Date
4	U2	ICV NO3 TOXN	2.9265	mg/L		0.000000			KS	2020-01-27 14:18:14
4	U2	ICV NO3 TOXN				0.000000			KS	2020-01-27 14:18:14
5	U3	ICB NO2 NO3 TOXN	-0.0212	mg/L		0.000000			KS	2020-01-27 14:20:29
5	U3	ICB NO2 NO3 TOXN				0.000000			KS	2020-01-27 14:20:29
6	U28	200127A Blk NO2 NO3 TOXN pH5.28 Thing 0	-0.0402	mg/L		0.000000			KS	2020-01-27 14:22:48
6	U28	200127A Blk NO2 NO3 TOXN pH5.28 Thing 0				0.000000			KS	2020-01-27 14:22:48
9	U7	200127A LCS NO3 TOXN pH5.28	3.0107	mg/L		0.000000			KS	2020-01-27 14:25:05
9	U7	200127A LCS NO3 TOXN pH5.28				0.000000			KS	2020-01-27 14:25:05
10	U8	200127A LCSD NO3 TOXN pH5.28	2.8963	mg/L		0.000000			KS	2020-01-27 14:27:23
10	U8	200127A LCSD NO3 TOXN pH5.28				0.000000			KS	2020-01-27 14:27:23
12	U10	1 ppm NO3	0.9511	mg/L		0.000000			KS	2020-01-27 14:29:41
12	U10	1 ppm NO3				0.000000			KS	2020-01-27 14:29:41
13	U11	BA06136W08 MS pH6.95	-0.0094	mg/L		0.000000			KS	2020-01-27 14:31:59
13	U11	BA06136W08 MS pH6.95				0.000000			KS	2020-01-27 14:31:59
14	U12	BA06136W08 MSD pH6.95	-0.0119	mg/L		0.000000			KS	2020-01-27 14:34:17
14	U12	BA06136W08 MSD pH6.95				0.000000			KS	2020-01-27 14:34:17
15	U13	BA06136W08 pH6.02	-0.0317	mg/L		0.000000			KS	2020-01-27 14:36:35
15	U13	BA06136W08 pH6.02				0.000000			KS	2020-01-27 14:36:35
16	U14	BA06138W08 pH7.53	-0.0206	mg/L		0.000000			KS	2020-01-27 14:38:53
16	U14	BA06138W08 pH7.53				0.000000			KS	2020-01-27 14:38:53
17	U15	BA06141W08 pH5.89	0.6324	mg/L		0.000000			KS	2020-01-27 14:45:50
17	U15	BA06141W08 pH5.89				0.000000			KS	2020-01-27 14:45:50
18	U16	BA06143W08 pH7.01	1.3207	mg/L		0.000000			KS	2020-01-27 14:48:08
18	U16	BA06143W08 pH7.01				0.000000			KS	2020-01-27 14:48:08
19	U17	BA06272W12 pH6.77	0.5600	mg/L		0.000000			KS	2020-01-27 14:50:27
19	U17	BA06272W12 pH6.77				0.000000			KS	2020-01-27 14:50:27
20	U18	BA06275W08 pH5.92	1.5118	mg/L		0.000000			KS	2020-01-27 14:52:45
20	U18	BA06275W08 pH5.92				0.000000			KS	2020-01-27 14:52:45
21	U19	BA06276W08 pH5.41	0.5097	mg/L		0.000000			KS	2020-01-27 14:55:04
21	U19	BA06276W08 pH5.41				0.000000			KS	2020-01-27 14:55:04
22	U20	BA06279W08 pH7.30	1.0746	mg/L		0.000000			KS	2020-01-27 14:57:22
22	U20	BA06279W08 pH7.30				0.000000			KS	2020-01-27 14:57:22
23	U21	BA06284W11 pH5.33	0.3486	mg/L		0.000000			KS	2020-01-27 14:59:41
23	U21	BA06284W11 pH5.33				0.000000			KS	2020-01-27

							14:59:41
24	U22	BA06313W08 pH6.82	0.7600	mg/L	0.000000	KS	2020-01-27 15:02:00
24	U22	BA06313W08 pH6.82			0.000000	KS	2020-01-27 15:02:00
25	U23	BA06315W08 pH6.47	0.4514	mg/L	0.000000	KS	2020-01-27 15:02:39
25	U23	BA06315W08 pH6.47			0.000000	KS	2020-01-27 15:02:39
26	U24	BA06317W08 pH6.25	1.7834	mg/L	0.000000	KS	2020-01-27 15:03:44
26	U24	BA06317W08 pH6.25			0.000000	KS	2020-01-27 15:03:44
27	U25	BA06319W11 pH7.63	0.2884	mg/L	0.000000	KS	2020-01-27 15:06:35
27	U25	BA06319W11 pH7.63			0.000000	KS	2020-01-27 15:06:35
28	U26	BA06361W11 pH6.99	0.3341	mg/L	0.000000	KS	2020-01-27 15:07:31
28	U26	BA06361W11 pH6.99			0.000000	KS	2020-01-27 15:07:31
29	U27	BA06364W08 pH6.48	0.1670	mg/L	0.000000	KS	2020-01-27 15:08:28
29	U27	BA06364W08 pH6.48			0.000000	KS	2020-01-27 15:08:28

Metrohm 814/809 Titrando Data

Sample ID	Analysis Date/Time	Method	Titration Volume (to 8.3)	Titration Volume (total)	OH	CO3	HCO3	Total Alk	Unit	Sample Vol	N	Batch	Initials
BA06143W07	2020-01-25 13:07:09 UTC-8	Alkalinity	0.000	2.266	0.00	0.00	93.81	93.81	mg/L	25 mL	0.0207	200125A	CD
BA06141W07	2020-01-25 13:02:07 UTC-8	Alkalinity	0.000	2.498	0.00	0.00	103.42	103.42	mg/L	25 mL	0.0207	200125A	CD
BA06138W07	2020-01-25 12:54:49 UTC-8	Alkalinity	0.000	4.568	0.00	0.00	189.12	189.12	mg/L	25 mL	0.0207	200125A	CD
BA06136W07	2020-01-25 12:50:21 UTC-8	Alkalinity	0.000	1.952	0.00	0.00	80.81	80.81	mg/L	25 mL	0.0207	200125A	CD
200125A LCSD	2020-01-25 12:42:26 UTC-8	Alkalinity	0.108	5.820	0.00	8.94	232.01	240.95	mg/L	25 mL	0.0207	200125A	CD
200125A LCS	2020-01-25 12:33:58 UTC-8	Alkalinity	0.106	5.800	0.00	8.78	231.34	240.12	mg/L	25 mL	0.0207	200125A	CD
200125A BLK	2020-01-25 12:13:49 UTC-8	Alkalinity	0.000	0.062	0.00	0.00	2.57	2.57	mg/L	25 mL	0.0207	200125A	CD

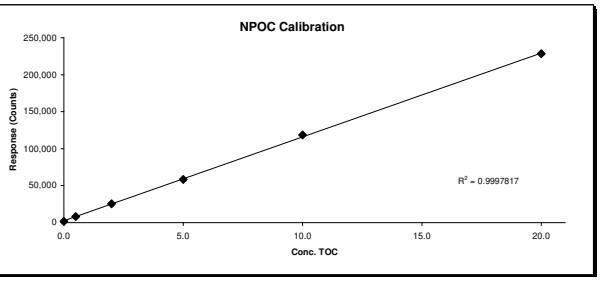
TOTAL ORGANIC CARBON

Method: WetChem | Units mg/L | Instrument: Tic Toc

Analyte: TOC | QCG: 200122A

Analyist: AR | Final Volume: 40mL

Date	Time	Appl ID	[TOC]	Raw	% Recovery
01/15/20	13:42	QC blank	0.00	1639	
01/15/20	14:25	Ical 1	0.50	8021	
01/15/20	15:01	Ical 2	2.00	25461	
01/15/20	15:37	Ical 3	5.00	58252	
01/15/20	16:13	Ical 4	10.00	118315	
01/15/20	16:49	Ical 5	20.00	228427	
01/16/20	15:11	ICB	0.08	906	
01/16/20	14:33	ICV	5.20	59018	104.0%



Date	Time	Appl ID	DF	Raw Result	SubSample Amount	Filter Blank Subtract	Calc Conc	Result	Range (mg/L)	QC True	% Recovery
2020-01-22	07:27 PM	CCV	1	57868	40mL	0.000	5.098	5.10	0.06	5.00	102.0%
2020-01-22	08:08 PM	CCB	1	1594	40mL	0.000	0.141	0.14	0.02		
2020-01-22	08:46 PM	200122A LCS	1	55716	40mL	0.000	4.909	4.91	0.06	5.00	98.2%
2020-01-22	09:26 PM	200122A LCSD	1	56829	40mL	0.000	5.006	5.01	0.01	5.00	100.1%
2020-01-22	11:23 PM	BA06136W06	1	9109	40mL	0.000	0.772	0.77	0.05		
2020-01-23	12:00 AM	BA06138W06	1	41705	40mL	0.000	3.644	3.64	0.28		
2020-01-23	12:37 AM	BA06141W06	1	3384	40mL	0.000	0.268	0.27	0.03		
2020-01-23	01:14 AM	BA06143W06	1	8622	40mL	0.000	0.73	0.73	0.00		
2020-01-23	01:51 AM	200122A LCS LOQ	1	23628	40mL	0.000	2.082	2.08	0.05	2.00	104.1%
2020-01-23	02:31 AM	BA06212W01	1	12517	40mL	0.000	1.103	1.10	0.03	1.00	110.3%
2020-01-23	03:09 AM	BA06212W01 DUP	1	13391	40mL	0.000	1.179	1.18	0.03	1.00	117.9%
2020-01-23	03:48 AM	CCV	1	57361	40mL	0.000	5.054	5.05	0.06	5.00	101.1%
2020-01-23	04:28 AM	CCB	1	1276	40mL	0.000	0.113	0.11	0.02		
2020-01-23	05:06 AM	BA06272W09	1	2549	40mL	0.000	0.195	0.20	0.06		
2020-01-23	05:41 AM	BA06272W09 DUP	1	3503	40mL	0.000	0.279	0.28	0.00		
2020-01-23	06:17 AM	BA06272W10 MS	1	54765	40mL	0.000	4.795	4.80	0.06		
2020-01-23	06:55 AM	BA06272W10 MSD	1	52712	40mL	0.000	4.614	4.61	0.19		
2020-01-23	07:33 AM	BA06275W06	1	16396	40mL	0.000	1.415	1.42	0.23		
2020-01-23	08:10 AM	BA06276W06	1	2272	40mL	0.000	0.171	0.17	0.00		
2020-01-23	08:45 AM	BA06279W05	1	2327	40mL	0.000	0.175	0.18	0.07		
2020-01-23	09:22 AM	BA06284W08	1	6998	40mL	0.000	0.587	0.59	0.06		
2020-01-23	10:00 AM	CCV	1	53497	40mL	0.000	4.713	4.71	0.16	5.00	94.3%
2020-01-23	10:41 AM	CCB	1	423	40mL	0.000	0.037	0.04	0.00		

Ferrous Iron — Rev 2, 04-05-19

Method SM3500Fe | Units mg/L | Instrument: Genisis Spectrometer
Analyte Fe2+ | QCG: 200122A | Wavelength: 510 nm
Analyist fjr | Final Volume: 50mL | Units: mg/L

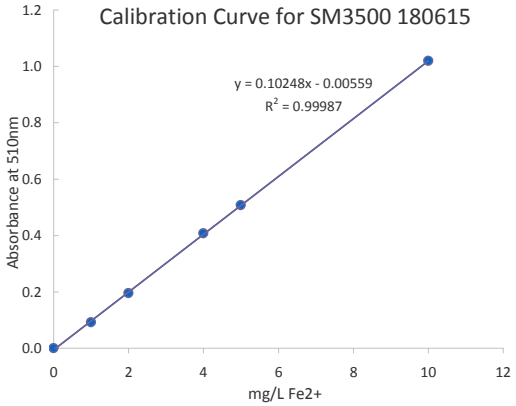
Date	Time	Appl ID	[Fe2+]	Absorbance	% Recovery
06/28/19	12:48	ICB	0.00	0.000	
06/28/19	12:49	Ical 1	1.00	0.092	95.2%
06/28/19	12:50	Ical 2	2.00	0.195	97.9%
06/28/19	12:51	Ical 3	4.00	0.408	100.9%
06/28/19	12:51	Ical 4	5.00	0.507	100.0%
06/28/19	12:52	Ical 5	10.00	1.019	100.0%
06/28/19	13:08	ICV	3.00	0.326	107.9%
06/28/19	12:53	ICB	0.00	0.002	

Slope	0.102479592
Intercept	-0.005591837
Coefficient of Determination	0.999872044

Algortithm Check:	Appl ID	Absorbance	Result
	LCS 200122A	0.311	3.09

Result = (Absorbance-Raw Blk-Intercept)/ Slope

Test:	FJR	01/22/20	3.09



Date	Time	Appl ID	DF	Raw Result	SubSample Amount	Raw BLK	Calc Conc	Result	QC True	% Recovery
01/22/20	13:59	CCV 4.0 200122A	1	0.413	25mL		4.08	4.08	4.00	102.1%
01/22/20	13:58	CCB 200122A	1	0.000	25mL		0.05	0.05		
01/22/20	13:59	LCS 200122A	1	0.311	25mL		3.09	3.09	3.00	103.0%
01/22/20	14:00	LCSD 200122A	1	0.310	25mL		3.08	3.08	3.00	102.7%
01/22/20	14:01	BA06136W09	1	0.061	25mL		0.65	0.65		
01/22/20	14:04	BA06138W09	1	0.219	25mL		2.19	2.19		
01/22/20	14:04	BA06141W09	1	0.005	25mL		0.10	0.10		
01/22/20	14:05	BA06143W09	1	0.006	25mL		0.11	0.11		
01/22/20	14:05	BA06272W13	1	0.009	25mL		0.14	0.14		
01/22/20	14:06	BA06272W13 MS	1	0.318	25mL		3.16	3.16		
01/22/20	14:06	BA06272W13 MSD	1	0.316	25mL		3.14	3.14		
01/22/20	14:07	BA06275W09	1	0.008	25mL		0.13	0.13		
01/22/20	14:07	BA06276W09	1	0.011	25mL		0.16	0.16		
01/22/20	14:08	BA06279W09	1	0.004	25mL		0.09	0.09		
01/22/20	14:08	BA06284W12	1	0.005	25mL		0.10	0.10		
01/22/20	14:09	BA06293W07	1	0.032	25mL		0.37	0.37		
01/22/20	14:09	BA06290W07	1	0.099	25mL		1.02	1.02		
01/22/20	14:09	BA06291W07	1	0.113	25mL		1.16	1.16		
01/22/20	14:10	BA06292W07	1	0.663	25mL		6.52	6.52		
01/22/20	14:11	CCV 4.0 200122A	1	0.425	25mL		4.20	4.20	4.00	105.0%
01/22/20	14:11	CCB 200122A	1	0.002	25mL		0.07	0.07		

Standard Prep

	Ferrous Iron Standards		Prep'd By (Initials)		FJR		
Prep Date	06/28/18						
Exp Date	06/28/19						
Stock Label	Supplier	Batch Number	Exp Date	Aliquot from Stock	Final Volume	Solvent	Ferrous Iron Concentration
Ferrous Ammonium Sulfate	J.T.Baker	0000184592	08/21/20	0.351	250mL	5ml H2SO4 (0000167828) Diluted with water	200ug/L
Ferrous Sulfate	Mallinckrodt	Lot 5056 KDRX	NA	0.250	250mL	5ml H2SO4 (0000167828) Diluted with water	200ug/L
Ferrous Iron CCV/LCS/MS/ICV			Prep'd By (Initials)		FJR		
Prep Date	See Injection Log						
Exp Date	24 Hours						
Initial Standard Information	Supplier	Batch Number	Exp Date	Final Standard Information			
Ferrous Iron CCV	J.T.Baker	0000184592	06/14/19	500uL	25mL	Deionized water	4mg/L
Ferrous Iron ICV/LCS	Mallinckrodt	Lot 5056 KDRX	06/14/19	375uL	25mL	Deionized water	3mg/L
	Ferrous Iron Calibration Curve		Prep'd By (Initials)		FJR		
Prep Date	06/28/18						
Exp Date	06/28/19						
Final Standard Information							
Point Label	Supplier	Batch Number	Exp Date	Aliquot from Stock (mL)	Final Volume	Solvent	Ferrous Iron Concentration
CCB	J.T.Baker	0000184592	06/14/19	0	25mL	Deionized water	0mg/L
Ical 1	J.T.Baker	0000184592	06/14/19	0.125	25mL	Deionized water	1mg/L
Ical 2	J.T.Baker	0000184592	06/14/19	0.25	25mL	Deionized water	2mg/L
Ical 3	J.T.Baker	0000184592	06/14/19	0.5	25mL	Deionized water	4mg/L
Ical 4	J.T.Baker	0000184592	06/14/19	0.625	25mL	Deionized water	5mg/L
Ical 5	J.T.Baker	0000184592	06/14/19	1.25	25mL	Deionized water	10mg/L
ICV	Mallinckrodt	Lot 5056 KDRX	06/14/19	0.375	25mL	Deionized water	3mg/L

Name of Final Standard **TOC Calibration Curve** **Prep'd By (Initials)** **HH**

Prep Date **01/15/20**

Exp Date **02/12/20**

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from contianer Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
Total Organic Carbon (TOC) Standard	Agilent	IQC-1 06-5	1000 mg/L	**CS-5157-40233**	**11/30/20**	20 uL	40 mL	**DI Water**	0.5 ppm
Total Organic Carbon (TOC) Standard	Agilent	IQC-1 06-5	1000 mg/L	**CS-5157-40233**	**11/30/20**	100 uL	40 mL	**DI Water**	2 ppm
Total Organic Carbon (TOC) Standard	Agilent	IQC-1 06-5	1000 mg/L	**CS-5157-40233**	**11/30/20**	250 uL	40 mL	**DI Water**	5 ppm
Total Organic Carbon (TOC) Standard	Agilent	IQC-1 06-5	1000 mg/L	**CS-5157-40233**	**11/30/20**	500 uL	40 mL	**DI Water**	10 ppm
Total Organic Carbon (TOC) Standard	Agilent	IQC-1 06-5	1000 mg/L	**CS-5157-40233**	**11/30/20**	1000 uL	40 mL	**DI Water**	20 ppm

Name of Final Standard **ICV (TOC)** **Prep'd By (Initials)** **AR**

Prep Date **01/16/20**

Exp Date **02/13/20**

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from contianer Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
1000 PPM ICV TOC Intermediate	APPL Inc.	Prep: 2/11/19	1000 mg/L	**Prep: 2/11/19**	**02/13/20**	500 uL	40mL	**DI Water**	10 ppm

Name of Final Standard **CCV (TOC)** **Prep'd By (Initials)** **AR**

Prep Date **See Data**

Exp Date **1 year**

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from contianer Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
Total Organic Carbon (TOC) Standard	Agilent	IQC-1 06-5	1000 mg/L	**CS-5157-40233**	**11/30/20**	200 uL	40 mL	**DI Water**	5 ppm

Name of Final Standard **TOC LCS/LCSD** **Prep'd By (Initials)** **AR**

Prep Date **See Data**

Exp Date **1 year**

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from contianer Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
Total Organic Carbon (TOC) Standard	ULTRA Scientific	IQC-106-5	1000 mg/L	**CR-0328-37639**	**02/28/19**	200 uL	40 mL	**DI Water**	5 ppm

Tiamo pH Buffer Reference Standards

Prep Date: Daily

Exp Date: Daily

Prep'd By (Initials): AR

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	Units	pH	Lot Number - QA Number	Opened	Exp. Date	Aliquot from Stock	Final Volume	Solvent	Final Standard Conc (µg/mL)
pH 1.68 Buffer	ORION	pH Units	1.68	WX1-40709	04/22/19	01/01/21	NA	NA	NA	NA
pH 4.00 Buffer	RICCA	pH Units	4	1807191-39782	04/22/19	01/01/21	NA	NA	NA	NA
pH 10.01 Buffer	VWR	pH Units	10.01	0903980-40707	04/22/19	08/27/20	NA	NA	NA	NA
pH 7.00 Buffer	Ricca	pH Units	7	1805M17 - 39765	10/11/18	05/01/20	NA	NA	NA	NA

Tiamo Alkalinity Standard Prep

Prep Date:

Exp Date:

Prep'd By (Initials): AR

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	Unit	Conc	Lot Number - QA Number	Prep/Opened	Exp. Date	Aliquot from Stock	Final Volume	Solvent	Final Standard Conc
Sulfuric Acid (H2SO4)	J.T.Baker	NA	NA	167828	NA	NA	PURCHASED	NA	NA	NA
0.10N Sulfuric Acid (H2SO4)	J.T.Baker	Normality	0.1N	167828	05/24/19	05/24/20	3ml	1L	DI	0.10N
0.02N Sulfuric Acid (H2SO4)	J.T.Baker	Normality	0.02N	167828	05/24/19	05/24/20	200mL	1L	DI	0.02N
Inorganic Spike(NaHCO3)	BDH	NA	NA	1575C510	10/18/18	08/14/20	PURCHASED	NA	NA	NA
Inorganic Spike Solution	BDH	Milligrams/Liters	250mg/L	1575C510	09/17/19	03/17/20	3.5g	500mL	DI	250mg/L
Standarizing Solution(NaCO3)	J.T.Baker	Normality	1N	178494	07/25/17	07/25/19	PURCHASED	NA	NA	NA

Nitrite

High Point @ 1.5 mg/L
0.2463 mL NO2 Inorganic Ventures lot N2-NOX672889-40759 exp: 05/01/20
50 mL DI Water

CCV @ 0.75 mg/L
0.1232 mL NO2 Inorganic Ventures lot N2-NOX672889-40759 exp: 05/01/20
50 mL DI Water

ICV/LCS @ 0.73 mg/L
0.120 mL NO2 Inorganic Ventures lot M2-NOX660562-40468 exp: 08/25/21
50 mL DI Water

1 mg/L NO2
400 uL of High point and 200 uL of DI made directly into a sample cup

Prep 01/27/20
Exp 02/03/20
KS

Nitrate/TOXN

High Point @ 6 mg/L
0.300 mL NO3 O2Si lot 880117-4-39577 exp: 2/21/20
50 mL DI Water

CCV @ 3.0 mg/L
0.150 mL NO3 O2Si lot 880117-4-39577 exp: 2/21/20
50 mL DI Water

ICV/LCS @ 3.0 mg/L
0.150 mL NO3 Inorganic Ventures lot P2-NOX675324-49391 exp: 02/14/23
50 mL DI Water

1 mg/L NO3
100 uL of High point and 500 uLof DI made directly into a sample cup

MS @ 0.73 mg/L NO2 and 2.5 mg/L NO3
0.120 mL NO2 Inorganic Ventures lot M2-NOX660562-40468 exp: 08/25/21and
0.125 mL NO3 Inorganic Ventures lot P2-NOX675324-49391 exp: 02/14/23
Final volume 50 mL of sample

Prep 01/27/20
Exp 02/03/20
KS

908 North Temperance Ave. ∇ Clovis, CA 93611 ∇ Phone 559-275-2175 ∇ Fax 559-275-4422

Certification Number: CA1312
NELAP Certification number: CA00046
DoD-ELAP Certificate number: 4064.01

Data Validatable Report

March 3, 2020

AECOM

1001 Bishop Street, Suite 1600

Honolulu, Hawaii 96813

Attn: Margie Pascua

Title: Report of Data: Case 91282

Project: 60571032 CV18F0126 Red Hill Fuel Storage. HI

Contract #: Prime contract # for DoD: NAVY CLEAN N62742-17-F-1800, CV18F0126

Subcontract: 18S-22209-HI27

Dear Ms. Pascua:

Fourteen water samples were received January 22,2020. Revised written results for the requested analyses are being provided on this March 3, 2020. **Revisions**: Sulfate was added to the 200122A-LCS; the TOC duplicate was added to sample ERH971; the 2-(2-Methoxyetholy)-Ethanol LCS Recovery page was added; the EPA 8011 raw data was replaced.

Results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

If you have any questions or require further information, please contact your APPL Project Manager, Libby Cheeseborough, libby@applinc.com, at your convenience. Thank you for choosing APPL, Inc.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. These test results meet all requirements of NELAC and DoD QSM. Release of the hard copy has been authorized by the Laboratory Manager or her designee, as verified by the following signature.

Paula McCartney

Paula McCartney, Laboratory Director
APPL, Inc.

PM/lac
Enclosure
cc: File

Data Validation Package
for
60481245 CIV 0053 Red Hill Fuel Storage
APPL SDG 91282
TABLE OF CONTENTS

LABORATORY NAME: *APPL, Inc.*

Case Narrative	4
Sample Management Records	12
Sample Results	27
QC Forms	122
Method 8011 Calibration Data	238
Method 8011 Raw Data	261
Method 8015B Calibration Data	282
Method 8015B Raw Data	358
Method 8270D SIM Calibration Data	436
Method 8270D SIM Raw Data	463
Method 8270D Calibration Data	502
Method 8270D Raw Data	548
APPL SOP 2-MEE Calibration Data	593
APPL SOP 2-MEE Raw Data	632
Method 8260B Calibration Data	686
Method 8260B Raw Data	765
Method 8260B GRO Calibration Data	815
Method 8260B GRO Raw Data	978
Method RSK-175 Calibration Data	942
Method RSK-175 Raw Data	967

Method 300 Calibration Data 1000
Method 300 Raw Data 1034
Inorganic Analyses Calibration Data 1056
Inorganic Analyses Raw Data 1062

CASE NARRATIVE

Case Narrative

ARF: 91282

Project: 60571032 CV18F0126 Red Hill Fuel Storage. HI

Sample Receipt Information:

Fourteen water samples were received January 22,2020, at 0.9°C, 1.4°C, 1.4°C, 1.4°C, 1.4°C, 2.4°C, and 2.4°C. The sample group was assigned Analytical Request Form (ARF) number 91282.

Sample Preparation and Analysis Information:

For the EPA 8011 analysis, the samples were extracted according to APPL SOP method MWE012.

For the EPA 8015B analysis, the sample was extracted according to EPA method 3510C. The sample extracts were silica gel cleaned according to APPL's SOP CLN004 and placed on hold.

For the EPA 8270D SIM analysis, the samples were extracted according to EPA method 3520C.

For the EPA 8270D Phenol analysis, the samples were extracted according to EPA method 3520C.

For the APPL SOP ANA2MEE analysis, the samples were extracted according to EPA method 3535.

For the EPA 8260B analysis, the samples were purged according to EPA method 5030B.

For the RSK-175 analysis, the samples were allowed to equilibrate for 10 minutes at 40°C and a portion of the headspace was analyzed.

For the EPA 9060A, 300.0, 353.2, SM 2320B, SM 3500FeB analyses, the samples were prepared according to the methods.

Only the portion of the injection log relative to these samples is included. A full sequence log is available upon request. Measurement uncertainty can be reported upon request.

Analytical Exceptions, Deviations and Abnormalities.

EPA 8015B: Manual integrations were performed in accordance with APPL's SOP. Chromatograms of before and after manual integration are enclosed.

The surrogate Octacosane recovered above the upper control limit in one sample. The increased recovery can be attributed to matrix affects. Octacosane is within limits in the silica gel clean up analysis of the sample.

The continuing calibration 129016.D for Decanoic Acid increased in sensitivity with a 28% Drift.

Samples ERH971 and ERH979 were rextracted and reanalyzed 14 days past the collection date at the request of the client.

APPL SOP ANA2MEE: In the 200124A LCS/LCSD, the RPD exceeded the 20% limit.

SDG	Received	Client ID	APPL ID	Collected DateTime	Matrix	Method	Method Description
91282	01/22/20	ERH970	BA06271	01/21/20 9:30:00 AM	WATER	EPA 8260B	EPA 8260B BTEX WATER
91282	01/22/20	ERH970	BA06271	01/21/20 9:30:00 AM	WATER	EPA 8260-GAS	EPA 8260 with GAS
91282	01/22/20	ERH970	BA06271	01/21/20 9:30:00 AM	WATER	EPA 8260B	EPA 8260B GRO WATER
91282	01/22/20	ERH970	BA06271	01/21/20 9:30:00 AM	WATER	RSK 175	METHANE BY RSK 175
91282	01/22/20	ERH971	BA06272	01/21/20 9:40:00 AM	WATER	SM 2320B	Wetlab 2320B - Water
91282	01/22/20	ERH971	BA06272	01/21/20 9:40:00 AM	WATER	EPA 300.0	Wetlab 300.0 - Water
91282	01/22/20	ERH971	BA06272	01/21/20 9:40:00 AM	WATER	EPA 300.0	Wetlab 300.0 - Water
91282	01/22/20	ERH971	BA06272	01/21/20 9:40:00 AM	WATER	SM3500FeB	Ferrous Iron
91282	01/22/20	ERH971	BA06272	01/21/20 9:40:00 AM	WATER	EPA 353.2	EPA 353.2 - WATER
91282	01/22/20	ERH971	BA06272	01/21/20 9:40:00 AM	WATER	EPA 8260B	EPA 8260B BTEX WATER
91282	01/22/20	ERH971	BA06272	01/21/20 9:40:00 AM	WATER	EPA 8270D	EPA 8270D WATER
91282	01/22/20	ERH971	BA06272	01/21/20 9:40:00 AM	WATER	EPA 8270D	EPA 8270D MODIFIED WATER
91282	01/22/20	ERH971	BA06272	01/21/20 9:40:00 AM	WATER	EPA 8015B-eLL	EPA 8015B TPH WATER L-L SGC
91282	01/22/20	ERH971	BA06272	01/21/20 9:40:00 AM	WATER	EPA 8015B-eLL	EPA 8015B TPH LIQ-LIQ
91282	01/22/20	ERH971	BA06272	01/21/20 9:40:00 AM	WATER	EPA 8015B-eLL	EPA 8015B TPH LIQ-LIQ RE-EXTRACT
91282	01/22/20	ERH971	BA06272	01/21/20 9:40:00 AM	WATER	EPA 8260-GAS	EPA 8260 with GAS
91282	01/22/20	ERH971	BA06272	01/21/20 9:40:00 AM	WATER	EPA 8260B	EPA 8260B GRO WATER
91282	01/22/20	ERH971	BA06272	01/21/20 9:40:00 AM	WATER	RSK 175	METHANE BY RSK 175
91282	01/22/20	ERH971	BA06272	01/21/20 9:40:00 AM	WATER	8270D-SIM	EPA 8270D SIM LIQ-LIQ
91282	01/22/20	ERH971	BA06272	01/21/20 9:40:00 AM	WATER	SW846 9060A	9060A TOC
91282	01/22/20	ERH972	BA06273	01/21/20 9:40:00 AM	WATER	EPA 8260B	EPA 8260B BTEX WATER
91282	01/22/20	ERH972	BA06273	01/21/20 9:40:00 AM	WATER	EPA 8270D	EPA 8270D WATER
91282	01/22/20	ERH972	BA06273	01/21/20 9:40:00 AM	WATER	EPA 8270D	EPA 8270D MODIFIED WATER
91282	01/22/20	ERH972	BA06273	01/21/20 9:40:00 AM	WATER	EPA 8015B-eLL	EPA 8015B TPH LIQ-LIQ
91282	01/22/20	ERH972	BA06273	01/21/20 9:40:00 AM	WATER	EPA 8260-GAS	EPA 8260 with GAS
91282	01/22/20	ERH972	BA06273	01/21/20 9:40:00 AM	WATER	EPA 8260B	EPA 8260B GRO WATER
91282	01/22/20	ERH972	BA06273	01/21/20 9:40:00 AM	WATER	8270D-SIM	EPA 8270D SIM LIQ-LIQ
91282	01/22/20	ERH978	BA06274	01/20/20 2:10:00 PM	WATER	EPA 8260B	EPA 8260B BTEX WATER
91282	01/22/20	ERH978	BA06274	01/20/20 2:10:00 PM	WATER	EPA 8260-GAS	EPA 8260 with GAS
91282	01/22/20	ERH978	BA06274	01/20/20 2:10:00 PM	WATER	EPA 8260B	EPA 8260B GRO WATER
91282	01/22/20	ERH978	BA06274	01/20/20 2:10:00 PM	WATER	RSK 175	METHANE BY RSK 175
91282	01/22/20	ERH979	BA06275	01/20/20 2:30:00 PM	WATER	SM 2320B	Wetlab 2320B - Water
91282	01/22/20	ERH979	BA06275	01/20/20 2:30:00 PM	WATER	EPA 300.0	Wetlab 300.0 - Water
91282	01/22/20	ERH979	BA06275	01/20/20 2:30:00 PM	WATER	EPA 300.0	Wetlab 300.0 - Water
91282	01/22/20	ERH979	BA06275	01/20/20 2:30:00 PM	WATER	SM3500FeB	Ferrous Iron

91282	01/22/20	ERH979	BA06275	01/20/20 2:30:00 PM	WATER	EPA 353.2	EPA 353.2 - WATER
91282	01/22/20	ERH979	BA06275	01/20/20 2:30:00 PM	WATER	EPA 8260B	EPA 8260B BTEX WATER
91282	01/22/20	ERH979	BA06275	01/20/20 2:30:00 PM	WATER	EPA 8270D	EPA 8270D WATER
91282	01/22/20	ERH979	BA06275	01/20/20 2:30:00 PM	WATER	EPA 8270D	EPA 8270D MODIFIED WATER
91282	01/22/20	ERH979	BA06275	01/20/20 2:30:00 PM	WATER	EPA 8015B-eLL	EPA 8015B TPH WATER L-L SGC
91282	01/22/20	ERH979	BA06275	01/20/20 2:30:00 PM	WATER	EPA 8015B-eLL	EPA 8015B TPH LIQ-LIQ
91282	01/22/20	ERH979	BA06275	01/20/20 2:30:00 PM	WATER	EPA 8015B-eLL	EPA 8015B TPH LIQ-LIQ RE-EXTRACT
91282	01/22/20	ERH979	BA06275	01/20/20 2:30:00 PM	WATER	EPA 8260-GAS	EPA 8260 with GAS
91282	01/22/20	ERH979	BA06275	01/20/20 2:30:00 PM	WATER	EPA 8260B	EPA 8260B GRO WATER
91282	01/22/20	ERH979	BA06275	01/20/20 2:30:00 PM	WATER	RSK 175	METHANE BY RSK 175
91282	01/22/20	ERH979	BA06275	01/20/20 2:30:00 PM	WATER	8270D-SIM	EPA 8270D SIM LIQ-LIQ
91282	01/22/20	ERH979	BA06275	01/20/20 2:30:00 PM	WATER	SW846 9060A	9060A TOC
91282	01/22/20	ERH981	BA06276	01/21/20 9:30:00 AM	WATER	SM 2320B	Wetlab 2320B - Water
91282	01/22/20	ERH981	BA06276	01/21/20 9:30:00 AM	WATER	EPA 300.0	Wetlab 300.0 - Water
91282	01/22/20	ERH981	BA06276	01/21/20 9:30:00 AM	WATER	EPA 300.0	Wetlab 300.0 - Water
91282	01/22/20	ERH981	BA06276	01/21/20 9:30:00 AM	WATER	SM3500FeB	Ferrous Iron
91282	01/22/20	ERH981	BA06276	01/21/20 9:30:00 AM	WATER	EPA 353.2	EPA 353.2 - WATER
91282	01/22/20	ERH981	BA06276	01/21/20 9:30:00 AM	WATER	EPA 8260B	EPA 8260B BTEX WATER
91282	01/22/20	ERH981	BA06276	01/21/20 9:30:00 AM	WATER	EPA 8270D	EPA 8270D WATER
91282	01/22/20	ERH981	BA06276	01/21/20 9:30:00 AM	WATER	EPA 8270D	EPA 8270D MODIFIED WATER
91282	01/22/20	ERH981	BA06276	01/21/20 9:30:00 AM	WATER	EPA 8015B-eLL	EPA 8015B TPH WATER L-L SGC
91282	01/22/20	ERH981	BA06276	01/21/20 9:30:00 AM	WATER	EPA 8015B-eLL	EPA 8015B TPH LIQ-LIQ
91282	01/22/20	ERH981	BA06276	01/21/20 9:30:00 AM	WATER	EPA 8260-GAS	EPA 8260 with GAS
91282	01/22/20	ERH981	BA06276	01/21/20 9:30:00 AM	WATER	EPA 8260B	EPA 8260B GRO WATER
91282	01/22/20	ERH981	BA06276	01/21/20 9:30:00 AM	WATER	RSK 175	METHANE BY RSK 175
91282	01/22/20	ERH981	BA06276	01/21/20 9:30:00 AM	WATER	8270D-SIM	EPA 8270D SIM LIQ-LIQ
91282	01/22/20	ERH981	BA06276	01/21/20 9:30:00 AM	WATER	SW846 9060A	9060A TOC
91282	01/22/20	ERH980	BA06277	01/21/20 9:00:00 AM	WATER	EPA 8260B	EPA 8260B BTEX WATER
91282	01/22/20	ERH980	BA06277	01/21/20 9:00:00 AM	WATER	EPA 8260-GAS	EPA 8260 with GAS
91282	01/22/20	ERH980	BA06277	01/21/20 9:00:00 AM	WATER	EPA 8260B	EPA 8260B GRO WATER
91282	01/22/20	ERH980	BA06277	01/21/20 9:00:00 AM	WATER	RSK 175	METHANE BY RSK 175
91282	01/22/20	ERH986	BA06278	01/20/20 2:10:00 PM	WATER	EPA 8260B	EPA 8260B BTEX WATER
91282	01/22/20	ERH986	BA06278	01/20/20 2:10:00 PM	WATER	EPA 8260-GAS	EPA 8260 with GAS
91282	01/22/20	ERH986	BA06278	01/20/20 2:10:00 PM	WATER	EPA 8260B	EPA 8260B GRO WATER
91282	01/22/20	ERH986	BA06278	01/20/20 2:10:00 PM	WATER	RSK 175	METHANE BY RSK 175
91282	01/22/20	ERH987	BA06279	01/20/20 3:25:00 PM	WATER	SM 2320B	Wetlab 2320B - Water
91282	01/22/20	ERH987	BA06279	01/20/20 3:25:00 PM	WATER	EPA 300.0	Wetlab 300.0 - Water

91282	01/22/20	ERH987	BA06279	01/20/20 3:25:00 PM	WATER	EPA 300.0	Wetlab 300.0 - Water
91282	01/22/20	ERH987	BA06279	01/20/20 3:25:00 PM	WATER	SM3500FeB	Ferrous Iron
91282	01/22/20	ERH987	BA06279	01/20/20 3:25:00 PM	WATER	EPA 353.2	EPA 353.2 - WATER
91282	01/22/20	ERH987	BA06279	01/20/20 3:25:00 PM	WATER	EPA 8260B	EPA 8260B BTEX WATER
91282	01/22/20	ERH987	BA06279	01/20/20 3:25:00 PM	WATER	EPA 8270D	EPA 8270D WATER
91282	01/22/20	ERH987	BA06279	01/20/20 3:25:00 PM	WATER	EPA 8270D	EPA 8270D MODIFIED WATER
91282	01/22/20	ERH987	BA06279	01/20/20 3:25:00 PM	WATER	EPA 8015B-eLL	EPA 8015B TPH WATER L-L SGC
91282	01/22/20	ERH987	BA06279	01/20/20 3:25:00 PM	WATER	EPA 8015B-eLL	EPA 8015B TPH LIQ-LIQ
91282	01/22/20	ERH987	BA06279	01/20/20 3:25:00 PM	WATER	EPA 8260-GAS	EPA 8260 with GAS
91282	01/22/20	ERH987	BA06279	01/20/20 3:25:00 PM	WATER	EPA 8260B	EPA 8260B GRO WATER
91282	01/22/20	ERH987	BA06279	01/20/20 3:25:00 PM	WATER	RSK 175	METHANE BY RSK 175
91282	01/22/20	ERH987	BA06279	01/20/20 3:25:00 PM	WATER	8270D-SIM	EPA 8270D SIM LIQ-LIQ
91282	01/22/20	ERH987	BA06279	01/20/20 3:25:00 PM	WATER	SW846 9060A	9060A TOC
91282	01/22/20	ERH998	BA06280	01/21/20 8:20:00 AM	WATER	8011	EPA 8011
91282	01/22/20	ERH998	BA06280	01/21/20 8:20:00 AM	WATER	EPA 8260B	EPA 8260B BTEX & 1,2-DCA WATER
91282	01/22/20	ERH998	BA06280	01/21/20 8:20:00 AM	WATER	EPA 8260-GAS	EPA 8260 with GAS
91282	01/22/20	ERH998	BA06280	01/21/20 8:20:00 AM	WATER	EPA 8260B	EPA 8260B GRO WATER
91282	01/22/20	ERH999	BA06281	01/21/20 8:30:00 AM	WATER	8011	EPA 8011
91282	01/22/20	ERH999	BA06281	01/21/20 8:30:00 AM	WATER	EPA 8260B	EPA 8260B BTEX & 1,2-DCA WATER
91282	01/22/20	ERH999	BA06281	01/21/20 8:30:00 AM	WATER	EPA 8270D	EPA 8270D WATER
91282	01/22/20	ERH999	BA06281	01/21/20 8:30:00 AM	WATER	EPA 8270D	EPA 8270D MODIFIED WATER
91282	01/22/20	ERH999	BA06281	01/21/20 8:30:00 AM	WATER	EPA 8015B-eLL	EPA 8015B TPH WATER L-L SGC
91282	01/22/20	ERH999	BA06281	01/21/20 8:30:00 AM	WATER	EPA 8015B-eLL	EPA 8015B TPH LIQ-LIQ
91282	01/22/20	ERH999	BA06281	01/21/20 8:30:00 AM	WATER	EPA 8260-GAS	EPA 8260 with GAS
91282	01/22/20	ERH999	BA06281	01/21/20 8:30:00 AM	WATER	EPA 8260B	EPA 8260B GRO WATER
91282	01/22/20	ERH999	BA06281	01/21/20 8:30:00 AM	WATER	8270D-SIM	EPA 8270D SIM LIQ-LIQ
91282	01/22/20	ERH1000	BA06282	01/21/20 8:50:00 AM	WATER	8011	EPA 8011
91282	01/22/20	ERH1000	BA06282	01/21/20 8:50:00 AM	WATER	EPA 8260B	EPA 8260B BTEX & 1,2-DCA WATER
91282	01/22/20	ERH1000	BA06282	01/21/20 8:50:00 AM	WATER	EPA 8270D	EPA 8270D WATER
91282	01/22/20	ERH1000	BA06282	01/21/20 8:50:00 AM	WATER	EPA 8270D	EPA 8270D MODIFIED WATER
91282	01/22/20	ERH1000	BA06282	01/21/20 8:50:00 AM	WATER	EPA 8015B-eLL	EPA 8015B TPH WATER L-L SGC
91282	01/22/20	ERH1000	BA06282	01/21/20 8:50:00 AM	WATER	EPA 8015B-eLL	EPA 8015B TPH LIQ-LIQ
91282	01/22/20	ERH1000	BA06282	01/21/20 8:50:00 AM	WATER	EPA 8260-GAS	EPA 8260 with GAS
91282	01/22/20	ERH1000	BA06282	01/21/20 8:50:00 AM	WATER	EPA 8260B	EPA 8260B GRO WATER
91282	01/22/20	ERH1000	BA06282	01/21/20 8:50:00 AM	WATER	8270D-SIM	EPA 8270D SIM LIQ-LIQ
91282	01/22/20	ERH1003	BA06283	01/20/20 9:05:00 AM	WATER	8011	EPA 8011
91282	01/22/20	ERH1003	BA06283	01/20/20 9:05:00 AM	WATER	EPA 8260B	EPA 8260B BTEX & 1,2-DCA WATER

91282	01/22/20	ERH1003	BA06283	01/20/20 9:05:00 AM	WATER	EPA 8260-GAS	EPA 8260 with GAS
91282	01/22/20	ERH1003	BA06283	01/20/20 9:05:00 AM	WATER	EPA 8260B	EPA 8260B GRO WATER
91282	01/22/20	ERH1003	BA06283	01/20/20 9:05:00 AM	WATER	RSK 175	METHANE BY RSK 175
91282	01/22/20	ERH1004	BA06284	01/20/20 10:00:00 AM	WATER	SM 2320B	Wetlab 2320B - Water
91282	01/22/20	ERH1004	BA06284	01/20/20 10:00:00 AM	WATER	EPA 300.0	Wetlab 300.0 - Water
91282	01/22/20	ERH1004	BA06284	01/20/20 10:00:00 AM	WATER	EPA 300.0	Wetlab 300.0 - Water
91282	01/22/20	ERH1004	BA06284	01/20/20 10:00:00 AM	WATER	SM3500FeB	Ferrous Iron
91282	01/22/20	ERH1004	BA06284	01/20/20 10:00:00 AM	WATER	EPA 353.2	EPA 353.2 - WATER
91282	01/22/20	ERH1004	BA06284	01/20/20 10:00:00 AM	WATER	8011	EPA 8011
91282	01/22/20	ERH1004	BA06284	01/20/20 10:00:00 AM	WATER	EPA 8260B	EPA 8260B BTEX & 1,2-DCA WATER
91282	01/22/20	ERH1004	BA06284	01/20/20 10:00:00 AM	WATER	EPA 8270D	EPA 8270D WATER
91282	01/22/20	ERH1004	BA06284	01/20/20 10:00:00 AM	WATER	EPA 8270D	EPA 8270D MODIFIED WATER
91282	01/22/20	ERH1004	BA06284	01/20/20 10:00:00 AM	WATER	EPA 8015B-eLL	EPA 8015B TPH WATER L-L SGC
91282	01/22/20	ERH1004	BA06284	01/20/20 10:00:00 AM	WATER	EPA 8015B-eLL	EPA 8015B TPH LIQ-LIQ
91282	01/22/20	ERH1004	BA06284	01/20/20 10:00:00 AM	WATER	EPA 8260-GAS	EPA 8260 with GAS
91282	01/22/20	ERH1004	BA06284	01/20/20 10:00:00 AM	WATER	EPA 8260B	EPA 8260B GRO WATER
91282	01/22/20	ERH1004	BA06284	01/20/20 10:00:00 AM	WATER	RSK 175	METHANE BY RSK 175
91282	01/22/20	ERH1004	BA06284	01/20/20 10:00:00 AM	WATER	8270D-SIM	EPA 8270D SIM LIQ-LIQ
91282	01/22/20	ERH1004	BA06284	01/20/20 10:00:00 AM	WATER	SW846 9060A	9060A TOC

APPL Inc.
Abbreviations and Flags

FLAG	DESCRIPTION
#	Recovery or RPD outside control limits
*	Recovery or RPD outside control limits
B	Analyte detected in associated method blank
C1	Reason for correction: wrote incorrect response
C2	Reason for correction: calculated incorrectly
C3	Reason for correction: needs to be rechecked
C4	Reason for correction: data not usable
DO	Diluted out
E	Exceeds linear range
F	Estimated value
G1	Includes a wide range of hydrocarbons which does not match our gasoline standard
G10	Includes a match to hydrocarbon profiles within the range of mineral spirits
G11	Includes a match to hydrocarbon profiles within the range of JP-4
G12	Pattern does not match the gasoline standard; the carbon range for this sample is consistent with JP8
G13	Closely resembles the hydrocarbon profile of aviation gasoline
G14	Analyte concentration may be biased due to carry over
G2	Closely resembles the boiling point hydrocarbon profile consistent with weathered gasoline
G3	Includes higher boiling hydrocarbons
G4	Includes dominant peak(s) not indicative of petroleum hydrocarbons
G5	Is mainly dominant peak(s) not indicative of petroleum hydrocarbons
G6	Contains recognizable contaminant peak(s) which has been removed from quantitation
G7	Is mainly a match to hydrocarbons within the range of gasoline
G8	Closely resembles the boiling point hydrocarbon profile consistent with weathered gasoline
G9	Includes hydrocarbons within the range of kerosene
J	Estimated value
M	Matrix effect
MI1	Manual integration: integration does not follow baseline
MI2	Manual integration: non-target peak interference
MI3	Manual integration: to split a peak that was integrated as one peak by the computer.
MI4	Manual integration: to integrate a split peak
MI5	Manual integration: the whole peak or part of the peak was not integrated
MI6	Manual integration: computer integrated wrong peak
MI7	Manual integration: other – (See case narrative)
MDL	Method detection limit
ND	Not detected
NT	Non-target
Q	Acceptance criteria not met
T1 I	Includes wide range of hydrocarbons not indicative of diesel
T1 M	Is mainly wide range of hydrocarbons not necessarily indicative of diesel
T2 I	Includes lower boiling hydrocarbons, e.g. mineral spirits, kerosene, stoddard solvent, white gas
T2 M	Is mainly lower boiling hydrocarbons, e.g. mineral spirits, kerosene, stoddard solvent, white gas
T3 I	Includes higher boiling hydrocarbons, e.g. asphaltene, waste oil, motor oil, or weathered diesel fuel
T3 M	Is mainly higher boiling hydrocarbons, e.g. asphaltene, waste oil, motor oil, or weathered diesel fuel
T4 I	Includes dominant peak(s) not indicative of hydrocarbons
T4 M	Is mainly dominant peak(s) not indicative of hydrocarbons
T5	Contains recognizable contaminant peak(s) which has been removed from quantitation
T6	Is mainly a match to hydrocarbons within range of diesel fuel
T7	Closely resembles the boiling point hydrocarbon profile consistent with diesel fuel
T8	Includes a match to hydrocarbon profiles within range of diesel and kerosene fuel
T9 I	Includes non-diesel hydrocarbons within boiling point range of diesel fuel
T9 M	Is mainly non-diesel hydrocarbons within boiling point range of diesel fuel
U	Not detected
Y	Percent difference between primary and confirmation column > 40%

SAMPLE RECORDS MANAGEMENT

CHAIN OF CUSTODY,

ARF, CRF, AND

CLIENT COMMUNICATION

APPL - Analysis Request Form 91282

Client: AECOM
Address: 1001 Bishop Street, Suite 1600
Honolulu, HI 96813
Attn: Margie Pascua
Phone: 808-356-5373 Fax: 808-523-8950
Job: 60571032 CV18F0126 Red Hill Fuel Storage
PO #: 18S-22209-HI27 PO# 102604
Chain of Custody (Y/N): Y # 139-143,146,148,160,
RAD Screen (Y/N): Y pH (Y/N): Y
Turn Around Type: ONE WEEK

Received by: AAR
Date Received: 01/22/20 Time: 10:00
Delivered by: FEDEX
Shuttle Custody Seals (Y/N): Y Time Zone: -10
Chest Temp(s): 1.4X8,0.9,2.4X2°C
Color: VFRG/N-PurpleBlue
Samples Chilled until Placed in Refrig/Freezer: Y
Project Manager: Libby Cheesebor
QC Report Type: DVP4DOD/EQUIS/HI
Due Date: 01/29/20

Comments:
PM: login and F1s to Margie.Pascua@aecom.com
AN: 7 day TAT for Form 1s; 21 day TAT for PKG STYLE 1; DOD v5.1; DOD Forms: LOD database
Wetlab: NO3,CL & SO4 by EPA 300 and NO3-N & NO2-N 353.2
8260: BTEX & TPH-G only; 8270 SIM: 1-methylnaphthalene, 2-methylnaphthalene & naphthalene only.
TPH D & O both with and w/o SGC, reverse surrogate for the SGC; analyze SGC if detections
RSK: Methane only; 8011: EDB only; $87DC53W5: report phenol only
FR: 2 labeled CDs to Margie AFTER validation; email ftp info to Margie, Stella, trommelfanger@lab-data
EDD: AECOM EQuIS EDD 2.5.3 Red Hill 87DMEE->3535A to Margie.Pascua@aecom.com & jecklund@lab-data.com

Sample Distribution:
GC: 8-$87DC53W5, 8-$87DMEEW5, 8-$DOC53W5LIQ, 8-$SIM53LIQ51, 5-$8011
Extractions: 8-_LIQ003, 8-_LIQ005SGC, 8-_MWE2MEE, 5-_MWE012
VOA: 9-$86BTOTXDOD5W, 14-$GASBL, 14-$GRO86BW, 10-$RSKMETH, 5-$86BTOTXDCAW
Wetlab: 5-$232W(HCO3,CO3,ALK), 5-$300W, 5-$35FE, 5-$35OF, 5-$TOCW53

Charges:

Invoice To:
ACCOUNTS PAYABLE
1001 Bishop Street, Ste 1600
USAPImaging@aecom.com
mary.basano@aecom.com

	Client ID	APPL ID	Sampled	Analyses Requested
1.	ERH970	BA06271W	01/21/20 09:30	$86BTOTXDOD5W, $GASBL, $GRO86BW, $RSKMETH -- See comments
2.	ERH971	BA06272W MS/MSD	01/21/20 09:40	$232W(HCO3,CO3,ALK), $300W, $35FE, $35OF, $86BTOTXDOD5W, $87DC53W5, $87DMEEW5, $DOC53W5LIQ, $GASBL, $GRO86BW, $RSKMETH, $SIM53LIQ51, $TOCW53 -- See comments; MS for 8260,8015,8270, SIM
3.	ERH972	BA06273W	01/21/20 09:40	$86BTOTXDOD5W, $87DC53W5, $87DMEEW5, $DOC53W5LIQ, $GASBL, $GRO86BW, $SIM53LIQ51 -- See comments

Note: All times, excluding sample collection times, are Pacific Time Zone unless noted otherwise. Collection times are in: -10 UTC
Page 1 Client Code: AECOM-REDHILL *Printed 01/27/20 3:44:44 PM* Computer: APPL-LC **# 91282**

4.	ERH978	BA06274W	01/20/20 14:10	$86BTOTXDOD5W, $GASBL, $GRO86BW, $RSKMETH -- See comments
5.	ERH979	BA06275W	01/20/20 14:30	$232W(HCO3,CO3,ALK), $300W, $35FE, $35OF, $86BTOTXDOD5W, $87DC53W5, $87DMEEW5, $DOC53W5LIQ, $GASBL, $GRO86BW, $RSKMETH, $SIM53LIQ51, $TOCW53 -- See comments
6.	ERH981	BA06276W	01/21/20 09:30	$232W(HCO3,CO3,ALK), $300W, $35FE, $35OF, $86BTOTXDOD5W, $87DC53W5, $87DMEEW5, $DOC53W5LIQ, $GASBL, $GRO86BW, $RSKMETH, $SIM53LIQ51, $TOCW53 -- See comments
7.	ERH980	BA06277W	01/21/20 09:00	$86BTOTXDOD5W, $GASBL, $GRO86BW, $RSKMETH -- See comments
8.	ERH986	BA06278W	01/20/20 14:10	$86BTOTXDOD5W, $GASBL, $GRO86BW, $RSKMETH -- See comments
9.	ERH987	BA06279W	01/20/20 15:25	$232W(HCO3,CO3,ALK), $300W, $35FE, $35OF, $86BTOTXDOD5W, $87DC53W5, $87DMEEW5, $DOC53W5LIQ, $GASBL, $GRO86BW, $RSKMETH, $SIM53LIQ51, $TOCW53 -- See comments
10.	ERH998	BA06280W	01/21/20 08:20	$8011, $86BTOTXDCAW, $GASBL, $GRO86BW -- See comments
11.	ERH999	BA06281W	01/21/20 08:30	$8011, $86BTOTXDCAW, $87DC53W5, $87DMEEW5, $DOC53W5LIQ, $GASBL, $GRO86BW, $SIM53LIQ51 -- See comments
12.	ERH1000	BA06282W	01/21/20 08:50	$8011, $86BTOTXDCAW, $87DC53W5, $87DMEEW5, $DOC53W5LIQ, $GASBL, $GRO86BW, $SIM53LIQ51 -- See comments
13.	ERH1003	BA06283W	01/20/20 09:05	$8011, $86BTOTXDCAW, $GASBL, $GRO86BW, $RSKMETH -- See comments
14.	ERH1004	BA06284W	01/20/20 10:00	$232W(HCO3,CO3,ALK), $300W, $35FE, ~~$35OF, $8011, $86BTOTXDCAW,~~ $87DC53W5, $87DMEEW5, $DOC53W5LIQ, $GASBL, $GRO86BW, $RSKMETH, $SIM53LIQ51, $TOCW53 -- See comments

APPL Sample Receipt Form

ARF# **91282**

Sample	Container Type	Count	p
BA06271	[13] VOAs - HCL	4	NA
BA06272	[3] PL 250mL	1	NA
	[10] PL 250mL - H2SO4	1	1.7
	[13] VOAs - HCL	8	NA
	[17] Amber Liter	12	NA
	[32] Clear VOA - H2SO4	2	NA
	[38] 250mL brn poly, HCl prsvd	1	1.7
	[40] 500mL Amber, unprsrvd	9	NA
BA06273	[13] VOAs - HCL	4	NA
	[17] Amber Liter	4	NA
	[40] 500mL Amber, unprsrvd	3	NA
BA06274	[13] VOAs - HCL	4	NA
BA06275	[3] PL 250mL	1	NA
	[10] PL 250mL - H2SO4	1	1.7
	[13] VOAs - HCL	4	NA
	[17] Amber Liter	4	NA
	[32] Clear VOA - H2SO4	2	NA
	[38] 250mL brn poly, HCl prsvd	1	1.7
	[40] 500mL Amber, unprsrvd	3	NA
BA06276	[3] PL 250mL	1	NA
	[10] PL 250mL - H2SO4	1	1.7
	[13] VOAs - HCL	4	NA
	[17] Amber Liter	4	NA
	[32] Clear VOA - H2SO4	2	NA
	[38] 250mL brn poly, HCl prsvd	1	1.7
	[40] 500mL Amber, unprsrvd	3	NA
BA06277	[13] VOAs - HCL	4	NA
BA06278	[13] VOAs - HCL	4	NA
BA06279	[3] PL 250mL	1	NA
	[10] PL 250mL - H2SO4	1	1.7
	[13] VOAs - HCL	4	NA
	[17] Amber Liter	4	NA
	[32] Clear VOA - H2SO4	2	NA
	[38] 250mL brn poly, HCl prsvd	1	1.7
	[40] 500mL Amber, unprsrvd	3	NA
BA06280	[13] VOAs - HCL	3	NA
	[15] VOAs - NP	3	NA
BA06281	[13] VOAs - HCL	3	NA
	[15] VOAs - NP	3	NA
	[17] Amber Liter	4	NA
	[40] 500mL Amber, unprsrvd	3	NA
BA06282	[13] VOAs - HCL	3	NA
	[15] VOAs - NP	3	NA
	[17] Amber Liter	4	NA
	[40] 500mL Amber, unprsrvd	3	NA
BA06283	[13] VOAs - HCL	4	NA
	[15] VOAs - NP	3	NA

Sample	Container Type	Count	p
BA06284	[3] PL 250mL	1	NA
	[10] PL 250mL - H2SO4	1	1.7
	[13] VOAs - HCL	4	NA
	[15] VOAs - NP	3	NA
	[17] Amber Liter	4	NA
	[32] Clear VOA - H2SO4	2	NA
	[38] 250mL brn poly, HCl prsvd	1	1.7
	[40] 500mL Amber, unprsrvd	3	NA

APPL LABS

APPL, Inc.
908 N Temperance Ave
Clovis, CA 93611
www.applinc.com

Phone: (559) 275-2175
Fax: (559) 275-4422
coc@applinc.com

CHAIN OF CUSTODY RECORD 91282

C.O.C. 139

Report to: PLEASE PRINT

Company Name: AECOM Phone: 808-356-5373

Address: 1001 Bishop St, Suite 1600
Honolulu, HI 96813 Fax: 808-523-8950

Attn: Margie Pascua

Email: margie.pascua@aecom.com

Invoice to: PLEASE PRINT

Company Name: AECOM Phone: 808-529-7249

Address: 1001 Bishop St, Suite 1600
Honolulu, HI 96813 Fax: 808-523-8950

Attn: Mary Basano

Email: mary.basano@aecom.com; usapimaging@aecom.com

Project Name/Number: CV18F0126 / 60571032

Purchase Order Number: 102604

Sampler (Print): KL, MC, EH

Sampler (Signature): MP for KL, MC, EH

Date Shipped: MM/DD/YY

Carrier: FedEx

Waybill No.:

Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Sed.	Soil	8260C BTEX,TPH-g	8260C DCA 8011 EDB	8015C TPH-d/o	3630/8015C TPH-d/o w/ SGT	8270DSIM PAHs short list	8270D Phenol, ~~HS~~ MVT	8270D 2-(2-methoxy ethoxy)-ethanol	RSK175M Methane	SM3500-Fe Ferrous Iron	353.2 Nitrate-Nitrite N	SM2320B Alkalinity 300.0 Nitrate,Sulfate,Chloride	300.0 Bromide/Fluoride 6010 Total Ca,Mg,Mn,K,Na SM4500 Total & Dissolved Silica	9060A TOC	
ERH970	Trip Blank	01/21/20	0930	HST	4	X			X							X						
ERH971	RHMW2254-01	01/21/20	0940	HST	10	X			X①		X①	X*	X⑥	X①	X①	X	X	X	X		X	See other coolers MS/MSD 8015,8260, 8270 (SIM)①
ERH972	RHMW2254-01	01/21/20	0940	HST	4	X			X													See other cooler

EB 01/21/20

*Analyze TPH w/SGT only if TPH-d/o detected.

TPH-d/o & PAHs need liquid-liquid extraction.

Shuttle Temperature: Bi: 1.0/1.4°C

Turnaround Requested: Check one
☐ Standard 2-3 wk ☒ One week ☐ 3 days ☐ 24/48 Hrs. ☐ Other:

Sample Disposal:
☐ Return to client ☒ Disposal by Lab (30-day retention)

Relinquished by sampler: AECOM Estelle BONNY	Date 01/21/20	Time 1315	Received by:	Relinquished by:	Date	Time	Received by:
Relinquished by:	Date	Time	Received by:	Relinquished by:	Date 1-22-20	Time 1000	Received at lab by: Melody

See page 2 for Container Preservative and Sampling Information

APPL, Inc.
908 N Temperance Ave
Clovis, CA 93611
www.applinc.com

Phone: (559) 275-2175
Fax: (559) 275-4422
coc@applinc.com

CHAIN OF CUSTODY RECORD

C.O.C. 140

Report to: PLEASE PRINT	Invoice to: PLEASE PRINT
Company Name: AECOM Phone: 808-356-5373	Company Name: AECOM Phone: 808-529-7249
Address: 1001 Bishop St, Suite 1600 Honolulu, HI 96813 Fax: 808-523-8950	Address: 1001 Bishop St, Suite 1600 Honolulu, HI 96813 Fax: 808-523-8950
Attn: Margie Pascua	Attn: Mary Basano
Email: margie.pascua@aecom.com	Email: mary.basano@aecom.com; usapimaging@aecom.com

Project Name/Number: CV18F0126 / 60571032
Purchase Order Number: 102604
Sampler (Print): KL, MC, EH
Sampler (Signature): MP for KL, MC, EH

Date Shipped: MM/DD/YY
Carrier: FedEx
Waybill No.:
Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Sed.	Soil	8260C BTEX,TPH-g	8260C DCA 8011 EDB	8015C TPH-d/o	3630/8015C TPH-d/o w/ SGT	8270DSIM PAHs short list	8270D Phenol, THS MV	8270D 2-(2-methoxy ethoxy)-ethanol	RSK175M Methane	SM3500-Fe Ferrous Iron	353.2 Nitrate-Nitrite N	SM2320B Alkalinity 300.0 Nitrate,Sulfate,Chloride	300.0 Bromide/Fluoride 3010 Total Ca,Mg,Mn,Na SM4500 Total & Dissolved Silica	9060A TOC	
ERH971	RHMW2254-01	01/21/20	0940	HST	7	X			X ①		X ①	X *	X ①	X ①	X ①	X	X	X	X		X	see other coolers ① MS/MSD

EB 01/21/20

*Analyze TPH w/SGT only if TPH-d/o detected.

TPH-d/o & PAHs need liquid-liquid extraction.

Shuttle Temperature: Rico / 1.0 / 1.4°C

Turnaround Requested: Check one
☐ Standard 2-3 wk ☒ One week ☐ 3 days ☐ 24/48 Hrs. ☐ Other: _____

Sample Disposal:
☐ Return to client ☒ Disposal by Lab (30-day retention)

Relinquished by sampler: AECOM	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
Estelle BONNY	01/21/20	1315					
Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received at lab by:
					1-22-20	1000	Melody D

See page 2 for Container Preservative and Sampling Information

APPL LABS

APPL, Inc.
908 N Temperance Ave
Clovis, CA 93611
www.applinc.com

Phone: (559) 275-2175
Fax: (559) 275-4422
coc@applinc.com

CHAIN OF CUSTODY RECORD

C.O.C. 141

Report to: PLEASE PRINT

Company Name: AECOM Phone: 808-356-5373

Address: 1001 Bishop St, Suite 1600
Honolulu, HI 96813
Fax: 808-523-8950

Attn: Margie Pascua

Email: margie.pascua@aecom.com

Invoice to: PLEASE PRINT

Company Name: AECOM Phone: 808-529-7249

Address: 1001 Bishop St, Suite 1600
Honolulu, HI 96813
Fax: 808-523-8950

Attn: Mary Basano

Email: mary.basano@aecom.com; usapimaging@aecom.com

Project Name/Number: CV18F0126 / 60571032

Purchase Order Number: 102604

Sampler (Print): KL, MC, EH

Sampler (Signature): MP for KL, MC, EH

Date Shipped: MM/DD/YY

Carrier: FedEx

Waybill No.:

Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Matrix: Sed.	Matrix: Soil	8260C BTEX,TPH-g ①	8260C DCA 8011 EDB	8015C TPH-d/o ①	3630/8015C TPH-d/o w/ SGT *	8270DSIM PAHs short list ①	8270D Phenol, TCP, MP ①	8270D 2-(2-methoxyethoxy)-ethanol ①	RSK175M Methane	SM3500-Fe Ferrous Iron	353.2 Nitrate-Nitrite N	SM2320B Alkalinity 300.0 Nitrate,Sulfate,Chloride	300.0 Bromide/Fluoride 6010 Total Ca,Mg,Mn,K,Na SM4500 Total & Dissolved Silica	9060A TOC	
ERH971	RHMW22-01	01/21/20	0940	HST	7	X			X		X	X	X	X	X	X	X	X	X		X	see other coolers ① MS/MSD

EB 01/21/20

*Analyze TPH w/SGT only if TPH-d/o detected.

TPH-d/o & PAHs need liquid-liquid extraction.

Shuttle Temperature: Bl 0.1 / 0.0 / 1.0 °C

Turnaround Requested: Check one
☐ Standard 2-3 wk ☒ One week ☐ 3 days ☐ 24/48 Hrs. ☐ Other:

Sample Disposal:
☐ Return to client ☒ Disposal by Lab (30-day retention)

Relinquished by sampler: AECOM Estelle BONNY	Date 01/21/20	Time 1315	Received by:	Relinquished by:	Date	Time	Received by:
Relinquished by:	Date	Time	Received by:	Relinquished by:	Date 1-22-20	Time 1000	Received at lab by: Melody D

See page 2 for Container Preservative and Sampling Information

APPL, Inc.
908 N Temperance Ave
Clovis, CA 93611
www.applinc.com

Phone: (559) 275-2175
Fax: (559) 275-4422
coc@applinc.com

CHAIN OF CUSTODY RECORD

C.O.C. 142

Report to: PLEASE PRINT	Invoice to: PLEASE PRINT
Company Name: AECOM Phone: 808-356-5373	Company Name: AECOM Phone: 808-529-7249
Address: 1001 Bishop St, Suite 1600 Honolulu, HI 96813 Fax: 808-523-8950	Address: 1001 Bishop St, Suite 1600 Honolulu, HI 96813 Fax: 808-523-8950
Attn: Margie Pascua	Attn: Mary Basano
Email: margie.pascua@aecom.com	Email: mary.basano@aecom.com; usapimaging@aecom.com

Project Name/Number	Sampler (Print)
CV18F0126 / 60571032	KL, MC, EH
Purchase Order Number	**Sampler (Signature)**
102604	MP for KL, MC, EH

Date Shipped: MM/DD/YY
Carrier: FedEx
Waybill No.:
Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Matrix: Sed.	Matrix: Soil	8260C BTEX,TPH-g	8260C DCA 8011 EDB	8015C TPH-d/o	3630/8015C TPH-d/o w/ SGT *	8270DSIM PAHs short list	8270D Phenol, HHCS MP	8270D 2-(2-methoxyethoxy)-ethanol	RSK175M Methane	SM3500-Fe Ferrous Iron	353.2 Nitrate-Nitrite N	SM2320B Alkalinity 300.0 Nitrate,Sulfate,Chloride	900.0 Bromide/Fluoride 6010 Total Ca,Mg,Mn,K,Na SM4500 Total & Dissolved Silica	9060A TOC	
EPH972	RHMW2254-01	01/21/20	0940	HST	7	X			X		X	X	X	X	X							See other cooler for VOAs

EB 01/21/20

*Analyze TPH w/SGT only if TPH-d/o detected.

TPH-d/o & PAHs need liquid-liquid extraction.

Shuttle Temperature:	Turnaround Requested: Check one	Sample Disposal:
R1: 1.0/1.4°C	☐ Standard 2-3 wk ☒ One week ☐ 3 days ☐ 24/48 Hrs. ☐ Other:	☐ Return to client ☒ Disposal by Lab (30-day retention)

Relinquished by sampler: AECOM	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
Estella BONNY	01/21/20	1315					
Relinquished by:	**Date**	**Time**	**Received by:**	**Relinquished by:**	**Date**	**Time**	**Received at lab by:**
					1-22-20	1000	Melody D

See page 2 for Container Preservative and Sampling Information

APPL LABS

APPL, Inc.
908 N Temperance Ave
Clovis, CA 93611
www.applinc.com

Phone: (559) 275-2175
Fax: (559) 275-4422
coc@applinc.com

CHAIN OF CUSTODY RECORD

C.O.C. 146

Report to: PLEASE PRINT	Invoice to: PLEASE PRINT
Company Name: AECOM Phone: 808-356-5373	Company Name: AECOM Phone: 808-529-7249
Address: 1001 Bishop St, Suite 1600 Honolulu, HI 96813 Fax: 808-523-8950	Address: 1001 Bishop St, Suite 1600 Honolulu, HI 96813 Fax: 808-523-8950
Attn: Margie Pascua	Attn: Mary Basano
Email: margie.pascua@aecom.com	Email: mary.basano@aecom.com; usapimaging@aecom.com

Project Name/Number: CV18F0126 / 60571032
Purchase Order Number: 102604
Sampler (Print): KL, MC, MM, EH
Sampler (Signature): MP for KL, MC, MM, EH
Date Shipped: MM/DD/YY
Carrier: FedEx
Waybill No.:
Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Sed.	Soil	8260C BTEX,TPH-g	8260C DCA 8011 EDB	8015C TPH-d/o	3630/8015C TPH-d/o w/ SGT	8270DSIM PAHs short list	8270D Phenol, TICs	8270D 2-(2-methoxy ethoxy)-ethanol	RSK175M Methane	SM3500-Fe Ferrous Iron	353.2 Nitrate-Nitrite N	SM2320B Alkalinity 300.0 Nitrate,Sulfate,Chloride	300.0 Bromide/Fluoride 3010 Total Ca,Mg,Mn,K,Na SM4500 Total & Dissolved Silica	9060A TOC	
ERH978	Trip Blank	01/20/20	1410	HST	4	X			X							X						
ERH979	RHMW03	01/20/20	1430	HST	16	X			X		X	X	X	X	X	X	X	X	X		X	
ERH976	RHMW02	01/20/20	1134	HST	1	X											X①					① bottle that was missing from RHMW02 yesterday

EB 01/21/20

*Analyze TPH w/SGT only if TPH-d/o detected.

TPH-d/o & PAHs need liquid-liquid extraction.

Shuttle Temperature: BI: 0.5 / 0.9 °C

Turnaround Requested: Check one
☐ Standard 2-3 wk ☒ One week ☐ 3 days ☐ 24/48 Hrs. ☐ Other:

Sample Disposal:
☐ Return to client ☒ Disposal by Lab (30-day retention)

Relinquished by sampler: AECOM	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
Estelle BONNY	01/21/20	1045					
Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received at lab by:
					1-22-20	1000	Melody D. Silva

See page 2 for Container Preservative and Sampling Information

APPL LABS

APPL, Inc.
908 N Temperance Ave
Clovis, CA 93611
www.applinc.com

Phone: (559) 275-2175
Fax: (559) 275-4422
coc@applinc.com

CHAIN OF CUSTODY RECORD

C.O.C. 143

Report to: PLEASE PRINT	Invoice to: PLEASE PRINT
Company Name: AECOM Phone: 808-356-5373	Company Name: AECOM Phone: 808-529-7249
Address: 1001 Bishop St, Suite 1600 Honolulu, HI 96813 Fax: 808-523-8950	Address: 1001 Bishop St, Suite 1600 Honolulu, HI 96813 Fax: 808-523-8950
Attn: Margie Pascua	Attn: Mary Basano
Email: margie.pascua@aecom.com	Email: mary.basano@aecom.com; usapimaging@aecom.com

Project Name/Number: CV18F0126 / 60571032
Purchase Order Number: 102604
Sampler (Print): GM, DM, RS
Sampler (Signature): MP for GM, DM, RS
Date Shipped: MM/DD/YY
Carrier: FedEx
Waybill No.:
Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Matrix: Sed.	Matrix: Soil	8260C BTEX,TPH-g	8260C DCA 8011 EDB	8015C TPH-d/o	3630/8015C TPH-d/o w/ SGT	8270DSIM PAHs short list	8270D Phenol, Per	8270D 2-(2-methoxy ethoxy)-ethanol	RSK175M Methane	SM3500-Fe Ferrous Iron	353.2 Nitrate-Nitrite N	SM2320B Alkalinity 300.0 Nitrate,Sulfate,Chloride	300.0 Bromide/Fluoride 6010 Total Ca,Mg,Mn,Na SM4500 Total & Dissolved Silica	9060A TOC
ERH981	RHMW04	01/21/20	0930	HST	16	X			X		X	X*	X	X	X	X	X	X	X		X
ERH980	Trip Blank	01/21/20	0900	HST	4	X			X							X					

EB 01/21/20

*Analyze TPH w/SGT only if TPH-d/o detected.

TPH-d/o & PAHs need liquid-liquid extraction.

Shuttle Temperature: R1: 1.6/1.4°C

Turnaround Requested: Check one
☐ Standard 2-3 wk ☒ One week ☐ 3 days ☐ 24/48 Hrs. ☐ Other: _____

Sample Disposal:
☐ Return to client ☒ Disposal by Lab (30-day retention)

Relinquished by sampler: AECOM Estella BONNY	Date 01/21/20	Time 1345	Received by:	Relinquished by:	Date	Time	Received by:
Relinquished by:	Date	Time	Received by:	Relinquished by:	Date 1-22-20	Time 1000	Received at lab by: Melody DeSilva

See page 2 for Container Preservative and Sampling Information

APPL, Inc.
908 N Temperance Ave
Clovis, CA 93611
www.applinc.com

Phone: (559) 275-2175
Fax: (559) 275-4422
coc@applinc.com

CHAIN OF CUSTODY RECORD

C.O.C. 148

Report to: PLEASE PRINT	Invoice to: PLEASE PRINT
Company Name: AECOM Phone: 808-356-5373	Company Name: AECOM Phone: 808-529-7249
Address: 1001 Bishop St, Suite 1600 Honolulu, HI 96813 Fax: 808-523-8950	Address: 1001 Bishop St, Suite 1600 Honolulu, HI 96813 Fax: 808-523-8950
Attn: Margie Pascua	Attn: Mary Basano
Email: margie.pascua@aecom.com	Email: mary.basano@aecom.com; usapimaging@aecom.com

Project Name/Number: CV18F0126 / 60571032
Purchase Order Number: 102604
Sampler (Print): GM, DM, RS
Sampler (Signature): MP for GM, DM, RS

Date Shipped: MM/DD/YY
Carrier: FedEx
Waybill No.:
Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Sed.	Soil	8260C BTEX,TPH-g	8260C DCA 8011 EDB	8015C TPH-d/o	3630/8015C TPH-d/o w/ SGT	8270DSIM PAHs short list	8270D Phenol, PCP, LMW	8270D 2-(2-methoxy ethoxy)-ethanol	RSK175M Methane	SM3500-Fe Ferrous Iron	353.2 Nitrate-Nitrite N	SM2320B Alkalinity 300.0 Nitrate,Sulfate,Chloride	300.0 Bromide/Fluoride 6010 Total Ca,Mg,Mn,K,Na SM4500 Total & Dissolved Silica	9060A TOC
ERH986	Trip Blank	01/20/20	1410	HST	4	X			X							X					
ERH987	RHMW07	01/20/20	1525	HST	16	X			X		X	X*	X	X	X	X	X	X	X	X	X

EB 01/21/20

*Analyze TPH w/SGT only if TPH-d/o detected.

TPH-d/o & PAHs need liquid-liquid extraction

Shuttle Temperature: R1 @ 2.0/2.4°C

Turnaround Requested: Check one
☐ Standard 2-3 wk ☒ One week ☐ 3 days ☐ 24/48 Hrs. ☐ Other:

Sample Disposal:
☐ Return to client ☒ Disposal by Lab (30-day retention)

Relinquished by sampler: AECOM Estelle BONNY	Date 01/21/20	Time 1100	Received by:	Relinquished by:	Date	Time	Received by:
Relinquished by:	Date	Time	Received by:	Relinquished by:	Date 1-22-20	Time 1000	Received at lab by: Melody D

See page 2 for Container Preservative and Sampling Information

APPL, Inc.
908 N Temperance Ave
Clovis, CA 93611
www.applinc.com

Phone: (559) 275-2175
Fax: (559) 275-4422
coc@applinc.com

CHAIN OF CUSTODY RECORD

C.O.C. 166

Report to: PLEASE PRINT

Company Name: AECOM Phone: 808-356-5373

Address: 1001 Bishop St, Suite 1600
Honolulu, HI 96813
Fax: 808-523-8950

Attn: Margie Pascua

Email: margie.pascua@aecom.com

Invoice to: PLEASE PRINT

Company Name: AECOM Phone: 808-529-7249

Address: 1001 Bishop St, Suite 1600
Honolulu, HI 96813
Fax: 808-523-8950

Attn: Mary Basano

Email: mary.basano@aecom.com; usapimaging@aecom.com

Project Name/Number: CV18F0126 / 60571032

Purchase Order Number: 102604

Sampler (Print): BM, BL, TV, SP

Sampler (Signature): MP for BM, BL, TV, SP

Date Shipped: MM/DD/YY

Carrier: FedEx

Waybill No.:

Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Sed.	Soil	8260C BTEX,TPH-g	8260C DCA 8011 EDB	8015C TPH-d/o	3630/8015C TPH-d/o w/ SGT	8270DSIM PAHs short list	8270D Phenol, TICs (MP)	8270D 2-(2-methoxy ethoxy)-ethanol	RSK175M Methane	SM3500-Fe Ferrous Iron	353.2 Nitrate-Nitrite N	SM2320B Alkalinity 300.0 Nitrate,Sulfate,Chloride	300.0 Bromide/Fluoride 6010 Total Ca,Mg,Mn,K,Na SM4500 Total & Dissolved Silica	9060A TOC	
ERH998	Trip Blank	01/21/20	0820	HST	6	X			X	X												
ERH999	Field Blank	01/21/20	0830	HST	13	X			X	X	X	X*	X	X	X							
ERH1000	Equip Blank	01/21/20	0850	HST	6	X			X	X												See other cooler

EG 01/21/20

*Analyze TPH w/SGT only if TPH-d/o detected.

TPH-d/o & PAHs need liquid-liquid extraction.

Shuttle Temperature: Bio 1.0/1.0 4°C

Turnaround Requested: Check one
☐ Standard 2-3 wk ☒ One week ☐ 3 days ☐ 24/48 Hrs. ☐ Other: _____

Sample Disposal:
☐ Return to client ☒ Disposal by Lab (30-day retention)

Relinquished by sampler: AECOM	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
Estelle BONNY	01/21/20	1245					
Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received at lab by:
					1-22-20	1000	Melody

See page 2 for Container Preservative and Sampling Information

APPL LABS

APPL, Inc.
908 N Temperance Ave
Clovis, CA 93611
www.applinc.com

Phone: (559) 275-2175
Fax: (559) 275-4422
coc@applinc.com

CHAIN OF CUSTODY RECORD

C.O.C. 167

Report to: PLEASE PRINT	Invoice to: PLEASE PRINT
Company Name: AECOM Phone: 808-356-5373	Company Name: AECOM Phone: 808-529-7249
Address: 1001 Bishop St, Suite 1600 Honolulu, HI 96813 Fax: 808-523-8950	Address: 1001 Bishop St, Suite 1600 Honolulu, HI 96813 Fax: 808-523-8950
Attn: Margie Pascua	Attn: Mary Basano
Email: margie.pascua@aecom.com	Email: mary.basano@aecom.com; usapimaging@aecom.com

Project Name/Number: CV18F0126 / 60571032
Purchase Order Number: 102604
Sampler (Print): BM, BL, TV, SP
Sampler (Signature): MP for BM, BL, TV, SP
Date Shipped: MM/DD/YY
Carrier: FedEx
Waybill No.:
Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Matrix: Sed.	Matrix: Soil	8260C BTEX,TPH-g	8260C DCA 8011 EDB	8015C TPH-d/o	3630/8015C TPH-d/o w/ SGT	8270DSIM PAHs short list	8270D Phenol, Lics (WA)	8270D 2-(2-methoxy ethoxy)-ethanol	RSK175M Methane	SM3500-Fe Ferrous Iron	353.2 Nitrate-Nitrite N	SM2320B Alkalinity 300.0 Nitrate,Sulfate,Chloride	300.0 Bromide/Fluoride 6010 Total Ca,Mg,Mn,K,Na SM4500 Total & Dissolved Silica	9060A TOC	
ERH1000	Equip Blank	01/21/20	0850	HST	7	X			X	X	X	X*	X	X	X							See other coolers for VOAs

EB 01/21/20

*Analyze TPH w/SGT only if TPH-d/o detected.

TPH-d/o & PAHs need liquid-liquid extraction

Shuttle Temperature: Rec 1.0/1.4°C

Turnaround Requested: Check one
☐ Standard 2-3 wk ☒ One week ☐ 3 days ☐ 24/48 Hrs. ☐ Other:

Sample Disposal:
☐ Return to client ☒ Disposal by Lab (30-day retention)

Relinquished by sampler: AECOM	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
Estelle BONNY	01/21/20	1245					
Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received at lab by:
					1-22-20	1000	Melody D

See page 2 for Container Preservative and Sampling Information

APPL LABS

APPL, Inc.
908 N Temperance Ave
Clovis, CA 93611
www.applinc.com

Phone: (559) 275-2175
Fax: (559) 275-4422
coc@applinc.com

CHAIN OF CUSTODY RECORD

C.O.C. 160

Report to: PLEASE PRINT	Invoice to: PLEASE PRINT
Company Name: AECOM Phone: 808-356-5373	Company Name: AECOM Phone: 808-529-7249
Address: 1001 Bishop St, Suite 1600 Honolulu, HI 96813 Fax: 808-523-8950	Address: 1001 Bishop St, Suite 1600 Honolulu, HI 96813 Fax: 808-523-8950
Attn: Margie Pascua	Attn: Mary Basano
Email: margie.pascua@aecom.com	Email: mary.basano@aecom.com; usapimaging@aecom.com

Project Name/Number: CV18F0126 / 60571032
Purchase Order Number: 102604
Sampler (Print): BM, BL, TV, SP
Sampler (Signature):
Date Shipped:
Carrier: FedEx
Waybill No.:
Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Matrix: Sed.	Matrix: Soil	8260C BTEX,TPH-g	8260C DCA 8011 EDB	8015C TPH-d/o	3630/8015C TPH-d/o w/ SGT	8270DSIM PAHs short list	8270D Phenol, TPS	8270D 2-(2-methoxy ethoxy)-ethanol	RSK175M Methane	SM3500-Fe Ferrous Iron	353.2 Nitrate-Nitrite N	SM2320B Alkalinity 300.0 Nitrate,Sulfate,Chloride	300.0 Bromide/Fluoride 6010 Total Ca,Mg,Mn,K,Na SM4500 Total & Dissolved Silica	9060A TOC
ERH1003	Trip Blank	01/20/20	0905	HST	7	X			X	X						X					
ERH1004	RHMW14-01	01/20/20	1000	HST	19	X			X	X	X	X*	X	X	X	X	X	X	X		X
					EB	01/21/20															

*Analyze TPH w/SGT only if TPH-d/o detected.

TPH-d/o & PAHs need liquid-liquid extraction.

Shuttle Temperature: R1: 1.0/1.4°C

Turnaround Requested: Check one
☐ Standard 2-3 wk ☒ One week ☐ 3 days ☐ 24/48 Hrs. ☐ Other:

Sample Disposal:
☐ Return to client ☒ Disposal by Lab (30-day retention)

Relinquished by sampler: AECOM Estelle BONNY	Date 01/21/20	Time 1230	Received by:	Relinquished by:	Date	Time	Received by:
Relinquished by:	Date	Time	Received by:	Relinquished by:	Date 1-22-20	Time 1000	Received at lab by: Melody

See page 2 for Container Preservative and Sampling Information

COOLER RECEIPT FORM **ARF: 91282**

1) Project: 60571032 CV18F0126 Red Hill Fuel Storage Date Received: 01/22/20

2) Coolers: Number of Coolers: 11

3) YES Were custody seals present and intact?
How many? 22 Name/Date on seal? see below

4) YES Was there a shipping slip? Carrier name: FEDEX

5) Type of packing in cooler: X bubble wrap __ popcorn __ foam X plastic bags __ other
X wet ice __ dry ice __ no ice __ gel ice

6) YES Were cooler temperatures acceptable?

7) Serial number of certified NIST thermometer use R1 @ +0.4°C

8) Cooler temp(s): In °C. Thermometer Temp / Corrected Temp

1: 1.0°C/ 1.4°C	2: 1.0°C/ 1.4°C	3: 1.0°C/ 1.4°C	4: 1.0°C/ 1.4°C	5: 1.0°C/ 1.4°C	6: 1.0°C/ 1.4°C
7: 1.0°C/ 1.4°C	8: 1.0°C/ 1.4°C	9: 0.5°C/ 0.9°C	10: 2.0°C/ 2.4°C	11: 2.0°C/2.4 °C	12:

Chain of custody:

9) YES Was a chain of custody received?

10) YES Were the custody papers complete/signed in the appropriate places?

Sample Labels:

11) YES Were all sample labels complete (sample ID, date/time of sampling, etc.)?

12) YES Did all container labels agree with custody papers?

Sample Containers:

13) YES Were all containers sealed in separate bags?

14) YES Did all containers arrive in good condition:(unbroken, no leakage, no cracked/broken lids)?

15) YES Were correct containers and preservatives used for the tests indicated?

16) YES Was a sufficient amount of sample sent for tests indicated?

17) Yes Were bubbles present in volatile samples?
If yes, the following were received with air bubbles:
Larger than a pea:
Smaller than a pea: BA06272W02, BA06273W01, BA06284W01-2

Preservation Hold time:

18) Yes Was a sufficient amount of holding time remaining to analyze the samples?

19) Yes Was the pH taken of all non-VOA preserved samples and written on the sample container?

20) Yes Was the pH of acid preserved non-VOA samples < 2?

21) NA Was the pH of sodium hydroxide preserved samples for Cyanide > 12 and Sulfide >9?

22) NO Were unpreserved VOA Vials received?

23) NA Are unpreserved VOA vials noted in the ADD TEST FIELD on the ARF?
pH strip lot number: hc982588
Lab notified if pH was not adequate:

Notes/Deficiencies:

CUSTODY SEAL
AECOM (808) 523-8874
Initials: ~~CB/AM/TO~~/ Date: 01/21/20
~~MH/GM/KE/KS/MT~~
EB

Sample ER1971, stated 27 containers, we received 34. Samples ER-H1016-1019 received wrong containers, per PM they were moved to ARF 91284. AA

Personnel receiving samples: ZG Second reviewer: AA
Personnel labeling samples: ZG
Project manager notified: AA Date/Time of notification 01/22/20
Name of client notified: Date/Time of notification

SAMPLE RESULTS

EPA 8011

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91282

Sample ID: ERH998

APPL ID: BA06280

Sample Collection Date: 01/21/20

QCG: #8011-200127A-249503

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8011	EDB	0.019 U	0.02	0.019	0.010	ug/L	01/27/20	01/27/20
8011	SURROGATE: 1,3-DIBROMOPROPANE	99.3	70-132			%	01/27/20	01/27/20

Quant Method: 8010127A.M
Run #: 1126265
Instrument: Herbie
Sequence: 191126
Dilution Factor: 1
Initials: GAG

Printed: 01/28/20 9:27:55 AM

APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8011

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91282

Sample ID: ERH999

APPL ID: BA06281

Sample Collection Date: 01/21/20

QCG: #8011-200127A-249503

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8011	EDB	0.019 U	0.02	0.019	0.010	ug/L	01/27/20	01/27/20
8011	SURROGATE: 1,3-DIBROMOPROPANE	98.9	70-132			%	01/27/20	01/27/20

Quant Method: 8010127A.M
Run #: 1126266
Instrument: Herbie
Sequence: 191126
Dilution Factor: 1
Initials: GAG

Printed: 01/28/20 9:27:56 AM

APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8011

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91282

Sample ID: ERH1000

APPL ID: BA06282

Sample Collection Date: 01/21/20

QCG: #8011-200127A-249503

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8011	EDB	0.019 U	0.02	0.019	0.010	ug/L	01/27/20	01/27/20
8011	SURROGATE: 1,3-DIBROMOPROPANE	101	70-132			%	01/27/20	01/27/20

Quant Method: 8010127A.M
Run #: 1126267
Instrument: Herbie
Sequence: 191126
Dilution Factor: 1
Initials: GAG

Printed: 01/28/20 9:27:56 AM

APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8011

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91282

Sample ID: ERH1003

APPL ID: BA06283

Sample Collection Date: 01/20/20

QCG: #8011-200127A-249503

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8011	EDB	0.019 U	0.02	0.019	0.010	ug/L	01/27/20	01/27/20
8011	SURROGATE: 1,3-DIBROMOPROPANE	98.8	70-132			%	01/27/20	01/27/20

Quant Method: 8010127A.M
Run #: 1126268
Instrument: Herbie
Sequence: 191126
Dilution Factor: 1
Initials: GAG

Printed: 01/28/20 9:27:56 AM

APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8011

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91282

Sample ID: ERH1004

APPL ID: BA06284

Sample Collection Date: 01/20/20

QCG: #8011-200127A-249503

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8011	EDB	0.019 U	0.02	0.019	0.010	ug/L	01/27/20	01/27/20
8011	SURROGATE: 1,3-DIBROMOPROPANE	96.9	70-132			%	01/27/20	01/27/20

Quant Method: 8010127A.M
Run #: 1126269
Instrument: Herbie
Sequence: 191126
Dilution Factor: 1
Initials: GAG

Printed: 01/28/20 9:27:56 AM

APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8015B TPH LIQ-LIQ

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91282

Sample ID: ERH971

APPL ID: BA06272

Sample Collection Date: 01/21/20

QCG: #DOC53-200123A-249599

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8015B-eL	DIESEL (C10-C24)	100 ++	40.0	25.00	13.07	ug/L	01/23/20	01/25/20
EPA 8015B-eL	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	01/23/20	01/25/20
EPA 8015B-eL	SURROGATE: OCTACOSANE (S)	126	60-142			%	01/23/20	01/25/20
EPA 8015B-eL	SURROGATE: ORTHO-TERPHENYL (S)	114	56-125			%	01/23/20	01/25/20

++(T1M) The analyst has noted that the chromatogram of this sample is mainly a wide range of hydrocarbons which are not necessarily indicative of diesel.

Quant Method:	DOC0129.M
Run #:	111139
Instrument:	Apollo
Sequence:	200111
Dilution Factor:	1
Initials:	SSE

Printed: 01/30/20 10:46:34 AM

APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8015B TPH WATER L-L SGC

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

Sample ID: ERH971

Sample Collection Date: 01/21/20

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 91282

APPL ID: BA06272

QCG: #DOC53-200123A1-249601

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8015B-eL	DIESEL (C10-C24)	25.00 U	40.0	25.00	13.07	ug/L	01/23/20	01/29/20
EPA 8015B-eL	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	01/23/20	01/29/20
EPA 8015B-eL	SURROGATE: (R) DECANOIC ACID (S)	0.0	0-1			%	01/23/20	01/29/20
EPA 8015B-eL	SURROGATE: OCTACOSANE (S)	103	60-142			%	01/23/20	01/29/20
EPA 8015B-eL	SURROGATE: ORTHO-TERPHENYL (S)	106	56-125			%	01/23/20	01/29/20

Quant Method: DOC0129.M
Run #: 129021
Instrument: Apollo
Sequence: 200129
Dilution Factor: 1
Initials: SSE

Printed: 01/30/20 10:46:34 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8015B TPH LIQ-LIQ

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91282

Sample ID: ERH972

APPL ID: BA06273

Sample Collection Date: 01/21/20

QCG: #DOC53-200123A-249599

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8015B-eL	DIESEL (C10-C24)	25.00 U	40.0	25.00	13.07	ug/L	01/23/20	01/25/20
EPA 8015B-eL	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	01/23/20	01/25/20
EPA 8015B-eL	SURROGATE: OCTACOSANE (S)	98.1	60-142			%	01/23/20	01/25/20
EPA 8015B-eL	SURROGATE: ORTHO-TERPHENYL (S)	78.1	56-125			%	01/23/20	01/25/20

Quant Method: DOC0129.M
Run #: 111140
Instrument: Apollo
Sequence: 200111
Dilution Factor: 1
Initials: SSE

Printed: 01/30/20 10:46:34 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8015B TPH LIQ-LIQ

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91282

Sample ID: ERH979

APPL ID: BA06275

Sample Collection Date: 01/20/20

QCG: #DOC53-200123A-249599

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8015B-eL	DIESEL (C10-C24)	260 ++	40.0	25.00	13.07	ug/L	01/23/20	01/25/20
EPA 8015B-eL	OIL (C24-C40)	250	40.0	40.00	5.54	ug/L	01/23/20	01/25/20
EPA 8015B-eL	SURROGATE: OCTACOSANE (S)	130	60-142			%	01/23/20	01/25/20
EPA 8015B-eL	SURROGATE: ORTHO-TERPHENYL (S)	107	56-125			%	01/23/20	01/25/20

++(T1M) The analyst has noted that the chromatogram of this sample is mainly a wide range of hydrocarbons which are not necessarily indicative of diesel.

Quant Method: DOC0129.M
Run #: 111141
Instrument: Apollo
Sequence: 200111
Dilution Factor: 1
Initials: SSE

Printed: 01/30/20 10:46:34 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8015B TPH WATER L-L SGC

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua
Project: 60571032 CV18F0126 Red Hill Fuel Storage
ARF: 91282
Sample ID: ERH979
APPL ID: BA06275
Sample Collection Date: 01/20/20
QCG: #DOC53-200123A1-249601

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8015B-eL	DIESEL (C10-C24)	25.00 U	40.0	25.00	13.07	ug/L	01/23/20	01/29/20
EPA 8015B-eL	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	01/23/20	01/29/20
EPA 8015B-eL	SURROGATE: (R) DECANOIC ACID (S)	0.0	0-1			%	01/23/20	01/29/20
EPA 8015B-eL	SURROGATE: OCTACOSANE (S)	104	60-142			%	01/23/20	01/29/20
EPA 8015B-eL	SURROGATE: ORTHO-TERPHENYL (S)	106	56-125			%	01/23/20	01/29/20

Quant Method:	DOC0129.M
Run #:	129023
Instrument:	Apollo
Sequence:	200129
Dilution Factor:	1
Initials:	SSE

Printed: 01/30/20 10:46:34 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8015B TPH LIQ-LIQ

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91282

Sample ID: ERH981

APPL ID: BA06276

Sample Collection Date: 01/21/20

QCG: #DOC53-200123A-249599

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8015B-eL	DIESEL (C10-C24)	120 ++	40.0	25.00	13.07	ug/L	01/23/20	01/25/20
EPA 8015B-eL	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	01/23/20	01/25/20
EPA 8015B-eL	SURROGATE: OCTACOSANE (S)	133	60-142			%	01/23/20	01/25/20
EPA 8015B-eL	SURROGATE: ORTHO-TERPHENYL (S)	103	56-125			%	01/23/20	01/25/20

++(T1M) The analyst has noted that the chromatogram of this sample is mainly a wide range of hydrocarbons which are not necessarily indicative of diesel.

Quant Method:	DOC0129.M
Run #:	111142
Instrument:	Apollo
Sequence:	200111
Dilution Factor:	1
Initials:	SSE

Printed: 01/30/20 10:46:34 AM

APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8015B TPH WATER L-L SGC

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91282

Sample ID: ERH981

APPL ID: BA06276

Sample Collection Date: 01/21/20

QCG: #DOC53-200123A1-249601

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8015B-eL	DIESEL (C10-C24)	25.00 U	40.0	25.00	13.07	ug/L	01/23/20	01/29/20
EPA 8015B-eL	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	01/23/20	01/29/20
EPA 8015B-eL	SURROGATE: (R) DECANOIC ACID (S)	0.0	0-1			%	01/23/20	01/29/20
EPA 8015B-eL	SURROGATE: OCTACOSANE (S)	101	60-142			%	01/23/20	01/29/20
EPA 8015B-eL	SURROGATE: ORTHO-TERPHENYL (S)	101	56-125			%	01/23/20	01/29/20

Quant Method: DOC0129.M
Run #: 129024
Instrument: Apollo
Sequence: 200129
Dilution Factor: 1
Initials: SSE

Printed: 01/30/20 10:46:34 AM

APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8015B TPH LIQ-LIQ

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91282

Sample ID: ERH987

APPL ID: BA06279

Sample Collection Date: 01/20/20

QCG: #DOC53-200123A-249599

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8015B-eL	DIESEL (C10-C24)	120 ++	40.0	25.00	13.07	ug/L	01/23/20	01/25/20
EPA 8015B-eL	OIL (C24-C40)	84	40.0	40.00	5.54	ug/L	01/23/20	01/25/20
EPA 8015B-eL	SURROGATE: OCTACOSANE (S)	113	60-142			%	01/23/20	01/25/20
EPA 8015B-eL	SURROGATE: ORTHO-TERPHENYL (S)	91.7	56-125			%	01/23/20	01/25/20

++(T1M) The analyst has noted that the chromatogram of this sample is mainly a wide range of hydrocarbons which are not necessarily indicative of diesel.

Quant Method: DOC0129.M
Run #: 111143
Instrument: Apollo
Sequence: 200111
Dilution Factor: 1
Initials: SSE

Printed: 01/30/20 10:46:34 AM

APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8015B TPH WATER L-L SGC

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91282

Sample ID: ERH987

APPL ID: BA06279

Sample Collection Date: 01/20/20

QCG: #DOC53-200123A1-249601

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8015B-eL	DIESEL (C10-C24)	25.00 U	40.0	25.00	13.07	ug/L	01/23/20	01/29/20
EPA 8015B-eL	OIL (C24-C40)	39 J	40.0	40.00	5.54	ug/L	01/23/20	01/29/20
EPA 8015B-eL	SURROGATE: (R) DECANOIC ACID (S)	0.0	0-1			%	01/23/20	01/29/20
EPA 8015B-eL	SURROGATE: OCTACOSANE (S)	90.9	60-142			%	01/23/20	01/29/20
EPA 8015B-eL	SURROGATE: ORTHO-TERPHENYL (S)	93.4	56-125			%	01/23/20	01/29/20

J = Estimated value.

Quant Method: DOC0129.M
Run #: 129025
Instrument: Apollo
Sequence: 200129
Dilution Factor: 1
Initials: SSE

Printed: 01/30/20 10:46:34 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8015B TPH LIQ-LIQ

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91282

Sample ID: ERH999

APPL ID: BA06281

Sample Collection Date: 01/21/20

QCG: #DOC53-200123A-249599

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8015B-eL	DIESEL (C10-C24)	120 ++	40.0	25.00	13.07	ug/L	01/23/20	01/25/20
EPA 8015B-eL	OIL (C24-C40)	75	40.0	40.00	5.54	ug/L	01/23/20	01/25/20
EPA 8015B-eL	SURROGATE: OCTACOSANE (S)	140	60-142			%	01/23/20	01/25/20
EPA 8015B-eL	SURROGATE: ORTHO-TERPHENYL (S)	98.3	56-125			%	01/23/20	01/25/20

++(T1M) The analyst has noted that the chromatogram of this sample is mainly a wide range of hydrocarbons which are not necessarily indicative of diesel.

Quant Method: DOC0129.M
Run #: 111144
Instrument: Apollo
Sequence: 200111
Dilution Factor: 1
Initials: SSE

Printed: 01/30/20 10:46:34 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8015B TPH WATER L-L SGC

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91282

Sample ID: ERH999

APPL ID: BA06281

Sample Collection Date: 01/21/20

QCG: #DOC53-200123A1-249601

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8015B-eL	DIESEL (C10-C24)	25.00 U	40.0	25.00	13.07	ug/L	01/23/20	01/29/20
EPA 8015B-eL	OIL (C24-C40)	40	40.0	40.00	5.54	ug/L	01/23/20	01/29/20
EPA 8015B-eL	SURROGATE: (R) DECANOIC ACID (S)	0.0	0-1			%	01/23/20	01/29/20
EPA 8015B-eL	SURROGATE: OCTACOSANE (S)	84.9	60-142			%	01/23/20	01/29/20
EPA 8015B-eL	SURROGATE: ORTHO-TERPHENYL (S)	90.6	56-125			%	01/23/20	01/29/20

Quant Method: DOC0129.M
Run #: 129026
Instrument: Apollo
Sequence: 200129
Dilution Factor: 1
Initials: SSE

Printed: 01/30/20 10:46:34 AM

APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8015B TPH LIQ-LIQ

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91282

Sample ID: ERH1000

APPL ID: BA06282

Sample Collection Date: 01/21/20

QCG: #DOC53-200123A-249599

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8015B-eL	DIESEL (C10-C24)	120 ++	40.0	25.00	13.07	ug/L	01/23/20	01/25/20
EPA 8015B-eL	OIL (C24-C40)	80	40.0	40.00	5.54	ug/L	01/23/20	01/25/20
EPA 8015B-eL	SURROGATE: OCTACOSANE (S)	151 #	60-142			%	01/23/20	01/25/20
EPA 8015B-eL	SURROGATE: ORTHO-TERPHENYL (S)	107	56-125			%	01/23/20	01/25/20

= Recovery (or RPD) is outside QC limits.
++(T1M) The analyst has noted that the chromatogram of this sample is mainly a wide range of hydrocarbons which are not necessarily indicative of diesel.

Quant Method:	DOC0129.M
Run #:	111145
Instrument:	Apollo
Sequence:	200111
Dilution Factor:	1
Initials:	SSE

Printed: 01/30/20 10:46:34 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8015B TPH WATER L-L SGC

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91282

Sample ID: ERH1000

APPL ID: BA06282

Sample Collection Date: 01/21/20

QCG: #DOC53-200123A1-249601

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8015B-eL	DIESEL (C10-C24)	25.00 U	40.0	25.00	13.07	ug/L	01/23/20	01/29/20
EPA 8015B-eL	OIL (C24-C40)	46 ++	40.0	40.00	5.54	ug/L	01/23/20	01/29/20
EPA 8015B-eL	SURROGATE: (R) DECANOIC ACID (S)	0.0	0-1			%	01/23/20	01/29/20
EPA 8015B-eL	SURROGATE: OCTACOSANE (S)	93.5	60-142			%	01/23/20	01/29/20
EPA 8015B-eL	SURROGATE: ORTHO-TERPHENYL (S)	95.4	56-125			%	01/23/20	01/29/20

++(T3M) The analyst has noted that the chromatogram of this sample is mainly higher boiling hydrocarbons.

Quant Method: DOC0129.M
Run #: 129027
Instrument: Apollo
Sequence: 200129
Dilution Factor: 1
Initials: SSE

Printed: 01/30/20 10:46:34 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8015B TPH LIQ-LIQ

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91282

Sample ID: ERH1004

APPL ID: BA06284

Sample Collection Date: 01/20/20

QCG: #DOC53-200123A-249599

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8015B-eL	DIESEL (C10-C24)	160 ++	40.0	25.00	13.07	ug/L	01/23/20	01/25/20
EPA 8015B-eL	OIL (C24-C40)	95	40.0	40.00	5.54	ug/L	01/23/20	01/25/20
EPA 8015B-eL	SURROGATE: OCTACOSANE (S)	115	60-142			%	01/23/20	01/25/20
EPA 8015B-eL	SURROGATE: ORTHO-TERPHENYL (S)	102	56-125			%	01/23/20	01/25/20

++(T1M) The analyst has noted that the chromatogram of this sample is mainly a wide range of hydrocarbons which are not necessarily indicative of diesel.

Quant Method:	DOC0129.M
Run #:	111146
Instrument:	Apollo
Sequence:	200111
Dilution Factor:	1
Initials:	SSE

Printed: 01/30/20 10:46:34 AM

APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8015B TPH WATER L-L SGC

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91282

Sample ID: ERH1004

APPL ID: BA06284

Sample Collection Date: 01/20/20

QCG: #DOC53-200123A1-249601

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8015B-eL	DIESEL (C10-C24)	25.00 U	40.0	25.00	13.07	ug/L	01/23/20	01/29/20
EPA 8015B-eL	OIL (C24-C40)	45 ++	40.0	40.00	5.54	ug/L	01/23/20	01/29/20
EPA 8015B-eL	SURROGATE: (R) DECANOIC ACID (S)	0.0	0-1			%	01/23/20	01/29/20
EPA 8015B-eL	SURROGATE: OCTACOSANE (S)	95.2	60-142			%	01/23/20	01/29/20
EPA 8015B-eL	SURROGATE: ORTHO-TERPHENYL (S)	98.2	56-125			%	01/23/20	01/29/20

++(T3M) The analyst has noted that the chromatogram of this sample is mainly higher boiling hydrocarbons.

Quant Method: DOC0129.M
Run #: 129028
Instrument: Apollo
Sequence: 200129
Dilution Factor: 1
Initials: SSE

Printed: 01/30/20 10:46:34 AM

APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8015B TPH LIQ-LIQ RE-EXTRACT

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

Attn: Margie Pascua

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91282

Sample ID: ERH971

APPL ID: BA06272

Sample Collection Date: 01/21/20

QCG: #DOC53-200203A2-249909

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8015B-eL	DIESEL (C10-C24)	25.00 U	40.0	25.00	13.07	ug/L	02/03/20	02/04/20
EPA 8015B-eL	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	02/03/20	02/04/20
EPA 8015B-eL	SURROGATE: OCTACOSANE (S)	117	60-142			%	02/03/20	02/04/20
EPA 8015B-eL	SURROGATE: ORTHO-TERPHENYL (S)	96.6	56-125			%	02/03/20	02/04/20

Quant Method: DOC0129.M
Run #: 129128
Instrument: Apollo
Sequence: 200129
Dilution Factor: 1
Initials: SSE

Printed: 02/11/20 9:23:35 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8015B TPH LIQ-LIQ RE-EXTRACT

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91282

Sample ID: ERH979

APPL ID: BA06275

Sample Collection Date: 01/20/20

QCG: #DOC53-200203A2-249909

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8015B-eL	DIESEL (C10-C24)	25.00 U	40.0	25.00	13.07	ug/L	02/03/20	02/04/20
EPA 8015B-eL	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	02/03/20	02/04/20
EPA 8015B-eL	SURROGATE: OCTACOSANE (S)	101	60-142			%	02/03/20	02/04/20
EPA 8015B-eL	SURROGATE: ORTHO-TERPHENYL (S)	91.9	56-125			%	02/03/20	02/04/20

Quant Method:	DOC0129.M
Run #:	129129
Instrument:	Apollo
Sequence:	200129
Dilution Factor:	1
Initials:	SSE

Printed: 02/11/20 9:23:35 AM

APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8270D SIM LIQ-LIQ

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91282

Sample ID: ERH971

APPL ID: BA06272

Sample Collection Date: 01/21/20

QCG: #SIM53-200124A-249501

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8270D-SIM	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.04	ug/L	01/24/20	01/27/20
8270D-SIM	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.04	ug/L	01/24/20	01/27/20
8270D-SIM	NAPHTHALENE	0.10 U	0.2	0.10	0.04	ug/L	01/24/20	01/27/20
8270D-SIM	SURROGATE: 2-METHYLNAPHTHALEN	84.6	39-114			%	01/24/20	01/27/20
8270D-SIM	SURROGATE: FLUORANTHENE-D10 (S	85.1	58-120			%	01/24/20	01/27/20

Quant Method: L0113PCP.M
Run #: 0113L167
Instrument: Linus
Sequence: L200113P
Dilution Factor: 1
Initials: JPR

Printed: 01/28/20 9:30:24 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8270D SIM LIQ-LIQ

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91282

Sample ID: ERH972

APPL ID: BA06273

Sample Collection Date: 01/21/20

QCG: #SIM53-200124A-249501

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8270D-SIM	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.04	ug/L	01/24/20	01/27/20
8270D-SIM	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.04	ug/L	01/24/20	01/27/20
8270D-SIM	NAPHTHALENE	0.10 U	0.2	0.10	0.04	ug/L	01/24/20	01/27/20
8270D-SIM	SURROGATE: 2-METHYLNAPHTHALEN	83.6	39-114			%	01/24/20	01/27/20
8270D-SIM	SURROGATE: FLUORANTHENE-D10 (S	87.5	58-120			%	01/24/20	01/27/20

Quant Method: L0113PCP.M
Run #: 0113L168
Instrument: Linus
Sequence: L200113P
Dilution Factor: 1
Initials: JPR

Printed: 01/28/20 9:30:25 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8270D SIM LIQ-LIQ

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91282

Sample ID: ERH979

APPL ID: BA06275

Sample Collection Date: 01/20/20

QCG: #SIM53-200124A-249501

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8270D-SIM	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.04	ug/L	01/24/20	01/27/20
8270D-SIM	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.04	ug/L	01/24/20	01/27/20
8270D-SIM	NAPHTHALENE	0.10 U	0.2	0.10	0.04	ug/L	01/24/20	01/27/20
8270D-SIM	SURROGATE: 2-METHYLNAPHTHALEN	86.3	39-114			%	01/24/20	01/27/20
8270D-SIM	SURROGATE: FLUORANTHENE-D10 (S	79.1	58-120			%	01/24/20	01/27/20

Quant Method: L0113PCP.M
Run #: 0113L169
Instrument: Linus
Sequence: L200113P
Dilution Factor: 1
Initials: JPR

Printed: 01/28/20 9:30:25 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8270D SIM LIQ-LIQ

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91282

Sample ID: ERH981

APPL ID: BA06276

Sample Collection Date: 01/21/20

QCG: #SIM53-200124A-249501

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8270D-SIM	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.04	ug/L	01/24/20	01/27/20
8270D-SIM	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.04	ug/L	01/24/20	01/27/20
8270D-SIM	NAPHTHALENE	0.10 U	0.2	0.10	0.04	ug/L	01/24/20	01/27/20
8270D-SIM	SURROGATE: 2-METHYLNAPHTHALEN	85.5	39-114			%	01/24/20	01/27/20
8270D-SIM	SURROGATE: FLUORANTHENE-D10 (S	87.8	58-120			%	01/24/20	01/27/20

Quant Method: L0113PCP.M
Run #: 0113L170
Instrument: Linus
Sequence: L200113P
Dilution Factor: 1
Initials: JPR

Printed: 01/28/20 9:30:25 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8270D SIM LIQ-LIQ

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91282

Sample ID: ERH987

APPL ID: BA06279

Sample Collection Date: 01/20/20

QCG: #SIM53-200124A-249501

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8270D-SIM	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.04	ug/L	01/24/20	01/27/20
8270D-SIM	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.04	ug/L	01/24/20	01/27/20
8270D-SIM	NAPHTHALENE	0.10 U	0.2	0.10	0.04	ug/L	01/24/20	01/27/20
8270D-SIM	SURROGATE: 2-METHYLNAPHTHALEN	83.9	39-114			%	01/24/20	01/27/20
8270D-SIM	SURROGATE: FLUORANTHENE-D10 (S	85.2	58-120			%	01/24/20	01/27/20

Quant Method: L0113PCP.M
Run #: 0113L171
Instrument: Linus
Sequence: L200113P
Dilution Factor: 1
Initials: JPR

Printed: 01/28/20 9:30:25 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8270D SIM LIQ-LIQ

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua
Project: 60571032 CV18F0126 Red Hill Fuel Storage
Sample ID: ERH999
Sample Collection Date: 01/21/20

ARF: 91282
APPL ID: BA06281
QCG: #SIM53-200124A-249501

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8270D-SIM	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.04	ug/L	01/24/20	01/27/20
8270D-SIM	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.04	ug/L	01/24/20	01/27/20
8270D-SIM	NAPHTHALENE	0.10 U	0.2	0.10	0.04	ug/L	01/24/20	01/27/20
8270D-SIM	SURROGATE: 2-METHYLNAPHTHALEN	90.1	39-114			%	01/24/20	01/27/20
8270D-SIM	SURROGATE: FLUORANTHENE-D10 (S	90.7	58-120			%	01/24/20	01/27/20

Quant Method: L0113PCP.M
Run #: 0113L172
Instrument: Linus
Sequence: L200113P
Dilution Factor: 1
Initials: JPR

Printed: 01/28/20 9:30:25 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8270D SIM LIQ-LIQ

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91282

Sample ID: ERH1000

APPL ID: BA06282

Sample Collection Date: 01/21/20

QCG: #SIM53-200124A-249501

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8270D-SIM	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.04	ug/L	01/24/20	01/27/20
8270D-SIM	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.04	ug/L	01/24/20	01/27/20
8270D-SIM	NAPHTHALENE	0.10 U	0.2	0.10	0.04	ug/L	01/24/20	01/27/20
8270D-SIM	SURROGATE: 2-METHYLNAPHTHALEN	82.6	39-114			%	01/24/20	01/27/20
8270D-SIM	SURROGATE: FLUORANTHENE-D10 (S	83.8	58-120			%	01/24/20	01/27/20

Quant Method: L0113PCP.M
Run #: 0113L173
Instrument: Linus
Sequence: L200113P
Dilution Factor: 1
Initials: JPR

Printed: 01/28/20 9:30:25 AM

APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8270D SIM LIQ-LIQ

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91282

Sample ID: ERH1004

APPL ID: BA06284

Sample Collection Date: 01/20/20

QCG: #SIM53-200124A-249501

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8270D-SIM	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.04	ug/L	01/24/20	01/27/20
8270D-SIM	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.04	ug/L	01/24/20	01/27/20
8270D-SIM	NAPHTHALENE	0.10 U	0.2	0.10	0.04	ug/L	01/24/20	01/27/20
8270D-SIM	SURROGATE: 2-METHYLNAPHTHALEN	82.8	39-114			%	01/24/20	01/27/20
8270D-SIM	SURROGATE: FLUORANTHENE-D10 (S	89.6	58-120			%	01/24/20	01/27/20

Quant Method: L0113PCP.M
Run #: 0113L174
Instrument: Linus
Sequence: L200113P
Dilution Factor: 1
Initials: JPR

Printed: 01/28/20 9:30:25 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8270D WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91282

Sample ID: ERH971

APPL ID: BA06272

Sample Collection Date: 01/21/20

QCG: #87DC5-200124A-249499

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	01/24/20	01/27/20
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHENO	97.4	43-140			%	01/24/20	01/27/20
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	81.9	44-119			%	01/24/20	01/27/20
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	84.2	19-119			%	01/24/20	01/27/20
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	95.1	44-120			%	01/24/20	01/27/20
EPA 8270D	SURROGATE: PHENOL-D6 (S)	88.5	10-115			%	01/24/20	01/27/20
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	104	50-134			%	01/24/20	01/27/20

Quant Method: Y1219.M
Run #: 1219Y252
Instrument: Yoda
Sequence: Y191219
Dilution Factor: 1
Initials: JPR

Printed: 01/28/20 9:22:01 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8270D WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

Sample ID: ERH972

Sample Collection Date: 01/21/20

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 91282

APPL ID: BA06273

QCG: #87DC5-200124A-249499

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	01/24/20	01/27/20
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHENO	95.1	43-140			%	01/24/20	01/27/20
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	80.5	44-119			%	01/24/20	01/27/20
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	70.6	19-119			%	01/24/20	01/27/20
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	84.8	44-120			%	01/24/20	01/27/20
EPA 8270D	SURROGATE: PHENOL-D6 (S)	73.1	10-115			%	01/24/20	01/27/20
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	112	50-134			%	01/24/20	01/27/20

Quant Method: Y1219.M
Run #: 1219Y253
Instrument: Yoda
Sequence: Y191219
Dilution Factor: 1
Initials: JPR

Printed: 01/28/20 9:22:01 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8270D WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua
Project: 60571032 CV18F0126 Red Hill Fuel Storage
Sample ID: ERH979
Sample Collection Date: 01/20/20

ARF: 91282
APPL ID: BA06275
QCG: #87DC5-200124A-249499

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	01/24/20	01/27/20
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHENO	95.9	43-140			%	01/24/20	01/27/20
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	82.0	44-119			%	01/24/20	01/27/20
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	66.9	19-119			%	01/24/20	01/27/20
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	81.4	44-120			%	01/24/20	01/27/20
EPA 8270D	SURROGATE: PHENOL-D6 (S)	58.4	10-115			%	01/24/20	01/27/20
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	115	50-134			%	01/24/20	01/27/20

Quant Method: Y1219.M
Run #: 1219Y254
Instrument: Yoda
Sequence: Y191219
Dilution Factor: 1
Initials: JPR

Printed: 01/28/20 9:22:01 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8270D WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91282

Sample ID: ERH981

APPL ID: BA06276

Sample Collection Date: 01/21/20

QCG: #87DC5-200124A-249499

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	01/24/20	01/27/20
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHENO	64.1	43-140			%	01/24/20	01/27/20
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	81.9	44-119			%	01/24/20	01/27/20
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	49.8	19-119			%	01/24/20	01/27/20
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	83.2	44-120			%	01/24/20	01/27/20
EPA 8270D	SURROGATE: PHENOL-D6 (S)	57.3	10-115			%	01/24/20	01/27/20
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	105	50-134			%	01/24/20	01/27/20

Quant Method: Y1219.M
Run #: 1219Y255
Instrument: Yoda
Sequence: Y191219
Dilution Factor: 1
Initials: JPR

Printed: 01/28/20 9:22:01 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8270D WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91282

Sample ID: ERH987

APPL ID: BA06279

Sample Collection Date: 01/20/20

QCG: #87DC5-200124A-249499

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	01/24/20	01/27/20
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHENO	95.5	43-140			%	01/24/20	01/27/20
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	81.8	44-119			%	01/24/20	01/27/20
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	70.5	19-119			%	01/24/20	01/27/20
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	80.6	44-120			%	01/24/20	01/27/20
EPA 8270D	SURROGATE: PHENOL-D6 (S)	72.4	10-115			%	01/24/20	01/27/20
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	108	50-134			%	01/24/20	01/27/20

Quant Method: Y1219.M
Run #: 1219Y256
Instrument: Yoda
Sequence: Y191219
Dilution Factor: 1
Initials: JPR

Printed: 01/28/20 9:22:01 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8270D WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91282

Sample ID: ERH999

APPL ID: BA06281

Sample Collection Date: 01/21/20

QCG: #87DC5-200124A-249499

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	01/24/20	01/27/20
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHENO	95.6	43-140			%	01/24/20	01/27/20
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	82.0	44-119			%	01/24/20	01/27/20
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	71.7	19-119			%	01/24/20	01/27/20
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	80.6	44-120			%	01/24/20	01/27/20
EPA 8270D	SURROGATE: PHENOL-D6 (S)	75.7	10-115			%	01/24/20	01/27/20
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	107	50-134			%	01/24/20	01/27/20

Quant Method: Y1219.M
Run #: 1219Y257
Instrument: Yoda
Sequence: Y191219
Dilution Factor: 1
Initials: JPR

Printed: 01/28/20 9:22:01 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8270D WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91282

Sample ID: ERH1000

APPL ID: BA06282

Sample Collection Date: 01/21/20

QCG: #87DC5-200124A-249499

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	01/24/20	01/27/20
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHENO	97.7	43-140			%	01/24/20	01/27/20
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	84.2	44-119			%	01/24/20	01/27/20
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	91.3	19-119			%	01/24/20	01/27/20
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	104	44-120			%	01/24/20	01/27/20
EPA 8270D	SURROGATE: PHENOL-D6 (S)	96.7	10-115			%	01/24/20	01/27/20
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	109	50-134			%	01/24/20	01/27/20

Quant Method: Y1219.M
Run #: 1219Y258
Instrument: Yoda
Sequence: Y191219
Dilution Factor: 1
Initials: JPR

Printed: 01/28/20 9:22:01 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8270D WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua
Project: 60571032 CV18F0126 Red Hill Fuel Storage
Sample ID: ERH1004
Sample Collection Date: 01/20/20

ARF: 91282
APPL ID: BA06284
QCG: #87DC5-200124A-249499

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	01/24/20	01/27/20
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHENO	99.2	43-140			%	01/24/20	01/27/20
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	85.4	44-119			%	01/24/20	01/27/20
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	80.6	19-119			%	01/24/20	01/27/20
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	94.4	44-120			%	01/24/20	01/27/20
EPA 8270D	SURROGATE: PHENOL-D6 (S)	87.0	10-115			%	01/24/20	01/27/20
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	120	50-134			%	01/24/20	01/27/20

Quant Method: Y1219.M
Run #: 1219Y259
Instrument: Yoda
Sequence: Y191219
Dilution Factor: 1
Initials: JPR

Printed: 01/28/20 9:22:01 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8270D MODIFIED WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91282

Sample ID: ERH971

APPL ID: BA06272

Sample Collection Date: 01/21/20

QCG: #87DME-200128A-249592

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	2-(2-METHOXYETHOXY)-ETHANOL	80.0 U	100	80.0	40.0	ug/L	01/28/20	01/29/20

Quant Method:	YMEE0122.M
Run #:	0122Y027
Instrument:	Yoda
Sequence:	Y200122M
Dilution Factor:	1
Initials:	JPR

Printed: 01/30/20 8:48:30 AM

APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8270D MODIFIED WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91282

Sample ID: ERH972

APPL ID: BA06273

Sample Collection Date: 01/21/20

QCG: #87DME-200128A-249592

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	2-(2-METHOXYETHOXY)-ETHANOL	80.0 U	100	80.0	40.0	ug/L	01/28/20	01/29/20

Quant Method:	YMEE0122.M
Run #:	0122Y028
Instrument:	Yoda
Sequence:	Y200122M
Dilution Factor:	1
Initials:	JPR

Printed: 01/30/20 8:48:30 AM

APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8270D MODIFIED WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91282

Sample ID: ERH979

APPL ID: BA06275

Sample Collection Date: 01/20/20

QCG: #87DME-200124A-249453

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	2-(2-METHOXYETHOXY)-ETHANOL	80.0 U	100	80.0	40.0	ug/L	01/24/20	01/24/20

Quant Method:	YMEE0122.M
Run #:	1219Y237
Instrument:	Yoda
Sequence:	Y191219
Dilution Factor:	1
Initials:	JPR

Printed: 01/30/20 8:48:30 AM

APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8270D MODIFIED WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua
Project: 60571032 CV18F0126 Red Hill Fuel Storage
Sample ID: ERH981
Sample Collection Date: 01/21/20

ARF: 91282
APPL ID: BA06276
QCG: #87DME-200128A-249592

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	2-(2-METHOXYETHOXY)-ETHANOL	80.0 U	100	80.0	40.0	ug/L	01/28/20	01/29/20

Quant Method:	YMEE0122.M
Run #:	0122Y029
Instrument:	Yoda
Sequence:	Y200122M
Dilution Factor:	1
Initials:	JPR

Printed: 01/30/20 8:48:30 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8270D MODIFIED WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91282

Sample ID: ERH987

APPL ID: BA06279

Sample Collection Date: 01/20/20

QCG: #87DME-200124A-249453

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	2-(2-METHOXYETHOXY)-ETHANOL	80.0 U	100	80.0	40.0	ug/L	01/24/20	01/24/20

Quant Method: YMEE0122.M
Run #: 1219Y238
Instrument: Yoda
Sequence: Y191219
Dilution Factor: 1
Initials: JPR

Printed: 01/30/20 8:48:30 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8270D MODIFIED WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua
Project: 60571032 CV18F0126 Red Hill Fuel Storage
Sample ID: ERH999
Sample Collection Date: 01/21/20

ARF: 91282
APPL ID: BA06281
QCG: #87DME-200128A-249592

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	2-(2-METHOXYETHOXY)-ETHANOL	80.0 U	100	80.0	40.0	ug/L	01/28/20	01/29/20

Quant Method:	YMEE0122.M
Run #:	0122Y030
Instrument:	Yoda
Sequence:	Y200122M
Dilution Factor:	1
Initials:	JPR

Printed: 01/30/20 8:48:30 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8270D MODIFIED WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91282

Sample ID: ERH1000

APPL ID: BA06282

Sample Collection Date: 01/21/20

QCG: #87DME-200128A-249592

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	2-(2-METHOXYETHOXY)-ETHANOL	80.0 U	100	80.0	40.0	ug/L	01/28/20	01/29/20

Quant Method:	YMEE0122.M
Run #:	0122Y031
Instrument:	Yoda
Sequence:	Y200122M
Dilution Factor:	1
Initials:	JPR

Printed: 01/30/20 8:48:30 AM

APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8270D MODIFIED WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91282

Sample ID: ERH1004

APPL ID: BA06284

Sample Collection Date: 01/20/20

QCG: #87DME-200127A-249488

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	2-(2-METHOXYETHOXY)-ETHANOL	80.0 U	100	80.0	40.0	ug/L	01/27/20	01/27/20

Quant Method:	YMEE0122.M
Run #:	1219Y245
Instrument:	Yoda
Sequence:	Y191219
Dilution Factor:	1
Initials:	JPR

Printed: 01/30/20 8:48:30 AM

APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91282

Sample ID: ERH970

APPL ID: BA06271

Sample Collection Date: 01/21/20

QCG: #86BTO-200123BT-249413

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.15	ug/L	01/24/20	01/24/20
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	01/24/20	01/24/20
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.15	ug/L	01/24/20	01/24/20
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.15	ug/L	01/24/20	01/24/20
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE-	103	81-118			%	01/24/20	01/24/20
EPA 8260B	SURROGATE: 4-BROMOFLUOROBENZ	92.0	85-114			%	01/24/20	01/24/20
EPA 8260B	SURROGATE: DIBROMOFLUOROMETH	104	80-119			%	01/24/20	01/24/20
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	101	89-112			%	01/24/20	01/24/20

Quant Method: T0121W.M
Run #: 0123T37
Instrument: Thor
Sequence: T200121
Dilution Factor: 1
Initials: DPO

Printed: 01/24/20 10:59:58 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91282

Sample ID: ERH971

APPL ID: BA06272

Sample Collection Date: 01/21/20

QCG: #86BTO-200123BT-249413

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.15	ug/L	01/24/20	01/24/20
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	01/24/20	01/24/20
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.15	ug/L	01/24/20	01/24/20
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.15	ug/L	01/24/20	01/24/20
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE-	102	81-118			%	01/24/20	01/24/20
EPA 8260B	SURROGATE: 4-BROMOFLUOROBENZ	91.4	85-114			%	01/24/20	01/24/20
EPA 8260B	SURROGATE: DIBROMOFLUOROMETH	102	80-119			%	01/24/20	01/24/20
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	100	89-112			%	01/24/20	01/24/20

Quant Method: T0121W.M
Run #: 0123T38
Instrument: Thor
Sequence: T200121
Dilution Factor: 1
Initials: DPO

Printed: 01/24/20 10:59:59 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91282

Sample ID: ERH972

APPL ID: BA06273

Sample Collection Date: 01/21/20

QCG: #86BTO-200123BT-249413

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.15	ug/L	01/24/20	01/24/20
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	01/24/20	01/24/20
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.15	ug/L	01/24/20	01/24/20
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.15	ug/L	01/24/20	01/24/20
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE-	103	81-118			%	01/24/20	01/24/20
EPA 8260B	SURROGATE: 4-BROMOFLUOROBENZ	91.0	85-114			%	01/24/20	01/24/20
EPA 8260B	SURROGATE: DIBROMOFLUOROMETH	103	80-119			%	01/24/20	01/24/20
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	100	89-112			%	01/24/20	01/24/20

Quant Method: T0121W.M
Run #: 0123T39
Instrument: Thor
Sequence: T200121
Dilution Factor: 1
Initials: DPO

Printed: 01/24/20 10:59:59 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91282

Sample ID: ERH978

APPL ID: BA06274

Sample Collection Date: 01/20/20

QCG: #86BTO-200123BT-249413

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.15	ug/L	01/24/20	01/24/20
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	01/24/20	01/24/20
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.15	ug/L	01/24/20	01/24/20
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.15	ug/L	01/24/20	01/24/20
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE-	101	81-118			%	01/24/20	01/24/20
EPA 8260B	SURROGATE: 4-BROMOFLUOROBENZ	89.5	85-114			%	01/24/20	01/24/20
EPA 8260B	SURROGATE: DIBROMOFLUOROMETH	101	80-119			%	01/24/20	01/24/20
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	98.7	89-112			%	01/24/20	01/24/20

Quant Method: T0121W.M
Run #: 0123T40
Instrument: Thor
Sequence: T200121
Dilution Factor: 1
Initials: DPO

Printed: 01/24/20 10:59:59 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91282

Sample ID: ERH979

APPL ID: BA06275

Sample Collection Date: 01/20/20

QCG: #86BTO-200123BT-249413

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.15	ug/L	01/24/20	01/24/20
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	01/24/20	01/24/20
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.15	ug/L	01/24/20	01/24/20
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.15	ug/L	01/24/20	01/24/20
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE-	105	81-118			%	01/24/20	01/24/20
EPA 8260B	SURROGATE: 4-BROMOFLUOROBENZ	92.6	85-114			%	01/24/20	01/24/20
EPA 8260B	SURROGATE: DIBROMOFLUOROMETH	102	80-119			%	01/24/20	01/24/20
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	100	89-112			%	01/24/20	01/24/20

Quant Method: T0121W.M
Run #: 0123T41
Instrument: Thor
Sequence: T200121
Dilution Factor: 1
Initials: DPO

Printed: 01/24/20 10:59:59 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91282

Sample ID: ERH981

APPL ID: BA06276

Sample Collection Date: 01/21/20

QCG: #86BTO-200123BT-249413

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.15	ug/L	01/24/20	01/24/20
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	01/24/20	01/24/20
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.15	ug/L	01/24/20	01/24/20
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.15	ug/L	01/24/20	01/24/20
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE-	103	81-118			%	01/24/20	01/24/20
EPA 8260B	SURROGATE: 4-BROMOFLUOROBENZ	91.3	85-114			%	01/24/20	01/24/20
EPA 8260B	SURROGATE: DIBROMOFLUOROMETH	102	80-119			%	01/24/20	01/24/20
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	100	89-112			%	01/24/20	01/24/20

Quant Method: T0121W.M
Run #: 0123T42
Instrument: Thor
Sequence: T200121
Dilution Factor: 1
Initials: DPO

Printed: 01/24/20 10:59:59 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91282

Sample ID: ERH980

APPL ID: BA06277

Sample Collection Date: 01/21/20

QCG: #86BTO-200123BT-249413

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.15	ug/L	01/24/20	01/24/20
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	01/24/20	01/24/20
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.15	ug/L	01/24/20	01/24/20
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.15	ug/L	01/24/20	01/24/20
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE-	104	81-118			%	01/24/20	01/24/20
EPA 8260B	SURROGATE: 4-BROMOFLUOROBENZ	91.8	85-114			%	01/24/20	01/24/20
EPA 8260B	SURROGATE: DIBROMOFLUOROMETH	104	80-119			%	01/24/20	01/24/20
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	102	89-112			%	01/24/20	01/24/20

Quant Method: T0121W.M
Run #: 0123T34
Instrument: Thor
Sequence: T200121
Dilution Factor: 1
Initials: DPO

Printed: 01/24/20 10:59:59 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91282

Sample ID: ERH986

APPL ID: BA06278

Sample Collection Date: 01/20/20

QCG: #86BTO-200123BT-249413

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.15	ug/L	01/24/20	01/24/20
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	01/24/20	01/24/20
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.15	ug/L	01/24/20	01/24/20
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.15	ug/L	01/24/20	01/24/20
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE-	102	81-118			%	01/24/20	01/24/20
EPA 8260B	SURROGATE: 4-BROMOFLUOROBENZ	90.5	85-114			%	01/24/20	01/24/20
EPA 8260B	SURROGATE: DIBROMOFLUOROMETH	102	80-119			%	01/24/20	01/24/20
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	100.0	89-112			%	01/24/20	01/24/20

Quant Method: T0121W.M
Run #: 0123T35
Instrument: Thor
Sequence: T200121
Dilution Factor: 1
Initials: DPO

Printed: 01/24/20 10:59:59 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91282

Sample ID: ERH987

APPL ID: BA06279

Sample Collection Date: 01/20/20

QCG: #86BTO-200123BT-249413

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.15	ug/L	01/24/20	01/24/20
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	01/24/20	01/24/20
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.15	ug/L	01/24/20	01/24/20
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.15	ug/L	01/24/20	01/24/20
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE-	103	81-118			%	01/24/20	01/24/20
EPA 8260B	SURROGATE: 4-BROMOFLUOROBENZ	89.9	85-114			%	01/24/20	01/24/20
EPA 8260B	SURROGATE: DIBROMOFLUOROMETH	102	80-119			%	01/24/20	01/24/20
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	98.2	89-112			%	01/24/20	01/24/20

Quant Method: T0121W.M
Run #: 0123T43
Instrument: Thor
Sequence: T200121
Dilution Factor: 1
Initials: DPO

Printed: 01/24/20 10:59:59 AM

APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8260B BTEX & 1,2-DCA WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91282

Sample ID: ERH998

APPL ID: BA06280

Sample Collection Date: 01/21/20

QCG: #86BTO-200123BT1-249414

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	1,2-DICHLOROETHANE	0.30 U	1.0	0.30	0.14	ug/L	01/24/20	01/24/20
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.15	ug/L	01/24/20	01/24/20
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	01/24/20	01/24/20
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.15	ug/L	01/24/20	01/24/20
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.15	ug/L	01/24/20	01/24/20
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE-	103	81-118			%	01/24/20	01/24/20
EPA 8260B	SURROGATE: 4-BROMOFLUOROBENZ	90.1	85-114			%	01/24/20	01/24/20
EPA 8260B	SURROGATE: DIBROMOFLUOROMETH	104	80-119			%	01/24/20	01/24/20
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	101	89-112			%	01/24/20	01/24/20

Quant Method: T0121W.M
Run #: 0123T44
Instrument: Thor
Sequence: T200121
Dilution Factor: 1
Initials: DPO

Printed: 01/24/20 11:01:15 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8260B BTEX & 1,2-DCA WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91282

Sample ID: ERH999

APPL ID: BA06281

Sample Collection Date: 01/21/20

QCG: #86BTO-200123BT1-249414

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	1,2-DICHLOROETHANE	0.30 U	1.0	0.30	0.14	ug/L	01/24/20	01/24/20
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.15	ug/L	01/24/20	01/24/20
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	01/24/20	01/24/20
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.15	ug/L	01/24/20	01/24/20
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.15	ug/L	01/24/20	01/24/20
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE-	105	81-118			%	01/24/20	01/24/20
EPA 8260B	SURROGATE: 4-BROMOFLUOROBENZ	92.0	85-114			%	01/24/20	01/24/20
EPA 8260B	SURROGATE: DIBROMOFLUOROMETH	105	80-119			%	01/24/20	01/24/20
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	103	89-112			%	01/24/20	01/24/20

Quant Method: T0121W.M
Run #: 0123T45
Instrument: Thor
Sequence: T200121
Dilution Factor: 1
Initials: DPO

Printed: 01/24/20 11:01:15 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8260B BTEX & 1,2-DCA WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91282

Sample ID: ERH1000

APPL ID: BA06282

Sample Collection Date: 01/21/20

QCG: #86BTO-200123BT1-249414

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	1,2-DICHLOROETHANE	0.30 U	1.0	0.30	0.14	ug/L	01/24/20	01/24/20
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.15	ug/L	01/24/20	01/24/20
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	01/24/20	01/24/20
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.15	ug/L	01/24/20	01/24/20
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.15	ug/L	01/24/20	01/24/20
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE-	103	81-118			%	01/24/20	01/24/20
EPA 8260B	SURROGATE: 4-BROMOFLUOROBENZ	92.4	85-114			%	01/24/20	01/24/20
EPA 8260B	SURROGATE: DIBROMOFLUOROMETH	103	80-119			%	01/24/20	01/24/20
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	100	89-112			%	01/24/20	01/24/20

Quant Method: T0121W.M
Run #: 0123T46
Instrument: Thor
Sequence: T200121
Dilution Factor: 1
Initials: DPO

Printed: 01/24/20 11:01:15 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8260B BTEX & 1,2-DCA WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91282

Sample ID: ERH1003

APPL ID: BA06283

Sample Collection Date: 01/20/20

QCG: #86BTO-200123BT1-249414

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	1,2-DICHLOROETHANE	0.30 U	1.0	0.30	0.14	ug/L	01/24/20	01/24/20
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.15	ug/L	01/24/20	01/24/20
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	01/24/20	01/24/20
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.15	ug/L	01/24/20	01/24/20
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.15	ug/L	01/24/20	01/24/20
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE-	103	81-118			%	01/24/20	01/24/20
EPA 8260B	SURROGATE: 4-BROMOFLUOROBENZ	92.2	85-114			%	01/24/20	01/24/20
EPA 8260B	SURROGATE: DIBROMOFLUOROMETH	103	80-119			%	01/24/20	01/24/20
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	99.7	89-112			%	01/24/20	01/24/20

Quant Method: T0121W.M
Run #: 0123T36
Instrument: Thor
Sequence: T200121
Dilution Factor: 1
Initials: DPO

Printed: 01/24/20 11:01:15 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8260B BTEX & 1,2-DCA WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91282

Sample ID: ERH1004

APPL ID: BA06284

Sample Collection Date: 01/20/20

QCG: #86BTO-200123BT1-249414

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	1,2-DICHLOROETHANE	0.30 U	1.0	0.30	0.14	ug/L	01/24/20	01/24/20
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.15	ug/L	01/24/20	01/24/20
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	01/24/20	01/24/20
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.15	ug/L	01/24/20	01/24/20
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.15	ug/L	01/24/20	01/24/20
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE-	104	81-118			%	01/24/20	01/24/20
EPA 8260B	SURROGATE: 4-BROMOFLUOROBENZ	92.0	85-114			%	01/24/20	01/24/20
EPA 8260B	SURROGATE: DIBROMOFLUOROMETH	104	80-119			%	01/24/20	01/24/20
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	101	89-112			%	01/24/20	01/24/20

Quant Method: T0121W.M
Run #: 0123T47
Instrument: Thor
Sequence: T200121
Dilution Factor: 1
Initials: DPO

Printed: 01/24/20 11:01:15 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua
Project: 60571032 CV18F0126 Red Hill Fuel Storage
Sample ID: ERH970
Sample Collection Date: 01/21/20

ARF: 91282
APPL ID: BA06271
QCG: #GRO86-200123BT-249415

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	01/24/20	01/24/20
EPA 8260B	SURROGATE: 4-BROMOFLUOROBENZ	92.0	85-114			%	01/24/20	01/24/20

Quant Method: TGAS0116.M
Run #: 0123T37
Instrument: Thor
Sequence: T200121
Dilution Factor: 1
Initials: DPO

Printed: 01/24/20 11:13:50 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91282

Sample ID: ERH971

APPL ID: BA06272

Sample Collection Date: 01/21/20

QCG: #GRO86-200123BT-249415

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	01/24/20	01/24/20
EPA 8260B	SURROGATE: 4-BROMOFLUOROBENZ	91.4	85-114			%	01/24/20	01/24/20

Quant Method: TGAS0116.M
Run #: 0123T38
Instrument: Thor
Sequence: T200121
Dilution Factor: 1
Initials: DPO

Printed: 01/24/20 11:13:50 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91282

Sample ID: ERH972

APPL ID: BA06273

Sample Collection Date: 01/21/20

QCG: #GRO86-200123BT-249415

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	01/24/20	01/24/20
EPA 8260B	SURROGATE: 4-BROMOFLUOROBENZ	91.0	85-114			%	01/24/20	01/24/20

Quant Method: TGAS0116.M
Run #: 0123T39
Instrument: Thor
Sequence: T200121
Dilution Factor: 1
Initials: DPO

Printed: 01/24/20 11:13:50 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91282

Sample ID: ERH978

APPL ID: BA06274

Sample Collection Date: 01/20/20

QCG: #GRO86-200123BT-249415

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	01/24/20	01/24/20
EPA 8260B	SURROGATE: 4-BROMOFLUOROBENZ	89.5	85-114			%	01/24/20	01/24/20

/

Quant Method: TGAS0116.M
Run #: 0123T40
Instrument: Thor
Sequence: T200121
Dilution Factor: 1
Initials: DPO

Printed: 01/24/20 11:13:50 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91282

Sample ID: ERH979

APPL ID: BA06275

Sample Collection Date: 01/20/20

QCG: #GRO86-200123BT-249415

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	01/24/20	01/24/20
EPA 8260B	SURROGATE: 4-BROMOFLUOROBENZ	92.6	85-114			%	01/24/20	01/24/20

Quant Method: TGAS0116.M
Run #: 0123T41
Instrument: Thor
Sequence: T200121
Dilution Factor: 1
Initials: DPO

Printed: 01/24/20 11:13:50 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91282

Sample ID: ERH981

APPL ID: BA06276

Sample Collection Date: 01/21/20

QCG: #GRO86-200123BT-249415

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	01/24/20	01/24/20
EPA 8260B	SURROGATE: 4-BROMOFLUOROBENZ	91.3	85-114			%	01/24/20	01/24/20

Quant Method: TGAS0116.M
Run #: 0123T42
Instrument: Thor
Sequence: T200121
Dilution Factor: 1
Initials: DPO

Printed: 01/24/20 11:13:50 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91282

Sample ID: ERH980

APPL ID: BA06277

Sample Collection Date: 01/21/20

QCG: #GRO86-200123BT-249415

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	01/24/20	01/24/20
EPA 8260B	SURROGATE: 4-BROMOFLUOROBENZ	91.8	85-114			%	01/24/20	01/24/20

Quant Method: TGAS0116.M
Run #: 0123T34
Instrument: Thor
Sequence: T200121
Dilution Factor: 1
Initials: DPO

Printed: 01/24/20 11:13:50 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91282

Sample ID: ERH986

APPL ID: BA06278

Sample Collection Date: 01/20/20

QCG: #GRO86-200123BT-249415

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	01/24/20	01/24/20
EPA 8260B	SURROGATE: 4-BROMOFLUOROBENZ	90.5	85-114			%	01/24/20	01/24/20

Quant Method: TGAS0116.M
Run #: 0123T35
Instrument: Thor
Sequence: T200121
Dilution Factor: 1
Initials: DPO

Printed: 01/24/20 11:13:50 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91282

Sample ID: ERH987

APPL ID: BA06279

Sample Collection Date: 01/20/20

QCG: #GRO86-200123BT-249415

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	01/24/20	01/24/20
EPA 8260B	SURROGATE: 4-BROMOFLUOROBENZ	89.9	85-114			%	01/24/20	01/24/20

Quant Method: TGAS0116.M
Run #: 0123T43
Instrument: Thor
Sequence: T200121
Dilution Factor: 1
Initials: DPO

Printed: 01/24/20 11:13:50 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91282

Sample ID: ERH998

APPL ID: BA06280

Sample Collection Date: 01/21/20

QCG: #GRO86-200123BT-249415

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	01/24/20	01/24/20
EPA 8260B	SURROGATE: 4-BROMOFLUOROBENZ	90.1	85-114			%	01/24/20	01/24/20

Quant Method: TGAS0116.M
Run #: 0123T44
Instrument: Thor
Sequence: T200121
Dilution Factor: 1
Initials: DPO

Printed: 01/24/20 11:13:50 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91282

Sample ID: ERH999

APPL ID: BA06281

Sample Collection Date: 01/21/20

QCG: #GRO86-200123BT-249415

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	01/24/20	01/24/20
EPA 8260B	SURROGATE: 4-BROMOFLUOROBENZ	92.0	85-114			%	01/24/20	01/24/20

Quant Method: TGAS0116.M
Run #: 0123T45
Instrument: Thor
Sequence: T200121
Dilution Factor: 1
Initials: DPO

Printed: 01/24/20 11:13:51 AM

APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91282

Sample ID: ERH1000

APPL ID: BA06282

Sample Collection Date: 01/21/20

QCG: #GRO86-200123BT-249415

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	01/24/20	01/24/20
EPA 8260B	SURROGATE: 4-BROMOFLUOROBENZ	92.4	85-114			%	01/24/20	01/24/20

Quant Method: TGAS0116.M
Run #: 0123T46
Instrument: Thor
Sequence: T200121
Dilution Factor: 1
Initials: DPO

Printed: 01/24/20 11:13:51 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91282

Sample ID: ERH1003

APPL ID: BA06283

Sample Collection Date: 01/20/20

QCG: #GRO86-200123BT-249415

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	01/24/20	01/24/20
EPA 8260B	SURROGATE: 4-BROMOFLUOROBENZ	92.2	85-114			%	01/24/20	01/24/20

Quant Method: TGAS0116.M
Run #: 0123T36
Instrument: Thor
Sequence: T200121
Dilution Factor: 1
Initials: DPO

Printed: 01/24/20 11:13:51 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91282

Sample ID: ERH1004

APPL ID: BA06284

Sample Collection Date: 01/20/20

QCG: #GRO86-200123BT-249415

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	01/24/20	01/24/20
EPA 8260B	SURROGATE: 4-BROMOFLUOROBENZ	92.0	85-114			%	01/24/20	01/24/20

Quant Method: TGAS0116.M
Run #: 0123T47
Instrument: Thor
Sequence: T200121
Dilution Factor: 1
Initials: DPO

Printed: 01/24/20 11:13:51 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

METHANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua
Project: 60571032 CV18F0126 Red Hill Fuel Storage
Sample ID: ERH970
Sample Collection Date: 01/21/20

ARF: 91282
APPL ID: BA06271
QCG: #RSKME-200124A-249440

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	1.00 U	5.0	1.00	0.25	ug/L	01/24/20	01/24/20

Quant Method:	RSK1002.M
Run #:	0124R16
Instrument:	Rocky
Sequence:	191002
Dilution Factor:	1
Initials:	GAG

Printed: 01/28/20 12:10:08 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

METHANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua
Project: 60571032 CV18F0126 Red Hill Fuel Storage
Sample ID: ERH971
Sample Collection Date: 01/21/20

ARF: 91282
APPL ID: BA06272
QCG: #RSKME-200124A-249440

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	1.00 U	5.0	1.00	0.25	ug/L	01/24/20	01/24/20

Quant Method:	RSK1002.M
Run #:	0124R17
Instrument:	Rocky
Sequence:	191002
Dilution Factor:	1
Initials:	GAG

Printed: 01/28/20 12:10:08 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

METHANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua
Project: 60571032 CV18F0126 Red Hill Fuel Storage
Sample ID: ERH978
Sample Collection Date: 01/20/20

ARF: 91282
APPL ID: BA06274
QCG: #RSKME-200124A-249440

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	1.00 U	5.0	1.00	0.25	ug/L	01/24/20	01/24/20

Quant Method:	RSK1002.M
Run #:	0124R20
Instrument:	Rocky
Sequence:	191002
Dilution Factor:	1
Initials:	GAG

Printed: 01/28/20 12:10:08 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

METHANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91282

Sample ID: ERH979

APPL ID: BA06275

Sample Collection Date: 01/20/20

QCG: #RSKME-200124A-249440

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	1.00 U	5.0	1.00	0.25	ug/L	01/24/20	01/24/20

Quant Method:	RSK1002.M
Run #:	0124R21
Instrument:	Rocky
Sequence:	191002
Dilution Factor:	1
Initials:	GAG

Printed: 01/28/20 12:10:08 PM

APPL-F1-SC-NoMC-REG MDLs-DOD

METHANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

Attn: Margie Pascua
Project: 60571032 CV18F0126 Red Hill Fuel Storage
Sample ID: ERH981
Sample Collection Date: 01/21/20

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 91282
APPL ID: BA06276
QCG: #RSKME-200124A-249440

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	1.00 U	5.0	1.00	0.25	ug/L	01/24/20	01/24/20

Quant Method:	RSK1002.M
Run #:	0124R22
Instrument:	Rocky
Sequence:	191002
Dilution Factor:	1
Initials:	GAG

Printed: 01/28/20 12:10:08 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

METHANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua
Project: 60571032 CV18F0126 Red Hill Fuel Storage
Sample ID: ERH980
Sample Collection Date: 01/21/20

ARF: 91282
APPL ID: BA06277
QCG: #RSKME-200124A-249440

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	1.00 U	5.0	1.00	0.25	ug/L	01/24/20	01/24/20

Quant Method:	RSK1002.M
Run #:	0124R23
Instrument:	Rocky
Sequence:	191002
Dilution Factor:	1
Initials:	GAG

Printed: 01/28/20 12:10:08 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

METHANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

Attn: Margie Pascua
Project: 60571032 CV18F0126 Red Hill Fuel Storage
Sample ID: ERH986
Sample Collection Date: 01/20/20

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 91282
APPL ID: BA06278
QCG: #RSKME-200124A-249440

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	1.00 U	5.0	1.00	0.25	ug/L	01/24/20	01/24/20

Quant Method:	RSK1002.M
Run #:	0124R24
Instrument:	Rocky
Sequence:	191002
Dilution Factor:	1
Initials:	GAG

Printed: 01/28/20 12:10:08 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

METHANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

Attn: Margie Pascua
Project: 60571032 CV18F0126 Red Hill Fuel Storage
Sample ID: ERH987
Sample Collection Date: 01/20/20

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 91282
APPL ID: BA06279
QCG: #RSKME-200124A-249440

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	1.00 U	5.0	1.00	0.25	ug/L	01/24/20	01/24/20

Quant Method:	RSK1002.M
Run #:	0124R25
Instrument:	Rocky
Sequence:	191002
Dilution Factor:	1
Initials:	GAG

Printed: 01/28/20 12:10:08 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

METHANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua
Project: 60571032 CV18F0126 Red Hill Fuel Storage
Sample ID: ERH1003
Sample Collection Date: 01/20/20

ARF: 91282
APPL ID: BA06283
QCG: #RSKME-200124A-249440

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	1.00 U	5.0	1.00	0.25	ug/L	01/24/20	01/24/20

Quant Method:	RSK1002.M
Run #:	0124R26
Instrument:	Rocky
Sequence:	191002
Dilution Factor:	1
Initials:	GAG

Printed: 01/28/20 12:10:08 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

METHANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91282

Sample ID: ERH1004

APPL ID: BA06284

Sample Collection Date: 01/20/20

QCG: #RSKME-200124A-249440

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	1.00 U	5.0	1.00	0.25	ug/L	01/24/20	01/24/20

Quant Method:	RSK1002.M
Run #:	0124R27
Instrument:	Rocky
Sequence:	191002
Dilution Factor:	1
Initials:	GAG

Printed: 01/28/20 12:10:08 PM

APPL-F1-SC-NoMC-REG MDLs-DOD

Wet Lab Analysis

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

Sample ID: ERH971
Sample Collection Date: 01/21/20

APPL ID: BA06272
ARF: 91282

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
EPA 300.0	CHLORIDE	88.6	5.0	1.00	0.40	mg/L	5	01/25/20	01/25/20
EPA 300.0	SULFATE	52.1	5.0	1.00	0.45	mg/L	5	01/25/20	01/25/20
EPA 300.0	NITRATE	2.7	0.5	0.18	0.04	mg/L	1	01/22/20	01/22/20

Printed: 02/17/20 1:44:05 PM

APPL-F1-SC-NoMC-REG MDLs

Wet Lab Analysis

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

Sample ID: ERH979
Sample Collection Date: 01/20/20

APPL ID: BA06275
ARF: 91282

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
EPA 300.0	CHLORIDE	47.4	1.0	0.20	0.08	mg/L	1	01/25/20	01/25/20
EPA 300.0	NITRATE	6.4	0.5	0.18	0.04	mg/L	1	01/22/20	01/22/20
EPA 300.0	SULFATE	49.2	1.0	0.20	0.09	mg/L	1	01/22/20	01/22/20

Printed: 02/17/20 1:44:05 PM

APPL-F1-SC-NoMC-REG MDLs

Wet Lab Analysis

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

Sample ID: ERH981
Sample Collection Date: 01/21/20

APPL ID: BA06276
ARF: 91282

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
EPA 300.0	CHLORIDE	74.4	2.0	0.40	0.16	mg/L	2	01/25/20	01/25/20
EPA 300.0	SULFATE	10.6	2.0	0.40	0.18	mg/L	2	01/25/20	01/25/20
EPA 300.0	NITRATE	2.5	0.5	0.18	0.04	mg/L	1	01/22/20	01/22/20

Printed: 02/17/20 1:44:05 PM

APPL-F1-SC-NoMC-REG MDLs

Wet Lab Analysis

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

Sample ID: ERH987

Sample Collection Date: 01/20/20

APPL ID: BA06279

ARF: 91282

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
EPA 300.0	CHLORIDE	390	20.0	4.00	1.60	mg/L	20	01/25/20	01/25/20
EPA 300.0	SULFATE	76.2	20.0	4.00	1.80	mg/L	20	01/25/20	01/25/20
EPA 300.0	NITRATE	4.2	0.5	0.18	0.04	mg/L	1	01/22/20	01/22/20

Printed: 02/17/20 1:44:05 PM

APPL-F1-SC-NoMC-REG MDLs

Wet Lab Analysis

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

Sample ID: ERH1004
Sample Collection Date: 01/20/20

APPL ID: BA06284
ARF: 91282

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
EPA 300.0	CHLORIDE	50.6	2.0	0.40	0.16	mg/L	2	01/25/20	01/25/20
EPA 300.0	SULFATE	8.5	2.0	0.40	0.18	mg/L	2	01/25/20	01/25/20
EPA 300.0	NITRATE	1.9	0.5	0.18	0.04	mg/L	1	01/22/20	01/22/20

Printed: 02/17/20 1:44:05 PM

APPL-F1-SC-NoMC-REG MDLs

Wet Lab Analysis

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

Sample ID: ERH971
Sample Collection Date: 01/21/20

APPL ID: BA06272
ARF: 91282

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
EPA 353.2	NITRATE-NITRITE-N	0.56	0.10	0.090	0.028	mg/L	1	01/27/20	01/27/20
SM 2320B	BICARBONATE AS CACO3	19.4	2.0	1.70	0.85	mg/L	1	01/30/20	01/30/20
SM 2320B	CARBONATE AS CACO3	1.70 U	2.0	1.70	0.85	mg/L	1	01/30/20	01/30/20
SM 2320B	TOTAL ALKALINITY AS CACO	19.4	2.0	1.70	0.85	mg/L	1	01/30/20	01/30/20
SM3500FeB	FERROUS IRON	0.32 U	1.0	0.32	0.16	mg/L	1	01/22/20	01/22/20
SW846 9060A	TOTAL ORGANIC CARBON	0.28 J	0.93	0.350	0.130	mg/L	1	01/22/20	01/23/20

J = Estimated value.

Printed: 02/17/20 1:47:17 PM

APPL-F1-SC-NoMC-REG MDLs

Wet Lab Analysis

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

Sample ID: ERH979
Sample Collection Date: 01/20/20

APPL ID: BA06275
ARF: 91282

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
EPA 353.2	NITRATE-NITRITE-N	1.5	0.10	0.090	0.028	mg/L	1	01/27/20	01/27/20
SM 2320B	BICARBONATE AS CACO3	277	2.0	1.70	0.85	mg/L	1	01/27/20	01/27/20
SM 2320B	CARBONATE AS CACO3	1.70 U	2.0	1.70	0.85	mg/L	1	01/27/20	01/27/20
SM 2320B	TOTAL ALKALINITY AS CACO	277	2.0	1.70	0.85	mg/L	1	01/27/20	01/27/20
SM3500FeB	FERROUS IRON	0.32 U	1.0	0.32	0.16	mg/L	1	01/22/20	01/22/20
SW846 9060A	TOTAL ORGANIC CARBON	1.4	0.93	0.350	0.130	mg/L	1	01/22/20	01/23/20

Printed: 02/17/20 1:47:17 PM

APPL-F1-SC-NoMC-REG MDLs

Wet Lab Analysis

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

Sample ID: ERH981

APPL ID: BA06276

Sample Collection Date: 01/21/20

ARF: 91282

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
EPA 353.2	NITRATE-NITRITE-N	0.51	0.10	0.090	0.028	mg/L	1	01/27/20	01/27/20
SM 2320B	BICARBONATE AS CACO3	74.4	2.0	1.70	0.85	mg/L	1	01/27/20	01/27/20
SM 2320B	CARBONATE AS CACO3	1.70 U	2.0	1.70	0.85	mg/L	1	01/27/20	01/27/20
SM 2320B	TOTAL ALKALINITY AS CACO	74.4	2.0	1.70	0.85	mg/L	1	01/27/20	01/27/20
SM3500FeB	FERROUS IRON	0.16 J	1.0	0.32	0.16	mg/L	1	01/22/20	01/22/20
SW846 9060A	TOTAL ORGANIC CARBON	0.17 J	0.93	0.350	0.130	mg/L	1	01/22/20	01/23/20

J = Estimated value.

Printed: 02/17/20 1:47:17 PM

APPL-F1-SC-NoMC-REG MDLs

Wet Lab Analysis

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

Sample ID: ERH987

APPL ID: BA06279

Sample Collection Date: 01/20/20

ARF: 91282

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
EPA 353.2	NITRATE-NITRITE-N	1.1	0.10	0.090	0.028	mg/L	1	01/27/20	01/27/20
SM 2320B	BICARBONATE AS CACO3	101	2.0	1.70	0.85	mg/L	1	01/27/20	01/27/20
SM 2320B	CARBONATE AS CACO3	1.70 U	2.0	1.70	0.85	mg/L	1	01/27/20	01/27/20
SM 2320B	TOTAL ALKALINITY AS CACO	101	2.0	1.70	0.85	mg/L	1	01/27/20	01/27/20
SM3500FeB	FERROUS IRON	0.32 U	1.0	0.32	0.16	mg/L	1	01/22/20	01/22/20
SW846 9060A	TOTAL ORGANIC CARBON	0.18 J	0.93	0.350	0.130	mg/L	1	01/22/20	01/23/20

J = Estimated value.

Printed: 02/17/20 1:47:17 PM

APPL-F1-SC-NoMC-REG MDLs

Wet Lab Analysis

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

Sample ID: ERH1004
Sample Collection Date: 01/20/20

APPL ID: BA06284
ARF: 91282

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
EPA 353.2	NITRATE-NITRITE-N	0.35	0.10	0.090	0.028	mg/L	1	01/27/20	01/27/20
SM 2320B	BICARBONATE AS CACO3	52.0	2.0	1.70	0.85	mg/L	1	01/27/20	01/27/20
SM 2320B	CARBONATE AS CACO3	1.70 U	2.0	1.70	0.85	mg/L	1	01/27/20	01/27/20
SM 2320B	TOTAL ALKALINITY AS CACO	52.0	2.0	1.70	0.85	mg/L	1	01/27/20	01/27/20
SM3500FeB	FERROUS IRON	0.32 U	1.0	0.32	0.16	mg/L	1	01/22/20	01/22/20
SW846 9060A	TOTAL ORGANIC CARBON	0.59 J	0.93	0.350	0.130	mg/L	1	01/22/20	01/23/20

J = Estimated value.

Printed: 02/17/20 1:47:17 PM

APPL-F1-SC-NoMC-REG MDLs

QC FORMS

8011

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 91282

Case No: 91282 Date Analyzed: 01/27/20

Matrix: WATER Instrument: Herbie

APPL ID.	Client Sample No.	SURROGATE: 1,3-DIBROMOPROPANE (S)					
		Limits	Result	Qualifier	Limits	Result	Qualifier
200127A-BLK	Blank	70-132	99.0				
200127A-LCS	Lab Control Spike	70-132	101				
200127A-LCSD	Lab Control SpikeD	70-132	93.2				
BA06280	ERH998	70-132	99.3				
BA06281	ERH999	70-132	98.9				
BA06282	ERH1000	70-132	101				
BA06283	ERH1003	70-132	98.8				
BA06284	ERH1004	70-132	96.9				

Comments: Batch: #8011-200127A

8011

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 91282

Case No: 91282 Date Analyzed: 01/27/20

Matrix: WATER Instrument: Herbie

Blank ID: 200127A-BLK Time Analyzed: 1940

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200127A-BLK	Blank	1126262	01/27/20 1940
200127A-LCS	Lab Control Spike	1126263	01/27/20 2000
200127A-LCSD	Lab Control SpikeD	1126264	01/27/20 2020
BA06280	ERH998	1126265	01/27/20 2040
BA06281	ERH999	1126266	01/27/20 2100
BA06282	ERH1000	1126267	01/27/20 2120
BA06283	ERH1003	1126268	01/27/20 2140
BA06284	ERH1004	1126269	01/27/20 2200

Comments: Batch: #8011-200127A

Method Blank
EPA 8011

Blank Name/QCG: **200127W-06280 - 249503**
Batch ID: #8011-200127A

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	EDB	0.019 U	0.02	0.019	0.010	ug/L	01/27/20	01/27/20
BLANK	SURROGATE: 1,3-DIBROMOPRO	99.0	70-132			%	01/27/20	01/27/20

Quant Method:8010127A.M
Run #:1126262
Instrument:Herbie
Sequence:191126
Initials:GAG

GC SC-Blank-REG MDLs-DOD
Printed: 01/28/20 9:27:55 AM

8011

Form 4

LCS Summary

Lab Name: APPL, Inc. SDG No: 91282

Case No: 91282 Date Analyzed: 01/27/20

Matrix: WATER Instrument: Herbie

LCS ID: 200127A-LCS Time Analyzed: 2000

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200127A-BLK	Blank	1126262	01/27/20 1940
200127A-LCS	Lab Control Spike	1126263	01/27/20 2000
200127A-LCSD	Lab Control SpikeD	1126264	01/27/20 2020
BA06280	ERH998	1126265	01/27/20 2040
BA06281	ERH999	1126266	01/27/20 2100
BA06282	ERH1000	1126267	01/27/20 2120
BA06283	ERH1003	1126268	01/27/20 2140
BA06284	ERH1004	1126269	01/27/20 2200

Comments: Batch: #8011-200127A

Laboratory Control Spike Recoveries

EPA 8011

APPL ID: **200127W-06280 LCS - 249503**
Batch ID: #8011-200127A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
EDB	0.250	0.247	0.229	98.8	91.6	60-140	7.6	25
SURROGATE: 1,3-DIBROMOPROPANE (	0.250	0.252	0.233	101	93.2	70-132		

Comments: _____

Primary	SPK	DUP
Quant Method :	8010127A.M	8010127A.M
Extraction Date :	01/27/20	01/27/20
Analysis Date :	01/27/20	01/27/20
Instrument :	Herbie	Herbie
Run :	1126263	1126264
Initials :	GAG	

Printed: 01/28/20 9:28:03 AM
APPL Standard LCSD

EPA 8015B-eLL

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 91282

Case No: 91282 Date Analyzed: 01/25/20

Matrix: WATER Instrument: Apollo

APPL ID.	Client Sample No.	SURROGATE: OCTACOSANE (S)			SURROGATE: ORTHO-TERPHENYL (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
200123A-BLK	Blank	60-142	87.1		56-125	80.8	
200123A-LCS	Lab Control Spike	60-142	90.1		56-125	85.9	
BA06272-MS	Matrix Spike	60-142	102		56-125	98.9	
BA06272-MSD	Matrix SpikeD	60-142	120		56-125	89.7	
BA06272	ERH971	60-142	126		56-125	114	
BA06273	ERH972	60-142	98.1		56-125	78.1	
BA06275	ERH979	60-142	130		56-125	107	
BA06276	ERH981	60-142	133		56-125	103	
BA06279	ERH987	60-142	113		56-125	91.7	
BA06281	ERH999	60-142	140		56-125	98.3	
BA06282	ERH1000	60-142	151	#	56-125	107	
BA06284	ERH1004	60-142	115		56-125	102	

Comments: Batch: #DOC53-200123A

= Recovery outside of Control Limits on Sample.

EPA 8015B-eLL

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 91282

Case No: 91282 Date Analyzed: 01/29/20

Matrix: WATER Instrument: Apollo

APPL ID.	Client Sample No.	SURROGATE: (R) DECANOIC ACID (S)			SURROGATE: OCTACOSANE (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
200123A1-BLK	Blank	0-1	0.0		60-142	81.5	
200123A1-LCS	Lab Control Spike	0-1	0.0		60-142	90.4	
BA06272-MS	Matrix Spike	0-1	0.0		60-142	88.0	
BA06272-MSD	Matrix SpikeD	0-1	0.0		60-142	91.1	
BA06272	ERH971	0-1	0.0		60-142	103	
BA06275	ERH979	0-1	0.0		60-142	104	
BA06276	ERH981	0-1	0.0		60-142	101	
BA06279	ERH987	0-1	0.0		60-142	90.9	
BA06281	ERH999	0-1	0.0		60-142	84.9	
BA06282	ERH1000	0-1	0.0		60-142	93.5	
BA06284	ERH1004	0-1	0.0		60-142	95.2	

Comments: Batch: #DOC53-200123A1

EPA 8015B-eLL

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 91282

Case No: 91282 Date Analyzed: 01/29/20

Matrix: WATER Instrument: Apollo

APPL ID.	Client Sample No.	SURROGATE: ORTHO-TERPHENYL (S)					
		Limits	Result	Qualifier	Limits	Result	Qualifier
200123A1-BLK	Blank	56-125	85.2				
200123A1-LCS	Lab Control Spike	56-125	90.7				
BA06272-MS	Matrix Spike	56-125	94.5				
BA06272-MSD	Matrix SpikeD	56-125	86.7				
BA06272	ERH971	56-125	106				
BA06275	ERH979	56-125	106				
BA06276	ERH981	56-125	101				
BA06279	ERH987	56-125	93.4				
BA06281	ERH999	56-125	90.6				
BA06282	ERH1000	56-125	95.4				
BA06284	ERH1004	56-125	98.2				

Comments: Batch: #DOC53-200123A1

EPA 8015B-eL

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 91282

Case No: 91282 Date Analyzed: 01/25/20

Matrix: WATER Instrument: Apollo

Blank ID: 200123A-BLK Time Analyzed: 1547

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200123A-BLK	Blank	111135	01/25/20 1547
200123A-LCS	Lab Control Spike	111136	01/25/20 1607
200123A-MS	Matrix Spike	111137	01/25/20 1627
200123A-MSD	Matrix SpikeD	111138	01/25/20 1647
BA06272	ERH971	111139	01/25/20 1706
BA06273	ERH972	111140	01/25/20 1726
BA06275	ERH979	111141	01/25/20 1745
BA06276	ERH981	111142	01/25/20 1805
BA06279	ERH987	111143	01/25/20 1824
BA06281	ERH999	111144	01/25/20 1843
BA06282	ERH1000	111145	01/25/20 1903
BA06284	ERH1004	111146	01/25/20 1922

Comments: Batch: #DOC53-200123A

EPA 8015B-eL

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 91282

Case No: 91282 Date Analyzed: 01/29/20

Matrix: WATER Instrument: Apollo

Blank ID: 200123A1-BLK Time Analyzed: 1833

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200123A1-BLK	Blank	129017	01/29/20 1833
200123A1-LCS	Lab Control Spike	129018	01/29/20 1852
200123A1-MS	Matrix Spike	129019	01/29/20 1912
200123A1-MSD	Matrix SpikeD	129020	01/29/20 1932
BA06272	ERH971	129021	01/29/20 1951
BA06275	ERH979	129023	01/29/20 2031
BA06276	ERH981	129024	01/29/20 2050
BA06279	ERH987	129025	01/29/20 2110
BA06281	ERH999	129026	01/29/20 2129
BA06282	ERH1000	129027	01/29/20 2148
BA06284	ERH1004	129028	01/29/20 2207

Comments: Batch: #DOC53-200123A1

Method Blank
EPA 8015B TPH LIQ-LIQ

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **200123W-06272 - 249599**
Batch ID: #DOC53-200123A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	DIESEL (C10-C24)	25.00 U	40.0	25.00	13.07	ug/L	01/23/20	01/25/20
BLANK	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	01/23/20	01/25/20
BLANK	SURROGATE: OCTACOSANE (S)	87.1	60-142			%	01/23/20	01/25/20
BLANK	SURROGATE: ORTHO-TERPHEN	80.8	56-125			%	01/23/20	01/25/20

Quant Method:DOC0129.M
Run #:111135
Instrument:Apollo
Sequence:200111
Initials:SSE

GC SC-Blank-REG MDLs-DOD
Printed: 01/30/20 10:46:33 AM

Method Blank

EPA 8015B TPH WATER L-L SGC

Blank Name/QCG: **200123W-06272 - 249601**
Batch ID: #DOC53-200123A1

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	DIESEL (C10-C24)	25.00 U	40.0	25.00	13.07	ug/L	01/23/20	01/29/20
BLANK	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	01/23/20	01/29/20
BLANK	SURROGATE: (R) DECANOIC AC	0.0	0-1			%	01/23/20	01/29/20
BLANK	SURROGATE: OCTACOSANE (S)	81.5	60-142			%	01/23/20	01/29/20
BLANK	SURROGATE: ORTHO-TERPHEN	85.2	56-125			%	01/23/20	01/29/20

Quant Method:DOC0129.M
Run #:129017
Instrument:Apollo
Sequence:200129
Initials:SSE

GC SC-Blank-REG MDLs-DOD
Printed: 01/30/20 10:46:33 AM

Laboratory Control Spike Recovery

EPA 8015B TPH LIQ-LIQ

APPL ID: **200123W-06272 LCS - 249599**
Batch ID: #DOC53-200123A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
DIESEL (C10-C24)	1250	998	79.8	36-132
OIL (C24-C40)	1250	1140	91.2	41-113
SURROGATE: OCTACOSANE (S)	75.0	67.6	90.1	60-142
SURROGATE: ORTHO-TERPHENYL (S)	75.0	64.4	85.9	56-125

Primary	SPK
Quant Method :	DOC0129.M
Extraction Date :	01/23/20
Analysis Date :	01/25/20
Instrument :	Apollo
Run :	111136
Initials :	SSE

Comments: _____

Printed: 01/30/20 10:47:00 AM
APPL Standard LCS

Laboratory Control Spike Recovery

EPA 8015B TPH WATER L-L SGC

APPL ID: **200123W-06272 LCS - 249601**
Batch ID: #DOC53-200123A1

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
DIESEL (C10-C24)	1250	961	76.9	36-132
OIL (C24-C40)	1250	1170	93.6	41-113
SURROGATE: (R) DECANOIC ACID (S)	10.00	0	0.0	0-1
SURROGATE: OCTACOSANE (S)	75.0	67.8	90.4	60-142
SURROGATE: ORTHO-TERPHENYL (S)	75.0	68.0	90.7	56-125

Comments:

Primary	SPK
Quant Method :	DOC0129.M
Extraction Date :	01/23/20
Analysis Date :	01/29/20
Instrument :	Apollo
Run :	129018
Initials :	SSE

Printed: 01/30/20 10:47:00 AM
APPL Standard LCS

EPA 8015B-eL

Form 4

LCS Summary

Lab Name: APPL, Inc. SDG No: 91282

Case No: 91282 Date Analyzed: 01/25/20

Matrix: WATER Instrument: Apollo

LCS ID: 200123A-LCS Time Analyzed: 1607

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200123A-BLK	Blank	111135	01/25/20 1547
200123A-LCS	Lab Control Spike	111136	01/25/20 1607
200123A-MS	Matrix Spike	111137	01/25/20 1627
200123A-MSD	Matrix SpikeD	111138	01/25/20 1647
BA06272	ERH971	111139	01/25/20 1706
BA06273	ERH972	111140	01/25/20 1726
BA06275	ERH979	111141	01/25/20 1745
BA06276	ERH981	111142	01/25/20 1805
BA06279	ERH987	111143	01/25/20 1824
BA06281	ERH999	111144	01/25/20 1843
BA06282	ERH1000	111145	01/25/20 1903
BA06284	ERH1004	111146	01/25/20 1922

Comments: Batch: #DOC53-200123A

EPA 8015B-eL

Form 4

LCS Summary

Lab Name: APPL, Inc. SDG No: 91282

Case No: 91282 Date Analyzed: 01/29/20

Matrix: WATER Instrument: Apollo

LCS ID: 200123A1-LCS Time Analyzed: 1852

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200123A1-BLK	Blank	129017	01/29/20 1833
200123A1-LCS	Lab Control Spike	129018	01/29/20 1852
200123A1-MS	Matrix Spike	129019	01/29/20 1912
200123A1-MSD	Matrix SpikeD	129020	01/29/20 1932
BA06272	ERH971	129021	01/29/20 1951
BA06275	ERH979	129023	01/29/20 2031
BA06276	ERH981	129024	01/29/20 2050
BA06279	ERH987	129025	01/29/20 2110
BA06281	ERH999	129026	01/29/20 2129
BA06282	ERH1000	129027	01/29/20 2148
BA06284	ERH1004	129028	01/29/20 2207

Comments: Batch: #DOC53-200123A1

Matrix Spike Recoveries

EPA 8015B TPH LIQ-LIQ

APPL ID: **200123W-06272 MS - 249599**
Batch ID: #DOC53-200123A
Sample ID: BA06272
Client ID: ERH971

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
DIESEL (C10-C24)	1250	100	1240	1090	91.2	79.2	36-132	12.9	30
OIL (C24-C40)	1250	ND	1340	1190	107	95.2	41-113	11.9	30
SURROGATE: OCTACOSANE (S)	75.0	NA	76.3	89.7	102	120	60-142		
SURROGATE: ORTHO-TERPHENYL (S)	75.0	NA	74.2	67.3	98.9	89.7	56-125		

Comments: _____

Primary	SPK	DUP
Quant Method :	DOC0129.M	DOC0129.M
Extraction Date :	01/23/20	01/23/20
Analysis Date :	01/25/20	01/25/20
Instrument :	Apollo	Apollo
Run :	111137	111138
Initials :	SSE	

Printed: 01/30/20 10:47:01 AM
APPL MSD SCII

Matrix Spike Recoveries

EPA 8015B TPH WATER L-L SGC

APPL ID: **200123W-06272 MS - 249601**
Batch ID: #DOC53-200123A1
Sample ID: BA06272
Client ID: ERH971

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
DIESEL (C10-C24)	1250	ND	1000	977	80.0	78.2	36-132	2.3	30
OIL (C24-C40)	1250	ND	1230	1160	98.4	92.8	41-113	5.9	30
SURROGATE: (R) DECANOIC ACID (S)	10.00	NA	0	0	0.0	0.0	0-1		
SURROGATE: OCTACOSANE (S)	75.0	NA	66.0	68.3	88.0	91.1	60-142		
SURROGATE: ORTHO-TERPHENYL (S)	75.0	NA	70.9	65.0	94.5	86.7	56-125		

Comments:

Primary	SPK	DUP
Quant Method :	DOC0129.M	DOC0129.M
Extraction Date :	01/23/20	01/23/20
Analysis Date :	01/29/20	01/29/20
Instrument :	Apollo	Apollo
Run :	129019	129020
Initials :	SSE	

Printed: 01/30/20 10:47:01 AM
APPL MSD SCII

EPA 8015B-eLL

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 91282

Case No: 91282 Date Analyzed: 02/04/20

Matrix: WATER Instrument: Apollo

APPL ID.	Client Sample No.	SURROGATE: OCTACOSANE (S)			SURROGATE: ORTHO-TERPHENYL (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
200203A2-BLK	Blank	60-142	117		56-125	95.8	
200203A2-LCS	Lab Control Spike	60-142	122		56-125	81.3	
BA06272	ERH971	60-142	117		56-125	96.6	
BA06275	ERH979	60-142	101		56-125	91.9	

Comments: Batch: #DOC53-200203A2

EPA 8015B-eL

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 91282

Case No: 91282 Date Analyzed: 02/04/20

Matrix: WATER Instrument: Apollo

Blank ID: 200203A2-BLK Time Analyzed: 1458

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200203A2-BLK	Blank	129126	02/04/20 1458
200203A2-LCS	Lab Control Spike	129127	02/04/20 1518
BA06272	ERH971	129128	02/04/20 1538
BA06275	ERH979	129129	02/04/20 1557

Comments: Batch: #DOC53-200203A2

Printed: 02/11/20 9:23:55 AM

Form 4, Blank Summary

Method Blank

EPA 8015B TPH LIQ-LIQ RE-EXTRACT

Blank Name/QCG: **200203W-06272 - 249909**
Batch ID: #DOC53-200203A2

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	DIESEL (C10-C24)	25.00 U	40.0	25.00	13.07	ug/L	02/03/20	02/04/20
BLANK	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	02/03/20	02/04/20
BLANK	SURROGATE: OCTACOSANE (S)	117	60-142			%	02/03/20	02/04/20
BLANK	SURROGATE: ORTHO-TERPHEN	95.8	56-125			%	02/03/20	02/04/20

Quant Method: DOC0129.M
Run #: 129126
Instrument: Apollo
Sequence: 200129
Initials: SSE

GC SC-Blank-REG MDLs-DOD
Printed: 02/11/20 9:23:34 AM

EPA 8015B-eL

Form 4

LCS Summary

Lab Name: APPL, Inc. SDG No: 91282

Case No: 91282 Date Analyzed: 02/04/20

Matrix: WATER Instrument: Apollo

LCS ID: 200203A2-LCS Time Analyzed: 1518

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200203A2-BLK	Blank	129126	02/04/20 1458
200203A2-LCS	Lab Control Spike	129127	02/04/20 1518
BA06272	ERH971	129128	02/04/20 1538
BA06275	ERH979	129129	02/04/20 1557

Comments: Batch: #DOC53-200203A2

Printed: 02/11/20 9:23:55 AM
Form 4, LCS Summary

Laboratory Control Spike Recovery
EPA 8015B TPH LIQ-LIQ RE-EXTRACT

APPL ID: **200203W-06272 LCS - 249909**
Batch ID: #DOC53-200203A2

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
DIESEL (C10-C24)	1250	1210	96.8	36-132
OIL (C24-C40)	1250	1160	92.8	41-113
SURROGATE: OCTACOSANE (S)	75.0	91.8	122	60-142
SURROGATE: ORTHO-TERPHENYL (S)	75.0	61.0	81.3	56-125

Comments: _____

Primary	SPK
Quant Method :	DOC0129.M
Extraction Date :	02/03/20
Analysis Date :	02/04/20
Instrument :	Apollo
Run :	129127
Initials :	SSE

Printed: 02/11/20 9:23:36 AM
APPL Standard LCS

8270D-SIM

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 91282

Case No: 91282 Date Analyzed: 01/27/20

Matrix: WATER Instrument: Linus

APPL ID.	Client Sample No.	SURROGATE: 2-METHYLNAPHTHALENE-D10 (S)			SURROGATE: FLUORANTHENE-D10 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
200124A-BLK	Blank	39-114	87.8		58-120	90.7	
200124A-LCS	Lab Control Spike	39-114	86.9		58-120	84.6	
BA06272-MS	Matrix Spike	39-114	89.0		58-120	87.2	
BA06272-MSD	Matrix SpikeD	39-114	87.0		58-120	85.6	
BA06272	ERH971	39-114	84.6		58-120	85.1	
BA06273	ERH972	39-114	83.6		58-120	87.5	
BA06275	ERH979	39-114	86.3		58-120	79.1	
BA06276	ERH981	39-114	85.5		58-120	87.8	
BA06279	ERH987	39-114	83.9		58-120	85.2	
BA06281	ERH999	39-114	90.1		58-120	90.7	
BA06282	ERH1000	39-114	82.6		58-120	83.8	
BA06284	ERH1004	39-114	82.8		58-120	89.6	

Comments: Batch: #SIM53-200124A

8270D-SIM

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 91282

Case No: 91282 Date Analyzed: 01/27/20

Matrix: WATER Instrument: Linus

Blank ID: 200124A-BLK Time Analyzed: 1524

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200124A-BLK	Blank	0113L163	01/27/20 1524
200124A-LCS	Lab Control Spike	0113L164	01/27/20 1546
200124A-MS	Matrix Spike	0113L165	01/27/20 1607
200124A-MSD	Matrix SpikeD	0113L166	01/27/20 1629
BA06272	ERH971	0113L167	01/27/20 1651
BA06273	ERH972	0113L168	01/27/20 1713
BA06275	ERH979	0113L169	01/27/20 1735
BA06276	ERH981	0113L170	01/27/20 1757
BA06279	ERH987	0113L171	01/27/20 1819
BA06281	ERH999	0113L172	01/27/20 1841
BA06282	ERH1000	0113L173	01/27/20 1903
BA06284	ERH1004	0113L174	01/27/20 1925

Comments: Batch: #SIM53-200124A

Method Blank
EPA 8270D SIM LIQ-LIQ

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **200124W-06272 - 249501**
Batch ID: #SIM53-200124A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.04	ug/L	01/24/20	01/27/20
BLANK	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.04	ug/L	01/24/20	01/27/20
BLANK	NAPHTHALENE	0.10 U	0.2	0.10	0.04	ug/L	01/24/20	01/27/20
BLANK	SURROGATE: 2-METHYLNAPHT	87.8	39-114			%	01/24/20	01/27/20
BLANK	SURROGATE: FLUORANTHENE-	90.7	58-120			%	01/24/20	01/27/20

Quant Method:L0113PCP.M
Run #:0113L163
Instrument:Linus
Sequence:L200113P
Initials:JPR

GC SC-Blank-REG MDLs-DOD
Printed: 01/28/20 9:30:31 AM

8270D-SIM

Form 4

LCS Summary

Lab Name: APPL, Inc. SDG No: 91282

Case No: 91282 Date Analyzed: 01/27/20

Matrix: WATER Instrument: Linus

LCS ID: 200124A-LCS Time Analyzed: 1546

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200124A-BLK	Blank	0113L163	01/27/20 1524
200124A-LCS	Lab Control Spike	0113L164	01/27/20 1546
200124A-MS	Matrix Spike	0113L165	01/27/20 1607
200124A-MSD	Matrix SpikeD	0113L166	01/27/20 1629
BA06272	ERH971	0113L167	01/27/20 1651
BA06273	ERH972	0113L168	01/27/20 1713
BA06275	ERH979	0113L169	01/27/20 1735
BA06276	ERH981	0113L170	01/27/20 1757
BA06279	ERH987	0113L171	01/27/20 1819
BA06281	ERH999	0113L172	01/27/20 1841
BA06282	ERH1000	0113L173	01/27/20 1903
BA06284	ERH1004	0113L174	01/27/20 1925

Comments: Batch: #SIM53-200124A

Laboratory Control Spike Recovery

EPA 8270D SIM LIQ-LIQ

APPL ID: **200124W-06272 LCS - 249501**
Batch ID: #SIM53-200124A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
1-METHYLNAPHTHALENE	6.25	5.33	85.3	41-115
2-METHYLNAPHTHALENE	6.25	5.31	85.0	39-114
NAPHTHALENE	6.25	5.26	84.2	43-114
SURROGATE: 2-METHYLNAPHTHALEN	6.25	5.43	86.9	39-114
SURROGATE: FLUORANTHENE-D10 (S)	6.25	5.29	84.6	58-120

Comments: _____

Primary	SPK
Quant Method :	L0113PCP.M
Extraction Date :	01/24/20
Analysis Date :	01/27/20
Instrument :	Linus
Run :	0113L164
Initials :	JPR

Printed: 01/28/20 9:30:35 AM
APPL Standard LCS

Matrix Spike Recoveries

EPA 8270D SIM LIQ-LIQ

APPL ID: **200124W-06272 MS - 249501**
Batch ID: #SIM53-200124A
Sample ID: BA06272
Client ID: ERH971

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
1-METHYLNAPHTHALENE	6.25	ND	5.48	5.32	87.7	85.1	41-115	3.0	20
2-METHYLNAPHTHALENE	6.25	ND	5.48	5.34	87.7	85.4	39-114	2.6	20
NAPHTHALENE	6.25	ND	5.41	5.27	86.6	84.3	43-114	2.6	20
SURROGATE: 2-METHYLNAPHTHALEN	6.25	NA	5.56	5.44	89.0	87.0	39-114		
SURROGATE: FLUORANTHENE-D10 (S)	6.25	NA	5.45	5.35	87.2	85.6	58-120		

Comments: _____

Primary	SPK	DUP
Quant Method :	L0113PCP.M	L0113PCP.M
Extraction Date :	01/24/20	01/24/20
Analysis Date :	01/27/20	01/27/20
Instrument :	Linus	Linus
Run :	0113L165	0113L166
Initials :	JPR	

Printed: 01/28/20 9:45:49 AM
APPL MSD SCII

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No:
Matrix: Soil
ID: 0113L001.D

SDG No:
Date Analyzed: 01/13/20
Instrument: Linus
Time Analyzed: 13:07

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		5.0 SIM PCP 09/10/19	0113L003.D	01/13/20 14:59
2		0.1 SIM PCP 09/10/19	0113L004.D	01/13/20 15:43
3		0.25 SIM PCP 09/10/	0113L005.D	01/13/20 16:05
4		0.5 SIM PCP 09/10/19	0113L006.D	01/13/20 16:26
5		2.5 SIM PCP 09/10/19	0113L007.D	01/13/20 16:48
6		25 SIM PCP 09/10/19	0113L008.D	01/13/20 17:10
7		50 SIM PCP 09/10/19	0113L009.D	01/13/20 17:32
8		SS SIM PCP 01/07/20	0113L010.D	01/13/20 17:54
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	9.95 - 80% of mass 198	19.0
68	0 - 2.05% of mass 69	0.0
70	0 - 2% of mass 69	0.3
127	10 - 80% of mass 198	41.1
197	0 - 2% of mass 198	0.0
198	100 - 100% of mass 198	100.0
199	5 - 9% of mass 198	6.5
275	10 - 60% of mass 198	33.0
365	1 - 100% of mass 198	5.1
441	0.01 - 24% of mass 442	15.2
442	50 - 500% of mass 198	244.5
443	15 - 24% of mass 442	18.6

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 91282
Matrix: Water
ID: 0113L161.D

SDG No: 91282
Date Analyzed: 01/27/20
Instrument: Linus
Time Analyzed: 14:35

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		5ug/mL SIM PCP 01/16	0113L162.D	01/27/20 14:51
2	Blank	200124A BLK 1/800	0113L163.D	01/27/20 15:24
3	Lab Control Spike	200124A LCS-2 1/800	0113L164.D	01/27/20 15:46
4		BA06272W34 MS-2 1/80	0113L165.D	01/27/20 16:07
5		BA06272W28 MSD-2 1/8	0113L166.D	01/27/20 16:29
6	ERH971	BA06272W29 1/800	0113L167.D	01/27/20 16:51
7	ERH972	BA06273W11 1/800	0113L168.D	01/27/20 17:13
8	ERH979	BA06275W13 1/800	0113L169.D	01/27/20 17:35
9	ERH981	BA06276W15 1/800	0113L170.D	01/27/20 17:57
10	ERH987	BA06279W14 1/800	0113L171.D	01/27/20 18:19
11	ERH999	BA06281W13 1/800	0113L172.D	01/27/20 18:41
12	ERH1000	BA06282W13 1/800	0113L173.D	01/27/20 19:03
13	ERH1004	BA06284W19 1/800	0113L174.D	01/27/20 19:25
14		2.5ug/mL SIMLL SPK 0	0113L182.D	01/27/20 22:20
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	9.95 - 80% of mass 198	20.9
68	0 - 2.05% of mass 69	0.0
70	0 - 2% of mass 69	0.5
127	10 - 80% of mass 198	43.3
197	0 - 2% of mass 198	0.0
198	100 - 100% of mass 198	100.0
199	5 - 9% of mass 198	6.3
275	10 - 60% of mass 198	27.5
365	1 - 100% of mass 198	5.3
441	0.01 - 24% of mass 442	15.7
442	50 - 500% of mass 198	176.6
443	15 - 24% of mass 442	21.3

INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract:

Lab Code: SDG No.:

Lab File ID (Standard): 0113L162.D Date Analyzed: 01/27/20

Instrument ID: Linus Time Analyzed: 14:51

GC Column: ID: Heated Purge: (Y/N)

		Napthalene-D8(IS)		Acenaphthene-D10(IS)		Phenanthrene-D10(IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	119953	4.19	66859	6.18	130657	7.91
	UPPER LIMIT	239906	4.36	133718	6.35	261314	8.08
	LOWER LIMIT	59977	4.02	33430	6.01	65329	7.74
	SAMPLE NO.						
01	200124A BLK 1/800	115033	4.19	64382	6.18	120314	7.91
02	200124A LCS-2 1/800	114861	4.19	61848	6.18	120769	7.91
03	BA06272W34 MS-2 1/80	115159	4.19	62795	6.18	120411	7.91
04	BA06272W28 MSD-2 1/	116969	4.19	63697	6.18	121498	7.91
05	BA06272W29 1/800	118256	4.19	65182	6.18	123591	7.91
06	BA06273W11 1/800	117229	4.19	63237	6.18	121060	7.91
07	BA06275W13 1/800	113199	4.19	62729	6.18	117704	7.91
08	BA06276W15 1/800	108723	4.19	60424	6.18	111965	7.91
09	BA06279W14 1/800	114342	4.19	56883	6.18	119626	7.91
10	BA06281W13 1/800	111785	4.19	62480	6.18	116426	7.91
11	BA06282W13 1/800	116219	4.19	64935	6.18	122281	7.91
12	BA06284W19 1/800	114403	4.19	63204	6.18	119151	7.91
13	2.5ug/mL SIMLL SPK 01	117517	4.18	64097	6.18	121027	7.91
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.17 minutes of internal standard RT
RT LOWER LIMIT = -0.17 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

EPA 8270D

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 91282

Case No: 91282 Date Analyzed: 01/27/20

Matrix: WATER Instrument: Yoda

APPL ID.	Client Sample No.	SURROGATE: 2,4,6-TRIBROMOPHENOL (S)			SURROGATE: 2-FLUORBIPHENYL (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
200124A-BLK	Blank	43-140	99.7		44-119	82.9	
200124A-LCS	Lab Control Spike	43-140	101		44-119	88.0	
BA06272-MS	Matrix Spike	43-140	106		44-119	89.6	
BA06272-MSD	Matrix SpikeD	43-140	98.4		44-119	84.8	
BA06272	ERH971	43-140	97.4		44-119	81.9	
BA06273	ERH972	43-140	95.1		44-119	80.5	
BA06275	ERH979	43-140	95.9		44-119	82.0	
BA06276	ERH981	43-140	64.1		44-119	81.9	
BA06279	ERH987	43-140	95.5		44-119	81.8	
BA06281	ERH999	43-140	95.6		44-119	82.0	
BA06282	ERH1000	43-140	97.7		44-119	84.2	
BA06284	ERH1004	43-140	99.2		44-119	85.4	

Comments: Batch: #87DC5-200124A

EPA 8270D

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 91282

Case No: 91282 Date Analyzed: 01/27/20

Matrix: WATER Instrument: Yoda

APPL ID.	Client Sample No.	SURROGATE: 2-FLUOROPHENOL (S)			SURROGATE: NITROBENZENE-D5 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
200124A-BLK	Blank	19-119	77.9		44-120	91.1	
200124A-LCS	Lab Control Spike	19-119	79.2		44-120	86.4	
BA06272-MS	Matrix Spike	19-119	101		44-120	109	
BA06272-MSD	Matrix SpikeD	19-119	84.0		44-120	95.2	
BA06272	ERH971	19-119	84.2		44-120	95.1	
BA06273	ERH972	19-119	70.6		44-120	84.8	
BA06275	ERH979	19-119	66.9		44-120	81.4	
BA06276	ERH981	19-119	49.8		44-120	83.2	
BA06279	ERH987	19-119	70.5		44-120	80.6	
BA06281	ERH999	19-119	71.7		44-120	80.6	
BA06282	ERH1000	19-119	91.3		44-120	104	
BA06284	ERH1004	19-119	80.6		44-120	94.4	

Comments: Batch: #87DC5-200124A

EPA 8270D

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 91282

Case No: 91282 Date Analyzed: 01/27/20

Matrix: WATER Instrument: Yoda

APPL ID.	Client Sample No.	SURROGATE: PHENOL-D6 (S)			SURROGATE: TERPHENYL-D14 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
200124A-BLK	Blank	10-115	80.7		50-134	114	
200124A-LCS	Lab Control Spike	10-115	85.2		50-134	96.0	
BA06272-MS	Matrix Spike	10-115	109		50-134	96.0	
BA06272-MSD	Matrix SpikeD	10-115	90.0		50-134	87.2	
BA06272	ERH971	10-115	88.5		50-134	104	
BA06273	ERH972	10-115	73.1		50-134	112	
BA06275	ERH979	10-115	58.4		50-134	115	
BA06276	ERH981	10-115	57.3		50-134	105	
BA06279	ERH987	10-115	72.4		50-134	108	
BA06281	ERH999	10-115	75.7		50-134	107	
BA06282	ERH1000	10-115	96.7		50-134	109	
BA06284	ERH1004	10-115	87.0		50-134	120	

Comments: Batch: #87DC5-200124A

EPA 8270D

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 91282

Case No: 91282 Date Analyzed: 01/27/20

Matrix: WATER Instrument: Yoda

Blank ID: 200124A-BLK Time Analyzed: 1732

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200124A-BLK	Blank	1219Y248	01/27/20 1732
200124A-LCS	Lab Control Spike	1219Y249	01/27/20 1800
200124A-MS	Matrix Spike	1219Y250	01/27/20 1827
200124A-MSD	Matrix SpikeD	1219Y251	01/27/20 1855
BA06272	ERH971	1219Y252	01/27/20 1923
BA06273	ERH972	1219Y253	01/27/20 1950
BA06275	ERH979	1219Y254	01/27/20 2018
BA06276	ERH981	1219Y255	01/27/20 2046
BA06279	ERH987	1219Y256	01/27/20 2113
BA06281	ERH999	1219Y257	01/27/20 2141
BA06282	ERH1000	1219Y258	01/27/20 2209
BA06284	ERH1004	1219Y259	01/27/20 2236

Comments: Batch: #87DC5-200124A

Printed: 01/28/20 9:22:10 AM
Form 4, Blank Summary

Method Blank
EPA 8270D WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **200124W-06272 - 249499**
Batch ID: #87DC5-200124A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	01/24/20	01/27/20
BLANK	SURROGATE: 2,4,6-TRIBROMOP	99.7	43-140			%	01/24/20	01/27/20
BLANK	SURROGATE: 2-FLUORBIPHENY	82.9	44-119			%	01/24/20	01/27/20
BLANK	SURROGATE: 2-FLUOROPHENO	77.9	19-119			%	01/24/20	01/27/20
BLANK	SURROGATE: NITROBENZENE-	91.1	44-120			%	01/24/20	01/27/20
BLANK	SURROGATE: PHENOL-D6 (S)	80.7	10-115			%	01/24/20	01/27/20
BLANK	SURROGATE: TERPHENYL-D14 (	114	50-134			%	01/24/20	01/27/20

Quant Method:Y1219.M
Run #:1219Y248
Instrument:Yoda
Sequence:Y191219
Initials:JPR

GC SC-Blank-REG MDLs-DOD
Printed: 01/28/20 9:22:19 AM

EPA 8270D

Form 4

LCS Summary

Lab Name: APPL, Inc. SDG No: 91282

Case No: 91282 Date Analyzed: 01/27/20

Matrix: WATER Instrument: Yoda

LCS ID: 200124A-LCS Time Analyzed: 1800

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200124A-BLK	Blank	1219Y248	01/27/20 1732
200124A-LCS	Lab Control Spike	1219Y249	01/27/20 1800
200124A-MS	Matrix Spike	1219Y250	01/27/20 1827
200124A-MSD	Matrix SpikeD	1219Y251	01/27/20 1855
BA06272	ERH971	1219Y252	01/27/20 1923
BA06273	ERH972	1219Y253	01/27/20 1950
BA06275	ERH979	1219Y254	01/27/20 2018
BA06276	ERH981	1219Y255	01/27/20 2046
BA06279	ERH987	1219Y256	01/27/20 2113
BA06281	ERH999	1219Y257	01/27/20 2141
BA06282	ERH1000	1219Y258	01/27/20 2209
BA06284	ERH1004	1219Y259	01/27/20 2236

Comments: Batch: #87DC5-200124A

Printed: 01/28/20 9:22:24 AM
Form 4, LCS Summary

Laboratory Control Spike Recovery
EPA 8270D WATER

APPL ID: **200124W-06272 LCS - 249499**
Batch ID: #87DC5-200124A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
PHENOL	62.5	54.3	86.9	10-115
SURROGATE: 2,4,6-TRIBROMOPHENOL	250	253	101	43-140
SURROGATE: 2-FLUORBIPHENYL (S)	125	110	88.0	44-119
SURROGATE: 2-FLUOROPHENOL (S)	250	198	79.2	19-119
SURROGATE: NITROBENZENE-D5 (S)	125	108	86.4	44-120
SURROGATE: PHENOL-D6 (S)	250	213	85.2	10-115
SURROGATE: TERPHENYL-D14 (S)	125	120	96.0	50-134

Comments: _____

Primary	SPK
Quant Method :	Y1219.M
Extraction Date :	01/24/20
Analysis Date :	01/27/20
Instrument :	Yoda
Run :	1219Y249
Initials :	JPR

Printed: 01/28/20 9:22:29 AM
APPL Standard LCS

Matrix Spike Recoveries

EPA 8270D WATER

APPL ID: **200124W-06272 MS - 249499**
Batch ID: #87DC5-200124A
Sample ID: BA06272
Client ID: ERH971

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
PHENOL	62.5	ND	70.4	58.3	113	93.3	10-115	18.8	20
SURROGATE: 2,4,6-TRIBROMOPHENOL	250	NA	265	246	106	98.4	43-140		
SURROGATE: 2-FLUORBIPHENYL (S)	125	NA	112	106	89.6	84.8	44-119		
SURROGATE: 2-FLUOROPHENOL (S)	250	NA	253	210	101	84.0	19-119		
SURROGATE: NITROBENZENE-D5 (S)	125	NA	136	119	109	95.2	44-120		
SURROGATE: PHENOL-D6 (S)	250	NA	273	225	109	90.0	10-115		
SURROGATE: TERPHENYL-D14 (S)	125	NA	120	109	96.0	87.2	50-134		

Comments:

Primary	SPK	DUP
Quant Method :	Y1219.M	Y1219.M
Extraction Date :	01/24/20	01/24/20
Analysis Date :	01/27/20	01/27/20
Instrument :	Yoda	Yoda
Run :	1219Y250	1219Y251
Initials :	JPR	

Printed: 01/28/20 9:22:31 AM
APPL MSD SCII

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No:
Matrix: Soil
ID: 1219Y002.D

SDG No:
Date Analyzed: 12/19/19
Instrument: Yoda
Time Analyzed: 8:50

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		50ug/ml 8270 11/21/1	1219Y003.D	12/19/19 9:06
2		4ug/ml 8270 11/21/19	1219Y004.D	12/19/19 9:33
3		5ug/ml 8270 11/21/19	1219Y005.D	12/19/19 10:01
4		10ug/ml 8270 11/21/1	1219Y006.D	12/19/19 10:28
5		20ug/ml 8270 11/21/1	1219Y007.D	12/19/19 10:56
6		40ug/ml 8270 11/21/1	1219Y008.D	12/19/19 11:24
7		60ug/ml 8270 11/21/1	1219Y009.D	12/19/19 11:51
8		80ug/ml 8270 11/21/1	1219Y010.D	12/19/19 12:19
9		100ug/ml 8270 11/21/	1219Y011.D	12/19/19 12:46
10		SS 8270 11/22/19	1219Y012.D	12/19/19 13:14
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	9.95 - 80.04% of mass 198	39.5
68	0 - 2% of mass 69	0.0
70	0 - 2% of mass 69	1.0
127	10 - 80% of mass 198	51.3
197	0 - 2% of mass 198	0.0
198	100 - 100% of mass 198	100.0
199	5 - 9% of mass 198	6.7
275	10 - 60% of mass 198	29.4
365	1 - 100% of mass 198	3.5
441	0.01 - 24% of mass 442	4.6
442	50 - 500% of mass 198	102.9
443	15 - 24% of mass 442	20.0

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 91282
Matrix: Water
ID: 1219Y241.D

SDG No: 91282
Date Analyzed: 01/27/20
Instrument: Yoda
Time Analyzed: 14:51

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		50ug/ml 8270 01/06/2	1219Y247.D	01/27/20 17:04
2	Blank	200124A BLK 1/800	1219Y248.D	01/27/20 17:32
3	Lab Control Spike	200124A LCS-1 1/800	1219Y249.D	01/27/20 18:00
4		BA06272W30 MS-1 1/80	1219Y250.D	01/27/20 18:27
5		BA06272W31 MSD-1 1/8	1219Y251.D	01/27/20 18:55
6	ERH971	BA06272W29 1/800	1219Y252.D	01/27/20 19:23
7	ERH972	BA06273W11 1/800	1219Y253.D	01/27/20 19:50
8	ERH979	BA06275W13 1/800	1219Y254.D	01/27/20 20:18
9	ERH981	BA06276W15 1/800	1219Y255.D	01/27/20 20:46
10	ERH987	BA06279W14 1/800	1219Y256.D	01/27/20 21:13
11	ERH999	BA06281W13 1/800	1219Y257.D	01/27/20 21:41
12	ERH1000	BA06282W13 1/800	1219Y258.D	01/27/20 22:09
13	ERH1004	BA06284W19 1/800	1219Y259.D	01/27/20 22:36
14		50ug/ml 8270 01/03/2	1219Y267.D	01/28/20 2:19
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	9.95 - 80.04% of mass 198	36.7
68	0 - 2% of mass 69	0.0
70	0 - 2% of mass 69	0.2
127	10 - 80% of mass 198	49.8
197	0 - 2% of mass 198	0.0
198	100 - 100% of mass 198	100.0
199	5 - 9% of mass 198	6.7
275	10 - 60% of mass 198	30.4
365	1 - 100% of mass 198	3.8
441	0.01 - 24% of mass 442	11.0
442	50 - 500% of mass 198	112.9
443	15 - 24% of mass 442	19.7

INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract:

Lab Code: SDG No.:

Lab File ID (Standard): 1219Y247.D Date Analyzed: 01/27/20

Instrument ID: Yoda Time Analyzed: 17:04

GC Column: ID: Heated Purge: (Y/N)

		1,4-dichlorobenzene-D4(IS)		Napthalene-D8(IS)		Acenaphthene-D10(IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	248048	5.38	1087910	6.81	692449	8.84
	UPPER LIMIT	496096	5.55	2175820	6.98	1384898	9.01
	LOWER LIMIT	124024	5.21	543955	6.64	346225	8.67
	SAMPLE NO.						
01	200124A BLK 1/800	163293	5.37	655142	6.81	449623	8.83
02	200124A LCS-1 1/800	178391	5.38	698817	6.82	425352	8.83
03	BA06272W30 MS-1 1/8(	142922	5.38	564446	6.81	424113	8.84
04	BA06272W31 MSD-1 1/	159130	5.38	624480	6.81	438588	8.84
05	BA06272W29 1/800	156990	5.37	637774	6.81	457205	8.83
06	BA06273W11 1/800	171962	5.37	678418	6.81	458152	8.83
07	BA06275W13 1/800	188809	5.37	748862	6.81	460536	8.83
08	BA06276W15 1/800	164753	5.38	639531	6.81	418865	8.83
09	BA06279W14 1/800	178823	5.37	711834	6.81	438530	8.83
10	BA06281W13 1/800	197013	5.37	769955	6.81	474592	8.83
11	BA06282W13 1/800	143150	5.38	572510	6.81	441187	8.83
12	BA06284W19 1/800	153495	5.38	604745	6.81	422045	8.83
13	50ug/ml 8270 01/03/20 (	196253	5.38	822183	6.82	507672	8.84
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.17 minutes of internal standard RT
RT LOWER LIMIT = -0.17 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

EPA 8270D

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 91282

Case No: 91282 Date Analyzed: 01/24/20

Matrix: WATER Instrument: Yoda

Blank ID: 200124A-BLK Time Analyzed: 1927

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200124A-BLK	Blank	1219Y229	01/24/20 1927
200124A-LCS	Lab Control Spike	1219Y230	01/24/20 1951
200124A-LCSD	Lab Control SpikeD	1219Y231	01/24/20 2015
BA06275	ERH979	1219Y237	01/24/20 2236
BA06279	ERH987	1219Y238	01/24/20 2259

Comments: Batch: #87DME-200124A

Method Blank
EPA 8270D MODIFIED WATER

Blank Name/QCG: **200124W-06136 - 249453**
Batch ID: #87DME-200124A

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	2-(2-METHOXYETHOXY)-ETHAN	80.0 U	100	80.0	40.0	ug/L	01/24/20	01/24/20

Quant Method: YMEE0122.M
Run #: 1219Y229
Instrument: Yoda
Sequence: Y191219
Initials: JPR

GC SC-Blank-REG MDLs-DOD
Printed: 01/30/20 8:48:34 AM

EPA 8270D

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 91282

Case No: 91282 Date Analyzed: 01/27/20

Matrix: WATER Instrument: Yoda

Blank ID: 200127A-BLK Time Analyzed: 1507

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200127A-BLK	Blank	1219Y242	01/27/20 1507
200127A-LCS	Lab Control Spike	1219Y243	01/27/20 1530
200127A-LCSD	Lab Control SpikeD	1219Y244	01/27/20 1554
BA06284	ERH1004	1219Y245	01/27/20 1617

Comments: Batch: #87DME-200127A

Printed: 01/30/20 8:48:33 AM
Form 4, Blank Summary

Method Blank
EPA 8270D MODIFIED WATER

Blank Name/QCG: **200127W-06284 - 249488**
Batch ID: #87DME-200127A

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	2-(2-METHOXYETHOXY)-ETHAN	80.0 U	100	80.0	40.0	ug/L	01/27/20	01/27/20

Quant Method:YMEE0122.M
Run #:1219Y242
Instrument:Yoda
Sequence:Y191219
Initials:JPR

GC SC-Blank-REG MDLs-DOD
Printed: 01/30/20 8:48:35 AM

EPA 8270D

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 91282

Case No: 91282 Date Analyzed: 01/29/20

Matrix: WATER Instrument: Yoda

Blank ID: 200128A-BLK Time Analyzed: 1617

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200128A-BLK	Blank	0122Y020	01/29/20 1617
200128A-LCS	Lab Control Spike	0122Y022	01/29/20 1704
200128A-MS	Matrix Spike	0122Y025	01/29/20 1814
200128A-MSD	Matrix SpikeD	0122Y026	01/29/20 1838
BA06272	ERH971	0122Y027	01/29/20 1901
BA06273	ERH972	0122Y028	01/29/20 1925
BA06276	ERH981	0122Y029	01/29/20 1948
BA06281	ERH999	0122Y030	01/29/20 2012
BA06282	ERH1000	0122Y031	01/29/20 2035

Comments: Batch: #87DME-200128A

Method Blank

EPA 8270D MODIFIED WATER

Blank Name/QCG: **200128W-06272 - 249592**

Batch ID: #87DME-200128A

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	2-(2-METHOXYETHOXY)-ETHAN	80.0 U	100	80.0	40.0	ug/L	01/28/20	01/29/20

Quant Method:YMEE0122.M
Run #:0122Y020
Instrument:Yoda
Sequence:Y200122M
Initials:JPR

GC SC-Blank-REG MDLs-DOD
Printed: 01/30/20 8:48:35 AM

EPA 8270D

Form 4

LCS Summary

Lab Name: APPL, Inc. SDG No: 91282

Case No: 91282 Date Analyzed: 01/24/20

Matrix: WATER Instrument: Yoda

LCS ID: 200124A-LCS Time Analyzed: 1951

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200124A-BLK	Blank	1219Y229	01/24/20 1927
200124A-LCS	Lab Control Spike	1219Y230	01/24/20 1951
200124A-LCSD	Lab Control SpikeD	1219Y231	01/24/20 2015
BA06275	ERH979	1219Y237	01/24/20 2236
BA06279	ERH987	1219Y238	01/24/20 2259

Comments: Batch: #87DME-200124A

Printed: 01/30/20 8:48:37 AM
Form 4, LCS Summary

Laboratory Control Spike Recoveries

EPA 8270D MODIFIED WATER

APPL ID: **200124W-06136 LCS - 249453**
Batch ID: #87DME-200124A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
2-(2-METHOXYETHOXY)-ETHANOL	80.0	67.5	90.1	84.4	113	30-130	28.7 #	20

= Recovery is outside QC limits.

Comments:

Primary	SPK	DUP
Quant Method :	YMEE0122.M	YMEE0122.M
Extraction Date :	01/24/20	01/24/20
Analysis Date :	01/24/20	01/24/20
Instrument :	Yoda	Yoda
Run :	1219Y230	1219Y231
Initials :	JPR	

Printed: 01/30/20 8:48:40 AM
APPL Standard LCSD

EPA 8270D

Form 4

LCS Summary

Lab Name: APPL, Inc. SDG No: 91282

Case No: 91282 Date Analyzed: 01/27/20

Matrix: WATER Instrument: Yoda

LCS ID: 200127A-LCS Time Analyzed: 1530

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200127A-BLK	Blank	1219Y242	01/27/20 1507
200127A-LCS	Lab Control Spike	1219Y243	01/27/20 1530
200127A-LCSD	Lab Control SpikeD	1219Y244	01/27/20 1554
BA06284	ERH1004	1219Y245	01/27/20 1617

Comments: Batch: #87DME-200127A

Printed: 01/30/20 8:48:38 AM
Form 4, LCS Summary

Laboratory Control Spike Recoveries
EPA 8270D MODIFIED WATER

APPL ID: **200127W-06284 LCS - 249488**
Batch ID: #87DME-200127A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
2-(2-METHOXYETHOXY)-ETHANOL	80.0	76.1	77.0	95.1	96.3	30-130	1.2	20

Comments: _____

Primary	SPK	DUP
Quant Method :	YMEE0122.M	YMEE0122.M
Extraction Date :	01/27/20	01/27/20
Analysis Date :	01/27/20	01/27/20
Instrument :	Yoda	Yoda
Run :	1219Y243	1219Y244
Initials :	JPR	

Printed: 01/30/20 8:48:40 AM
APPL Standard LCSD

EPA 8270D

Form 4

LCS Summary

Lab Name: APPL, Inc. SDG No: 91282

Case No: 91282 Date Analyzed: 01/29/20

Matrix: WATER Instrument: Yoda

LCS ID: 200128A-LCS Time Analyzed: 1704

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200128A-BLK	Blank	0122Y020	01/29/20 1617
200128A-LCS	Lab Control Spike	0122Y022	01/29/20 1704
200128A-MS	Matrix Spike	0122Y025	01/29/20 1814
200128A-MSD	Matrix SpikeD	0122Y026	01/29/20 1838
BA06272	ERH971	0122Y027	01/29/20 1901
BA06273	ERH972	0122Y028	01/29/20 1925
BA06276	ERH981	0122Y029	01/29/20 1948
BA06281	ERH999	0122Y030	01/29/20 2012
BA06282	ERH1000	0122Y031	01/29/20 2035

Comments: Batch: #87DME-200128A

Laboratory Control Spike Recovery
EPA 8270D MODIFIED WATER

APPL ID: **200128W-06272 LCS - 249592**
Batch ID: #87DME-200128A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
2-(2-METHOXYETHOXY)-ETHANOL	80.0	75.6	94.5	30-130

Comments: _____

Primary	SPK
Quant Method :	YMEE0122.M
Extraction Date :	01/28/20
Analysis Date :	01/29/20
Instrument :	Yoda
Run :	0122Y022
Initials :	JPR

Printed: 02/26/20 10:10:34 AM
APPL Standard LCS

Matrix Spike Recoveries

EPA 8270D MODIFIED WATER

APPL ID: **200128W-06272 MS - 249592**
Batch ID: #87DME-200128A
Sample ID: BA06272
Client ID: ERH971

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
2-(2-METHOXYETHOXY)-ETHANOL	80.0	ND	83.2	74.2	104	92.8	30-130	11.4	20

Comments: _____

Primary	SPK	DUP
Quant Method :	YMEE0122.M	YMEE0122.M
Extraction Date :	01/28/20	01/28/20
Analysis Date :	01/29/20	01/29/20
Instrument :	Yoda	Yoda
Run :	0122Y025	0122Y026
Initials :	JPR	

Printed: 01/30/20 8:48:43 AM
APPL MSD SCII

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No:
Matrix: Soil
ID: 0122Y002.D

SDG No:
Date Analyzed: 01/22/20
Instrument: Yoda
Time Analyzed: 15:31

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		50ug/ml MEE 01/22/20	0122Y003.D	01/22/20 15:46
2		100ug/ml MEE 01/22/2	0122Y004.D	01/22/20 16:10
3		200ug/ml MEE 01/22/2	0122Y005.D	01/22/20 16:33
4		400ug/ml MEE 01/22/2	0122Y006.D	01/22/20 16:57
5		500ug/ml MEE 01/22/2	0122Y007.D	01/22/20 17:21
6		600ug/ml MEE 01/22/2	0122Y008.D	01/22/20 17:45
7		800ug/ml MEE 01/22/2	0122Y009.D	01/22/20 18:08
8		1000ug/ml MEE 01/22/	0122Y010.D	01/22/20 18:32
9		SS MEE 01/22/20	0122Y011.D	01/22/20 18:55
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	9.95 - 80.04% of mass 198	37.2
68	0 - 2.04% of mass 69	0.0
70	0 - 2.04% of mass 69	0.2
127	10 - 80% of mass 198	50.4
197	0 - 2% of mass 198	0.0
198	100 - 100% of mass 198	100.0
199	5 - 9% of mass 198	7.1
275	10 - 60% of mass 198	30.1
365	1 - 100% of mass 198	3.7
441	0.01 - 24% of mass 442	15.9
442	50 - 500% of mass 198	109.9
443	15 - 24% of mass 442	19.8

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 91282
Matrix: Water
ID: 1219Y216.D

SDG No: 91282
Date Analyzed: 01/24/20
Instrument: Yoda
Time Analyzed: 11:51

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		500ug/ml 2MEE 01/22/	1219Y218.D	01/24/20 13:23
2	Blank	200124A BLK 2/500	1219Y229.D	01/24/20 19:27
3	Lab Control Spike	200124A LCS-1 2/500	1219Y230.D	01/24/20 19:51
4	Lab Control SpikeD	200124A LCSD-1 2/500	1219Y231.D	01/24/20 20:15
5	ERH979	BA06275W10 2/500	1219Y237.D	01/24/20 22:36
6	ERH987	BA06279W10 2/500	1219Y238.D	01/24/20 22:59
7		600ug/ml 2MEE 01/22/	1219Y239.D	01/24/20 23:23
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	9.95 - 80.04% of mass 198	38.7
68	0 - 2.04% of mass 69	0.0
70	0 - 2.04% of mass 69	0.2
127	10 - 80% of mass 198	50.1
197	0 - 2% of mass 198	0.0
198	100 - 100% of mass 198	100.0
199	5 - 9% of mass 198	6.8
275	10 - 60% of mass 198	30.4
365	1 - 100% of mass 198	3.6
441	0.01 - 24% of mass 442	6.2
442	50 - 500% of mass 198	108.4
443	15 - 24% of mass 442	19.6

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 91282
Matrix: Water
ID: 1219Y241.D

SDG No: 91282
Date Analyzed: 01/27/20
Instrument: Yoda
Time Analyzed: 14:51

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1	Blank	200127A BLK 2/500	1219Y242.D	01/27/20 15:07
2	Lab Control Spike	200127A LCS-1 2/500	1219Y243.D	01/27/20 15:30
3	Lab Control SpikeD	200127A LCSD-1 2/500	1219Y244.D	01/27/20 15:54
4	ERH1004	BA06284W13 2/500	1219Y245.D	01/27/20 16:17
5		600ug/ml 2MEE 01/22/	1219Y246.D	01/27/20 16:41
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	9.95 - 80.04% of mass 198	36.7
68	0 - 2.04% of mass 69	0.0
70	0 - 2.04% of mass 69	0.2
127	10 - 80% of mass 198	49.8
197	0 - 2% of mass 198	0.0
198	100 - 100% of mass 198	100.0
199	5 - 9% of mass 198	6.7
275	10 - 60% of mass 198	30.4
365	1 - 100% of mass 198	3.8
441	0.01 - 24% of mass 442	11.0
442	50 - 500% of mass 198	112.9
443	15 - 24% of mass 442	19.7

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 91282
Matrix: Water
ID: 0122Y017.D

SDG No: 91282
Date Analyzed: 01/29/20
Instrument: Yoda
Time Analyzed: 14:46

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		500ug/ml MEE 01/29/2	0122Y018.D	01/29/20 15:01
2	Blank	200128A BLK 2/500	0122Y020.D	01/29/20 16:17
3	Lab Control Spike	200128A LCS-1 2/500	0122Y022.D	01/29/20 17:04
4		BA06272W19 MS-1 2/50	0122Y025.D	01/29/20 18:14
5		BA06272W20 MSD-1 2/5	0122Y026.D	01/29/20 18:38
6	ERH971	BA06272W21 2/500	0122Y027.D	01/29/20 19:01
7	ERH972	BA06273W06 2/500	0122Y028.D	01/29/20 19:25
8	ERH981	BA06276W11 2/500	0122Y029.D	01/29/20 19:48
9	ERH999	BA06281W08 2/500	0122Y030.D	01/29/20 20:12
10	ERH1000	BA06282W09 2/500	0122Y031.D	01/29/20 20:35
11		500ug/ml MEE 01/29/2	0122Y040.D	01/30/20 0:07
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	9.95 - 80.04% of mass 198	37.9
68	0 - 2.04% of mass 69	0.0
70	0 - 2.04% of mass 69	0.0
127	10 - 80% of mass 198	49.1
197	0 - 2% of mass 198	0.0
198	100 - 100% of mass 198	100.0
199	5 - 9% of mass 198	6.8
275	10 - 60% of mass 198	30.6
365	1 - 100% of mass 198	3.8
441	0.01 - 24% of mass 442	11.4
442	50 - 500% of mass 198	108.4
443	15 - 24% of mass 442	19.2

INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract:

Lab Code: SDG No.:

Lab File ID (Standard): 1219Y218.D Date Analyzed: 01/24/20

Instrument ID: Yoda Time Analyzed: 13:23

GC Column: ID: Heated Purge: (Y/N)

		1,4-dichlorobenzene-D4(IS)		Napthalene-D8(IS)		Acenaphthene-D10(IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	167718	5.14	676400	6.56	428742	8.58
	UPPER LIMIT	335436	5.31	1352800	6.73	857484	8.75
	LOWER LIMIT	83859	4.97	338200	6.39	214371	8.41
	SAMPLE NO.						
01	200124A BLK 2/500	130313	5.16	533820	6.57	394384	8.58
02	200124A LCS-1 2/500	126776	5.16	539160	6.57	390935	8.59
03	200124A LCSD-1 2/500	135026	5.16	594325	6.57	418530	8.58
04	BA06275W10 2/500	145736	5.15	660953	6.57	407224	8.58
05	BA06279W10 2/500	141128	5.16	619927	6.57	377585	8.58
06	600ug/ml 2MEE 01/22/2	143090	5.16	610531	6.57	370789	8.59
07							
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.17 minutes of internal standard RT
RT LOWER LIMIT = -0.17 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract: _____

Lab Code: _____ SDG No.: _____

Lab File ID (Standard): 1219Y218.D Date Analyzed: 01/24/20

Instrument ID: Yoda Time Analyzed: 13:23

GC Column: _____ ID: Heated Purge: (Y/N) _____

		Phenanthrene-D10(IS)		Chrysene-D12(IS)		Perylene-D12(IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	839373	10.31	732730	13.39	762790	15.12
	UPPER LIMIT	1678746	10.48	1465460	13.56	1525580	15.29
	LOWER LIMIT	419687	10.14	366365	13.22	381395	14.95
	SAMPLE NO.						
01	200124A BLK 2/500	785793	10.31	626912	13.39	626844	15.12
02	200124A LCS-1 2/500	785216	10.31	647953	13.39	660643	15.12
03	200124A LCSD-1 2/500	822402	10.31	657779	13.39	645856	15.12
04	BA06275W10 2/500	758234	10.31	667324	13.39	751101	15.12
05	BA06279W10 2/500	691606	10.31	596666	13.39	532337	15.12
06	600ug/ml 2MEE 01/22/2	716328	10.31	610567	13.39	629331	15.12
07							
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.17 minutes of internal standard RT
RT LOWER LIMIT = -0.17 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract: _____

Lab Code: _____ SDG No.: _____

Lab File ID (Standard): 1219Y240.D Date Analyzed: 01/27/20

Instrument ID: Yoda Time Analyzed: 14:18

GC Column: _____ ID: Heated Purge: (Y/N) _____

		1,4-dichlorobenzene-D4(IS)		Napthalene-D8(IS)		Acenaphthene-D10(IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	155336	5.15	627220	6.56	381358	8.58
	UPPER LIMIT	310672	5.32	1254440	6.73	762716	8.75
	LOWER LIMIT	77668	4.98	313610	6.39	190679	8.41
	SAMPLE NO.						
01	200127A BLK 2/500	132735	5.15	572599	6.57	328947	8.59
02	200127A LCS-1 2/500	140477	5.15	582765	6.57	360084	8.59
03	200127A LCSD-1 2/500	126057	5.16	568709	6.57	375824	8.58
04	BA06284W13 2/500	151612	5.16	628179	6.57	389888	8.58
05	600ug/ml 2MEE 01/22/2	147213	5.15	656201	6.56	401041	8.59
06							
07							
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.17 minutes of internal standard RT
RT LOWER LIMIT = -0.17 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract: _____

Lab Code: _____ SDG No.: _____

Lab File ID (Standard): 1219Y240.D Date Analyzed: 01/27/20

Instrument ID: Yoda Time Analyzed: 14:18

GC Column: _____ ID: Heated Purge: (Y/N) _____

		Phenanthrene-D10(IS)		Chrysene-D12(IS)		Perylene-D12(IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	741023	10.31	638908	13.39	658315	15.12
	UPPER LIMIT	1482046	10.48	1277816	13.56	1316630	15.29
	LOWER LIMIT	370512	10.14	319454	13.22	329158	14.95
	SAMPLE NO.						
01	200127A BLK 2/500	635123	10.31	524857	13.39	531059	15.12
02	200127A LCS-1 2/500	687232	10.31	581663	13.39	624679	15.12
03	200127A LCSD-1 2/500	719622	10.31	593395	13.39	560276	15.12
04	BA06284W13 2/500	750154	10.31	663429	13.39	658428	15.12
05	600ug/ml 2MEE 01/22/2	770477	10.31	692745	13.39	702709	15.12
06							
07							
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.17 minutes of internal standard RT
RT LOWER LIMIT = -0.17 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract: _____

Lab Code: _____ SDG No.: _____

Lab File ID (Standard): 0122Y018.D Date Analyzed: 01/29/20

Instrument ID: Yoda Time Analyzed: 15:01

GC Column: _____ ID: Heated Purge: (Y/N) _____

		1,4-dichlorobenzene-D4(IS)		Napthalene-D8(IS)		Acenaphthene-D10(IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	173907	5.15	698618	6.57	436389	8.58
	UPPER LIMIT	347814	5.32	1397236	6.74	872778	8.75
	LOWER LIMIT	86954	4.98	349309	6.40	218195	8.41
	SAMPLE NO.						
01	200128A BLK 2/500	101798	5.15	401287	6.57	316737	8.58
02	200128A LCS-1 2/500	109093	5.16	438122	6.57	353433	8.58
03	BA06272W19 MS-1 2/5(	114094	5.16	529774	6.57	385838	8.58
04	BA06272W20 MSD-1 2/	114502	5.15	484545	6.57	365492	8.58
05	BA06272W21 2/500	115098	5.16	493098	6.57	391451	8.58
06	BA06273W06 2/500	127822	5.15	532776	6.57	383457	8.59
07	BA06276W11 2/500	116403	5.16	510590	6.57	390788	8.58
08	BA06281W08 2/500	127056	5.16	507950	6.57	387151	8.58
09	BA06282W09 2/500	125800	5.16	524909	6.57	395337	8.58
10	500ug/ml MEE 01/29/20	154425	5.15	634344	6.57	403367	8.58
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.17 minutes of internal standard RT
RT LOWER LIMIT = -0.17 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract:

Lab Code: SDG No.:

Lab File ID (Standard): 0122Y018.D Date Analyzed: 01/29/20

Instrument ID: Yoda Time Analyzed: 15:01

GC Column: ID: Heated Purge: (Y/N)

		Phenanthrene-D10(IS)		Chrysene-D12(IS)		Perylene-D12(IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	837531	10.31	754740	13.39	834233	15.12
	UPPER LIMIT	1675062	10.48	1509480	13.56	1668466	15.29
	LOWER LIMIT	418766	10.14	377370	13.22	417117	14.95
	SAMPLE NO.						
01	200128A BLK 2/500	591937	10.31	498560	13.39	485910	15.12
02	200128A LCS-1 2/500	670592	10.31	532090	13.39	726611	15.12
03	BA06272W19 MS-1 2/5(	743439	10.31	589425	13.39	571369	15.12
04	BA06272W20 MSD-1 2/	694023	10.31	525087	13.39	658317	15.12
05	BA06272W21 2/500	719615	10.31	551047	13.39	526842	15.12
06	BA06273W06 2/500	753105	10.31	652739	13.39	912604	15.12
07	BA06276W11 2/500	780114	10.31	655323	13.39	647375	15.12
08	BA06281W08 2/500	759399	10.31	600157	13.39	589769	15.12
09	BA06282W09 2/500	766032	10.31	682068	13.39	744499	15.12
10	500ug/ml MEE 01/29/20	773403	10.31	688581	13.39	728249	15.12
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.17 minutes of internal standard RT
RT LOWER LIMIT = -0.17 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

EPA 8260B

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 91282

Case No: 91282 Date Analyzed: 01/24/20

Matrix: WATER Instrument: Thor

APPL ID.	Client Sample No.	SURROGATE: 1,2-DICHLOROETHANE-D4 (S)			SURROGATE: 4-BROMOFLUOROBENZENE (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
BA06277	ERH980	81-118	104		85-114	91.8	
BA06278	ERH986	81-118	102		85-114	90.5	
BA06271	ERH970	81-118	103		85-114	92.0	
BA06272	ERH971	81-118	102		85-114	91.4	
BA06273	ERH972	81-118	103		85-114	91.0	
BA06274	ERH978	81-118	101		85-114	89.5	
BA06275	ERH979	81-118	105		85-114	92.6	
BA06276	ERH981	81-118	103		85-114	91.3	
BA06279	ERH987	81-118	103		85-114	89.9	
200123BT-LCS	Lab Control Spike	81-118	97.2		85-114	94.8	
200123BT-LCSD	Lab Control SpikeD	81-118	95.2		85-114	95.6	
200123BT-BLK	Blank	81-118	103		85-114	90.6	
BA06272-MS	Matrix Spike	81-118	99.6		85-114	97.2	
BA06272-MSD	Matrix SpikeD	81-118	99.2		85-114	96.4	

Comments: Batch: #86BTO-200123BT

EPA 8260B

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 91282

Case No: 91282 Date Analyzed: 01/24/20

Matrix: WATER Instrument: Thor

APPL ID.	Client Sample No.	SURROGATE: DIBROMOFLUOROMETHANE (S)			SURROGATE: TOLUENE-D8 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
BA06277	ERH980	80-119	104		89-112	102	
BA06278	ERH986	80-119	102		89-112	100.0	
BA06271	ERH970	80-119	104		89-112	101	
BA06272	ERH971	80-119	102		89-112	100	
BA06273	ERH972	80-119	103		89-112	100	
BA06274	ERH978	80-119	101		89-112	98.7	
BA06275	ERH979	80-119	102		89-112	100	
BA06276	ERH981	80-119	102		89-112	100	
BA06279	ERH987	80-119	102		89-112	98.2	
200123BT-LCS	Lab Control Spike	80-119	95.6		89-112	102	
200123BT-LCSD	Lab Control SpikeD	80-119	93.6		89-112	100	
200123BT-BLK	Blank	80-119	101		89-112	100	
BA06272-MS	Matrix Spike	80-119	99.6		89-112	101	
BA06272-MSD	Matrix SpikeD	80-119	97.2		89-112	100	

Comments: Batch: #86BTO-200123BT

EPA 8260B

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 91282

Case No: 91282 Date Analyzed: 01/23/20

Matrix: WATER Instrument: Thor

APPL ID.	Client Sample No.	SURROGATE: 1,2-DICHLOROETHANE-D4 (S)			SURROGATE: 4-BROMOFLUOROBENZENE (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
200123BT1-LCS	Lab Control Spike	81-118	98.8		85-114	98.0	
200123BT1-LCSD	Lab Control SpikeD	81-118	101		85-114	100	
200123BT1-BLK	Blank	81-118	105		85-114	93.1	
BA06283	ERH1003	81-118	103		85-114	92.2	
BA06280	ERH998	81-118	103		85-114	90.1	
BA06281	ERH999	81-118	105		85-114	92.0	
BA06282	ERH1000	81-118	103		85-114	92.4	
BA06284	ERH1004	81-118	104		85-114	92.0	

Comments: Batch: #86BTO-200123BT

EPA 8260B

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 91282

Case No: 91282 Date Analyzed: 01/23/20

Matrix: WATER Instrument: Thor

APPL ID.	Client Sample No.	SURROGATE: DIBROMOFLUOROMETHANE (S)			SURROGATE: TOLUENE-D8 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
200123BT1-LCS	Lab Control Spike	80-119	100		89-112	102	
200123BT1-LCSD	Lab Control SpikeD	80-119	102		89-112	105	
200123BT1-BLK	Blank	80-119	104		89-112	103	
BA06283	ERH1003	80-119	103		89-112	99.7	
BA06280	ERH998	80-119	104		89-112	101	
BA06281	ERH999	80-119	105		89-112	103	
BA06282	ERH1000	80-119	103		89-112	100	
BA06284	ERH1004	80-119	104		89-112	101	

Comments: Batch: #86BTO-200123BT

EPA 8260B

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 91282

Case No: 91282 Date Analyzed: 01/24/20

Matrix: WATER Instrument: Thor

Blank ID: 200123BT-BLK Time Analyzed: 1516

APPL ID.	Client Sample No.	File ID.	Date Analyzed
BA06277	ERH980	0123T34	01/24/20 0014
BA06278	ERH986	0123T35	01/24/20 0042
BA06271	ERH970	0123T37	01/24/20 0139
BA06272	ERH971	0123T38	01/24/20 0207
BA06273	ERH972	0123T39	01/24/20 0236
BA06274	ERH978	0123T40	01/24/20 0304
BA06275	ERH979	0123T41	01/24/20 0332
BA06276	ERH981	0123T42	01/24/20 0400
BA06279	ERH987	0123T43	01/24/20 0429
200123BT-LCS	Lab Control Spike	0124T05	01/24/20 1226
200123BT-LCSD	Lab Control SpikeD	0124T06	01/24/20 1254
200123BT-BLK	Blank	0124T11	01/24/20 1516
200123BT-MS	Matrix Spike	0124T24	01/24/20 2125
200123BT-MSD	Matrix SpikeD	0124T25	01/24/20 2153

Comments: Batch: #86BTO-200123BT

Printed: 01/27/20 12:16:02 PM

Form 4, Blank Summary

EPA 8260B

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 91282

Case No: 91282 Date Analyzed: 01/23/20

Matrix: WATER Instrument: Thor

Blank ID: 200123BT1-BLK Time Analyzed: 2346

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200123BT1-LCS	Lab Control Spike	0123T28	01/23/20 2125
200123BT1-LCSD	Lab Control SpikeD	0123T29	01/23/20 2153
200123BT1-BLK	Blank	0123t33	01/23/20 2346
BA06283	ERH1003	0123T36	01/24/20 0111
BA06280	ERH998	0123T44	01/24/20 0457
BA06281	ERH999	0123T45	01/24/20 0525
BA06282	ERH1000	0123T46	01/24/20 0554
BA06284	ERH1004	0123T47	01/24/20 0622

Comments: Batch: #86BTO-200123BT

Method Blank

EPA 8260B BTEX & 1,2-DCA WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **200123W-06280 - 249414**
Batch ID: #86BTO-200123BT1

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	1,2-DICHLOROETHANE	0.30 U	1.0	0.30	0.14	ug/L	01/23/20	01/23/20
BLANK	BENZENE	0.30 U	1.0	0.30	0.15	ug/L	01/23/20	01/23/20
BLANK	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	01/23/20	01/23/20
BLANK	TOLUENE	0.30 U	1.0	0.30	0.15	ug/L	01/23/20	01/23/20
BLANK	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.15	ug/L	01/23/20	01/23/20
BLANK	SURROGATE: 1,2-DICHLOROET	105	81-118			%	01/23/20	01/23/20
BLANK	SURROGATE: 4-BROMOFLUORO	93.1	85-114			%	01/23/20	01/23/20
BLANK	SURROGATE: DIBROMOFLUOR	104	80-119			%	01/23/20	01/23/20
BLANK	SURROGATE: TOLUENE-D8 (S)	103	89-112			%	01/23/20	01/23/20

Quant Method:T0121W.M
Run #:0123t33
Instrument:Thor
Sequence:T200121
Initials:DPO

GC SC-Blank-REG MDLs-DOD
Printed: 01/24/20 11:01:23 AM

EPA 8260B

Form 4

LCS Summary

Lab Name: APPL, Inc. SDG No: 91282

Case No: 91282 Date Analyzed: 01/24/20

Matrix: WATER Instrument: Thor

LCS ID: 200123BT-LCS Time Analyzed: 1226

APPL ID.	Client Sample No.	File ID.	Date Analyzed
BA06277	ERH980	0123T34	01/24/20 0014
BA06278	ERH986	0123T35	01/24/20 0042
BA06271	ERH970	0123T37	01/24/20 0139
BA06272	ERH971	0123T38	01/24/20 0207
BA06273	ERH972	0123T39	01/24/20 0236
BA06274	ERH978	0123T40	01/24/20 0304
BA06275	ERH979	0123T41	01/24/20 0332
BA06276	ERH981	0123T42	01/24/20 0400
BA06279	ERH987	0123T43	01/24/20 0429
200123BT-LCS	Lab Control Spike	0124T05	01/24/20 1226
200123BT-LCSD	Lab Control SpikeD	0124T06	01/24/20 1254
200123BT-BLK	Blank	0124T11	01/24/20 1516
200123BT-MS	Matrix Spike	0124T24	01/24/20 2125
200123BT-MSD	Matrix SpikeD	0124T25	01/24/20 2153

Comments: Batch: #86BTO-200123BT

EPA 8260B

Form 4

LCS Summary

Lab Name: APPL, Inc. SDG No: 91282

Case No: 91282 Date Analyzed: 01/23/20

Matrix: WATER Instrument: Thor

LCS ID: 200123BT1-LCS Time Analyzed: 2125

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200123BT1-LCS	Lab Control Spike	0123T28	01/23/20 2125
200123BT1-LCSD	Lab Control SpikeD	0123T29	01/23/20 2153
200123BT1-BLK	Blank	0123t33	01/23/20 2346
BA06283	ERH1003	0123T36	01/24/20 0111
BA06280	ERH998	0123T44	01/24/20 0457
BA06281	ERH999	0123T45	01/24/20 0525
BA06282	ERH1000	0123T46	01/24/20 0554
BA06284	ERH1004	0123T47	01/24/20 0622

Comments: Batch: #86BTO-200123BT

Printed: 01/24/20 11:01:16 AM
Form 4, LCS Summary

Laboratory Control Spike Recoveries

EPA 8260B BTEX & 1,2-DCA WATER

APPL ID: **200123W-06280 LCS - 249414**
Batch ID: #86BTO-200123BT1

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
1,2-DICHLOROETHANE	10.00	9.57	9.84	95.7	98.4	73-128	2.8	20
BENZENE	10.00	9.89	10.0	98.9	100	79-120	1.1	20
ETHYLBENZENE	10.00	9.98	10.5	99.8	105	79-121	5.1	20
TOLUENE	10.00	9.82	10.1	98.2	101	80-121	2.8	20
XYLENES (TOTAL)	30.0	30.4	31.1	101	104	79-121	2.3	20
SURROGATE: 1,2-DICHLOROETHANE-D	25.0	24.7	25.3	98.8	101	81-118		
SURROGATE: 4-BROMOFLUOROBENZE	25.0	24.5	25.1	98.0	100	85-114		
SURROGATE: DIBROMOFLUOROMETH	25.0	25.0	25.4	100	102	80-119		
SURROGATE: TOLUENE-D8 (S)	25.0	25.4	26.3	102	105	89-112		

Comments:

Primary	SPK	DUP
Quant Method :	T0121W.M	T0121W.M
Extraction Date :	01/23/20	01/23/20
Analysis Date :	01/23/20	01/23/20
Instrument :	Thor	Thor
Run :	0123T28	0123T29
Initials :	DPO	

Printed: 01/24/20 11:01:18 AM
APPL Standard LCSD

Matrix Spike Recoveries

EPA 8260B BTEX WATER

APPL ID: **200124W-06272 MS - 249413**
Batch ID: #86BTO-200123BT
Sample ID: BA06272
Client ID: ERH971

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
BENZENE	10.00	ND	9.43	9.32	94.3	93.2	79-120	1.2	20
ETHYLBENZENE	10.00	ND	9.46	9.31	94.6	93.1	79-121	1.6	20
TOLUENE	10.00	ND	9.44	9.16	94.4	91.6	80-121	3.0	20
XYLENES (TOTAL)	30.0	ND	28.5	28.4	95.0	94.7	79-121	0.35	20
SURROGATE: 1,2-DICHLOROETHANE-D	25.0	NA	24.9	24.8	99.6	99.2	81-118		
SURROGATE: 4-BROMOFLUOROBENZE	25.0	NA	24.3	24.1	97.2	96.4	85-114		
SURROGATE: DIBROMOFLUOROMETH	25.0	NA	24.9	24.3	99.6	97.2	80-119		
SURROGATE: TOLUENE-D8 (S)	25.0	NA	25.3	25.1	101	100	89-112		

Comments: _____

Primary	SPK	DUP
Quant Method :	T0121W.M	T0121W.M
Extraction Date :	01/24/20	01/24/20
Analysis Date :	01/24/20	01/24/20
Instrument :	Thor	Thor
Run :	0124T24	0124T25
Initials :	DPO	

Printed: 01/27/20 12:16:05 PM
APPL MSD SCII

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No:
Matrix: Water
ID: 0121T00.D

SDG No:
Date Analyzed: 01/21/20
Instrument: Thor
Time Analyzed: 6:29

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		0.3ug/L VOC STD 1/21	0121T02.D	01/21/20 7:41
2		0.5ug/L VOC STD 1/21	0121T03.D	01/21/20 8:09
3		1ug/L VOC STD 1/21/2	0121T04.D	01/21/20 8:37
4		2ug/L VOC STD 1/21/2	0121T05.D	01/21/20 9:05
5		5ug/L VOC STD 1/21/2	0121T06.D	01/21/20 9:34
6		10ug/L VOC STD 1/21/	0121T07.D	01/21/20 10:02
7		20ug/L VOC STD 1/21/	0121T08.D	01/21/20 10:30
8		40ug/L VOC STD 1/21/	0121T09.D	01/21/20 10:59
9		100ug/L VOC STD 1/21	0121T10.D	01/21/20 11:27
10		(SS) 10ug/L VOC STD	0121T13.D	01/21/20 12:52
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
50	15 - 40% of mass 95	19.4
75	30 - 60% of mass 95	54.2
95	100 - 100% of mass 95	100.0
96	5 - 9% of mass 95	6.5
173	0 - 2.05% of mass 174	1.1
174	50 - 200% of mass 95	96.9
175	5 - 9% of mass 174	7.8
176	95 - 101% of mass 174	97.3
177	5 - 9% of mass 176	7.1

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 91282
Matrix: Water
ID:

SDG No: 91282
Date Analyzed: 01/23/20
Instrument: Thor
Time Analyzed: 20:28

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		200123B CCV 10ug/L	0123T27.D	01/23/20 20:56
2	Lab Control Spike	200123B LCS 10ug/L	0123T28.D	01/23/20 21:25
3	Lab Control SpikeD	200123B LCSD 10ug/L	0123T29.D	01/23/20 21:53
4	Blank	200123B BLK	0123T33.D	01/23/20 23:46
5	ERH980	BA06277W01	0123T34.D	01/24/20 0:14
6	ERH986	BA06278W01	0123T35.D	01/24/20 0:42
7	ERH1003	BA06283W01	0123T36.D	01/24/20 1:11
8	ERH970	BA06271W01	0123T37.D	01/24/20 1:39
9	ERH971	BA06272W01	0123T38.D	01/24/20 2:07
10	ERH972	BA06273W01	0123T39.D	01/24/20 2:36
11	ERH978	BA06274W01	0123T40.D	01/24/20 3:04
12	ERH979	BA06275W01	0123T41.D	01/24/20 3:32
13	ERH981	BA06276W01	0123T42.D	01/24/20 4:00
14	ERH987	BA06279W01	0123T43.D	01/24/20 4:29
15	ERH998	BA06280W01	0123T44.D	01/24/20 4:57
16	ERH999	BA06281W01	0123T45.D	01/24/20 5:25
17	ERH1000	BA06282W01	0123T46.D	01/24/20 5:54
18	ERH1004	BA06284W01	0123T47.D	01/24/20 6:22
19		Ending CCV 10ug/L 1/	0123T52.D	01/24/20 8:43
20				
21				
22				

m/e		
50	15.0 - 40.0% of mass 95	18.4
75	30.0 - 60.0% of mas 95	51.9
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.3
173	Less than 2.0% of mass 174	1.2
174	50.0 - 200.0% of mass 95	106.0
175	5.0 - 9.0% of mass 174	7.6
176	95.0 - 101.0% of mass 174	98.3
177	5.0 - 9.0% of mass 176	6.5

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No:
Matrix: Water
ID: 0124T04.D

SDG No:
Date Analyzed: 01/24/20
Instrument: Thor
Time Analyzed: 11:58

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1	Lab Control Spike	200124A CCV/LCS 10ug	0124T05.D	01/24/20 12:26
2		BA06272W02,3,4 MS 10	0124T24.D	01/24/20 21:25
3		BA06272W02,3,4 MSD 1	0124T25.D	01/24/20 21:53
4		Ending CCV 10ug/L 1/	0124T28.D	01/24/20 23:18
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
50	15 - 40% of mass 95	18.2
75	30 - 60% of mass 95	48.9
95	100 - 100% of mass 95	100.0
96	5 - 9% of mass 95	6.6
173	0 - 2.05% of mass 174	1.1
174	50 - 200% of mass 95	103.7
175	5 - 9% of mass 174	7.5
176	95 - 101% of mass 174	95.9
177	5 - 9% of mass 176	6.5

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract:

Lab Code: SDG No.:

Lab File ID (Standard): 0123T27.D Date Analyzed: 01/23/20

Instrument ID: Thor Time Analyzed: 20:56

GC Column: ID: Heated Purge: (Y/N)

		Fluorobenzene (IS)		Chlorobenzene-D5 (IS)		1,4-Dichlorobenzene-D (IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	1009080	6.51	783894	9.96	433003	12.52
	UPPER LIMIT	2018160	6.68	1567788	10.13	866006	12.69
	LOWER LIMIT	504540	6.34	391947	9.79	216502	12.35
	SAMPLE NO.						
01	200123B LCS 10ug/L	1003370	6.51	785195	9.96	435423	12.52
02	200123B LCSD 10ug/L	997917	6.51	781681	9.96	437419	12.52
03	200123B BLK	965669	6.51	763813	9.96	396526	12.52
04	BA06277W01	962598	6.51	768590	9.96	386761	12.53
05	BA06278W01	959579	6.51	763288	9.96	398407	12.52
06	BA06283W01	951781	6.51	755792	9.96	399043	12.52
07	BA06271W01	959713	6.51	769093	9.96	388409	12.52
08	BA06272W01	964709	6.51	763731	9.96	393845	12.52
09	BA06273W01	960183	6.51	764411	9.96	393985	12.52
10	BA06274W01	951214	6.51	758656	9.96	389475	12.52
11	BA06275W01	941101	6.51	751501	9.96	389563	12.52
12	BA06276W01	947312	6.51	754413	9.96	388574	12.52
13	BA06279W01	944377	6.51	754830	9.96	385400	12.52
14	BA06280W01	940760	6.51	750883	9.96	383552	12.52
15	BA06281W01	946268	6.51	753436	9.96	388098	12.52
16	BA06282W01	929237	6.51	736708	9.96	380303	12.52
17	BA06284W01	932047	6.51	735678	9.96	385631	12.53
18	Ending CCV 10ug/L 1/23	1004530	6.51	792650	9.96	429770	12.52
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.17 minutes of internal standard RT
RT LOWER LIMIT = -0.17 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract:

Lab Code: SDG No.:

Lab File ID (Standard): 0124T05.D Date Analyzed: 01/24/20

Instrument ID: Thor Time Analyzed: 12:26

GC Column: ID: Heated Purge: (Y/N)

		Fluorobenzene (IS)		Chlorobenzene-D5 (IS)		1,4-Dichlorobenzene-D (IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	1041840	6.51	814650	9.96	427679	12.52
	UPPER LIMIT	2083680	6.68	1629300	10.13	855358	12.69
	LOWER LIMIT	520920	6.34	407325	9.79	213840	12.35
	SAMPLE NO.						
01	BA06272W02,3,4 MS 1(	982941	6.51	772472	9.96	421932	12.52
02	BA06272W02,3,4 MSD	991901	6.51	778556	9.96	429180	12.52
03	Ending CCV 10ug/L 1/24	986309	6.51	781288	9.96	431779	12.52
04							
05							
06							
07							
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.17 minutes of internal standard RT
RT LOWER LIMIT = -0.17 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

EPA 8260B

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 91282

Case No: 91282 Date Analyzed: 01/24/20

Matrix: WATER Instrument: Thor

APPL ID.	Client Sample No.	SURROGATE: 4-BROMOFLUOROBENZENE (S)					
		Limits	Result	Qualifier	Limits	Result	Qualifier
BA06277	ERH980	85-114	91.8				
BA06278	ERH986	85-114	90.5				
BA06283	ERH1003	85-114	92.2				
BA06271	ERH970	85-114	92.0				
BA06272	ERH971	85-114	91.4				
BA06273	ERH972	85-114	91.0				
BA06274	ERH978	85-114	89.5				
BA06275	ERH979	85-114	92.6				
BA06276	ERH981	85-114	91.3				
BA06279	ERH987	85-114	89.9				
BA06280	ERH998	85-114	90.1				
BA06281	ERH999	85-114	92.0				
BA06282	ERH1000	85-114	92.4				
BA06284	ERH1004	85-114	92.0				
200123BT-LCS	Lab Control Spike	85-114	91.2				
200123BT-LCSD	Lab Control SpikeD	85-114	95.2				
200123BT-BLK	Blank	85-114	90.6				
BA06272-MS	Matrix Spike	85-114	92.8				
BA06272-MSD	Matrix SpikeD	85-114	94.8				

Comments: Batch: #GRO86-200123BT

EPA 8260B

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 91282

Case No: 91282 Date Analyzed: 01/24/20

Matrix: WATER Instrument: Thor

Blank ID: 200123BT-BLK Time Analyzed: 1516

APPL ID.	Client Sample No.	File ID.	Date Analyzed
BA06277	ERH980	0123T34	01/24/20 0014
BA06278	ERH986	0123T35	01/24/20 0042
BA06283	ERH1003	0123T36	01/24/20 0111
BA06271	ERH970	0123T37	01/24/20 0139
BA06272	ERH971	0123T38	01/24/20 0207
BA06273	ERH972	0123T39	01/24/20 0236
BA06274	ERH978	0123T40	01/24/20 0304
BA06275	ERH979	0123T41	01/24/20 0332
BA06276	ERH981	0123T42	01/24/20 0400
BA06279	ERH987	0123T43	01/24/20 0429
BA06280	ERH998	0123T44	01/24/20 0457
BA06281	ERH999	0123T45	01/24/20 0525
BA06282	ERH1000	0123T46	01/24/20 0554
BA06284	ERH1004	0123T47	01/24/20 0622
200123BT-LCS	Lab Control Spike	0124T09	01/24/20 1419
200123BT-LCSD	Lab Control SpikeD	0124T10	01/24/20 1448
200123BT-BLK	Blank	0124T11	01/24/20 1516
200123BT-MS	Matrix Spike	0124T26	01/24/20 2221
200123BT-MSD	Matrix SpikeD	0124T27	01/24/20 2250

Comments: Batch: #GRO86-200123BT

Printed: 01/27/20 12:17:52 PM

Form 4, Blank Summary

Method Blank
EPA 8260B GRO WATER

Blank Name/QCG: **200123W-06271 - 249415**
Batch ID: #GRO86-200123BT

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	01/23/20	01/23/20
BLANK	SURROGATE: 4-BROMOFLUORO	93.1	85-114			%	01/23/20	01/23/20

Quant Method:TGAS0116.M
Run #:0123T33
Instrument:Thor
Sequence:T200121
Initials:DPO

GC SC-Blank-REG MDLs-DOD
Printed: 01/24/20 11:14:00 AM

EPA 8260B

Form 4

LCS Summary

Lab Name: APPL, Inc. SDG No: 91282

Case No: 91282 Date Analyzed: 01/24/20

Matrix: WATER Instrument: Thor

LCS ID: 200123BT-LCS Time Analyzed: 1419

APPL ID.	Client Sample No.	File ID.	Date Analyzed
BA06277	ERH980	0123T34	01/24/20 0014
BA06278	ERH986	0123T35	01/24/20 0042
BA06283	ERH1003	0123T36	01/24/20 0111
BA06271	ERH970	0123T37	01/24/20 0139
BA06272	ERH971	0123T38	01/24/20 0207
BA06273	ERH972	0123T39	01/24/20 0236
BA06274	ERH978	0123T40	01/24/20 0304
BA06275	ERH979	0123T41	01/24/20 0332
BA06276	ERH981	0123T42	01/24/20 0400
BA06279	ERH987	0123T43	01/24/20 0429
BA06280	ERH998	0123T44	01/24/20 0457
BA06281	ERH999	0123T45	01/24/20 0525
BA06282	ERH1000	0123T46	01/24/20 0554
BA06284	ERH1004	0123T47	01/24/20 0622
200123BT-LCS	Lab Control Spike	0124T09	01/24/20 1419
200123BT-LCSD	Lab Control SpikeD	0124T10	01/24/20 1448
200123BT-BLK	Blank	0124T11	01/24/20 1516
200123BT-MS	Matrix Spike	0124T26	01/24/20 2221
200123BT-MSD	Matrix SpikeD	0124T27	01/24/20 2250

Comments: Batch: #GRO86-200123BT

Laboratory Control Spike Recoveries

EPA 8260B GRO WATER

APPL ID: **200123W-06271 LCS - 249415**
Batch ID: #GRO86-200123BT

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
GASOLINE RANGE ORGANICS	300	314	319	105	106	78-122	1.6	20
SURROGATE: 4-BROMOFLUOROBENZE	25.0	24.1	23.8	96.4	95.2	85-114		

Comments: _____

Primary	SPK	DUP
Quant Method :	TGAS0116.M	TGAS0116.M
Extraction Date :	01/23/20	01/23/20
Analysis Date :	01/23/20	01/23/20
Instrument :	Thor	Thor
Run :	0123T31	0123T32
Initials :	DPO	

Printed: 01/24/20 11:13:55 AM
APPL Standard LCSD

Matrix Spike Recoveries

EPA 8260B GRO WATER

APPL ID: **200124W-06272 MS - 249415**
Batch ID: #GRO86-200123BT
Sample ID: BA06272
Client ID: ERH971

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
GASOLINE RANGE ORGANICS	300	ND	260	277	86.7	92.3	78-122	6.3	20
SURROGATE: 4-BROMOFLUOROBENZE	25.0	NA	23.2	23.7	92.8	94.8	85-114		

Comments: _____

Primary	SPK	DUP
Quant Method :	TGAS0116.M	TGAS0116.M
Extraction Date :	01/24/20	01/24/20
Analysis Date :	01/24/20	01/24/20
Instrument :	Thor	Thor
Run :	0124T26	0124T27
Initials :	DPO	

Printed: 01/27/20 12:17:54 PM
APPL MSD SCII

RSK 175

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 91282

Case No: 91282 Date Analyzed: 01/24/20

Matrix: WATER Instrument: Rocky

Blank ID: 200124A-BLK Time Analyzed: 1141

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200124A-LCS	Lab Control Spike	0124R03	01/24/20 1132
200124A-LCSD	Lab Control SpikeD	0124R04	01/24/20 1138
200124A-BLK	Blank	0124R05	01/24/20 1141
BA06271	ERH970	0124R16	01/24/20 1249
BA06272	ERH971	0124R17	01/24/20 1252
200124A-MS	Matrix Spike	0124R18	01/24/20 1256
200124A-MSD	Matrix SpikeD	0124R19	01/24/20 1304
BA06274	ERH978	0124R20	01/24/20 1307
BA06275	ERH979	0124R21	01/24/20 1311
BA06276	ERH981	0124R22	01/24/20 1316
BA06277	ERH980	0124R23	01/24/20 1320
BA06278	ERH986	0124R24	01/24/20 1409
BA06279	ERH987	0124R25	01/24/20 1415
BA06283	ERH1003	0124R26	01/24/20 1418
BA06284	ERH1004	0124R27	01/24/20 1422

Comments: Batch: #RSKME-200124A

Method Blank
METHANE

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **200124W-06272 - 249440**
Batch ID: #RSKME-200124A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	METHANE	1.00 U	5.0	1.00	0.25	ug/L	01/24/20	01/24/20

Quant Method: RSK1002.M
Run #: 0124R05
Instrument: Rocky
Sequence: 191002
Initials: GAG

GC SC-Blank-REG MDLs-DOD
Printed: 01/28/20 12:10:07 PM

RSK 175

Form 4

LCS Summary

Lab Name: APPL, Inc. SDG No: 91282

Case No: 91282 Date Analyzed: 01/24/20

Matrix: WATER Instrument: Rocky

LCS ID: 200124A-LCS Time Analyzed: 1132

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200124A-LCS	Lab Control Spike	0124R03	01/24/20 1132
200124A-LCSD	Lab Control SpikeD	0124R04	01/24/20 1138
200124A-BLK	Blank	0124R05	01/24/20 1141
BA06271	ERH970	0124R16	01/24/20 1249
BA06272	ERH971	0124R17	01/24/20 1252
200124A-MS	Matrix Spike	0124R18	01/24/20 1256
200124A-MSD	Matrix SpikeD	0124R19	01/24/20 1304
BA06274	ERH978	0124R20	01/24/20 1307
BA06275	ERH979	0124R21	01/24/20 1311
BA06276	ERH981	0124R22	01/24/20 1316
BA06277	ERH980	0124R23	01/24/20 1320
BA06278	ERH986	0124R24	01/24/20 1409
BA06279	ERH987	0124R25	01/24/20 1415
BA06283	ERH1003	0124R26	01/24/20 1418
BA06284	ERH1004	0124R27	01/24/20 1422

Comments: Batch: #RSKME-200124A

Laboratory Control Spike Recoveries

METHANE

APPL ID: **200124W-06272 LCS - 249440**
Batch ID: #RSKME-200124A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
METHANE	83.4	68.7	72.8	82.4	87.3	72-125	5.8	30

Comments: _____

Primary	SPK	DUP
Quant Method :	RSK1002.M	RSK1002.M
Extraction Date :	01/24/20	01/24/20
Analysis Date :	01/24/20	01/24/20
Instrument :	Rocky	Rocky
Run :	0124R03	0124R04
Initials :	GAG	

Matrix Spike Recoveries

METHANE

APPL ID: **200124W-06272 MS - 249440**
Batch ID: #RSKME-200124A
Sample ID: BA06272
Client ID: ERH971

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
METHANE	83.4	ND	69.3	72.8	83.1	87.3	72-125	4.9	30

Comments: _____

Primary	SPK	DUP
Quant Method :	RSK1002.M	RSK1002.M
Extraction Date :	01/24/20	01/24/20
Analysis Date :	01/24/20	01/24/20
Instrument :	Rocky	Rocky
Run :	0124R18	0124R19
Initials :	GAG	

Printed: 01/28/20 12:10:10 PM
APPL MSD SCII

EPA 300.0

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 91282

Case No: 91282 Date Analyzed: 01/22/20

Matrix: WATER Instrument: Charlie

Blank ID: 200122A-BLK Time Analyzed: 1918

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200122A-LCS	Lab Control Spike	10	01/22/20 1925
200122A-LCSD	Lab Control SpikeD	11	01/22/20 1931
BA06272	ERH971	21	01/22/20 2035
200122A-MS	Matrix Spike	22	01/22/20 2041
200122A-MSD	Matrix SpikeD	23	01/22/20 2048
BA06275	ERH979	24	01/22/20 2054
BA06276	ERH981	25	01/22/20 2100
BA06279	ERH987	28	01/22/20 2120
BA06284	ERH1004	29	01/22/20 2126
200122A-BLK	Blank	9	01/22/20 1918

Comments: Batch: #300W-200122A

Printed: 02/11/20 3:34:51 PM
Form 4, Blank Summary

EPA 300.0

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 91282

Case No: 91282 Date Analyzed: 01/25/20

Matrix: WATER Instrument: Charlie

Blank ID: 200125A-BLK Time Analyzed: 0916

APPL ID.	Client Sample No.	File ID.	Date Analyzed
BA06272	ERH971	11	01/25/20 1014
200125A-MS	Matrix Spike	12	01/25/20 1021
200125A-MSD	Matrix SpikeD	13	01/25/20 1027
BA06275	ERH979	14	01/25/20 1033
BA06276	ERH981	15	01/25/20 1040
BA06279	ERH987	19	01/25/20 1105
200125A-BLK	Blank	2	01/25/20 0916
BA06284	ERH1004	20	01/25/20 1112
200125A-LCS	Lab Control Spike	3	01/25/20 0923
200125A-LCSD	Lab Control SpikeD	4	01/25/20 0929

Comments: Batch: #300WD-200125A

Printed: 02/11/20 3:34:51 PM
Form 4, Blank Summary

WETLAB BLANK

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Analyte	Result	LOQ	LOD	DL	Units	Prep Date	Analysis Date	QC Group
EPA 300.0	NITRATE	0.18 U	0.5	0.18	0.04	mg/L	01/22/20	01/22/20	#300W-200122A-BA06272
EPA 300.0	SULFATE	0.20 U	1.0	0.20	0.09	mg/L	01/22/20	01/22/20	#300W-200122A-BA06272
EPA 300.0	CHLORIDE	0.20 U	1.0	0.20	0.08	mg/L	01/25/20	01/25/20	#300WD-200125A-BA06272
EPA 300.0	SULFATE	0.20 U	1.0	0.20	0.09	mg/L	01/25/20	01/25/20	#300WD-200125A-BA06272

Wetlab SC-Blank-REG MDLs
Printed: 02/11/20 3:34:30 PM

EPA 300.0

Form 4

LCS Summary

Lab Name: APPL, Inc. SDG No: 91282

Case No: 91282 Date Analyzed: 01/22/20

Matrix: WATER Instrument: Charlie

LCS ID: 200122A-LCS Time Analyzed: 1925

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200122A-LCS	Lab Control Spike	10	01/22/20 1925
200122A-LCSD	Lab Control SpikeD	11	01/22/20 1931
BA06272	ERH971	21	01/22/20 2035
200122A-MS	Matrix Spike	22	01/22/20 2041
200122A-MSD	Matrix SpikeD	23	01/22/20 2048
BA06275	ERH979	24	01/22/20 2054
BA06276	ERH981	25	01/22/20 2100
BA06279	ERH987	28	01/22/20 2120
BA06284	ERH1004	29	01/22/20 2126
200122A-BLK	Blank	9	01/22/20 1918

Comments: Batch: #300W-200122A

Printed: 02/11/20 3:34:51 PM
Form 4, LCS Summary

EPA 300.0

Form 4

LCS Summary

Lab Name: APPL, Inc. SDG No: 91282

Case No: 91282 Date Analyzed: 01/25/20

Matrix: WATER Instrument: Charlie

LCS ID: 200125A-LCS Time Analyzed: 0923

APPL ID.	Client Sample No.	File ID.	Date Analyzed
BA06272	ERH971	11	01/25/20 1014
200125A-MS	Matrix Spike	12	01/25/20 1021
200125A-MSD	Matrix SpikeD	13	01/25/20 1027
BA06275	ERH979	14	01/25/20 1033
BA06276	ERH981	15	01/25/20 1040
BA06279	ERH987	19	01/25/20 1105
200125A-BLK	Blank	2	01/25/20 0916
BA06284	ERH1004	20	01/25/20 1112
200125A-LCS	Lab Control Spike	3	01/25/20 0923
200125A-LCSD	Lab Control SpikeD	4	01/25/20 0929

Comments: Batch: #300WD-200125A

Printed: 02/11/20 3:34:51 PM
Form 4, LCS Summary

Laboratory Control Spike Recoveries

WETLAB

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Lvl mg/L	SPK Res mg/L	DUP Res mg/L	SPK % Recov	DUP % Recov	RPD	RPD Max	QC Limits	Extract Date-Spk	Analysis Date-Spk	Extract Date-Dup	Analysis Date-Dup	QC Group
EPA 300.0	CHLORIDE	25.0	23.8	23.8	95.2	95.2	0.0	20	90-110	01/25/20	01/25/20	01/25/20	01/25/20	#300WD-200125A-BA0627
EPA 300.0	SULFATE	25.0	24.4	24.4	97.6	97.6	0.0	20	90-110	01/25/20	01/25/20	01/25/20	01/25/20	#300WD-200125A-BA0627
EPA 300.0	NITRATE	22.1	21.0	21.0	95.0	95.0	0.0	20	90-110	01/22/20	01/22/20	01/22/20	01/22/20	#300W-200122A-BA06272
EPA 300.0	SULFATE	25	23.1	23.1	92.4	92.4	0.0	20	90-110	01/22/20	01/22/20	01/22/20	01/22/20	#300W-200122A-BA06272

Comments: _____

Matrix Spike Recoveries

WETLAB

APPL ID: **200125W-06272 MS - 249591**

Sample ID: BA06272

Client ID: ERH971

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Lvl mg/L	Matrix Res mg/L	SPK Res mg/L	DUP Res mg/L	SPK % Recovery	DUP % Recovery	RPD	RPD Max	Recovery Limits	Extract Date-Spk	Analysis Date-Spk	Extract Date-Dup	Analysis Date-Dup	QC Group	QC Sample
EPA 300.0	CHLORIDE	125	88.6	223	90.9	108	1.8 #	84.2 #	20	90-110	01/25/20	01/25/20	01/25/20	01/25/20	249591	BA06272
EPA 300.0	SULFATE	125	52.1	180	186	102	107	3.3	20	90-110	01/25/20	01/25/20	01/25/20	01/25/20	249591	BA06272
EPA 300.0	NITRATE	22.1	2.7	24.5	24.4	98.6	98.2	0.41	20	90-110	01/22/20	01/22/20	01/22/20	01/22/20	249590	BA06272

= Recovery is outside QC limits.

Comments:

EPA 353.2

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 91282

Case No: 91282 Date Analyzed: 01/27/20

Matrix: WATER Instrument: EVE

Blank ID: 200127A-BLK Time Analyzed: 1422

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200127A-BLK	Blank	12	01/27/20 1422
200127A-LCS	Lab Control Spike	13	01/27/20 1425
200127A-LCSD	Lab Control SpikeD	14	01/27/20 1427
BA06272	ERH971	24	01/27/20 1450
BA06275	ERH979	25	01/27/20 1452
BA06276	ERH981	26	01/27/20 1455
BA06279	ERH987	27	01/27/20 1457
BA06284	ERH1004	28	01/27/20 1459

Comments: Batch: #35OF-200127A

Printed: 02/13/20 3:50:29 PM
Form 4, Blank Summary

SM 2320B

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 91282

Case No: 91282 Date Analyzed: 01/27/20

Matrix: WATER Instrument: Tiamo

Blank ID: 200127A-BLK Time Analyzed: 2035

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200127A-BLK	Blank	1	01/27/20 2035
200127A-LCS	Lab Control Spike	2	01/27/20 2039
200127A-LCSD	Lab Control SpikeD	3	01/27/20 2047
BA06275	ERH979	4	01/27/20 2055
BA06276	ERH981	5	01/27/20 2106
BA06279	ERH987	6	01/27/20 2154
BA06284	ERH1004	7	01/27/20 2159

Comments: Batch: #232W-200127A

Printed: 02/13/20 3:50:29 PM
Form 4, Blank Summary

SM 2320B

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 91282

Case No: 91282 Date Analyzed: 01/30/20

Matrix: WATER Instrument: Tiamo

Blank ID: 200130A-BLK Time Analyzed: 1657

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200130A-LCS	Lab Control Spike	2	01/30/20 1824
BA06272	ERH971	3	01/30/20 1636
200130A-LCSD	Lab Control SpikeD	3	01/24/20 2246
200130A-MS	Matrix Spike	6	01/24/20 2301
200130A-MSD	Matrix SpikeD	7	01/24/20 2310
200130A-BLK	Blank	8	01/30/20 1657

Comments: Batch: #232W-200130A

Printed: 02/13/20 3:50:29 PM
Form 4, Blank Summary

SM3500FeB

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 91282

Case No: 91282 Date Analyzed: 01/22/20

Matrix: WATER Instrument: Manual Spec

Blank ID: A200122-BLK Time Analyzed: 1358

APPL ID.	Client Sample No.	File ID.	Date Analyzed
A200122-BLK	Blank	12	01/22/20 1358
A200122-LCS	Lab Control Spike	13	01/22/20 1359
A200122-LCSD	Lab Control SpikeD	15	01/22/20 1400
BA06272	ERH971	20	01/22/20 1405
A200122-MSD	Matrix SpikeD	21	01/22/20 1406
A200122-MS	Matrix Spike	22	01/22/20 1406
BA06276	ERH981	23	01/22/20 1407
BA06275	ERH979	24	01/22/20 1407
BA06284	ERH1004	25	01/22/20 1408
BA06279	ERH987	26	01/22/20 1408

Comments: Batch: #35FE-A200122

Printed: 02/13/20 3:50:29 PM
Form 4, Blank Summary

SW846 9060A

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 91282

Case No: 91282 Date Analyzed: 01/22/20

Matrix: WATER Instrument: TICTOC

Blank ID: 200122A-BLK Time Analyzed: 2008

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200122A-BLK	Blank	19	01/22/20 2008
200122A-LCS	Lab Control Spike	20	01/22/20 2046
200122A-LCSD	Lab Control SpikeD	21	01/22/20 2126
BA06272	ERH971	32	01/23/20 0541
200122A-MS	Matrix Spike	33	01/23/20 0617
200122A-MSD	Matrix SpikeD	34	01/23/20 0655
BA06275	ERH979	35	01/23/20 0733
BA06276	ERH981	36	01/23/20 0810
BA06279	ERH987	37	01/23/20 0845
BA06284	ERH1004	38	01/23/20 0922

Comments: Batch: #TOCW5-200122A

Printed: 02/13/20 3:50:29 PM
Form 4, Blank Summary

WETLAB BLANK

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Analyte	Result	LOQ	LOD	DL	Units	Prep Date	Analysis Date	QC Group
SM 2320B	BICARBONATE AS	1.1 J	2.0	1.70	0.85	mg/L	01/30/20	01/30/20	#232W-200130A-BA06272
SM 2320B	CARBONATE AS CA	1.70 U	2.0	1.70	0.85	mg/L	01/30/20	01/30/20	#232W-200130A-BA06272
SM 2320B	TOTAL ALKALINITY	1.1 J	2.0	1.70	0.85	mg/L	01/30/20	01/30/20	#232W-200130A-BA06272
SM3500Fe	FERROUS IRON	0.32 U	1.0	0.32	0.16	mg/L	01/22/20	01/22/20	#35FE-A200122-BA06272
EPA 353.2	NITRATE-NITRITE-	0.090 U	0.10	0.090	0.028	mg/L	01/27/20	01/27/20	#35OF-200127A-BA06136
SW846 90	TOTAL ORGANIC C	0.14 J	0.93	0.350	0.130	mg/L	01/22/20	01/22/20	#TOCW5-200122A-BA06272
SM 2320B	BICARBONATE AS	2.0	2.0	1.70	0.85	mg/L	01/27/20	01/27/20	#232W-200127A-BA06275
SM 2320B	CARBONATE AS CA	1.70 U	2.0	1.70	0.85	mg/L	01/27/20	01/27/20	#232W-200127A-BA06275
SM 2320B	TOTAL ALKALINITY	2.0	2.0	1.70	0.85	mg/L	01/27/20	01/27/20	#232W-200127A-BA06275

Wetlab SC-Blank-REG MDLs
Printed: 02/17/20 1:47:24 PM

EPA 353.2

Form 4

LCS Summary

Lab Name: APPL, Inc. SDG No: 91282

Case No: 91282 Date Analyzed: 01/27/20

Matrix: WATER Instrument: EVE

LCS ID: 200127A-LCS Time Analyzed: 1425

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200127A-BLK	Blank	12	01/27/20 1422
200127A-LCS	Lab Control Spike	13	01/27/20 1425
200127A-LCSD	Lab Control SpikeD	14	01/27/20 1427
BA06272	ERH971	24	01/27/20 1450
BA06275	ERH979	25	01/27/20 1452
BA06276	ERH981	26	01/27/20 1455
BA06279	ERH987	27	01/27/20 1457
BA06284	ERH1004	28	01/27/20 1459

Comments: Batch: #35OF-200127A

Printed: 02/13/20 3:50:29 PM
Form 4, LCS Summary

SM 2320B

Form 4

LCS Summary

Lab Name: APPL, Inc. SDG No: 91282

Case No: 91282 Date Analyzed: 01/27/20

Matrix: WATER Instrument: Tiamo

LCS ID: 200127A-LCS Time Analyzed: 2039

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200127A-BLK	Blank	1	01/27/20 2035
200127A-LCS	Lab Control Spike	2	01/27/20 2039
200127A-LCSD	Lab Control SpikeD	3	01/27/20 2047
BA06275	ERH979	4	01/27/20 2055
BA06276	ERH981	5	01/27/20 2106
BA06279	ERH987	6	01/27/20 2154
BA06284	ERH1004	7	01/27/20 2159

Comments: Batch: #232W-200127A

Printed: 02/13/20 3:50:29 PM
Form 4, LCS Summary

SM 2320B

Form 4

LCS Summary

Lab Name: APPL, Inc. SDG No: 91282

Case No: 91282 Date Analyzed: 01/30/20

Matrix: WATER Instrument: Tiamo

LCS ID: 200130A-LCS Time Analyzed: 1824

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200130A-LCS	Lab Control Spike	2	01/30/20 1824
BA06272	ERH971	3	01/30/20 1636
200130A-LCSD	Lab Control SpikeD	3	01/24/20 2246
200130A-MS	Matrix Spike	6	01/24/20 2301
200130A-MSD	Matrix SpikeD	7	01/24/20 2310
200130A-BLK	Blank	8	01/30/20 1657

Comments: Batch: #232W-200130A

Printed: 02/13/20 3:50:29 PM
Form 4, LCS Summary

SM3500FeB

Form 4

LCS Summary

Lab Name: APPL, Inc. SDG No: 91282

Case No: 91282 Date Analyzed: 01/22/20

Matrix: WATER Instrument: Manual Spec

LCS ID: A200122-LCS Time Analyzed: 1359

APPL ID.	Client Sample No.	File ID.	Date Analyzed
A200122-BLK	Blank	12	01/22/20 1358
A200122-LCS	Lab Control Spike	13	01/22/20 1359
A200122-LCSD	Lab Control SpikeD	15	01/22/20 1400
BA06272	ERH971	20	01/22/20 1405
A200122-MSD	Matrix SpikeD	21	01/22/20 1406
A200122-MS	Matrix Spike	22	01/22/20 1406
BA06276	ERH981	23	01/22/20 1407
BA06275	ERH979	24	01/22/20 1407
BA06284	ERH1004	25	01/22/20 1408
BA06279	ERH987	26	01/22/20 1408

Comments: Batch: #35FE-A200122

Printed: 02/13/20 3:50:29 PM
Form 4, LCS Summary

SW846 9060A

Form 4

LCS Summary

Lab Name: APPL, Inc. SDG No: 91282

Case No: 91282 Date Analyzed: 01/22/20

Matrix: WATER Instrument: TICTOC

LCS ID: 200122A-LCS Time Analyzed: 2046

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200122A-BLK	Blank	19	01/22/20 2008
200122A-LCS	Lab Control Spike	20	01/22/20 2046
200122A-LCSD	Lab Control SpikeD	21	01/22/20 2126
BA06272	ERH971	32	01/23/20 0541
200122A-MS	Matrix Spike	33	01/23/20 0617
200122A-MSD	Matrix SpikeD	34	01/23/20 0655
BA06275	ERH979	35	01/23/20 0733
BA06276	ERH981	36	01/23/20 0810
BA06279	ERH987	37	01/23/20 0845
BA06284	ERH1004	38	01/23/20 0922

Comments: Batch: #TOCW5-200122A

Printed: 02/13/20 3:50:29 PM
Form 4, LCS Summary

Laboratory Control Spike Recoveries

WETLAB

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Lvl mg/L	SPK Res mg/L	DUP Res mg/L	SPK % Recov	DUP % Recov	RPD	RPD Max	QC Limits	Extract Date-Spk	Analysis Date-Spk	Extract Date-Dup	Analysis Date-Dup	QC Group
EPA 353.2	NITRATE-NITRITE-N	3.00	3.02	2.90	101	96.7	4.1	20	90-110	01/27/20	01/27/20	01/27/20	01/27/20	#35OF-200127A-BA06136
SM 2320B	TOTAL ALKALINITY AS CA	238.88	236	235	98.8	98.4	0.42	20	90-110	01/30/20	01/30/20	01/24/20	01/24/20	#232W-200130A-BA06272
SM3500Fe	FERROUS IRON	3.00	3.09	3.08	103	103	0.32	20	80-120	01/22/20	01/22/20	01/22/20	01/22/20	#35FE-A200122-BA06272
SW846 90	TOTAL ORGANIC CARBO	5.00	4.91	5.01	98.2	100	2.0	20	80-120	01/22/20	01/22/20	01/22/20	01/22/20	#TOCW5-200122A-BA062

Comments: _____

Laboratory Control Spike Recoveries

WETLAB

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Lvl mg/L	SPK Res mg/L	DUP Res mg/L	SPK % Recov	DUP % Recov	RPD	RPD Max	QC Limits	Extract Date-Spk	Analysis Date-Spk	Extract Date-Dup	Analysis Date-Dup	QC Group
SM 2320B	TOTAL ALKALINITY AS CA	238.88	237	237	99.2	99.2	0.0	20	90-110	01/27/20	01/27/20	01/27/20	01/27/20	#232W-200127A-BA06275

Comments: _____

Matrix Spike Recoveries

WETLAB

APPL ID: **200124W-06272 MS - 249642**

Sample ID: BA06272

Client ID: ERH971

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Lvl mg/L	Matrix Res mg/L	SPK Res mg/L	DUP Res mg/L	SPK % Recovery	DUP % Recovery	RPD	RPD Max	Recovery Limits	Extract Date-Spk	Analysis Date-Spk	Extract Date-Dup	Analysis Date-Dup	QC Group	QC Sample
SM 2320B	TOTAL ALKALINITY A	238.88	19.4	257	258	99.5	99.9	0.39	20	90-110	01/24/20	01/24/20	01/24/20	01/24/20	249642	BA06272
SM3500Fe	FERROUS IRON	3.00	0.14	3.16	3.14	101	100	0.63	20	80-120	01/22/20	01/22/20	01/22/20	01/22/20	249362	BA06272
SW846 90	TOTAL ORGANIC CAR	5.0	0.28	4.80	4.61	90.4	86.6	4.0	20	80-120	01/22/20	01/23/20	01/22/20	01/23/20	249387	BA06272

Comments: _____

_____

_____

Printed: 02/13/20 3:50:29 PM
APPL MSD SCII

WETLAB

Sample/Sample Duplicate Results

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

Attn: Margie Pascua

Sample ID: BA06272
Client ID: ERH971

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91282

Method	Analyte	Sample ID	Sample Result	Sample Dup Result	RPD	RPD Max	MDL	PQL	Units	Sample Extract Date	Sample Analysis Date	Sample Dup Extract Date	Sample Dup Analysis Date
SW846 9060A	TOTAL ORGANIC	BA06272	0.28	0.28	0.0	20	0.130	0.93	mg/L	01/22/20	01/23/20	01/23/20	01/23/20

Printed: 02/28/20 9:24:11 AM
Dup-SCII (NoMC)

ORGANICS
Calibration Data

DBCP/EDB/1,2,3-TCP Analysis by
504 8011

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Initial Cal. Date: 01/27/20
Matrix: Water Instrument: Herbie
Initials:

			1126255.D	1126256.D	1126257.D	1126258.D	1126259.D	1126260 D									
		Compound	1	2	3	4	5	6					Avg	%RSD	Type	r^2	Q
1	TM	EDB	797450	848935	816342	739899	737259	709140					774837	7.0	TM		
2	TML	1,2,3-TCP	475825	247660	225004	205262	195409	191844					256834	43	TM	0.999	
3	S	1,3-DIBROMOPROPANE(S)		972155	890394	808536	808203	790992					854056	9.0	S		
4	TM	DBCP	2897925	2698400	2715064	2530921	2542059	2618969					2667223	5.1	TM		
5		Signal #2											0	0			
6																	
7																	
8																	
9																	
10																	
11																	
12																	
13																	
14																	
15																	
16																	
17																	
18																	
19																	
20																	
21																	
22																	
23																	
24																	
25																	
26																	
27																	
28																	
29																	
30																	
31																	
32																	
33																	
34																	
35																	

1.817559

DBCP/EDB/1,2,3-TCP Analysis by
504 8011

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Initial Cal. Date: 01/27/20
Matrix: Water Instrument: Herbie Initials:

		Compound	1126255.D	1126256.D	1126257.D	1126258.D	1126259 D	1126260.D					Avg	%RSD	Type	r^2	Q
36	TM	EDB #2	3872200	3605655	3390022	3070495	3064089	3059461					3343654	10	TM		
37	TM	1,2,3-TCP #2	693775	668715	655884	592167	571891	556649					623180	9.1	TM		
38	S	1,3-DIBROMOPROPANE(S) #2	2762200	2733835	2508588	2289292	2244544	2258348					2466135	9.7	S		
39	TM	DBCP #2	9780100	9934000	10016586	9560982	9990470	10177957					9910016	2.2	TM		
40																	
41																	
42																	
43																	
44																	
45																	
46																	
47																	
48																	
49																	
50																	
51																	
52																	
53																	
54																	
55																	
56																	
57																	
58																	
59																	
60																	
61																	
62																	
63																	
64																	
65																	
66																	
67																	
68																	
69																	
70																	

0.890615

Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\191126\1126255.D\ECD1A.CH Vial: 55
Signal #2 : G:\HERBIE\DATA\191126\1126255.D\ECD2B.CH
Acq On : 01-27-20 17:20:20 Operator: GA
Sample : 8011 1 1/27/20 Inst : Herbie
Misc : water Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Jan 28 8:52 2020 Quant Results File: 8010127A.RES

Quant Method : G:\HERBIE\DATA\191126\8010127A.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Tue Nov 12 13:30:16 2019
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L	
	System Monitoring Compounds							
3)	S 1,3-DIBROMOPROPA	10.03	11.03	53126	110488	0.031	0.025	
	Spiked Amount 0.350			Recovery	=	8.86%	7.14%	
	Target Compounds							
1)	TM EDB	5.79	7.22	31898	154888	0.021	0.024	
2)	TM 1,2,3-TCP	9.23	10.44	19033	27751	0.010	0.023	#
4)	TM DBCP	13.34	14.08	115917	391204	0.020	0.021	

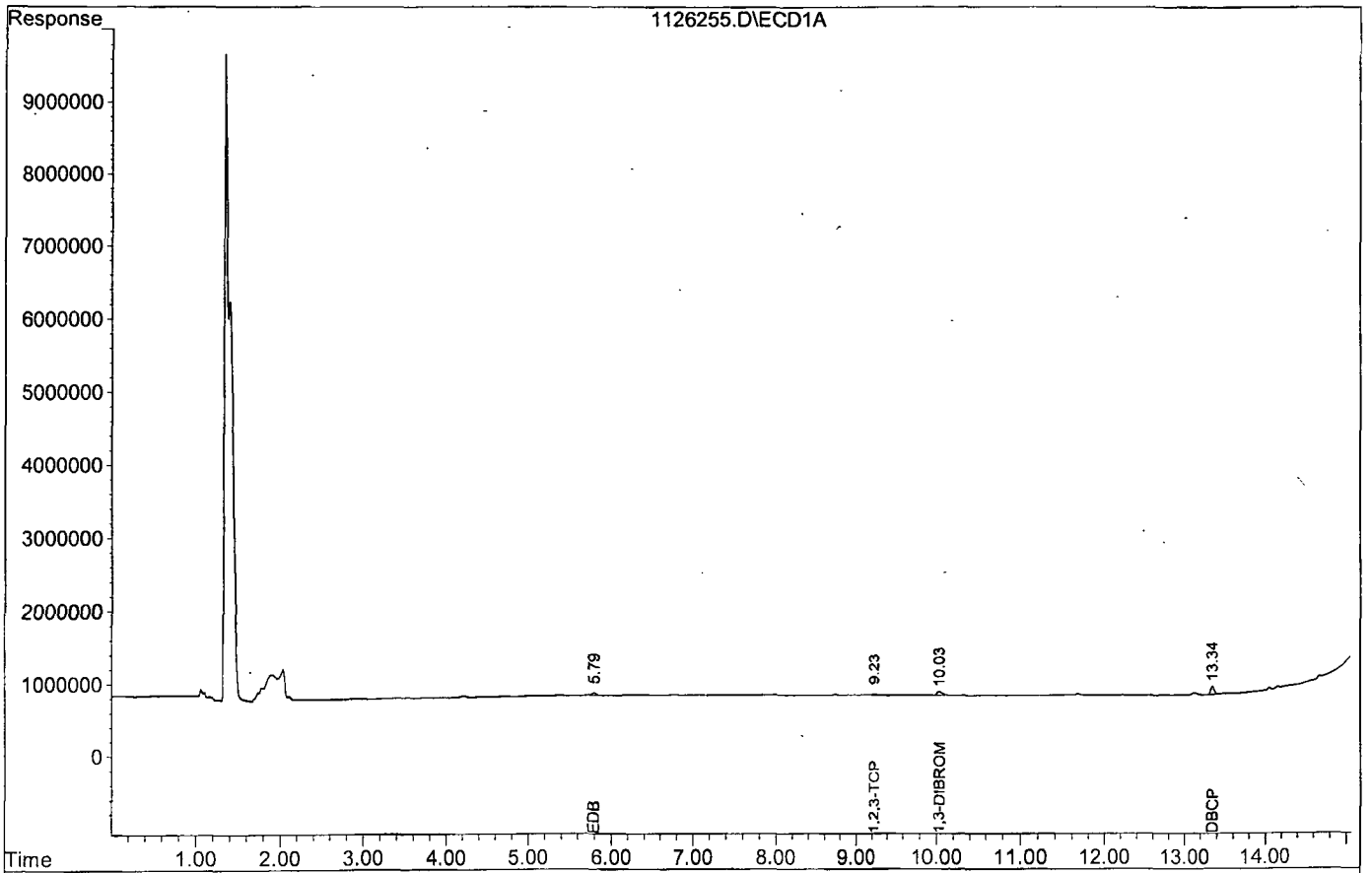
Target Compounds

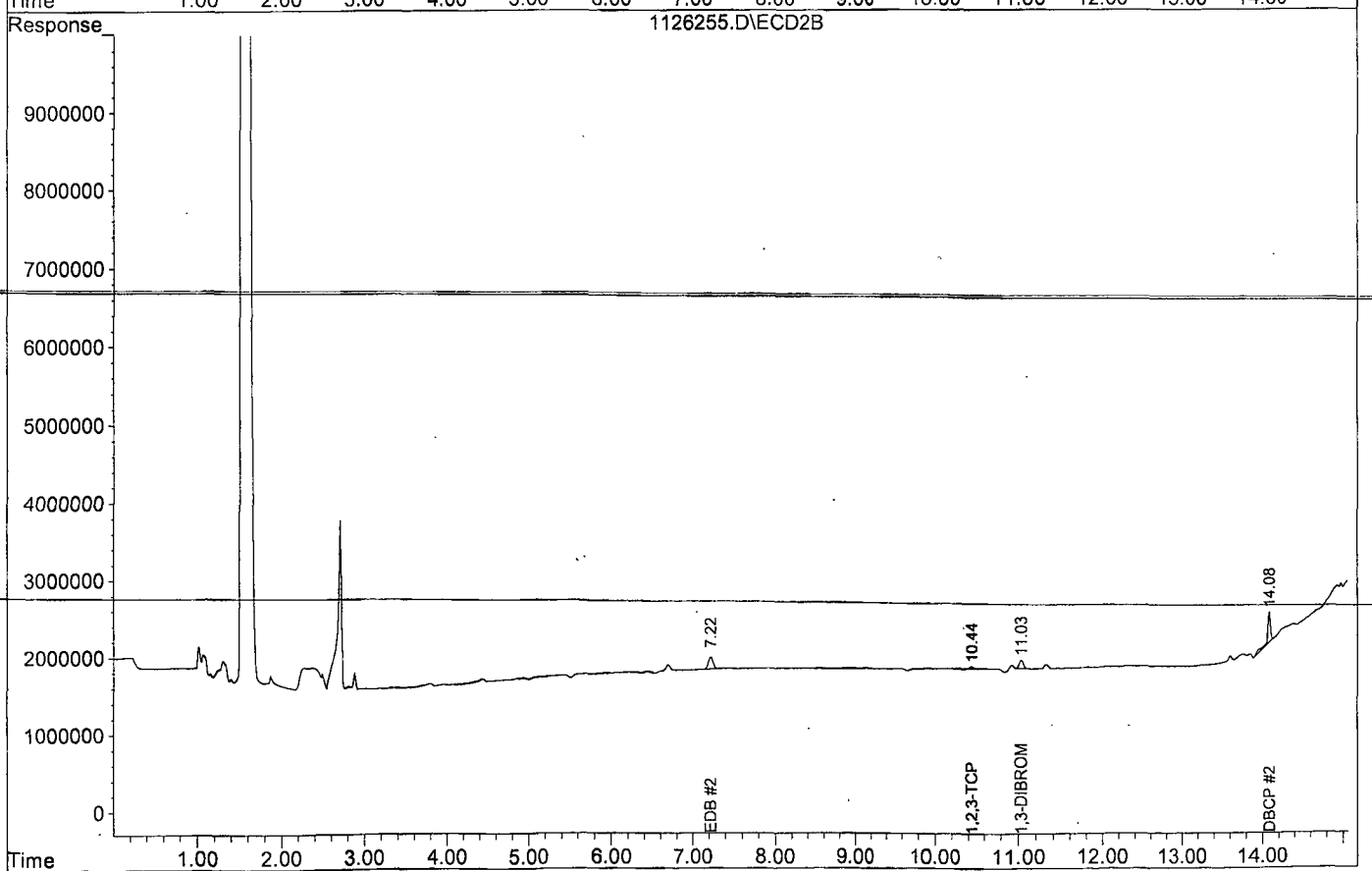
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\191126\1126255.D
Acq On : 01-27-20 17:20:20
Sample : 8011 1 1/27/20
Misc : water
Quant Method : G:\HERBIE\DATA\191126\8010127A.M

Vial: 55
Operator: GA
Inst : Herbie
Multiplr: 1.00





Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\191126\1126256.D\ECD1A.CH Vial: 56
Signal #2 : G:\HERBIE\DATA\191126\1126256.D\ECD2B.CH
Acq On : 01-27-20 17:40:18 Operator: GA
Sample : 8011 2 1/27/20 Inst : Herbie
Misc : water Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Jan 28 8:52 2020 Quant Results File: 8010127A.RES

Quant Method : G:\HERBIE\DATA\191126\8010127A.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Tue Nov 12 13:30:16 2019
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

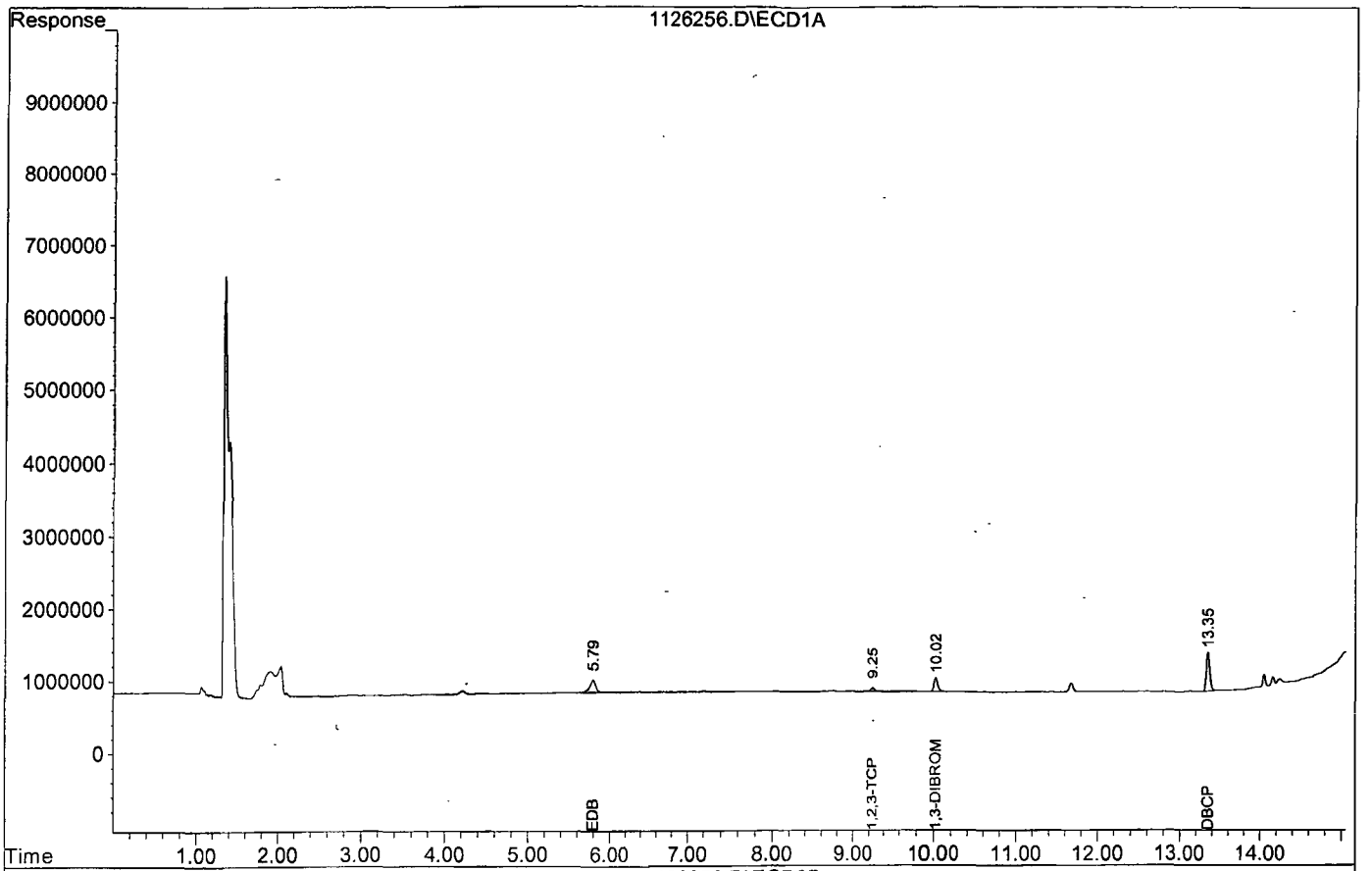
Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.02	11.03	194431	546767	0.112	0.126
Spiked Amount 0.350			Recovery =		32.00%	36.00%
Target Compounds						
1) TM EDB	5.79	7.22	169787	721131	0.113	0.111
2) TM 1,2,3-TCP	9.25	10.44	49532	133743	0.087	0.112 #
4) TM DBCP	13.35	14.08	539680	1986800	0.094	0.106
Target Compounds						

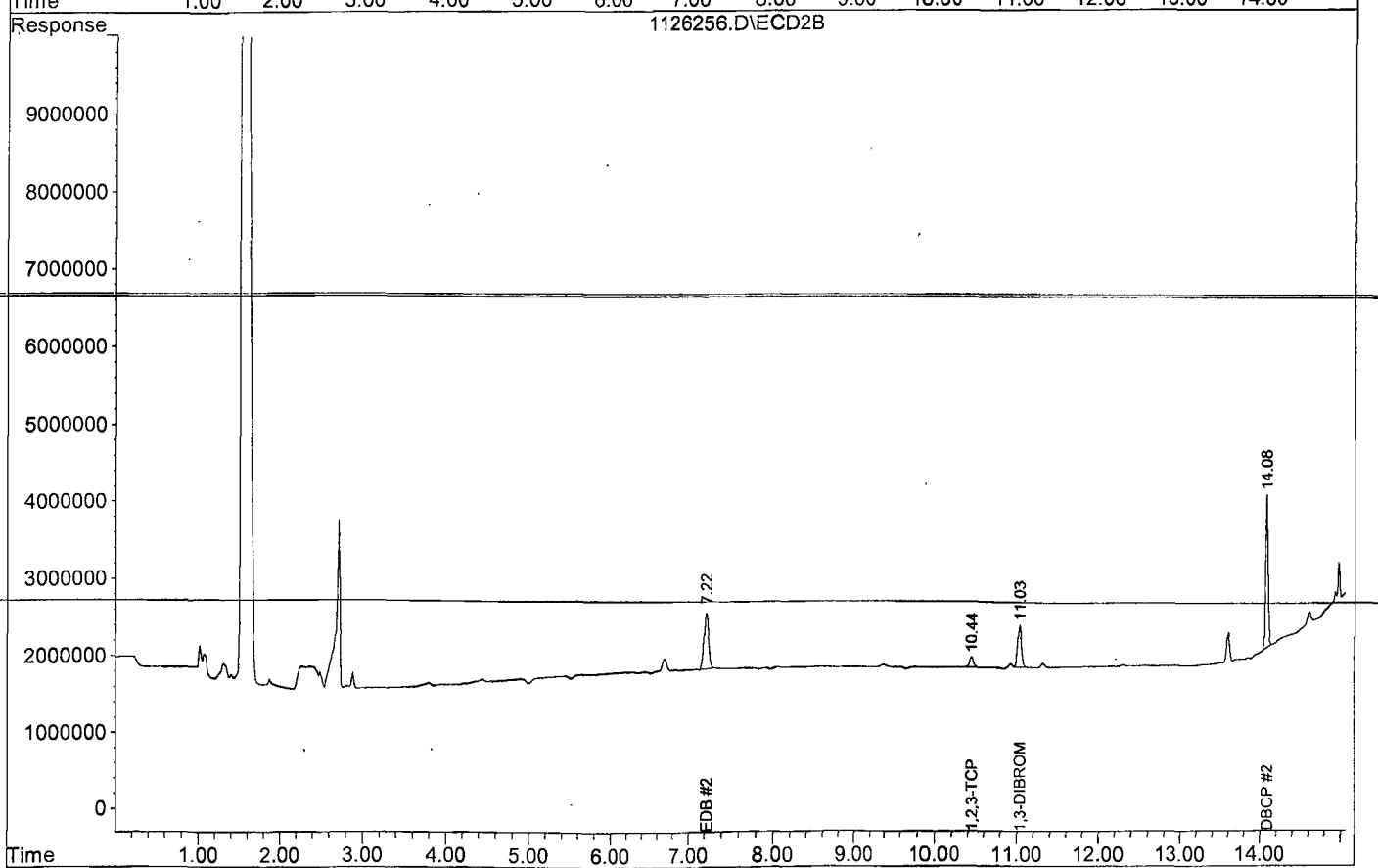
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\191126\1126256.D
Acq On : 01-27-20 17:40:18
Sample : 8011 2 1/27/20
Misc : water
Quant Method : G:\HERBIE\DATA\191126\8010127A.M

Vial: 56
Operator: GA
Inst : Herbie
Multiplr: 1.00





Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\191126\1126257.D\ECD1A.CH Vial: 57
Signal #2 : G:\HERBIE\DATA\191126\1126257.D\ECD2B.CH
Acq On : 01-27-20 18:00:24 Operator: GA
Sample : 8011 3 1/27/20 Inst : Herbie
Misc : water Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Jan 28 8:52 2020 Quant Results File: 8010127A.RES

Quant Method : G:\HERBIE\DATA\191126\8010127A.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Tue Nov 12 13:30:16 2019
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

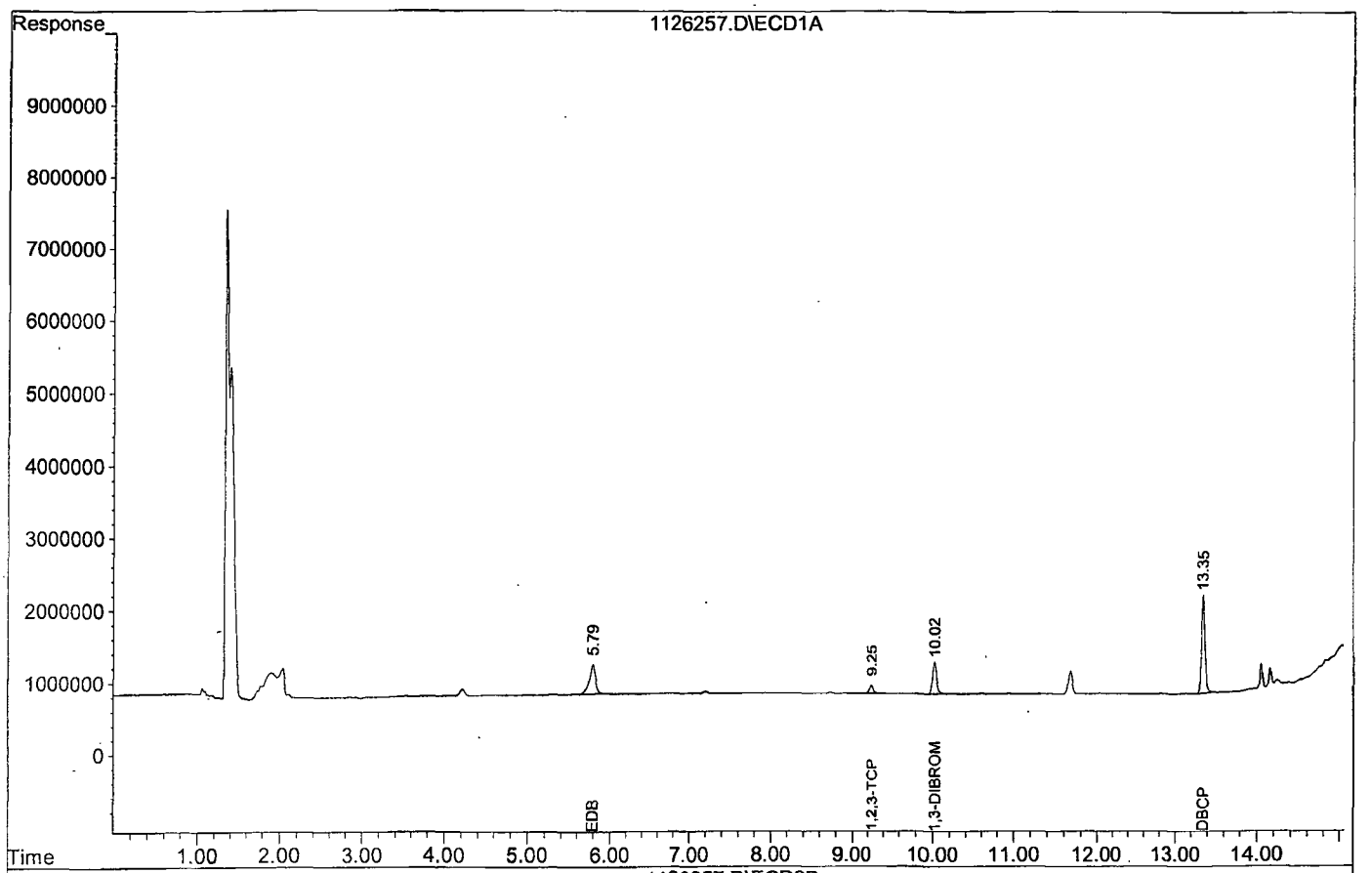
Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.02	11.04	445197	1254294	0.257	0.289
Spiked Amount 0.350			Recovery =		73.43%	82.57%
Target Compounds						
1) TM EDB	5.79	7.22	408171	1695011	0.272	0.261
2) TM 1,2,3-TCP	9.25	10.44	112502	327942	0.246	0.275
4) TM DBCP	13.35	14.08	1357532	5008293	0.236	0.267

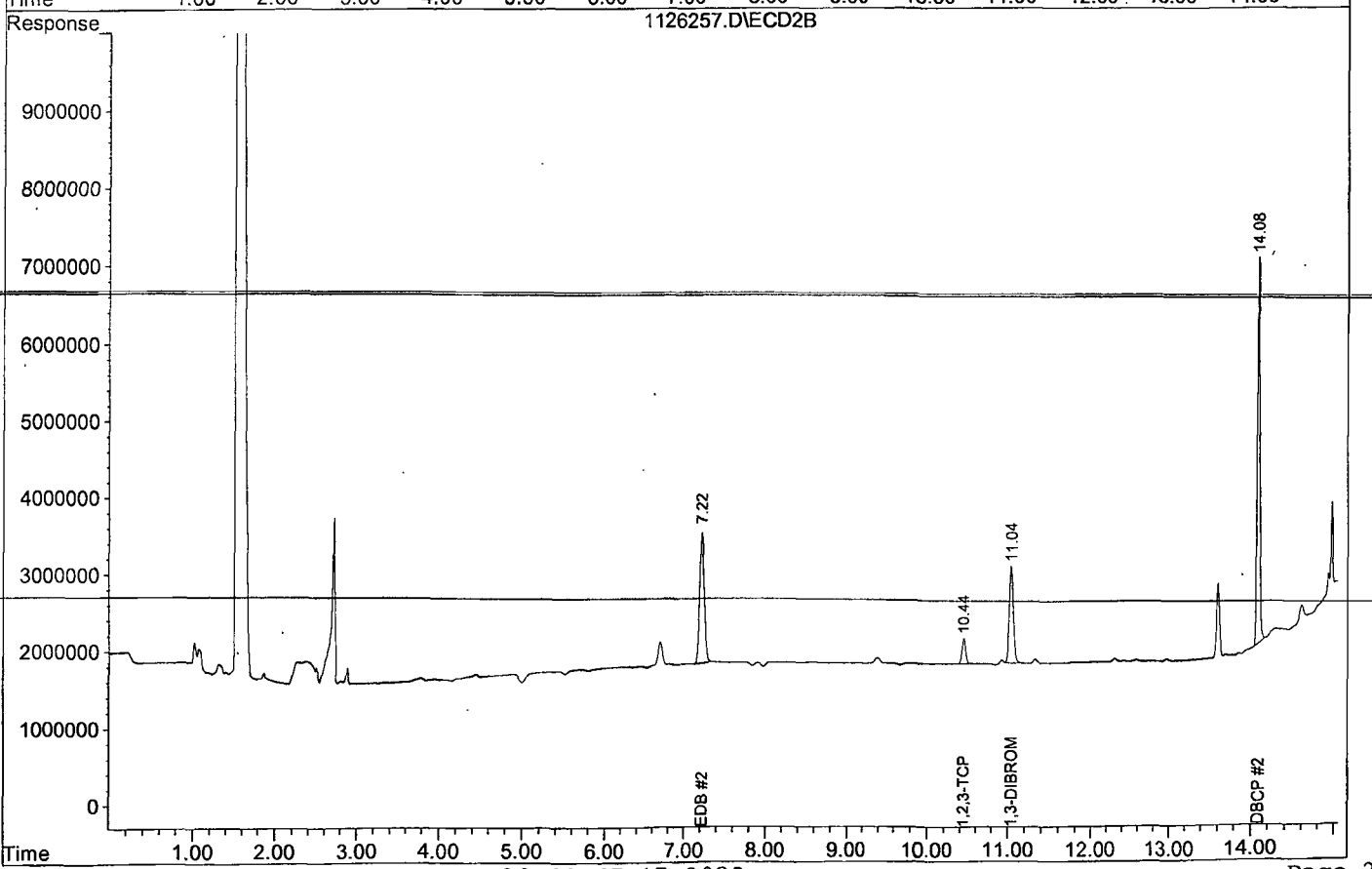
Target Compounds

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\191126\1126257.D Vial: 57
Acq On : 01-27-20 18:00:24 Operator: GA
Sample : 8011 3 1/27/20 Inst : Herbie
Misc : water Multiplr: 1.00
Quant Method : G:\HERBIE\DATA\191126\8010127A.M





Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\191126\1126258.D\ECD1A.CH Vial: 58
Signal #2 : G:\HERBIE\DATA\191126\1126258.D\ECD2B.CH
Acq On : 01-27-20 18:20:22 Operator: GA
Sample : 8011 4 1/27/20 Inst : Herbie
Misc : water Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Jan 28 8:52 2020 Quant Results File: 8010127A.RES

Quant Method : G:\HERBIE\DATA\191126\8010127A.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Tue Nov 12 13:30:16 2019
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

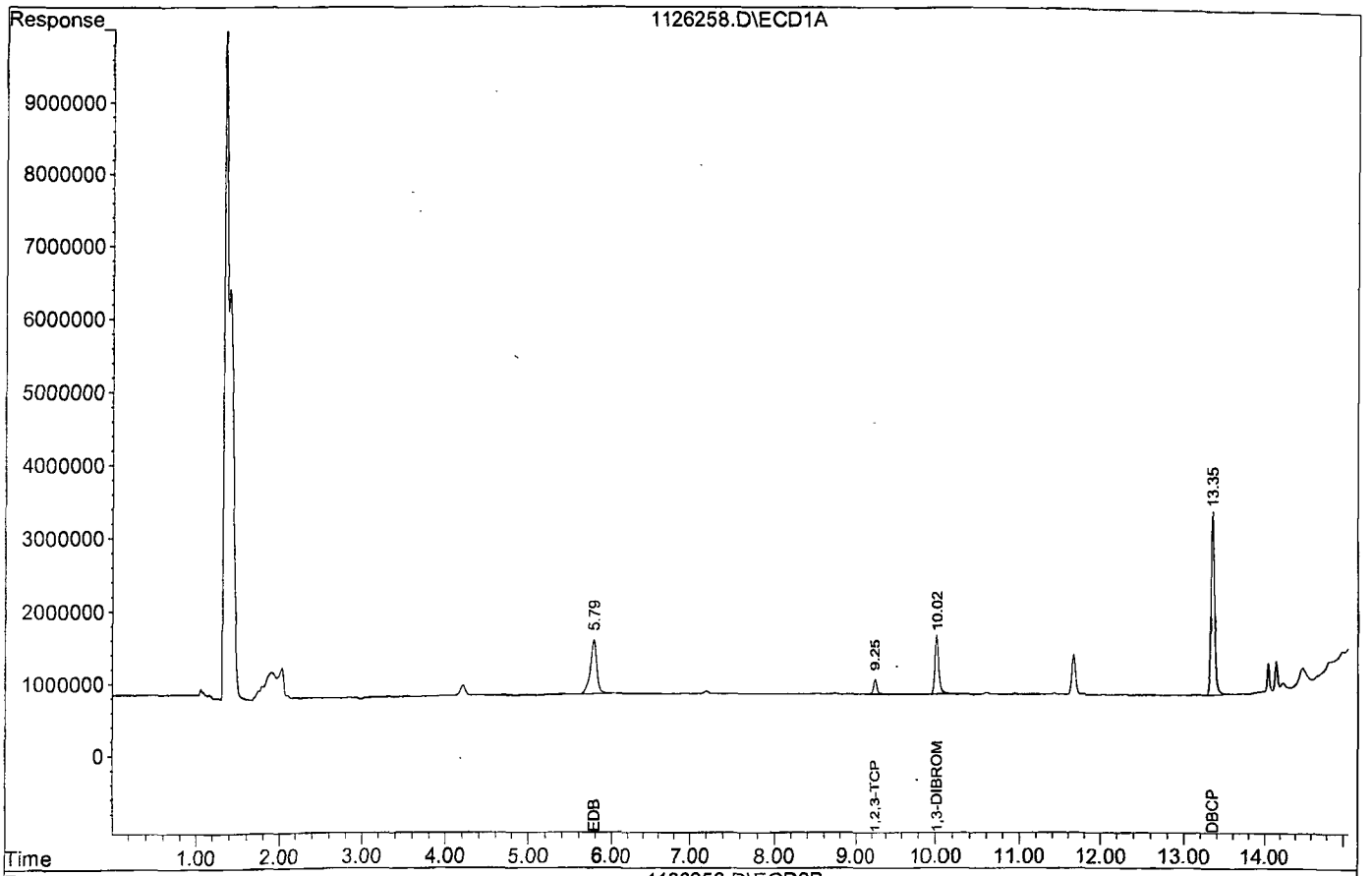
	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	System Monitoring Compounds						
3) S	1,3-DIBROMOPROPA	10.02	11.04	808536	2289292	0.467	0.528
Spiked Amount	0.350			Recovery	=	133.43%	150.86%
	Target Compounds						
1) TM	EDB	5.79	7.22	739899	3070495	0.494	0.473
2) TM	1,2,3-TCP	9.25	10.44	205262	592167	0.482	0.497
4) TM	DBCP	13.35	14.09	2530921	9560982	0.441	0.509
	Target Compounds						

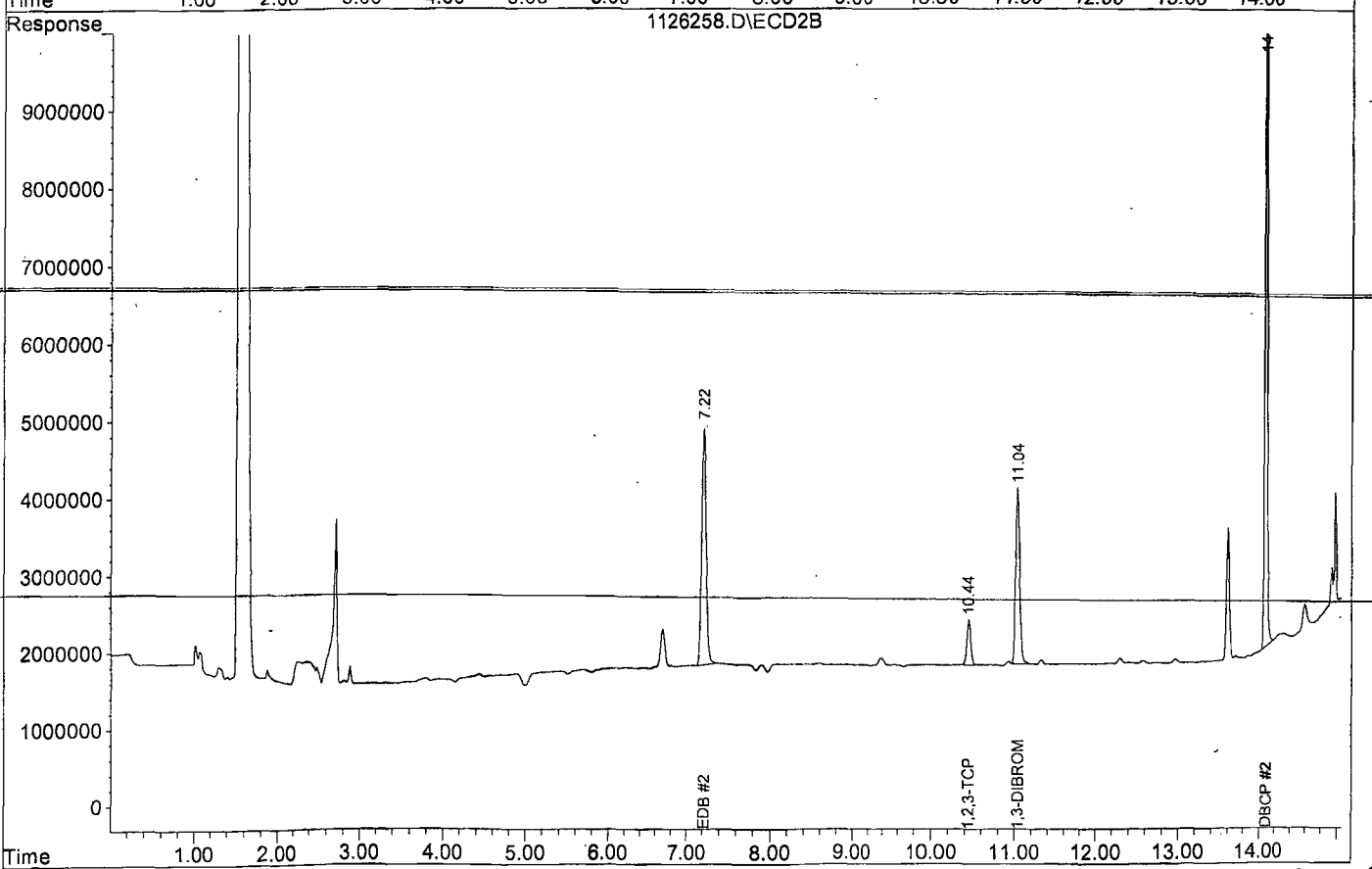
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\191126\1126258.D
Acq On : 01-27-20 18:20:22
Sample : 8011 4 1/27/20
Misc : water
Quant Method : G:\HERBIE\DATA\191126\8010127A.M

Vial: 58
Operator: GA
Inst : Herbie
Multiplr: 1.00





Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\191126\1126259.D\ECD1A.CH Vial: 59
Signal #2 : G:\HERBIE\DATA\191126\1126259.D\ECD2B.CH
Acq On : 01-27-20 18:40:19 Operator: GA
Sample : 8011 5 1/27/20 Inst : Herbie
Misc : water Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Jan 28 8:52 2020 Quant Results File: 8010127A.RES

Quant Method : G:\HERBIE\DATA\191126\8010127A.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Tue Nov 12 13:30:16 2019
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

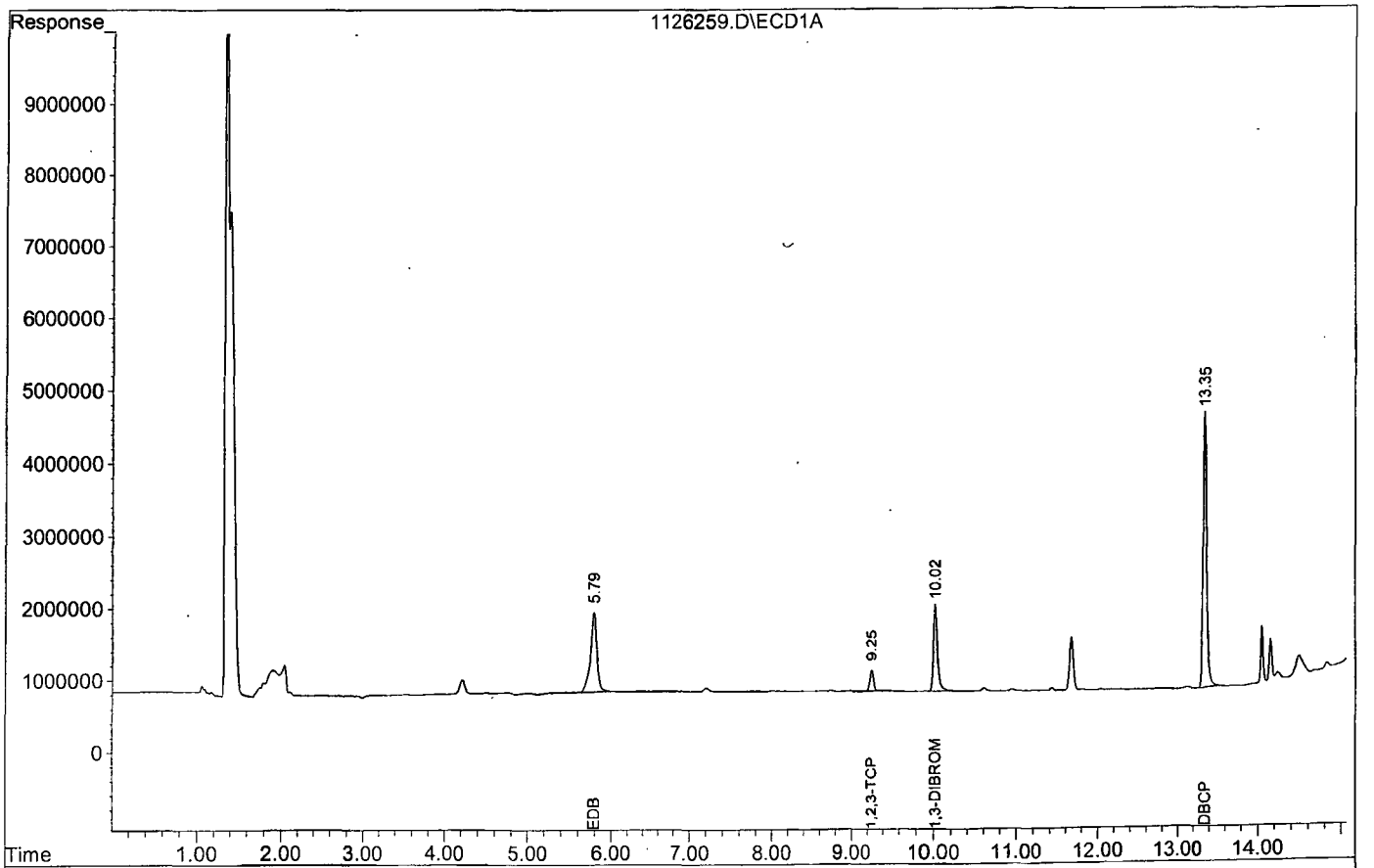
Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.02	11.03	1212305	3366816	0.700	0.776
Spiked Amount 0.350			Recovery =		200.00%	221.71%
Target Compounds						
1) TM EDB	5.79	7.22	1105888	4596134	0.738	0.709
2) TM 1,2,3-TCP	9.25	10.44	293113	857836	0.704	0.720
4) TM DBCP	13.35	14.08	3813088	14985705	0.664	0.797
Target Compounds						

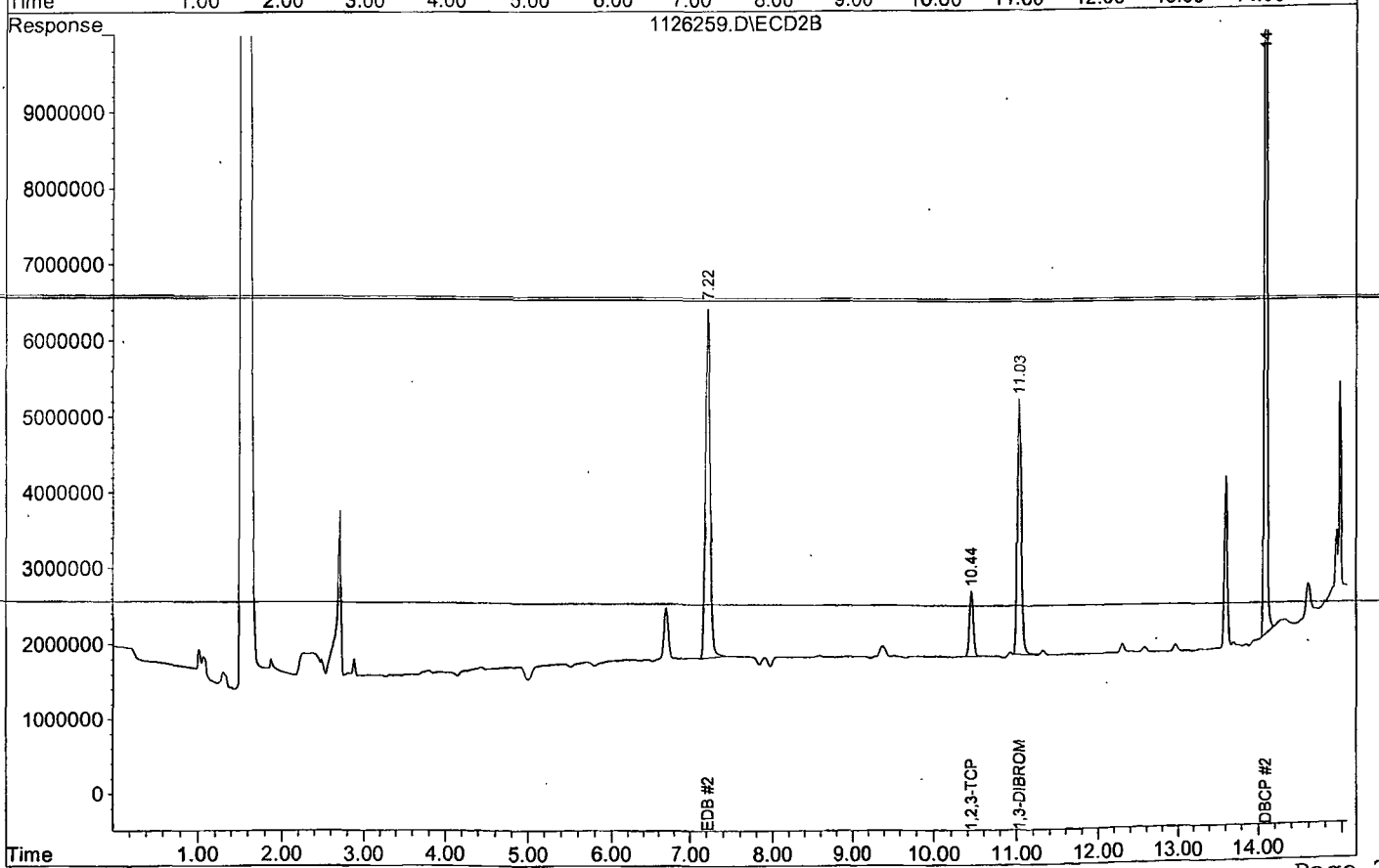
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\191126\1126259.D
Acq On : 01-27-20 18:40:19
Sample : 8011 5 1/27/20
Misc : water
Quant Method : G:\HERBIE\DATA\191126\8010127A.M

Vial: 59
Operator: GA
Inst : Herbie
Multiplr: 1.00





Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\191126\1126260.D\ECD1A.CH Vial: 60
Signal #2 : G:\HERBIE\DATA\191126\1126260.D\ECD2B.CH
Acq On : 01-27-20 19:00:22 Operator: GA
Sample : 8011 6 1/27/20 Inst : Herbie
Misc : water Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Jan 28 8:52 2020 Quant Results File: 8010127A.RES

Quant Method : G:\HERBIE\DATA\191126\8010127A.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Tue Nov 12 13:30:16 2019
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	System Monitoring Compounds						
3)	S 1,3-DIBROMOPROPA	10.02	11.04	1581983	4516696	0.913	1.042
	Spiked Amount 0.350			Recovery	=	260.86%	297.71%
	Target Compounds						
1)	TM EDB	5.79	7.22	1418279	6118921	0.947	0.944
2)	TM 1,2,3-TCP	9.25	10.44	383688	1113298	0.934	0.934
4)	TM DBCP	13.35	14.08	5237938	20355914	0.912	1.083

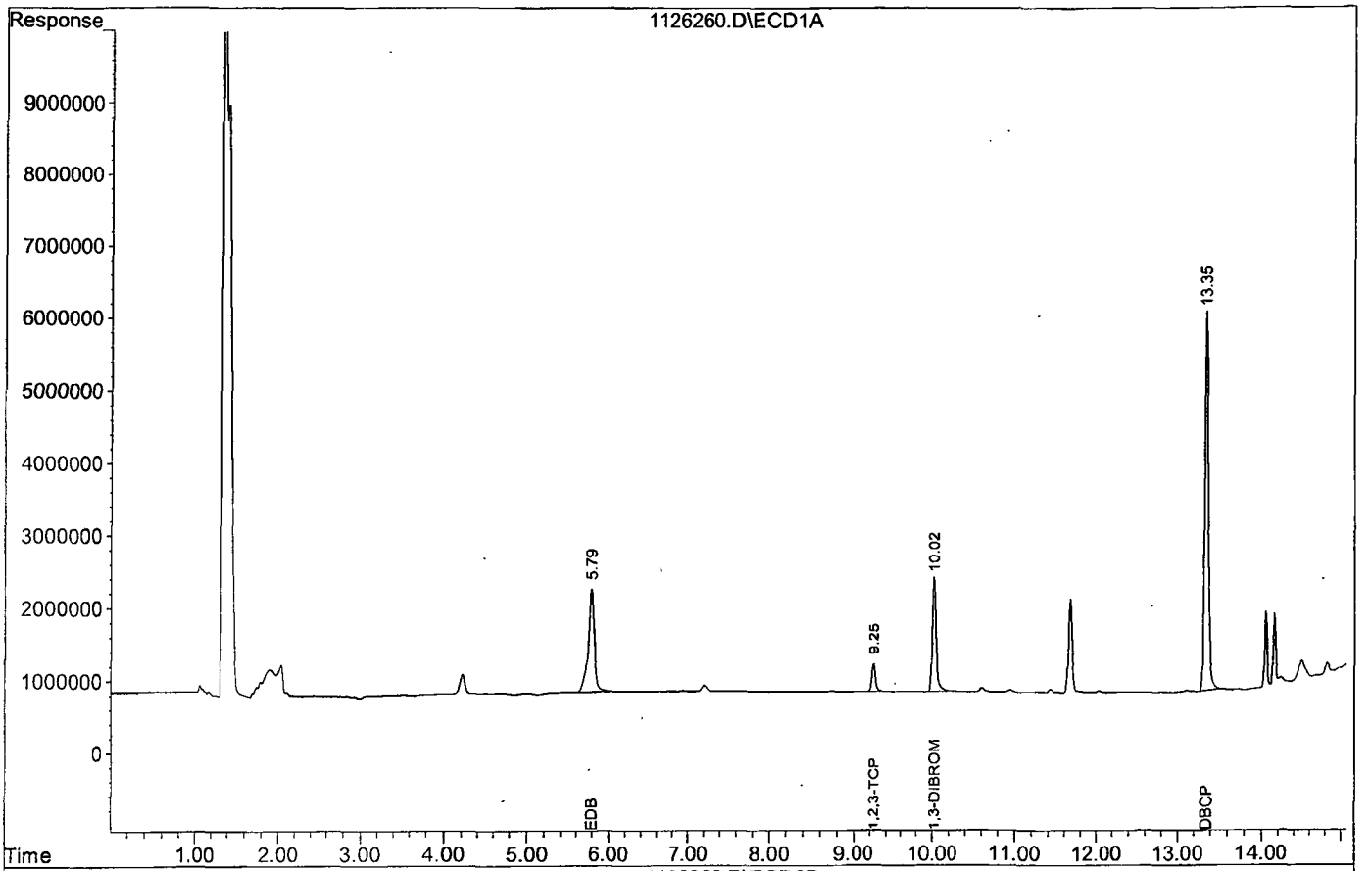
Target Compounds

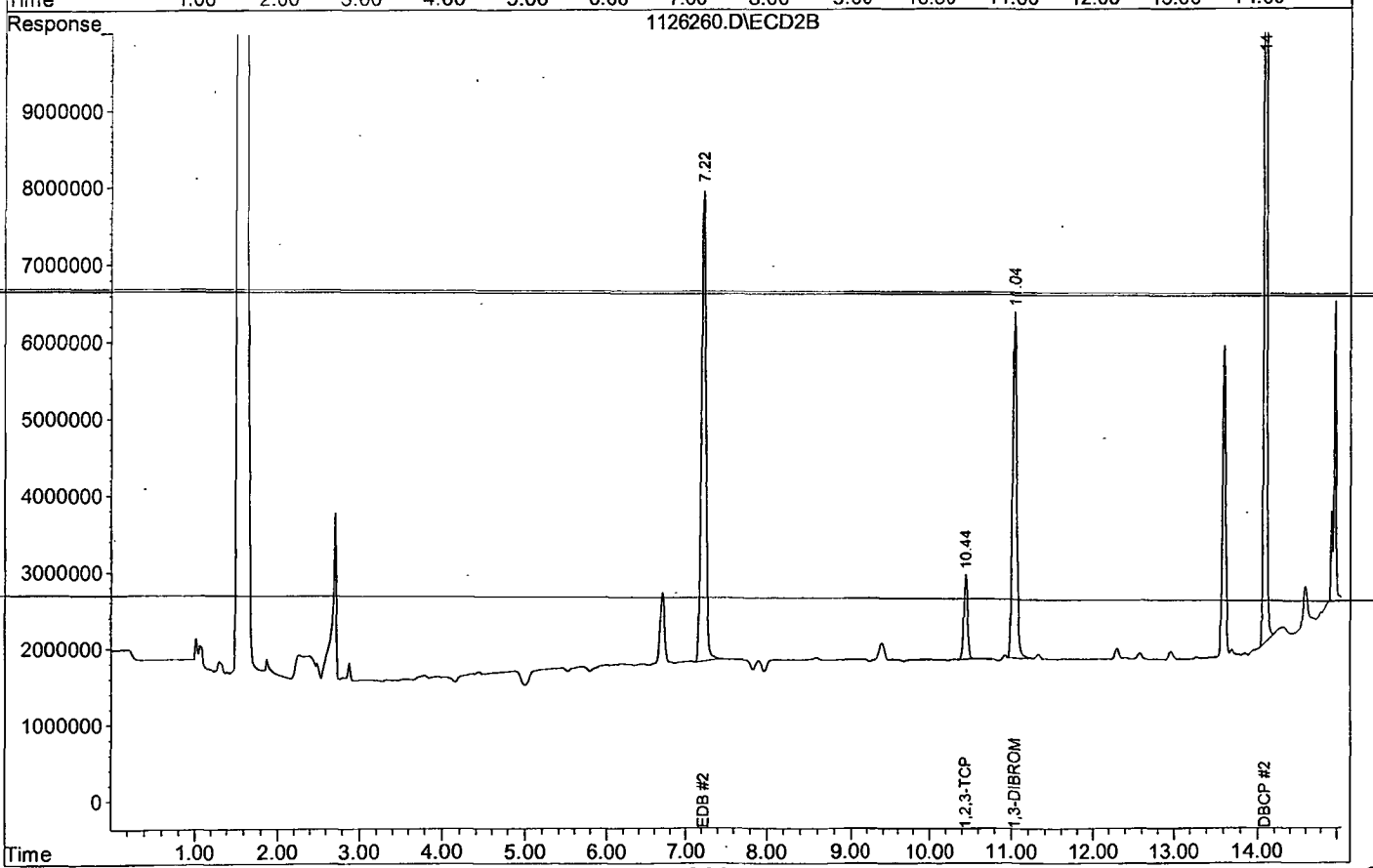
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\191126\1126260.D
Acq On : 01-27-20 19:00:22
Sample : 8011 6 1/27/20
Misc : water
Quant Method : G:\HERBIE\DATA\191126\8010127A.M

Vial: 60
Operator: GA
Inst : Herbie
Multiplr: 1.00





DBCP/EDB/1,2,3-TCP Analysis by
504 8011

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: Water

SDG No:
Date Analyzed: 01/27/20
Instrument: Herbie
Initial Cal. Date: 01/27/20
Data File: 1126261.D

		Compound	MEAN	CCRF	%D	%Drift	
1	TM	EDB	774837	784590	1.3	TM	
2	TML	1,2,3-TCP	256834	252380	1.7	TML	11
3	TM	DBCP	2667220	2829760	6.1	TM	
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			3.0		

DBCP/EDB/1,2,3-TCP Analysis by
504 8011

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: Water

SDG No:
Date Analyzed: 01/27/20
Instrument: Herbie
Cal. Date: 01/27/20
Data File: 1126261.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	EDB	3343650	3388430	1.3	TM	
42	TM	1,2,3-TCP	623180	664855	6.7	TM	
43	TM	DBCP	9910020	10161100	2.5	TM	
44							
45							
46							
47							
48							
49							
50							
51							
52							
53							
54							
55							
56							
57							
58							
59							
60							
61							
62							
63							
64							
65							
66							
67							
68							
69							
70							
71							
72							
73							
74							
75							
76							
77							
78							
79							
80							
		Average			3.5		

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\191126\1126261.D\ECD1A.CH Vial: 61
Acq On : 01-27-20 19:20:20 Operator: GA
Sample : 8011 SS 1/27/20 Inst : Herbie
Misc : water Multiplr: 1.00
IntFile : rteint.p

Data File : G:\HERBIE\DATA\191126\1126261.D\ECD2B.CH Vial: 61
Acq On : 01-27-20 19:20:21 Operator: GA
Sample : 8011 SS 1/27/20 Inst : Herbie
Misc : water Multiplr: 1.00
IntFile : rteint2.p
Quant Time: Jan 28 8:52 2020 Quant Results File: 8010127A.RES

Quant Method : G:\HERBIE\DATA\191126\8010127A.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Tue Nov 12 13:30:16 2019
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

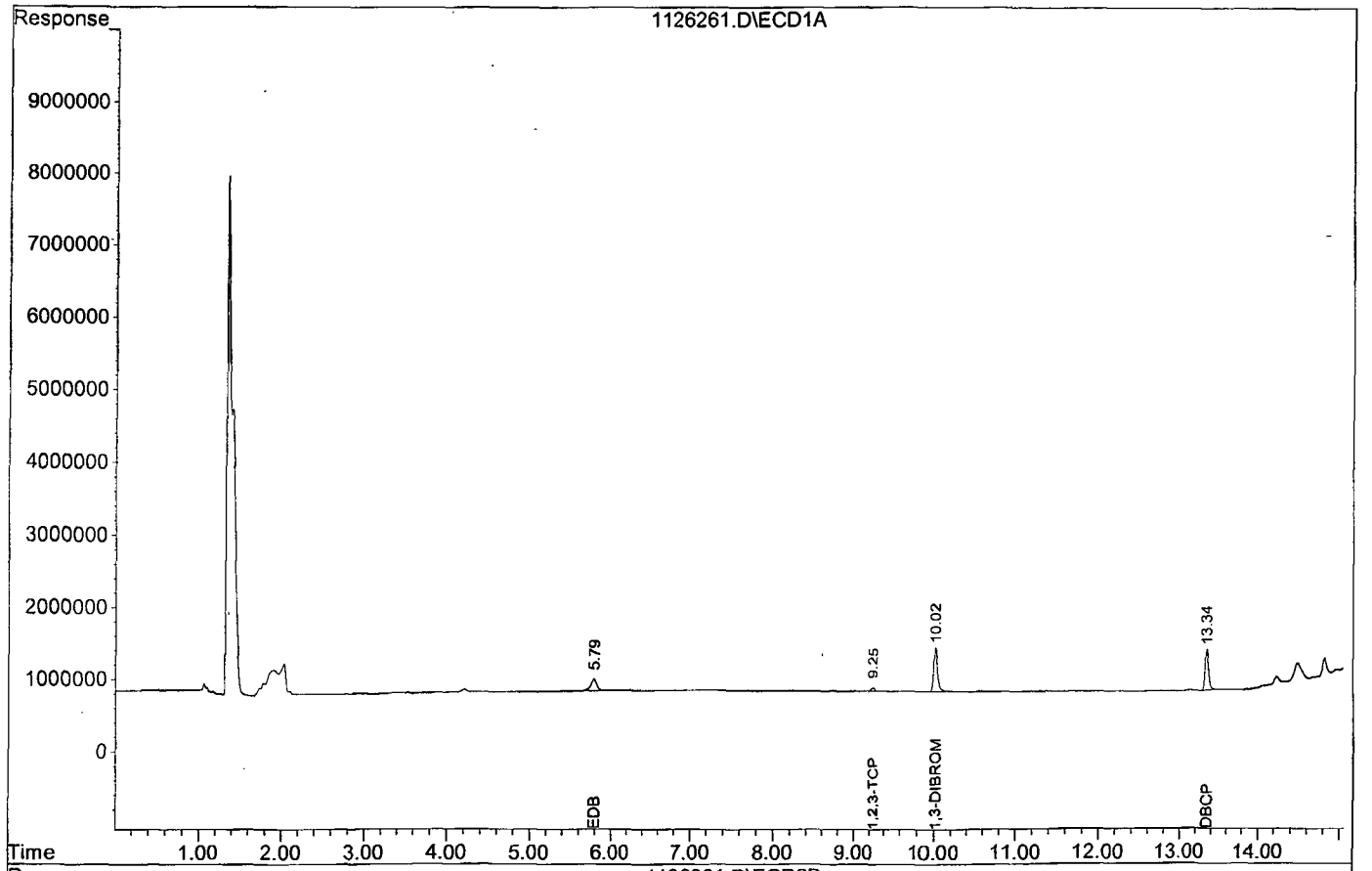
	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	System Monitoring Compounds						
3) S	1,3-DIBROMOPROPA	10.02	11.03	612162	1685909	0.353	0.389
	Spiked Amount 0.350			Recovery	=	100.86%	111.14%
	Target Compounds						
1) TM	EDB	5.79	7.22	156918	677686	0.105	0.105
2) TM	1,2,3-TCP	9.25	10.44	50476	132971	0.089	0.112
4) TM	DBCP	13.34	14.08	565952	2032222	0.099	0.108
	Target Compounds						

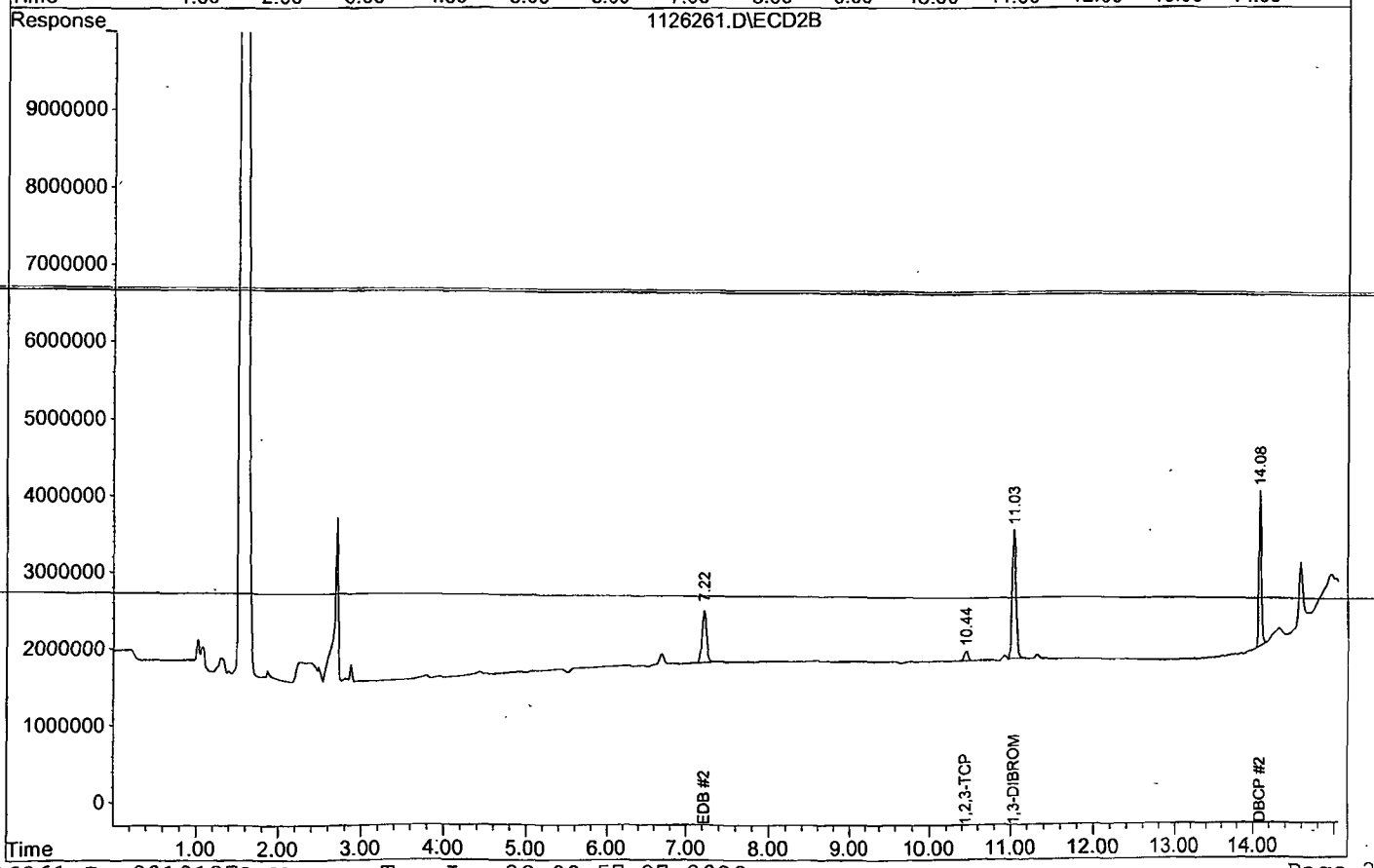
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\191126\1126261.D
Acq On : 01-27-20 19:20:20
Sample : 8011 SS 1/27/20
Misc : water
Quant Method : G:\HERBIE\DATA\191126\8010127A.M

Vial: 61
Operator: GA
Inst : Herbie
Multiplr: 1.00





DBCP/EDB/1,2,3-TCP Analysis by
504 8011

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: Water

SDG No:
Date Analyzed: 01/27/20
Instrument: Herbie
Initial Cal. Date: 01/27/20
Data File: 1126273.D

		Compound	MEAN	CCRF	%D		%Drift
1	TM	EDB	774837	801182	3.4	TM	
2	TML	1,2,3-TCP	256834	225532	12	TML	5.3
3	S	1,3-DIBROMOPROPANE(S)	854056	886420	3.8	S	
4	TM	DBCP	2667220	2707580	1.5	TM	
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			5.2		

DBCP/EDB/1,2,3-TCP Analysis by
504 8011

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: Water

SDG No:
Date Analyzed: 01/27/20
Instrument: Herbie
Cal. Date: 01/27/20
Data File: 1126273.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	EDB	3343650	3276330	2.0	TM	
42	TM	1,2,3-TCP	623180	625854	0.43	TM	
43	S	1,3-DIBROMOPROPANE(S)	2466130	2459560	0.27	S	
44	TM	DBCP	9910020	9764080	1.5	TM	
45							
46							
47							
48							
49							
50							
51							
52							
53							
54							
55							
56							
57							
58							
59							
60							
61							
62							
63							
64							
65							
66							
67							
68							
69							
70							
71							
72							
73							
74							
75							
76							
77							
78							
79							
80							
		Average			1.1		

Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\191126\1126273.D\ECD1A.CH Vial: 73
Signal #2 : G:\HERBIE\DATA\191126\1126273.D\ECD2B.CH
Acq On : 01-27-20 23:20:02 Operator: GA
Sample : 8011 3 1/27/20 Inst : Herbie
Misc : water Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Jan 28 9:01 2020 Quant Results File: 8010127A.RES

Quant Method : G:\HERBIE\DATA\191126\8010127A.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Tue Jan 28 08:55:06 2020
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

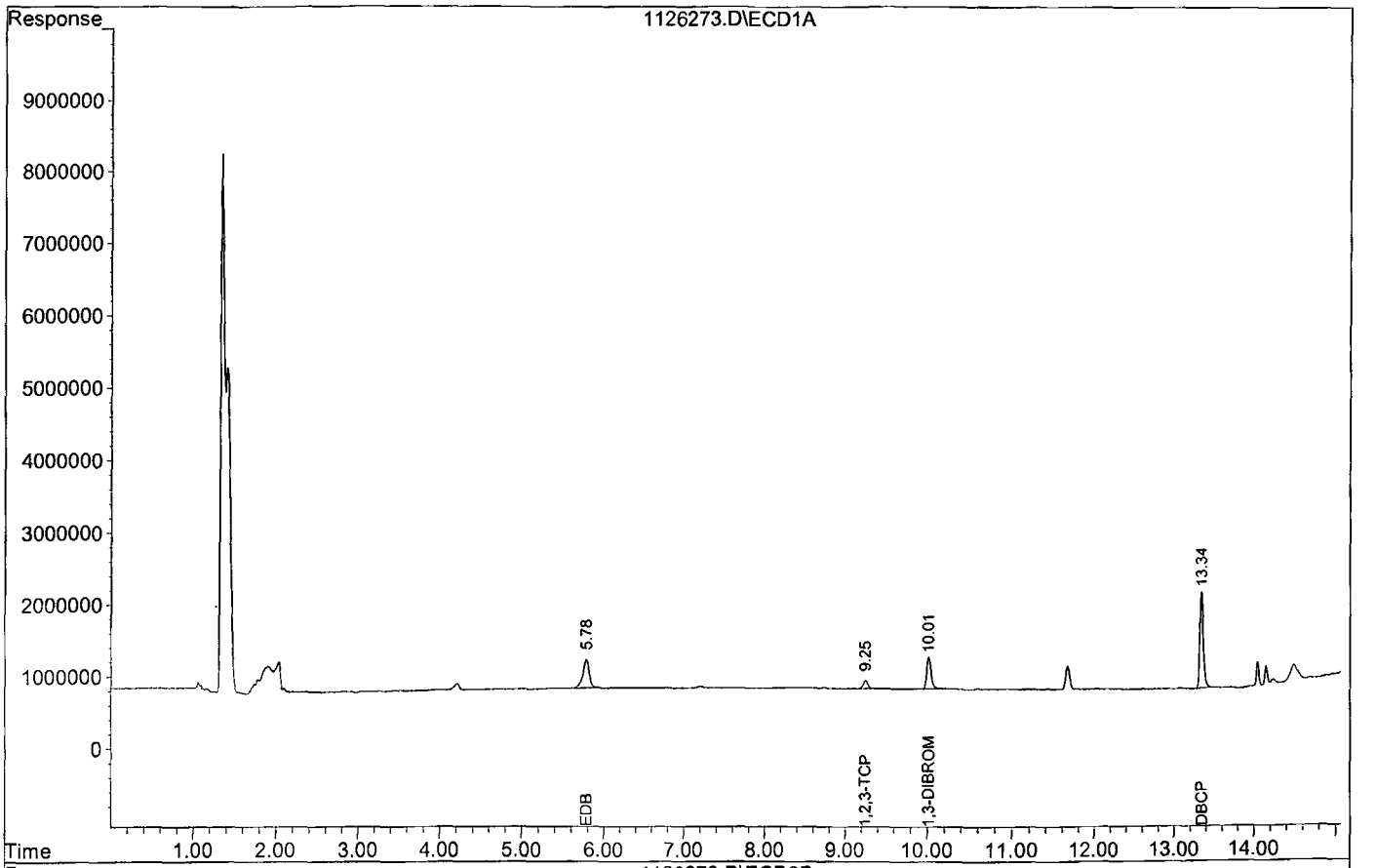
	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	System Monitoring Compounds						
3) S	1,3-DIBROMOPROPA	10.01	11.03	443210	1229778	0.259	0.249
Spiked Amount	0.350			Recovery	=	74.00%	71.14%
	Target Compounds						
1) TM	EDB	5.78	7.21	400591	1638165	0.259	0.245
2) TM	1,2,3-TCP	9.25	10.44	112766	312927	0.263	0.251
4) TM	DBCP	13.34	14.08	1353790	4882042	0.254	0.246

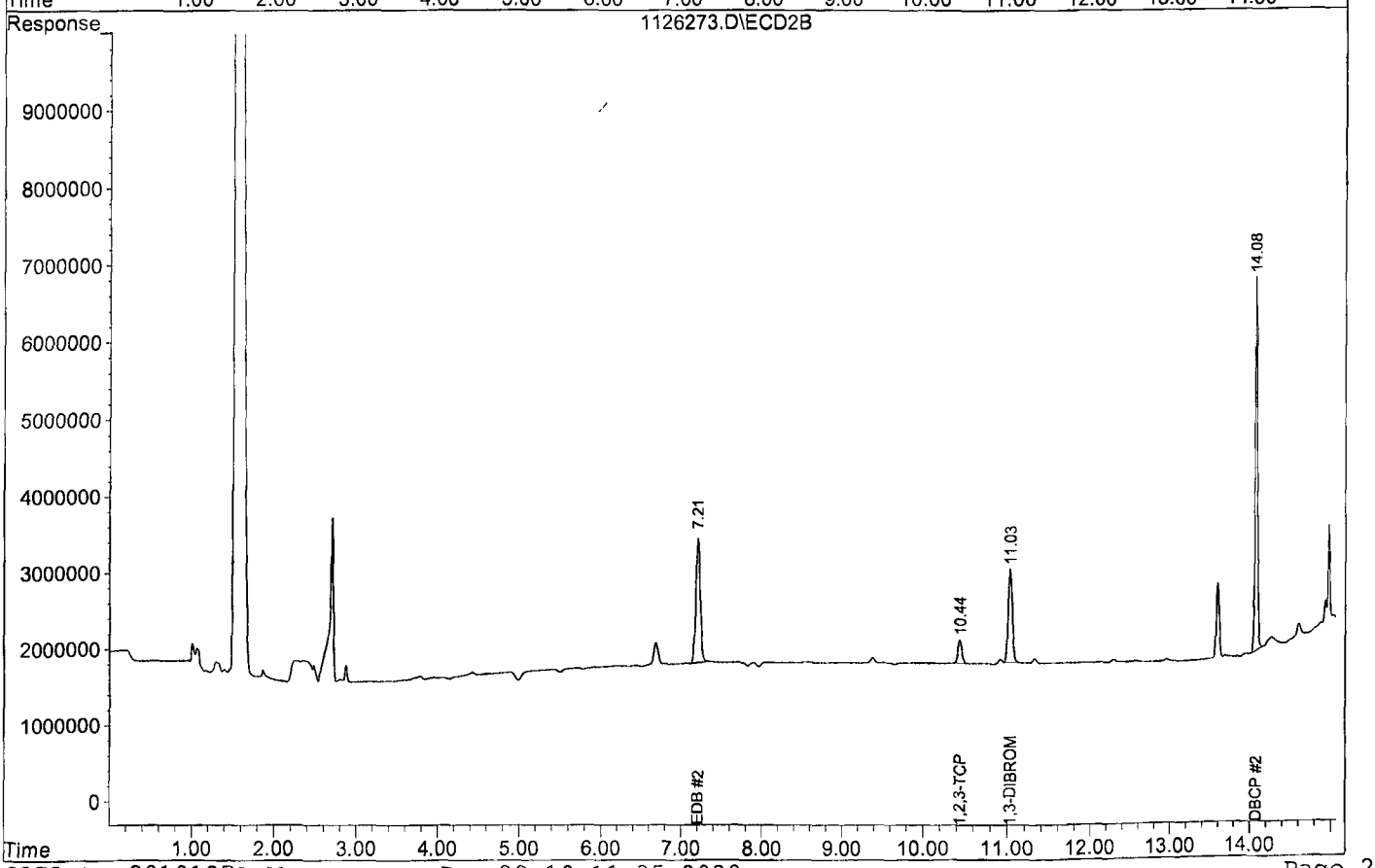
Target Compounds

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\191126\1126273.D Vial: 73
Acq On : 01-27-20 23:20:02 Operator: GA
Sample : 8011 3 1/27/20 Inst : Herbie
Misc : water Multiplr: 1.00
Quant Method : G:\HERBIE\DATA\191126\8010127A.M





ORGANICS
Raw Data

Quantitation Report (QT Reviewed)

Signal #1 : G:\HERBIE\DATA\191126\1126265.D\ECD1A.CH Vial: 65
Signal #2 : G:\HERBIE\DATA\191126\1126265.D\ECD2B.CH
Acq On : 01-27-20 20:40:10 Operator: GA
Sample : BA06280W01 2/35.00g Inst : Herbie
Misc : water Multiplr: 0.99
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Jan 28 9:09 2020 Quant Results File: 8010127A.RES

Quant Method : G:\HERBIE\DATA\191126\8010127A.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Tue Jan 28 08:55:06 2020
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

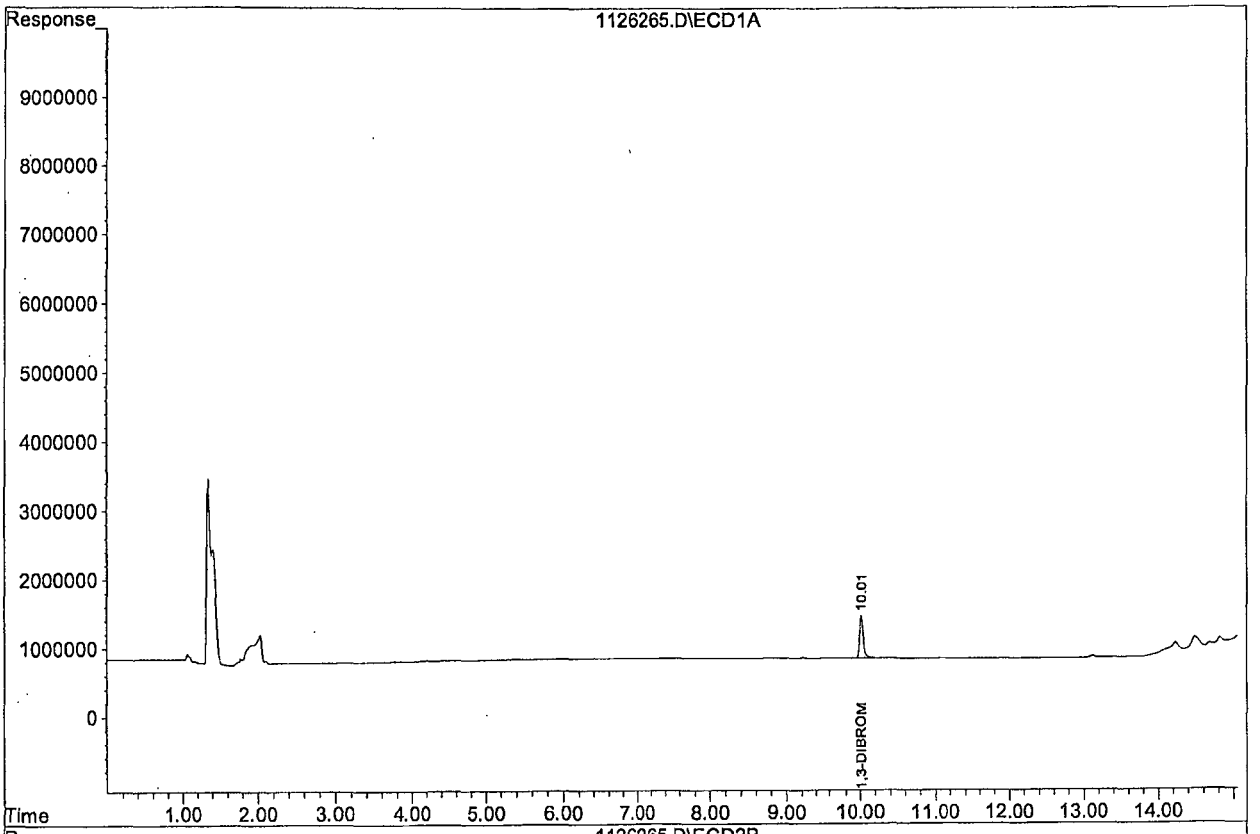
Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.01	11.03	608365	1711773	0.352	0.343
Spiked Amount 0.345			Recovery =		101.89%	99.29%
Target Compounds						
Target Compounds						
1) TM EDB	0.00	0.00	0	0	N.D. d	N.D. d
2) TM 1,2,3-TCP	0.00	0.00	0	0	N.D. d	N.D. d
4) TM DBCP	0.00	0.00	0	0	N.D. d	N.D. d

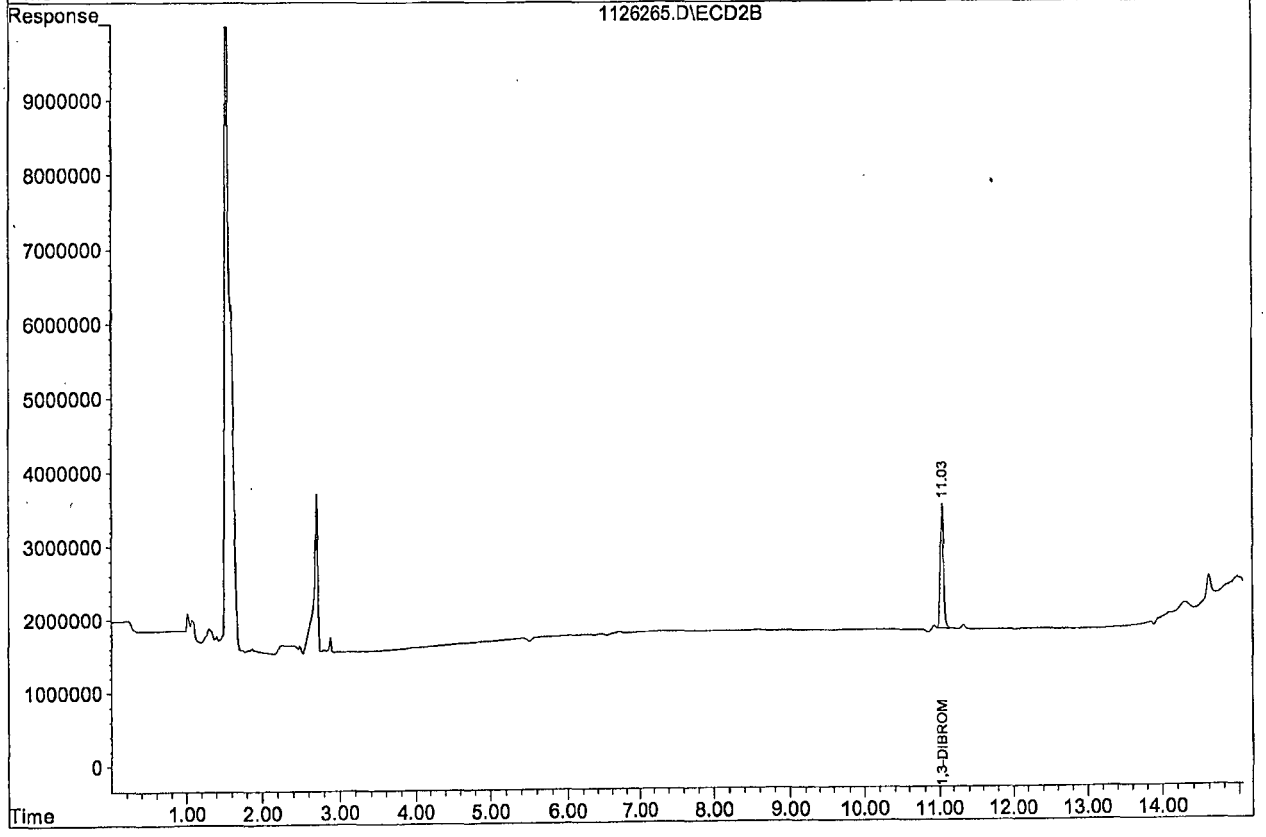
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : G:\HERBIE\DATA\191126\1126265.D
Acq On : 01-27-20 20:40:10
Sample : BA06280W01 2/35.00g
Misc : water
Quant Method : G:\HERBIE\DATA\191126\8010127A.M

Vial: 65
Operator: GA
Inst : Herbie
Multiplr: 0.99





Quantitation Report (QT Reviewed)

Signal #1 : G:\HERBIE\DATA\191126\1126266.D\ECD1A.CH Vial: 66
Signal #2 : G:\HERBIE\DATA\191126\1126266.D\ECD2B.CH
Acq On : 01-27-20 21:00:09 Operator: GA
Sample : BA06281W01 2/35.00g Inst : Herbie
Misc : water Multiplr: 0.99
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Jan 28 9:09 2020 Quant Results File: 8010127A.RES

Quant Method : G:\HERBIE\DATA\191126\8010127A.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Tue Jan 28 08:55:06 2020
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

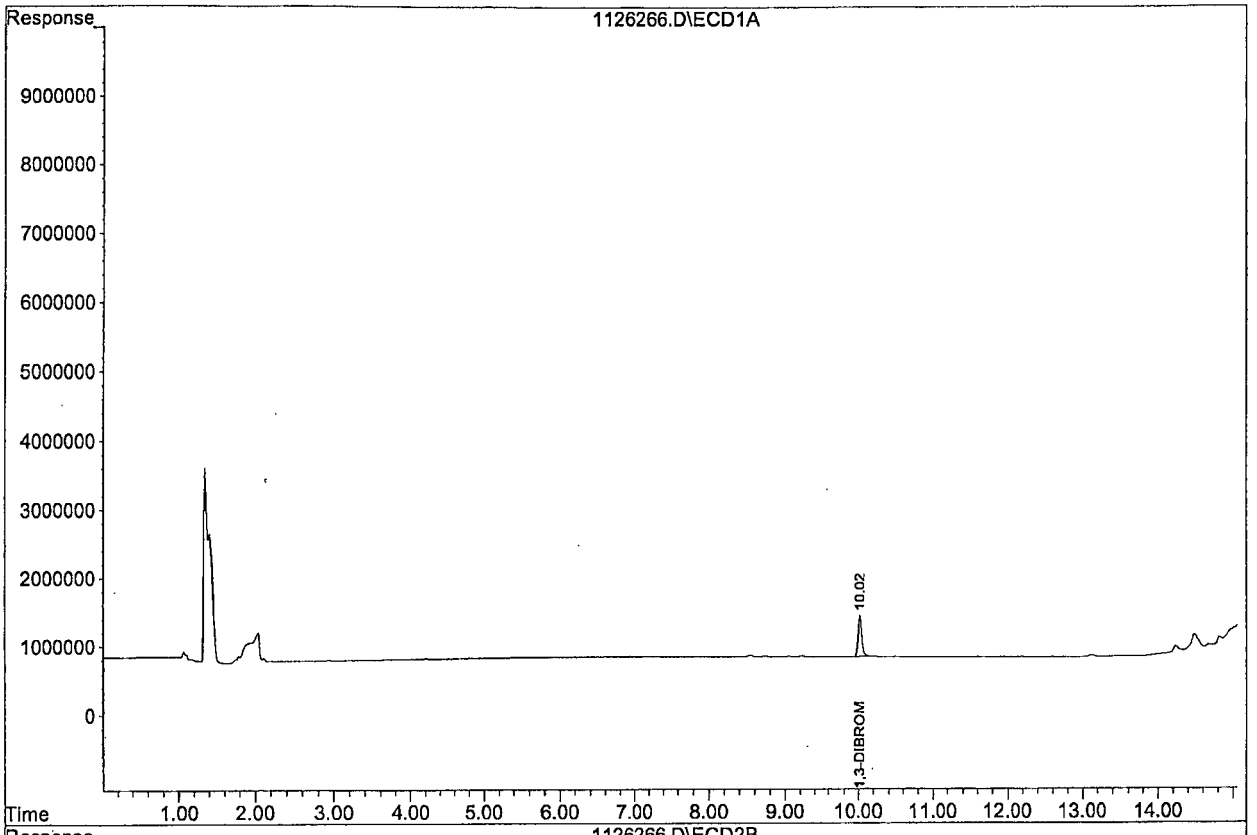
Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.02	11.03	606945	1708210	0.350	0.341
Spiked Amount 0.345			Recovery =		101.46%	98.85%
Target Compounds						
Target Compounds						
1) TM EDB	0.00	0.00	0	0	N.D. d	N.D. d
2) TM 1,2,3-TCP	0.00	0.00	0	0	N.D. d	N.D. d
4) TM DBCP	0.00	0.00	0	0	N.D. d	N.D. d

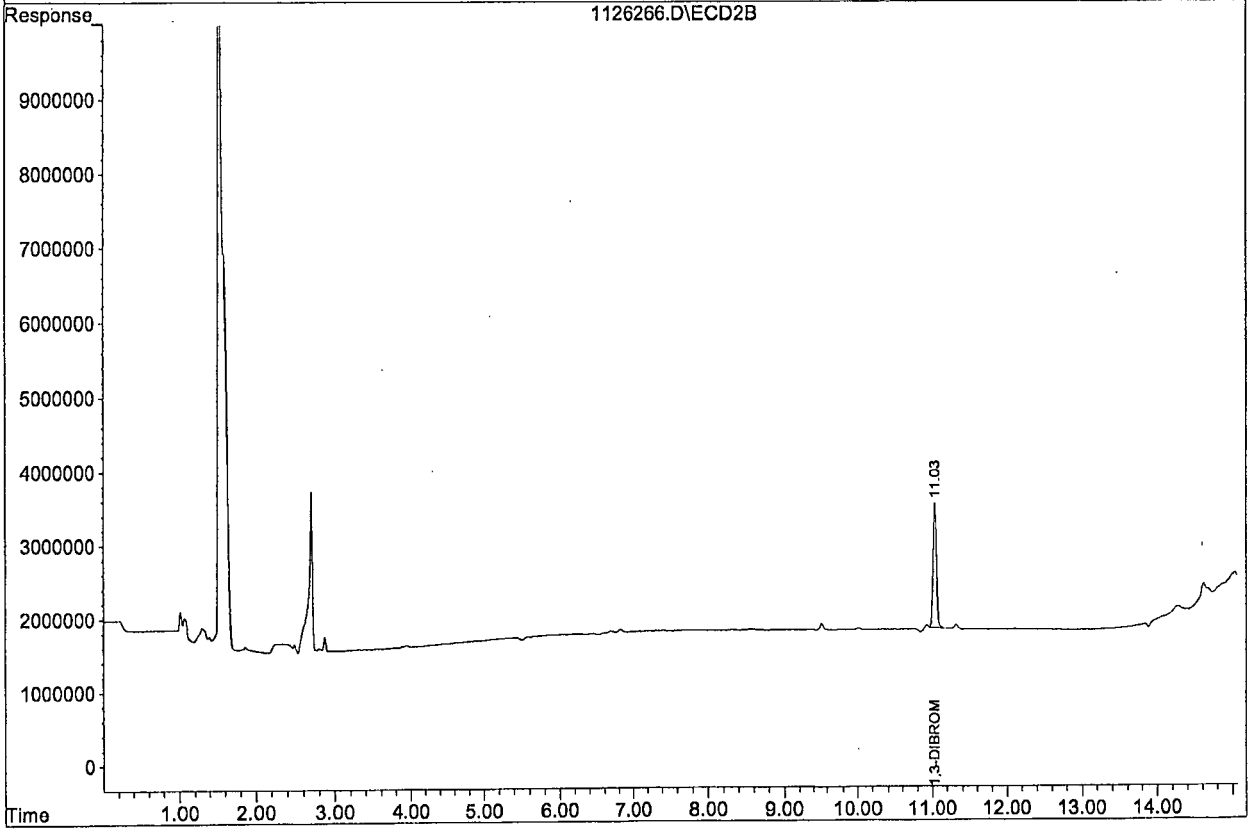
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : G:\HERBIE\DATA\191126\1126266.D
Acq On : 01-27-20 21:00:09
Sample : BA06281W01 2/35.00g
Misc : water
Quant Method : G:\HERBIE\DATA\191126\8010127A.M

Vial: 66
Operator: GA
Inst : Herbie
Multiplr: 0.99





Quantitation Report (QT Reviewed)

Data File : G:\HERBIE\DATA\191126\1126267.D\ECD1A.CH Vial: 67
Acq On : 01-27-20 21:20:06 Operator: GA
Sample : BA06282W01 2/35.00g Inst : Herbie
Misc : water Multiplr: 0.98
IntFile : rteint.p

Data File : G:\HERBIE\DATA\191126\1126267.D\ECD2B.CH Vial: 67
Acq On : 01-27-20 21:20:05 Operator: GA
Sample : BA06282W01 2/35.00g Inst : Herbie
Misc : water Multiplr: 0.98
IntFile : rteint2.p
Quant Time: Jan 28 9:10 2020 Quant Results File: 8010127A.RES

Quant Method : G:\HERBIE\DATA\191126\8010127A.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Tue Jan 28 08:55:06 2020
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

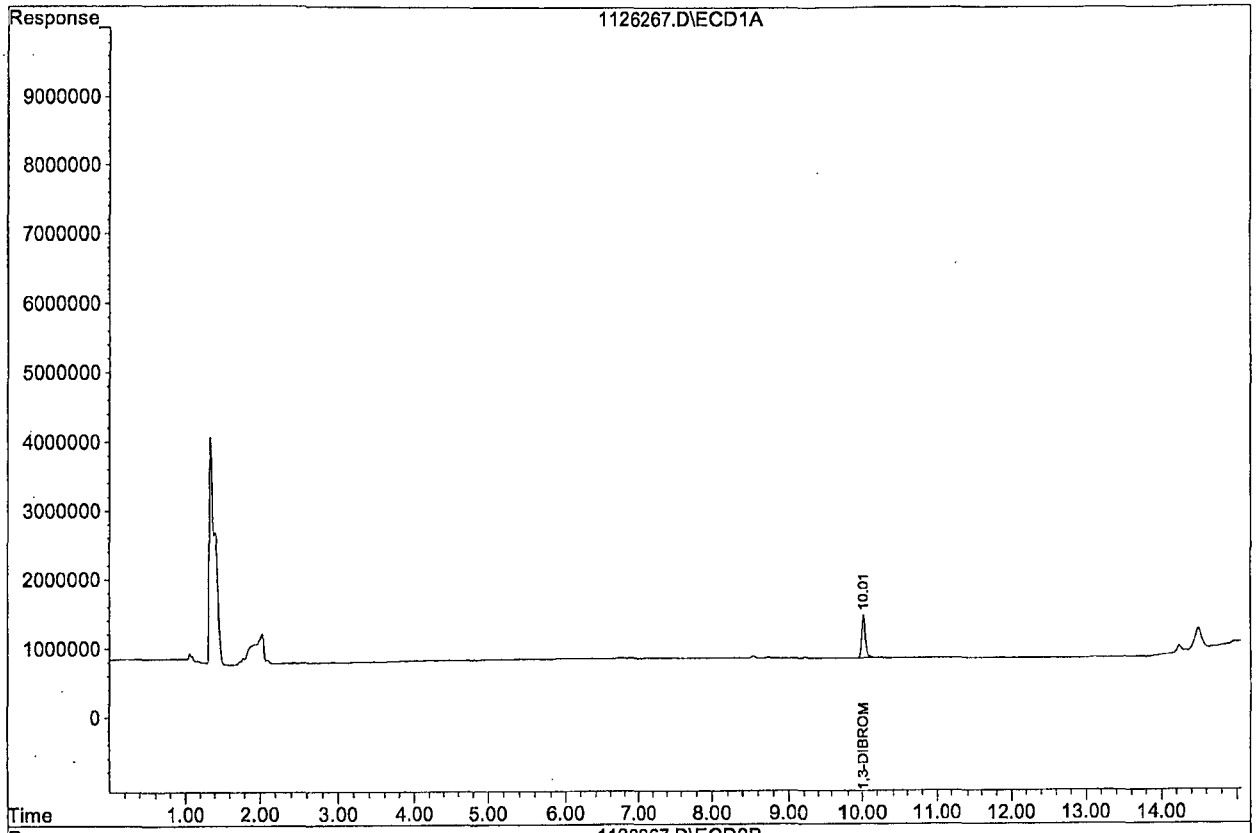
Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.01	11.03	619105	1744245	0.357	0.348
Spiked Amount 0.345			Recovery =		103.60%	100.99%
Target Compounds						
Target Compounds						
1) TM EDB	0.00	0.00	0	0	N.D. d	N.D. d
2) TM 1,2,3-TCP	0.00	0.00	0	0	N.D. d	N.D. d
4) TM DBCP	0.00	0.00	0	0	N.D. d	N.D. d

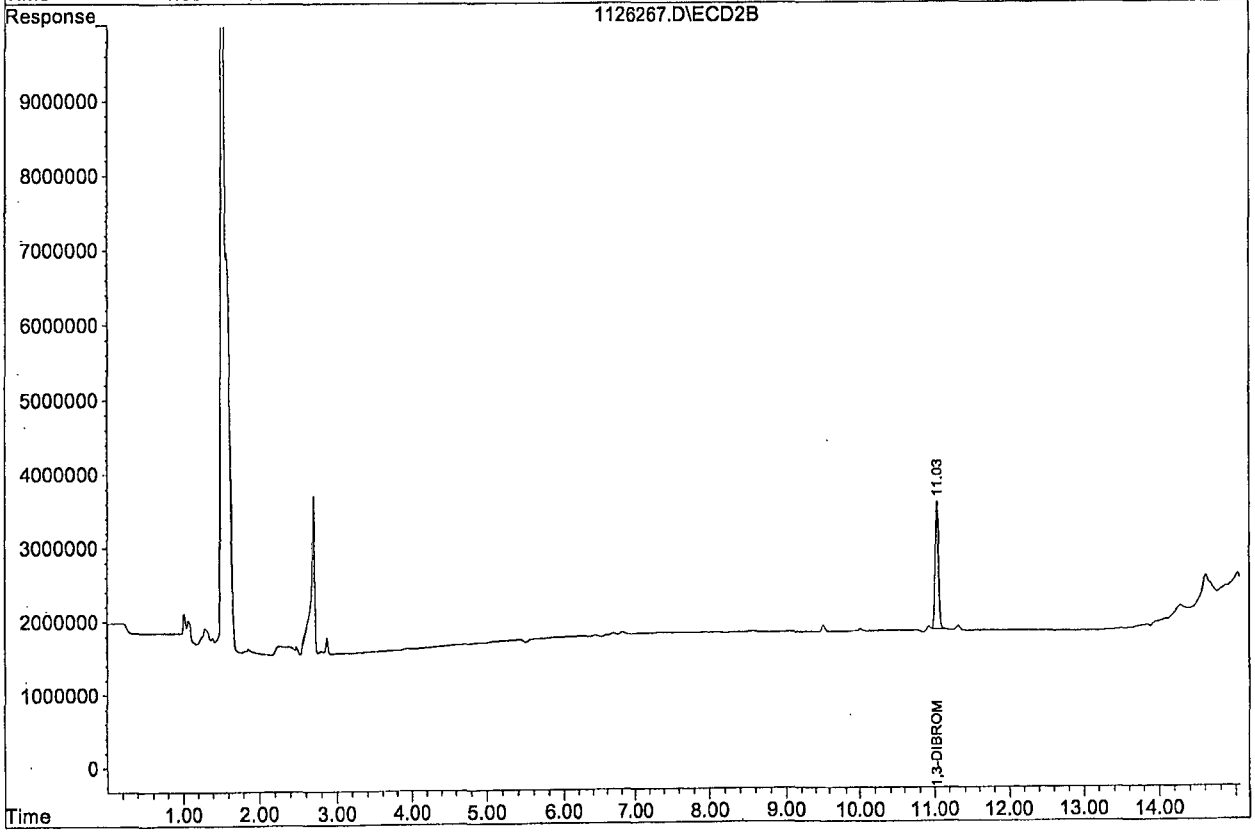
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : G:\HERBIE\DATA\191126\1126267.D
Acq On : 01-27-20 21:20:06
Sample : BA06282W01 2/35.00g
Misc : water
Quant Method : G:\HERBIE\DATA\191126\8010127A.M

Vial: 67
Operator: GA
Inst : Herbie
Multiplr: 0.98





Quantitation Report (QT Reviewed)

Signal #1 : G:\HERBIE\DATA\191126\1126268.D\ECD1A.CH Vial: 68
Signal #2 : G:\HERBIE\DATA\191126\1126268.D\ECD2B.CH
Acq On : 01-27-20 21:40:04 Operator: GA
Sample : BA06283W01 2/35.00g Inst : Herbie
Misc : water Multiplr: 0.99
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Jan 28 9:10 2020 Quant Results File: 8010127A.RES

Quant Method : G:\HERBIE\DATA\191126\8010127A.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Tue Jan 28 08:55:06 2020
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

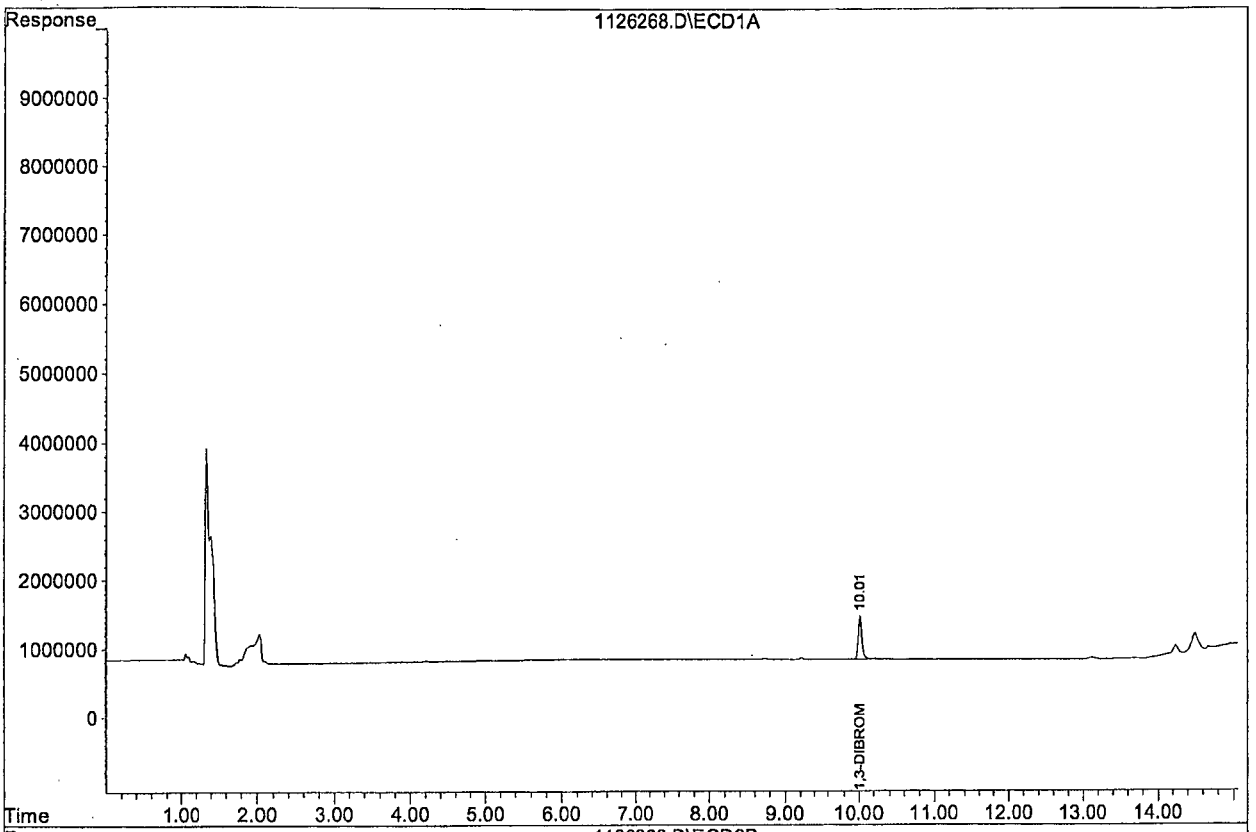
Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.01	11.03	632220	1705479	0.366	0.342
Spiked Amount 0.346			Recovery	=	105.68%	98.75%
Target Compounds						
Target Compounds						
1) TM EDB	0.00	0.00	0	0	N.D. d	N.D. d
2) TM 1,2,3-TCP	0.00	0.00	0	0	N.D. d	N.D. d
4) TM DBCP	0.00	0.00	0	0	N.D. d	N.D. d

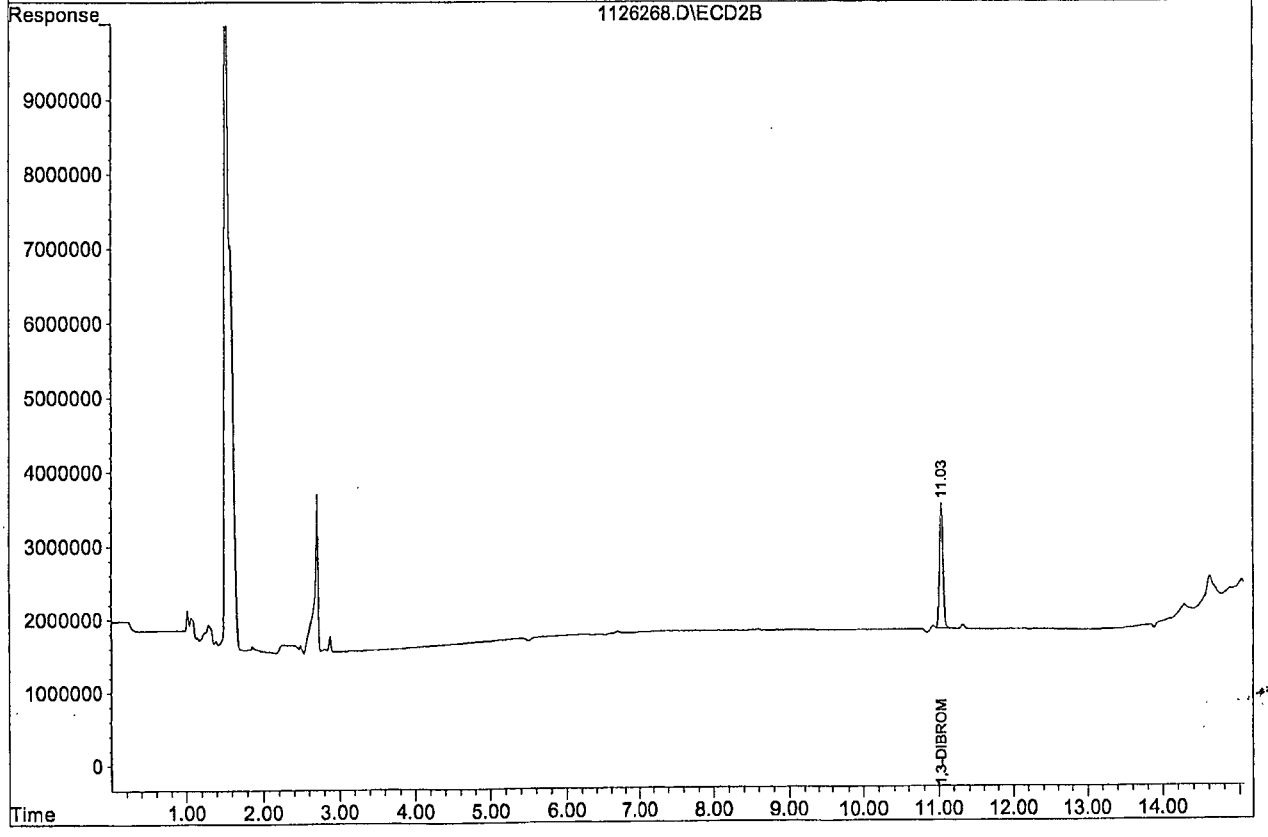
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : G:\HERBIE\DATA\191126\1126268.D
Acq On : 01-27-20 21:40:04
Sample : BA06283W01 2/35.00g
Misc : water
Quant Method : G:\HERBIE\DATA\191126\8010127A.M

Vial: 68
Operator: GA
Inst : Herbie
Multiplr: 0.99





Quantitation Report (QT Reviewed)

Data File : G:\HERBIE\DATA\191126\1126269.D\ECD1A.CH Vial: 69
Acq On : 01-27-20 22:00:02 Operator: GA
Sample : BA06284W01 2/35.00g Inst : Herbie
Misc : water Multiplr: 0.98
IntFile : rteint.p

Data File : G:\HERBIE\DATA\191126\1126269.D\ECD2B.CH Vial: 69
Acq On : 01-27-20 22:00:01 Operator: GA
Sample : BA06284W01 2/35.00g Inst : Herbie
Misc : water Multiplr: 0.98
IntFile : rteint2.p
Quant Time: Jan 28 9:10 2020 Quant Results File: 8010127A.RES

Quant Method : G:\HERBIE\DATA\191126\8010127A.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Tue Jan 28 08:55:06 2020
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

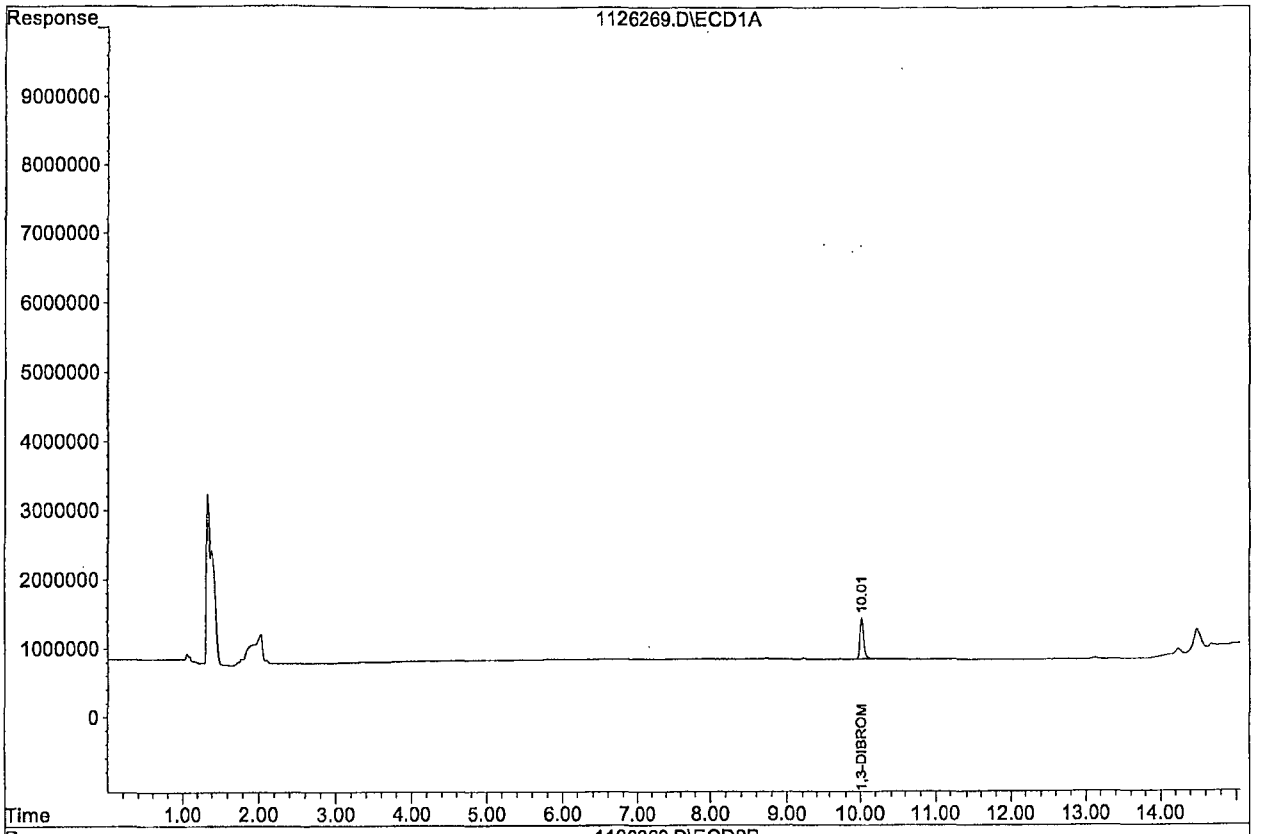
Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

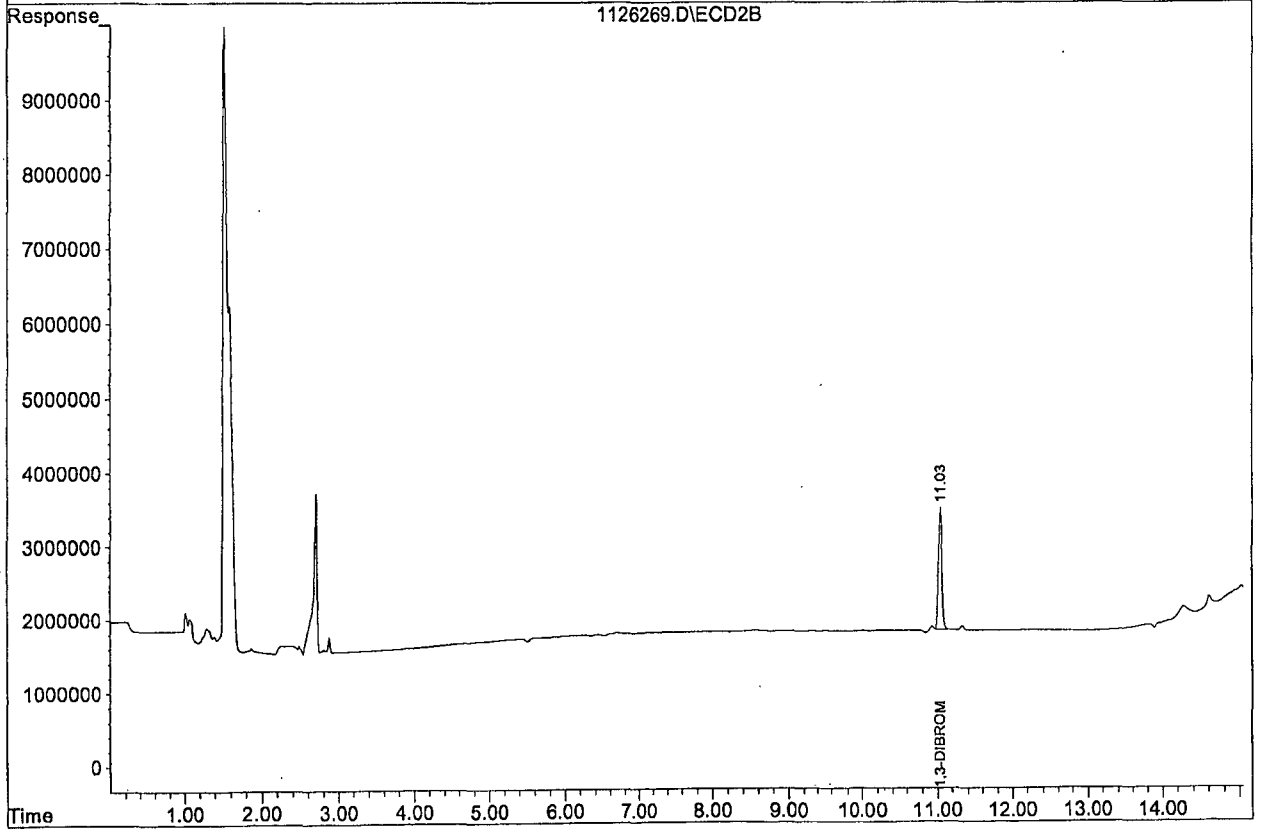
Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.01	11.03	592350	1673297	0.340	0.332
Spiked Amount 0.343			Recovery =		99.20%	96.86%
Target Compounds						
Target Compounds						
1) TM EDB	0.00	0.00	0	0	N.D. d	N.D. d
2) TM 1,2,3-TCP	0.00	0.00	0	0	N.D. d	N.D. d
4) TM DBCP	0.00	0.00	0	0	N.D. d	N.D. d

Quantitation Report (QT Reviewed)

Data File : G:\HERBIE\DATA\191126\1126269.D
Acq On : 01-27-20 22:00:02
Sample : BA06284W01 2/35.00g
Misc : water
Quant Method : G:\HERBIE\DATA\191126\8010127A.M

Vial: 69
Operator: GA
Inst : Herbie
Multiplr: 0.98





Quantitation Report (QT Reviewed)

Data File : G:\HERBIE\DATA\191126\1126262.D\ECD1A.CH Vial: 62
Acq On : 01-27-20 19:40:19 Operator: GA
Sample : 200127A BLK 2/35.00g Inst : Herbie
Misc : water Multiplr: 0.99
IntFile : rteint.p

Data File : G:\HERBIE\DATA\191126\1126262.D\ECD2B.CH Vial: 62
Acq On : 01-27-20 19:40:20 Operator: GA
Sample : 200127A BLK 2/35.00g Inst : Herbie
Misc : water Multiplr: 0.99
IntFile : rteint2.p
Quant Time: Jan 28 9:08 2020 Quant Results File: 8010127A.RES

Quant Method : G:\HERBIE\DATA\191126\8010127A.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Tue Jan 28 08:55:06 2020
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

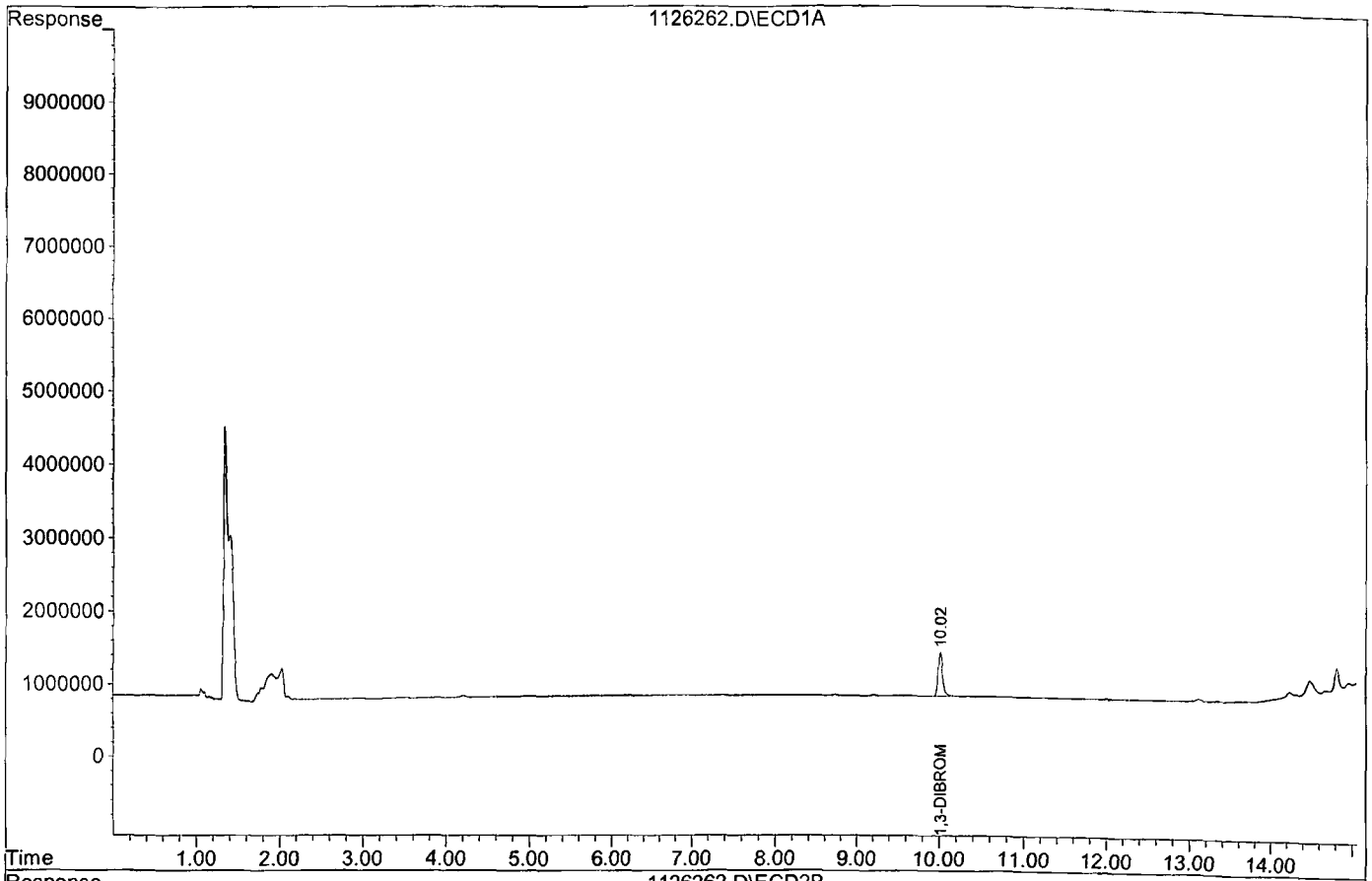
Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.02	11.03	609405	1708299	0.353	0.343
Spiked Amount 0.347			Recovery =		101.87%	98.98%
Target Compounds						
Target Compounds						
1) TM EDB	0.00	0.00	0	0	N.D. d	N.D. d
2) TM 1,2,3-TCP	0.00	0.00	0	0	N.D. d	N.D. d
4) TM DBCP	0.00	0.00	0	0	N.D. d	N.D. d

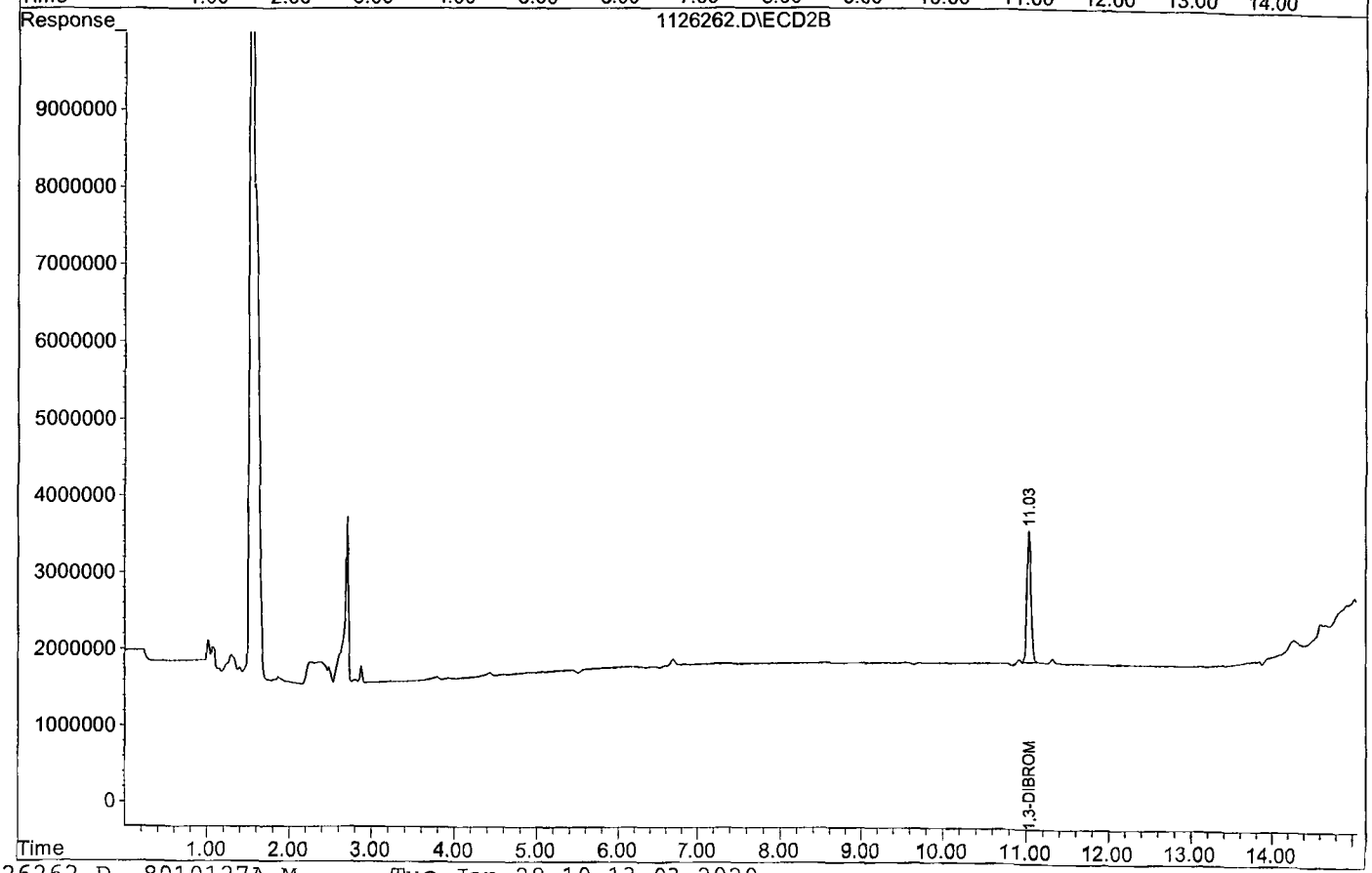
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : G:\HERBIE\DATA\191126\1126262.D
Acq On : 01-27-20 19:40:19
Sample : 200127A BLK 2/35.00g
Misc : water
Quant Method : G:\HERBIE\DATA\191126\8010127A.M

Vial: 62
Operator: GA
Inst : Herbie
Multiplr: 0.99





Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\191126\1126263.D\ECD1A.CH Vial: 63
Acq On : 01-27-20 20:00:15 Operator: GA
Sample : 200127A LCS-1 2/35.00g Inst : Herbie
Misc : water Multiplr: 0.99
IntFile : rteint.p

Data File : G:\HERBIE\DATA\191126\1126263.D\ECD2B.CH Vial: 63
Acq On : 01-27-20 20:00:16 Operator: GA
Sample : 200127A LCS-1 2/35.00g Inst : Herbie
Misc : water Multiplr: 0.99
IntFile : rteint2.p
Quant Time: Jan 28 9:01 2020 Quant Results File: 8010127A.RES

Quant Method : G:\HERBIE\DATA\191126\8010127A.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Tue Jan 28 08:55:06 2020
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

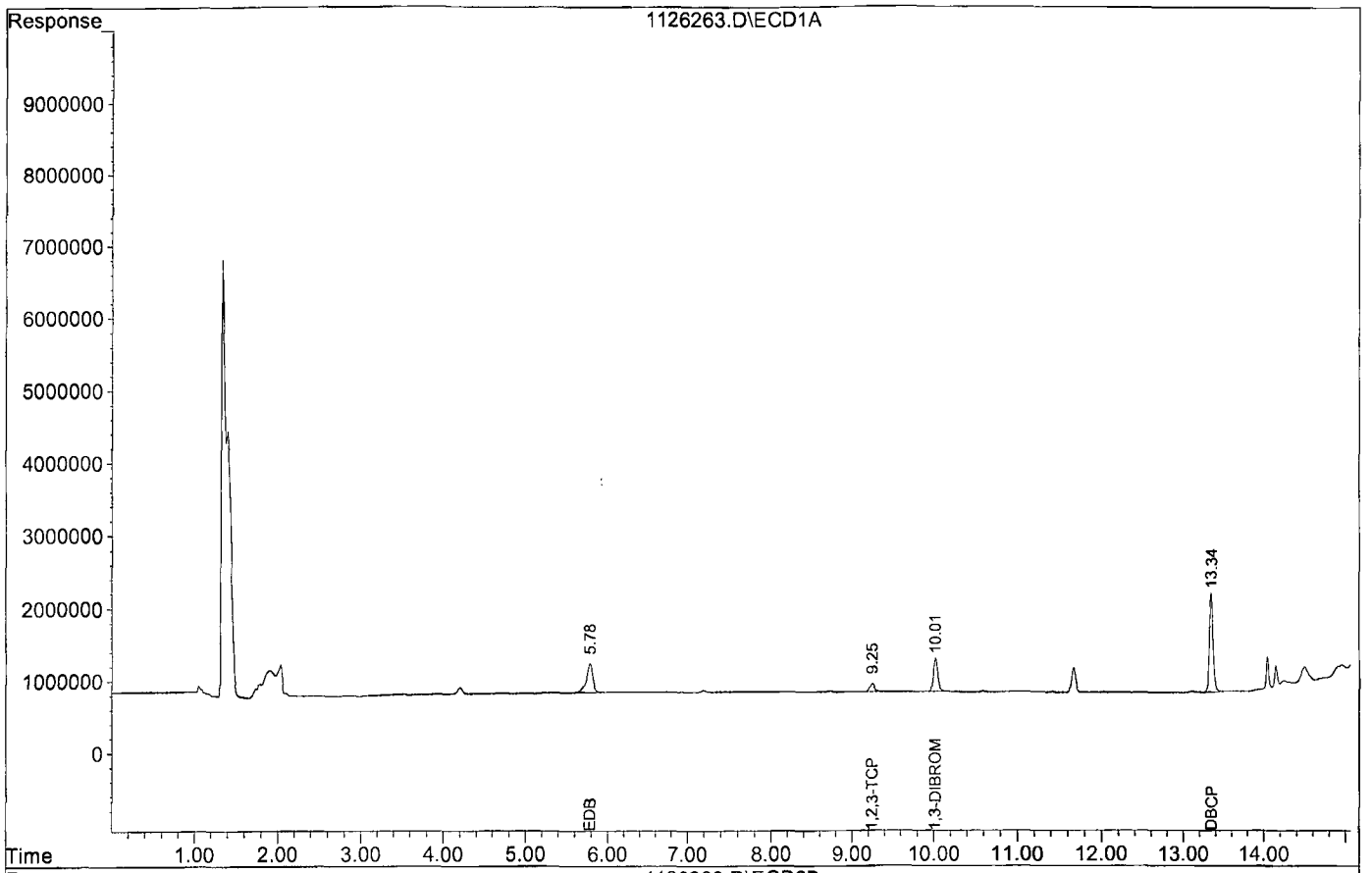
	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	System Monitoring Compounds						
3) S	1,3-DIBROMOPROPA	10.01	11.03	460423	1259777	0.266	0.252
Spiked Amount	0.345			Recovery	=	77.06%	73.01%
	Target Compounds						
1) TM	EDB	5.78	7.21	401871	1672081	0.256	0.247
2) TM	1,2,3-TCP	9.25	10.44	113648	318849	0.262	0.252
4) TM	DBCP	13.34	14.08	1368332	4936062	0.253	0.246
	Target Compounds						

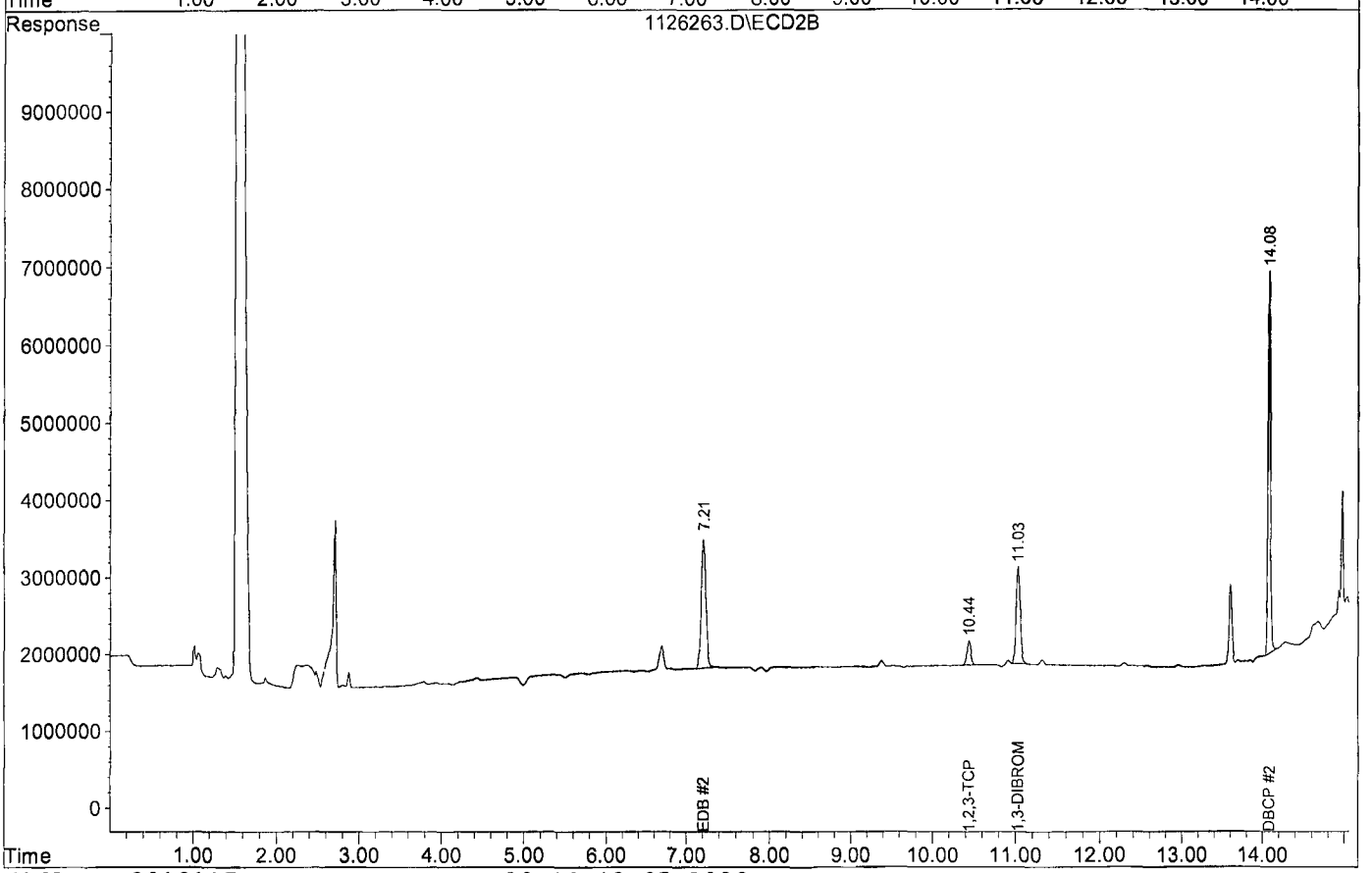
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\191126\1126263.D
Acq On : 01-27-20 20:00:15
Sample : 200127A LCS-1 2/35.00g
Misc : water
Quant Method : G:\HERBIE\DATA\191126\8010127A.M

Vial: 63
Operator: GA
Inst : Herbie
Multiplr: 0.99





Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\191126\1126264.D\ECD1A.CH Vial: 64
Signal #2 : G:\HERBIE\DATA\191126\1126264.D\ECD2B.CH
Acq On : 01-27-20 20:20:11 Operator: GA
Sample : 200127A LCSD-1 2/35.00g Inst : Herbie
Misc : water Multiplr: 0.99
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Jan 28 9:01 2020 Quant Results File: 8010127A.RES

Quant Method : G:\HERBIE\DATA\191126\8010127A.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Tue Jan 28 08:55:06 2020
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	System Monitoring Compounds						
3) S	1,3-DIBROMOPROPA	10.01	11.03	414315	1155709	0.241	0.233
Spiked Amount	0.347			Recovery	=	69.37%	67.07%
	Target Compounds						
1) TM	EDB	5.78	7.21	374155	1540605	0.240	0.229
2) TM	1,2,3-TCP	9.25	10.44	104585	303387	0.239	0.242
4) TM	DBCP	13.34	14.08	1261966	4668826	0.235	0.234

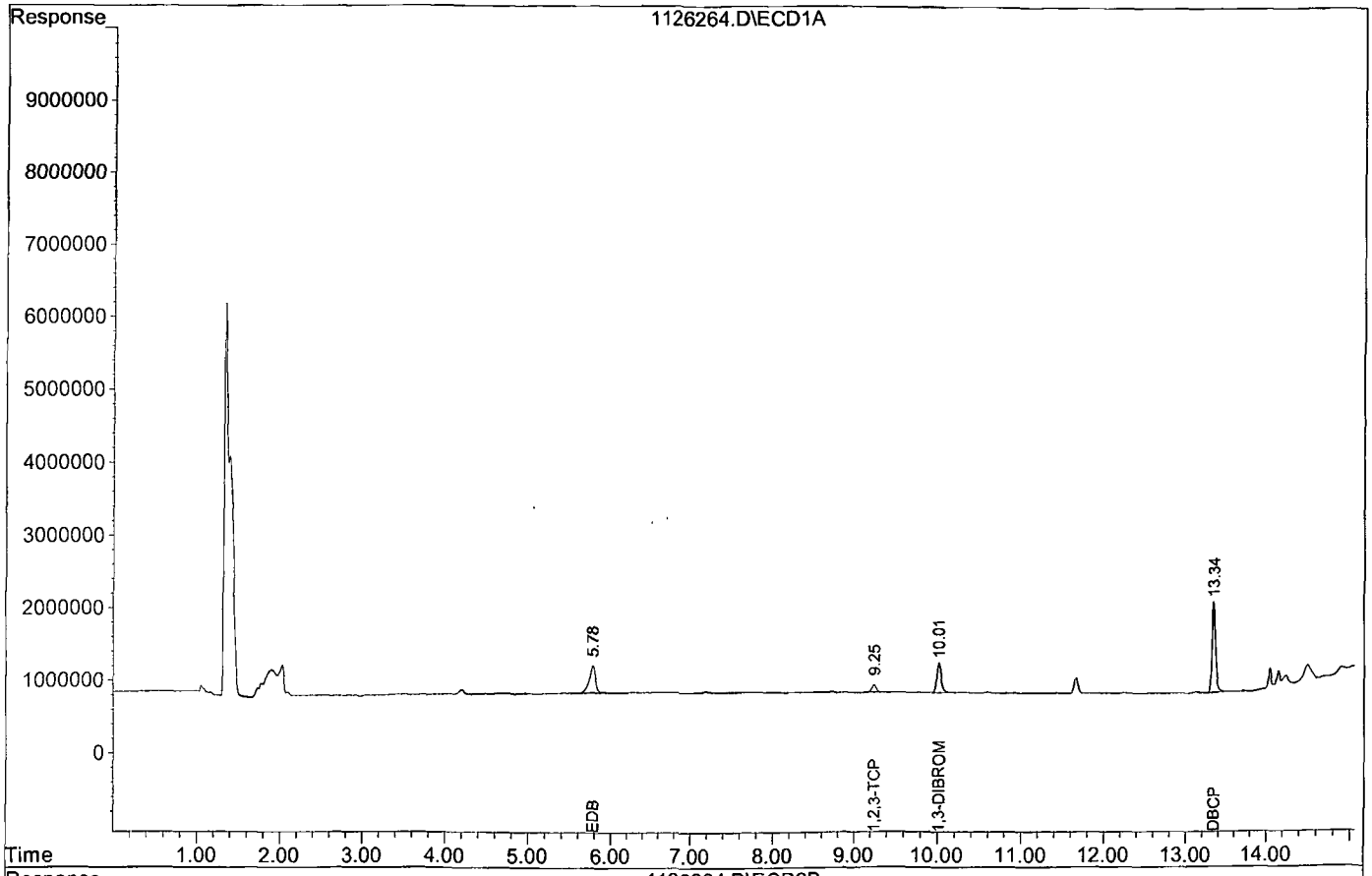
Target Compounds

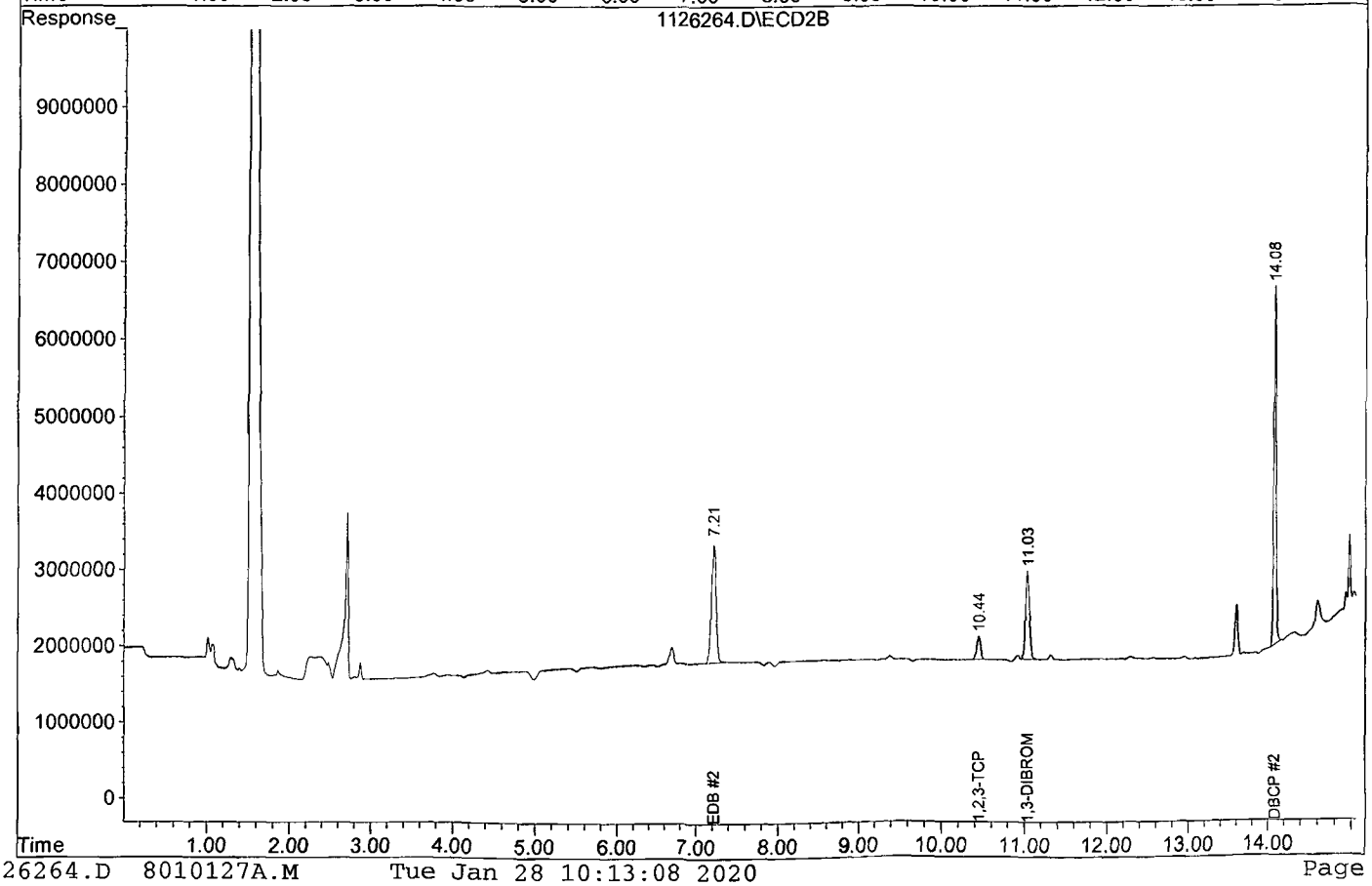
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\191126\1126264.D
Acq On : 01-27-20 20:20:11
Sample : 200127A LCSD-1 2/35.00g
Misc : water
Quant Method : G:\HERBIE\DATA\191126\8010127A.M

Vial: 64
Operator: GA
Inst : Herbie
Multiplr: 0.99





Name of Final Standard 504/8011 SS SPK **Prep'd By (Initials)** GA

Prep Date 08/07/19

Exp Date 04/16/20

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from container Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
504/8011 SS Stock	APPL	504/8011 SS Stock	0.35 ug/mL	**01/22/19**	**01/06/20**	1 mL	10 mL	**Methanol #042317C**	0.035 ug/mL

Re-certified on 01/16/20 against 504/8011 Spike (prep. 01.08.20). Extended expiration by 3 months. Injection #1126237 on Herbie 191126 sequence. GA

Name of Final Standard 504/8011 Surrogate **Prep'd By (Initials)** GA

Prep Date 01/08/20

Exp Date 05/08/20

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from container Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
1,3 DBP Stock	APPL	1,3 DBP Stock	100 ug/mL	**01/07/20**	**01/07/21**	35 uL	10 mL	**Methanol #208858**	0.35ug/ml

Name of Final Standard 504/8011 Spike **Prep'd By (Initials)** GA

Prep Date 01/08/20

Exp Date 05/08/20

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from container Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
504/8011 Stock	APPL	504/8011 Stock	0.35 ug/mL	**01/08/20**	**05/08/20**	1000 uL	10 mL	**Methanol #208858**	0.035 ug/mL

Organic Extraction Worksheet

Method	EPA Method 8011 DBCP/EDB	Extraction Set	200127A	Extraction Method	MWE012	Units	mL

Spiked ID 1	504.1 SPIKE 1-8-20 5-8-20		Surrogate ID 1	504.1 Surrogate 1-8-20 5-8-20	
Spiked ID 2	504.1 SS 8-7-19 4-16-20		Surrogate ID 2		
Spiked ID 3			Surrogate ID 3		
Spiked ID 4			Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	NO	
Spiked ID 7			Ext. Start Time:	01/27/20 7:30	
Spiked ID 8			Ext. End Time:	01/27/20 9:00	
			GC Requires Extract By:		

pH1			Water Bath Temp 1 °C	
pH2			Water Bath Temp 2 °C	
pH3			Water Bath Temp 3 °C	

Spiked By: KY **Date** 01/27/20 **Witnessed By:** CFM **Date** 01/27/20

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	200127A Blk				0.035	1 equip	35.35	2	7	01/27/20 7:30	
2	200127A LCS-1		0.250	1	NA	NA equip	35.49	2	7	01/27/20 7:30	
3	200127A LCSD-1		0.250	1	NA	NA equip	35.26	2	7	01/27/20 7:30	
4	BA06280	BA06280W06			0.035	1 equip	35.46	2	7	01/27/20 7:30	91282
5	BA06281	BA06281W04			0.035	1 equip	35.51	2	7	01/27/20 7:30	91282
6	BA06282	BA06282W04			0.035	1 equip	36.55	2	7	01/27/20 7:30	91282
7	BA06283	BA06283W06			0.035	1 equip	35.37	2	7	01/27/20 7:30	91282
8	BA06284	BA06284W07			0.035	1 equip	35.74	2	7	01/27/20 7:30	91282
9	BA06318	BA06318W07			0.035	1 equip	35.09	2	7	01/27/20 7:30	91288
10	BA06319	BA06319W07			0.035	1 equip	35.37	2	7	01/27/20 7:30	91288
11	M STD 1		0.020	1	NA	NA equip	35.05	2	7	01/27/20 7:30	
12	M STD 2		0.100	1	NA	NA equip	35.76	2	7	01/27/20 7:30	
13	M STD 3		0.250	1	NA	NA equip	35.75	2	7	01/27/20 7:30	
14	M STD 4		0.500	1	NA	NA equip	30.10	2	7	01/27/20 7:30	
15	M STD 5		0.750	1	NA	NA equip	35.16	2	7	01/27/20 7:30	
16	M STD 6		1	1	NA	NA equip	35.38	2	7	01/27/20 7:30	

Solvent and Lot#	
ph strip	HC 863463
NaCL	19A035211
GC2 Hexane (2mLs)	DV910

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	
Date	
Time	
Refrigerator	

	Technician's Initials
Scanned By	KY
Sample Preparation	KY
Extraction	KY
Concentration	KY

Modified	01/27/20 10:15:26 AM

Reviewed By: KY **Date** 01/27/20

Organic Extraction Worksheet

Method	EPA Method 8011 DBCP/EDB	Extraction Set	200127A	Extraction Method	MWE012	Units	mL

Spiked ID 1	504.1 SPIKE 1-8-20 5-8-20		Surrogate ID 1	504.1 Surrogate 1-8-20 5-8-20	
Spiked ID 2	504.1 SS 8-7-19 4-16-20		Surrogate ID 2		
Spiked ID 3			Surrogate ID 3		
Spiked ID 4			Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	NO	
Spiked ID 7			Ext. Start Time:	01/27/20 7:30	
Spiked ID 8			Ext. End Time:	01/27/20 9:00	
			GC Requires Extract By:		

pH1			Water Bath Temp 1 °C	
pH2			Water Bath Temp 2 °C	
pH3			Water Bath Temp 3 °C	

Spiked By: KY **Date** 01/27/20 **Witnessed By:** CFM **Date** 01/27/20

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
17	SS		0.100	2	0.035	1	35.79	2	7	01/27/20 7:30	
						equip					

Solvent and Lot#	
ph strip	HC 863463
NaCL	19A035211
GC2 Hexane (2mLs)	DV910

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	
Date	
Time	
Refrigerator	

	Technician's Initials
Scanned By	KY
Sample Preparation	KY
Extraction	KY
Concentration	KY

Modified	01/27/20 10:15:26 AM

Reviewed By: KY **Date** 01/27/20

Injection Log

Directory: G:\HERBIE\DATA\191126\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	55	1126255.D	1	8011 1 1/27/20	water	01-27-20 17:20:20
2	56	1126256.D	1	8011 2 1/27/20	water	01-27-20 17:40:18
3	57	1126257.D	1	8011 3 1/27/20	water	01-27-20 18:00:24
4	58	1126258.D	1	8011 4 1/27/20	water	01-27-20 18:20:22
5	59	1126259.D	1	8011 5 1/27/20	water	01-27-20 18:40:19
6	60	1126260.D	1	8011 6 1/27/20	water	01-27-20 19:00:22
7	61	1126261.D	1	8011 SS 1/27/20	water	01-27-20 19:20:20
8	62	1126262.D	0.990099	200127A BLK 2/35.00g	water	01-27-20 19:40:19
9	63	1126263.D	0.986193	200127A LCS-1 2/35.00g	water	01-27-20 20:00:15
10	64	1126264.D	0.992626	200127A LCSD-1 2/35.00g	water	01-27-20 20:20:11
11	65	1126265.D	0.98703	BA06280W01 2/35.00g	water	01-27-20 20:40:10
12	66	1126266.D	0.98564	BA06281W01 2/35.00g	water	01-27-20 21:00:09
13	67	1126267.D	0.98453	BA06282W01 2/35.00g	water	01-27-20 21:20:06
14	68	1126268.D	0.98954	BA06283W01 2/35.00g	water	01-27-20 21:40:04
15	69	1126269.D	0.97929	BA06284W01 2/35.00g	water	01-27-20 22:00:02
18	73	1126273.D	1	8011 3 1/27/20	water	01-27-20 23:20:02

ORGANICS
Calibration Data

TPH Extractables
DOC0111

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Initial Cal. Date: 01/11/20
Matrix: Water Instrument: Apollo
Initials: SS/

			111003 D	111004 D	111005 D	111006 D	111007 D	111008 D									
		Compound	1	2	3	4	5	6					Avg	%RSD	Type	r^2	Q
1	HATM	Diesel (C10-C24)	2841982	1986670	1924883	1912582	1919928	1939022					2087511	18	HATM		
2	HBTM	Motor Oil (C24-C40)	1741672	1398165	1463790	1435842	1434834	1461667					1489328	8.5	HBTM		
3	SA	Ortho-Terphenyl(S)	2323085	2018666	2137659	2123698	2118424	2175744					2149546	4.6	SA		
4	SA	Octacosane(S)	2784149	1939553	1932971	1877050	1923095	2033143					2081660	17	SA		
5																	
6																	
7																	
8																	
9																	
10																	
11																	
12																	
13																	
14																	
15																	
16																	
17																	
18																	
19																	
20																	
21																	
22																	
23																	
24																	
25																	
26																	
27																	
28																	
29																	
30																	
31																	
32																	
33																	
34																	
35																	

1.35871

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200111\111003.D Vial: 3
Acq On : 1-11-20 11:35:53 Operator: BT
Sample : Diesel Motor Oil-1 1/11/20 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 13 7:56 2020 Quant Results File: DOC0111.RES

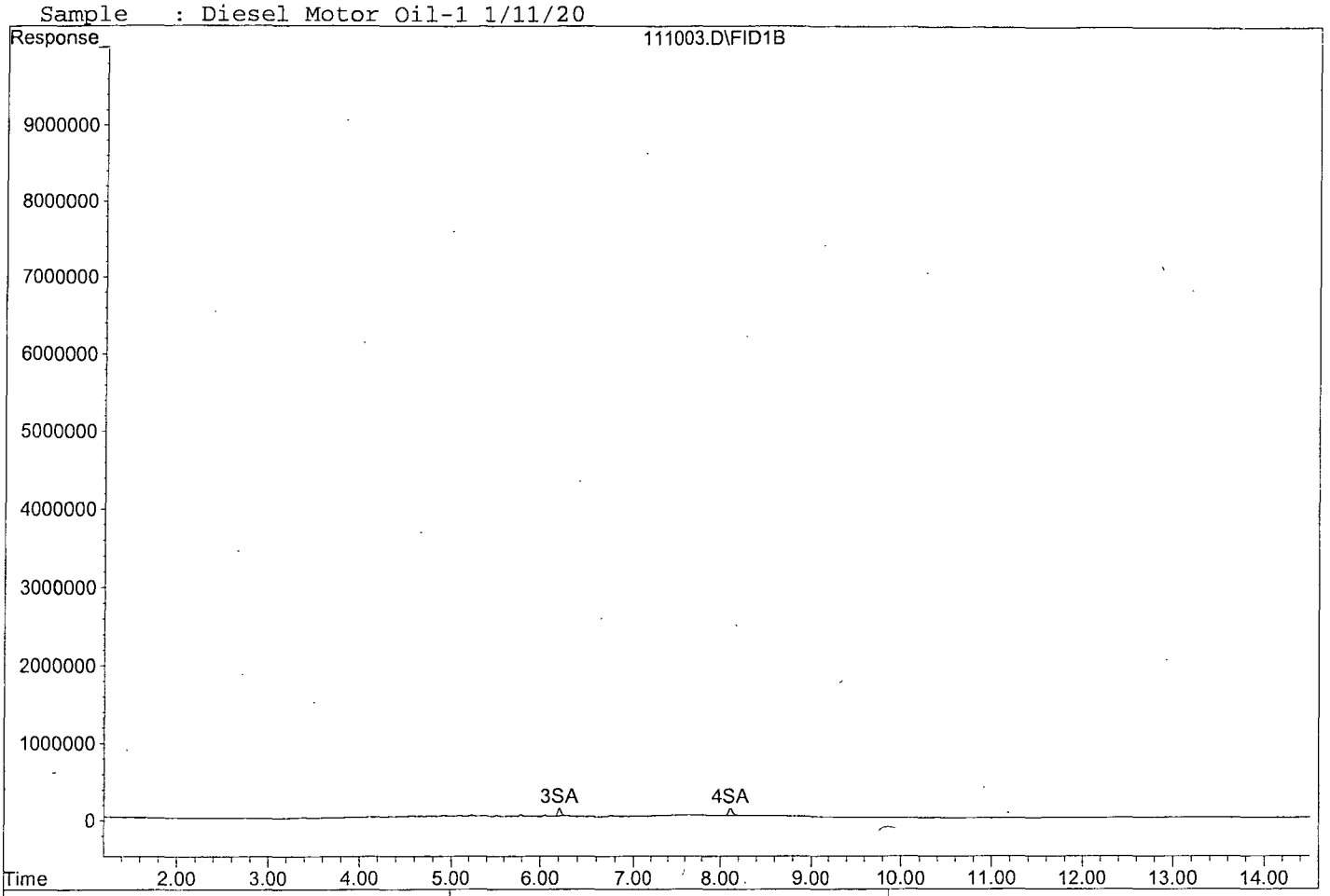
Method : G:\APOLLO\DATA\200111\DOC0111.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Mon Jan 13 07:59:04 2020
Response via : Multiple Level Calibration

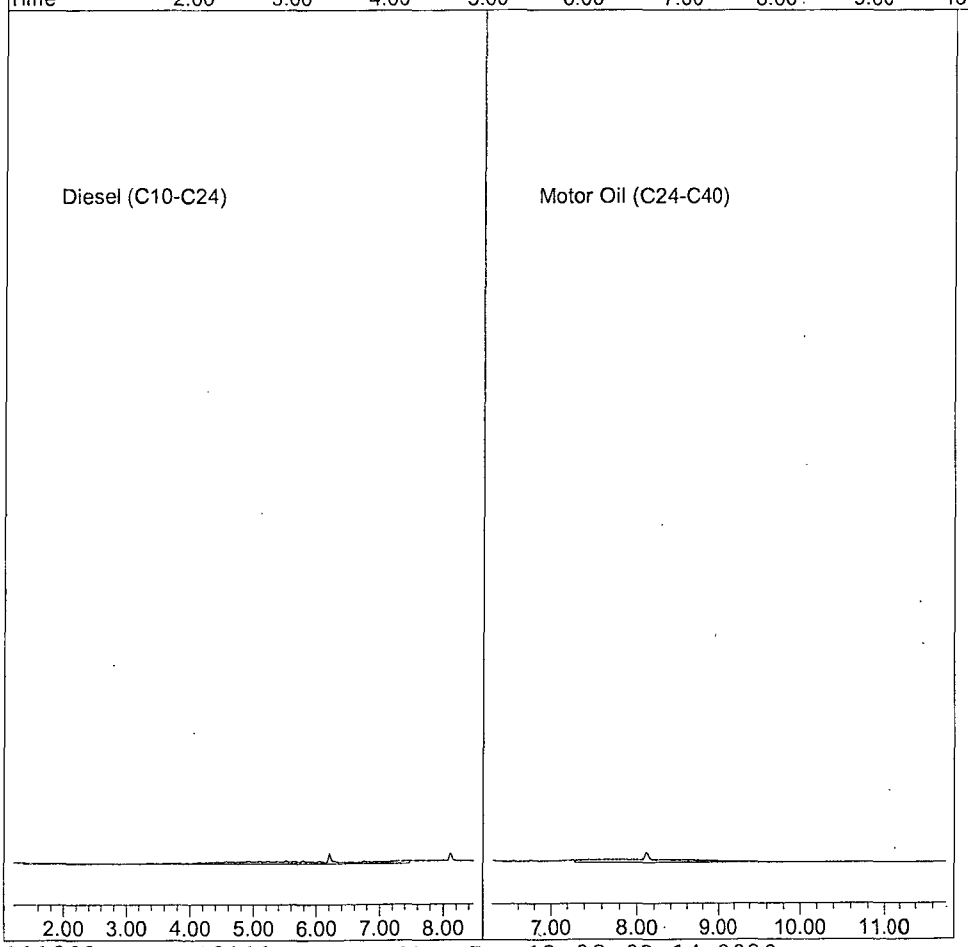
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SA Ortho-Terphenyl(S)	6.20	2323085	0.808 ppb
Surrogate Spike 30.000	Recovery =		2.69%
4) SA Octacosane(S)	8.11	2784149	1.349 ppb
Surrogate Spike 30.000	Recovery =		4.50%
Target Compounds			
1) HATM Diesel (C10-C24)	4.42	56839649	1.708 ppb
2) HBTM Motor Oil (C24-C40)	9.01	34833431	14.238 ppb
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200111\111003.D
Sample : Diesel Motor Oil-1 1/11/20





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200111\111004.D Vial: 4
Acq On : 1-11-20 11:55:28 Operator: BT
Sample : Diesel Motor Oil-2 1/11/20 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 13 7:56 2020 Quant Results File: DOC0111.RES

Method : G:\APOLLO\DATA\200111\DOC0111.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Mon Jan 13 07:59:04 2020
Response via : Multiple Level Calibration

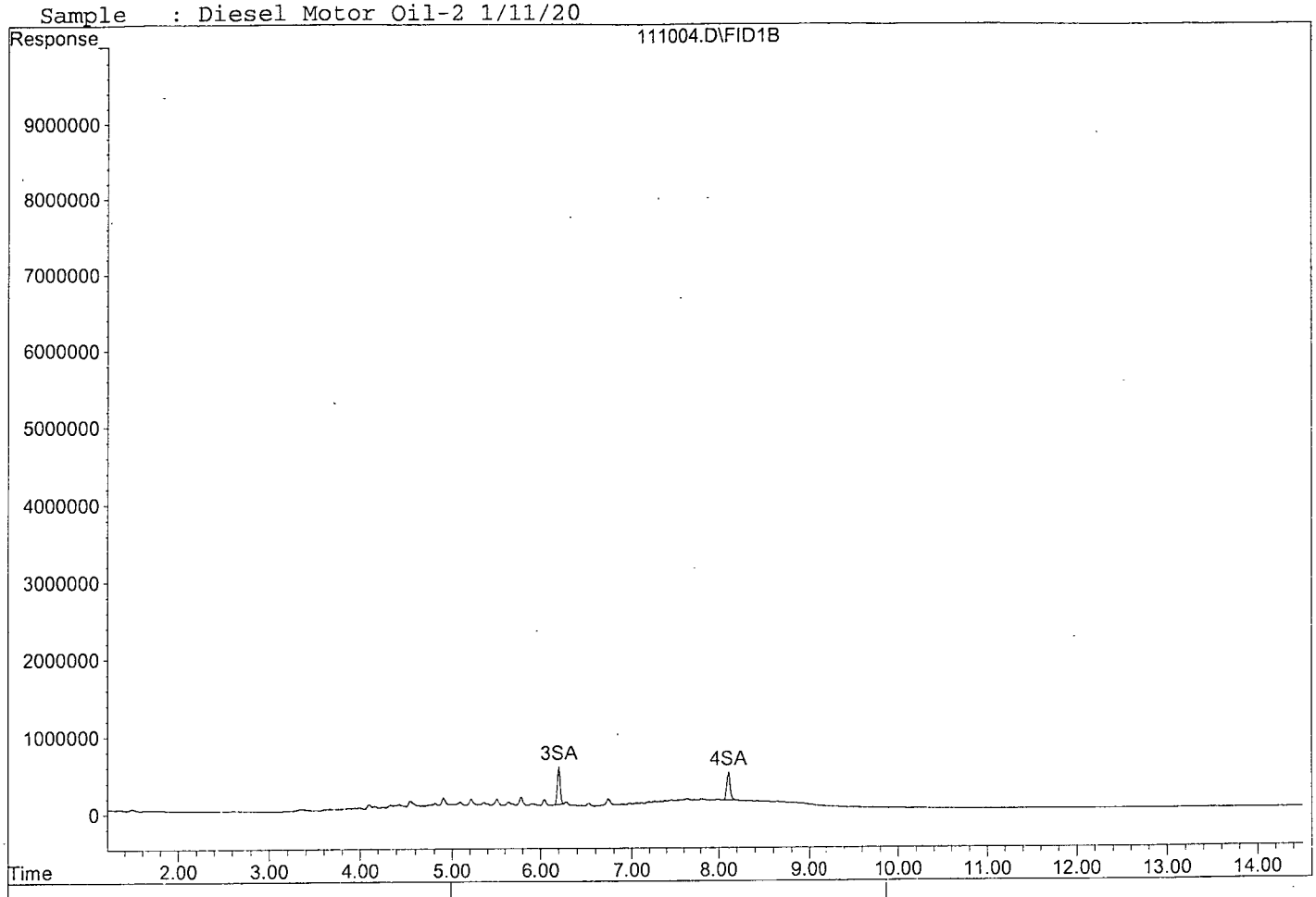
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

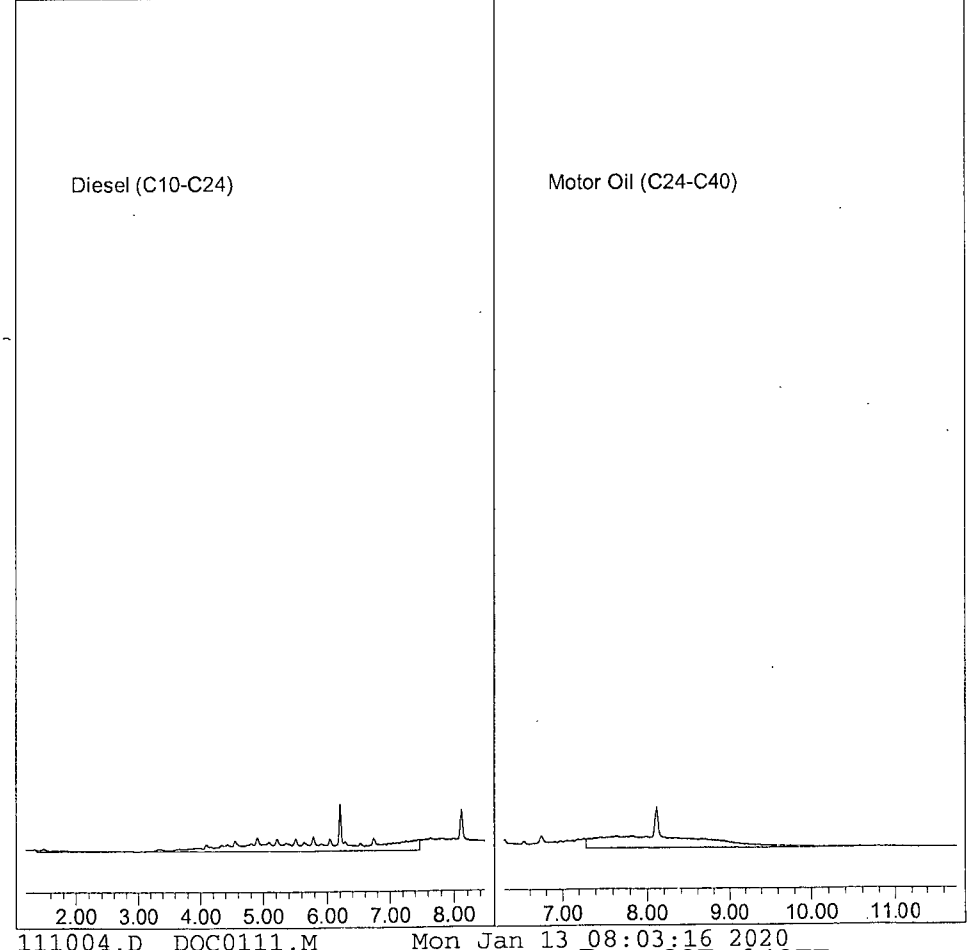
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SA Ortho-Terphenyl(S)	6.20	10093332	2.608 ppb
Surrogate Spike 30.000	Recovery =		8.69%
4) SA Octacosane(S)	8.11	9697764	3.083 ppb
Surrogate Spike 30.000	Recovery =		10.28%
Target Compounds			
1) HATM Diesel (C10-C24)	4.42	198667031	38.722 ppb
2) HBTM Motor Oil (C24-C40)	9.01	139816465	50.388 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200111\111004.D
Sample : Diesel Motor Oil-2 1/11/20





111004.D DOC0111.M Mon Jan 13 08:03:16 2020

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200111\111005.D
Acq On : 1-11-20 12:15:09
Sample : Diesel Motor Oil-3 1/11/20
Misc : water
IntFile : events.e
Quant Time: Jan 13 7:57 2020 Quant Results File: DOC0111.RES

Vial: 5
Operator: BT
Inst : Apollo
Multiplr: 1.00

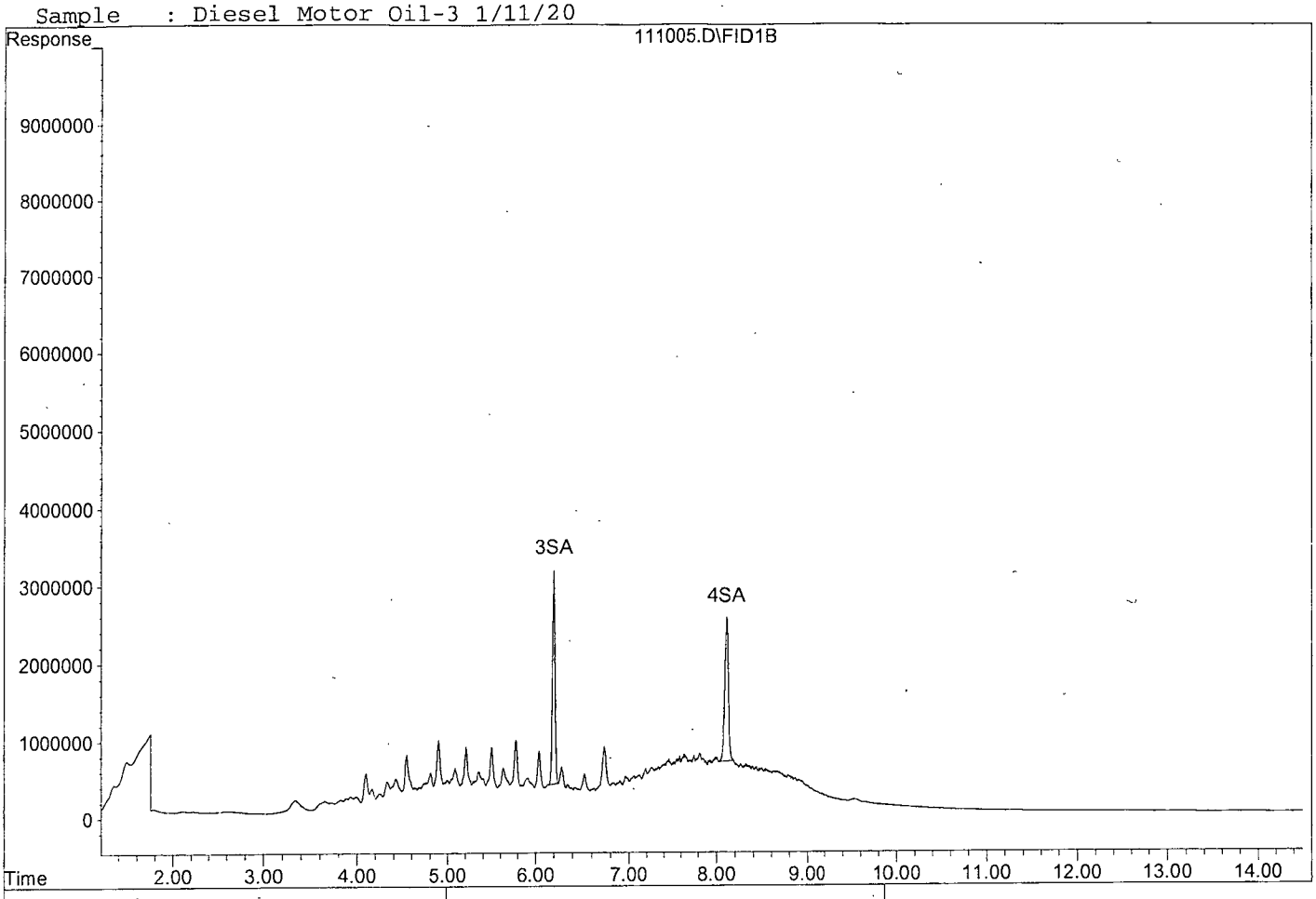
Method : G:\APOLLO\DATA\200111\DOC0111.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Mon Jan 13 07:59:04 2020
Response via : Multiple Level Calibration

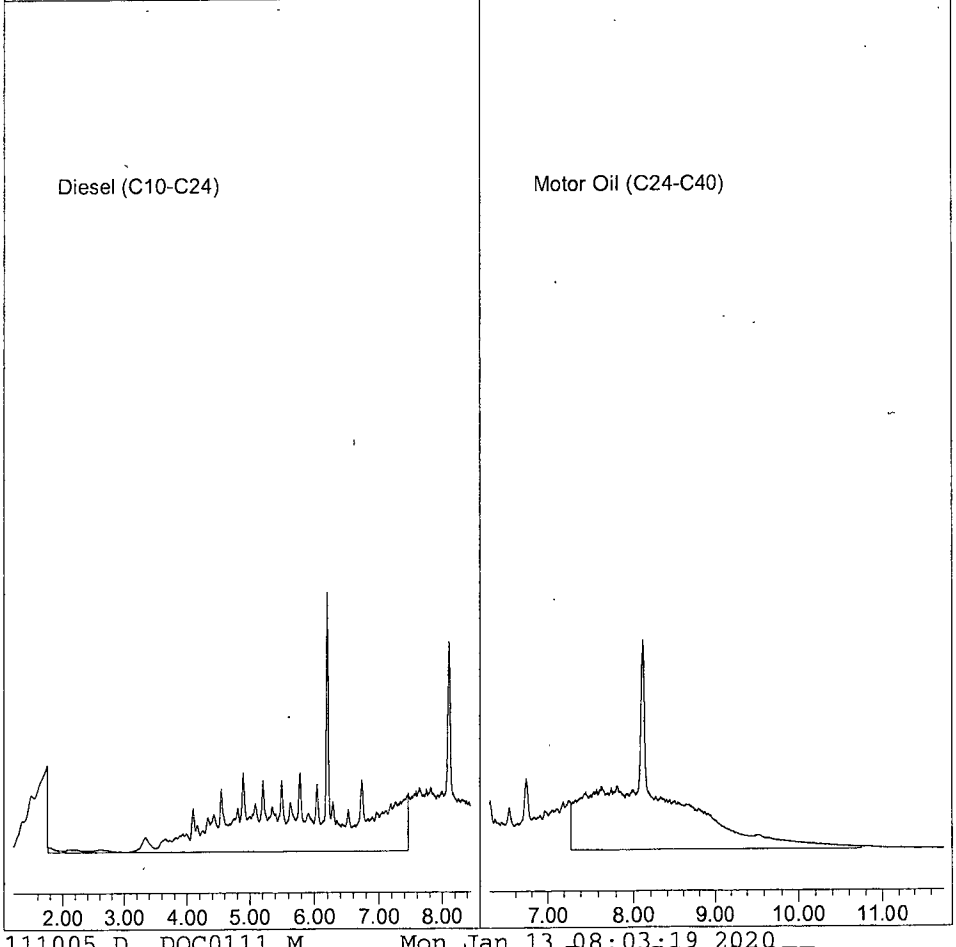
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SA Ortho-Terphenyl(S)	6.20	53441475	12.651 ppb
Surrogate Spike 30.000		Recovery =	42.17%
4) SA Octacosane(S)	8.11	48324263	12.768 ppb
Surrogate Spike 30.000		Recovery =	42.56%
Target Compounds			
1) HATM Diesel (C10-C24)	4.42	962441423	238.050 ppb
2) HBTM Motor Oil (C24-C40)	9.01	731894758	254.269 ppb
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200111\111005.D
Sample : Diesel Motor Oil-3 1/11/20



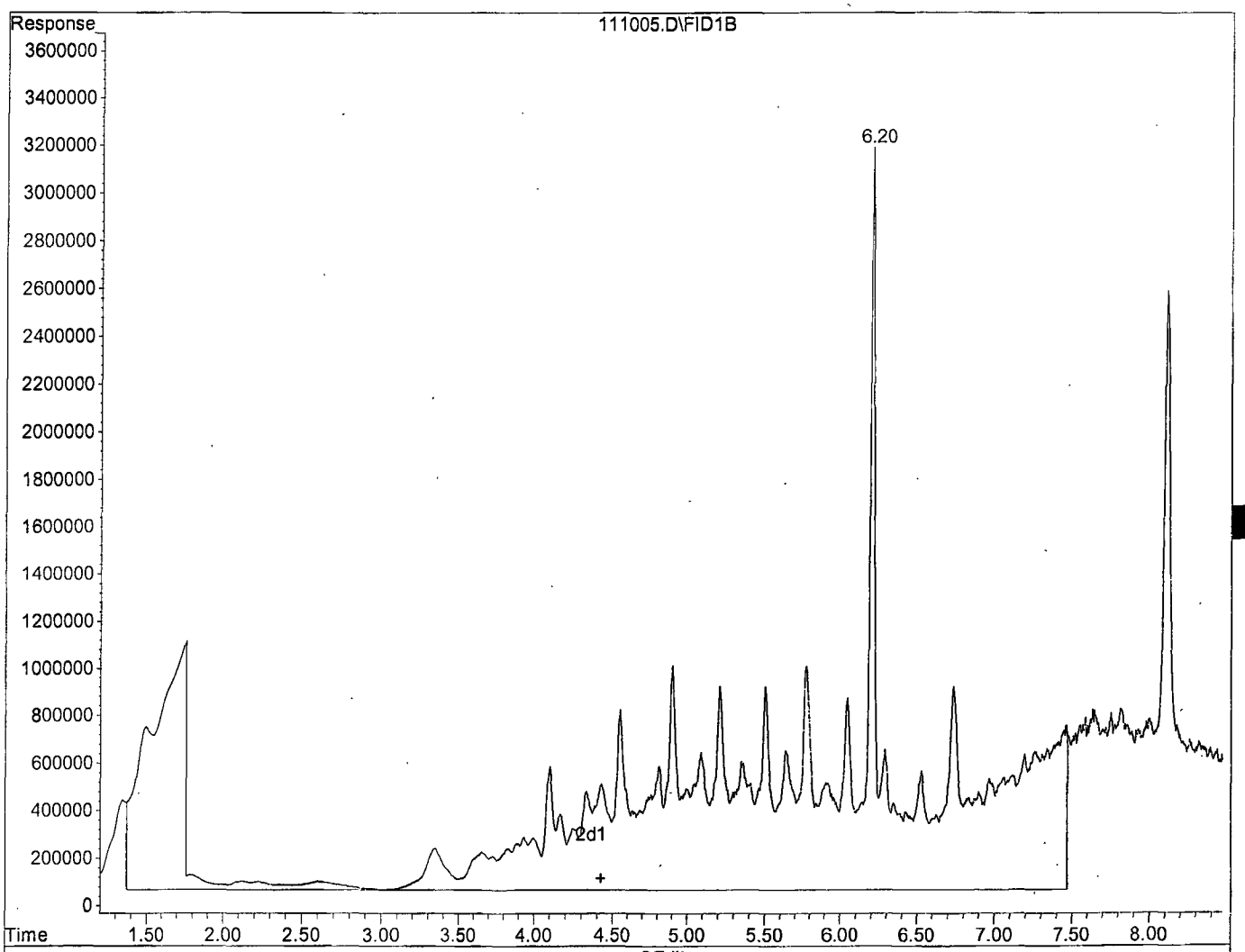


111005.D DOC0111.M Mon Jan 13 08:03:19 2020

Quantitation Report

Data File : G:\APOLLO\DATA\200111\111005.D Vial: 5
Acq On : 1-11-20 12:15:09 Operator: BT
Sample : Diesel Motor Oil-3 1/11/20 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 13 7:56 2020 Quant Results File: DOC0111.RES

Method : G:\APOLLO\DATA\200111\DOC0111.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Mon Jan 13 07:53:21 2020
Response via : Multiple Level Calibration



(1) Diesel (C10-C24) (HATM)

4.42min 283.321ppb m

response 1135907850

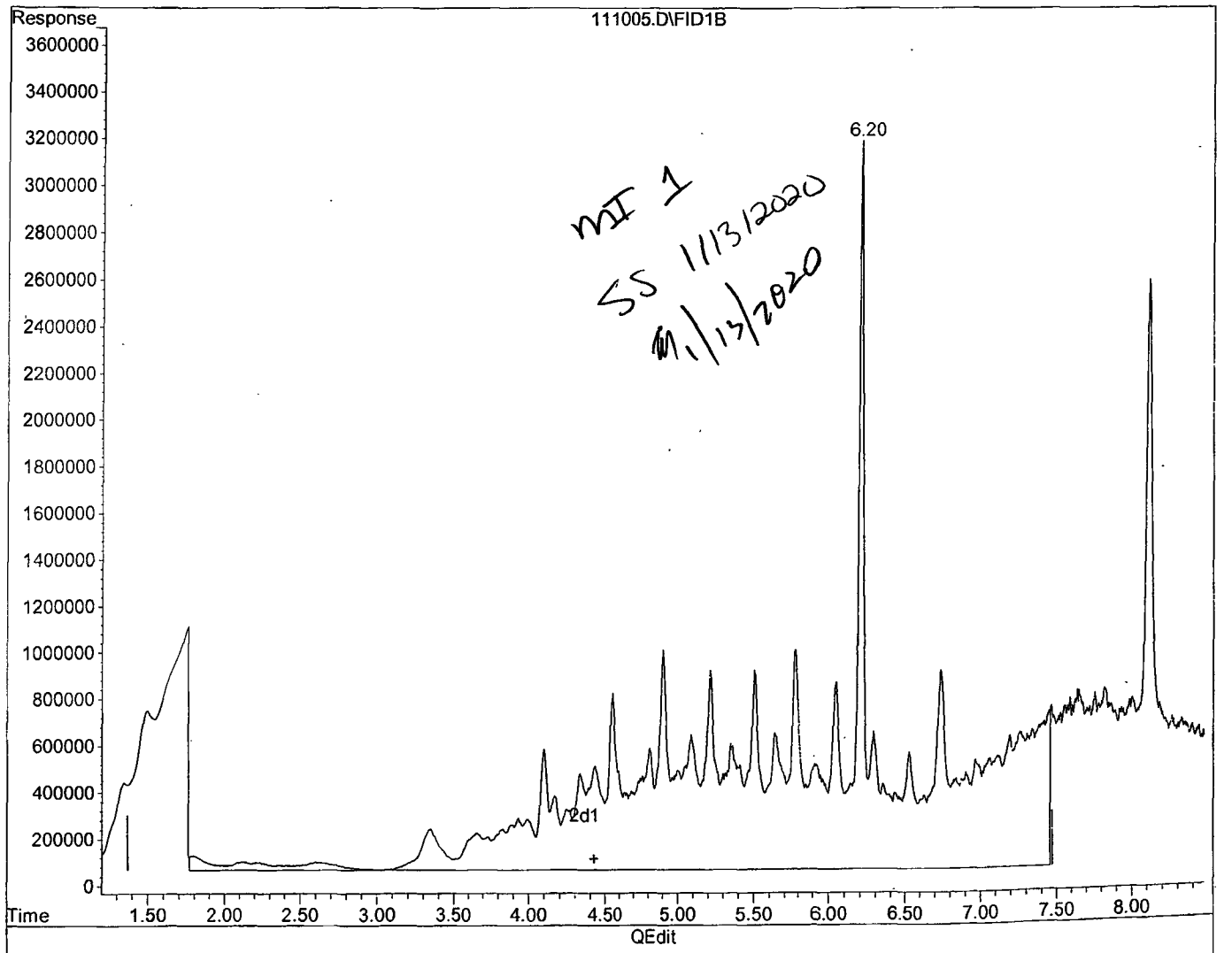
(+) = Expected Retention Time

111005.D DOC0111.M Mon Jan 13 07:57:09 2020

Quantitation Report

Data File : G:\APOLLO\DATA\200111\111005.D Vial: 5
Acq On : 1-11-20 12:15:09 Operator: BT
Sample : Diesel Motor Oil-3 1/11/20 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 13 7:56 2020 Quant Results File: DOC0111.RES

Method : G:\APOLLO\DATA\200111\DOC0111.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Mon Jan 13 07:53:21 2020
Response via : Multiple Level Calibration



(1) Diesel (C10-C24) (HATM)

4.42min 238.050ppb m

response 962441423

(+) = Expected Retention Time

111005.D DOC0111.M Mon Jan 13 07:57:22 2020

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200111\111006.D
Acq On : 1-11-20 12:34:51
Sample : Diesel Motor Oil-4 1/11/20
Misc : water
IntFile : events.e
Quant Time: Jan 13 7:56 2020 Quant Results File: DOC0111.RES

Vial: 6
Operator: BT
Inst : Apollo
Multiplr: 1.00

Method : G:\APOLLO\DATA\200111\DOC0111.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Mon Jan 13 07:59:04 2020
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

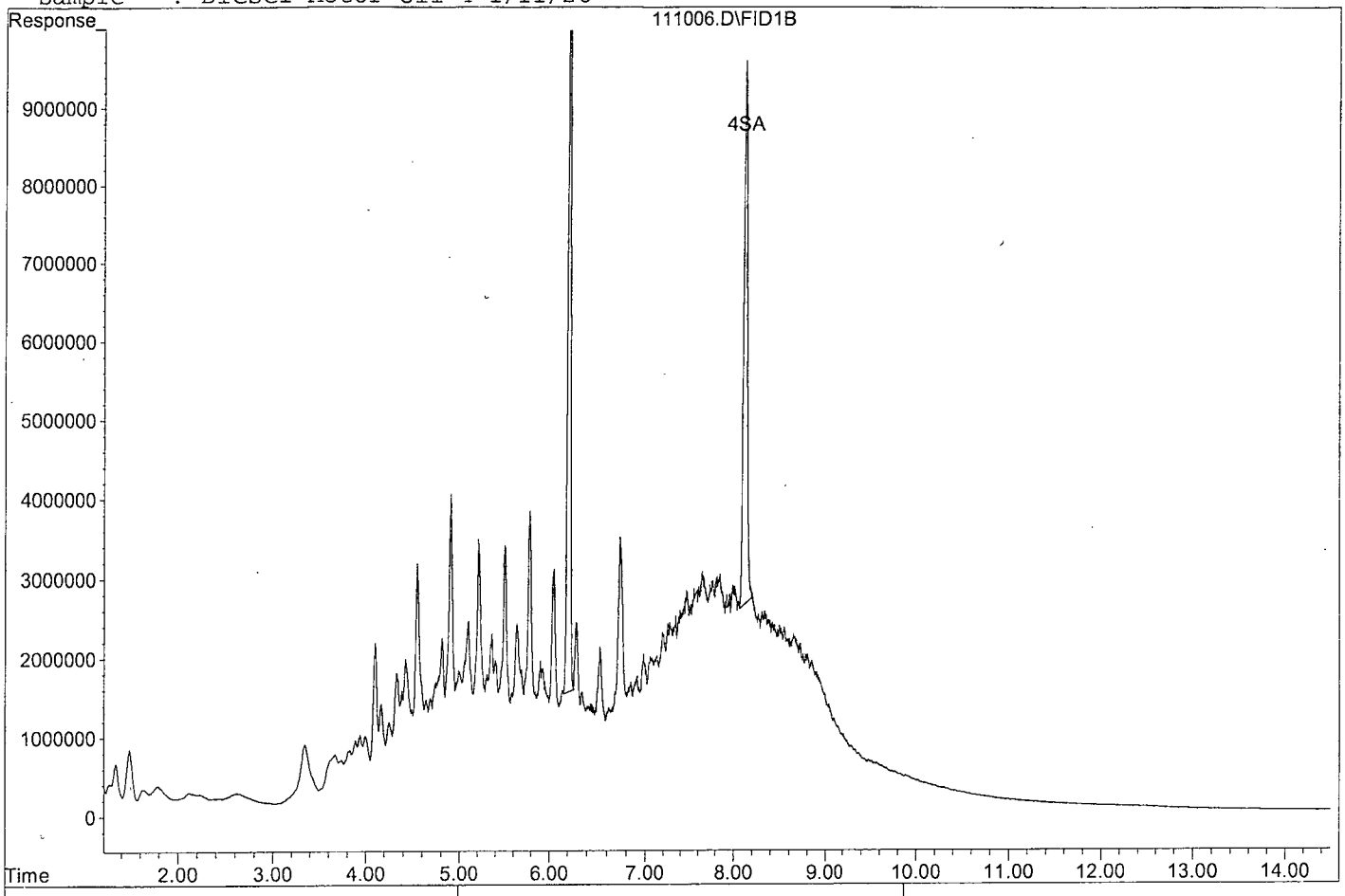
Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
3) SA Ortho-Terphenyl(S)	6.21	212369754	49.469	ppb
Surrogate Spike 30.000		Recovery =	164.90%	
4) SA Octacosane(S)	8.12	187705049	47.715	ppb
Surrogate Spike 30.000		Recovery =	159.05%	
Target Compounds				
1) HATM Diesel (C10-C24)	4.42	3825164959	985.158	ppb
2) HBTM Motor Oil (C24-C40)	9.01	2871684053	991.098	ppb

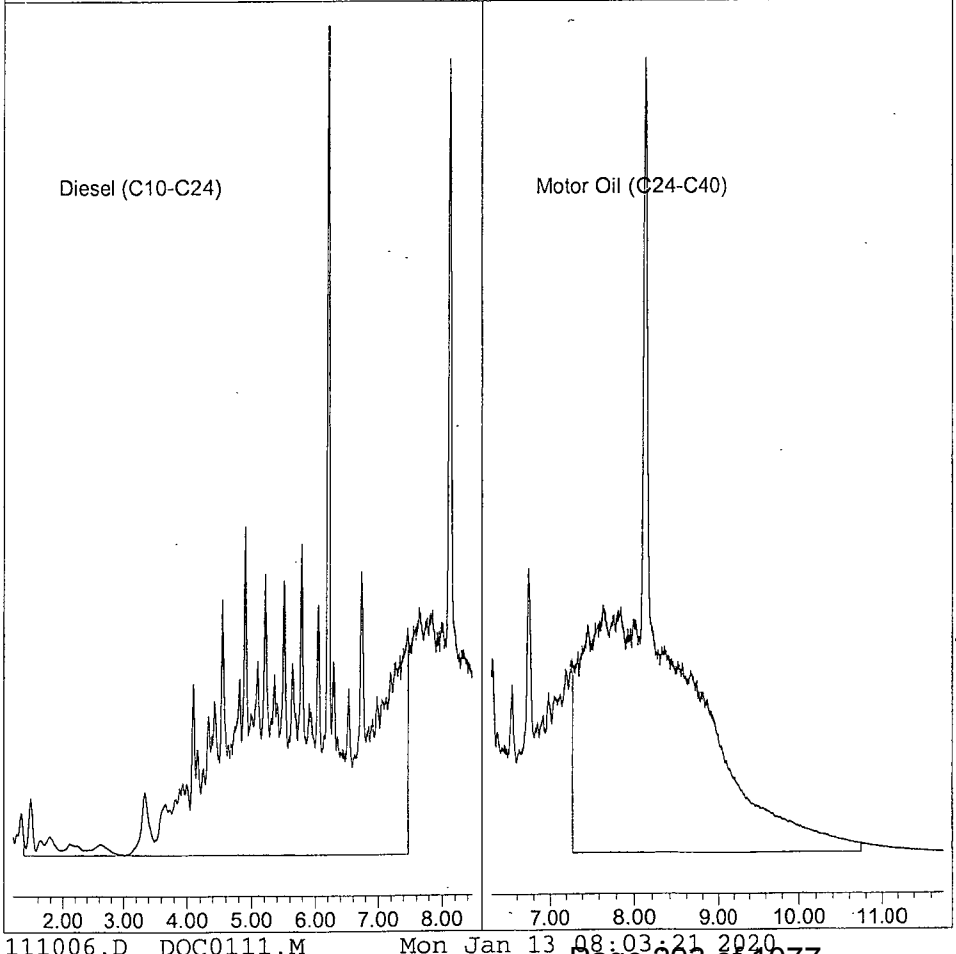
Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\200111\111006.D
Sample : Diesel Motor Oil-4 1/11/20





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200111\111007.D Vial: 7
Acq On : 1-11-20 12:53:51 Operator: BT
Sample : Diesel Motor Oil-5 1/11/20 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 13 7:56 2020 Quant Results File: DOC0111.RES

Method : G:\APOLLO\DATA\200111\DOC0111.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Mon Jan 13 07:59:04 2020
Response via : Multiple Level Calibration

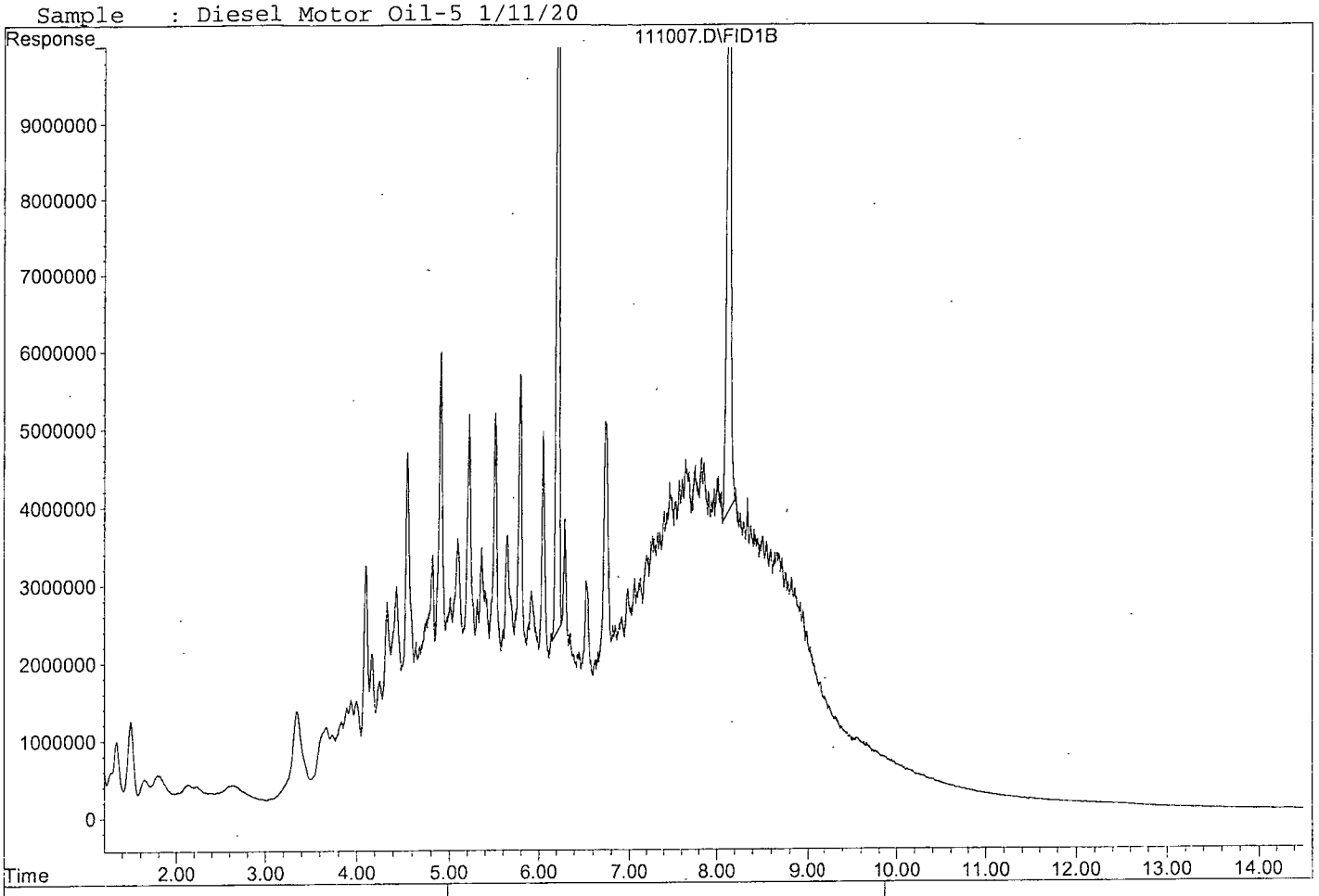
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

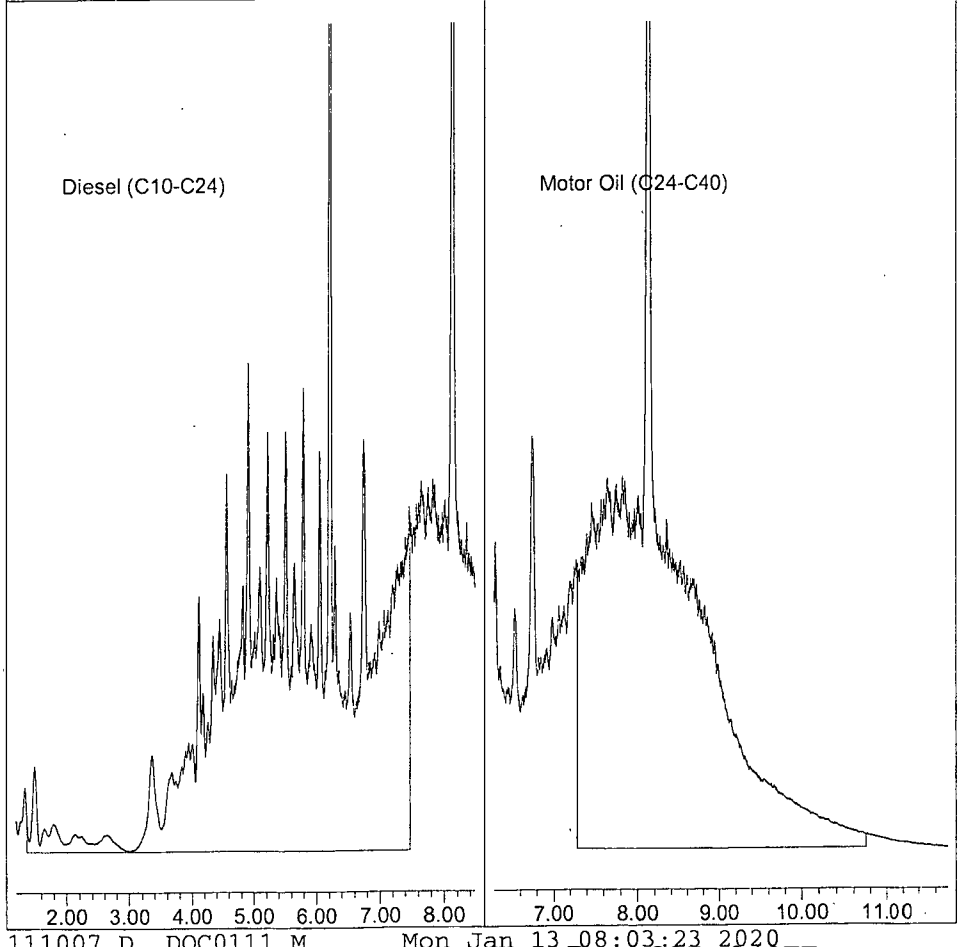
Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
3) SA Ortho-Terphenyl(S)	6.22	317763661	73.885	ppb
Surrogate Spike 30.000		Recovery =	246.28%	
4) SA Octacosane(S)	8.13	288464296	72.979	ppb
Surrogate Spike 30.000		Recovery =	243.26%	
Target Compounds				
1) HATM Diesel (C10-C24)	4.42	5759785331	1490.051	ppb
2) HBTM Motor Oil (C24-C40)	9.01	4304501059	1484.484	ppb
Target Compounds				

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\200111\111007.D
Sample : Diesel Motor Oil-5 1/11/20





111007.D DOC0111.M Mon Jan 13 08:03:23 2020

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200111\111008.D Vial: 8
Acq On : 1-11-20 13:13:29 Operator: BT
Sample : Diesel Motor Oil-6 1/11/20 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 13 7:56 2020 Quant Results File: DOC0111.RES

Method : G:\APOLLO\DATA\200111\DOC0111.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Mon Jan 13 07:59:04 2020
Response via : Multiple Level Calibration

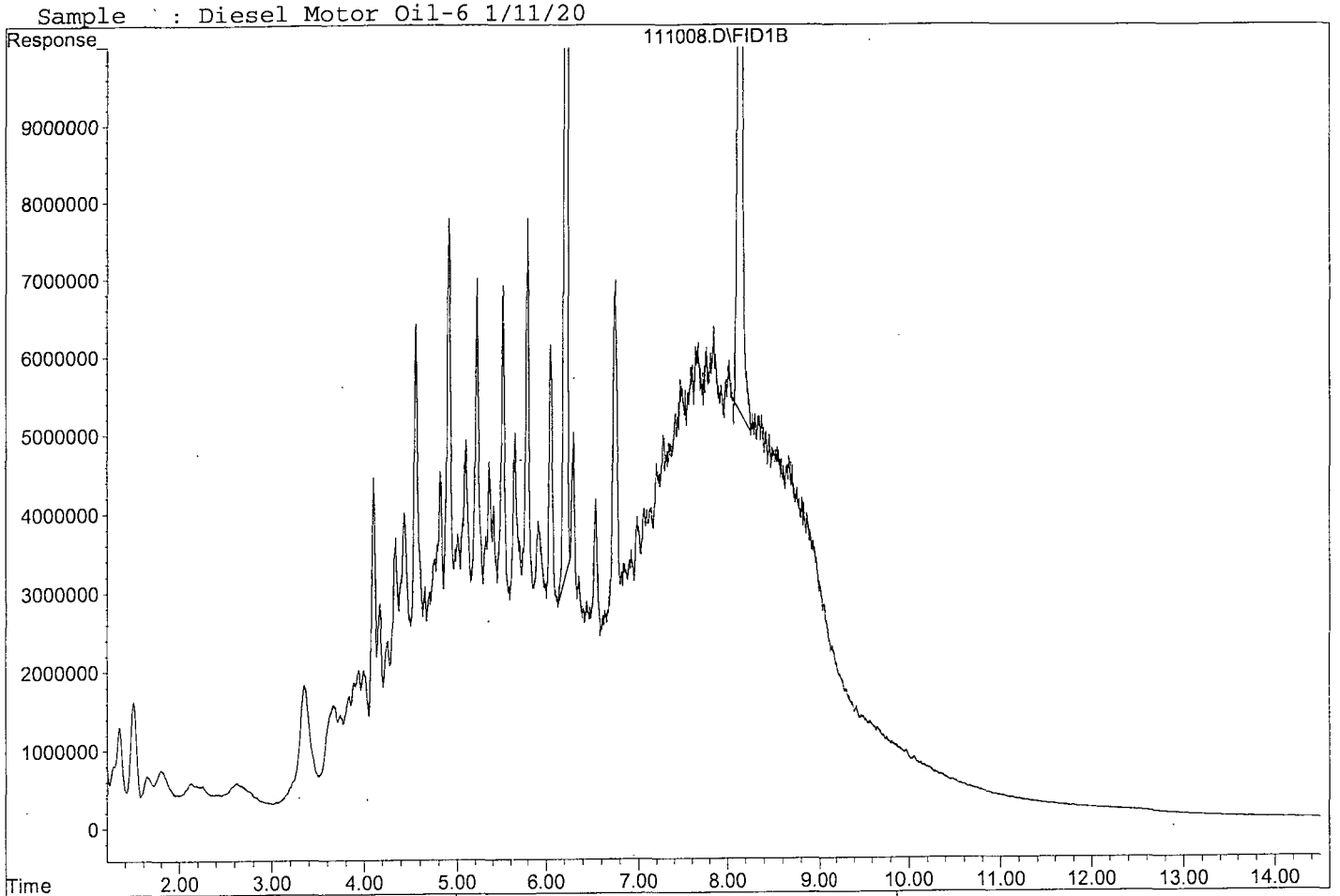
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

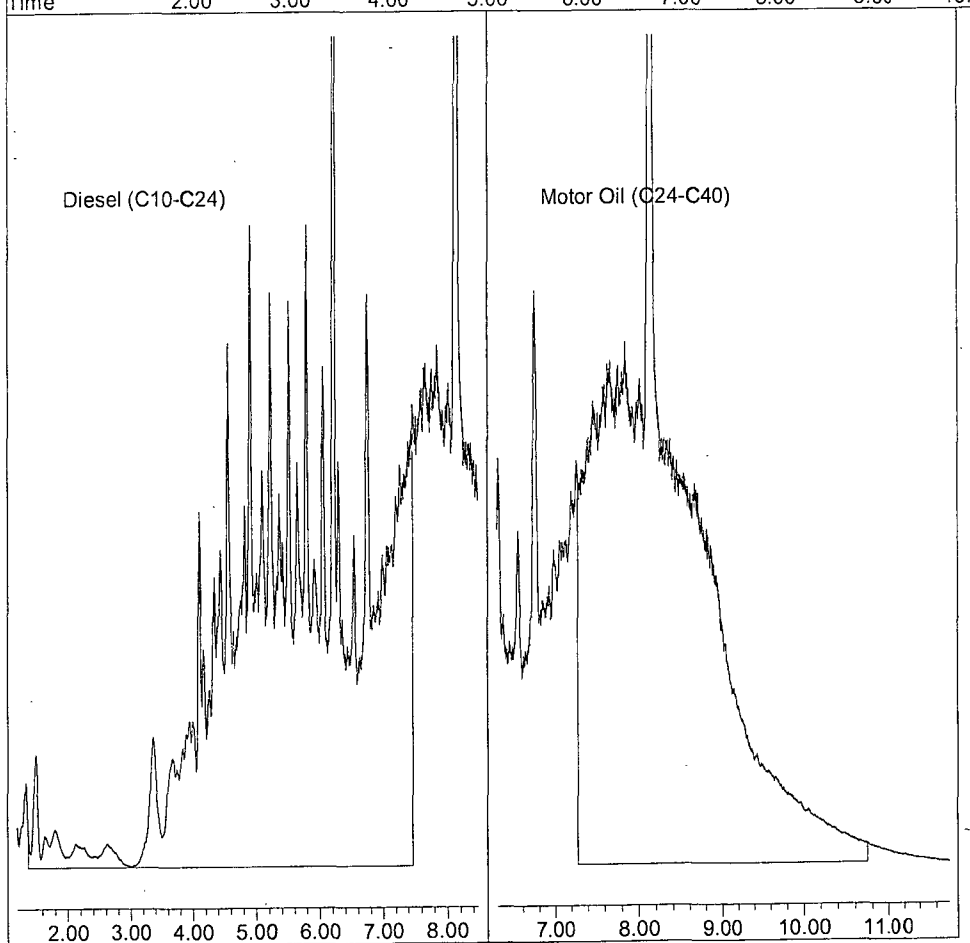
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SA Ortho-Terphenyl(S)	6.22	435148844	101.079 ppb
Surrogate Spike 30.000	Recovery =		336.93%
4) SA Octacosane(S)	8.14	406628533	102.606 ppb
Surrogate Spike 30.000	Recovery =		342.02%
Target Compounds			
1) HATM Diesel (C10-C24)	4.42	7756086002	2011.041 ppb
2) HBTM Motor Oil (C24-C40)	9.01	5846668269	2015.524 ppb
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\200111\111008.D
Sample : Diesel Motor Oil-6 1/11/20





111008.D DOC0111.M Mon Jan 13 08:03:26 2020

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: Water

SDG No:
Date Analyzed: 01/11/20
Instrument: Apollo
Initial Cal. Date: 01/11/20
Data File: 111009.D

		Compound	MEAN	CCRF	%D	%Drift	
1	HATM	Diesel (C10-C24)	2087510	1977670	5.3	HATM	
2	HBTM	Motor Oil (C24-C40)	1489330	1360260	8.7	HBTM	
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			7.0		

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200111\111009.D Vial: 9
Acq On : 1-11-20 13:33:12 Operator: BT
Sample : Diesel Motor Oil-SS 12/23/19 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 13 8:03 2020 Quant Results File: DOC0111.RES

Method : G:\APOLLO\DATA\200111\DOC0111.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Mon Jan 13 07:59:04 2020
Response via : Multiple Level Calibration

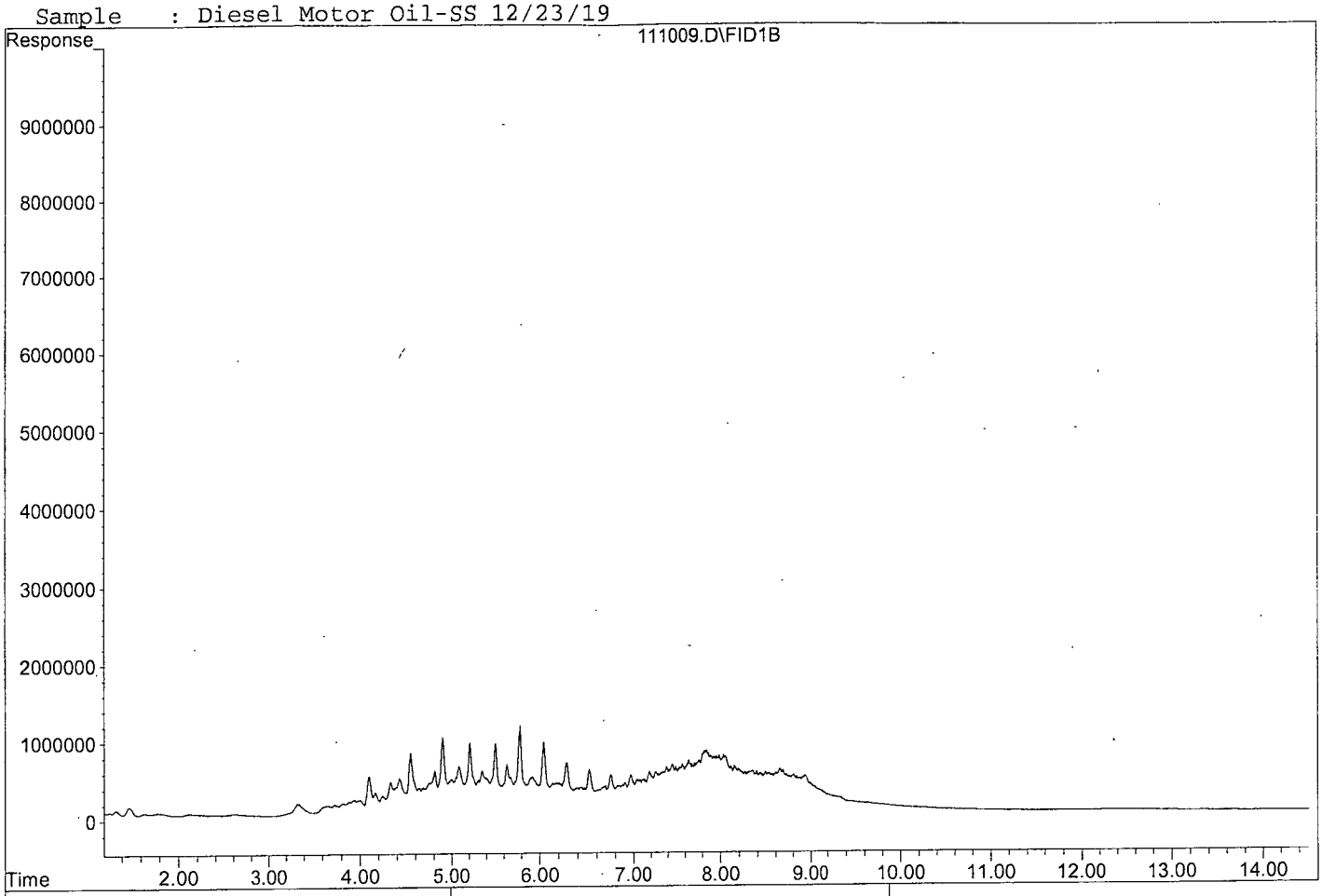
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

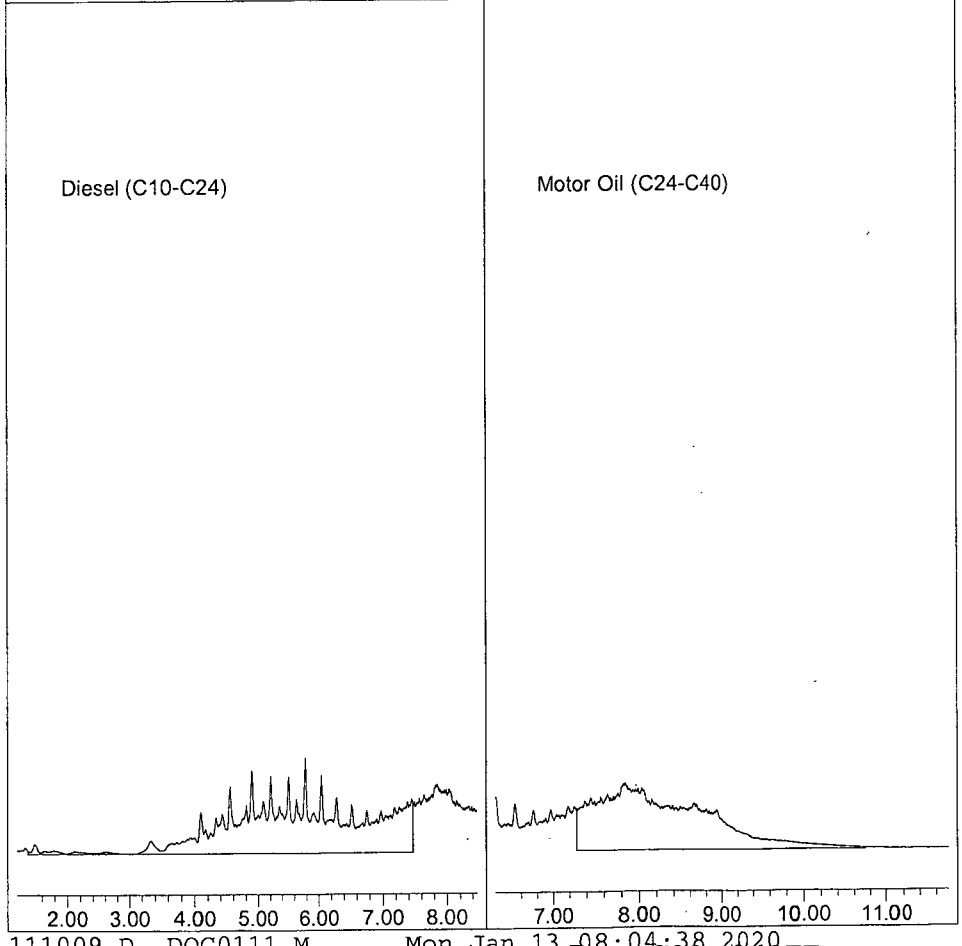
Compound	R.T.	Response	Conc	Units	
System Monitoring Compounds					
3) SA Ortho-Terphenyl(S)	0.00	0	N.D.	ppb	d
Surrogate Spike 30.000	Recovery	=	0.00%		
4) SA Octacosane(S)	0.00	0	N.D.	ppb	d
Surrogate Spike 30.000	Recovery	=	0.00%		
Target Compounds					
1) HATM Diesel (C10-C24)	4.42	988835441	236.846	ppb	
2) HBTM Motor Oil (C24-C40)	9.01	680127899	228.334	ppb	

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200111\111009.D
Sample : Diesel Motor Oil-SS 12/23/19





111009.D DOC0111.M Mon Jan 13 08:04:38 2020

TPH Extractables
DOC0129

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Initial Cal. Date: 01/29/20
Matrix: Water Instrument: Apollo
Initials: SS/MW

129003.D 129004.D 129005.D 129006.D 129007 D 129008.D

		Compound	1	2	3	4	5	6					Avg	%RSD	Type	r^2	Q
1	HATML	Diesel (C10-C24)	4301645	2074327	1969883	1982146	2013208	2034442					2395942	39	HATM	1.000	
2	HBTML	Motor Oil (C24-C40)	3133275	1556987	1523968	1544417	1575167	1599767					1822264	35	HBTM	1.000	
3	SAL	Ortho-Terphenyl(S)	3219032	1590724	1901435	2205187	2248499	2279827					2240784	24	SA	1.000	
4	SAL	Octacosane(S)	3976549	1932634	1971529	2006919	2013066	2152961					2342277	34	SA	0.998	
5																	
6																	
7																	
8																	
9																	
10																	
11																	
12																	
13																	
14																	
15																	
16																	
17																	
18																	
19																	
20																	
21																	
22																	
23																	
24																	
25																	
26																	
27																	
28																	
29																	
30																	
31																	
32																	
33																	
34																	
35																	

3.800686

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200129\129003.D Vial: 3
Acq On : 1-29-20 13:59:43 Operator: BT
Sample : Diesel Motor Oil - 1 1/29/20 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 30 7:58 2020 Quant Results File: DOC0129.RES

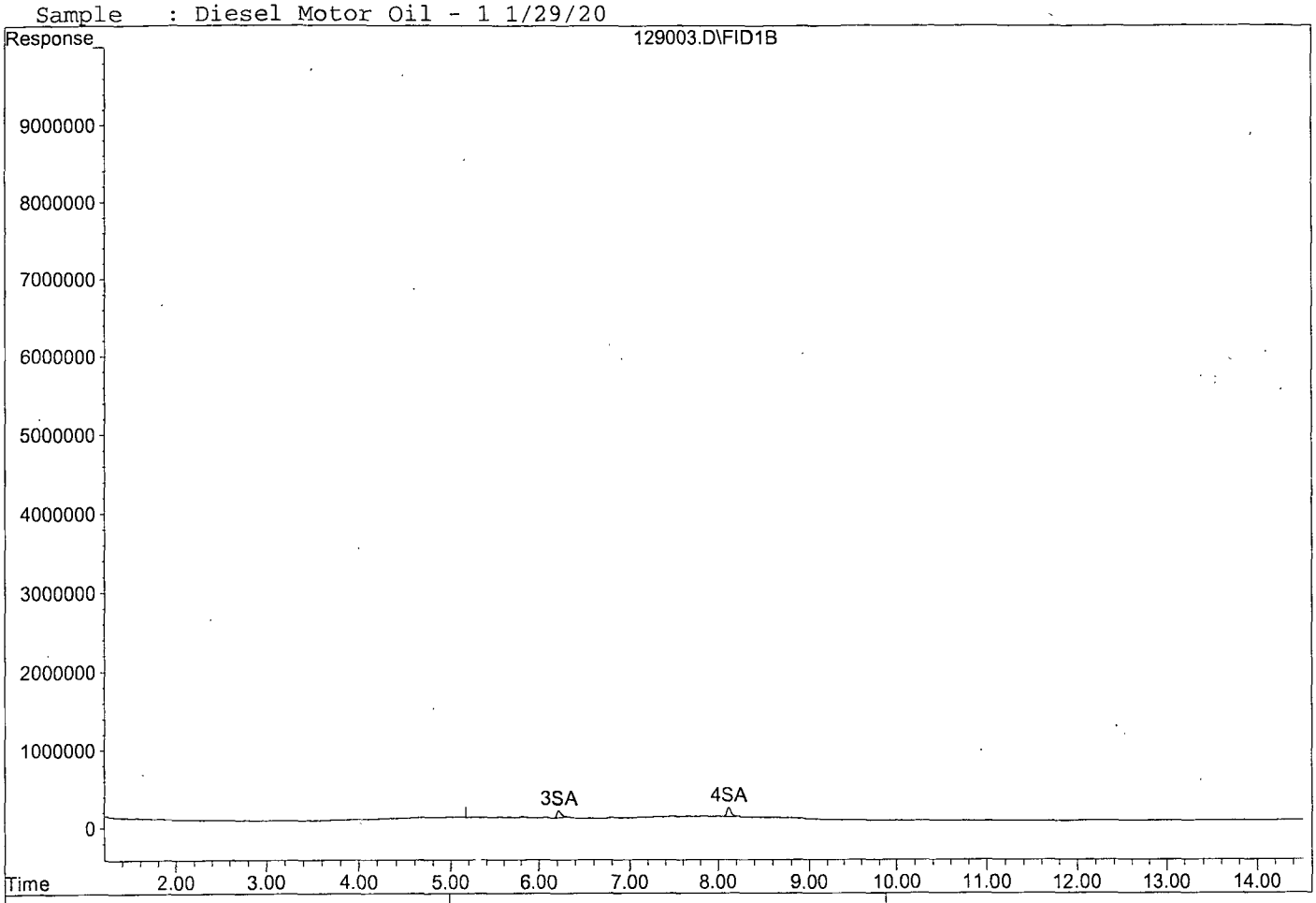
Method : G:\APOLLO\DATA\200129\DOC0129.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Jan 30 08:01:08 2020
Response via : Multiple Level Calibration

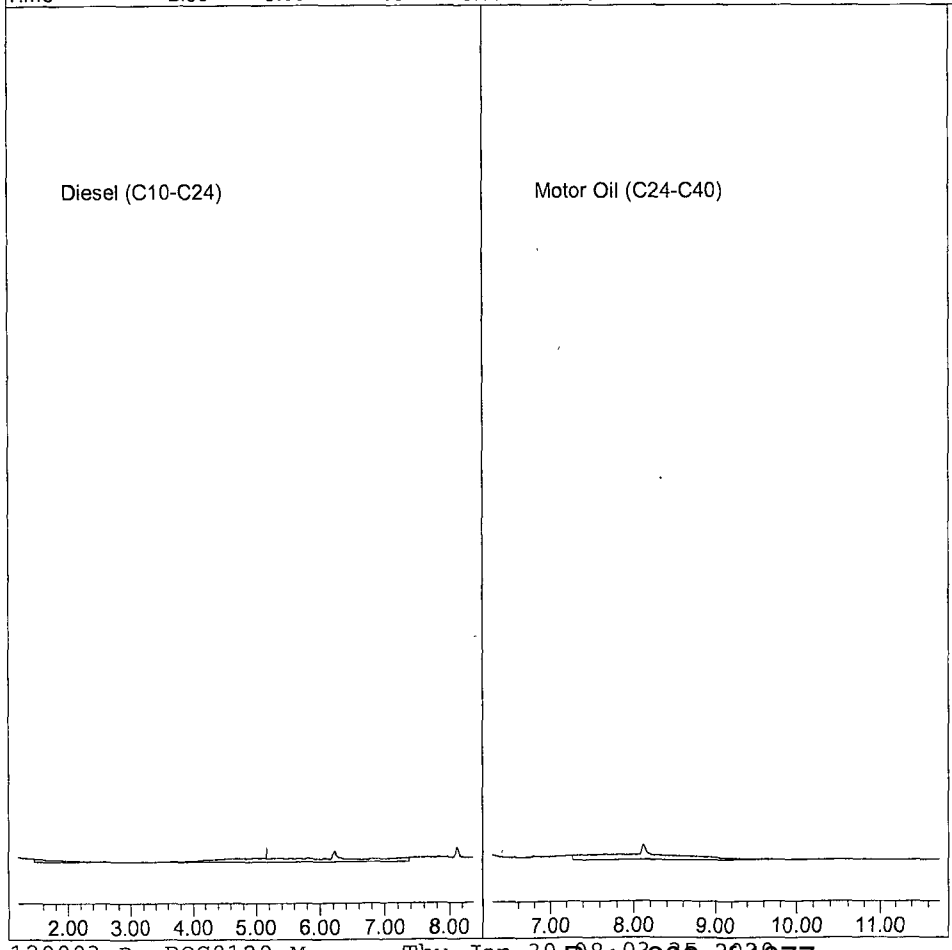
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SA Ortho-Terphenyl(S)	6.22	3219032	0.718 ppb
Surrogate Spike 30.000	Recovery =		2.39%
4) SA Octacosane(S)	8.12	3976549	0.849 ppb
Surrogate Spike 30.000	Recovery =		2.83%
Target Compounds			
1) HATM Diesel (C10-C24)	4.42	86032900	17.172 ppb
2) HBTM Motor Oil (C24-C40)	9.01	62665505	17.194 ppb
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200129\129003.D
Sample : Diesel Motor Oil - 1 1/29/20





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200129\129004.D Vial: 4
Acq On : 1-29-20 14:19:23 Operator: BT
Sample : Diesel Motor Oil - 2 1/29/20 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 30 7:58 2020 Quant Results File: DOC0129.RES

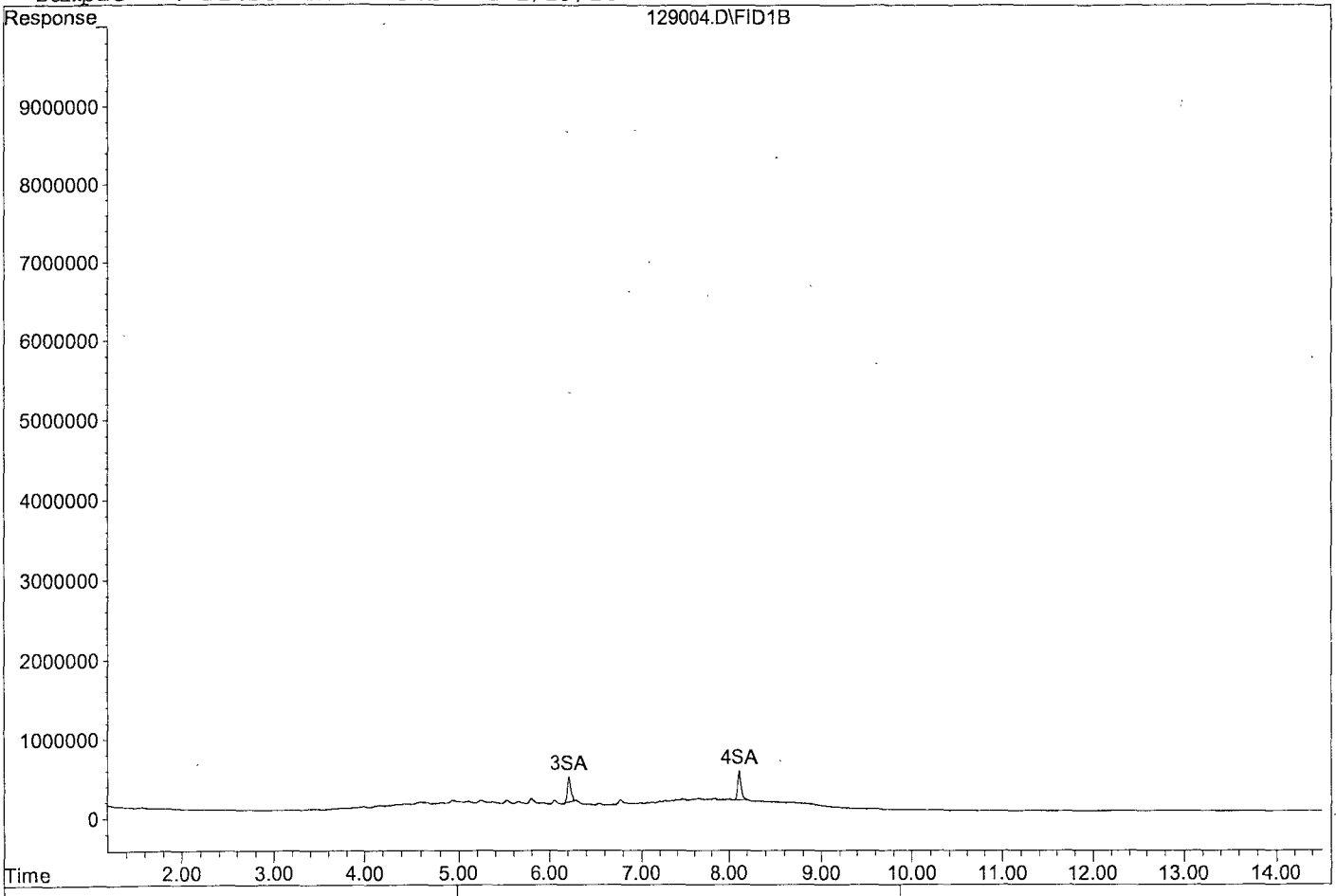
Method : G:\APOLLO\DATA\200129\DOC0129.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Jan 30 08:01:08 2020
Response via : Multiple Level Calibration

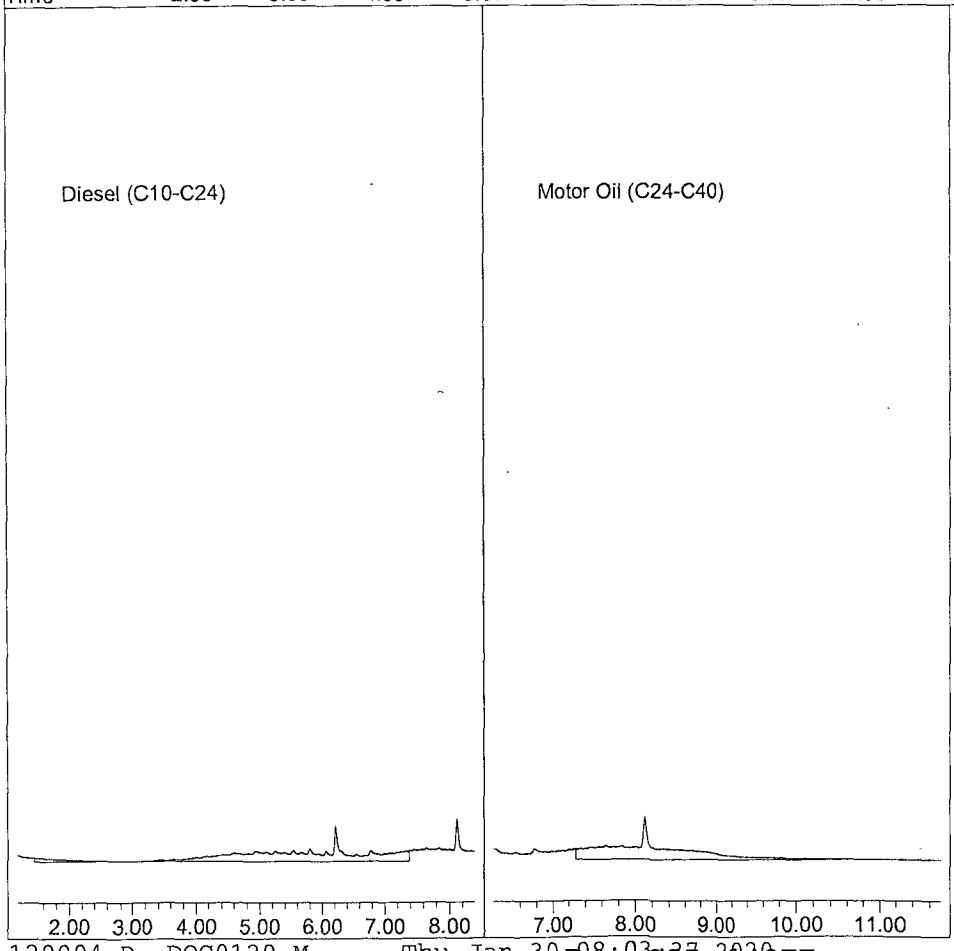
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SA Ortho-Terphenyl(S)	6.21	7953622	1.775 ppb
Surrogate Spike 30.000	Recovery =		5.92%
4) SA Octacosane(S)	8.11	9663172	2.063 ppb
Surrogate Spike 30.000	Recovery =		6.88%
Target Compounds			
1) HATM Diesel (C10-C24)	4.42	207432742	41.402 ppb
2) HBTM Motor Oil (C24-C40)	9.01	155698715	42.721 ppb
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200129\129004.D
Sample : Diesel Motor Oil - 2 1/29/20





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200129\129005.D Vial: 5
Acq On : 1-29-20 14:39:02 Operator: BT
Sample : Diesel Motor Oil - 3 1/29/20 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 30 7:58 2020 Quant Results File: DOC0129.RES

Method : G:\APOLLO\DATA\200129\DOC0129.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Jan 30 08:01:08 2020
Response via : Multiple Level Calibration

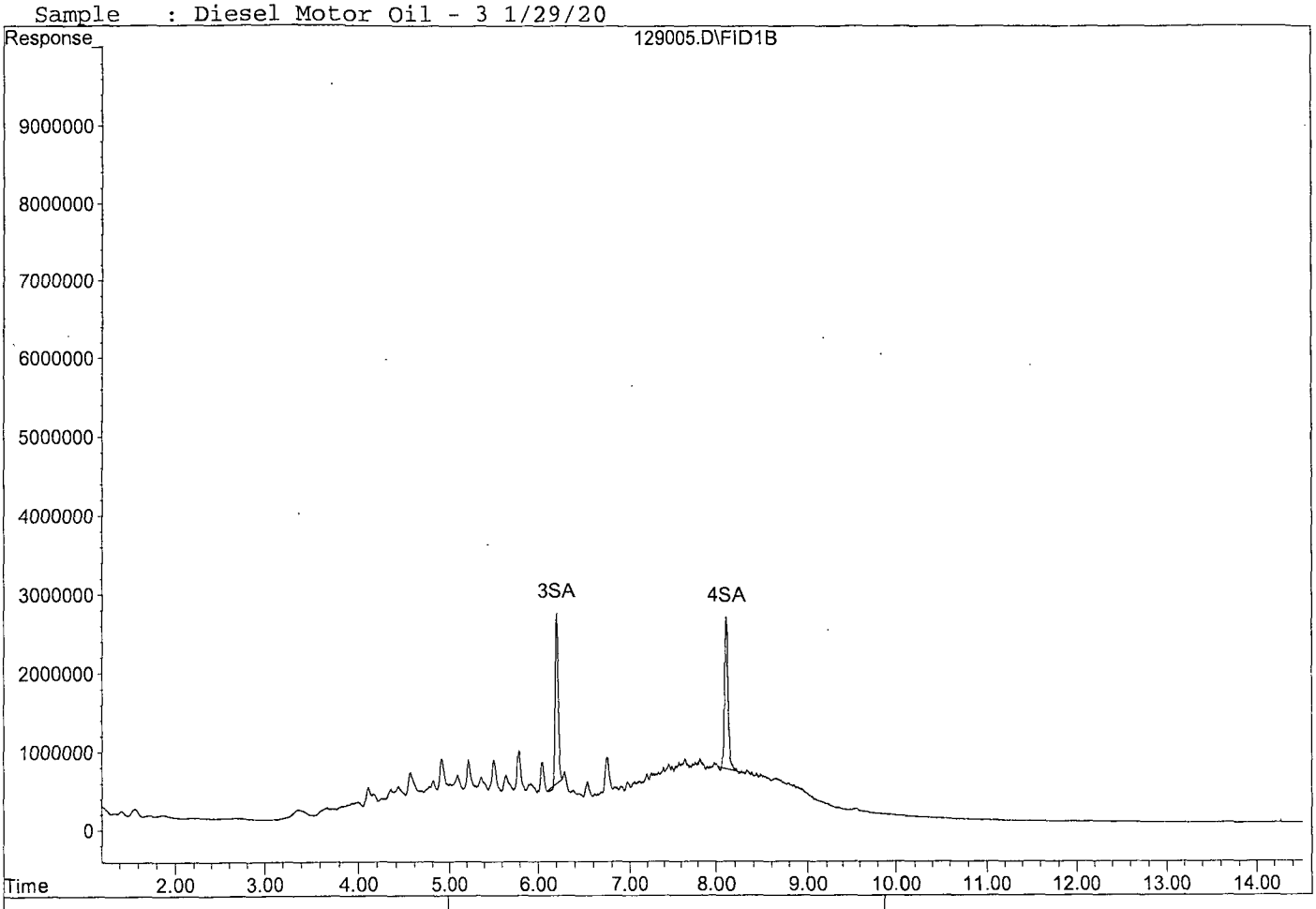
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

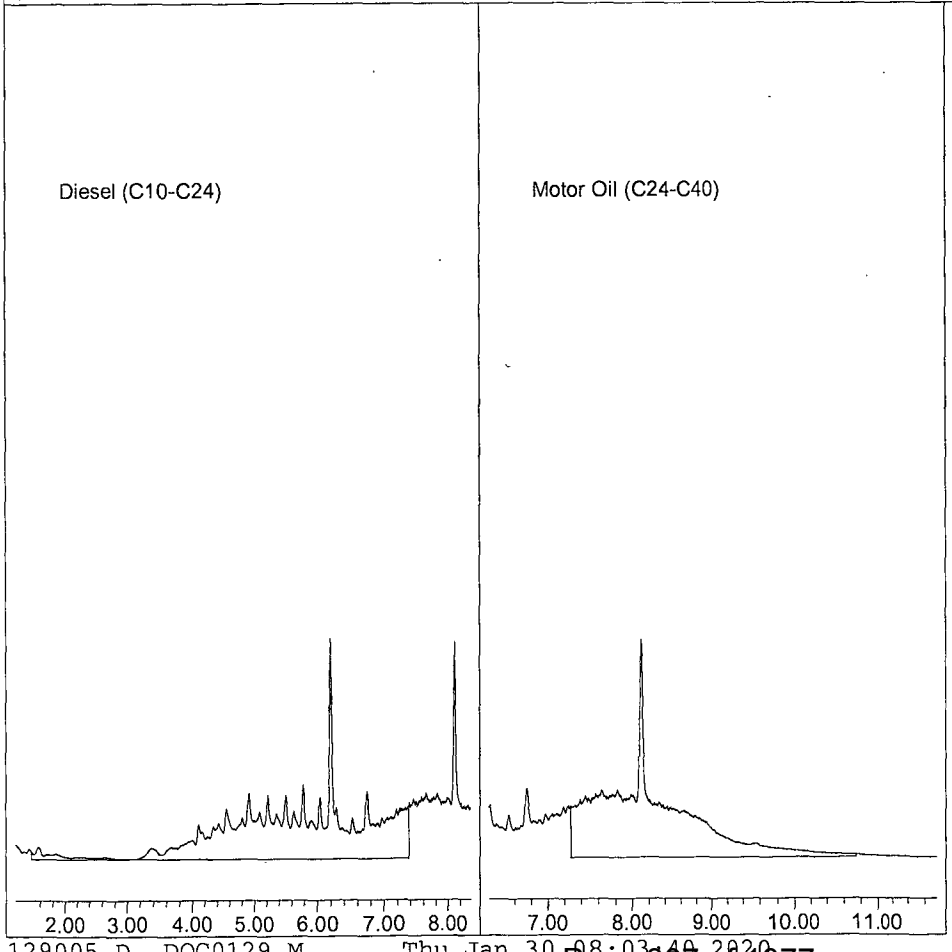
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SA Ortho-Terphenyl(S)	6.21	47535882	10.607 ppb
Surrogate Spike 30.000	Recovery =		35.36%
4) SA Octacosane(S)	8.11	49288227	10.521 ppb
Surrogate Spike 30.000	Recovery =		35.07%
Target Compounds			
1) HATM Diesel (C10-C24)	4.42	984941383	196.588 ppb
2) HBTM Motor Oil (C24-C40)	9.01	761984137	209.076 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200129\129005.D
Sample : Diesel Motor Oil - 3 1/29/20





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200129\129006.D Vial: 6
Acq On : 1-29-20 14:58:42 Operator: BT
Sample : Diesel Motor Oil - 4 1/29/20 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 30 7:58 2020 Quant Results File: DOC0129.RES

Method : G:\APOLLO\DATA\200129\DOC0129.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Jan 30 08:01:08 2020
Response via : Multiple Level Calibration

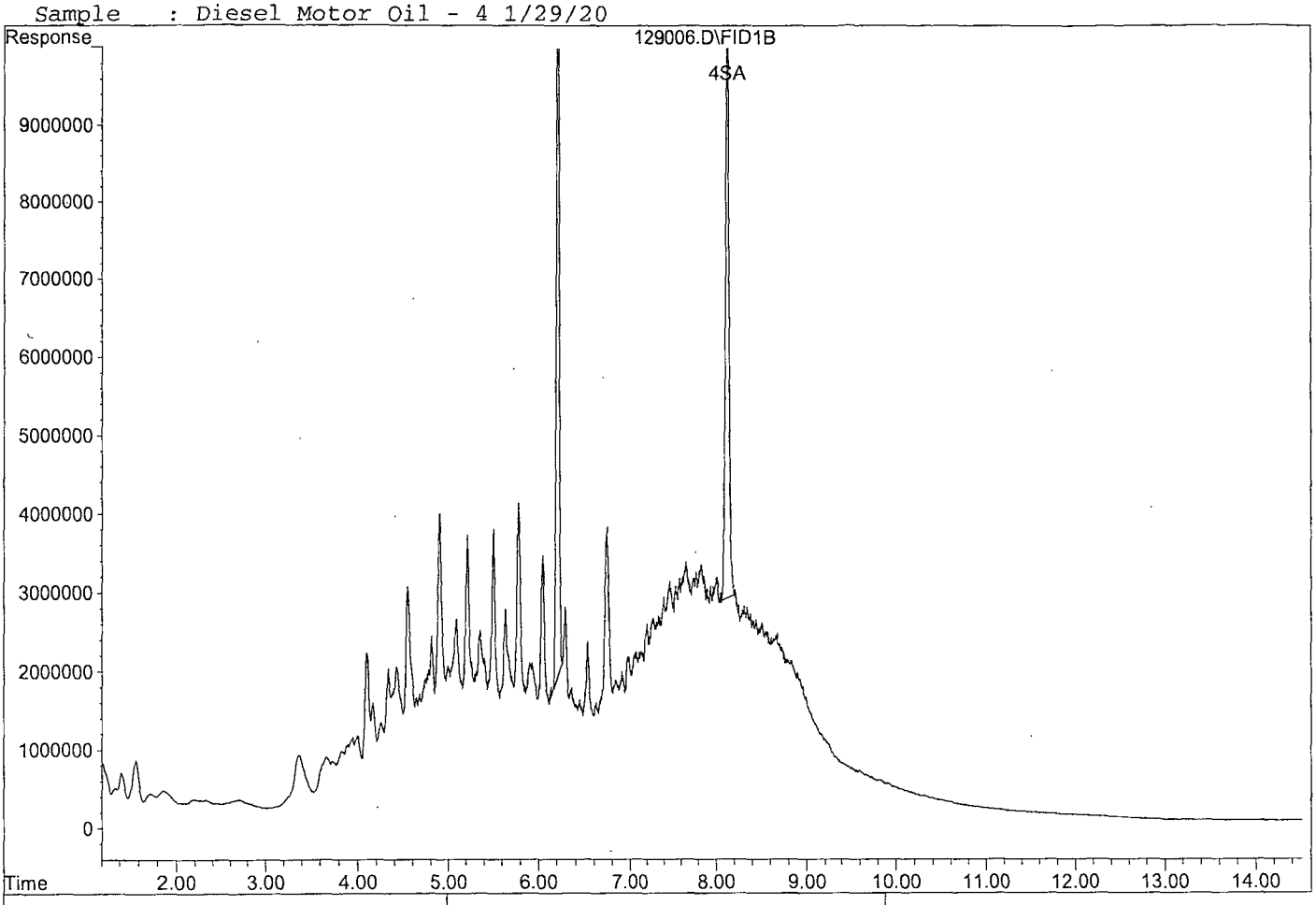
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

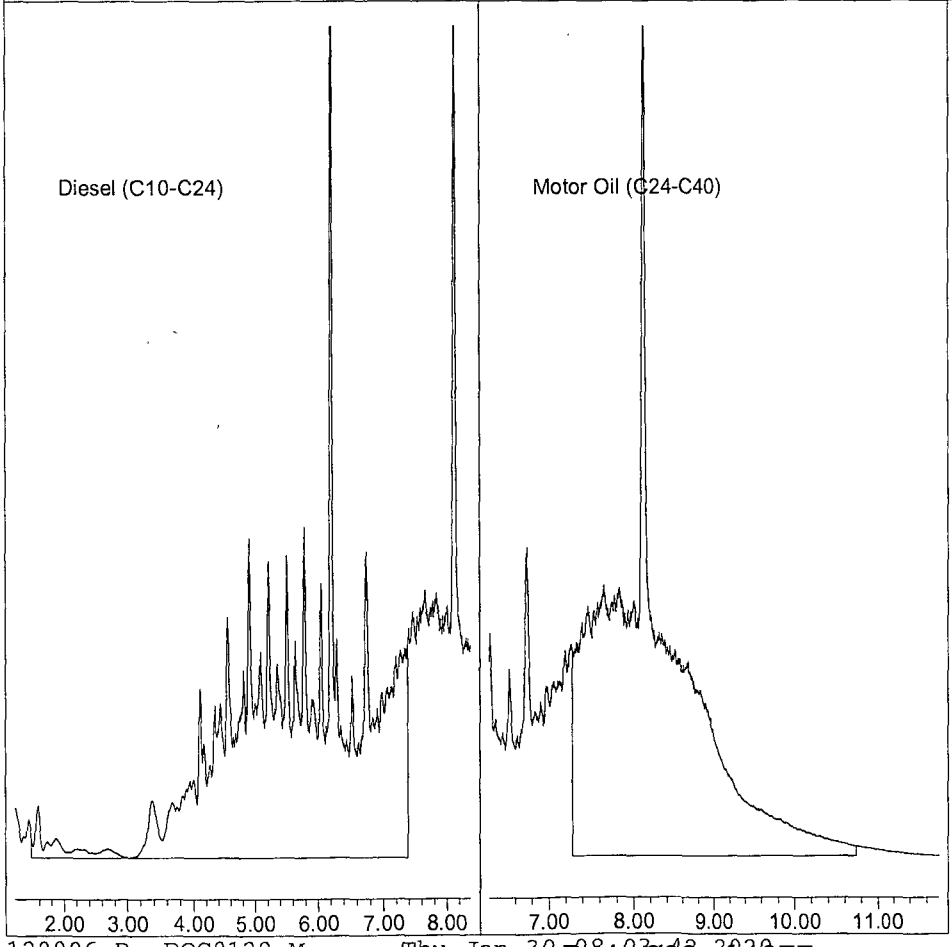
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SA Ortho-Terphenyl(S)	6.21	220518688	49.206 ppb
Surrogate Spike 30.000	Recovery =		164.02%
4) SA Octacosane(S)	8.12	200691942	42.841 ppb
Surrogate Spike 30.000	Recovery =		142.80%
Target Compounds			
1) HATM Diesel (C10-C24)	4.42	3964291090	791.245 ppb
2) HBTM Motor Oil (C24-C40)	9.01	3088833563	847.527 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200129\129006.D
Sample : Diesel Motor Oil - 4 1/29/20





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200129\129007.D Vial: 7
Acq On : 1-29-20 15:18:28 Operator: BT
Sample : Diesel Motor Oil - 5 1/29/20 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 30 7:58 2020 Quant Results File: DOC0129.RES

Method : G:\APOLLO\DATA\200129\DOC0129.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Jan 30 08:01:08 2020
Response via : Multiple Level Calibration

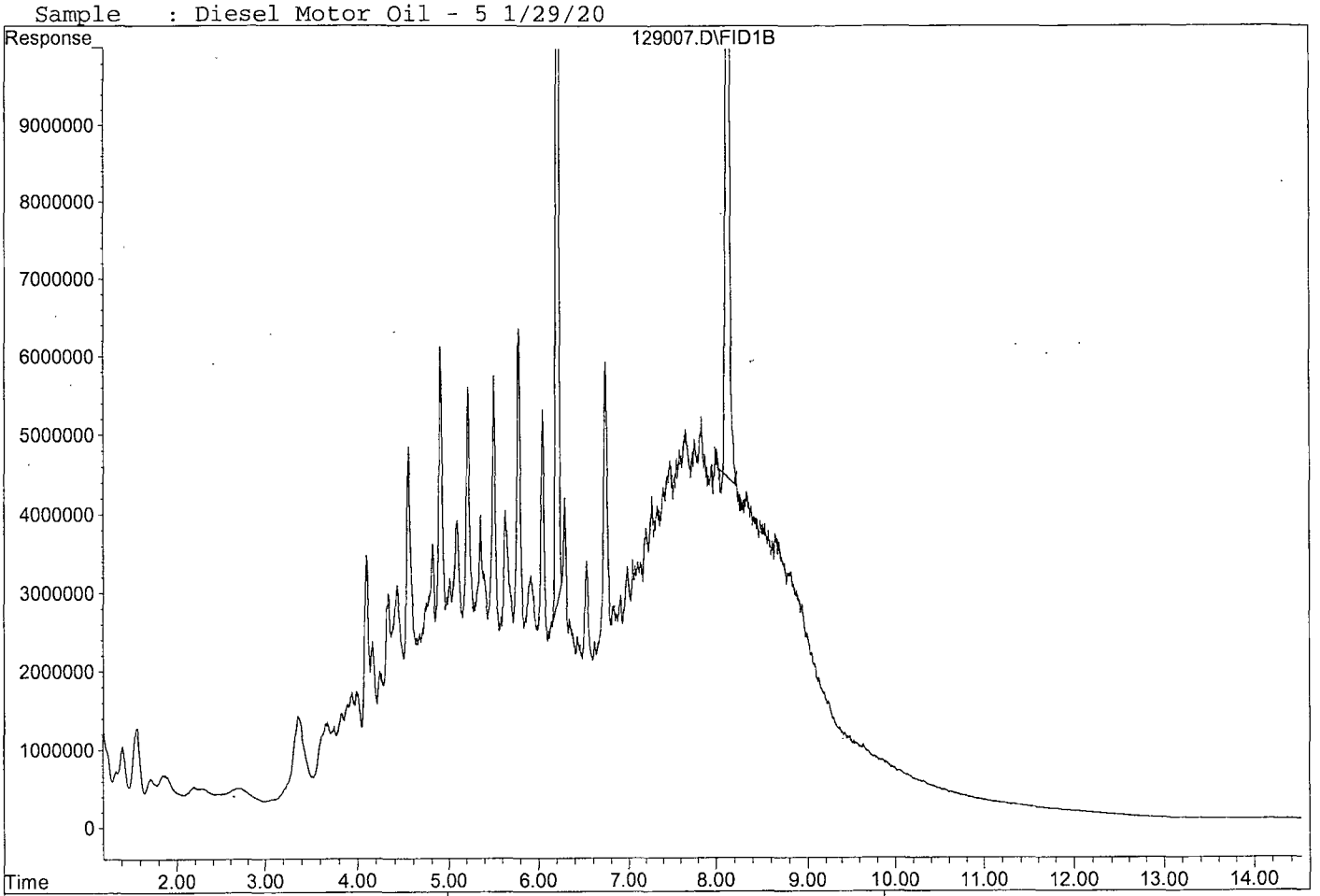
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

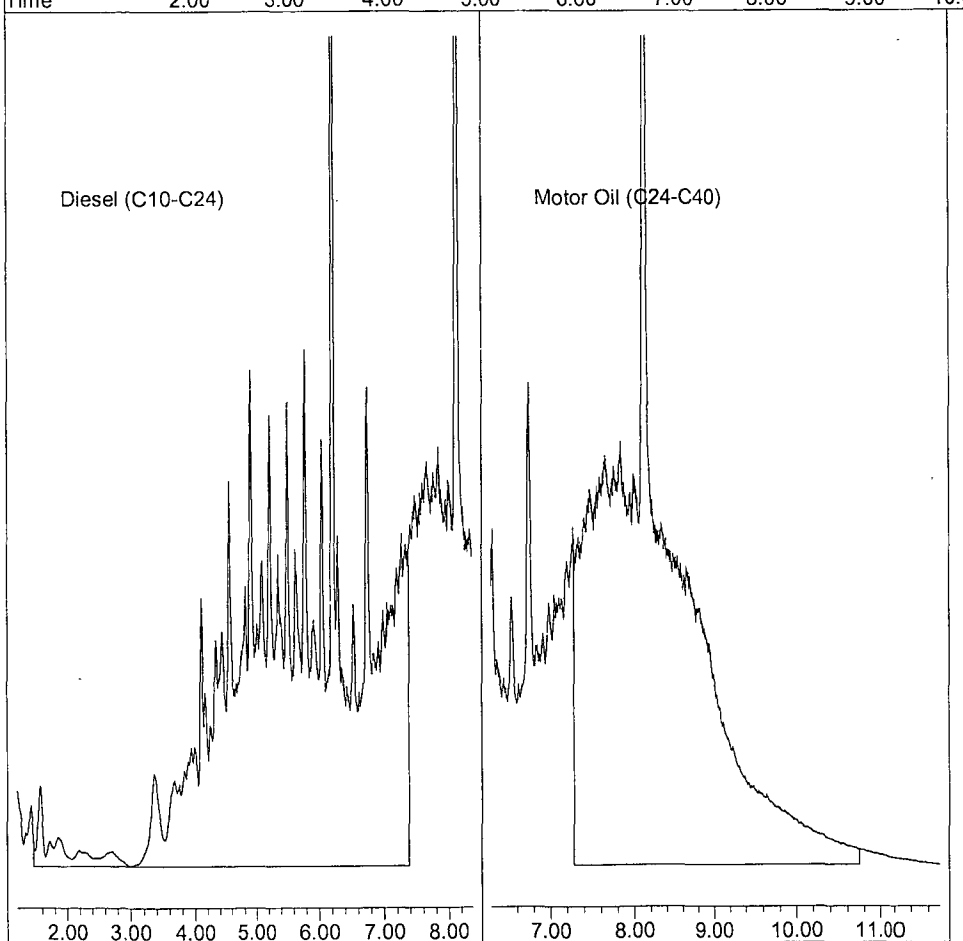
Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
3) SA Ortho-Terphenyl(S)	6.22	337274777	75.258	ppb
Surrogate Spike 30.000		Recovery =	250.86%	
4) SA Octacosane(S)	8.14	301959934	64.459	ppb
Surrogate Spike 30.000		Recovery =	214.86%	
Target Compounds				
1) HATM Diesel (C10-C24)	4.42	6039623685	1205.468	ppb
2) HBTM Motor Oil (C24-C40)	9.01	4725500800	1296.602	ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200129\129007.D
Sample : Diesel Motor Oil - 5 1/29/20





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200129\129008.D Vial: 8
Acq On : 1-29-20 15:38:14 Operator: BT
Sample : Diesel Motor Oil - 6 1/29/20 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 30 7:58 2020 Quant Results File: DOC0129.RES

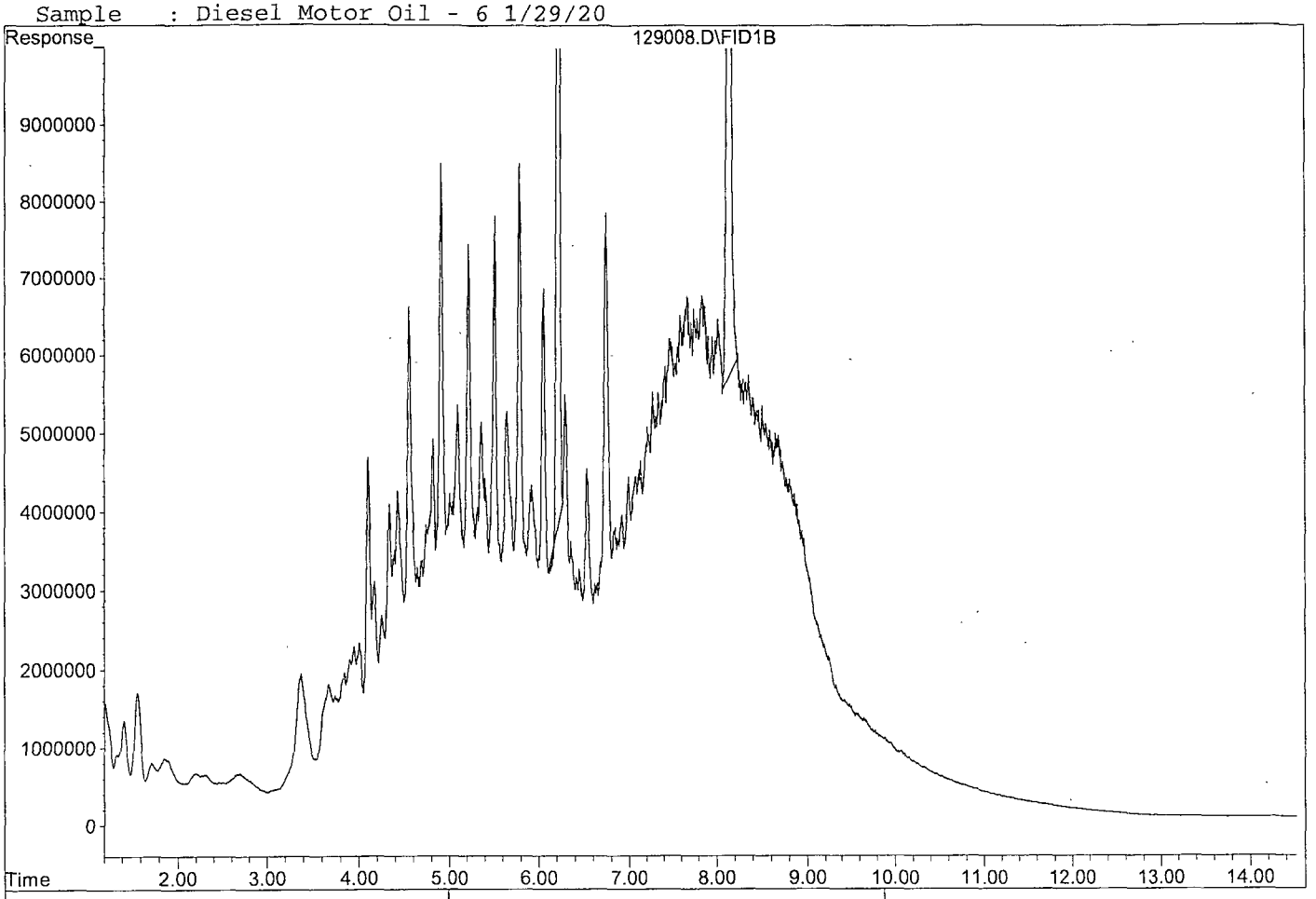
Method : G:\APOLLO\DATA\200129\DOC0129.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Jan 30 08:01:08 2020
Response via : Multiple Level Calibration

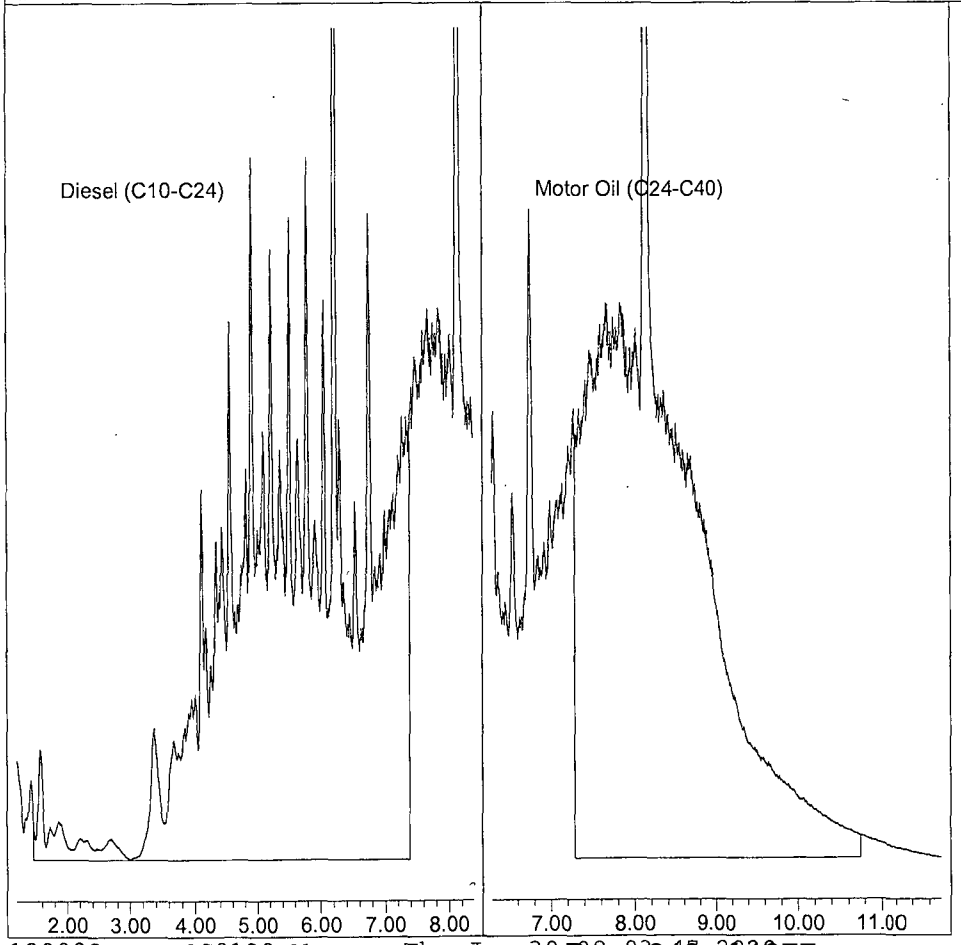
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

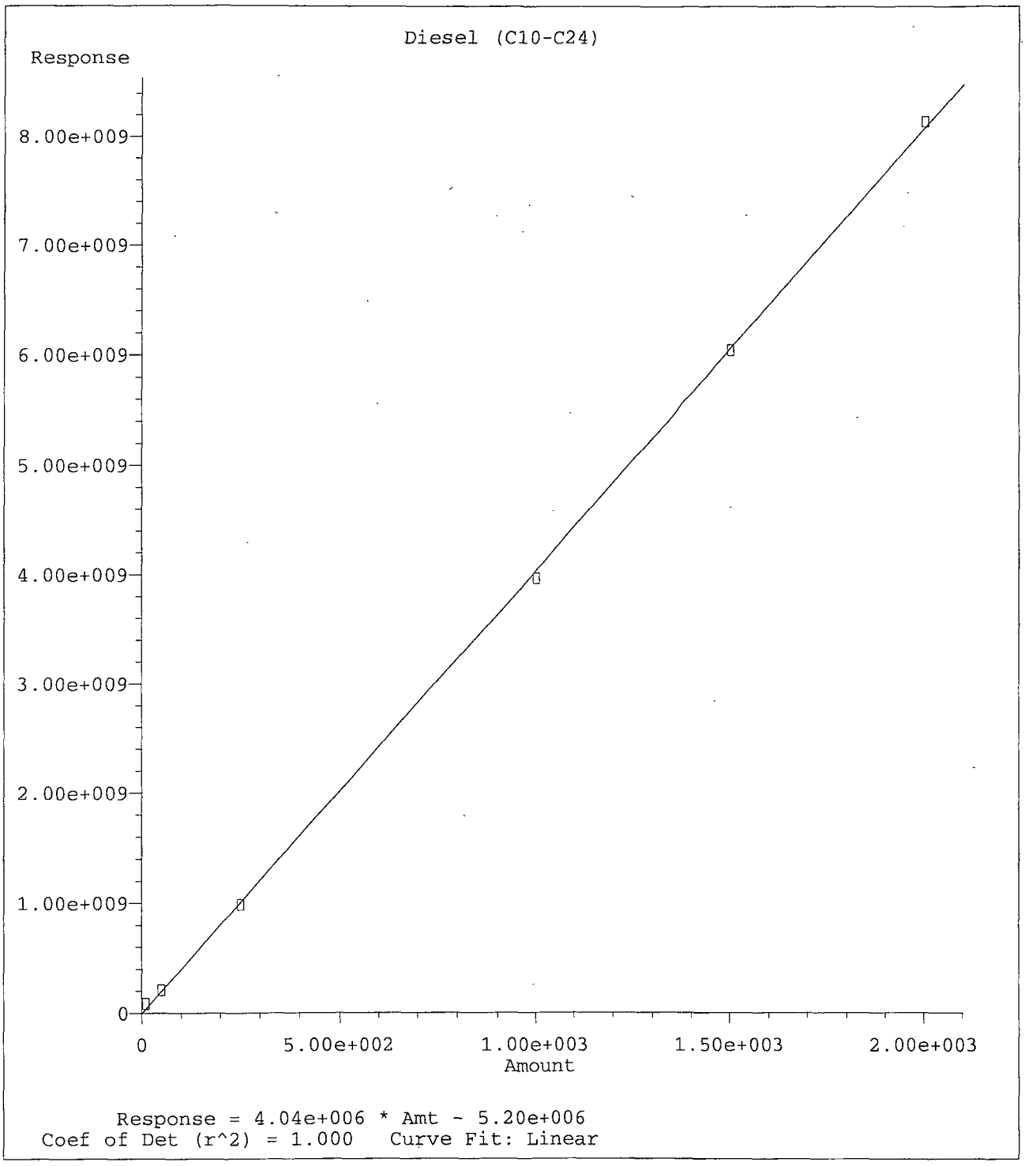
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SA Ortho-Terphenyl(S)	6.23	455965319	101.742 ppb
Surrogate Spike 30.000	Recovery =		339.14%
4) SA Octacosane(S)	8.14	430592170	91.917 ppb
Surrogate Spike 30.000	Recovery =		306.39%
Target Compounds			
1) HATM Diesel (C10-C24)	4.42	8137766957	1624.243 ppb
2) HBTM Motor Oil (C24-C40)	9.01	6399069480	1755.802 ppb

Target Compounds

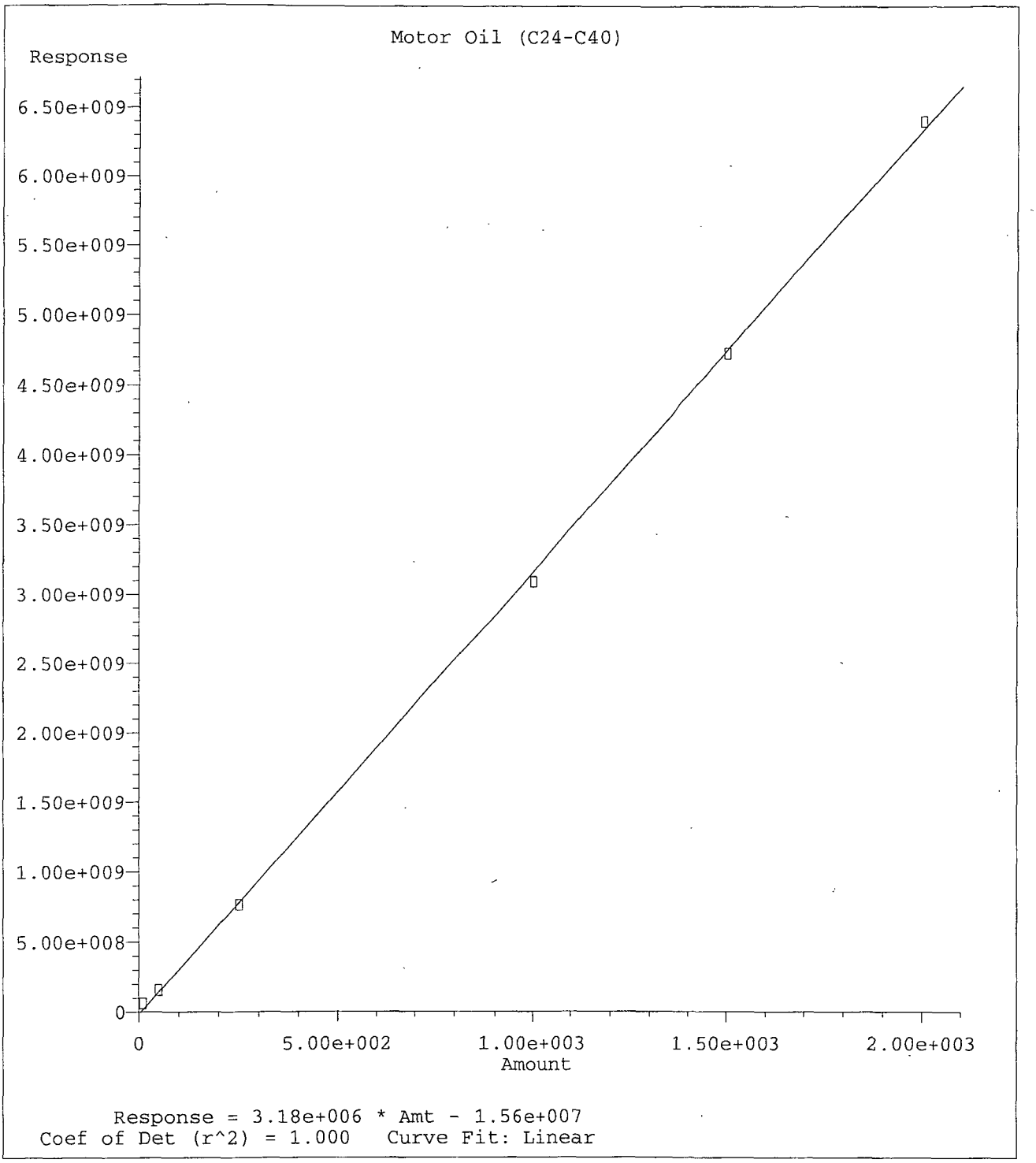
Data File: G:\APOLLO\DATA\200129\129008.D
Sample : Diesel Motor Oil - 6 1/29/20



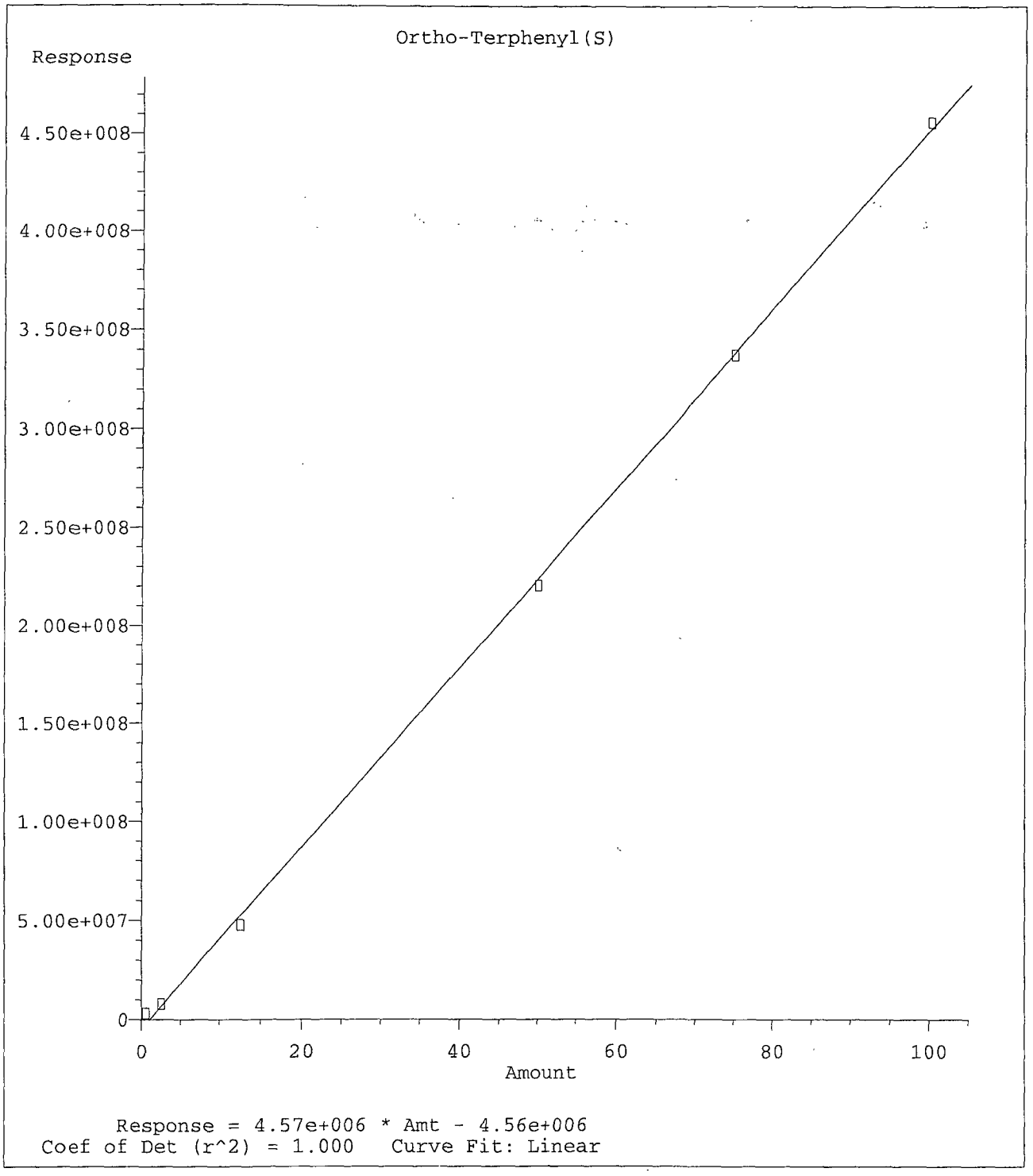




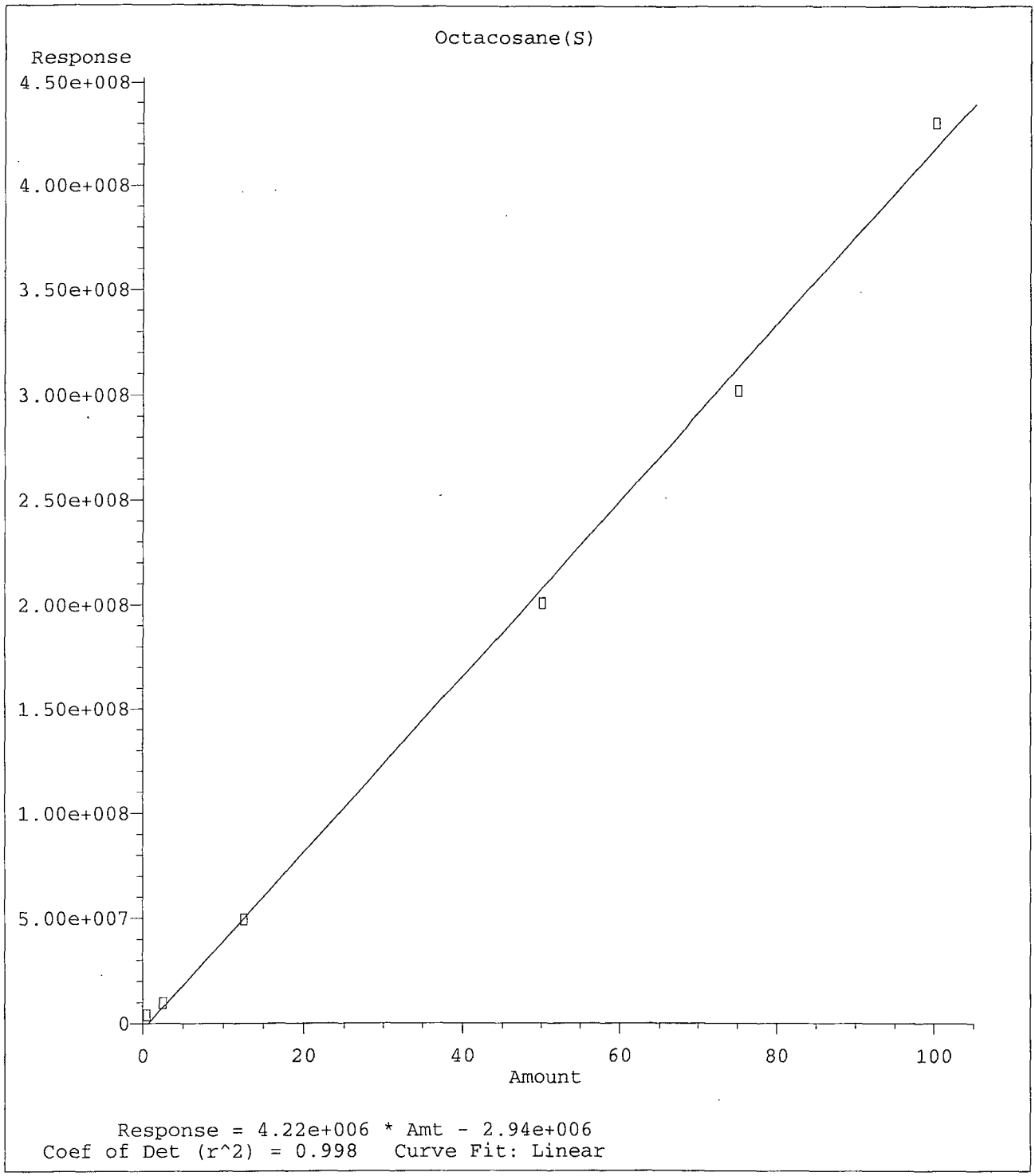
Method Name: G:\APOLLO\DATA\200129\DOC0129.M
Calibration Table Last Updated: Thu Jan 30 08:01:08 2020



Method Name: G:\APOLLO\DATA\200129\DOC0129.M
Calibration Table Last Updated: Thu Jan 30 08:01:08 2020



Method Name: G:\APOLLO\DATA\200129\DOC0129.M
Calibration Table Last Updated: Thu Jan 30 08:01:08 2020



Method Name: G:\APOLLO\DATA\200129\DOC0129.M
Calibration Table Last Updated: Thu Jan 30 08:01:08 2020

TPH Extractables
DOC0129

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: Water

SDG No:
Date Analyzed: 01/29/20
Instrument: Apollo
Initial Cal. Date: 01/29/20
Data File: 129009.D

		Compound	MEAN	CCRF	%D		%Drift
1	HATM	Diesel (C10-C24)	2395940	1924550	20	HATML	4.3
2	HBTM	Motor Oil (C24-C40)	1822260	1434290	21	HBTML	7.8
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			20.5		

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200129\129009.D
Acq On : 1-29-20 15:57:56
Sample : Diesel Motor Oil - SS 12/23/19
Misc : water
IntFile : events.e
Quant Time: Jan 30 8:03 2020 Quant Results File: DOC0129.RES

Vial: 9
Operator: BT
Inst : Apollo
Multiplr: 1.00

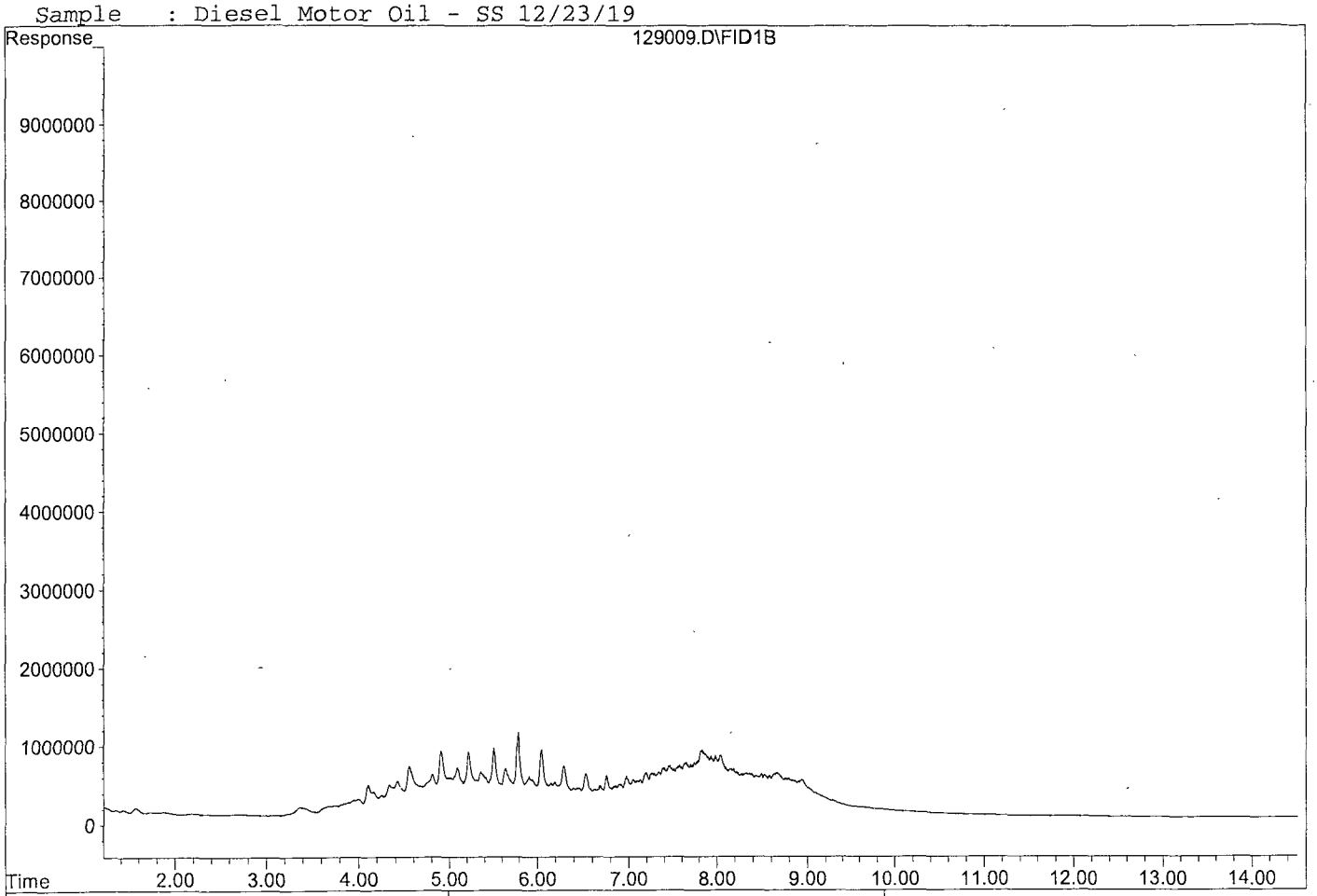
Method : G:\APOLLO\DATA\200129\DOC0129.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Jan 30 08:01:08 2020
Response via : Multiple Level Calibration

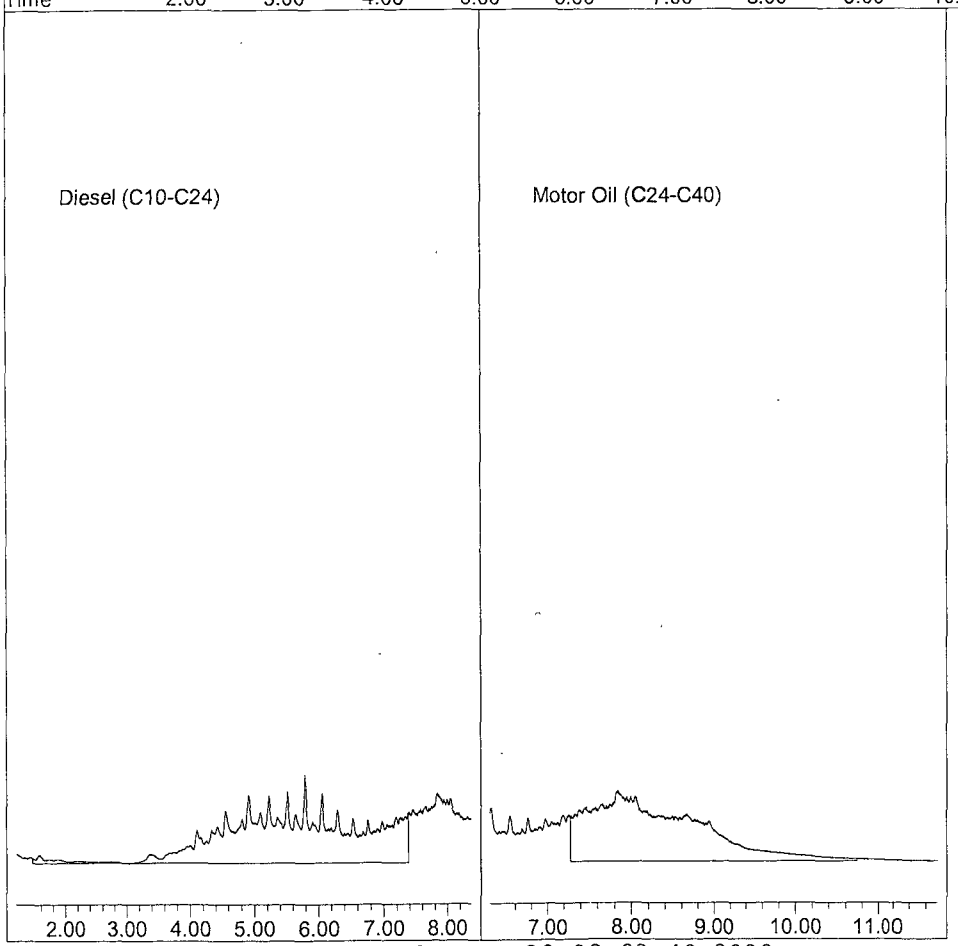
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SA Ortho-Terphenyl(S)	0.00	0	N.D. ppb d
Surrogate Spike 30.000	Recovery	=	0.00%
4) SA Octacosane(S)	0.00	0	N.D. ppb d
Surrogate Spike 30.000	Recovery	=	0.00%
Target Compounds			
1) HATM Diesel (C10-C24)	4.42	962272818	239.241 ppb
2) HBTM Motor Oil (C24-C40)	9.01	717146414	230.551 ppb

Target Compounds

Data File: G:\APOLLO\DATA\200129\129009.D
Sample : Diesel Motor Oil - SS 12/23/19





TPH Extractables
DEC1120

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Initial Cal. Date: Nov-20-2019
Matrix: Water Instrument: Apollo Initials:

			1115178.D	1115179.D	1115180.D	1115181.D	1115182.D	1115183.D									
		Compound	1	2	3	4	5	6					Avg	%RSD	Type	r^2	Q
1	SCL	Decanoic Acid(S)	405087	460275	729336	758671	822876	812977					664870	28	SC	0.998	
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	
11																	
12																	
13																	
14																	
15																	
16																	
17																	
18																	
19																	
20																	
21																	
22																	
23																	
24																	
25																	
26																	
27																	
28																	
29																	
30																	
31																	
32																	
33																	
34																	
35																	

0.790521

Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\2019\191115\1115178.D Vial: 78
Acq On : 11-20-19 10:33:58 Operator: BT
Sample : Decanoic Acid - 1 11/20/19 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Nov 22 8:50 2019 Quant Results File: DEC1120.RES

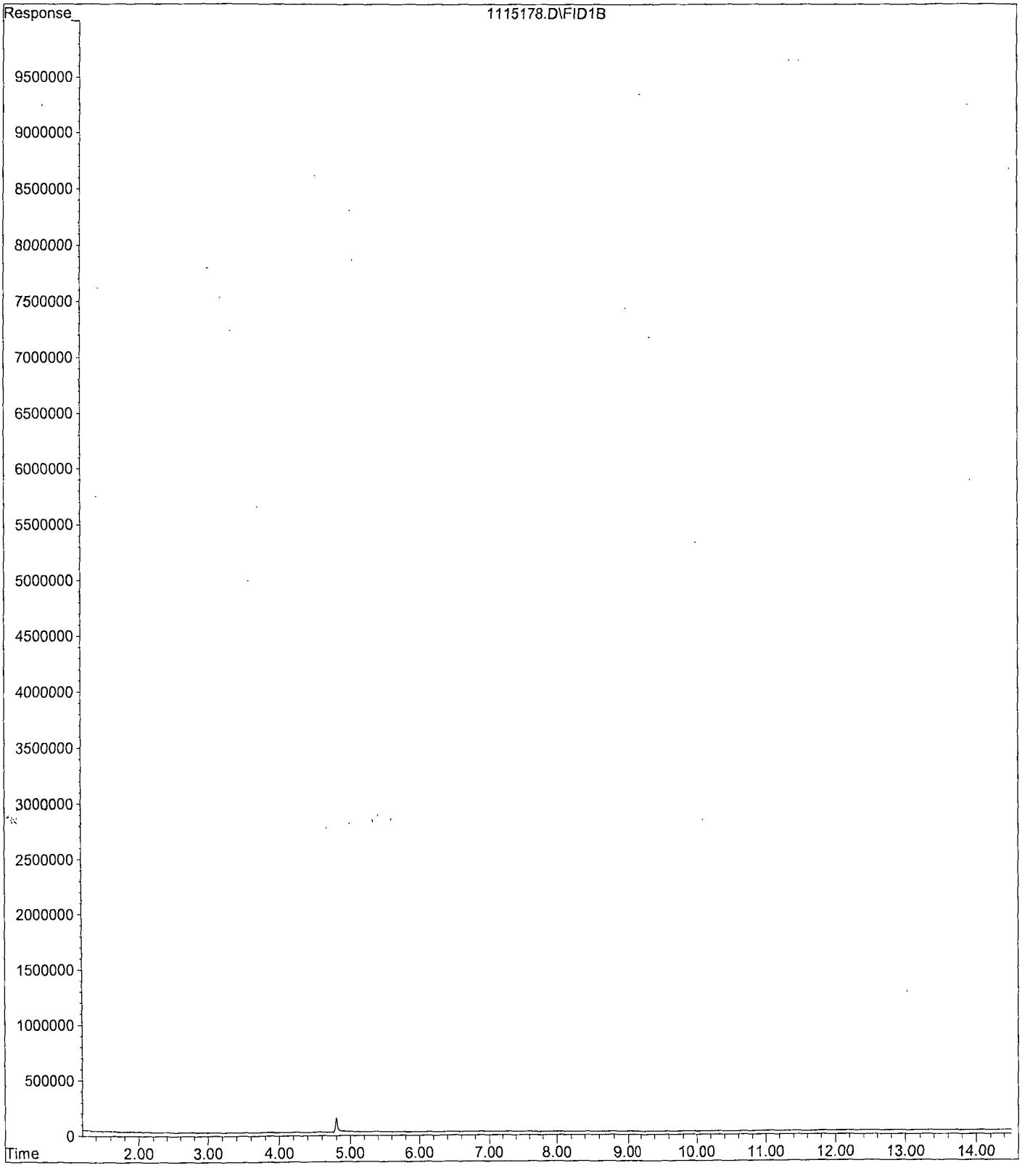
Method : G:\APOLLO\DATA\200129\DEC1120.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Jan 28 08:46:59 2020
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) SC Decanoic Acid(S)	4.80	2430521	1.828 ppb
Surrogate Spike 24.000	Recovery =		7.62%
Target Compounds			
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

File : G:\APOLLO\DATA\2019\191115\1115178.D
Operator : BT
Acquired : 11-20-19 10:33:58 using AcqMethod TPHSN.M
Instrument : Apollo
Sample Name: Decanoic Acid - 1 11/20/19
Misc Info : water
Vial Number: 78



Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\2019\191115\1115179.D Vial: 79
Acq On : 11-20-19 10:53:46 Operator: BT
Sample : Decanoic Acid - 2 11/20/19 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Nov 22 8:50 2019 Quant Results File: DEC1120.RES

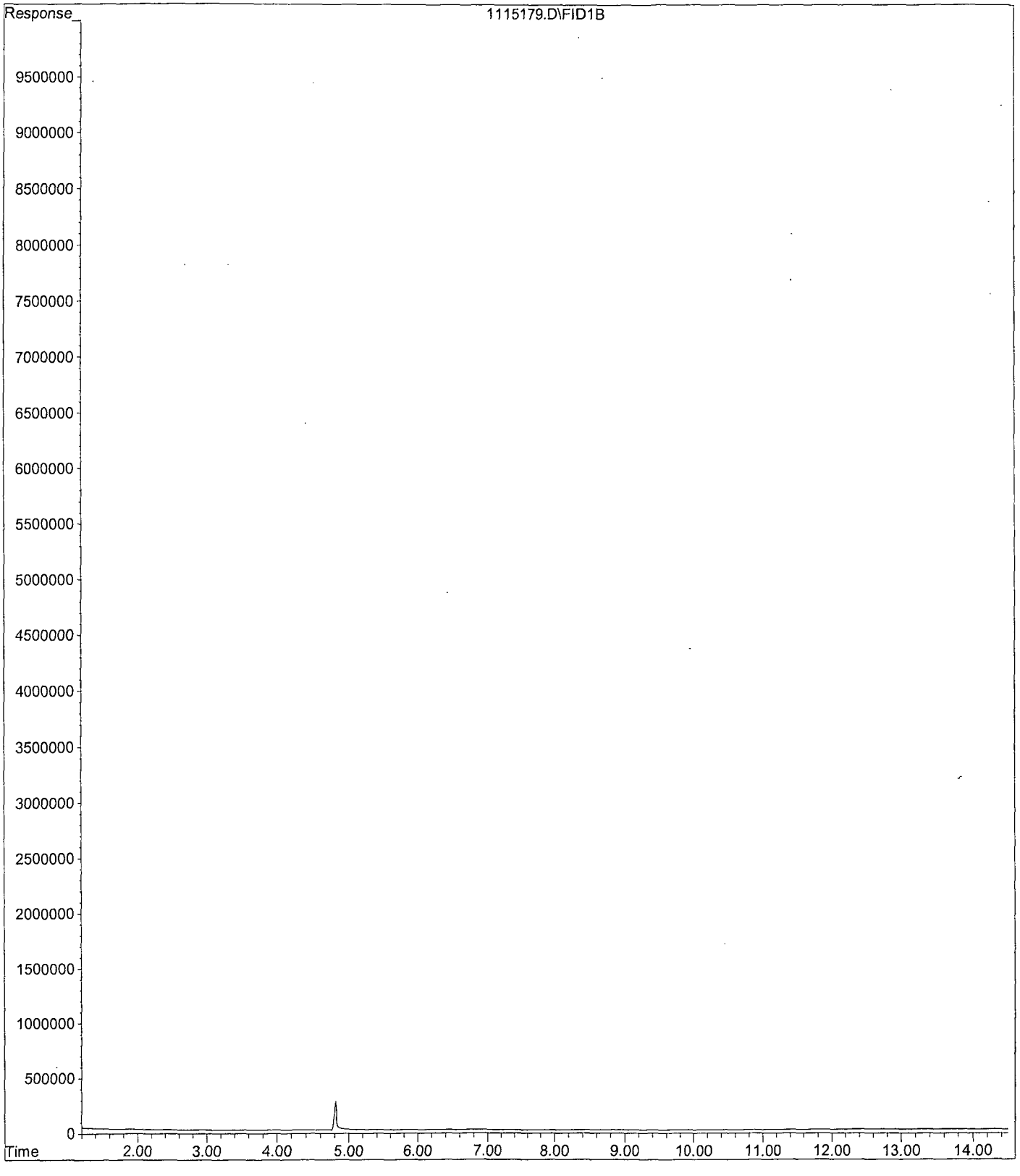
Method : G:\APOLLO\DATA\200129\DEC1120.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Jan 28 08:46:59 2020
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) SC Decanoic Acid(S)	4.82	5523296	4.154 ppb
Surrogate Spike 24.000	Recovery =		17.31%
Target Compounds			
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

File : G:\APOLLO\DATA\2019\191115\1115179.D
Operator : BT
Acquired : 11-20-19 10:53:46 using AcqMethod TPHSN.M
Instrument : Apollo
Sample Name: Decanoic Acid - 2 11/20/19
Misc Info : water
Vial Number: 79



Quantitation Report (Not Reviewed)

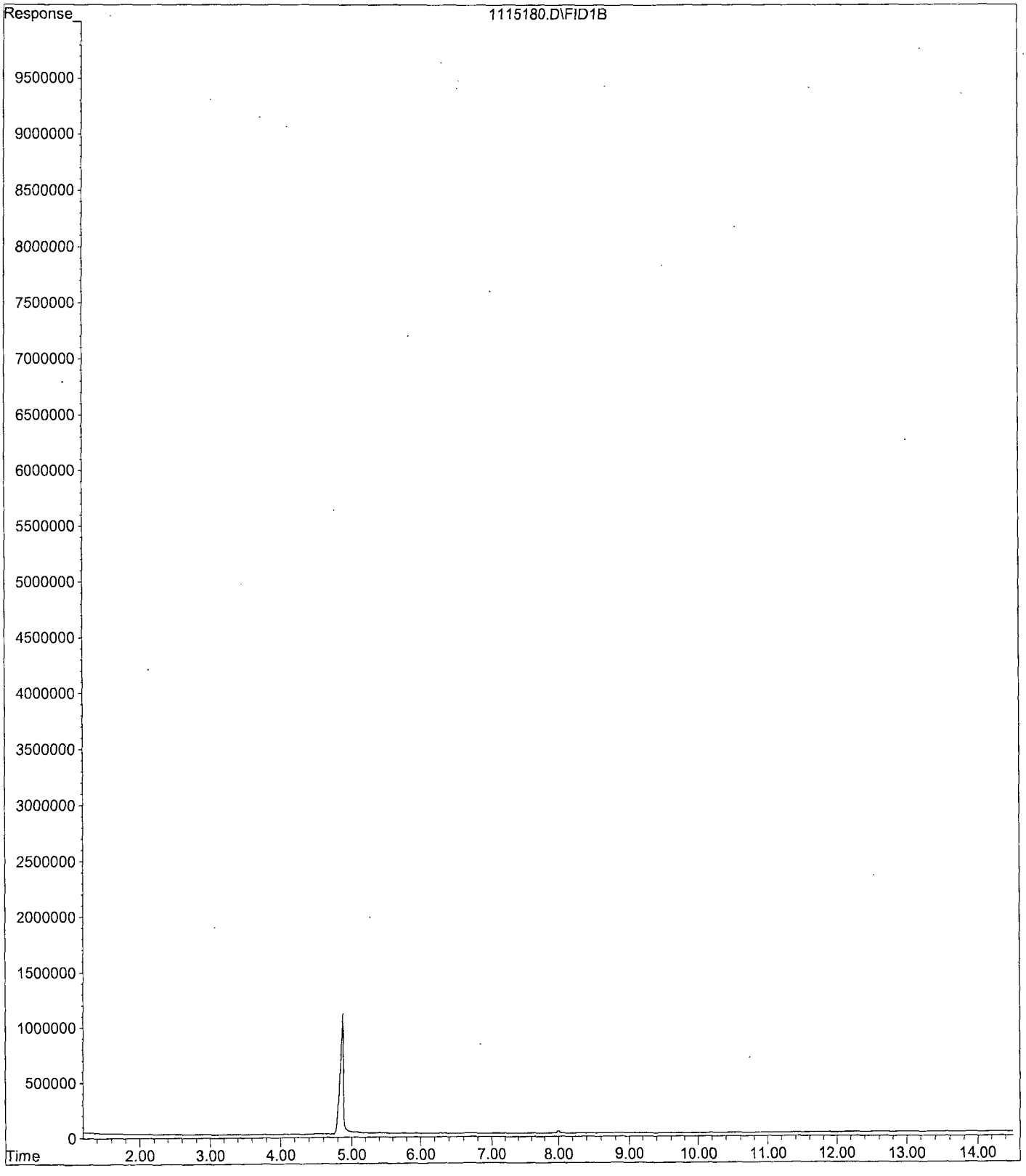
Data File : G:\APOLLO\DATA\2019\191115\1115180.D Vial: 80
Acq On : 11-20-19 11:13:35 Operator: BT
Sample : Decanoic Acid - 3 11/20/19 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Nov 22 8:51 2019 Quant Results File: DEC1120.RES

Method : G:\APOLLO\DATA\200129\DEC1120.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Jan 28 08:46:59 2020
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) SC Decanoic Acid(S)	4.87f	35008125	26.327 ppb
Surrogate Spike 24.000		Recovery =	109.70%
Target Compounds			
Target Compounds			

File : G:\APOLLO\DATA\2019\191115\1115180.D
Operator : BT
Acquired : 11-20-19 11:13:35 using AcqMethod TPHSN.M
Instrument : Apollo
Sample Name: Decanoic Acid - 3 11/20/19
Misc Info : water
Vial Number: 80



Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\2019\191115\1115181.D Vial: 81
Acq On : 11-20-19 11:33:26 Operator: BT
Sample : Decanoic Acid - 4 11/20/19 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Nov 22 8:51 2019 Quant Results File: DEC1120.RES

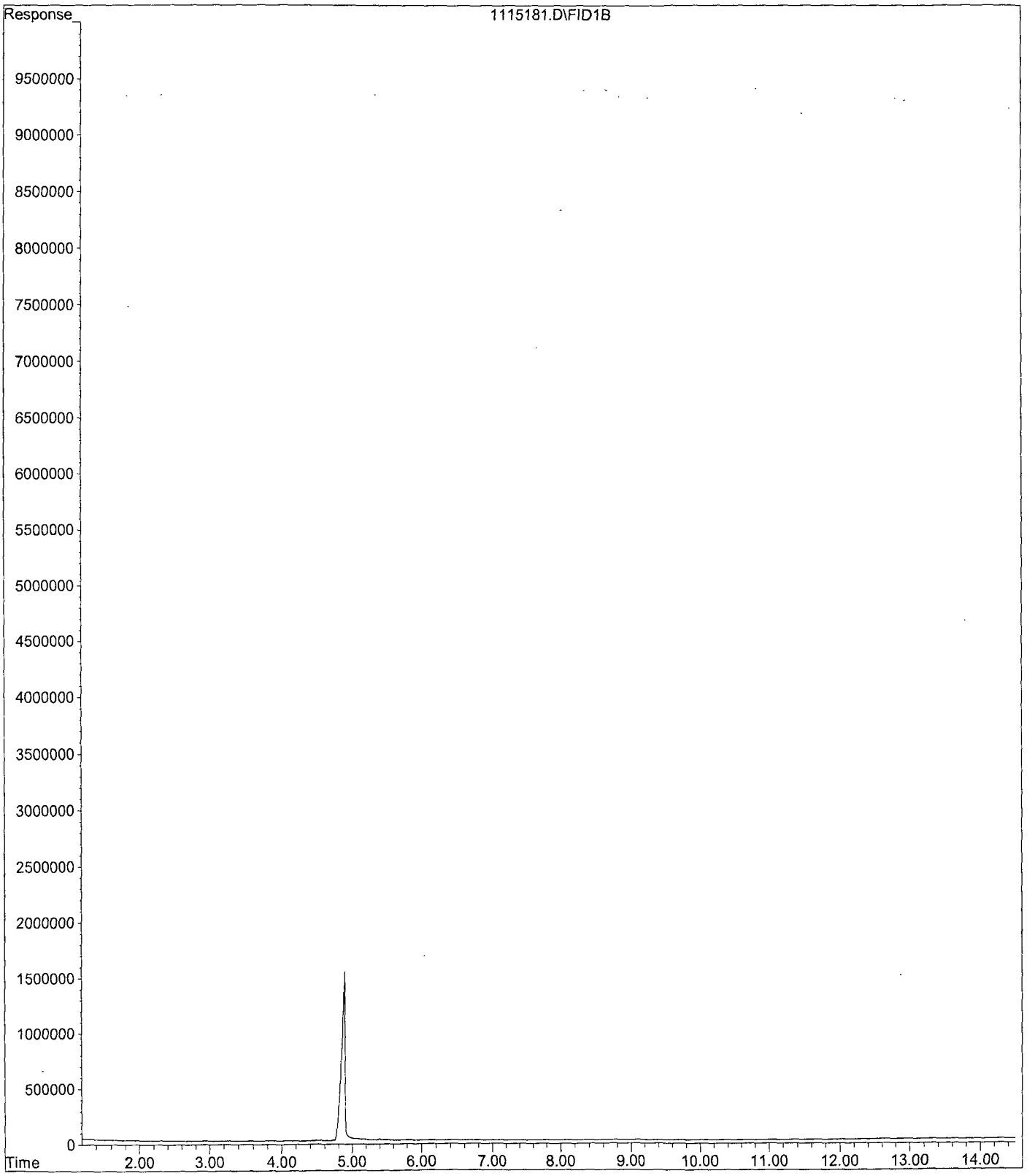
Method : G:\APOLLO\DATA\200129\DEC1120.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Jan 28 08:46:59 2020
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) SC Decanoic Acid(S)	4.89f	54624296	41.079 ppb
Surrogate Spike 24.000	Recovery =		171.16%
Target Compounds			
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

File : G:\APOLLO\DATA\2019\191115\1115181.D
Operator : BT
Acquired : 11-20-19 11:33:26 using AcqMethod TPHSN.M
Instrument : Apollo
Sample Name: Decanoic Acid - 4 11/20/19
Misc Info : water
Vial Number: 81



Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\2019\191115\1115182.D Vial: 82
Acq On : 11-20-19 11:52:35 Operator: BT
Sample : Decanoic Acid - 5 11/20/19 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Nov 22 8:51 2019 Quant Results File: DEC1120.RES

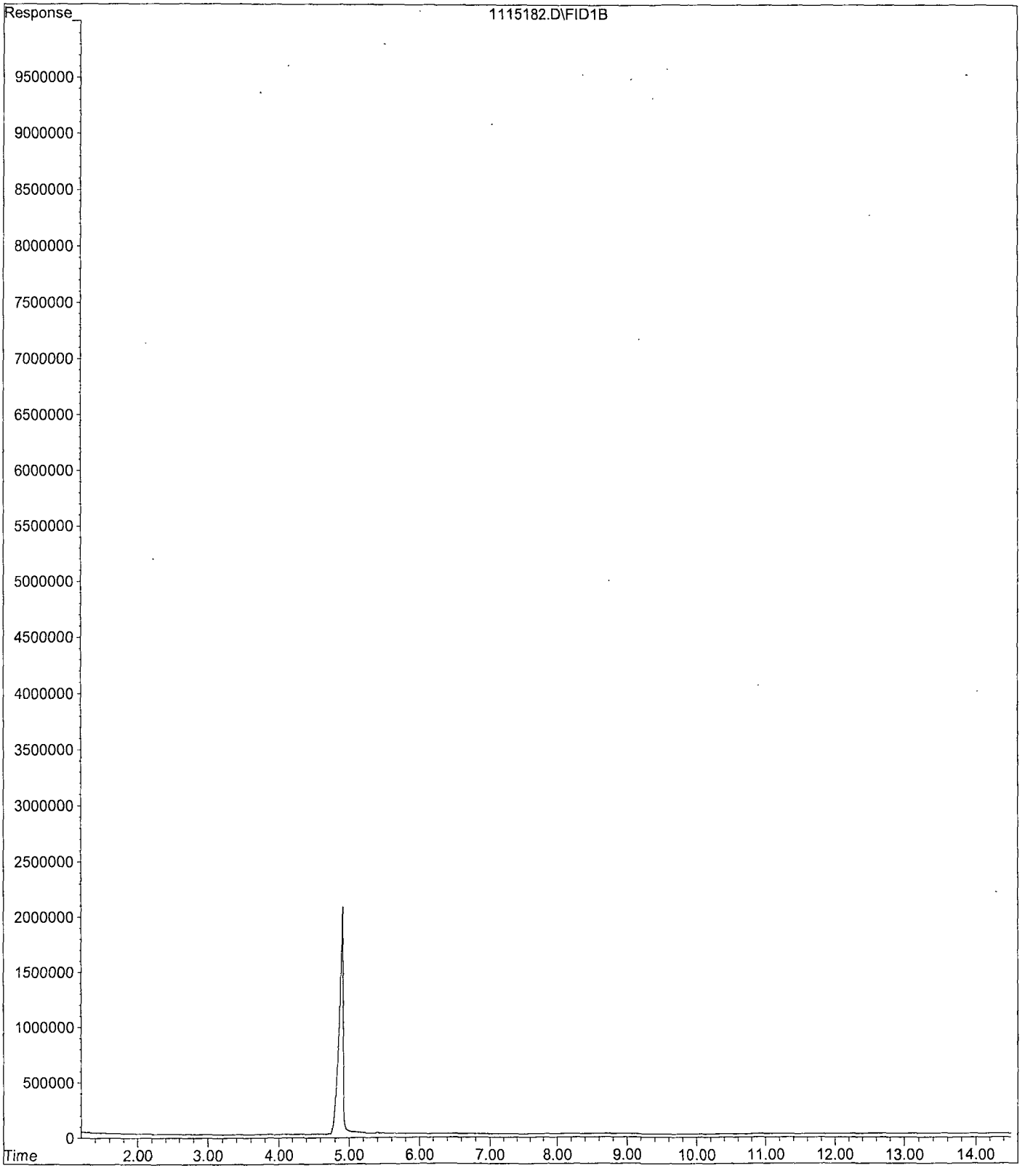
Method : G:\APOLLO\DATA\200129\DEC1120.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Jan 28 08:46:59 2020
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) SC Decanoic Acid(S)	4.92f	78996112	59.407 ppb
Surrogate Spike 24.000	Recovery	=	247.53%
Target Compounds			
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

File : G:\APOLLO\DATA\2019\191115\1115182.D
Operator : BT
Acquired : 11-20-19 11:52:35 using AcqMethod TPHSN.M
Instrument : Apollo
Sample Name: Decanoic Acid - 5 11/20/19
Misc Info : water
Vial Number: 82



Quantitation Report (Not Reviewed)

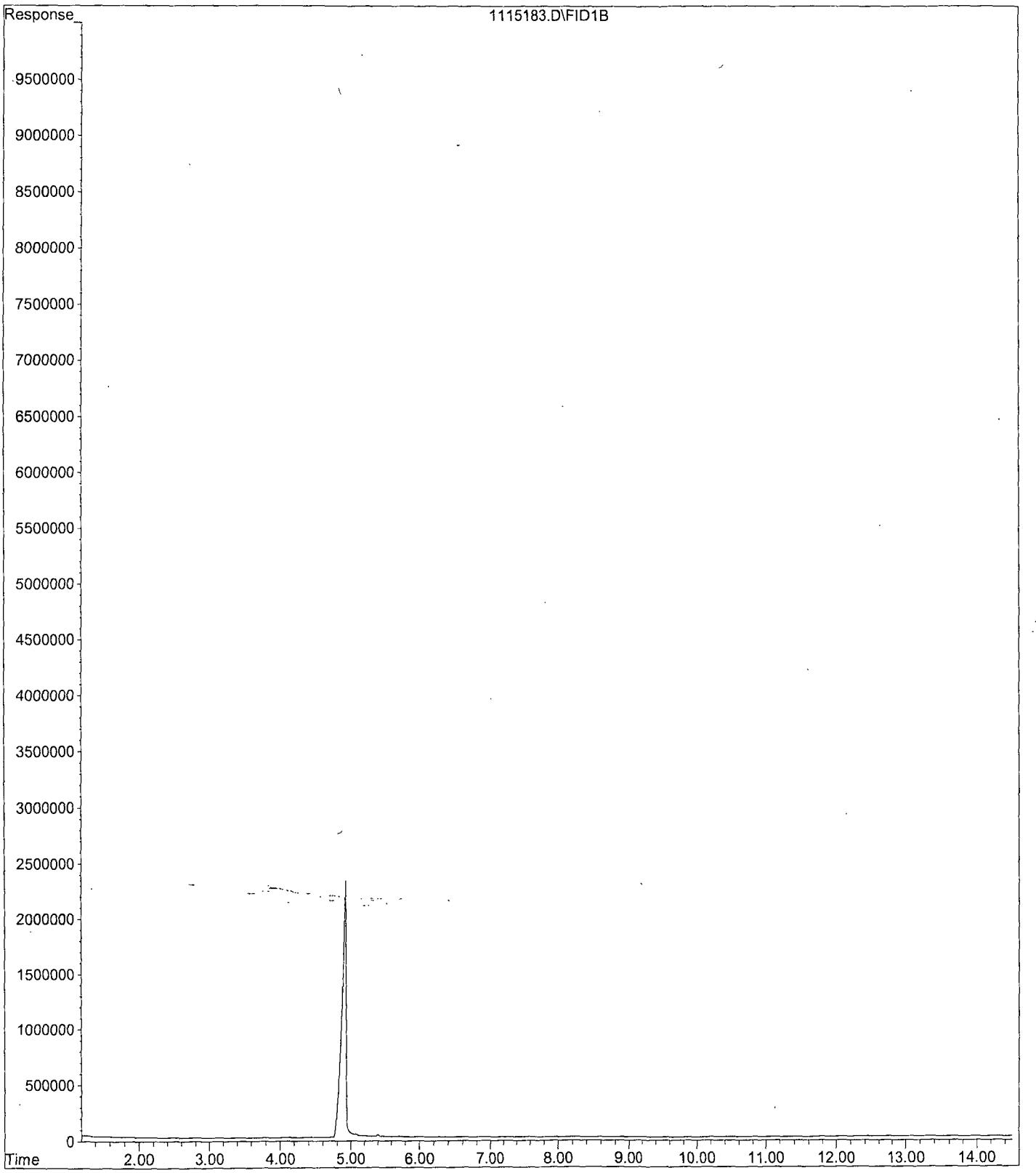
Data File : G:\APOLLO\DATA\2019\191115\1115183.D Vial: 83
Acq On : 11-20-19 12:12:26 Operator: BT
Sample : Decanoic Acid - 6 11/20/19 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Nov 22 8:51 2019 Quant Results File: DEC1120.RES

Method : G:\APOLLO\DATA\200129\DEC1120.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Jan 28 08:46:59 2020
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) SC Decanoic Acid(S)	4.93	97557275	73.366 ppb
Surrogate Spike 24.000	Recovery	=	305.69%
Target Compounds			
Target Compounds			

File : G:\APOLLO\DATA\2019\191115\1115183.D
Operator : BT
Acquired : 11-20-19 12:12:26 using AcqMethod TPHSN.M
Instrument : Apollo
Sample Name: Decanoic Acid - 6 11/20/19
Misc Info : water
Vial Number: 83



TPH Extractables
DOC0111

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: Water

SDG No:
Date Analyzed: 01/25/20
Instrument: Apollo
Initial Cal. Date: 01/11/20
Data File: 111147.D

		Compound	MEAN	CCRF	%D	%Drift	
1	HATM	Diesel (C10-C24)	2087510	2076940	0.51	HATM	
2	HBTM	Motor Oil (C24-C40)	1489330	1486830	0.17	HBTM	
3	SA	Ortho-Terphenyl(S)	2149550	1932490	10	SA	
4	SA	Octacosane(S)	2081660	2016700	3.1	SA	
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			3.4		

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200111\111134.D Vial: 34
Acq On : 1-25-20 15:28:06 Operator: BT
Sample : Diesel/Motor Oil - CCV 12/23/19 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 27 9:56 2020 Quant Results File: DOC0111.RES

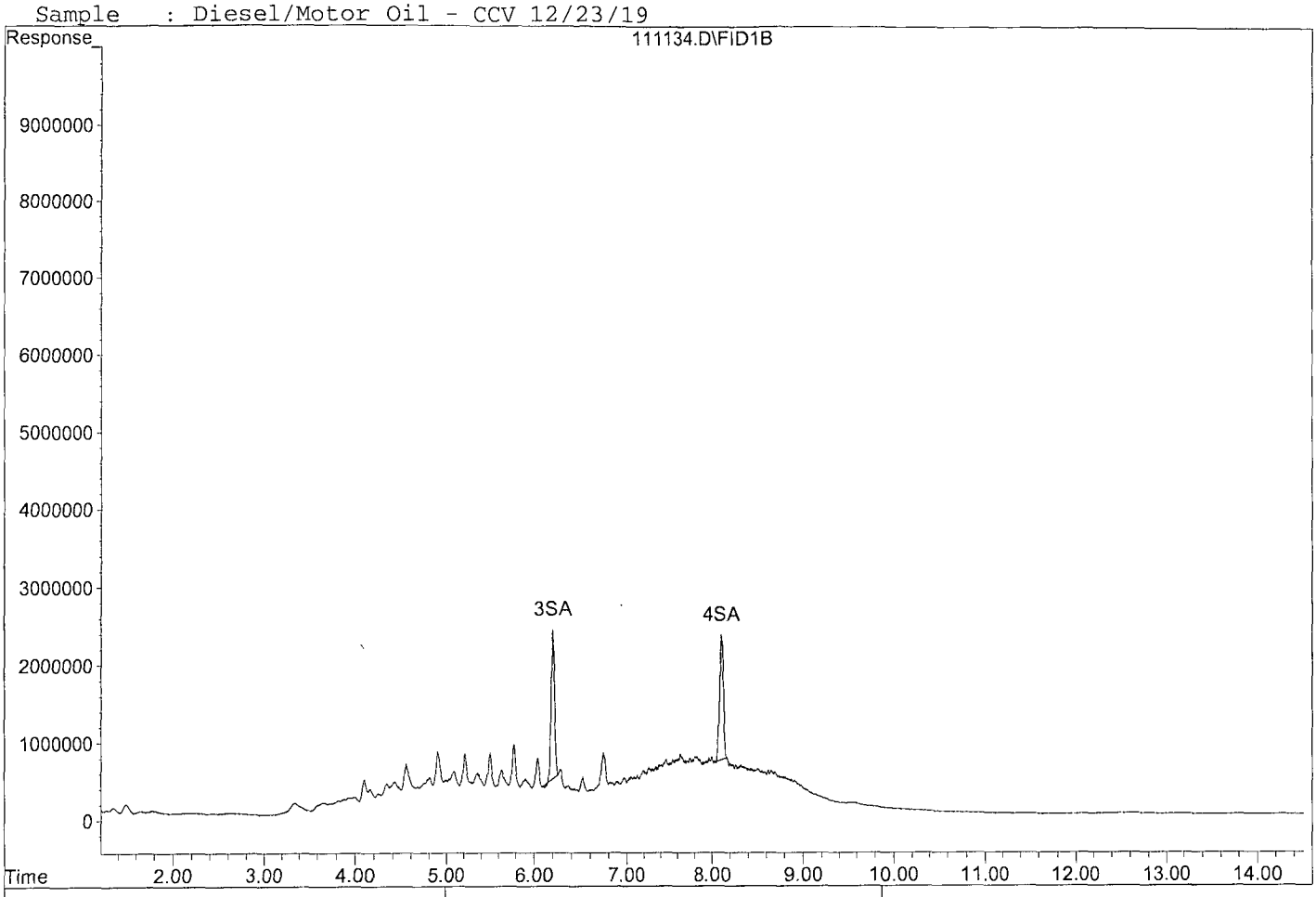
Method : G:\APOLLO\DATA\200111\DOC0111.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Mon Jan 13 07:59:04 2020
Response via : Multiple Level Calibration

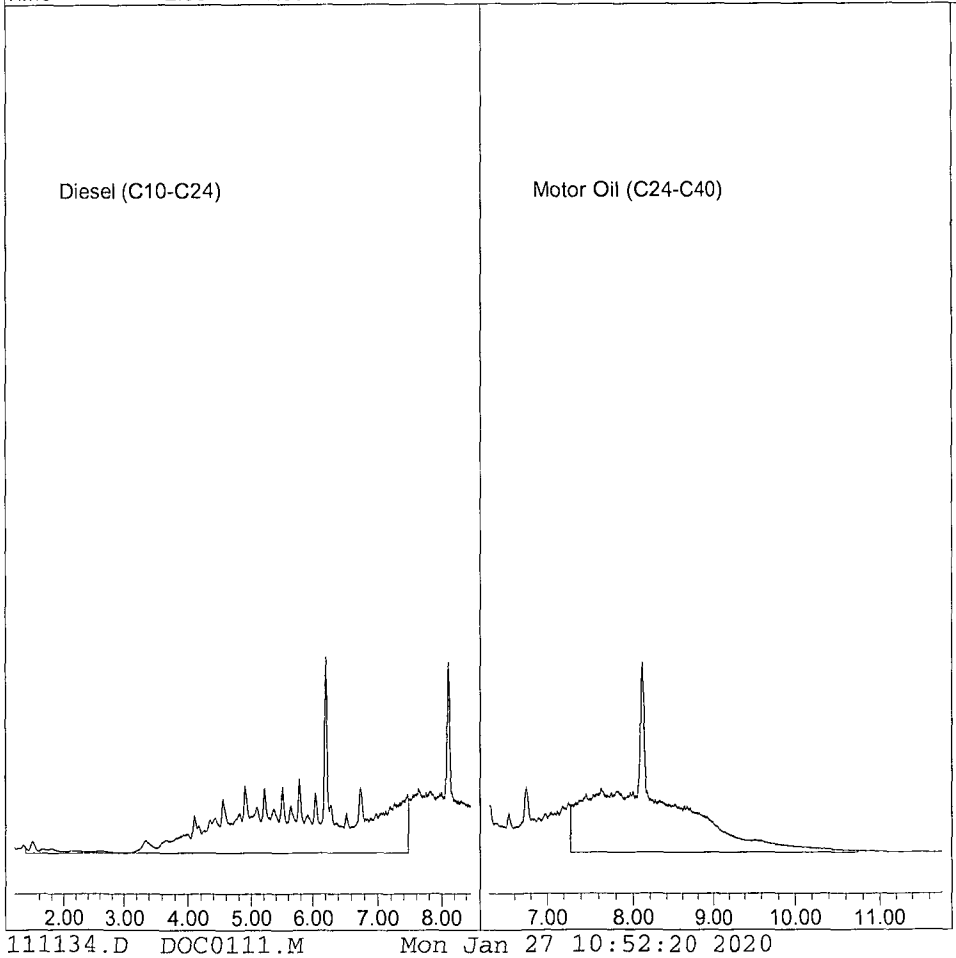
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SA Ortho-Terphenyl(S)	6.21	47194002	10.978 ppb
Surrogate Spike 30.000		Recovery =	36.59%
4) SA Octacosane(S)	8.10	45405855	10.906 ppb
Surrogate Spike 30.000		Recovery =	36.35%
Target Compounds			
1) HATM Diesel (C10-C24)	4.42	1017702065	243.760 ppb
2) HBTM Motor Oil (C24-C40)	9.01	732834599	246.029 ppb
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200111\111134.D
Sample : Diesel/Motor Oil - CCV 12/23/19





111134.D DOC0111.M Mon Jan 27 10:52:20 2020

TPH Extractables
DOC0111

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: Water

SDG No:
Date Analyzed: 01/25/20
Instrument: Apollo
Initial Cal. Date: 01/11/20
Data File: 111134.D

		Compound	MEAN	CCRF	%D	%Drift	
1	HATM	Diesel (C10-C24)	2087510	2035400	2.5	HATM	
2	HBTM	Motor Oil (C24-C40)	1489330	1465670	1.6	HBTM	
3	SA	Ortho-Terphenyl(S)	2149550	1887760	12	SA	
4	SA	Octacosane(S)	2081660	1816230	13	SA	
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			7.3		

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200111\111147.D Vial: 47
Acq On : 1-25-20 19:42:30 Operator: BT
Sample : Diesel/Motor Oil - CCV 12/23/19 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 27 9:56 2020 Quant Results File: DOC0111.RES

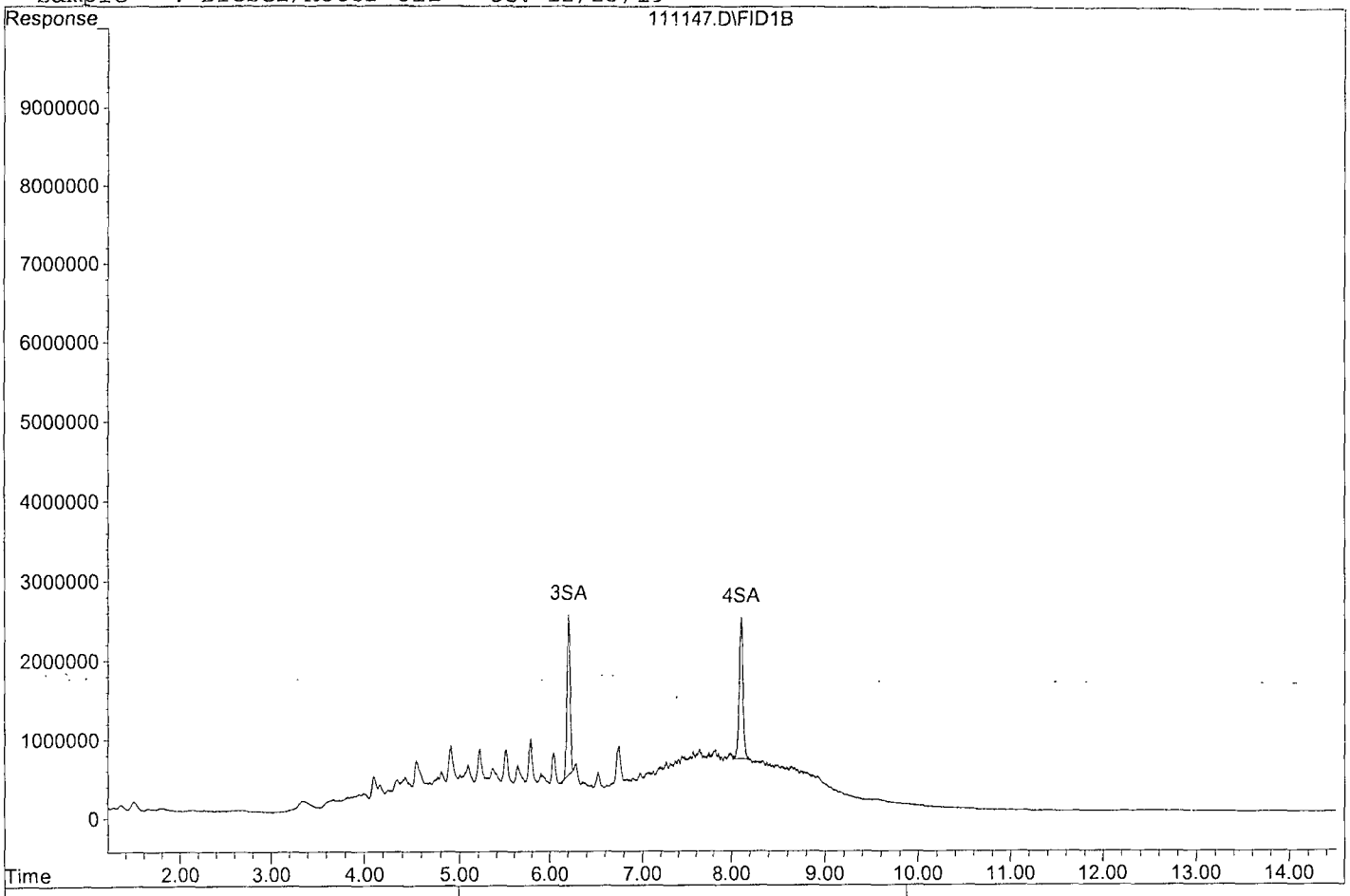
Method : G:\APOLLO\DATA\200111\DOC0111.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Mon Jan 13 07:59:04 2020
Response via : Multiple Level Calibration

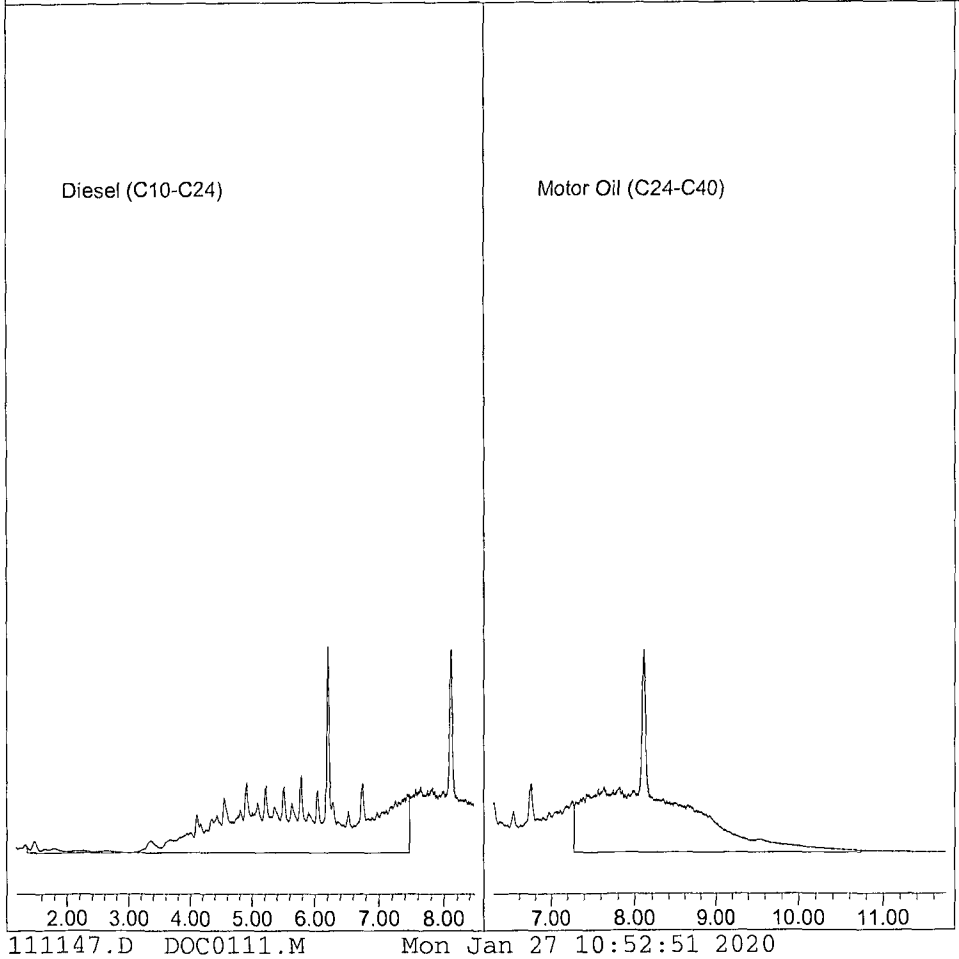
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SA Ortho-Terphenyl(S)	6.21	48312335	11.238 ppb
Surrogate Spike 30.000	Recovery =		37.46%
4) SA Octacosane(S)	8.11	50417477	12.110 ppb
Surrogate Spike 30.000	Recovery =		40.37%
Target Compounds			
1) HATM Diesel (C10-C24)	4.42	1038470842	248.734 ppb
2) HBTM Motor Oil (C24-C40)	9.01	743416723	249.581 ppb
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200111\111147.D
Sample : Diesel/Motor Oil - CCV 12/23/19





111147.D DOC0111.M Mon Jan 27 10:52:51 2020

TPH Extractables
DOC0129

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: Water

SDG No:
Date Analyzed: 01/29/20
Instrument: Apollo
Initial Cal. Date: 01/29/20
Data File: 129015.D

		Compound	MEAN	CCRF	%D		%Drift
1	HATM	Diesel (C10-C24)	2395940	1985120	17	HATML	1.3
2	HBTM	Motor Oil (C24-C40)	1822260	1536770	16	HBTML	1.3
3	SAL	Ortho-Terphenyl(S)	2240780	1979110	12	SAL	5.5
4	SAL	Octacosane(S)	2342280	1993940	15	SAL	0.18
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			15.0		

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200129\129015.D Vial: 15
Acq On : 1-29-20 17:54:39 Operator: BT
Sample : Diesel Motor Oil - CCV 12/23/19 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 30 8:18 2020 Quant Results File: DOC0129.RES

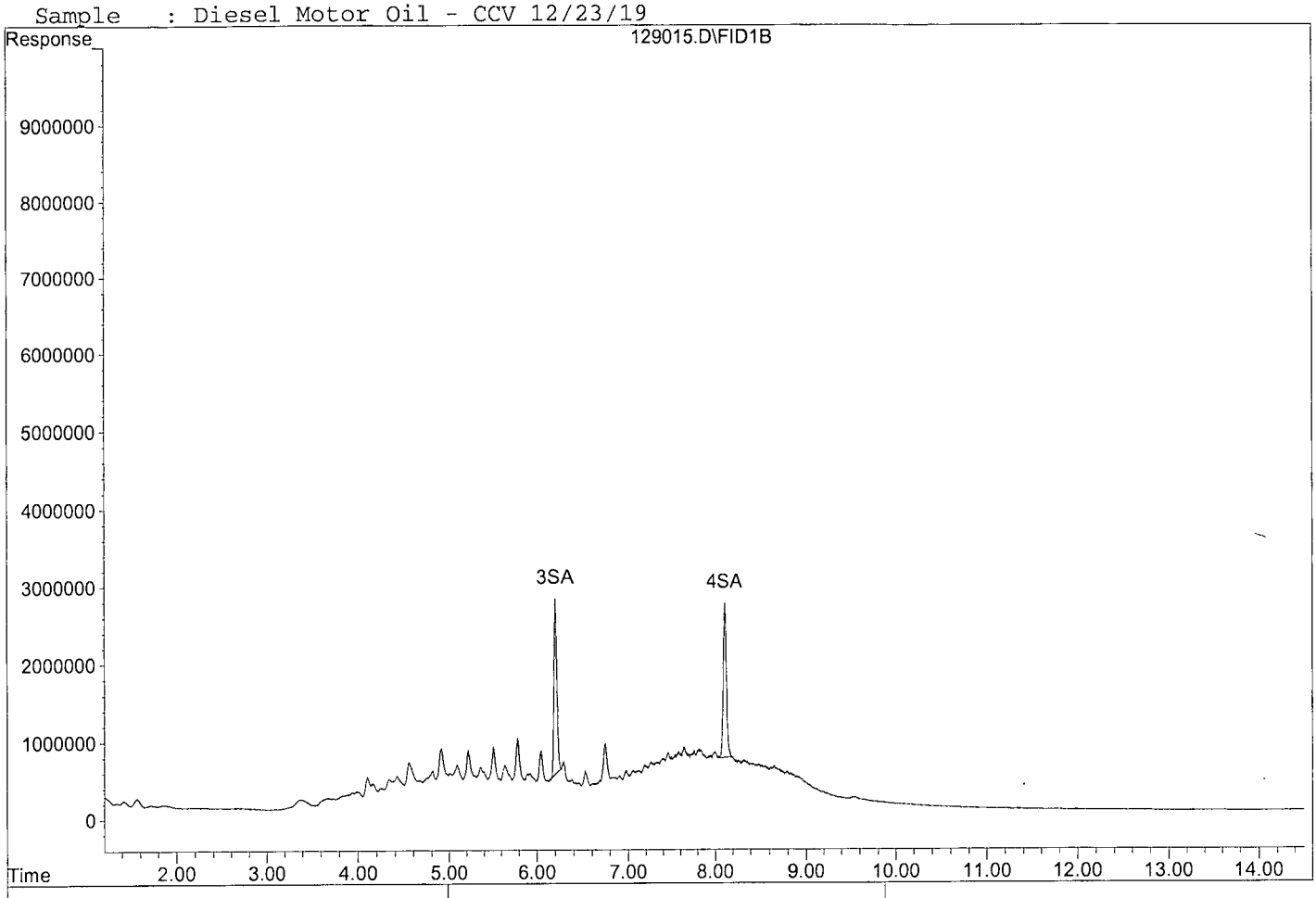
Method : G:\APOLLO\DATA\200129\DOC0129.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Jan 30 08:01:08 2020
Response via : Multiple Level Calibration

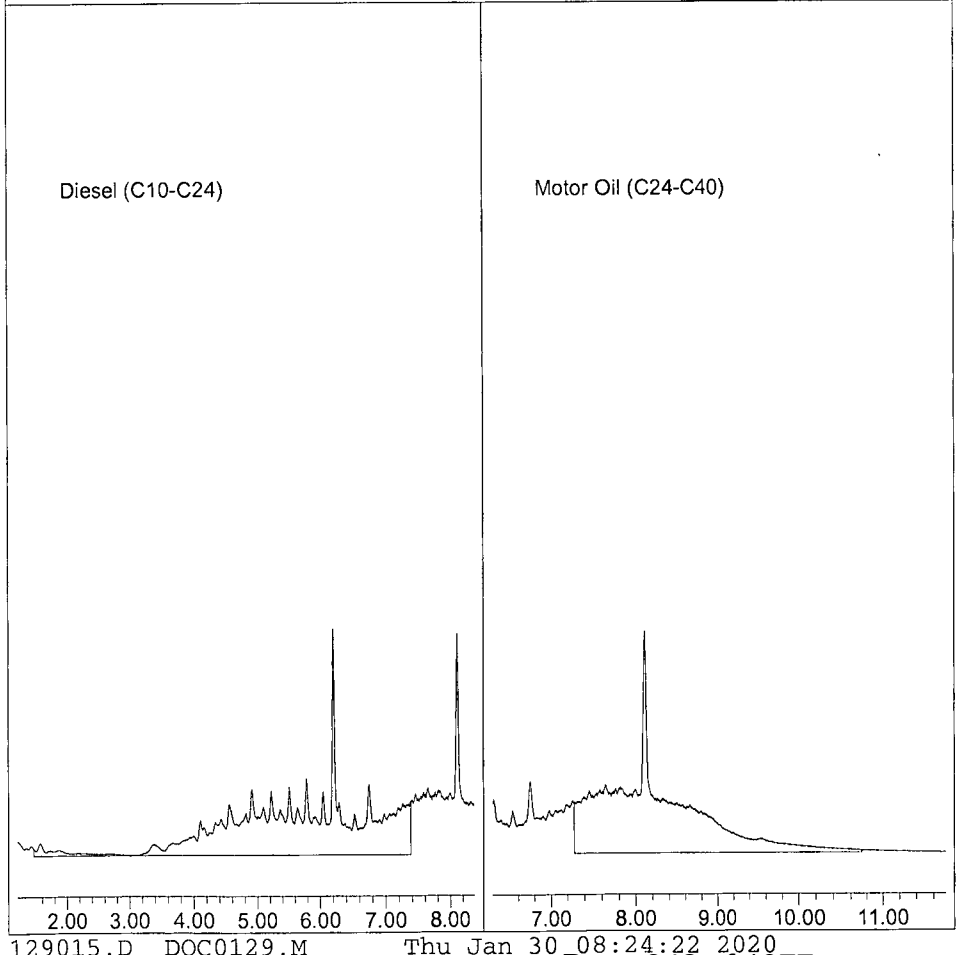
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SA Ortho-Terphenyl(S)	6.21	49477831	11.816 ppb
Surrogate Spike 30.000	Recovery =		39.39%
4) SA Octacosane(S)	8.11	49848513	12.522 ppb
Surrogate Spike 30.000	Recovery =		41.74%
Target Compounds			
1) HATM Diesel (C10-C24)	4.42	992561258	246.731 ppb
2) HBTM Motor Oil (C24-C40)	9.01	768384820	246.672 ppb
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200129\129015.D
Sample : Diesel Motor Oil - CCV 12/23/19





129015.D DOC0129.M Thu Jan 30 08:24:22 2020

TPH Extractables
DEC1120

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: Water

SDG No:
Date Analyzed: 01/29/20
Instrument: Apollo
Initial Cal. Date: 11/20/19
Data File: 129016.D

		Compound	MEAN	CCRF	%D	%Drift	
1	SCL	Decanoic Acid(S)	664870	1047870	58	SCL	28 *
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			58.0		

Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\200129\129016.D Vial: 16
Acq On : 1-29-20 18:14:16 Operator: BT
Sample : Decanoic Acid CCV 1/27/20 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 30 8:11 2020 Quant Results File: DEC1120.RES

Method : G:\APOLLO\DATA\200129\DEC1120.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Jan 28 08:46:59 2020
Response via : Multiple Level Calibration

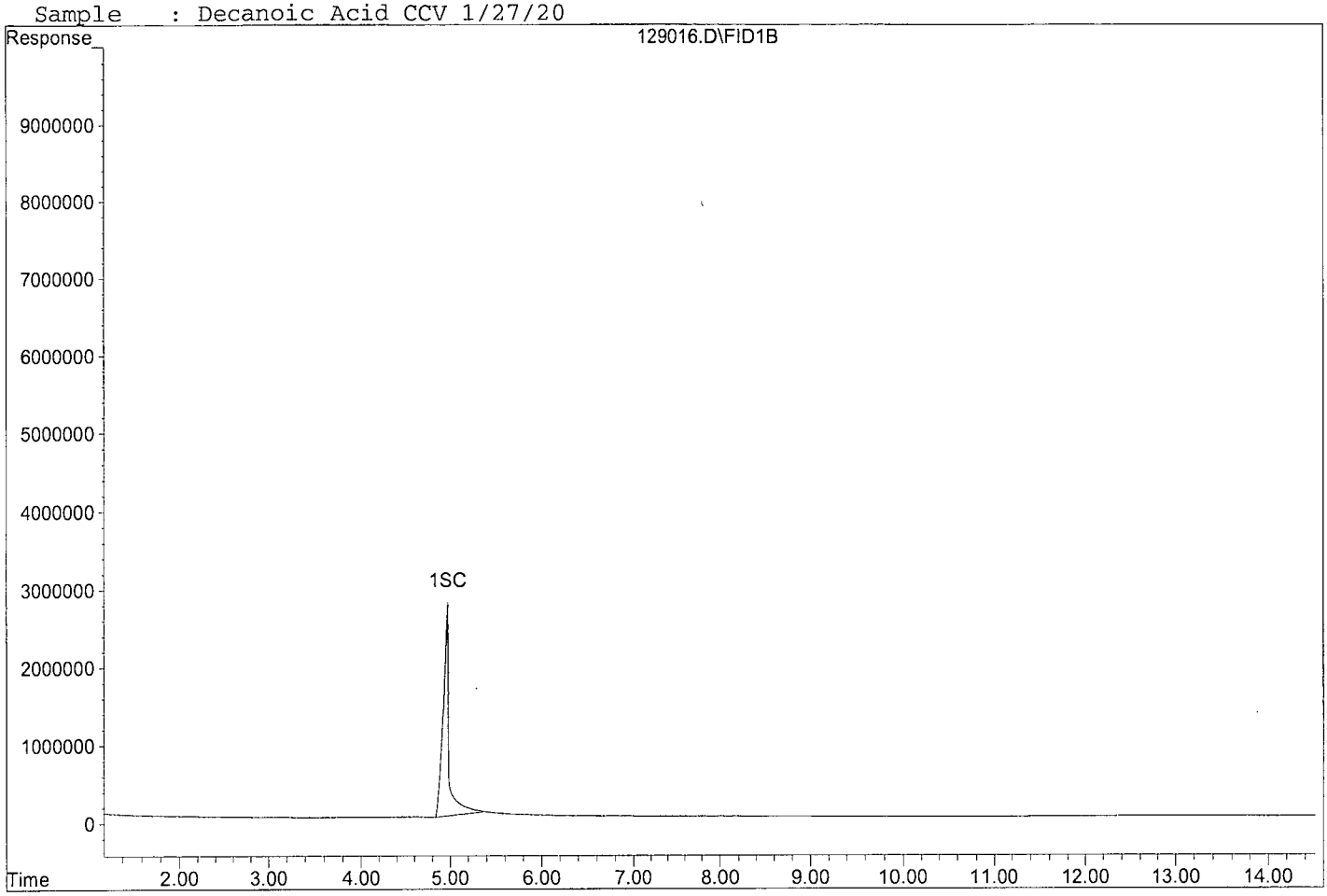
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) SC Decanoic Acid(S)	4.97f	125744835	76.740 ppb
Surrogate Spike 24.000	Recovery = 319.75%		
Target Compounds			
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\200129\129016.D
Sample : Decanoic Acid CCV 1/27/20



TPH Extractables
DOC0129

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: Water

SDG No:
Date Analyzed: 01/29/20
Instrument: Apollo
Initial Cal. Date: 01/29/20
Data File: 129029.D

		Compound	MEAN	CCRF	%D		%Drift
1	HATM	Diesel (C10-C24)	2395940	1998050	17	HATML	0.67
2	HBTM	Motor Oil (C24-C40)	1822260	1561680	14	HBTML	0.24
3	SAL	Ortho-Terphenyl(S)	2240780	1970790	12	SAL	5.8
4	SAL	Octacosane(S)	2342280	2091300	11	SAL	4.8
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			13.5		

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200129\129029.D Vial: 29
Acq On : 1-29-20 22:27:03 Operator: BT
Sample : Diesel Motor Oil - CCV 12/23/19 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 30 8:19 2020 Quant Results File: DOC0129.RES

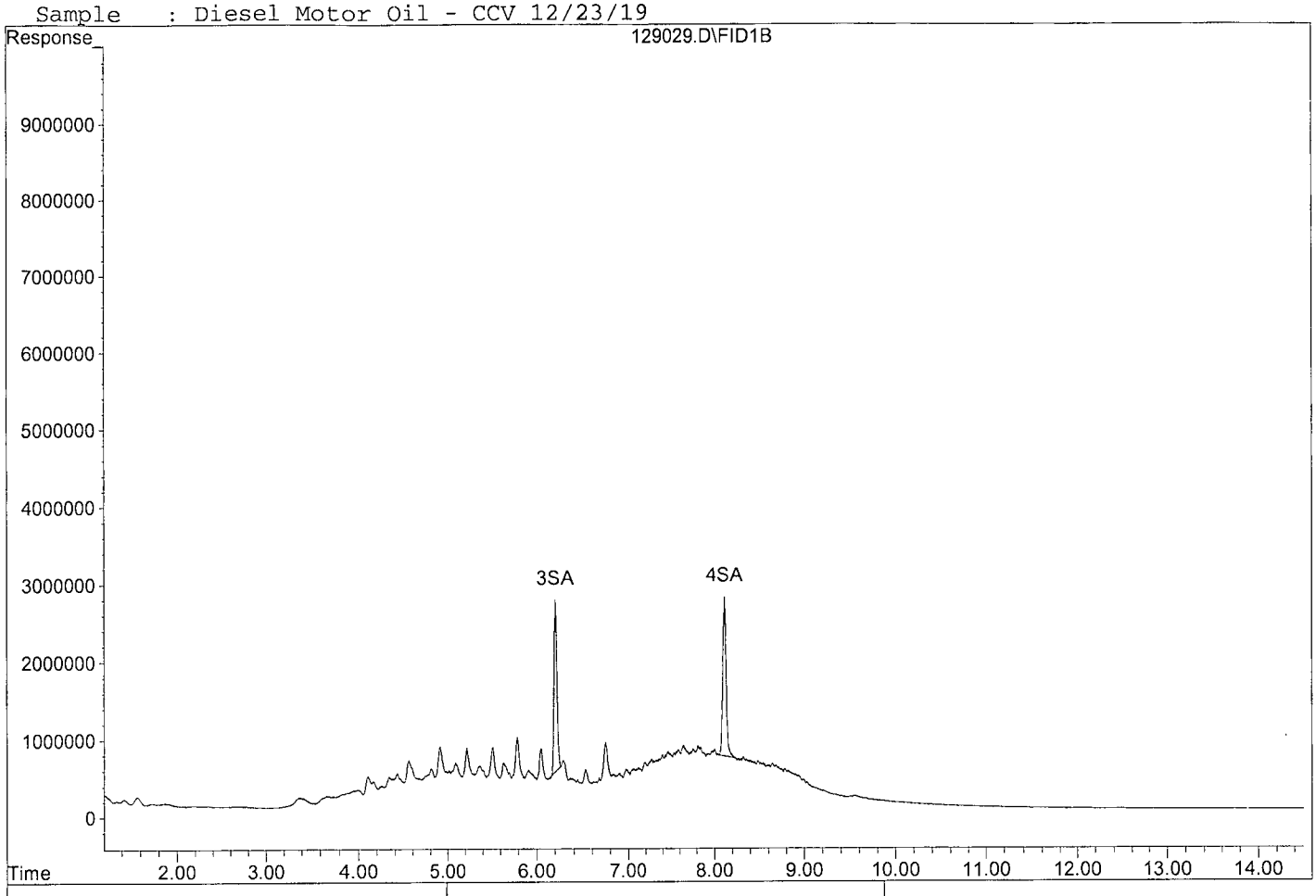
Method : G:\APOLLO\DATA\200129\DOC0129.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Jan 30 08:01:08 2020
Response via : Multiple Level Calibration

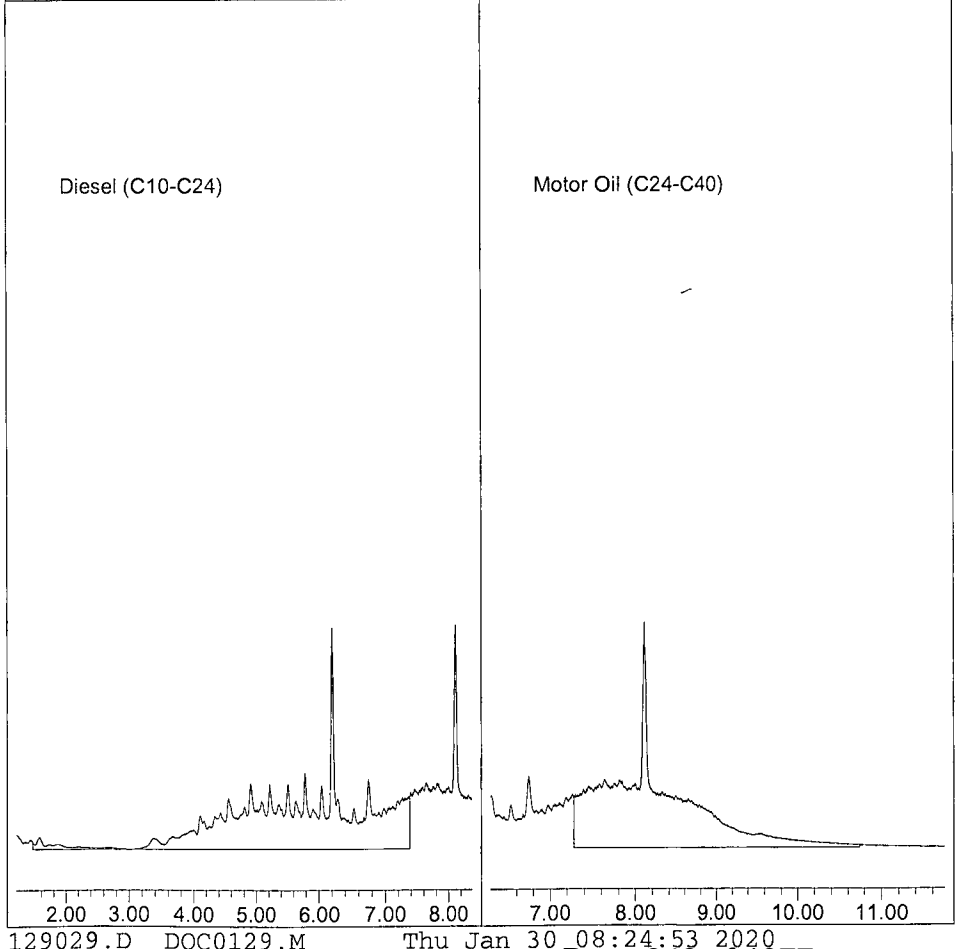
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SA Ortho-Terphenyl(S)	6.21	49269760	11.770 ppb
Surrogate Spike 30.000	Recovery =		39.23%
4) SA Octacosane(S)	8.11	52282451	13.100 ppb
Surrogate Spike 30.000	Recovery =		43.67%
Target Compounds			
1) HATM Diesel (C10-C24)	4.42	999024927	248.330 ppb
2) HBTM Motor Oil (C24-C40)	9.01	780842153	250.592 ppb
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200129\129029.D
Sample : Diesel Motor Oil - CCV 12/23/19





129029.D DOC0129.M Thu Jan 30 08:24:53 2020

TPH Extractables
DEC1120

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: Water

SDG No:
Date Analyzed: 01/29/20
Instrument: Apollo
Initial Cal. Date: 11/20/19
Data File: 129030.D

		Compound	MEAN	CCRF	%D		%Drift
1	SCL	Decanoic Acid(S)	664870	976813	47	SCL	20
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			47.0		

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200129\129030.D Vial: 30
Acq On : 1-29-20 22:46:43 Operator: BT
Sample : Decanoic Acid CCV 1/27/20 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 30 8:26 2020 Quant Results File: DEC1120.RES

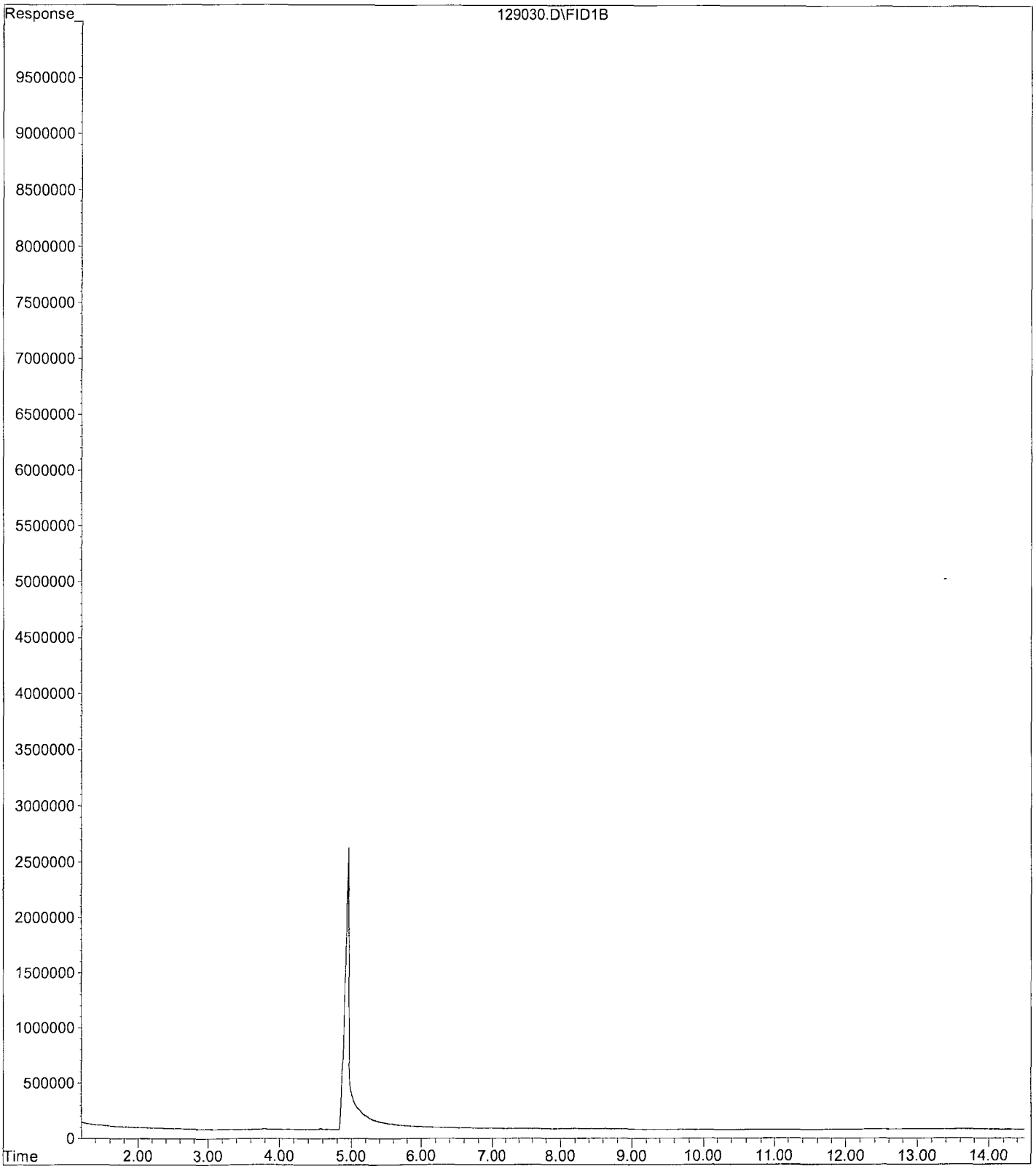
Method : G:\APOLLO\DATA\200129\DEC1120.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Jan 28 08:46:59 2020
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) SC Decanoic Acid(S)	4.96	117217584	71.708 ppb
Surrogate Spike 24.000		Recovery =	298.78%
Target Compounds			
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

File : G:\APOLLO\DATA\200129\129030.D
Operator : BT
Acquired : 1-29-20 22:46:43 using AcqMethod TPHSN.M
Instrument : Apollo
Sample Name: Decanoic Acid CCV 1/27/20
Misc Info : water
Vial Number: 30



TPH Extractables
DOC0129

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: Water

SDG No:
Date Analyzed: 02/04/20
Instrument: Apollo
Initial Cal. Date: 01/29/20
Data File: 129125.D

		Compound	MEAN	CCRF	%D		%Drift
1	HATM	Diesel (C10-C24)	2395940	2053770	14	HATML	2.1
2	HBTM	Motor Oil (C24-C40)	1822260	1484150	19	HBTML	4.6
3	SAL	Ortho-Terphenyl(S)	2240780	1986160	11	SAL	5.2
4	SAL	Octacosane(S)	2342280	1929350	18	SAL	2.9
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			15.5		

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200129\129125.D Vial: 25
Acq On : 2-4-20 14:39:24 Operator: BT
Sample : Diesel Motor Oil - CCV 12/23/19 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Feb 5 8:45 2020 Quant Results File: DOC0129.RES

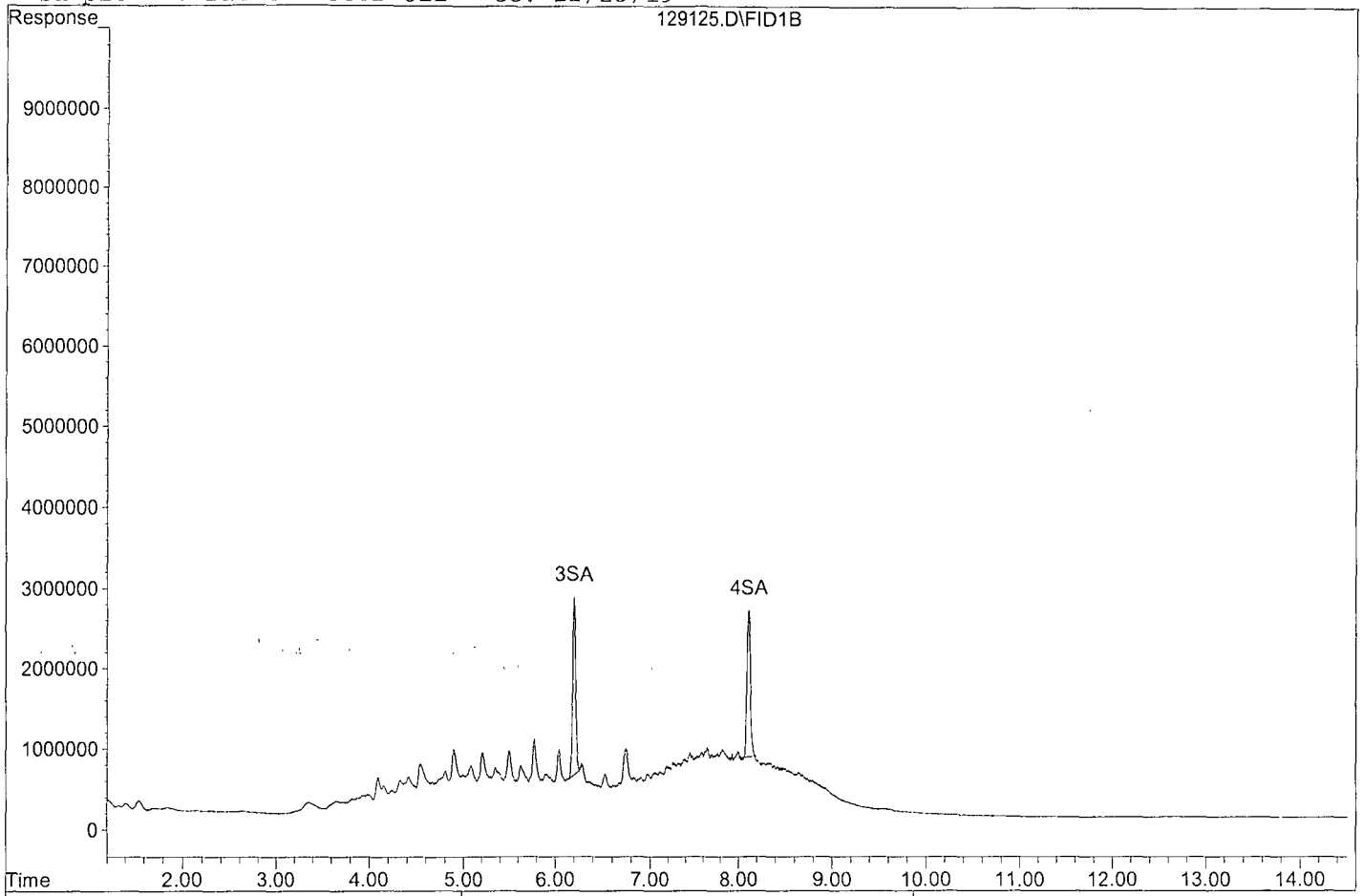
Method : G:\APOLLO\DATA\200129\DOC0129.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Jan 30 08:01:08 2020
Response via : Multiple Level Calibration

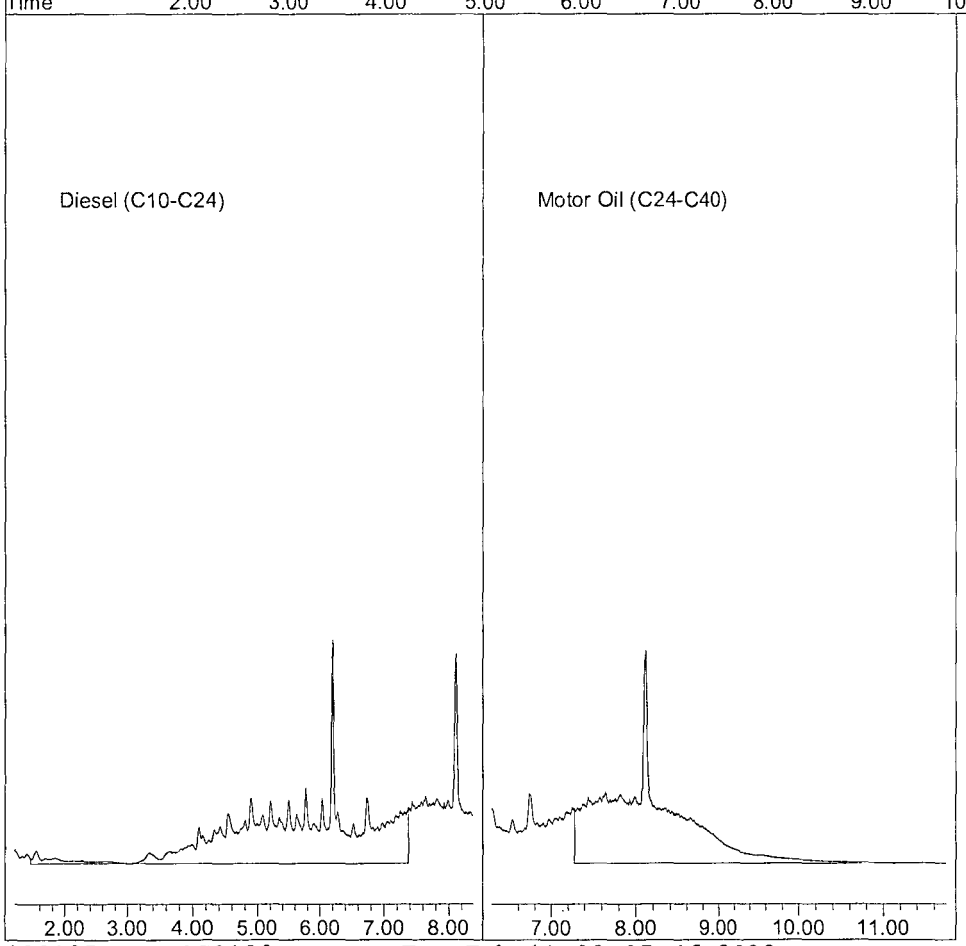
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SA Ortho-Terphenyl(S)	6.20	49654047	11.854 ppb
Surrogate Spike 30.000	Recovery =		39.51%
4) SA Octacosane(S)	8.11	48233713	12.139 ppb
Surrogate Spike 30.000	Recovery =		40.46%
Target Compounds			
1) HATM Diesel (C10-C24)	4.42	1026887104	255.219 ppb
2) HBTM Motor Oil (C24-C40)	9.01	742074516	238.394 ppb
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200129\129125.D
Sample : Diesel Motor Oil - CCV 12/23/19





TPH Extractables
DOC0129

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: Water

SDG No:
Date Analyzed: 02/04/20
Instrument: Apollo
Initial Cal. Date: 01/29/20
Data File: 129135.D

		Compound	MEAN	CCRF	%D		%Drift
1	HATM	Diesel (C10-C24)	2395940	2111820	12	HATML	5.0
2	HBTM	Motor Oil (C24-C40)	1822260	1498140	18	HBTML	3.8
3	SAL	Ortho-Terphenyl(S)	2240780	2052020	8.4	SAL	2.3
4	SAL	Octacosane(S)	2342280	2189010	6.5	SAL	9.4
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			11.2		

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200129\129135.D Vial: 35
Acq On : 2-4-20 17:55:20 Operator: BT
Sample : Diesel Motor Oil - CCV 12/23/19 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Feb 5 8:45 2020 Quant Results File: DOC0129.RES

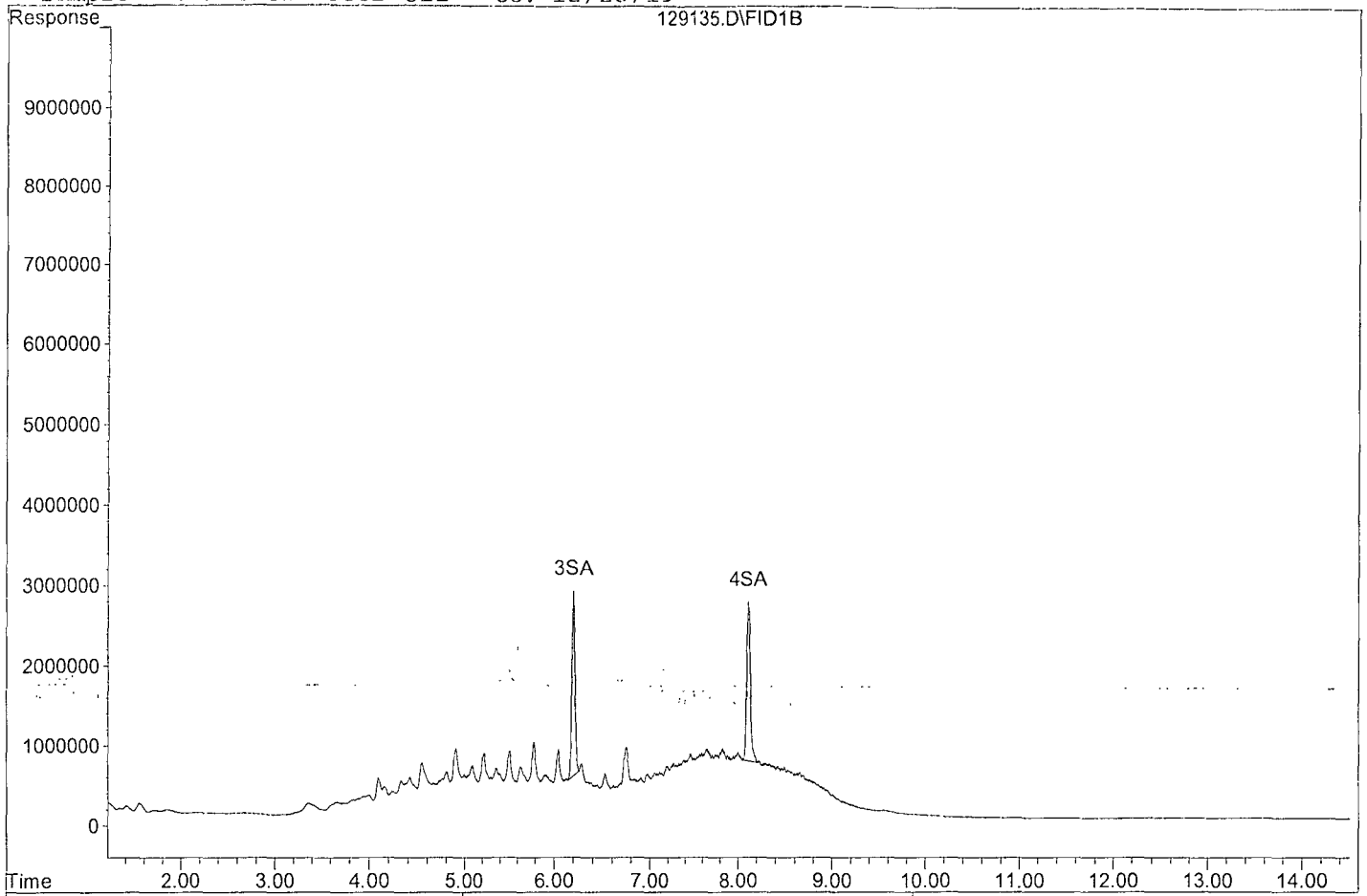
Method : G:\APOLLO\DATA\200129\DOC0129.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Jan 30 08:01:08 2020
Response via : Multiple Level Calibration

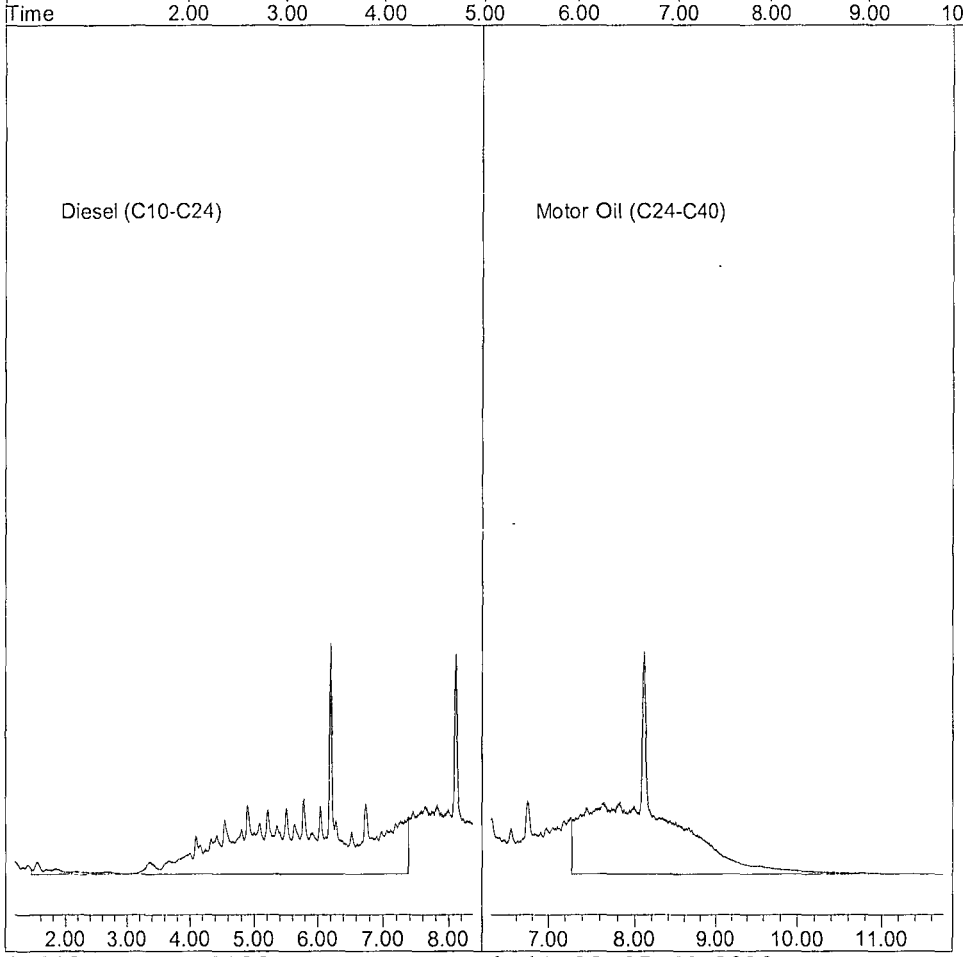
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SA Ortho-Terphenyl(S)	6.20	51300487	12.214 ppb
Surrogate Spike 30.000		Recovery =	40.71%
4) SA Octacosane(S)	8.11	54725192	13.679 ppb
Surrogate Spike 30.000		Recovery =	45.60%
Target Compounds			
1) HATM Diesel (C10-C24)	4.42	1055910114	262.396 ppb
2) HBTM Motor Oil (C24-C40)	9.01	749067603	240.594 ppb
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200129\129135.D
Sample : Diesel Motor Oil - CCV 12/23/19





ORGANICS
Raw Data

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200111\111139.D Vial: 39
Acq On : 1-25-20 17:06:57 Operator: BT
Sample : BA06272W32 2/800 Inst : Apollo
Misc : water Multiplr: 2.50
IntFile : events.e
Quant Time: Jan 27 10:49 2020 Quant Results File: DOC0111.RES

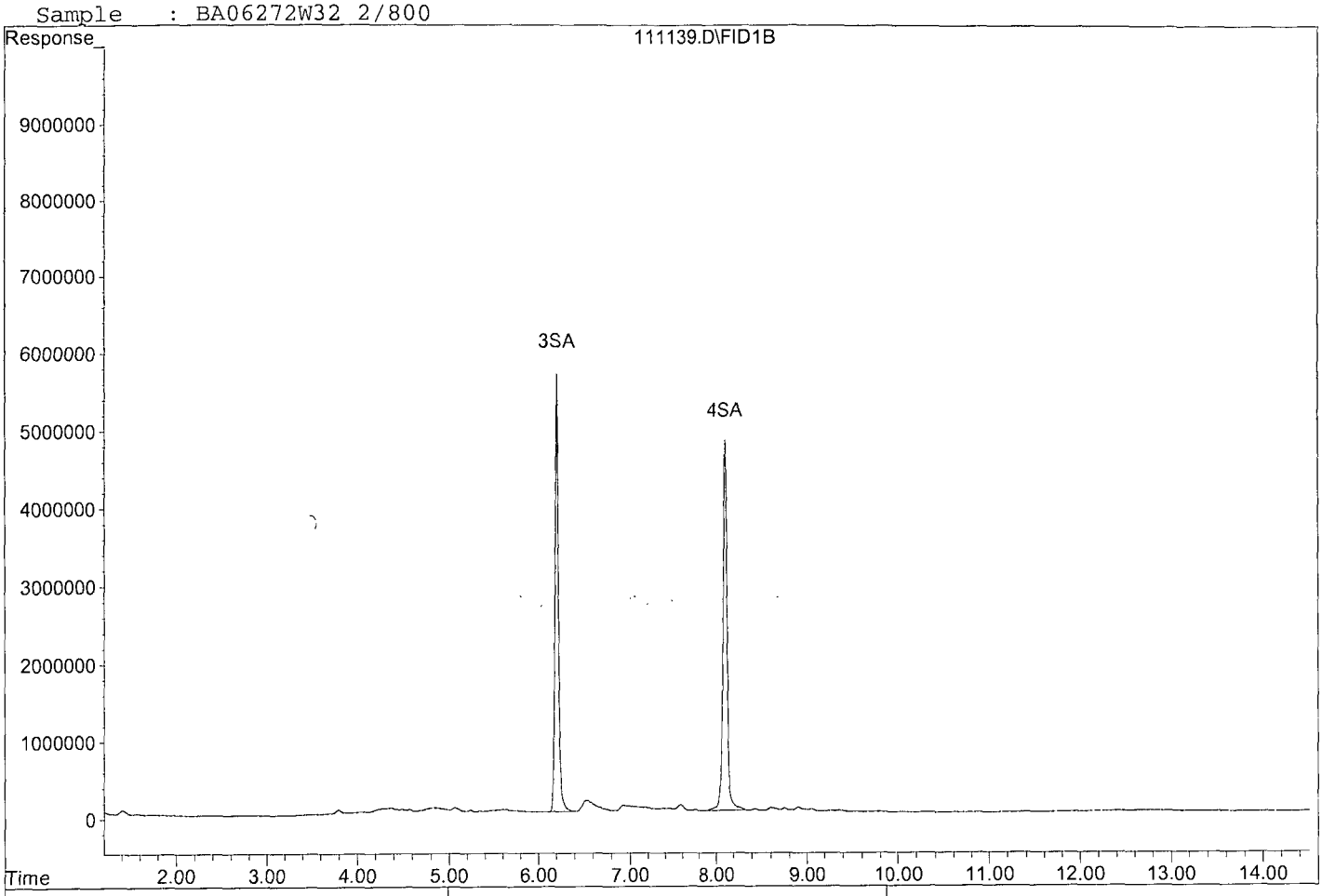
Method : G:\APOLLO\DATA\200111\DOC0111.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Mon Jan 13 07:59:04 2020
Response via : Multiple Level Calibration

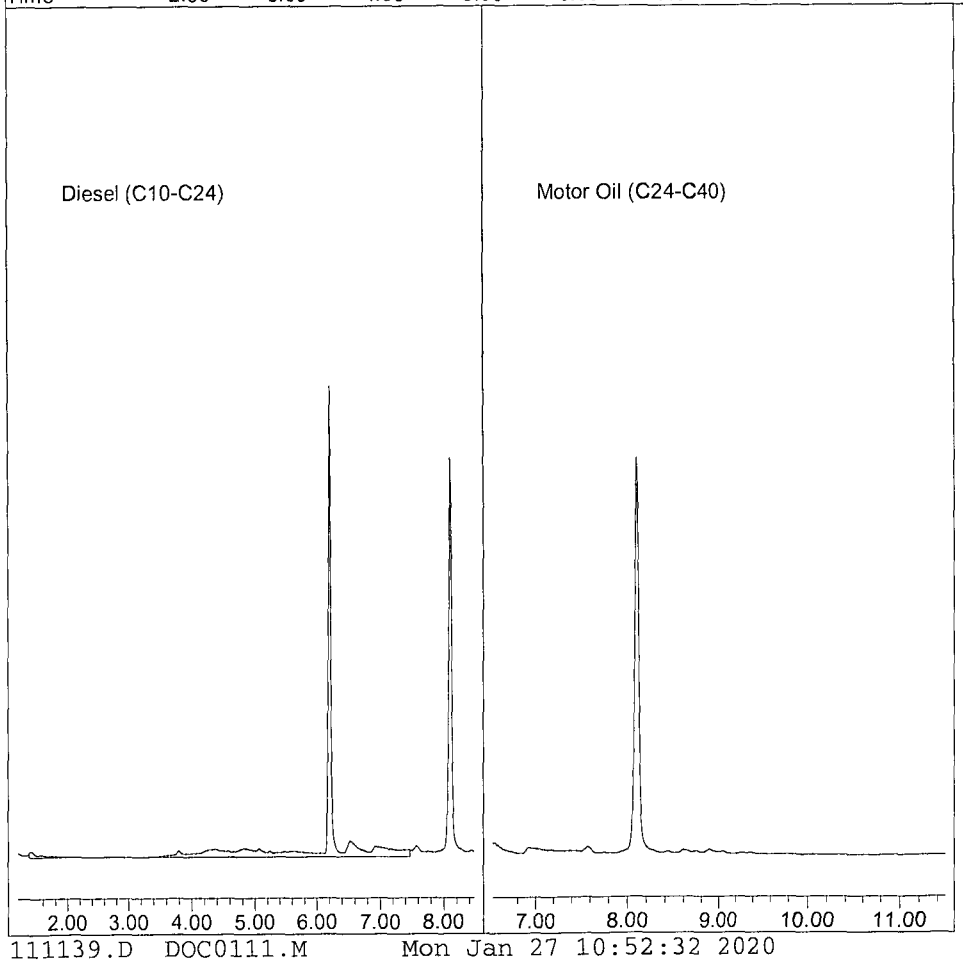
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
3) SA Ortho-Terphenyl(S)	6.21	146855292	85.399	ppb
Surrogate Spike 75.000	Recovery =		113.87%	
4) SA Octacosane(S)	8.10	157535108	94.597	ppb
Surrogate Spike 75.000	Recovery =		126.13%	
Target Compounds				
1) HATM Diesel (C10-C24)	4.42	173817080	104.082	ppb
Target Compounds				
2) HBTM Motor Oil (C24-C40)	0.00	0	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200111\111139.D
Sample : BA06272W32 2/800





111139.D DOC0111.M Mon Jan 27 10:52:32 2020

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200129\129021.D Vial: 21
Acq On : 1-29-20 19:51:43 Operator: BT
Sample : BA06272W32 2/800 SG Inst : Apollo
Misc : water Multiplr: 2.50
IntFile : events.e
Quant Time: Jan 30 8:21 2020 Quant Results File: DOC0129.RES

Method : G:\APOLLO\DATA\200129\DOC0129.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Jan 30 08:01:08 2020
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
3) SA Ortho-Terphenyl(S)	6.21	141061088	79.607	ppb
Surrogate Spike 75.000	Recovery =		106.14%	
4) SA Octacosane(S)	8.11	127283895	77.230	ppb
Surrogate Spike 75.000	Recovery =		102.97%	
Target Compounds				
Target Compounds				
1) HATM Diesel (C10-C24)	0.00	0	N.D.	ppb
2) HBTM Motor Oil (C24-C40)	0.00	0	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200129\129021.D Vial: 21
Acq On : 1-29-20 19:51:43 Operator: BT
Sample : BA06272W32 2/800 SG Inst : Apollo
Misc : water Multiplr: 2.50
IntFile : events.e
Quant Time: Jan 30 8:26 2020 Quant Results File: DEC1120.RES

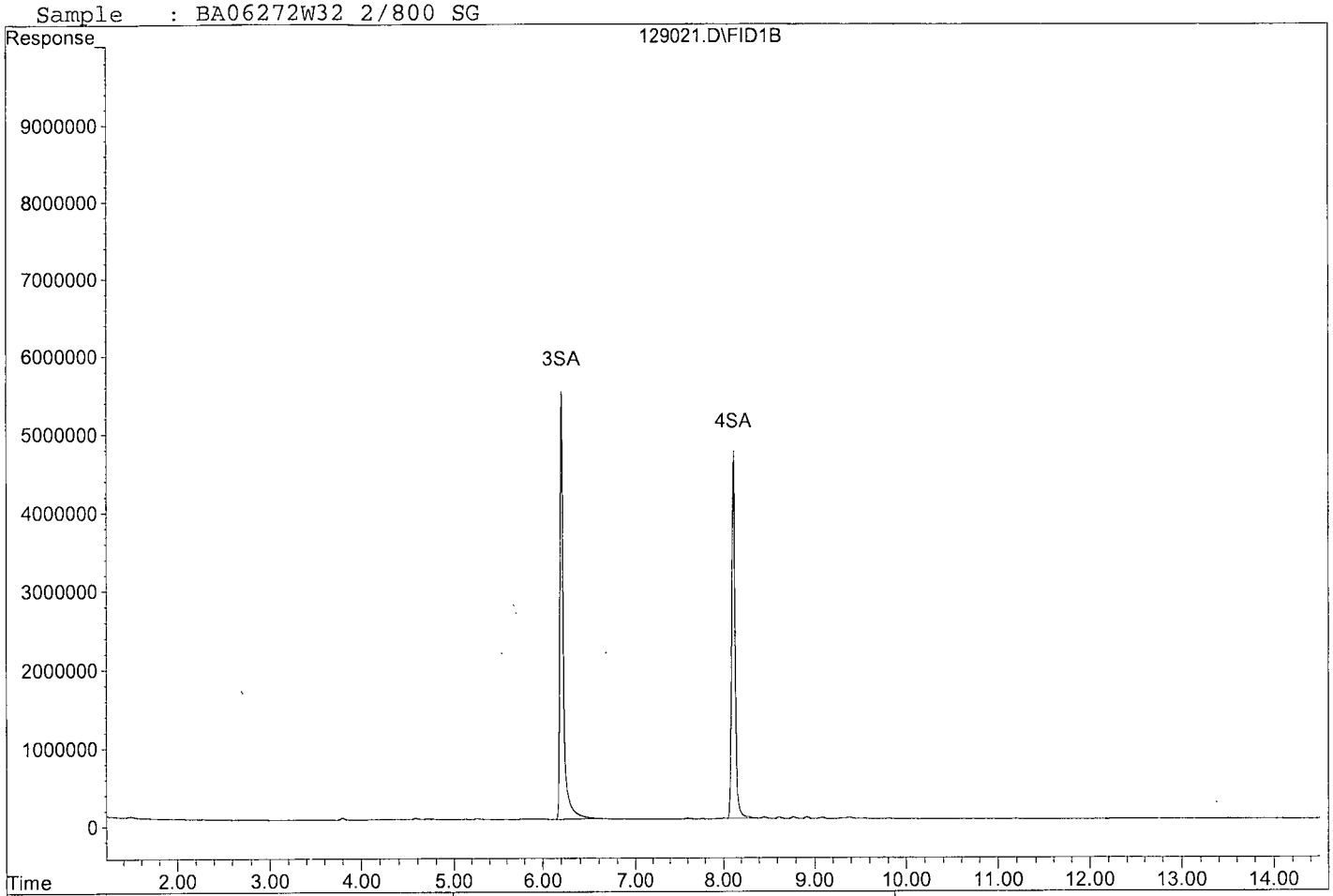
Method : G:\APOLLO\DATA\200129\DEC1120.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Jan 28 08:46:59 2020
Response via : Multiple Level Calibration

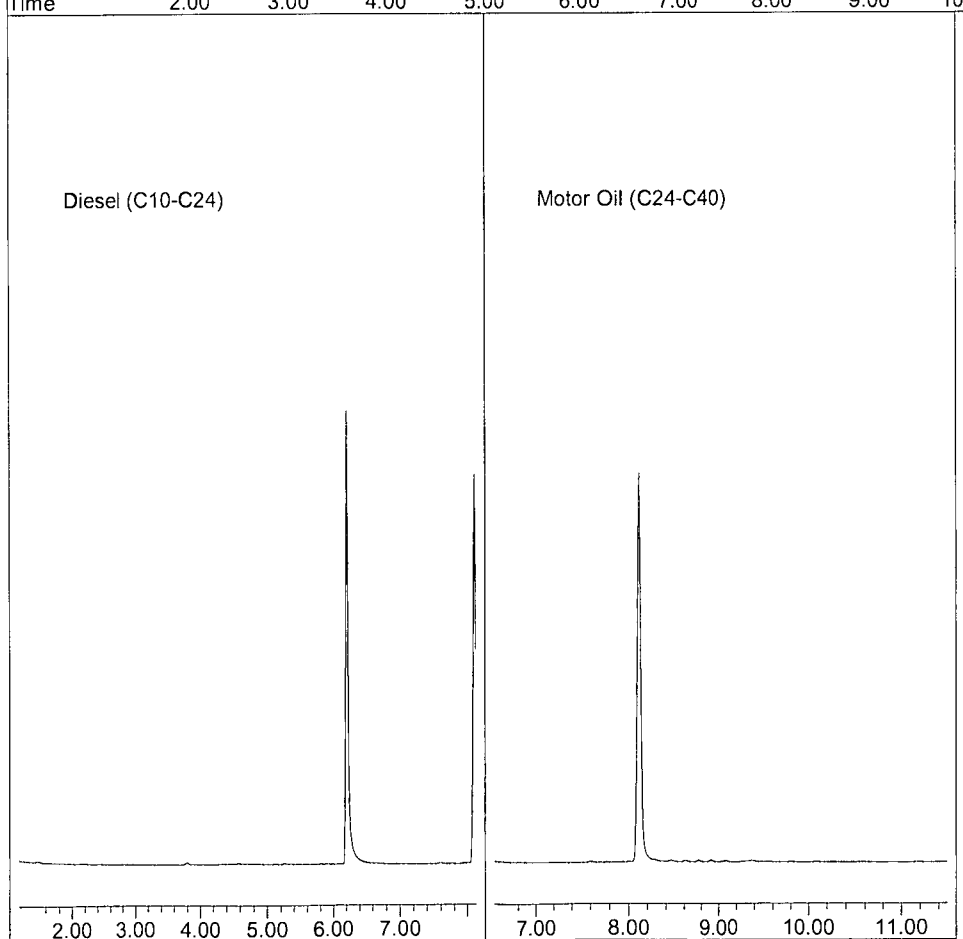
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) SC Decanoic Acid(S)	0.00	0	N.D. ppb
Surrogate Spike 60.000	Recovery	=	0.00%
Target Compounds			
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200129\129021.D
Sample : BA06272W32 2/800 SG





129021.D DOC0129.M Thu Jan 30 08:24:34 2020

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200111\111140.D Vial: 40
Acq On : 1-25-20 17:26:00 Operator: BT
Sample : BA06273W08 2/800 Inst : Apollo
Misc : water Multiplr: 2.50
IntFile : events.e
Quant Time: Jan 27 10:49 2020 Quant Results File: DOC0111.RES

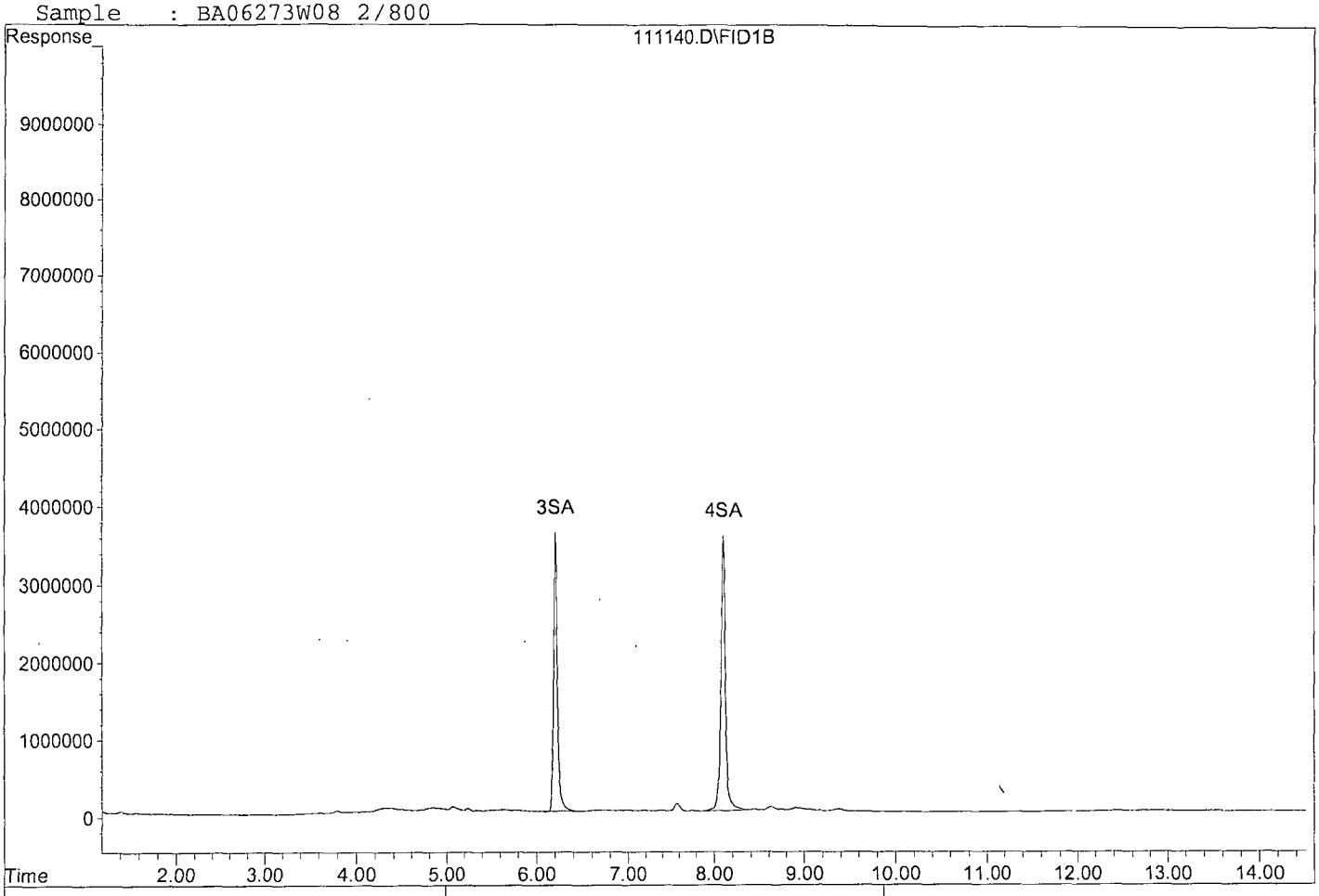
Method : G:\APOLLO\DATA\200111\DOC0111.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Mon Jan 13 07:59:04 2020
Response via : Multiple Level Calibration

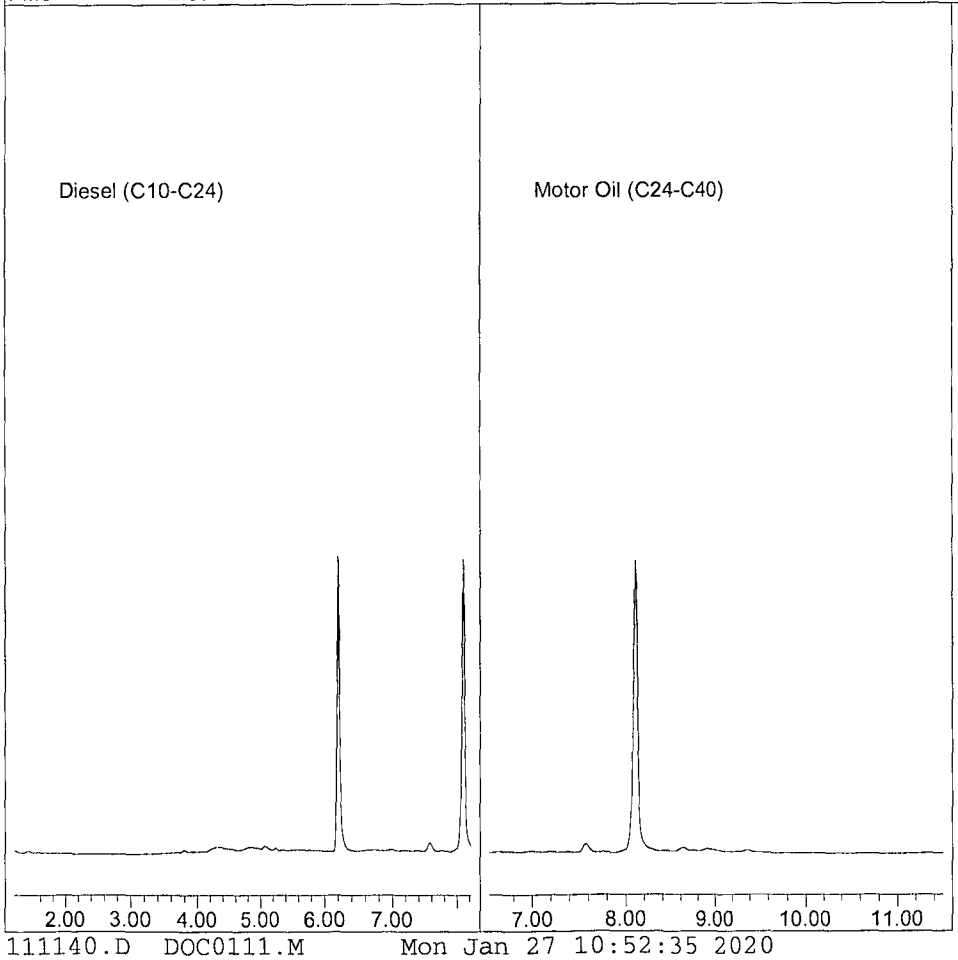
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
3) SA Ortho-Terphenyl(S)	6.21	100757884	58.593	ppb
Surrogate Spike 75.000		Recovery =	78.12%	
4) SA Octacosane(S)	8.11	122479343	73.547	ppb
Surrogate Spike 75.000		Recovery =	98.06%	
Target Compounds				
Target Compounds				
1) HATM Diesel (C10-C24)	0.00	0	N.D.	ppb
2) HBTM Motor Oil (C24-C40)	0.00	0	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200111\111140.D
Sample : BA06273W08 2/800





111140.D DOC0111.M Mon Jan 27 10:52:35 2020

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200111\111141.D Vial: 41
Acq On : 1-25-20 17:45:45 Operator: BT
Sample : BA06275W16 2/800 Inst : Apollo
Misc : water Multiplr: 2.50
IntFile : events.e
Quant Time: Jan 27 9:56 2020 Quant Results File: DOC0111.RES

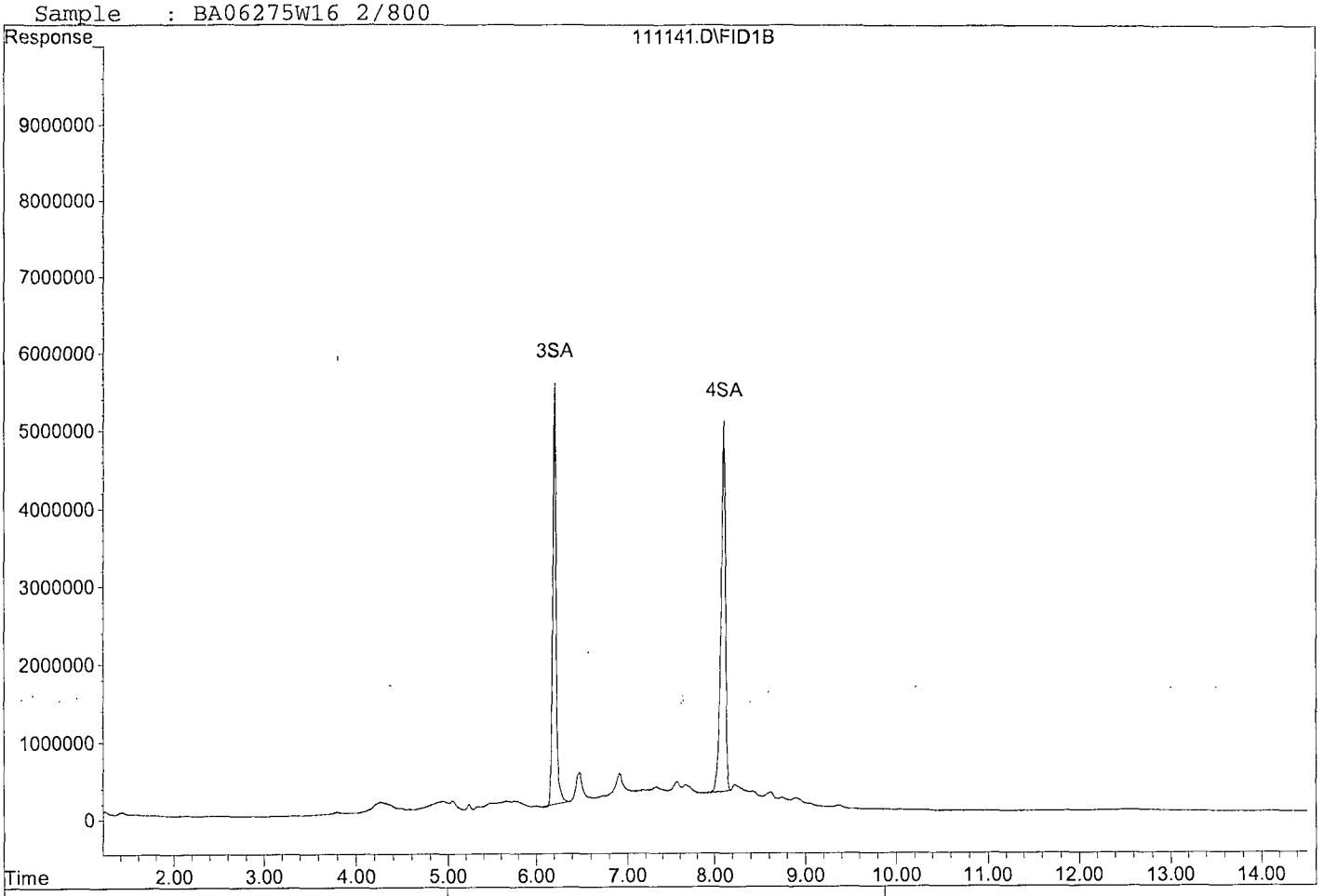
Method : G:\APOLLO\DATA\200111\DOC0111.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Mon Jan 13 07:59:04 2020
Response via : Multiple Level Calibration

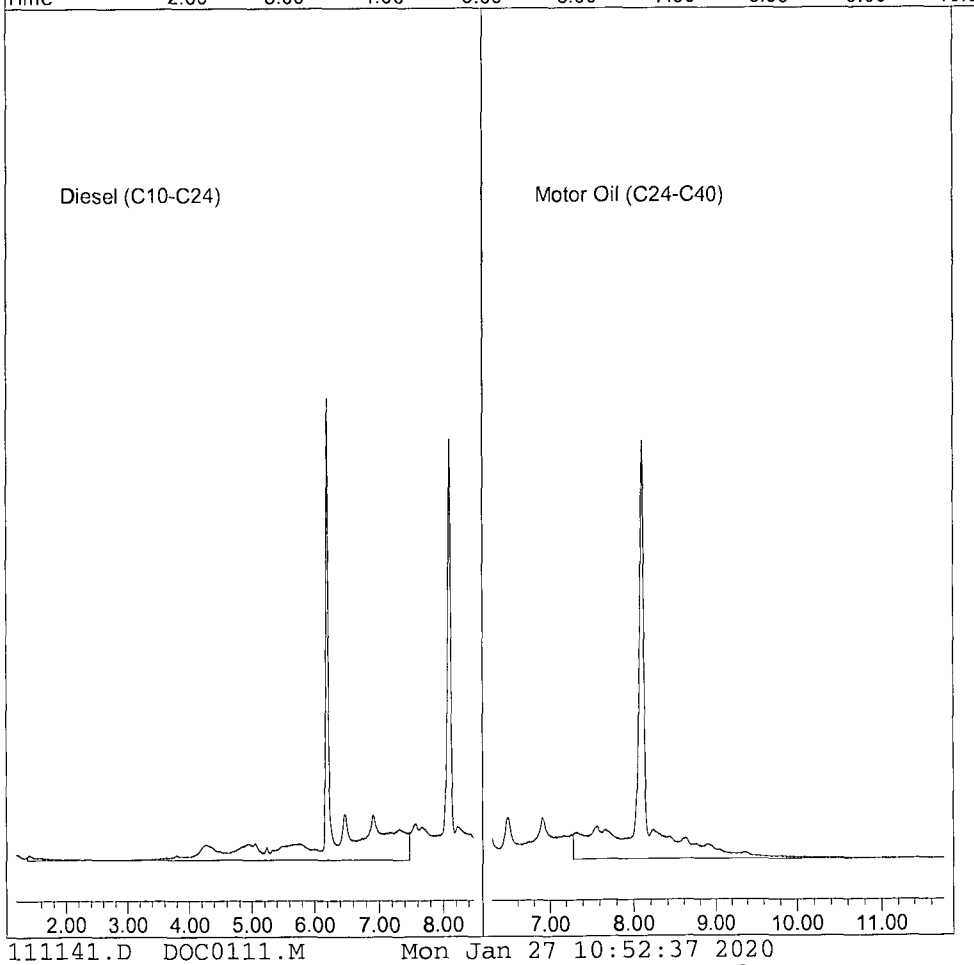
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SA Ortho-Terphenyl(S)	6.21	138421294	80.494 ppb
Surrogate Spike 75.000	Recovery =		107.33%
4) SA Octacosane(S)	8.10	162967926	97.859 ppb
Surrogate Spike 75.000	Recovery =		130.48%
Target Compounds			
1) HATM Diesel (C10-C24)	4.42	431695960	258.499 ppb
2) HBTM Motor Oil (C24-C40)	9.01	292294887	245.324 ppb
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200111\111141.D
Sample : BA06275W16 2/800





111141.D DOC0111.M Mon Jan 27 10:52:37 2020

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200129\129023.D Vial: 23
Acq On : 1-29-20 20:31:01 Operator: BT
Sample : BA06275W16 2/800 SG Inst : Apollo
Misc : water Multiplr: 2.50
IntFile : events.e
Quant Time: Jan 30 8:23 2020 Quant Results File: DOC0129.RES

Method : G:\APOLLO\DATA\200129\DOC0129.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Jan 30 08:01:08 2020
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
3) SA Ortho-Terphenyl(S)	6.21	140804690	79.467	ppb
Surrogate Spike 75.000		Recovery =	105.96%	
4) SA Octacosane(S)	8.11	128080209	77.702	ppb
Surrogate Spike 75.000		Recovery =	103.60%	
Target Compounds				
Target Compounds				
1) HATM Diesel (C10-C24)	0.00	0	N.D.	ppb
2) HBTM Motor Oil (C24-C40)	0.00	0	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200129\129023.D Vial: 23
Acq On : 1-29-20 20:31:01 Operator: BT
Sample : BA06275W16 2/800 SG Inst : Apollo
Misc : water Multiplr: 2.50
IntFile : events.e
Quant Time: Jan 30 8:26 2020 Quant Results File: DEC1120.RES

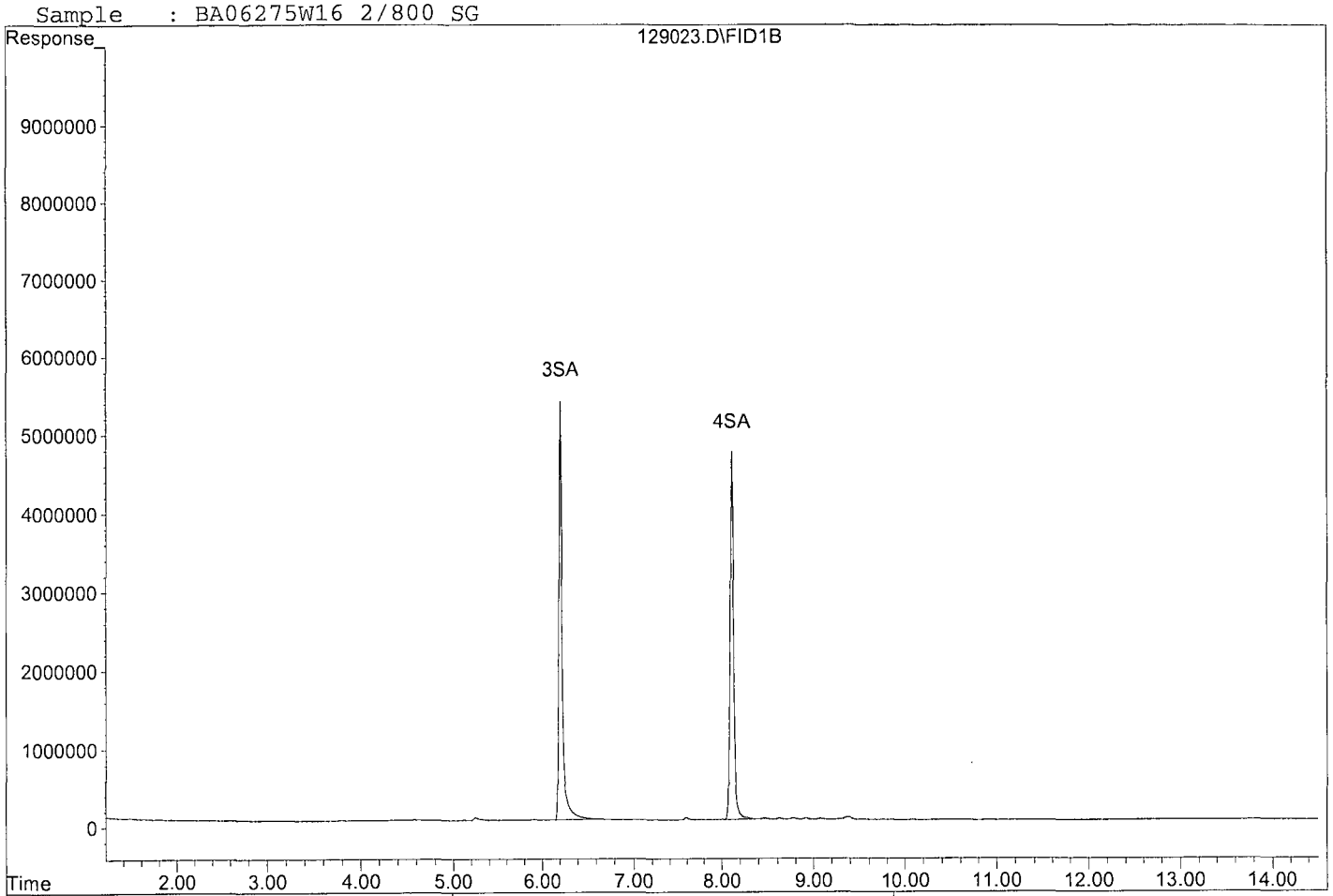
Method : G:\APOLLO\DATA\200129\DEC1120.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Jan 28 08:46:59 2020
Response via : Multiple Level Calibration

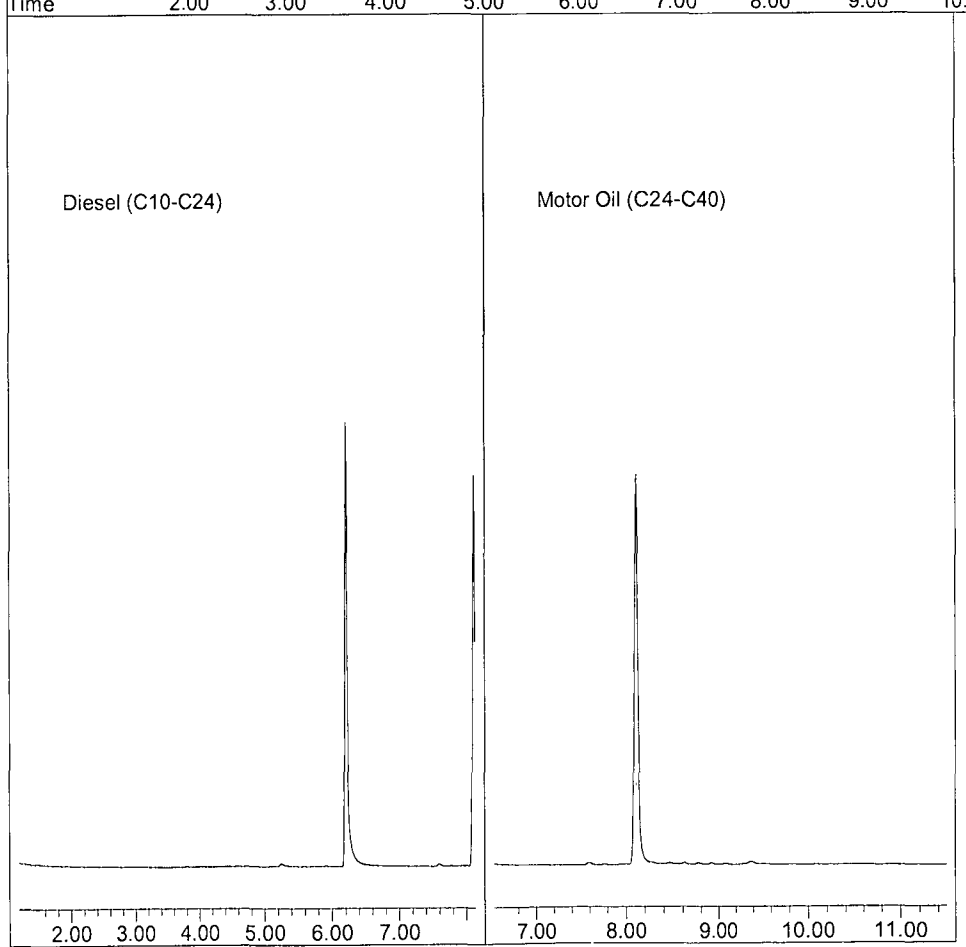
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) SC Decanoic Acid(S)	0.00	0	N.D. ppb
Surrogate Spike 60.000	Recovery	=	0.00%
Target Compounds			
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200129\129023.D
Sample : BA06275W16 2/800 SG





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200111\111142.D Vial: 42
Acq On : 1-25-20 18:05:24 Operator: BT
Sample : BA06276W16 2/800 Inst : Apollo
Misc : water Multiplr: 2.50
IntFile : events.e
Quant Time: Jan 27 10:50 2020 Quant Results File: DOC0111.RES

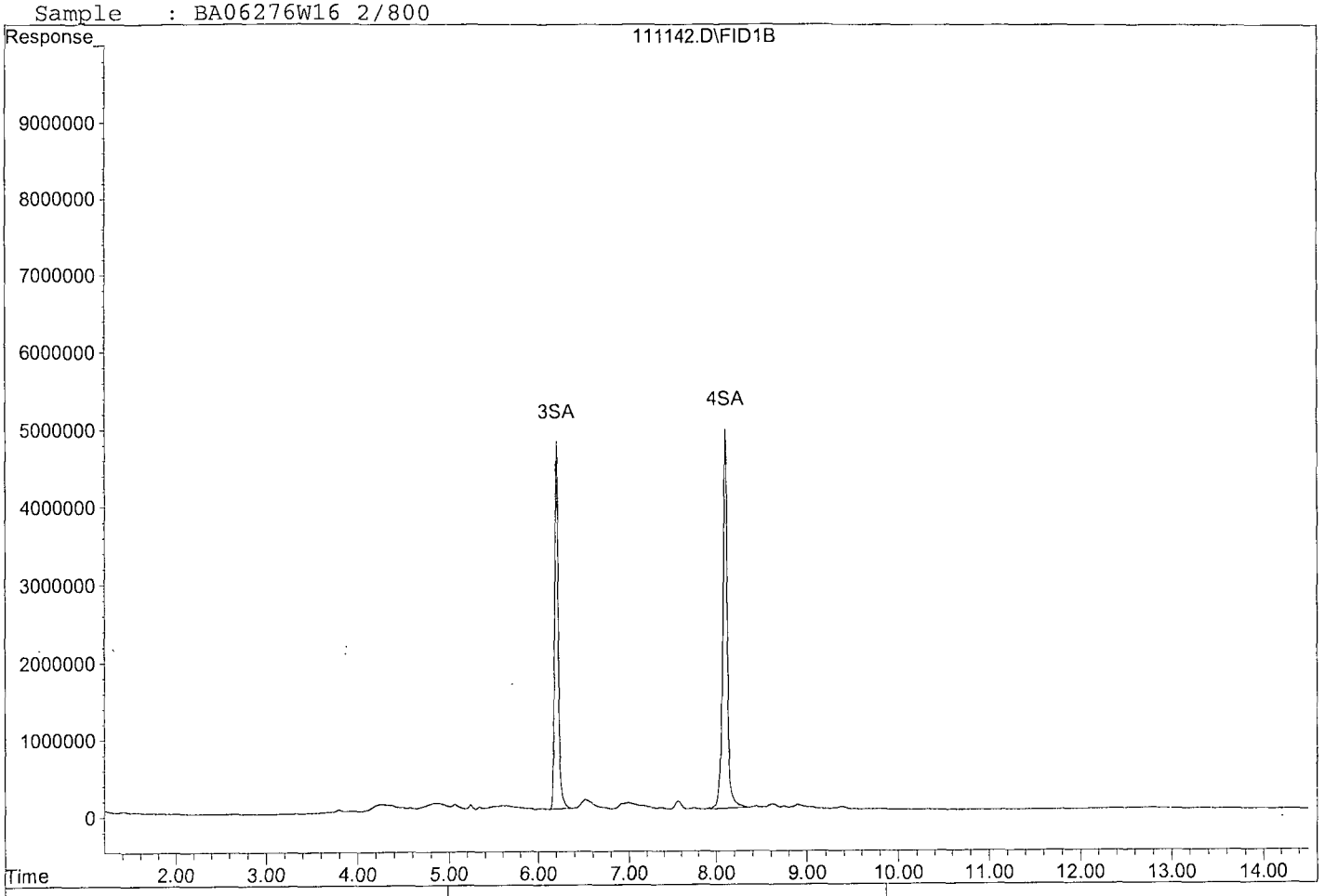
Method : G:\APOLLO\DATA\200111\DOC0111.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Mon Jan 13 07:59:04 2020
Response via : Multiple Level Calibration

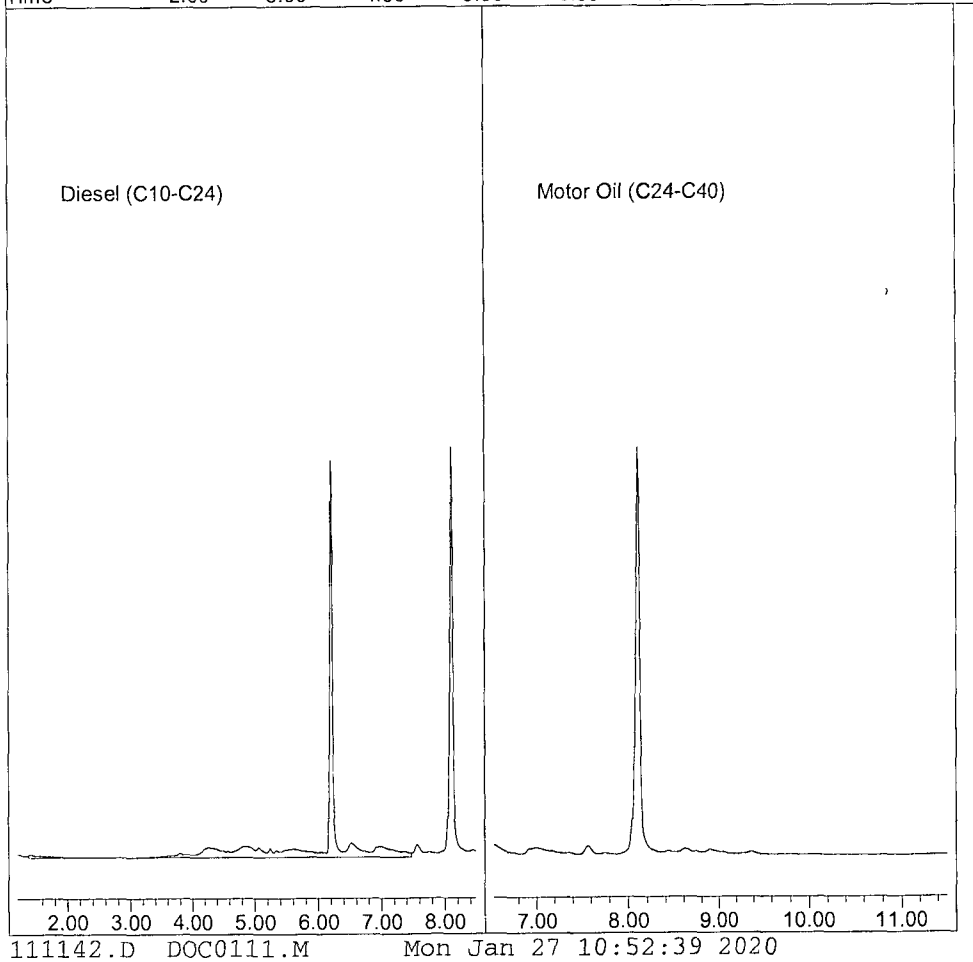
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
3) SA Ortho-Terphenyl(S)	6.21	132754576	77.199	ppb
Surrogate Spike 75.000		Recovery =	102.93%	
4) SA Octacosane(S)	8.11	166646413	100.068	ppb
Surrogate Spike 75.000		Recovery =	133.42%	
Target Compounds				
1) HATM Diesel (C10-C24)	4.42	193926109	116.123	ppb
Target Compounds				
2) HBTM Motor Oil (C24-C40)	0.00	0	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200111\111142.D
Sample : BA06276W16 2/800





111142.D DOC0111.M Mon Jan 27 10:52:39 2020

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200129\129024.D Vial: 24
Acq On : 1-29-20 20:50:34 Operator: BT
Sample : BA06276W16 2/800 SG Inst : Apollo
Misc : water Multiplr: 2.50
IntFile : events.e
Quant Time: Jan 30 8:23 2020 Quant Results File: DOC0129.RES

Method : G:\APOLLO\DATA\200129\DOC0129.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Jan 30 08:01:08 2020
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
3) SA Ortho-Terphenyl(S)	6.21	133904925	75.695	ppb
Surrogate Spike 75.000		Recovery =	100.93%	
4) SA Octacosane(S)	8.11	124503246	75.581	ppb
Surrogate Spike 75.000		Recovery =	100.77%	
Target Compounds				
Target Compounds				
1) HATM Diesel (C10-C24)	0.00	0	N.D.	ppb
2) HBTM Motor Oil (C24-C40)	0.00	0	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200129\129024.D Vial: 24
Acq On : 1-29-20 20:50:34 Operator: BT
Sample : BA06276W16 2/800 SG Inst : Apollo
Misc : water Multiplr: 2.50
IntFile : events.e
Quant Time: Jan 30 8:26 2020 Quant Results File: DEC1120.RES

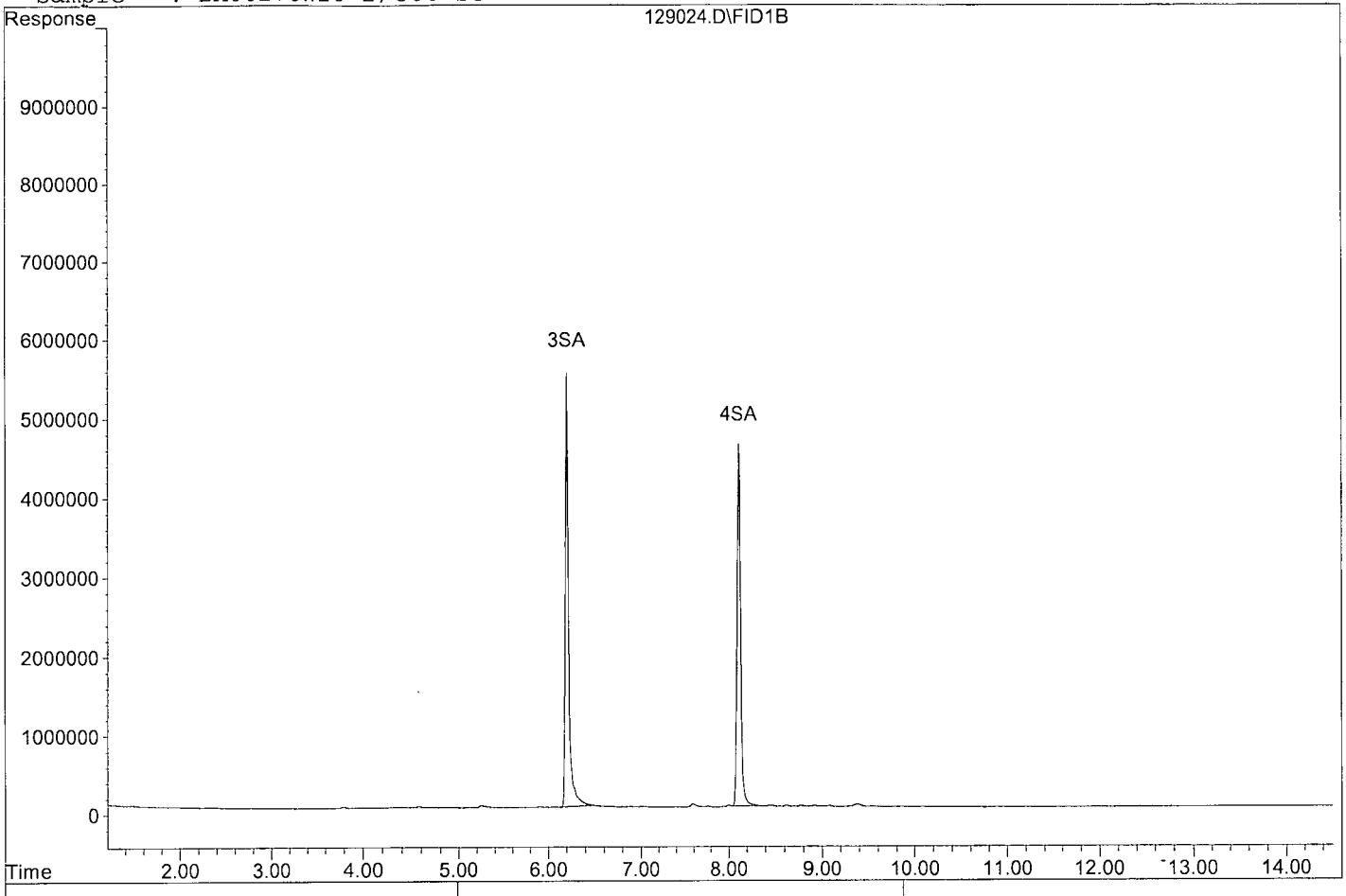
Method : G:\APOLLO\DATA\200129\DEC1120.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Jan 28 08:46:59 2020
Response via : Multiple Level Calibration

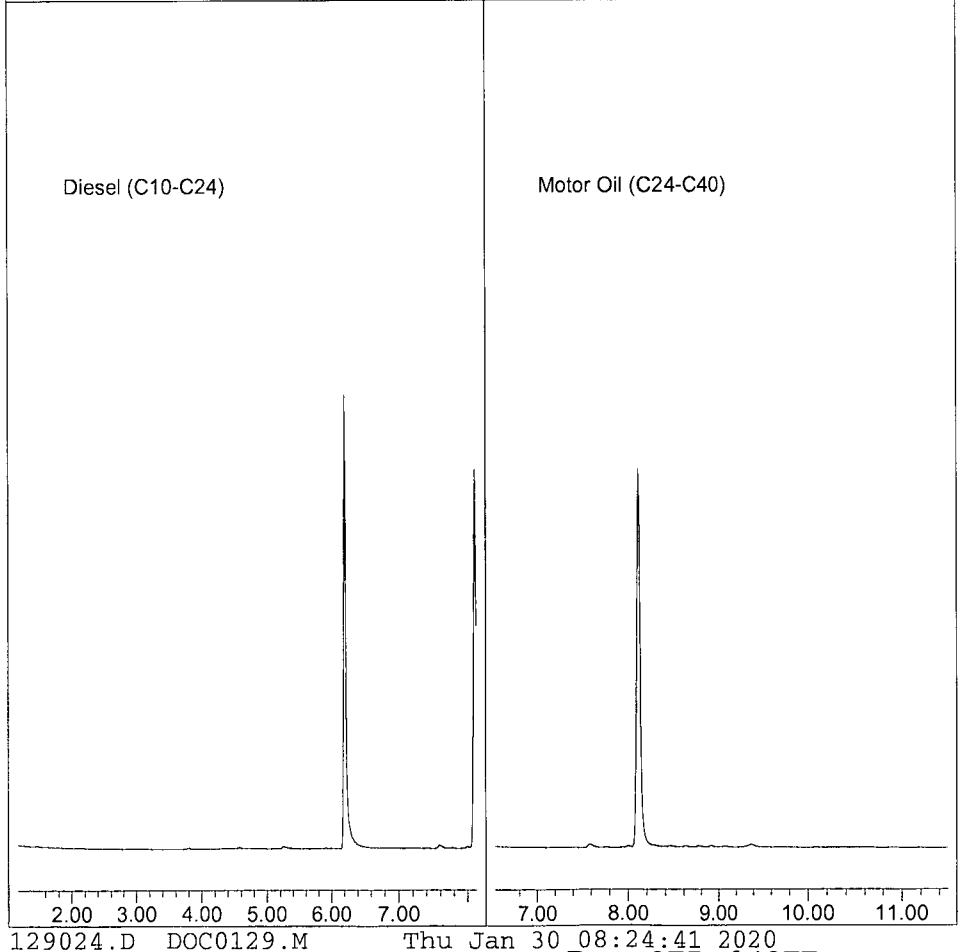
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
1) SC Decanoic Acid(S)	0.00	0	N.D.	ppb
Surrogate Spike 60.000		Recovery =	0.00%	
Target Compounds				
Target Compounds				

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200129\129024.D
Sample : BA06276W16 2/800 SG





129024.D DOC0129.M Thu Jan 30 08:24:41 2020

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200111\111143.D Vial: 43
Acq On : 1-25-20 18:24:28 Operator: BT
Sample : BA06279W13 2/800 Inst : Apollo
Misc : water Multiplr: 2.50
IntFile : events.e
Quant Time: Jan 27 9:56 2020 Quant Results File: DOC0111.RES

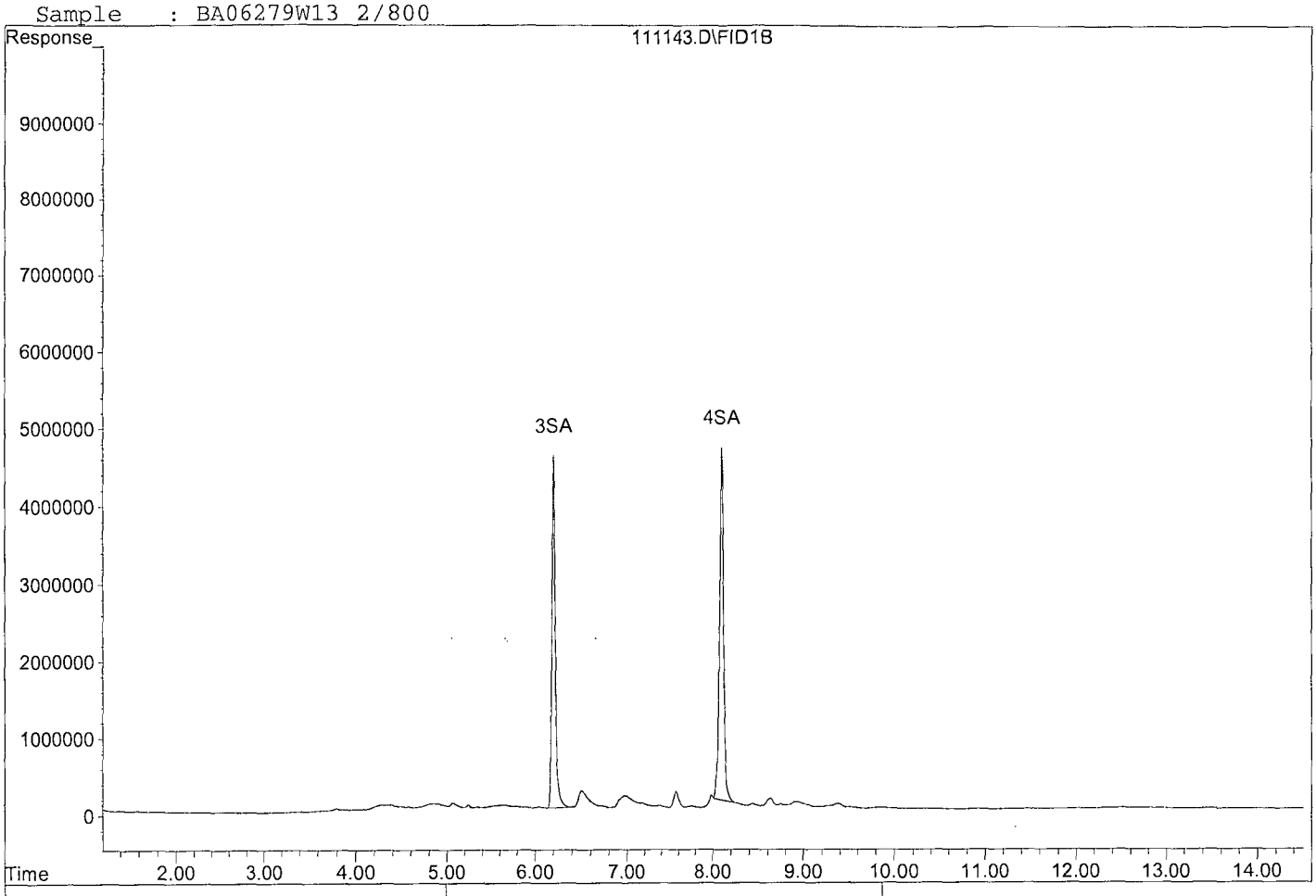
Method : G:\APOLLO\DATA\200111\DOC0111.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Mon Jan 13 07:59:04 2020
Response via : Multiple Level Calibration

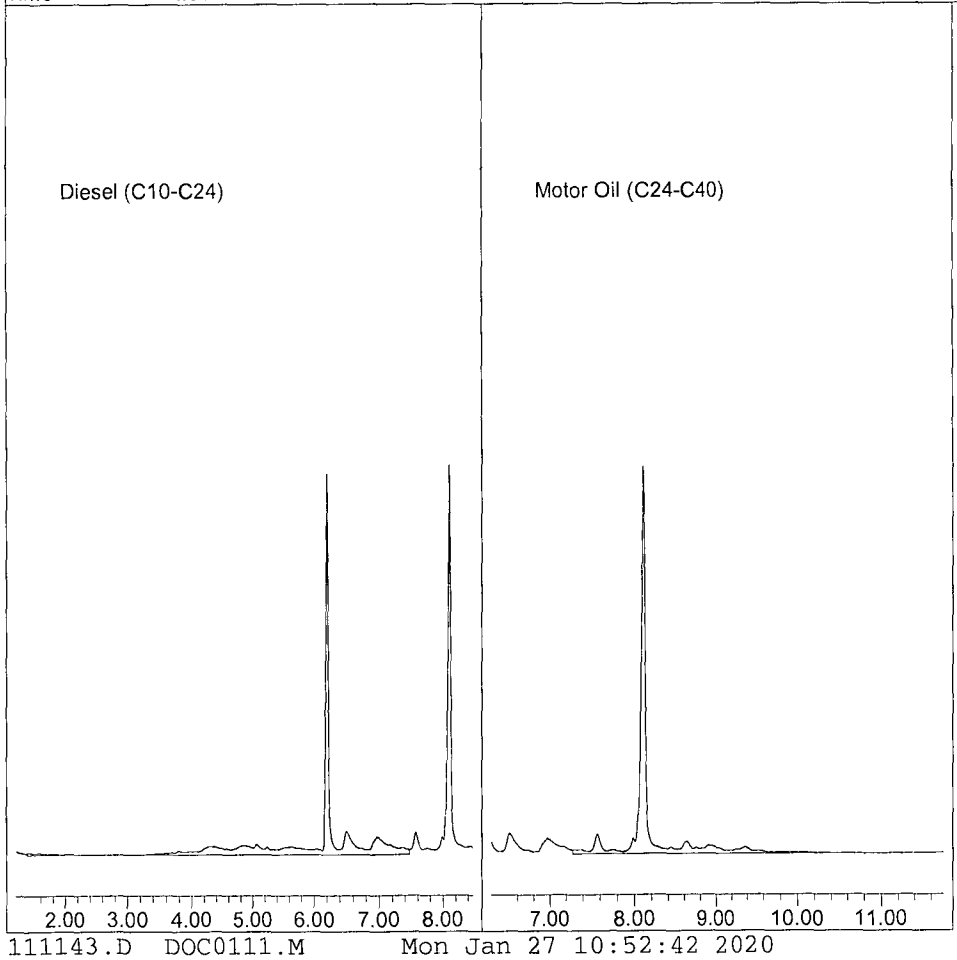
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SA Ortho-Terphenyl(S)	6.21	118264075	68.773 ppb
Surrogate Spike 75.000		Recovery =	91.70%
4) SA Octacosane(S)	8.11	141384110	84.899 ppb
Surrogate Spike 75.000		Recovery =	113.20%
Target Compounds			
1) HATM Diesel (C10-C24)	4.42	200511063	120.066 ppb
2) HBTM Motor Oil (C24-C40)	9.01	100437421	84.298 ppb
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200111\111143.D
Sample : BA06279W13 2/800





111143.D DOC0111.M Mon Jan 27 10:52:42 2020

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200129\129025.D Vial: 25
Acq On : 1-29-20 21:10:05 Operator: BT
Sample : BA06279W13 2/800 SG Inst : Apollo
Misc : water Multiplr: 2.50
IntFile : events.e
Quant Time: Jan 30 8:20 2020 Quant Results File: DOC0129.RES

Method : G:\APOLLO\DATA\200129\DOC0129.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Jan 30 08:01:08 2020
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
3) SA Ortho-Terphenyl(S)	6.20	123626271	70.076	ppb
Surrogate Spike 75.000	Recovery =		93.43%	
4) SA Octacosane(S)	8.11	112003513	68.168	ppb
Surrogate Spike 75.000	Recovery =		90.89%	
Target Compounds				
2) HBTM Motor Oil (C24-C40)	9.01	34032866	39.041	ppb
Target Compounds				
1) *HATM Diesel (C10-C24)*	*0.00*	*0*	*N.D.*	*ppb*

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200129\129025.D Vial: 25
Acq On : 1-29-20 21:10:05 Operator: BT
Sample : BA06279W13 2/800 SG Inst : Apollo
Misc : water Multiplr: 2.50
IntFile : events.e
Quant Time: Jan 30 8:26 2020 Quant Results File: DEC1120.RES

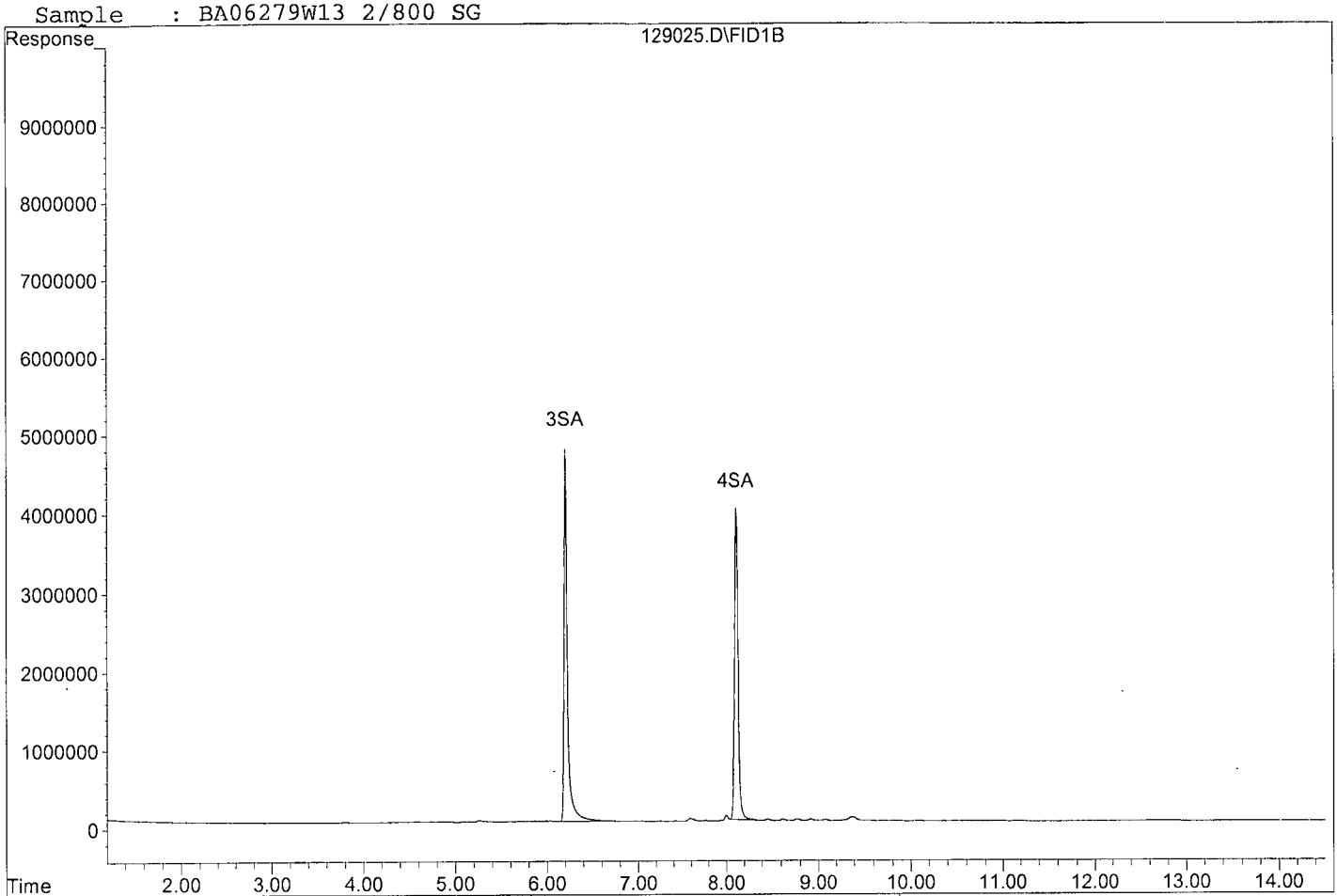
Method : G:\APOLLO\DATA\200129\DEC1120.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Jan 28 08:46:59 2020
Response via : Multiple Level Calibration

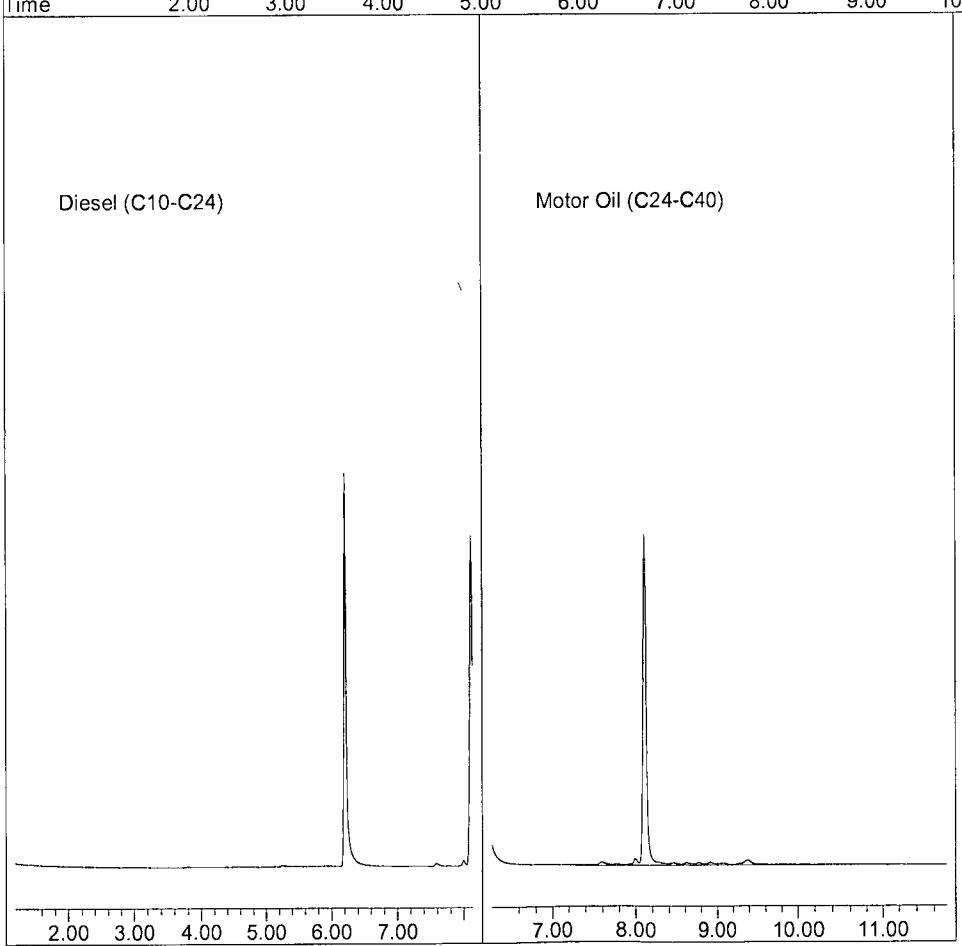
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) SC Decanoic Acid(S)	0.00	0	N.D. ppb
Surrogate Spike 60.000		Recovery =	0.00%
Target Compounds			
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200129\129025.D
Sample : BA06279W13 2/800 SG





129025.D DOC0129.M Thu Jan 30 08:24:43 2020

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200111\111144.D Vial: 44
Acq On : 1-25-20 18:43:30 Operator: BT
Sample : BA06281W12 2/800 Inst : Apollo
Misc : water Multiplr: 2.50
IntFile : events.e
Quant Time: Jan 27 9:56 2020 Quant Results File: DOC0111.RES

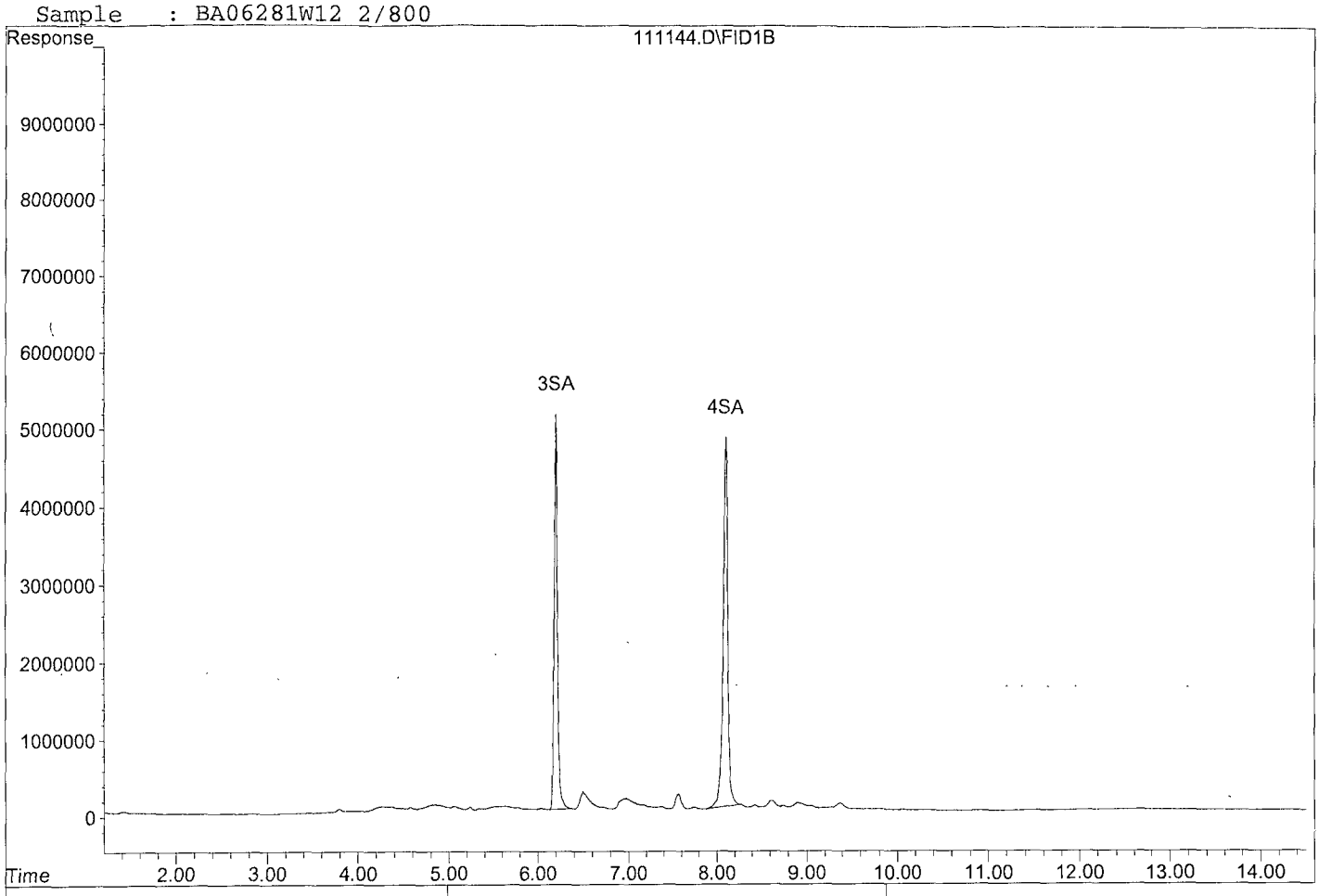
Method : G:\APOLLO\DATA\200111\DOC0111.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Mon Jan 13 07:59:04 2020
Response via : Multiple Level Calibration

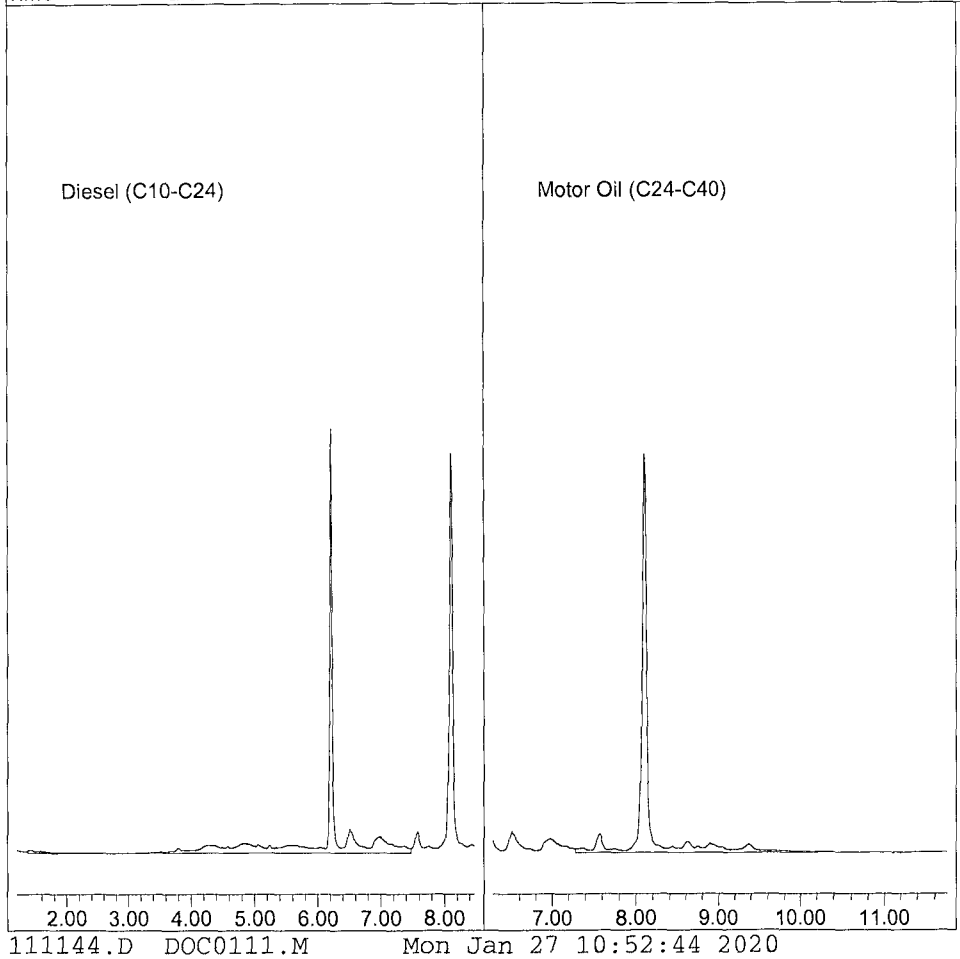
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SA Ortho-Terphenyl(S)	6.21	126775049	73.722 ppb
Surrogate Spike 75.000		Recovery =	98.30%
4) SA Octacosane(S)	8.10	174791465	104.959 ppb
Surrogate Spike 75.000		Recovery =	139.95%
Target Compounds			
1) HATM Diesel (C10-C24)	4.42	199843469	119.666 ppb
2) HBTM Motor Oil (C24-C40)	9.01	89480574	75.101 ppb
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200111\111144.D
Sample : BA06281W12 2/800





111144.D DOC0111.M Mon Jan 27 10:52:44 2020 Page 2

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200129\129026.D Vial: 26
Acq On : 1-29-20 21:29:01 Operator: BT
Sample : BA06281W12 2/800 SG Inst : Apollo
Misc : water Multiplr: 2.50
IntFile : events.e
Quant Time: Jan 30 8:20 2020 Quant Results File: DOC0129.RES

Method : G:\APOLLO\DATA\200129\DOC0129.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Jan 30 08:01:08 2020
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
3) SA Ortho-Terphenyl(S)	6.21	119714250	67.937	ppb
Surrogate Spike 75.000		Recovery =	90.58%	
4) SA Octacosane(S)	8.11	104401767	63.659	ppb
Surrogate Spike 75.000		Recovery =	84.88%	
Target Compounds				
2) HBTM Motor Oil (C24-C40)	9.01	34774673	39.624	ppb
Target Compounds				
1) HATM Diesel (C10-C24)	0.00	0	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200129\129026.D Vial: 26
Acq On : 1-29-20 21:29:01 Operator: BT
Sample : BA06281W12 2/800 SG Inst : Apollo
Misc : water Multiplr: 2.50
IntFile : events.e
Quant Time: Jan 30 8:26 2020 Quant Results File: DEC1120.RES

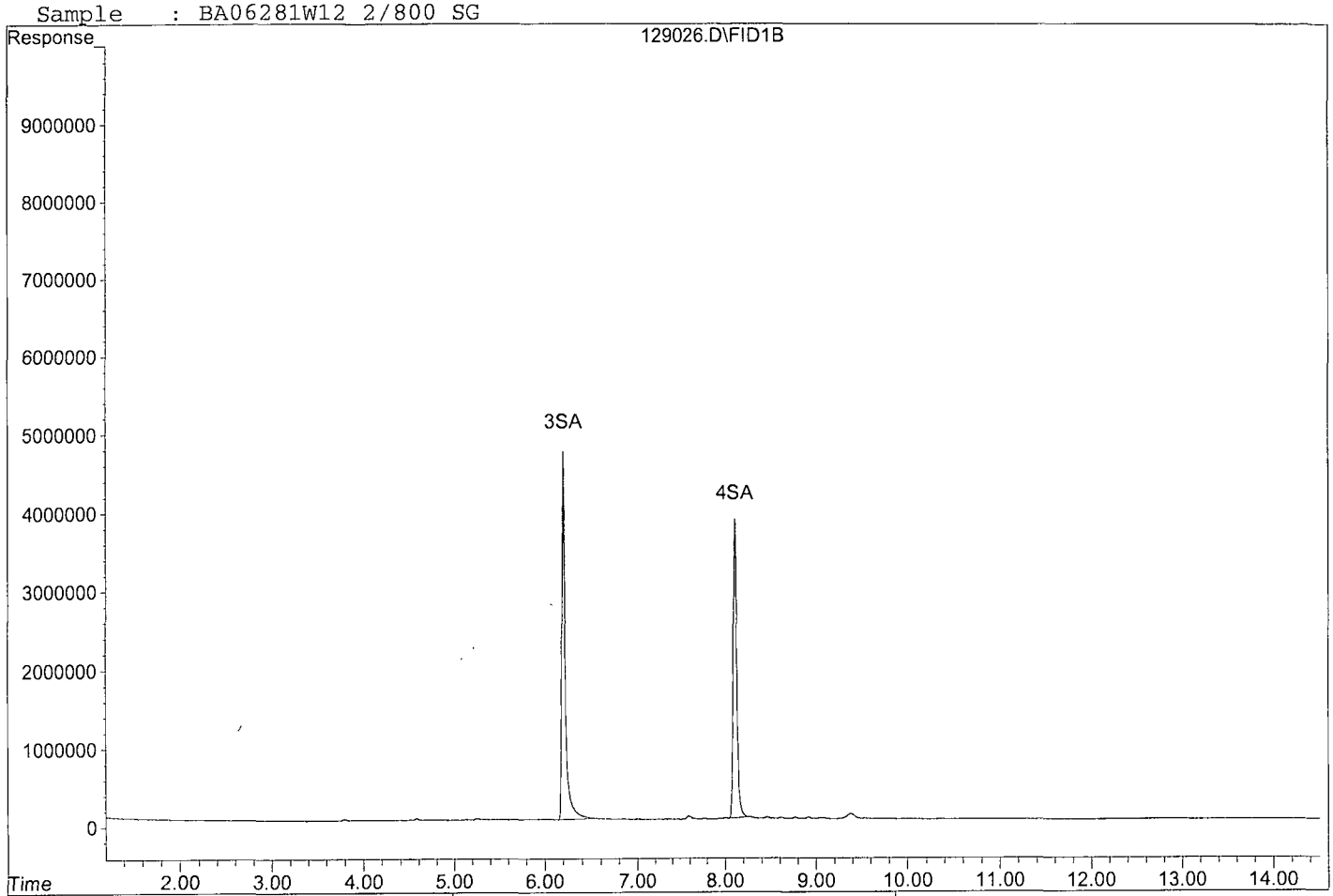
Method : G:\APOLLO\DATA\200129\DEC1120.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Jan 28 08:46:59 2020
Response via : Multiple Level Calibration

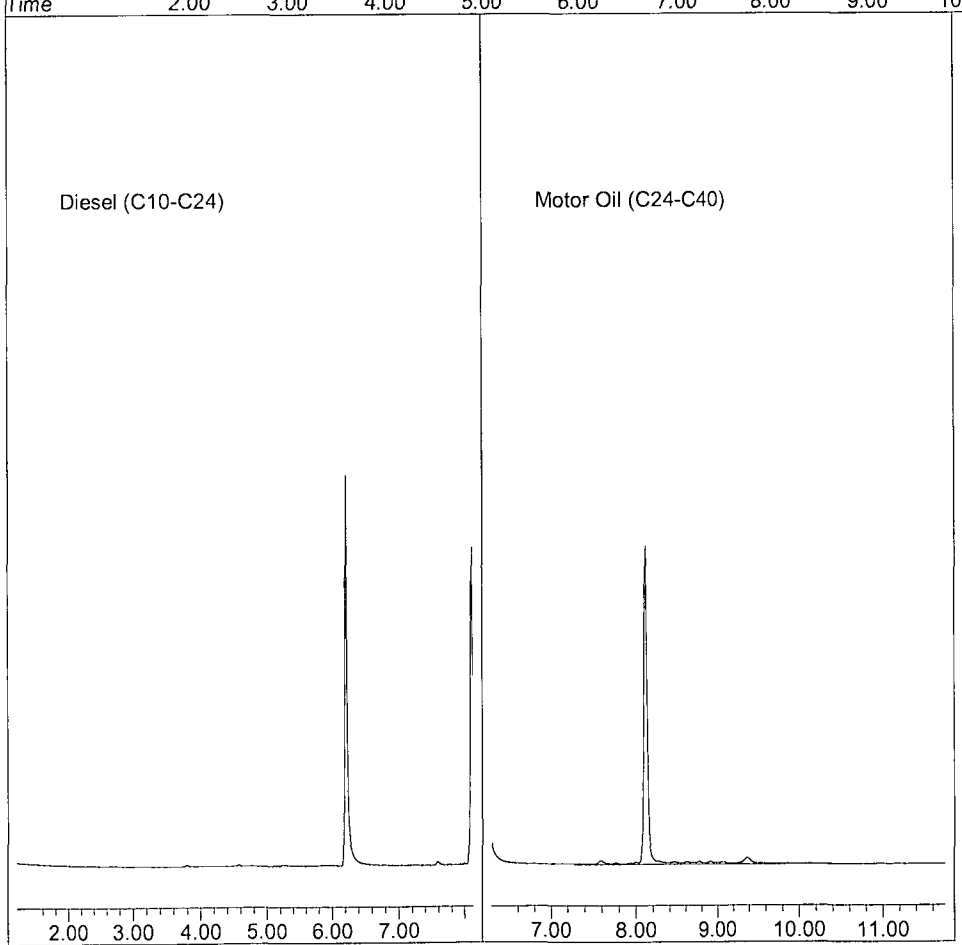
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
1) SC Decanoic Acid(S)	0.00	0	N.D.	ppb
Surrogate Spike 60.000	Recovery	=	0.00%	
Target Compounds				
Target Compounds				

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200129\129026.D
Sample : BA06281W12 2/800 SG





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200111\111145.D Vial: 45
Acq On : 1-25-20 19:03:11 Operator: BT
Sample : BA06282W11 2/800 Inst : Apollo
Misc : water Multiplr: 2.50
IntFile : events.e
Quant Time: Jan 27 9:56 2020 Quant Results File: DOC0111.RES

Method : G:\APOLLO\DATA\200111\DOC0111.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Mon Jan 13 07:59:04 2020
Response via : Multiple Level Calibration

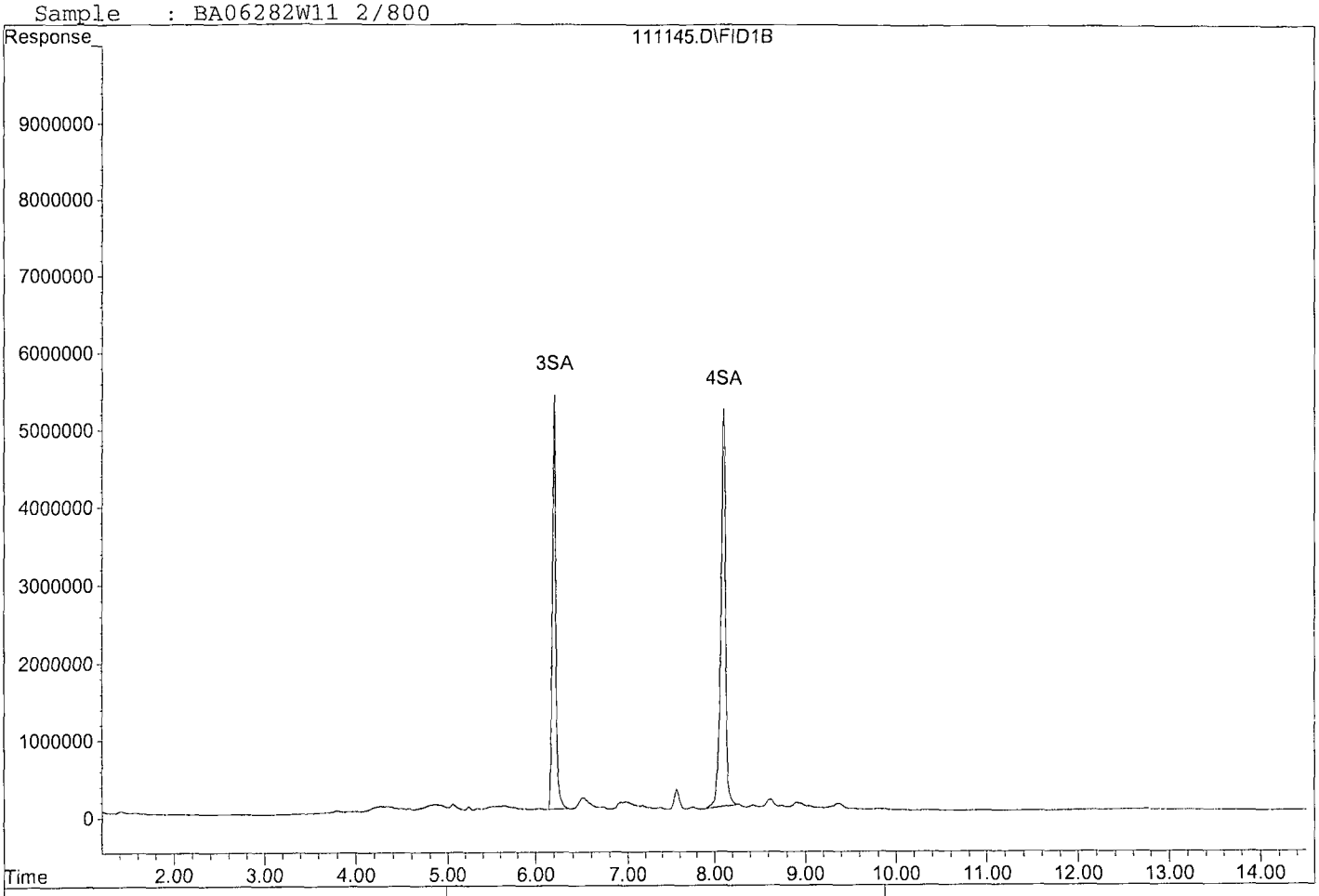
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

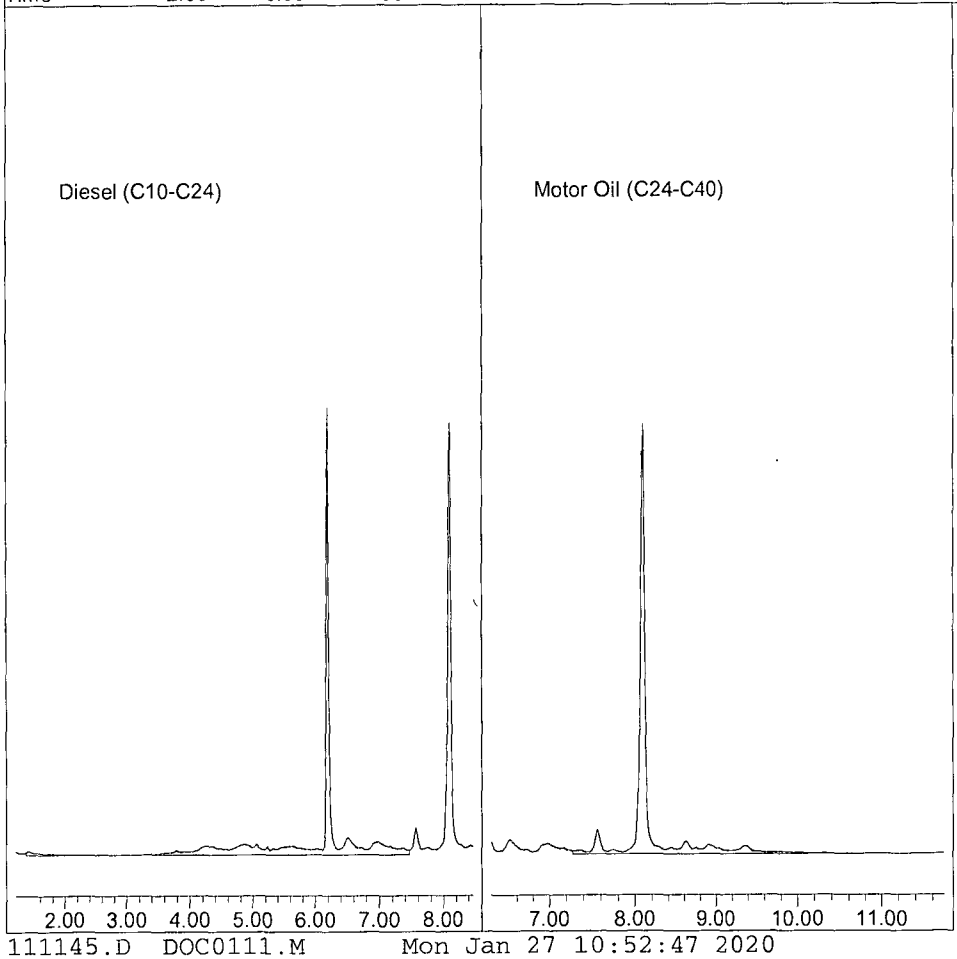
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SA Ortho-Terphenyl(S)	6.21	137682467	80.065 ppb
Surrogate Spike 75.000	Recovery =		106.75%
4) SA Octacosane(S)	8.11	188091361	112.946 ppb
Surrogate Spike 75.000	Recovery =		150.59%
Target Compounds			
1) HATM Diesel (C10-C24)	4.42	203924440	122.110 ppb
2) HBTM Motor Oil (C24-C40)	9.01	95304040	79.989 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200111\111145.D
Sample : BA06282W11 2/800





111145.D DOC0111.M Mon Jan 27 10:52:47 2020

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200129\129027.D Vial: 27
Acq On : 1-29-20 21:48:38 Operator: BT
Sample : BA06282W11 2/800 SG Inst : Apollo
Misc : water Multiplr: 2.50
IntFile : events.e
Quant Time: Jan 30 8:20 2020 Quant Results File: DOC0129.RES

Method : G:\APOLLO\DATA\200129\DOC0129.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Jan 30 08:01:08 2020
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
3) SA Ortho-Terphenyl(S)	6.21	126319277	71.548	ppb
Surrogate Spike 75.000		Recovery =	95.40%	
4) SA Octacosane(S)	8.11	115345302	70.150	ppb
Surrogate Spike 75.000		Recovery =	93.53%	
Target Compounds				
2) HBTM Motor Oil (C24-C40)	9.01	42298979	45.543	ppb
Target Compounds				
1) HATM Diesel (C10-C24)	0.00	0	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200129\129027.D Vial: 27
Acq On : 1-29-20 21:48:38 Operator: BT
Sample : BA06282W11 2/800 SG Inst : Apollo
Misc : water Multiplr: 2.50
IntFile : events.e
Quant Time: Jan 30 8:26 2020 Quant Results File: DEC1120.RES

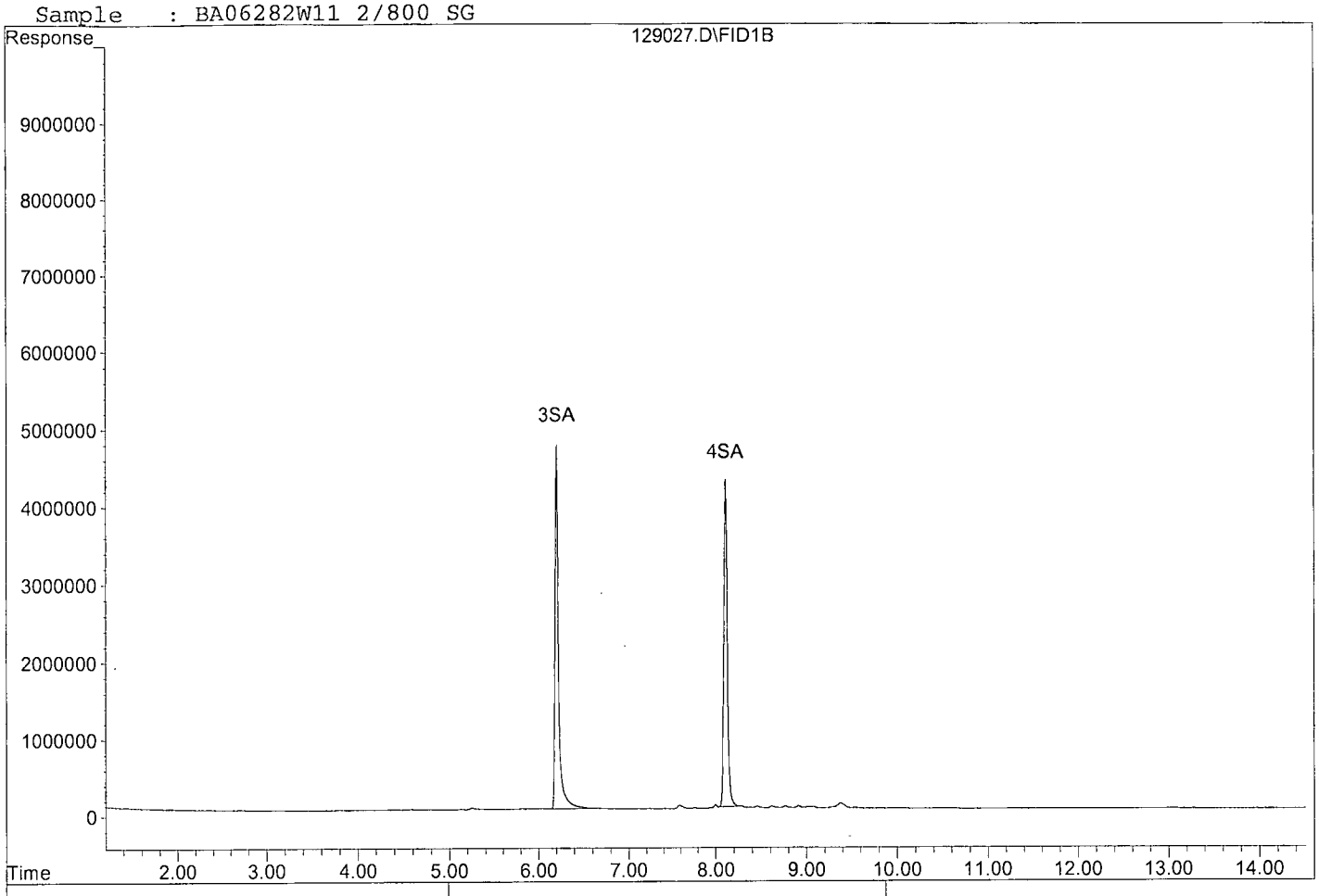
Method : G:\APOLLO\DATA\200129\DEC1120.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Jan 28 08:46:59 2020
Response via : Multiple Level Calibration

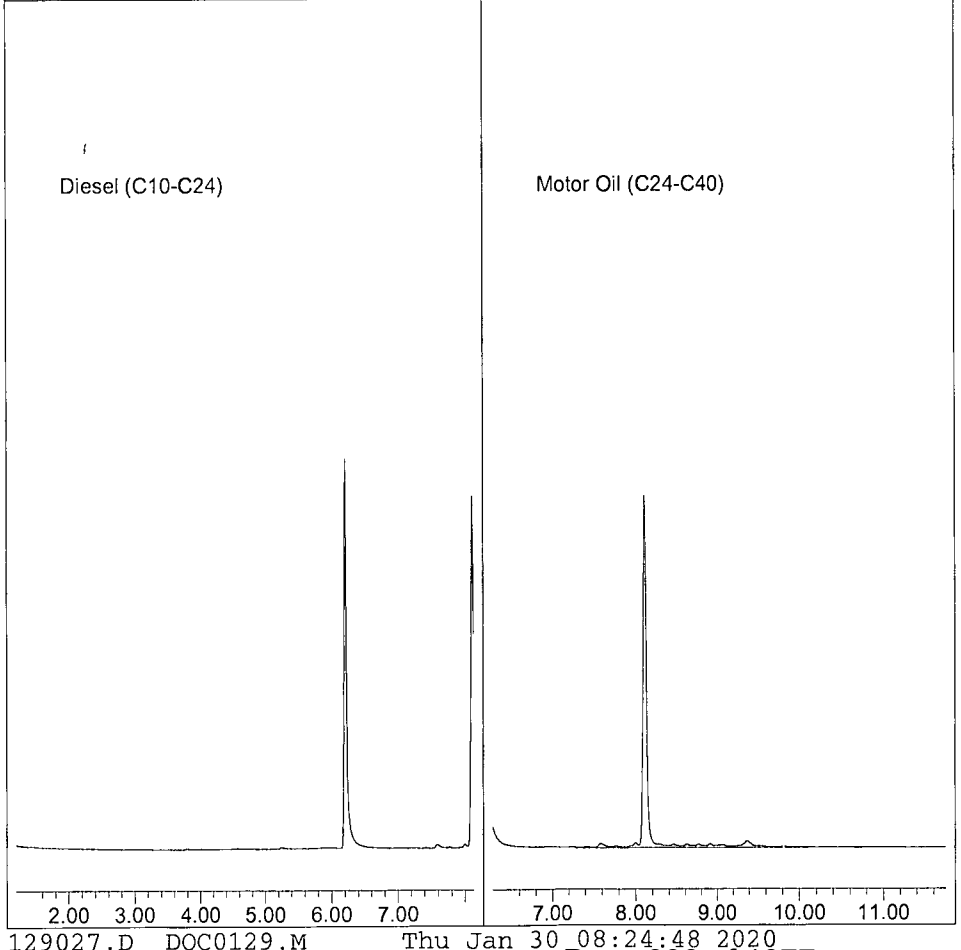
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
1) SC Decanoic Acid(S)	0.00	0	N.D.	ppb
Surrogate Spike 60.000	Recovery	=	0.00%	
Target Compounds				
Target Compounds				

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200129\129027.D
Sample : BA06282W11 2/800 SG





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200111\111146.D Vial: 46
Acq On : 1-25-20 19:22:49 Operator: BT
Sample : BA06284W18 2/800 Inst : Apollo
Misc : water Multiplr: 2.50
IntFile : events.e
Quant Time: Jan 27 9:56 2020 Quant Results File: DOC0111.RES

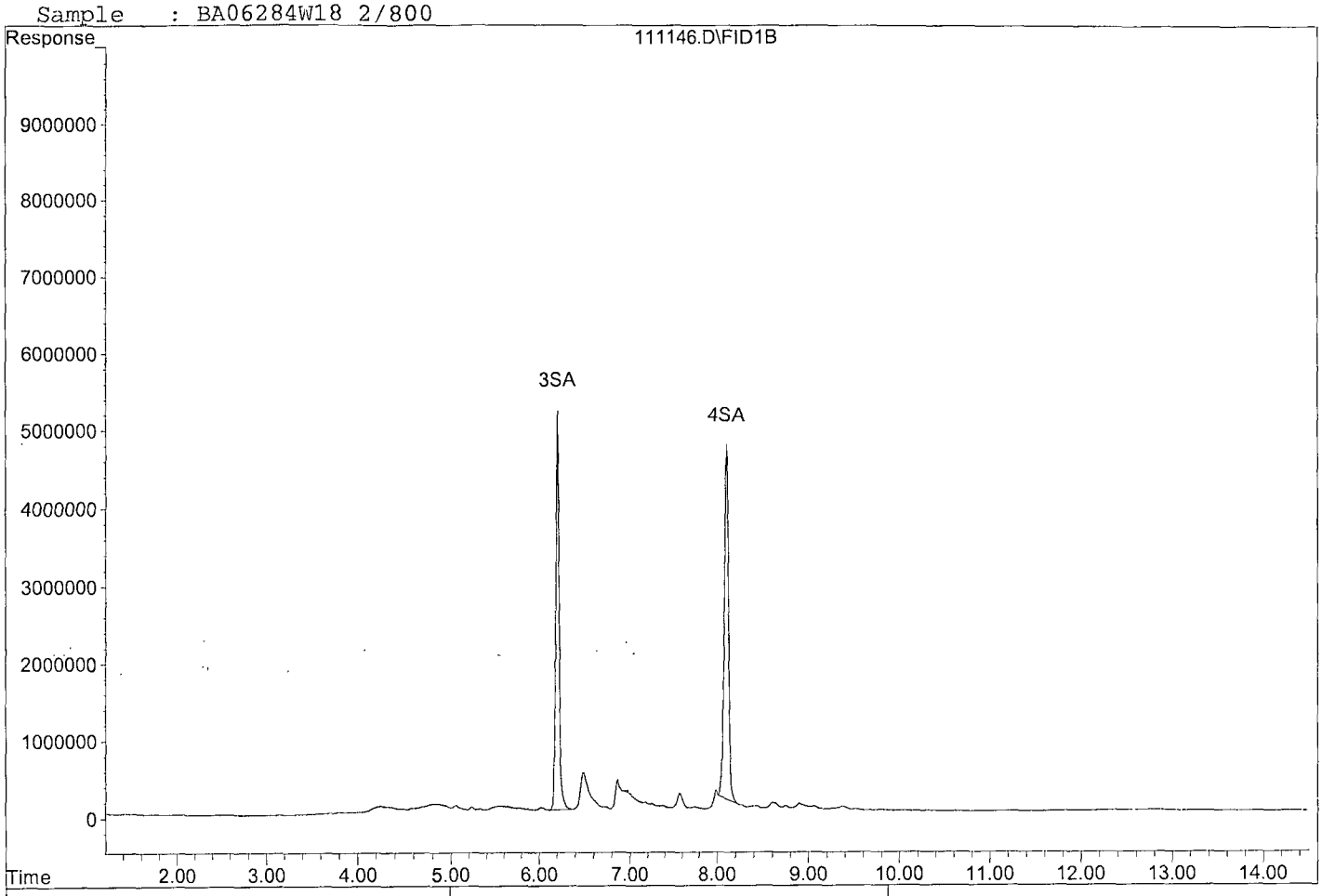
Method : G:\APOLLO\DATA\200111\DOC0111.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Mon Jan 13 07:59:04 2020
Response via : Multiple Level Calibration

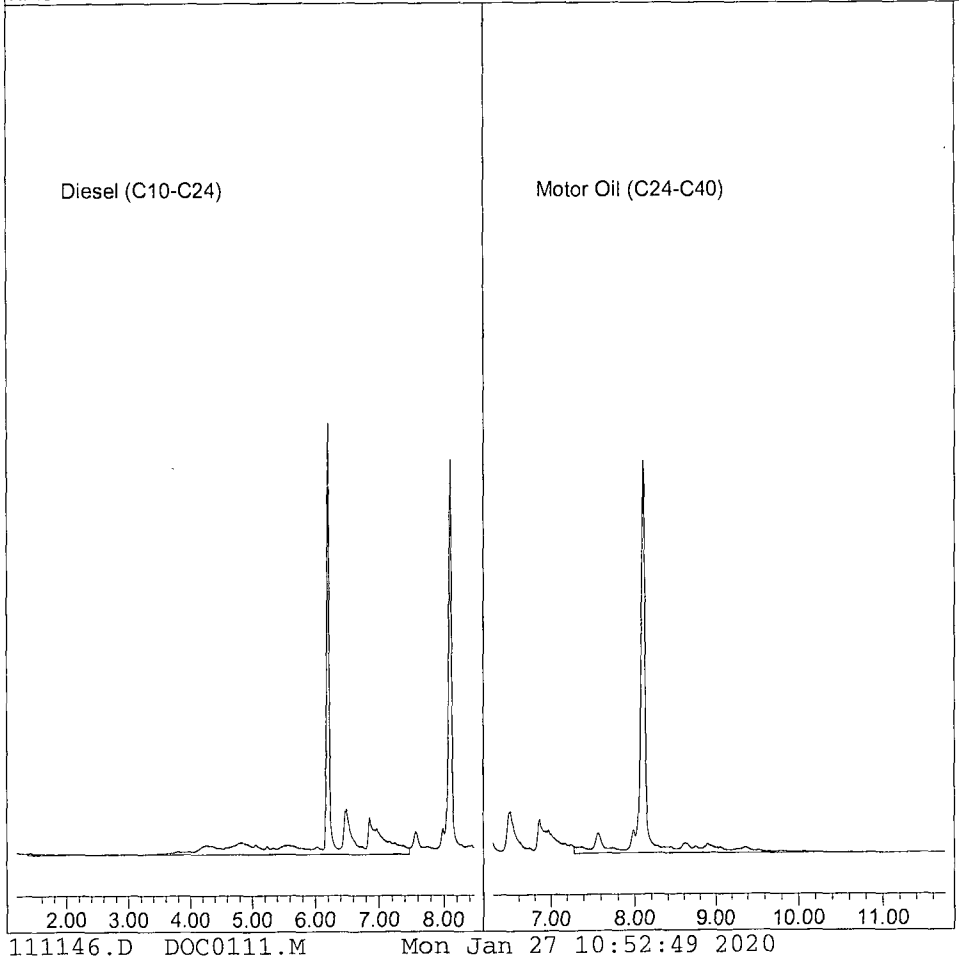
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SA Ortho-Terphenyl(S)	6.21	131482486	76.459 ppb
Surrogate Spike 75.000	Recovery =		101.95%
4) SA Octacosane(S)	8.11	143533617	86.189 ppb
Surrogate Spike 75.000	Recovery =		114.92%
Target Compounds			
1) HATM Diesel (C10-C24)	4.42	260256916	155.842 ppb
2) HBTM Motor Oil (C24-C40)	9.01	112881717	94.742 ppb
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200111\111146.D
Sample : BA06284W18 2/800





111146.D DOC0111.M Mon Jan 27 10:52:49 2020

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200129\129028.D Vial: 28
Acq On : 1-29-20 22:07:28 Operator: BT
Sample : BA06284W18 2/800 SG Inst : Apollo
Misc : water Multiplr: 2.50
IntFile : events.e
Quant Time: Jan 30 8:19 2020 Quant Results File: DOC0129.RES

Method : G:\APOLLO\DATA\200129\DOC0129.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Jan 30 08:01:08 2020
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
3) SA Ortho-Terphenyl(S)	6.21	130153184	73.644	ppb
Surrogate Spike 75.000	Recovery =		98.19%	
4) SA Octacosane(S)	8.11	117394464	71.365	ppb
Surrogate Spike 75.000	Recovery =		95.15%	
Target Compounds				
2) HBTM Motor Oil (C24-C40)	9.01	41653698	45.035	ppb
Target Compounds				
1) HATM Diesel (C10-C24)	0.00	0	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200129\129028.D Vial: 28
Acq On : 1-29-20 22:07:28 Operator: BT
Sample : BA06284W18 2/800 SG Inst : Apollo
Misc : water Multiplr: 2.50
IntFile : events.e
Quant Time: Jan 30 8:26 2020 Quant Results File: DEC1120.RES

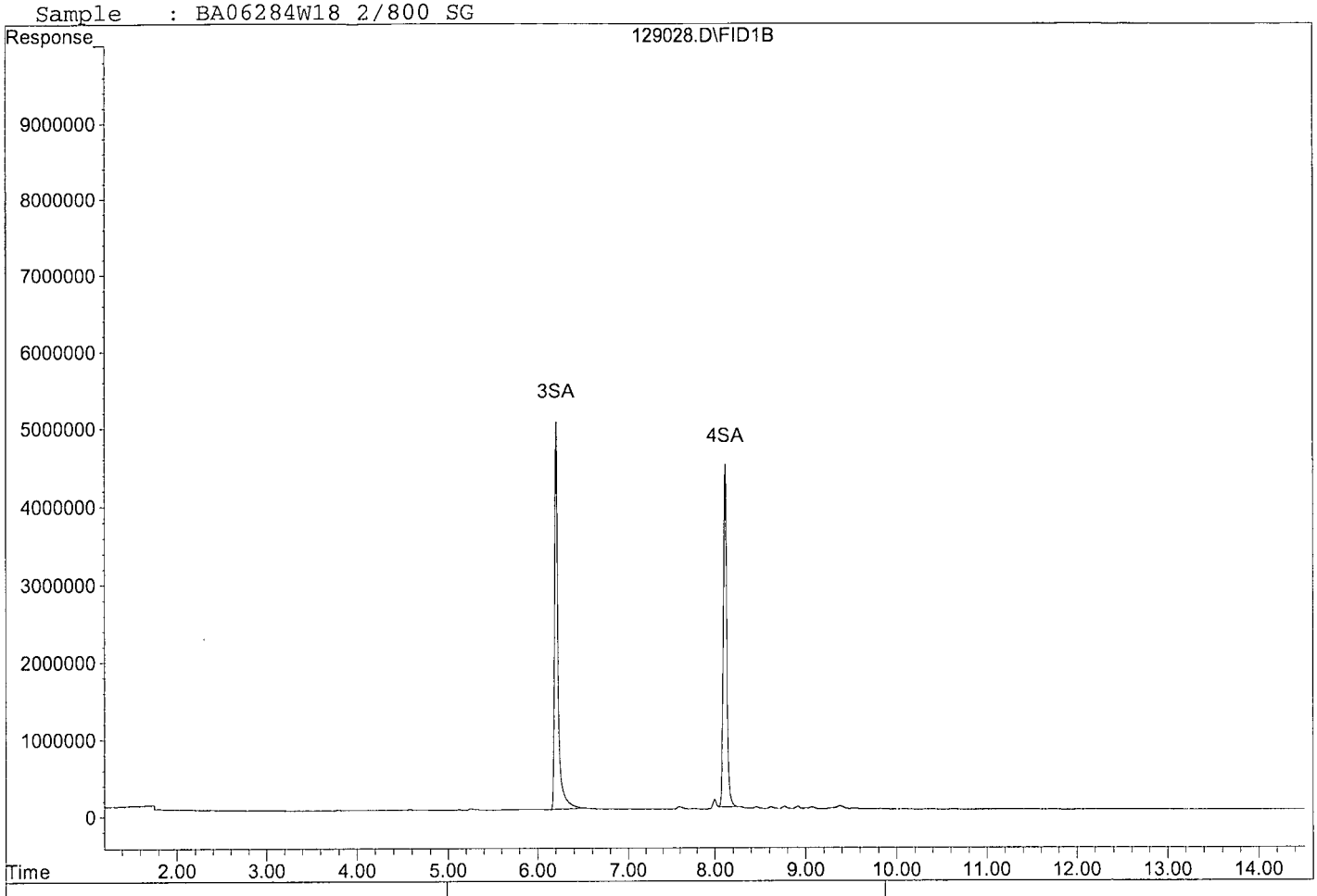
Method : G:\APOLLO\DATA\200129\DEC1120.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Jan 28 08:46:59 2020
Response via : Multiple Level Calibration

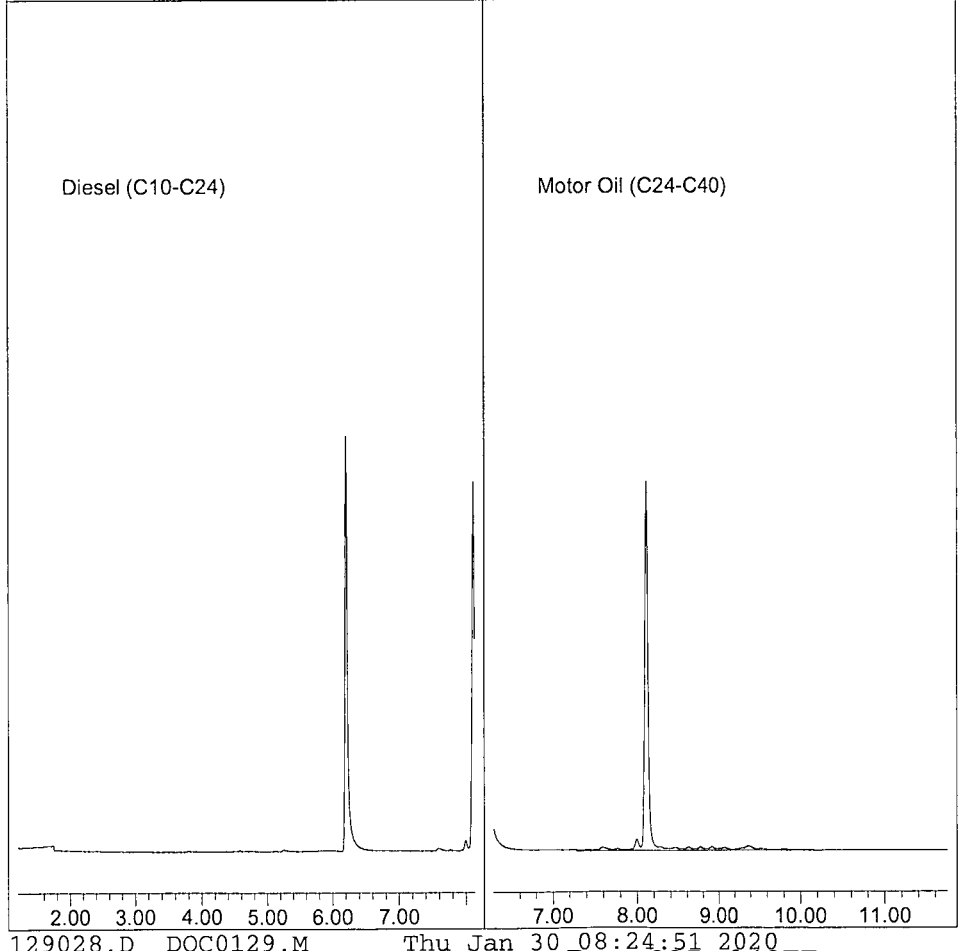
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) SC Decanoic Acid(S)	0.00	0	N.D. ppb
Surrogate Spike 60.000	Recovery	=	0.00%
Target Compounds			
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200129\129028.D
Sample : BA06284W18 2/800 SG





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200111\111135.D Vial: 35
Acq On : 1-25-20 15:47:57 Operator: BT
Sample : 200123A BLK 2/800 Inst : Apollo
Misc : water Multiplr: 2.50
IntFile : events.e
Quant Time: Jan 27 10:46 2020 Quant Results File: DOC0111.RES

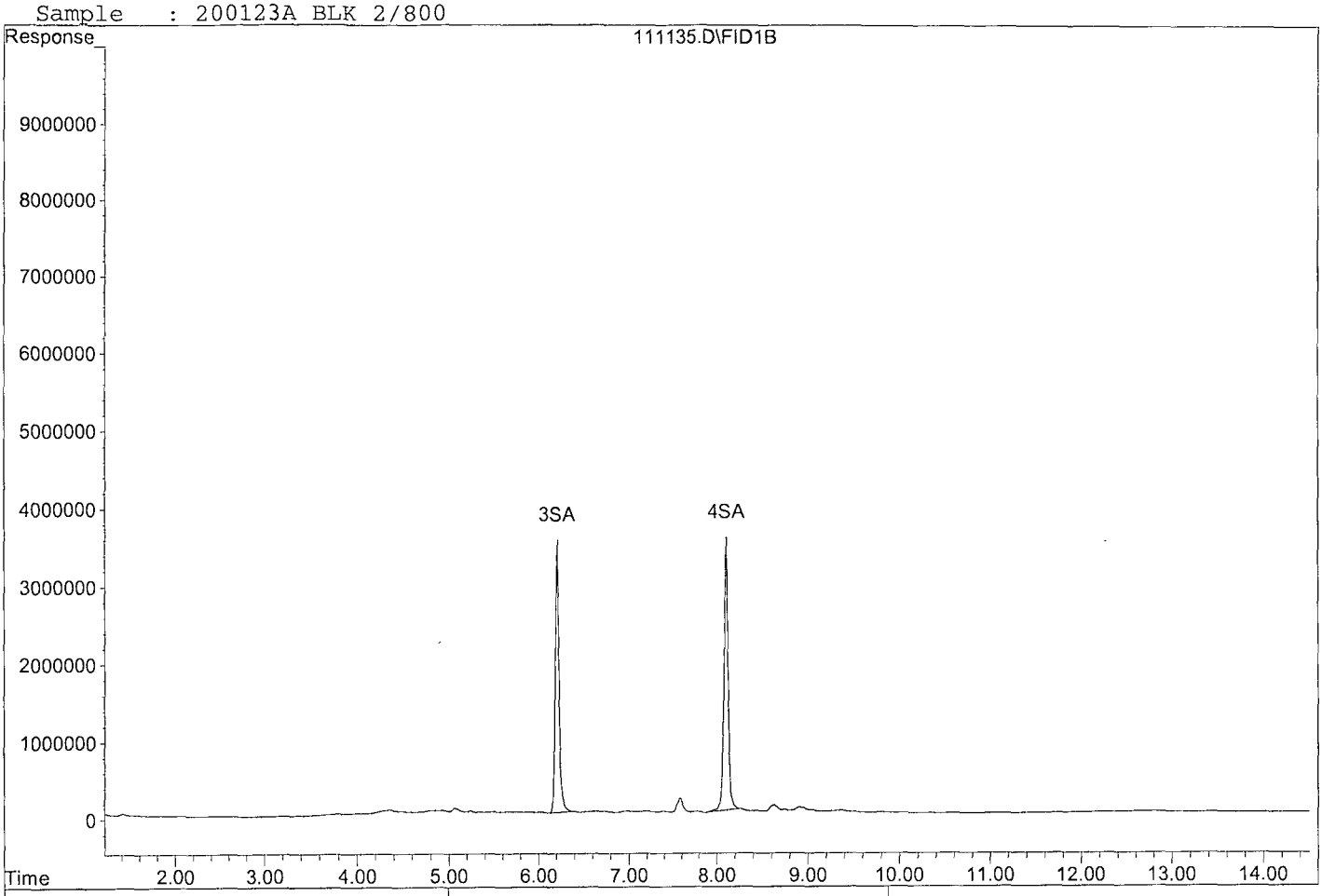
Method : G:\APOLLO\DATA\200111\DOC0111.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Mon Jan 13 07:59:04 2020
Response via : Multiple Level Calibration

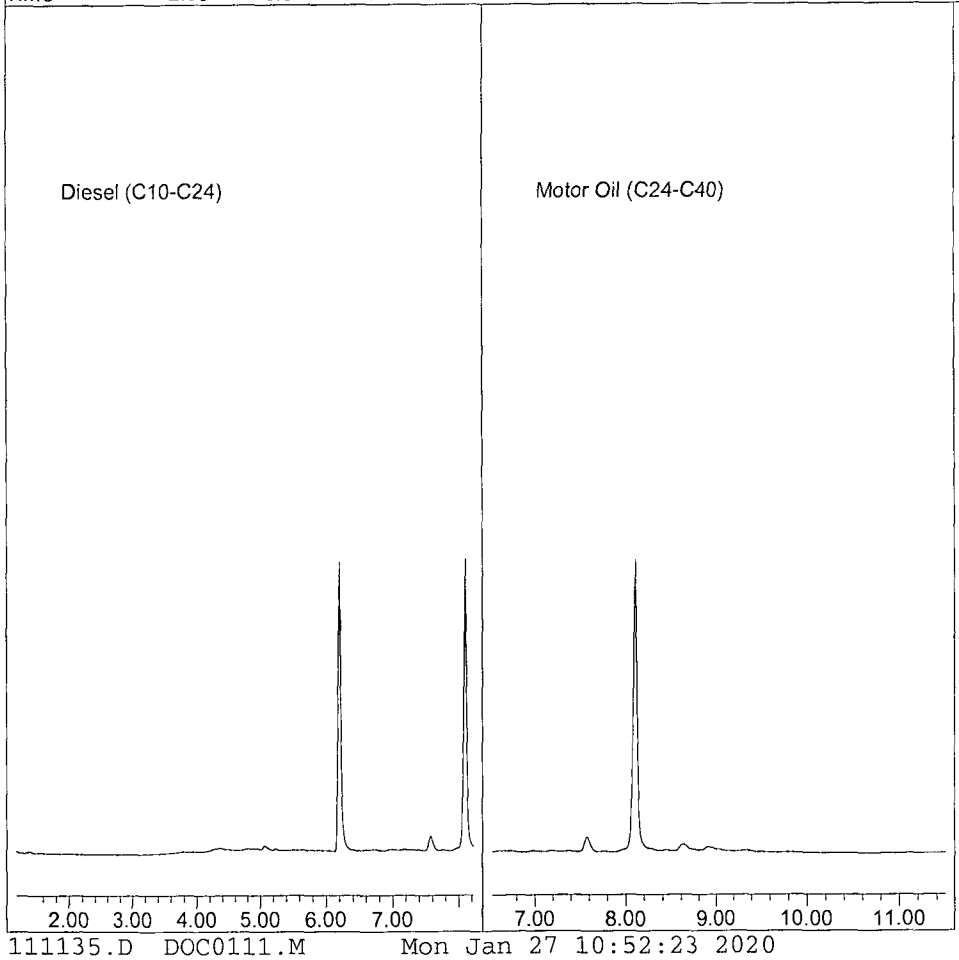
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
3) SA Ortho-Terphenyl(S)	6.21	104150661	60.565	ppb
Surrogate Spike 75.000	Recovery =		80.75%	
4) SA Octacosane(S)	8.11	108812364	65.340	ppb
Surrogate Spike 75.000	Recovery =		87.12%	
Target Compounds				
Target Compounds				
1) HATM Diesel (C10-C24)	0.00	0	N.D.	ppb
2) HBTM Motor Oil (C24-C40)	0.00	0	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200111\111135.D
Sample : 200123A BLK 2/800





111135.D DOC0111.M Mon Jan 27 10:52:23 2020

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200129\129017.D Vial: 17
Acq On : 1-29-20 18:33:54 Operator: BT
Sample : 200123A BLK 2/800 SG Inst : Apollo
Misc : water Multiplr: 2.50
IntFile : events.e
Quant Time: Jan 30 8:22 2020 Quant Results File: DOC0129.RES

Method : G:\APOLLO\DATA\200129\DOC0129.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Jan 30 08:01:08 2020
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
3) SA Ortho-Terphenyl(S)	6.20	112321796	63.896	ppb
Surrogate Spike 75.000	Recovery =		85.19%	
4) SA Octacosane(S)	8.11	100156955	61.142	ppb
Surrogate Spike 75.000	Recovery =		81.52%	
Target Compounds				
Target Compounds				
1) HATM Diesel (C10-C24)	0.00	0	N.D.	ppb
2) HBTM Motor Oil (C24-C40)	0.00	0	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200129\129017.D Vial: 17
Acq On : 1-29-20 18:33:54 Operator: BT
Sample : 200123A BLK 2/800 SG Inst : Apollo
Misc : water Multiplr: 2.50
IntFile : events.e
Quant Time: Jan 30 8:30 2020 Quant Results File: DEC1120.RES

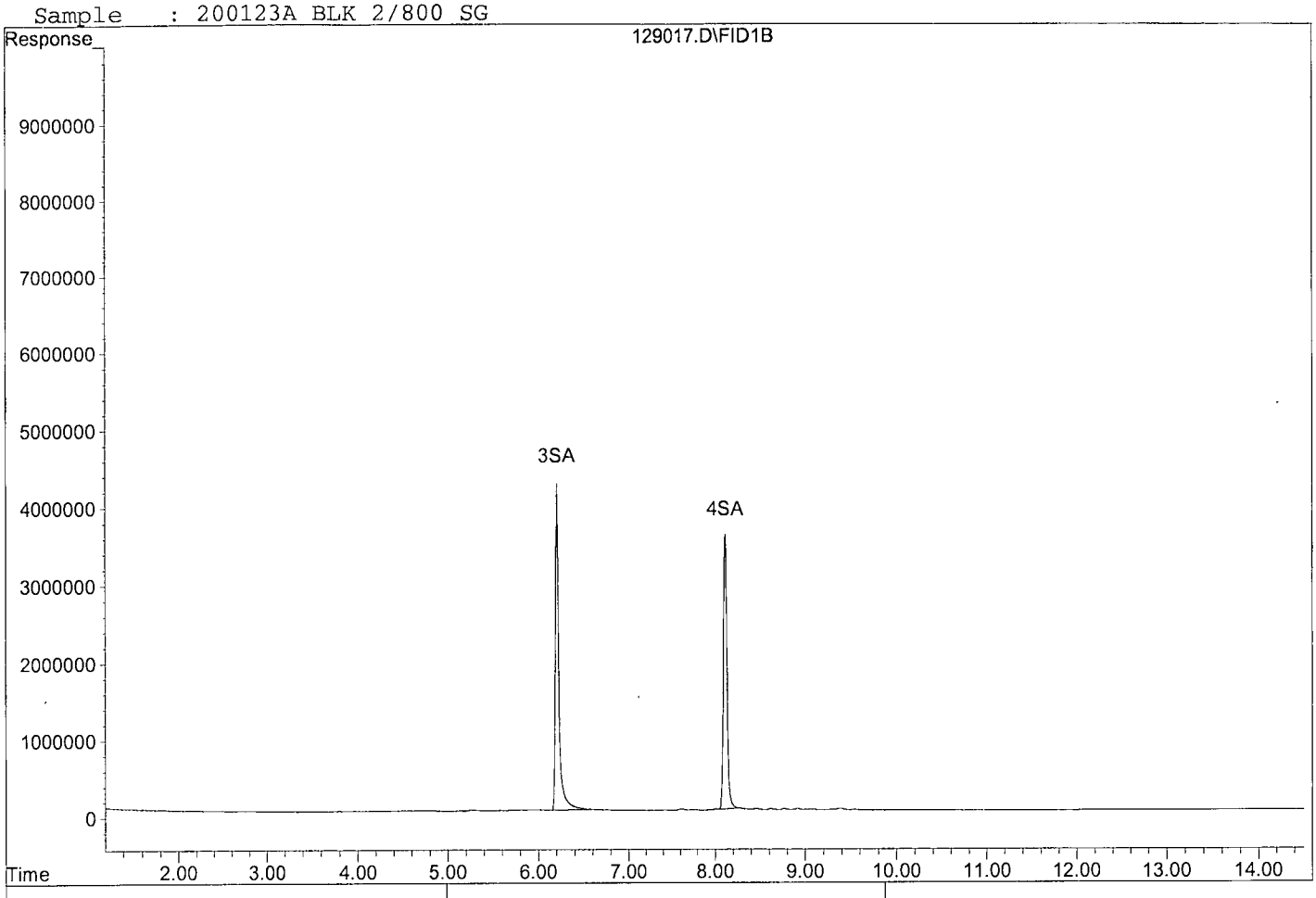
Method : G:\APOLLO\DATA\200129\DEC1120.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Jan 28 08:46:59 2020
Response via : Multiple Level Calibration

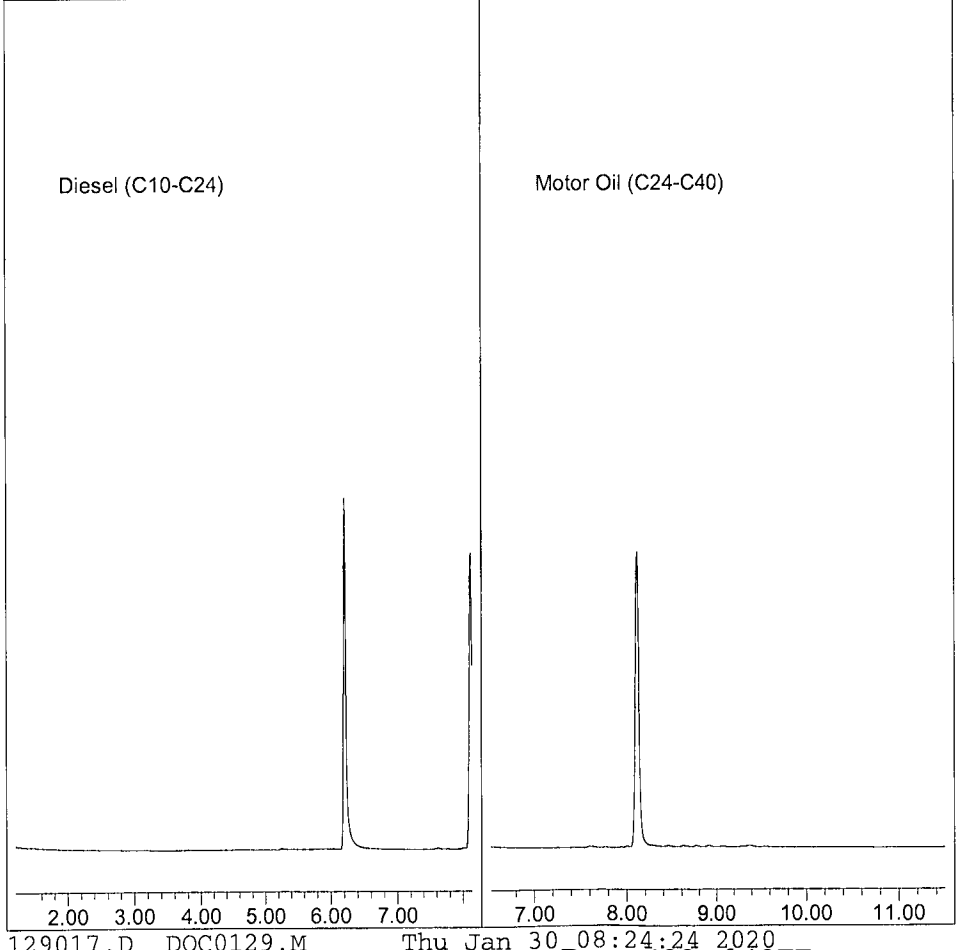
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
1) SC Decanoic Acid(S)	0.00	0	N.D.	ppb d
Surrogate Spike 60.000	Recovery	=	0.00%	
Target Compounds				
Target Compounds				

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200129\129017.D
Sample : 200123A BLK 2/800 SG





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200111\111136.D Vial: 36
Acq On : 1-25-20 16:07:44 Operator: BT
Sample : 200123A LCS-1 2/800 Inst : Apollo
Misc : water Multiplr: 2.50
IntFile : events.e
Quant Time: Jan 27 9:56 2020 Quant Results File: DOC0111.RES

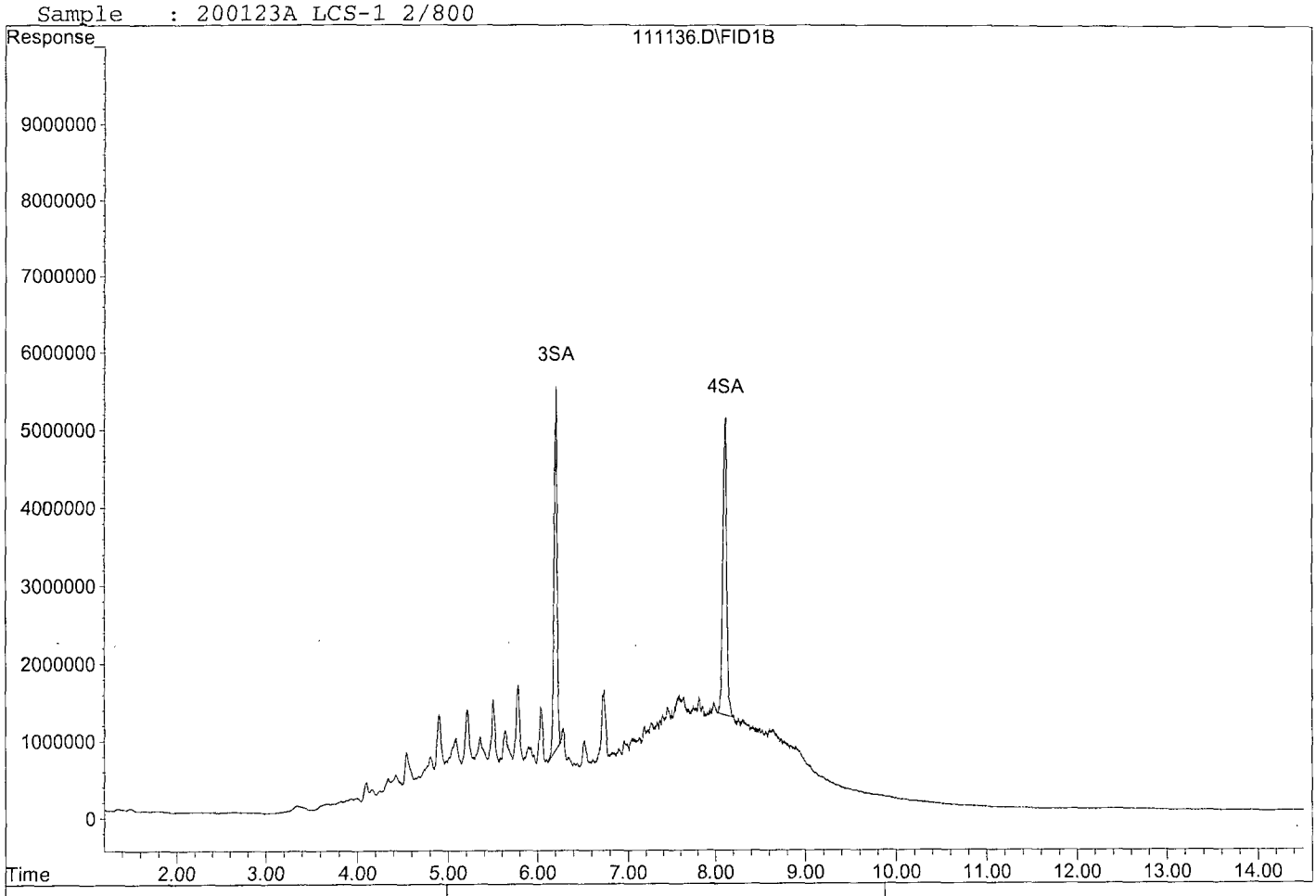
Method : G:\APOLLO\DATA\200111\DOC0111.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Mon Jan 13 07:59:04 2020
Response via : Multiple Level Calibration

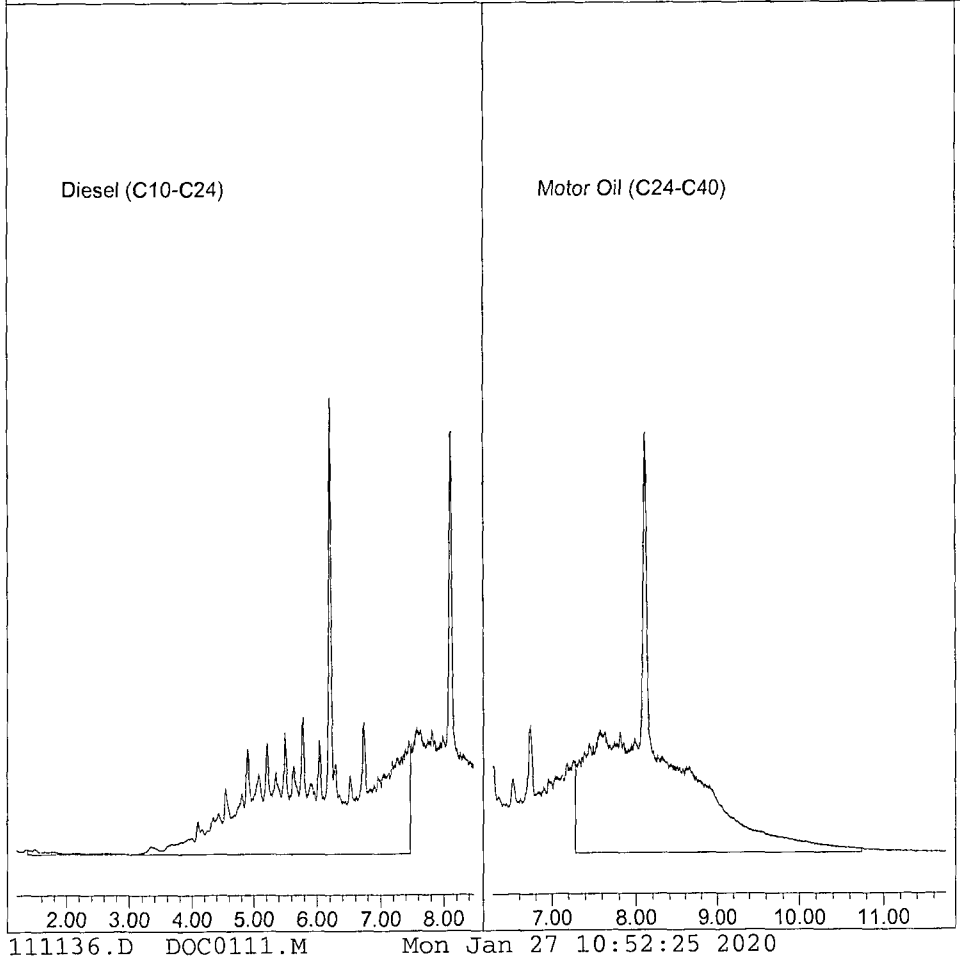
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SA Ortho-Terphenyl(S)	6.21	110670120	64.357 ppb
Surrogate Spike 75.000		Recovery =	85.81%
4) SA Octacosane(S)	8.11	112543057	67.580 ppb
Surrogate Spike 75.000		Recovery =	90.11%
Target Compounds			
1) HATM Diesel (C10-C24)	4.42	1666957204	998.173 ppb
2) HBTM Motor Oil (C24-C40)	9.01	1357831628	1139.634 ppb
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200111\111136.D
Sample : 200123A LCS-1 2/800





111136.D DOC0111.M Mon Jan 27 10:52:25 2020

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200129\129018.D Vial: 18
Acq On : 1-29-20 18:52:53 Operator: BT
Sample : 200123A LCS-1 2/800 SG Inst : Apollo
Misc : water Multiplr: 2.50
IntFile : events.e
Quant Time: Jan 30 8:18 2020 Quant Results File: DOC0129.RES

Method : G:\APOLLO\DATA\200129\DOC0129.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Jan 30 08:01:08 2020
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SA Ortho-Terphenyl(S)	6.21	119798089	67.983 ppb
Surrogate Spike 75.000		Recovery =	90.64%
4) SA Octacosane(S)	8.12	111421899	67.823 ppb
Surrogate Spike 75.000		Recovery =	90.43%
Target Compounds			
1) HATM Diesel (C10-C24)	4.42	1549141208	960.911 ppb
2) HBTM Motor Oil (C24-C40)	9.01	1468985995	1167.772 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200129\129018.D Vial: 18
Acq On : 1-29-20 18:52:53 Operator: BT
Sample : 200123A LCS-1 2/800 SG Inst : Apollo
Misc : water Multiplr: 2.50
IntFile : events.e
Quant Time: Jan 30 8:30 2020 Quant Results File: DEC1120.RES

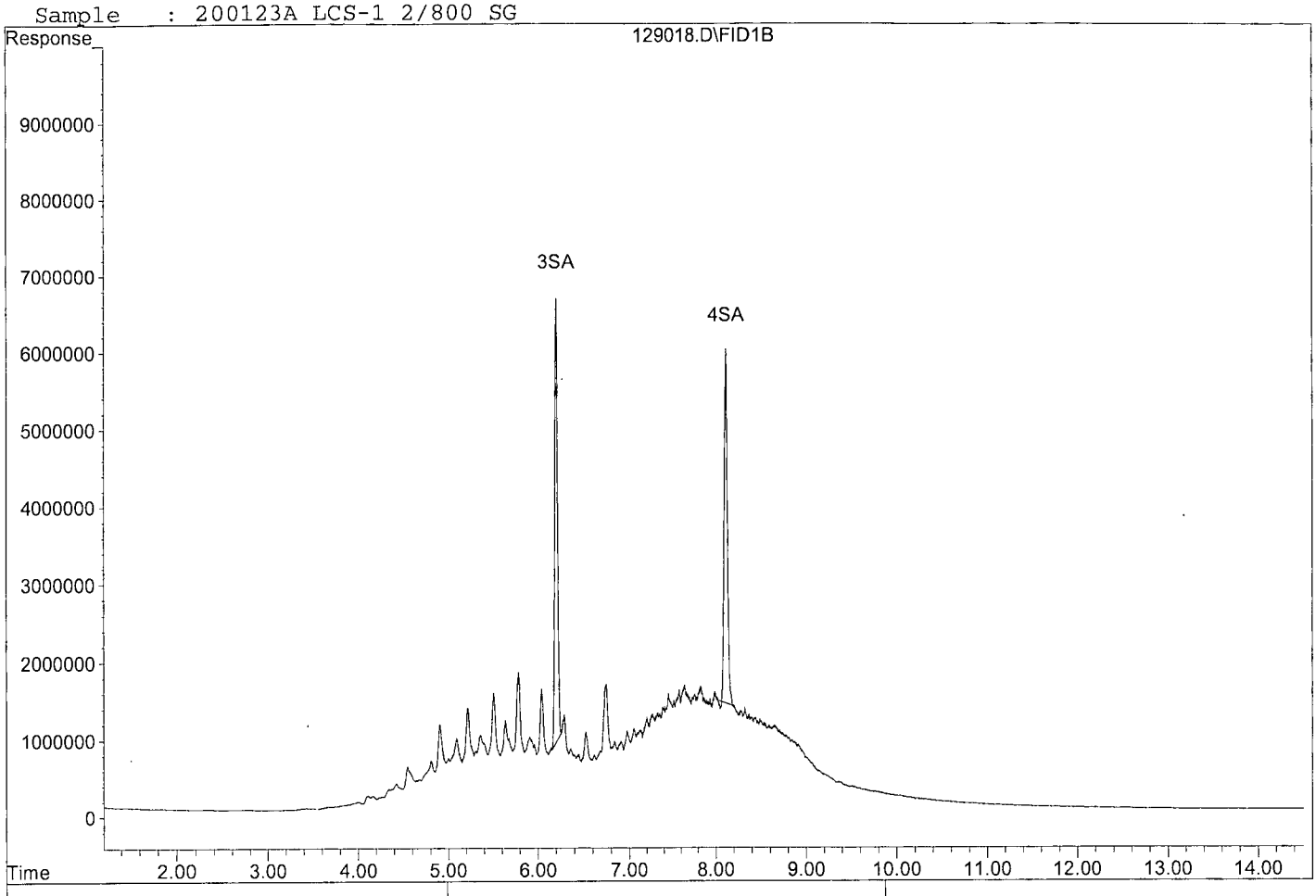
Method : G:\APOLLO\DATA\200129\DEC1120.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Jan 28 08:46:59 2020
Response via : Multiple Level Calibration

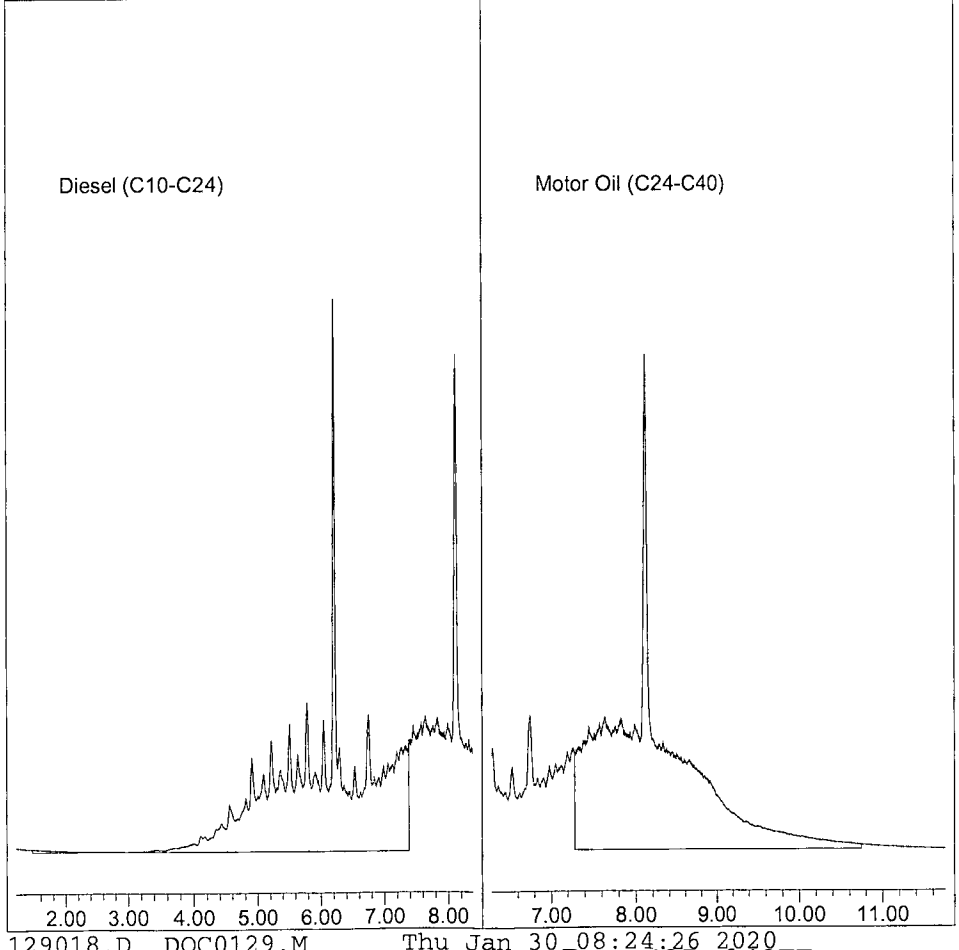
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc	Units	
System Monitoring Compounds					
1) SC Decanoic Acid(S)	0.00	0	N.D.	ppb	d
Surrogate Spike 60.000	Recovery	=	0.00%		
Target Compounds					
Target Compounds					

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200129\129018.D
Sample : 200123A LCS-1 2/800 SG





129018.D DOC0129.M Thu Jan 30 08:24:26 2020

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200111\111137.D Vial: 37
Acq On : 1-25-20 16:27:30 Operator: BT
Sample : BA06272W27 MS-1 2/800 Inst : Apollo
Misc : water Multiplr: 2.50
IntFile : events.e
Quant Time: Jan 27 10:47 2020 Quant Results File: DOC0111.RES

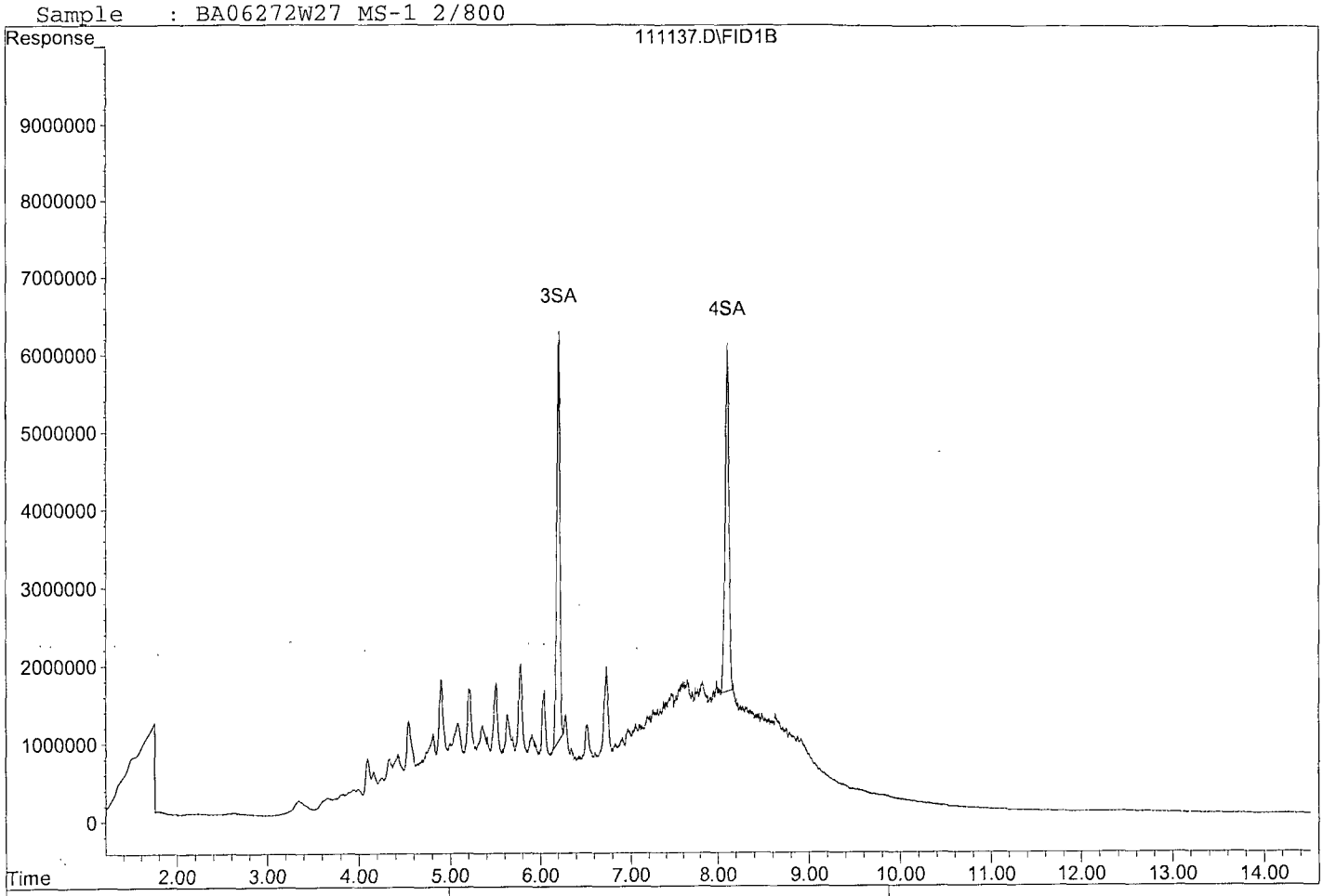
Method : G:\APOLLO\DATA\200111\DOC0111.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Mon Jan 13 07:59:04 2020
Response via : Multiple Level Calibration

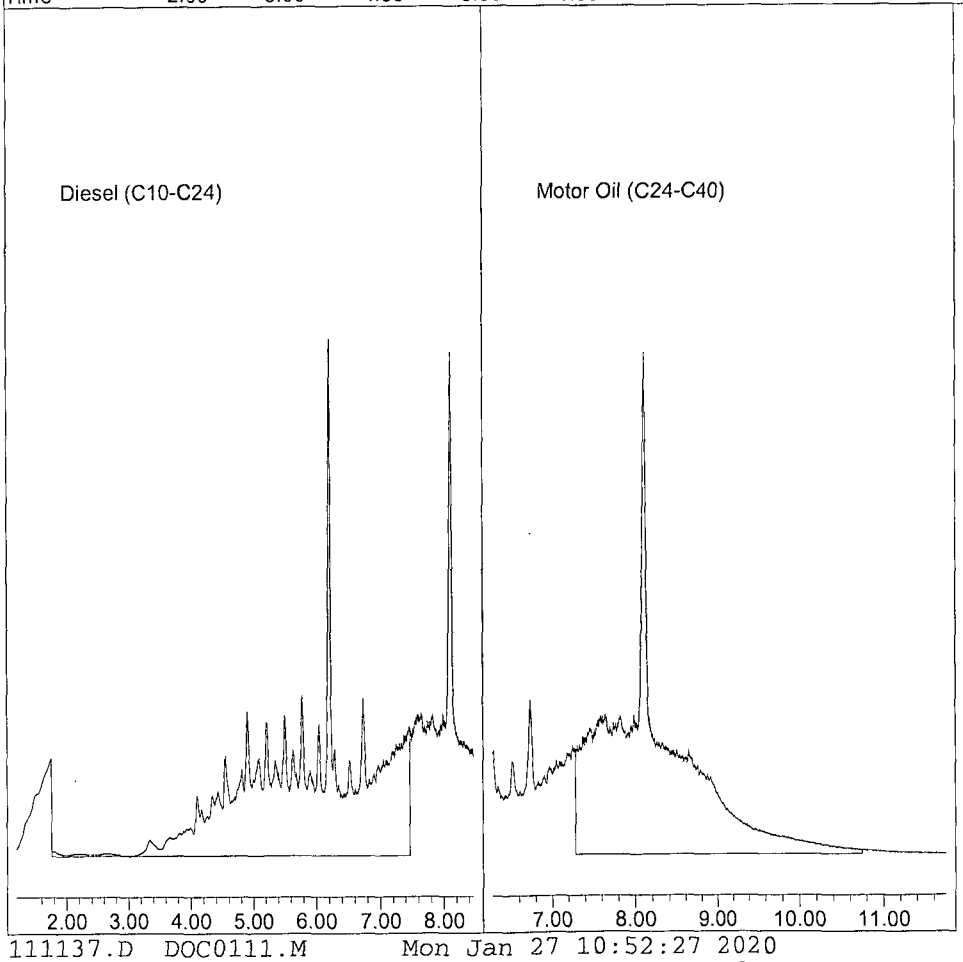
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SA Ortho-Terphenyl(S)	6.21	127543324	74.169 ppb
Surrogate Spike 75.000	Recovery =		98.89%
4) SA Octacosane(S)	8.11	126990876	76.256 ppb
Surrogate Spike 75.000	Recovery =		101.67%
Target Compounds			
1) HATM Diesel (C10-C24)	4.42	2072340901	1240.916 ppb
2) HBTM Motor Oil (C24-C40)	9.01	1596585187	1340.021 ppb
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200111\111137.D
Sample : BA06272W27 MS-1 2/800



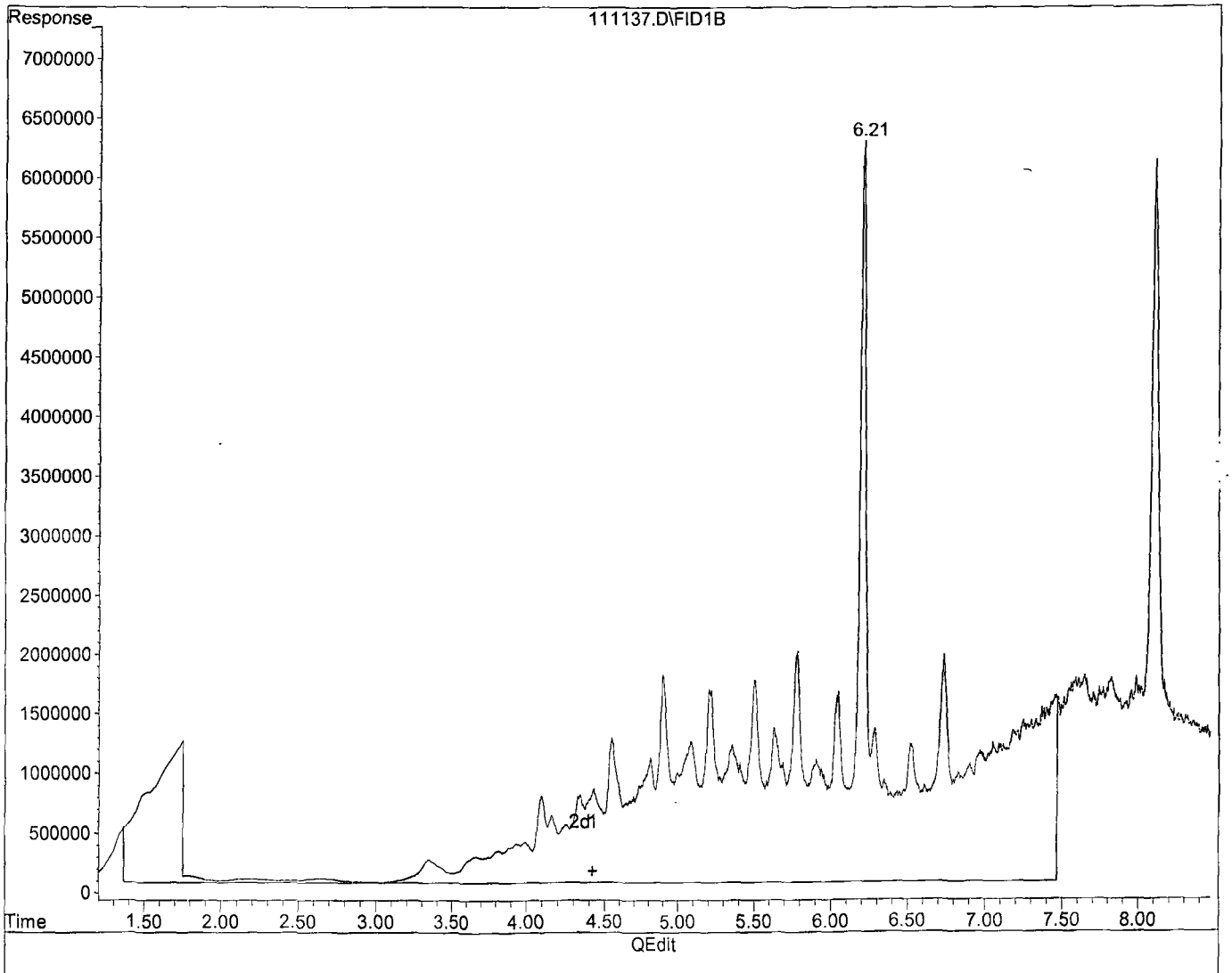


111137.D DOC0111.M Mon Jan 27 10:52:27 2020

Quantitation Report

Data File : G:\APOLLO\DATA\200111\111137.D Vial: 37
Acq On : 1-25-20 16:27:30 Operator: BT
Sample : BA06272W27 MS-1 2/800 Inst : Apollo
Misc : water Multiplr: 2.50
IntFile : events.e
Quant Time: Jan 27 9:56 2020 Quant Results File: DOC0111.RES

Method : G:\APOLLO\DATA\200111\DOC0111.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Mon Jan 13 07:59:04 2020
Response via : Multiple Level Calibration



(1) Diesel (C10-C24) (HATM)

4.42min 1358.303ppb m

response 2268379025

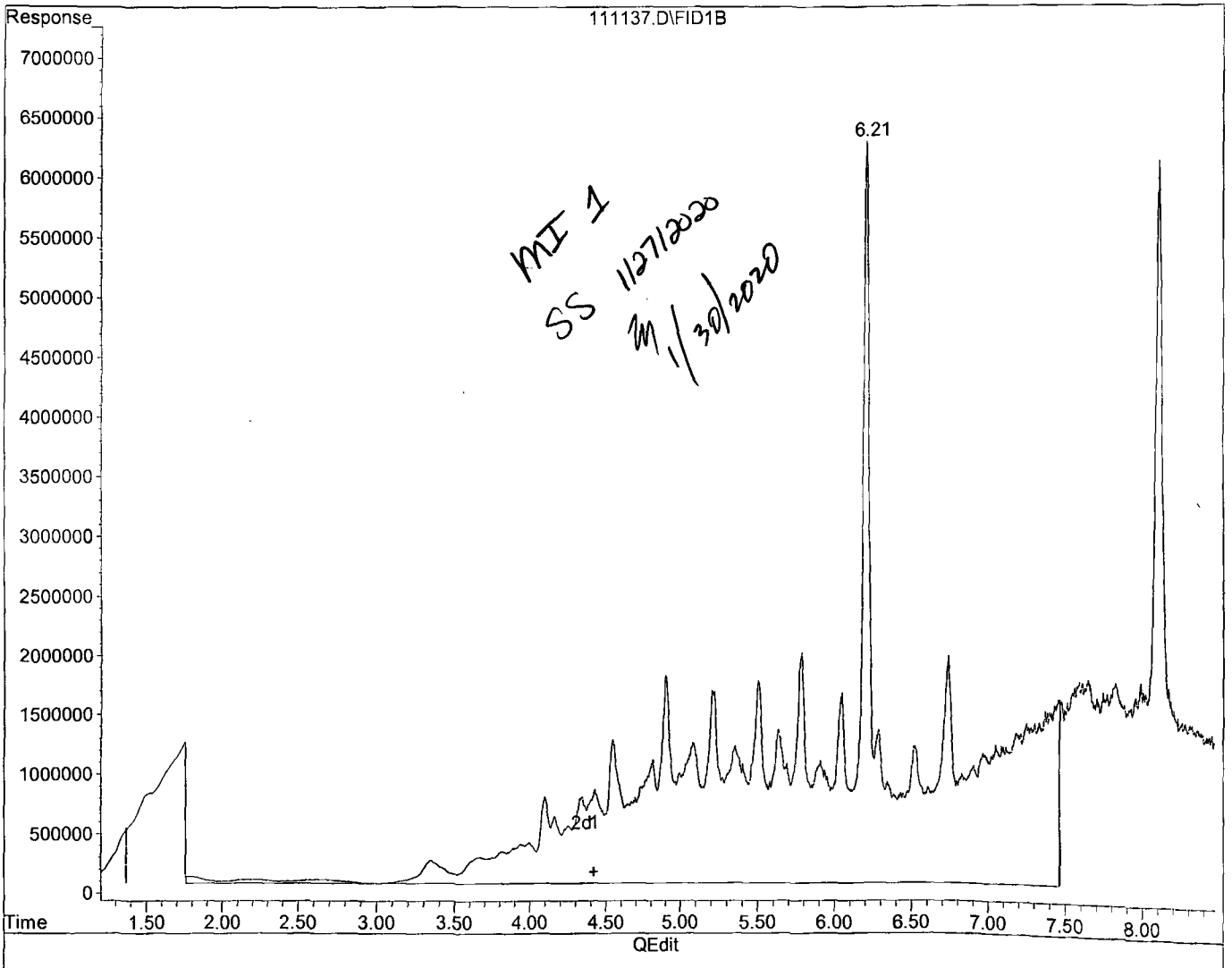
(+) = Expected Retention Time

111137.D DOC0111.M Mon Jan 27 10:47:05 2020

Quantitation Report

Data File : G:\APOLLO\DATA\200111\111137.D Vial: 37
Acq On : 1-25-20 16:27:30 Operator: BT
Sample : BA06272W27 MS-1 2/800 Inst : Apollo
Misc : water Multiplr: 2.50
IntFile : events.e
Quant Time: Jan 27 9:56 2020 Quant Results File: DOC0111.RES

Method : G:\APOLLO\DATA\200111\DOC0111.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Mon Jan 13 07:59:04 2020
Response via : Multiple Level Calibration



(1) Diesel (C10-C24) (HATM)

4.42min 1240.916ppb m

response 2072340901

(+) = Expected Retention Time
111137.D DOC0111.M Mon Jan 27 10:47:18 2020

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200129\129019.D Vial: 19
Acq On : 1-29-20 19:12:31 Operator: BT
Sample : BA06272W27 MS-1 2/800 SG Inst : Apollo
Misc : water Multiplr: 2.50
IntFile : events.e
Quant Time: Jan 30 8:18 2020 Quant Results File: DOC0129.RES

Method : G:\APOLLO\DATA\200129\DOC0129.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Jan 30 08:01:08 2020
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SA Ortho-Terphenyl(S)	6.21	125050072	70.854 ppb
Surrogate Spike 75.000	Recovery =		94.47%
4) SA Octacosane(S)	8.12	108294246	65.968 ppb
Surrogate Spike 75.000	Recovery =		87.96%
Target Compounds			
1) HATM Diesel (C10-C24)	4.42	1617830300	1003.376 ppb
2) HBTM Motor Oil (C24-C40)	9.01	1546753308	1228.944 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200129\129019.D Vial: 19
Acq On : 1-29-20 19:12:31 Operator: BT
Sample : BA06272W27 MS-1 2/800 SG Inst : Apollo
Misc : water Multiplr: 2.50
IntFile : events.e
Quant Time: Jan 30 8:29 2020 Quant Results File: DEC1120.RES

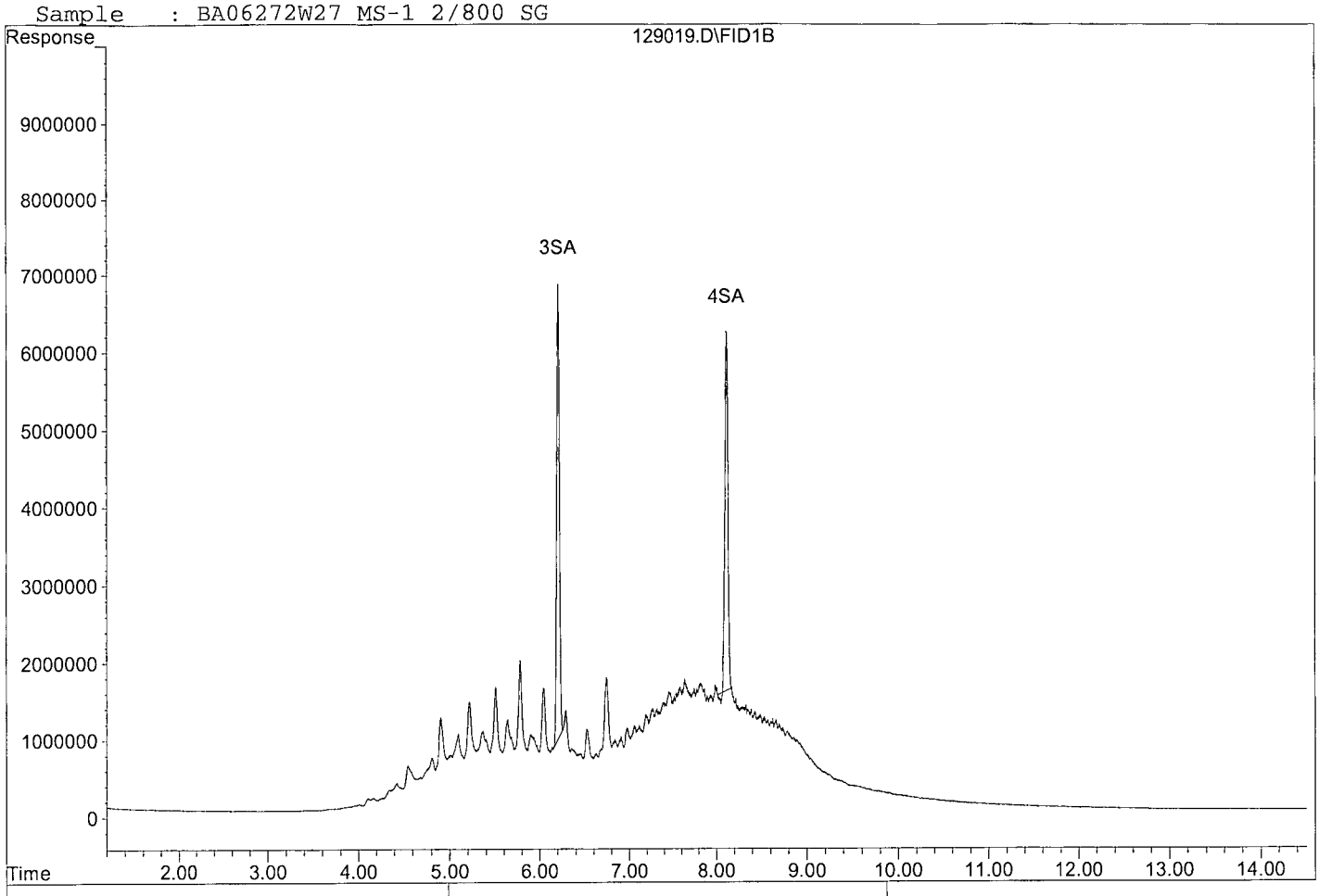
Method : G:\APOLLO\DATA\200129\DEC1120.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Jan 28 08:46:59 2020
Response via : Multiple Level Calibration

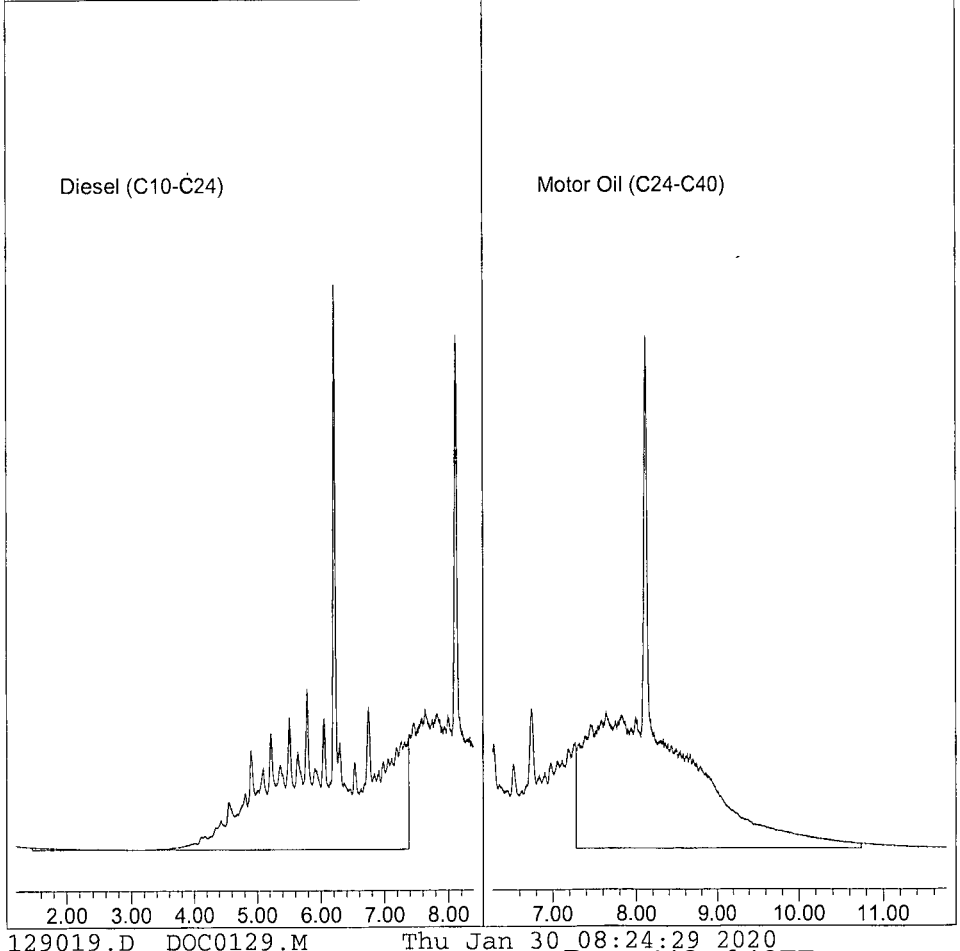
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
1) SC Decanoic Acid(S)	0.00	0	N.D.	ppb d
Surrogate Spike 60.000	Recovery	=	0.00%	
Target Compounds				
Target Compounds				

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200129\129019.D
Sample : BA06272W27 MS-1 2/800 SG





129019.D DOC0129.M Thu Jan 30 08:24:29 2020

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200111\111138.D
Acq On : 1-25-20 16:47:14
Sample : BA06272W26 MSD-1 2/800
Misc : water
IntFile : events.e
Quant Time: Jan 27 9:56 2020 Quant Results File: DOC0111.RES

Vial: 38
Operator: BT
Inst : Apollo
Multiplr: 2.50

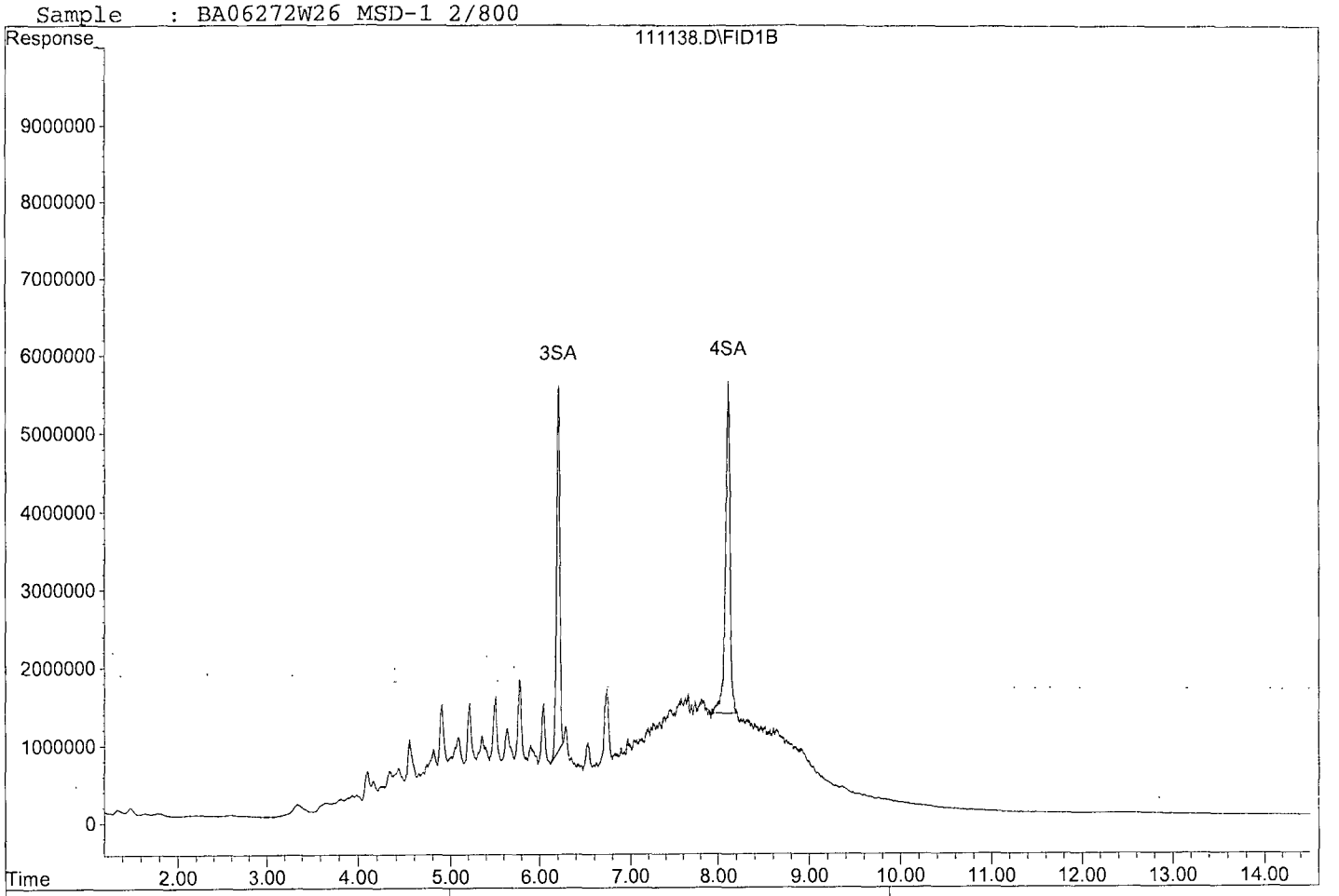
Method : G:\APOLLO\DATA\200111\DOC0111.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Mon Jan 13 07:59:04 2020
Response via : Multiple Level Calibration

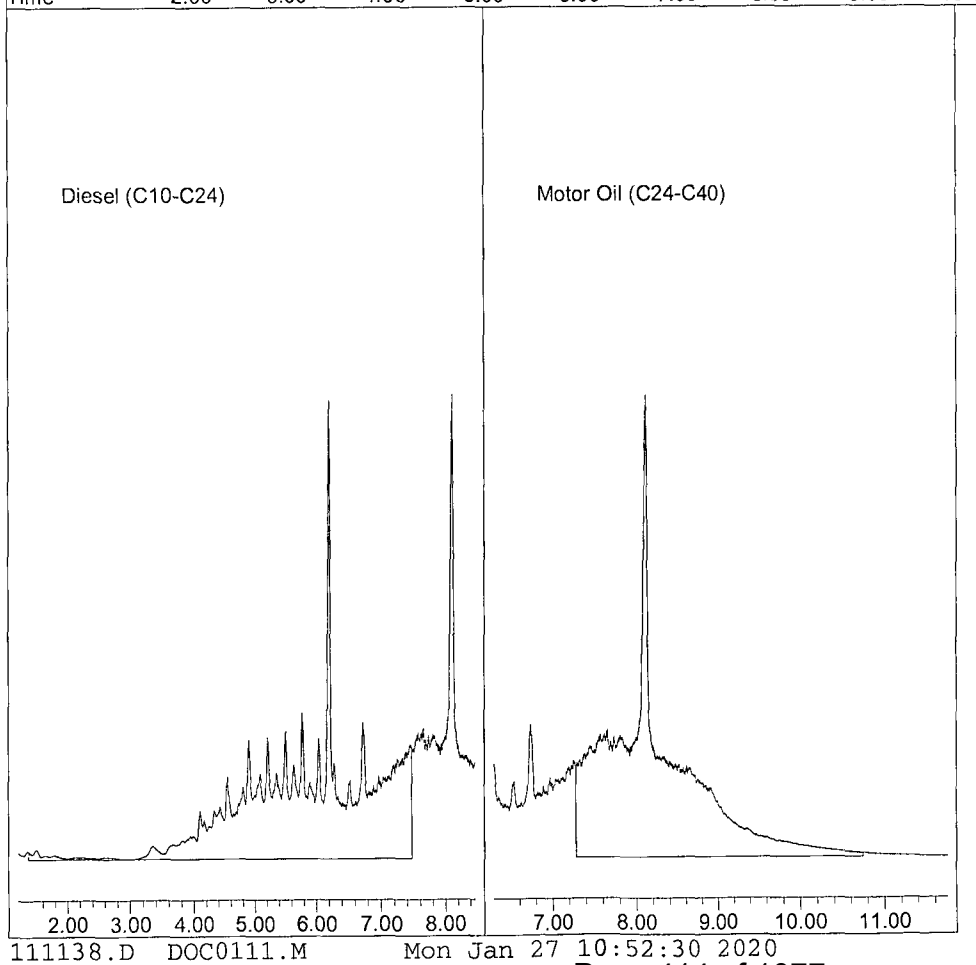
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
3) SA Ortho-Terphenyl(S)	6.21	115682835	67.272	ppb
Surrogate Spike 75.000		Recovery =	89.70%	
4) SA Octacosane(S)	8.11	149411815	89.719	ppb
Surrogate Spike 75.000		Recovery =	119.63%	
Target Compounds				
1) HATM Diesel (C10-C24)	4.42	1826676155	1093.812	ppb
2) HBTM Motor Oil (C24-C40)	9.01	1421227013	1192.842	ppb
Target Compounds				

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200111\111138.D
Sample : BA06272W26 MSD-1 2/800





111138.D DOC0111.M Mon Jan 27 10:52:30 2020

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200129\129020.D Vial: 20
Acq On : 1-29-20 19:32:12 Operator: BT
Sample : BA06272W26 MSD-1 2/800 SG Inst : Apollo
Misc : water Multiplr: 2.50
IntFile : events.e
Quant Time: Jan 30 8:18 2020 Quant Results File: DOC0129.RES

Method : G:\APOLLO\DATA\200129\DOC0129.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Jan 30 08:01:08 2020
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SA Ortho-Terphenyl(S)	6.21	114390928	65.027 ppb
Surrogate Spike 75.000	Recovery =		86.70%
4) SA Octacosane(S)	8.12	112226635	68.300 ppb
Surrogate Spike 75.000	Recovery =		91.07%
Target Compounds			
1) HATM Diesel (C10-C24)	4.42	1575094505	976.956 ppb
2) HBTM Motor Oil (C24-C40)	9.01	1459468142	1160.285 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200129\129020.D Vial: 20
Acq On : 1-29-20 19:32:12 Operator: BT
Sample : BA06272W26 MSD-1 2/800 SG Inst : Apollo
Misc : water Multiplr: 2.50
IntFile : events.e
Quant Time: Jan 30 8:29 2020 Quant Results File: DEC1120.RES

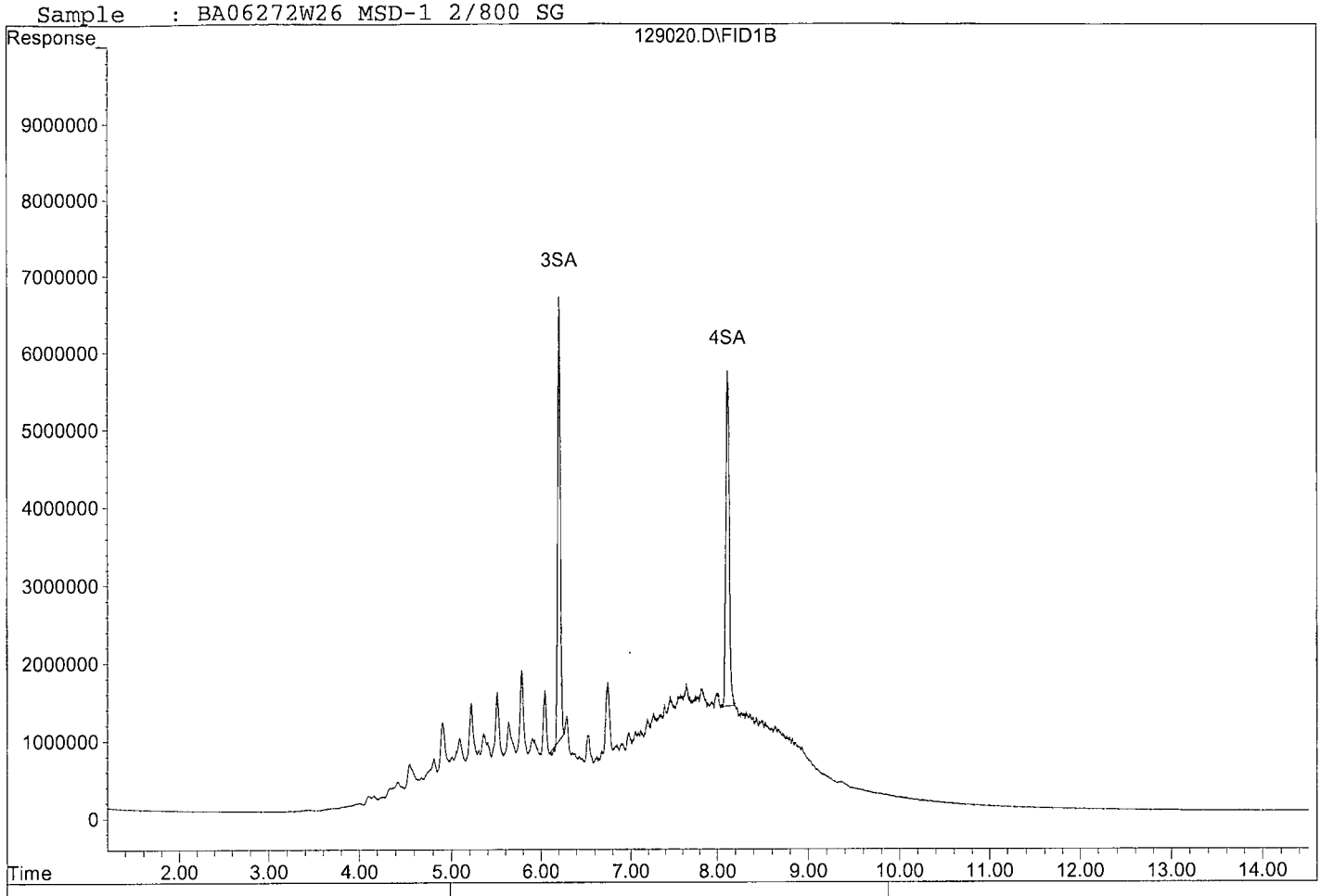
Method : G:\APOLLO\DATA\200129\DEC1120.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Jan 28 08:46:59 2020
Response via : Multiple Level Calibration

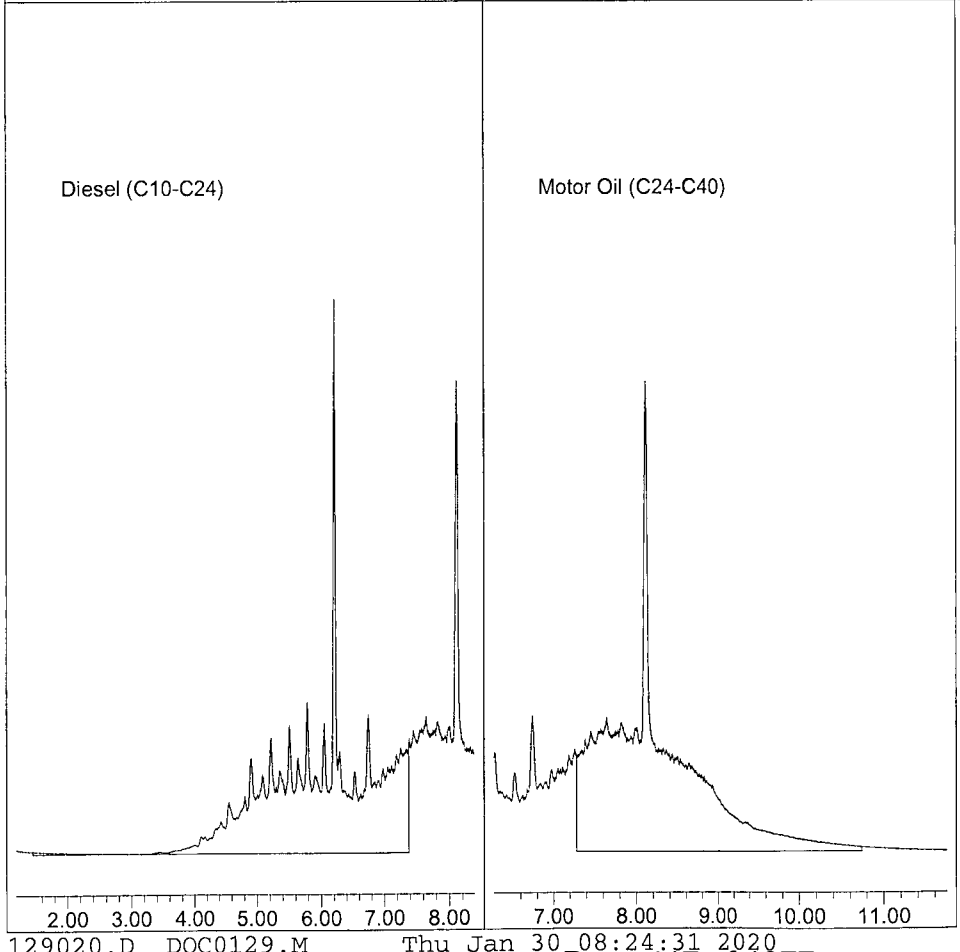
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
1) SC Decanoic Acid(S)	0.00	0	N.D.	ppb d
Surrogate Spike 60.000	Recovery	=	0.00%	
Target Compounds				
Target Compounds				

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200129\129020.D
Sample : BA06272W26 MSD-1 2/800 SG





129020.D DOC0129.M Thu Jan 30 08:24:31 2020

Decanoic Acid Spike

Prepared: 12/11/19 **Prepared By (Initials): BT**

Expires: 12/10/20

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	Supplier Part No.	Conc. (ug/mL)	Lot Number - QA Number	Exp. Date (1 yr.)	Exp. Date (Manufacturer)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/mL)
Decanoic Acid Spike	O2SI	011729-01-05-5PAK	1,000	**371298-40661**	**12/11/20**	**03/31/21**	N/A	N/A	N/A	1,000

Diesel / Motor Oil Calibration Curve

Prepared: 01/11/20

Expires: 06/23/20

Prepared By (Initials): SS

Methylene Chloride Lot No. 58059

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	APPL Mix Name	Conc. (ug/mL)	Reference to APPL Prep Date	Exp. Date	Exp. Date (Manufacturer)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/mL)
Diesel / Motor Oil Calibration STD	APPL	Diesel / Motor Oil - 1	2,000	Prepared 01/11/20	06/23/20	N/A	5uL	1mL	MC	10
Diesel / Motor Oil Calibration STD	APPL	Diesel / Motor Oil -2	2,000	Prepared 01/11/20	06/23/20	N/A	25uL	1mL	MC	50
Diesel / Motor Oil Calibration STD	APPL	Diesel / Motor Oil - 3	2,000	Prepared 01/11/20	06/23/20	N/A	125uL	1mL	MC	250
Diesel / Motor Oil Calibration STD	APPL	Diesel / Motor Oil - 4	2,000	Prepared 01/11/20	06/23/20	N/A	500uL	1mL	MC	1000
Diesel / Motor Oil Calibration STD	APPL	Diesel / Motor Oil - 5	2,000	Prepared 01/11/20	06/23/20	N/A	750uL	1mL	MC	1500
Diesel / Motor Oil Calibration STD	APPL	Diesel / Motor Oil - 6	2,000	Prepared 01/11/20	06/23/20	N/A	100uL	100uL	N/A	2,000

Diesel / Motor Oil Calibration Curve

Prepared: 01/29/20

Expires: 06/23/20

Prepared By (Initials): SS

Methylene Chloride Lot No. 58059

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	APPL Mix Name	Conc. (ug/mL)	Reference to APPL Prep Date	Exp. Date	Exp. Date (Manufacturer)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/mL)
Diesel / Motor Oil Calibration STD	APPL	Diesel / Motor Oil - 1	2,000	Prepared 01/29/20	06/23/20	N/A	5uL	1mL	MC	10
Diesel / Motor Oil Calibration STD	APPL	Diesel / Motor Oil -2	2,000	Prepared 01/29/20	06/23/20	N/A	25uL	1mL	MC	50
Diesel / Motor Oil Calibration STD	APPL	Diesel / Motor Oil - 3	2,000	Prepared 01/29/20	06/23/20	N/A	125uL	1mL	MC	250
Diesel / Motor Oil Calibration STD	APPL	Diesel / Motor Oil - 4	2,000	Prepared 01/29/20	06/23/20	N/A	500uL	1mL	MC	1000
Diesel / Motor Oil Calibration STD	APPL	Diesel / Motor Oil - 5	2,000	Prepared 01/29/20	06/23/20	N/A	750uL	1mL	MC	1500
Diesel / Motor Oil Calibration STD	APPL	Diesel / Motor Oil - 6	2,000	Prepared 01/29/20	06/23/20	N/A	100uL	100uL	N/A	2,000

THC Surrogate

Prepared: 01/06/20 **Prepared By (Initials): BT**

Expires: 01/06/21

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	Supplier Part No.	Conc. (ug/mL)	Lot Number - QA Number	Exp. Date (1 yr.)	Exp. Date (Manufacturer)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/mL)
O-terphenyl / Octacosane Mix	Phenova	ALO-130161	600	**CL13256-49649**	**01/06/21**	**02/28/24**	N/A	N/A	N/A	600

Diesel Motor Oil Mix

Prepared: 01/15/20 **Prepared By (Initials): SS**

Expires: 01/15/21

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	Supplier Part No.	Conc (ug/mL)	Lot Number - QA Number	Exp. Date (1 yr.)	Exp. Date (Manufacturer)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/mL)
Diesel Fuel #2	Restek	31258	50,000	**A0149169-49607**	**01/15/21**	**06/30/26**	2.4 mL	4.8 mL	NA	25,000
Motor Oil Composite	Restek	31464	50,000	**A0153577-49614**	01/15/21	11/30/26	2.4 mL			25,000

Organic Extraction Worksheet

Method	Continuous Liq/Liq TPH-Diesel/MO 3520C	Extraction Set	200123A	Extraction Method	LIQ005	Units	mL

Spiked ID 1	Diesel Motor Oil Mix 1-15-20 1-15-21		Surrogate ID 1	THC Surrogate 1-6-20 1-6-21	
Spiked ID 2	Decanoic Acid solution 12-11-19 12-11-20		Surrogate ID 2		
Spiked ID 3			Surrogate ID 3		
Spiked ID 4			Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	YES	
Spiked ID 7			Ext. Start Time:	01/23/20 15:30	
Spiked ID 8			Ext. End Time:	01/23/20 9:30	
			GC Requires Extract By:		

pH1	2	01/23/20 12:26	Water Bath Temp 1 °C	37/36.5 °C
pH2	2	01/23/20 15:00	Water Bath Temp 2 °C	35/38.5
pH3			Water Bath Temp 3 °C	3635.4 °C

Spiked By: DL **Date** 01/23/20 **Witnessed By:** CFM **Date** 01/23/20

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	200123A Blk		0.050	2	0.100	1	800	2	2	01/23/20 13:00	*
						equip	E-HP30 e-wb2				
2	200123A LCS-1		0.040	1,2	0.100	1	800	2	2	01/23/20 13:00	*
						equip	E-HP17 E-WB1				
3	BA06272 MS-1	BA06272W27	0.040	1,2	0.100	1	800	2	2	01/23/20 13:00	91282 *
						equip	E-HP15 E-WB2				
4	BA06272 MSD-1	BA06272W26	0.040	1,2	0.100	1	800	2	2	01/23/20 13:00	91282 *
						equip	E-HP14 E-WB1				
5	BA06272	BA06272W32	0.050	2	0.100	1	800	2	2	01/23/20 13:00	91282 *
						equip	E-HP16 E-WB3				
6	BA06273	BA06273W08	0.050	2	0.100	1	800	2	2	01/23/20 13:00	91282 *
						equip	E-HP13 E-WB3				
7	BA06275	BA06275W16	0.050	2	0.100	1	800	2	2	01/23/20 13:00	91282 *
						equip	E-HP12 E-WB2				
8	BA06276	BA06276W16	0.050	2	0.100	1	800	2	2	01/23/20 13:00	91282 *
						equip	E-HP11 E-WB1				
9	BA06279	BA06279W13	0.050	2	0.100	1	800	2	2	01/23/20 13:00	91282 *
						equip	E-HP10 E-WB3				
10	BA06281	BA06281W12	0.050	2	0.100	1	800	2	2	01/23/20 13:00	91282 *
						equip	E-HP9 E-WB2				
11	BA06282	BA06282W11	0.050	2	0.100	1	800	2	2	01/23/20 13:00	91282 *
						equip	E-HP6 E-WB1				
12	BA06284	BA06284W18	0.050	2	0.100	1	800	2	2	01/23/20 13:00	91282 *
						equip	E-HP7 E-WB3				
13	BA06313	BA06313W14	0.050	2	0.100	1	800	2	2	01/23/20 15:05	91288 *
						equip	E-HP26 E-WB1				
14	BA06315	BA06315W14	0.050	2	0.100	1	800	2	2	01/23/20 15:05	91288 *
						equip	E-HP27 E-WB2				
15	BA06317	BA06317W16	0.050	2	0.100	1	800	2	2	01/23/20 15:05	91288 *
						equip	E-HP28 E-WB3				
16	BA06319	BA06319W19	0.050	2	0.100	1	800	2	2	01/23/20 15:05	91288 *
						equip	E-HP29 E-WB1				

Solvent and Lot#	
1+1 HCL	6-15-19
PH Strips	hc 863463
Dicholormethane (DCM)	59239
Filter Paper	400171
B. Sodium Sulfate	2019020631
Silica Gel (*)	050627t

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	SS
Date	
Time	
Refrigerator	HOBART

	Technician's Initials
Scanned By	DL
Sample Preparation	DL
Extraction	DL
Concentration	DL,DS

Modified	01/28/20 12:34:16 PM

Reviewed By: KY **Date** 01/28/20

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200129\129128.D Vial: 28
Acq On : 2-4-20 15:38:02 Operator: BT
Sample : BA06272W33 2/800 Inst : Apollo
Misc : water Multiplr: 2.50
IntFile : events.e
Quant Time: Feb 5 8:47 2020 Quant Results File: DOC0129.RES

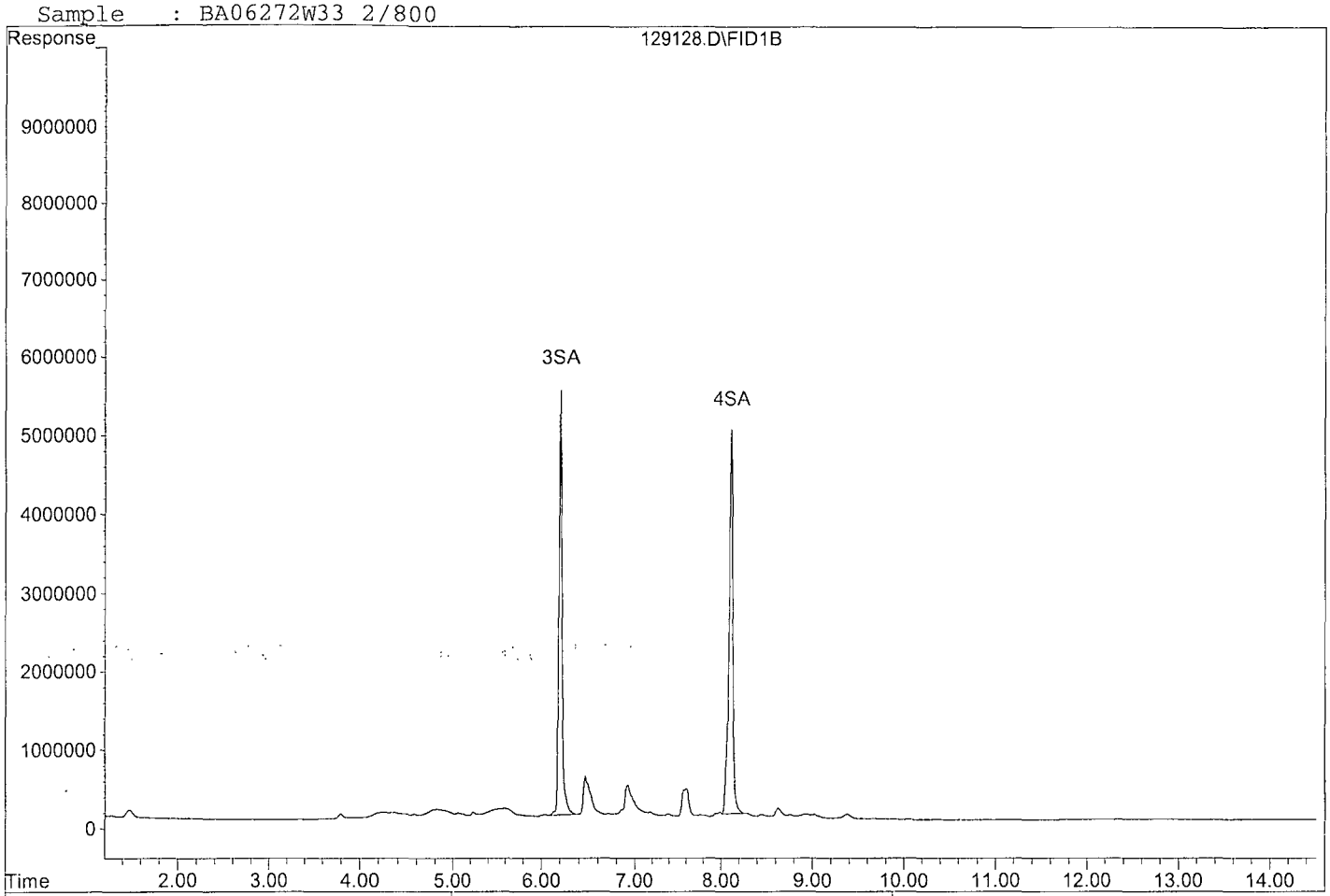
Method : G:\APOLLO\DATA\200129\DOC0129.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Jan 30 08:01:08 2020
Response via : Multiple Level Calibration

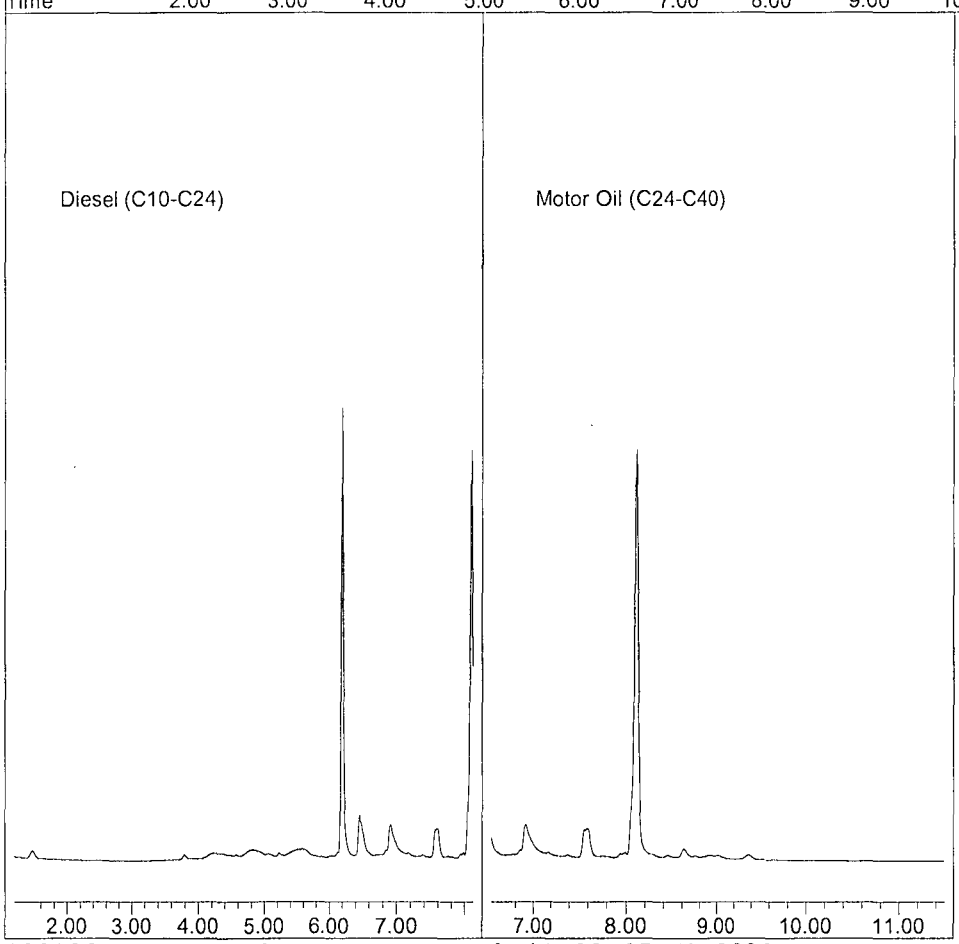
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
3) SA Ortho-Terphenyl(S)	6.20	127924513	72.425	ppb
Surrogate Spike 75.000	Recovery =		96.57%	
4) SA Octacosane(S)	8.11	145548169	88.062	ppb
Surrogate Spike 75.000	Recovery =		117.42%	
Target Compounds				
Target Compounds				
1) HATM Diesel (C10-C24)	0.00	0	N.D.	ppb
2) HBTM Motor Oil (C24-C40)	0.00	0	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200129\129128.D
Sample : BA06272W33 2/800





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200129\129129.D Vial: 29
Acq On : 2-4-20 15:57:40 Operator: BT
Sample : BA06275W14 2/800 Inst : Apollo
Misc : water Multiplr: 2.50
IntFile : events.e
Quant Time: Feb 5 8:48 2020 Quant Results File: DOC0129.RES

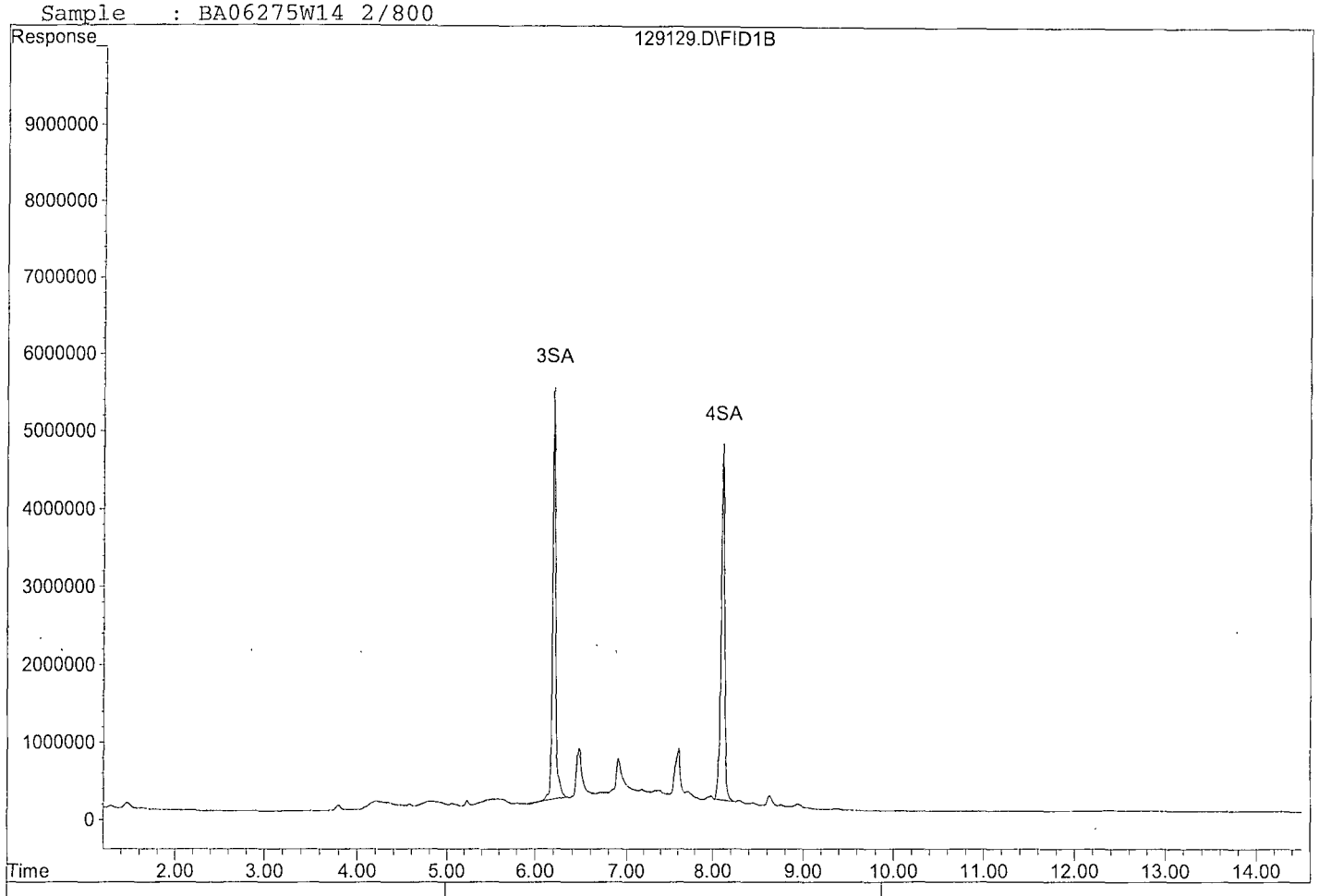
Method : G:\APOLLO\DATA\200129\DOC0129.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Jan 30 08:01:08 2020
Response via : Multiple Level Calibration

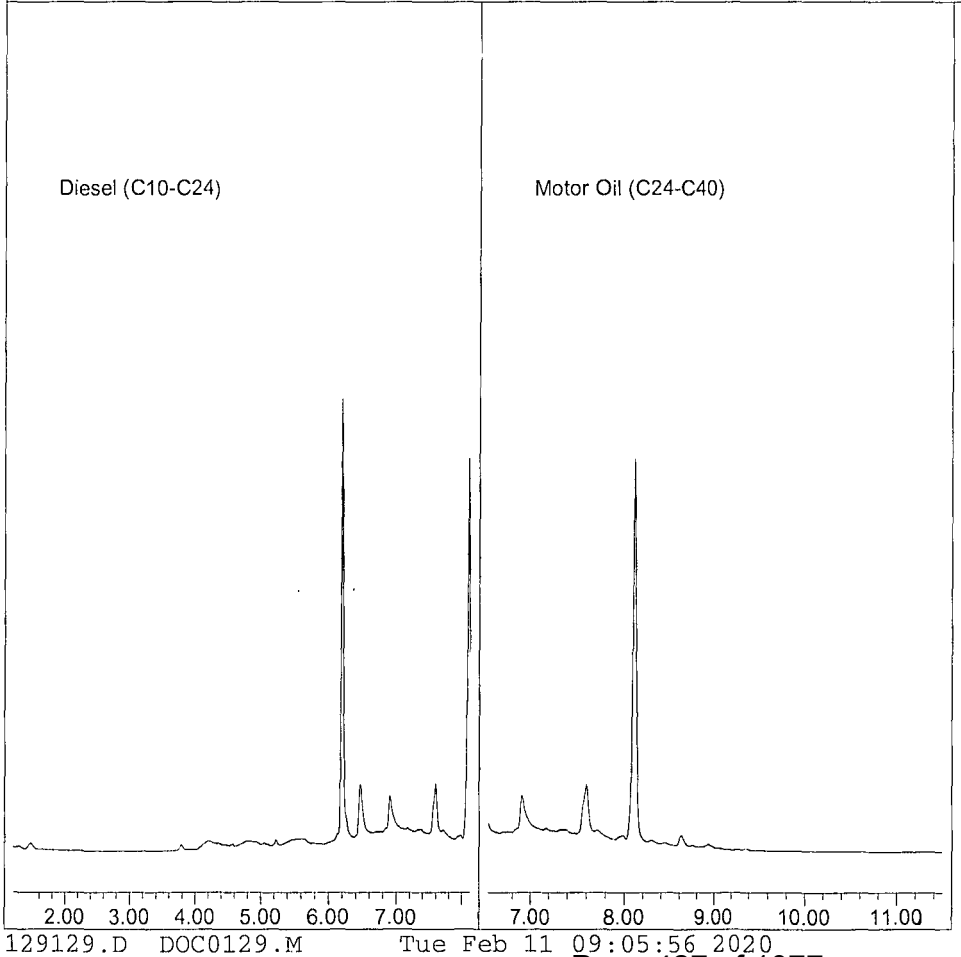
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
3) SA Ortho-Terphenyl(S)	6.20	121479461	68.902	ppb
Surrogate Spike 75.000	Recovery =		91.87%	
4) SA Octacosane(S)	8.11	124420679	75.532	ppb
Surrogate Spike 75.000	Recovery =		100.71%	
Target Compounds				
Target Compounds				
1) HATM Diesel (C10-C24)	0.00	0	N.D.	ppb
2) HBTM Motor Oil (C24-C40)	0.00	0	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200129\129129.D
Sample : BA06275W14 2/800





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200129\129126.D Vial: 26
Acq On : 2-4-20 14:58:51 Operator: BT
Sample : 200203A BLK 2/800 Inst : Apollo
Misc : water Multiplr: 2.50
IntFile : events.e
Quant Time: Feb 5 8:46 2020 Quant Results File: DOC0129.RES

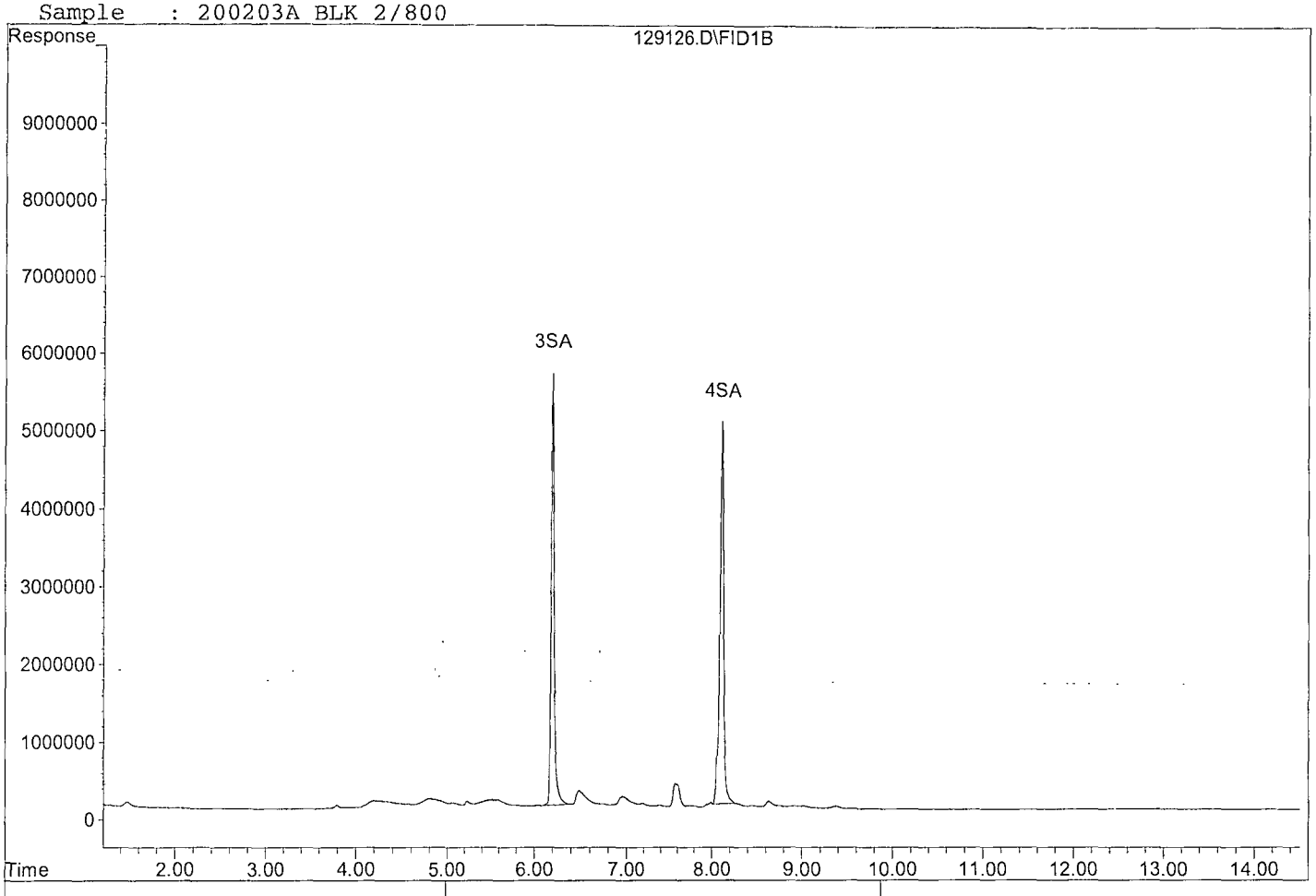
Method : G:\APOLLO\DATA\200129\DOC0129.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Jan 30 08:01:08 2020
Response via : Multiple Level Calibration

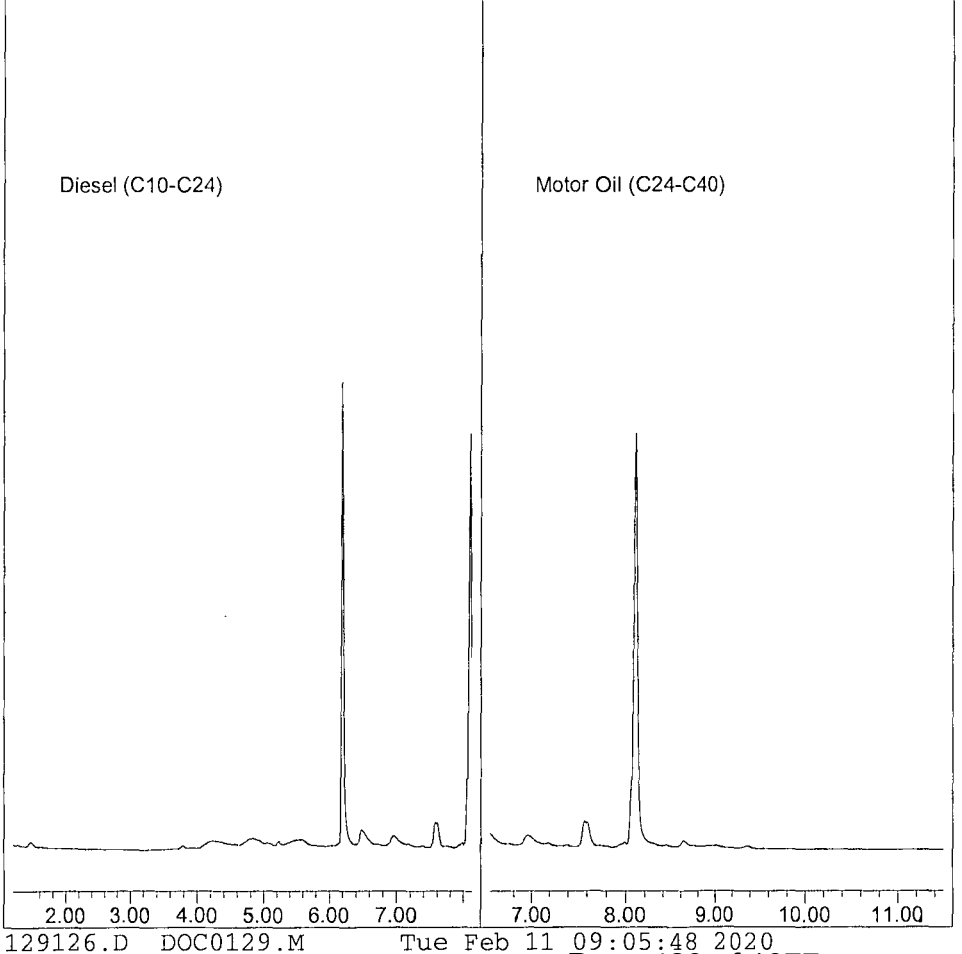
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
3) SA Ortho-Terphenyl(S)	6.20	126919584	71.876	ppb
Surrogate Spike 75.000	Recovery =		95.83%	
4) SA Octacosane(S)	8.11	144553809	87.472	ppb
Surrogate Spike 75.000	Recovery =		116.63%	
Target Compounds				
Target Compounds				
1) HATM Diesel (C10-C24)	0.00	0	N.D.	ppb
2) HBTM Motor Oil (C24-C40)	0.00	0	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200129\129126.D
Sample : 200203A BLK 2/800





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200129\129127.D Vial: 27
Acq On : 2-4-20 15:18:23 Operator: BT
Sample : 200203A LCS-1 2/800 Inst : Apollo
Misc : water Multiplr: 2.50
IntFile : events.e
Quant Time: Feb 5 8:52 2020 Quant Results File: DOC0129.RES

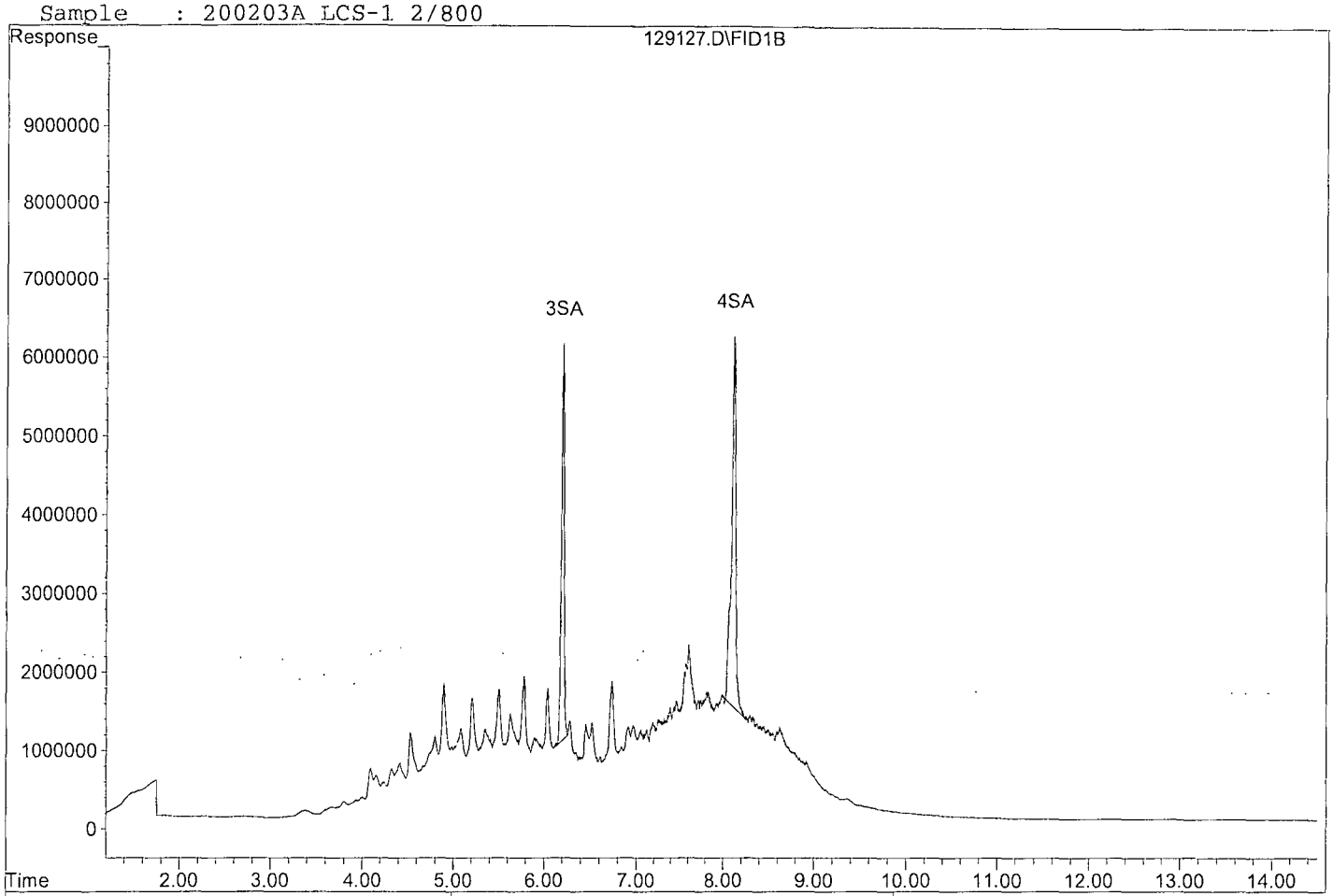
Method : G:\APOLLO\DATA\200129\DOC0129.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Jan 30 08:01:08 2020
Response via : Multiple Level Calibration

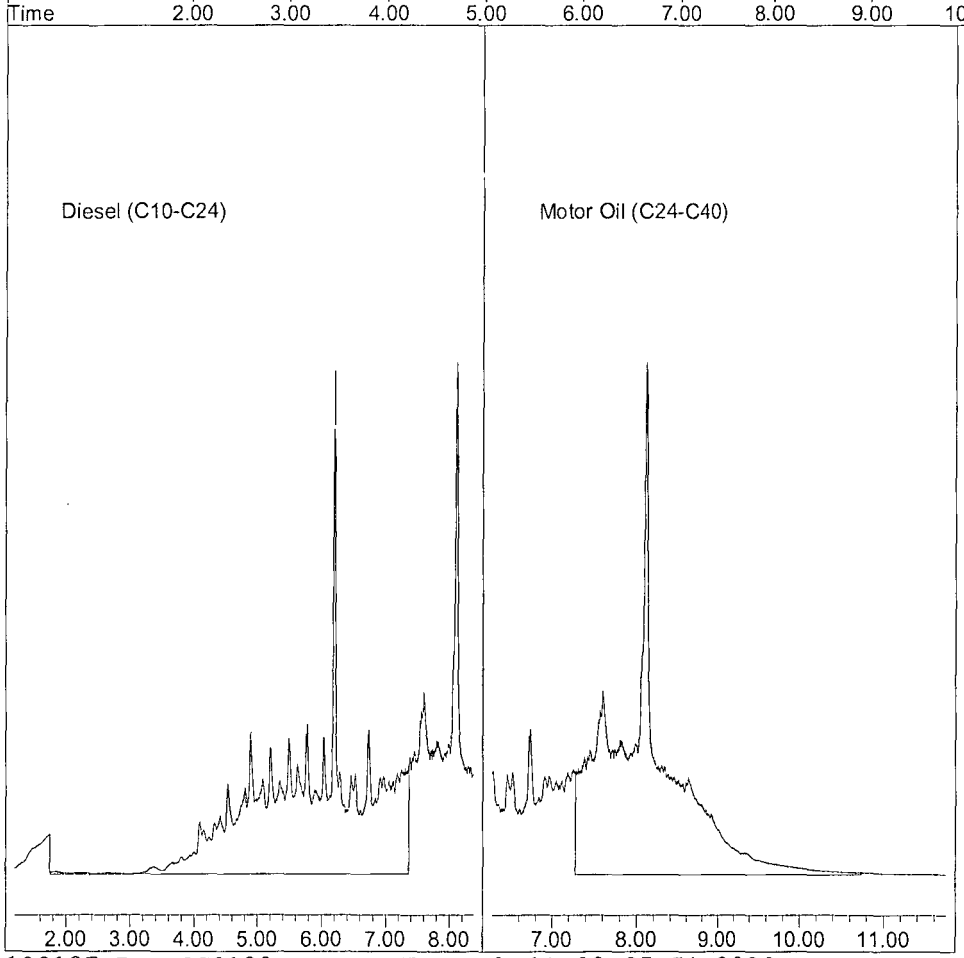
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
3) SA Ortho-Terphenyl(S)	6.20	107049140	61.013	ppb
Surrogate Spike 75.000	Recovery =		81.35%	
4) SA Octacosane(S)	8.12	151811374	91.776	ppb
Surrogate Spike 75.000	Recovery =		122.37%	
Target Compounds				
1) HATM Diesel (C10-C24)	4.42	1959369720	1214.519	ppb
2) HBTM Motor Oil (C24-C40)	9.01	1459989586	1160.696	ppb
Target Compounds				

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200129\129127.D
Sample : 200203A LCS-1 2/800





Organic Extraction Worksheet

Method	Continuous Liq/Liq TPH-Diesel/MO 3520C	Extraction Set	200203A	Extraction Method	LIQ005	Units	mL

Spiked ID 1	Diesel Motor Oil Mix 1-15-20 1-15-21		Surrogate ID 1	THC Surrogate 1-27-20 1-27-21	
Spiked ID 2	Decanoic Acid SOLUTION 12-11-19 12-11-20		Surrogate ID 2		
Spiked ID 3			Surrogate ID 3		
Spiked ID 4			Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	NO	
Spiked ID 7			Ext. Start Time:	02/03/20 13:00	
Spiked ID 8			Ext. End Time:	02/04/20 7:00	
			GC Requires Extract By:		

pH1	2	02/03/20 10:25	Water Bath Temp 1 °C	35/38.5 °C
pH2			Water Bath Temp 2 °C	35/34.5
pH3			Water Bath Temp 3 °C	35/34.4 °C

Spiked By: DL **Date** 02/03/20 **Witnessed By:** RP **Date** 02/03/20

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	200203A Blk		0.050	2	0.100	1	800	2	2	02/03/20 10:30	*
						equip	E-HP30 E-WB1				
2	200203A LCS-1		0.040,0.050	1,2	0.100	1	800	2	2	02/03/20 10:30	*
						equip	E-HP17 E-WB2				
3	BA06272	BA06272W33	0.050	2	0.100	1	800	2	2	02/03/20 10:30	91282 RE-EXTRACT HT: 1-28-20 *
						equip	E-HP16 E-WB3				
4	BA06275	BA06275W14	0.050	2	0.100	1	800	2	2	02/03/20 10:30	91282 RE-EXTRACT HT: 1-27-20 *
						equip	E-HP15 E-WB1				
5	BA06564	BA06564W16	0.050	2	0.100	1	800	2	2	02/03/20 10:30	91334 *
						equip	E-HP14 E-WB2				
6	BA06602	BA06602W16	0.050	2	0.100	1	800	2	2	02/03/20 10:30	91343 *
						equip	E-HP13 E-WB3				
7	BA06604 MS-1	BA06604W42	0.040,0.050	1,2	0.100	1	800	2	2	02/03/20 10:30	91343 *
						equip	E-HP12 E-WB1				
8	BA06604 MSD-1	BA06604W38	0.040,0.050	1,2	0.100	1	800	2	2	02/03/20 10:30	91343 *
						equip	E-HP11 E-WB2				
9	BA06604	BA06604W40	0.050	2	0.100	1	800	2	2	02/03/20 10:30	91343 *
						equip	E-HP10 E-WB3				

Solvent and Lot#	
1+1 HCL	6-15-19
PH Strips	HC 863463
Dicholormethane (DCM)	59239
Filter Paper	400171
Sodium Sulfate (Na2SO4)	2019020631
Silica Gel (*)	050627T

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	SS
Date	
Time	
Refrigerator	HOBART

	Technician's Initials
Scanned By	DL
Sample Preparation	DL
Extraction	DL
Concentration	DL

Modified	02/05/20 1:52:31 PM

Reviewed By: KY **Date** 02/05/20

Injection Log

Directory: G:\APOLLO\DATA\200129\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	3	129003.D	1	Diesel Motor Oil - 1 1/29/20	water	1-29-20 13:59:43
2	4	129004.D	1	Diesel Motor Oil - 2 1/29/20	water	1-29-20 14:19:23
3	5	129005.D	1	Diesel Motor Oil - 3 1/29/20	water	1-29-20 14:39:02
4	6	129006.D	1	Diesel Motor Oil - 4 1/29/20	water	1-29-20 14:58:42
5	7	129007.D	1	Diesel Motor Oil - 5 1/29/20	water	1-29-20 15:18:28
6	8	129008.D	1	Diesel Motor Oil - 6 1/29/20	water	1-29-20 15:38:14
7	9	129009.D	1	Diesel Motor Oil - SS 12/23/19	water	1-29-20 15:57:56
8	25	129125.D	1	Diesel Motor Oil - CCV 12/23/19	water	2-4-20 14:39:24
9	26	129126.D	2.5	200203A BLK 2/800	water	2-4-20 14:58:51
10	27	129127.D	2.5	200203A LCS-1 2/800	water	2-4-20 15:18:23
11	28	129128.D	2.5	BA06272W33 2/800	water	2-4-20 15:38:02
12	29	129129.D	2.5	BA06275W14 2/800	water	2-4-20 15:57:40
13	35	129135.D	1	Diesel Motor Oil - CCV 12/23/19	water	2-4-20 17:55:20

Injection Log

Directory: G:\APOLLO\DATA\200129\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	78	1115178.D	1	Decanoic Acid - 1 11/20/19	water	11-20-19 10:33:58
2	79	1115179.D	1	Decanoic Acid - 2 11/20/19	water	11-20-19 10:53:46
3	80	1115180.D	1	Decanoic Acid - 3 11/20/19	water	11-20-19 11:13:35
4	81	1115181.D	1	Decanoic Acid - 4 11/20/19	water	11-20-19 11:33:26
5	82	1115182.D	1	Decanoic Acid - 5 11/20/19	water	11-20-19 11:52:35
6	83	1115183.D	1	Decanoic Acid - 6 11/20/19	water	11-20-19 12:12:26
7	3	129003.D	1	Diesel Motor Oil - 1 1/29/20	water	1-29-20 13:59:43
8	4	129004.D	1	Diesel Motor Oil - 2 1/29/20	water	1-29-20 14:19:23
9	5	129005.D	1	Diesel Motor Oil - 3 1/29/20	water	1-29-20 14:39:02
10	6	129006.D	1	Diesel Motor Oil - 4 1/29/20	water	1-29-20 14:58:42
11	7	129007.D	1	Diesel Motor Oil - 5 1/29/20	water	1-29-20 15:18:28
12	8	129008.D	1	Diesel Motor Oil - 6 1/29/20	water	1-29-20 15:38:14
13	9	129009.D	1	Diesel Motor Oil - SS 12/23/19	water	1-29-20 15:57:56
14	15	129015.D	1	Diesel Motor Oil - CCV 12/23/19	water	1-29-20 17:54:39
15	16	129016.D	1	Decanoic Acid CCV 1/27/20	water	1-29-20 18:14:16
16	17	129017.D	2.5	200123A BLK 2/800 SG	water	1-29-20 18:33:54
17	18	129018.D	2.5	200123A LCS-1 2/800 SG	water	1-29-20 18:52:53
18	19	129019.D	2.5	BA06272W27 MS-1 2/800 SG	water	1-29-20 19:12:31
19	20	129020.D	2.5	BA06272W26 MSD-1 2/800 SG	water	1-29-20 19:32:12
20	21	129021.D	2.5	BA06272W32 2/800 SG	water	1-29-20 19:51:43
21	23	129023.D	2.5	BA06275W16 2/800 SG	water	1-29-20 20:31:01
22	24	129024.D	2.5	BA06276W16 2/800 SG	water	1-29-20 20:50:34
23	25	129025.D	2.5	BA06279W13 2/800 SG	water	1-29-20 21:10:05
24	26	129026.D	2.5	BA06281W12 2/800 SG	water	1-29-20 21:29:01
25	27	129027.D	2.5	BA06282W11 2/800 SG	water	1-29-20 21:48:38
26	28	129028.D	2.5	BA06284W18 2/800 SG	water	1-29-20 22:07:28
27	29	129029.D	1	Diesel Motor Oil - CCV 12/23/19	water	1-29-20 22:27:03
28	30	129030.D	1	Decanoic Acid CCV 1/27/20	water	1-29-20 22:46:43

Injection Log

Directory: G:\APOLLO\DATA\200111\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	3	111003.D	1	Diesel Motor Oil-1 1/11/20	water	1-11-20 11:35:53
2	4	111004.D	1	Diesel Motor Oil-2 1/11/20	water	1-11-20 11:55:28
3	5	111005.D	1	Diesel Motor Oil-3 1/11/20	water	1-11-20 12:15:09
4	6	111006.D	1	Diesel Motor Oil-4 1/11/20	water	1-11-20 12:34:51
5	7	111007.D	1	Diesel Motor Oil-5 1/11/20	water	1-11-20 12:53:51
6	8	111008.D	1	Diesel Motor Oil-6 1/11/20	water	1-11-20 13:13:29
7	9	111009.D	1	Diesel Motor Oil-SS 12/23/19	water	1-11-20 13:33:12
8	34	111134.D	1	Diesel/Motor Oil - CCV 12/23/19	water	1-25-20 15:28:06
9	35	111135.D	2.5	200123A BLK 2/800	water	1-25-20 15:47:57
10	36	111136.D	2.5	200123A LCS-1 2/800	water	1-25-20 16:07:44
11	37	111137.D	2.5	BA06272W27 MS-1 2/800	water	1-25-20 16:27:30
12	38	111138.D	2.5	BA06272W26 MSD-1 2/800	water	1-25-20 16:47:14
13	39	111139.D	2.5	BA06272W32 2/800	water	1-25-20 17:06:57
14	40	111140.D	2.5	BA06273W08 2/800	water	1-25-20 17:26:00
15	41	111141.D	2.5	BA06275W16 2/800	water	1-25-20 17:45:45
16	42	111142.D	2.5	BA06276W16 2/800	water	1-25-20 18:05:24
17	43	111143.D	2.5	BA06279W13 2/800	water	1-25-20 18:24:28
18	44	111144.D	2.5	BA06281W12 2/800	water	1-25-20 18:43:30
19	45	111145.D	2.5	BA06282W11 2/800	water	1-25-20 19:03:11
20	46	111146.D	2.5	BA06284W18 2/800	water	1-25-20 19:22:49
21	47	111147.D	1	Diesel/Motor Oil - CCV 12/23/19	water	1-25-20 19:42:30

ORGANICS
Calibration Data

PAH by GCMS SIM
EPA 8270 SIM

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Initial Cal. Date: 01/13/20
Matrix: Instrument: Linus
Initials:

		Compound	0113L004.D 0.1	0113L005.D 0.2	0113L006.D 0.5	0113L007.D 2.5	0113L003.D 5	0113L008 D 25	0113L009 D 50				Avg	%RSD	Type	r^2	Q	MRF
1	I	Napthalene-D8(IS)																
2	S	Surrogate Recovery (NBZ)	0.3575	0.3153	0.2912	0.2963	0.2934	0.2750	0.3083				0.31	8.6	S			
3	TM	Naphthalene	1.149	1.117	1.067	1.075	1.035	1.025	0.9925				1.1	5.1	TM			0.700
4	S	2-methylnaphthalene-D10 (2M	1.266	1.244	1.195	1.252	1.200	1.246	1.163				1.2	3.1	S			
5	TM	2-Methylnaphthalene	0.6232	0.6106	0.5931	0.6047	0.5645	0.5839	0.5313				0.59	5.3	TM			0.400
6	TM	1-Methylnaphthalene	0.6633	0.6479	0.6224	0.6211	0.5920	0.6144	0.5537				0.62	5.8	TM			
7	I	Acenaphthene-D10(IS)																
8	S	Surrogate Recovery (FBP)	1.759	1.682	1.668	1.706	1.688	1.628	1.577				1.7	3.4	S			
9	TM	Acenaphthylene	4.638	4.590	4.448	4.525	4.479	4.276	3.884				4.4	5.8	TM			0.900
10	*TM	Acenaphthene	1.435	1.362	1.280	1.275	1.258	1.274	1.190				1.3	6.1	*TM			0.900
11	TM	Fluorene	1.661	1.650	1.607	1.640	1.651	1.590	1.551				1.6	2.5	TM			0.900
12	TML	Pentachlorophenol	0.3168	0.1274	0.1289	0.2039	0.2721	0.3681	0.3838				0.26	41	TML	0.999		0.050
13	I	Phenanthrene-D10(IS)																
14	TM	Phenanthrene	1.317	1.177	1.164	1.143	1.108	1.064	0.9831				1.1	9.1	TM			0.700
15	TM	Anthracene	1.184	1.122	1.065	1.062	1.058	1.006	0.9403				1.1	7.3	TM			0.700
16	S	Fluoranthene-D10 (FRT)	1.599	1.505	1.469	1.502	1.477	1.392	1.348				1.5	5.5	S			
17	*TM	Fluoranthene	1.913	1.675	1.638	1.596	1.575	1.430					1.6	9.7	*TM			0.600
18	I	Chrysene-D12(IS)																
19	TM	Pyrene	1.474	1.280	1.244	1.217	1.245	1.203	1.182				1.3	7.8	TM			0.600
20	S	Surrogate Recovery (TPH)	1.398	1.089	1.024	0.9991	0.9994	0.9558	0.9090				1.1	15	S			
21	TM	Benz (a) anthracene	1.657	1.271	1.239	1.189	1.249	1.227	1.163				1.3	13	TM			0.800
22	TM	Chrysene	1.607	1.254	1.199	1.154	1.165	1.140	1.134				1.2	14	TM			0.700
23	TM	Indeno (1,2,3-cd) pyrene	1.891	1.546	1.448	1.421	1.408	1.494	1.504				1.5	11	TM			0.500
24	I	Perylene-D12(IS)																
25	TM	Benzo (b) fluoranthene	1.449	1.186	1.047	1.150	1.168	1.100	1.068				1.2	12	TM			0.700
26	TML	Benzo (k) fluoranthene	1.580	1.171	1.177	1.050	1.072	1.075	1.055				1.2	16	TML	1.000		0.700
27	*TM	Benzo (a) pyrene	1.354	1.078	1.012	1.013	1.049	1.020	0.9854				1.1	12	*TM			0.700
28	TM	Dibenz (a,h) anthracene	1.416	1.091	1.063	1.042	1.024	1.054	1.059				1.1	12	TM			0.400
29	TM	Benzo (g,h,i) perylene	1.371	1.086	1.044	1.027	1.026	1.048	1.053				1.1	11	TM			0.500
30																		
31																		
32																		
33																		
34																		
35																		

Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L200113P\0113L003.D Vial: 88
Acq On : 13 Jan 20 14:59 Operator: MA
Sample : 5.0 SIM PCP 09/10/19 (0) Inst : Linus
Misc : Multiplr: 1.00

Quant Time: Jan 14 9:41 2020 Quant Results File: L0113PCP.RES

Quant Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 09:17:12 2020
Response via : Initial Calibration
DataAcq Meth : SIM_2

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Napthalene-D8(IS)	4.20	136	142465	2.50000 ppb		0.00
7) Acenaphthene-D10(IS)	6.19	164	70312	2.50000 ppb		0.00
13) Phenanthrene-D10(IS)	7.92	188	147923	2.50000 ppb		0.00
18) Chrysene-D12(IS)	11.04	240	193025	2.50000 ppb		0.00
24) Perylene-D12(IS)	13.47	264	226184	2.50000 ppb		0.00
System Monitoring Compounds						
2) Surrogate Recovery (NBZ)	3.41	82	83596	4.67099 ppb		0.00
Spiked Amount 5.000			Recovery	= 93.420%		
4) 2-methylnaphthalene-D10 (2	4.97	152	341988	4.75169 ppb		0.00
Spiked Amount 5.000			Recovery	= 95.040%		
8) Surrogate Recovery (FBP)	5.43	172	237384	4.86847 ppb		0.00
Spiked Amount 5.000			Recovery	= 97.360%		
16) Fluoranthene-D10 (FRT)	9.30	212	436829	4.83834 ppb		0.00
Spiked Amount 5.000			Recovery	= 96.760%		
20) Surrogate Recovery (TPH)	9.79	244	385818	5.20247 ppb		0.00
Spiked Amount 5.000			Recovery	= 104.040%		
Target Compounds						Qvalue
3) Naphthalene	4.23	128	294773	4.69771 ppb		99
5) 2-Methylnaphthalene	5.01	141	160832	4.62803 ppb		92
6) 1-Methylnaphthalene	5.12	141	168685	4.64680 ppb		92
9) Acenaphthylene	6.04	152	629792	4.89686 ppb		99
10) Acenaphthene	6.23	154	176954	4.67421 ppb		98
11) Fluorene	6.83	166	232144	4.90831 ppb		94
12) Pentachlorophenol	7.73	266	38263	4.18468 ppb		96
14) Phenanthrene	7.94	178	327677	4.69325 ppb		98
15) Anthracene	8.00	178	313146	4.79848 ppb		99
17) Fluoranthene	9.33	202	465935	4.60747 ppb	#	86
19) Pyrene	9.59	202	480458	4.75259 ppb	#	86
21) Benz (a) anthracene	11.02	228	482316	4.69530 ppb		100
22) Chrysene	11.08	228	449760	4.73930 ppb	#	97
23) Indeno (1,2,3-cd) pyrene	14.95	276	543643	4.44026 ppb	#	82
25) Benzo (b) fluoranthene	12.83	252	528222	4.82916 ppb	#	94
26) Benzo (k) fluoranthene	12.88	252	484802	4.66534 ppb	#	90
27) Benzo (a) pyrene	13.38	252	474453	4.71788 ppb	#	93
28) Dibenz (a,h) anthracene	14.99	278	463038	4.46641 ppb	#	85
29) Benzo (g,h,i) perylene	15.33	276	464028	4.52947 ppb	#	74

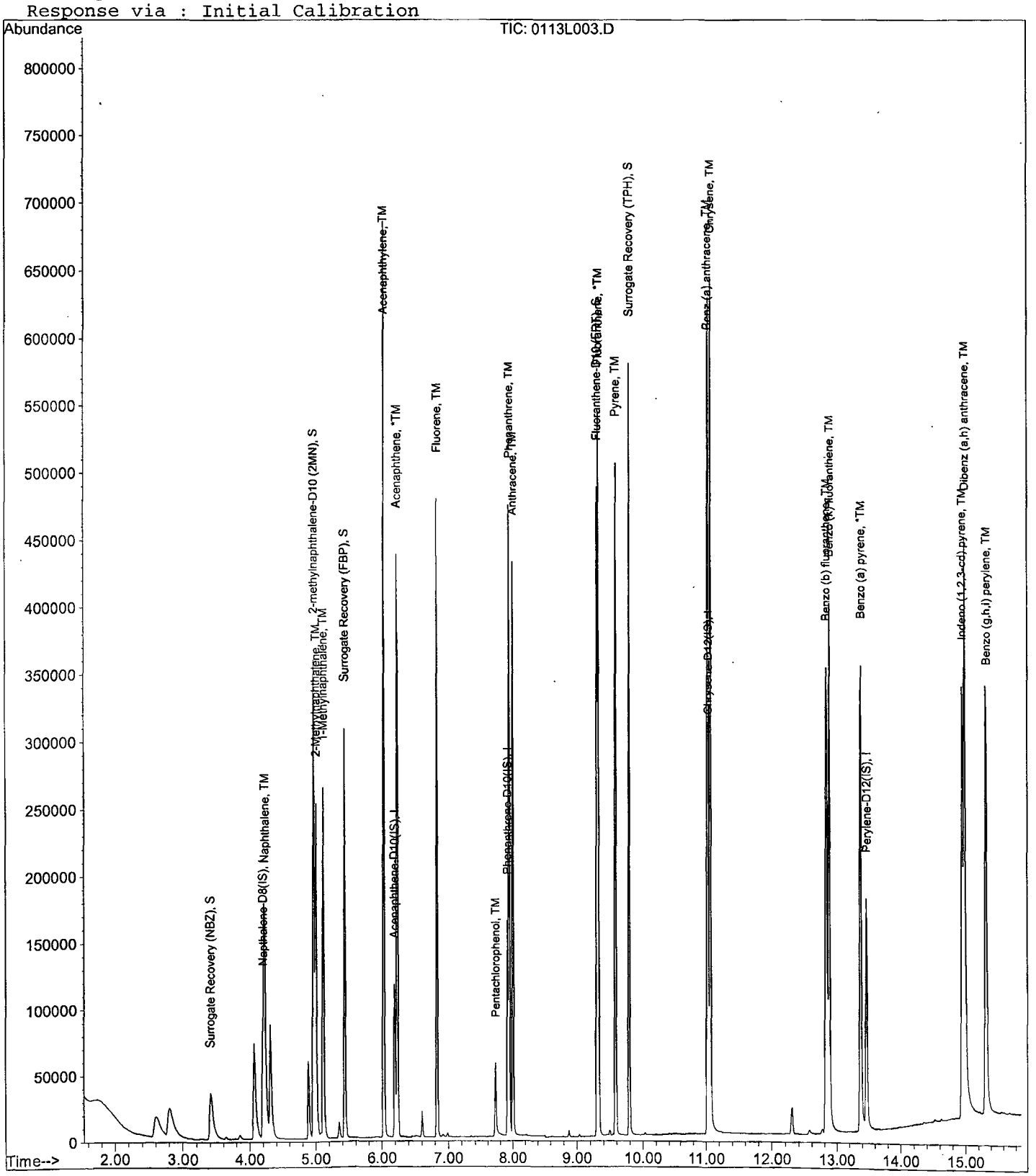
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L200113P\0113L003.D Vial: 88
Acq On : 13 Jan 20 14:59 Operator: MA
Sample : 5.0 SIM PCP 09/10/19 (0) Inst : Linus
Misc : Multiplr: 1.00

Quant Time: Jan 14 9:41 2020 Quant Results File: L0113PCP.RES

Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 09:45:39 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L200113P\0113L004.D Vial: 4
Acq On : 13 Jan 20 15:43 Operator: MA
Sample : 0.1 SIM PCP 09/10/19 Inst : Linus
Misc : Multiplr: 1.00

Quant Time: Jan 14 9:41 2020 Quant Results File: L0113PCP.RES

Quant Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 09:17:12 2020
Response via : Initial Calibration
DataAcq Meth : SIM_2

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	4.20	136	182920	2.50000 ppb	0.00
7) Acenaphthene-D10(IS)	6.19	164	93583	2.50000 ppb	0.00
13) Phenanthrene-D10(IS)	7.92	188	189919	2.50000 ppb	0.00
18) Chrysene-D12(IS)	11.03	240	255292	2.50000 ppb	-0.01
24) Perylene-D12(IS)	13.47	264	299330	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	3.41	82	2616	0.11384 ppb	0.00
Spiked Amount 5.000			Recovery	= 2.280%	
4) 2-methylnaphthalene-D10 (2	4.97	152	9265	0.10026 ppb	0.00
Spiked Amount 5.000			Recovery	= 2.000%	
8) Surrogate Recovery (FBP)	5.43	172	6583	0.10144 ppb	0.00
Spiked Amount 5.000			Recovery	= 2.020%	
16) Fluoranthene-D10 (FRT)	9.30	212	12145	0.10477 ppb	0.00
Spiked Amount 5.000			Recovery	= 2.100%	
20) Surrogate Recovery (TPH)	9.79	244	14279	-0.11979 ppb	0.00
Spiked Amount 5.000			Recovery	= -2.400%	
Target Compounds					Qvalue
3) Naphthalene	4.23	128	8409	0.10437 ppb	99
5) 2-Methylnaphthalene	5.01	141	4560	0.10220 ppb	94
6) 1-Methylnaphthalene	5.12	141	4853	0.10412 ppb	94
9) Acenaphthylene	6.04	152	17362	0.10143 ppb	99
10) Acenaphthene	6.23	154	5372	0.10661 ppb	99
11) Fluorene	6.83	166	6218	0.09878 ppb	94
12) Pentachlorophenol	7.73	266	1186	0.73851 ppb	95
14) Phenanthrene	7.94	178	10006	0.11162 ppb	97
15) Anthracene	8.00	178	8992	0.10732 ppb	98
17) Fluoranthene	9.33	202	14530	0.11191 ppb #	83
19) Pyrene	9.59	202	15048	0.11255 ppb #	83
21) Benz (a) anthracene	11.02	228	16919	0.12453 ppb	98
22) Chrysene	11.08	228	16407	0.13072 ppb #	95
23) Indeno (1,2,3-cd) pyrene	14.95	276	19315	0.11928 ppb #	73
25) Benzo (b) fluoranthene	12.83	252	17349	0.11985 ppb #	90
26) Benzo (k) fluoranthene	12.87	252	18918	0.13756 ppb #	90
27) Benzo (a) pyrene	13.37	252	16209	0.12179 ppb #	95
28) Dibenz (a,h) anthracene	14.99	278	16954	0.12357 ppb #	84
29) Benzo (g,h,i) perylene	15.32	276	16418	0.12110 ppb #	79

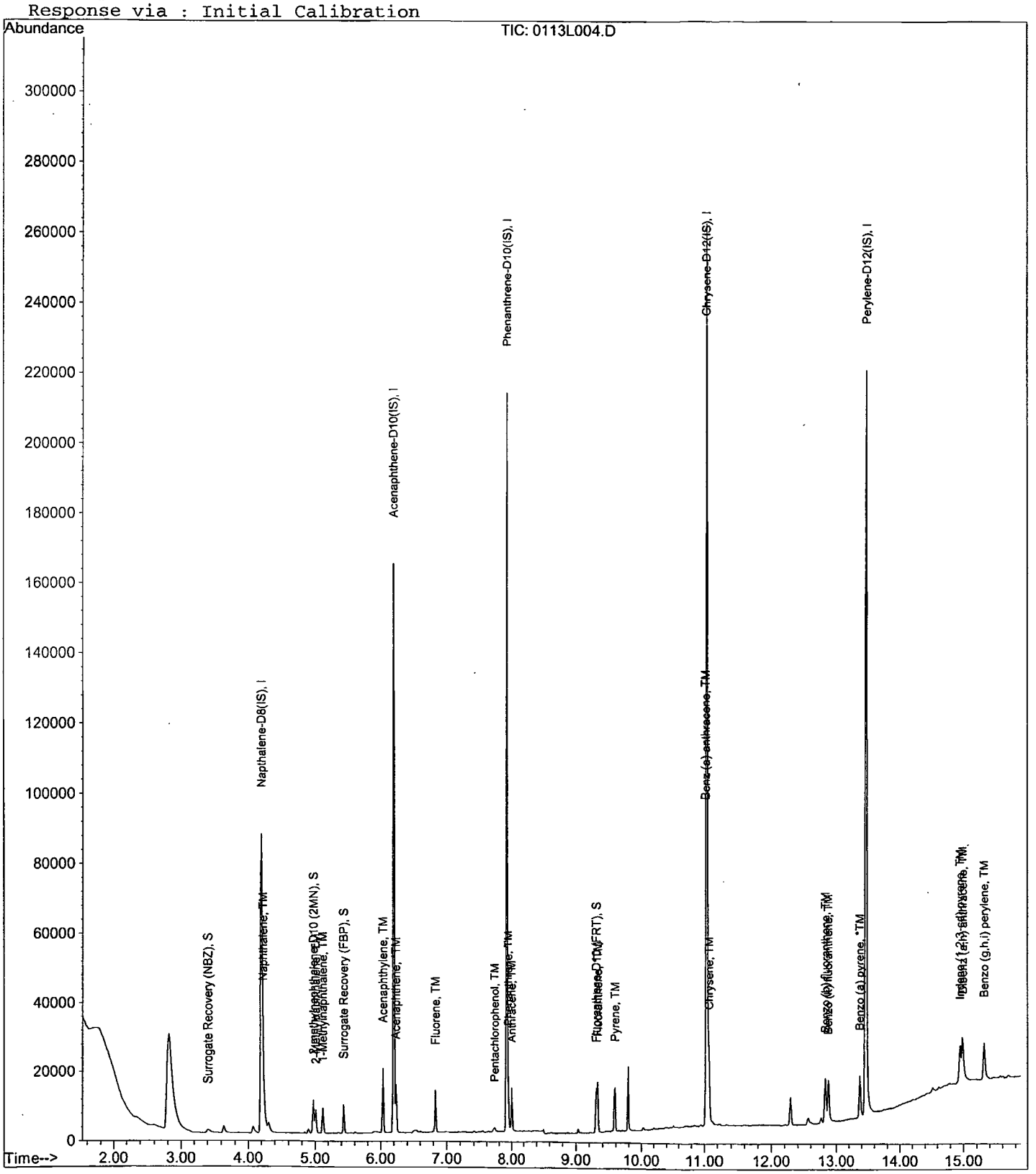
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L200113P\0113L004.D Vial: 4
Acq On : 13 Jan 20 15:43 Operator: MA
Sample : 0.1 SIM PCP 09/10/19 Inst : Linus
Misc : Multiplr: 1.00

Quant Time: Jan 14 9:41 2020 Quant Results File: L0113PCP.RES

Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 09:45:39 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L200113P\0113L005.D Vial: 5
Acq On : 13 Jan 20 16:05 Operator: MA
Sample : 0.25 SIM PCP 09/10/19 Inst : Linus
Misc : Multiplr: 1.00

Quant Time: Jan 14 9:41 2020 Quant Results File: L0113PCP.RES

Quant Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 09:17:12 2020
Response via : Initial Calibration
DataAcq Meth : SIM_2

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Napthalene-D8(IS)	4.20	136	139992	2.50000 ppb		0.00
7) Acenaphthene-D10(IS)	6.19	164	72066	2.50000 ppb		0.00
13) Phenanthrene-D10(IS)	7.92	188	147860	2.50000 ppb		0.00
18) Chrysene-D12(IS)	11.03	240	199568	2.50000 ppb		-0.01
24) Perylene-D12(IS)	13.46	264	234666	2.50000 ppb		-0.01
System Monitoring Compounds						
2) Surrogate Recovery (NBZ)	3.41	82	4414	0.25099 ppb		0.00
Spiked Amount 5.000			Recovery	= 5.020%		
4) 2-methylnaphthalene-D10 (2	4.97	152	17420	0.24631 ppb		0.00
Spiked Amount 5.000			Recovery	= 4.920%		
8) Surrogate Recovery (FBP)	5.43	172	12118	0.24248 ppb		0.00
Spiked Amount 5.000			Recovery	= 4.840%		
16) Fluoranthene-D10 (FRT)	9.30	212	22255	0.24660 ppb		0.00
Spiked Amount 5.000			Recovery	= 4.940%		
20) Surrogate Recovery (TPH)	9.78	244	21725	0.02520 ppb		-0.01
Spiked Amount 5.000			Recovery	= 0.500%		
Target Compounds						Qvalue
3) Naphthalene	4.23	128	15642	0.25369 ppb		98
5) 2-Methylnaphthalene	5.01	141	8548	0.25032 ppb		96
6) 1-Methylnaphthalene	5.12	141	9070	0.25427 ppb		94
9) Acenaphthylene	6.04	152	33075	0.25091 ppb		99
10) Acenaphthene	6.23	154	9817	0.25300 ppb		98
11) Fluorene	6.83	166	11891	0.24530 ppb		94
12) Pentachlorophenol	7.73	266	918	0.73893 ppb		95
14) Phenanthrene	7.94	178	17401	0.24934 ppb		97
15) Anthracene	8.00	178	16592	0.25436 ppb		98
17) Fluoranthene	9.33	202	24772	0.24507 ppb	#	81
19) Pyrene	9.58	202	25545	0.24440 ppb		95
21) Benz (a) anthracene	11.02	228	25375	0.23892 ppb		97
22) Chrysene	11.07	228	25033	0.25513 ppb		99
23) Indeno (1,2,3-cd) pyrene	14.93	276	30863	0.24381 ppb	#	80
25) Benzo (b) fluoranthene	12.82	252	27828	0.24522 ppb	#	93
26) Benzo (k) fluoranthene	12.87	252	27472	0.25481 ppb	#	90
27) Benzo (a) pyrene	13.37	252	25297	0.24246 ppb	#	94
28) Dibenz (a,h) anthracene	14.98	278	25593	0.23794 ppb	#	86
29) Benzo (g,h,i) perylene	15.30	276	25493	0.23985 ppb	#	82

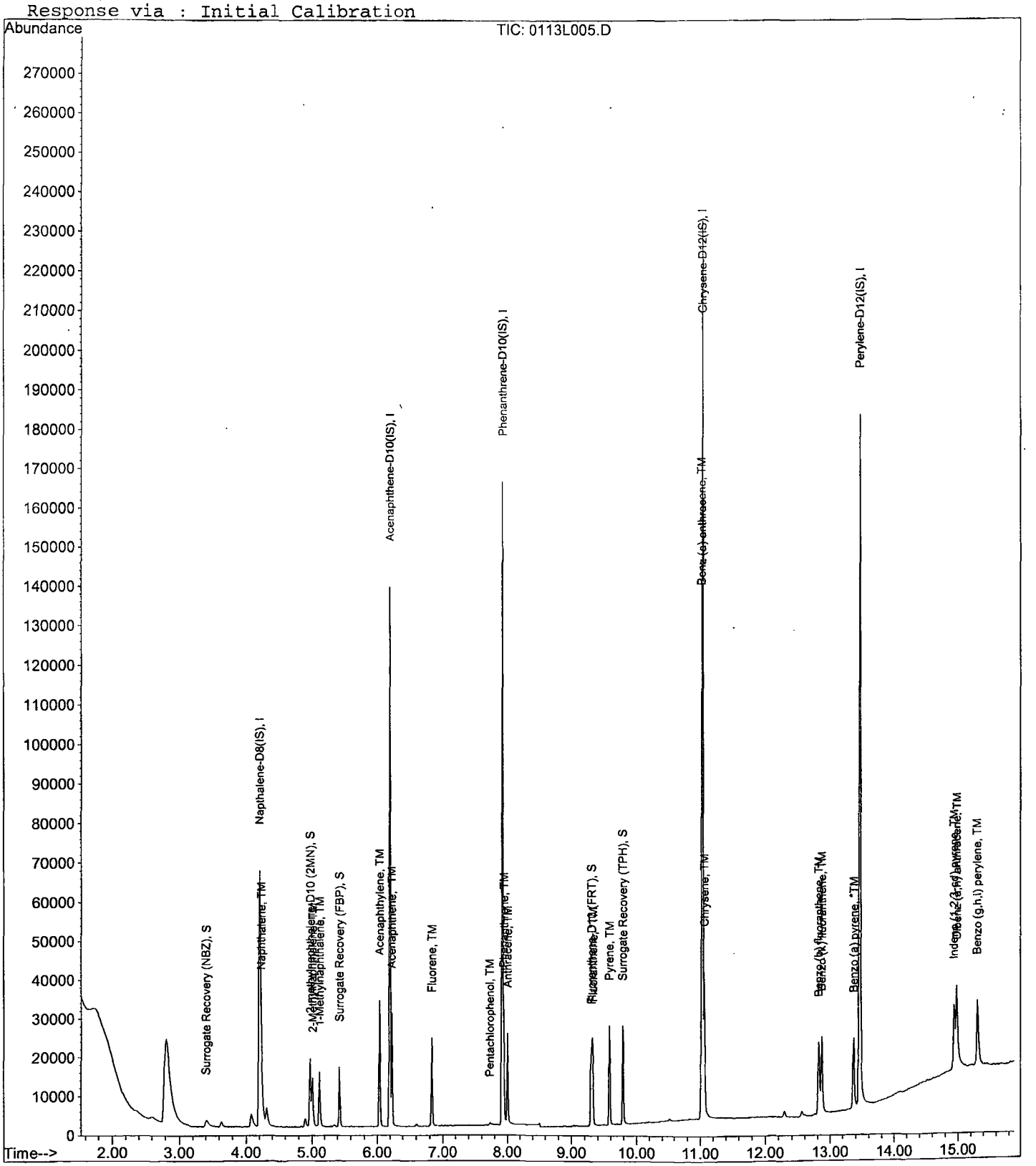
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L200113P\0113L005.D Vial: 5
Acq On : 13 Jan 20 16:05 Operator: MA
Sample : 0.25 SIM PCP 09/10/19 Inst : Linus
Misc : Multiplr: 1.00

Quant Time: Jan 14 9:41 2020 Quant Results File: L0113PCP.RES

Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 09:45:39 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L200113P\0113L006.D Vial: 6
Acq On : 13 Jan 20 16:26 Operator: MA
Sample : 0.5 SIM PCP 09/10/19 Inst : Linus
Misc : Multiplr: 1.00

Quant Time: Jan 14 9:41 2020 Quant Results File: L0113PCP.RES

Quant Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 09:17:12 2020
Response via : Initial Calibration
DataAcq Meth : SIM_2

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Napthalene-D8(IS)	4.20	136	166417	2.50000 ppb		0.00
7) Acenaphthene-D10(IS)	6.19	164	84916	2.50000 ppb		0.00
13) Phenanthrene-D10(IS)	7.92	188	175436	2.50000 ppb		0.00
18) Chrysene-D12(IS)	11.03	240	232237	2.50000 ppb		-0.01
24) Perylene-D12(IS)	13.46	264	275167	2.50000 ppb		-0.01
System Monitoring Compounds						
2) Surrogate Recovery (NBZ)	3.41	82	9691	0.46356 ppb		0.00
Spiked Amount 5.000			Recovery	= 9.280%		
4) 2-methylnaphthalene-D10 (2	4.97	152	39780	0.47317 ppb		0.00
Spiked Amount 5.000			Recovery	= 9.460%		
8) Surrogate Recovery (FBP)	5.43	172	28323	0.48097 ppb		0.00
Spiked Amount 5.000			Recovery	= 9.620%		
16) Fluoranthene-D10 (FRT)	9.29	212	51554	0.48146 ppb		-0.01
Spiked Amount 5.000			Recovery	= 9.620%		
20) Surrogate Recovery (TPH)	9.78	244	47543	0.28779 ppb		-0.01
Spiked Amount 5.000			Recovery	= 5.760%		
Target Compounds						Qvalue
3) Naphthalene	4.23	128	35497	0.48428 ppb		99
5) 2-Methylnaphthalene	5.01	141	19740	0.48627 ppb		93
6) 1-Methylnaphthalene	5.12	141	20714	0.48849 ppb		91
9) Acenaphthylene	6.04	152	75537	0.48632 ppb		99
10) Acenaphthene	6.23	154	21733	0.47534 ppb		99
11) Fluorene	6.83	166	27284	0.47766 ppb		94
12) Pentachlorophenol	7.73	266	2189	0.82348 ppb		91
14) Phenanthrene	7.94	178	40832	0.49311 ppb		98
15) Anthracene	8.00	178	37385	0.48303 ppb		98
17) Fluoranthene	9.32	202	57464	0.47913 ppb		93
19) Pyrene	9.58	202	57781	0.47505 ppb		94
21) Benz (a) anthracene	11.02	228	57542	0.46558 ppb		96
22) Chrysene	11.07	228	55677	0.48763 ppb		98
23) Indeno (1,2,3-cd) pyrene	14.94	276	67267	0.45665 ppb	#	80
25) Benzo (b) fluoranthene	12.82	252	57618	0.43299 ppb	#	92
26) Benzo (k) fluoranthene	12.87	252	64759	0.51225 ppb	#	89
27) Benzo (a) pyrene	13.37	252	55671	0.45504 ppb	#	93
28) Dibenz (a,h) anthracene	14.98	278	58499	0.46383 ppb	#	86
29) Benzo (g,h,i) perylene	15.30	276	57456	0.46100 ppb	#	81

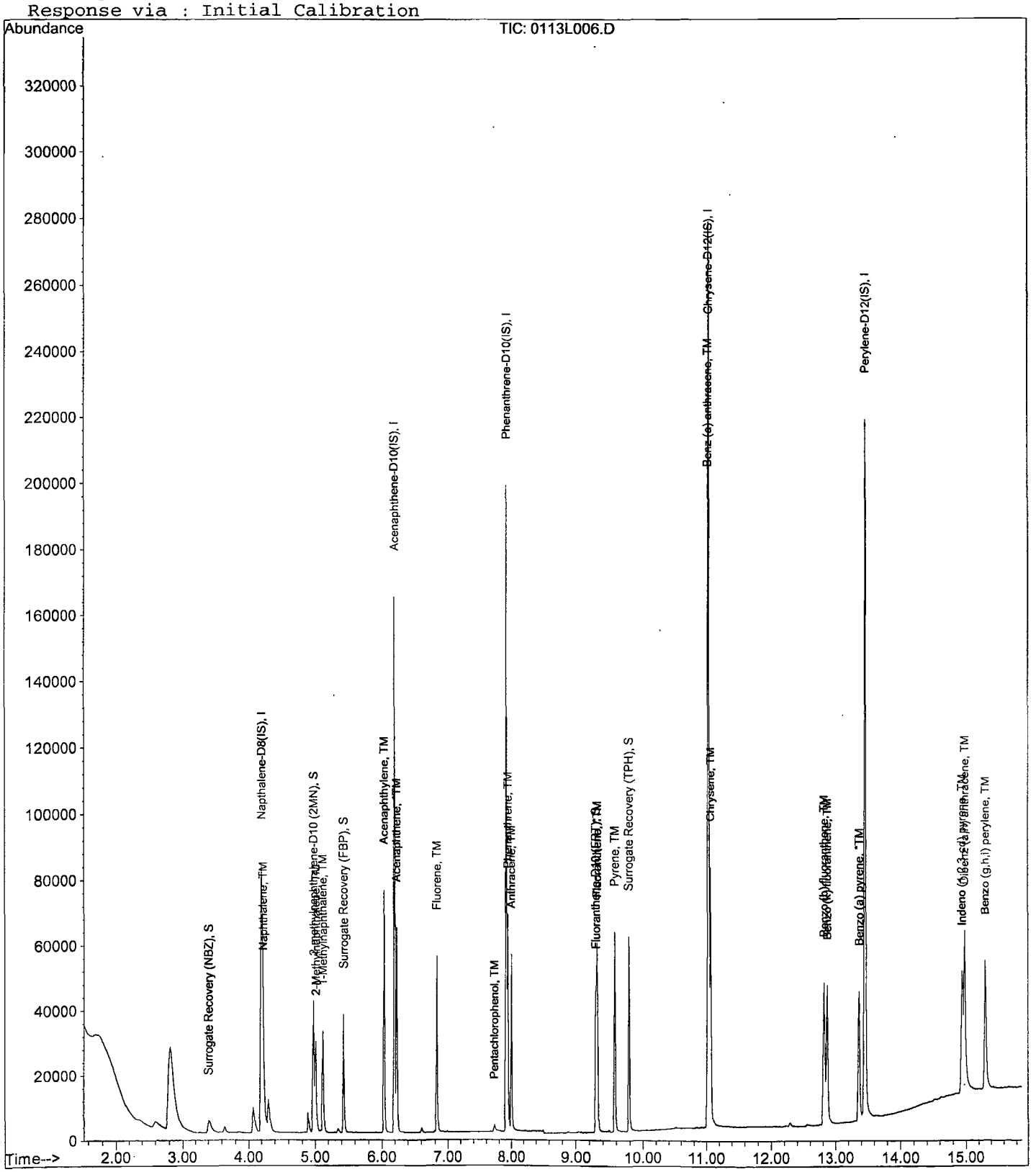
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L200113P\0113L006.D Vial: 6
Acq On : 13 Jan 20 16:26 Operator: MA
Sample : 0.5 SIM PCP 09/10/19 Inst : Linus
Misc : Multiplr: 1.00

Quant Time: Jan 14 9:41 2020 Quant Results File: L0113PCP.RES

Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 09:45:39 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L200113P\0113L007.D Vial: 7
Acq On : 13 Jan 20 16:48 Operator: MA
Sample : 2.5 SIM PCP 09/10/19 Inst : Linus
Misc : Multiplr: 1.00

Quant Time: Jan 14 9:41 2020 Quant Results File: L0113PCP.RES

Quant Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 09:17:12 2020
Response via : Initial Calibration
DataAcq Meth : SIM_2

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Napthalene-D8(IS)	4.20	136	124911	2.50000 ppb		0.00
7) Acenaphthene-D10(IS)	6.19	164	63938	2.50000 ppb		0.00
13) Phenanthrene-D10(IS)	7.92	188	134311	2.50000 ppb		0.00
18) Chrysene-D12(IS)	11.03	240	178972	2.50000 ppb		-0.01
24) Perylene-D12(IS)	13.46	264	210319	2.50000 ppb		-0.01
System Monitoring Compounds						
2) Surrogate Recovery (NBZ)	3.41	82	37017	2.35902 ppb		0.00
Spiked Amount 5.000			Recovery	= 47.180%		
4) 2-methylnaphthalene-D10 (2	4.97	152	156336	2.47744 ppb		0.00
Spiked Amount 5.000			Recovery	= 49.540%		
8) Surrogate Recovery (FBP)	5.43	172	109067	2.45983 ppb		0.00
Spiked Amount 5.000			Recovery	= 49.200%		
16) Fluoranthene-D10 (FRT)	9.29	212	201671	2.46010 ppb		-0.01
Spiked Amount 5.000			Recovery	= 49.200%		
20) Surrogate Recovery (TPH)	9.78	244	178817	2.46400 ppb		-0.01
Spiked Amount 5.000			Recovery	= 49.280%		
Target Compounds						Qvalue
3) Naphthalene	4.23	128	134284	2.44079 ppb		99
5) 2-Methylnaphthalene	5.01	141	75534	2.47898 ppb		93
6) 1-Methylnaphthalene	5.12	141	77579	2.43741 ppb		92
9) Acenaphthylene	6.04	152	289336	2.47397 ppb		98
10) Acenaphthene	6.23	154	81546	2.36876 ppb		98
11) Fluorene	6.83	166	104879	2.43856 ppb		92
12) Pentachlorophenol	7.73	266	13035	1.97816 ppb		94
14) Phenanthrene	7.94	178	153482	2.42108 ppb		97
15) Anthracene	8.00	178	142641	2.40727 ppb		98
17) Fluoranthene	9.32	202	214315	2.33407 ppb		94
19) Pyrene	9.58	202	217868	2.32433 ppb		93
21) Benz (a) anthracene	11.02	228	212782	2.23406 ppb		97
22) Chrysene	11.07	228	206585	2.34780 ppb		99
23) Indeno (1,2,3-cd) pyrene	14.93	276	254376	2.24078 ppb	#	80
25) Benzo (b) fluoranthene	12.82	252	241795	2.37731 ppb	#	93
26) Benzo (k) fluoranthene	12.87	252	220737	2.28443 ppb	#	90
27) Benzo (a) pyrene	13.37	252	213128	2.27917 ppb	#	93
28) Dibenz (a,h) anthracene	14.98	278	219101	2.27284 ppb	#	85
29) Benzo (g,h,i) perylene	15.30	276	216035	2.26783 ppb	#	80

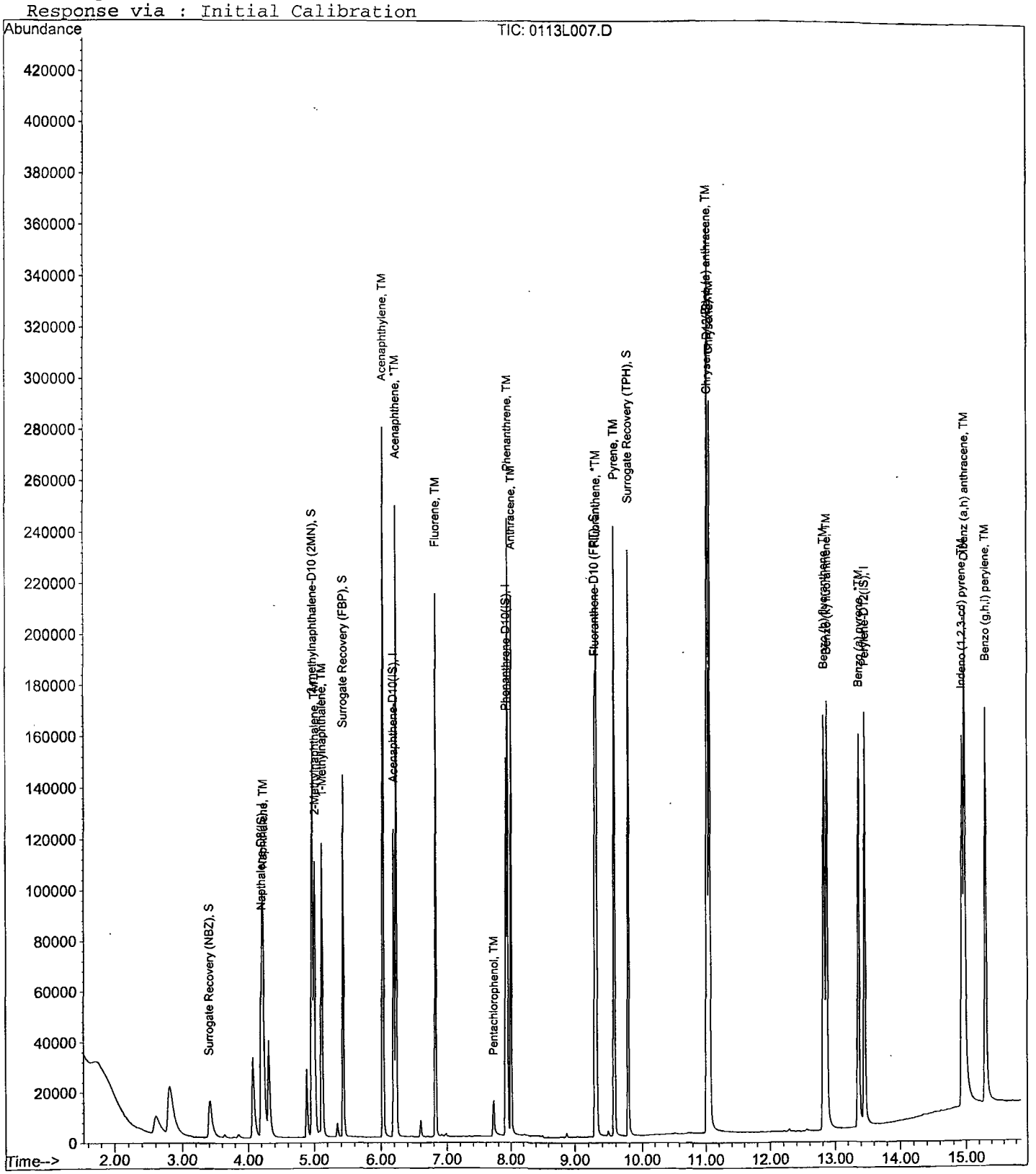
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L200113P\0113L007.D Vial: 7
Acq On : 13 Jan 20 16:48 Operator: MA
Sample : 2.5 SIM PCP 09/10/19 Inst : Linus
Misc : Multiplr: 1.00

Quant Time: Jan 14 9:41 2020 Quant Results File: L0113PCP.RES

Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 09:45:39 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L200113P\0113L008.D Vial: 8
Acq On : 13 Jan 20 17:10 Operator: MA
Sample : 25 SIM PCP 09/10/19 Inst : Linus
Misc : Multiplr: 1.00

Quant Time: Jan 14 9:41 2020 Quant Results File: L0113PCP.RES

Quant Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 09:17:12 2020
Response via : Initial Calibration
DataAcq Meth : SIM_2

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Napthalene-D8(IS)	4.20	136	132250	2.50000 ppb		0.00
7) Acenaphthene-D10(IS)	6.19	164	70869	2.50000 ppb		0.00
13) Phenanthrene-D10(IS)	7.92	188	152595	2.50000 ppb		0.00
18) Chrysene-D12(IS)	11.04	240	190630	2.50000 ppb		0.00
24) Perylene-D12(IS)	13.47	264	230401	2.50000 ppb		0.00
System Monitoring Compounds						
2) Surrogate Recovery (NBZ)	3.41	82	363625	21.88716 ppb		0.00
Spiked Amount 5.000			Recovery	= 437.740%		
4) 2-methylnaphthalene-D10 (2	4.97	152	1648284	24.67072 ppb		0.00
Spiked Amount 5.000			Recovery	= 493.420%		
8) Surrogate Recovery (FBP)	5.43	172	1153649	23.47403 ppb		0.00
Spiked Amount 5.000			Recovery	= 469.480%		
16) Fluoranthene-D10 (FRT)	9.30	212	2124681	22.81258 ppb		0.00
Spiked Amount 5.000			Recovery	= 456.260%		
20) Surrogate Recovery (TPH)	9.79	244	1822110	25.91102 ppb		0.00
Spiked Amount 5.000			Recovery	= 518.220%		
Target Compounds						Qvalue
3) Naphthalene	4.23	128	1355207	23.26571 ppb		98
5) 2-Methylnaphthalene	5.01	141	772195	23.93665 ppb		91
6) 1-Methylnaphthalene	5.12	141	812530	24.11179 ppb		90
9) Acenaphthylene	6.04	152	3030272	23.37628 ppb		98
10) Acenaphthene	6.24	154	903060	23.66671 ppb		84
11) Fluorene	6.83	166	1127127	23.64397 ppb		91
12) Pentachlorophenol	7.73	266	260871	24.52292 ppb		93
14) Phenanthrene	7.95	178	1624188	22.55066 ppb		95
15) Anthracene	8.01	178	1534860	22.79928 ppb		95
17) Fluoranthene	9.33	202	2181426	20.91091 ppb		93
19) Pyrene	9.59	202	2293914	22.97600 ppb		90
21) Benz (a) anthracene	11.03	228	2339377	23.05972 ppb		96
22) Chrysene	11.08	228	2173997	23.19610 ppb		98
23) Indeno (1,2,3-cd) pyrene	14.97	276	2847468	23.54920 ppb	#	67
25) Benzo (b) fluoranthene	12.84	252	2533452	22.73766 ppb	#	92
26) Benzo (k) fluoranthene	12.89	252	2477702	23.40698 ppb	#	90
27) Benzo (a) pyrene	13.38	252	2350924	22.94932 ppb		95
28) Dibenz (a,h) anthracene	15.00	278	2429243	23.00330 ppb	#	85
29) Benzo (g,h,i) perylene	15.34	276	2415655	23.14810 ppb	#	79

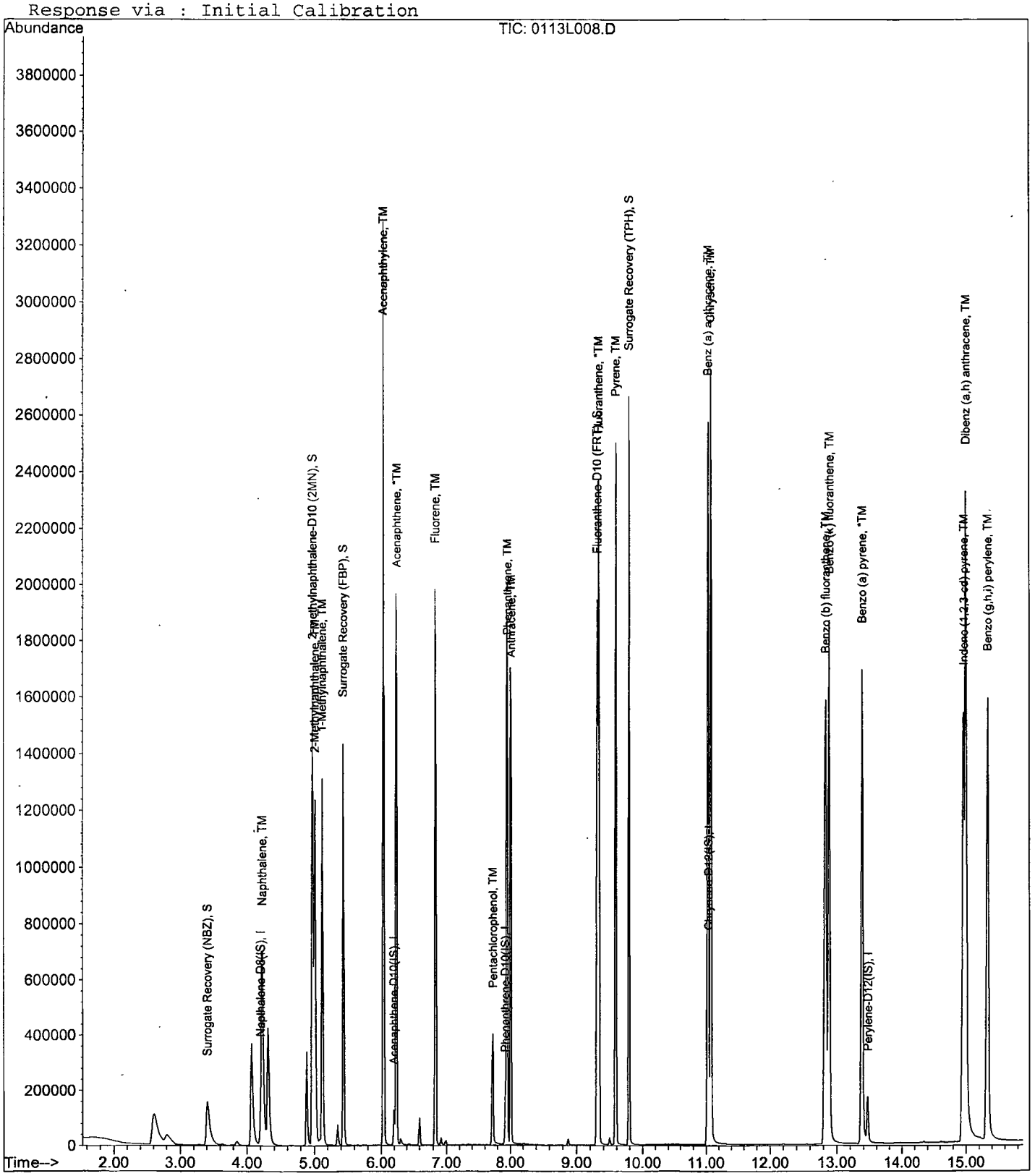
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L200113P\0113L008.D Vial: 8
Acq On : 13 Jan 20 17:10 Operator: MA
Sample : 25 SIM PCP 09/10/19 Inst : Linus
Misc : Multiplr: 1.00

Quant Time: Jan 14 9:41 2020 Quant Results File: L0113PCP.RES

Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 09:45:39 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L200113P\0113L009.D Vial: 9
Acq On : 13 Jan 20 17:32 Operator: MA
Sample : 50 SIM PCP 09/10/19 Inst : Linus
Misc : Multiplr: 1.00

Quant Time: Jan 14 9:42 2020 Quant Results File: L0113PCP.RES

Quant Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 09:17:12 2020
Response via : Initial Calibration
DataAcq Meth : SIM_2

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Napthalene-D8(IS)	4.20	136	139719	2.50000	ppb		0.00
7) Acenaphthene-D10(IS)	6.19	164	70415	2.50000	ppb		0.00
13) Phenanthrene-D10(IS)	7.92	188	146169	2.50000	ppb		0.00
18) Chrysene-D12(IS)	11.05	240	184151	2.50000	ppb		0.01
24) Perylene-D12(IS)	13.47	264	224065	2.50000	ppb		0.00
System Monitoring Compounds							
2) Surrogate Recovery (NBZ)	3.41	82	861548	49.08574	ppb		0.00
Spiked Amount 5.000			Recovery = 981.720%				
4) 2-methylnaphthalene-D10 (2	4.97	152	3248750	46.02633	ppb		0.00
Spiked Amount 5.000			Recovery = 920.520%				
8) Surrogate Recovery (FBP)	5.43	172	2220973	45.48291	ppb		0.00
Spiked Amount 5.000			Recovery = 909.660%				
16) Fluoranthene-D10 (FRT)	9.32	212	3941442	44.17950	ppb		0.01
Spiked Amount 5.000			Recovery = 883.600%				
20) Surrogate Recovery (TPH)	9.79	244	3347885	49.52931	ppb		0.00
Spiked Amount 5.000			Recovery = 990.580%				
Target Compounds							Qvalue
3) Naphthalene	4.23	128	2773429	45.06796	ppb		98
5) 2-Methylnaphthalene	5.01	141	1484555	43.55849	ppb		92
6) 1-Methylnaphthalene	5.12	141	1547336	43.46252	ppb		91
9) Acenaphthylene	6.04	152	5470157	42.47024	ppb		97
10) Acenaphthene	6.24	154	1675761	44.20023	ppb		91
11) Fluorene	6.84	166	2184846	46.12745	ppb		88
12) Pentachlorophenol	7.73	266	540481	50.42270	ppb		95
14) Phenanthrene	7.95	178	2873879	41.65590	ppb		97
15) Anthracene	8.01	178	2748934	42.62866	ppb		97
17) Fluoranthene	9.34	202	3961424	39.64320	ppb	#	90
19) Pyrene	9.60	202	4352710	45.13092	ppb	#	81
21) Benz (a) anthracene	11.03	228	4282462	43.69830	ppb		97
22) Chrysene	11.09	228	4174742	46.11081	ppb		96
23) Indeno (1,2,3-cd) pyrene	14.98	276	5539626	47.42584	ppb	#	79
25) Benzo (b) fluoranthene	12.85	252	4784839	44.15813	ppb	#	93
26) Benzo (k) fluoranthene	12.91	252	4726666	45.91573	ppb	#	87
27) Benzo (a) pyrene	13.40	252	4415736	44.32459	ppb	#	90
28) Dibenz (a,h) anthracene	15.02	278	4746500	46.21713	ppb	#	83
29) Benzo (g,h,i) perylene	15.36	276	4719226	46.50093	ppb	#	83

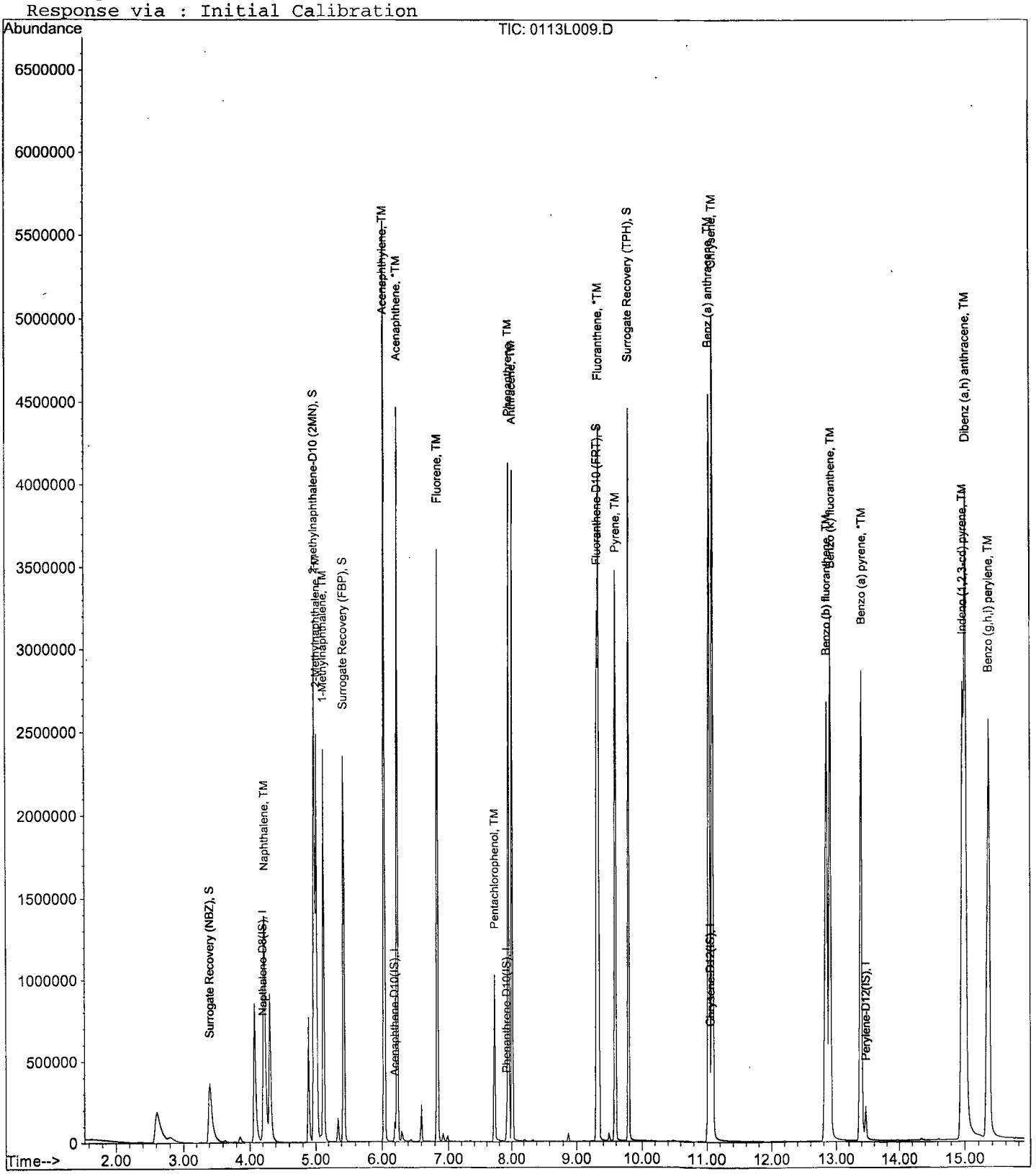
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L200113P\0113L009.D Vial: 9
Acq On : 13 Jan 20 17:32 Operator: MA
Sample : 50 SIM PCP 09/10/19 Inst : Linus
Misc : Multiplr: 1.00

Quant Time: Jan 14 9:42 2020 Quant Results File: L0113PCP.RES

Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 09:45:39 2020
Response via : Initial Calibration



PAH by GCMS SIM
EPA 8270 SIM

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 01/13/20
Instrument: Linus
Initial Cal. Date: 01/13/20
Data File: 0113L010.D

		Compound	MEAN	CCRF	%D		%Drift
1	TM	Naphthalene	1.066	0.9911	7.0	TM	
2	TM	2-Methylnaphthalene	0.5873	0.5561	5.3	TM	
3	TM	1-Methylnaphthalene	0.6164	0.5575	9.6	TM	
4	TM	Acenaphthylene	4.406	4.080	7.4	TM	
5	*TM	Acenaphthene	1.296	1.185	8.6	*TM	
6	TM	Fluorene	1.622	1.497	7.7	TM	
7	TML	Pentachlorophenol	0.2573	0.2626	2.1	TML	19
8	TM	Phenanthrene	1.137	1.087	4.4	TM	
9	TM	Anthracene	1.063	1.088	2.4	TM	
10	*TM	Fluoranthene	1.638	1.535	6.3	*TM	
11	TM	Pyrene	1.264	1.213	4.0	TM	
12	TM	Benz (a) anthracene	1.285	1.212	5.7	TM	
13	TM	Chrysene	1.236	1.091	12	TM	
14	TM	Indeno (1,2,3-cd) pyrene	1.531	1.495	2.3	TM	
15	TM	Benzo (b) fluoranthene	1.167	1.050	10	TM	
16	TML	Benzo (k) fluoranthene	1.168	1.077	7.8	TML	0.39
17	*TM	Benzo (a) pyrene	1.073	1.019	5.1	*TM	
18	TM	Dibenz (a,h) anthracene	1.107	1.031	6.8	TM	
19	TM	Benzo (g,h,i) perylene	1.094	1.020	6.8	TM	
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			6.4		

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L200113P\0113L010.D Vial: 10
Acq On : 13 Jan 20 17:54 Operator: MA
Sample : SS SIM PCP 01/07/20 Inst : Linus
Misc : Multiplr: 1.00

Quant Time: Jan 14 10:11 2020 Quant Results File: L0113PCP.RES

Quant Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 10:07:16 2020
Response via : Initial Calibration
DataAcq Meth : SIM_2

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Napthalene-D8(IS)	4.20	136	137049	2.50000 ppb		0.00
7) Acenaphthene-D10(IS)	6.19	164	73342	2.50000 ppb		0.00
13) Phenanthrene-D10(IS)	7.92	188	143388	2.50000 ppb		0.00
18) Chrysene-D12(IS)	11.03	240	185022	2.50000 ppb		-0.01
24) Perylene-D12(IS)	13.46	264	223282	2.50000 ppb		-0.01
System Monitoring Compounds						
2) Surrogate Recovery (NBZ)	0.00	82	0d	0.00000 ppb		
Spiked Amount 5.000			Recovery	= 0.000%		
4) 2-methylnaphthalene-D10 (2	0.00	152	0d	0.00000 ppb		
Spiked Amount 5.000			Recovery	= 0.000%		
8) Surrogate Recovery (FBP)	0.00	172	0d	0.00000 ppb		
Spiked Amount 5.000			Recovery	= 0.000%		
16) Fluoranthene-D10 (FRT)	0.00	212	0d	0.00000 ppb		
Spiked Amount 5.000			Recovery	= 0.000%		
20) Surrogate Recovery (TPH)	0.00	244	0d	0.00000 ppb		
Spiked Amount 5.000			Recovery	= 0.000%		
Target Compounds						Qvalue
3) Naphthalene	4.21	128	271657	4.64994 ppb		100
5) 2-Methylnaphthalene	5.01	141	152425	4.73419 ppb		92
6) 1-Methylnaphthalene	5.12	141	152810	4.52231 ppb		91
9) Acenaphthylene	6.04	152	598474	4.63048 ppb		98
10) Acenaphthene	6.23	154	173773	4.56904 ppb		97
11) Fluorene	6.83	166	219524	4.61475 ppb		91
12) Pentachlorophenol	7.71	266	38516m	4.06536 ppb		99
14) Phenanthrene	7.94	178	311611	4.78047 ppb		96
15) Anthracene	8.00	178	311899	5.11783 ppb		97
17) Fluoranthene	9.32	202	440235	4.68695 ppb	#	90
19) Pyrene	9.58	202	448976	4.80127 ppb		91
21) Benz (a) anthracene	11.02	228	448345	4.71418 ppb		96
22) Chrysene	11.07	228	403762	4.41339 ppb	#	98
23) Indeno (1,2,3-cd) pyrene	14.93	276	553182	4.88371 ppb	#	75
25) Benzo (b) fluoranthene	12.82	252	468839	4.49960 ppb	#	92
26) Benzo (k) fluoranthene	12.87	252	480847	5.01949 ppb	#	89
27) Benzo (a) pyrene	13.36	252	454826	4.74588 ppb		97
28) Dibenz (a,h) anthracene	14.98	278	460460	4.65759 ppb	#	84
29) Benzo (g,h,i) perylene	15.30	276	455427	4.66225 ppb	#	79

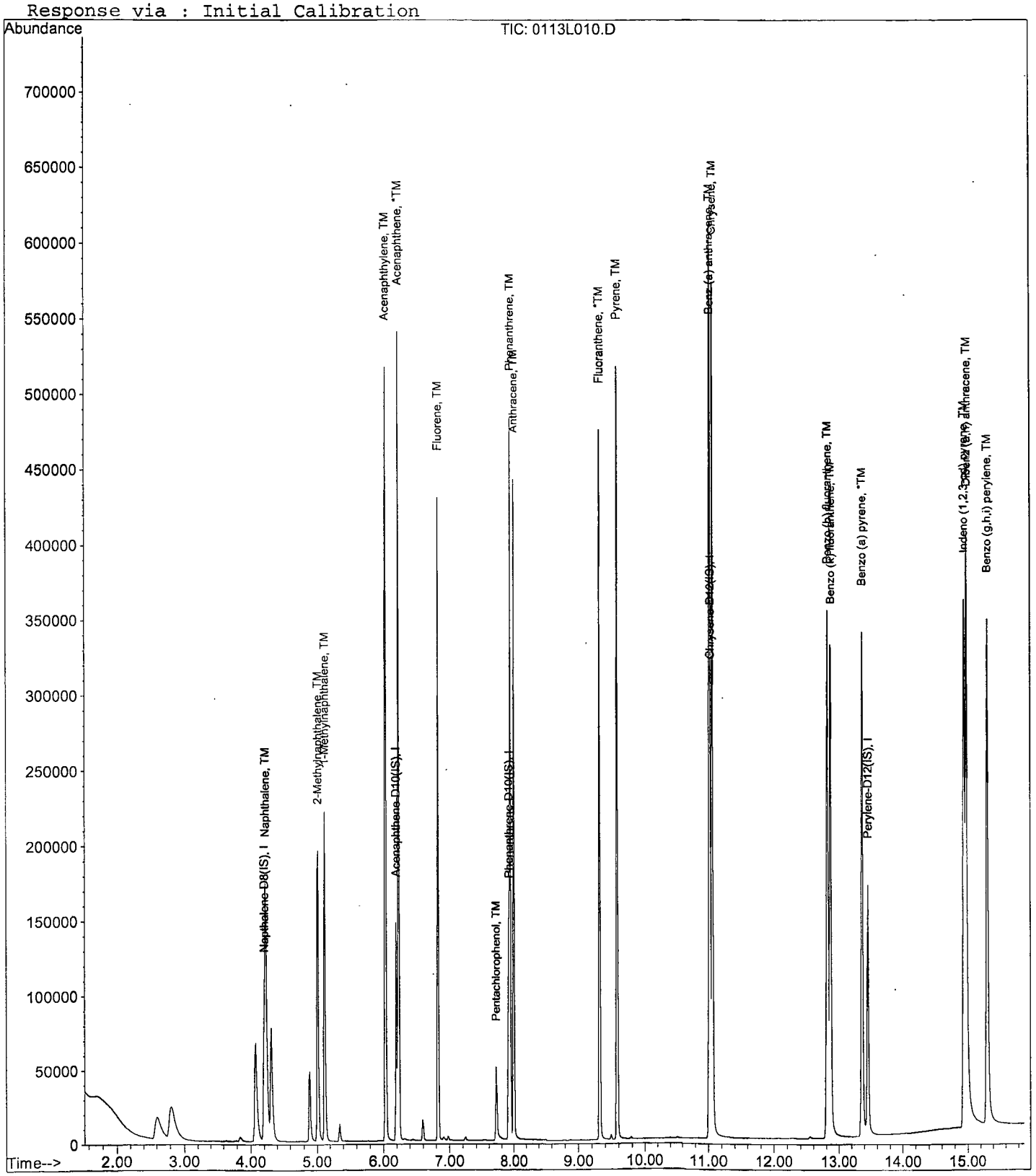
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L200113P\0113L010.D Vial: 10
Acq On : 13 Jan 20 17:54 Operator: MA
Sample : SS SIM PCP 01/07/20 Inst : Linus
Misc : Multiplr: 1.00

Quant Time: Jan 14 10:11 2020 Quant Results File: L0113PCP.RES

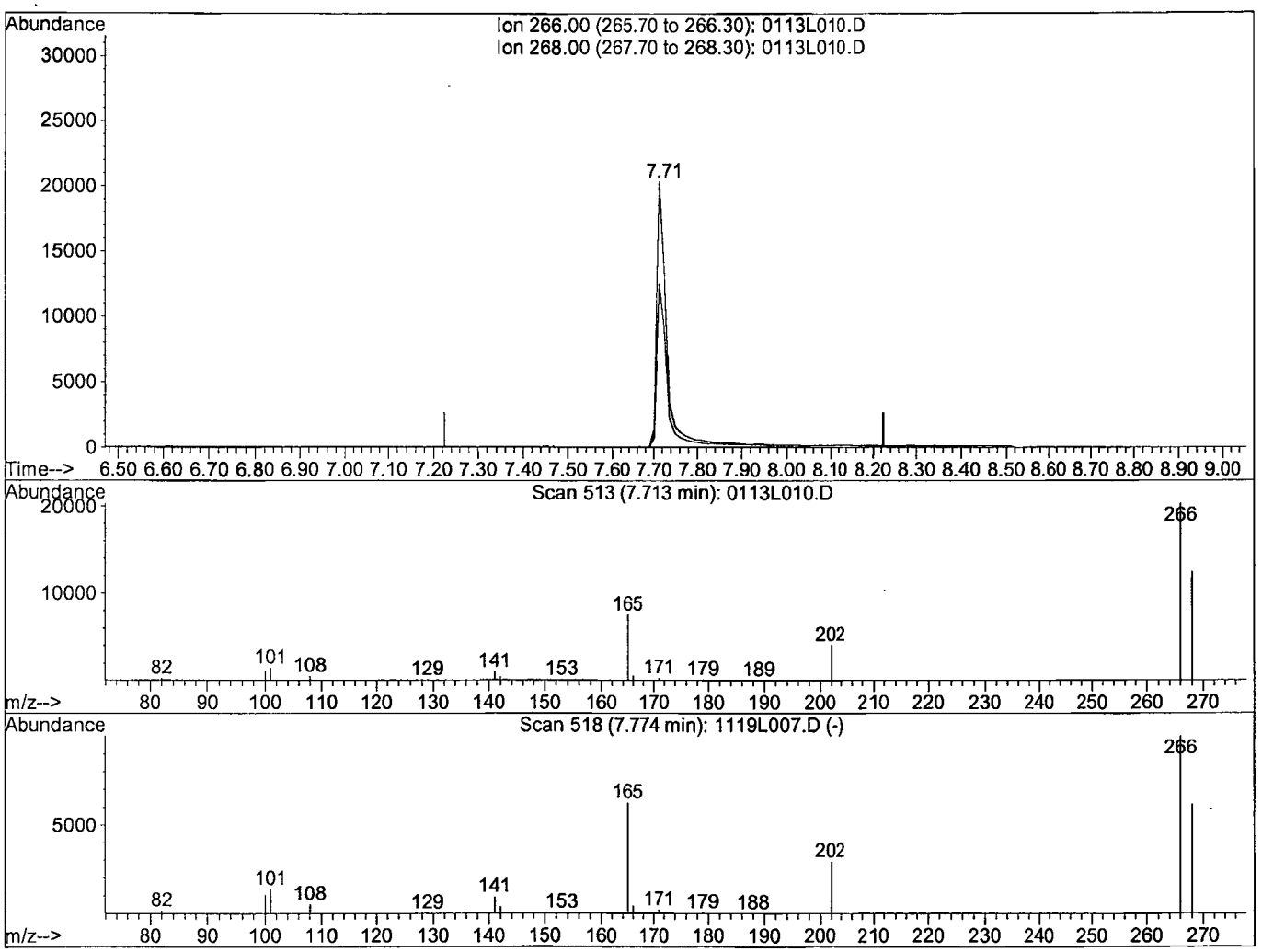
Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 10:07:16 2020
Response via : Initial Calibration



Quantitation Report

Data File : M:\LINUS\DATA\L200113P\0113L010.D Vial: 10
Acq On : 13 Jan 20 17:54 Operator: MA
Sample : SS SIM PCP 01/07/20 Inst : Linus
Misc : Multiplr: 1.00
Quant Time: Jan 14 10:10 2020 Quant Results File: temp.res

Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 10:07:16 2020
Response via : Multiple Level Calibration



TIC: 0113L010.D

(12) Pentachlorophenol (TM)

7.71min 3.7692ppb

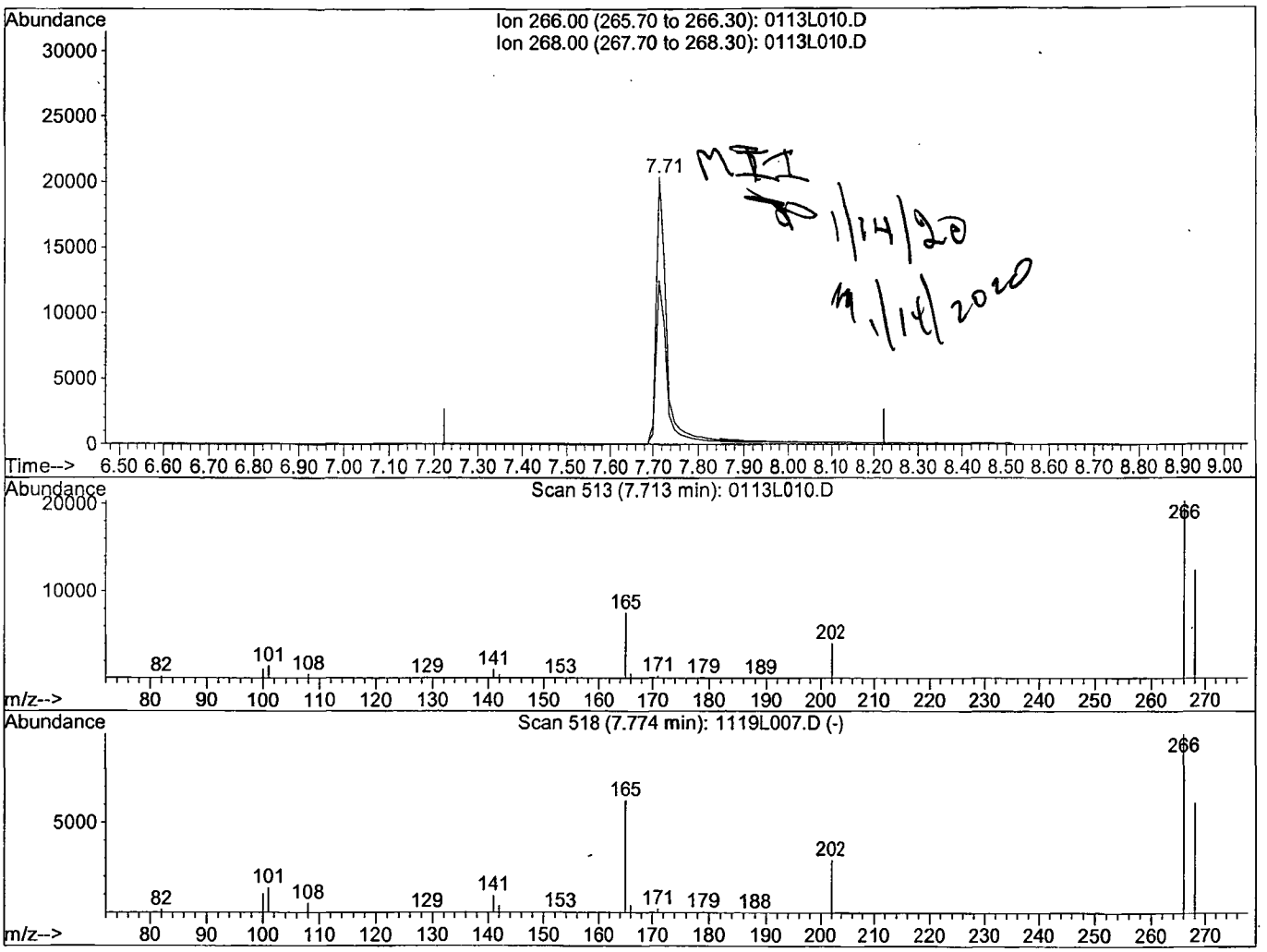
response 35161

Ion	Exp%	Act%
266.00	100	100
268.00	61.50	61.05
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report

Data File : M:\LINUS\DATA\L200113P\0113L010.D Vial: 10
Acq On : 13 Jan 20 17:54 Operator: MA
Sample : SS SIM PCP 01/07/20 Inst : Linus
Misc : Multiplr: 1.00
Quant Time: Jan 14 10:11 2020 Quant Results File: temp.res

Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 10:07:16 2020
Response via : Multiple Level Calibration



TIC: 0113L010.D

(12) Pentachlorophenol (TM)

7.71min 4.0654ppb m

response 38516

Ion	Exp%	Act%
266.00	100	100
268.00	61.50	61.19
0.00	0.00	0.00
0.00	0.00	0.00

PAH by GCMS SIM
EPA 8270 SIM

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 01/27/20
Instrument: Linus
Initial Cal. Date: 01/13/20
Data File: 0113L162.D

		Compound	MEAN	CCRF	%D		%Drift	
1	I	Napthalene-D8(IS)	ISTD			I		
2	S	Surrogate Recovery (NBZ)	0.3053	0.3309	8.4	S		
3	TM	Naphthalene	1.066	1.187	11	TM		
4	S	2-methylnaphthalene-D10 (2MN)	1.224	1.375	12	S		
5	TM	2-Methylnaphthalene	0.5873	0.6567	12	TM		
6	TM	1-Methylnaphthalene	0.6164	0.6793	10	TM		
7	I	Acenaphthene-D10(IS)	ISTD			I		
8	S	Surrogate Recovery (FBP)	1.672	1.696	1.4	S		
9	TM	Acenaphthylene	4.406	4.448	0.96	TM		
10	*TM	Acenaphthene	1.296	1.298	0.12	*TM		
11	TM	Fluorene	1.622	1.662	2.5	TM		
12	TML	Pentachlorophenol	0.2573	0.2371	7.9	TML	25	*NT
13	I	Phenanthrene-D10(IS)	ISTD			I		
14	TM	Phenanthrene	1.137	1.229	8.2	TM		
15	TM	Anthracene	1.063	1.137	7.0	TM		
16	S	Fluoranthene-D10 (FRT)	1.470	1.514	3.0	S		
17	*TM	Fluoranthene	1.638	1.696	3.6	*TM		
18	I	Chrysene-D12(IS)	ISTD			I		
19	TM	Pyrene	1.264	1.362	7.8	TM		
20	S	Surrogate Recovery (TPH)	1.053	1.056	0.27	S		
21	TM	Benz (a) anthracene	1.285	1.292	0.52	TM		
22	TM	Chrysene	1.236	1.306	5.6	TM		
23	TM	Indeno (1,2,3-cd) pyrene	1.531	1.720	12	TM		
24	I	Perylene-D12(IS)	ISTD			I		
25	TM	Benzo (b) fluoranthene	1.167	1.185	1.5	TM		
26	TML	Benzo (k) fluoranthene	1.168	1.289	10	TML	21	*NT
27	*TM	Benzo (a) pyrene	1.073	1.137	6.0	*TM		
28	TM	Dibenz (a,h) anthracene	1.107	1.243	12	TM		
29	TM	Benzo (g,h,i) perylene	1.094	1.242	14	TM		
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								
		Average			6.6			

Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L200113P\0113L162.D Vial: 62
Acq On : 27 Jan 20 14:51 Operator: MA
Sample : 5ug/mL SIM PCP 01/16/20 (1) Inst : Linus
Misc : Multiplr: 1.00

Quant Time: Jan 27 15:11 2020 Quant Results File: L0113PCP.RES

Quant Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 10:14:53 2020
Response via : Initial Calibration
DataAcq Meth : SIM_2

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Napthalene-D8(IS)	4.19	136	119953	2.50000 ppb		-0.01
7) Acenaphthene-D10(IS)	6.18	164	66859	2.50000 ppb		-0.01
13) Phenanthrene-D10(IS)	7.91	188	130657	2.50000 ppb		-0.01
18) Chrysene-D12(IS)	11.01	240	166604	2.50000 ppb		-0.03
24) Perylene-D12(IS)	13.43	264	195500	2.50000 ppb		-0.03
System Monitoring Compounds						
2) Surrogate Recovery (NBZ)	3.41	82	79392	5.41998 ppb		0.00
Spiked Amount 5.000			Recovery	= 108.400%		
4) 2-methylnaphthalene-D10 (2	4.96	152	329814	5.61679 ppb		-0.01
Spiked Amount 5.000			Recovery	= 112.340%		
8) Surrogate Recovery (FBP)	5.42	172	226814	5.07126 ppb		-0.01
Spiked Amount 5.000			Recovery	= 101.420%		
16) Fluoranthene-D10 (FRT)	9.28	212	395575	5.14803 ppb		-0.02
Spiked Amount 5.000			Recovery	= 102.960%		
20) Surrogate Recovery (TPH)	9.77	244	351938	5.01330 ppb		-0.02
Spiked Amount 5.000			Recovery	= 100.260%		
Target Compounds						Qvalue
3) Naphthalene	4.21	128	284763	5.56897 ppb		100
5) 2-Methylnaphthalene	5.00	141	157545	5.59061 ppb		100
6) 1-Methylnaphthalene	5.11	141	162975	5.51054 ppb		100
9) Acenaphthylene	6.02	152	594780	5.04812 ppb		100
10) Acenaphthene	6.22	154	173568	5.00617 ppb		94
11) Fluorene	6.82	166	222273	5.12561 ppb		96
12) Pentachlorophenol	7.71	266	31700	3.73507 ppb		100
14) Phenanthrene	7.93	178	321262	5.40875 ppb		98
15) Anthracene	7.99	178	296983	5.34790 ppb		98
17) Fluoranthene	9.30	202	443285	5.17927 ppb		99
19) Pyrene	9.57	202	453699	5.38814 ppb		98
21) Benz (a) anthracene	11.00	228	430403	5.02582 ppb		98
22) Chrysene	11.04	228	435132	5.28209 ppb	#	97
23) Indeno (1,2,3-cd) pyrene	14.92	276	573143	5.61930 ppb	#	85
25) Benzo (b) fluoranthene	12.79	252	463141	5.07657 ppb		98
26) Benzo (k) fluoranthene	12.84	252	504190	6.02582 ppb	#	98
27) Benzo (a) pyrene	13.34	252	444669	5.29926 ppb	#	97
28) Dibenz (a,h) anthracene	14.96	278	486094	5.61560 ppb		100
29) Benzo (g,h,i) perylene	15.28	276	485491	5.67629 ppb	#	93

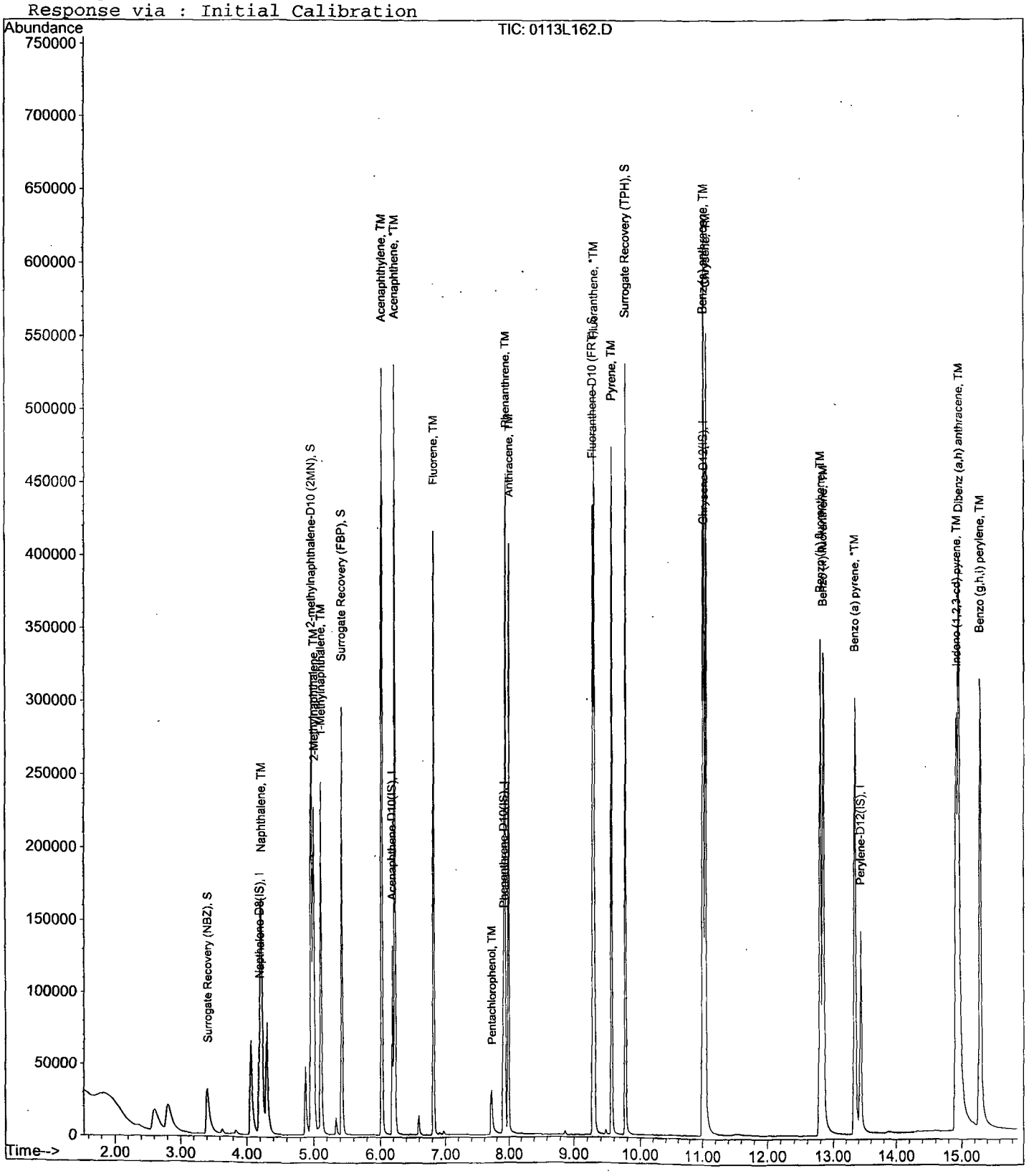
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L200113P\0113L162.D Vial: 62
Acq On : 27 Jan 20 14:51 Operator: MA
Sample : 5ug/mL SIM PCP 01/16/20 (1) Inst : Linus
Misc : Multiplr: 1.00

Quant Time: Jan 27 15:11 2020 Quant Results File: L0113PCP.RES

Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 10:14:53 2020
Response via : Initial Calibration



PAH by GCMS SIM
EPA 8270 SIM

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 01/27/20
Instrument: Linus
Initial Cal. Date: 01/13/20
Data File: 0113L182.D

		Compound	MEAN	CCRF	%D		%Drift	
1	I	Napthalene-D8(IS)	ISTD			I		
2	TM	Naphthalene	1.066	1.029	3.5	TM		
3	S	2-methylnaphthalene-D10 (2MN)	1.224	1.177	3.8	S		
4	TM	2-Methylnaphthalene	0.5873	0.5769	1.8	TM		
5	TM	1-Methylnaphthalene	0.6164	0.6009	2.5	TM		
6	I	Acenaphthene-D10(IS)	ISTD			I		
7	TM	Acenaphthylene	4.406	3.983	9.6	TM		
8	*TM	Acenaphthene	1.296	1.148	11	*TM		
9	TM	Fluorene	1.622	1.444	11	TM		
10	TML	Pentachlorophenol	0.2573	0.0008	100	TML	73	*NT
11	I	Phenanthrene-D10(IS)	ISTD			I		
12	TM	Phenanthrene	1.137	1.122	1.3	TM		
13	TM	Anthracene	1.063	1.032	2.8	TM		
14	S	Fluoranthene-D10 (FRT)	1.470	1.353	8.0	S		
15	*TM	Fluoranthene	1.638	1.552	5.2	*TM		
16	I	Chrysene-D12(IS)	ISTD			I		
17	TM	Pyrene	1.264	1.234	2.3	TM		
18	TM	Benz (a) anthracene	1.285	1.169	9.0	TM		
19	TM	Chrysene	1.236	1.205	2.5	TM		
20	TM	Indeno (1,2,3-cd) pyrene	1.531	1.506	1.6	TM		
21	I	Perylene-D12(IS)	ISTD			I		
22	TM	Benzo (b) fluoranthene	1.167	1.059	9.2	TM		
23	TML	Benzo (k) fluoranthene	1.168	1.151	1.5	TML	5.9	
24	*TM	Benzo (a) pyrene	1.073	1.016	5.3	*TM		
25	TM	Dibenz (a,h) anthracene	1.107	1.104	0.31	TM		
26	TM	Benzo (g,h,i) perylene	1.094	1.102	0.75	TM		
27								
28								
29								
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								
		Average			9.2			

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L200113P\0113L182.D Vial: 82
Acq On : 27 Jan 20 22:20 Operator: MA
Sample : 2.5ug/mL SIMLL SPK 01/21/20 ((CCV) Inst : Linus
Misc : Multiplr: 1.00

Quant Time: Jan 28 8:16 2020 Quant Results File: L0113PCP.RES

Quant Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 10:14:53 2020
Response via : Initial Calibration
DataAcq Meth : SIM_2

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Napthalene-D8(IS)	4.18	136	117517	2.50000 ppb		-0.02
7) Acenaphthene-D10(IS)	6.18	164	64097	2.50000 ppb		-0.01
13) Phenanthrene-D10(IS)	7.91	188	121027	2.50000 ppb		-0.01
18) Chrysene-D12(IS)	11.01	240	153354	2.50000 ppb		-0.03
24) Perylene-D12(IS)	13.43	264	178647	2.50000 ppb		-0.03
System Monitoring Compounds						
2) Surrogate Recovery (NBZ)	0.00	82	0d	0.00000 ppb		
Spiked Amount 5.000			Recovery	= 0.000%		
4) 2-methylnaphthalene-D10 (2	4.95	152	138281	2.40377 ppb		-0.02
Spiked Amount 5.000			Recovery	= 48.080%		
8) Surrogate Recovery (FBP)	0.00	172	0d	0.00000 ppb		
Spiked Amount 5.000			Recovery	= 0.000%		
16) Fluoranthene-D10 (FRT)	9.28	212	163737	2.30043 ppb		-0.02
Spiked Amount 5.000			Recovery	= 46.000%		
20) Surrogate Recovery (TPH)	0.00	244	0d	0.00000 ppb		
Spiked Amount 5.000			Recovery	= 0.000%		
Target Compounds						Qvalue
3) Naphthalene	4.20	128	120906	2.41351 ppb		100
5) 2-Methylnaphthalene	4.99	141	67794	2.45559 ppb		95
6) 1-Methylnaphthalene	5.09	141	70617	2.43721 ppb		94
9) Acenaphthylene	6.02	152	255306	2.26025 ppb		100
10) Acenaphthene	6.22	154	73595	2.21415 ppb		96
11) Fluorene	6.82	166	92554	2.22626 ppb		97
12) Pentachlorophenol	7.71	266	51	0.67102 ppb		78
14) Phenanthrene	7.93	178	135742	2.46719 ppb		98
15) Anthracene	7.99	178	124954	2.42914 ppb		98
17) Fluoranthene	9.30	202	187845	2.36939 ppb		100
19) Pyrene	9.57	202	189269	2.44197 ppb		99
21) Benz (a) anthracene	11.00	228	179235	2.27376 ppb		98
22) Chrysene	11.04	228	184770	2.43673 ppb	#	97
23) Indeno (1,2,3-cd) pyrene	14.91	276	230915	2.45959 ppb	#	97
25) Benzo (b) fluoranthene	12.79	252	189254	2.27014 ppb		98
26) Benzo (k) fluoranthene	12.84	252	205600	2.64776 ppb		98
27) Benzo (a) pyrene	13.34	252	181536	2.36751 ppb	#	97
28) Dibenz (a,h) anthracene	14.96	278	197139	2.49230 ppb		99
29) Benzo (g,h,i) perylene	15.28	276	196858	2.51876 ppb	#	94

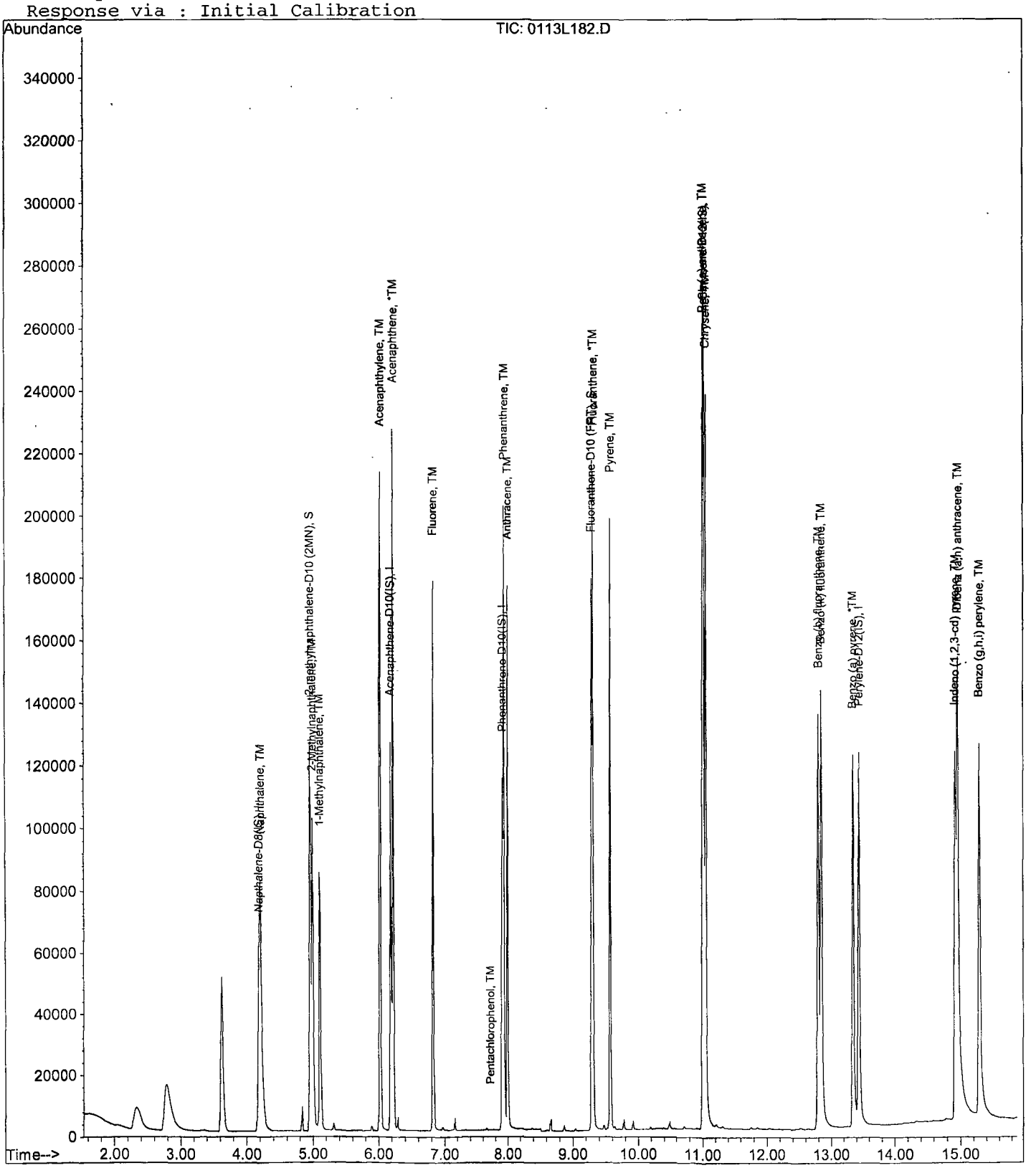
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L200113P\0113L182.D Vial: 82
Acq On : 27 Jan 20 22:20 Operator: MA
Sample : 2.5ug/mL SIMLL SPK 01/21/20 ((CCV) Inst : Linus
Misc : Multiplr: 1.00

Quant Time: Jan 28 8:16 2020 Quant Results File: L0113PCP.RES

Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 10:14:53 2020
Response via : Initial Calibration



ORGANICS
Raw Data

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L200113P\0113L167.D Vial: 67
Acq On : 27 Jan 20 16:51 Operator: MA
Sample : BA06272W29 1/800 Inst : Linus
Misc : Multiplr: 1.25

Quant Time: Jan 27 17:14 2020 Quant Results File: L0113PCP.RES

Quant Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 10:14:53 2020
Response via : Initial Calibration
DataAcq Meth : SIM_2

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	4.19	136	118256	2.50000 ppb	-0.01
7) Acenaphthene-D10(IS)	6.18	164	65182	2.50000 ppb	-0.01
13) Phenanthrene-D10(IS)	7.91	188	123591	2.50000 ppb	-0.01
18) Chrysene-D12(IS)	11.01	240	159897	2.50000 ppb	-0.03
24) Perylene-D12(IS)	13.43	264	189607	2.50000 ppb	-0.03
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	3.41	82	1091871	94.51264 ppb	0.00
Spiked Amount 6.250			Recovery	= 1512.208%	
4) 2-methylnaphthalene-D10 (2	4.96	152	245000	5.29034 ppb	-0.01
Spiked Amount 6.250			Recovery	= 84.640%	
8) Surrogate Recovery (FBP)	5.43	172	2712493	77.76008 ppb	0.00
Spiked Amount 6.250			Recovery	= 1244.160%	
16) Fluoranthene-D10 (FRT)	9.28	212	309215	5.31776 ppb	-0.02
Spiked Amount 6.250			Recovery	= 85.088%	
20) Surrogate Recovery (TPH)	9.78	244	4477804	83.07640 ppb	-0.01
Spiked Amount 6.250			Recovery	= 1329.216%	

Target Compounds Qvalue

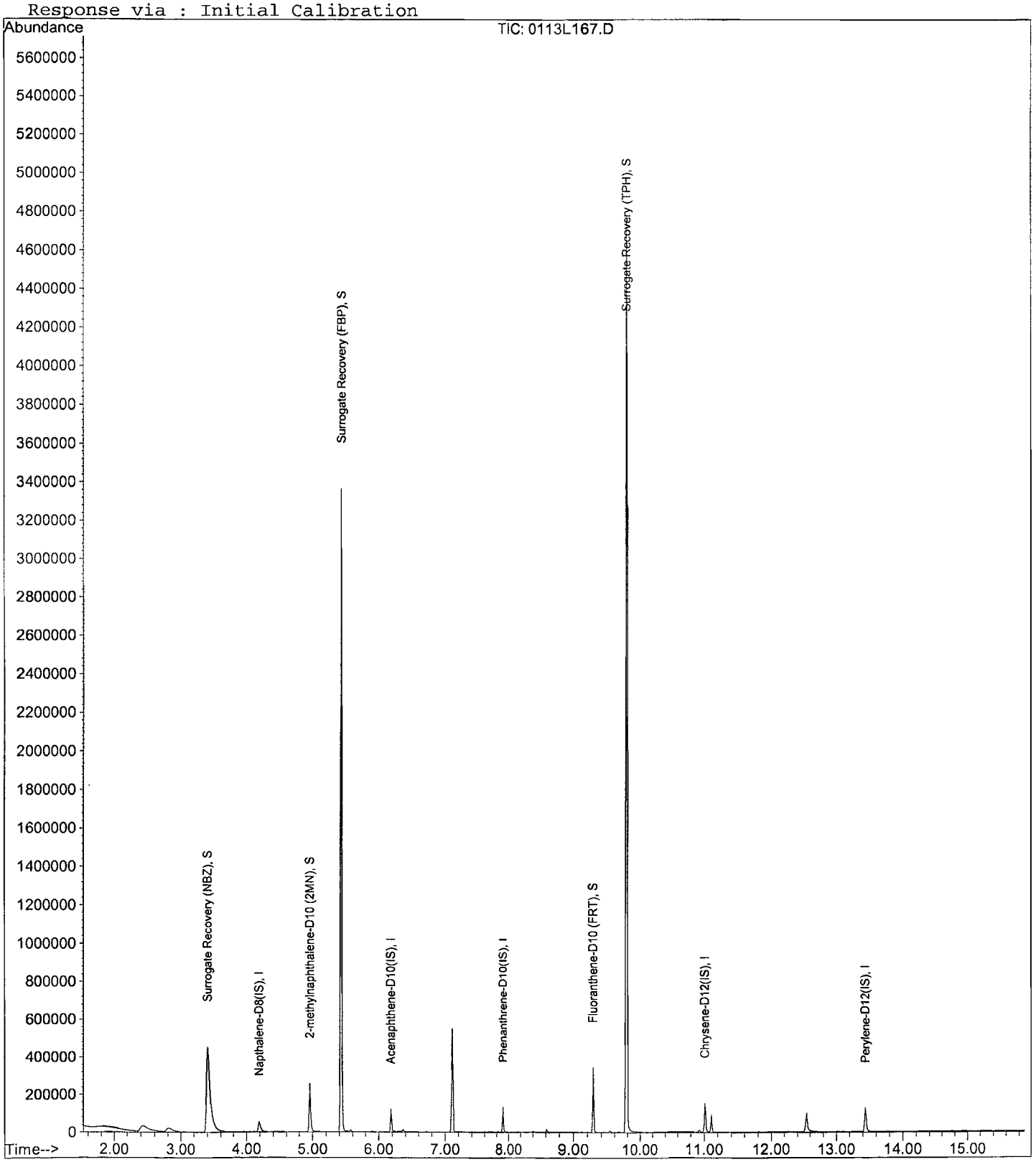
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L200113P\0113L167.D Vial: 67
Acq On : 27 Jan 20 16:51 Operator: MA
Sample : BA06272W29 1/800 Inst : Linus
Misc : Multiplr: 1.25

Quant Time: Jan 27 17:14 2020 Quant Results File: L0113PCP.RES

Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 10:14:53 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L200113P\0113L168.D Vial: 68
Acq On : 27 Jan 20 17:13 Operator: MA
Sample : BA06273W11 1/800 Inst : Linus
Misc : Multiplr: 1.25

Quant Time: Jan 27 17:30 2020 Quant Results File: L0113PCP.RES

Quant Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 10:14:53 2020
Response via : Initial Calibration
DataAcq Meth : SIM_2

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	4.19	136	117229	2.50000 ppb	-0.01
7) Acenaphthene-D10(IS)	6.18	164	63237	2.50000 ppb	-0.01
13) Phenanthrene-D10(IS)	7.91	188	121060	2.50000 ppb	-0.01
18) Chrysene-D12(IS)	11.01	240	158215	2.50000 ppb	-0.03
24) Perylene-D12(IS)	13.43	264	124067	2.50000 ppb	-0.03
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	3.41	82	1056795	92.27784 ppb	0.00
Spiked Amount 6.250			Recovery	= 1476.448%	
4) 2-methylnaphthalene-D10 (2	4.96	152	239756	5.22246 ppb	-0.01
Spiked Amount 6.250			Recovery	= 83.552%	
8) Surrogate Recovery (FBP)	5.43	172	2712151	80.14166 ppb	0.00
Spiked Amount 6.250			Recovery	= 1282.272%	
16) Fluoranthene-D10 (FRT)	9.28	212	311413	5.46753 ppb	-0.02
Spiked Amount 6.250			Recovery	= 87.488%	
20) Surrogate Recovery (TPH)	9.78	244	4571041	85.70781 ppb	-0.01
Spiked Amount 6.250			Recovery	= 1371.328%	

Target Compounds Qvalue

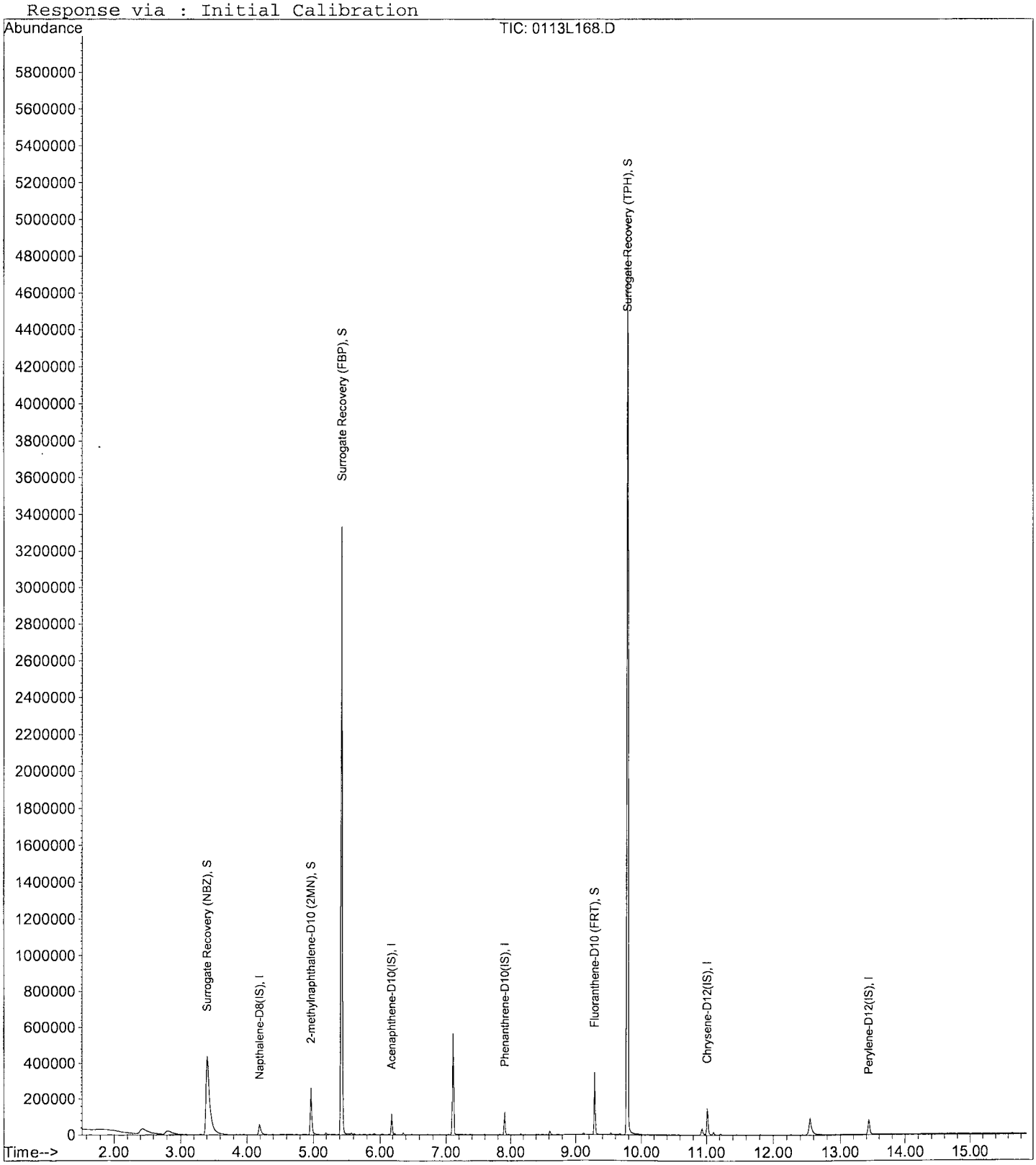
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L200113P\0113L168.D Vial: 68
Acq On : 27 Jan 20 17:13 Operator: MA
Sample : BA06273W11 1/800 Inst : Linus
Misc : Multiplr: 1.25

Quant Time: Jan 27 17:30 2020 Quant Results File: L0113PCP.RES

Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 10:14:53 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L200113P\0113L169.D Vial: 69
Acq On : 27 Jan 20 17:35 Operator: MA
Sample : BA06275W13 1/800 Inst : Linus
Misc : Multiplr: 1.25

Quant Time: Jan 28 8:24 2020 Quant Results File: L0113PCP.RES

Quant Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 10:14:53 2020
Response via : Initial Calibration
DataAcq Meth : SIM_2

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	4.19	136	113199	2.50000 ppb	-0.01
7) Acenaphthene-D10(IS)	6.18	164	62729	2.50000 ppb	-0.01
13) Phenanthrene-D10(IS)	7.91	188	117704	2.50000 ppb	-0.01
18) Chrysene-D12(IS)	11.01	240	152446	2.50000 ppb	-0.03
24) Perylene-D12(IS)	13.43	264	178436	2.50000 ppb	-0.03
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	0.00	82	0d	0.00000 ppb	
Spiked Amount 6.250			Recovery	= 0.000%	
4) 2-methylnaphthalene-D10 (2	4.96	152	239119	5.39401 ppb	-0.01
Spiked Amount 6.250			Recovery	= 86.304%	
8) Surrogate Recovery (FBP)	0.00	172	0d	0.00000 ppb	
Spiked Amount 6.250			Recovery	= 0.000%	
16) Fluoranthene-D10 (FRT)	9.28	212	273827	4.94470 ppb	-0.02
Spiked Amount 6.250			Recovery	= 79.120%	
20) Surrogate Recovery (TPH)	0.00	244	0d	0.00000 ppb	
Spiked Amount 6.250			Recovery	= 0.000%	

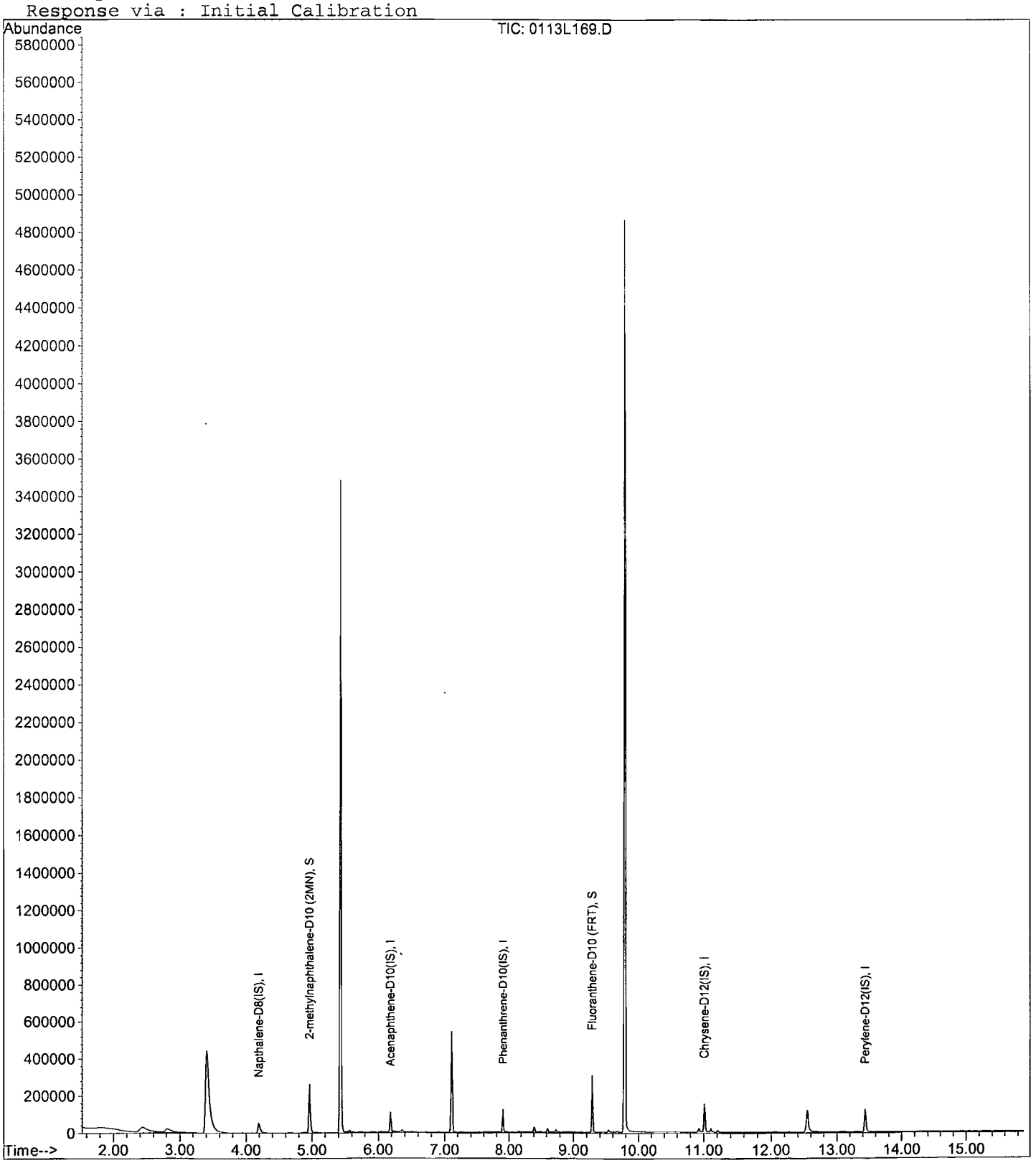
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Data File : M:\LINUS\DATA\L200113P\0113L169.D Vial: 69
Acq On : 27 Jan 20 17:35 Operator: MA
Sample : BA06275W13 1/800 Inst : Linus
Misc : Multiplr: 1.25

Quant Time: Jan 28 8:24 2020 Quant Results File: L0113PCP.RES

Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 10:14:53 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L200113P\0113L170.D Vial: 70
Acq On : 27 Jan 20 17:57 Operator: MA
Sample : BA06276W15 1/800 Inst : Linus
Misc : Multiplr: 1.25

Quant Time: Jan 28 8:29 2020 Quant Results File: L0113PCP.RES

Quant Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 10:14:53 2020
Response via : Initial Calibration
DataAcq Meth : SIM_2

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	4.19	136	108723	2.50000 ppb	-0.01
7) Acenaphthene-D10(IS)	6.18	164	60424	2.50000 ppb	-0.01
13) Phenanthrene-D10(IS)	7.91	188	111965	2.50000 ppb	-0.01
18) Chrysene-D12(IS)	11.01	240	147393	2.50000 ppb	-0.03
24) Perylene-D12(IS)	13.43	264	175040	2.50000 ppb	-0.03
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	0.00	82	0d	0.00000 ppb	
Spiked Amount 6.250			Recovery	= 0.000%	
4) 2-methylnaphthalene-D10 (2	4.96	152	227613	5.34584 ppb	-0.01
Spiked Amount 6.250			Recovery	= 85.536%	
8) Surrogate Recovery (FBP)	0.00	172	0d	0.00000 ppb	
Spiked Amount 6.250			Recovery	= 0.000%	
16) Fluoranthene-D10 (FRT)	9.28	212	289039	5.48693 ppb	-0.02
Spiked Amount 6.250			Recovery	= 87.792%	
20) Surrogate Recovery (TPH)	0.00	244	0d	0.00000 ppb	
Spiked Amount 6.250			Recovery	= 0.000%	

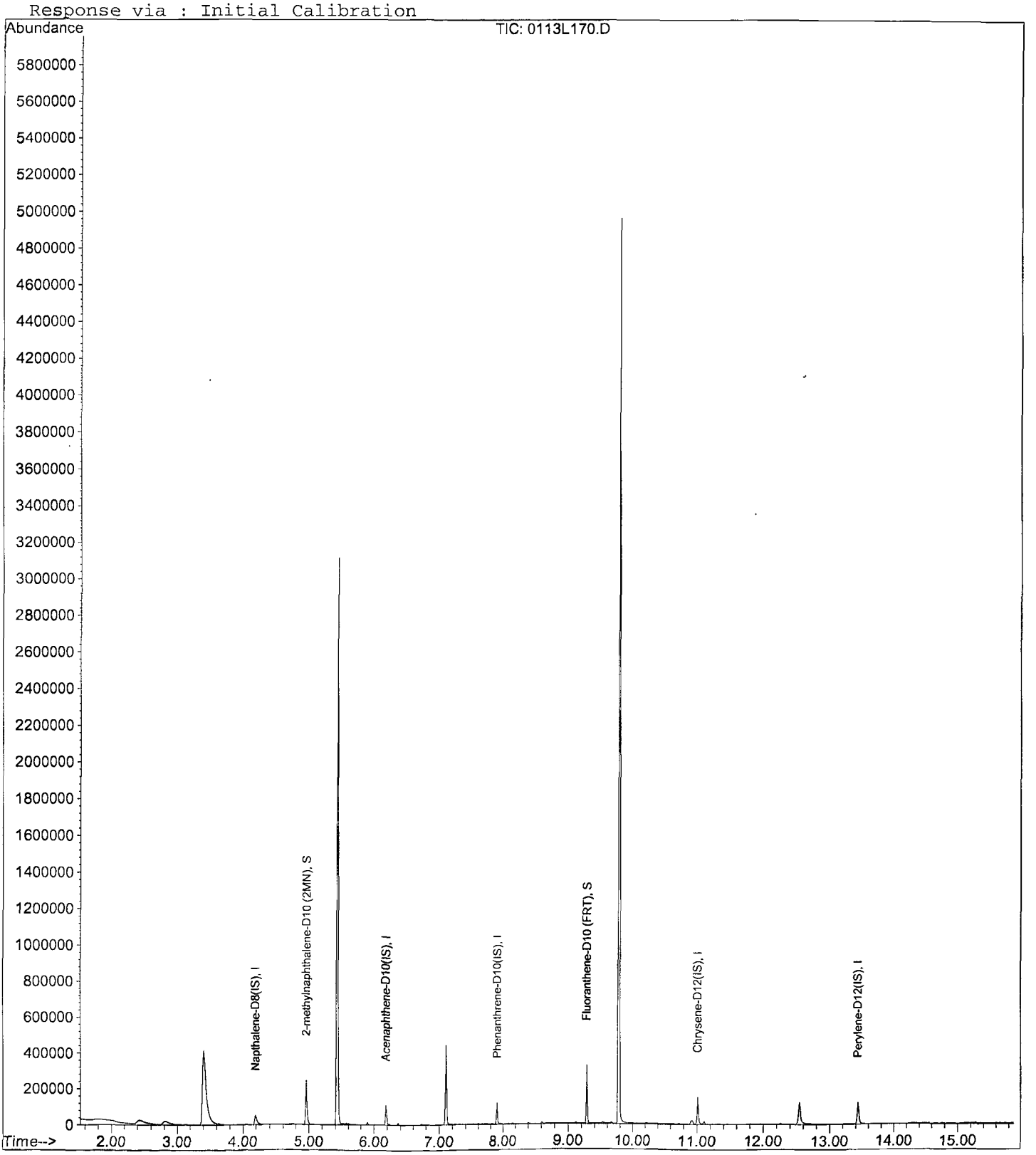
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
0113L170.D L0113PCP.M Tue Jan 28 08:42:17 2020 Page 1

Data File : M:\LINUS\DATA\L200113P\0113L170.D Vial: 70
Acq On : 27 Jan 20 17:57 Operator: MA
Sample : BA06276W15 1/800 Inst : Linus
Misc : Multiplr: 1.25

Quant Time: Jan 28 8:29 2020 Quant Results File: L0113PCP.RES

Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 10:14:53 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L200113P\0113L171.D Vial: 71
Acq On : 27 Jan 20 18:19 Operator: MA
Sample : BA06279W14 1/800 Inst : Linus
Misc : Multiplr: 1.25

Quant Time: Jan 28 8:30 2020 Quant Results File: L0113PCP.RES

Quant Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 10:14:53 2020
Response via : Initial Calibration
DataAcq Meth : SIM_2

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	4.19	136	114342	2.50000 ppb	-0.01
7) Acenaphthene-D10(IS)	6.18	164	56883	2.50000 ppb	-0.01
13) Phenanthrene-D10(IS)	7.91	188	119626	2.50000 ppb	-0.01
18) Chrysene-D12(IS)	11.01	240	153449	2.50000 ppb	-0.03
24) Perylene-D12(IS)	13.43	264	74443	2.50000 ppb	-0.03
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	0.00	82	0d	0.00000 ppb	
Spiked Amount 6.250			Recovery	= 0.000%	
4) 2-methylnaphthalene-D10 (2	4.96	152	234786	5.24333 ppb	-0.01
Spiked Amount 6.250			Recovery	= 83.888%	
8) Surrogate Recovery (FBP)	0.00	172	0d	0.00000 ppb	
Spiked Amount 6.250			Recovery	= 0.000%	
16) Fluoranthene-D10 (FRT)	9.28	212	299761	5.32604 ppb	-0.02
Spiked Amount 6.250			Recovery	= 85.216%	
20) Surrogate Recovery (TPH)	0.00	244	0d	0.00000 ppb	
Spiked Amount 6.250			Recovery	= 0.000%	

Target Compounds Qvalue

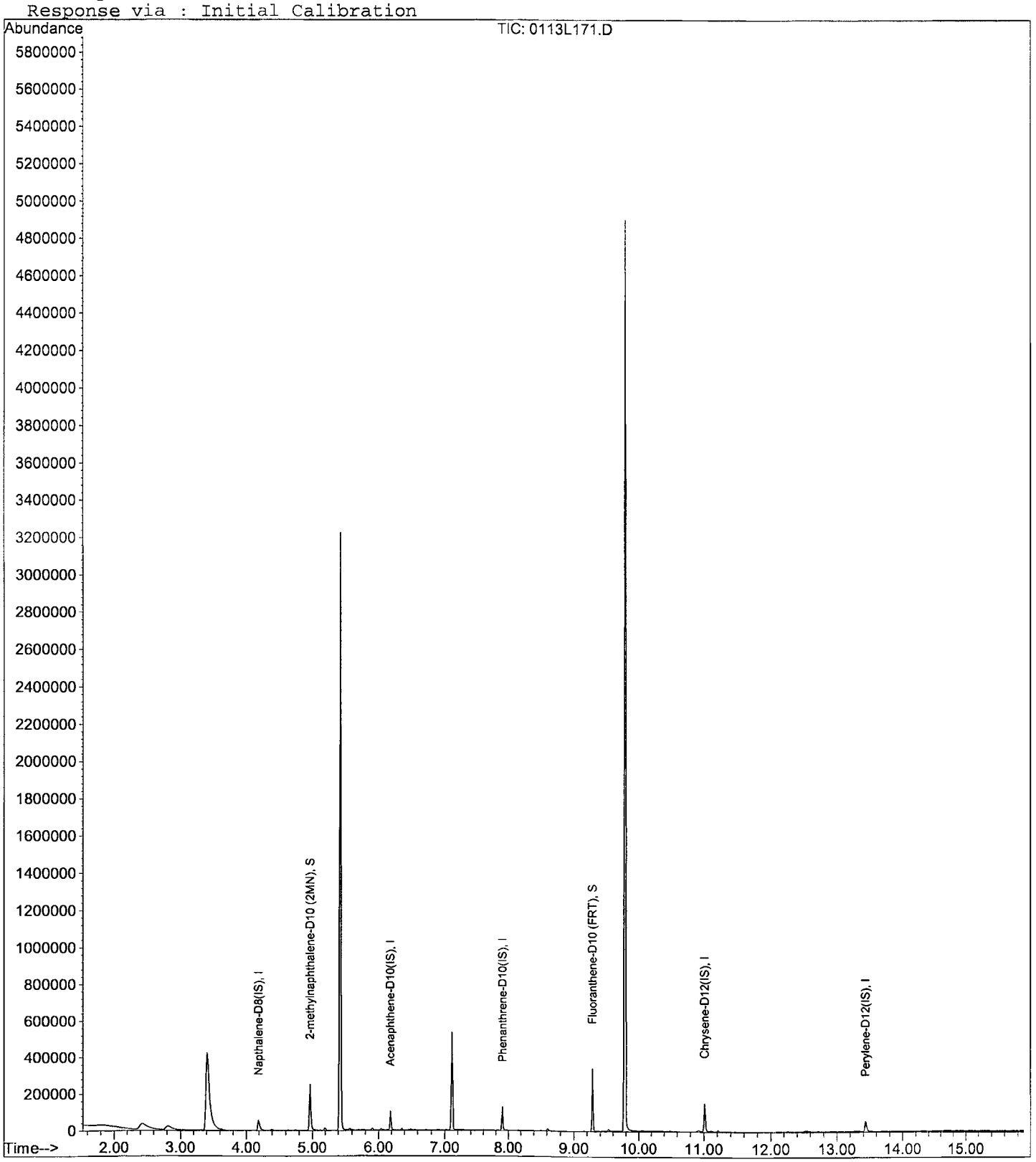
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L200113P\0113L171.D Vial: 71
Acq On : 27 Jan 20 18:19 Operator: MA
Sample : BA06279W14 1/800 Inst : Linus
Misc : Multiplr: 1.25

Quant Time: Jan 28 8:30 2020 Quant Results File: L0113PCP.RES

Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 10:14:53 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L200113P\0113L172.D Vial: 72
Acq On : 27 Jan 20 18:41 Operator: MA
Sample : BA06281W13 1/800 Inst : Linus
Misc : Multiplr: 1.25

Quant Time: Jan 28 8:31 2020 Quant Results File: L0113PCP.RES

Quant Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 10:14:53 2020
Response via : Initial Calibration
DataAcq Meth : SIM_2

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	4.19	136	111785	2.50000 ppb	-0.01
7) Acenaphthene-D10(IS)	6.18	164	62480	2.50000 ppb	-0.01
13) Phenanthrene-D10(IS)	7.91	188	116426	2.50000 ppb	-0.01
18) Chrysene-D12(IS)	11.01	240	151399	2.50000 ppb	-0.03
24) Perylene-D12(IS)	13.43	264	180024	2.50000 ppb	-0.03
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	0.00	82	0d	0.00000 ppb	
Spiked Amount 6.250			Recovery	= 0.000%	
4) 2-methylnaphthalene-D10 (2	4.96	152	246610	5.63336 ppb	-0.01
Spiked Amount 6.250			Recovery	= 90.128%	
8) Surrogate Recovery (FBP)	0.00	172	0d	0.00000 ppb	
Spiked Amount 6.250			Recovery	= 0.000%	
16) Fluoranthene-D10 (FRT)	9.28	212	310389	5.66646 ppb	-0.02
Spiked Amount 6.250			Recovery	= 90.656%	
20) Surrogate Recovery (TPH)	0.00	244	0d	0.00000 ppb	
Spiked Amount 6.250			Recovery	= 0.000%	

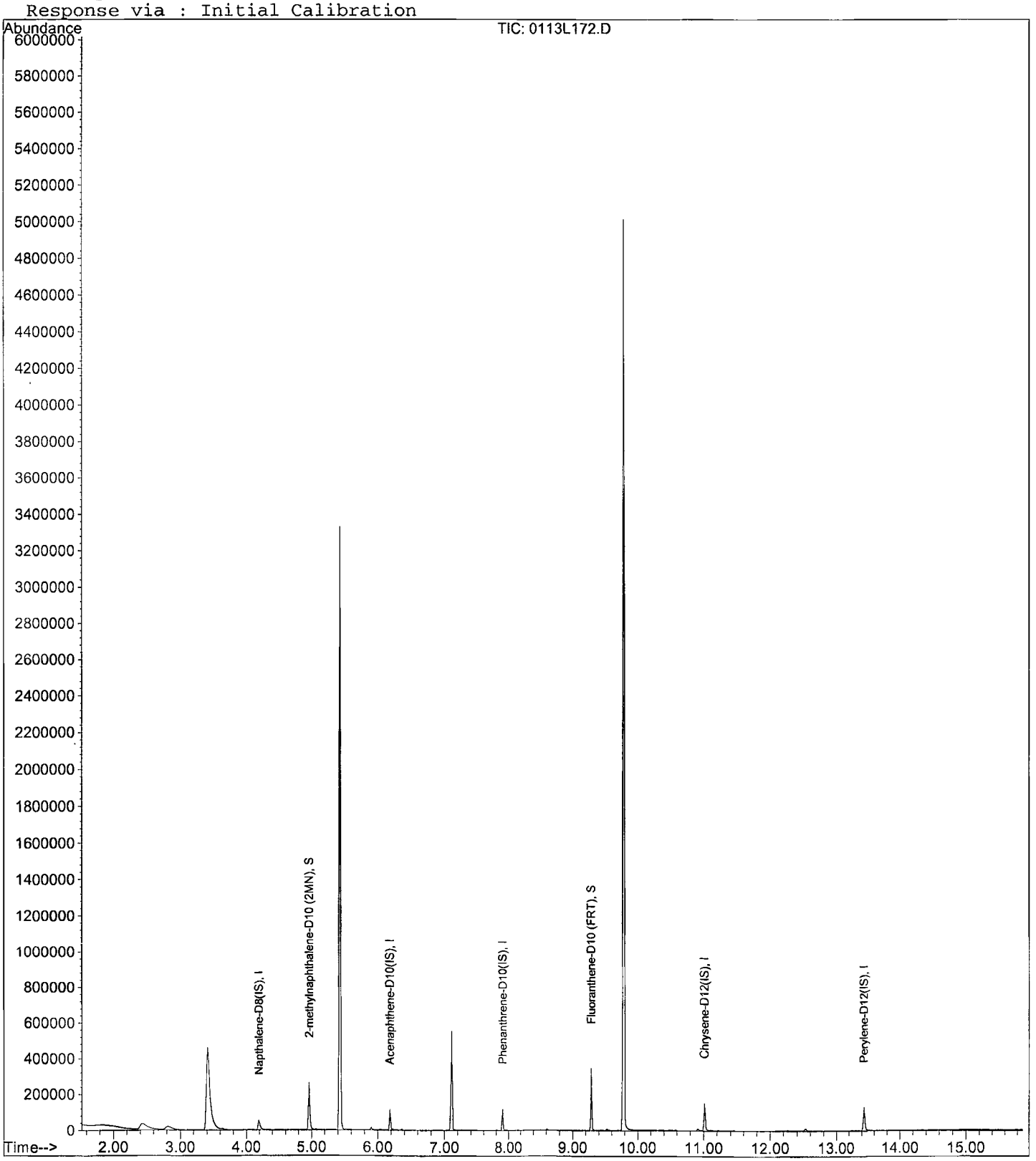
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Data File : M:\LINUS\DATA\L200113P\0113L172.D Vial: 72
Acq On : 27 Jan 20 18:41 Operator: MA
Sample : BA06281W13 1/800 Inst : Linus
Misc : Multiplr: 1.25

Quant Time: Jan 28 8:31 2020 Quant Results File: L0113PCP.RES

Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 10:14:53 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L200113P\0113L173.D Vial: 73
Acq On : 27 Jan 20 19:03 Operator: MA
Sample : BA06282W13 1/800 Inst : Linus
Misc : Multiplr: 1.25

Quant Time: Jan 28 8:31 2020 Quant Results File: L0113PCP.RES

Quant Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 10:14:53 2020
Response via : Initial Calibration
DataAcq Meth : SIM_2

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	4.19	136	116219	2.50000 ppb	-0.01
7) Acenaphthene-D10(IS)	6.18	164	64935	2.50000 ppb	-0.01
13) Phenanthrene-D10(IS)	7.91	188	122281	2.50000 ppb	-0.01
18) Chrysene-D12(IS)	11.01	240	158483	2.50000 ppb	-0.03
24) Perylene-D12(IS)	13.43	264	185018	2.50000 ppb	-0.03
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	0.00	82	0d	0.00000 ppb	
Spiked Amount 6.250			Recovery	= 0.000%	
4) 2-methylnaphthalene-D10 (2	4.96	152	235024	5.16387 ppb	-0.01
Spiked Amount 6.250			Recovery	= 82.624%	
8) Surrogate Recovery (FBP)	0.00	172	0d	0.00000 ppb	
Spiked Amount 6.250			Recovery	= 0.000%	
16) Fluoranthene-D10 (FRT)	9.28	212	301454	5.23983 ppb	-0.02
Spiked Amount 6.250			Recovery	= 83.840%	
20) Surrogate Recovery (TPH)	0.00	244	0d	0.00000 ppb	
Spiked Amount 6.250			Recovery	= 0.000%	

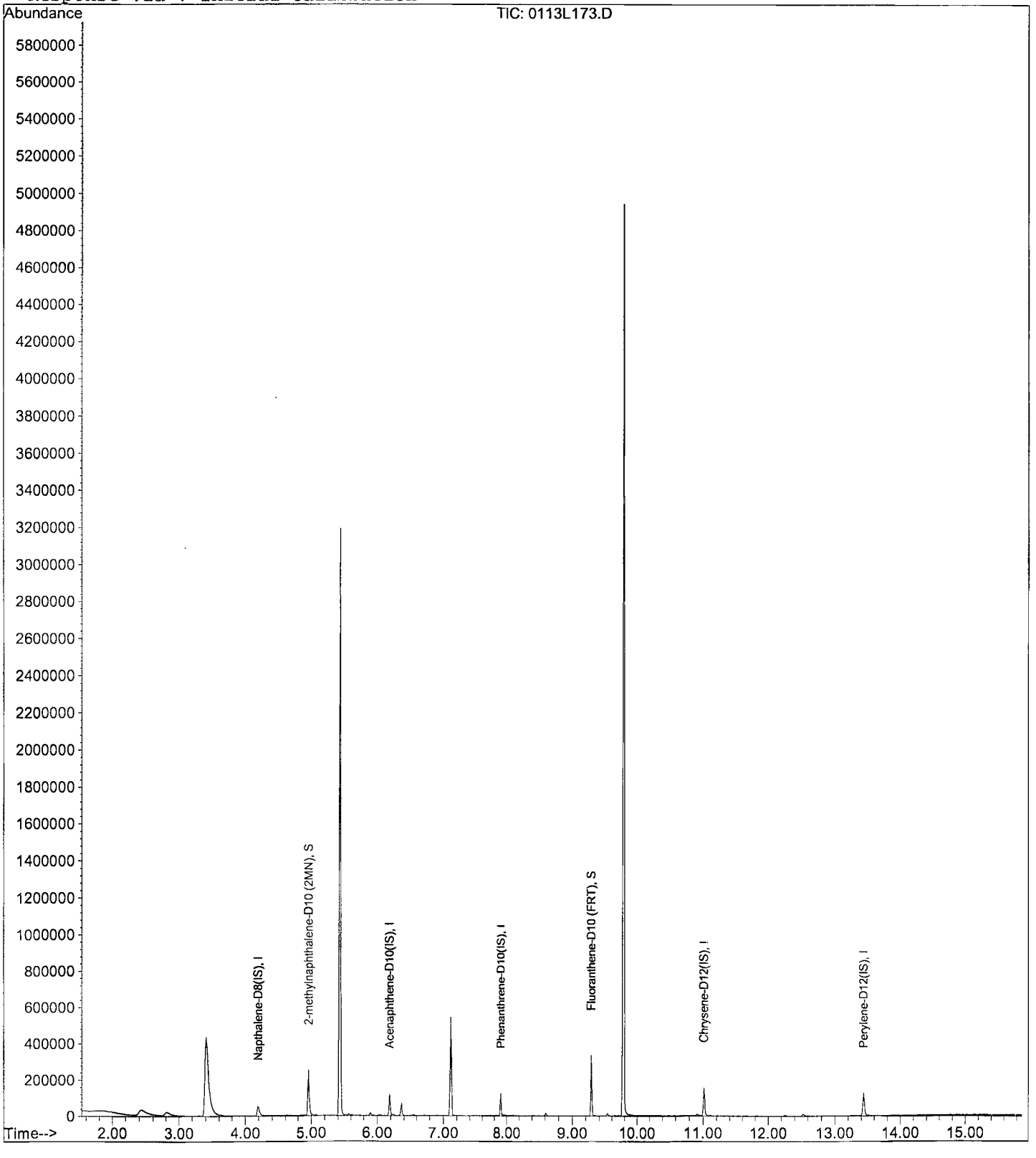
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Data File : M:\LINUS\DATA\L200113P\0113L173.D Vial: 73
Acq On : 27 Jan 20 19:03 Operator: MA
Sample : BA06282W13 1/800 Inst : Linus
Misc : Multiplr: 1.25

Quant Time: Jan 28 8:31 2020 Quant Results File: L0113PCP.RES

Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 10:14:53 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L200113P\0113L174.D Vial: 74
Acq On : 27 Jan 20 19:25 Operator: MA
Sample : BA06284W19 1/800 Inst : Linus
Misc : Multiplr: 1.25

Quant Time: Jan 28 8:36 2020 Quant Results File: L0113PCP.RES

Quant Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 10:14:53 2020
Response via : Initial Calibration
DataAcq Meth : SIM_2

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	4.19	136	114403	2.50000 ppb	-0.01
7) Acenaphthene-D10(IS)	6.18	164	63204	2.50000 ppb	-0.01
13) Phenanthrene-D10(IS)	7.91	188	119151	2.50000 ppb	-0.01
18) Chrysene-D12(IS)	11.01	240	155564	2.50000 ppb	-0.03
24) Perylene-D12(IS)	13.43	264	183689	2.50000 ppb	-0.03
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	0.00	82	0d	0.00000 ppb	
Spiked Amount 6.250			Recovery	= 0.000%	
4) 2-methylnaphthalene-D10 (2	4.96	152	231835	5.17466 ppb	-0.01
Spiked Amount 6.250			Recovery	= 82.800%	
8) Surrogate Recovery (FBP)	0.00	172	0d	0.00000 ppb	
Spiked Amount 6.250			Recovery	= 0.000%	
16) Fluoranthene-D10 (FRT)	9.28	212	313902	5.59953 ppb	-0.02
Spiked Amount 6.250			Recovery	= 89.600%	
20) Surrogate Recovery (TPH)	0.00	244	0d	0.00000 ppb	
Spiked Amount 6.250			Recovery	= 0.000%	

Target Compounds Qvalue

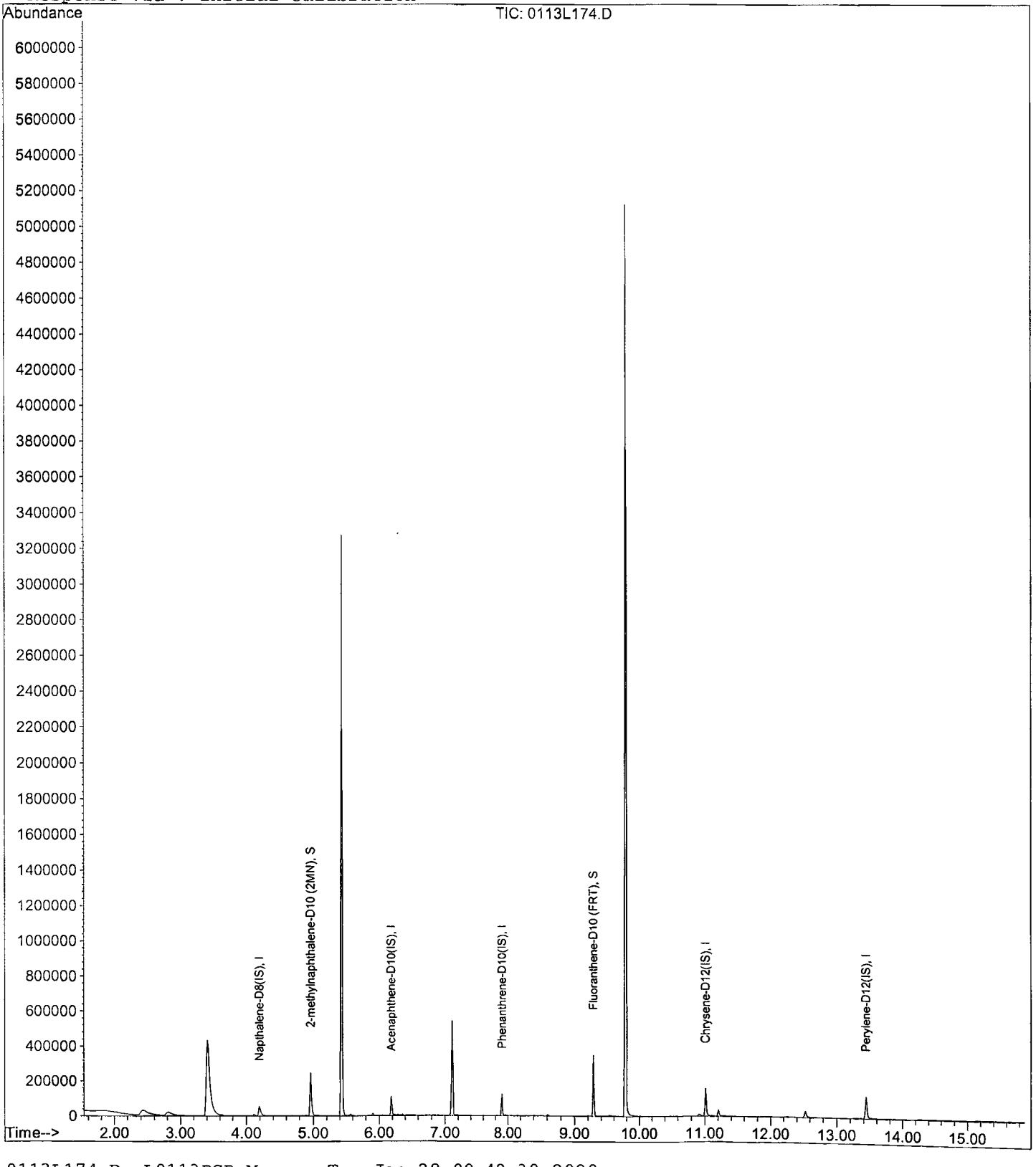
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L200113P\0113L174.D Vial: 74
Acq On : 27 Jan 20 19:25 Operator: MA
Sample : BA06284W19 1/800 Inst : Linus
Misc : Multiplr: 1.25

Quant Time: Jan 28 8:36 2020 Quant Results File: L0113PCP.RES

Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 10:14:53 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L200113P\0113L163.D Vial: 63
Acq On : 27 Jan 20 15:24 Operator: MA
Sample : 200124A BLK 1/800 Inst : Linus
Misc : Multiplr: 1.25

Quant Time: Jan 27 16:05 2020 Quant Results File: L0113PCP.RES

Quant Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 10:14:53 2020
Response via : Initial Calibration
DataAcq Meth : SIM_2

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	4.19	136	115033	2.50000 ppb	-0.01
7) Acenaphthene-D10(IS)	6.18	164	64382	2.50000 ppb	-0.01
13) Phenanthrene-D10(IS)	7.91	188	120314	2.50000 ppb	-0.01
18) Chrysene-D12(IS)	11.01	240	155799	2.50000 ppb	-0.03
24) Perylene-D12(IS)	13.45	264	181226	2.50000 ppb	-0.02
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	3.41	82	1088142	96.82887 ppb	0.00
Spiked Amount 6.250			Recovery	= 1549.264%	
4) 2-methylnaphthalene-D10 (2	4.96	152	247271	5.48897 ppb	-0.01
Spiked Amount 6.250			Recovery	= 87.824%	
8) Surrogate Recovery (FBP)	5.43	172	2727873	79.17269 ppb	0.00
Spiked Amount 6.250			Recovery	= 1266.768%	
16) Fluoranthene-D10 (FRT)	9.28	212	320794	5.66716 ppb	-0.02
Spiked Amount 6.250			Recovery	= 90.672%	
20) Surrogate Recovery (TPH)	9.79	244	4717362	89.82298 ppb	0.00
Spiked Amount 6.250			Recovery	= 1437.168%	

Target Compounds Qvalue

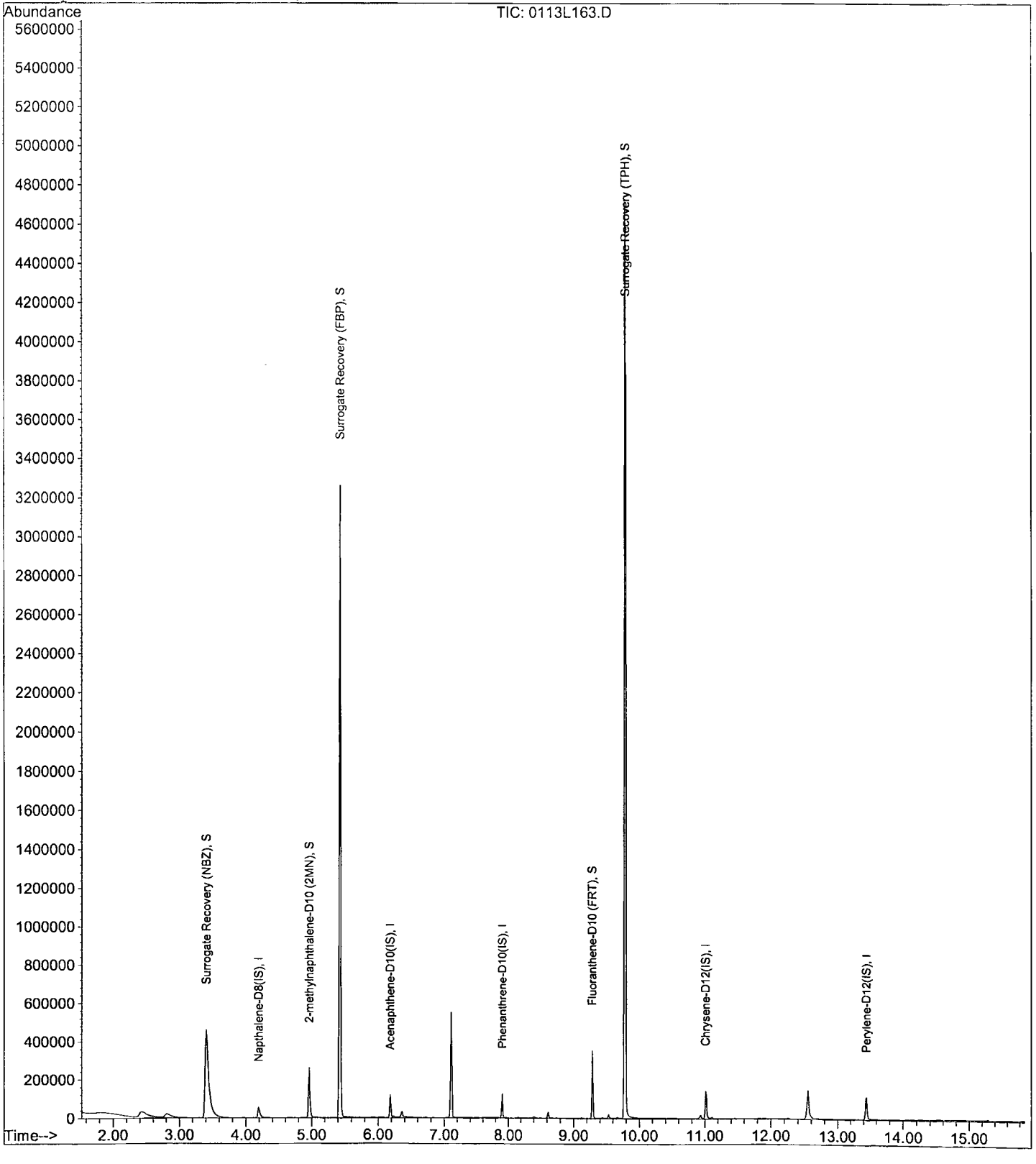
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L200113P\0113L163.D Vial: 63
Acq On : 27 Jan 20 15:24 Operator: MA
Sample : 200124A BLK 1/800 Inst : Linus
Misc : Multiplr: 1.25

Quant Time: Jan 27 16:05 2020 Quant Results File: L0113PCP.RES

Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 10:14:53 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L200113P\0113L164.D Vial: 64
Acq On : 27 Jan 20 15:46 Operator: MA
Sample : 200124A LCS-2 1/800 Inst : Linus
Misc : Multiplr: 1.25

Quant Time: Jan 27 16:05 2020 Quant Results File: L0113PCP.RES

Quant Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 10:14:53 2020
Response via : Initial Calibration
DataAcq Meth : SIM_2

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Napthalene-D8(IS)	4.19	136	114861	2.50000 ppb		-0.01
7) Acenaphthene-D10(IS)	6.18	164	61848	2.50000 ppb		-0.01
13) Phenanthrene-D10(IS)	7.91	188	120769	2.50000 ppb		-0.01
18) Chrysene-D12(IS)	11.01	240	153309	2.50000 ppb		-0.03
24) Perylene-D12(IS)	13.43	264	175981	2.50000 ppb		-0.03
System Monitoring Compounds						
2) Surrogate Recovery (NBZ)	0.00	82	0	0.00000 ppb		
Spiked Amount 6.250			Recovery	= 0.000%		
4) 2-methylnaphthalene-D10 (2	4.96	152	244428	5.43399 ppb		-0.01
Spiked Amount 6.250			Recovery	= 86.944%		
8) Surrogate Recovery (FBP)	5.42	172	171	0.00517 ppb		-0.01
Spiked Amount 6.250			Recovery	= 0.080%		
16) Fluoranthene-D10 (FRT)	9.28	212	300745	5.29295 ppb		-0.02
Spiked Amount 6.250			Recovery	= 84.688%		
20) Surrogate Recovery (TPH)	9.77	244	1864	0.03607 ppb		-0.02
Spiked Amount 6.250			Recovery	= 0.576%		
Target Compounds						Qvalue
3) Naphthalene	4.21	128	206026	5.25971 ppb		100
5) 2-Methylnaphthalene	5.00	141	114693	5.31300 ppb		100
6) 1-Methylnaphthalene	5.11	141	120804	5.33216 ppb		99
9) Acenaphthylene	6.02	152	434552	4.98378 ppb		100
10) Acenaphthene	6.22	154	127113	4.95416 ppb		97
11) Fluorene	6.82	166	166104	5.17587 ppb		97
12) Pentachlorophenol	7.71	266	176	0.85536 ppb		97
14) Phenanthrene	7.93	178	240183	5.46849 ppb		98
15) Anthracene	7.99	178	209073	5.09140 ppb		98
17) Fluoranthene	9.30	202	332658	5.25619 ppb		100
19) Pyrene	9.57	202	339077	5.47012 ppb		100
21) Benz (a) anthracene	11.00	228	324181	5.14218 ppb		98
22) Chrysene	11.04	228	327971	5.40815 ppb	#	97
23) Indeno (1,2,3-cd) pyrene	14.92	276	422044	5.62089 ppb	#	86
25) Benzo (b) fluoranthene	12.79	252	339647	5.16983 ppb		99
26) Benzo (k) fluoranthene	12.85	252	377208	6.24455 ppb		99
27) Benzo (a) pyrene	13.35	252	313604	5.18980 ppb		99
28) Dibenz (a,h) anthracene	14.96	278	360759	5.78741 ppb		99
29) Benzo (g,h,i) perylene	15.29	276	362916	5.89224 ppb		99

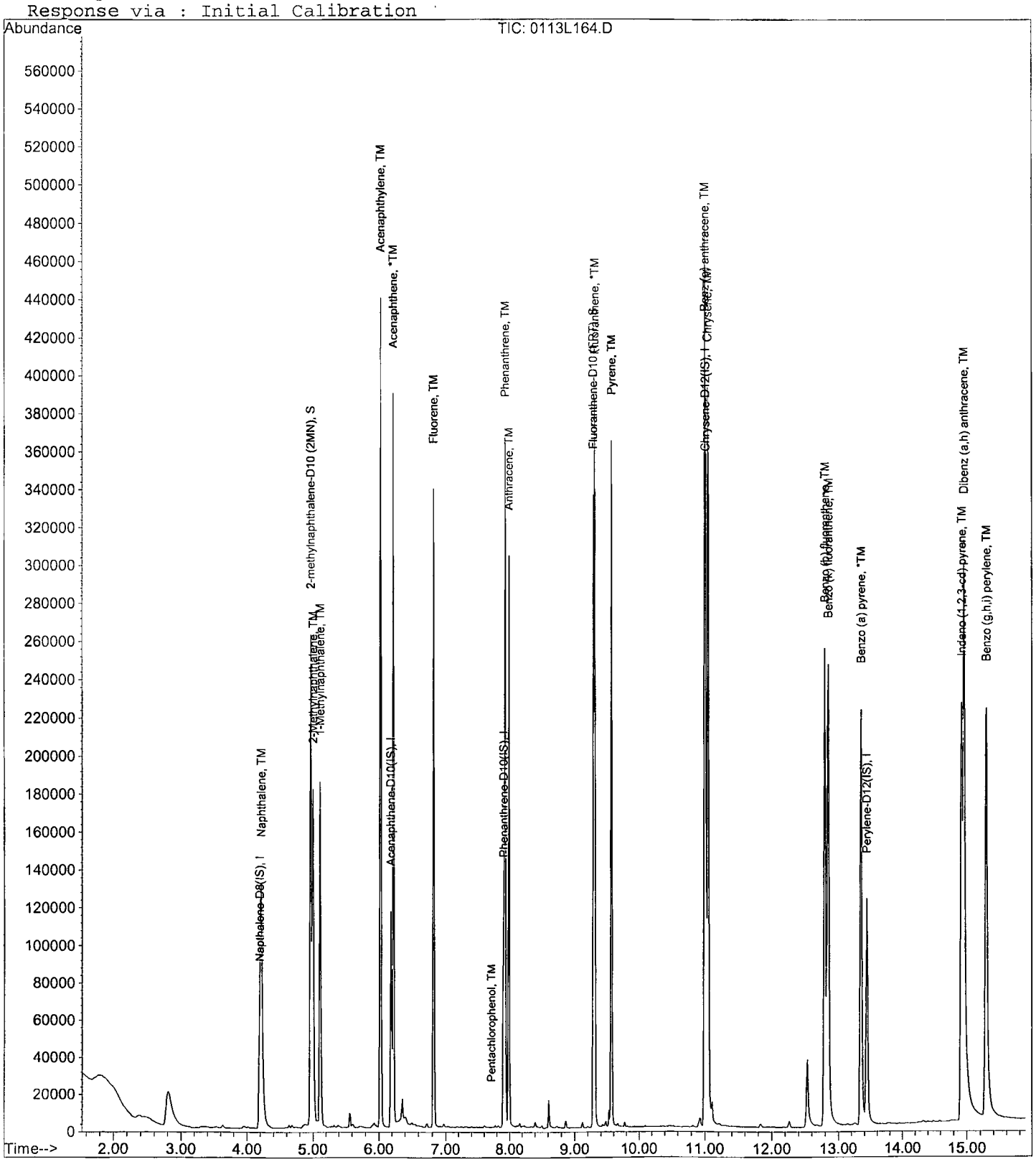
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L200113P\0113L164.D Vial: 64
Acq On : 27 Jan 20 15:46 Operator: MA
Sample : 200124A LCS-2 1/800 Inst : Linus
Misc : Multiplr: 1.25

Quant Time: Jan 27 16:05 2020 Quant Results File: L0113PCP.RES

Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 10:14:53 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L200113P\0113L165.D Vial: 65
Acq On : 27 Jan 20 16:07 Operator: MA
Sample : BA06272W34 MS-2 1/800 Inst : Linus
Misc : Multiplr: 1.25

Quant Time: Jan 27 16:37 2020 Quant Results File: L0113PCP.RES

Quant Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 10:14:53 2020
Response via : Initial Calibration
DataAcq Meth : SIM_2

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Napthalene-D8(IS)	4.19	136	115159	2.50000 ppb		-0.01
7) Acenaphthene-D10(IS)	6.18	164	62795	2.50000 ppb		-0.01
13) Phenanthrene-D10(IS)	7.91	188	120411	2.50000 ppb		-0.01
18) Chrysene-D12(IS)	11.01	240	153374	2.50000 ppb		-0.03
24) Perylene-D12(IS)	13.43	264	177098	2.50000 ppb		-0.03
System Monitoring Compounds						
2) Surrogate Recovery (NBZ)	3.36	82	615	0.05467 ppb		-0.05
Spiked Amount 6.250			Recovery	= 0.880%		
4) 2-methylnaphthalene-D10 (2	4.96	152	250767	5.56049 ppb		-0.01
Spiked Amount 6.250			Recovery	= 88.960%		
8) Surrogate Recovery (FBP)	5.43	172	28	0.00083 ppb		0.00
Spiked Amount 6.250			Recovery	= 0.016%		
16) Fluoranthene-D10 (FRT)	9.28	212	308542	5.44632 ppb		-0.02
Spiked Amount 6.250			Recovery	= 87.136%		
20) Surrogate Recovery (TPH)	9.77	244	749	0.01449 ppb		-0.02
Spiked Amount 6.250			Recovery	= 0.224%		
Target Compounds						Qvalue
3) Naphthalene	4.21	128	212351	5.40715 ppb		100
5) 2-Methylnaphthalene	5.00	141	118661	5.48259 ppb		99
6) 1-Methylnaphthalene	5.11	141	124422	5.47764 ppb		99
9) Acenaphthylene	6.02	152	451132	5.09591 ppb		100
10) Acenaphthene	6.22	154	130867	5.02355 ppb		96
11) Fluorene	6.82	166	170130	5.22137 ppb		97
12) Pentachlorophenol	7.71	266	75	0.84200 ppb		77
14) Phenanthrene	7.93	178	246646	5.63233 ppb		98
15) Anthracene	7.99	178	207451	5.06692 ppb		98
17) Fluoranthene	9.30	202	348146	5.51726 ppb		99
19) Pyrene	9.57	202	351830	5.67345 ppb		99
21) Benz (a) anthracene	11.00	228	339325	5.38012 ppb		98
22) Chrysene	11.04	228	341059	5.62158 ppb	#	97
23) Indeno (1,2,3-cd) pyrene	14.92	276	441221	5.87380 ppb	#	85
25) Benzo (b) fluoranthene	12.79	252	355428	5.37591 ppb		98
26) Benzo (k) fluoranthene	12.85	252	387762	6.38079 ppb		99
27) Benzo (a) pyrene	13.35	252	327839	5.39115 ppb		100
28) Dibenz (a,h) anthracene	14.96	278	378061	6.02672 ppb		100
29) Benzo (g,h,i) perylene	15.28	276	380074	6.13189 ppb	#	93

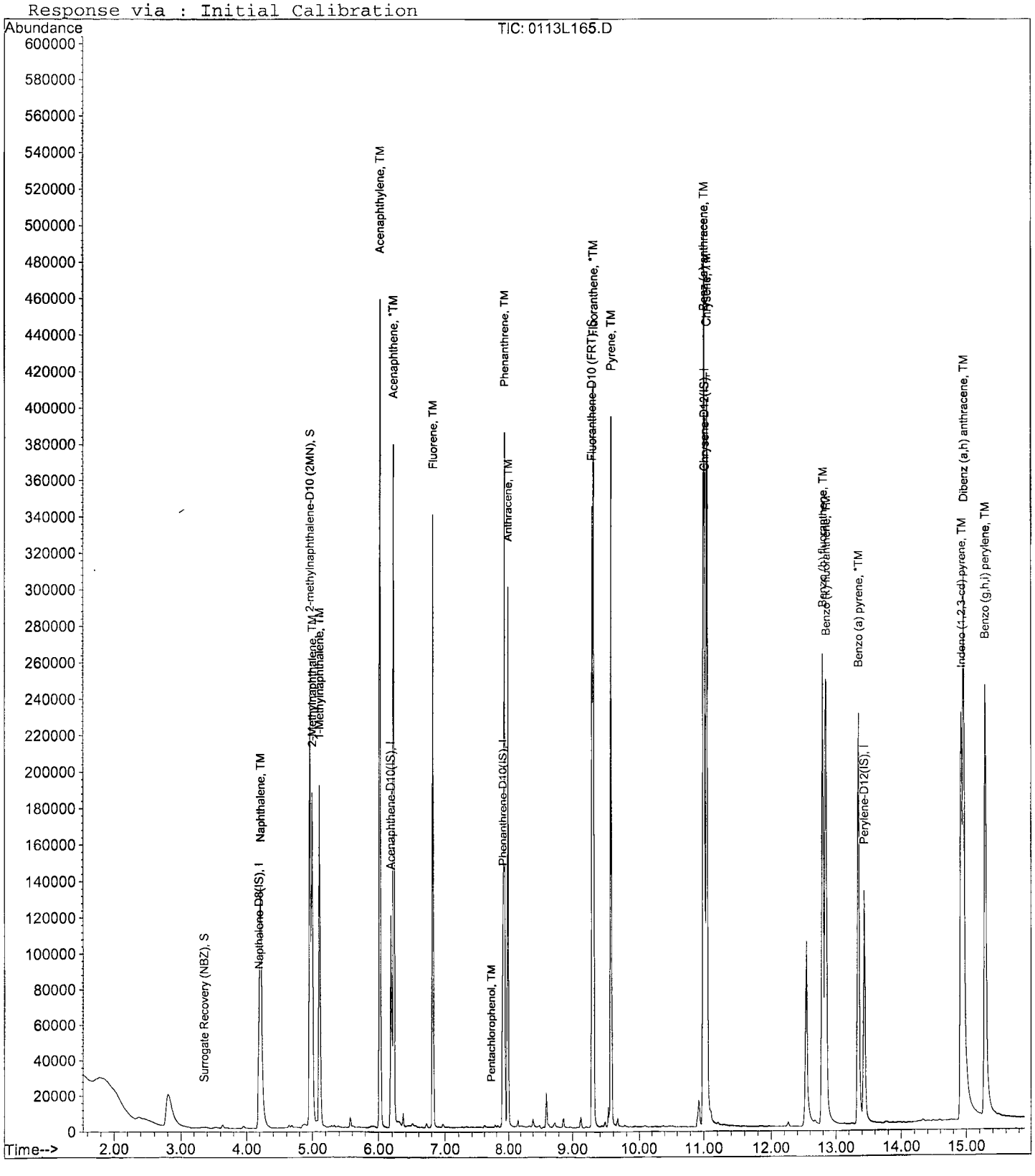
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L200113P\0113L165.D Vial: 65
Acq On : 27 Jan 20 16:07 Operator: MA
Sample : BA06272W34 MS-2 1/800 Inst : Linus
Misc : Multiplr: 1.25

Quant Time: Jan 27 16:37 2020 Quant Results File: L0113PCP.RES

Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 10:14:53 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L200113P\0113L166.D Vial: 66
Acq On : 27 Jan 20 16:29 Operator: MA
Sample : BA06272W28 MSD-2 1/800 Inst : Linus
Misc : Multiplr: 1.25

Quant Time: Jan 27 17:13 2020 Quant Results File: L0113PCP.RES

Quant Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 10:14:53 2020
Response via : Initial Calibration
DataAcq Meth : SIM_2

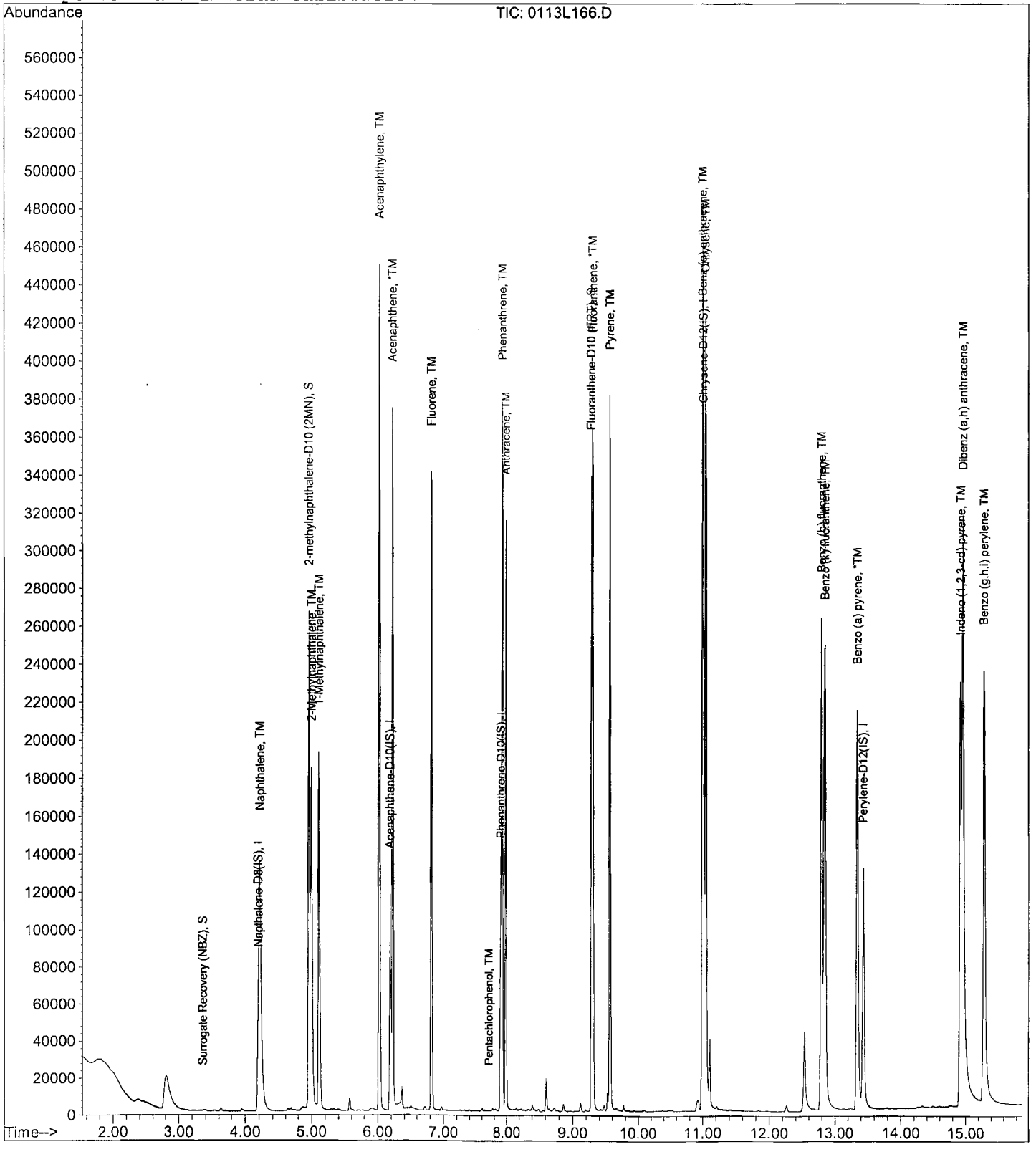
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Napthalene-D8(IS)	4.19	136	116969	2.50000 ppb		-0.01
7) Acenaphthene-D10(IS)	6.18	164	63697	2.50000 ppb		-0.01
13) Phenanthrene-D10(IS)	7.91	188	121498	2.50000 ppb		-0.01
18) Chrysene-D12(IS)	11.01	240	155326	2.50000 ppb		-0.03
24) Perylene-D12(IS)	13.43	264	181074	2.50000 ppb		-0.03
System Monitoring Compounds						
2) Surrogate Recovery (NBZ)	3.36	82	933	0.08165 ppb		-0.05
Spiked Amount 6.250			Recovery	= 1.312%		
4) 2-methylnaphthalene-D10 (2	4.96	152	249355	5.44362 ppb		-0.01
Spiked Amount 6.250			Recovery	= 87.104%		
8) Surrogate Recovery (FBP)	5.42	172	375	0.01100 ppb		-0.01
Spiked Amount 6.250			Recovery	= 0.176%		
16) Fluoranthene-D10 (FRT)	9.28	212	305754	5.34882 ppb		-0.02
Spiked Amount 6.250			Recovery	= 85.584%		
20) Surrogate Recovery (TPH)	9.77	244	2297	0.04387 ppb		-0.02
Spiked Amount 6.250			Recovery	= 0.704%		
Target Compounds						Qvalue
3) Naphthalene	4.21	128	210164	5.26866 ppb		100
5) 2-Methylnaphthalene	5.00	141	117456	5.34294 ppb		99
6) 1-Methylnaphthalene	5.11	141	122849	5.32470 ppb		99
9) Acenaphthylene	6.02	152	444344	4.94816 ppb		100
10) Acenaphthene	6.22	154	129010	4.88214 ppb		97
11) Fluorene	6.82	166	168676	5.10344 ppb		97
12) Pentachlorophenol	7.71	266	71	0.84136 ppb		99
14) Phenanthrene	7.93	178	245904	5.56515 ppb		98
15) Anthracene	7.99	178	214019	5.18057 ppb		98
17) Fluoranthene	9.30	202	340286	5.34445 ppb		99
19) Pyrene	9.57	202	344780	5.48990 ppb		99
21) Benz (a) anthracene	11.00	228	330414	5.17299 ppb		98
22) Chrysene	11.04	228	336165	5.47128 ppb	#	97
23) Indeno (1,2,3-cd) pyrene	14.92	276	431976	5.67846 ppb	#	85
25) Benzo (b) fluoranthene	12.79	252	352262	5.21103 ppb		99
26) Benzo (k) fluoranthene	12.85	252	384160	6.17981 ppb		99
27) Benzo (a) pyrene	13.35	252	312691	5.02914 ppb		100
28) Dibenz (a,h) anthracene	14.96	278	370663	5.77904 ppb		99
29) Benzo (g,h,i) perylene	15.28	276	369747	5.83430 ppb	#	92

(#) = qualifier out of range (m) = manual integration

Data File : M:\LINUS\DATA\L200113P\0113L166.D Vial: 66
Acq On : 27 Jan 20 16:29 Operator: MA
Sample : BA06272W28 MSD-2 1/800 Inst : Linus
Misc : Multiplr: 1.25

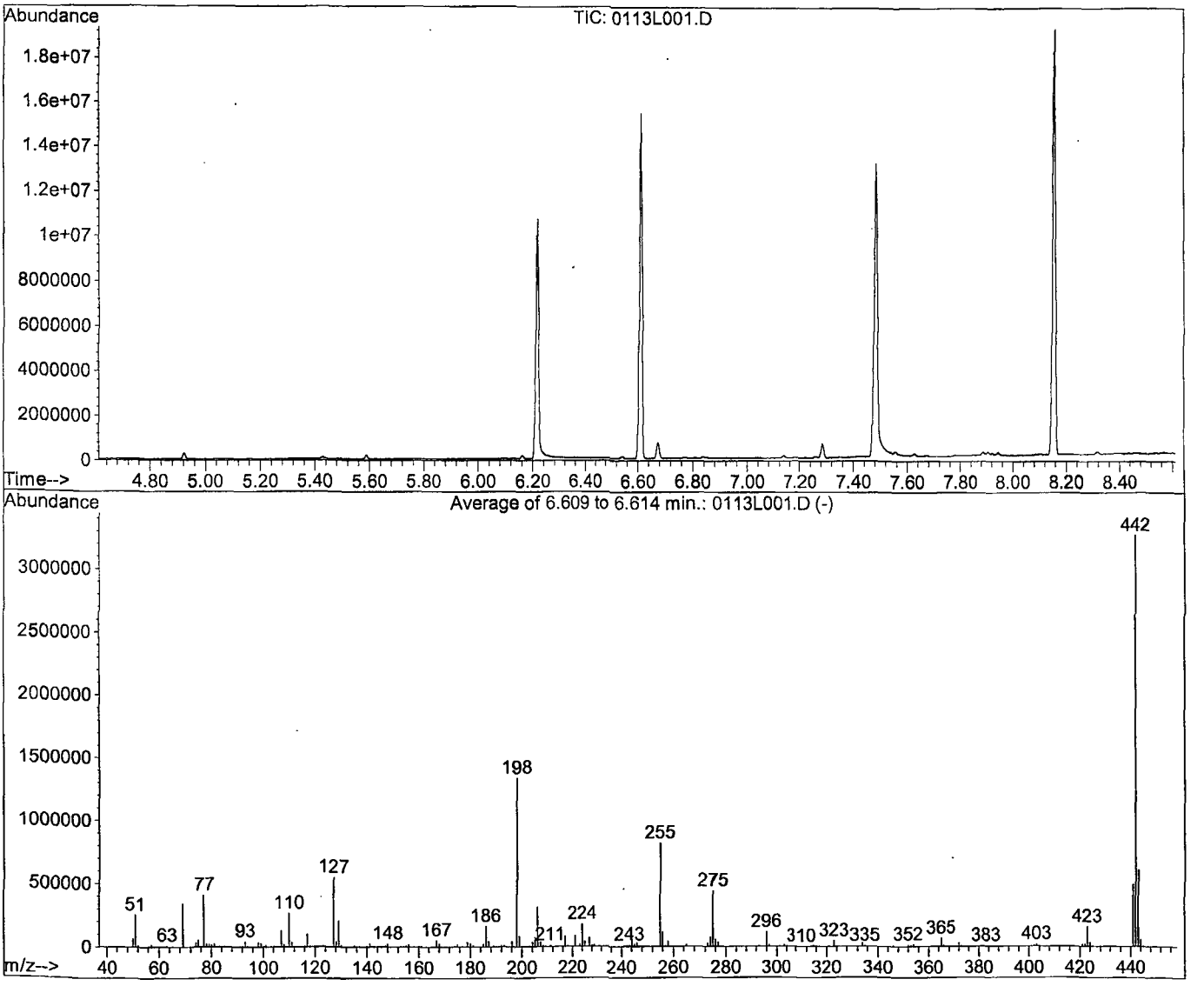
Quant Time: Jan 27 17:13 2020 Quant Results File: L0113PCP.RES

Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 10:14:53 2020
Response via : Initial Calibration



Data File : M:\LINUS\DATA\L200113P\0113L001.D Vial: 86
Acq On : 13 Jan 20 13:07 Operator: MA
Sample : SV Tune 10/01/19 Inst : Linus
Misc : Multiplr: 1.00

Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270



Spectrum Information: Average of 6.609 to 6.614 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	19.0	255177	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.3	1117	PASS
127	198	10	80	41.1	551011	PASS
197	198	0.00	2	0.0	0	PASS
198	198	100	100	100.0	1340245	PASS
199	198	5	9	6.5	87608	PASS
275	198	10	60	33.0	442112	PASS
365	198	1	100	5.1	68096	PASS
441	442	0.01	24	15.2	497451	PASS
442	198	50	500	244.5	3276971	PASS
443	442	15	24	18.6	609451	PASS

Data File Name:	**0113L001.D**
Data File Path:	**M:\LINUS\DATA\L200113P**
Operator:	**MA**
Date Acquired:	**13 Jan 2020 13:07**
Method File:	**DFTPP2.M**
Sample Name:	**SV Tune 10/01/19**
Vial Number:	**86**
Instrument Name:	**Linus**

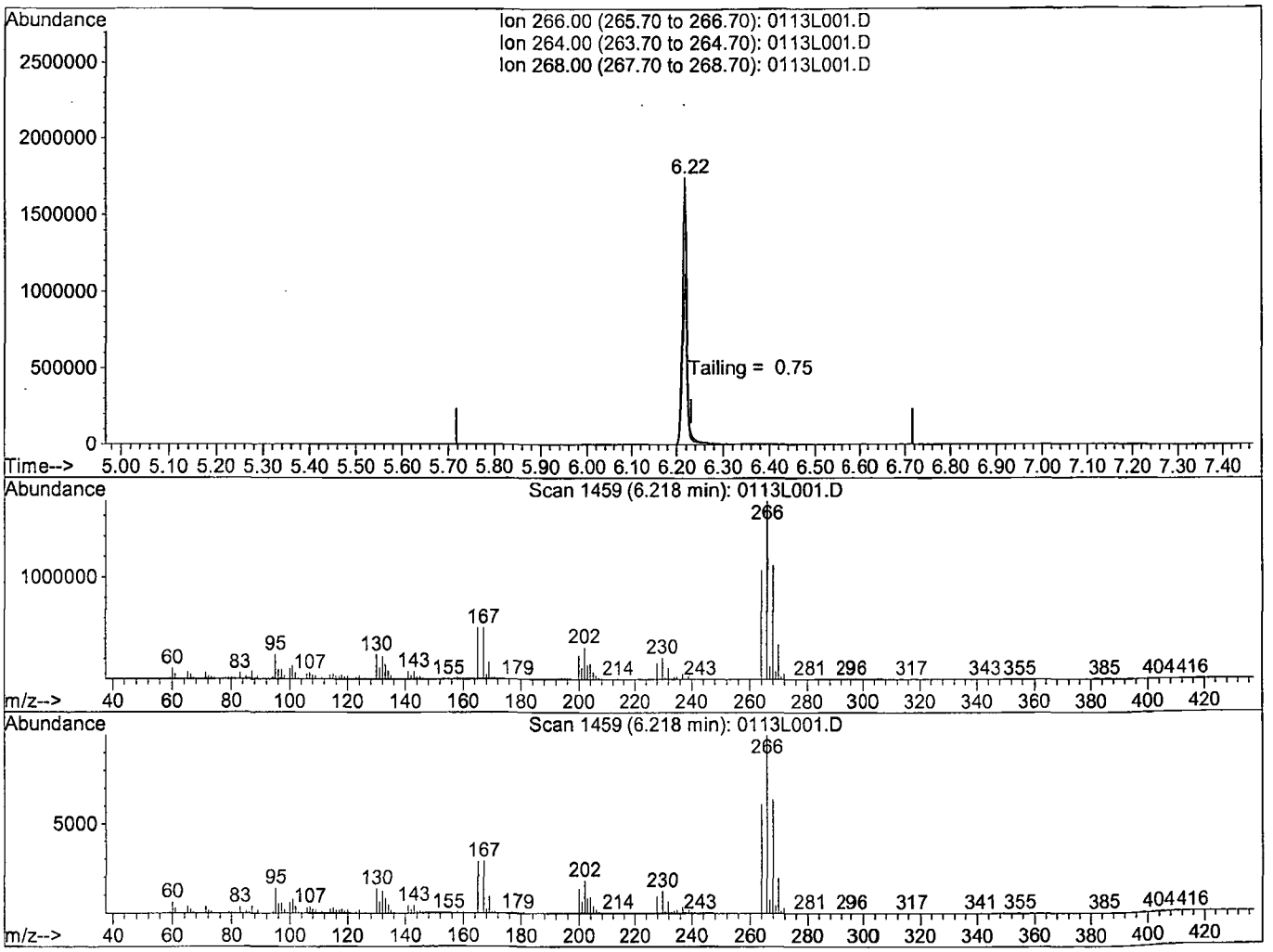
#	Name	Ret Time	Target Response
1)	DDT	8.16	137090000
2)	DDD	7.91	1495930
3)	DDE	7.63	676631

Breakdown **1.56**

Quantitation Report

Data File : M:\LINUS\DATA\L200113P\0113L001.D Vial: 86
Acq On : 13 Jan 20 13:07 Operator: MA
Sample : SV Tune 10/01/19 Inst : Linus
Misc : Multiplr: 1.00
Quant Time: Jan 14 10:19 2020 Quant Results File: temp.res

Method : M:\LINUS\DATA\L200113P\DFTPP2.M (Chemstation Integrator)
Title :
Last Update : Tue Jan 14 10:19:04 2020
Response via : Single Level Calibration



TIC: 0113L001.D

(5) Pentachlorophenol

6.22min 0.0000

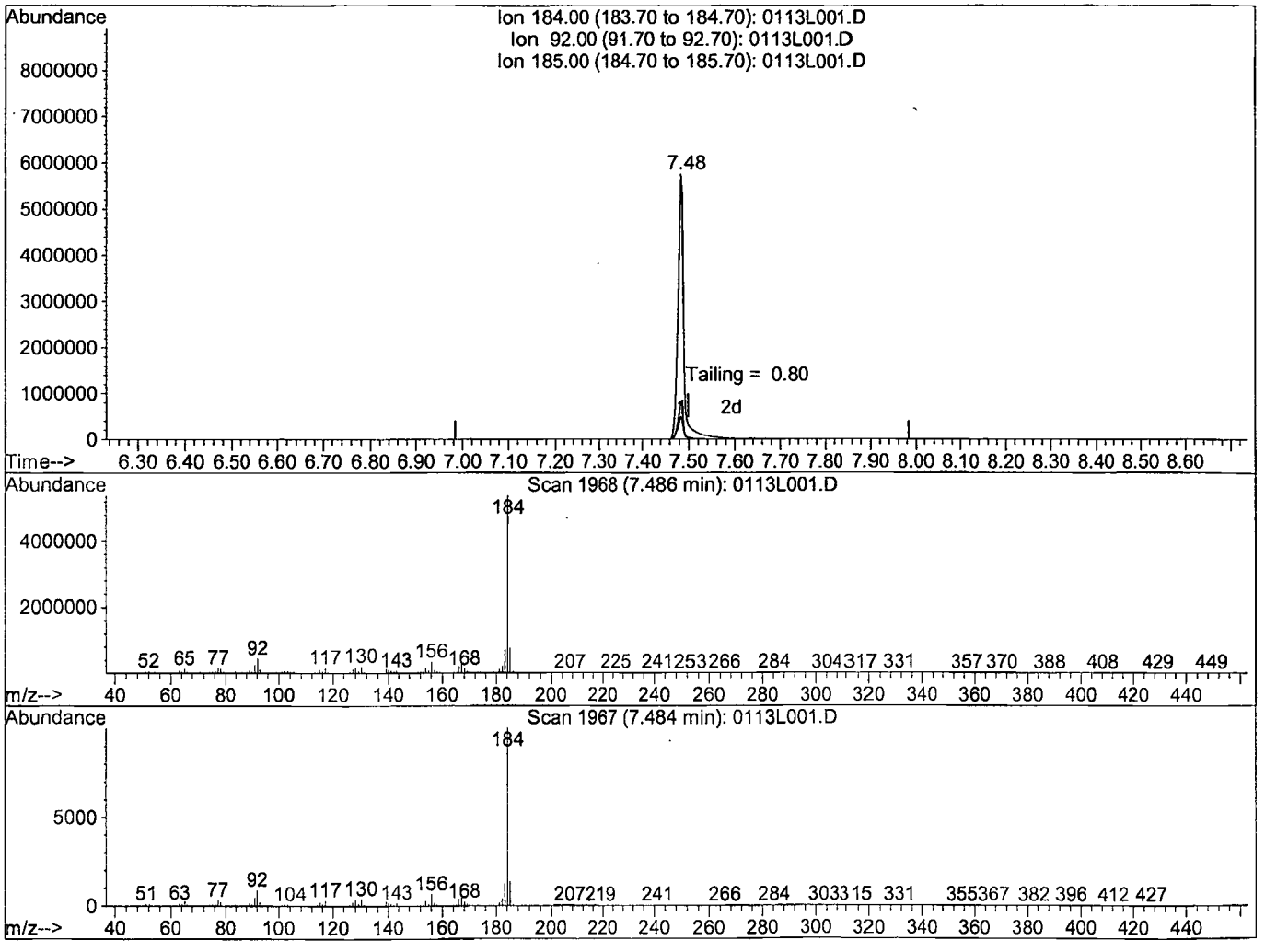
response 11875602

Ion	Exp%	Act%
266.00	100	100
264.00	61.10	61.52
268.00	64.00	64.03
0.00	0.00	0.00

Quantitation Report

Data File : M:\LINUS\DATA\L200113P\0113L001.D Vial: 86
Acq On : 13 Jan 20 13:07 Operator: MA
Sample : SV Tune 10/01/19 Inst : Linus
Misc : Multiplr: 1.00
Quant Time: Jan 14 10:19 2020 Quant Results File: temp.res

Method : M:\LINUS\DATA\L200113P\DFTPP2.M (Chemstation Integrator)
Title :
Last Update : Tue Jan 14 10:19:04 2020
Response via : Single Level Calibration



TIC: 0113L001.D

(6) Benzidine

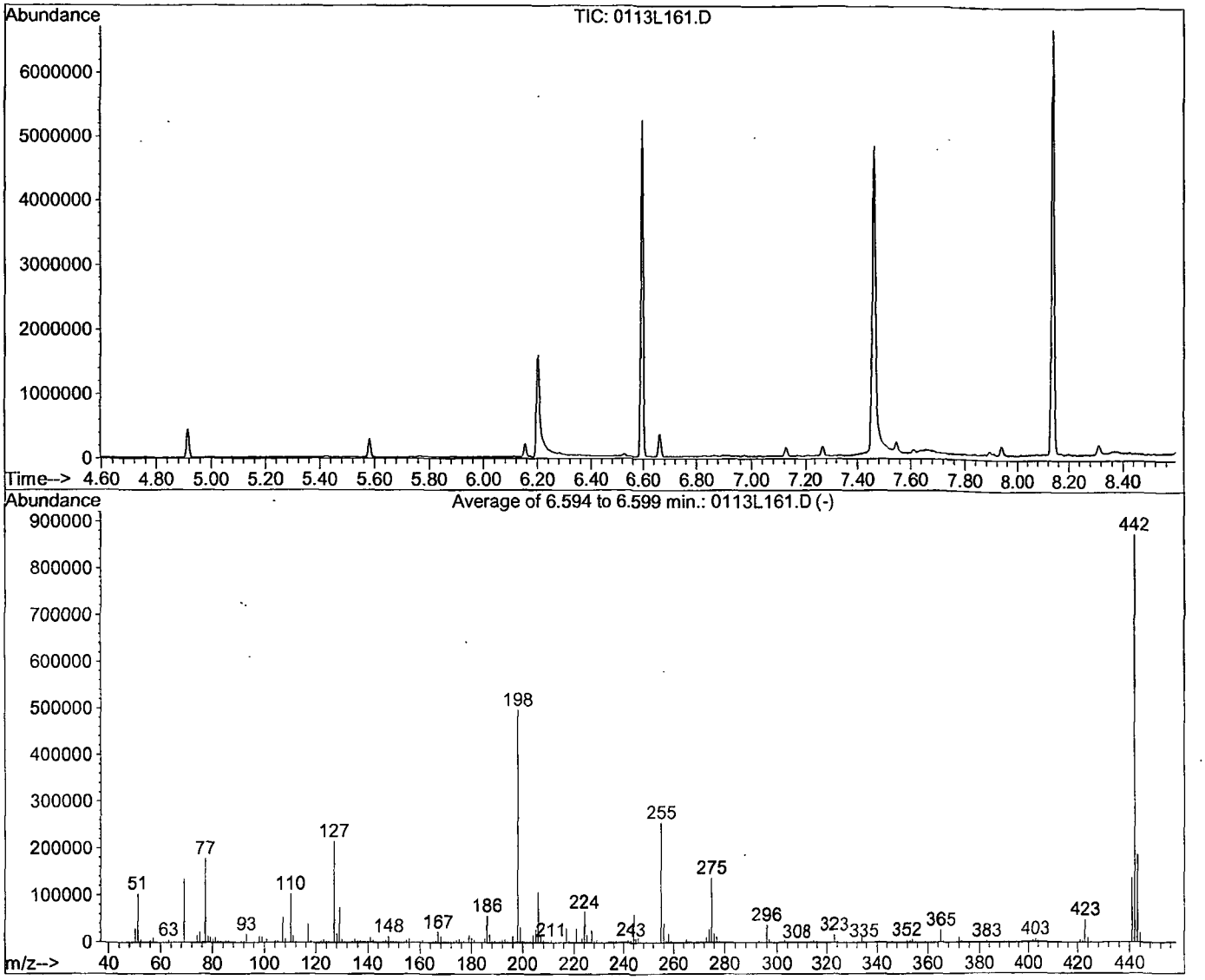
7.49min 0.0000

response 49346083

Ion	Exp%	Act%
184.00	100	100
92.00	8.60	8.86
185.00	13.60	13.35
0.00	0.00	0.00

Data File : M:\LINUS\DATA\L200113P\0113L161.D Vial: 61
Acq On : 27 Jan 20 14:35 Operator: MA
Sample : SV TUNE 10/01/19 Inst : Linus
Misc : Multiplr: 1.00

Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270



Spectrum Information: Average of 6.594 to 6.599 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	20.9	103743	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.5	711	PASS
127	198	10	80	43.3	215147	PASS
197	198	0.00	2	0.0	0	PASS
198	198	100	100	100.0	496811	PASS
199	198	5	9	6.3	31128	PASS
275	198	10	60	27.5	136752	PASS
365	198	1	100	5.3	26264	PASS
441	442	0.01	24	15.7	137731	PASS
442	198	50	500	176.6	877483	PASS
443	442	15	24	21.3	187264	PASS

Data File Name:	**0113L161.D**
Data File Path:	**M:\LINUS\DATA\L200113P**
Operator:	**MA**
Date Acquired:	**27 Jan 2020 14:35**
Method File:	**DFTPP2.M**
Sample Name:	**SV TUNE 10/01/19**
Vial Number:	**61**
Instrument Name:	**Linus**

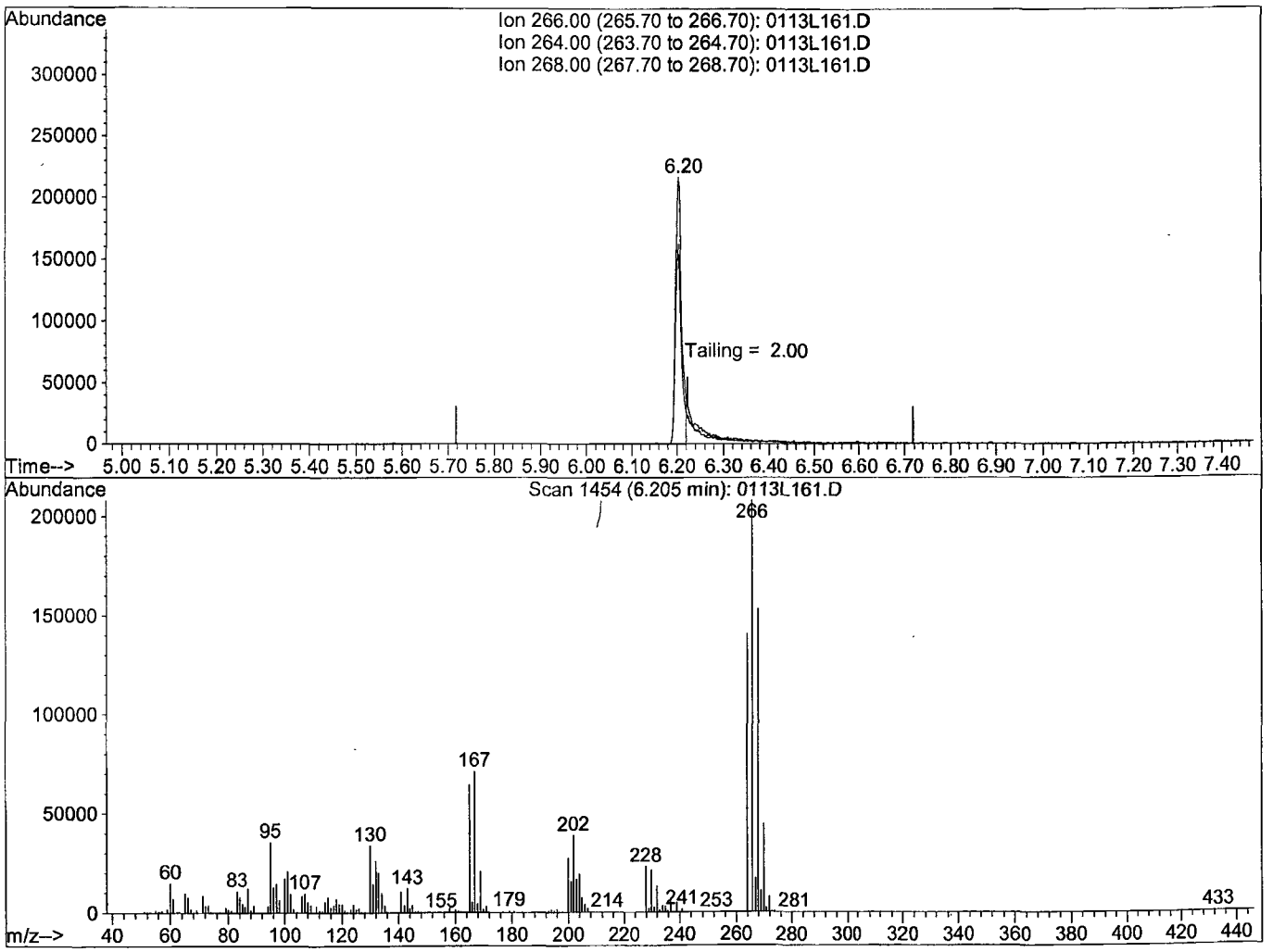
#	Name	Ret Time	Target Response
1)	DDT	8.16	43167500
2)	DDD	7.91	269680
3)	DDE	7.63	239806

Breakdown **1.17**

Quantitation Report

Data File : M:\LINUS\DATA\L200113P\0113L161.D Vial: 61
Acq On : 27 Jan 20 14:35 Operator: MA
Sample : SV TUNE 10/01/19 Inst : Linus
Misc : Multiplr: 1.00
Quant Time: Jan 27 14:57 2020 Quant Results File: temp.res

Method : M:\LINUS\DATA\L200113P\DFTPP2.M (Chemstation Integrator)
Title :
Last Update : Tue Jan 14 10:19:04 2020
Response via : Single Level Calibration



TIC: 0113L161.D

(5) Pentachlorophenol

6.20min 0.0000

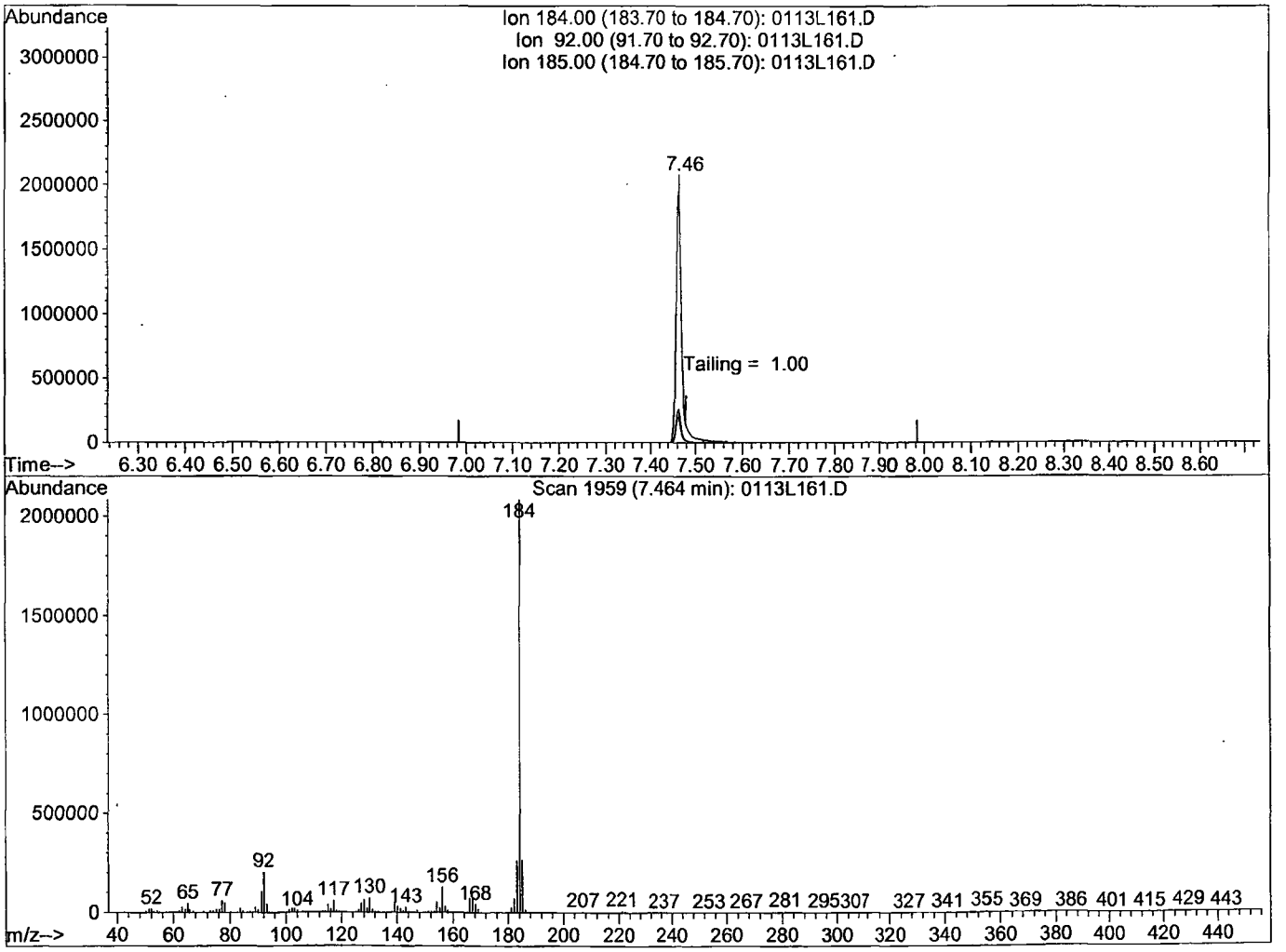
response 1915817

Ion	Exp%	Act%
266.00	100	100
264.00	61.10	77.13
268.00	64.00	84.59#
0.00	0.00	0.00

Quantitation Report

Data File : M:\LINUS\DATA\L200113P\0113L161.D Vial: 61
Acq On : 27 Jan 20 14:35 Operator: MA
Sample : SV TUNE 10/01/19 Inst : Linus
Misc : Multiplr: 1.00
Quant Time: Jan 27 14:57 2020 Quant Results File: temp.res

Method : M:\LINUS\DATA\L200113P\DFTPP2.M (Chemstation Integrator)
Title :
Last Update : Tue Jan 14 10:19:04 2020
Response via : Single Level Calibration



TIC: 0113L161.D

(6) Benzidine

7.46min 0.0000

response 16234112

Ion	Exp%	Act%
184.00	100	100
92.00	8.60	9.84
185.00	13.60	13.61
0.00	0.00	0.00

Name of Final Standard	Semivolatile (SV) Tuning Solution	Prep'd By (Initials)	JP
Prep Date	10/01/19		
Exp Date	11/30/20		

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from contianer Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
Semivolatile GC/MS Tuning Standard	Ultra Scientific	GCM-150-1	1,000 ug/mL	CR3789A-41241	11/30/20	1,250 uL	25 mL	MC #58240	50 ug/mL

Name of Final Standard	SIM PCP Continuing Calibration	Prep'd By (Initials)	JP
Prep Date	01/16/20		
Exp Date	01/24/20		

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from container Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
PAH SIMPCP	APPL	PAH SIMPCP	100 ug/mL	09/10/19	09/10/20	10 uL	200uL	MC DW717.180uL	5.0 ug/mL
SIM 2S SURROGATE	APPL	SIM 2S SURROGATE	100 ug/mL	05/17/19	01/24/20	10 uL	*	*	*
SV Internal Standard	APPL	SV Internal Standard	2000 ug/mL	07/10/19	07/10/20	4 uL	*	*	*

Name of Final Standard	SIM 2S Surrogate	Prep'd By (Initials)	GA
Prep Date	05/17/19		
Exp Date	05/17/20		

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from contianer Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
SIM Surrogate Mix	Restek	33913	2000 ug/mL	A0137718 - 39318	04/30/24	250 uL	5 mL	Acetone #030817A	100 ug/mL
8270 B/N surrog mix	Restek	31086	5000 ug/mL	A0141697 - 40112	08/31/24	100 uL	*	*	*

Name of Final Standard	8270 SIM PAH Internal Standard	Prep'd By (Initials)	GA
Prep Date	07/10/19		
Exp Date	07/10/20		

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from contianer Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
SV Internal Standard	Restek	31206	2000 ug/mL	A0144261-40464	11/30/24	350 uL	5,600 uL	MC 56258 5,250 uL	125 ug/mL

Name of Final Standard	PAH SIM PCP STD	Prep'd By (Initials)	GA
Prep Date	09/07/18		
Exp Date	11/08/19		

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from contianer Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
110780-01	O2SI	110780-01	200 ug/mL	327601-38573	11/08/19	1000 uL	2 mL	MC 56258	100
10018	Absolute	10018	2000 ug/mL	062718-39449	06/27/23	100 uL	*	*	*

Name of Final Standard **PAH SIM PCP STD** Prep'd By (Initials) **MA**

Prep Date **09/10/19**
Exp Date **09/10/20**

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from contianer Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
PAH SIM	Phenova	ALO-130490	200 ug/mL	**CL13121-41226**	**12/31/22**	1000 uL	2 mL	**MC 58341**	100
10018	Absolute	10018	2000 ug/mL	**051719-41155**	**05/17/24**	100 uL	*	*	*

Name of Final Standard **8270 PAH SIM PCP Second Source** Prep'd By (Initials) **MA**

Prep Date **09/10/19**
Exp Date **11/08/19**

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from container Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
PAH SIMPCP SS Stock	O2SI	PAH SIMPCP SS Stock	100 ug/mL	**09/07/18**	**11/08/19**	10 uL	200uL	**MC 56341** 195uL	5 ug/mL
SV Internal Standard	APPL	SV Internal Standard	2000 ug/mL	**07/10/19**	**07/10/20**	4 uL	*	*	*

Name of Final Standard: **SIM PCP Curve** Prep'd By (Initials): **MA**

Prep Date: **09/10/19**
Exp Date: **01/24/20**

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from container Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
0.5 ug/mL SIM PCP	APPL	0.5 ug/mL SIM PCP	0.5 ug/mL	**09/10/19**	**01/24/20**	20 uL	100uL	**MC 58341 80uL**	0.1 ug/mL
SV Internal Standard	APPL	SV Internal Standard	2000 ug/mL	**07/10/19**	**07/10/20**	2 uL	*	*	*
2.5 ug/mL SIM PCP	APPL	2.5 ug/mL SIM PCP	2.5 ug/mL	**09/10/19**	**01/24/20**	10 uL	100uL	**MC 58341 90uL**	0.25 ug/mL
SV Internal Standard	APPL	SV Internal Standard	2000 ug/mL	**07/10/19**	**07/10/20**	2 uL	*	*	*
2.5 ug/mL SIM PCP	APPL	2.5 ug/mL SIM PCP	2.5 ug/mL	**09/10/19**	**01/24/20**	20 uL	100uL	**MC 58341 80uL**	0.5 ug/mL
SV Internal Standard	APPL	SV Internal Standard	2000 ug/mL	**07/10/19**	**07/10/20**	2 uL	*	*	*
PAH SIMPCP	APPL	PAH SIMPCP	100 ug/mL	**09/10/19**	**09/10/20**	5 uL	200uL	**MC 58341 190 uL**	2.5 ug/mL
SIM 2S SURROGATE	APPL	SIM 2S SURROGATE	100 ug/mL	**05/17/19**	**01/24/20**	5 uL	*	*	*
SV Internal Standard	APPL	SV Internal Standard	2000	**07/10/19**	**07/10/20**	4 uL	*	*	*
PAH SIMPCP	APPL	PAH SIMPCP	100 ug/mL	**09/10/19**	**09/10/20**	10 uL	200uL	**MC 58341 180 uL**	5.0 ug/mL
SIM 2S SURROGATE	APPL	SIM 2S SURROGATE	100 ug/mL	**05/17/19**	**01/24/20**	10 uL	*	*	*
SV Internal Standard	APPL	SV Internal Standard	2000 ug/mL	**07/10/19**	**07/10/20**	4 uL	*	*	*
PAH SIMPCP	APPL	PAH SIMPCP	100 ug/mL	**09/10/19**	**09/10/20**	25 uL	100 uL	**MC 58341 50 uL**	25 ug/mL
SIM 2S SURROGATE	APPL	SIM 2S SURROGATE	100 ug/mL	**05/17/19**	**01/24/20**	25 uL	*	*	*
SV Internal Standard	APPL	SV Internal Standard	2000 ug/mL	**07/10/19**	**07/10/20**	2 uL	*	*	*
PAH SIMPCP	APPL	PAH SIMPCP	100 ug/mL	**09/10/19**	**09/10/20**	50 uL	100uL	na	50 ug/mL
SIM 2S SURROGATE	APPL	SIM 2S SURROGATE	100 ug/mL	**05/17/19**	**01/24/20**	50 uL	*	*	*
SV Internal Standard	APPL	SV Internal Standard	2000 ug/mL	**07/10/19**	**07/10/20**	2 uL	*	*	*

Organic Extraction Worksheet

Method	Continuous Liquid/Liquid SVOC 3520C	Extraction Set	200124A	Extraction Method	LIQ003	Units	mL

Spiked ID 1	8270T Spike		Surrogate ID 1	8270 Surrogate	
Spiked ID 2	Sim Spike		Surrogate ID 2	SIM Surrogate	
Spiked ID 3			Surrogate ID 3		
Spiked ID 4			Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	YES	
Spiked ID 7			Ext. Start Time:	01/24/20 15:30	
Spiked ID 8			Ext. End Time:	01/25/20 9:30	
			GC Requires Extract By:		

pH1	2		Water Bath Temp 1 °C	75/74.2 E-WB5 °
pH2	14		Water Bath Temp 2 °C	75/74.9 E-WB6
pH3			Water Bath Temp 3 °C	

Spiked By: DL **Date** 01/24/20 **Witnessed By:** KY,DS **Date** 01/24/20

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	200124A Blk				1,0.050	1,2	800	1	2/1	01/24/20 13:30	
						equip	E-HP51				
2	200124A LCS-1		1	1	1	1	800	1	2/1	01/24/20 13:30	
						equip	E-HP50				
3	200124A LCS-2		0.125	2	0.050	2	800	1	2/1	01/24/20 13:30	
						equip	E-HP49				
4	BA06272 MS-1	BA06272W30	1	1	1	1	800	1	2/1	01/24/20 13:30	91282
						equip	E-HP47				
5	BA06272 MSD-1	BA06272W31	1	1	1	1	800	1	2/1	01/24/20 13:30	91282
						equip	E-HP25				
6	BA06272 MS-2	BA06272W34	0.125	2	0.050	2	800	1	2/1	01/24/20 13:30	91282
						equip	E-HP26				
7	BA06272 MSD-2	BA06272W28	0.125	2	0.050	2	800	1	2/1	01/24/20 13:30	91282
						equip	E-HP27				
8	BA06272	BA06272W29			1,0.050	1,2	800	1	2/1	01/24/20 13:30	91282
						equip	E-HP48				
9	BA06273	BA06273W11			1,0.050	1,2	800	1	2/1	01/24/20 13:30	91282
						equip	E-HP28				
10	BA06275	BA06275W13			1,0.050	1,2	800	1	2/1	01/24/20 13:30	91282
						equip	E-HP29				
11	BA06276	BA06276W15			1,0.050	1,2	800	1	2/1	01/24/20 13:30	91282
						equip	E-HP30				
12	BA06279	BA06279W14			1,0.050	1,2	800	1	2/1	01/24/20 13:30	91282
						equip	E-HP17				
13	BA06281	BA06281W13			1,0.050	1,2	800	1	2/1	01/24/20 13:30	91282
						equip	E-HP16				
14	BA06282	BA06282W13			1,0.050	1,2	800	1	2/1	01/24/20 13:30	91282
						equip	E-HP15				
15	BA06284	BA06284W19			1,0.050	1,2	800	1	2/1	01/24/20 13:30	91282
						equip	E-HP14				
16	BA06313	BA06313W13			1,0.050	1,2	800	1	2/1	01/24/20 13:30	91288
						equip	E-HP13				

Solvent and Lot#	
PH Strips	HC863463
Dichloromethane (DCM)	59239
1+1 H2SO4	12-17-19
10N NaOH	11-20-19
Filter Paper	400121
Acidified Na2SO4	1041-26-20
B. Na2SO4	2019020631

Extraction COC Transfer	
Extraction lab employee Initials	
GC analyst's initials	JP
Date	
Time	
Refrigerator	GC-C

	Technician's Initials
Scanned By	DL
Sample Preparation	DL
Extraction	DL
Concentration	DL, ERR

Modified	01/27/20 2:47:05 PM

Reviewed By: **Date**

Organic Extraction Worksheet

Method	Continuous Liquid/Liquid SVOC 3520C	Extraction Set	200124A	Extraction Method	LIQ003	Units	mL

Spiked ID 1	8270T Spike		Surrogate ID 1	8270 Surrogate	
Spiked ID 2	Sim Spike		Surrogate ID 2	SIM Surrogate	
Spiked ID 3			Surrogate ID 3		
Spiked ID 4			Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	YES	
Spiked ID 7			Ext. Start Time:	01/24/20 15:30	
Spiked ID 8			Ext. End Time:	01/25/20 9:30	
			GC Requires Extract By:		

pH1	2		Water Bath Temp 1 °C	75/74.2 E-WB5 °
pH2	14		Water Bath Temp 2 °C	75/74.9 E-WB6
pH3			Water Bath Temp 3 °C	

Spiked By: DL **Date** 01/24/20 **Witnessed By:** KY,DS **Date** 01/24/20

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
17	BA06315	BA06315W13			1,0.050	1,2	800	1	2/1	01/24/20 13:30	91288
						equip	E-HP12				
18	BA06317	BA06317W14			1,0.050	1,2	800	1	2/1	01/24/20 13:30	91288
						equip	E-HP11				
19	BA06319	BA06319W16			1,0.050	1,2	800	1	2/1	01/24/20 13:30	91288
						equip	E-HP10				
20	BA06361	BA06361W18			1,0.050	1,2	800	1	2/1	01/24/20 15:15	91299
						equip	E-HP9				
21	BA06362	BA06362W14			1,0.050	1,2	800	1	2/1	01/24/20 15:15	91299
						equip	E-HP6				
22	BA06364	BA06364W16			1,0.050	1,2	800	1	2/1	01/24/20 15:15	91299
						equip	E-HP4				

Solvent and Lot#	
PH Strips	HC863463
Dichloromethane (DCM)	59239
1+1 H2SO4	12-17-19
10N NaOH	11-20-19
Filter Paper	400121
Acidified Na2SO4	1041-26-20
B. Na2SO4	2019020631

Extraction COC Transfer	
Extraction lab employee Initials	
GC analyst's initials	JP
Date	
Time	
Refrigerator	GC-C

	Technician's Initials
Scanned By	DL
Sample Preparation	DL
Extraction	DL
Concentration	DL, ERR

Modified	01/27/20 2:47:05 PM

Reviewed By: **Date**

Injection Log

Directory: M:\LINUS\DATA\L200113P\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	86	0113L001.D	1	SV Tune 10/01/19		13 Jan 20 13:07
2	88	0113L003.D	1	5.0 SIM PCP 09/10/19 (0)		13 Jan 20 14:59
3	4	0113L004.D	1	0.1 SIM PCP 09/10/19		13 Jan 20 15:43
4	5	0113L005.D	1	0.25 SIM PCP 09/10/19		13 Jan 20 16:05
5	6	0113L006.D	1	0.5 SIM PCP 09/10/19		13 Jan 20 16:26
6	7	0113L007.D	1	2.5 SIM PCP 09/10/19		13 Jan 20 16:48
7	8	0113L008.D	1	25 SIM PCP 09/10/19		13 Jan 20 17:10
8	9	0113L009.D	1	50 SIM PCP 09/10/19		13 Jan 20 17:32
9	10	0113L010.D	1	SS SIM PCP 01/07/20		13 Jan 20 17:54
10	61	0113L161.D	1	SV TUNE 10/01/19		27 Jan 20 14:35
11	62	0113L162.D	1	5ug/mL SIM PCP 01/16/20 (1)		27 Jan 20 14:51
12	63	0113L163.D	1.25	200124A BLK 1/800		27 Jan 20 15:24
13	64	0113L164.D	1.25	200124A LCS-2 1/800		27 Jan 20 15:46
14	65	0113L165.D	1.25	BA06272W34 MS-2 1/800		27 Jan 20 16:07
15	66	0113L166.D	1.25	BA06272W28 MSD-2 1/800		27 Jan 20 16:29
16	67	0113L167.D	1.25	BA06272W29 1/800		27 Jan 20 16:51
17	68	0113L168.D	1.25	BA06273W11 1/800		27 Jan 20 17:13
18	69	0113L169.D	1.25	BA06275W13 1/800		27 Jan 20 17:35
19	70	0113L170.D	1.25	BA06276W15 1/800		27 Jan 20 17:57
20	71	0113L171.D	1.25	BA06279W14 1/800		27 Jan 20 18:19
21	72	0113L172.D	1.25	BA06281W13 1/800		27 Jan 20 18:41
22	73	0113L173.D	1.25	BA06282W13 1/800		27 Jan 20 19:03
23	74	0113L174.D	1.25	BA06284W19 1/800		27 Jan 20 19:25
24	82	0113L182.D	1	2.5ug/mL SIMLL SPK 01/21/20 ((CCV)		27 Jan 20 22:20

ORGANICS
Calibration Data

Semi-Volatile Analysis by GC-MS
EPA 8270

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Initial Cal. Date: 12/19/19
Matrix: Instrument: Yoda
Initials:

			1219Y004 D	1219Y005.D	1219Y006.D	1219Y007.D	1219Y008.D	1219Y003 D	1219Y009.D	1219Y010.D	1219Y011.D							
		Compound	4	5	10	20	40	50	60	80	91		Avg	%RSD	Type	r^2	Q	MRF
1	I	1,4-dichlorobenzene-D4(IS)	ISTD															
2		1,4-Dioxane	0.5052	0.5856	0.6410	0.5627	0.5805	0.5963	0.6744	0.6671	0.6074		0.60	8.8				
3	TM	n-Nitrosodimethylamine	1.092	1.156	1.069	0.9475	1.038	1.123	1.210	1.250	1.165		1.1	8.3	TM			
4	TM	Pyridine	2.280	2.408	2.771	2.400	2.420	2.500	2.834	2.907	2.763		2.6	8.9	TM			
5	S	2-Fluorophenol (S)	1.525	1.320	1.432	1.300	1.319	1.484	1.561	1.672	1.583		1.5	9.1	S			
6	S	Phenol-D6 (S)	1.895	1.660	1.756	1.615	1.647	1.920	2.000	2.210	2.108		1.9	11	S			
7	*TM	Phenol	1.874	1.910	2.112	1.928	2.040	2.339	2.470	2.610	2.555		2.2	13	*TM			0.800
8	TM	Aniline	1.334	1.308	1.389	1.427	1.419	1.463	1.661	1.551	1.396		1.4	7.6	TM			
9	TM	Bis (2-chloroethyl) ether	0.9219	0.9198	1.036	0.9251	0.9557	1.056	1.119	1.151	1.107		1.0	9.1	TM			0.700
10	TM	2-Chlorophenol	1.386	1.438	1.555	1.396	1.440	1.608	1.703	1.757	1.686		1.6	9.2	TM			0.800
11	TM	1,3-DCB	1.540	1.631	1.750	1.502	1.582	1.715	1.840	1.921	1.849		1.7	8.7	TM			
12	*TM	1,4-DCB	1.544	1.652	1.762	1.558	1.630	1.757	1.903	1.978	1.905		1.7	9.1	*TM			
13	TM	Benzyl alcohol	0.7777	0.8093	0.9119	0.8082	0.8456	0.9912	1.002	1.065	1.018		0.91	12	TM			
14	TM	1,2-DCB	1.448	1.499	1.651	1.429	1.487	1.659	1.774	1.842	1.807		1.6	10.0	TM			
15	TM	2-Methylphenol	1.219	1.234	1.309	1.185	1.252	1.417	1.495	1.568	1.511		1.4	11	TM			0.700
16	TM	Bis (2-chloroisopropyl) ether	1.212	1.245	1.332	1.184	1.244	1.395	1.475	1.549	1.485		1.3	10.0	TM			
17	TM	Acetophenone	2.010	2.013	2.231	2.067	2.158	2.442	2.558	2.698	2.600		2.3	12	TM			0.010
18	TM	3&4-Methylphenol	1.542	1.554	1.716	1.541	1.629	1.904	1.973	2.123	2.050		1.8	13	TM			0.600
19	**TM	n-Nitrosodi-n-propylamine	1.263	1.297	1.414	1.295	1.361	1.591	1.666	1.776	1.701		1.5	13	**TM			0.500
20	TM	Hexachloroethane	0.6270	0.6828	0.7293	0.6605	0.6729	0.7406	0.7887	0.8348	0.8027		0.73	9.8	TM			0.300
21	I	Napthalene-D8(IS)	ISTD															
22	S	Nitrobenzene-D5(S)	0.5318	0.4774	0.4864	0.4745	0.4719	0.4933	0.5032	0.5240	0.5147		0.50	4.5	S			
23	TM	Nitrobenzene	0.4642	0.5003	0.5125	0.4754	0.5054	0.5308	0.5427	0.5516	0.5571		0.52	6.4	TM			0.200
24	TM	Isophorone	0.7546	0.7674	0.8060	0.7539	0.7961	0.8472	0.8485	0.8787	0.8684		0.81	6.0	TM			0.400
25	*TM	2-Nitrophenol	0.1803	0.1912	0.2042	0.1970	0.2076	0.2181	0.2244	0.2306	0.2309		0.21	8.6	*TM			0.100
26	TM	2,4-Dimethylphenol	0.3048	0.3153	0.3305	0.3095	0.3230	0.3472	0.3501	0.3640	0.3704		0.33	7.1	TM			0.200
27	TML	Benzoic acid	0.0946	0.1138	0.1879	0.2336	0.2825	0.2721	0.2855	0.3030	0.3030		0.23	35	TML	0.998		
28	TM	Bis (2-chloroethoxy) methane	0.3781	0.3943	0.4143	0.3907	0.4119	0.4361	0.4454	0.4624	0.4662		0.42	7.6	TM			0.300
29	*TM	2,4-Dichlorophenol	0.2893	0.2989	0.3168	0.3008	0.3208	0.3413	0.3480	0.3629	0.3610		0.33	8.5	*TM			0.200
30	TM	1,2,4-Trichlorobenzene	0.3149	0.3503	0.3569	0.3288	0.3583	0.3733	0.3895	0.4028	0.4041		0.36	8.6	TM			
31	TM	3,4-Dimethylphenol	0.5088	0.4953	0.5614	0.5223	0.5395	0.5890	0.5844	0.6060	0.6089		0.56	7.6	TM			
32	TM	Naphthalene	0.9866	1.025	1.068	1.000	1.055	1.118	1.145	1.187	1.210		1.1	7.4	TM			0.700
33	TM	4-Chloroaniline	0.4130	0.4102	0.4466	0.4160	0.4341	0.4535	0.4589	0.4596	0.4467		0.44	4.6	TM			0.010
34	TM	2,6-Dichlorophenol	0.2696	0.2967	0.3074	0.2937	0.3088	0.3382	0.3396	0.3625	0.3634		0.32	10	TM			
35	TM	Hexachloropropene	0.2671	0.2881	0.2978	0.2893	0.3112	0.3320	0.3401	0.3527	0.3589		0.32	10	TM			

Semi-Volatile Analysis by GC-MS
EPA 8270

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Initial Cal. Date: 12/19/19
Matrix: Instrument: Yoda Initials:

		Compound	4	5	10	20	40	50	60	80	91		Avg	%RSD	Type		Q	
36	*TM	Hexachlorobutadiene	0.2198	0.2305	0.2457	0.2253	0.2401	0.2518	0.2615	0.2734	0.2764		0.25	8.3	*TM			0.010
37	TM	Caprolactum	0.1360	0.1418	0.1459	0.1372	0.1421	0.1515	0.1509	0.1569	0.1569		0.15	5.4	TM			0.010
38	*TM	4-Chloro-3-methylphenol	0.3433	0.3492	0.3767	0.3527	0.3826	0.4117	0.4148	0.4325	0.4262		0.39	8.9	*TM			0.200
39	TM	2-Methylnaphthalene	0.6528	0.6825	0.7189	0.6672	0.7074	0.7659	0.7721	0.8038	0.8214		0.73	8.3	TM			0.400
40	TM	1-Methylnaphthalene	0.6774	0.7258	0.7430	0.6772	0.7340	0.7929	0.8094	0.8459	0.8492		0.76	8.6	TM			
41	I	Acenaphthene-D10(IS)	ISTD															
42	**TML	Hexachlorocyclopentadiene	0.1728	0.2331	0.2484	0.3602	0.4060	0.4718	0.4812	0.5045	0.4482		0.37	33	**TML	0.991		0.050
43	TM	1,2,4,5-Tetrachlorobenzene	0.5593	0.5899	0.5937	0.5643	0.6173	0.6743	0.6677	0.7241	0.7440		0.64	11	TM			0.010
44	*TM	2,4,6-Trichlorophenol	0.3671	0.3707	0.4007	0.3830	0.4055	0.4458	0.4421	0.4627	0.4769		0.42	9.8	*TM			0.200
45	TM	2,4,5-Trichlorophenol	0.4207	0.4236	0.4252	0.4143	0.4421	0.4723	0.4724	0.4964	0.5050		0.45	7.7	TM			0.200
46	S	2-Fluorobiphenyl(S)	1.577	1.423	1.350	1.366	1.373	1.489	1.494	1.591	1.634		1.5	7.2	S			
47	TM	1,1'-Biphenyl	1.395	1.444	1.455	1.418	1.494	1.625	1.612	1.736	1.784		1.6	9.2	TM			0.010
48	TM	2-Chloronaphthalene	1.127	1.156	1.195	1.149	1.201	1.307	1.296	1.382	1.417		1.2	8.5	TM			0.800
49	TM	2-Nitroaniline	0.4167	0.4376	0.4565	0.4486	0.4606	0.5021	0.4976	0.5202	0.5237		0.47	8.1	TM			0.010
50	TM	Dimethyl phthalate	1.422	1.455	1.461	1.410	1.474	1.591	1.590	1.671	1.690		1.5	7.0	TM			0.010
51	TM	2,6-DNT	0.2885	0.2872	0.3086	0.3140	0.3290	0.3597	0.3549	0.3784	0.3815		0.33	11	TM			0.200
52	TM	Acenaphthylene	1.710	1.793	1.808	1.775	1.875	2.023	2.023	2.114	2.167		1.9	8.5	TM			0.900
53	TM	3-Nitroaniline	0.3591	0.3544	0.3786	0.3695	0.3887	0.4218	0.4188	0.4298	0.4424		0.40	8.3	TM			0.010
54	*TM	Acenaphthene	1.085	1.127	1.137	1.078	1.162	1.275	1.255	1.332	1.363		1.2	8.9	*TM			0.900
55	**TML	2,4-Dinitrophenol	0.0287	0.0331	0.0777	0.1240	0.1723	0.1832	0.1984	0.2141	0.2201		0.14	55	**TML	0.993		0.010
56	**TM	4-Nitrophenol	0.0290	0.0284	0.0307	0.0282	0.0302	0.0332	0.0320	0.0336	0.0352		0.03	7.9	**TM			0.010
57	TM	Dibenzofuran	1.623	1.671	1.677	1.629	1.734	1.930	1.924	2.084	2.153		1.8	11	TM			0.800
58	TM	2,4-DNT	0.3958	0.4169	0.4457	0.4462	0.4784	0.5343	0.5256	0.5800	0.5904		0.49	14	TM			0.200
59	TM	2,3,4,6-Tetrachlorophenol	0.2835	0.3006	0.3178	0.3136	0.3386	0.3682	0.3763	0.3904	0.3993		0.34	12	TM			0.010
60	TM	Diethyl phthalate	1.467	1.516	1.534	1.474	1.545	1.655	1.632	1.704	1.733		1.6	6.3	TM			0.010
61	TM	4-Chlorophenyl phenyl ether		0.7633	0.7429	0.7444	0.8104	0.9246	0.9212	1.040	1.072		0.88	15	TM			0.400
62	TM	Fluorene	1.306	1.349	1.363	1.361	1.475	1.673	1.668	1.846	1.932		1.6	15	TM			0.900
63	TM	4-Nitroaniline	0.3151	0.3031	0.3294	0.3142	0.3263	0.3501	0.3462	0.3402	0.3445		0.33	5.0	TM			0.010
64	S	2,4,6-Tribromophenol(S)	0.2342	0.2311	0.2068	0.2116	0.2324	0.2576	0.2590	0.2918	0.3127		0.25	14	S			
65	I	Phenanthrene-D10(IS)	ISTD															
66	TM	4,6-Dinitro-2-methylphenol			0.1237	0.1331	0.1507	0.1615	0.1663	0.1780	0.1783		0.16	14	TM			0.010
67	TM	Diphenyl amine		0.5674	0.5878	0.5670	0.6272	0.6767	0.6917	0.7384	0.7531		0.65	11	TM			
68	*TM	n-Nitrosodiphenylamine		0.5674	0.5878	0.5670	0.6272	0.6767	0.6917	0.7384	0.7531		0.65	11	*TM			0.010
69	TM	1,2-Diphenylhydrazine	0.8725	0.8825	0.9231	0.8661	0.9237	0.9667	0.9904	1.038	1.013		0.94	6.7	TM			
70	TM	4-Bromophenyl phenyl ether	0.2168	0.2117	0.2303	0.2234	0.2447	0.2591	0.2603	0.2775	0.2827		0.25	11	TM			0.100

Semi-Volatile Analysis by GC-MS
EPA 8270

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Initial Cal. Date: 12/19/19
Matrix: Instrument: Yoda Initials:

		Compound	4	5	10	20	40	50	60	80	91		Avg	%RSD	Type		Q	
71	TM	Hexachlorobenzene	0.2189	0.2230	0.2350	0.2209	0.2419	0.2639	0.2678	0.2781	0.2827		0.25	10	TM			0.100
72	TM	Atrazine		0.2202	0.2285	0.2039	0.2199	0.2039	0.2312	0.2400	0.2413		0.22	6.5	TM			0.010
73	*TM	Pentachlorophenol				0.1167	0.1380	0.1587	0.1560	0.1693	0.1761		0.15	14	*TM			0.050
74	TM	Phenanthrene	1.008	1.029	1.058	1.008	1.079	1.131	1.159	1.215	1.247		1.1	8.0	TM			0.700
75	TM	Anthracene	1.024	1.060	1.108	1.058	1.130	1.203	1.210	1.282	1.310		1.2	8.9	TM			0.700
76	TM	Carbazol	0.9547	0.9719	1.001	0.9555	1.020	1.099	1.107	1.168	1.177		1.1	8.5	TM			0.010
77	TM	Di-n-butylphthalate	1.254	1.280	1.325	1.308	1.422	1.524	1.557	1.600	1.659		1.4	11	TM			0.010
78		2-Nitrodiphenylamine	0.2581	0.2591	0.2987	0.3023	0.3376	0.3611	0.3621	0.3733	0.3885		0.33	15				
79	*TM	Fluoranthene	1.136	1.164	1.219	1.161	1.277	1.377	1.374	1.473	1.455		1.3	10	*TM			0.600
80	I	Chrysene-D12(IS)	ISTD															
81	TM	Benzidine	0.4294	0.4321	0.4090	0.3966	0.3741						0.41	5.9	TM			
82	TM	Pyrene	1.234	1.320	1.294	1.198	1.211	1.149	1.140	1.104	1.141		1.2	6.1	TM			0.600
83	S	Terphenyl-D14(S)	1.144	1.050	0.9741	0.9361	0.9110	0.8552	0.8740	0.8455	0.9945		0.95	10	S			
84	TM	Butyl benzylphthalate	0.6241	0.6476	0.6440	0.6034	0.6057	0.5784	0.5714	0.5550	0.5770		0.60	5.5	TM			0.010
85	TM	3,3'-Dichlorobenzidine	0.4406	0.4474	0.4653	0.4210	0.4166	0.4318	0.3803	0.3533	0.3523		0.41	9.9	TM			0.010
86	TM	Benz (a) anthracene	1.378	1.384	1.377	1.254	1.272	1.281	1.262	1.262	1.284		1.3	4.3	TM			0.800
87	TM	Bis (2-ethylhexyl) phthalate	0.9872	1.026	1.020	0.9806	0.9843	1.006	0.9951	1.003	1.032		1.0	1.9	TM			0.010
88	TM	Chrysene	1.126	1.256	1.202	1.146	1.157	1.110	1.070	1.065	1.090		1.1	5.5	TM			0.700
89	*TM	Di-n-octylphthalate	1.492	1.569	1.601	1.470	1.479	1.480	1.436	1.394	1.414		1.5	4.6	*TM			0.010
90	I	Perylene-D12(IS)	ISTD															
91	TM	Benzo (b) fluoranthene	1.200	1.183	1.189	1.231	1.306	1.417	1.414	1.408	1.411		1.3	8.2	TM			0.700
92	TM	Benzo (k) fluoranthene	1.036	1.129	1.146	1.047	1.126	1.214	1.174	1.322	1.406		1.2	10	TM			0.700
93	*TM	Benzo (a) pyrene	1.048	1.092	1.101	1.069	1.126	1.226	1.213	1.267	1.293		1.2	7.8	*TM			0.700
94	TM	Indeno (1,2,3-cd) pyrene	1.218	1.270	1.279	1.250	1.330	1.445	1.416	1.464	1.494		1.4	7.7	TM			0.500
95	TM	Dibenz (a,h) anthracene	1.044	1.127	1.135	1.106	1.175	1.293	1.267	1.331	1.359		1.2	9.2	TM			0.400
96	TM	Benzo (g,h,i) perylene	0.9656	1.022	1.029	1.003	1.043	1.124	1.098	1.126	1.148		1.1	6.0	TM			0.500
97																		
98																		
99																		
100																		
101																		
102																		
103																		
104																		
105																		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y003.D Vial: 3
Acq On : 19 Dec 19 9:06 Operator: MA,SS
Sample : 50ug/ml 8270 11/21/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.38	152	196599	40.00000 ppb	0.00
21) Napthalene-D8(IS)	6.83	136	821661	40.00000 ppb	0.00
41) Acenaphthene-D10(IS)	8.84	164	498864	40.00000 ppb	0.00
65) Phenanthrene-D10(IS)	10.57	188	965840	40.00000 ppb	0.00
80) Chrysene-D12(IS)	13.67	240	1196016	40.00000 ppb	0.00
90) Perylene-D12(IS)	15.49	264	1033039	40.00000 ppb	0.00
System Monitoring Compounds					
5) 2-Fluorophenol (S)	3.82	112	729337	101.21407 ppb	0.00
Spiked Amount 200.000			Recovery =	50.607%	
6) Phenol-D6 (S)	5.00	99	943605	102.78046 ppb	0.00
Spiked Amount 200.000			Recovery =	51.390%	
22) Nitrobenzene-D5(S)	6.01	82	506628	49.57999 ppb	0.00
Spiked Amount 100.000			Recovery =	49.580%	
46) 2-Fluorobiphenyl(S)	8.06	172	928304	50.38731 ppb	0.00
Spiked Amount 100.000			Recovery =	50.387%	
64) 2,4,6-Tribromophenol(S)	9.77	330	321251	103.61865 ppb	0.00
Spiked Amount 200.000			Recovery =	51.810%	
83) Terphenyl-D14(S)	12.43	244	1278597	44.83129 ppb	0.00
Spiked Amount 100.000			Recovery =	44.831%	
Target Compounds					Qvalue
3) n-Nitrosodimethylamine	1.91	42	275394	50.17040 ppb	100
4) Pyridine	1.92	79	614275	48.30945 ppb	100
7) Phenol	5.02	94	574851	53.05712 ppb	100
8) Aniline	5.01	93	359488	50.84319 ppb	100
9) Bis (2-chloroethyl) ether	5.08	63	259464	51.69417 ppb	100
10) 2-Chlorophenol	5.15	128	395131	51.79401 ppb	100
11) 1,3-DCB	5.31	146	421373	50.33398 ppb	100
12) 1,4-DCB	5.40	146	431772	50.39583 ppb	100
13) Benzyl alcohol	5.54	108	243593	54.20799 ppb	100
14) 1,2-DCB	5.57	146	407782	51.15484 ppb	100
15) 2-Methylphenol	5.68	107	348274	52.31608 ppb	100
16) Bis (2-chloroisopropyl) et	5.69	45	342864	51.79894 ppb	100
17) Acetophenone	5.84	105	600018	52.87990 ppb	100
18) 3&4-Methylphenol	5.86	107	935580	106.86276 ppb	100
19) n-Nitrosodi-n-propylamine	5.85	70	391093	53.58916 ppb	100
20) Hexachloroethane	5.95	117	182011	50.96658 ppb	100
23) Nitrobenzene	6.04	77	545143	51.47563 ppb	100
24) Isophorone	6.31	82	870177	52.07890 ppb	100
25) 2-Nitrophenol	6.39	139	223955	52.07765 ppb	100
26) 2,4-Dimethylphenol	6.44	122	356638	51.82729 ppb	100
27) Benzoic acid	6.60	105	279476	47.48334 ppb	100
28) Bis (2-chloroethoxy) metha	6.54	93	447865	51.64725 ppb	100
29) 2,4-Dichlorophenol	6.68	162	350537	52.24411 ppb	100
30) 1,2,4-Trichlorobenzene	6.76	180	383401	51.23105 ppb	100
31) 3,4-Dimethylphenol	6.79	107	604918	52.84249 ppb	100
32) Naphthalene	6.84	128	1148204	51.36025 ppb	100
33) 4-Chloroaniline	6.91	127	465735	51.81136 ppb	100
34) 2,6-Dichlorophenol	6.92	162	347372	52.84673 ppb	100
35) Hexachloropropene	6.95	213	340941	52.64986 ppb	100
36) Hexachlorobutadiene	6.98	225	258626	50.94087 ppb	100
37) Caprolactum	7.34	55	155640	51.68587 ppb	100
38) 4-Chloro-3-methylphenol	7.48	107	422799	53.08472 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y003.D Vial: 3
Acq On : 19 Dec 19 9:06 Operator: MA,SS
Sample : 50ug/ml 8270 11/21/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	2-Methylnaphthalene	7.63	142	786668	52.28541	ppb	100
40)	1-Methylnaphthalene	7.75	142	814338	52.04963	ppb	100
42)	Hexachlorocyclopentadiene	7.82	237	294208	51.41653	ppb	100
43)	1,2,4,5-Tetrachlorobenzene	7.84	216	420454	52.91044	ppb	100
44)	2,4,6-Trichlorophenol	7.97	196	277989	53.43197	ppb	100
45)	2,4,5-Trichlorophenol	8.02	196	294494	52.19170	ppb	100
47)	1,1'-Biphenyl	8.17	154	1013613	52.38680	ppb	100
48)	2-Chloronaphthalene	8.20	162	814737	52.35985	ppb	100
49)	2-Nitroaniline	8.32	65	313105	52.99430	ppb	100
50)	Dimethyl phthalate	8.53	163	992101	52.01547	ppb	100
51)	2,6-DNT	8.61	165	224309	53.92342	ppb	100
52)	Acenaphthylene	8.68	152	1261631	52.66138	ppb	100
53)	3-Nitroaniline	8.32	138	263026	53.26882	ppb	100
54)	Acenaphthene	8.89	154	794988	53.04993	ppb	100
55)	2,4-Dinitrophenol	8.92	184	114232	46.68381	ppb	100
56)	4-Nitrophenol	8.60	65	20732	53.32779	ppb	100
57)	Dibenzofuran	9.08	168	1203351	52.86739	ppb	100
58)	2,4-DNT	9.07	165	333192	54.48047	ppb	100
59)	2,3,4,6-Tetrachlorophenol	9.24	232	229610	53.65092	ppb	100
60)	Diethyl phthalate	9.35	149	1031999	52.22569	ppb	100
61)	4-Chlorophenyl phenyl ethe	9.48	204	576562	52.69605	ppb	100
62)	Fluorene	9.48	166	1043084	53.86740	ppb	100
63)	4-Nitroaniline	8.80	138	218292	53.05517	ppb	100
66)	4,6-Dinitro-2-methylphenol	9.56	198	195000	51.78616	ppb	100
67)	Diphenyl amine	9.63	169	1633943	103.92069	ppb	100
68)	n-Nitrosodiphenylamine	9.63	169	1633943	103.92069	ppb	100
69)	1,2-Diphenylhydrazine	9.67	77	1167037	51.32296	ppb	100
70)	4-Bromophenyl phenyl ether	10.05	248	312755	52.83109	ppb	100
71)	Hexachlorobenzene	10.13	284	318617	53.20114	ppb	100
72)	Atrazine	10.25	200	123091	22.79679	ppb	100
73)	Pentachlorophenol	10.36	266	191605	52.04610	ppb	100
74)	Phenanthrene	10.60	178	1365637	51.23790	ppb	100
75)	Anthracene	10.67	178	1452175	52.12221	ppb	100
76)	Carbazol	10.85	167	1327202	52.32019	ppb	100
77)	Di-n-butylphthalate	11.25	149	1840279	53.05379	ppb	100
78)	2-Nitrodiphenylamine	11.43	167	218003	27.62865	ppb	100
79)	Fluoranthene	11.99	202	1662853	53.26539	ppb	100
81)	Benzidine	12.14	184	328745	26.93277	ppb	100
82)	Pyrene	12.25	202	1717114	47.89582	ppb	100
84)	Butyl benzylphthalate	13.00	149	864776	48.14287	ppb	100
85)	3,3'-Dichlorobenzidine	13.62	252	645596	52.39866	ppb	100
86)	Benz (a) anthracene	13.66	228	1915683	49.05514	ppb	100
87)	Bis (2-ethylhexyl) phthala	13.67	149	1504164	50.11549	ppb	100
88)	Chrysene	13.69	228	1660091	48.87974	ppb	100
89)	Di-n-octylphthalate	14.42	149	2213014	49.95022	ppb	100
91)	Benzo (b) fluoranthene	14.96	252	1830066	54.23818	ppb	100
92)	Benzo (k) fluoranthene	14.99	252	1567732	51.53429	ppb	100
93)	Benzo (a) pyrene	15.42	252	1583146	52.86784	ppb	100
94)	Indeno (1,2,3-cd) pyrene	17.36	276	1864158	53.40274	ppb	100
95)	Dibenz (a,h) anthracene	17.40	278	1668227	53.64701	ppb	100
96)	Benzo (g,h,i) perylene	17.93	276	1451452	52.91619	ppb	100

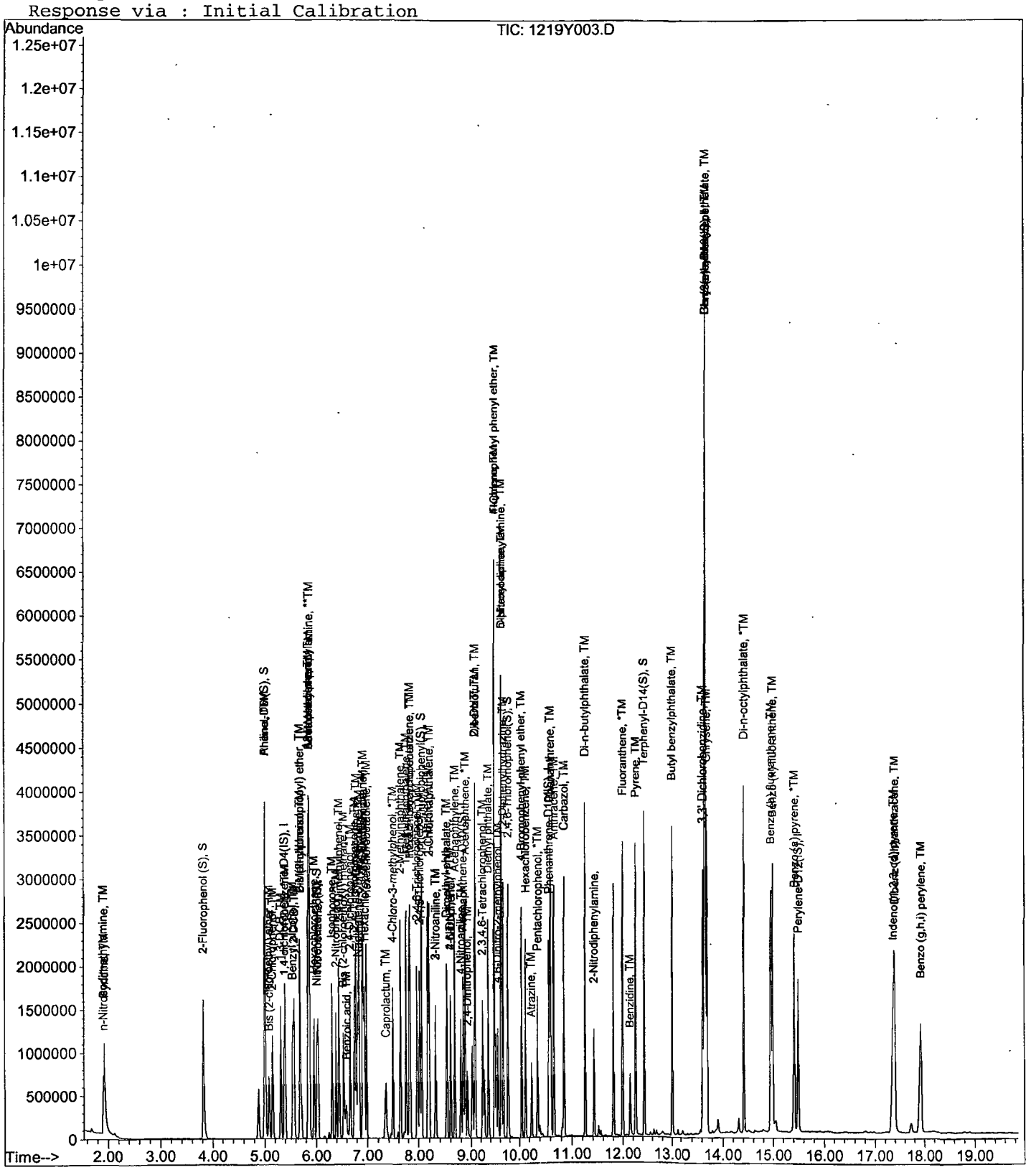
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y191219\1219Y003.D Vial: 3
Acq On : 19 Dec 19 9:06 Operator: MA,SS
Sample : 50ug/ml 8270 11/21/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y004.D Vial: 4
Acq On : 19 Dec 19 9:33 Operator: MA,SS
Sample : 4ug/ml 8270 11/21/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.38	152	172988	40.00000 ppb	0.00
21) Napthalene-D8(IS)	6.82	136	714555	40.00000 ppb	0.00
41) Acenaphthene-D10(IS)	8.84	164	436036	40.00000 ppb	0.00
65) Phenanthrene-D10(IS)	10.57	188	836785	40.00000 ppb	0.00
80) Chrysene-D12(IS)	13.66	240	796002	40.00000 ppb	0.00
90) Perylene-D12(IS)	15.49	264	872764	40.00000 ppb	0.00
System Monitoring Compounds					
5) 2-Fluorophenol (S)	3.81	112	52772	8.32303 ppb	0.00
Spiked Amount 200.000			Recovery =	4.162%	
6) Phenol-D6 (S)	4.99	99	65554	8.11493 ppb	0.00
Spiked Amount 200.000			Recovery =	4.058%	
22) Nitrobenzene-D5(S)	6.00	82	37998	4.27597 ppb	0.00
Spiked Amount 100.000			Recovery =	4.276%	
46) 2-Fluorobiphenyl(S)	8.05	172	68746	4.26912 ppb	0.00
Spiked Amount 100.000			Recovery =	4.269%	
64) 2,4,6-Tribromophenol(S)	9.76	330	20427	7.53803 ppb	0.00
Spiked Amount 200.000			Recovery =	3.769%	
83) Terphenyl-D14(S)	12.42	244	91079	4.79831 ppb	0.00
Spiked Amount 100.000			Recovery =	4.798%	

Target Compounds Qvalue

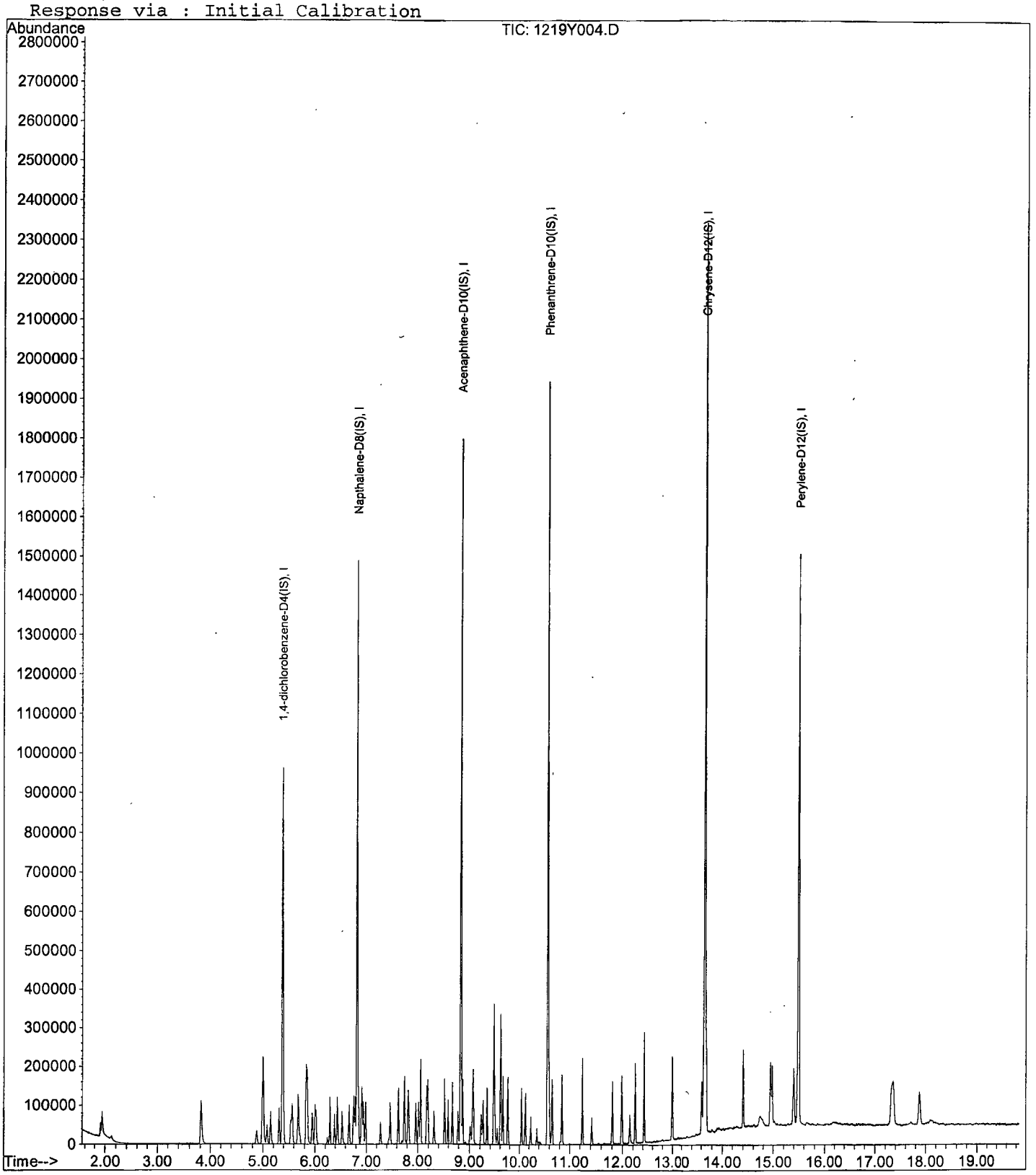
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y191219\1219Y004.D Vial: 4
Acq On : 19 Dec 19 9:33 Operator: MA,SS
Sample : 4ug/ml 8270 11/21/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y005.D Vial: 5
Acq On : 19 Dec 19 10:01 Operator: MA,SS
Sample : 5ug/ml 8270 11/21/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.38	152	171722	40.00000 ppb	0.00
21) Napthalene-D8(IS)	6.82	136	688709	40.00000 ppb	0.00
41) Acenaphthene-D10(IS)	8.84	164	415788	40.00000 ppb	0.00
65) Phenanthrene-D10(IS)	10.57	188	806286	40.00000 ppb	0.00
80) Chrysene-D12(IS)	13.66	240	749085	40.00000 ppb	0.00
90) Perylene-D12(IS)	15.48	264	827486	40.00000 ppb	0.00
System Monitoring Compounds					
5) 2-Fluorophenol (S)	3.82	112	56647	9.00005 ppb	0.00
Spiked Amount 200.000			Recovery	= 4.500%	
6) Phenol-D6 (S)	4.99	99	71276	8.88831 ppb	0.00
Spiked Amount 200.000			Recovery	= 4.444%	
22) Nitrobenzene-D5(S)	6.00	82	41101	4.79873 ppb	0.00
Spiked Amount 100.000			Recovery	= 4.799%	
46) 2-Fluorobiphenyl(S)	8.05	172	73943	4.81547 ppb	0.00
Spiked Amount 100.000			Recovery	= 4.815%	
64) 2,4,6-Tribromophenol(S)	9.76	330	24023	9.29674 ppb	0.00
Spiked Amount 200.000			Recovery	= 4.649%	
83) Terphenyl-D14(S)	12.43	244	98299	5.50304 ppb	0.00
Spiked Amount 100.000			Recovery	= 5.503%	

Target Compounds Qvalue

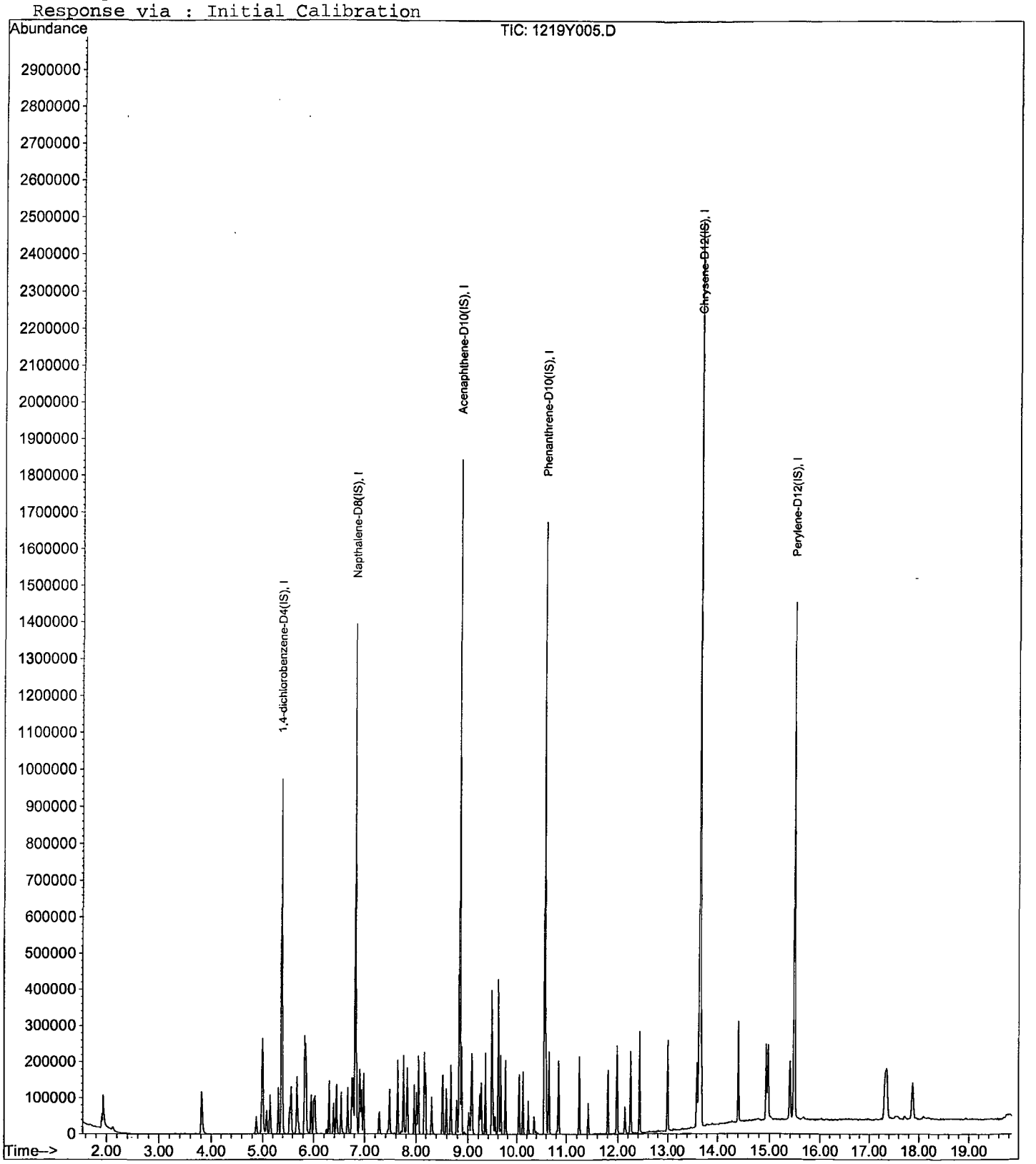
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y191219\1219Y005.D Vial: 5
Acq On : 19 Dec 19 10:01 Operator: MA,SS
Sample : 5ug/ml 8270 11/21/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y006.D Vial: 6
Acq On : 19 Dec 19 10:28 Operator: MA,SS
Sample : 10ug/ml 8270 11/21/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.38	152	160128	40.00000 ppb	0.00
21) Napthalene-D8(IS)	6.82	136	678749	40.00000 ppb	0.00
41) Acenaphthene-D10(IS)	8.84	164	424690	40.00000 ppb	0.00
65) Phenanthrene-D10(IS)	10.57	188	801834	40.00000 ppb	0.00
80) Chrysene-D12(IS)	13.66	240	780754	40.00000 ppb	0.00
90) Perylene-D12(IS)	15.49	264	843433	40.00000 ppb	0.00
System Monitoring Compounds					
5) 2-Fluorophenol (S)	3.81	112	114683	19.54005 ppb	0.00
Spiked Amount 200.000			Recovery =	9.770%	
6) Phenol-D6 (S)	4.99	99	140612	18.80428 ppb	0.00
Spiked Amount 200.000			Recovery =	9.402%	
22) Nitrobenzene-D5(S)	6.00	82	82528	9.77692 ppb	0.00
Spiked Amount 100.000			Recovery =	9.777%	
46) 2-Fluorobiphenyl(S)	8.05	172	143294	9.13627 ppb	0.00
Spiked Amount 100.000			Recovery =	9.136%	
64) 2,4,6-Tribromophenol(S)	9.76	330	43913	16.63783 ppb	0.00
Spiked Amount 200.000			Recovery =	8.319%	
83) Terphenyl-D14(S)	12.42	244	190140	10.21278 ppb	0.00
Spiked Amount 100.000			Recovery =	10.213%	
Target Compounds					Qvalue
18) 3&4-Methylphenol	5.85	107	137362	19.26310 ppb	99
67) Diphenyl amine	9.61	169	235673	18.05492 ppb	99
68) n-Nitrosodiphenylamine	9.61	169	235673	18.05492 ppb	99

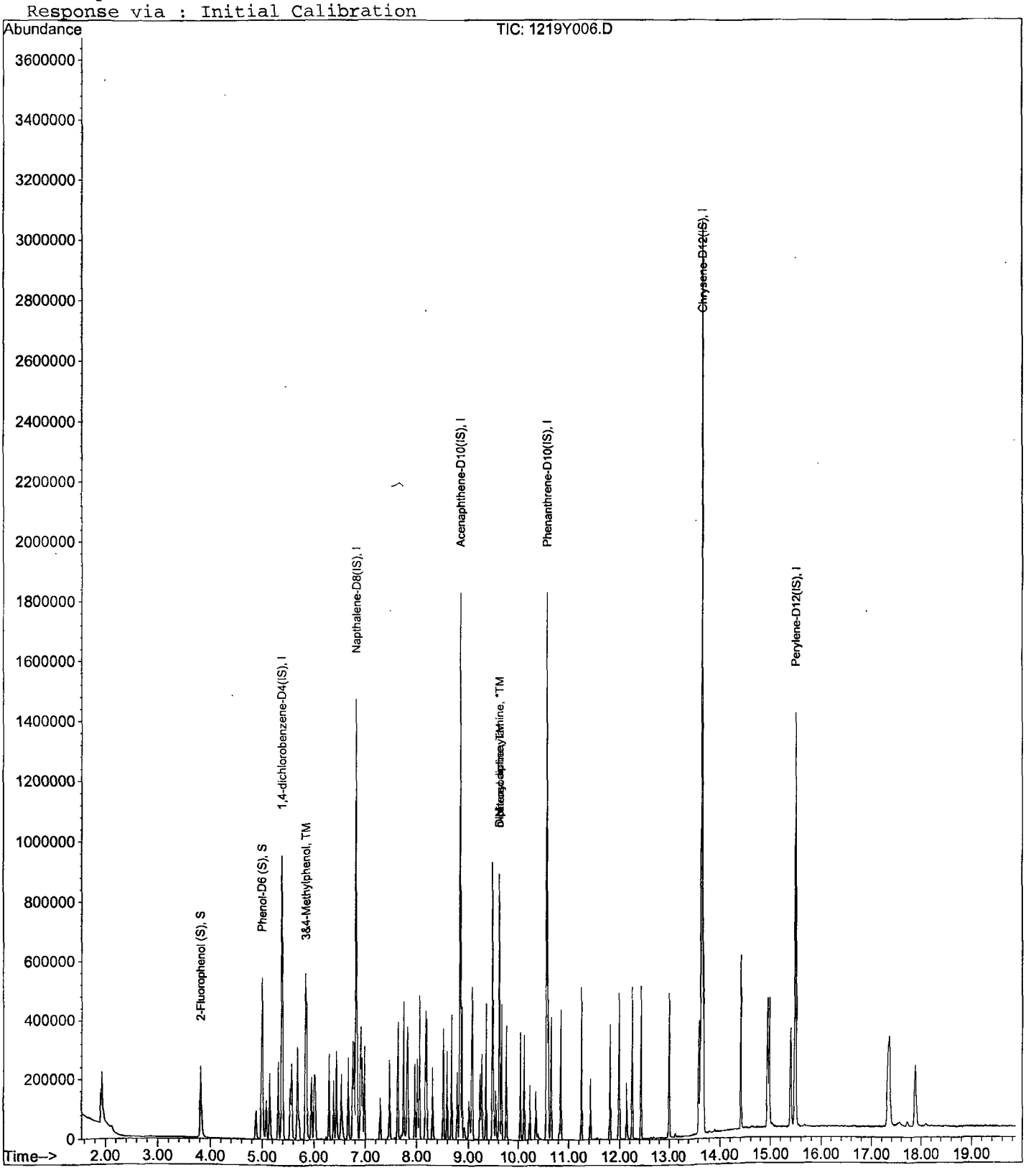
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y191219\1219Y006.D Vial: 6
Acq On : 19 Dec 19 10:28 Operator: MA,SS
Sample : 10ug/ml 8270 11/21/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y007.D Vial: 7
Acq On : 19 Dec 19 10:56 Operator: MA,SS
Sample : 20ug/ml 8270 11/21/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.38	152	194747	40.00000 ppb		0.00
21) Napthalene-D8(IS)	6.82	136	781182	40.00000 ppb		0.00
41) Acenaphthene-D10(IS)	8.84	164	473595	40.00000 ppb		0.00
65) Phenanthrene-D10(IS)	10.57	188	902012	40.00000 ppb		0.00
80) Chrysene-D12(IS)	13.66	240	912227	40.00000 ppb		0.00
90) Perylene-D12(IS)	15.49	264	942777	40.00000 ppb		0.00
System Monitoring Compounds						
5) 2-Fluorophenol (S)	3.82	112	253075	35.45459 ppb		0.00
Spiked Amount 200.000			Recovery = 17.728%			
6) Phenol-D6 (S)	4.99	99	314450	34.57661 ppb		-0.01
Spiked Amount 200.000			Recovery = 17.289%			
22) Nitrobenzene-D5(S)	6.01	82	185338	19.07753 ppb		0.00
Spiked Amount 100.000			Recovery = 19.078%			
46) 2-Fluorobiphenyl(S)	8.06	172	323480	18.49496 ppb		0.00
Spiked Amount 100.000			Recovery = 18.495%			
64) 2,4,6-Tribromophenol(S)	9.77	330	100215	34.04876 ppb		0.00
Spiked Amount 200.000			Recovery = 17.025%			
83) Terphenyl-D14(S)	12.43	244	426966	19.62795 ppb		0.00
Spiked Amount 100.000			Recovery = 19.628%			
Target Compounds						Qvalue
4) Pyridine	1.92	79	233730	18.55642 ppb		98
7) Phenol	5.00	94	187775	17.49592 ppb	#	74
8) Aniline	5.00	93	138944	19.83804 ppb	#	95
9) Bis (2-chloroethyl) ether	5.08	63	90085	18.11872 ppb		96
10) 2-Chlorophenol	5.14	128	135911	17.98472 ppb		92
11) 1,3-DCB	5.31	146	146244	17.63531 ppb		97
12) 1,4-DCB	5.39	146	151686	17.87295 ppb		97
13) Benzyl alcohol	5.54	108	78697	17.67939 ppb		99
14) 1,2-DCB	5.57	146	139110	17.61682 ppb		99
15) 2-Methylphenol	5.68	107	115359	17.49348 ppb		97
16) Bis (2-chloroisopropyl) et	5.69	45	115311	17.58653 ppb	#	78
17) Acetophenone	5.83	105	201308	17.91010 ppb		98
18) 3&4-Methylphenol	5.85	107	300091	34.60262 ppb		97
19) n-Nitrosodi-n-propylamine	5.84	70	126055	17.43683 ppb		98
20) Hexachloroethane	5.95	117	64312	18.17985 ppb		94
23) Nitrobenzene	6.03	77	185983	18.47162 ppb		95
24) Isophorone	6.29	82	294453	18.53577 ppb		99
25) 2-Nitrophenol	6.39	139	76958	18.82282 ppb		95
26) 2,4-Dimethylphenol	6.44	122	120904	18.48043 ppb		97
27) Benzoic acid	6.55	105	91223	18.97597 ppb		98
28) Bis (2-chloroethoxy) metha	6.54	93	152615	18.51133 ppb		98
29) 2,4-Dichlorophenol	6.67	162	117474	18.41559 ppb		95
30) 1,2,4-Trichlorobenzene	6.76	180	128436	18.05125 ppb		99
31) 3,4-Dimethylphenol	6.78	107	204008	18.74452 ppb		98
32) Naphthalene	6.84	128	390776	18.38554 ppb		99
33) 4-Chloroaniline	6.91	127	162474	19.01124 ppb		96
34) 2,6-Dichlorophenol	6.92	162	114733	18.35913 ppb		98
35) Hexachloropropene	6.94	213	112998	18.35394 ppb		99
36) Hexachlorobutadiene	6.98	225	87981	18.22735 ppb		99
37) Caprolactum	7.31	55	53587	18.71761 ppb		97
38) 4-Chloro-3-methylphenol	7.47	107	137771	18.19424 ppb		96
39) 2-Methylnaphthalene	7.63	142	260607	18.21862 ppb		100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y007.D Vial: 7
Acq On : 19 Dec 19 10:56 Operator: MA,SS
Sample : 20ug/ml 8270 11/21/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
40)	1-Methylnaphthalene	7.74	142	264522	17.78341 ppb		98
42)	Hexachlorocyclopentadiene	7.82	237	85296	18.35365 ppb		100
43)	1,2,4,5-Tetrachlorobenzene	7.83	216	133618	17.71181 ppb		96
44)	2,4,6-Trichlorophenol	7.97	196	90696	18.36271 ppb		100
45)	2,4,5-Trichlorophenol	8.02	196	98112	18.31564 ppb		96
47)	1,1'-Biphenyl	8.17	154	335661	18.27366 ppb		98
48)	2-Chloronaphthalene	8.20	162	272066	18.41748 ppb		97
49)	2-Nitroaniline	8.31	65	106234	18.93990 ppb		92
50)	Dimethyl phthalate	8.52	163	333975	18.44445 ppb		99
51)	2,6-DNT	8.60	165	74351	18.82750 ppb		86
52)	Acenaphthylene	8.68	152	420370	18.48275 ppb		100
53)	3-Nitroaniline	8.32	138	87497	18.66563 ppb		95
54)	Acenaphthene	8.87	154	255265	17.94281 ppb		98
55)	2,4-Dinitrophenol	8.92	184	29356	17.54041 ppb		89
56)	4-Nitrophenol	8.60	65	6688	18.12107 ppb		98
57)	Dibenzofuran	9.08	168	385855	17.85643 ppb		100
58)	2,4-DNT	9.07	165	105670	18.20007 ppb		87
59)	2,3,4,6-Tetrachlorophenol	9.23	232	74261	18.27773 ppb	#	91
60)	Diethyl phthalate	9.35	149	348940	18.60076 ppb		97
62)	Fluorene	9.48	166	322306	17.53276 ppb		98
63)	4-Nitroaniline	8.79	138	74412	19.05057 ppb		97
66)	4,6-Dinitro-2-methylphenol	9.54	198	60050	17.07595 ppb		84
67)	Diphenyl amine	9.62	169	511426	34.82898 ppb		100
68)	n-Nitrosodiphenylamine	9.62	169	511426	34.82898 ppb		100
69)	1,2-Diphenylhydrazine	9.66	77	390616	18.39374 ppb		94
70)	4-Bromophenyl phenyl ether	10.04	248	100768	18.22640 ppb		94
71)	Hexachlorobenzene	10.13	284	99643	17.81524 ppb		93
74)	Phenanthrene	10.60	178	454835	18.27270 ppb		99
75)	Anthracene	10.66	178	477063	18.33464 ppb		99
76)	Carbazol	10.85	167	430950	18.19081 ppb		98
77)	Di-n-butylphthalate	11.25	149	590040	18.21407 ppb		99
79)	Fluoranthene	11.98	202	523700	17.96250 ppb		98
81)	Benzidine	12.14	184	180875	19.42829 ppb		98
82)	Pyrene	12.25	202	546244	19.97649 ppb		99
84)	Butyl benzylphthalate	13.00	149	275238	20.08958 ppb		92
85)	3,3'-Dichlorobenzidine	13.61	252	192045	20.43603 ppb		98
86)	Benz (a) anthracene	13.65	228	571831	19.19829 ppb		99
87)	Bis (2-ethylhexyl) phthala	13.66	149	447267	19.53789 ppb		98
88)	Chrysene	13.69	228	522873	20.18493 ppb		100
89)	Di-n-octylphthalate	14.41	149	670387	19.83868 ppb	#	92
91)	Benzo (b) fluoranthene	14.94	252	580450	18.84998 ppb		99
92)	Benzo (k) fluoranthene	14.98	252	493722	17.78340 ppb		99
93)	Benzo (a) pyrene	15.40	252	504143	18.44727 ppb		98
94)	Indeno (1,2,3-cd) pyrene	17.33	276	588328	18.46750 ppb		99
95)	Dibenz (a,h) anthracene	17.37	278	521335	18.37025 ppb		99
96)	Benzo (g,h,i) perylene	17.90	276	472757	18.88564 ppb		99

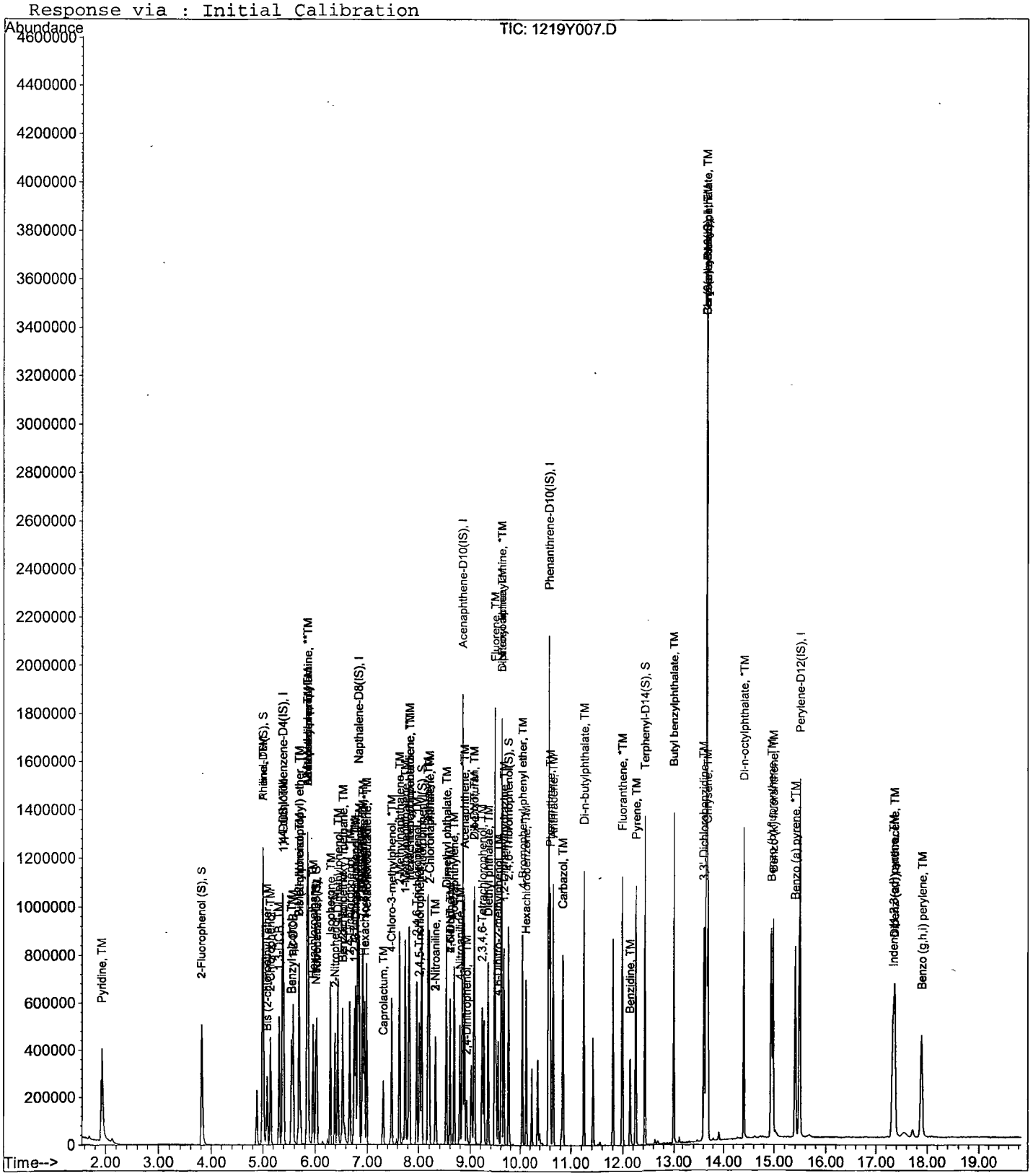
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y191219\1219Y007.D Vial: 7
Acq On : 19 Dec 19 10:56 Operator: MA,SS
Sample : 20ug/ml 8270 11/21/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y008.D Vial: 8
Acq On : 19 Dec 19 11:24 Operator: MA,SS
Sample : 40ug/ml 8270 11/21/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.38	152	182216	40.00000 ppb		0.00
21) Napthalene-D8(IS)	6.82	136	710542	40.00000 ppb		0.00
41) Acenaphthene-D10(IS)	8.84	164	434485	40.00000 ppb		0.00
65) Phenanthrene-D10(IS)	10.58	188	813606	40.00000 ppb		0.00
80) Chrysene-D12(IS)	13.66	240	894163	40.00000 ppb		0.00
90) Perylene-D12(IS)	15.49	264	870632	40.00000 ppb		0.00
System Monitoring Compounds						
5) 2-Fluorophenol (S)	3.82	112	480507	71.94609 ppb		0.00
Spiked Amount 200.000			Recovery =	35.973%		
6) Phenol-D6 (S)	5.00	99	600312	70.54921 ppb		0.00
Spiked Amount 200.000			Recovery =	35.275%		
22) Nitrobenzene-D5(S)	6.01	82	335277	37.94232 ppb		0.00
Spiked Amount 100.000			Recovery =	37.942%		
46) 2-Fluorobiphenyl(S)	8.06	172	596646	37.18391 ppb		0.00
Spiked Amount 100.000			Recovery =	37.184%		
64) 2,4,6-Tribromophenol(S)	9.77	330	201973	74.79872 ppb		0.00
Spiked Amount 200.000			Recovery =	37.400%		
83) Terphenyl-D14(S)	12.43	244	814625	38.20548 ppb		0.00
Spiked Amount 100.000			Recovery =	38.205%		
Target Compounds						Qvalue
3) n-Nitrosodimethylamine	1.91	42	188163	36.98470 ppb		96
4) Pyridine	1.93	79	440907	37.41201 ppb		99
7) Phenol	5.01	94	371632	37.00806 ppb		79
8) Aniline	5.01	93	258560	39.45523 ppb	#	91
9) Bis (2-chloroethyl) ether	5.08	63	174139	37.43306 ppb		97
10) 2-Chlorophenol	5.15	128	262410	37.11194 ppb		94
11) 1,3-DCB	5.31	146	288290	37.15515 ppb		99
12) 1,4-DCB	5.40	146	297071	37.41064 ppb		98
13) Benzyl alcohol	5.55	108	154077	36.99399 ppb		97
14) 1,2-DCB	5.57	146	270886	36.66402 ppb		100
15) 2-Methylphenol	5.69	107	228108	36.97000 ppb		98
16) Bis (2-chloroisopropyl) et	5.69	45	226589	36.93453 ppb	#	78
17) Acetophenone	5.83	105	393243	37.39230 ppb		98
18) 3&4-Methylphenol	5.85	107	593695	73.16504 ppb		97
19) n-Nitrosodi-n-propylamine	5.84	70	248031	36.66888 ppb		97
20) Hexachloroethane	5.95	117	122615	37.04471 ppb		94
23) Nitrobenzene	6.03	77	359196	39.22163 ppb		95
24) Isophorone	6.30	82	565650	39.14758 ppb		98
25) 2-Nitrophenol	6.39	139	147502	39.66353 ppb		93
26) 2,4-Dimethylphenol	6.45	122	229476	38.56303 ppb		98
27) Benzoic acid	6.58	105	202255	40.40161 ppb		99
28) Bis (2-chloroethoxy) metha	6.54	93	292655	39.02644 ppb		98
29) 2,4-Dichlorophenol	6.67	162	227943	39.28553 ppb		96
30) 1,2,4-Trichlorobenzene	6.75	180	254586	39.33847 ppb		96
31) 3,4-Dimethylphenol	6.78	107	383358	38.72525 ppb		98
32) Naphthalene	6.85	128	749802	38.78445 ppb		100
33) 4-Chloroaniline	6.91	127	308474	39.68328 ppb		97
34) 2,6-Dichlorophenol	6.92	162	219445	38.60574 ppb		97
35) Hexachloropropene	6.95	213	221138	39.48974 ppb		99
36) Hexachlorobutadiene	6.99	225	170617	38.86148 ppb		100
37) Caprolactum	7.32	55	100984	38.77985 ppb		95
38) 4-Chloro-3-methylphenol	7.48	107	271819	39.46556 ppb		95

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y008.D Vial: 8
Acq On : 19 Dec 19 11:24 Operator: MA,SS
Sample : 40ug/ml 8270 11/21/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
39) 2-Methylnaphthalene	7.63	142	502608	38.62970 ppb		99
40) 1-Methylnaphthalene	7.75	142	521546	38.54859 ppb		98
42) Hexachlorocyclopentadiene	7.82	237	176384	36.58253 ppb		99
43) 1,2,4,5-Tetrachlorobenzene	7.83	216	268214	38.75357 ppb		97
44) 2,4,6-Trichlorophenol	7.97	196	176195	38.88432 ppb		99
45) 2,4,5-Trichlorophenol	8.02	196	192075	39.08438 ppb		94
47) 1,1'-Biphenyl	8.17	154	649127	38.52004 ppb		98
48) 2-Chloronaphthalene	8.20	162	521946	38.51358 ppb		97
49) 2-Nitroaniline	8.31	65	200138	38.89341 ppb		95
50) Dimethyl phthalate	8.53	163	640502	38.55712 ppb		99
51) 2,6-DNT	8.60	165	142948	39.45629 ppb		86
52) Acenaphthylene	8.67	152	814666	39.04333 ppb		99
53) 3-Nitroaniline	8.32	138	168892	39.27271 ppb		93
54) Acenaphthene	8.88	154	504832	38.67929 ppb		99
55) 2,4-Dinitrophenol	8.92	184	74846	36.78536 ppb		86
56) 4-Nitrophenol	8.60	65	13109	38.71590 ppb		95
57) Dibenzofuran	9.08	168	753264	37.99707 ppb		98
58) 2,4-DNT	9.07	165	207839	39.01941 ppb		89
59) 2,3,4,6-Tetrachlorophenol	9.23	232	147125	39.47119 ppb		94
60) Diethyl phthalate	9.35	149	671228	39.00159 ppb		98
61) 4-Chlorophenyl phenyl ethe	9.47	204	352091	36.94829 ppb		88
62) Fluorene	9.48	166	641030	38.00953 ppb		98
63) 4-Nitroaniline	8.79	138	141770	39.56230 ppb		88
66) 4,6-Dinitro-2-methylphenol	9.56	198	122593	38.64878 ppb		99
67) Diphenyl amine	9.62	169	1020591	77.05626 ppb		100
68) n-Nitrosodiphenylamine	9.62	169	1020591	77.05626 ppb		100
69) 1,2-Diphenylhydrazine	9.66	77	751770	39.24670 ppb		94
70) 4-Bromophenyl phenyl ether	10.05	248	199129	39.93106 ppb		88
71) Hexachlorobenzene	10.12	284	196806	39.01049 ppb	#	84
72) Atrazine	10.24	200	89439	19.66371 ppb		99
73) Pentachlorophenol	10.35	266	112272	36.20294 ppb		96
74) Phenanthrene	10.60	178	877664	39.09087 ppb		99
75) Anthracene	10.66	178	919645	39.18457 ppb		99
76) Carbazol	10.85	167	830000	38.84199 ppb		98
77) Di-n-butylphthalate	11.25	149	1156611	39.58322 ppb		98
78) 2-Nitrodiphenylamine	11.42	167	137354	20.66472 ppb		92
79) Fluoranthene	11.99	202	1038608	39.49426 ppb		98
81) Benzidine	12.14	184	334522	36.65784 ppb		99
82) Pyrene	12.26	202	1083004	40.40627 ppb		100
84) Butyl benzylphthalate	13.00	149	541594	40.32946 ppb		87
85) 3,3'-Dichlorobenzidine	13.61	252	372475	40.43680 ppb		100
86) Benz (a) anthracene	13.65	228	1137597	38.96454 ppb		99
87) Bis (2-ethylhexyl) phthala	13.66	149	880088	39.22141 ppb		97
88) Chrysene	13.69	228	1034971	40.76106 ppb		99
89) Di-n-octylphthalate	14.41	149	1322580	39.92965 ppb		97
91) Benzo (b) fluoranthene	14.95	252	1137431	39.99867 ppb		98
92) Benzo (k) fluoranthene	14.99	252	981428	38.27939 ppb		98
93) Benzo (a) pyrene	15.40	252	980057	38.83327 ppb		98
94) Indeno (1,2,3-cd) pyrene	17.34	276	1157206	39.33449 ppb		99
95) Dibenz (a,h) anthracene	17.37	278	1022289	39.00732 ppb		98
96) Benzo (g,h,i) perylene	17.91	276	908299	39.29134 ppb		98

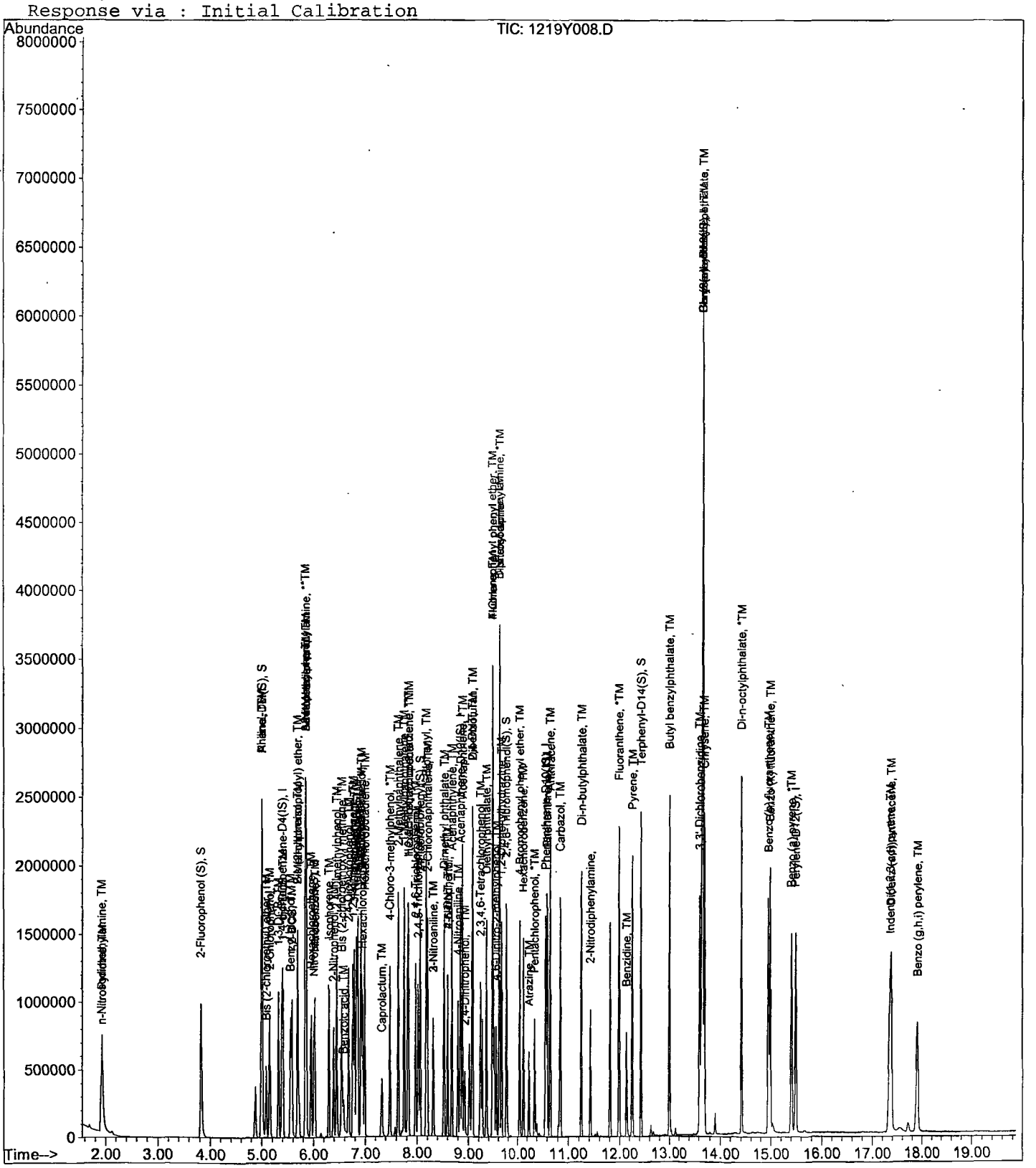
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y191219\1219Y008.D Vial: 8
Acq On : 19 Dec 19 11:24 Operator: MA,SS
Sample : 40ug/ml 8270 11/21/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y009.D Vial: 9
Acq On : 19 Dec 19 11:51 Operator: MA,SS
Sample : 60ug/ml 8270 11/21/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.38	152	160953	40.00000 ppb	0.00
21) Napthalene-D8(IS)	6.82	136	685348	40.00000 ppb	0.00
41) Acenaphthene-D10(IS)	8.84	164	424996	40.00000 ppb	0.00
65) Phenanthrene-D10(IS)	10.57	188	796514	40.00000 ppb	0.00
80) Chrysene-D12(IS)	13.67	240	1005038	40.00000 ppb	0.00
90) Perylene-D12(IS)	15.49	264	865168	40.00000 ppb	0.00
System Monitoring Compounds					
5) 2-Fluorophenol (S)	3.82	112	753971	127.80550 ppb	0.00
Spiked Amount 200.000				Recovery = 63.903%	
6) Phenol-D6 (S)	5.00	99	965746	128.48885 ppb	0.00
Spiked Amount 200.000				Recovery = 64.245%	
22) Nitrobenzene-D5(S)	6.01	82	517338	60.69782 ppb	0.00
Spiked Amount 100.000				Recovery = 60.698%	
46) 2-Fluorobiphenyl(S)	8.06	172	952099	60.66112 ppb	0.00
Spiked Amount 100.000				Recovery = 60.661%	
64) 2,4,6-Tribromophenol(S)	9.77	330	330216	125.02270 ppb	0.00
Spiked Amount 200.000				Recovery = 62.512%	
83) Terphenyl-D14(S)	12.43	244	1317552	54.97558 ppb	0.00
Spiked Amount 100.000				Recovery = 54.976%	
Target Compounds					Qvalue
3) n-Nitrosodimethylamine	1.91	42	292234	65.02884 ppb	100
4) Pyridine	1.92	79	684285	65.73377 ppb	98
7) Phenol	5.02	94	596449	67.24251 ppb	95
8) Aniline	5.01	93	400896	69.25679 ppb	95
9) Bis (2-chloroethyl) ether	5.09	63	270061	65.72167 ppb	94
10) 2-Chlorophenol	5.15	128	411267	65.84829 ppb	99
11) 1,3-DCB	5.31	146	444136	64.80266 ppb	98
12) 1,4-DCB	5.40	146	459470	65.50576 ppb	96
13) Benzyl alcohol	5.54	108	241965	65.77083 ppb	97
14) 1,2-DCB	5.57	146	428400	65.64329 ppb	99
15) 2-Methylphenol	5.68	107	361008	66.23892 ppb	99
16) Bis (2-chloroisopropyl) et	5.69	45	356163	65.72491 ppb	99
17) Acetophenone	5.84	105	617676	66.49198 ppb	99
18) 3&4-Methylphenol	5.86	107	952694	132.91717 ppb	99
19) n-Nitrosodi-n-propylamine	5.85	70	402101	67.29988 ppb	98
20) Hexachloroethane	5.95	117	190409	65.12647 ppb	97
23) Nitrobenzene	6.04	77	557986	63.16784 ppb	99
24) Isophorone	6.31	82	872286	62.58851 ppb	99
25) 2-Nitrophenol	6.39	139	230690	64.31331 ppb	99
26) 2,4-Dimethylphenol	6.44	122	359953	62.71309 ppb	100
27) Benzoic acid	6.60	105	293487	58.72692 ppb	99
28) Bis (2-chloroethoxy) metha	6.55	93	457869	63.30278 ppb	97
29) 2,4-Dichlorophenol	6.68	162	357701	63.91535 ppb	100
30) 1,2,4-Trichlorobenzene	6.76	180	400374	64.13977 ppb	98
31) 3,4-Dimethylphenol	6.79	107	600730	62.91404 ppb	100
32) Naphthalene	6.84	128	1176746	63.10625 ppb	99
33) 4-Chloroaniline	6.91	127	471729	62.91587 ppb	98
34) 2,6-Dichlorophenol	6.92	162	349158	63.68349 ppb	98
35) Hexachloropropene	6.95	213	349669	64.73761 ppb	100
36) Hexachlorobutadiene	6.98	225	268805	63.47650 ppb	100
37) Caprolactum	7.34	55	155158	61.77408 ppb	97
38) 4-Chloro-3-methylphenol	7.48	107	426464	64.19474 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y009.D Vial: 9
Acq On : 19 Dec 19 11:51 Operator: MA,SS
Sample : 60ug/ml 8270 11/21/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
39)	2-Methylnaphthalene	7.63	142	793770	63.25069	ppb	99
40)	1-Methylnaphthalene	7.75	142	832076	63.76134	ppb	100
42)	Hexachlorocyclopentadiene	7.82	237	306752	62.07183	ppb	99
43)	1,2,4,5-Tetrachlorobenzene	7.84	216	425660	62.87574	ppb	99
44)	2,4,6-Trichlorophenol	7.97	196	281816	63.58234	ppb	98
45)	2,4,5-Trichlorophenol	8.02	196	301154	62.64854	ppb	97
47)	1,1'-Biphenyl	8.18	154	1027471	62.33279	ppb	97
48)	2-Chloronaphthalene	8.20	162	825988	62.30917	ppb	99
49)	2-Nitroaniline	8.32	65	317213	63.02131	ppb	100
50)	Dimethyl phthalate	8.53	163	1013833	62.39365	ppb	99
51)	2,6-DNT	8.61	165	226254	63.84462	ppb	99
52)	Acenaphthylene	8.68	152	1289574	63.18347	ppb	100
53)	3-Nitroaniline	8.32	138	266968	63.46450	ppb	100
54)	Acenaphthene	8.89	154	800171	62.67644	ppb	100
55)	2,4-Dinitrophenol	8.93	184	126506	58.66929	ppb #	78
56)	4-Nitrophenol	8.60	65	20413	61.63346	ppb	97
57)	Dibenzofuran	9.08	168	1226638	63.25710	ppb	99
58)	2,4-DNT	9.07	165	335087	64.31335	ppb	96
59)	2,3,4,6-Tetrachlorophenol	9.24	232	239911	65.80120	ppb	99
60)	Diethyl phthalate	9.35	149	1040635	61.81596	ppb	99
61)	4-Chlorophenyl phenyl ethe	9.48	204	587260	63.00279	ppb	99
62)	Fluorene	9.48	166	1063405	64.46185	ppb	99
63)	4-Nitroaniline	8.80	138	220693	62.96160	ppb	95
66)	4,6-Dinitro-2-methylphenol	9.56	198	198681	63.98043	ppb	99
67)	Diphenyl amine	9.63	169	1652863	127.47170	ppb	100
68)	n-Nitrosodiphenylamine	9.63	169	1652863	127.47170	ppb	100
69)	1,2-Diphenylhydrazine	9.67	77	1183313	63.10133	ppb	99
70)	4-Bromophenyl phenyl ether	10.05	248	310984	63.69937	ppb	97
71)	Hexachlorobenzene	10.13	284	320014	64.79369	ppb	100
72)	Atrazine	10.24	200	138142	31.02308	ppb	96
73)	Pentachlorophenol	10.36	266	186384	61.39058	ppb	99
74)	Phenanthrene	10.60	178	1384259	62.97746	ppb	99
75)	Anthracene	10.66	178	1445744	62.92265	ppb	99
76)	Carbazol	10.85	167	1323037	63.24352	ppb	99
77)	Di-n-butylphthalate	11.25	149	1860030	65.02262	ppb	99
78)	2-Nitrodiphenylamine	11.42	167	216308	33.24157	ppb	91
79)	Fluoranthene	11.99	202	1641246	63.74949	ppb	99
81)	Benzidine	12.14	184	513732	50.08562	ppb	99
82)	Pyrene	12.25	202	1718860	57.05497	ppb	100
84)	Butyl benzylphthalate	13.00	149	861484	57.07291	ppb	96
85)	3,3'-Dichlorobenzidine	13.62	252	573326	55.37523	ppb	98
86)	Benz (a) anthracene	13.65	228	1901953	57.95823	ppb	100
87)	Bis (2-ethylhexyl) phthala	13.67	149	1500100	59.47733	ppb	99
88)	Chrysene	13.69	228	1612879	56.51364	ppb	100
89)	Di-n-octylphthalate	14.41	149	2164466	58.13779	ppb #	89
91)	Benzo (b) fluoranthene	14.96	252	1834489	64.91869	ppb	99
92)	Benzo (k) fluoranthene	14.99	252	1524121	59.82190	ppb	99
93)	Benzo (a) pyrene	15.41	252	1574220	62.77002	ppb	98
94)	Indeno (1,2,3-cd) pyrene	17.36	276	1835591	62.78747	ppb	99
95)	Dibenz (a,h) anthracene	17.39	278	1644729	63.15402	ppb	99
96)	Benzo (g,h,i) perylene	17.92	276	1423801	61.97998	ppb	98

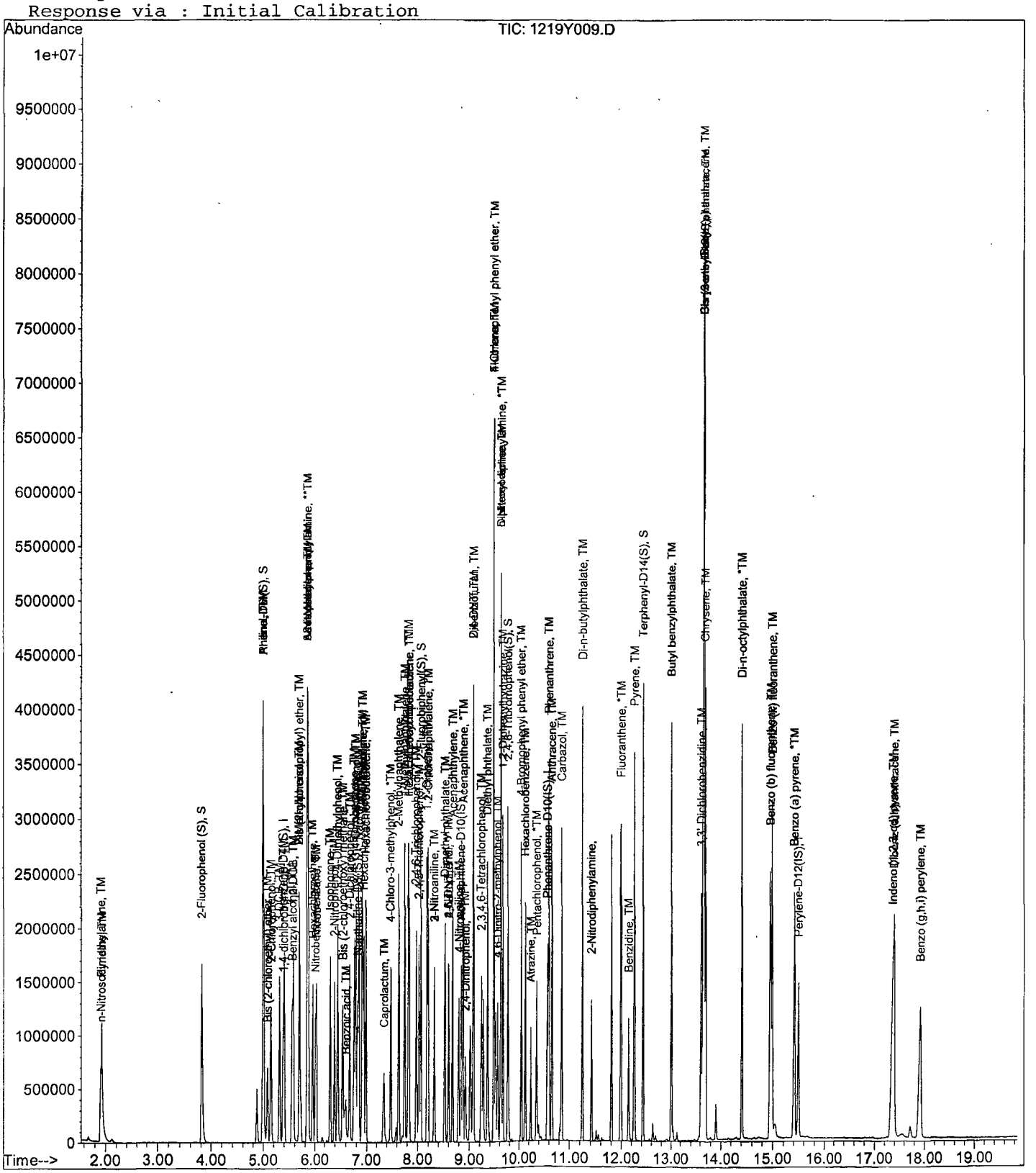
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y191219\1219Y009.D Vial: 9
Acq On : 19 Dec 19 11:51 Operator: MA,SS
Sample : 60ug/ml 8270 11/21/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y010.D Vial: 10
Acq On : 19 Dec 19 12:19 Operator: MA,SS
Sample : 80ug/ml 8270 11/21/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.38	152	160754	40.00000 ppb	0.00
21) Napthalene-D8(IS)	6.83	136	692959	40.00000 ppb	0.00
41) Acenaphthene-D10(IS)	8.84	164	424996	40.00000 ppb	0.00
65) Phenanthrene-D10(IS)	10.58	188	805372	40.00000 ppb	0.00
80) Chrysene-D12(IS)	13.67	240	1113628	40.00000 ppb	0.00
90) Perylene-D12(IS)	15.49	264	871956	40.00000 ppb	0.00
System Monitoring Compounds					
5) 2-Fluorophenol (S)	3.82	112	1075001	182.44881 ppb	0.00
Spiked Amount 200.000			Recovery =	91.225%	
6) Phenol-D6 (S)	5.01	99	1420883	189.27713 ppb	0.01
Spiked Amount 200.000			Recovery =	94.638%	
22) Nitrobenzene-D5(S)	6.02	82	726169	84.26361 ppb	0.01
Spiked Amount 100.000			Recovery =	84.264%	
46) 2-Fluorobiphenyl(S)	8.06	172	1352303	86.15933 ppb	0.00
Spiked Amount 100.000			Recovery =	86.159%	
64) 2,4,6-Tribromophenol(S)	9.78	330	496073	187.81763 ppb	0.01
Spiked Amount 200.000			Recovery =	93.909%	
83) Terphenyl-D14(S)	12.43	244	1883191	70.91511 ppb	0.00
Spiked Amount 100.000			Recovery =	70.915%	
Target Compounds					Qvalue
3) n-Nitrosodimethylamine	1.91	42	401885	89.53944 ppb	99
4) Pyridine	1.93	79	934760	89.90605 ppb	98
7) Phenol	5.02	94	839274	94.73526 ppb	88
8) Aniline	5.01	93	498688	86.25749 ppb	85
9) Bis (2-chloroethyl) ether	5.09	63	369777	90.09981 ppb	97
10) 2-Chlorophenol	5.16	128	564852	90.55087 ppb	97
11) 1,3-DCB	5.31	146	617727	90.24242 ppb	99
12) 1,4-DCB	5.41	146	635798	90.75672 ppb	96
13) Benzyl alcohol	5.55	108	342328	93.16664 ppb	96
14) 1,2-DCB	5.57	146	592153	90.84732 ppb	100
15) 2-Methylphenol	5.69	107	504104	92.60913 ppb	99
16) Bis (2-chloroisopropyl) et	5.69	45	497984	92.00976 ppb	91
17) Acetophenone	5.85	105	867366	93.48636 ppb	88
18) 3&4-Methylphenol	5.87	107	1364847	190.65532 ppb	96
19) n-Nitrosodi-n-propylamine	5.85	70	570874	95.66579 ppb	96
20) Hexachloroethane	5.95	117	268399	91.91539 ppb	98
23) Nitrobenzene	6.04	77	764484	85.59428 ppb	97
24) Isophorone	6.32	82	1217808	86.42078 ppb	99
25) 2-Nitrophenol	6.39	139	319613	88.12521 ppb	99
26) 2,4-Dimethylphenol	6.45	122	504451	86.92306 ppb	97
27) Benzoic acid	6.62	105	419869	81.40378 ppb	98
28) Bis (2-chloroethoxy) metha	6.55	93	640818	87.62335 ppb	98
29) 2,4-Dichlorophenol	6.68	162	502883	88.87008 ppb	99
30) 1,2,4-Trichlorobenzene	6.76	180	558246	88.44856 ppb	99
31) 3,4-Dimethylphenol	6.79	107	839926	86.99873 ppb	99
32) Naphthalene	6.84	128	1644894	87.24311 ppb	100
33) 4-Chloroaniline	6.92	127	636919	84.01473 ppb	94
34) 2,6-Dichlorophenol	6.93	162	502385	90.62439 ppb	94
35) Hexachloropropene	6.95	213	488764	89.49574 ppb	100
36) Hexachlorobutadiene	6.98	225	378957	88.50528 ppb	99
37) Caprolactum	7.36	55	217497	85.64244 ppb	97
38) 4-Chloro-3-methylphenol	7.49	107	599365	89.23025 ppb	95

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y010.D Vial: 10
Acq On : 19 Dec 19 12:19 Operator: MA,SS
Sample : 80ug/ml 8270 11/21/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
39)	2-Methylnaphthalene	7.63	142	1113998	87.79274 ppb		100
40)	1-Methylnaphthalene	7.75	142	1172330	88.84806 ppb		99
42)	Hexachlorocyclopentadiene	7.82	237	428800	85.24955 ppb		98
43)	1,2,4,5-Tetrachlorobenzene	7.84	216	615504	90.91826 ppb		100
44)	2,4,6-Trichlorophenol	7.97	196	393255	88.72482 ppb		100
45)	2,4,5-Trichlorophenol	8.02	196	421934	87.77419 ppb		97
47)	1,1'-Biphenyl	8.18	154	1475278	89.49955 ppb		97
48)	2-Chloronaphthalene	8.20	162	1174670	88.61232 ppb		99
49)	2-Nitroaniline	8.32	65	442197	87.85212 ppb		97
50)	Dimethyl phthalate	8.53	163	1419958	87.38754 ppb		100
51)	2,6-DNT	8.61	165	321665	90.76781 ppb		90
52)	Acenaphthylene	8.68	152	1796603	88.02567 ppb		100
53)	3-Nitroaniline	8.32	138	365367	86.85624 ppb		96
54)	Acenaphthene	8.89	154	1132422	88.70127 ppb		100
55)	2,4-Dinitrophenol	8.93	184	181951	81.43622 ppb		87
56)	4-Nitrophenol	8.61	65	28530	86.14131 ppb		100
57)	Dibenzofuran	9.08	168	1771319	91.34602 ppb		99
58)	2,4-DNT	9.08	165	492992	94.62011 ppb		89
59)	2,3,4,6-Tetrachlorophenol	9.24	232	331804	91.00501 ppb		99
60)	Diethyl phthalate	9.36	149	1448375	86.03660 ppb		97
61)	4-Chlorophenyl phenyl ethe	9.48	204	883654	94.80072 ppb		99
62)	Fluorene	9.48	166	1569501	95.14055 ppb		100
63)	4-Nitroaniline	8.80	138	289183	82.50114 ppb		92
66)	4,6-Dinitro-2-methylphenol	9.56	198	286670	91.29983 ppb	#	77
67)	Diphenyl amine	9.63	169	2378602	181.42435 ppb		100
68)	n-Nitrosodiphenylamine	9.63	169	2378602	181.42435 ppb		100
69)	1,2-Diphenylhydrazine	9.67	77	1671934	88.17691 ppb		99
70)	4-Bromophenyl phenyl ether	10.05	248	446909	90.53429 ppb		96
71)	Hexachlorobenzene	10.13	284	447867	89.68291 ppb		96
72)	Atrazine	10.25	200	193291	42.93067 ppb		99
73)	Pentachlorophenol	10.36	266	272701	88.83349 ppb		100
74)	Phenanthrene	10.60	178	1957324	88.06988 ppb		100
75)	Anthracene	10.67	178	2064260	88.85398 ppb		100
76)	Carbazol	10.85	167	1880718	88.91287 ppb		99
77)	Di-n-butylphthalate	11.25	149	2576769	89.08752 ppb		99
78)	2-Nitrodiphenylamine	11.43	167	300682	45.69969 ppb		97
79)	Fluoranthene	12.00	202	2372919	91.15549 ppb		99
81)	Benzidine	12.14	184	645213	56.77039 ppb		100
82)	Pyrene	12.26	202	2459441	73.67696 ppb		100
84)	Butyl benzylphthalate	13.00	149	1236168	73.90991 ppb		99
85)	3,3'-Dichlorobenzidine	13.62	252	786783	68.58216 ppb		100
86)	Benz (a) anthracene	13.66	228	2811632	77.32433 ppb		100
87)	Bis (2-ethylhexyl) phthala	13.67	149	2233399	79.91714 ppb		98
88)	Chrysene	13.69	228	2371032	74.97755 ppb		100
89)	Di-n-octylphthalate	14.42	149	3105415	75.27828 ppb		100
91)	Benzo (b) fluoranthene	14.96	252	2455809	86.22935 ppb		99
92)	Benzo (k) fluoranthene	14.99	252	2306290	89.81741 ppb		99
93)	Benzo (a) pyrene	15.42	252	2209159	87.40166 ppb		99
94)	Indeno (1,2,3-cd) pyrene	17.37	276	2551188	86.58555 ppb		98
95)	Dibenz (a,h) anthracene	17.41	278	2321142	88.43297 ppb		99
96)	Benzo (g,h,i) perylene	17.94	276	1961989	84.74315 ppb		99

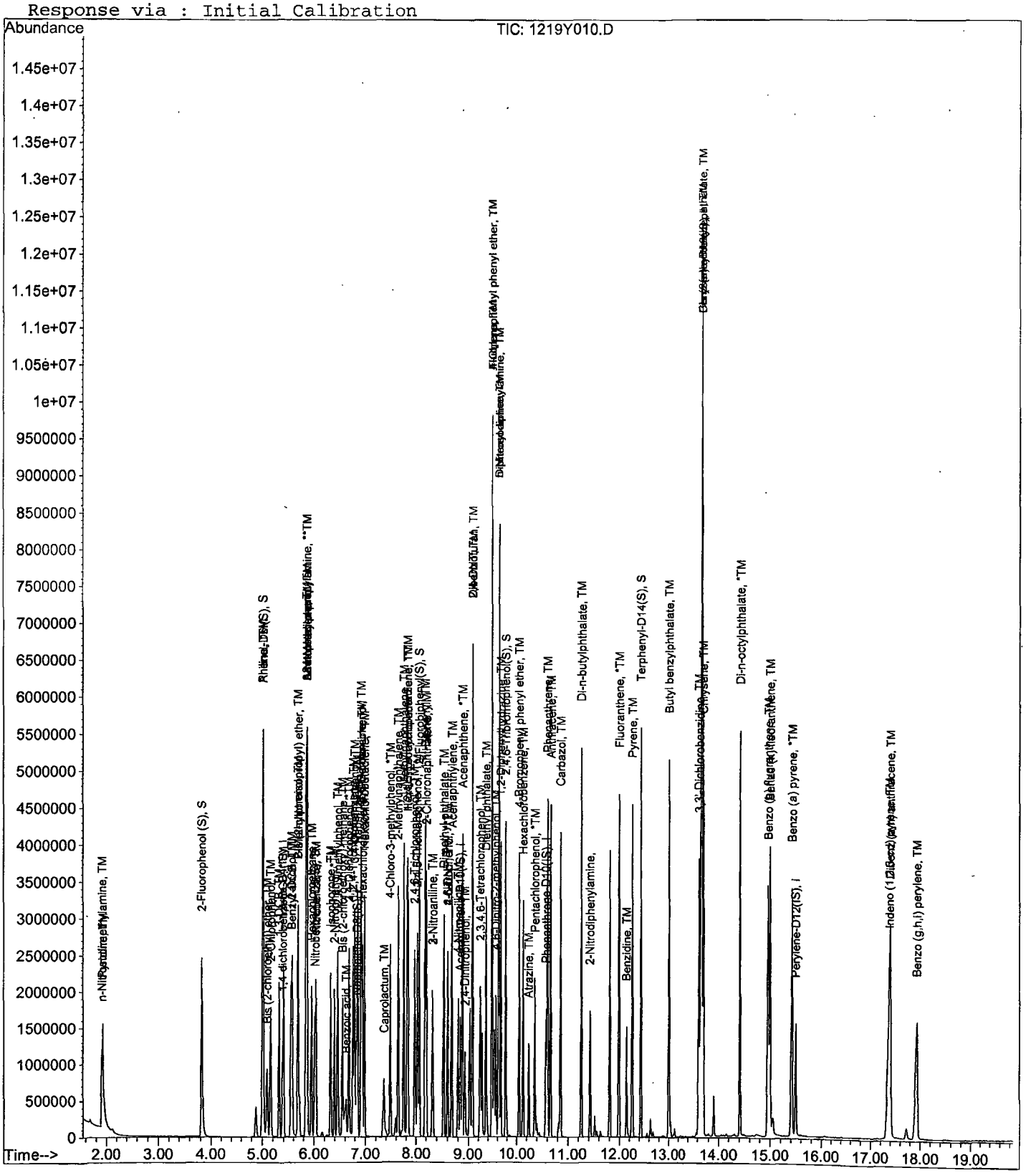
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y191219\1219Y010.D Vial: 10
Acq On : 19 Dec 19 12:19 Operator: MA,SS
Sample : 80ug/ml 8270 11/21/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y011.D Vial: 11
Acq On : 19 Dec 19 12:46 Operator: MA,SS
Sample : 100ug/ml 8270 11/21/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.39	152	167721	40.00000 ppb	0.00
21) Napthalene-D8(IS)	6.82	136	690825	40.00000 ppb	0.00
41) Acenaphthene-D10(IS)	8.85	164	415501	40.00000 ppb	0.00
65) Phenanthrene-D10(IS)	10.57	188	801375	40.00000 ppb	0.00
80) Chrysene-D12(IS)	13.66	240	1091847	40.00000 ppb	0.00
90) Perylene-D12(IS)	15.49	264	847047	40.00000 ppb	0.00
System Monitoring Compounds					
5) 2-Fluorophenol (S)	3.83	112	1327145	215.88621 ppb	0.00
Spiked Amount 200.000			Recovery = 107.943%		
6) Phenol-D6 (S)	5.00	99	1768177	225.75631 ppb	0.00
Spiked Amount 200.000			Recovery = 112.878%		
22) Nitrobenzene-D5(S)	6.02	82	888862	103.46088 ppb	0.00
Spiked Amount 100.000			Recovery = 103.461%		
46) 2-Fluorobiphenyl(S)	8.06	172	1696969	110.58977 ppb	0.00
Spiked Amount 100.000			Recovery = 110.590%		
64) 2,4,6-Tribromophenol(S)	9.78	330	649730	251.61496 ppb	0.00
Spiked Amount 200.000			Recovery = 125.808%		
83) Terphenyl-D14(S)	12.44	244	2470353	94.88156 ppb	0.00
Spiked Amount 100.000			Recovery = 94.882%		
Target Compounds					Qvalue
3) n-Nitrosodimethylamine	1.90	42	444670	94.95651 ppb	93
4) Pyridine	1.92	79	1054326	97.19369 ppb	99
7) Phenol	5.02	94	975068	105.49142 ppb	96
8) Aniline	5.01	93	532480	88.27659 ppb	97
9) Bis (2-chloroethyl) ether	5.09	63	422559	98.68376 ppb	98
10) 2-Chlorophenol	5.15	128	643242	98.83407 ppb	96
11) 1,3-DCB	5.32	146	705388	98.76806 ppb	98
12) 1,4-DCB	5.40	146	726887	99.44911 ppb	97
13) Benzyl alcohol	5.55	108	388291	101.28607 ppb	99
14) 1,2-DCB	5.57	146	689593	101.40173 ppb	99
15) 2-Methylphenol	5.69	107	576392	101.49063 ppb	99
16) Bis (2-chloroisopropyl) et	5.69	45	566462	100.31448 ppb	80
17) Acetophenone	5.85	105	992228	102.50184 ppb	98
18) 3&4-Methylphenol	5.87	107	1564530	209.47066 ppb	100
19) n-Nitrosodi-n-propylamine	5.86	70	649091	104.25487 ppb	100
20) Hexachloroethane	5.95	117	306272	100.52845 ppb	93
23) Nitrobenzene	6.04	77	875644	98.34300 ppb	93
24) Isophorone	6.31	82	1364800	97.15113 ppb	100
25) 2-Nitrophenol	6.40	139	362836	100.35190 ppb	90
26) 2,4-Dimethylphenol	6.45	122	582120	100.61623 ppb	97
27) Benzoic acid	6.63	105	476161	92.04260 ppb	97
28) Bis (2-chloroethoxy) metha	6.55	93	732731	100.50073 ppb	100
29) 2,4-Dichlorophenol	6.68	162	567413	100.58365 ppb	96
30) 1,2,4-Trichlorobenzene	6.76	180	635162	100.94600 ppb	98
31) 3,4-Dimethylphenol	6.80	107	956954	99.42657 ppb	97
32) Naphthalene	6.85	128	1900914	101.13354 ppb	100
33) 4-Chloroaniline	6.92	127	702041	92.89091 ppb	97
34) 2,6-Dichlorophenol	6.93	162	571198	103.35574 ppb	96
35) Hexachloropropene	6.94	213	564125	103.61389 ppb	100
36) Hexachlorobutadiene	6.99	225	434421	101.77230 ppb	99
37) Caprolactum	7.36	55	246611	97.40644 ppb	95
38) 4-Chloro-3-methylphenol	7.48	107	669864	100.03382 ppb	91

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y011.D Vial: 11
Acq On : 19 Dec 19 12:46 Operator: MA,SS
Sample : 100ug/ml 8270 11/21/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
39)	2-Methylnaphthalene	7.64	142	1291010	102.05711 ppb		99
40)	1-Methylnaphthalene	7.75	142	1334685	101.46501 ppb		100
42)	Hexachlorocyclopentadiene	7.82	237	423680	86.11588 ppb		100
43)	1,2,4,5-Tetrachlorobenzene	7.84	216	703291	106.25957 ppb		98
44)	2,4,6-Trichlorophenol	7.97	196	450783	104.02822 ppb		99
45)	2,4,5-Trichlorophenol	8.03	196	477360	101.57366 ppb		94
47)	1,1'-Biphenyl	8.18	154	1686770	104.66841 ppb		98
48)	2-Chloronaphthalene	8.21	162	1339298	103.33995 ppb		97
49)	2-Nitroaniline	8.33	65	495048	100.59966 ppb		91
50)	Dimethyl phthalate	8.53	163	1597157	100.53896 ppb		99
51)	2,6-DNT	8.61	165	360589	104.07665 ppb	#	75
52)	Acenaphthylene	8.68	152	2048709	102.67159 ppb		99
53)	3-Nitroaniline	8.33	138	418230	101.69501 ppb		96
54)	Acenaphthene	8.88	154	1288641	103.24434 ppb		99
55)	2,4-Dinitrophenol	8.93	184	208042	94.10192 ppb		96
56)	4-Nitrophenol	8.61	65	33255	102.70213 ppb		98
57)	Dibenzofuran	9.09	168	2035181	107.35164 ppb		93
58)	2,4-DNT	9.08	165	558092	109.56255 ppb		97
59)	2,3,4,6-Tetrachlorophenol	9.24	232	377431	105.88489 ppb		96
60)	Diethyl phthalate	9.36	149	1638573	99.55906 ppb		99
61)	4-Chlorophenyl phenyl ethe	9.48	204	1013272	111.19063 ppb		94
62)	Fluorene	9.49	166	1826006	113.21893 ppb		99
63)	4-Nitroaniline	8.80	138	325641	95.02525 ppb		82
66)	4,6-Dinitro-2-methylphenol	9.57	198	325138	104.06776 ppb		97
67)	Diphenyl amine	9.63	169	2746000	210.49174 ppb		100
68)	n-Nitrosodiphenylamine	9.63	169	2746000	210.49174 ppb		100
69)	1,2-Diphenylhydrazine	9.66	77	1846029	97.84419 ppb		96
70)	4-Bromophenyl phenyl ether	10.05	248	515407	104.93130 ppb		83
71)	Hexachlorobenzene	10.13	284	515422	103.72521 ppb		89
72)	Atrazine	10.25	200	217511	48.55098 ppb		96
73)	Pentachlorophenol	10.36	266	321253	105.17146 ppb		98
74)	Phenanthrene	10.60	178	2272938	102.78104 ppb		100
75)	Anthracene	10.67	178	2388824	103.33737 ppb		100
76)	Carbazol	10.86	167	2146142	101.96712 ppb		98
77)	Di-n-butylphthalate	11.26	149	3023885	105.06726 ppb		98
78)	2-Nitrodiphenylamine	11.43	167	350286	53.50438 ppb		97
79)	Fluoranthene	11.99	202	2652267	102.39480 ppb		98
81)	Benzidine	12.14	184	709638	63.68453 ppb		99
82)	Pyrene	12.26	202	2834840	86.61682 ppb		99
84)	Butyl benzylphthalate	13.01	149	1433320	87.40709 ppb	#	79
85)	3,3'-Dichlorobenzidine	13.62	252	875135	77.80538 ppb		99
86)	Benz (a) anthracene	13.66	228	3190283	89.48810 ppb		100
87)	Bis (2-ethylhexyl) phthala	13.66	149	2564215	93.58504 ppb		99
88)	Chrysene	13.70	228	2706844	87.30426 ppb		100
89)	Di-n-octylphthalate	14.42	149	3511144	86.81146 ppb		97
91)	Benzo (b) fluoranthene	14.95	252	2718531	98.26115 ppb		98
92)	Benzo (k) fluoranthene	15.00	252	2709650	108.62927 ppb		99
93)	Benzo (a) pyrene	15.42	252	2492274	101.50223 ppb		98
94)	Indeno (1,2,3-cd) pyrene	17.37	276	2878800	100.57766 ppb		100
95)	Dibenz (a,h) anthracene	17.40	278	2618904	102.71152 ppb		99
96)	Benzo (g,h,i) perylene	17.94	276	2213051	98.39806 ppb		100

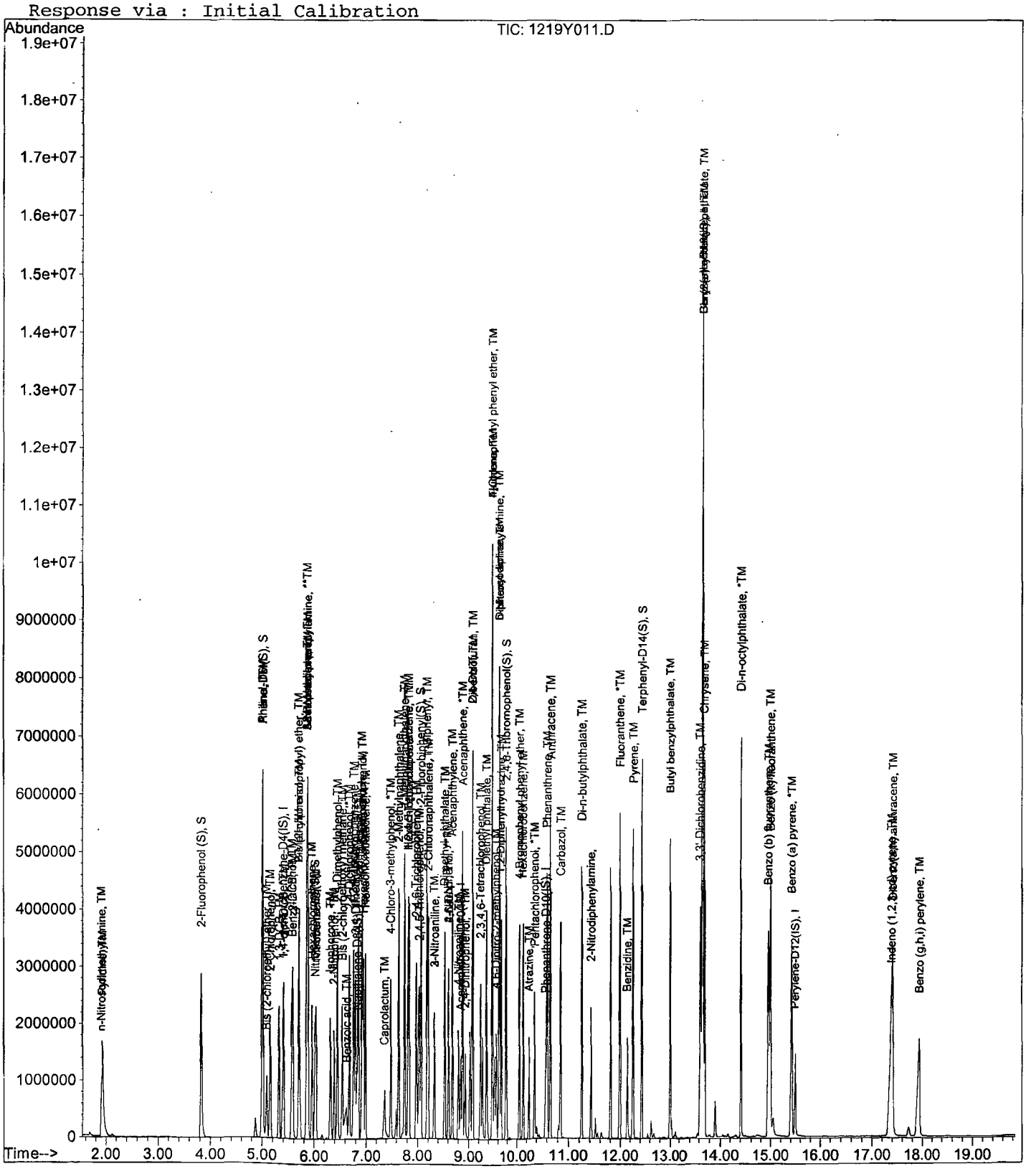
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y191219\1219Y011.D Vial: 11
Acq On : 19 Dec 19 12:46 Operator: MA,SS
Sample : 100ug/ml 8270 11/21/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration



Semi-Volatile Analysis by GC-MS
EPA 8270

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 12/19/19
Instrument: Yoda
Initial Cal. Date: 12/19/19
Data File: 1219Y012.D

		Compound	MEAN	CCRF	%D		%Drift
1		1,4-Dioxane	0.6022	0.6376	5.9		
2	TM	n-Nitrosodimethylamine	1.117	1.180	5.6	TM	
3	TM	Pyridine	2.587	2.639	2.0	TM	
4	*TM	Phenol	2.204	2.243	1.7	*TM	
5	TM	Aniline	1.439	1.657	15	TM	
6	TM	Bis (2-chloroethyl) ether	1.021	1.080	5.7	TM	
7	TM	2-Chlorophenol	1.552	1.607	3.6	TM	
8	TM	1,3-DCB	1.703	1.753	2.9	TM	
9	*TM	1,4-DCB	1.743	1.793	2.8	*TM	
10	TM	Benzyl alcohol	0.9143	0.9743	6.6	TM	
11	TM	1,2-DCB	1.622	1.674	3.2	TM	
12	TM	2-Methylphenol	1.354	1.404	3.7	TM	
13	TM	Bis (2-chloroisopropyl) ether	1.347	1.393	3.4	TM	
14	TM	Acetophenone	2.309	2.421	4.9	TM	
15	TM	3&4-Methylphenol	1.781	1.810	1.6	TM	
16	**TM	n-Nitrosodi-n-propylamine	1.485	1.540	3.7	**TM	
17	TM	Hexachloroethane	0.7266	0.7587	4.4	TM	
18	TM	Nitrobenzene	0.5156	0.5309	3.0	TM	
19	TM	Isophorone	0.8134	0.8514	4.7	TM	
20	*TM	2-Nitrophenol	0.2094	0.2223	6.2	*TM	
21	TM	2,4-Dimethylphenol	0.3350	0.3505	4.6	TM	
22	TML	Benzoic acid	0.2307	0.3085	34	TML	6.6
23	TM	Bis (2-chloroethoxy) methane	0.4222	0.4476	6.0	TM	
24	*TM	2,4-Dichlorophenol	0.3266	0.3400	4.1	*TM	
25	TM	1,2,4-Trichlorobenzene	0.3643	0.3811	4.6	TM	
26	TM	3,4-Dimethylphenol	0.5573	0.5842	4.8	TM	
27	TM	Naphthalene	1.088	1.154	6.0	TM	
28	TM	4-Chloroaniline	0.4376	0.4640	6.0	TM	
29	TM	2,6-Dichlorophenol	0.3200	0.3394	6.1	TM	
30	TM	Hexachloropropene	0.3152	0.3339	5.9	TM	
31	*TM	Hexachlorobutadiene	0.2472	0.2560	3.6	*TM	
32	TM	Caprolactum	0.1466	0.1538	4.9	TM	
33	*TM	4-Chloro-3-methylphenol	0.3877	0.4161	7.3	*TM	
34	TM	2-Methylnaphthalene	0.7325	0.7990	9.1	TM	
35	TM	1-Methylnaphthalene	0.7616	0.7886	3.5	TM	
36	**TML	Hexachlorocyclopentadiene	0.3696	0.4521	22	**TML	1.1
37	TM	1,2,4,5-Tetrachlorobenzene	0.6372	0.6766	6.2	TM	
38	*TM	2,4,6-Trichlorophenol	0.4172	0.4464	7.0	*TM	
39	TM	2,4,5-Trichlorophenol	0.4524	0.4860	7.4	TM	
40	TM	1,1'-Biphenyl	1.551	1.646	6.1	TM	
		Average			6.2		

Semi-Volatile Analysis by GC-MS
EPA 8270

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 12/19/19
Instrument: Yoda
Cal. Date: 12/19/19
Data File: 1219Y012.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	2-Chloronaphthalene	1.248	1.287	3.1	TM	
42	TM	2-Nitroaniline	0.4737	0.5330	13	TM	
43	TM	Dimethyl phthalate	1.529	1.612	5.4	TM	
44	TM	2,6-DNT	0.3335	0.3594	7.8	TM	
45	TM	Acenaphthylene	1.921	2.039	6.2	TM	
46	TM	3-Nitroaniline	0.3959	0.4440	12	TM	
47	*TM	Acenaphthene	1.202	1.272	5.8	*TM	
48	**TML	2,4-Dinitrophenol	0.1391	0.1930	39	**TML	2.4
49	**TM	4-Nitrophenol	0.0312	0.0331	6.3	**TM	
50	TM	Dibenzofuran	1.825	1.991	9.1	TM	
51	TM	2,4-DNT	0.4904	0.5209	6.2	TM	
52	TM	2,3,4,6-Tetrachlorophenol	0.3432	0.3772	9.9	TM	
53	TM	Diethyl phthalate	1.584	1.664	5.0	TM	
54	TM	4-Chlorophenyl phenyl ether	0.8773	0.8972	2.3	TM	
55	TM	Fluorene	1.553	1.642	5.8	TM	
56	TM	4-Nitroaniline	0.3299	0.3692	12	TM	
57	TM	4,6-Dinitro-2-methylphenol	0.1559	0.1668	7.0	TM	
58	TM	Diphenyl amine	0.6512	0.7094	8.9	TM	
59	*TM	n-Nitrosodiphenylamine	0.6512	0.7094	8.9	*TM	
60	TM	1,2-Diphenylhydrazine	0.9417	0.9917	5.3	TM	
61	TM	4-Bromophenyl phenyl ether	0.2452	0.2643	7.8	TM	
62	TM	Hexachlorobenzene	0.2480	0.2730	10	TM	
63	TM	Atrazine	0.2236	0.2354	5.3	TM	
64	*TM	Pentachlorophenol	0.1525	0.1514	0.68	*TM	
65	TM	Phenanthrene	1.104	1.206	9.2	TM	
66	TM	Anthracene	1.154	1.246	8.0	TM	
67	TM	Carbazol	1.051	1.136	8.1	TM	
68	TM	Di-n-butylphthalate	1.437	1.529	6.5	TM	
69		2-Nitrodiphenylamine	0.3268	0.3682	13		
70	*TM	Fluoranthene	1.293	1.392	7.7	*TM	
71	TM	Benzidine	0.4082	0.3716	9.0	TM	
72	TM	Pyrene	1.199	1.267	5.7	TM	
73	TM	Butyl benzylphthalate	0.6008	0.6332	5.4	TM	
74	TM	3,3'-Dichlorobenzidine	0.4121	0.4458	8.2	TM	
75	TM	Benz (a) anthracene	1.306	1.401	7.3	TM	
76	TM	Bis (2-ethylhexyl) phthalate	1.004	1.044	4.0	TM	
77	TM	Chrysene	1.136	1.200	5.6	TM	
78	*TM	Di-n-octylphthalate	1.482	1.554	4.8	*TM	
79	TM	Benzo (b) fluoranthene	1.306	1.367	4.6	TM	
80	TM	Benzo (k) fluoranthene	1.178	1.349	14	TM	
		Average			8.1		

Semi-Volatile Analysis by GC-MS
EPA 8270

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 12/19/19
Instrument: Yoda
Cal. Date: 12/19/19
Data File: 1219Y012.D

		Compound	MEAN	CCRF	%D		%Drift
81	*TM	Benzo (a) pyrene	1.160	1.260	8.7	*TM	
82	TM	Indeno (1,2,3-cd) pyrene	1.352	1.394	3.1	TM	
83	TM	Dibenz (a,h) anthracene	1.204	1.302	8.1	TM	
84	TM	Benzo (g,h,i) perylene	1.062	1.208	14	TM	
85							
86							
87							
88							
89							
90							
91							
92							
93							
94							
95							
96							
97							
98							
99							
100							
101							
102							
103							
104							
105							
106							
107							
108							
109							
110							
111							
112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			8.5		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y012.D Vial: 12
Acq On : 19 Dec 19 13:14 Operator: MA,SS
Sample : SS 8270 11/22/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.38	152	154648	40.00000 ppb		0.00
21) Napthalene-D8(IS)	6.82	136	627218	40.00000 ppb		0.00
41) Acenaphthene-D10(IS)	8.84	164	380731	40.00000 ppb		0.00
65) Phenanthrene-D10(IS)	10.57	188	716758	40.00000 ppb		0.00
80) Chrysene-D12(IS)	13.66	240	829696	40.00000 ppb		0.00
90) Perylene-D12(IS)	15.48	264	760670	40.00000 ppb		-0.01
System Monitoring Compounds						
5) 2-Fluorophenol (S)	0.00	112	0	0.00000 ppb		
Spiked Amount 200.000			Recovery =	0.000%		
6) Phenol-D6 (S)	0.00	99	0	0.00000 ppb		
Spiked Amount 200.000			Recovery =	0.000%		
22) Nitrobenzene-D5(S)	5.95	82	52711	6.75760 ppb		-0.06
Spiked Amount 100.000			Recovery =	6.758%		
46) 2-Fluorobiphenyl(S)	8.02	172	554	0.03940 ppb		-0.04
Spiked Amount 100.000			Recovery =	0.039%		
64) 2,4,6-Tribromophenol(S)	0.00	330	0	0.00000 ppb		
Spiked Amount 200.000			Recovery =	0.000%		
83) Terphenyl-D14(S)	12.43	244	297	0.01501 ppb		0.00
Spiked Amount 100.000			Recovery =	0.015%		
Target Compounds						Qvalue
3) n-Nitrosodimethylamine	1.90	42	228024	52.80932 ppb		98
4) Pyridine	1.92	79	510199	51.00889 ppb		99
7) Phenol	5.00	94	433587	50.87467 ppb		79
8) Aniline	5.00	93	320384	57.60447 ppb	#	92
9) Bis (2-chloroethyl) ether	5.08	63	208721	52.86493 ppb		99
10) 2-Chlorophenol	5.15	128	310728	51.77926 ppb		99
11) 1,3-DCB	5.31	146	338803	51.44923 ppb		98
12) 1,4-DCB	5.39	146	346514	51.41595 ppb		99
13) Benzyl alcohol	5.54	108	188349	53.28425 ppb		98
14) 1,2-DCB	5.57	146	323570	51.60169 ppb		98
15) 2-Methylphenol	5.68	107	271451	51.83733 ppb		99
16) Bis (2-chloroisopropyl) et	5.69	45	269286	51.71896 ppb		86
17) Acetophenone	5.84	105	467976	52.43085 ppb		97
18) 3&4-Methylphenol	5.86	107	699849	101.62178 ppb		99
19) n-Nitrosodi-n-propylamine	5.84	70	297756	51.86739 ppb		93
20) Hexachloroethane	5.95	117	146655	52.20615 ppb		96
23) Nitrobenzene	6.03	77	416218	51.48566 ppb		93
24) Isophorone	6.30	82	667515	52.33466 ppb		98
25) 2-Nitrophenol	6.39	139	174251	53.08111 ppb		98
26) 2,4-Dimethylphenol	6.44	122	274826	52.31942 ppb		99
27) Benzoic acid	6.58	105	241867	53.28837 ppb		98
28) Bis (2-chloroethoxy) metha	6.54	93	350898	53.00967 ppb		98
29) 2,4-Dichlorophenol	6.68	162	266533	52.03896 ppb		99
30) 1,2,4-Trichlorobenzene	6.76	180	298756	52.29628 ppb		100
31) 3,4-Dimethylphenol	6.79	107	458062	52.41857 ppb		99
32) Naphthalene	6.84	128	904563	53.00552 ppb		100
33) 4-Chloroaniline	6.91	127	363799	53.01781 ppb		98
34) 2,6-Dichlorophenol	6.92	162	266063	53.02515 ppb		98
35) Hexachloropropene	6.94	213	261770	52.95562 ppb		98
36) Hexachlorobutadiene	6.98	225	200685	51.78252 ppb		99
37) Caprolactum	7.32	55	120598	52.46442 ppb		93
38) 4-Chloro-3-methylphenol	7.47	107	326264	53.66349 ppb		90

(#) = qualifier out of range (m) = manual integration

Data File : M:\YODA\DATA\Y191219\1219Y012.D Vial: 12
Acq On : 19 Dec 19 13:14 Operator: MA,SS
Sample : SS 8270 11/22/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
39)	2-Methylnaphthalene	7.63	142	626418	54.54154	ppb	99
40)	1-Methylnaphthalene	7.75	142	618310	51.77181	ppb	99
42)	Hexachlorocyclopentadiene	7.82	237	215168	49.43015	ppb	99
43)	1,2,4,5-Tetrachlorobenzene	7.84	216	321980	53.09037	ppb	99
44)	2,4,6-Trichlorophenol	7.97	196	212425	53.49868	ppb	99
45)	2,4,5-Trichlorophenol	8.02	196	231296	53.71023	ppb	96
47)	1,1'-Biphenyl	8.17	154	783426	53.05320	ppb	99
48)	2-Chloronaphthalene	8.20	162	612398	51.56780	ppb	99
49)	2-Nitroaniline	8.32	65	253652	56.25244	ppb	98
50)	Dimethyl phthalate	8.52	163	767054	52.69465	ppb	98
51)	2,6-DNT	8.60	165	171054	53.88004	ppb #	66
52)	Acenaphthylene	8.68	152	970447	53.07569	ppb	100
53)	3-Nitroaniline	8.32	138	211306	56.07253	ppb	99
54)	Acenaphthene	8.87	154	605219	52.91767	ppb	99
55)	2,4-Dinitrophenol	8.92	184	91847	48.82234	ppb	96
56)	4-Nitrophenol	8.60	65	15775	53.16743	ppb	98
57)	Dibenzofuran	9.08	168	947587	54.54797	ppb	100
58)	2,4-DNT	9.07	165	247899	53.11106	ppb	94
59)	2,3,4,6-Tetrachlorophenol	9.24	232	179532	54.96575	ppb	98
60)	Diethyl phthalate	9.35	149	791693	52.49593	ppb	99
61)	4-Chlorophenyl phenyl ethe	9.48	204	426980	51.13326	ppb	98
62)	Fluorene	9.48	166	781637	52.89027	ppb	99
63)	4-Nitroaniline	8.80	138	175684	55.94819	ppb	89
66)	4,6-Dinitro-2-methylphenol	9.55	198	149456	53.48414	ppb	90
67)	Diphenyl amine	9.62	169	1271157	108.94241	ppb	99
68)	n-Nitrosodiphenylamine	9.62	169	1271157	108.94241	ppb	99
69)	1,2-Diphenylhydrazine	9.66	77	888538	52.65453	ppb	98
70)	4-Bromophenyl phenyl ether	10.04	248	236821	53.90613	ppb	97
71)	Hexachlorobenzene	10.13	284	244573	55.02919	ppb	97
72)	Atrazine	10.24	200	105442	26.31441	ppb	97
73)	Pentachlorophenol	10.36	266	135671	49.65935	ppb	99
74)	Phenanthrene	10.60	178	1080229	54.61406	ppb	99
75)	Anthracene	10.66	178	1116406	53.99563	ppb	100
76)	Carbazol	10.85	167	1017680	54.06002	ppb	99
77)	Di-n-butylphthalate	11.25	149	1370271	53.23188	ppb	99
78)	2-Nitrodiphenylamine	11.42	167	164948	28.16935	ppb	89
79)	Fluoranthene	11.99	202	1247416	53.84374	ppb	99
81)	Benzidine	12.14	184	385367	45.51080	ppb	99
82)	Pyrene	12.25	202	1314061	52.83625	ppb	99
84)	Butyl benzylphthalate	13.00	149	656686	52.69920	ppb	91
85)	3,3'-Dichlorobenzidine	13.62	252	462307	54.08886	ppb #	99
86)	Benz (a) anthracene	13.65	228	1453439	53.65073	ppb	99
87)	Bis (2-ethylhexyl) phthala	13.66	149	1082924	52.01071	ppb #	98
88)	Chrysene	13.69	228	1244504	52.82157	ppb	100
89)	Di-n-octylphthalate	14.41	149	1611191	52.42256	ppb #	91
91)	Benzo (b) fluoranthene	14.94	252	1300001	52.32418	ppb	99
92)	Benzo (k) fluoranthene	14.99	252	1282239	57.24188	ppb	98
93)	Benzo (a) pyrene	15.41	252	1198281	54.34376	ppb	99
94)	Indeno (1,2,3-cd) pyrene	17.35	276	1325649	51.57388	ppb	99
95)	Dibenz (a,h) anthracene	17.38	278	1237782	54.05738	ppb	100
96)	Benzo (g,h,i) perylene	17.91	276	1148610	56.86944	ppb	99

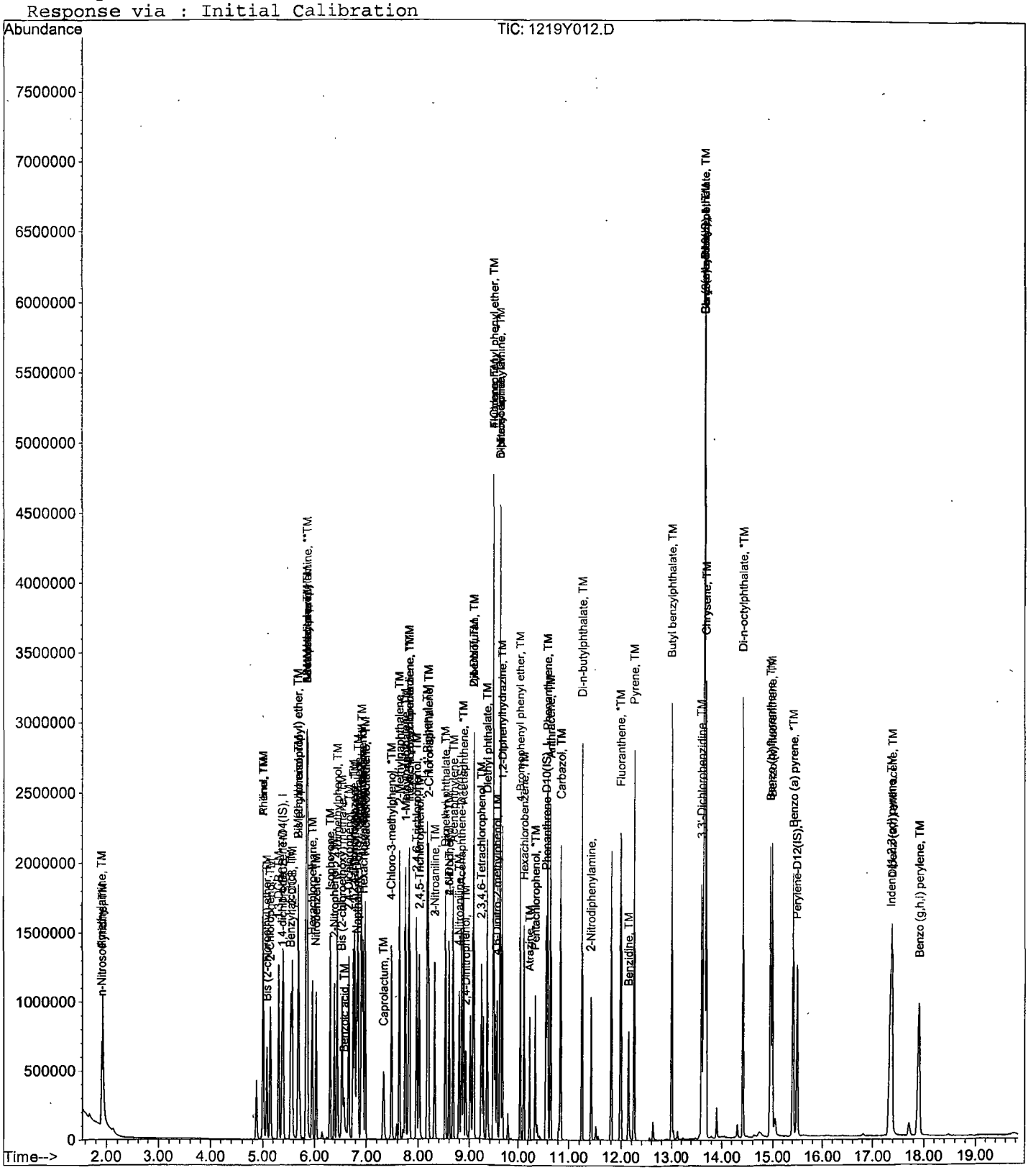
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y191219\1219Y012.D Vial: 12
Acq On : 19 Dec 19 13:14 Operator: MA,SS
Sample : SS 8270 11/22/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration



Semi-Volatile Analysis by GC-MS
EPA 8270

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 01/27/20
Instrument: Yoda
Initial Cal. Date: 12/19/19
Data File: 1219Y247.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	1,4-dichlorobenzene-D4(IS)	ISTD			I	
2		1,4-Dioxane	0.6022	0.6056	0.56		
3	TM	n-Nitrosodimethylamine	1.117	1.277	14	TM	
4	TM	Pyridine	2.587	2.841	9.8	TM	
5	S	2-Fluorophenol (S)	1.466	1.463	0.19	S	
6	S	Phenol-D6 (S)	1.868	2.088	12	S	
7	*TM	Phenol	2.204	2.526	15	*TM	
8	TM	Aniline	1.439	1.422	1.1	TM	
9	TM	Bis (2-chloroethyl) ether	1.021	1.130	11	TM	
10	TM	2-Chlorophenol	1.552	1.636	5.4	TM	
11	TM	1,3-DCB	1.703	1.734	1.8	TM	
12	*TM	1,4-DCB	1.743	1.801	3.3	*TM	
13	TM	Benzyl alcohol	0.9143	1.048	15	TM	
14	TM	1,2-DCB	1.622	1.726	6.4	TM	
15	TM	2-Methylphenol	1.354	1.550	14	TM	
16	TM	Bis (2-chloroisopropyl) ether	1.347	1.566	16	TM	
17	TM	Acetophenone	2.309	2.676	16	TM	
18	TM	3&4-Methylphenol	1.781	2.120	19	TM	
19	**TM	n-Nitrosodi-n-propylamine	1.485	1.784	20	**TM	
20	TM	Hexachloroethane	0.7266	0.7589	4.4	TM	
21	I	Napthalene-D8(IS)	ISTD			I	
22	S	Nitrobenzene-D5(S)	0.4975	0.4923	1.0	S	
23	TM	Nitrobenzene	0.5156	0.5422	5.2	TM	
24	TM	Isophorone	0.8134	0.8885	9.2	TM	
25	*TM	2-Nitrophenol	0.2094	0.2182	4.2	*TM	
26	TM	2,4-Dimethylphenol	0.3350	0.3701	10	TM	
27	TML	Benzoic acid	0.2307	0.3311	44	TML	14
28	TM	Bis (2-chloroethoxy) methane	0.4222	0.4531	7.3	TM	
29	*TM	2,4-Dichlorophenol	0.3266	0.3630	11	*TM	
30	TM	1,2,4-Trichlorobenzene	0.3643	0.3884	6.6	TM	
31	TM	3,4-Dimethylphenol	0.5573	0.6146	10	TM	
32	TM	Naphthalene	1.088	1.167	7.2	TM	
33	TM	4-Chloroaniline	0.4376	0.4744	8.4	TM	
34	TM	2,6-Dichlorophenol	0.3200	0.3625	13	TM	
35	TM	Hexachloropropene	0.3152	0.3443	9.2	TM	
36	*TM	Hexachlorobutadiene	0.2472	0.2752	11	*TM	
37	TM	Caprolactum	0.1466	0.1645	12	TM	
38	*TM	4-Chloro-3-methylphenol	0.3877	0.4290	11	*TM	
39	TM	2-Methylnaphthalene	0.7325	0.8178	12	TM	
40	TM	1-Methylnaphthalene	0.7616	0.8464	11	TM	
		Average			10.2		

Semi-Volatile Analysis by GC-MS
EPA 8270

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 01/27/20
Instrument: Yoda
Cal. Date: 12/19/19
Data File: 1219Y247.D

		Compound	MEAN	CCRF	%D	%Drift		
41	I	Acenaphthene-D10(IS)	ISTD			I		
42	**TML	Hexachlorocyclopentadiene	0.3696	0.3327	10.0	**TML	25	*NT
43	TM	1,2,4,5-Tetrachlorobenzene	0.6372	0.6926	8.7	TM		
44	*TM	2,4,6-Trichlorophenol	0.4172	0.4588	10.0	*TM		
45	TM	2,4,5-Trichlorophenol	0.4524	0.4738	4.7	TM		
46	S	2-Fluorobiphenyl(S)	1.477	1.521	3.0	S		
47	TM	1,1'-Biphenyl	1.551	1.725	11	TM		
48	TM	2-Chloronaphthalene	1.248	1.331	6.7	TM		
49	TM	2-Nitroaniline	0.4737	0.5140	8.5	TM		
50	TM	Dimethyl phthalate	1.529	1.641	7.3	TM		
51	TM	2,6-DNT	0.3335	0.3681	10	TM		
52	TM	Acenaphthylene	1.921	2.062	7.4	TM		
53	TM	3-Nitroaniline	0.3959	0.4216	6.5	TM		
54	*TM	Acenaphthene	1.202	1.299	8.1	*TM		
55	**TML	2,4-Dinitrophenol	0.1391	0.2032	46	**TML	2.1	
56	**TM	4-Nitrophenol	0.0312	0.0336	7.8	**TM		
57	TM	Dibenzofuran	1.825	2.112	16	TM		
58	TM	2,4-DNT	0.4904	0.5768	18	TM		
59	TM	2,3,4,6-Tetrachlorophenol	0.3432	0.3841	12	TM		
60	TM	Diethyl phthalate	1.584	1.708	7.8	TM		
61	TM	4-Chlorophenyl phenyl ether	0.8773	1.056	20	TM		
62	TM	Fluorene	1.553	1.884	21	TM		*NT
63	TM	4-Nitroaniline	0.3299	0.3404	3.2	TM		
64	S	2,4,6-Tribromophenol(S)	0.2486	0.2816	13	S		
65	I	Phenanthrene-D10(IS)	ISTD			I		
66	TM	4,6-Dinitro-2-methylphenol	0.1559	0.1597	2.4	TM		
67	TM	Diphenyl amine	0.6512	0.7232	11	TM		
68	*TM	n-Nitrosodiphenylamine	0.6512	0.7232	11	*TM		
69	TM	1,2-Diphenylhydrazine	0.9417	0.9921	5.4	TM		
70	TM	4-Bromophenyl phenyl ether	0.2452	0.2675	9.1	TM		
71	TM	Hexachlorobenzene	0.2480	0.2746	11	TM		
72	TM	Atrazine	0.2236	0.1459	35	TM		*NT
73	*TM	Pentachlorophenol	0.1525	0.1652	8.3	*TM		
74	TM	Phenanthrene	1.104	1.188	7.6	TM		
75	TM	Anthracene	1.154	1.237	7.2	TM		
76	TM	Carbazol	1.051	1.136	8.2	TM		
77	TM	Di-n-butylphthalate	1.437	1.578	9.9	TM		
78		2-Nitrodiphenylamine	0.3268	0.3754	15			
79	*TM	Fluoranthene	1.293	1.427	10	*TM		
80	I	Chrysene-D12(IS)	ISTD			I		
		Average			11.3			

Semi-Volatile Analysis by GC-MS
EPA 8270

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 01/27/20
Instrument: Yoda
Cal. Date: 12/19/19
Data File: 1219Y247.D

		Compound	MEAN	CCRF	%D		%Drift	
81	TM	Benzidine	0.4082	0.1638	60	TM		*NT
82	TM	Pyrene	1.199	1.085	9.5	TM		
83	S	Terphenyl-D14(S)	0.9538	0.8132	15	S		
84	TM	Butyl benzylphthalate	0.6008	0.5343	11	TM		
85	TM	3,3'-Dichlorobenzidine	0.4121	0.4253	3.2	TM		
86	TM	Benz (a) anthracene	1.306	1.353	3.6	TM		
87	TM	Bis (2-ethylhexyl) phthalate	1.004	1.041	3.7	TM		
88	TM	Chrysene	1.136	1.024	9.9	TM		
89	*TM	Di-n-octylphthalate	1.482	1.306	12	*TM		
90	I	Perylene-D12(IS)	ISTD			I		
91	TM	Benzo (b) fluoranthene	1.306	1.430	9.4	TM		
92	TM	Benzo (k) fluoranthene	1.178	1.289	9.4	TM		
93	*TM	Benzo (a) pyrene	1.160	1.246	7.5	*TM		
94	TM	Indeno (1,2,3-cd) pyrene	1.352	1.418	4.9	TM		
95	TM	Dibenz (a,h) anthracene	1.204	1.293	7.4	TM		
96	TM	Benzo (g,h,i) perylene	1.062	1.085	2.1	TM		
97								
98								
99								
100								
101								
102								
103								
104								
105								
106								
107								
108								
109								
110								
111								
112								
113								
114								
115								
116								
117								
118								
119								
120								
		Average			11.2			

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y247.D Vial: 47
Acq On : 27 Jan 20 17:04 Operator: MA,SS
Sample : 50ug/ml 8270 01/06/20 (1) Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 27 17:08 2020 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.38	152	248048	40.00000 ppb	0.00
21) Napthalene-D8(IS)	6.81	136	1087911	40.00000 ppb	-0.01
41) Acenaphthene-D10(IS)	8.84	164	692449	40.00000 ppb	0.00
65) Phenanthrene-D10(IS)	10.56	188	1380976	40.00000 ppb	-0.01
80) Chrysene-D12(IS)	13.66	240	1896333	40.00000 ppb	0.00
90) Perylene-D12(IS)	15.49	264	1449984	40.00000 ppb	0.00
System Monitoring Compounds					
5) 2-Fluorophenol (S)	3.81	112	907440	99.81048 ppb	-0.01
Spiked Amount 200.000			Recovery =	49.905%	
6) Phenol-D6 (S)	5.00	99	1294566	111.76095 ppb	0.00
Spiked Amount 200.000			Recovery =	55.881%	
22) Nitrobenzene-D5(S)	6.01	82	669450	49.48057 ppb	0.00
Spiked Amount 100.000			Recovery =	49.481%	
46) 2-Fluorobiphenyl(S)	8.06	172	1316739	51.49025 ppb	0.00
Spiked Amount 100.000			Recovery =	51.490%	
64) 2,4,6-Tribromophenol(S)	9.77	330	487418	113.26335 ppb	0.00
Spiked Amount 200.000			Recovery =	56.632%	
83) Terphenyl-D14(S)	12.43	244	1927610	42.62743 ppb	0.00
Spiked Amount 100.000			Recovery =	42.627%	
Target Compounds					Qvalue
2) 1,4-Dioxane	1.68	58	18778	5.02816	82
3) n-Nitrosodimethylamine	1.91	42	395978	57.17546 ppb	99
4) Pyridine	1.92	79	880943	54.91142 ppb	98
7) Phenol	5.01	94	783104	57.28664 ppb	98
8) Aniline	5.01	93	441024	49.43747 ppb	98
9) Bis (2-chloroethyl) ether	5.08	63	350293	55.31482 ppb	99
10) 2-Chlorophenol	5.14	128	507351	52.70994 ppb	92
11) 1,3-DCB	5.31	146	537503	50.88867 ppb	98
12) 1,4-DCB	5.39	146	558540	51.67018 ppb	98
13) Benzyl alcohol	5.54	108	324800	57.28753 ppb	95
14) 1,2-DCB	5.56	146	535100	53.20338 ppb	99
15) 2-Methylphenol	5.68	107	480708	57.23228 ppb	98
16) Bis (2-chloroisopropyl) et	5.68	45	485607	58.14729 ppb #	74
17) Acetophenone	5.84	105	829818	57.96352 ppb	96
18) 3&4-Methylphenol	5.86	107	1314698	119.01920 ppb	100
19) n-Nitrosodi-n-propylamine	5.85	70	553058	60.06385 ppb	99
20) Hexachloroethane	5.94	117	235293	52.22067 ppb	91
23) Nitrobenzene	6.04	77	737375	52.58707 ppb	98
24) Isophorone	6.30	82	1208203	54.61267 ppb	99
25) 2-Nitrophenol	6.39	139	296686	52.10591 ppb	97
26) 2,4-Dimethylphenol	6.44	122	503359	55.24692 ppb	99
27) Benzoic acid	6.63	105	450305	56.90009 ppb	95
28) Bis (2-chloroethoxy) metha	6.54	93	616192	53.66800 ppb	99
29) 2,4-Dichlorophenol	6.67	162	493630	55.56538 ppb	95
30) 1,2,4-Trichlorobenzene	6.75	180	528226	53.30882 ppb	97
31) 3,4-Dimethylphenol	6.79	107	835770	55.14077 ppb	98
32) Naphthalene	6.84	128	1586460	53.59651 ppb	100
33) 4-Chloroaniline	6.91	127	645174	54.20786 ppb	98
34) 2,6-Dichlorophenol	6.92	162	493004	56.64650 ppb	98
35) Hexachloropropene	6.94	213	468163	54.60274 ppb	99
36) Hexachlorobutadiene	6.98	225	374282	55.67912 ppb	99
37) Caprolactum	7.35	55	223686	56.10334 ppb	95

(#) = qualifier out of range (m) = manual integration

Data File : M:\YODA\DATA\Y191219\1219Y247.D Vial: 47
Acq On : 27 Jan 20 17:04 Operator: MA,SS
Sample : 50ug/ml 8270 01/06/20 (1) Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 27 17:08 2020 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
38)	4-Chloro-3-methylphenol	7.48	107	583330	55.31580	ppb		98
39)	2-Methylnaphthalene	7.63	142	1112174	55.82916	ppb		100
40)	1-Methylnaphthalene	7.74	142	1151006	55.56353	ppb		99
42)	Hexachlorocyclopentadiene	7.81	237	288000	37.38592	ppb		98
43)	1,2,4,5-Tetrachlorobenzene	7.83	216	599463	54.34751	ppb		98
44)	2,4,6-Trichlorophenol	7.97	196	397144	54.99408	ppb		100
45)	2,4,5-Trichlorophenol	8.02	196	410063	52.35642	ppb		94
47)	1,1'-Biphenyl	8.17	154	1493250	55.60023	ppb		98
48)	2-Chloronaphthalene	8.20	162	1152268	53.34931	ppb		98
49)	2-Nitroaniline	8.32	65	444893	54.24867	ppb		99
50)	Dimethyl phthalate	8.52	163	1420572	53.65798	ppb		99
51)	2,6-DNT	8.61	165	318621	55.18226	ppb		96
52)	Acenaphthylene	8.67	152	1784986	53.67711	ppb		99
53)	3-Nitroaniline	8.32	138	364885	53.23837	ppb		97
54)	Acenaphthene	8.88	154	1124636	54.06679	ppb		99
55)	2,4-Dinitrophenol	8.93	184	175859	51.04357	ppb		88
56)	4-Nitrophenol	8.60	65	29084	53.89654	ppb		97
57)	Dibenzofuran	9.08	168	1828226	57.86551	ppb		97
58)	2,4-DNT	9.08	165	499240	58.80984	ppb		83
59)	2,3,4,6-Tetrachlorophenol	9.23	232	332476	55.96816	ppb	#	90
60)	Diethyl phthalate	9.35	149	1478014	53.88623	ppb		99
61)	4-Chlorophenyl phenyl ethe	9.47	204	914330	60.20456	ppb		89
62)	Fluorene	9.48	166	1630633	60.66767	ppb		99
63)	4-Nitroaniline	8.80	138	294629	51.58931	ppb		94
66)	4,6-Dinitro-2-methylphenol	9.56	198	275673	51.20264	ppb	#	72
67)	Diphenyl amine	9.63	169	2496808	111.06298	ppb		99
68)	n-Nitrosodiphenylamine	9.63	169	2496808	111.06298	ppb		99
69)	1,2-Diphenylhydrazine	9.66	77	1712647	52.67615	ppb		93
70)	4-Bromophenyl phenyl ether	10.04	248	461693	54.54534	ppb		89
71)	Hexachlorobenzene	10.13	284	474051	55.36000	ppb		94
72)	Atrazine	10.24	200	125890	16.30639	ppb		97
73)	Pentachlorophenol	10.36	266	285155	54.17281	ppb		99
74)	Phenanthrene	10.60	178	2050972	53.81890	ppb		99
75)	Anthracene	10.66	178	2135402	53.60466	ppb		100
76)	Carbazol	10.85	167	1961784	54.08820	ppb		99
77)	Di-n-butylphthalate	11.25	149	2724190	54.92742	ppb		98
78)	2-Nitrodiphenylamine	11.42	167	324022	28.72042	ppb		94
79)	Fluoranthene	11.98	202	2462762	55.17378	ppb		98
81)	Benzidine	12.13	184	388255	20.06141	ppb		99
82)	Pyrene	12.25	202	2572063	45.24832	ppb		99
84)	Butyl benzylphthalate	13.00	149	1266438	44.46667	ppb		82
85)	3,3'-Dichlorobenzidine	13.62	252	1008185	51.60859	ppb		99
86)	Benz (a) anthracene	13.66	228	3206063	51.77919	ppb		100
87)	Bis (2-ethylhexyl) phthala	13.66	149	2467933	51.86000	ppb		100
88)	Chrysene	13.69	228	2426728	45.06511	ppb		99
89)	Di-n-octylphthalate	14.41	149	3094606	44.05356	ppb		97
91)	Benzo (b) fluoranthene	14.95	252	2591620	54.72215	ppb		98
92)	Benzo (k) fluoranthene	14.99	252	2336000	54.70800	ppb		99
93)	Benzo (a) pyrene	15.42	252	2258180	53.72577	ppb		99
94)	Indeno (1,2,3-cd) pyrene	17.37	276	2570402	52.46085	ppb		99
95)	Dibenz (a,h) anthracene	17.40	278	2342769	53.67516	ppb		99
96)	Benzo (g,h,i) perylene	17.93	276	1965863	51.06139	ppb		99

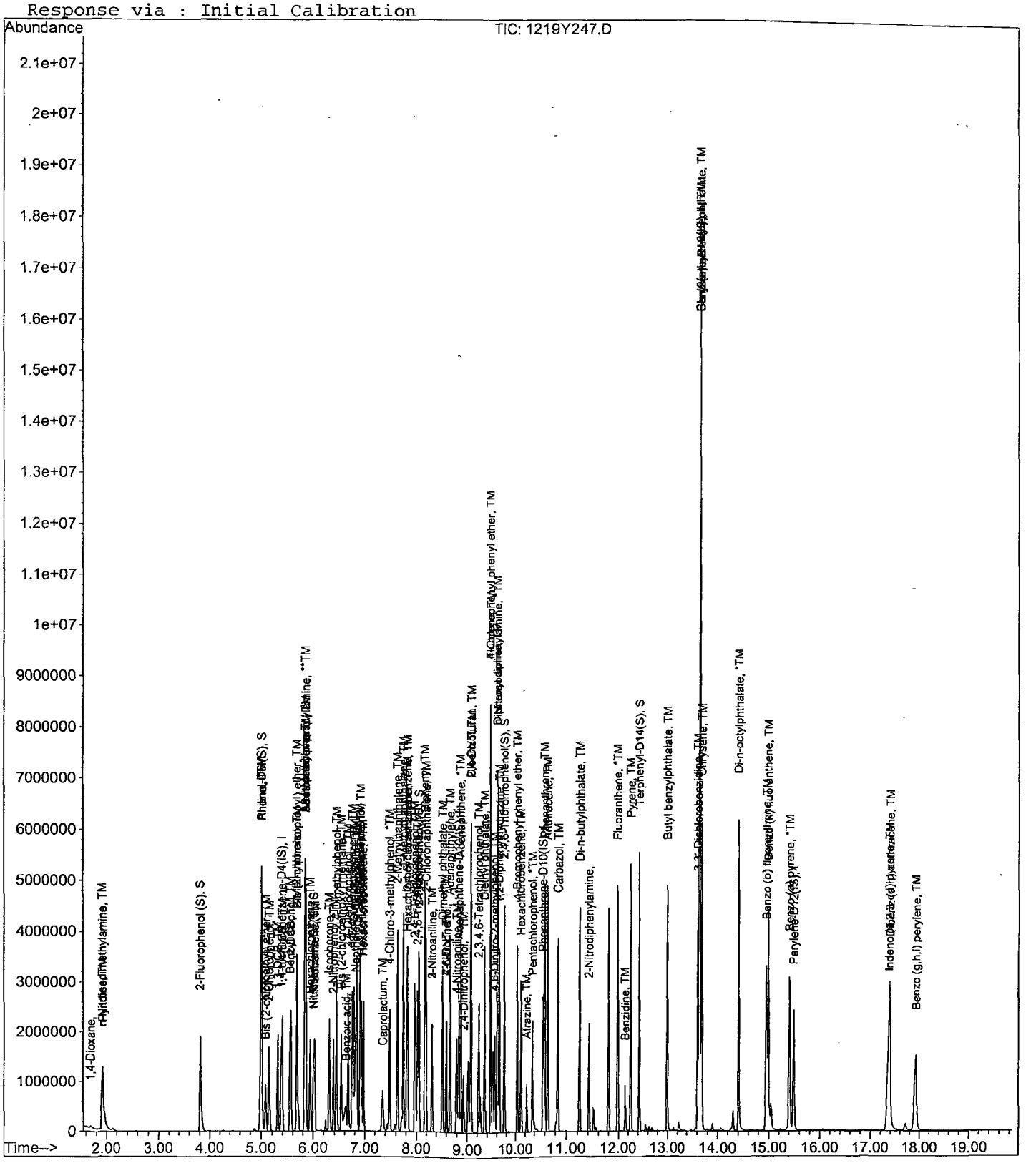
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y191219\1219Y247.D Vial: 47
Acq On : 27 Jan 20 17:04 Operator: MA,SS
Sample : 50ug/ml 8270 01/06/20 (1) Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 27 17:08 2020 Quant Results File: Y1219.RES

Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration



Semi-Volatile Analysis by GC-MS
EPA 8270

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 01/28/20
Instrument: Yoda
Initial Cal. Date: 12/19/19
Data File: 1219Y267.D

		Compound	MEAN	CCRF	%D	%Drift	
1	I	1,4-dichlorobenzene-D4(IS)	ISTD			I	
2		1,4-Dioxane	0.6022	0.7249	20		
3	TM	n-Nitrosodimethylamine	1.117	1.347	21	TM	*
4	TM	Pyridine	2.587	3.013	16	TM	
5	S	2-Fluorophenol (S)	1.466	1.473	0.45	S	
6	S	Phenol-D6 (S)	1.868	1.927	3.1	S	
7	*TM	Phenol	2.204	2.381	8.0	*TM	
8	TM	Aniline	1.439	1.191	17	TM	
9	TM	Bis (2-chloroethyl) ether	1.021	1.129	11	TM	
10	TM	2-Chlorophenol	1.552	1.653	6.5	TM	
11	TM	1,3-DCB	1.703	1.766	3.7	TM	
12	*TM	1,4-DCB	1.743	1.826	4.8	*TM	
13	TM	Benzyl alcohol	0.9143	1.003	9.7	TM	
14	TM	1,2-DCB	1.622	1.720	6.1	TM	
15	TM	2-Methylphenol	1.354	1.457	7.6	TM	
16	TM	Bis (2-chloroisopropyl) ether	1.347	1.509	12	TM	
17	TM	Acetophenone	2.309	2.548	10	TM	
18	TM	3&4-Methylphenol	1.781	1.971	11	TM	
19	**TM	n-Nitrosodi-n-propylamine	1.485	1.653	11	**TM	
20	TM	Hexachloroethane	0.7266	0.7831	7.8	TM	
21	I	Napthalene-D8(IS)	ISTD			I	
22	S	Nitrobenzene-D5(S)	0.4975	0.5029	1.1	S	
23	TM	Nitrobenzene	0.5156	0.5542	7.5	TM	
24	TM	Isophorone	0.8134	0.8824	8.5	TM	
25	*TM	2-Nitrophenol	0.2094	0.2245	7.2	*TM	
26	TM	2,4-Dimethylphenol	0.3350	0.3654	9.1	TM	
27	TML	Benzoic acid	0.2307	0.3195	39	TML	10
28	TM	Bis (2-chloroethoxy) methane	0.4222	0.4509	6.8	TM	
29	*TM	2,4-Dichlorophenol	0.3266	0.3495	7.0	*TM	
30	TM	1,2,4-Trichlorobenzene	0.3643	0.3889	6.8	TM	
31	TM	3,4-Dimethylphenol	0.5573	0.6031	8.2	TM	
32	TM	Naphthalene	1.088	1.168	7.3	TM	
33	TM	4-Chloroaniline	0.4376	0.4177	4.6	TM	
34	TM	2,6-Dichlorophenol	0.3200	0.3471	8.5	TM	
35	TM	Hexachloropropene	0.3152	0.3442	9.2	TM	
36	*TM	Hexachlorobutadiene	0.2472	0.2688	8.7	*TM	
37	TM	Caprolactum	0.1466	0.1651	13	TM	
38	*TM	4-Chloro-3-methylphenol	0.3877	0.4217	8.8	*TM	
39	TM	2-Methylnaphthalene	0.7325	0.7955	8.6	TM	
40	TM	1-Methylnaphthalene	0.7616	0.8273	8.6	TM	
		Average			9.6		

Semi-Volatile Analysis by GC-MS
EPA 8270

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 01/28/20
Instrument: Yoda
Cal. Date: 12/19/19
Data File: 1219Y267.D

		Compound	MEAN	CCRF	%D		%Drift	
41	I	Acenaphthene-D10(IS)	ISTD			I		
42	**TML	Hexachlorocyclopentadiene	0.3696	0.3801	2.9	**TML	16	
43	TM	1,2,4,5-Tetrachlorobenzene	0.6372	0.6833	7.2	TM		
44	*TM	2,4,6-Trichlorophenol	0.4172	0.4556	9.2	*TM		
45	TM	2,4,5-Trichlorophenol	0.4524	0.4686	3.6	TM		
46	S	2-Fluorobiphenyl(S)	1.477	1.492	1.0	S		
47	TM	1,1'-Biphenyl	1.551	1.685	8.6	TM		
48	TM	2-Chloronaphthalene	1.248	1.343	7.6	TM		
49	TM	2-Nitroaniline	0.4737	0.5234	10	TM		
50	TM	Dimethyl phthalate	1.529	1.654	8.1	TM		
51	TM	2,6-DNT	0.3335	0.3623	8.6	TM		
52	TM	Acenaphthylene	1.921	2.048	6.6	TM		
53	TM	3-Nitroaniline	0.3959	0.4304	8.7	TM		
54	*TM	Acenaphthene	1.202	1.281	6.6	*TM		
55	**TML	2,4-Dinitrophenol	0.1391	0.2113	52	**TML	5.6	
56	**TM	4-Nitrophenol	0.0312	0.0351	13	**TM		
57	TM	Dibenzofuran	1.825	2.042	12	TM		
58	TM	2,4-DNT	0.4904	0.5607	14	TM		
59	TM	2,3,4,6-Tetrachlorophenol	0.3432	0.3705	8.0	TM		
60	TM	Diethyl phthalate	1.584	1.718	8.4	TM		
61	TM	4-Chlorophenyl phenyl ether	0.8773	0.9798	12	TM		
62	TM	Fluorene	1.553	1.754	13	TM		
63	TM	4-Nitroaniline	0.3299	0.3375	2.3	TM		
64	S	2,4,6-Tribromophenol(S)	0.2486	0.2569	3.3	S		
65	I	Phenanthrene-D10(IS)	ISTD			I		
66	TM	4,6-Dinitro-2-methylphenol	0.1559	0.1643	5.4	TM		
67	TM	Diphenyl amine	0.6512	0.7085	8.8	TM		
68	*TM	n-Nitrosodiphenylamine	0.6512	0.7085	8.8	*TM		
69	TM	1,2-Diphenylhydrazine	0.9417	1.018	8.1	TM		
70	TM	4-Bromophenyl phenyl ether	0.2452	0.2660	8.5	TM		
71	TM	Hexachlorobenzene	0.2480	0.2713	9.4	TM		
72	TM	Atrazine	0.2236	0.0917	59	TM		*
73	*TM	Pentachlorophenol	0.1525	0.1550	1.6	*TM		
74	TM	Phenanthrene	1.104	1.172	6.2	TM		
75	TM	Anthracene	1.154	1.244	7.8	TM		
76	TM	Carbazol	1.051	1.129	7.5	TM		
77	TM	Di-n-butylphthalate	1.437	1.557	8.4	TM		
78		2-Nitrodiphenylamine	0.3268	0.3770	15			
79	*TM	Fluoranthene	1.293	1.404	8.6	*TM		
80	I	Chrysene-D12(IS)	ISTD			I		
		Average			10.5			

Semi-Volatile Analysis by GC-MS
EPA 8270

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 01/28/20
Instrument: Yoda
Cal. Date: 12/19/19
Data File: 1219Y267.D

		Compound	MEAN	CCRF	%D		%Drift	
81	TM	Benzidine	0.4082	0.0727	82	TM		*
82	TM	Pyrene	1.199	1.196	0.22	TM		
83	S	Terphenyl-D14(S)	0.9538	0.8773	8.0	S		
84	TM	Butyl benzylphthalate	0.6008	0.5962	0.75	TM		
85	TM	3,3'-Dichlorobenzidine	0.4121	0.4434	7.6	TM		
86	TM	Benz (a) anthracene	1.306	1.378	5.5	TM		
87	TM	Bis (2-ethylhexyl) phthalate	1.004	1.110	11	TM		
88	TM	Chrysene	1.136	1.139	0.26	TM		
89	*TM	Di-n-octylphthalate	1.482	1.474	0.50	*TM		
90	I	Perylene-D12(IS)	ISTD			I		
91	TM	Benzo (b) fluoranthene	1.306	1.382	5.8	TM		
92	TM	Benzo (k) fluoranthene	1.178	1.409	20	TM		
93	*TM	Benzo (a) pyrene	1.160	1.294	12	*TM		
94	TM	Indeno (1,2,3-cd) pyrene	1.352	1.454	7.6	TM		
95	TM	Dibenz (a,h) anthracene	1.204	1.302	8.1	TM		
96	TM	Benzo (g,h,i) perylene	1.062	1.121	5.6	TM		
97								
98								
99								
100								
101								
102								
103								
104								
105								
106								
107								
108								
109								
110								
111								
112								
113								
114								
115								
116								
117								
118								
119								
120								
		Average			11.7			

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y267.D Vial: 67
Acq On : 28 Jan 20 2:19 Operator: MA,SS
Sample : 50ug/ml 8270 01/03/20 (1) Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 28 7:16 2020 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.38	152	196253	40.00000 ppb		0.00
21) Napthalene-D8(IS)	6.82	136	822183	40.00000 ppb		0.00
41) Acenaphthene-D10(IS)	8.84	164	507672	40.00000 ppb		0.00
65) Phenanthrene-D10(IS)	10.56	188	970577	40.00000 ppb		0.00
80) Chrysene-D12(IS)	13.66	240	1183007	40.00000 ppb		0.00
90) Perylene-D12(IS)	15.49	264	975908	40.00000 ppb		0.00
System Monitoring Compounds						
5) 2-Fluorophenol (S)	3.81	112	722540	100.44760 ppb		0.00
Spiked Amount 200.000			Recovery	= 50.224%		
6) Phenol-D6 (S)	5.00	99	945222	103.13810 ppb		0.00
Spiked Amount 200.000			Recovery	= 51.569%		
22) Nitrobenzene-D5(S)	6.01	82	516889	50.55204 ppb		0.00
Spiked Amount 100.000			Recovery	= 50.552%		
46) 2-Fluorobiphenyl(S)	8.05	172	946847	50.50213 ppb		0.00
Spiked Amount 100.000			Recovery	= 50.502%		
64) 2,4,6-Tribromophenol(S)	9.77	330	326025	103.33402 ppb		0.00
Spiked Amount 200.000			Recovery	= 51.667%		
83) Terphenyl-D14(S)	12.42	244	1297345	45.98887 ppb		0.00
Spiked Amount 100.000			Recovery	= 45.989%		
Target Compounds						Qvalue
2) 1,4-Dioxane	1.68	58	17782	6.01810		99
3) n-Nitrosodimethylamine	1.91	42	330460	60.30828 ppb		98
4) Pyridine	1.92	79	739250	58.24057 ppb		98
7) Phenol	5.01	94	584052	54.00138 ppb		85
8) Aniline	5.00	93	292096	41.38462 ppb	#	87
9) Bis (2-chloroethyl) ether	5.08	63	276890	55.26329 ppb		98
10) 2-Chlorophenol	5.14	128	405462	53.24191 ppb		94
11) 1,3-DCB	5.31	146	433139	51.83068 ppb		99
12) 1,4-DCB	5.40	146	448055	52.38856 ppb		97
13) Benzyl alcohol	5.54	108	246138	54.87091 ppb		99
14) 1,2-DCB	5.56	146	421964	53.02725 ppb		99
15) 2-Methylphenol	5.68	107	357418	53.78431 ppb		98
16) Bis (2-chloroisopropyl) et	5.68	45	370163	56.02179 ppb		83
17) Acetophenone	5.83	105	625174	55.19405 ppb		99
18) 3&4-Methylphenol	5.86	107	966999	110.64619 ppb		97
19) n-Nitrosodi-n-propylamine	5.84	70	405527	55.66493 ppb		95
20) Hexachloroethane	5.94	117	192102	53.88709 ppb		92
23) Nitrobenzene	6.03	77	569529	53.74416 ppb		95
24) Isophorone	6.30	82	906847	54.23909 ppb		98
25) 2-Nitrophenol	6.39	139	230676	53.60647 ppb		91
26) 2,4-Dimethylphenol	6.44	122	375525	54.53734 ppb		98
27) Benzoic acid	6.61	105	328380	55.04729 ppb		97
28) Bis (2-chloroethoxy) metha	6.54	93	463450	53.41056 ppb		99
29) 2,4-Dichlorophenol	6.67	162	359223	53.50468 ppb		97
30) 1,2,4-Trichlorobenzene	6.75	180	399727	53.37866 ppb		98
31) 3,4-Dimethylphenol	6.78	107	619823	54.11014 ppb		99
32) Naphthalene	6.84	128	1200307	53.65678 ppb		99
33) 4-Chloroaniline	6.91	127	429274	47.72488 ppb		95
34) 2,6-Dichlorophenol	6.92	162	356746	54.23837 ppb		94
35) Hexachloropropene	6.94	213	353739	54.59152 ppb		100
36) Hexachlorobutadiene	6.97	225	276217	54.37118 ppb		99
37) Caprolactum	7.34	55	169722	56.32652 ppb		93

(#) = qualifier out of range (m) = manual integration

Data File : M:\YODA\DATA\Y191219\1219Y267.D Vial: 67
Acq On : 28 Jan 20 2:19 Operator: MA,SS
Sample : 50ug/ml 8270 01/03/20 (1) Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 28 7:16 2020 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
38)	4-Chloro-3-methylphenol	7.47	107	433414	54.38294	ppb		92
39)	2-Methylnaphthalene	7.63	142	817541	54.30287	ppb		100
40)	1-Methylnaphthalene	7.74	142	850279	54.31234	ppb		99
42)	Hexachlorocyclopentadiene	7.81	237	241216	42.16605	ppb		99
43)	1,2,4,5-Tetrachlorobenzene	7.83	216	433603	53.61844	ppb		98
44)	2,4,6-Trichlorophenol	7.97	196	289116	54.60654	ppb		99
45)	2,4,5-Trichlorophenol	8.02	196	297392	51.79087	ppb		97
47)	1,1'-Biphenyl	8.17	154	1069501	54.31626	ppb		97
48)	2-Chloronaphthalene	8.20	162	852071	53.80909	ppb		95
49)	2-Nitroaniline	8.32	65	332135	55.23988	ppb		91
50)	Dimethyl phthalate	8.52	163	1049553	54.07294	ppb		99
51)	2,6-DNT	8.60	165	229893	54.30695	ppb	#	74
52)	Acenaphthylene	8.67	152	1299517	53.30167	ppb		100
53)	3-Nitroaniline	8.32	138	273138	54.35700	ppb		96
54)	Acenaphthene	8.88	154	812982	53.30944	ppb		99
55)	2,4-Dinitrophenol	8.92	184	134060	52.80639	ppb		98
56)	4-Nitrophenol	8.60	65	22263	56.27235	ppb		99
57)	Dibenzofuran	9.07	168	1295519	55.92916	ppb		97
58)	2,4-DNT	9.07	165	355804	57.16840	ppb		96
59)	2,3,4,6-Tetrachlorophenol	9.23	232	235086	53.97741	ppb		96
60)	Diethyl phthalate	9.34	149	1090356	54.22158	ppb		99
61)	4-Chlorophenyl phenyl ethe	9.47	204	621795	55.84422	ppb		95
62)	Fluorene	9.47	166	1113038	56.48273	ppb		99
63)	4-Nitroaniline	8.79	138	214167	51.14950	ppb		80
66)	4,6-Dinitro-2-methylphenol	9.55	198	199343	52.68115	ppb	#	68
67)	Diphenyl amine	9.62	169	1719072	108.80138	ppb		99
68)	n-Nitrosodiphenylamine	9.62	169	1719072	108.80138	ppb		99
69)	1,2-Diphenylhydrazine	9.66	77	1235210	54.05590	ppb		97
70)	4-Bromophenyl phenyl ether	10.05	248	322706	54.24598	ppb	#	82
71)	Hexachlorobenzene	10.12	284	329169	54.69481	ppb	#	84
72)	Atrazine	10.23	200	55617	10.25015	ppb		95
73)	Pentachlorophenol	10.36	266	188005	50.81898	ppb		98
74)	Phenanthrene	10.59	178	1422174	53.09871	ppb		99
75)	Anthracene	10.66	178	1509748	53.92417	ppb		100
76)	Carbazol	10.84	167	1370248	53.75349	ppb		98
77)	Di-n-butylphthalate	11.24	149	1889216	54.19878	ppb		99
78)	2-Nitrodiphenylamine	11.42	167	228702	28.84313	ppb		98
79)	Fluoranthene	11.99	202	1702802	54.27884	ppb		99
81)	Benzidine	12.13	184	107440	8.89893	ppb		97
82)	Pyrene	12.25	202	1769079	49.88792	ppb		99
84)	Butyl benzylphthalate	12.99	149	881690	49.62424	ppb		98
85)	3,3'-Dichlorobenzidine	13.61	252	655635	53.79862	ppb		99
86)	Benz (a) anthracene	13.65	228	2038261	52.76796	ppb		99
87)	Bis (2-ethylhexyl) phthala	13.66	149	1641850	55.30443	ppb		99
88)	Chrysene	13.69	228	1683958	50.12772	ppb		100
89)	Di-n-octylphthalate	14.41	149	2180060	49.74751	ppb		99
91)	Benzo (b) fluoranthene	14.95	252	1685568	52.88013	ppb		99
92)	Benzo (k) fluoranthene	14.99	252	1718787	59.80732	ppb		98
93)	Benzo (a) pyrene	15.41	252	1578872	55.81171	ppb		99
94)	Indeno (1,2,3-cd) pyrene	17.36	276	1774120	53.79868	ppb		98
95)	Dibenz (a,h) anthracene	17.39	278	1588216	54.06395	ppb		99
96)	Benzo (g,h,i) perylene	17.92	276	1367661	52.78034	ppb		99

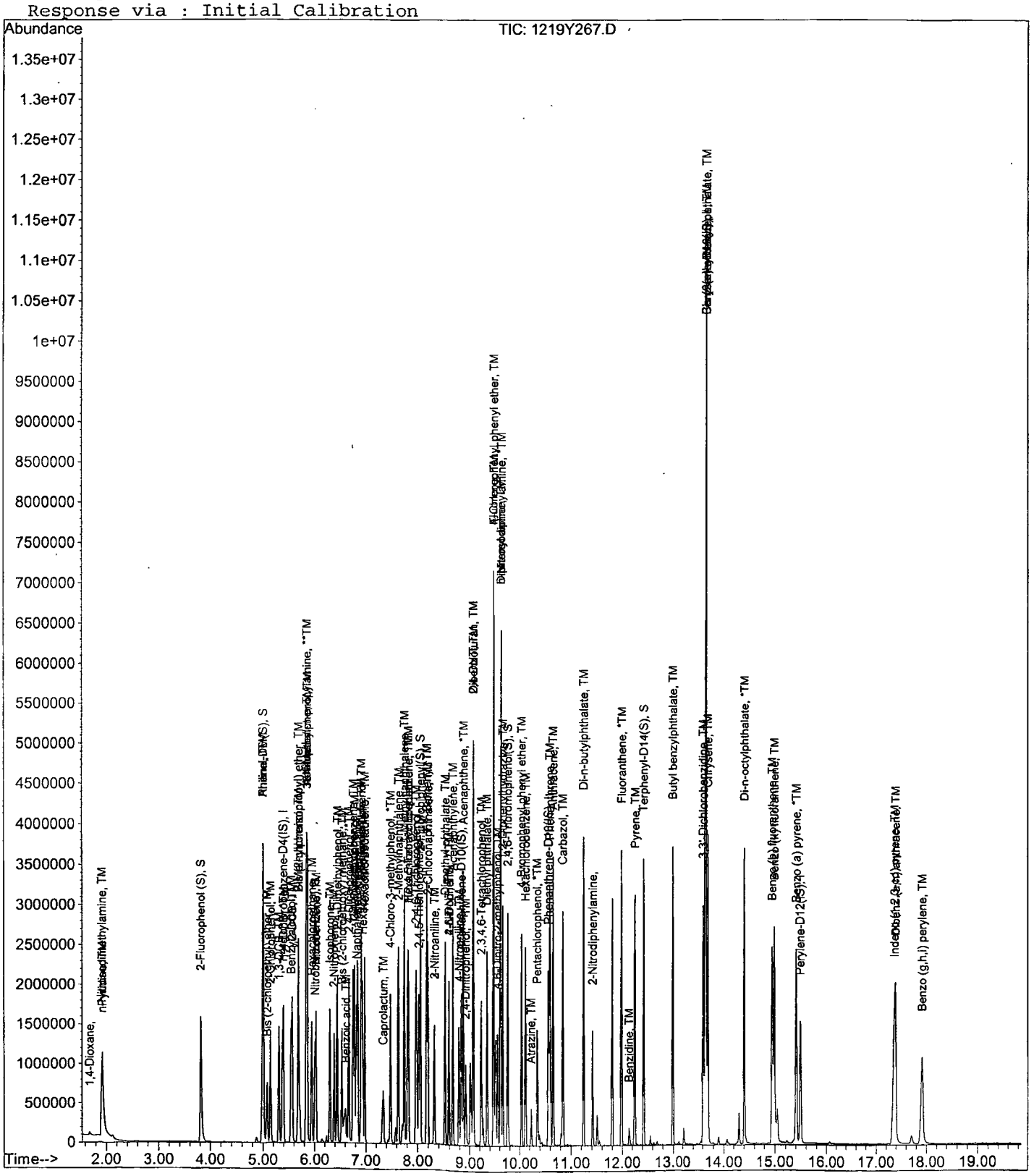
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y191219\1219Y267.D Vial: 67
Acq On : 28 Jan 20 2:19 Operator: MA,SS
Sample : 50ug/ml 8270 01/03/20 (1) Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 28 7:16 2020 Quant Results File: Y1219.RES

Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration



ORGANICS
Raw Data

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y252.D
Acq On : 27 Jan 20 19:23
Sample : BA06272W29 1/800
Misc :

Vial: 52
Operator: MA,SS
Inst : Yoda
Multiplr: 1.25

Quant Time: Jan 28 7:35 2020 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.37	152	156990	40.00000	ppb	0.00
21) Napthalene-D8(IS)	6.81	136	637774	40.00000	ppb	-0.02
41) Acenaphthene-D10(IS)	8.83	164	457205	40.00000	ppb	0.00
65) Phenanthrene-D10(IS)	10.56	188	902090	40.00000	ppb	-0.02
80) Chrysene-D12(IS)	13.65	240	867181	40.00000	ppb	-0.02
90) Perylene-D12(IS)	15.49	264	881227	40.00000	ppb	0.00
System Monitoring Compounds						
5) 2-Fluorophenol (S)	3.81	112	969451	210.59975	ppb	0.00
Spiked Amount 250.000			Recovery =	84.240%		
6) Phenol-D6 (S)	4.99	99	1297465	221.22555	ppb	0.00
Spiked Amount 250.000			Recovery =	88.490%		
22) Nitrobenzene-D5(S)	6.00	82	754257	118.87005	ppb	0.00
Spiked Amount 125.000			Recovery =	95.096%		
46) 2-Fluorobiphenyl(S)	8.05	172	1383696	102.43606	ppb	0.00
Spiked Amount 125.000			Recovery =	81.949%		
64) 2,4,6-Tribromophenol(S)	9.76	330	553252	243.38715	ppb	0.00
Spiked Amount 250.000			Recovery =	97.355%		
83) Terphenyl-D14(S)	12.42	244	2141239	129.43448	ppb	0.00
Spiked Amount 125.000			Recovery =	103.547%		

Target Compounds Qvalue

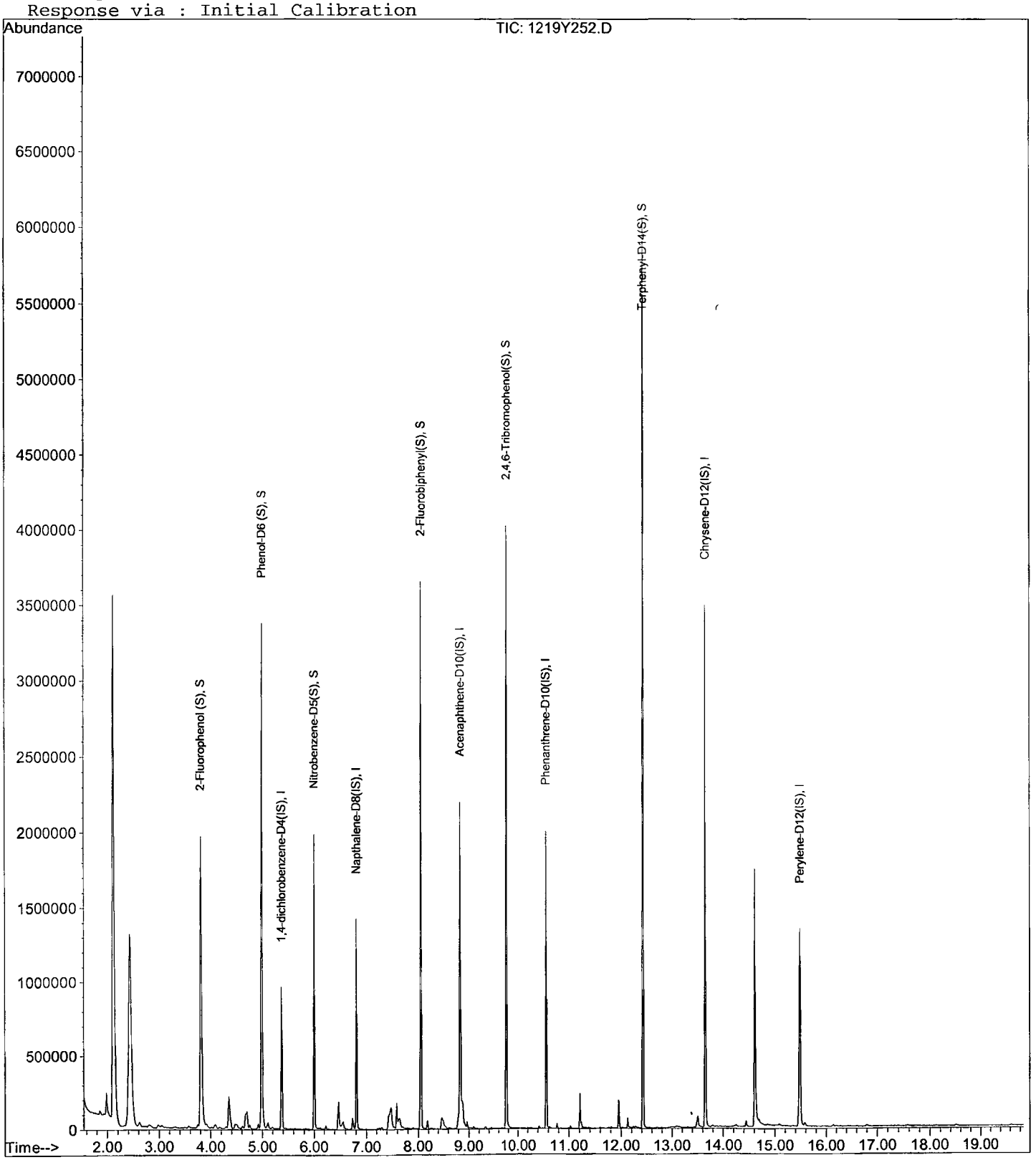
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y191219\1219Y252.D Vial: 52
Acq On : 27 Jan 20 19:23 Operator: MA,SS
Sample : BA06272W29 1/800 Inst : Yoda
Misc : Multiplr: 1.25

Quant Time: Jan 28 7:35 2020 Quant Results File: Y1219.RES

Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y253.D Vial: 53
Acq On : 27 Jan 20 19:50 Operator: MA,SS
Sample : BA06273W11 1/800 Inst : Yoda
Misc : Multiplr: 1.25

Quant Time: Jan 28 7:36 2020 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.37	152	171962	40.00000 ppb	0.00
21) Napthalene-D8(IS)	6.81	136	678418	40.00000 ppb	-0.02
41) Acenaphthene-D10(IS)	8.83	164	458152	40.00000 ppb	0.00
65) Phenanthrene-D10(IS)	10.57	188	889296	40.00000 ppb	0.00
80) Chrysene-D12(IS)	13.65	240	830829	40.00000 ppb	-0.02
90) Perylene-D12(IS)	15.48	264	869663	40.00000 ppb	0.00
System Monitoring Compounds					
5) 2-Fluorophenol (S)	3.81	112	889428	176.39338 ppb	0.00
Spiked Amount 250.000			Recovery =	70.557%	
6) Phenol-D6 (S)	4.99	99	1173881	182.72720 ppb	0.00
Spiked Amount 250.000			Recovery =	73.091%	
22) Nitrobenzene-D5(S)	6.00	82	715131	105.95175 ppb	0.00
Spiked Amount 125.000			Recovery =	84.762%	
46) 2-Fluorobiphenyl(S)	8.05	172	1361300	100.56976 ppb	0.00
Spiked Amount 125.000			Recovery =	80.456%	
64) 2,4,6-Tribromophenol(S)	9.76	330	541709	237.81656 ppb	0.00
Spiked Amount 250.000			Recovery =	95.127%	
83) Terphenyl-D14(S)	12.43	244	2213222	139.63938 ppb	0.00
Spiked Amount 125.000			Recovery =	111.711%	

Target Compounds Qvalue

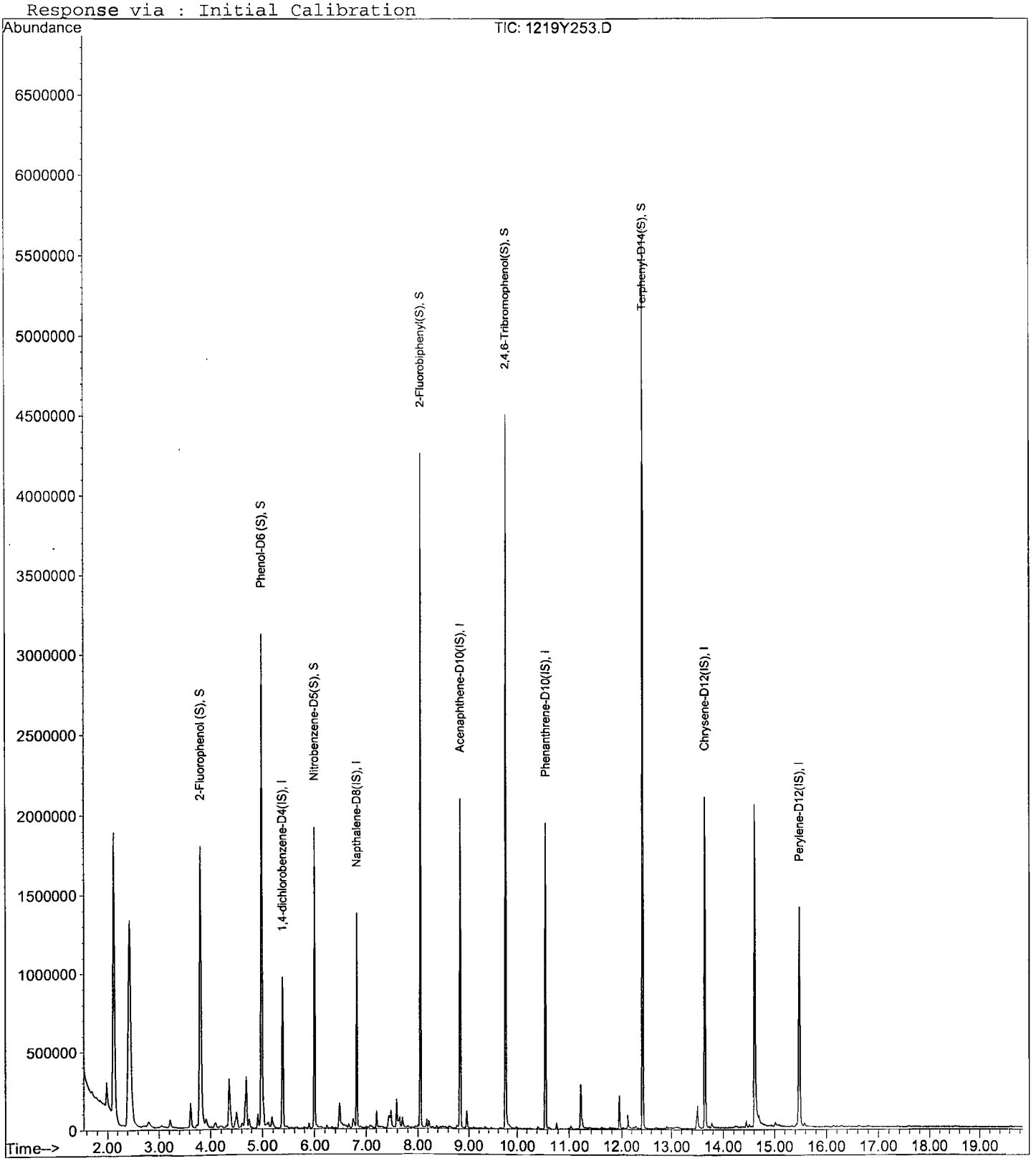
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y191219\1219Y253.D Vial: 53
Acq On : 27 Jan 20 19:50 Operator: MA,SS
Sample : BA06273W11 1/800 Inst : Yoda
Misc : Multiplr: 1.25

Quant Time: Jan 28 7:36 2020 Quant Results File: Y1219.RES

Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y254.D Vial: 54
Acq On : 27 Jan 20 20:18 Operator: MA,SS
Sample : BA06275W13 1/800 Inst : Yoda
Misc : Multiplr: 1.25

Quant Time: Jan 28 7:36 2020 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.37	152	188809	40.00000 ppb	0.00
21) Napthalene-D8(IS)	6.81	136	748862	40.00000 ppb	-0.02
41) Acenaphthene-D10(IS)	8.83	164	460536	40.00000 ppb	0.00
65) Phenanthrene-D10(IS)	10.56	188	891131	40.00000 ppb	0.00
80) Chrysene-D12(IS)	13.65	240	814013	40.00000 ppb	-0.02
90) Perylene-D12(IS)	15.48	264	869471	40.00000 ppb	0.00
System Monitoring Compounds					
5) 2-Fluorophenol (S)	3.81	112	925362	167.14483 ppb	0.00
Spiked Amount 250.000			Recovery =	66.858%	
6) Phenol-D6 (S)	4.99	99	1029386	145.93760 ppb	0.00
Spiked Amount 250.000			Recovery =	58.375%	
22) Nitrobenzene-D5(S)	6.00	82	758236	101.77064 ppb	0.00
Spiked Amount 125.000			Recovery =	81.417%	
46) 2-Fluorobiphenyl(S)	8.05	172	1394010	102.45318 ppb	0.00
Spiked Amount 125.000			Recovery =	81.962%	
64) 2,4,6-Tribromophenol(S)	9.76	330	548910	239.73044 ppb	0.00
Spiked Amount 250.000			Recovery =	95.892%	
83) Terphenyl-D14(S)	12.43	244	2228267	143.49292 ppb	0.00
Spiked Amount 125.000			Recovery =	114.794%	

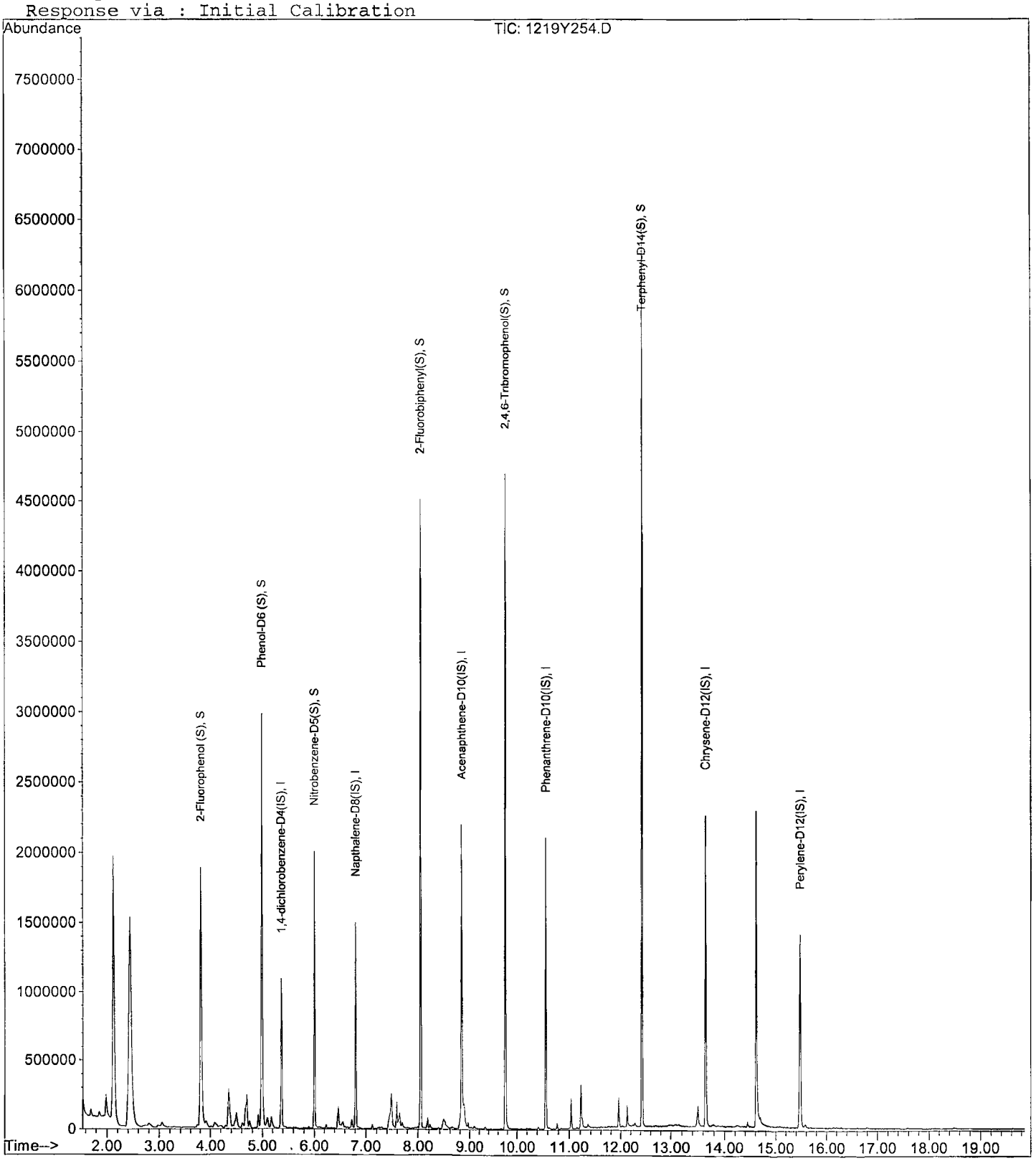
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Data File : M:\YODA\DATA\Y191219\1219Y254.D Vial: 54
Acq On : 27 Jan 20 20:18 Operator: MA,SS
Sample : BA06275W13 1/800 Inst : Yoda
Misc : Multiplr: 1.25

Quant Time: Jan 28 7:36 2020 Quant Results File: Y1219.RES

Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y255.D Vial: 55
Acq On : 27 Jan 20 20:46 Operator: MA,SS
Sample : BA06276W15 1/800 Inst : Yoda
Misc : Multiplr: 1.25

Quant Time: Jan 28 7:37 2020 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.38	152	164753	40.00000 ppb	0.00
21) Napthalene-D8(IS)	6.81	136	639531	40.00000 ppb	-0.02
41) Acenaphthene-D10(IS)	8.83	164	418865	40.00000 ppb	-0.01
65) Phenanthrene-D10(IS)	10.56	188	854798	40.00000 ppb	-0.01
80) Chrysene-D12(IS)	13.65	240	814655	40.00000 ppb	-0.02
90) Perylene-D12(IS)	15.48	264	850728	40.00000 ppb	-0.01
System Monitoring Compounds					
5) 2-Fluorophenol (S)	3.81	112	601524	124.51555 ppb	-0.01
Spiked Amount 250.000			Recovery =	49.806%	
6) Phenol-D6 (S)	4.99	99	881650	143.24336 ppb	-0.01
Spiked Amount 250.000			Recovery =	57.297%	
22) Nitrobenzene-D5(S)	6.00	82	661988	104.04193 ppb	-0.01
Spiked Amount 125.000			Recovery =	83.234%	
46) 2-Fluorobiphenyl(S)	8.05	172	1266915	102.37562 ppb	-0.01
Spiked Amount 125.000			Recovery =	81.901%	
64) 2,4,6-Tribromophenol(S)	9.76	330	333502	160.14375 ppb	-0.01
Spiked Amount 250.000			Recovery =	64.058%	
83) Terphenyl-D14(S)	12.43	244	2040720	131.31196 ppb	0.00
Spiked Amount 125.000			Recovery =	105.050%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

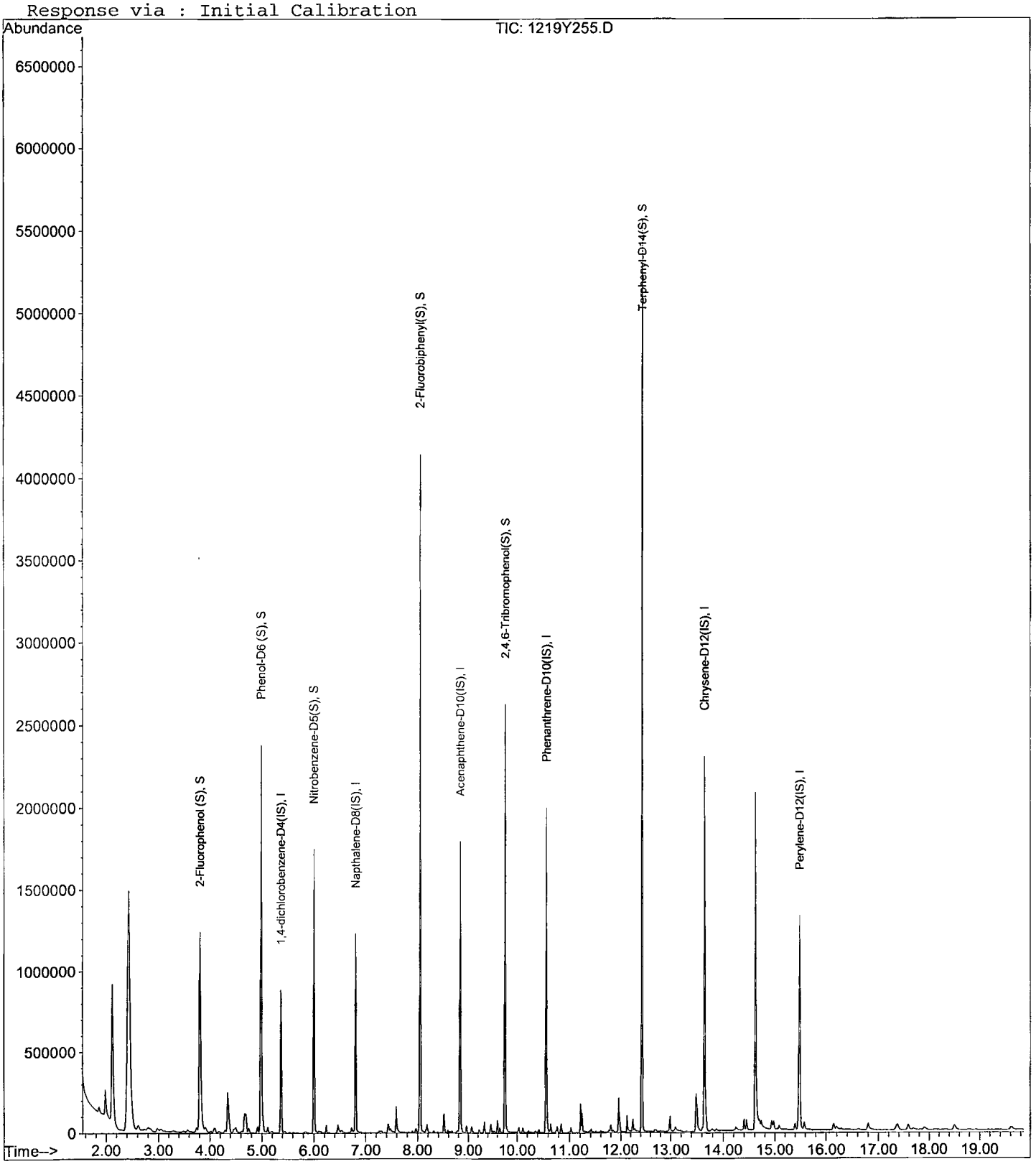
Quantitation Report

Data File : M:\YODA\DATA\Y191219\1219Y255.D
Acq On : 27 Jan 20 20:46
Sample : BA06276W15 1/800
Misc :

Vial: 55
Operator: MA,SS
Inst : Yoda
Multiplr: 1.25

Quant Time: Jan 28 7:37 2020 Quant Results File: Y1219.RES

Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y256.D Vial: 56
Acq On : 27 Jan 20 21:13 Operator: MA,SS
Sample : BA06279W14 1/800 Inst : Yoda
Misc : Multiplr: 1.25

Quant Time: Jan 28 7:38 2020 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.37	152	178823	40.00000	ppb	0.00
21) Napthalene-D8(IS)	6.81	136	711834	40.00000	ppb	-0.02
41) Acenaphthene-D10(IS)	8.83	164	438530	40.00000	ppb	0.00
65) Phenanthrene-D10(IS)	10.57	188	869577	40.00000	ppb	0.00
80) Chrysene-D12(IS)	13.65	240	804990	40.00000	ppb	-0.02
90) Perylene-D12(IS)	15.48	264	707514	40.00000	ppb	0.00
System Monitoring Compounds						
5) 2-Fluorophenol (S)	3.81	112	924441	176.30304	ppb	0.00
Spiked Amount 250.000			Recovery =	70.521%		
6) Phenol-D6 (S)	5.00	99	1209590	181.06163	ppb	0.00
Spiked Amount 250.000			Recovery =	72.425%		
22) Nitrobenzene-D5(S)	6.00	82	713226	100.70901	ppb	0.00
Spiked Amount 125.000			Recovery =	80.567%		
46) 2-Fluorobiphenyl(S)	8.05	172	1324272	102.21180	ppb	0.00
Spiked Amount 125.000			Recovery =	81.770%		
64) 2,4,6-Tribromophenol(S)	9.76	330	520511	238.73508	ppb	0.00
Spiked Amount 250.000			Recovery =	95.494%		
83) Terphenyl-D14(S)	12.43	244	2070334	134.81695	ppb	0.00
Spiked Amount 125.000			Recovery =	107.854%		

Target Compounds Qvalue

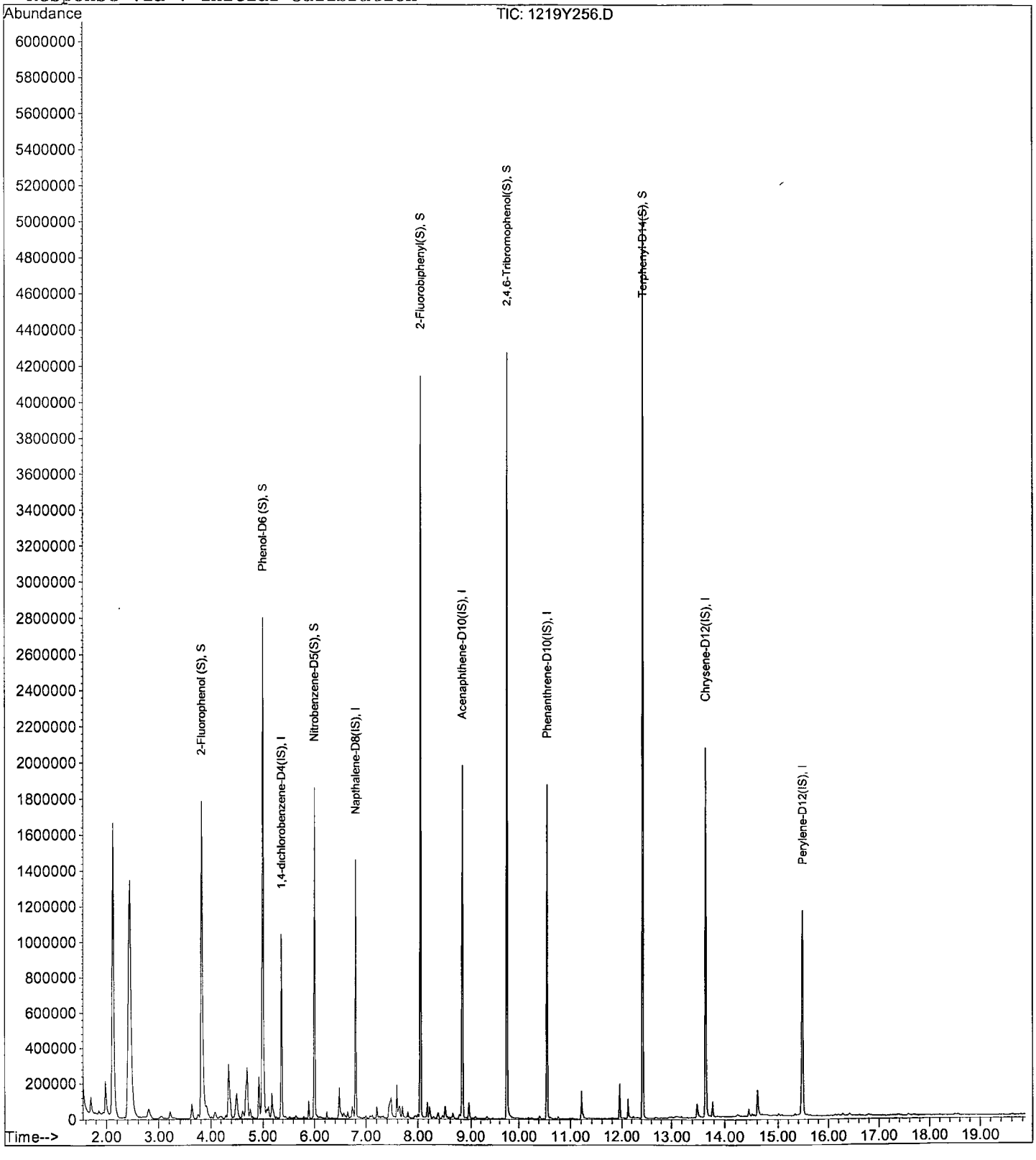
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y191219\1219Y256.D Vial: 56
Acq On : 27 Jan 20 21:13 Operator: MA,SS
Sample : BA06279W14 1/800 Inst : Yoda
Misc : Multiplr: 1.25

Quant Time: Jan 28 7:38 2020 Quant Results File: Y1219.RES

Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y257.D Vial: 57
Acq On : 27 Jan 20 21:41 Operator: MA,SS
Sample : BA06281W13 1/800 Inst : Yoda
Misc : Multiplr: 1.25

Quant Time: Jan 28 7:39 2020 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.37	152	197013	40.00000 ppb	0.00
21) Napthalene-D8(IS)	6.81	136	769955	40.00000 ppb	-0.02
41) Acenaphthene-D10(IS)	8.83	164	474592	40.00000 ppb	0.00
65) Phenanthrene-D10(IS)	10.56	188	926964	40.00000 ppb	-0.02
80) Chrysene-D12(IS)	13.65	240	848932	40.00000 ppb	-0.02
90) Perylene-D12(IS)	15.48	264	889896	40.00000 ppb	-0.02
System Monitoring Compounds					
5) 2-Fluorophenol (S)	3.81	112	1035865	179.31320 ppb	0.00
Spiked Amount 250.000			Recovery =	71.725%	
6) Phenol-D6 (S)	4.99	99	1392742	189.22888 ppb	0.00
Spiked Amount 250.000			Recovery =	75.692%	
22) Nitrobenzene-D5(S)	6.00	82	771865	100.76180 ppb	0.00
Spiked Amount 125.000			Recovery =	80.610%	
46) 2-Fluorobiphenyl(S)	8.05	172	1437405	102.51369 ppb	0.00
Spiked Amount 125.000			Recovery =	82.011%	
64) 2,4,6-Tribromophenol(S)	9.76	330	563884	238.97639 ppb	0.00
Spiked Amount 250.000			Recovery =	95.590%	
83) Terphenyl-D14(S)	12.42	244	2175178	134.31251 ppb	0.00
Spiked Amount 125.000			Recovery =	107.450%	

Target Compounds Qvalue

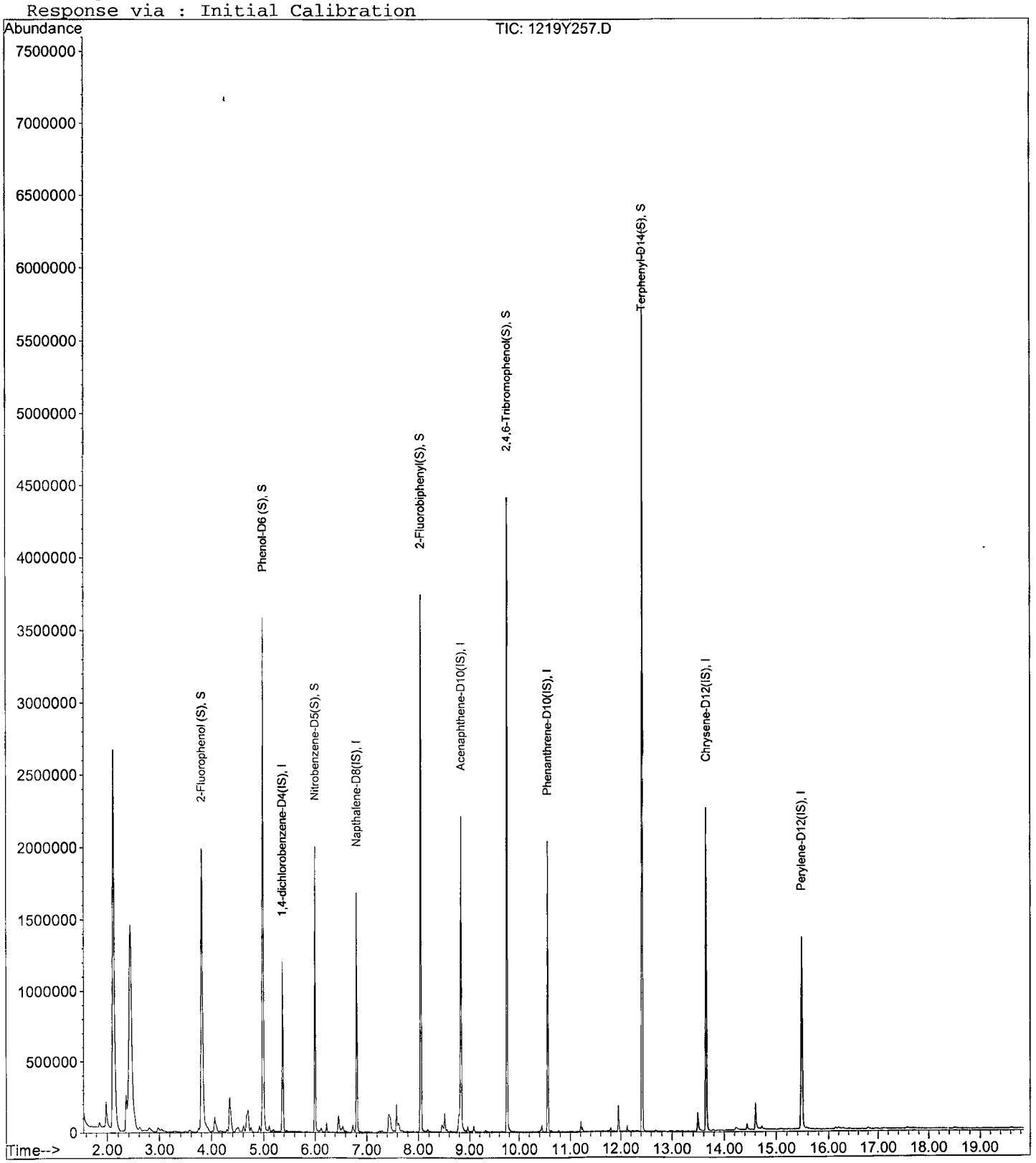
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y191219\1219Y257.D Vial: 57
Acq On : 27 Jan 20 21:41 Operator: MA,SS
Sample : BA06281W13 1/800 Inst : Yoda
Misc : Multiplr: 1.25

Quant Time: Jan 28 7:39 2020 Quant Results File: Y1219.RES

Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y258.D Vial: 58
Acq On : 27 Jan 20 22:09 Operator: MA,SS
Sample : BA06282W13 1/800 Inst : Yoda
Misc : Multiplr: 1.25

Quant Time: Jan 28 7:40 2020 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.38	152	143150	40.00000 ppb	0.00
21) Napthalene-D8(IS)	6.81	136	572510	40.00000 ppb	-0.02
41) Acenaphthene-D10(IS)	8.83	164	441187	40.00000 ppb	-0.01
65) Phenanthrene-D10(IS)	10.56	188	907417	40.00000 ppb	-0.01
80) Chrysene-D12(IS)	13.65	240	834835	40.00000 ppb	-0.01
90) Perylene-D12(IS)	15.48	264	889892	40.00000 ppb	-0.01
System Monitoring Compounds					
5) 2-Fluorophenol (S)	3.81	112	957672	228.15470 ppb	-0.01
Spiked Amount 250.000			Recovery =	91.262%	
6) Phenol-D6 (S)	4.99	99	1292791	241.74004 ppb	-0.01
Spiked Amount 250.000			Recovery =	96.696%	
22) Nitrobenzene-D5(S)	6.00	82	738691	129.68795 ppb	-0.01
Spiked Amount 125.000			Recovery =	103.750%	
46) 2-Fluorobiphenyl(S)	8.05	172	1371649	105.23093 ppb	-0.01
Spiked Amount 125.000			Recovery =	84.185%	
64) 2,4,6-Tribromophenol(S)	9.76	330	535879	244.30348 ppb	-0.01
Spiked Amount 250.000			Recovery =	97.721%	
83) Terphenyl-D14(S)	12.43	244	2170551	136.28998 ppb	0.00
Spiked Amount 125.000			Recovery =	109.032%	

Target Compounds Qvalue

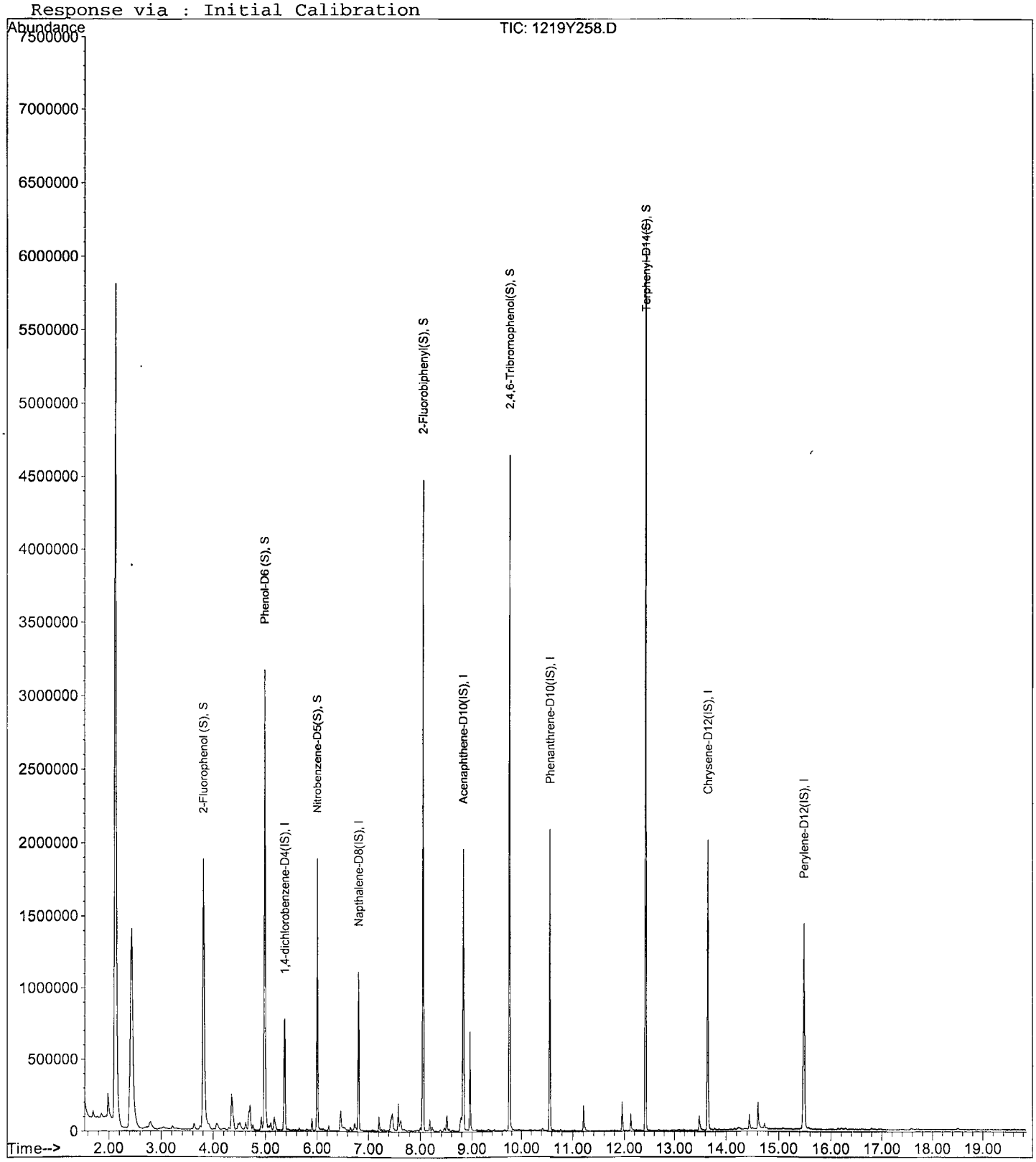
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y191219\1219Y258.D Vial: 58
Acq On : 27 Jan 20 22:09 Operator: MA,SS
Sample : BA06282W13 1/800 Inst : Yoda
Misc : Multiplr: 1.25

Quant Time: Jan 28 7:40 2020 Quant Results File: Y1219.RES

Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y259.D Vial: 59
Acq On : 27 Jan 20 22:36 Operator: MA,SS
Sample : BA06284W19 1/800 Inst : Yoda
Misc : Multiplr: 1.25

Quant Time: Jan 28 7:40 2020 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.38	152	153495	40.00000 ppb	0.00
21) Napthalene-D8(IS)	6.81	136	604745	40.00000 ppb	-0.02
41) Acenaphthene-D10(IS)	8.83	164	422045	40.00000 ppb	-0.01
65) Phenanthrene-D10(IS)	10.56	188	846023	40.00000 ppb	-0.01
80) Chrysene-D12(IS)	13.65	240	770530	40.00000 ppb	-0.02
90) Perylene-D12(IS)	15.48	264	822146	40.00000 ppb	-0.01
System Monitoring Compounds					
5) 2-Fluorophenol (S)	3.81	112	907435	201.61613 ppb	-0.01
Spiked Amount 250.000			Recovery =	80.646%	
6) Phenol-D6 (S)	4.99	99	1246544	217.38271 ppb	-0.01
Spiked Amount 250.000			Recovery =	86.953%	
22) Nitrobenzene-D5(S)	6.00	82	709785	117.97077 ppb	-0.01
Spiked Amount 125.000			Recovery =	94.377%	
46) 2-Fluorobiphenyl(S)	8.05	172	1330706	106.72017 ppb	-0.01
Spiked Amount 125.000			Recovery =	85.376%	
64) 2,4,6-Tribromophenol(S)	9.76	330	520358	247.98711 ppb	-0.01
Spiked Amount 250.000			Recovery =	99.195%	
83) Terphenyl-D14(S)	12.43	244	2211340	150.43904 ppb	0.00
Spiked Amount 125.000			Recovery =	120.351%	

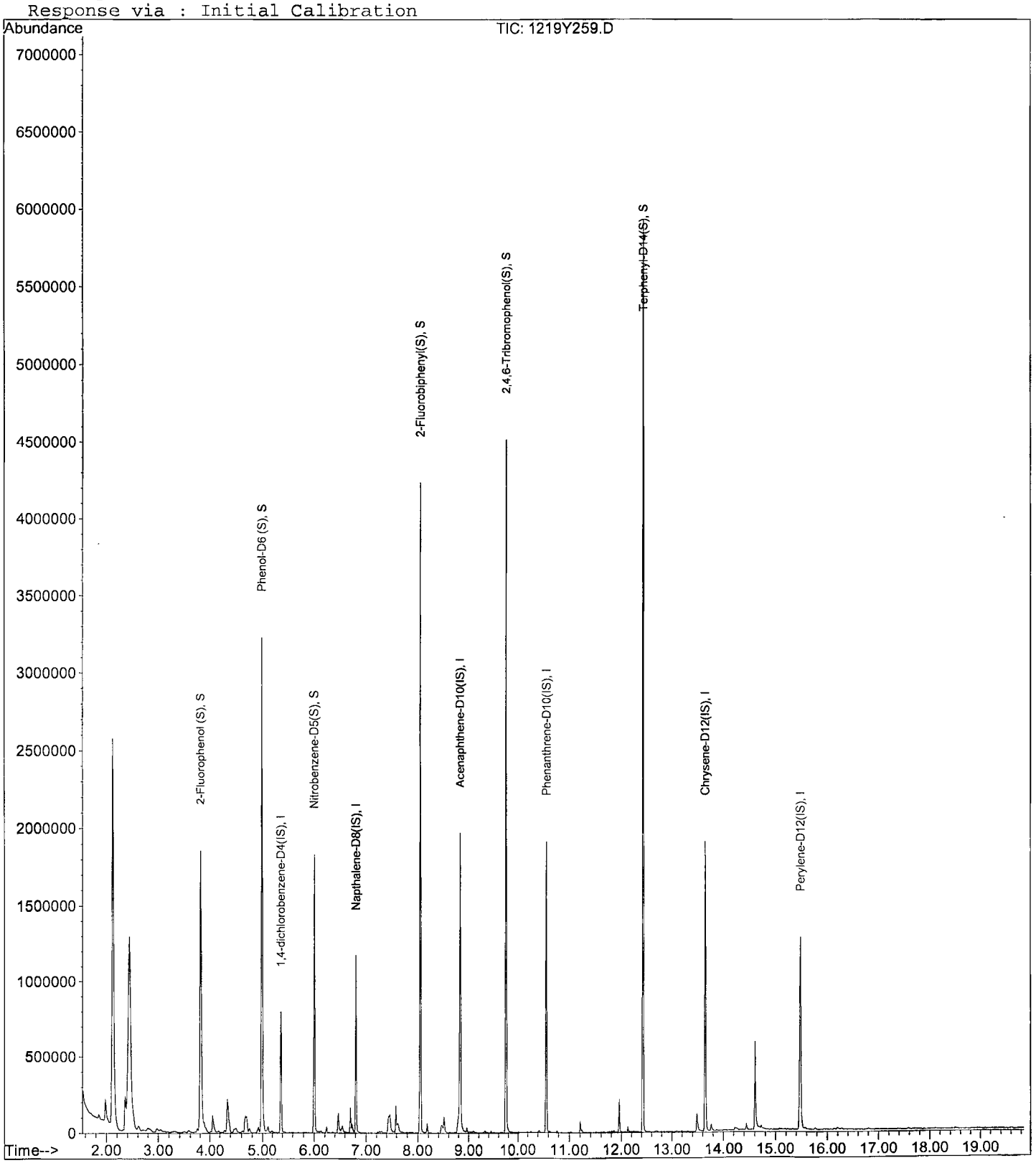
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
1219Y259.D Y1219.M Tue Jan 28 09:30:29 2020 Page 1

Data File : M:\YODA\DATA\Y191219\1219Y259.D Vial: 59
Acq On : 27 Jan 20 22:36 Operator: MA,SS
Sample : BA06284W19 1/800 Inst : Yoda
Misc : Multiplr: 1.25

Quant Time: Jan 28 7:40 2020 Quant Results File: Y1219.RES

Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y248.D Vial: 48
Acq On : 27 Jan 20 17:32 Operator: MA,SS
Sample : 200124A BLK 1/800 Inst : Yoda
Misc : Multiplr: 1.25

Quant Time: Jan 28 7:35 2020 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.37	152	163293	40.00000 ppb	0.00
21) Napthalene-D8(IS)	6.81	136	655142	40.00000 ppb	-0.02
41) Acenaphthene-D10(IS)	8.83	164	449623	40.00000 ppb	0.00
65) Phenanthrene-D10(IS)	10.57	188	903141	40.00000 ppb	0.00
80) Chrysene-D12(IS)	13.65	240	843006	40.00000 ppb	-0.02
90) Perylene-D12(IS)	15.49	264	881748	40.00000 ppb	0.00
System Monitoring Compounds					
5) 2-Fluorophenol (S)	3.81	112	932049	194.65930 ppb	0.00
Spiked Amount 250.000			Recovery =	77.864%	
6) Phenol-D6 (S)	4.99	99	1231447	201.86442 ppb	0.00
Spiked Amount 250.000			Recovery =	80.746%	
22) Nitrobenzene-D5(S)	6.00	82	742563	113.92466 ppb	0.00
Spiked Amount 125.000			Recovery =	91.140%	
46) 2-Fluorobiphenyl(S)	8.05	172	1376703	103.63701 ppb	0.00
Spiked Amount 125.000			Recovery =	82.910%	
64) 2,4,6-Tribromophenol(S)	9.76	330	556915	249.13000 ppb	0.00
Spiked Amount 250.000			Recovery =	99.652%	
83) Terphenyl-D14(S)	12.43	244	2286679	142.19002 ppb	0.00
Spiked Amount 125.000			Recovery =	113.752%	

Target Compounds Qvalue

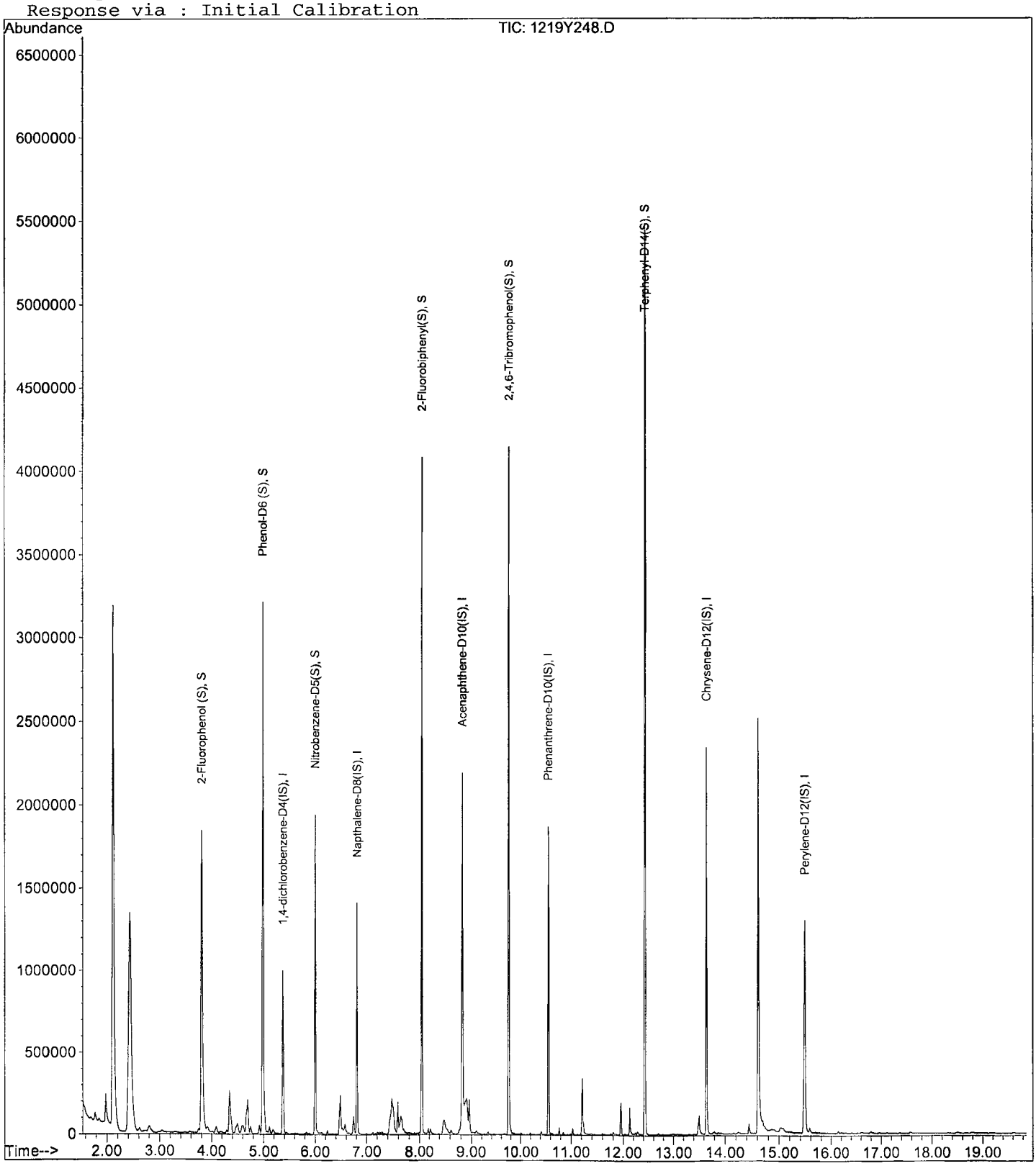
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y191219\1219Y248.D Vial: 48
Acq On : 27 Jan 20 17:32 Operator: MA,SS
Sample : 200124A BLK 1/800 Inst : Yoda
Misc : Multiplr: 1.25

Quant Time: Jan 28 7:35 2020 Quant Results File: Y1219.RES

Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y249.D Vial: 49
Acq On : 27 Jan 20 18:00 Operator: MA,SS
Sample : 200124A LCS-1 1/800 Inst : Yoda
Misc : Multiplr: 1.25

Quant Time: Jan 28 7:23 2020 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.38	152	178391	40.00000 ppb	0.00
21) Napthalene-D8(IS)	6.82	136	698817	40.00000 ppb	0.00
41) Acenaphthene-D10(IS)	8.83	164	425352	40.00000 ppb	0.00
65) Phenanthrene-D10(IS)	10.57	188	819148	40.00000 ppb	0.00
80) Chrysene-D12(IS)	13.66	240	958931	40.00000 ppb	0.00
90) Perylene-D12(IS)	15.48	264	833072	40.00000 ppb	0.00
System Monitoring Compounds					
5) 2-Fluorophenol (S)	3.82	112	1035823	198.02343 ppb	0.00
Spiked Amount 250.000			Recovery =	79.209%	
6) Phenol-D6 (S)	5.00	99	1418831	212.89691 ppb	0.00
Spiked Amount 250.000			Recovery =	85.159%	
22) Nitrobenzene-D5(S)	6.01	82	748760	107.69587 ppb	0.00
Spiked Amount 125.000			Recovery =	86.157%	
46) 2-Fluorobiphenyl(S)	8.05	172	1380981	109.89106 ppb	0.00
Spiked Amount 125.000			Recovery =	87.913%	
64) 2,4,6-Tribromophenol(S)	9.77	330	535443	253.19224 ppb	0.00
Spiked Amount 250.000			Recovery =	101.277%	
83) Terphenyl-D14(S)	12.43	244	2203037	120.42843 ppb	0.00
Spiked Amount 125.000			Recovery =	96.342%	
Target Compounds					Qvalue
2) 1,4-Dioxane	1.68	58	12018	5.59326	86
3) n-Nitrosodimethylamine	1.91	42	245812	61.68996 ppb	98
4) Pyridine	1.92	79	468681	50.77676 ppb	96
7) Phenol	5.01	94	427094	54.30380 ppb	95
8) Aniline	5.00	93	246208	47.96991 ppb #	69
9) Bis (2-chloroethyl) ether	5.08	63	203313	55.80177 ppb	97
10) 2-Chlorophenol	5.14	128	298354	53.87517 ppb	94
11) 1,3-DCB	5.31	146	291534	47.97359 ppb	98
12) 1,4-DCB	5.40	146	304488	48.95856 ppb	96
13) Benzyl alcohol	5.54	108	181707	55.70428 ppb	100
14) 1,2-DCB	5.56	146	292780	50.59627 ppb	98
15) 2-Methylphenol	5.68	107	261927	54.20169 ppb	95
16) Bis (2-chloroisopropyl) et	5.68	45	273157	56.84990 ppb	86
17) Acetophenone	5.83	105	453780	55.09219 ppb	99
18) 3&4-Methylphenol	5.85	107	690431	108.63859 ppb	97
19) n-Nitrosodi-n-propylamine	5.84	70	284740	53.74818 ppb	95
20) Hexachloroethane	5.94	117	110526	42.63543 ppb	96
23) Nitrobenzene	6.03	77	450292	62.49204 ppb	94
24) Isophorone	6.30	82	681506	59.94640 ppb	99
25) 2-Nitrophenol	6.38	139	167619	57.28660 ppb	87
26) 2,4-Dimethylphenol	6.43	122	251378	53.69049 ppb	97
27) Benzoic acid	6.60	105	274186	67.68553 ppb	96
28) Bis (2-chloroethoxy) metha	6.54	93	341557	57.88985 ppb	98
29) 2,4-Dichlorophenol	6.67	162	268983	58.92065 ppb	99
30) 1,2,4-Trichlorobenzene	6.75	180	264401	51.92570 ppb	98
31) 3,4-Dimethylphenol	6.78	107	454795	58.39043 ppb	100
32) Naphthalene	6.83	128	851244	55.96305 ppb	99
33) 4-Chloroaniline	6.90	127	252347	41.25945 ppb	97
34) 2,6-Dichlorophenol	6.91	162	261057	58.37110 ppb	99
35) Hexachloropropene	6.94	213	143130	32.48538 ppb	98
36) Hexachlorobutadiene	6.97	225	152549	44.16139 ppb	99
37) Caprolactum	7.33	55	125915	61.45643 ppb	96

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y249.D Vial: 49
Acq On : 27 Jan 20 18:00 Operator: MA,SS
Sample : 200124A LCS-1 1/800 Inst : Yoda
Misc : Multiplr: 1.25

Quant Time: Jan 28 7:23 2020 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
38)	4-Chloro-3-methylphenol	7.47	107	325396	60.04640	ppb		95
39)	2-Methylnaphthalene	7.62	142	568395	55.52372	ppb		100
40)	1-Methylnaphthalene	7.74	142	597319	56.11235	ppb		99
42)	Hexachlorocyclopentadiene	7.81	237	74232	22.37868	ppb		98
43)	1,2,4,5-Tetrachlorobenzene	7.83	216	286842	52.91872	ppb		98
44)	2,4,6-Trichlorophenol	7.97	196	213024	60.02688	ppb		100
45)	2,4,5-Trichlorophenol	8.02	196	222119	57.71044	ppb		94
47)	1,1'-Biphenyl	8.17	154	751841	56.96648	ppb		97
48)	2-Chloronaphthalene	8.19	162	592108	55.78604	ppb		98
49)	2-Nitroaniline	8.31	65	243528	60.42710	ppb		93
50)	Dimethyl phthalate	8.52	163	775738	59.62597	ppb		99
51)	2,6-DNT	8.60	165	170826	60.20442	ppb		88
52)	Acenaphthylene	8.67	152	913700	55.91228	ppb		100
53)	3-Nitroaniline	8.31	138	195451	58.03045	ppb		93
54)	Acenaphthene	8.88	154	590272	57.74576	ppb		100
55)	2,4-Dinitrophenol	8.92	184	106563	63.05455	ppb		90
56)	4-Nitrophenol	8.59	65	17371	65.50598	ppb		99
57)	Dibenzofuran	9.07	168	904434	58.25271	ppb		100
58)	2,4-DNT	9.07	165	253799	60.83869	ppb		93
59)	2,3,4,6-Tetrachlorophenol	9.23	232	179994	61.65781	ppb		98
60)	Diethyl phthalate	9.34	149	819808	60.82201	ppb		99
61)	4-Chlorophenyl phenyl ethe	9.47	204	428348	57.39479	ppb		99
62)	Fluorene	9.47	166	772695	58.50036	ppb		99
63)	4-Nitroaniline	8.79	138	149725	53.34920	ppb		90
66)	4,6-Dinitro-2-methylphenol	9.55	198	148955	58.30247	ppb		90
67)	Diphenyl amine	9.62	169	1170903	109.75868	ppb		99
68)	n-Nitrosodiphenylamine	9.62	169	1170903	109.75868	ppb		99
69)	1,2-Diphenylhydrazine	9.66	77	923820	59.87800	ppb		100
70)	4-Bromophenyl phenyl ether	10.04	248	231800	57.71007	ppb		98
71)	Hexachlorobenzene	10.12	284	233397	57.43810	ppb		94
72)	Atrazine	10.23	200	99054	27.03786	ppb		93
73)	Pentachlorophenol	10.35	266	143304	57.37101	ppb		99
74)	Phenanthrene	10.59	178	1038196	57.41008	ppb		99
75)	Anthracene	10.66	178	1076183	56.93021	ppb		100
76)	Carbazol	10.84	167	1010388	58.70476	ppb		99
77)	Di-n-butylphthalate	11.24	149	1415622	60.14962	ppb		100
78)	2-Nitrodiphenylamine	11.42	167	169676	31.69352	ppb		99
79)	Fluoranthene	11.99	202	1236497	58.37638	ppb		99
81)	Benzidine	12.13	184	67040	8.56280	ppb		94
82)	Pyrene	12.24	202	1282926	55.79043	ppb		100
84)	Butyl benzylphthalate	12.99	149	645013	55.98303	ppb		99
85)	3,3'-Dichlorobenzidine	13.61	252	347775	44.00655	ppb		99
86)	Benz (a) anthracene	13.65	228	1404830	56.08468	ppb		99
87)	Bis (2-ethylhexyl) phthala	13.66	149	1188196	61.71980	ppb		98
88)	Chrysene	13.68	228	1217256	55.87770	ppb		99
89)	Di-n-octylphthalate	14.40	149	1555452	54.73555	ppb	#	90
91)	Benzo (b) fluoranthene	14.95	252	1281761	58.88296	ppb		99
92)	Benzo (k) fluoranthene	14.98	252	1191972	60.73440	ppb		99
93)	Benzo (a) pyrene	15.41	252	1115970	57.76533	ppb		100
94)	Indeno (1,2,3-cd) pyrene	17.35	276	1319770	58.60346	ppb		99
95)	Dibenz (a,h) anthracene	17.38	278	1191619	59.39802	ppb		99
96)	Benzo (g,h,i) perylene	17.91	276	1014528	57.33161	ppb		99

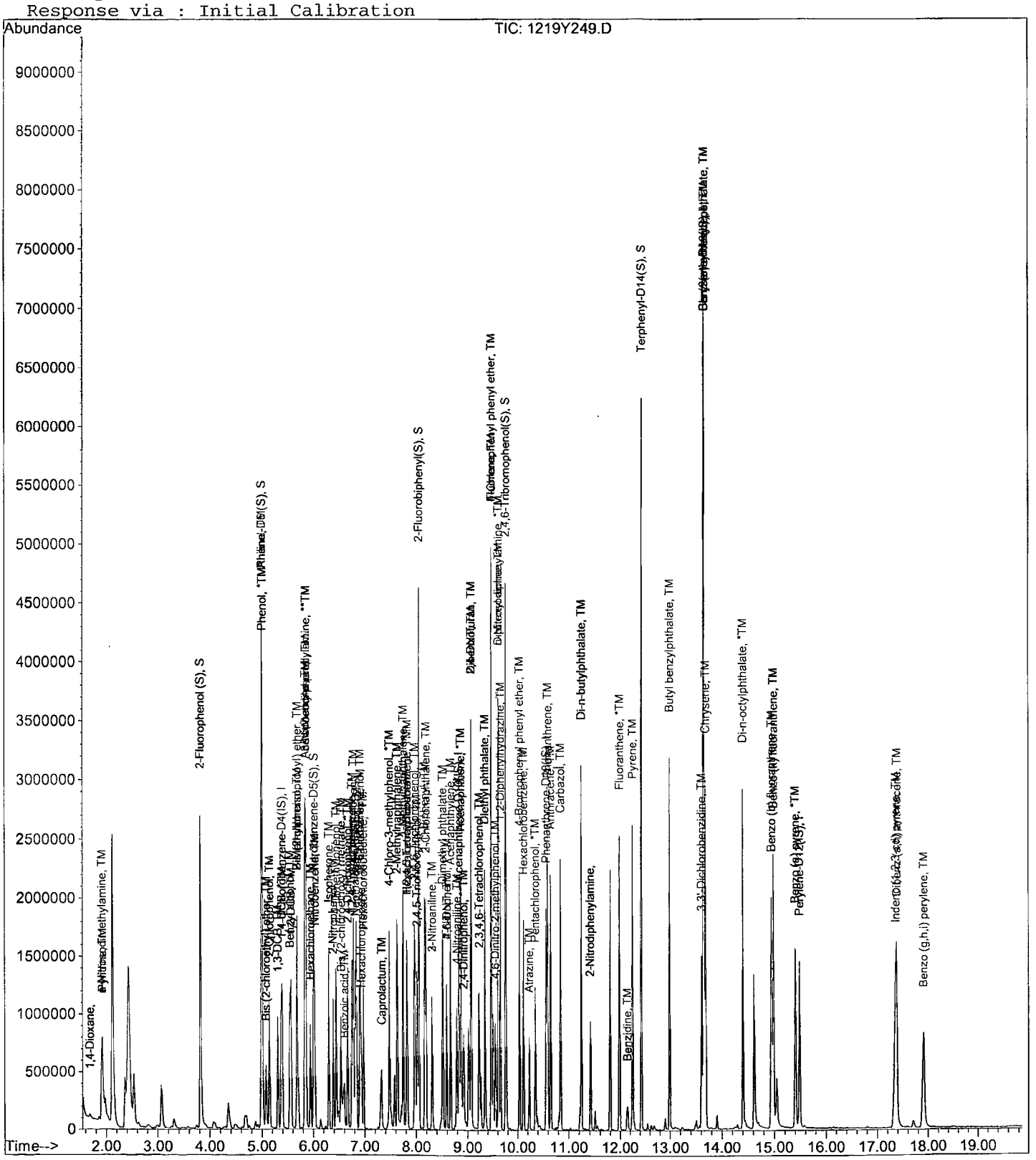
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y191219\1219Y249.D Vial: 49
Acq On : 27 Jan 20 18:00 Operator: MA,SS
Sample : 200124A LCS-1 1/800 Inst : Yoda
Misc : Multiplr: 1.25

Quant Time: Jan 28 7:23 2020 Quant Results File: Y1219.RES

Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y250.D Vial: 50
Acq On : 27 Jan 20 18:27 Operator: MA,SS
Sample : BA06272W30 MS-1 1/800 Inst : Yoda
Misc : Multiplr: 1.25

Quant Time: Jan 28 7:23 2020 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.38	152	142922	40.00000 ppb		0.00
21) Napthalene-D8(IS)	6.81	136	564446	40.00000 ppb		-0.01
41) Acenaphthene-D10(IS)	8.84	164	424113	40.00000 ppb		0.00
65) Phenanthrene-D10(IS)	10.56	188	854022	40.00000 ppb		-0.01
80) Chrysene-D12(IS)	13.65	240	992767	40.00000 ppb		-0.01
90) Perylene-D12(IS)	15.48	264	864409	40.00000 ppb		-0.01
System Monitoring Compounds						
5) 2-Fluorophenol (S)	3.82	112	1060821	253.13197 ppb		0.00
Spiked Amount 250.000			Recovery	= 101.253%		
6) Phenol-D6 (S)	5.00	99	1459150	273.28291 ppb		0.00
Spiked Amount 250.000			Recovery	= 109.313%		
22) Nitrobenzene-D5(S)	6.01	82	766533	136.49865 ppb		0.00
Spiked Amount 125.000			Recovery	= 109.199%		
46) 2-Fluorobiphenyl(S)	8.05	172	1405658	112.18149 ppb		-0.01
Spiked Amount 125.000			Recovery	= 89.745%		
64) 2,4,6-Tribromophenol(S)	9.77	330	557890	264.57733 ppb		0.00
Spiked Amount 250.000			Recovery	= 105.831%		
83) Terphenyl-D14(S)	12.43	244	2272727	120.00367 ppb		0.00
Spiked Amount 125.000			Recovery	= 96.003%		
Target Compounds						Qvalue
2) 1,4-Dioxane	1.68	58	14925	8.67003		92
3) n-Nitrosodimethylamine	1.90	42	252517	79.09989 ppb		100
4) Pyridine	1.92	79	332833	45.00781 ppb		97
7) Phenol	5.01	94	443637	70.40579 ppb		98
8) Aniline	5.00	93	233152	56.69957 ppb	#	82
9) Bis (2-chloroethyl) ether	5.08	63	206985	70.90806 ppb		97
10) 2-Chlorophenol	5.14	128	306145	69.00139 ppb		91
11) 1,3-DCB	5.31	146	311881	64.05835 ppb		99
12) 1,4-DCB	5.39	146	325739	65.37356 ppb		99
13) Benzyl alcohol	5.54	108	185326	70.91320 ppb		97
14) 1,2-DCB	5.56	146	308694	66.58541 ppb		97
15) 2-Methylphenol	5.68	107	272587	70.40630 ppb		97
16) Bis (2-chloroisopropyl) et	5.68	45	284440	73.88936 ppb		80
17) Acetophenone	5.83	105	463919	70.30087 ppb		99
18) 3&4-Methylphenol	5.86	107	721642	141.72925 ppb		99
19) n-Nitrosodi-n-propylamine	5.84	70	298428	70.31188 ppb		94
20) Hexachloroethane	5.94	117	124518	59.95318 ppb		92
23) Nitrobenzene	6.03	77	452752	77.79145 ppb		93
24) Isophorone	6.29	82	702118	76.46182 ppb		99
25) 2-Nitrophenol	6.38	139	174948	74.02525 ppb		90
26) 2,4-Dimethylphenol	6.44	122	268372	70.96568 ppb		97
27) Benzoic acid	6.60	105	272194	82.02390 ppb		97
28) Bis (2-chloroethoxy) metha	6.54	93	349974	73.43720 ppb		98
29) 2,4-Dichlorophenol	6.67	162	277609	75.28653 ppb		98
30) 1,2,4-Trichlorobenzene	6.75	180	287993	70.02324 ppb		96
31) 3,4-Dimethylphenol	6.78	107	468783	74.51418 ppb		100
32) Naphthalene	6.83	128	889518	72.40076 ppb		99
33) 4-Chloroaniline	6.90	127	256215	51.86459 ppb		94
34) 2,6-Dichlorophenol	6.92	162	271454	75.14496 ppb		96
35) Hexachloropropene	6.94	213	180306	50.66505 ppb		99
36) Hexachlorobutadiene	6.97	225	177723	63.69687 ppb		99
37) Caprolactum	7.32	55	129410	78.19856 ppb		95

(#) = qualifier out of range (m) = manual integration

Data File : M:\YODA\DATA\Y191219\1219Y250.D Vial: 50
Acq On : 27 Jan 20 18:27 Operator: MA,SS
Sample : BA06272W30 MS-1 1/800 Inst : Yoda
Misc : Multiplr: 1.25

Quant Time: Jan 28 7:23 2020 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
38)	4-Chloro-3-methylphenol	7.47	107	332125	75.87827	ppb		92
39)	2-Methylnaphthalene	7.63	142	597606	72.27436	ppb		100
40)	1-Methylnaphthalene	7.74	142	623631	72.53054	ppb		100
42)	Hexachlorocyclopentadiene	7.81	237	87680	25.62909	ppb		100
43)	1,2,4,5-Tetrachlorobenzene	7.83	216	303378	56.13292	ppb		98
44)	2,4,6-Trichlorophenol	7.97	196	218475	61.74274	ppb		98
45)	2,4,5-Trichlorophenol	8.02	196	232432	60.56636	ppb		96
47)	1,1'-Biphenyl	8.17	154	788231	59.89820	ppb		97
48)	2-Chloronaphthalene	8.19	162	613879	58.00618	ppb		96
49)	2-Nitroaniline	8.31	65	248370	61.80859	ppb		91
50)	Dimethyl phthalate	8.52	163	789414	60.85442	ppb		100
51)	2,6-DNT	8.60	165	176013	62.21371	ppb		82
52)	Acenaphthylene	8.67	152	952236	58.44066	ppb		99
53)	3-Nitroaniline	8.32	138	201204	59.91307	ppb		95
54)	Acenaphthene	8.87	154	614718	60.31297	ppb		100
55)	2,4-Dinitrophenol	8.92	184	111944	65.98190	ppb		93
56)	4-Nitrophenol	8.60	65	17547	66.36298	ppb		95
57)	Dibenzofuran	9.07	168	939656	60.69809	ppb		98
58)	2,4-DNT	9.07	165	265256	63.77083	ppb		96
59)	2,3,4,6-Tetrachlorophenol	9.23	232	185778	63.82506	ppb		97
60)	Diethyl phthalate	9.34	149	846793	63.00757	ppb		100
61)	4-Chlorophenyl phenyl ethe	9.47	204	446995	60.06829	ppb		97
62)	Fluorene	9.47	166	793691	60.26550	ppb		99
63)	4-Nitroaniline	8.79	138	154746	55.29933	ppb		89
66)	4,6-Dinitro-2-methylphenol	9.55	198	153466	57.61524	ppb		84
67)	Diphenyl amine	9.62	169	1166266	104.85977	ppb		99
68)	n-Nitrosodiphenylamine	9.62	169	1166266	104.85977	ppb		99
69)	1,2-Diphenylhydrazine	9.65	77	944068	58.69168	ppb		98
70)	4-Bromophenyl phenyl ether	10.04	248	235776	56.30294	ppb		96
71)	Hexachlorobenzene	10.12	284	244053	57.60793	ppb		89
72)	Atrazine	10.23	200	102916	26.94489	ppb		93
73)	Pentachlorophenol	10.35	266	155080	59.55021	ppb		99
74)	Phenanthrene	10.59	178	1075140	57.02525	ppb		99
75)	Anthracene	10.66	178	1117618	56.70787	ppb		100
76)	Carbazol	10.84	167	1027809	57.27840	ppb		99
77)	Di-n-butylphthalate	11.24	149	1439386	58.66190	ppb		100
78)	2-Nitrodiphenylamine	11.42	167	176178	31.56422	ppb		99
79)	Fluoranthene	11.98	202	1278182	57.88021	ppb		100
82)	Pyrene	12.24	202	1338366	56.21769	ppb		99
84)	Butyl benzylphthalate	12.99	149	658148	55.17617	ppb		97
85)	3,3'-Dichlorobenzidine	13.61	252	342119	41.81540	ppb		99
86)	Benz (a) anthracene	13.65	228	1453942	56.06704	ppb		99
87)	Bis (2-ethylhexyl) phthala	13.65	149	1170954	58.75114	ppb		99
88)	Chrysene	13.68	228	1264350	56.06140	ppb		99
89)	Di-n-octylphthalate	14.40	149	1610100	54.72752	ppb	#	89
91)	Benzo (b) fluoranthene	14.94	252	1301580	57.62576	ppb		99
92)	Benzo (k) fluoranthene	14.98	252	1221017	59.95890	ppb		99
93)	Benzo (a) pyrene	15.41	252	1145016	57.12018	ppb		100
94)	Indeno (1,2,3-cd) pyrene	17.35	276	1348276	57.69884	ppb		99
95)	Dibenz (a,h) anthracene	17.38	278	1205709	57.92157	ppb		100
96)	Benzo (g,h,i) perylene	17.91	276	1041978	56.74817	ppb		99

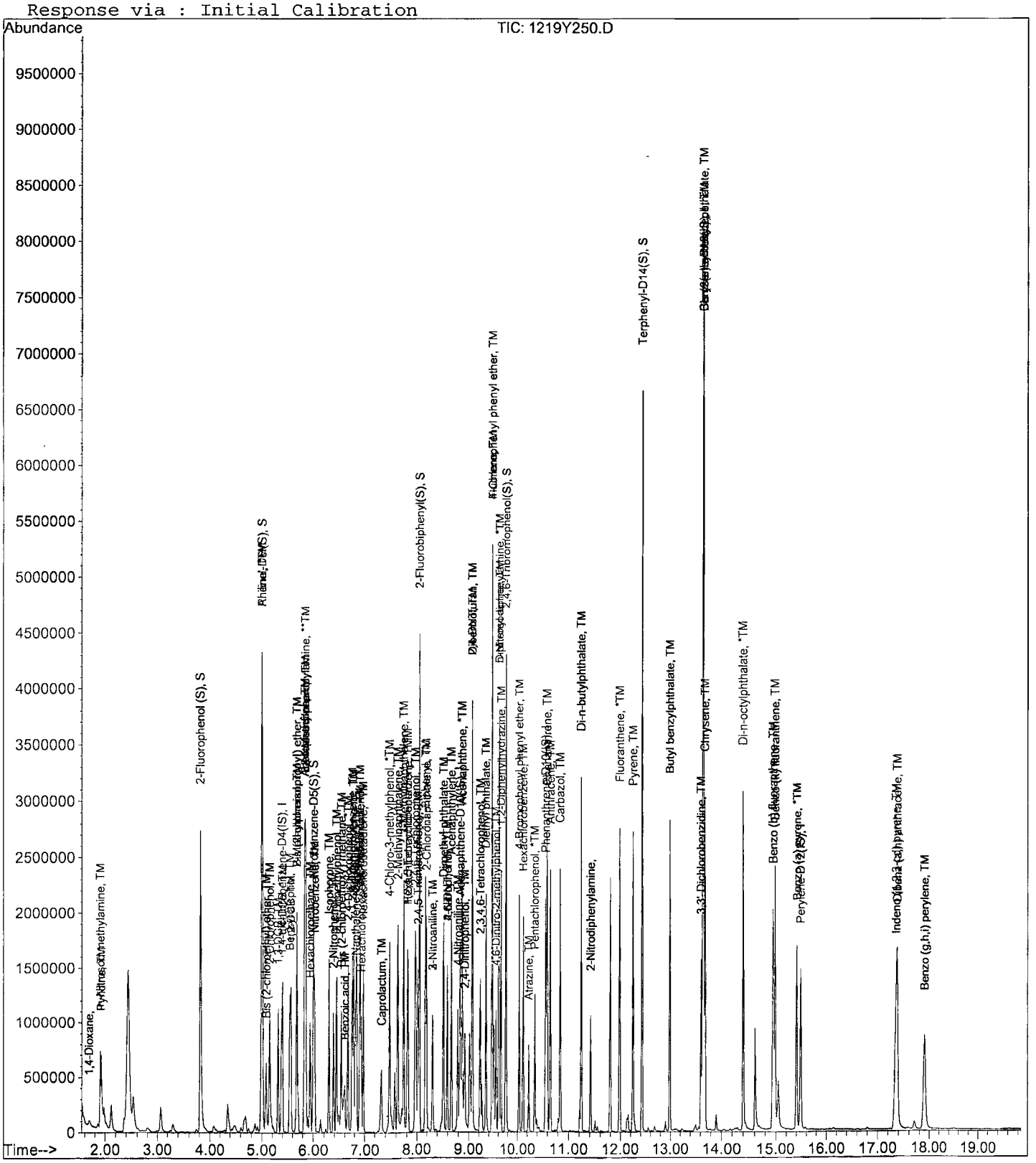
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y191219\1219Y250.D Vial: 50
Acq On : 27 Jan 20 18:27 Operator: MA,SS
Sample : BA06272W30 MS-1 1/800 Inst : Yoda
Misc : Multiplr: 1.25

Quant Time: Jan 28 7:23 2020 Quant Results File: Y1219.RES

Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y251.D Vial: 51
Acq On : 27 Jan 20 18:55 Operator: MA,SS
Sample : BA06272W31 MSD-1 1/800 Inst : Yoda
Misc : Multiplr: 1.25

Quant Time: Jan 28 7:23 2020 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.38	152	159130	40.00000 ppb		0.00
21) Napthalene-D8(IS)	6.81	136	624480	40.00000 ppb		-0.01
41) Acenaphthene-D10(IS)	8.84	164	438588	40.00000 ppb		0.00
65) Phenanthrene-D10(IS)	10.56	188	854516	40.00000 ppb		-0.01
80) Chrysene-D12(IS)	13.65	240	1013392	40.00000 ppb		-0.01
90) Perylene-D12(IS)	15.48	264	869053	40.00000 ppb		-0.01
System Monitoring Compounds						
5) 2-Fluorophenol (S)	3.82	112	978077	209.61626 ppb		0.00
Spiked Amount 250.000			Recovery =	83.846%		
6) Phenol-D6 (S)	5.00	99	1336752	224.85907 ppb		0.00
Spiked Amount 250.000			Recovery =	89.944%		
22) Nitrobenzene-D5(S)	6.01	82	740875	119.24668 ppb		0.00
Spiked Amount 125.000			Recovery =	95.398%		
46) 2-Fluorobiphenyl(S)	8.05	172	1368328	105.59822 ppb		-0.01
Spiked Amount 125.000			Recovery =	84.478%		
64) 2,4,6-Tribromophenol(S)	9.77	330	536828	246.18639 ppb		0.00
Spiked Amount 250.000			Recovery =	98.474%		
83) Terphenyl-D14(S)	12.43	244	2101432	108.70073 ppb		0.00
Spiked Amount 125.000			Recovery =	86.961%		
Target Compounds						Qvalue
2) 1,4-Dioxane	1.68	58	11927	6.22278		90
3) n-Nitrosodimethylamine	1.90	42	241316	67.89197 ppb		99
4) Pyridine	1.92	79	258379	31.38093 ppb		97
7) Phenol	5.01	94	408869	58.27896 ppb		95
8) Aniline	5.00	93	205568	44.89967 ppb	#	76
9) Bis (2-chloroethyl) ether	5.08	63	201108	61.87755 ppb		98
10) 2-Chlorophenol	5.14	128	291827	59.07492 ppb		92
11) 1,3-DCB	5.31	146	298830	55.12620 ppb		98
12) 1,4-DCB	5.39	146	310117	55.89912 ppb		97
13) Benzyl alcohol	5.54	108	182935	62.86871 ppb		99
14) 1,2-DCB	5.56	146	293249	56.81127 ppb		99
15) 2-Methylphenol	5.68	107	259675	60.23980 ppb		98
16) Bis (2-chloroisopropyl) et	5.68	45	277134	64.65886 ppb		82
17) Acetophenone	5.83	105	450960	61.37671 ppb		99
18) 3&4-Methylphenol	5.86	107	680246	119.99156 ppb		97
19) n-Nitrosodi-n-propylamine	5.84	70	288727	61.09752 ppb		94
20) Hexachloroethane	5.94	117	119991	51.88905 ppb		92
23) Nitrobenzene	6.03	77	433501	67.32331 ppb		94
24) Isophorone	6.29	82	680583	66.99146 ppb		99
25) 2-Nitrophenol	6.38	139	169096	64.67078 ppb		91
26) 2,4-Dimethylphenol	6.44	122	251051	60.00356 ppb		100
27) Benzoic acid	6.60	105	275280	75.41629 ppb		91
28) Bis (2-chloroethoxy) metha	6.54	93	335666	63.66365 ppb		99
29) 2,4-Dichlorophenol	6.67	162	266476	65.31993 ppb		97
30) 1,2,4-Trichlorobenzene	6.75	180	272145	59.80872 ppb		97
31) 3,4-Dimethylphenol	6.78	107	451352	64.84646 ppb		98
32) Naphthalene	6.84	128	864336	63.58795 ppb		100
33) 4-Chloroaniline	6.90	127	245242	44.87093 ppb		95
34) 2,6-Dichlorophenol	6.92	162	258561	64.69496 ppb		95
35) Hexachloropropene	6.93	213	150243	38.15895 ppb		99
36) Hexachlorobutadiene	6.97	225	169125	54.78808 ppb		99
37) Caprolactum	7.32	55	124981	68.26196 ppb		94

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y251.D Vial: 51
Acq On : 27 Jan 20 18:55 Operator: MA,SS
Sample : BA06272W31 MSD-1 1/800 Inst : Yoda
Misc : Multiplr: 1.25

Quant Time: Jan 28 7:23 2020 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

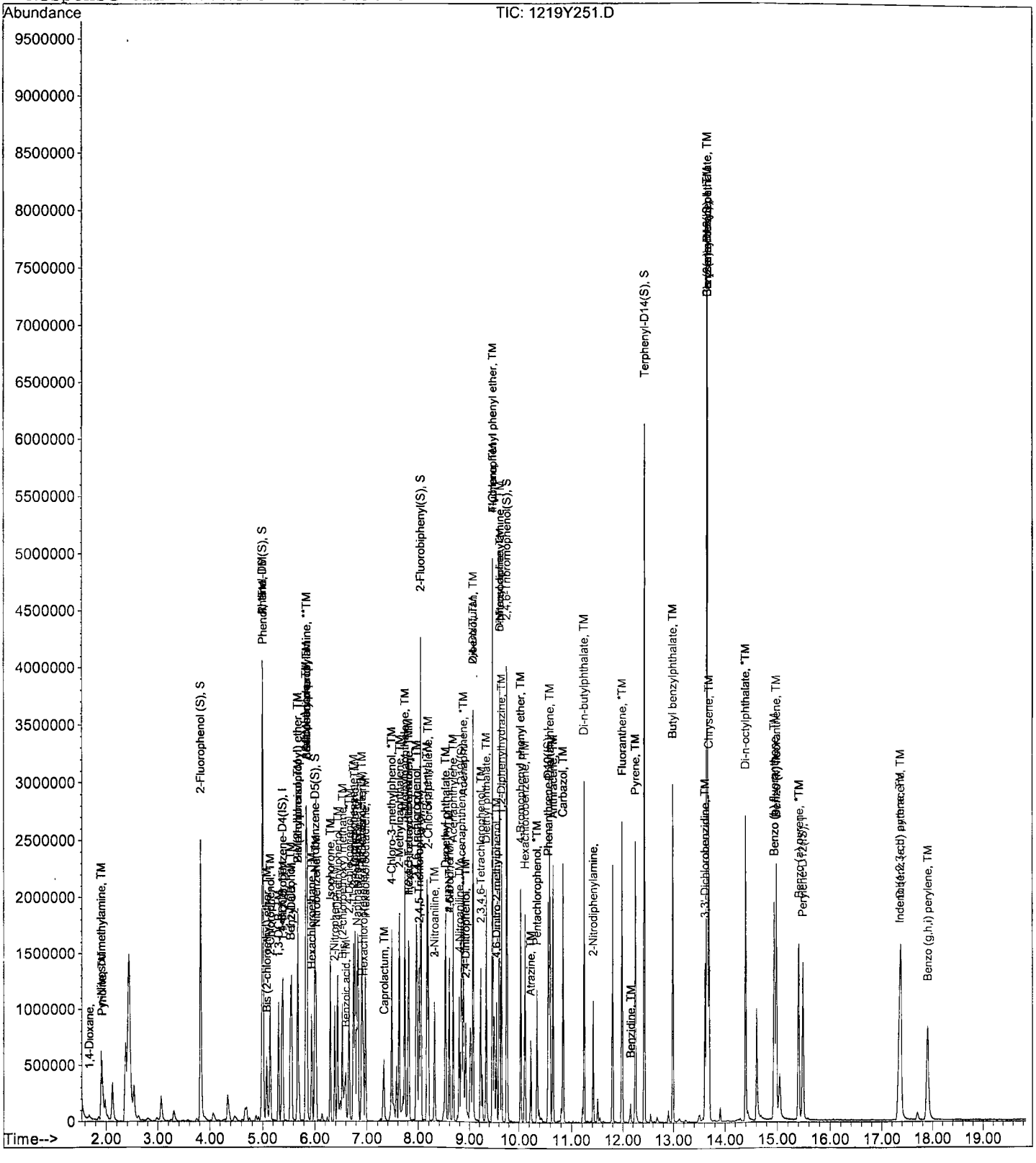
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
38)	4-Chloro-3-methylphenol	7.47	107	326296	67.38007	ppb		92
39)	2-Methylnaphthalene	7.63	142	582493	63.67426	ppb		99
40)	1-Methylnaphthalene	7.74	142	594815	62.52864	ppb		99
42)	Hexachlorocyclopentadiene	7.81	237	99928	27.75810	ppb		98
43)	1,2,4,5-Tetrachlorobenzene	7.83	216	296685	53.08281	ppb		99
44)	2,4,6-Trichlorophenol	7.97	196	216666	59.21064	ppb		99
45)	2,4,5-Trichlorophenol	8.02	196	221577	55.83224	ppb		97
47)	1,1'-Biphenyl	8.17	154	759571	55.81533	ppb		97
48)	2-Chloronaphthalene	8.19	162	598817	54.71551	ppb		98
49)	2-Nitroaniline	8.31	65	241911	58.21437	ppb		92
50)	Dimethyl phthalate	8.52	163	779678	58.12024	ppb		99
51)	2,6-DNT	8.60	165	172505	58.96141	ppb		83
52)	Acenaphthylene	8.67	152	925714	54.93792	ppb		99
53)	3-Nitroaniline	8.32	138	192401	55.40094	ppb		96
54)	Acenaphthene	8.87	154	590143	55.99083	ppb		100
55)	2,4-Dinitrophenol	8.92	184	106085	61.16752	ppb		96
56)	4-Nitrophenol	8.60	65	17186	62.85251	ppb		96
57)	Dibenzofuran	9.07	168	902279	56.36011	ppb		97
58)	2,4-DNT	9.07	165	258232	60.03323	ppb		95
59)	2,3,4,6-Tetrachlorophenol	9.23	232	177042	58.81635	ppb		96
60)	Diethyl phthalate	9.34	149	811068	58.35762	ppb		100
61)	4-Chlorophenyl phenyl ethe	9.47	204	430181	55.90089	ppb		96
62)	Fluorene	9.47	166	766699	56.29464	ppb		99
63)	4-Nitroaniline	8.79	138	150233	51.91473	ppb		86
66)	4,6-Dinitro-2-methylphenol	9.55	198	151074	56.68443	ppb		88
67)	Diphenyl amine	9.62	169	1171928	105.30793	ppb		98
68)	n-Nitrosodiphenylamine	9.62	169	1171928	105.30793	ppb		98
69)	1,2-Diphenylhydrazine	9.65	77	916040	56.91628	ppb		98
70)	4-Bromophenyl phenyl ether	10.04	248	235406	56.18209	ppb	#	81
71)	Hexachlorobenzene	10.12	284	232623	54.87817	ppb		88
72)	Atrazine	10.23	200	95401	24.96292	ppb		95
73)	Pentachlorophenol	10.35	266	147068	56.44098	ppb		99
74)	Phenanthrene	10.59	178	1054737	55.91073	ppb		99
75)	Anthracene	10.66	178	1085696	55.05631	ppb		100
76)	Carbazol	10.84	167	1010517	56.28218	ppb		99
77)	Di-n-butylphthalate	11.24	149	1404344	57.20069	ppb		100
78)	2-Nitrodiphenylamine	11.42	167	170024	30.44405	ppb		98
79)	Fluoranthene	11.98	202	1240628	56.14716	ppb		100
81)	Benzidine	12.14	184	10355	1.25153	ppb		98
82)	Pyrene	12.24	202	1282181	52.76152	ppb		99
84)	Butyl benzylphthalate	12.99	149	643369	52.83941	ppb		99
85)	3,3'-Dichlorobenzidine	13.61	252	323806	38.77161	ppb		99
86)	Benz (a) anthracene	13.65	228	1424653	53.81948	ppb		99
87)	Bis (2-ethylhexyl) phthala	13.65	149	1144578	56.25896	ppb		99
88)	Chrysene	13.68	228	1207814	52.46463	ppb		99
89)	Di-n-octylphthalate	14.40	149	1550297	51.62234	ppb	#	87
91)	Benzo (b) fluoranthene	14.94	252	1266676	55.78075	ppb		100
92)	Benzo (k) fluoranthene	14.98	252	1204548	58.83409	ppb		99
93)	Benzo (a) pyrene	15.41	252	1112935	55.22311	ppb		99
94)	Indeno (1,2,3-cd) pyrene	17.35	276	1303603	55.48896	ppb		99
95)	Dibenz (a,h) anthracene	17.38	278	1170936	55.95050	ppb		98
96)	Benzo (g,h,i) perylene	17.91	276	1005555	54.47186	ppb		99

(#) = qualifier out of range (m) = manual integration

Data File : M:\YODA\DATA\Y191219\1219Y251.D Vial: 51
Acq On : 27 Jan 20 18:55 Operator: MA,SS
Sample : BA06272W31 MSD-1 1/800 Inst : Yoda
Misc : Multiplr: 1.25

Quant Time: Jan 28 7:23 2020 Quant Results File: Y1219.RES

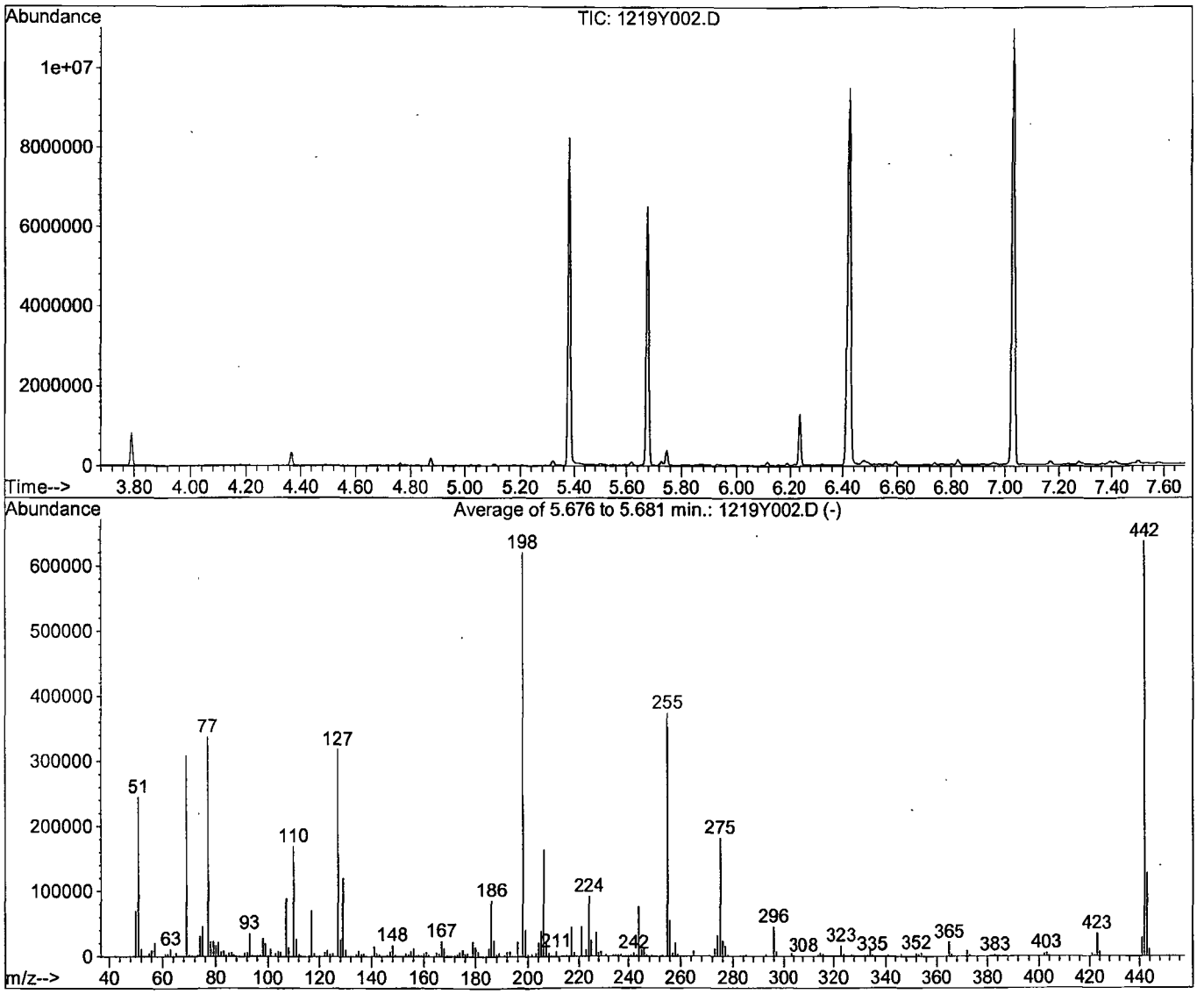
Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration



Data File : M:\YODA\DATA\Y191219\1219Y002.D
Acq On : 19 Dec 19 8:50
Sample : SV TUNE 10/01/19
Misc :

Vial: 2
Operator: MA,SS
Inst : Yoda
Multiplr: 1.00

Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C



Spectrum Information: Average of 5.676 to 5.681 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	39.5	245061	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	1.0	3141	PASS
127	198	10	80	51.3	318211	PASS
197	198	0.00	2	0.0	0	PASS
198	198	100	100	100.0	620800	PASS
199	198	5	9	6.7	41381	PASS
275	198	10	60	29.4	182251	PASS
365	198	1	100	3.5	21877	PASS
441	442	0.01	24	4.6	29075	PASS
442	198	50	500	102.9	638805	PASS
443	442	15	24	20.0	127973	PASS

Data File Name:	**1219Y002.D**
Data File Path:	**M:\YODA\DATA\Y191219**
Operator:	**MA,SS**
Date Acquired:	**19 Dec 2019 08:50**
Method File:	**DFTPP2.M**
Sample Name:	**SV TUNE 10/01/19**
Vial Number:	**2**
Instrument Name:	**Yoda**

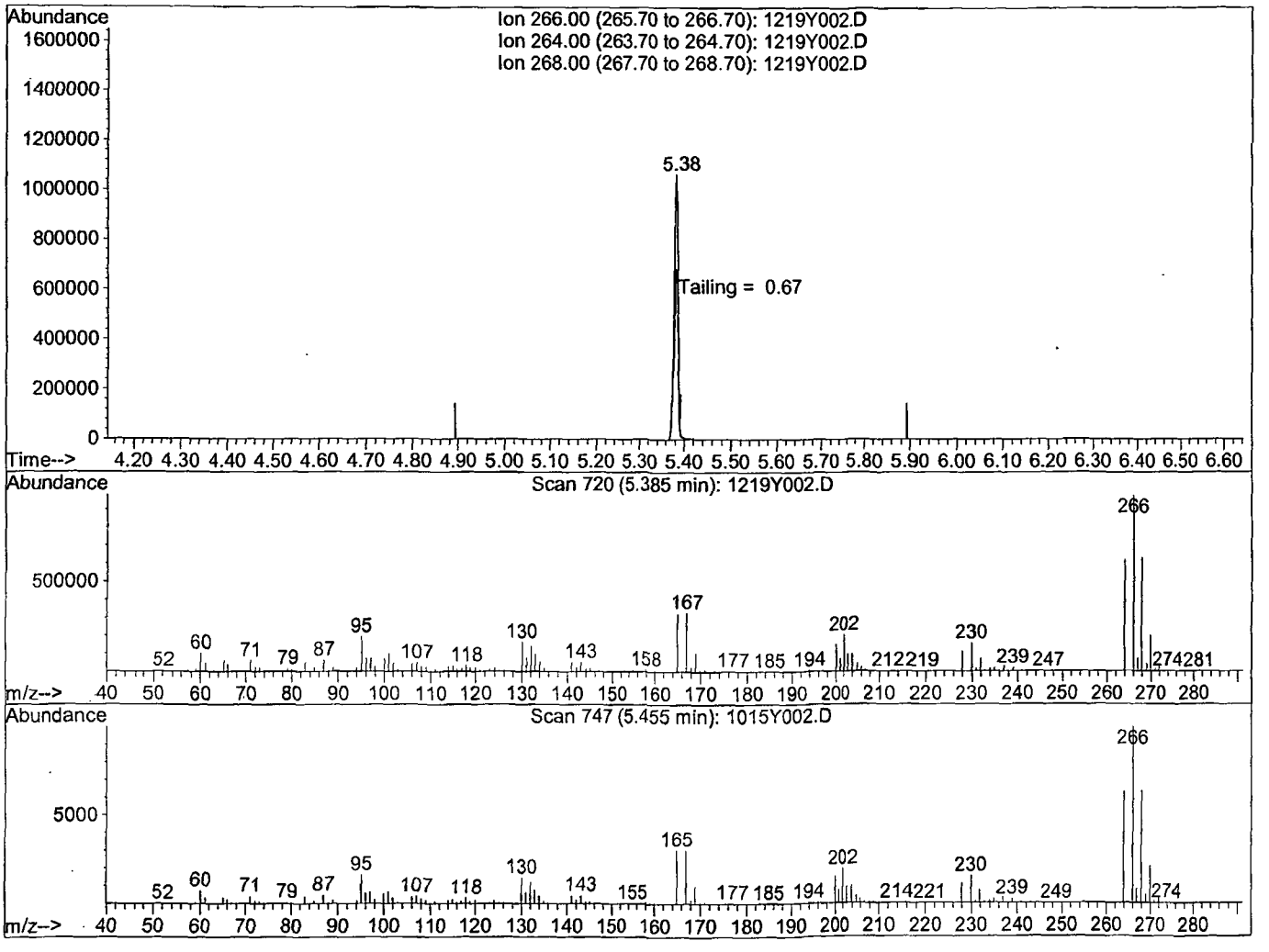
#	Name	Ret Time	Target Response
1)	DDT	7.02	83598600
2)	DDD	6.79	322054
3)	DDE	6.59	610218

Breakdown **1.10**

Quantitation Report

Data File : M:\YODA\DATA\Y191219\1219Y002.D Vial: 2
Acq On : 19 Dec 19 8:50 Operator: MA,SS
Sample : SV TUNE 10/01/19 Inst : Yoda
Misc : Multiplr: 1.00
Quant Time: Dec 19 16:49 2019 Quant Results File: temp.res

Method : M:\YODA\DATA\Y191219\DFTPP2.M (Chemstation Integrator)
Title :
Last Update : Tue Dec 10 08:34:10 2019
Response via : Single Level Calibration



TIC: 1219Y002.D

(5) Pentachlorophenol

5.38min 0.0000

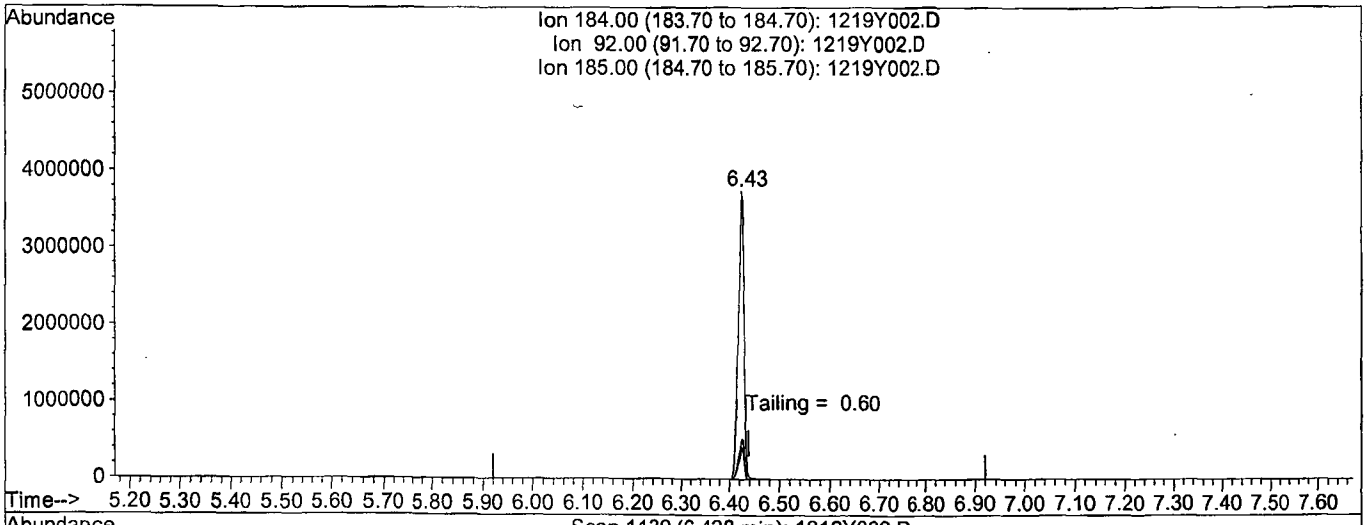
response 6507700

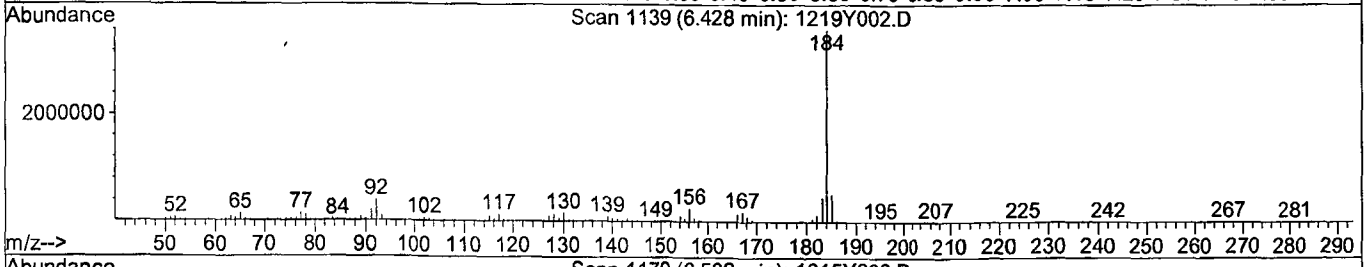
Ion	Exp%	Act%
266.00	100	100
264.00	65.60	64.20
268.00	64.10	63.98
0.00	0.00	0.00

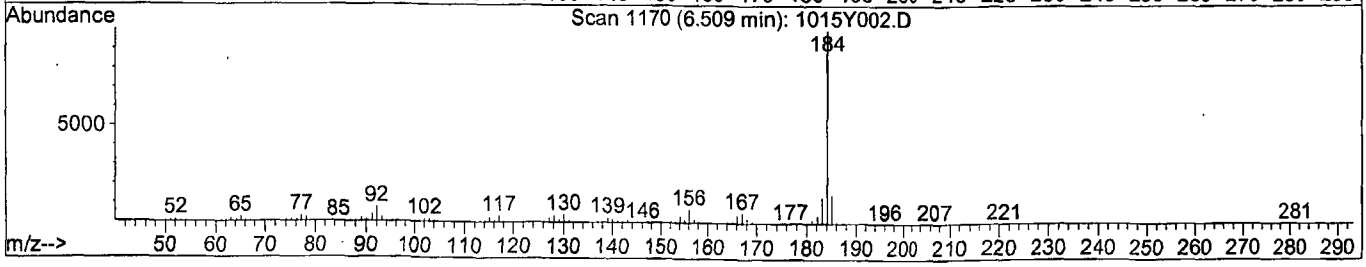
Quantitation Report

Data File : M:\YODA\DATA\Y191219\1219Y002.D Vial: 2
Acq On : 19 Dec 19 8:50 Operator: MA,SS
Sample : SV TUNE 10/01/19 Inst : Yoda
Misc : Multiplr: 1.00
Quant Time: Dec 19 16:49 2019 Quant Results File: temp.res

Method : M:\YODA\DATA\Y191219\DFTPP2.M (Chemstation Integrator)
Title :
Last Update : Tue Dec 10 08:34:10 2019
Response via : Single Level Calibration







TIC: 1219Y002.D

(6) Benzidine

6.43min 0.0000

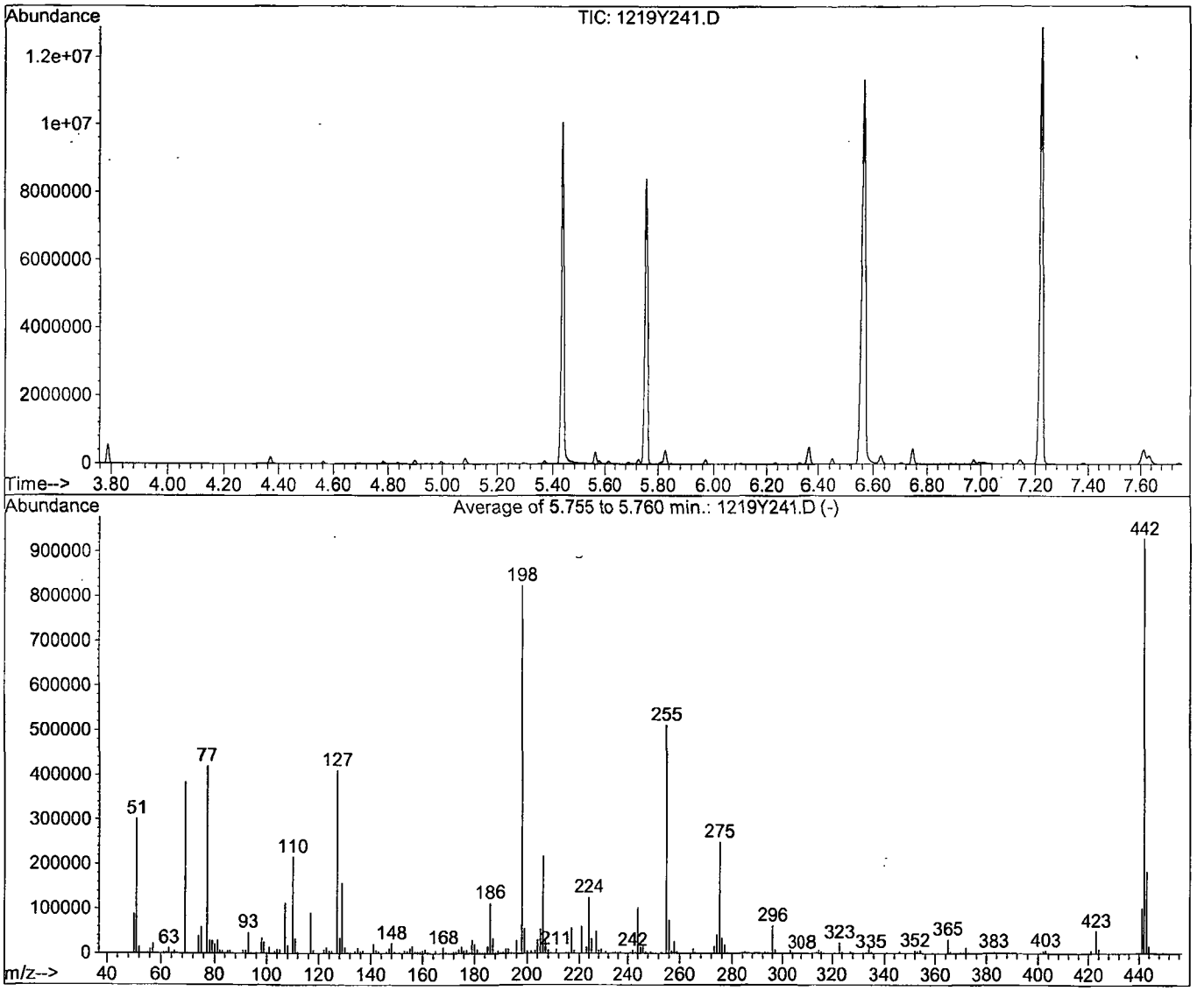
response 29741628

Ion	Exp%	Act%
184.00	100	100
92.00	10.30	10.56
185.00	14.50	14.29
0.00	0.00	0.00

Data File : M:\YODA\DATA\Y191219\1219Y241.D
Acq On : 27 Jan 20 14:51
Sample : SV TUNE 10/01/19
Misc :

Vial: 41
Operator: MA,SS
Inst : Yoda
Multiplr: 1.00

Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C



Spectrum Information: Average of 5.755 to 5.760 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	36.7	302523	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.2	955	PASS
127	198	10	80	49.8	410475	PASS
197	198	0.00	2	0.0	0	PASS
198	198	100	100	100.0	825003	PASS
199	198	5	9	6.7	55147	PASS
275	198	10	60	30.4	250560	PASS
365	198	1	100	3.8	31659	PASS
441	442	0.01	24	11.0	102165	PASS
442	198	50	500	112.9	931072	PASS
443	442	15	24	19.7	183552	PASS

Data File Name:	**1219Y241.D**
Data File Path:	**M:\YODA\DATA\Y191219**
Operator:	**MA,SS**
Date Acquired:	**27 Jan 2020 14:51**
Method File:	**DFTPP2.M**
Sample Name:	**SV TUNE 10/01/19**
Vial Number:	**41**
Instrument Name:	**Yoda**

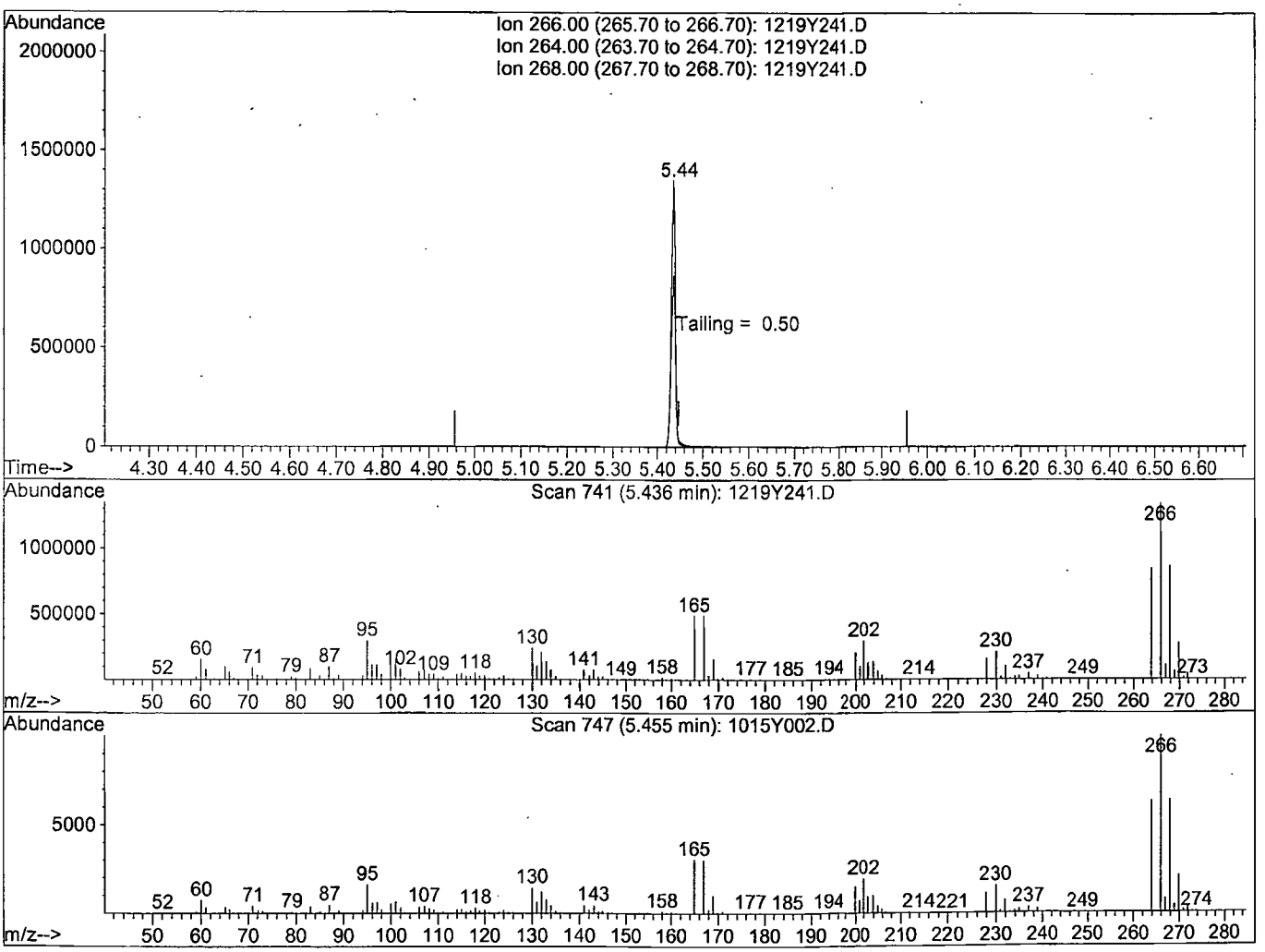
#	Name	Ret Time	Target Response
1)	DDT	7.28	101837000
2)	DDD	7.02	424830
3)	DDE	6.79	0

Breakdown **0.42**

Quantitation Report

Data File : M:\YODA\DATA\Y191219\1219Y241.D Vial: 41
Acq On : 27 Jan 20 14:51 Operator: MA,SS
Sample : SV TUNE 10/01/19 Inst : Yoda
Misc : Multiplr: 1.00
Quant Time: Jan 28 7:46 2020 Quant Results File: temp.res

Method : M:\YODA\DATA\Y191219\DFTPP2.M (Chemstation Integrator)
Title :
Last Update : Mon Jan 27 08:38:00 2020
Response via : Single Level Calibration



TIC: 1219Y241.D

(5) Pentachlorophenol

5.44min 0.0000

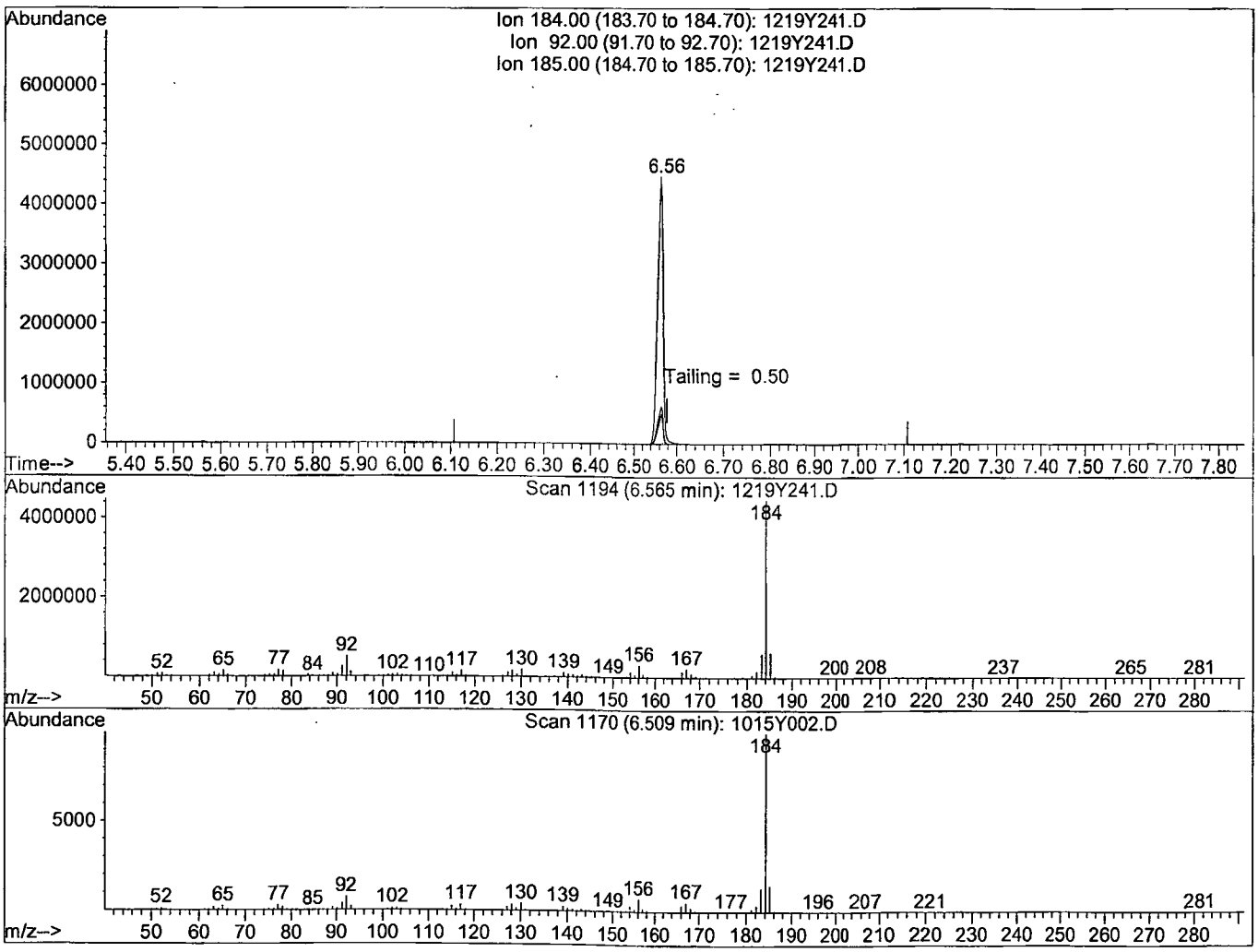
response 8550834

Ion	Exp%	Act%
266.00	100	100
264.00	63.10	63.21
268.00	63.80	63.54
0.00	0.00	0.00

Quantitation Report

Data File : M:\YODA\DATA\Y191219\1219Y241.D Vial: 41
Acq On : 27 Jan 20 14:51 Operator: MA,SS
Sample : SV TUNE 10/01/19 Inst : Yoda
Misc : Multiplr: 1.00
Quant Time: Jan 28 7:46 2020 Quant Results File: temp.res

Method : M:\YODA\DATA\Y191219\DFTPP2.M (Chemstation Integrator)
Title :
Last Update : Mon Jan 27 08:38:00 2020
Response via : Single Level Calibration



TIC: 1219Y241.D

(6) Benzidine

6.57min 0.0000

response 39172468

Ion	Exp%	Act%
184.00	100	100
92.00	7.50	10.22#
185.00	14.30	14.30
0.00	0.00	0.00

Name of Final Standard	8270 Full Scan Stock Spike	Prep'd By (Initials)	JP
Prep Date	011/21/2019		
Exp Date	011/21/2020		

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from contianer Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
10001	Absolute	10001	2000	081419 - 49302	08/14/22	1.0 mL	11 mL	NA	181.82 ug/mL
10002	Absolute	10002	2000	090919-49211	09/09/22	1.0 mL	*	*	181.82 ug/mL
10004	Absolute	10004	2000	071618-99221	07/16/23	1.0 mL	*	*	181.82 ug/mL
10005	Absolute	10005	2000	032018-40234	03/20/23	1.0 mL	*	*	181.82 ug/mL
10006	Absolute	10006	2000	030119-49242	03/01/22	1.0 mL	*	*	181.82 ug/mL
10007	Absolute	10007	2000	080116-40254	08/01/21	1.0 mL	*	*	181.82 ug/mL
10018	Absolute	10018	2000	051719-49262	05/17/24	1.0 mL	*	*	181.82 ug/mL
70023	Absolute	70023	1000	012819-49268	01/28/24	1.0 mL	*	*	90.91ug/mL
82705	Absolute	82705	2000	090919-49293	09/09/22	1.0 mL	*	*	181.82 ug/mL
94552	Absolute	94552	various	053119-49284	05/31/21	1.0 mL	*	*	various
72304	Absolute	70023	1000	090519-49455 - 41159	09/05/24	1.0 mL	*	*	90.91ug/mL

Name of Final Standard	8270 Internal Standard Ampules (2)	Prep'd By (Initials)	JP
Prep Date	11/20/19		
Exp Date	11/20/20		

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from contianer Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
Semivolatile Internal Standard	Restek	31206	2000 ug/mL	**A0151843-49411 A0151843-49412**	**07/31/25**	2 mL	2 mL	NA	2000ug/mL

Name of Final Standard	**8270 SS STOCK**	**Prep'd By (Initials)**	**JP**
Prep Date	**11/20/19**		
Exp Date	**11/20/20**		

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from contianer Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
10001	Absolute	10001	2000 ug/mL	051019-40534	05/10/21	1.0 mL	20 mL	**Methanol Lot:208858**	100 ug/mL
10002	Absolute	10002	2000 ug/mL	020217-39199	02/02/20	1.0 mL	*	*	100 ug/mL
10004	Absolute	10004	2000 ug/mL	051018-39196	05/10/21	1.0 mL	*	*	100 ug/mL
10005	Absolute	10005	2000 ug/mL	031618-39207	03/16/23	1.0 mL	*	*	100 ug/mL
10006	Absolute	10006	2000 ug/mL	011718-39208	01/17/21	1.0 mL	*	*	100 ug/mL
10007	Absolute	10007	2000 ug/mL	060118-39213	06/01/23	1.0 mL	*	*	100 ug/mL
10018	Absolute	10018	2000 ug/mL	062718-40535	06/27/23	1.0 mL	*	*	100 ug/mL
70023	Absolute	70023	1000 ug/mL	051618-39214	05/16/23	1.0 mL	*	*	50 ug/mL
82705	Absolute	82705	2000 ug/mL	090617-40540	09/06/20	1.0 mL	*	*	100 ug/mL
94552	Absolute	94552	various	013118-40542	01/31/20	1.0 mL	*	*	various
72304	Absolute	72304	1000 ug/mL	110719-49477	11/07/24	1.0 mL	*	*	50 ug/mL

Name of Final Standard	**8270 Full Scan Second Source**	**Prep'd By (Initials)**	**JP**
Prep Date	**11/22/19**		
Exp Date	**11/22/20**		

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from container Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
8270 SS Stock	APPL	8270 SS Stock	100:50 ug/mL	**11/20/19**	**11/20/20**	100 uL	200uL	**MC DW717 150uL**	50:25 ug/mL
SV Internal Standard	APPL	SV Internal Standard	2000 ug/mL	**11/20/19**	**11/20/19**	4 uL	*	*	*

Name of Final Standard	8270 Full Scan Standard Curve	Prep'd By (Initials)	JP
Prep Date	011/21/2019		
Exp Date	011/21/2020		

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from container Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
8270 Stock	APPL	8270 Stock	182:91 ug/mL	011/21/2019	011/21/2020	4.4 uL	200uL	MC DW717 150uL	4 ug/mL
8270 Surrogate	APPL	8270 Surrogate	200:400 ug/mL	07/10/19	06/24/20	4 uL	*	*	*
SV Internal Standard	APPL	SV Internal Standard	2000 ug/mL	011/20/2019	07/31/25	4 uL	*	*	*
8270 Stock	APPL	8270 Stock	182:91 ug/mL	011/21/2019	011/21/2020	11 uL	400uL	MC DW717 150uL	5 ug/mL
8270 Surrogate	APPL	8270 Surrogate	200:400 ug/mL	07/10/19	06/24/20	10 uL	*	*	*
SV Internal Standard	APPL	SV Internal Standard	2000 ug/mL	011/20/2019	07/31/25	8 uL	*	*	*
8270 Stock	APPL	8270 Stock	182:91 ug/mL	011/21/2019	011/21/2020	11 uL	200uL	MC DW717 150uL	10 ug/mL
8270 Surrogate	APPL	8270 Surrogate	200:400 ug/mL	07/10/19	06/24/20	10 uL	*	*	*
SV Internal Standard	APPL	SV Internal Standard	2000 ug/mL	011/20/2019	07/31/25	4 uL	*	*	*
8270 Stock	APPL	8270 Stock	182:91 ug/mL	011/21/2019	011/21/2020	11 uL	100uL	MC DW717 150uL	20 ug/mL
8270 Surrogate	APPL	8270 Surrogate	200:400 ug/mL	07/10/19	06/24/20	10 uL	*	*	*
SV Internal Standard	APPL	SV Internal Standard	2000 ug/mL	011/20/2019	07/31/25	2 uL	*	*	*
8270 Stock	APPL	8270 Stock	182:91 ug/mL	011/21/2019	011/21/2020	22 uL	100uL	MC DW717 150uL	40 ug/mL
8270 Surrogate	APPL	8270 Surrogate	200:400 ug/mL	07/10/19	06/24/20	20 uL	*	*	*
SV Internal Standard	APPL	SV Internal Standard	2000 ug/mL	011/20/2019	07/31/25	2 uL	*	*	*
8270 Stock	APPL	8270 Stock	182:91 ug/mL	011/21/2019	011/21/2020	55 uL	200 uL	MC DW717 150uL	50 ug/mL
8270 Surrogate	APPL	8270 Surrogate	200:400 ug/mL	07/10/19	06/24/20	50 uL	*	*	*
SV Internal Standard	APPL	SV Internal Standard	2000 ug/mL	011/20/2019	07/31/25	4 uL	*	*	*
8270 Stock	APPL	8270 Stock	182:91 ug/mL	011/21/2019	011/21/2020	33 uL	100uL	MC DW717 150uL	60 ug/mL
8270 Surrogate	APPL	8270 Surrogate	200:400 ug/mL	07/10/19	06/24/20	30 uL	*	*	*
SV Internal Standard	APPL	SV Internal Standard	2000 ug/mL	011/20/2019	07/31/25	2 uL	*	*	*
8270 Stock	APPL	8270 Stock	182:91 ug/mL	011/21/2019	011/21/2020	44 uL	100uL	MC DW717 150uL	80 ug/mL
8270 Surrogate	APPL	8270 Surrogate	200:400 ug/mL	07/10/19	06/24/20	40 uL	*	*	*
SV Internal Standard	APPL	SV Internal Standard	2000 ug/mL	011/20/2019	07/31/25	2 uL	*	*	*
8270 Stock	APPL	8270 Stock	182:91 ug/mL	011/21/2019	011/21/2020	50 uL	100uL	na	91 ug/mL
8270 Surrogate	APPL	8270 Surrogate	200:400 ug/mL	07/10/19	06/24/20	50 uL	*	*	*
SV Internal Standard	APPL	SV Internal Standard	2000 ug/mL	011/20/2019	07/31/25	2 uL	*	*	*

Name of Final Standard	**Semivolatile (SV) Tuning Solution**	**Prep'd By (Initials)**	**JP**
Prep Date	**10/01/19**		
Exp Date	**11/30/20**		

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from contianer Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot#. (or APPL Prep Date)	Final Standard Conc (range)
Semivolatile GC/MS Tuning Standard	Ultra Scientific	GCM-150-1	1,000 ug/mL	CR3789-38879	**11/30/20**	1,250 uL	25 mL	**MC #58240**	50 ug/mL

Name of Final Standard	8270 Full Scan Spike
Prep Date	12/04/19
Exp Date	12/04/20

Prep'd By (Initials) JP

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from contianer Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
10001	Absolute	10001	2000	081419 - 49299	08/14/22	1.0 mL	40 mL	**Methanol Lot# 208858**	50 ug/mL
10002	Absolute	10002	2000	090919-49208	09/09/22	1.0 mL	*	*	50 ug/mL
10004	Absolute	10004	2000	071618-49218	07/16/23	1.0 mL	*	*	50 ug/mL
10005	Absolute	10005	2000	032018-49228	03/20/23	1.0 mL	*	*	50 ug/mL
10006	Absolute	10006	2000	030119-49239	03/01/22	1.0 mL	*	*	50 ug/mL
10007	Absolute	10007	2000	080116-40249	08/01/21	1.0 mL	*	*	50 ug/mL
10018	Absolute	10018	2000	051719-49259	05/17/24	1.0 mL	*	*	50 ug/mL
70023	Absolute	70023	1000	012819-49275	01/28/24	1.0 mL	*	*	25 ug/mL
82705	Absolute	82705	2000	090919-49290	09/09/22	1.0 mL	*	*	50 ug/mL
94552	Absolute	94552	various	053119-49286	05/31/21	1.0 mL	*	*	various

Name of Final Standard	8270 Full Scan Standard Curve	Prep'd By (Initials)	JP
Prep Date	01/16/20		
Exp Date	06/24/20		

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from container Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
8270 Stock	APPL	8270 Stock	182:91 ug/mL	011/21/2019	011/21/2020	55 uL	200 uL	MC DW717 150uL	50 ug/mL
8270 Surrogate	APPL	8270 Surrogate	200:400 ug/mL	07/10/19	06/24/20	50 uL	"	"	"
SV Internal Standard	APPL	SV Internal Standard	2000 ug/mL	011/20/2019	07/31/25	4 uL	"	"	"

Organic Extraction Worksheet

Method	Continuous Liquid/Liquid SVOC 3520C	Extraction Set	200124A	Extraction Method	LIQ003	Units	mL

Spiked ID 1	8270T Spike		Surrogate ID 1	8270 Surrogate	
Spiked ID 2	Sim Spike		Surrogate ID 2	SIM Surrogate	
Spiked ID 3			Surrogate ID 3		
Spiked ID 4			Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	YES	
Spiked ID 7			Ext. Start Time:	01/24/20 15:30	
Spiked ID 8			Ext. End Time:	01/25/20 9:30	
			GC Requires Extract By:		

pH1	2		Water Bath Temp 1 °C	75/74.2 E-WB5 °
pH2	14		Water Bath Temp 2 °C	75/74.9 E-WB6
pH3			Water Bath Temp 3 °C	

Spiked By: DL **Date** 01/24/20 **Witnessed By:** KY,DS **Date** 01/24/20

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	200124A Blk				1,0.050	1,2	800	1	2/1	01/24/20 13:30	
						equip	E-HP51				
2	200124A LCS-1		1	1	1	1	800	1	2/1	01/24/20 13:30	
						equip	E-HP50				
3	200124A LCS-2		0.125	2	0.050	2	800	1	2/1	01/24/20 13:30	
						equip	E-HP49				
4	BA06272 MS-1	BA06272W30	1	1	1	1	800	1	2/1	01/24/20 13:30	91282
						equip	E-HP47				
5	BA06272 MSD-1	BA06272W31	1	1	1	1	800	1	2/1	01/24/20 13:30	91282
						equip	E-HP25				
6	BA06272 MS-2	BA06272W34	0.125	2	0.050	2	800	1	2/1	01/24/20 13:30	91282
						equip	E-HP26				
7	BA06272 MSD-2	BA06272W28	0.125	2	0.050	2	800	1	2/1	01/24/20 13:30	91282
						equip	E-HP27				
8	BA06272	BA06272W29			1,0.050	1,2	800	1	2/1	01/24/20 13:30	91282
						equip	E-HP48				
9	BA06273	BA06273W11			1,0.050	1,2	800	1	2/1	01/24/20 13:30	91282
						equip	E-HP28				
10	BA06275	BA06275W13			1,0.050	1,2	800	1	2/1	01/24/20 13:30	91282
						equip	E-HP29				
11	BA06276	BA06276W15			1,0.050	1,2	800	1	2/1	01/24/20 13:30	91282
						equip	E-HP30				
12	BA06279	BA06279W14			1,0.050	1,2	800	1	2/1	01/24/20 13:30	91282
						equip	E-HP17				
13	BA06281	BA06281W13			1,0.050	1,2	800	1	2/1	01/24/20 13:30	91282
						equip	E-HP16				
14	BA06282	BA06282W13			1,0.050	1,2	800	1	2/1	01/24/20 13:30	91282
						equip	E-HP15				
15	BA06284	BA06284W19			1,0.050	1,2	800	1	2/1	01/24/20 13:30	91282
						equip	E-HP14				
16	BA06313	BA06313W13			1,0.050	1,2	800	1	2/1	01/24/20 13:30	91288
						equip	E-HP13				

Solvent and Lot#	
PH Strips	HC863463
Dichloromethane (DCM)	59239
1+1 H2SO4	12-17-19
10N NaOH	11-20-19
Filter Paper	400121
Acidified Na2SO4	1041-26-20
B. Na2SO4	2019020631

Extraction COC Transfer	
Extraction lab employee Initials	
GC analyst's initials	JP
Date	1/27/20
Time	1402
Refrigerator	GC-C

	Technician's Initials
Scanned By	DL
Sample Preparation	DL
Extraction	DL
Concentration	DL, ERR

Modified	01/27/20 2:47:05 PM

Reviewed By: **Date**

Organic Extraction Worksheet

Method	Continuous Liquid/Liquid SVOC 3520C	Extraction Set	200124A	Extraction Method	LIQ003	Units	mL

Spiked ID 1	8270T Spike		Surrogate ID 1	8270 Surrogate	
Spiked ID 2	Sim Spike		Surrogate ID 2	SIM Surrogate	
Spiked ID 3			Surrogate ID 3		
Spiked ID 4			Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	YES	
Spiked ID 7			Ext. Start Time:	01/24/20 15:30	
Spiked ID 8			Ext. End Time:	01/25/20 9:30	

GC Requires Extract By:				
pH1	2		Water Bath Temp 1 °C	75/74.2 E-WB5 °
pH2	14		Water Bath Temp 2 °C	75/74.9 E-WB6
pH3			Water Bath Temp 3 °C	

Spiked By: DL **Date** 01/24/20 **Witnessed By:** KY,DS **Date** 01/24/20

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
17	BA06315	BA06315W13			1,0.050	1,2	800	1	2/1	01/24/20 13:30	91288
						equip	E-HP12				
18	BA06317	BA06317W14			1,0.050	1,2	800	1	2/1	01/24/20 13:30	91288
						equip	E-HP11				
19	BA06319	BA06319W16			1,0.050	1,2	800	1	2/1	01/24/20 13:30	91288
						equip	E-HP10				
20	BA06361	BA06361W18			1,0.050	1,2	800	1	2/1	01/24/20 15:15	91299
						equip	E-HP9				
21	BA06362	BA06362W14			1,0.050	1,2	800	1	2/1	01/24/20 15:15	91299
						equip	E-HP6				
22	BA06364	BA06364W16			1,0.050	1,2	800	1	2/1	01/24/20 15:15	91299
						equip	E-HP4				

Solvent and Lot#	
PH Strips	HC863463
Dichloromethane (DCM)	59239
1+1 H2SO4	12-17-19
10N NaOH	11-20-19
Filter Paper	400121
Acidified Na2SO4	1041-26-20
B. Na2SO4	2019020631

Extraction COC Transfer	
Extraction lab employee Initials	
GC analyst's initials	JP
Date	
Time	
Refrigerator	GC-C

	Technician's Initials
Scanned By	DL
Sample Preparation	DL
Extraction	DL
Concentration	DL, ERR

Modified	01/27/20 2:47:05 PM

Reviewed By: **Date**

Injection Log

Directory: M:\YODA\DATA\Y191219\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	2	1219Y002.D	1	SV TUNE 10/01/19		19 Dec 19 8:50
2	3	1219Y003.D	1	50ug/ml 8270 11/21/19		19 Dec 19 9:06
3	4	1219Y004.D	1	4ug/ml 8270 11/21/19		19 Dec 19 9:33
4	5	1219Y005.D	1	5ug/ml 8270 11/21/19		19 Dec 19 10:01
5	6	1219Y006.D	1	10ug/ml 8270 11/21/19		19 Dec 19 10:28
6	7	1219Y007.D	1	20ug/ml 8270 11/21/19		19 Dec 19 10:56
7	8	1219Y008.D	1	40ug/ml 8270 11/21/19		19 Dec 19 11:24
8	9	1219Y009.D	1	60ug/ml 8270 11/21/19		19 Dec 19 11:51
9	10	1219Y010.D	1	80ug/ml 8270 11/21/19		19 Dec 19 12:19
10	11	1219Y011.D	1	100ug/ml 8270 11/21/19		19 Dec 19 12:46
11	12	1219Y012.D	1	SS 8270 11/22/19		19 Dec 19 13:14
12	41	1219Y241.D	1	SV TUNE 10/01/19		27 Jan 20 14:51
13	47	1219Y247.D	1	50ug/ml 8270 01/06/20 (1)		27 Jan 20 17:04
14	48	1219Y248.D	1.25	200124A BLK 1/800		27 Jan 20 17:32
15	49	1219Y249.D	1.25	200124A LCS-1 1/800		27 Jan 20 18:00
16	50	1219Y250.D	1.25	BA06272W30 MS-1 1/800		27 Jan 20 18:27
17	51	1219Y251.D	1.25	BA06272W31 MSD-1 1/800		27 Jan 20 18:55
18	52	1219Y252.D	1.25	BA06272W29 1/800		27 Jan 20 19:23
19	53	1219Y253.D	1.25	BA06273W11 1/800		27 Jan 20 19:50
20	54	1219Y254.D	1.25	BA06275W13 1/800		27 Jan 20 20:18
21	55	1219Y255.D	1.25	BA06276W15 1/800		27 Jan 20 20:46
22	56	1219Y256.D	1.25	BA06279W14 1/800		27 Jan 20 21:13
23	57	1219Y257.D	1.25	BA06281W13 1/800		27 Jan 20 21:41
24	58	1219Y258.D	1.25	BA06282W13 1/800		27 Jan 20 22:09
25	59	1219Y259.D	1.25	BA06284W19 1/800		27 Jan 20 22:36
26	67	1219Y267.D	1	50ug/ml 8270 01/03/20 (1)		28 Jan 20 2:19

ORGANICS
Calibration Data

2MEE
EPA 8270

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Initial Cal. Date: 01/22/20
Matrix: Instrument: Yoda

Initials:

		Compound	1	2	3	4	5	6	7	8			Avg	%RSD	Type	r^2	Q	MRF
			0122Y003.D	0122Y004.D	0122Y005 D	0122Y006.D	0122Y007 D	0122Y008 D	0122Y009.D	0122Y010 D								
1	I	1,4-dichlorobenzene-D4(IS)																
2	TM	2-(2-Methoxyethoxy)ethanol	0.1821	0.2585	0.2387	0.2203	0.2137	0.2203	0.2856	0.2603			0.23	14	TM			
3	I	Napthalene-D8(IS)																
4	I	Acenaphthene-D10(IS)																
5	I	Phenanthrene-D10(IS)																
6	I	Chrysene-D12(IS)																
7	I	Perylene-D12(IS)																
8																		
9																		
10																		
11																		
12																		
13																		
14																		
15																		
16																		
17																		
18																		
19																		
20																		
21																		
22																		
23																		
24																		
25																		
26																		
27																		
28																		
29																		
30																		
31																		
32																		
33																		
34																		
35																		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y200122M\0122Y003.D Vial: 3
Acq On : 22 Jan 20 15:46 Operator: MA,SS
Sample : 50ug/ml MEE 01/22/20 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 23 10:02 2020 Quant Results File: YMEE0122.RES

Quant Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 10:01:29 2020
Response via : Initial Calibration
DataAcq Meth : GED

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.15	152	171017	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.56	136	665562	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.59	164	409494	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	10.31	188	788135	40.00000 ppb	0.00
6) Chrysene-D12(IS)	13.39	240	679346	40.00000 ppb	0.00
7) Perylene-D12(IS)	15.12	264	699262	40.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.33	45	38926	38.75395 ppb	99

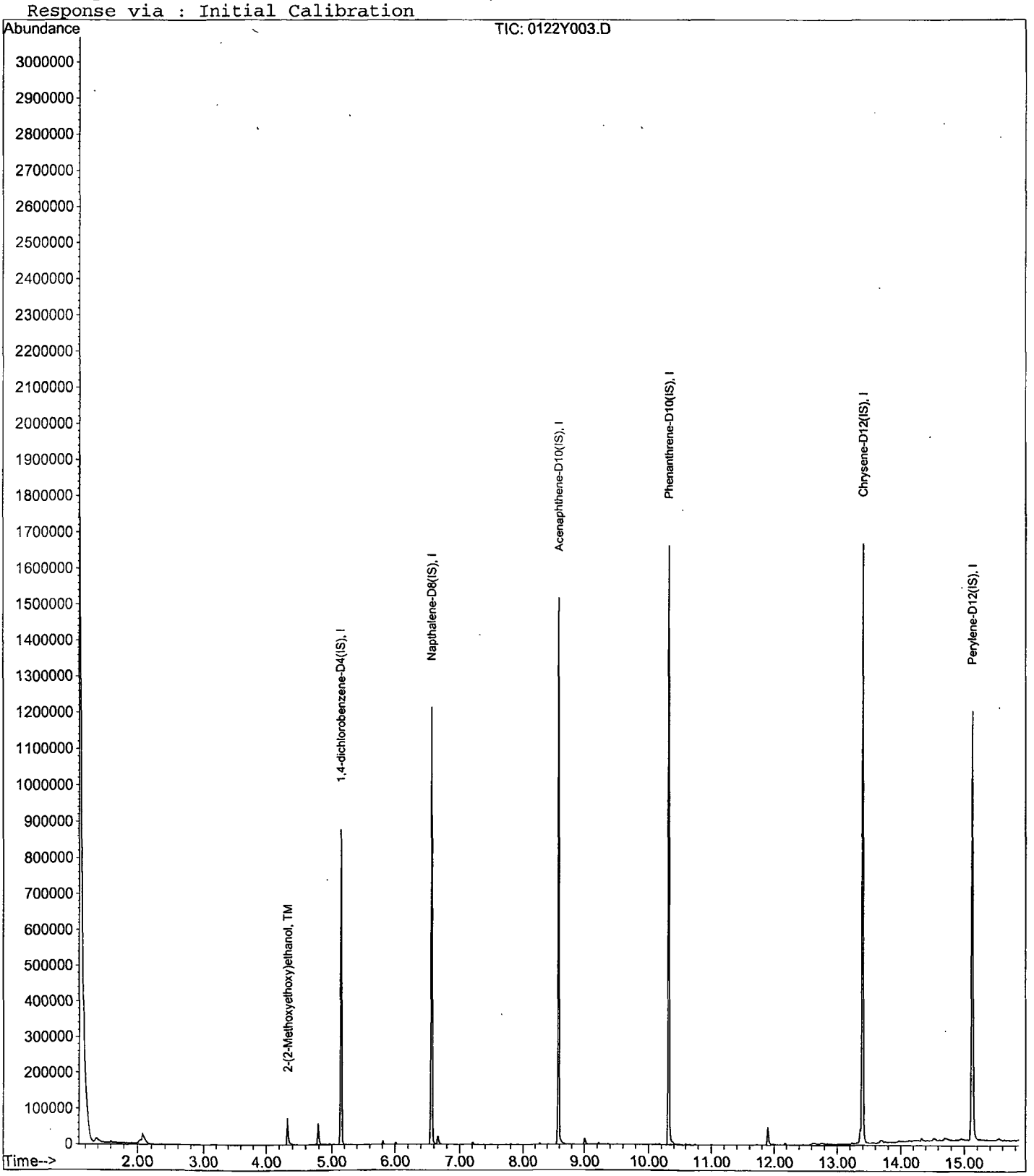
(#) = qualifier out of range (m) = manual integration
0122Y003.D YMEE0122.M Thu Jan 23 10:03:45 2020 Page 1

Quantitation Report

Data File : M:\YODA\DATA\Y200122M\0122Y003.D Vial: 3
Acq On : 22 Jan 20 15:46 Operator: MA,SS
Sample : 50ug/ml MEE 01/22/20 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 23 10:02 2020 Quant Results File: YMEE0122.RES

Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 10:01:29 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y200122M\0122Y004.D Vial: 4
Acq On : 22 Jan 20 16:10 Operator: MA,SS
Sample : 100ug/ml MEE 01/22/20 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 23 10:02 2020 Quant Results File: YMEE0122.RES

Quant Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 10:01:29 2020
Response via : Initial Calibration
DataAcq Meth : GED

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.15	152	158778	40.00000	ppb	0.00
3) Napthalene-D8(IS)	6.57	136	642353	40.00000	ppb	0.00
4) Acenaphthene-D10(IS)	8.58	164	393654	40.00000	ppb	0.00
5) Phenanthrene-D10(IS)	10.31	188	759584	40.00000	ppb	0.00
6) Chrysene-D12(IS)	13.39	240	664524	40.00000	ppb	0.00
7) Perylene-D12(IS)	15.12	264	676233	40.00000	ppb	0.00
System Monitoring Compounds						
Target Compounds						Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.32	45	102613	110.03417	ppb	98

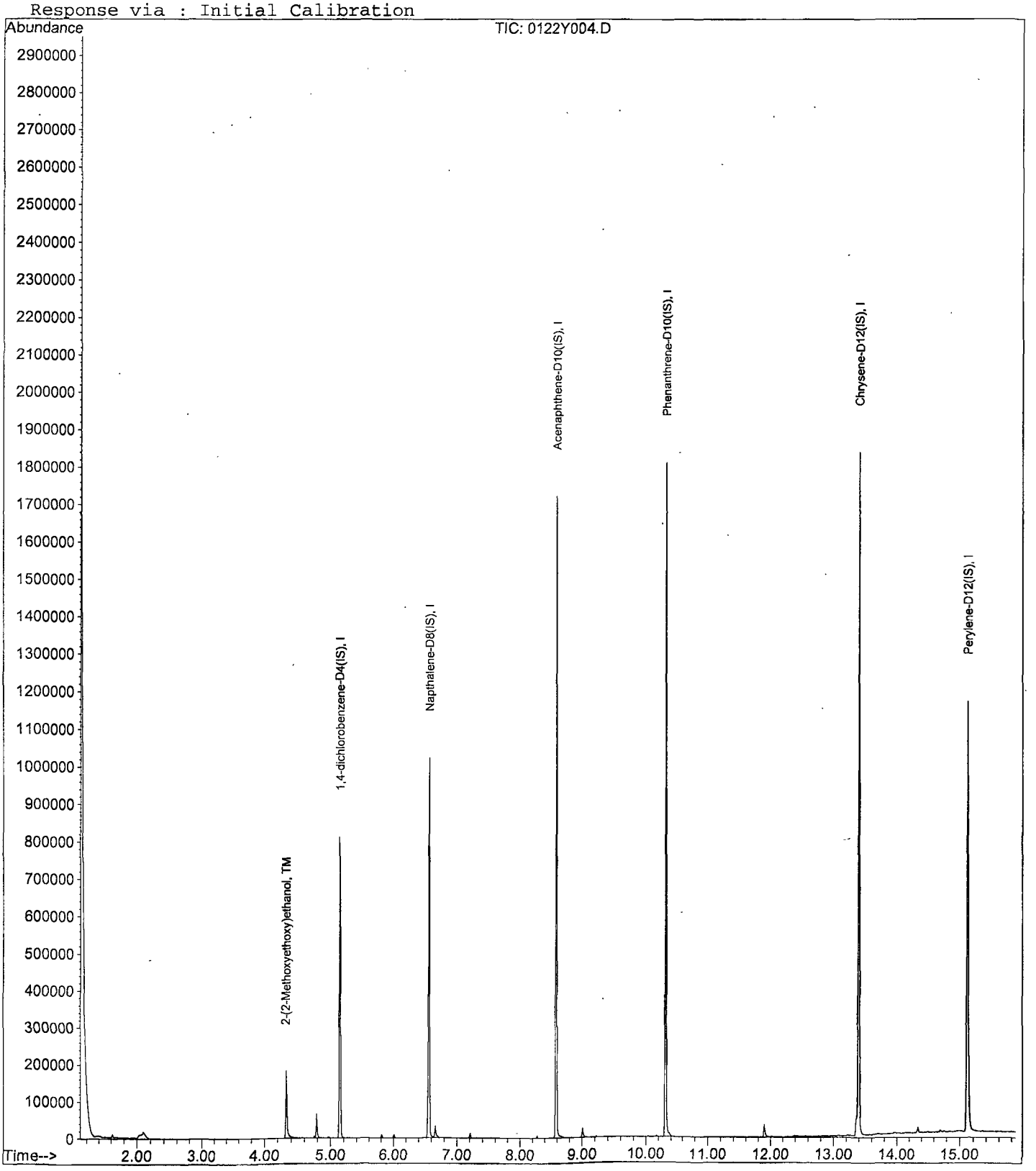
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y200122M\0122Y004.D Vial: 4
Acq On : 22 Jan 20 16:10 Operator: MA,SS
Sample : 100ug/ml MEE 01/22/20 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 23 10:02 2020 Quant Results File: YMEE0122.RES

Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 10:01:29 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y200122M\0122Y005.D Vial: 5
Acq On : 22 Jan 20 16:33 Operator: MA,SS
Sample : 200ug/ml MEE 01/22/20 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 23 10:02 2020 Quant Results File: YMEE0122.RES

Quant Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 10:01:29 2020
Response via : Initial Calibration
DataAcq Meth : GED

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.15	152	155385	40.00000	ppb	0.00
3) Napthalene-D8(IS)	6.57	136	636024	40.00000	ppb	0.00
4) Acenaphthene-D10(IS)	8.58	164	388934	40.00000	ppb	0.00
5) Phenanthrene-D10(IS)	10.31	188	754620	40.00000	ppb	0.00
6) Chrysene-D12(IS)	13.39	240	621602	40.00000	ppb	0.00
7) Perylene-D12(IS)	15.12	264	626915	40.00000	ppb	0.00

System Monitoring Compounds

Target Compounds						Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.33	45	185455	203.20994	ppb	100

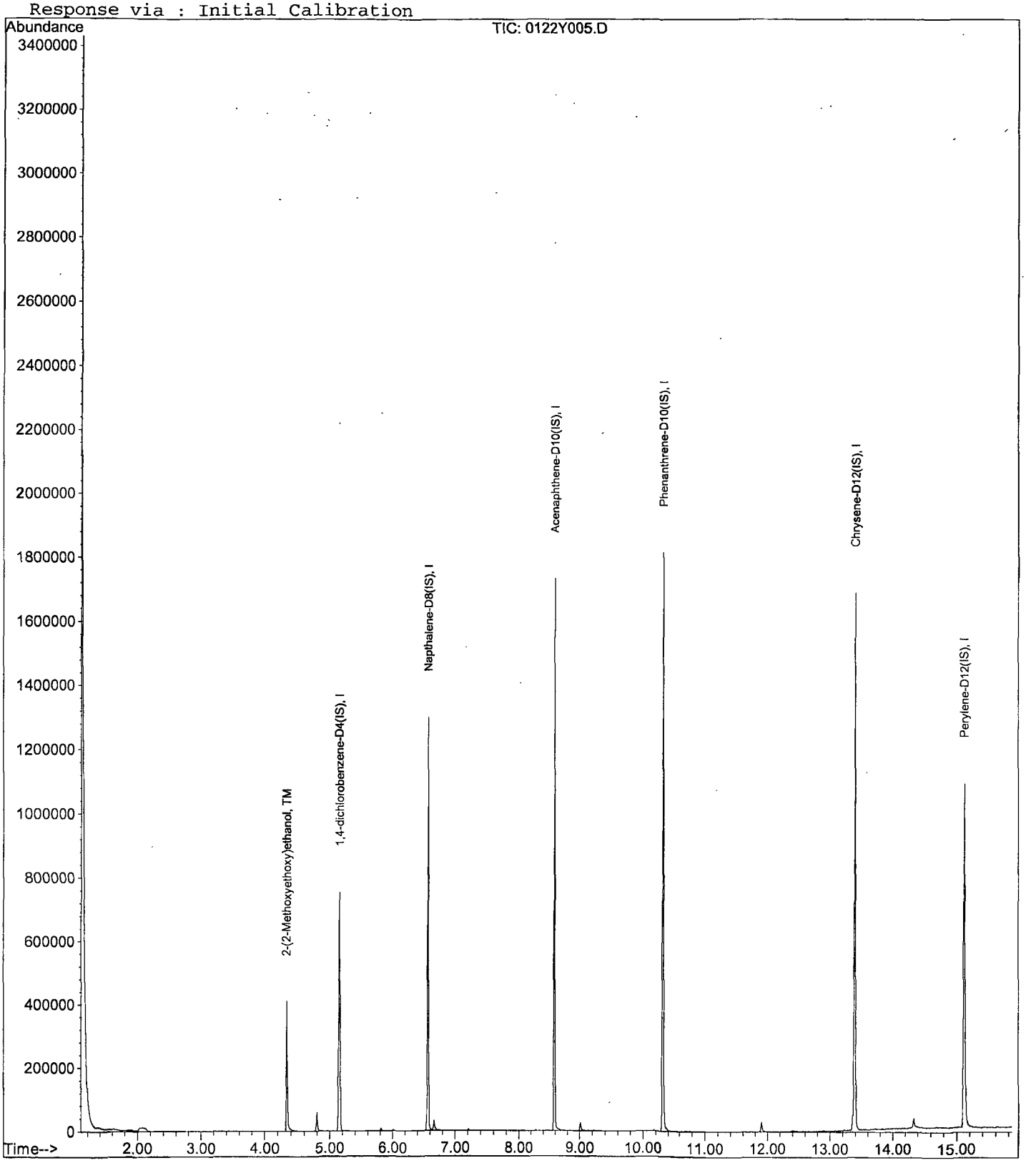
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y200122M\0122Y005.D Vial: 5
Acq On : 22 Jan 20 16:33 Operator: MA,SS
Sample : 200ug/ml MEE 01/22/20 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 23 10:02 2020 Quant Results File: YMEE0122.RES

Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 10:01:29 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y200122M\0122Y006.D Vial: 6
Acq On : 22 Jan 20 16:57 Operator: MA,SS
Sample : 400ug/ml MEE 01/22/20 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 23 10:02 2020 Quant Results File: YMEE0122.RES

Quant Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 10:01:29 2020
Response via : Initial Calibration
DataAcq Meth : GED

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.15	152	156027	40.00000	ppb	0.00
3) Napthalene-D8(IS)	6.57	136	648446	40.00000	ppb	0.00
4) Acenaphthene-D10(IS)	8.58	164	399790	40.00000	ppb	0.00
5) Phenanthrene-D10(IS)	10.31	188	767514	40.00000	ppb	0.00
6) Chrysene-D12(IS)	13.39	240	672840	40.00000	ppb	0.00
7) Perylene-D12(IS)	15.12	264	695421	40.00000	ppb	0.00

System Monitoring Compounds

Target Compounds						Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.34	45	343734	375.09237	ppb	98

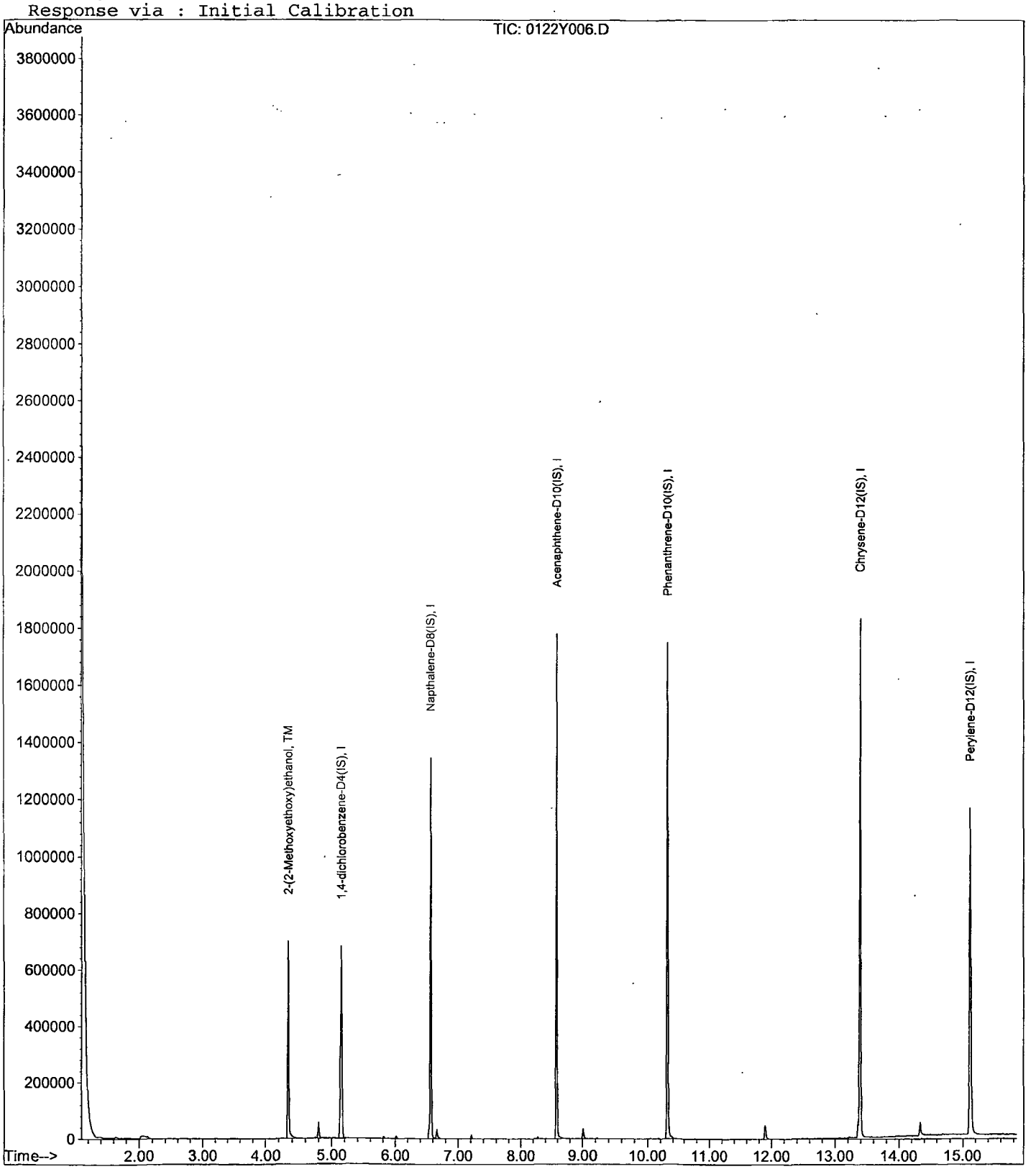
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y200122M\0122Y006.D Vial: 6
Acq On : 22 Jan 20 16:57 Operator: MA,SS
Sample : 400ug/ml MEE 01/22/20 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 23 10:02 2020 Quant Results File: YMEE0122.RES

Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 10:01:29 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y200122M\0122Y007.D Vial: 7
Acq On : 22 Jan 20 17:21 Operator: MA,SS
Sample : 500ug/ml MEE 01/22/20 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 23 10:02 2020 Quant Results File: YMEE0122.RES

Quant Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 10:01:29 2020
Response via : Initial Calibration
DataAcq Meth : GED

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.15	152	160036	40.00000	ppb	0.00
3) Napthalene-D8(IS)	6.57	136	657892	40.00000	ppb	0.00
4) Acenaphthene-D10(IS)	8.59	164	410790	40.00000	ppb	0.00
5) Phenanthrene-D10(IS)	10.31	188	788159	40.00000	ppb	0.00
6) Chrysene-D12(IS)	13.39	240	699023	40.00000	ppb	0.00
7) Perylene-D12(IS)	15.12	264	751183	40.00000	ppb	0.00

System Monitoring Compounds

Target Compounds						Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.34	45	427461	454.77262	ppb	100

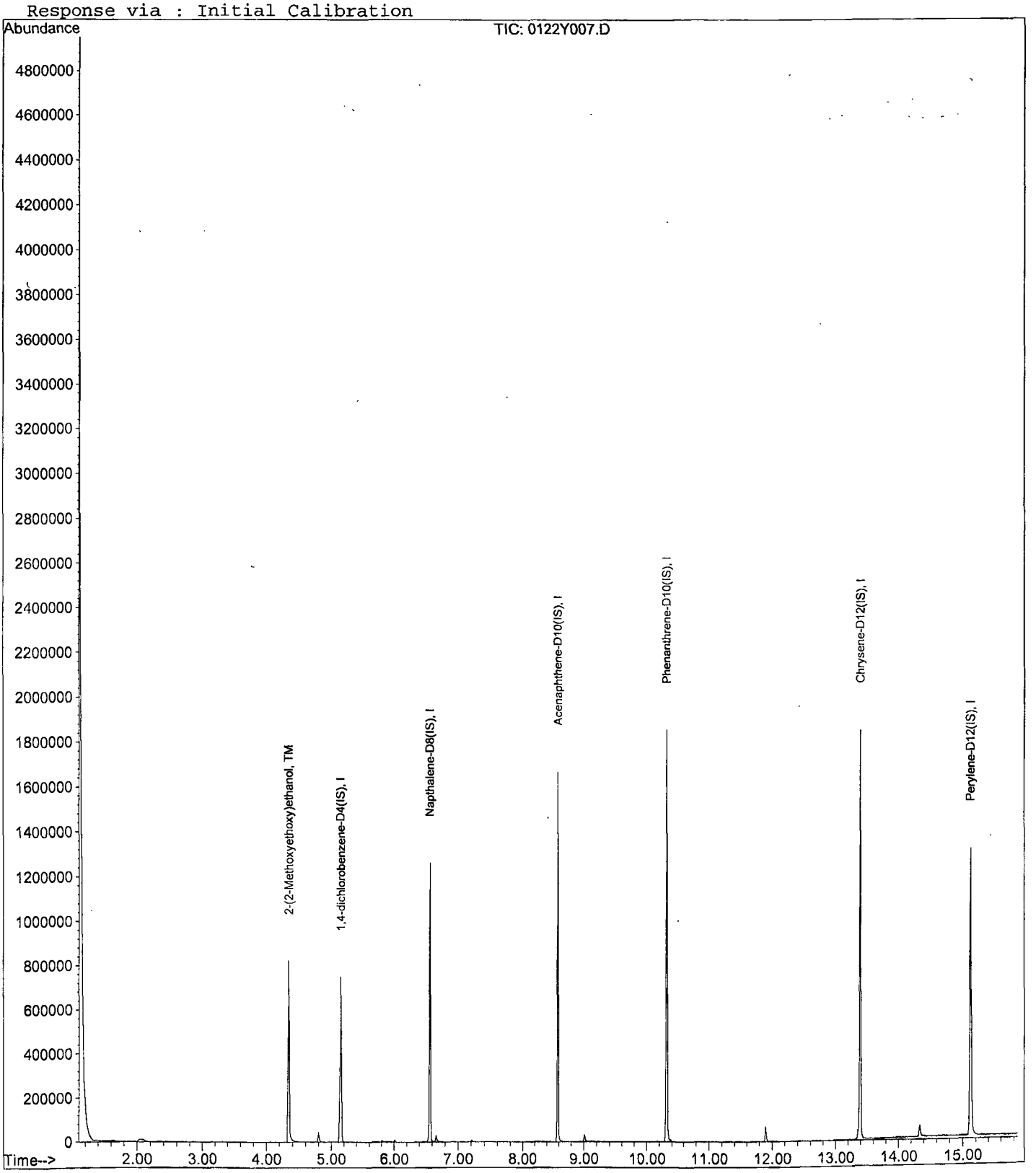
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y200122M\0122Y007.D Vial: 7
Acq On : 22 Jan 20 17:21 Operator: MA,SS
Sample : 500ug/ml MEE 01/22/20 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 23 10:02 2020 Quant Results File: YMEE0122.RES

Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 10:01:29 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y200122M\0122Y008.D Vial: 8
Acq On : 22 Jan 20 17:45 Operator: MA,SS
Sample : 600ug/ml MEE 01/22/20 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 23 10:02 2020 Quant Results File: YMEE0122.RES

Quant Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 10:01:29 2020
Response via : Initial Calibration
DataAcq Meth : GED

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.15	152	156507	40.00000	ppb	0.00
3) Napthalene-D8(IS)	6.57	136	664381	40.00000	ppb	0.00
4) Acenaphthene-D10(IS)	8.59	164	408801	40.00000	ppb	0.00
5) Phenanthrene-D10(IS)	10.31	188	788845	40.00000	ppb	0.00
6) Chrysene-D12(IS)	13.39	240	676569	40.00000	ppb	0.00
7) Perylene-D12(IS)	15.12	264	692003	40.00000	ppb	0.00

System Monitoring Compounds

Target Compounds						Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.35	45	517114	562.55893	ppb	99

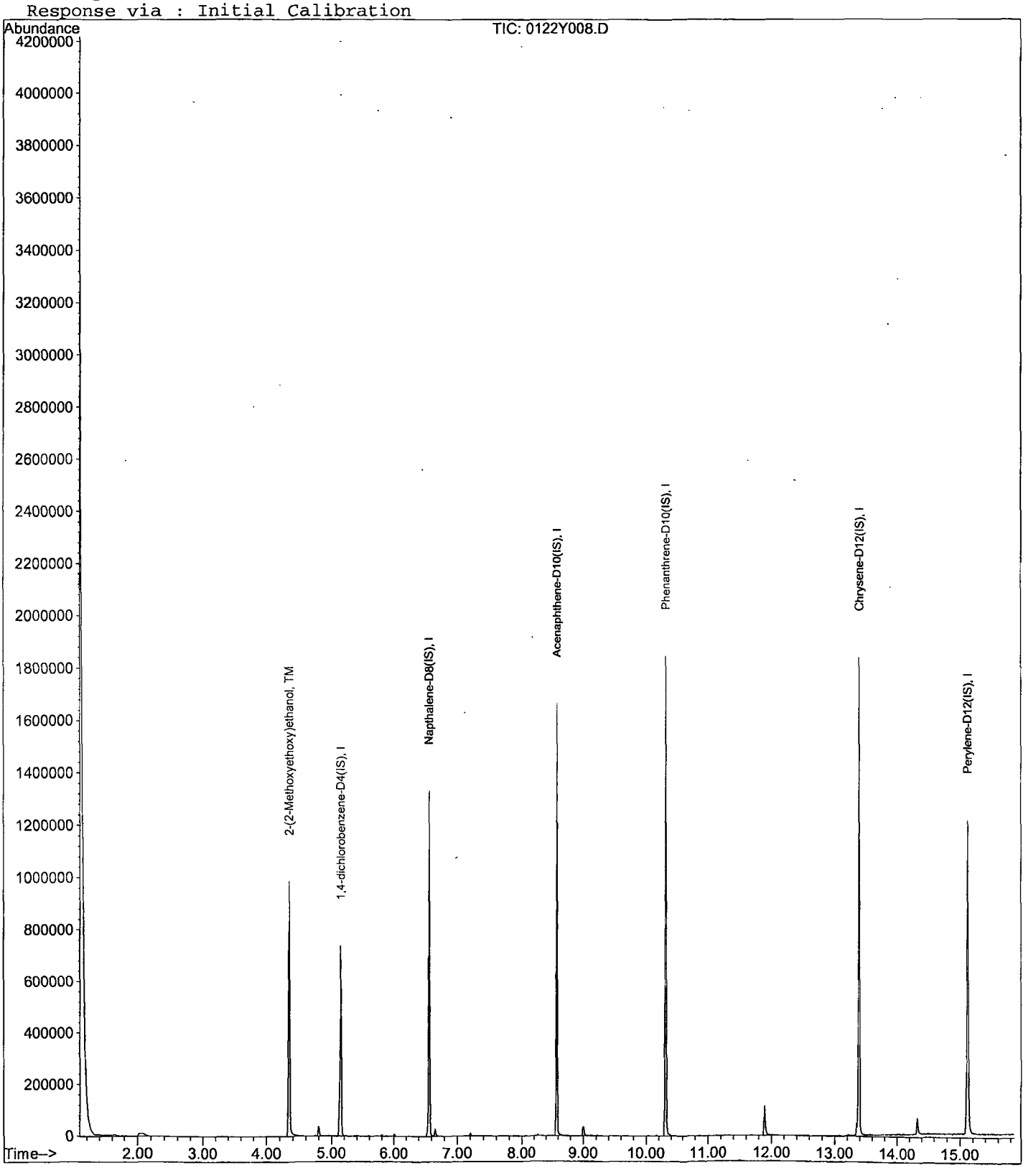
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y200122M\0122Y008.D Vial: 8
Acq On : 22 Jan 20 17:45 Operator: MA,SS
Sample : 600ug/ml MEE 01/22/20 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 23 10:02 2020 Quant Results File: YMEE0122.RES

Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 10:01:29 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y200122M\0122Y009.D Vial: 9
Acq On : 22 Jan 20 18:08 Operator: MA,SS
Sample : 800ug/ml MEE 01/22/20 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 23 10:02 2020 Quant Results File: YMEE0122.RES

Quant Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 10:01:29 2020
Response via : Initial Calibration
DataAcq Meth : GED

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.15	152	125205	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.57	136	550099	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.58	164	372511	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	10.31	188	750924	40.00000 ppb	0.00
6) Chrysene-D12(IS)	13.39	240	643830	40.00000 ppb	0.00
7) Perylene-D12(IS)	15.12	264	637032	40.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.36	45	715213	972.58871 ppb	98

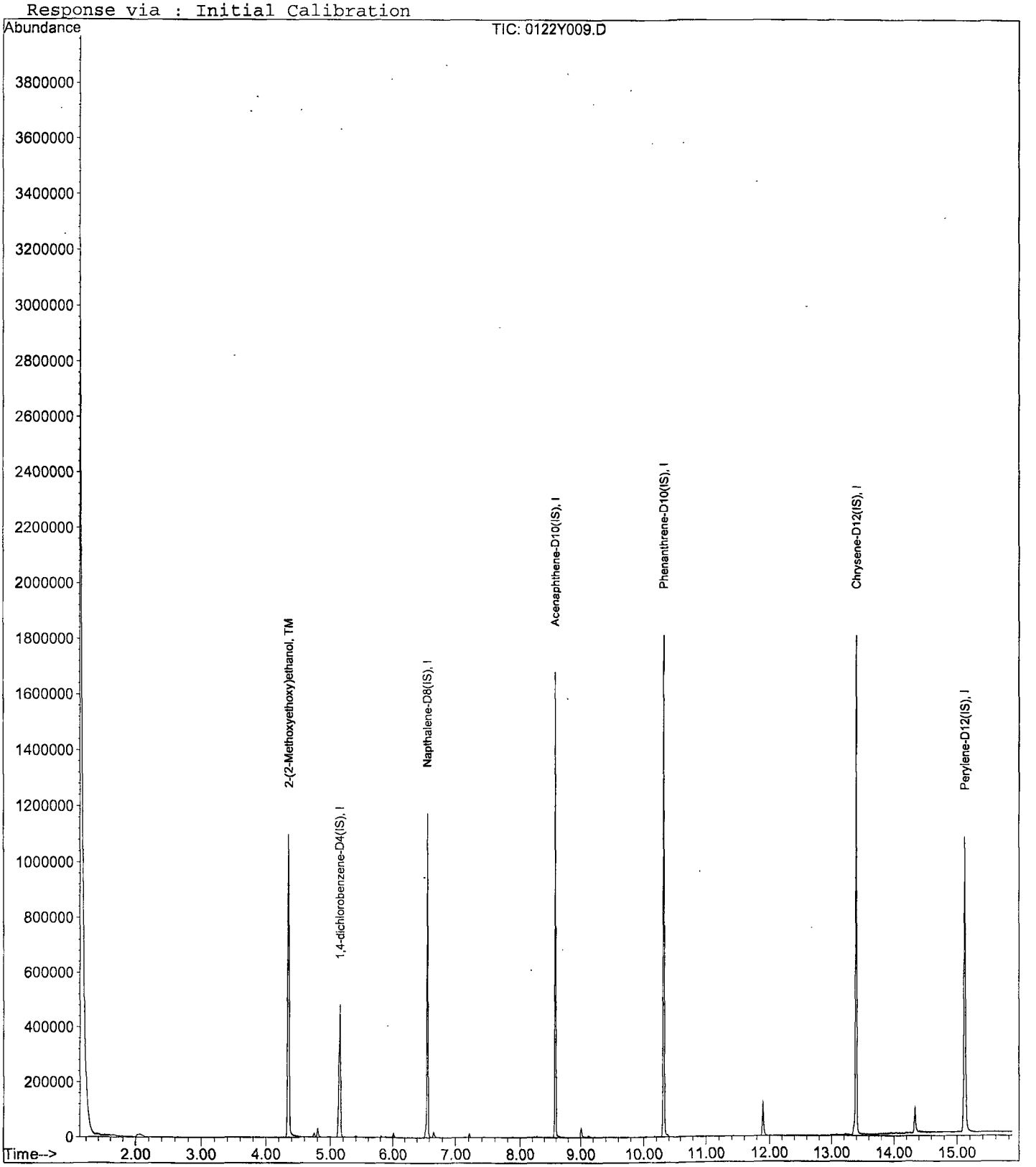
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y200122M\0122Y009.D Vial: 9
Acq On : 22 Jan 20 18:08 Operator: MA,SS
Sample : 800ug/ml MEE 01/22/20 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 23 10:02 2020 Quant Results File: YMEE0122.RES

Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 10:01:29 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y200122M\0122Y010.D Vial: 10
Acq On : 22 Jan 20 18:32 Operator: MA,SS
Sample : 1000ug/ml MEE 01/22/20 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 23 10:02 2020 Quant Results File: YMEE0122.RES

Quant Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 10:01:29 2020
Response via : Initial Calibration
DataAcq Meth : GED

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.15	152	145736	40.00000	ppb	0.00
3) Napthalene-D8(IS)	6.57	136	643934	40.00000	ppb	0.00
4) Acenaphthene-D10(IS)	8.58	164	429609	40.00000	ppb	0.00
5) Phenanthrene-D10(IS)	10.31	188	848518	40.00000	ppb	0.00
6) Chrysene-D12(IS)	13.39	240	708250	40.00000	ppb	0.00
7) Perylene-D12(IS)	15.12	264	727830	40.00000	ppb	0.00

System Monitoring Compounds

Target Compounds						Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.36	45	948330	1107.91933	ppb	99

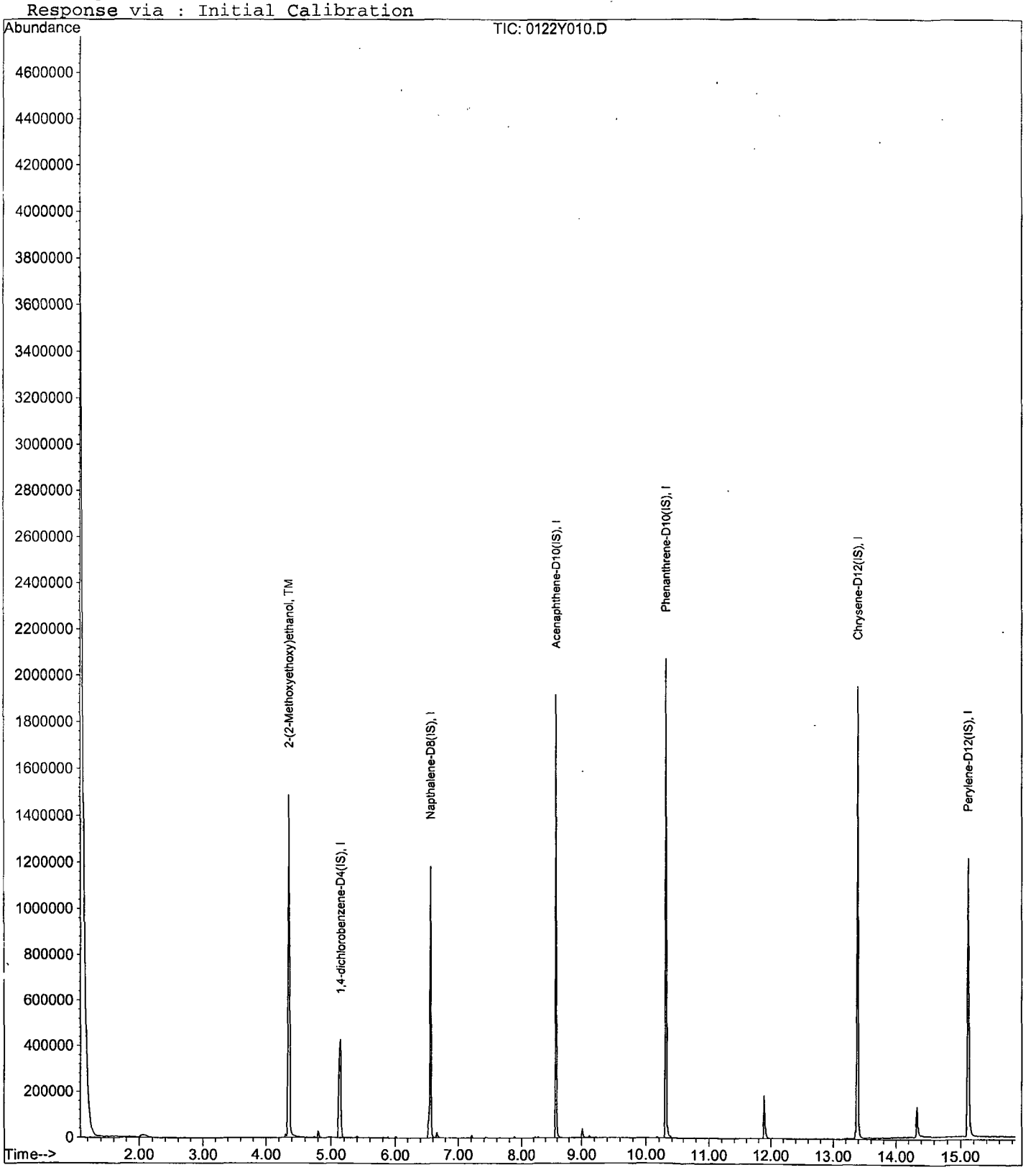
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y200122M\0122Y010.D Vial: 10
Acq On : 22 Jan 20 18:32 Operator: MA,SS
Sample : 1000ug/ml MEE 01/22/20 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 23 10:02 2020 Quant Results File: YMEE0122.RES

Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 10:01:29 2020
Response via : Initial Calibration



2MEE
EPA 8270

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 01/22/20
Instrument: Yoda
Initial Cal. Date: 01/22/20
Data File: 0122Y011.D

		Compound	MEAN	CCRF	%D	%Drift	
1	TM	2-(2-Methoxyethoxy)ethanol	0.2349	0.2425	3.2	TM	
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			3.2		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y200122M\0122Y011.D Vial: 11
Acq On : 22 Jan 20 18:55 Operator: MA,SS
Sample : SS MEE 01/22/20 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 23 9:55 2020 Quant Results File: YMEE0122.RES

Quant Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 09:54:44 2020
Response via : Initial Calibration
DataAcq Meth : GED

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.15	152	173956	40.00000	ppb	0.00
3) Napthalene-D8(IS)	6.57	136	686273	40.00000	ppb	0.00
4) Acenaphthene-D10(IS)	8.59	164	422630	40.00000	ppb	0.00
5) Phenanthrene-D10(IS)	10.31	188	806716	40.00000	ppb	0.00
6) Chrysene-D12(IS)	13.39	240	723146	40.00000	ppb	0.00
7) Perylene-D12(IS)	0.00	264	0	0.00000	ppb	-14.73

System Monitoring Compounds

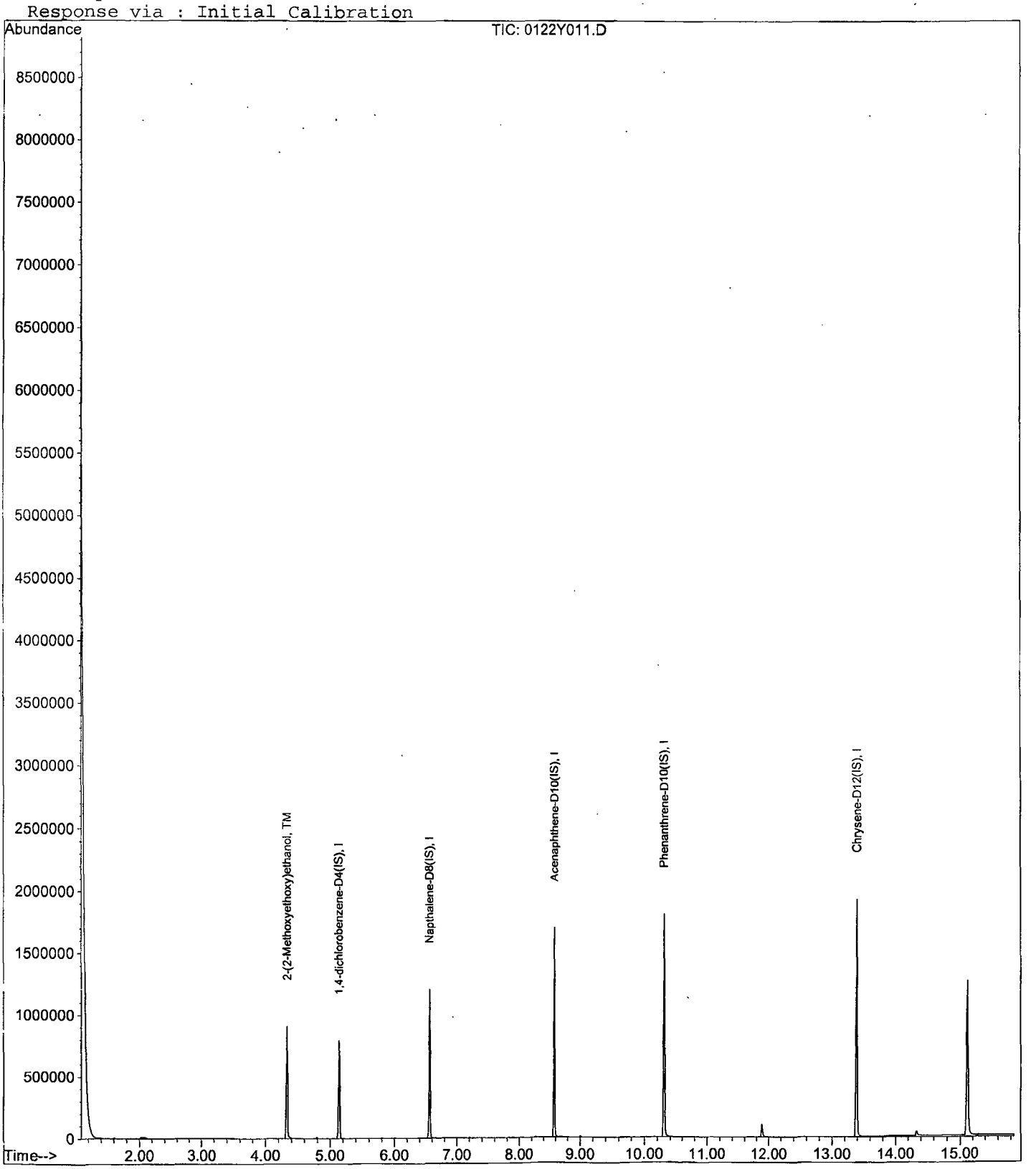
Target Compounds						Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.33	45	527290	516.09021	ppb	93

(#) = qualifier out of range (m) = manual integration

Data File : M:\YODA\DATA\Y200122M\0122Y011.D Vial: 11
Acq On : 22 Jan 20 18:55 Operator: MA,SS
Sample : SS MEE 01/22/20 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 23 9:55 2020 Quant Results File: YMEE0122.RES

Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 09:54:44 2020
Response via : Initial Calibration



2MEE
EPA 8270

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 01/24/20
Instrument: Yoda
Initial Cal. Date: 01/22/20
Data File: 1219Y218.D

		Compound	MEAN	CCRF	%D	%Drift	
1	I	1,4-dichlorobenzene-D4(IS)	ISTD			I	
2	TM	2-(2-Methoxyethoxy)ethanol	0.2349	0.2224	5.4	TM	
3	I	Napthalene-D8(IS)	ISTD			I	
4	I	Acenaphthene-D10(IS)	ISTD			I	
5	I	Phenanthrene-D10(IS)	ISTD			I	
6	I	Chrysene-D12(IS)	ISTD			I	
7	I	Perylene-D12(IS)	ISTD			I	
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			5.4		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y218.D Vial: 18
Acq On : 24 Jan 20 13:23 Operator: MA,SS
Sample : 500ug/ml 2MEE 01/22/20 (0) Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 24 13:44 2020 Quant Results File: YMEE0122.RES

Quant Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 16:28:09 2020
Response via : Initial Calibration
DataAcq Meth : GED

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.14	152	167718	40.00000 ppb	-0.01
3) Napthalene-D8(IS)	6.56	136	676400	40.00000 ppb	-0.01
4) Acenaphthene-D10(IS)	8.58	164	428742	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	10.31	188	839373	40.00000 ppb	0.00
6) Chrysene-D12(IS)	13.39	240	732730	40.00000 ppb	0.00
7) Perylene-D12(IS)	15.12	264	762790	40.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.33	45	466154	473.22234 ppb	100

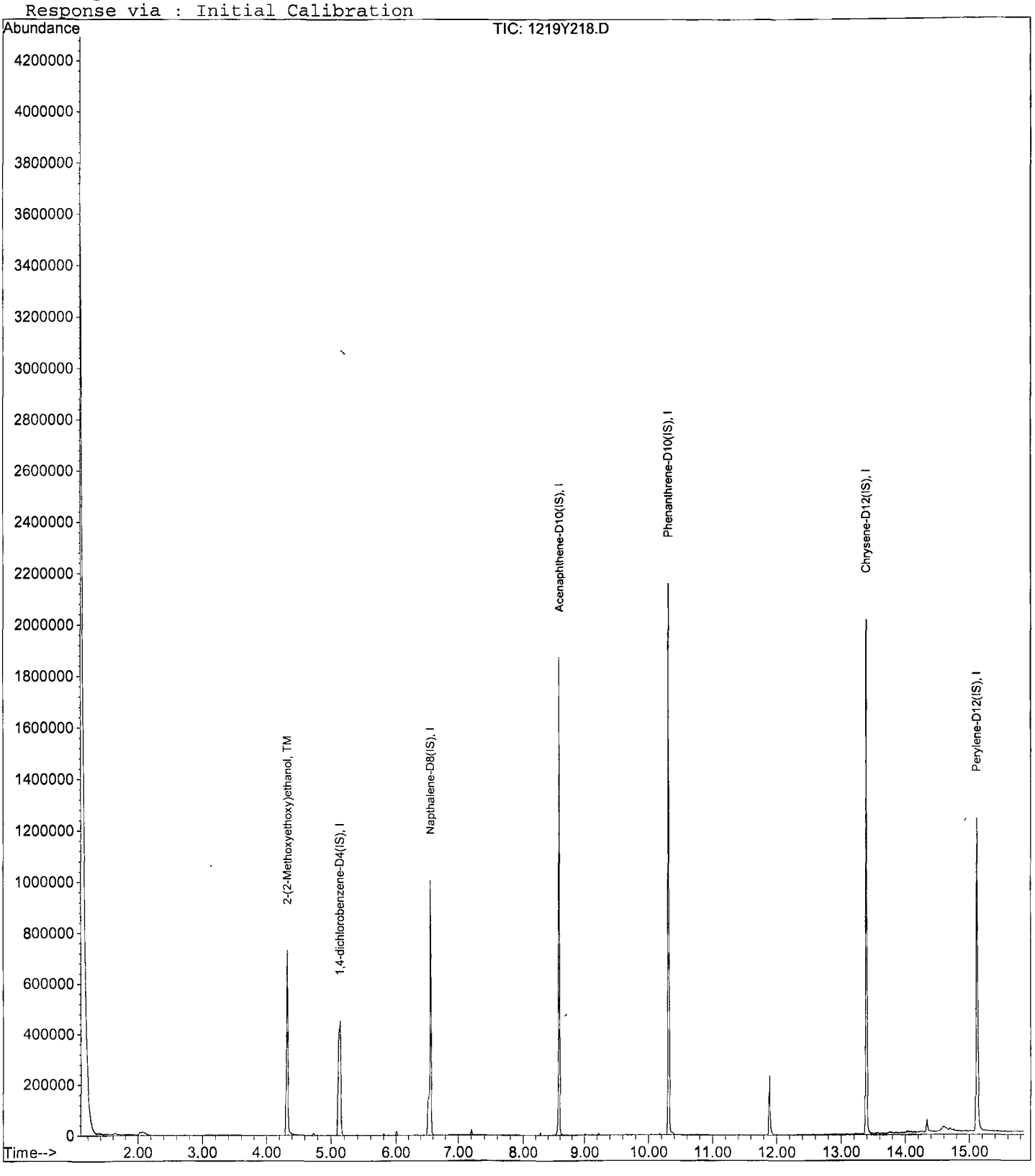
(#) = qualifier out of range (m) = manual integration
1219Y218.D YMEE0122.M Thu Jan 30 13:55:54 2020 Page 1

Quantitation Report

Data File : M:\YODA\DATA\Y191219\1219Y218.D Vial: 18
Acq On : 24 Jan 20 13:23 Operator: MA,SS
Sample : 500ug/ml 2MEE 01/22/20 (0) Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 24 13:44 2020 Quant Results File: YMEE0122.RES

Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 16:28:09 2020
Response via : Initial Calibration



2MEE
EPA 8270

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 01/24/20
Instrument: Yoda
Initial Cal. Date: 01/22/20
Data File: 1219Y239.D

		Compound	MEAN	CCRF	%D	%Drift	
1	I	1,4-dichlorobenzene-D4(IS)	ISTD			I	
2	TM	2-(2-Methoxyethoxy)ethanol	0.2349	0.2402	2.2	TM	
3	I	Napthalene-D8(IS)	ISTD			I	
4	I	Acenaphthene-D10(IS)	ISTD			I	
5	I	Phenanthrene-D10(IS)	ISTD			I	
6	I	Chrysene-D12(IS)	ISTD			I	
7	I	Perylene-D12(IS)	ISTD			I	
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			2.2		

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y239.D Vial: 39
Acq On : 24 Jan 20 23:23 Operator: MA,SS
Sample : 600ug/ml 2MEE 01/22/20 (0) Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 27 8:10 2020 Quant Results File: YMEE0122.RES

Quant Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 16:28:09 2020
Response via : Initial Calibration
DataAcq Meth : GED

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.16	152	143090	40.00000	ppb	0.00
3) Napthalene-D8(IS)	6.57	136	610531	40.00000	ppb	0.00
4) Acenaphthene-D10(IS)	8.59	164	370789	40.00000	ppb	0.00
5) Phenanthrene-D10(IS)	10.31	188	716328	40.00000	ppb	0.00
6) Chrysene-D12(IS)	13.39	240	610567	40.00000	ppb	0.00
7) Perylene-D12(IS)	15.12	264	629331	40.00000	ppb	0.00

System Monitoring Compounds

Target Compounds						Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.37	45	515482	613.36603	ppb	100

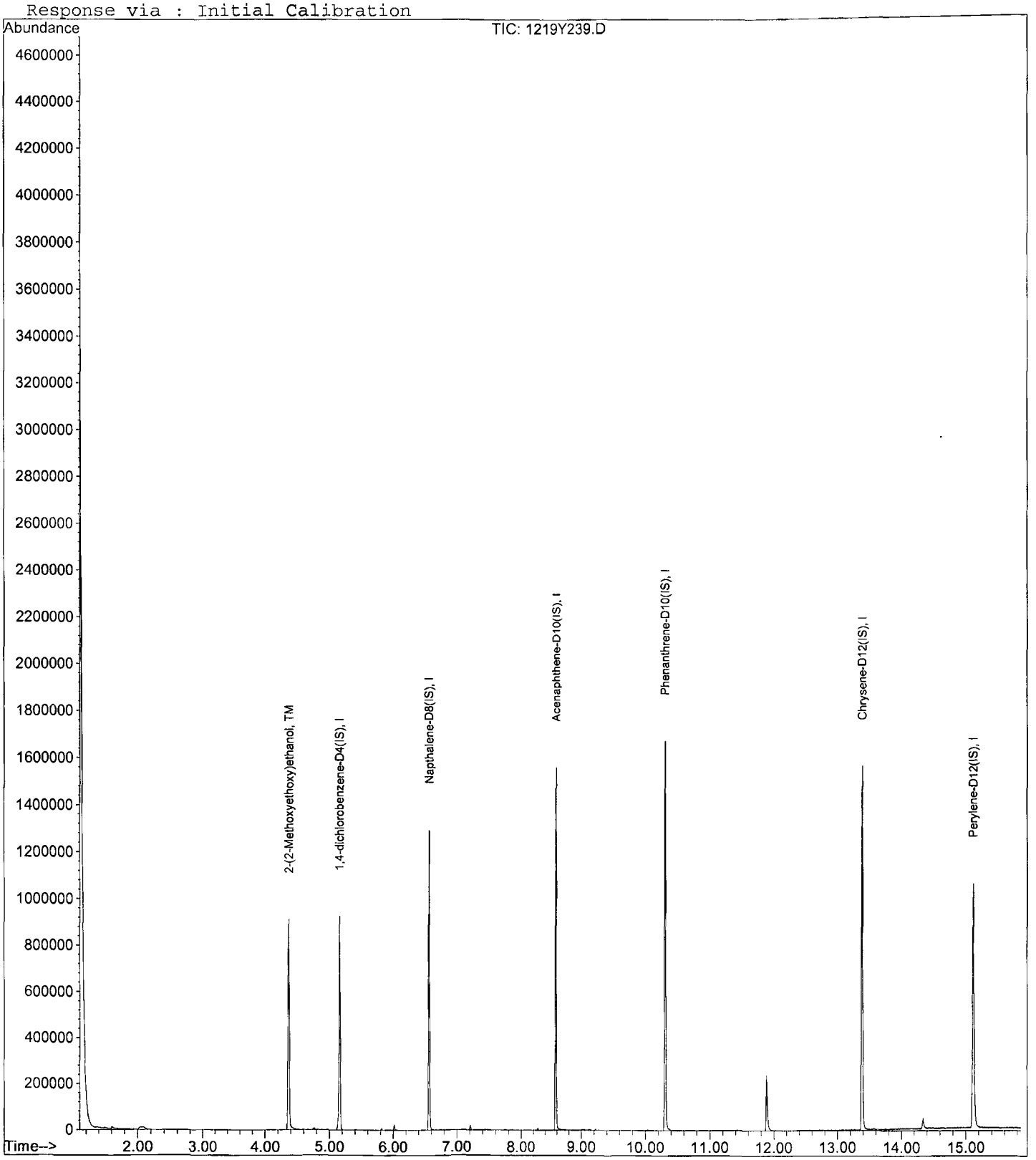
(#) = qualifier out of range (m) = manual integration
1219Y239.D YMEE0122.M Thu Jan 30 13:58:03 2020 Page 1

Quantitation Report

Data File : M:\YODA\DATA\Y191219\1219Y239.D Vial: 39
Acq On : 24 Jan 20 23:23 Operator: MA,SS
Sample : 600ug/ml 2MEE 01/22/20 (0) Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 27 8:10 2020 Quant Results File: YMEE0122.RES

Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 16:28:09 2020
Response via : Initial Calibration



2MEE
EPA 8270

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 01/27/20
Instrument: Yoda
Initial Cal. Date: 01/22/20
Data File: 1219Y240.D

		Compound	MEAN	CCRF	%D	%Drift	
1	I	1,4-dichlorobenzene-D4(IS)	ISTD			I	
2	TM	2-(2-Methoxyethoxy)ethanol	0.2349	0.2322	1.2	TM	
3	I	Napthalene-D8(IS)	ISTD			I	
4	I	Acenaphthene-D10(IS)	ISTD			I	
5	I	Phenanthrene-D10(IS)	ISTD			I	
6	I	Chrysene-D12(IS)	ISTD			I	
7	I	Perylene-D12(IS)	ISTD			I	
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			1.2		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y240.D Vial: 40
Acq On : 27 Jan 20 14:18 Operator: MA,SS
Sample : 500ug/ml 2MEE 01/22/20 (0) Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 27 14:28 2020 Quant Results File: YMEE0122.RES

Quant Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 16:28:09 2020
Response via : Initial Calibration
DataAcq Meth : GED

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.15	152	155336	40.00000	ppb	0.00
3) Napthalene-D8(IS)	6.56	136	627220	40.00000	ppb	-0.01
4) Acenaphthene-D10(IS)	8.58	164	381358	40.00000	ppb	0.00
5) Phenanthrene-D10(IS)	10.31	188	741023	40.00000	ppb	0.00
6) Chrysene-D12(IS)	13.39	240	638908	40.00000	ppb	0.00
7) Perylene-D12(IS)	15.12	264	658315	40.00000	ppb	0.00

System Monitoring Compounds

Target Compounds						Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.33	45	450790	494.10318	ppb	98

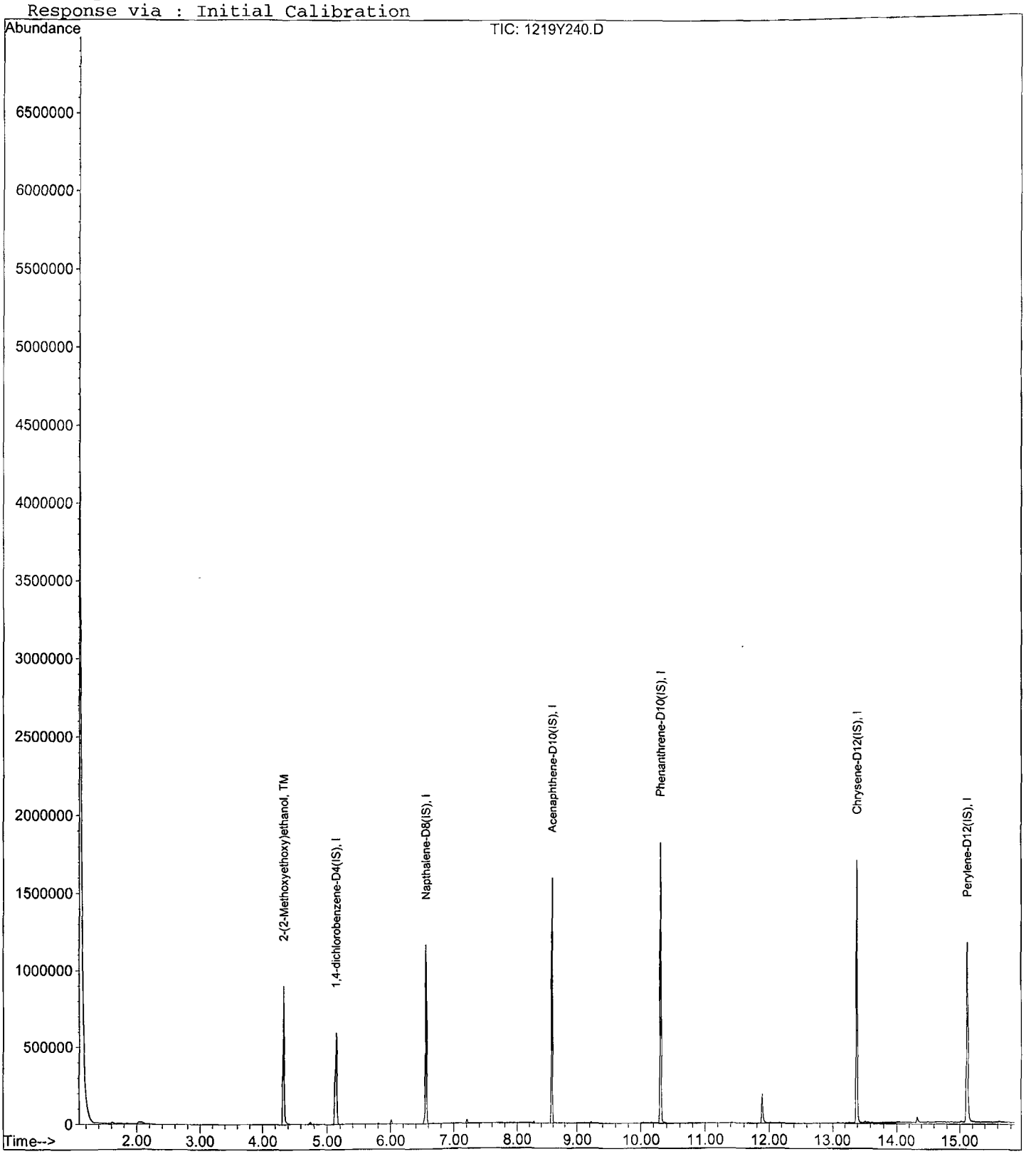
(#) = qualifier out of range (m) = manual integration
1219Y240.D YMEE0122.M Thu Jan 30 13:58:07 2020 Page 1

Quantitation Report

Data File : M:\YODA\DATA\Y191219\1219Y240.D Vial: 40
Acq On : 27 Jan 20 14:18 Operator: MA,SS
Sample : 500ug/ml 2MEE 01/22/20 (0) Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 27 14:28 2020 Quant Results File: YMEE0122.RES

Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 16:28:09 2020
Response via : Initial Calibration



2MEE
EPA 8270

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 01/27/20
Instrument: Yoda
Initial Cal. Date: 01/22/20
Data File: 1219Y246.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	1,4-dichlorobenzene-D4(IS)	ISTD			I	
2	TM	2-(2-Methoxyethoxy)ethanol	0.2349	0.2460	4.7	TM	
3	I	Napthalene-D8(IS)	ISTD			I	
4	I	Acenaphthene-D10(IS)	ISTD			I	
5	I	Phenanthrene-D10(IS)	ISTD			I	
6	I	Chrysene-D12(IS)	ISTD			I	
7	I	Perylene-D12(IS)	ISTD			I	
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			4.7		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y246.D Vial: 46
Acq On : 27 Jan 20 16:41 Operator: MA,SS
Sample : 600ug/ml 2MEE 01/22/20 (0) Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 27 16:42 2020 Quant Results File: YMEE0122.RES

Quant Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 16:28:09 2020
Response via : Initial Calibration
DataAcq Meth : GED

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.15	152	147213	40.00000	ppb	0.00
3) Napthalene-D8(IS)	6.56	136	656201	40.00000	ppb	0.00
4) Acenaphthene-D10(IS)	8.59	164	401041	40.00000	ppb	0.00
5) Phenanthrene-D10(IS)	10.31	188	770477	40.00000	ppb	0.00
6) Chrysene-D12(IS)	13.39	240	692745	40.00000	ppb	0.00
7) Perylene-D12(IS)	15.12	264	702709	40.00000	ppb	0.00

System Monitoring Compounds

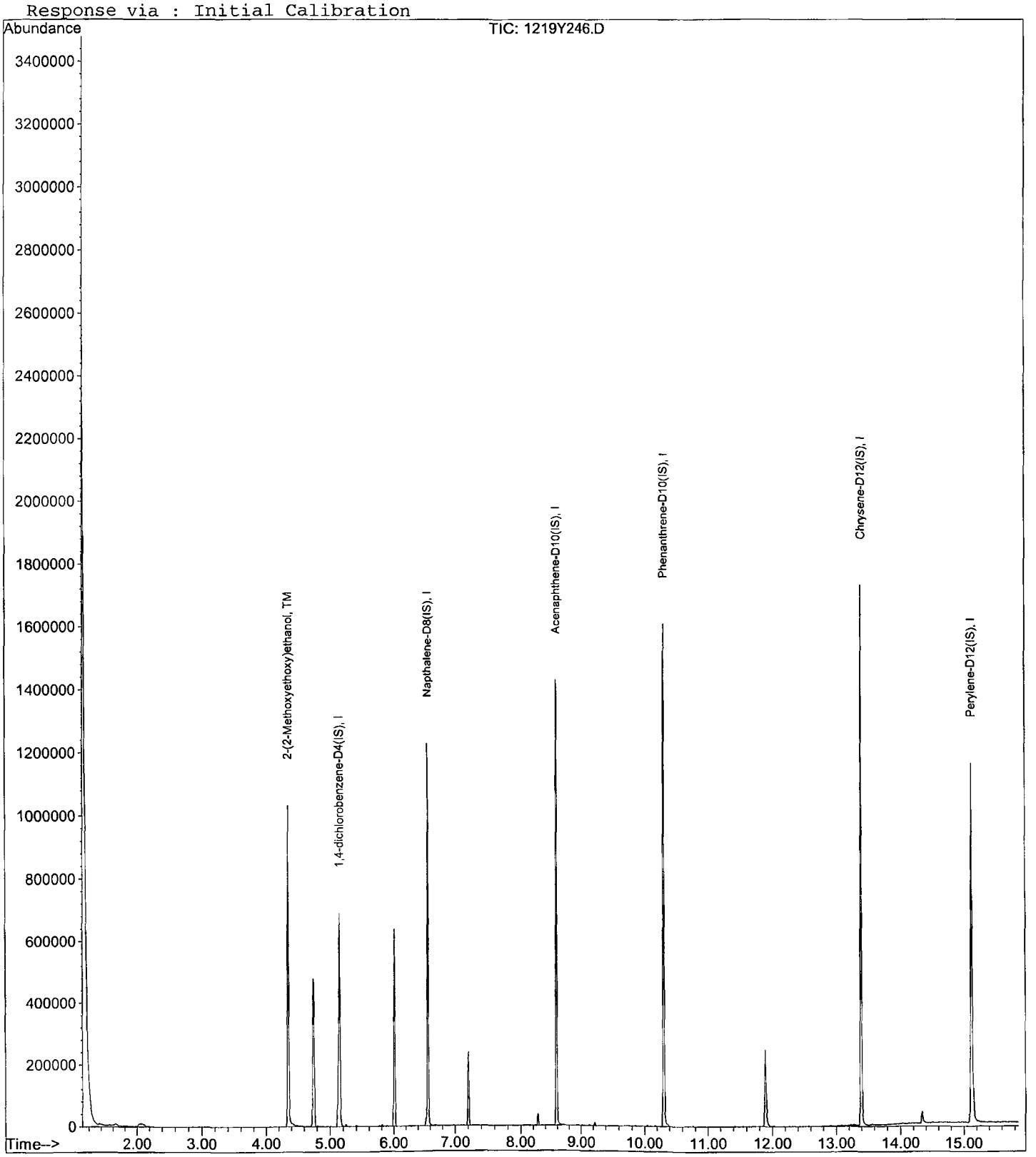
Target Compounds						Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.35	45	543280	628.33760	ppb	98

(#) = qualifier out of range (m) = manual integration
1219Y246.D YMEE0122.M Thu Jan 30 13:58:29 2020 Page 1

Data File : M:\YODA\DATA\Y191219\1219Y246.D Vial: 46
Acq On : 27 Jan 20 16:41 Operator: MA,SS
Sample : 600ug/ml 2MEE 01/22/20 (0) Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 27 16:42 2020 Quant Results File: YMEE0122.RES

Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 16:28:09 2020
Response via : Initial Calibration



2MEE
EPA 8270

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 01/29/20
Instrument: Yoda
Initial Cal. Date: 01/22/20
Data File: 0122Y018.D

		Compound	MEAN	CCRF	%D	%Drift	
1	I	1,4-dichlorobenzene-D4(IS)	ISTD			I	
2	TM	2-(2-Methoxyethoxy)ethanol	0.2349	0.1947	17	TM	
3	I	Napthalene-D8(IS)	ISTD			I	
4	I	Acenaphthene-D10(IS)	ISTD			I	
5	I	Phenanthrene-D10(IS)	ISTD			I	
6	I	Chrysene-D12(IS)	ISTD			I	
7	I	Perylene-D12(IS)	ISTD			I	
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			17.0		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y200122M\0122Y018.D Vial: 18
Acq On : 29 Jan 20 15:01 Operator: MA,SS
Sample : 500ug/ml MEE 01/29/20 (1) Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 29 15:02 2020 Quant Results File: YMEE0122.RES

Quant Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 16:28:09 2020
Response via : Initial Calibration
DataAcq Meth : GED

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.15	152	173907	40.00000	ppb	0.00
3) Napthalene-D8(IS)	6.57	136	698618	40.00000	ppb	0.00
4) Acenaphthene-D10(IS)	8.58	164	436389	40.00000	ppb	0.00
5) Phenanthrene-D10(IS)	10.31	188	837531	40.00000	ppb	0.00
6) Chrysene-D12(IS)	13.39	240	754740	40.00000	ppb	0.00
7) Perylene-D12(IS)	15.12	264	834233	40.00000	ppb	0.00

System Monitoring Compounds

Target Compounds						Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.33	45	423311	414.43649	ppb	97

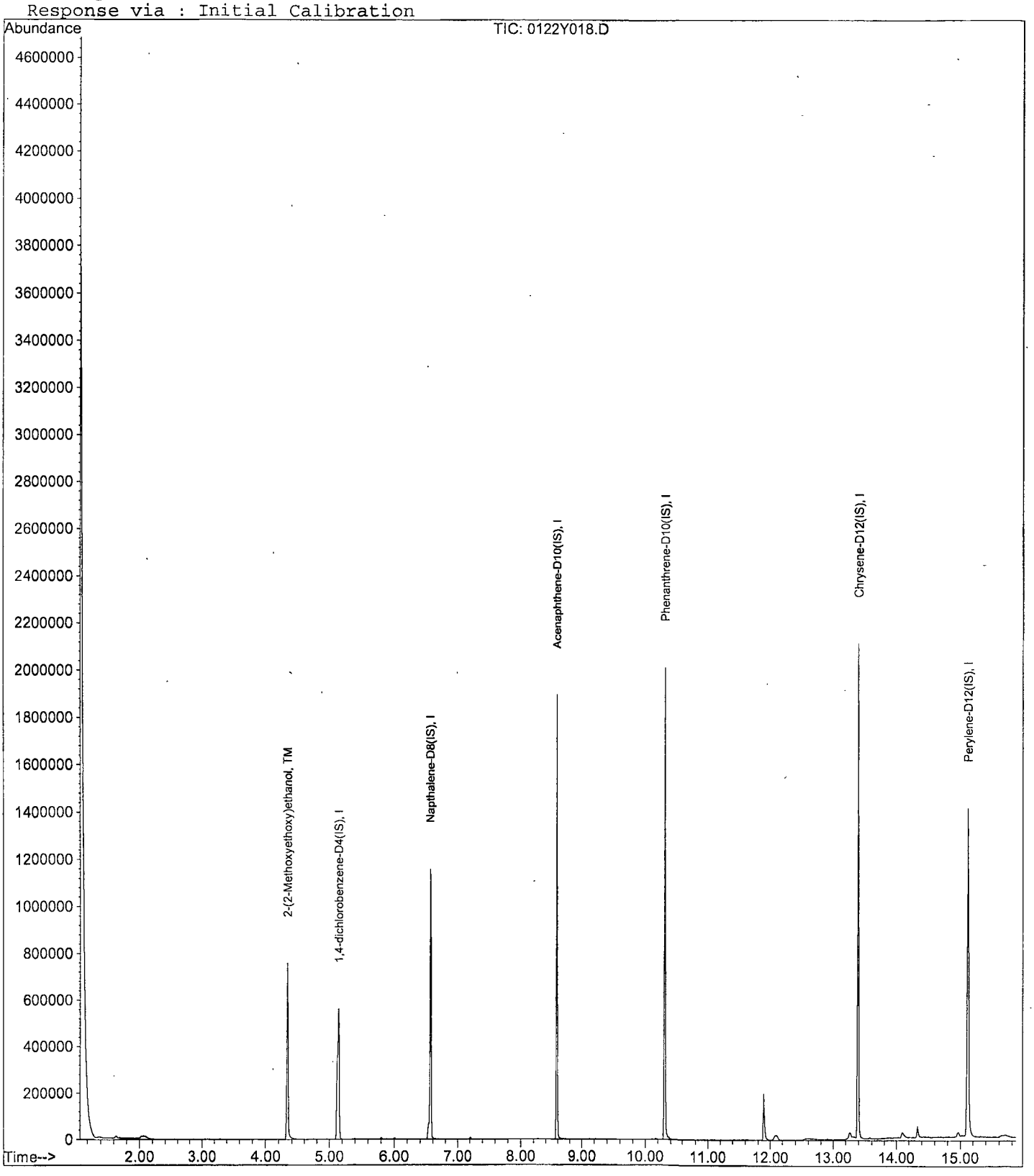
(#) = qualifier out of range (m) = manual integration
0122Y018.D YMEE0122.M Thu Jan 30 07:54:13 2020 Page 1

Quantitation Report

Data File : M:\YODA\DATA\Y200122M\0122Y018.D Vial: 18
Acq On : 29 Jan 20 15:01 Operator: MA,SS
Sample : 500ug/ml MEE 01/29/20 (1) Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 29 15:02 2020 Quant Results File: YMEE0122.RES

Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 16:28:09 2020
Response via : Initial Calibration



2MEE
EPA 8270

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 01/30/20
Instrument: Yoda
Initial Cal. Date: 01/22/20
Data File: 0122Y040.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	1,4-dichlorobenzene-D4(IS)	ISTD			I	
2	TM	2-(2-Methoxyethoxy)ethanol	0.2349	0.2263	3.7	TM	
3	I	Napthalene-D8(IS)	ISTD			I	
4	I	Acenaphthene-D10(IS)	ISTD			I	
5	I	Phenanthrene-D10(IS)	ISTD			I	
6	I	Chrysene-D12(IS)	ISTD			I	
7	I	Perylene-D12(IS)	ISTD			I	
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			3.7		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y200122M\0122Y040.D Vial: 40
Acq On : 30 Jan 20 00:07 Operator: MA,SS
Sample : 500ug/ml MEE 01/29/20 (2) Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 30 7:51 2020 Quant Results File: YMEE0122.RES

Quant Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 16:28:09 2020
Response via : Initial Calibration
DataAcq Meth : GED

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.15	152	154425	40.00000	ppb	0.00
3) Napthalene-D8(IS)	6.57	136	634344	40.00000	ppb	0.00
4) Acenaphthene-D10(IS)	8.58	164	403367	40.00000	ppb	0.00
5) Phenanthrene-D10(IS)	10.31	188	773403	40.00000	ppb	0.00
6) Chrysene-D12(IS)	13.39	240	688581	40.00000	ppb	0.00
7) Perylene-D12(IS)	15.12	264	728249	40.00000	ppb	0.00

System Monitoring Compounds

Target Compounds						Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.34	45	436925	481.73121	ppb	97

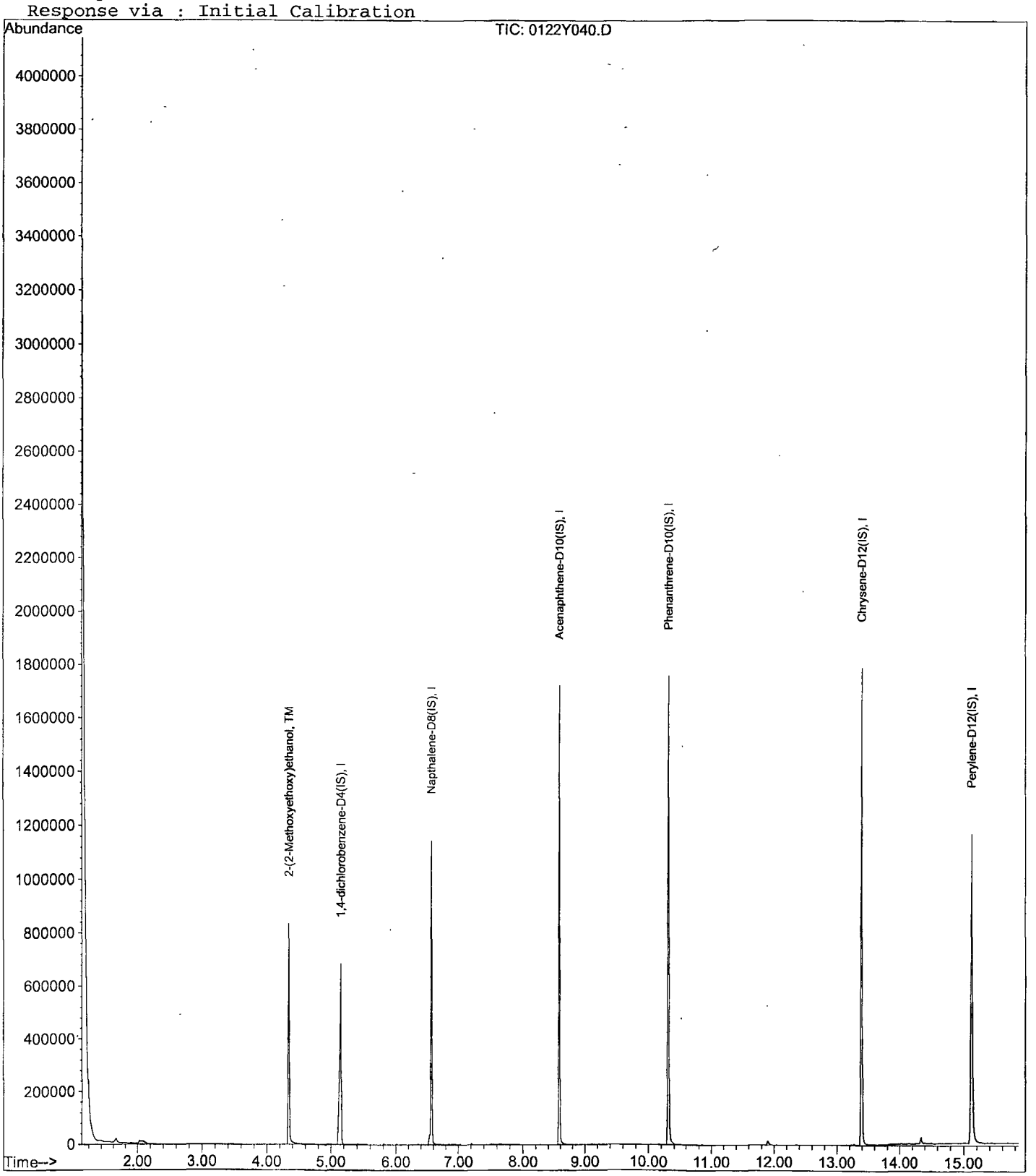
(#) = qualifier out of range (m) = manual integration
0122Y040.D YMEE0122.M Thu Jan 30 07:52:25 2020 Page 1

Quantitation Report

Data File : M:\YODA\DATA\Y200122M\0122Y040.D Vial: 40
Acq On : 30 Jan 20 00:07 Operator: MA,SS
Sample : 500ug/ml MEE 01/29/20 (2) Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 30 7:51 2020 Quant Results File: YMEE0122.RES

Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 16:28:09 2020
Response via : Initial Calibration



ORGANICS
Raw Data

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y200122M\0122Y027.D Vial: 27
Acq On : 29 Jan 20 19:01 Operator: MA,SS
Sample : BA06272W21 2/500 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 30 7:51 2020 Quant Results File: YMEE0122.RES

Quant Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 16:28:09 2020
Response via : Initial Calibration
DataAcq Meth : GED

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.16	152	115098	40.00000	ppb	0.00
3) Napthalene-D8(IS)	6.57	136	493098	40.00000	ppb	0.00
4) Acenaphthene-D10(IS)	8.58	164	391451	40.00000	ppb	0.00
5) Phenanthrene-D10(IS)	10.31	188	719615	40.00000	ppb	0.00
6) Chrysene-D12(IS)	13.39	240	551047	40.00000	ppb	0.00
7) Perylene-D12(IS)	15.12	264	526842	40.00000	ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

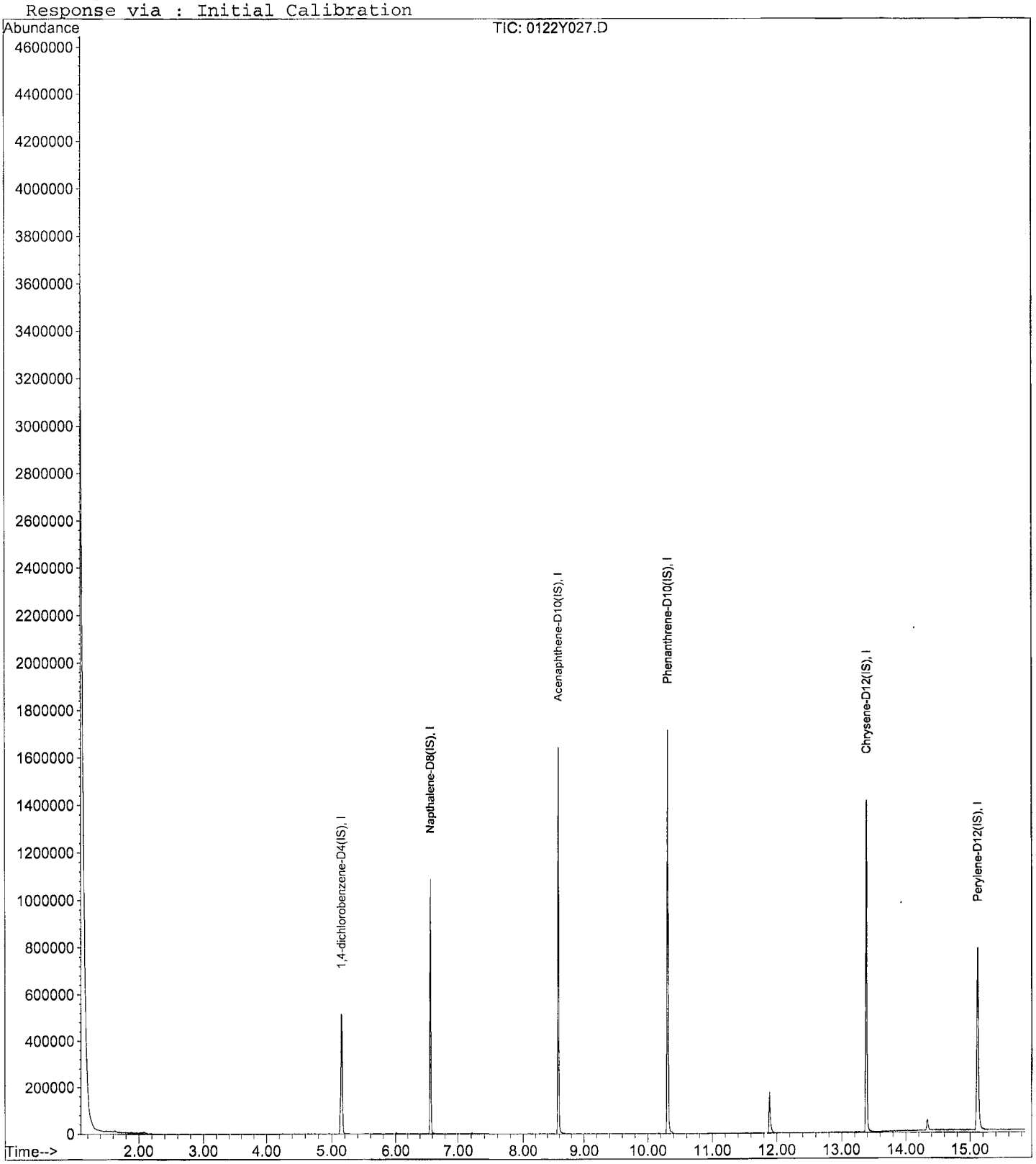
(#) = qualifier out of range (m) = manual integration
0122Y027.D YMEE0122.M Thu Jan 30 08:34:53 2020 Page 1

Quantitation Report

Data File : M:\YODA\DATA\Y200122M\0122Y027.D Vial: 27
Acq On : 29 Jan 20 19:01 Operator: MA,SS
Sample : BA06272W21 2/500 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 30 7:51 2020 Quant Results File: YMEE0122.RES

Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 16:28:09 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y200122M\0122Y028.D Vial: 28
Acq On : 29 Jan 20 19:25 Operator: MA,SS
Sample : BA06273W06 2/500 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 30 7:51 2020 Quant Results File: YMEE0122.RES

Quant Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 16:28:09 2020
Response via : Initial Calibration
DataAcq Meth : GED

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.15	152	127822	40.00000	ppb	0.00
3) Napthalene-D8(IS)	6.57	136	532776	40.00000	ppb	0.00
4) Acenaphthene-D10(IS)	8.59	164	383457	40.00000	ppb	0.00
5) Phenanthrene-D10(IS)	10.31	188	753105	40.00000	ppb	0.00
6) Chrysene-D12(IS)	13.39	240	652739	40.00000	ppb	0.00
7) Perylene-D12(IS)	15.12	264	912604	40.00000	ppb	0.00

System Monitoring Compounds

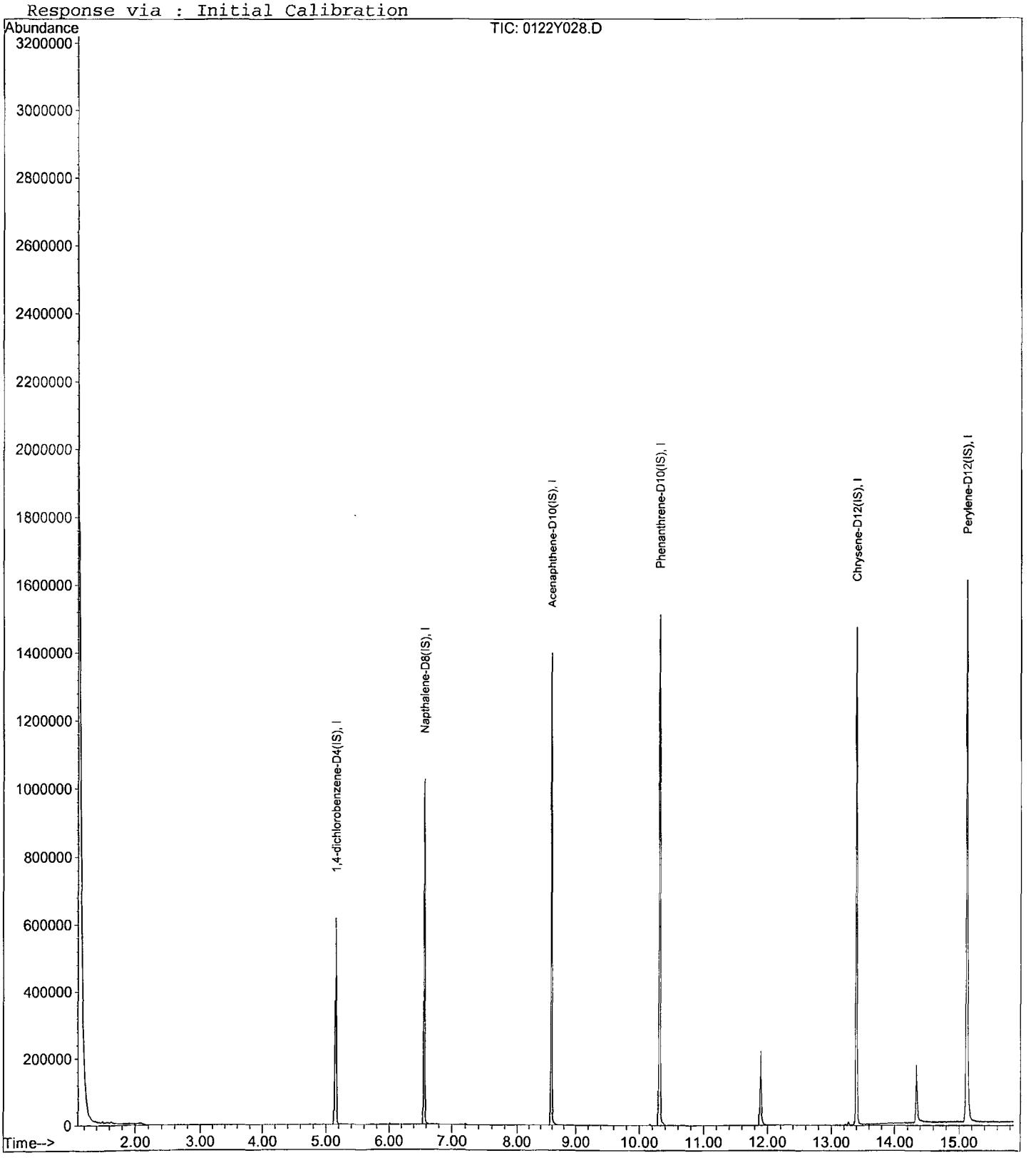
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
0122Y028.D YMEE0122.M Thu Jan 30 08:34:55 2020 Page 1

Data File : M:\YODA\DATA\Y200122M\0122Y028.D Vial: 28
Acq On : 29 Jan 20 19:25 Operator: MA,SS
Sample : BA06273W06 2/500 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 30 7:51 2020 Quant Results File: YMEE0122.RES

Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 16:28:09 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y237.D Vial: 37
Acq On : 24 Jan 20 22:36 Operator: MA,SS
Sample : BA06275W10 2/500 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 27 8:10 2020 Quant Results File: YMEE0122.RES

Quant Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 16:28:09 2020
Response via : Initial Calibration
DataAcq Meth : GED

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.15	152	145736	40.00000	ppb	0.00
3) Napthalene-D8(IS)	6.57	136	660953	40.00000	ppb	0.00
4) Acenaphthene-D10(IS)	8.58	164	407224	40.00000	ppb	0.00
5) Phenanthrene-D10(IS)	10.31	188	758234	40.00000	ppb	0.00
6) Chrysene-D12(IS)	13.39	240	667324	40.00000	ppb	0.00
7) Perylene-D12(IS)	15.12	264	751101	40.00000	ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

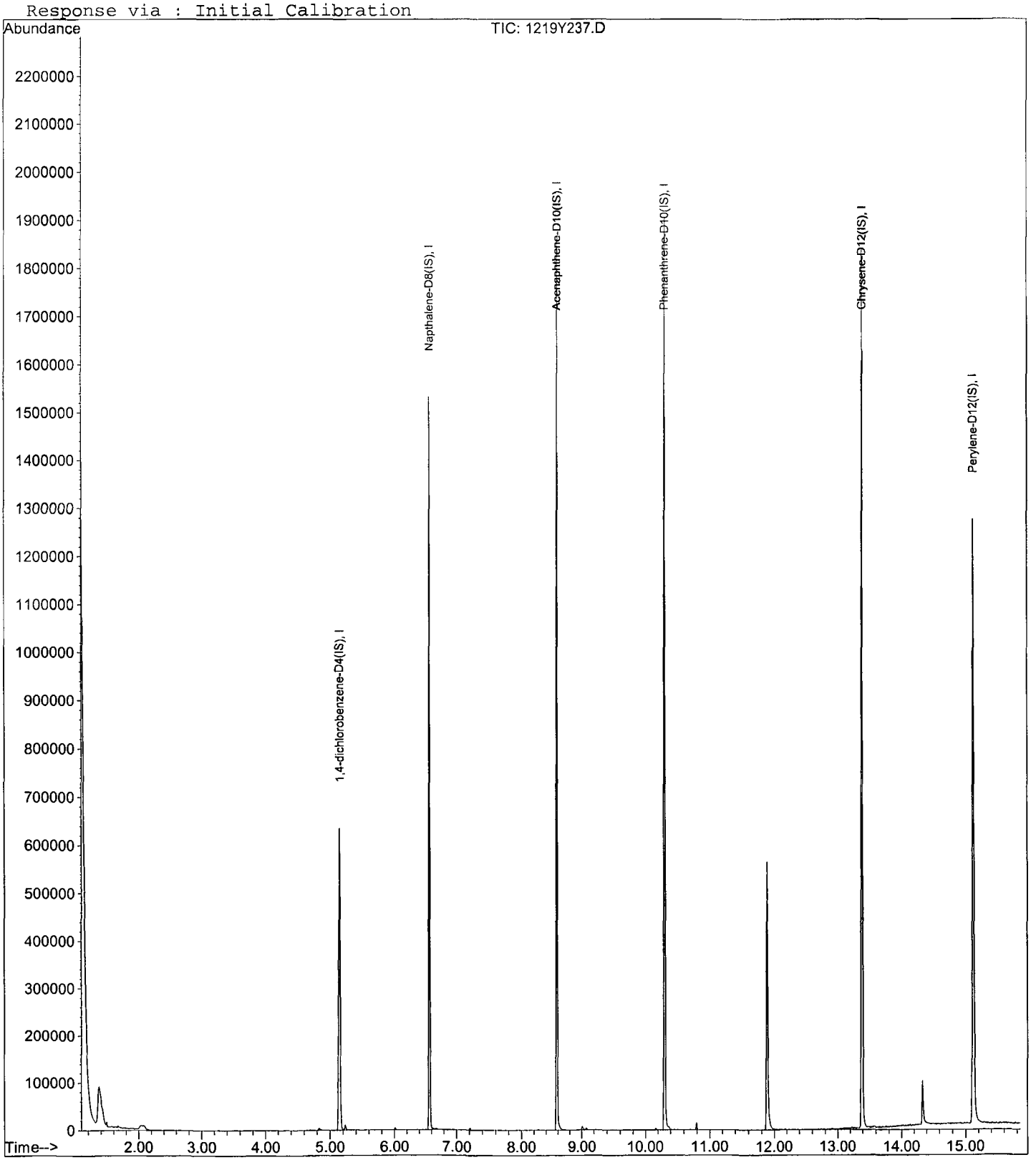
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y191219\1219Y237.D Vial: 37
Acq On : 24 Jan 20 22:36 Operator: MA,SS
Sample : BA06275W10 2/500 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 27 8:10 2020 Quant Results File: YMEE0122.RES

Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 16:28:09 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y200122M\0122Y029.D Vial: 29
Acq On : 29 Jan 20 19:48 Operator: MA,SS
Sample : BA06276W11 2/500 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 30 7:51 2020 Quant Results File: YMEE0122.RES

Quant Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 16:28:09 2020
Response via : Initial Calibration
DataAcq Meth : GED

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.16	152	116403	40.00000	ppb	0.00
3) Napthalene-D8(IS)	6.57	136	510590	40.00000	ppb	0.00
4) Acenaphthene-D10(IS)	8.58	164	390788	40.00000	ppb	0.00
5) Phenanthrene-D10(IS)	10.31	188	780114	40.00000	ppb	0.00
6) Chrysene-D12(IS)	13.39	240	655323	40.00000	ppb	0.00
7) Perylene-D12(IS)	15.12	264	647375	40.00000	ppb	0.00

System Monitoring Compounds

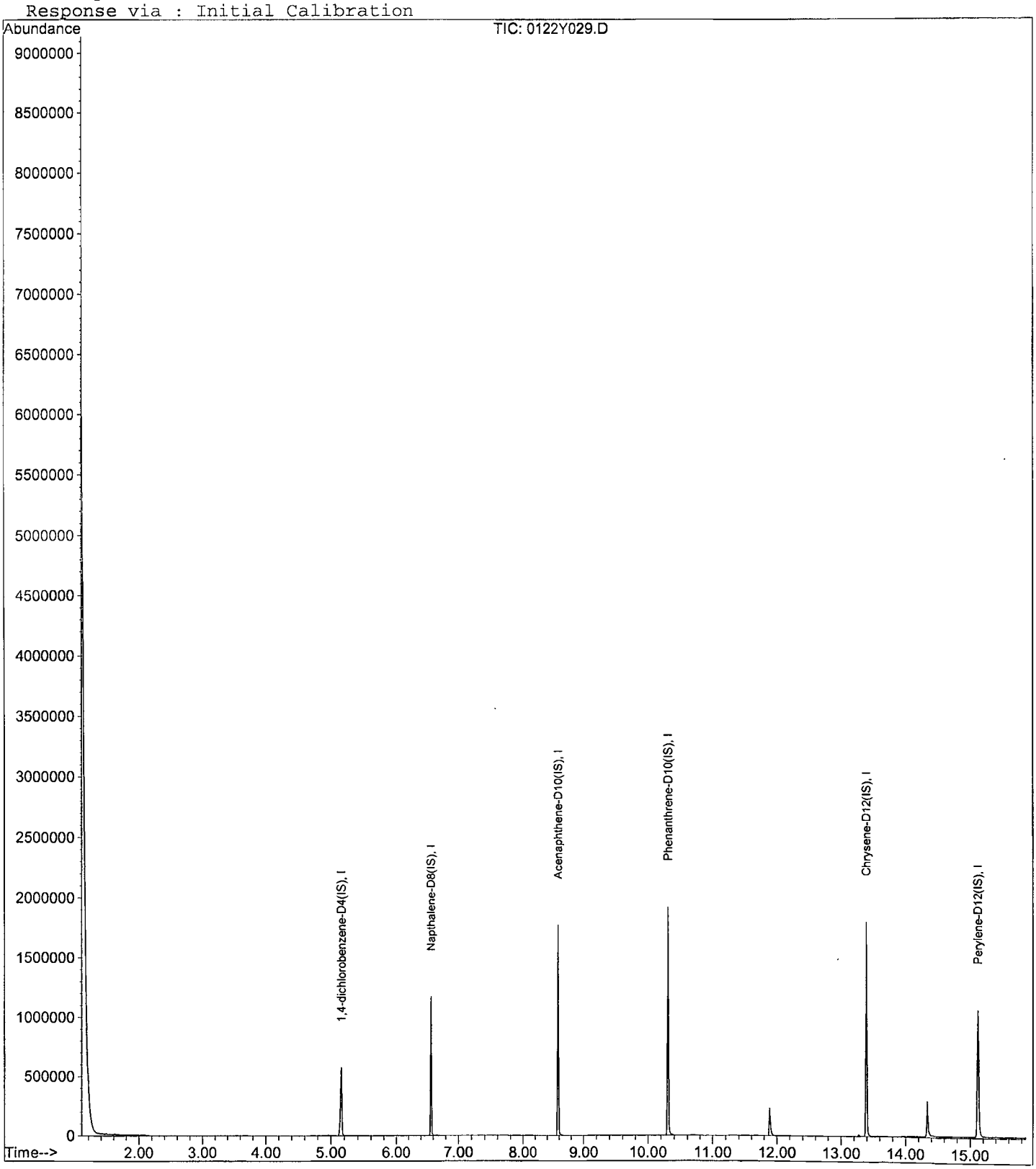
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Data File : M:\YODA\DATA\Y200122M\0122Y029.D Vial: 29
Acq On : 29 Jan 20 19:48 Operator: MA,SS
Sample : BA06276W11 2/500 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 30 7:51 2020 Quant Results File: YMEE0122.RES

Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 16:28:09 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y238.D Vial: 38
Acq On : 24 Jan 20 22:59 Operator: MA,SS
Sample : BA06279W10 2/500 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 27 8:10 2020 Quant Results File: YMEE0122.RES

Quant Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 16:28:09 2020
Response via : Initial Calibration
DataAcq Meth : GED

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.16	152	141128	40.00000	ppb	0.00
3) Napthalene-D8(IS)	6.57	136	619927	40.00000	ppb	0.00
4) Acenaphthene-D10(IS)	8.58	164	377585	40.00000	ppb	0.00
5) Phenanthrene-D10(IS)	10.31	188	691606	40.00000	ppb	0.00
6) Chrysene-D12(IS)	13.39	240	596666	40.00000	ppb	0.00
7) Perylene-D12(IS)	15.12	264	532337	40.00000	ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

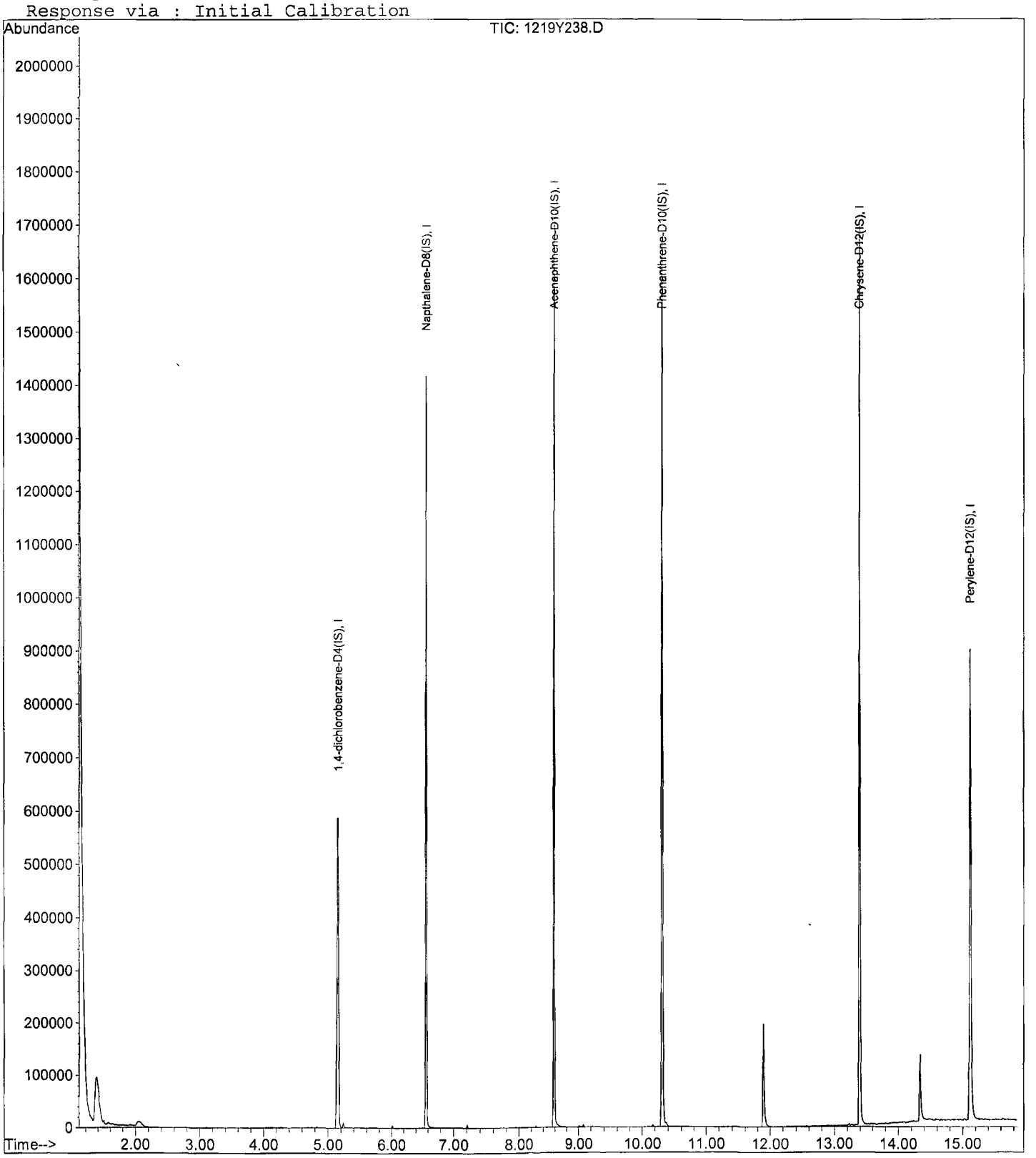
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y191219\1219Y238.D Vial: 38
Acq On : 24 Jan 20 22:59 Operator: MA,SS
Sample : BA06279W10 2/500 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 27 8:10 2020 Quant Results File: YMEE0122.RES

Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 16:28:09 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y200122M\0122Y030.D Vial: 30
Acq On : 29 Jan 20 20:12 Operator: MA,SS
Sample : BA06281W08 2/500 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 30 7:51 2020 Quant Results File: YMEE0122.RES

Quant Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 16:28:09 2020
Response via : Initial Calibration
DataAcq Meth : GED

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.16	152	127056	40.00000	ppb	0.00
3) Napthalene-D8(IS)	6.57	136	507950	40.00000	ppb	0.00
4) Acenaphthene-D10(IS)	8.58	164	387151	40.00000	ppb	0.00
5) Phenanthrene-D10(IS)	10.31	188	759399	40.00000	ppb	0.00
6) Chrysene-D12(IS)	13.39	240	600157	40.00000	ppb	0.00
7) Perylene-D12(IS)	15.12	264	589769	40.00000	ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

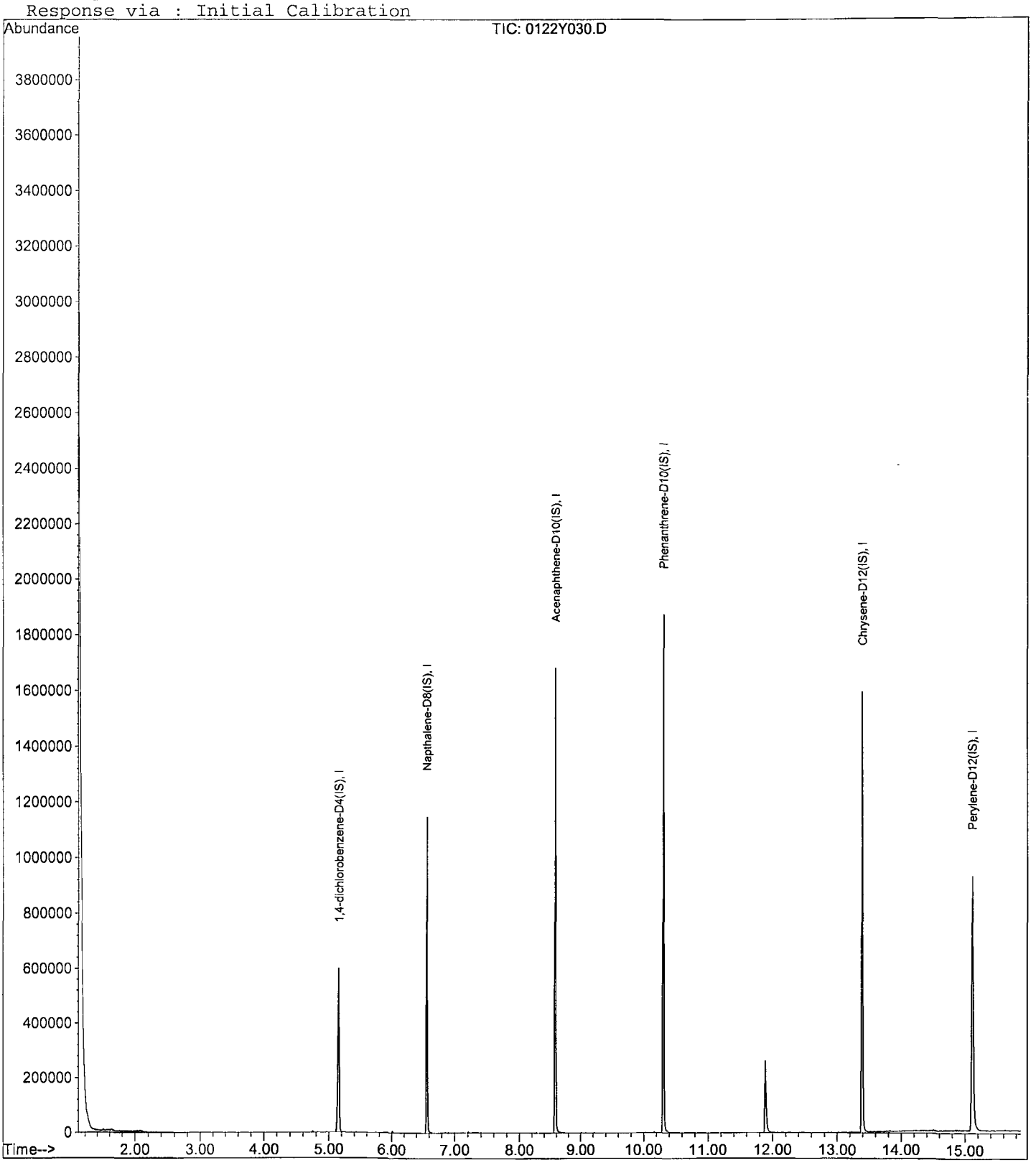
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y200122M\0122Y030.D Vial: 30
Acq On : 29 Jan 20 20:12 Operator: MA,SS
Sample : BA06281W08 2/500 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 30 7:51 2020 Quant Results File: YMEE0122.RES

Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 16:28:09 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y200122M\0122Y031.D Vial: 31
Acq On : 29 Jan 20 20:35 Operator: MA,SS
Sample : BA06282W09 2/500 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 30 7:51 2020 Quant Results File: YMEE0122.RES

Quant Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 16:28:09 2020
Response via : Initial Calibration
DataAcq Meth : GED

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.16	152	125800	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.57	136	524909	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.58	164	395337	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	10.31	188	766032	40.00000 ppb	0.00
6) Chrysene-D12(IS)	13.39	240	682068	40.00000 ppb	0.00
7) Perylene-D12(IS)	15.12	264	744499	40.00000 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

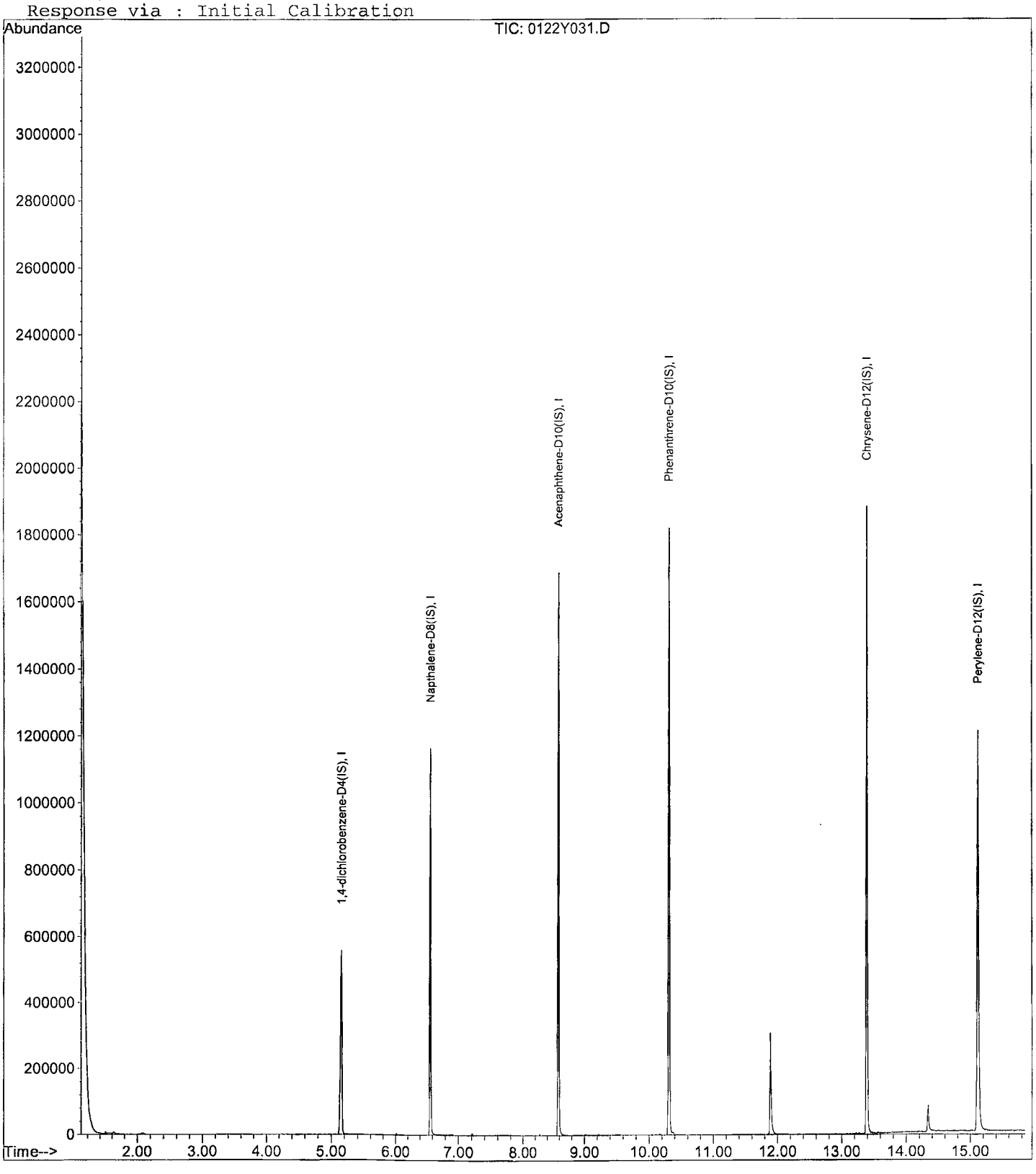
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y200122M\0122Y031.D Vial: 31
Acq On : 29 Jan 20 20:35 Operator: MA,SS
Sample : BA06282W09 2/500 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 30 7:51 2020 Quant Results File: YMEE0122.RES

Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 16:28:09 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y245.D Vial: 45
Acq On : 27 Jan 20 16:17 Operator: MA,SS
Sample : BA06284W13 2/500 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 27 16:23 2020 Quant Results File: YMEE0122.RES

Quant Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 16:28:09 2020
Response via : Initial Calibration
DataAcq Meth : GED

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.16	152	151612	40.00000	ppb	0.00
3) Napthalene-D8(IS)	6.57	136	628179	40.00000	ppb	0.00
4) Acenaphthene-D10(IS)	8.58	164	389888	40.00000	ppb	0.00
5) Phenanthrene-D10(IS)	10.31	188	750154	40.00000	ppb	0.00
6) Chrysene-D12(IS)	13.39	240	663429	40.00000	ppb	0.00
7) Perylene-D12(IS)	15.12	264	658428	40.00000	ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
1219Y245.D YMEE0122.M Thu Jan 30 13:58:25 2020 Page 1

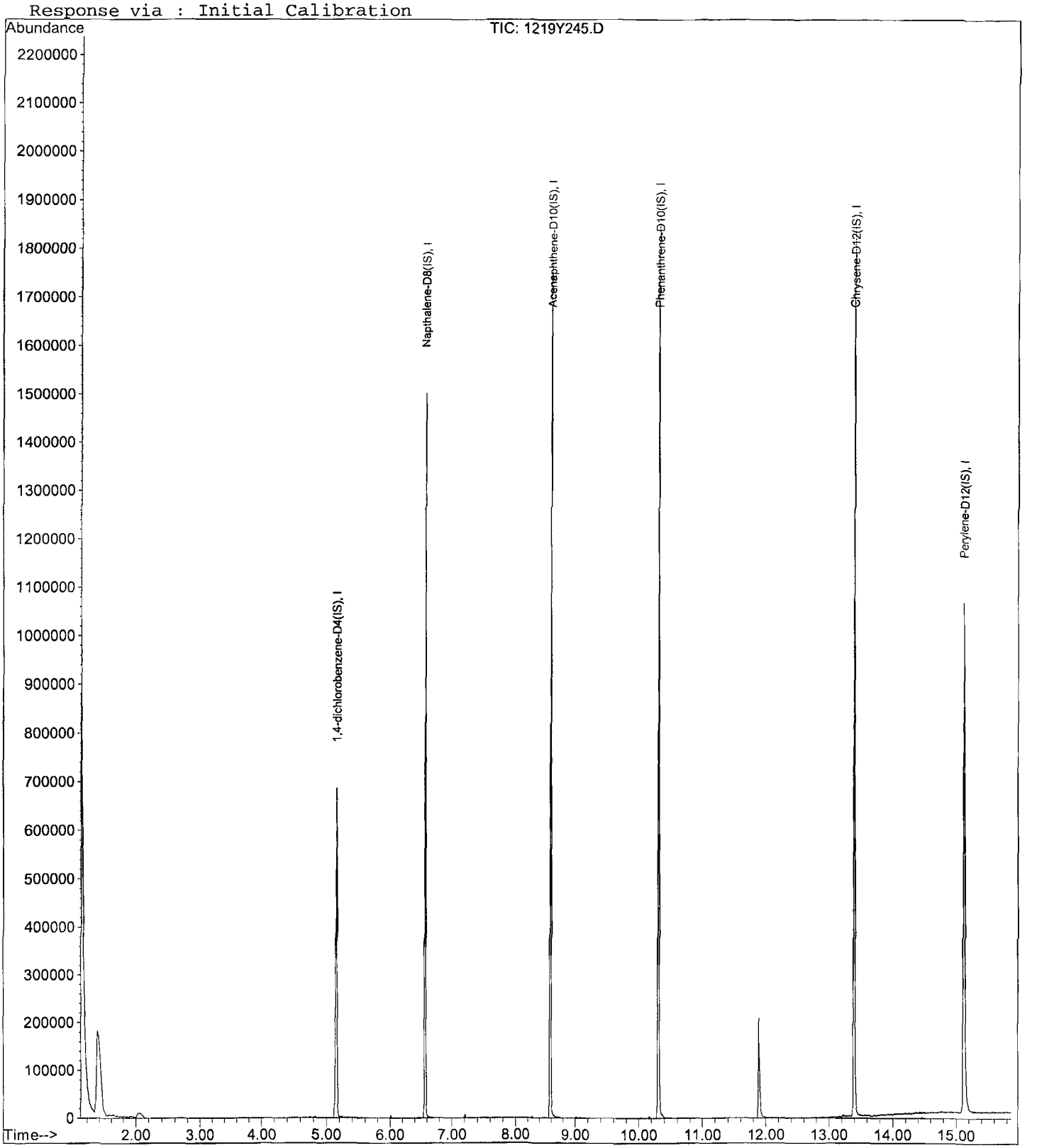
Quantitation Report

Data File : M:\YODA\DATA\Y191219\1219Y245.D
Acq On : 27 Jan 20 16:17
Sample : BA06284W13 2/500
Misc :

Vial: 45
Operator: MA,SS
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 27 16:23 2020 Quant Results File: YMEE0122.RES

Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 16:28:09 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y229.D Vial: 29
Acq On : 24 Jan 20 19:27 Operator: MA,SS
Sample : 200124A BLK 2/500 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 27 8:10 2020 Quant Results File: YMEE0122.RES

Quant Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 16:28:09 2020
Response via : Initial Calibration
DataAcq Meth : GED

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.16	152	130313	40.00000	ppb	0.00
3) Napthalene-D8(IS)	6.57	136	533820	40.00000	ppb	0.00
4) Acenaphthene-D10(IS)	8.58	164	394384	40.00000	ppb	0.00
5) Phenanthrene-D10(IS)	10.31	188	785793	40.00000	ppb	0.00
6) Chrysene-D12(IS)	13.39	240	626912	40.00000	ppb	0.00
7) Perylene-D12(IS)	15.12	264	626844	40.00000	ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

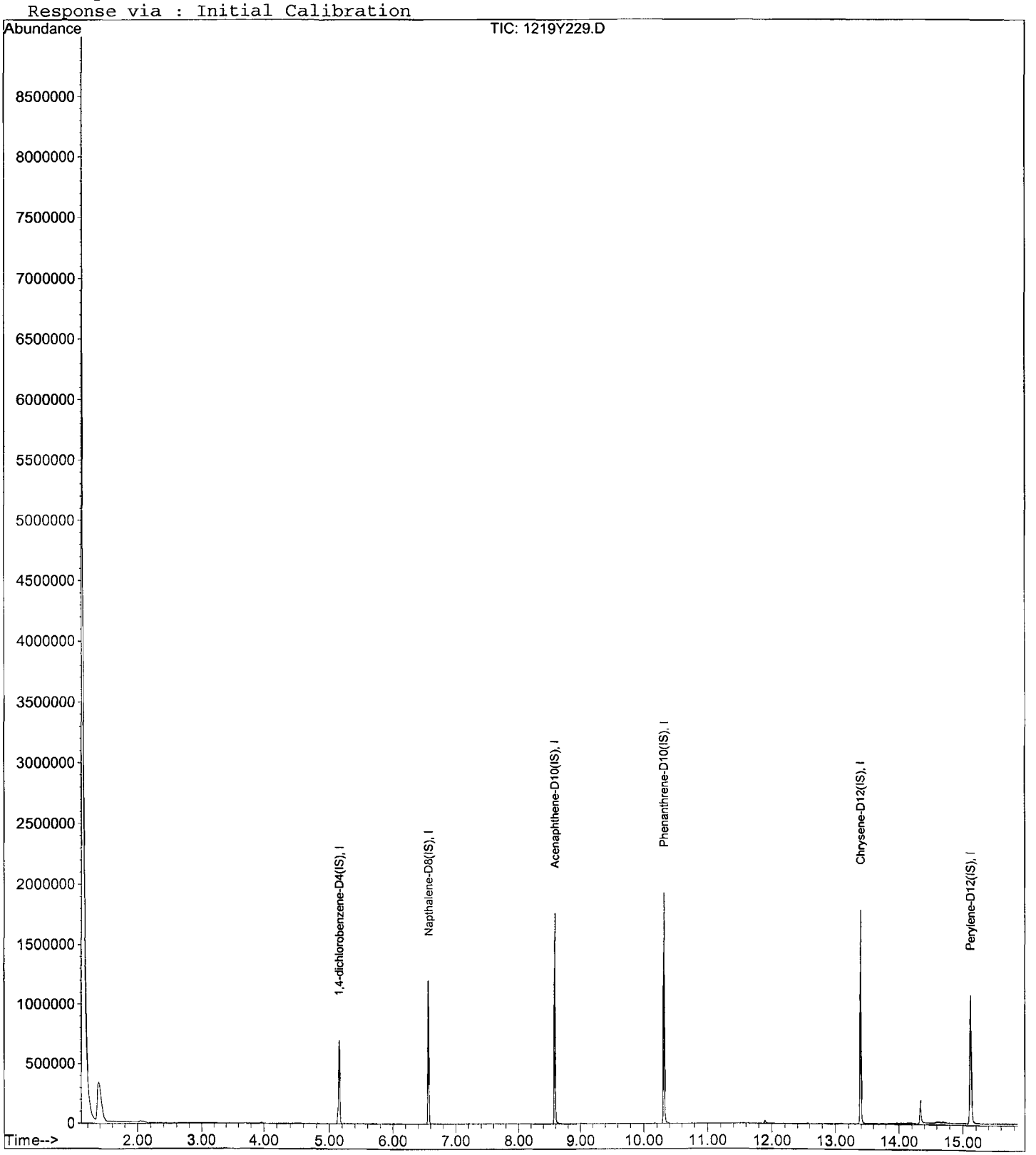
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y191219\1219Y229.D Vial: 29
Acq On : 24 Jan 20 19:27 Operator: MA,SS
Sample : 200124A BLK 2/500 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 27 8:10 2020 Quant Results File: YMEE0122.RES

Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 16:28:09 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y242.D Vial: 42
Acq On : 27 Jan 20 15:07 Operator: MA,SS
Sample : 200127A BLK 2/500 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 27 15:41 2020 Quant Results File: YMEE0122.RES

Quant Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 16:28:09 2020
Response via : Initial Calibration
DataAcq Meth : GED

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.15	152	132735	40.00000	ppb	0.00
3) Napthalene-D8(IS)	6.57	136	572599	40.00000	ppb	0.00
4) Acenaphthene-D10(IS)	8.59	164	328947	40.00000	ppb	0.00
5) Phenanthrene-D10(IS)	10.31	188	635123	40.00000	ppb	0.00
6) Chrysene-D12(IS)	13.39	240	524857	40.00000	ppb	0.00
7) Perylene-D12(IS)	15.12	264	531059	40.00000	ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

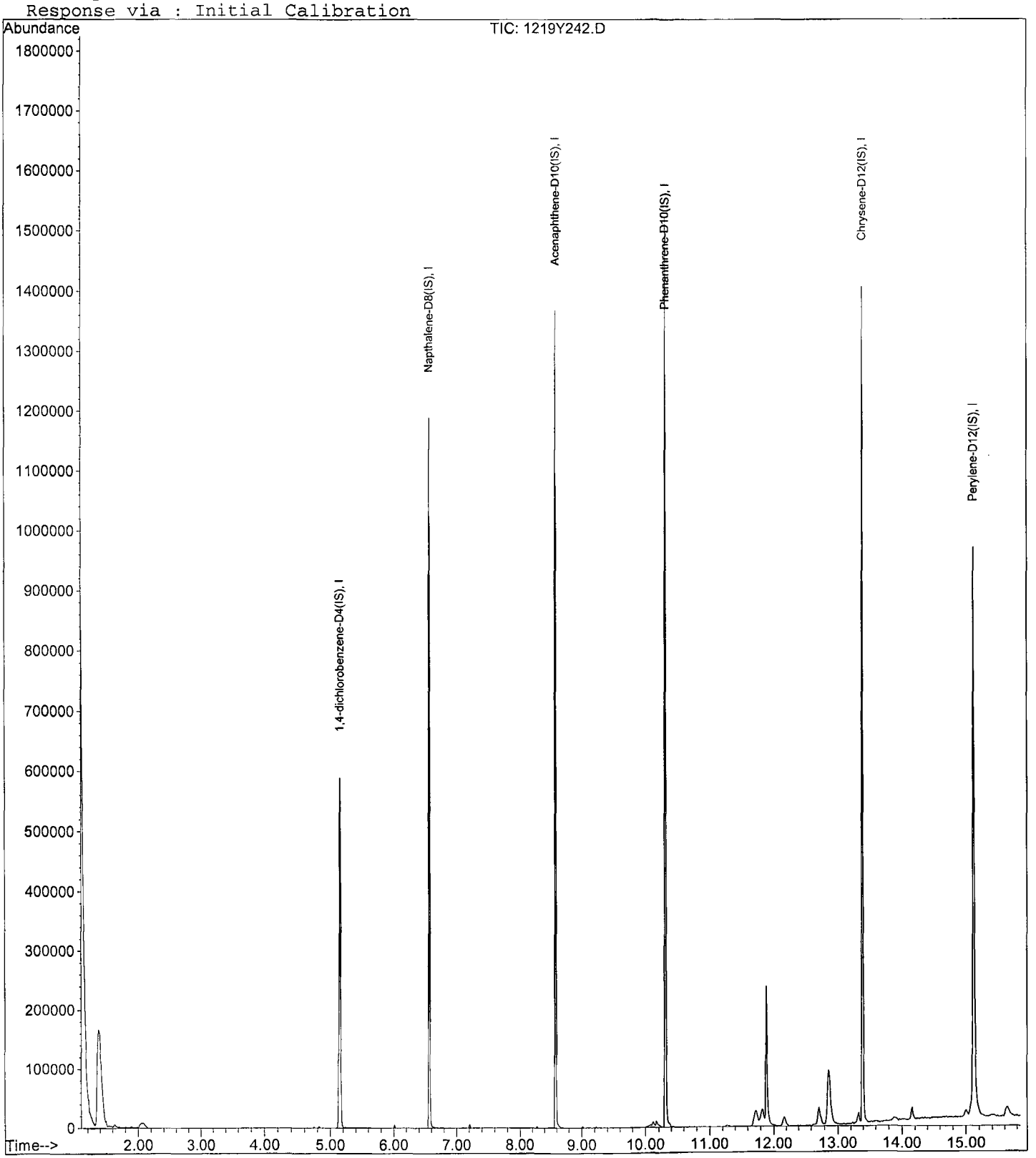
(#) = qualifier out of range (m) = manual integration
1219Y242.D YMEE0122.M Thu Jan 30 13:58:11 2020 Page 1

Quantitation Report

Data File : M:\YODA\DATA\Y191219\1219Y242.D Vial: 42
Acq On : 27 Jan 20 15:07 Operator: MA,SS
Sample : 200127A BLK 2/500 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 27 15:41 2020 Quant Results File: YMEE0122.RES

Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 16:28:09 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y200122M\0122Y020.D Vial: 20
Acq On : 29 Jan 20 16:17 Operator: MA,SS
Sample : 200128A BLK 2/500 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 30 7:50 2020 Quant Results File: YMEE0122.RES

Quant Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 16:28:09 2020
Response via : Initial Calibration
DataAcq Meth : GED

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.15	152	101798	40.00000	ppb	0.00
3) Napthalene-D8(IS)	6.57	136	401287	40.00000	ppb	0.00
4) Acenaphthene-D10(IS)	8.58	164	316737	40.00000	ppb	0.00
5) Phenanthrene-D10(IS)	10.31	188	591937	40.00000	ppb	0.00
6) Chrysene-D12(IS)	13.39	240	498560	40.00000	ppb	0.00
7) Perylene-D12(IS)	15.12	264	485910	40.00000	ppb	0.00

System Monitoring Compounds

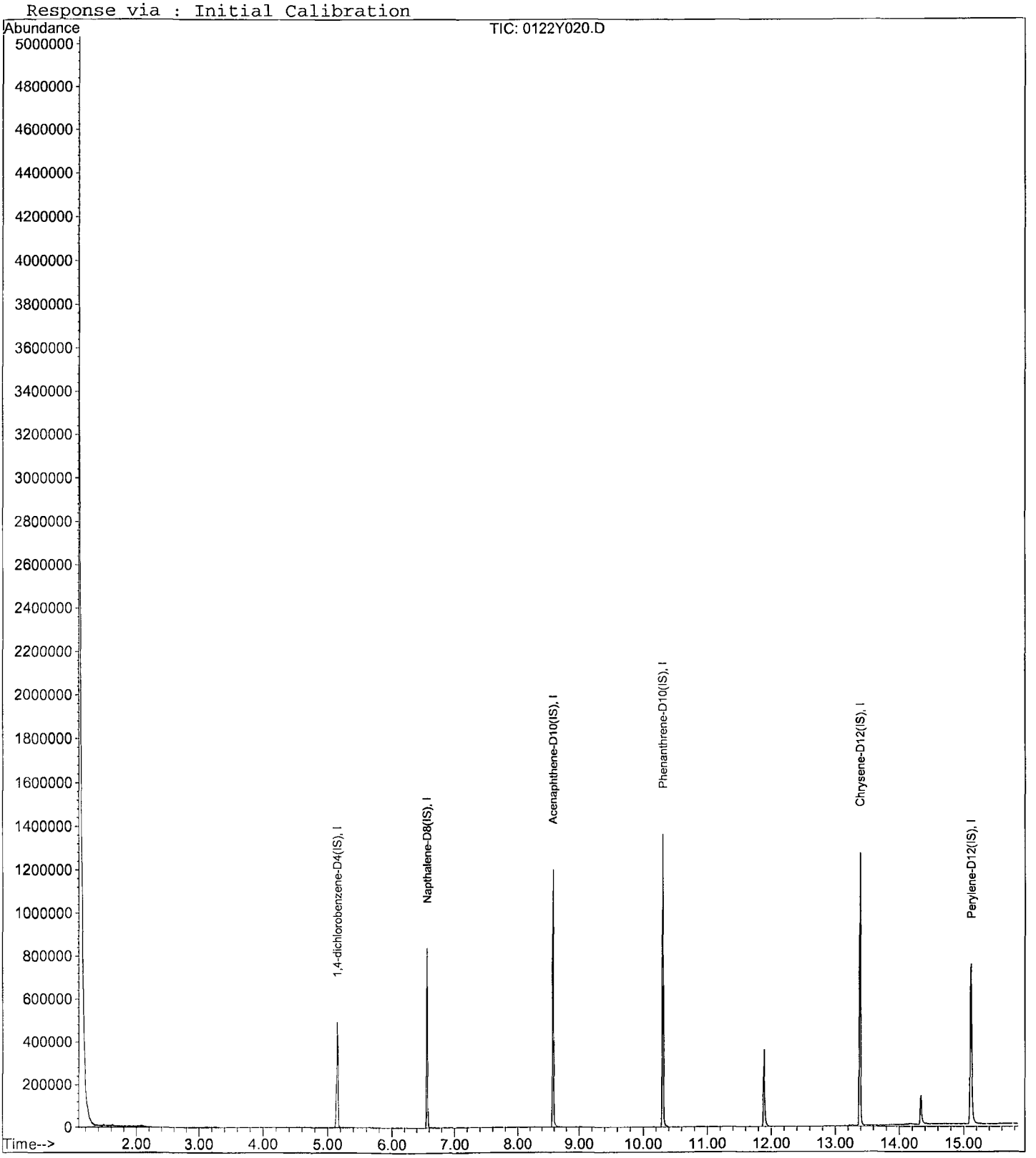
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
0122Y020.D YMEE0122.M Thu Jan 30 08:38:28 2020 Page 1

Data File : M:\YODA\DATA\Y200122M\0122Y020.D Vial: 20
Acq On : 29 Jan 20 16:17 Operator: MA,SS
Sample : 200128A BLK 2/500 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 30 7:50 2020 Quant Results File: YMEE0122.RES

Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 16:28:09 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y230.D Vial: 30
Acq On : 24 Jan 20 19:51 Operator: MA,SS
Sample : 200124A LCS-1 2/500 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 27 8:10 2020 Quant Results File: YMEE0122.RES

Quant Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 16:28:09 2020
Response via : Initial Calibration
DataAcq Meth : GED

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.16	152	126776	40.00000	ppb	0.00
3) Napthalene-D8(IS)	6.57	136	539160	40.00000	ppb	0.00
4) Acenaphthene-D10(IS)	8.59	164	390935	40.00000	ppb	0.00
5) Phenanthrene-D10(IS)	10.31	188	785216	40.00000	ppb	0.00
6) Chrysene-D12(IS)	13.39	240	647953	40.00000	ppb	0.00
7) Perylene-D12(IS)	15.12	264	660643	40.00000	ppb	0.00

System Monitoring Compounds

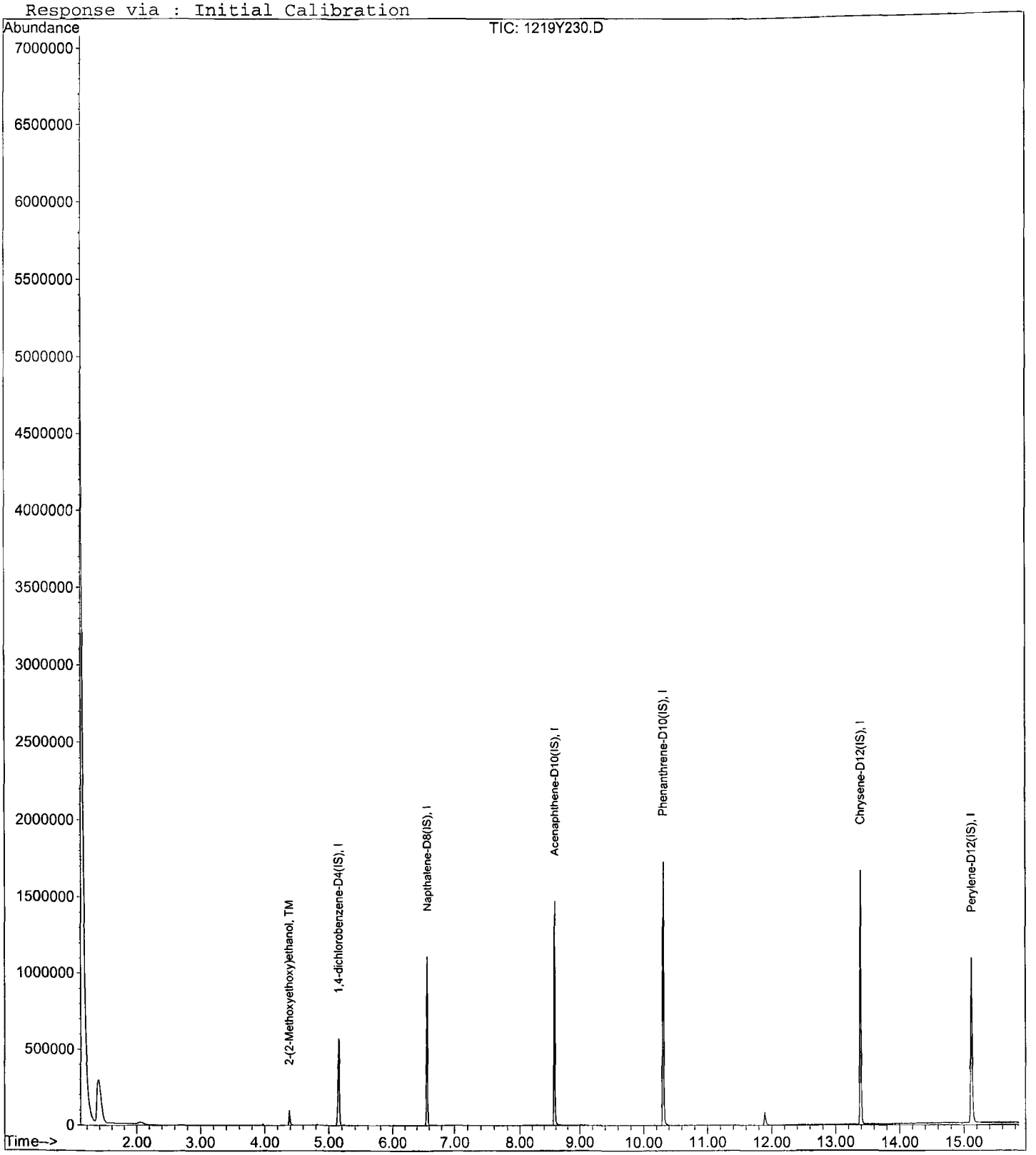
Target Compounds						Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.38	45	50226	67.45390	ppb	98

(#) = qualifier out of range (m) = manual integration

Data File : M:\YODA\DATA\Y191219\1219Y230.D Vial: 30
Acq On : 24 Jan 20 19:51 Operator: MA,SS
Sample : 200124A LCS-1 2/500 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 27 8:10 2020 Quant Results File: YMEE0122.RES

Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 16:28:09 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y231.D Vial: 31
Acq On : 24 Jan 20 20:15 Operator: MA,SS
Sample : 200124A LCSD-1 2/500 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 27 8:10 2020 Quant Results File: YMEE0122.RES

Quant Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 16:28:09 2020
Response via : Initial Calibration
DataAcq Meth : GED

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.16	152	135026	40.00000	ppb	0.00
3) Napthalene-D8(IS)	6.57	136	594325	40.00000	ppb	0.00
4) Acenaphthene-D10(IS)	8.58	164	418530	40.00000	ppb	0.00
5) Phenanthrene-D10(IS)	10.31	188	822402	40.00000	ppb	0.00
6) Chrysene-D12(IS)	13.39	240	657779	40.00000	ppb	0.00
7) Perylene-D12(IS)	15.12	264	645856	40.00000	ppb	0.00

System Monitoring Compounds

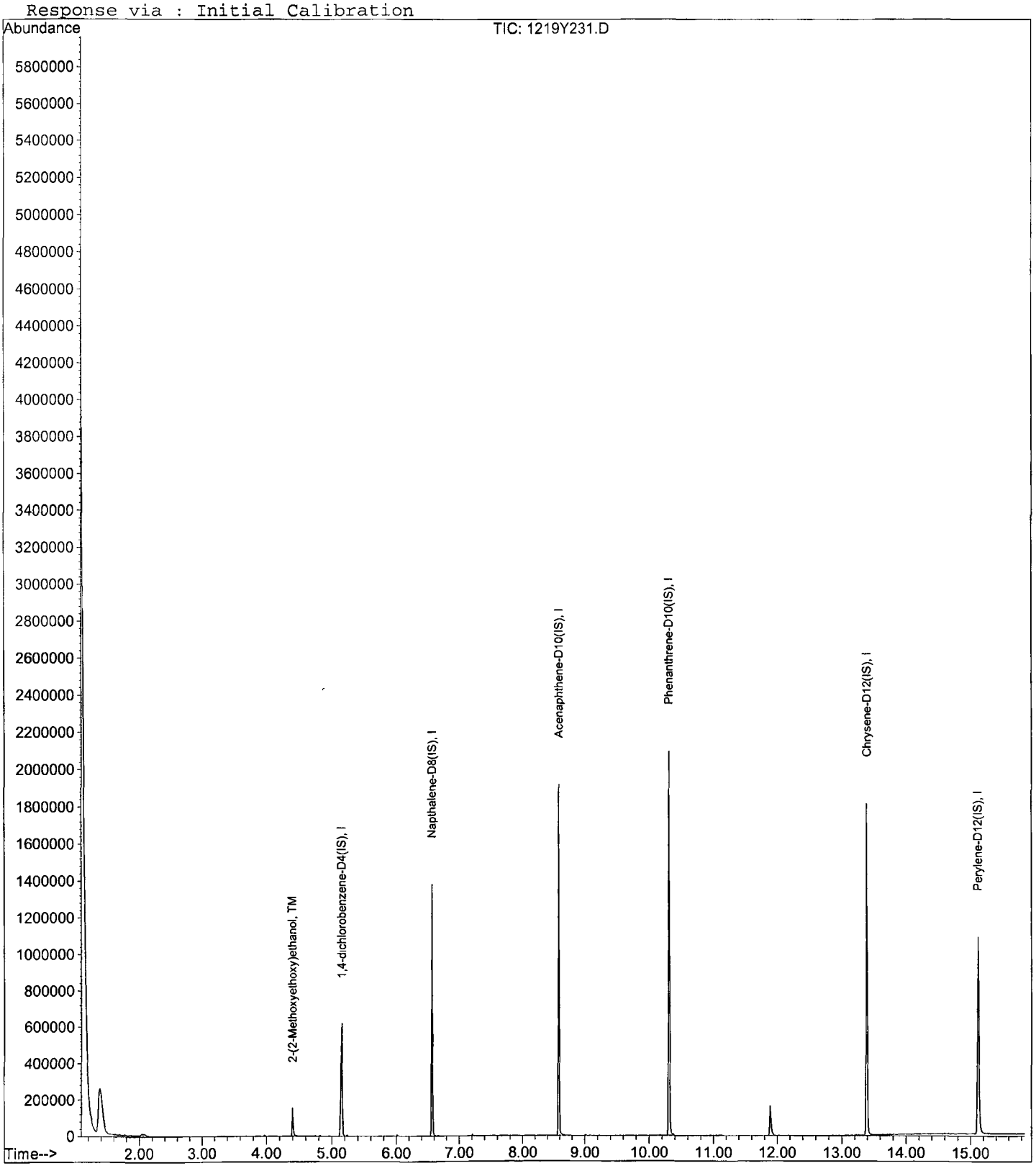
Target Compounds						Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.40	45	71424	90.06214	ppb	99

(#) = qualifier out of range (m) = manual integration
1219Y231.D YMEE0122.M Thu Jan 30 13:57:49 2020 Page 1

Data File : M:\YODA\DATA\Y191219\1219Y231.D Vial: 31
Acq On : 24 Jan 20 20:15 Operator: MA,SS
Sample : 200124A LCSD-1 2/500 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 27 8:10 2020 Quant Results File: YMEE0122.RES

Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 16:28:09 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y243.D Vial: 43
Acq On : 27 Jan 20 15:30 Operator: MA,SS
Sample : 200127A LCS-1 2/500 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 27 15:41 2020 Quant Results File: YMEE0122.RES

Quant Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 16:28:09 2020
Response via : Initial Calibration
DataAcq Meth : GED

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.15	152	140477	40.00000	ppb	0.00
3) Napthalene-D8(IS)	6.57	136	582765	40.00000	ppb	0.00
4) Acenaphthene-D10(IS)	8.59	164	360084	40.00000	ppb	0.00
5) Phenanthrene-D10(IS)	10.31	188	687232	40.00000	ppb	0.00
6) Chrysene-D12(IS)	13.39	240	581663	40.00000	ppb	0.00
7) Perylene-D12(IS)	15.12	264	624679	40.00000	ppb	0.00

System Monitoring Compounds

Target Compounds						Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.41	45	62789	76.10161	ppb	98

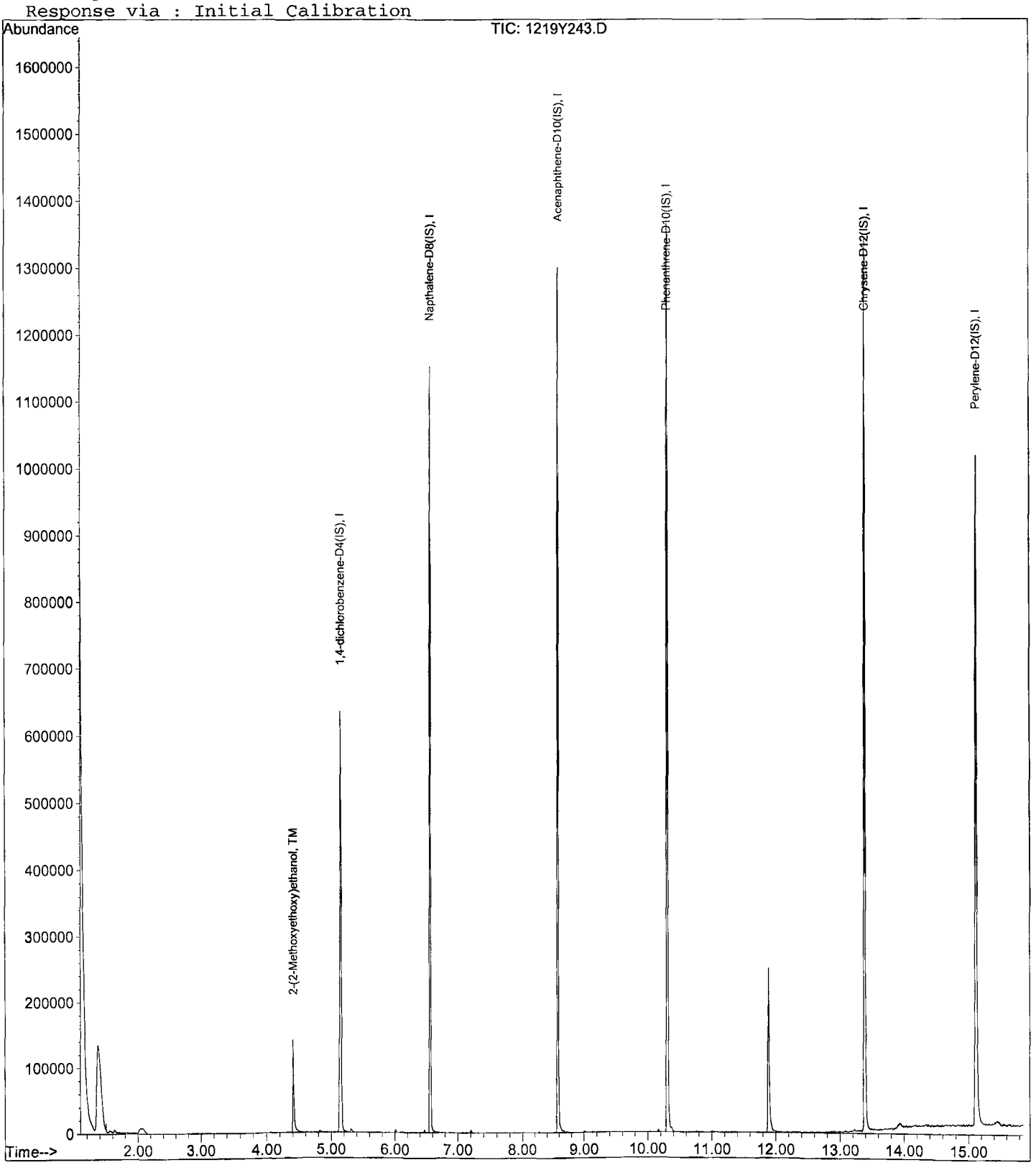
(#) = qualifier out of range (m) = manual integration
1219Y243.D YMEE0122.M Thu Jan 30 13:58:16 2020 Page 1

Quantitation Report

Data File : M:\YODA\DATA\Y191219\1219Y243.D Vial: 43
Acq On : 27 Jan 20 15:30 Operator: MA,SS
Sample : 200127A LCS-1 2/500 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 27 15:41 2020 Quant Results File: YMEE0122.RES

Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 16:28:09 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y244.D Vial: 44
Acq On : 27 Jan 20 15:54 Operator: MA,SS
Sample : 200127A LCSD-1 2/500 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 27 16:23 2020 Quant Results File: YMEE0122.RES

Quant Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 16:28:09 2020
Response via : Initial Calibration
DataAcq Meth : GED

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.16	152	126057	40.00000	ppb	0.00
3) Napthalene-D8(IS)	6.57	136	568709	40.00000	ppb	0.00
4) Acenaphthene-D10(IS)	8.58	164	375824	40.00000	ppb	0.00
5) Phenanthrene-D10(IS)	10.31	188	719622	40.00000	ppb	0.00
6) Chrysene-D12(IS)	13.39	240	593395	40.00000	ppb	0.00
7) Perylene-D12(IS)	15.12	264	560276	40.00000	ppb	0.00

System Monitoring Compounds

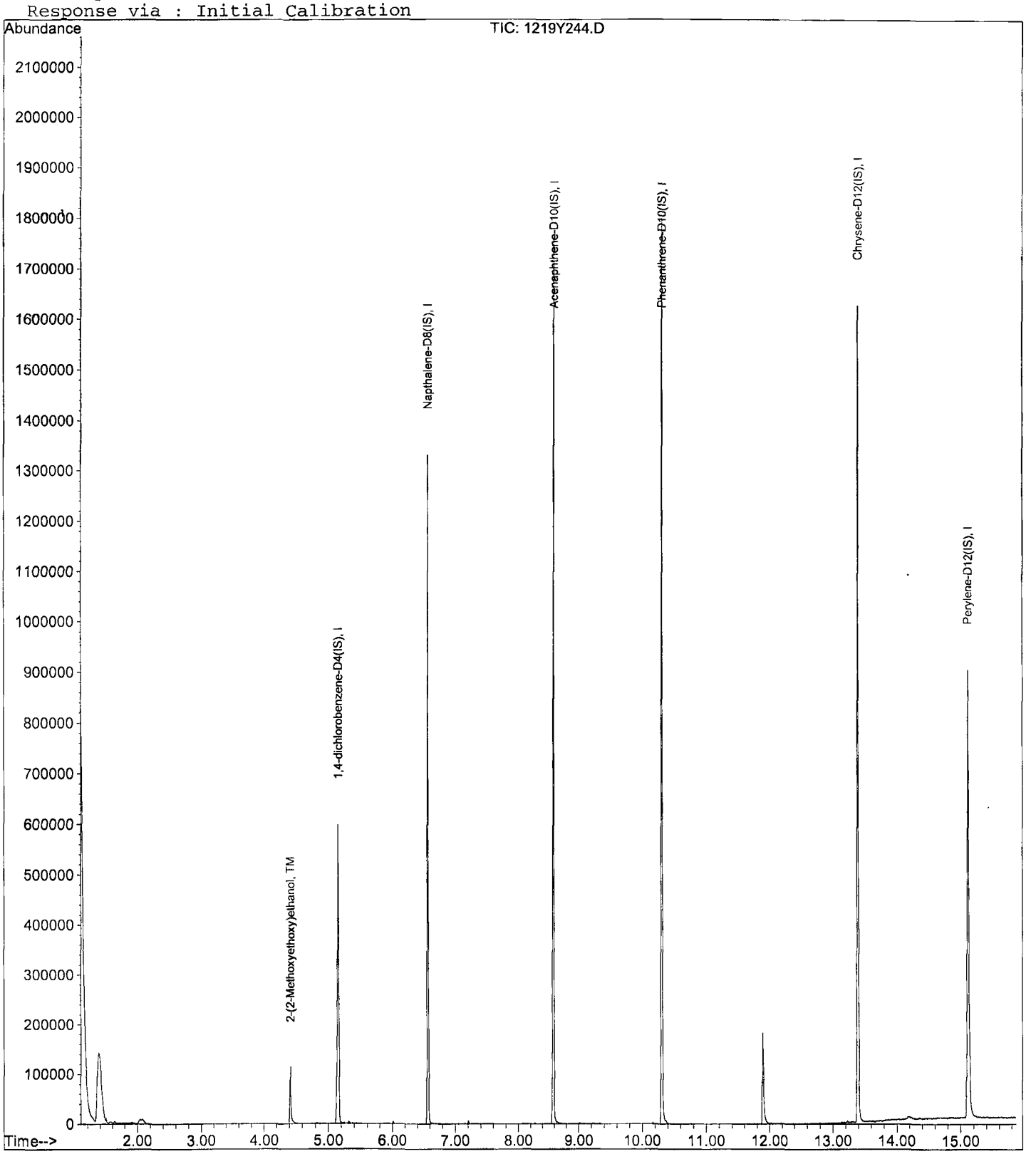
Target Compounds						Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.42	45	56996	76.98266	ppb	99

(#) = qualifier out of range (m) = manual integration
1219Y244.D YMEE0122.M Thu Jan 30 13:58:20 2020 Page 1

Data File : M:\YODA\DATA\Y191219\1219Y244.D Vial: 44
Acq On : 27 Jan 20 15:54 Operator: MA,SS
Sample : 200127A LCSD-1 2/500 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 27 16:23 2020 Quant Results File: YMEE0122.RES

Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 16:28:09 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y200122M\0122Y022.D Vial: 22
Acq On : 29 Jan 20 17:04 Operator: MA,SS
Sample : 200128A LCS-1 2/500 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 30 7:51 2020 Quant Results File: YMEE0122.RES

Quant Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 16:28:09 2020
Response via : Initial Calibration
DataAcq Meth : GED

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.16	152	109093	40.00000	ppb	0.00
3) Napthalene-D8(IS)	6.57	136	438122	40.00000	ppb	0.00
4) Acenaphthene-D10(IS)	8.58	164	353433	40.00000	ppb	0.00
5) Phenanthrene-D10(IS)	10.31	188	670592	40.00000	ppb	0.00
6) Chrysene-D12(IS)	13.39	240	532090	40.00000	ppb	0.00
7) Perylene-D12(IS)	15.12	264	726611	40.00000	ppb	0.00

System Monitoring Compounds

Target Compounds						Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.40	45	48461	75.63294	ppb	93

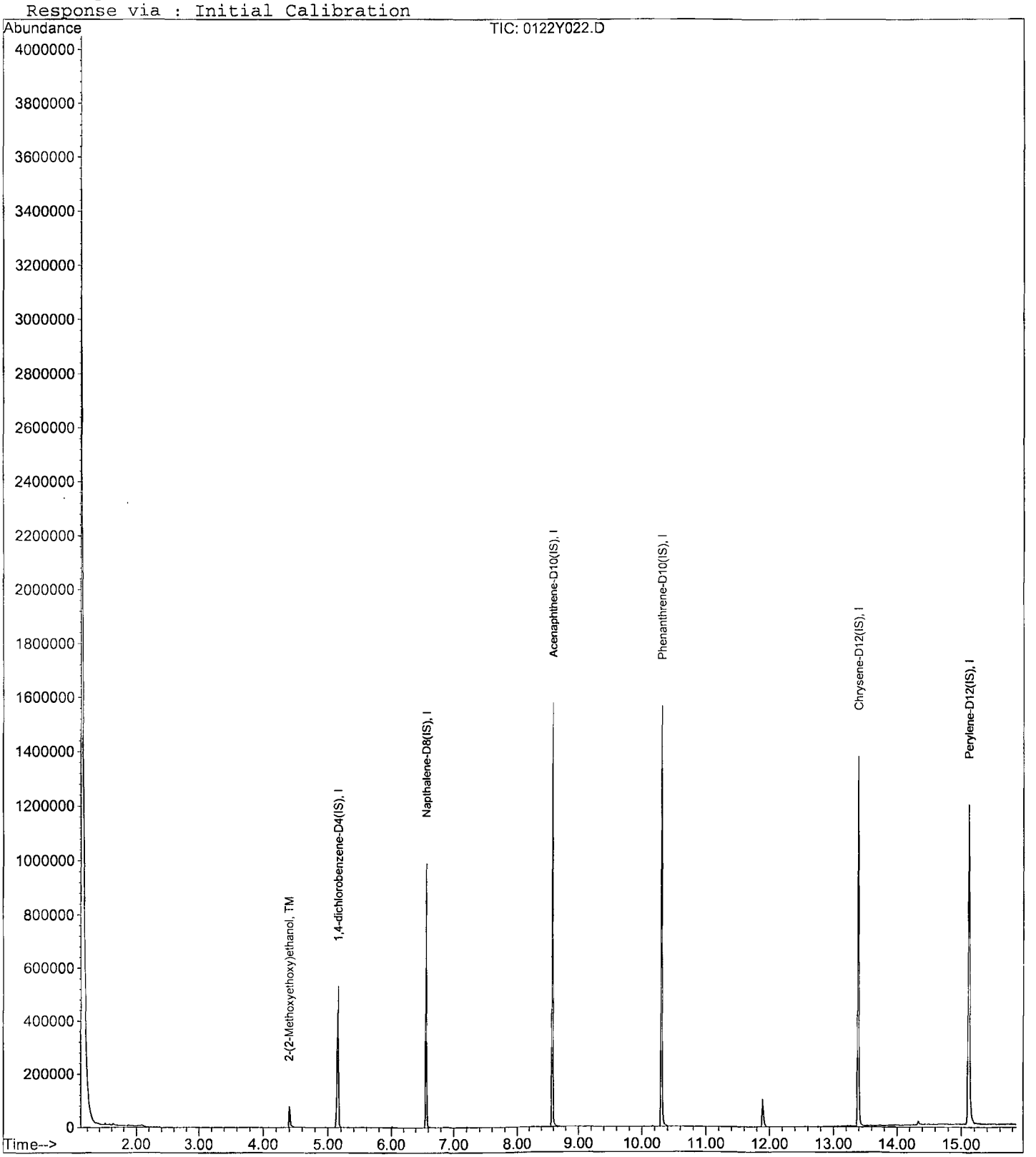
(#) = qualifier out of range (m) = manual integration
0122Y022.D YMEE0122.M Thu Jan 30 08:38:33 2020 Page 1

Quantitation Report

Data File : M:\YODA\DATA\Y200122M\0122Y022.D Vial: 22
Acq On : 29 Jan 20 17:04 Operator: MA,SS
Sample : 200128A LCS-1 2/500 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 30 7:51 2020 Quant Results File: YMEE0122.RES

Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 16:28:09 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y200122M\0122Y025.D Vial: 25
Acq On : 29 Jan 20 18:14 Operator: MA,SS
Sample : BA06272W19 MS-1 2/500 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 30 7:51 2020 Quant Results File: YMEE0122.RES

Quant Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 16:28:09 2020
Response via : Initial Calibration
DataAcq Meth : GED

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.16	152	114094	40.00000	ppb	0.00
3) Napthalene-D8(IS)	6.57	136	529774	40.00000	ppb	0.00
4) Acenaphthene-D10(IS)	8.58	164	385838	40.00000	ppb	0.00
5) Phenanthrene-D10(IS)	10.31	188	743439	40.00000	ppb	0.00
6) Chrysene-D12(IS)	13.39	240	589425	40.00000	ppb	0.00
7) Perylene-D12(IS)	15.12	264	571369	40.00000	ppb	0.00

System Monitoring Compounds

Target Compounds						Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.40	45	55755	83.20253	ppb	96

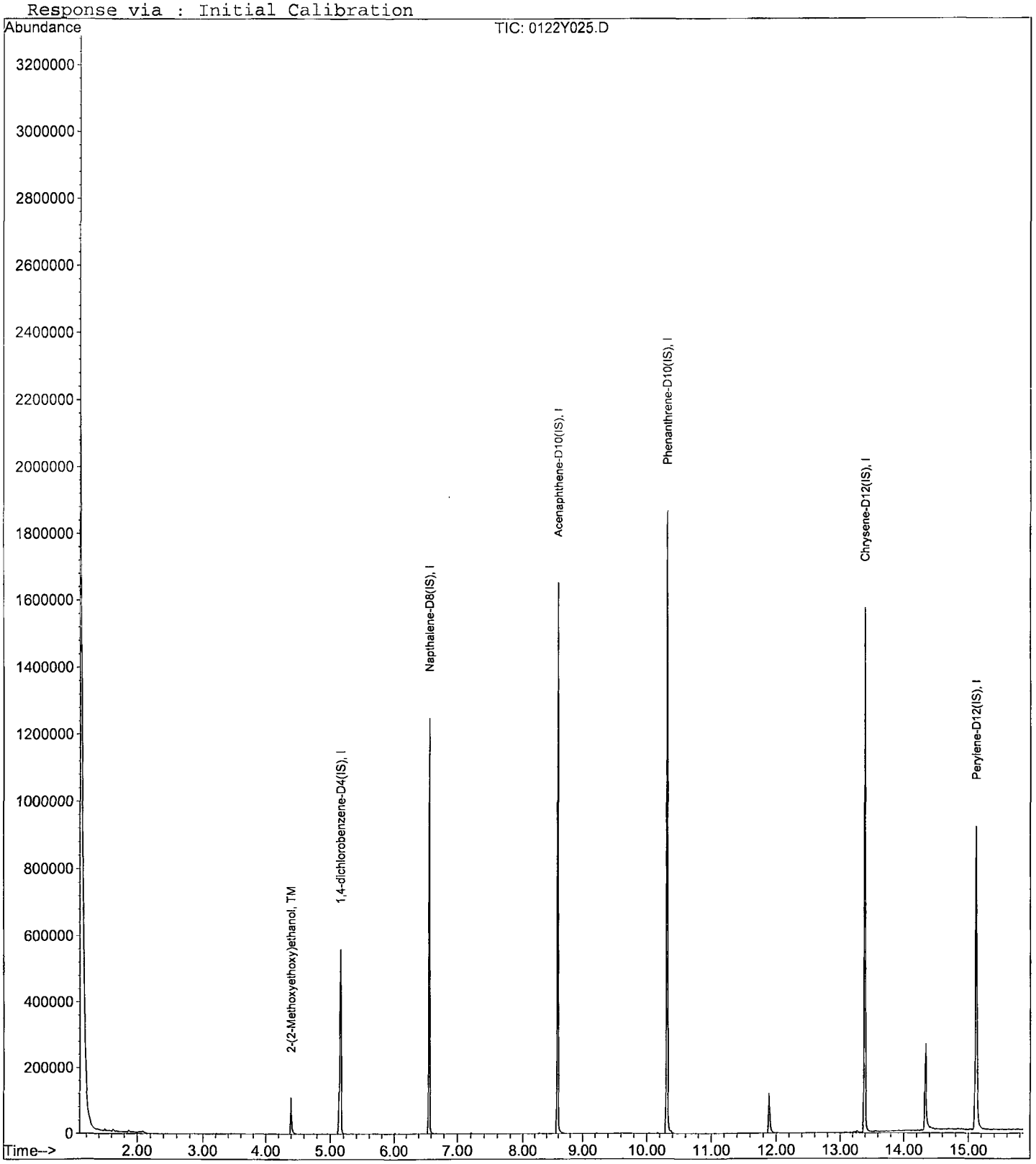
(#) = qualifier out of range (m) = manual integration
0122Y025.D YMEE0122.M Thu Jan 30 08:38:41 2020 Page 1

Quantitation Report

Data File : M:\YODA\DATA\Y200122M\0122Y025.D Vial: 25
Acq On : 29 Jan 20 18:14 Operator: MA,SS
Sample : BA06272W19 MS-1 2/500 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 30 7:51 2020 Quant Results File: YMEE0122.RES

Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 16:28:09 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y200122M\0122Y026.D Vial: 26
Acq On : 29 Jan 20 18:38 Operator: MA,SS
Sample : BA06272W20 MSD-1 2/500 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 30 7:51 2020 Quant Results File: YMEE0122.RES

Quant Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 16:28:09 2020
Response via : Initial Calibration
DataAcq Meth : GED

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.15	152	114502	40.00000	ppb	0.00
3) Napthalene-D8(IS)	6.57	136	484545	40.00000	ppb	0.00
4) Acenaphthene-D10(IS)	8.58	164	365492	40.00000	ppb	0.00
5) Phenanthrene-D10(IS)	10.31	188	694023	40.00000	ppb	0.00
6) Chrysene-D12(IS)	13.39	240	525087	40.00000	ppb	0.00
7) Perylene-D12(IS)	15.12	264	658317	40.00000	ppb	0.00

System Monitoring Compounds

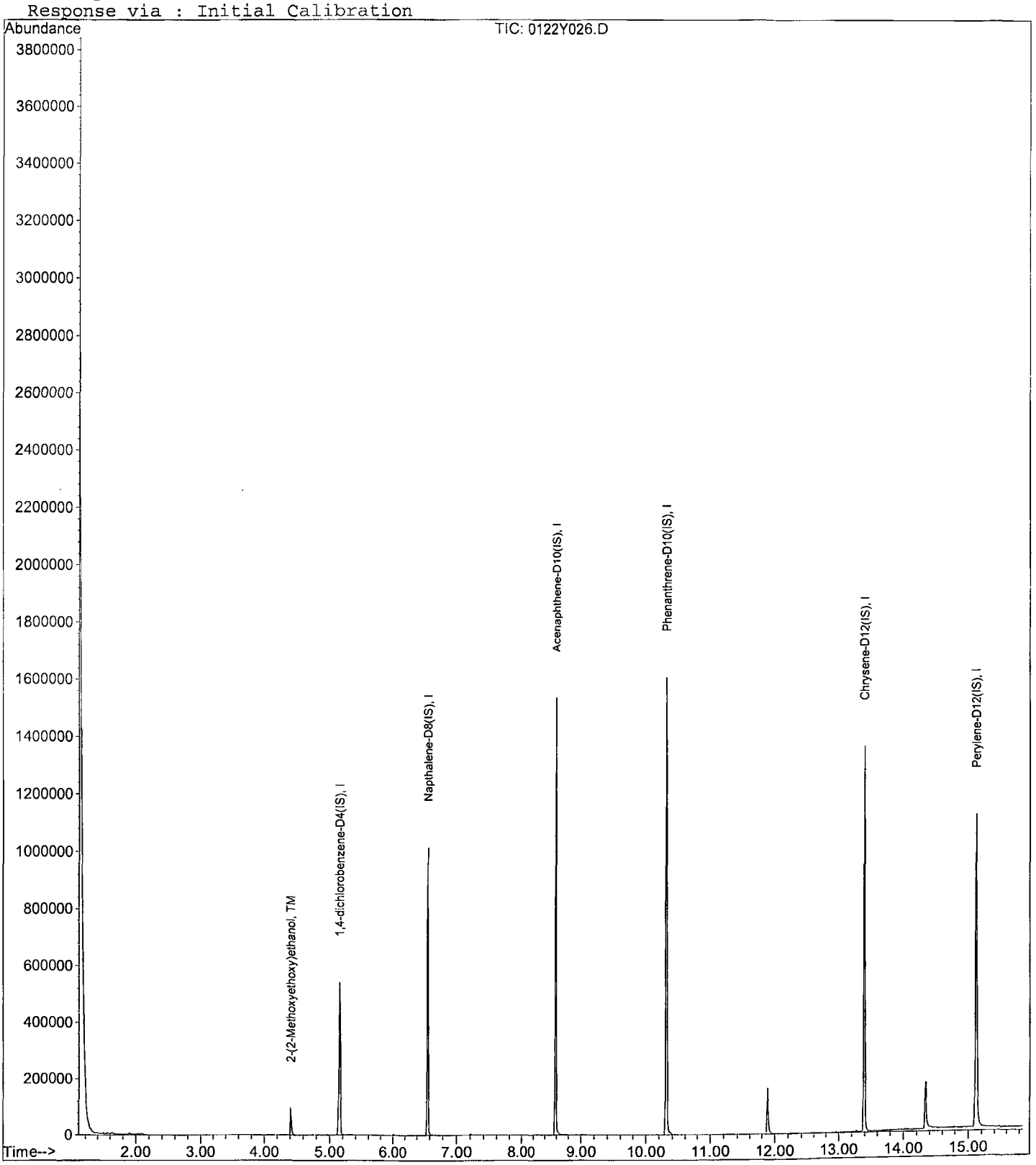
Target Compounds						Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.41	45	49895	74.19241	ppb	98

(#) = qualifier out of range (m) = manual integration
0122Y026.D YMEE0122.M Thu Jan 30 08:38:44 2020 Page 1

Data File : M:\YODA\DATA\Y200122M\0122Y026.D Vial: 26
Acq On : 29 Jan 20 18:38 Operator: MA,SS
Sample : BA06272W20 MSD-1 2/500 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 30 7:51 2020 Quant Results File: YMEE0122.RES

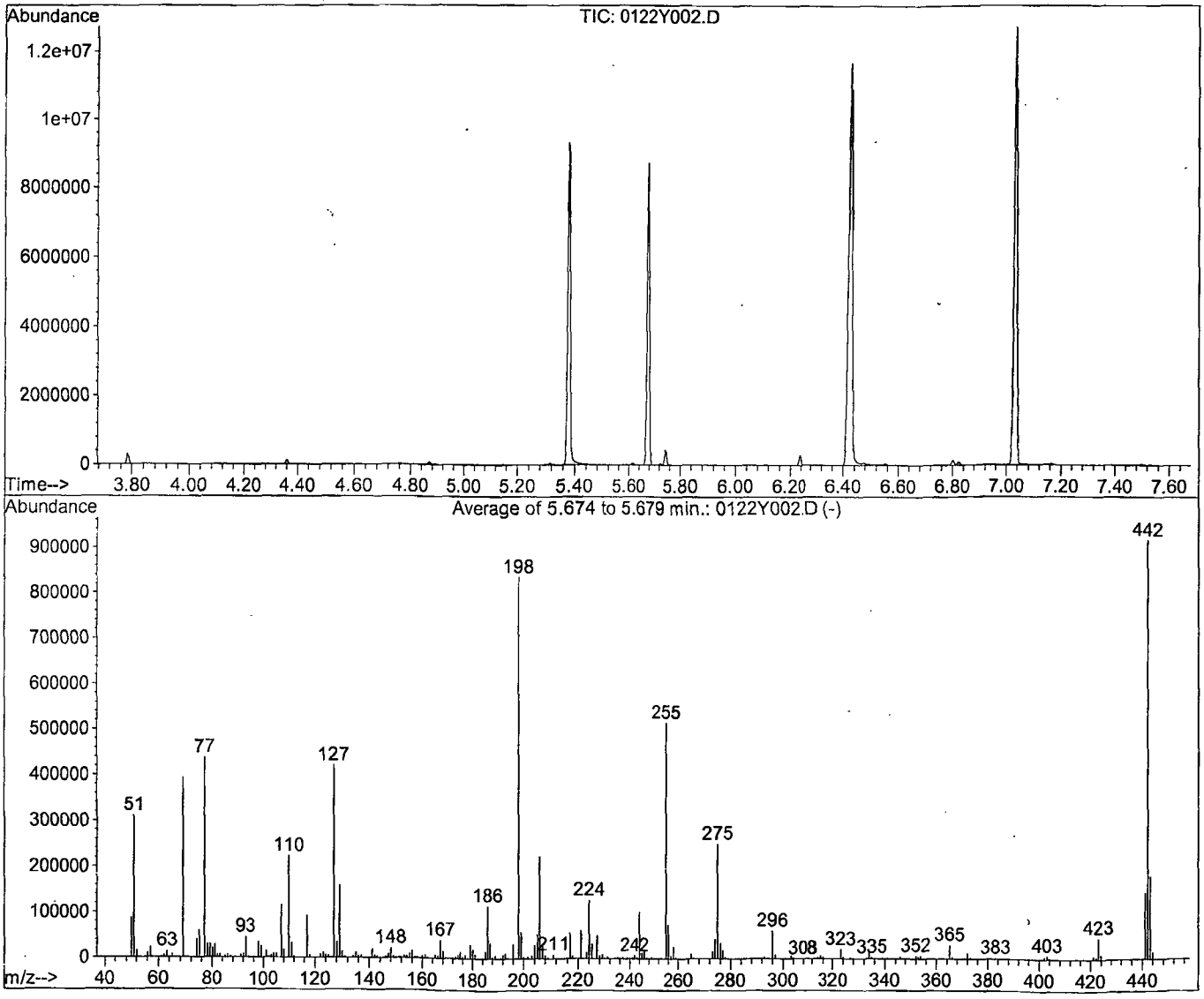
Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 16:28:09 2020
Response via : Initial Calibration



Data File : M:\YODA\DATA\Y200122M\0122Y002.D
Acq On : 22 Jan 20 15:31
Sample : SV Tune 10/11/18
Misc :

Vial: 2
Operator: MA,SS
Inst : Yoda
Multiplr: 1.00

Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C



Spectrum Information: Average of 5.674 to 5.679 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	37.2	310756	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.2	963	PASS
127	198	10	80	50.4	420821	PASS
197	198	0.00	2	0.0	0	PASS
198	198	100	100	100.0	835008	PASS
199	198	5	9	7.1	58973	PASS
275	198	10	60	30.1	251435	PASS
365	198	1	100	3.7	30675	PASS
441	442	0.01	24	15.9	145797	PASS
442	198	50	500	109.9	917909	PASS
443	442	15	24	19.8	181739	PASS

Data File Name:	**0122Y002.D**
Data File Path:	**M:\YODA\DATA\Y200122M**
Operator:	**MA,SS**
Date Acquired:	**22 Jan 2020 15:31**
Method File:	**DFTPP2.M**
Sample Name:	**SV Tune 10/11/18**
Vial Number:	**2**
Instrument Name:	**Yoda**

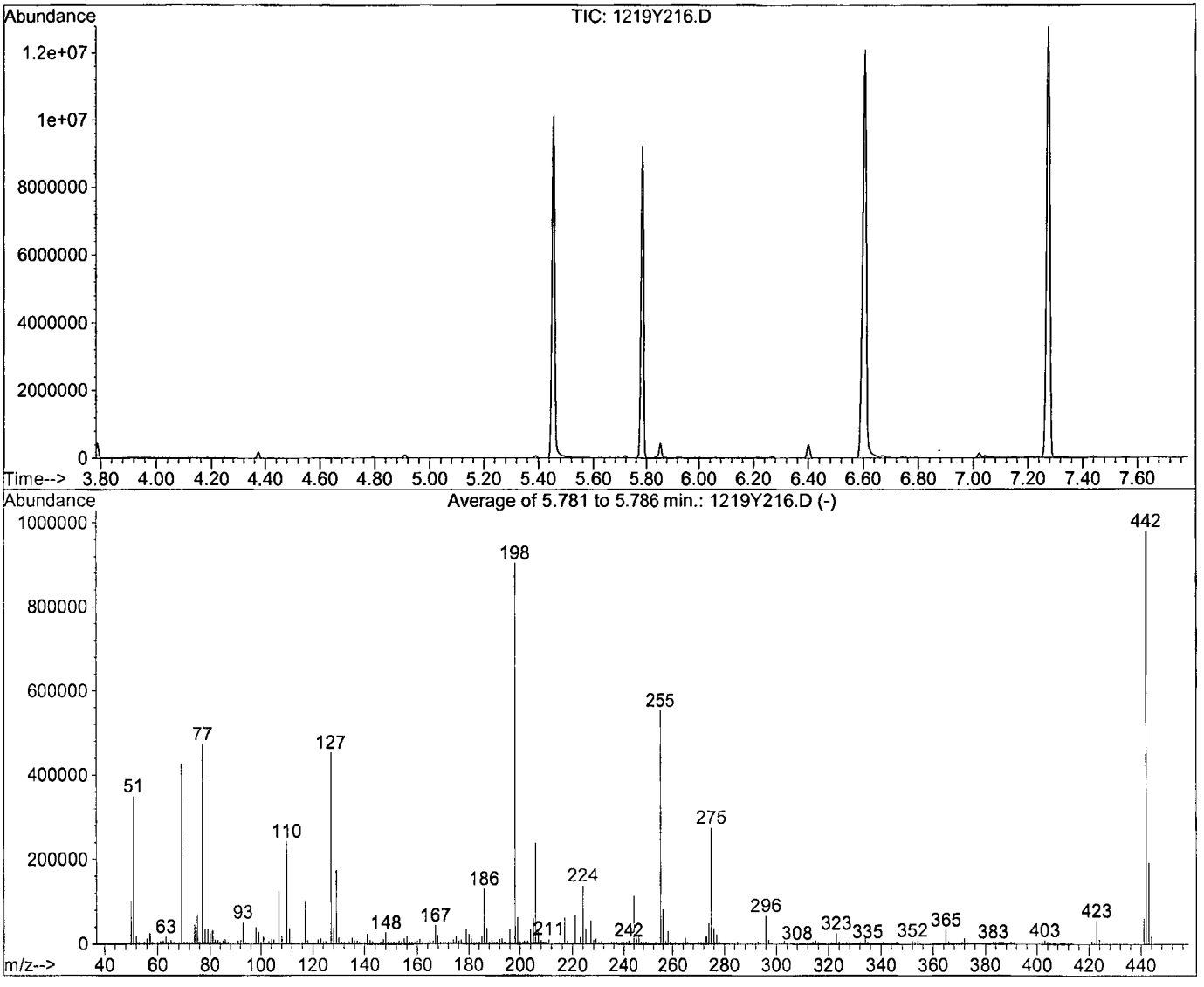
#	Name	Ret Time	Target Response
1)	DDT	7.02	96603900
2)	DDD	6.79	987534
3)	DDE	6.59	119819

Breakdown **1.13**

Data File : M:\YODA\DATA\Y191219\1219Y216.D
Acq On : 24 Jan 20 11:51
Sample : SV TUNE 10/01/19
Misc :

Vial: 16
Operator: MA,SS
Inst : Yoda
Multiplr: 1.00

Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C



AutoFind: Scans 879, 880, 881; Background Corrected with Scan 870

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	38.7	349322	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.2	753	PASS
127	198	10	80	50.1	452416	PASS
197	198	0.00	2	0.0	0	PASS
198	198	100	100	100.0	903701	PASS
199	198	5	9	6.8	61704	PASS
275	198	10	60	30.4	275157	PASS
365	198	1	100	3.6	32208	PASS
441	442	0.01	24	6.2	61163	PASS
442	198	50	500	108.4	979413	PASS
443	442	15	24	19.6	191957	PASS

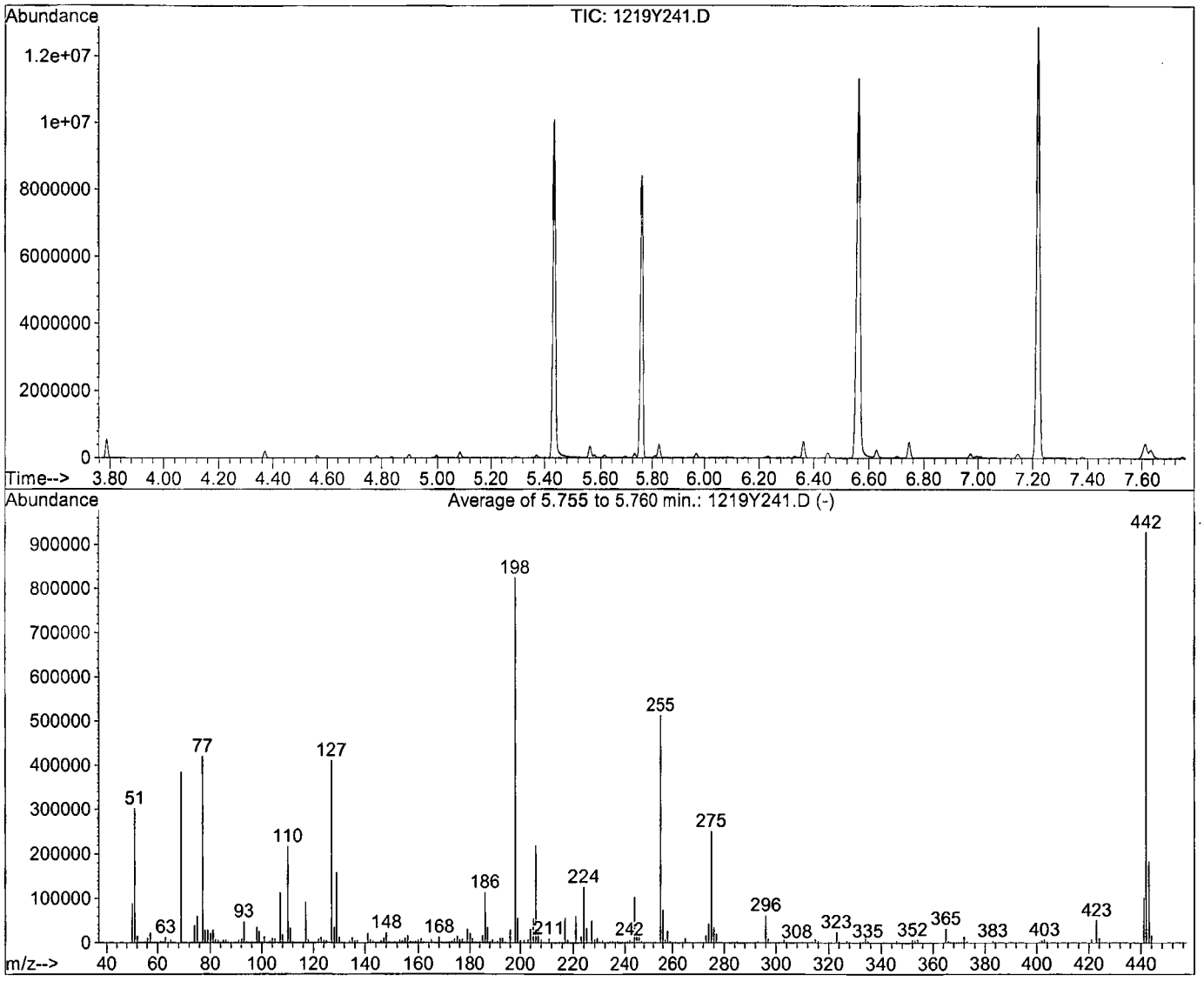
Data File Name:	**1219Y216.D**
Data File Path:	**M:\YODA\DATA\Y191219**
Operator:	**MA,SS**
Date Acquired:	**24 Jan 2020 11:51**
Method File:	**DFTPP2.M**
Sample Name:	**SV TUNE 10/01/19**
Vial Number:	**16**
Instrument Name:	**Yoda**

#	Name	Ret Time	Target Response
1)	DDT	7.28	109301000
2)	DDD	7.02	981272
3)	DDE	6.79	119412

Breakdown **1.00**

Data File : M:\YODA\DATA\Y191219\1219Y241.D Vial: 41
Acq On : 27 Jan 20 14:51 Operator: MA,SS
Sample : SV TUNE 10/01/19 Inst : Yoda
Misc : Multiplr: 1.00

Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C



AutoFind: Scans 869, 870, 871; Background Corrected with Scan 859

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	36.7	302523	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.2	955	PASS
127	198	10	80	49.8	410475	PASS
197	198	0.00	2	0.0	0	PASS
198	198	100	100	100.0	825003	PASS
199	198	5	9	6.7	55147	PASS
275	198	10	60	30.4	250560	PASS
365	198	1	100	3.8	31659	PASS
441	442	0.01	24	11.0	102165	PASS
442	198	50	500	112.9	931072	PASS
443	442	15	24	19.7	183552	PASS

Data File Name:	**1219Y241.D**
Data File Path:	**M:\YODA\DATA\Y191219**
Operator:	**MA,SS**
Date Acquired:	**27 Jan 2020 14:51**
Method File:	**DFTPP2.M**
Sample Name:	**SV TUNE 10/01/19**
Vial Number:	**41**
Instrument Name:	**Yoda**

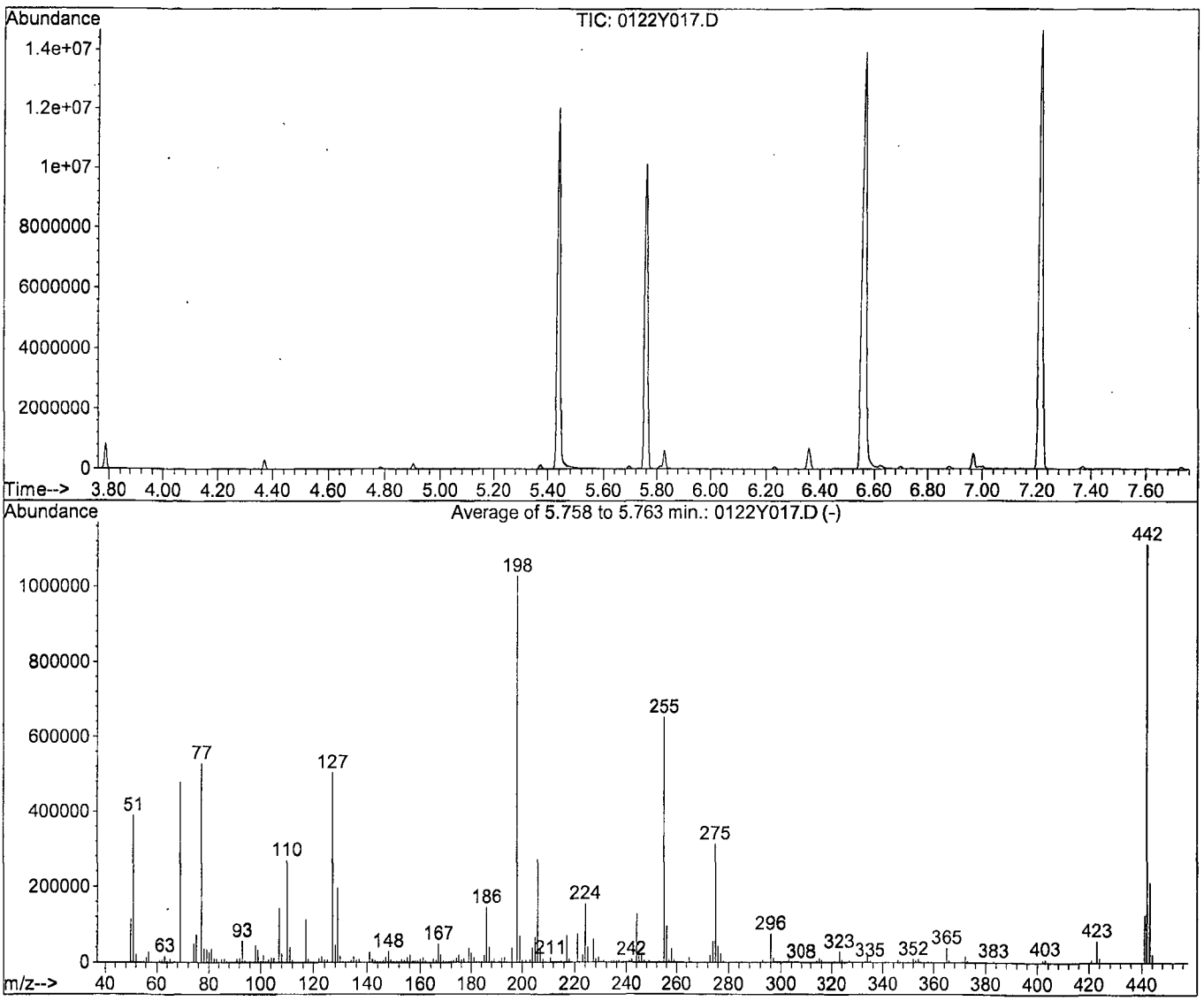
#	Name	Ret Time	Target Response
1)	DDT	7.28	101837000
2)	DDD	7.02	424830
3)	DDE	6.79	0

Breakdown **0.42**

Data File : M:\YODA\DATA\Y200122M\0122Y017.D
Acq On : 29 Jan 20 14:46
Sample : SV TUNE 10/01/19
Misc : soil

Vial: 17
Operator: MA,SS
Inst : Yoda
Multiplr: 1.00

Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C



Spectrum Information: Average of 5.758 to 5.763 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	37.9	390059	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.0	0	PASS
127	198	10	80	49.1	504917	PASS
197	198	0.00	2	0.0	0	PASS
198	198	100	100	100.0	1028117	PASS
199	198	5	9	6.8	70373	PASS
275	198	10	60	30.6	314453	PASS
365	198	1	100	3.8	38696	PASS
441	442	0.01	24	11.4	126528	PASS
442	198	50	500	108.4	1114155	PASS
443	442	15	24	19.2	214037	PASS

Data File Name:	**0122Y017.D**
Data File Path:	**M:\YODA\DATA\Y200122M**
Operator:	**MA,SS**
Date Acquired:	**29 Jan 2020 14:46**
Method File:	**DFTPP2.M**
Sample Name:	**SV TUNE 10/01/19**
Vial Number:	**17**
Instrument Name:	**Yoda**

#	Name	Ret Time	Target Response
1)	DDT	7.28	135494000
2)	DDD	7.02	652428
3)	DDE	6.79	0

Breakdown **0.48**

Name of Final Standard: MEE Curve
Prep Date: 01/22/20
Exp Date: 11/05/20
Prep'd By (Initials): JP

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from container Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
MEE M STD Stock	APPL		2000 ug/mL	11/05/19	11/05/20	5 uL	200uL	Methanol 195uL Lot# 235140	50 ug/mL
SV Internal Standard	APPL	8270 Internal Standard	2000 ug/mL	11/20/19	11/20/20	4 uL	"	"	"
MEE M STD Stock	APPL		2000 ug/mL	11/05/19	11/05/20	5 uL	100uL	Methanol 95uL Lot# 235140	100 ug/mL
SV Internal Standard	APPL	8271 Internal Standard	2000 ug/mL	11/20/19	11/20/20	2 uL	"	"	"
MEE M STD Stock	APPL		2000 ug/mL	11/05/19	11/05/20	10 uL	100uL	Methanol 90uL Lot# 235140	200 ug/mL
SV Internal Standard	APPL	8272 Internal Standard	2000 ug/mL	11/20/19	11/20/20	2 uL	"	"	"
MEE M STD Stock	APPL		2000 ug/mL	11/05/19	11/05/20	20 uL	100uL	Methanol 80 uL Lot# 235140	400 ug/mL
SV Internal Standard	APPL	8273 Internal Standard	2000 ug/mL	11/20/19	11/20/20	2 uL	"	"	"
MEE M STD Stock	APPL		2000 ug/mL	11/05/19	11/05/20	50 uL	200 uL	Methanol 150 uL Lot# 235140	500 ug/mL
SV Internal Standard	APPL	8274 Internal Standard	2000 ug/mL	11/20/19	11/20/20	4 uL	"	"	"
MEE M STD Stock	APPL		2000 ug/mL	11/05/19	11/05/20	30 uL	100uL	Methanol 70 uL Lot# 235140	600 ug/mL
SV Internal Standard	APPL	8275 Internal Standard	2000 ug/mL	11/20/19	11/20/20	2 uL	"	"	"
MEE M STD Stock	APPL		2000 ug/mL	11/05/19	11/05/20	40 uL	100uL	Methanol 60 uL Lot# 235140	800 ug/mL
SV Internal Standard	APPL	8276 Internal Standard	2000 ug/mL	11/20/19	11/20/20	2 uL	"	"	"
MEE M STD Stock	APPL		2000 ug/mL	11/05/19	11/05/20	50 uL	100uL	Methanol 50uL Lot# 235140	1000 ug/mL
SV Internal Standard	APPL	8277 Internal Standard	2000 ug/mL	11/20/19	11/20/20	2 uL	"	"	"

Name of Final Standard: MEE Second Source
Prep Date: 01/22/20
Exp Date: 10/28/20
Prep'd By (Initials): JP

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from container Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
MEE SS	APPL		2000 ug/mL	10/28/19	10/28/20	50 uL	200uL	Methanol 150uL Lot# 235140	500 ug/mL
SV Internal Standard	APPL	8277 Internal Standard	2000 ug/mL	11/20/19	11/20/20	4 uL	"	"	"

Organic Extraction Worksheet

Method	Solid Phase Extraction of 2MEE in Water	Extraction Set	191106A	Extraction Method	MWE2MEE	Units	mL

Spiked ID 1	Diethylene Glycol 1-31-19 EXP 1-31-20		Surrogate ID 1		
Spiked ID 2	2MEE SS 10320ug/mL 10/28/19 exp 10/28/20		Surrogate ID 2		
Spiked ID 3	Diethylene Glycol 11-5-19 exp 11-5-20		Surrogate ID 3		
Spiked ID 4			Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	no	
Spiked ID 7			Ext. Start Time:	11/06/19 6:25	
Spiked ID 8			Ext. End Time:	11/06/19 13:30	
			GC Requires Extract By:		

M STD AND SS PREPARATION MA 1/21/20

pH1			Water Bath Temp 1 °C		
pH2			Water Bath Temp 2 °C		
pH3			Water Bath Temp 3 °C		

Spiked By: DL **Date** 11/06/19 **Witnessed By:** CFM **Date** 11/06/19

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	191106A Blk				NA	NA equip	500	2	7Y	11/06/19 6:25	
2	191106A LCS-1		0.040	1	NA	NA equip	500	2	7Y	11/06/19 6:25	
3	191106A LCSD-1		0.040	1	NA	NA equip	500	2	7Y	11/06/19 6:25	
4	BA02214	BA02214W18			NA	NA equip	500	2	7Y	11/06/19 6:25	90611
5	BA02216	BA02216W10			NA	NA equip	500	2	7Y	11/06/19 6:25	90611
6	BA02301	BA02301W22			NA	NA equip	500	2	7Y	11/06/19 6:25	90625
7	M STD		1	3	na	na equip	500	2	7Y	11/06/19 6:25	
8	SS		0.097	2	NA	NA equip	500	2	7Y	11/06/19 6:25	

Solvent and Lot#	
ENVI-Carb Plus 400MG/1ML	11694501
Reverible Tube Lot:	11694501
PH Strip	HC863463
Di Water	11/6/19
Dichloromethane	59130
Methanol	59129

Extraction COC Transfer	
Extraction lab employee Initials	SS
GC analyst's initials	MA
Date	
Time	
Refrigerator	Hobart

	Technician's Initials
Scanned By	DL
Sample Preparation	DL
Extraction	DL
Concentration	DL

Modified	11/06/19 6:07:34 AM

Reviewed By: **Date**

Name of Final Standard	Diethylene Glycol
Prep Date	**11/05/19**
Exp Date	**11/05/20**

Prep'd By (Initials) **MA**

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from contianer Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc.(range)
Diethylene glycol methyl ether	AccuStandard	S-72273	2000 ug/mL	**218101558-39890**	**12/01/20**	1.0 mL	2 mL	**Methanol #208858**	1000 ug/mL

Given to Extraction to do MEE **M STD Stock** (used for ICAL) Final concentration 2000ug/L.

Name of Final Standard **2MEE Second Source Stock** **Prep'd By (Initials)** **JP**

Prep Date **10/28/19**
Exp Date **10/28/20**

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from contianer Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
Methoxyethanol-Neat	Chem Service	N-12404-1G	Neat 99.5%	**7079100 - 39417**	**07/31/22**	0.1022g	10 mL	**MC #56258**	10220 ug/mL

Given to Extraction to do **MEE SS** (used for ICAL SS)
0.097ml were spiked in 500ml of water and extracted on 04/29/19 . Final concentration is 2000ug/L

Name of Final Standard	**MEE Curve**	**Prep'd By (Initials)**	**JP**
Prep Date	**01/29/20**		
Exp Date	**11/05/20**		

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from container Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
MEE M STD Stock	APPL		2000 ug/mL	**11/05/19**	**11/05/20**	50 uL	200 uL	**Methanol 150 uL**	500 ug/mL
SV Internal Standard	APPL	Internal Standard	2000 ug/mL	**11/20/19**	**11/20/20**	4 uL	*	*	*

Organic Extraction Worksheet

Method	Solid Phase Extraction of 2MEE in Water	Extraction Set	200124A	Extraction Method	MWE2MEE	Units	mL

Spiked ID 1	Diethylene Glycol 1-31-19 EXP 1-31-20		Surrogate ID 1		
Spiked ID 2			Surrogate ID 2		
Spiked ID 3			Surrogate ID 3		
Spiked ID 4			Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	YES	
Spiked ID 7			Ext. Start Time:	01/24/20 8:00	
Spiked ID 8			Ext. End Time:	01/24/20 13:55	
			GC Requires Extract By:		

pH1			Water Bath Temp 1 °C	
pH2			Water Bath Temp 2 °C	
pH3			Water Bath Temp 3 °C	

Spiked By: DL **Date** 01/24/20 **Witnessed By:** CFM **Date** 01/24/20

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	200124A Blk				NA	NA equip	500	2	7	01/24/20 8:00	
2	200124A LCS-1		0.040	1	NA	NA equip	500	2	7	01/24/20 8:00	
3	200124A LCSD-1		0.040	1	NA	NA equip	500	2	7	01/24/20 8:00	
4	BA06136	BA06136W11			NA	NA equip	500	2	7	01/24/20 8:00	91264
5	BA06138	BA06138W11			NA	NA equip	250	2	7	01/24/20 8:00	91264 CARTRIDGE CLOGGED EXTRACT ONLY 250ML
6	BA06139	BA06139W06			NA	NA equip	250	2	7	01/24/20 8:00	91264 CARTRIDGE CLOGGED EXTRACT ONLY 250ML
7	BA06141	BA06141W11			NA	NA equip	500	2	7	01/24/20 8:00	91264
8	BA06143	BA06143W10			NA	NA equip	500	2	7	01/24/20 8:00	91264
9	BA06275	BA06275W10			NA	NA equip	500	2	7	01/24/20 8:00	91282
10	BA06279	BA06279W10			NA	NA equip	500	2	7	01/24/20 8:00	91282

Solvent and Lot#	
ENVI-Carb Plus 400MG/1ML	.
Reverible Tube Lot:	11694501
PH Strip	HC 863463
Di Water	1-24-20
Dichloromethane	59239
Methanol	59129

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	JP
Date	
Time	
Refrigerator	HOBART

	Technician's Initials
Scanned By	DL
Sample Preparation	DL
Extraction	DL
Concentration	DL

Modified	01/26/20 7:16:05 AM

Reviewed By: KY **Date** 01/26/20

Organic Extraction Worksheet

Method	Solid Phase Extraction of 2MEE in Water	Extraction Set	200128A	Extraction Method	MWE2MEE	Units	mL

Spiked ID 1	Diethylene Glycol 1-31-19 EXP 1-31-20		Surrogate ID 1		
Spiked ID 2			Surrogate ID 2		
Spiked ID 3			Surrogate ID 3		
Spiked ID 4			Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	YES	
Spiked ID 7			Ext. Start Time:	01/28/20 13:20	
Spiked ID 8			Ext. End Time:	01/29/20 13:30	
			GC Requires Extract By:		

pH1			Water Bath Temp 1 °C	
pH2			Water Bath Temp 2 °C	
pH3			Water Bath Temp 3 °C	

Spiked By: DL **Date** 01/28/20 **Witnessed By:** KY **Date** 01/28/20

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	200128A Blk				NA	NA equip	500	2	7	01/28/20 13:20	
2	200128A LCS-1		0.040	1	NA	NA equip	500	2	7	01/28/20 13:20	
3	BA06272 MS-1	BA06272W19	0.040	1	NA	NA equip	500	2	7	01/28/20 13:20	91282
4	BA06272 MSD-1	BA06272W20	0.040	1	NA	NA equip	500	2	7	01/28/20 13:20	91282
5	BA06272	BA06272W21			NA	NA equip	500	2	7	01/28/20 13:20	91282
6	BA06273	BA06273W06			NA	NA equip	500	2	7	01/28/20 13:20	91282
7	BA06276	BA06276W11			NA	NA equip	500	2	7	01/28/20 13:20	91282
8	BA06281	BA06281W08			NA	NA equip	500	2	7	01/28/20 13:20	91282
9	BA06282	BA06282W09			NA	NA equip	500	2	7	01/28/20 13:20	91282
10	BA06313	BA06313W10			NA	NA equip	500	2	7	01/28/20 13:20	91288
11	BA06315	BA06315W12			NA	NA equip	500	2	7	01/28/20 13:20	91288
12	BA06317	BA06317W11			NA	NA equip	500	2	7	01/28/20 13:20	91288
13	BA06319	BA06319W13			NA	NA equip	500	2	7	01/28/20 13:20	91288

Solvent and Lot#	
ENVI-Carb Plus 400MG/1ML	*
Reverible Tube Lot:	11694501
PH Strip	HC 863463
Di Water	1-28-20
Dichloromethane	59239
Methanol	59129

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	JP
Date	1/29/20
Time	1530
Refrigerator	Hobart

	Technician's Initials
Scanned By	DL
Sample Preparation	DL
Extraction	DL
Concentration	DL

Modified	01/29/20 9:04:49 AM

Reviewed By: KY **Date** 01/30/20

Organic Extraction Worksheet

Method	Solid Phase Extraction of 2MEE in Water	Extraction Set	200127A	Extraction Method	MWE2MEE	Units	mL

Spiked ID 1	Diethylene Glycol 1-31-19 EXP 1-31-20		Surrogate ID 1		
Spiked ID 2			Surrogate ID 2		
Spiked ID 3			Surrogate ID 3		
Spiked ID 4			Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	NO	
Spiked ID 7			Ext. Start Time:	01/27/20 10:40	
Spiked ID 8			Ext. End Time:	01/27/20 14:25	
			GC Requires Extract By:		

pH1			Water Bath Temp 1 °C	
pH2			Water Bath Temp 2 °C	
pH3			Water Bath Temp 3 °C	

Spiked By: DL **Date** 01/27/20 **Witnessed By:** CFM **Date** 01/27/20

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	200127A Blk				NA	NA equip	500	2	7	01/27/20 10:40	
2	200127A LCS-1		0.040	1	NA	NA equip	500	2	7	01/27/20 10:40	
3	200127A LCSD-1		0.040	1	NA	NA equip	500	2	7	01/27/20 10:40	
4	BA06284	BA06284W13			NA	NA equip	500	2	7	01/27/20 10:40	91282

Solvent and Lot#	
ENVI-Carb Plus 400MG/1ML	
Reverible Tube Lot:	11694501
PH Strip	HC 863463
Di Water	1-27-20
Dichloromethane	59239
Methanol	59129

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	JP
Date	1/27/20
Time	1400
Refrigerator	HOBART

	Technician's Initials
Scanned By	DL
Sample Preparation	DL
Extraction	DL
Concentration	DL

Modified	01/27/20 2:26:13 PM

Reviewed By: KY **Date** 01/28/20

Injection Log

Directory: M:\YODA\DATA\Y191219\

Vial	FileName	Multiplier	SampleName	Misc Info	Injected
2	0122Y002.D	1	SV Tune 10/11/18		22 Jan 20 15:31
3	0122Y003.D	1	50ug/ml MEE 01/22/20	soil	22 Jan 20 15:46
4	0122Y004.D	1	100ug/ml MEE 01/22/20	soil	22 Jan 20 16:10
5	0122Y005.D	1	200ug/ml MEE 01/22/20	soil	22 Jan 20 16:33
6	0122Y006.D	1	400ug/ml MEE 01/22/20	soil	22 Jan 20 16:57
7	0122Y007.D	1	500ug/ml MEE 01/22/20	soil	22 Jan 20 17:21
8	0122Y008.D	1	600ug/ml MEE 01/22/20	soil	22 Jan 20 17:45
9	0122Y009.D	1	800ug/ml MEE 01/22/20	soil	22 Jan 20 18:08
10	0122Y010.D	1	1000ug/ml MEE 01/22/20	soil	22 Jan 20 18:32
11	0122Y011.D	1	SS MEE 01/22/20	soil	22 Jan 20 18:55
16	1219Y216.D	1	SV TUNE 10/01/19		24 Jan 20 11:51
18	1219Y218.D	1	500ug/ml 2MEE 01/22/20 (0)		24 Jan 20 13:23
29	1219Y229.D	1	200124A BLK 2/500		24 Jan 20 19:27
30	1219Y230.D	1	200124A LCS-1 2/500		24 Jan 20 19:51
31	1219Y231.D	1	200124A LCSD-1 2/500		24 Jan 20 20:15
37	1219Y237.D	1	BA06275W10 2/500		24 Jan 20 22:36
38	1219Y238.D	1	BA06279W10 2/500		24 Jan 20 22:59
39	1219Y239.D	1	600ug/ml 2MEE 01/22/20 (0)		24 Jan 20 23:23
40	1219Y240.D	1	500ug/ml 2MEE 01/22/20 (0)		27 Jan 20 14:18
41	1219Y241.D	1	SV TUNE 10/01/19		27 Jan 20 14:51
42	1219Y242.D	1	200127A BLK 2/500		27 Jan 20 15:07
43	1219Y243.D	1	200127A LCS-1 2/500		27 Jan 20 15:30
44	1219Y244.D	1	200127A LCSD-1 2/500		27 Jan 20 15:54
45	1219Y245.D	1	BA06284W13 2/500		27 Jan 20 16:17
46	1219Y246.D	1	600ug/ml 2MEE 01/22/20 (0)		27 Jan 20 16:41
17	0122Y017.D	1	SV TUNE 10/01/19	soil	29 Jan 20 14:46
18	0122Y018.D	1	500ug/ml MEE 01/29/20 (1)	soil	29 Jan 20 15:01
20	0122Y020.D	1	200128A BLK 2/500	soil	29 Jan 20 16:17
22	0122Y022.D	1	200128A LCS-1 2/500	soil	29 Jan 20 17:04
25	0122Y025.D	1	BA06272W19 MS-1 2/500	soil	29 Jan 20 18:14
26	0122Y026.D	1	BA06272W20 MSD-1 2/500	soil	29 Jan 20 18:38
27	0122Y027.D	1	BA06272W21 2/500	soil	29 Jan 20 19:01
28	0122Y028.D	1	BA06273W06 2/500	soil	29 Jan 20 19:25
29	0122Y029.D	1	BA06276W11 2/500	soil	29 Jan 20 19:48
30	0122Y030.D	1	BA06281W08 2/500	soil	29 Jan 20 20:12
31	0122Y031.D	1	BA06282W09 2/500	soil	29 Jan 20 20:35
40	0122Y040.D	1	500ug/ml MEE 01/29/20 (2)	soil	30 Jan 20 00:07

ORGANICS
Calibration Data

VOLATILE ORGANIC ANALYSIS
VOLATILE ORGANIC COMPOUNDS

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Initial Cal. Date: 01/21/20
Matrix: Instrument: Thor Initials: DP

		Compound	1	2	3	4	5	6	7	8	9		Avg	%RSD	Type	r^2	Q	MRF
			0121T02.D	0121T03.D	0121T04.D	0121T05.D	0121T06.D	0121T07.D	0121T08.D	0121T09.D	0121T10.D							
1	I	Fluorobenzene (IS)																
2	TM	Chlorotrifluoroethene		0.0353	0.0341	0.0368	0.0372	0.0355	0.0354	0.0343	0.0344		0.04	3.2	TM			
3	TM	Dichlorodifluoromethane		0.0776	0.0750	0.0837	0.0752	0.0700	0.0735	0.0695	0.0686		0.07	6.8	TM			
4	TM	Freon 114		0.0921	0.0850	0.0763	0.0749	0.0763	0.0745	0.0702	0.0725		0.08	9.3	TM			
5	TM**L	Chloromethane		0.1799	0.1345	0.1224	0.1059	0.1009	0.1025	0.0958	0.0893		0.12	25	TM**L	0.999		
6	TM*	Vinyl chloride		0.0969	0.0969	0.0930	0.0893	0.0820	0.0861	0.0795	0.0796		0.09	8.3	TM*			
7	TM	2-Chloro-1,1,1-trifluoroethane		0.1141	0.1070	0.1116	0.1132	0.1055	0.1084	0.1077	0.1088		0.11	2.8	TM			
8	TML	Bromomethane		0.1223	0.1131	0.1100	0.0916	0.0786	0.0701				0.10	21	TML	0.995		
9	TML	Chloroethane		0.0800	0.0978	0.0574	0.0597	0.0569	0.0583				0.07	25	TML	0.999		
10	TM	Dichlorofluoromethane		0.1779	0.1709	0.1788	0.1742	0.1657	0.1653	0.1597	0.1619		0.17	4.3	TM			
11	TM	Trichlorofluoromethane		0.1296	0.1305	0.1284	0.1217	0.1203	0.1262	0.1197	0.1220		0.12	3.5	TM			
12	TM	Diethyl ether													TM			
13	TM	1,2 Dichlorotrifluoroethane													TM			
14	TM	Acrolein		0.0102	0.0107	0.0112	0.0108	0.0104	0.0103	0.0101	0.0089		0.01	6.7	TM			
15	TML	Acetone			0.0338	0.0334	0.0213	0.0190	0.0165	0.0155	0.0139		0.02	38	TML	0.999		
16	TM	Freon-113		0.0755	0.0690	0.0726	0.0681	0.0673	0.0664	0.0627	0.0667		0.07	5.7	TM			
17	TM*	1,1-DCE		0.1197	0.1086	0.1195	0.1166	0.1048	0.1094	0.1039	0.1080		0.11	5.7	TM*			
18	TM	2-Propanol		0.0054	0.0059	0.0054	0.0043	0.0055	0.0058	0.0061	0.0064		0.01	11	TM			
19	TM	Acetonitrile		0.0031	0.0029	0.0034	0.0030	0.0033	0.0030	0.0032	0.0022		0.00	12	TM			
20	TM	t-Butanol	0.0025	0.0035	0.0040	0.0040	0.0042	0.0039	0.0039	0.0039	0.0038		0.00	13	TM			
21	TM	Methyl Acetate		0.0893	0.0899	0.0862	0.0781	0.0705	0.0701	0.0714	0.0764		0.08	11	TM			
22	TMQ	Iodomethane		0.0253	0.0226	0.0173	0.0190	0.0270	0.0503	0.0756	0.0913		0.04	69	TMQ	0.998		
23	TM	Acrylonitrile		0.0263	0.0293	0.0304	0.0323	0.0298	0.0308	0.0312	0.0313		0.03	6.1	TM			
24	TM	Methylene chloride		0.1404	0.1279	0.1260	0.1234	0.1174	0.1183	0.1158	0.1150		0.12	6.9	TM			
25	TM	Carbon disulfide		0.2367	0.2265	0.2189	0.2171	0.2033	0.2132	0.2050	0.2144		0.22	5.0	TM			
26	TM	Methyl t-butyl ether (MtBE)		0.2649	0.2704	0.2849	0.2756	0.2678	0.2717	0.2692	0.2782		0.27	2.4	TM			
27	TM	Trans-1,2-DCE		0.1388	0.1122	0.1203	0.1138	0.1123	0.1137	0.1096	0.1128		0.12	8.1	TM			
28	TM	Hexane													TM			
29	TM	Diisopropyl Ether		0.2572	0.2697	0.2579	0.2771	0.2613	0.2727	0.2690	0.2748		0.27	2.9	TM			
30	TM**	2,2-Dichloro-1,1,1-trifluoroethane													TM**			
31	TM**	1,1-DCA		0.1815	0.1538	0.1588	0.1653	0.1522	0.1552	0.1502	0.1535		0.16	6.5	TM**			
32	TM	Vinyl Acetate		0.0479	0.0525	0.0535	0.0531	0.0535	0.0581	0.0571	0.0548		0.05	5.8	TM			
33	TM	Ethyl tert Butyl Ether		0.2578	0.2689	0.2693	0.2790	0.2652	0.2810	0.2795	0.2899		0.27	3.8	TM			
34	TML	MEK (2-Butanone)		0.0873	0.0584	0.0564	0.0460	0.0403	0.0437	0.0428	0.0445		0.05	30	TML	1.000		
35	TM	Cis-1,2-DCE		0.1648	0.1388	0.1525	0.1500	0.1430	0.1496	0.1450	0.1466		0.15	5.2	TM			

VOLATILE ORGANIC ANALYSIS
VOLATILE ORGANIC COMPOUNDS

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Initial Cal. Date: 01/21/20
Matrix: Instrument: Thor Initials: DP

		Compound	1	2	3	4	5	6	7	8	9		Avg	%RSD	Type		Q	MRF
36	TM	2,2-Dichloropropane		0.1404	0.1311	0.1347	0.1340	0.1264	0.1298	0.1271	0.1306		0.13	3.5	TM			
37	TM	2-Methylpentane													TM			
38	TM	3-Methylpentane													TM			
39	TM*	Chloroform		0.1974	0.1945	0.1826	0.1908	0.1788	0.1837	0.1808	0.1834		0.19	3.6	TM*			
40	TM	Bromochloromethane		0.0842	0.0839	0.0893	0.0794	0.0785	0.0818	0.0790	0.0781		0.08	4.7	TM			
41	SL	Dibromofluoromethane(S)	0.5252	0.5004	0.3888	0.3868	0.3352	0.3273	0.3026	0.2933	0.2836		0.37	24	SL	1.000		
42	TM	1,1,1-TCA		0.1420	0.1572	0.1476	0.1499	0.1437	0.1498	0.1420	0.1496		0.15	3.5	TM			
43	TM	Cyclohexane		0.1111	0.0992	0.0982	0.0939	0.0943	0.1023	0.1013	0.1096		0.10	6.3	TM			
44	TM	1,1-Dichloropropene		0.1048	0.1103	0.1021	0.1085	0.1045	0.1098	0.1079	0.1133		0.11	3.4	TM			
45	TM	2,2,4-Trimethylpentane		0.2278	0.1932	0.1952	0.1748	0.1804	0.1930	0.1907	0.2090		0.20	8.5	TM			
46	SL	1,2-DCA-D4(S)	0.5752	0.5304	0.4255	0.4208	0.3577	0.3513	0.3221	0.3107	0.2985		0.40	25	SL	0.999		
47	TM	Carbon Tetrachloride		0.1311	0.1234	0.1245	0.1238	0.1252	0.1260	0.1223	0.1275		0.13	2.2	TM			
48	TM	Tert Amyl Methyl Ether		0.2490	0.2460	0.2587	0.2675	0.2663	0.2794	0.2844	0.2944		0.27	6.4	TM			
49	TM	Methylcyclopentane													TM			
50	TM	1,2-DCA		0.1744	0.1528	0.1561	0.1595	0.1517	0.1469	0.1455	0.1461		0.15	6.2	TM			
51	TM	Benzene		0.4068	0.3780	0.3748	0.3880	0.3704	0.3808	0.3719	0.3830		0.38	3.1	TM			
52	TM	TCE		0.1226	0.1099	0.1045	0.1173	0.1094	0.1114	0.1093	0.1144		0.11	5.0	TM			
53	TM	2-Pentanone		0.0623	0.0655	0.0675	0.0694	0.0693	0.0746	0.0804	0.0770		0.07	8.6	TM			
54	TM*	1,2-Dichloropropane		0.1031	0.0949	0.1002	0.0986	0.0953	0.0975	0.0966	0.1011		0.10	2.9	TM*			
55	TM	Bromodichloromethane		0.1291	0.1403	0.1380	0.1412	0.1396	0.1452	0.1455	0.1535		0.14	4.9	TM			
56	TM	Methyl Cyclohexane		0.1196	0.0993	0.1093	0.1024	0.1061	0.1116	0.1100	0.1190		0.11	6.6	TM			
57	TM	Dibromomethane		0.0812	0.0960	0.1003	0.0903	0.0874	0.0917	0.0910	0.0929		0.09	6.2	TM			
58	TM	MIBK (methyl isobutyl ketone)		0.0776	0.0879	0.0873	0.1006	0.0805	0.0852	0.0965	0.1051		0.09	11	TM			
59	TM	1-Bromo-2-chloroethane		0.0698	0.0663	0.0747	0.0733	0.0698	0.0727	0.0708	0.0765		0.07	4.5	TM			
60	TMQ	2-Chloroethyl vinyl ether		0.0016	0.0023	0.0029	0.0030	0.0032	0.0046	0.0047	0.0063		0.00	43	TMQ	0.998		
61	TM	Cis-1,3-Dichloropropene		0.1273	0.1537	0.1476	0.1489	0.1499	0.1596	0.1633	0.1781		0.15	9.5	TM			
62	TM*	Toluene		0.4638	0.4399	0.4325	0.4475	0.4237	0.4471	0.4570	0.4593		0.45	3.1	TM*			
63	TM	Trans-1,3-Dichloropropene		0.1372	0.1333	0.1316	0.1369	0.1365	0.1475	0.1553	0.1688		0.14	9.0	TM			
64	TM	1,1,2-TCA		0.0878	0.1012	0.0933	0.1038	0.0984	0.1030	0.1086	0.1112		0.10	7.6	TM			
65	TML	2-Hexanone		0.0518	0.0525	0.0262	0.0524	0.0543	0.0569	0.0631	0.0716		0.05	24	TML	0.997		
66	I	Chlorobenzene-D5 (IS)																
67	SL	Toluene-D8(S)	2.491	2.257	1.779	1.756	1.567	1.532	1.424	1.346	1.252		1.7	24	SL	0.997		
68	TM	1,2-EDB		0.1251	0.1284	0.1309	0.1335	0.1322	0.1349	0.1330	0.1405		0.13	3.5	TM			
69	TM	Tetrachloroethene		0.1722	0.1473	0.1430	0.1555	0.1530	0.1531	0.1417	0.1427		0.15	6.7	TM			
70	TML	1-Chlorohexane		0.2054	0.1527	0.0972	0.1151	0.1090	0.1204	0.1216	0.1361		0.13	26	TML	0.998		

VOLATILE ORGANIC ANALYSIS
VOLATILE ORGANIC COMPOUNDS

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Initial Cal. Date: 01/21/20
Matrix: Instrument: Thor Initials: DP

		Compound	1	2	3	4	5	6	7	8	9		Avg	%RSD	Type		Q	MRF
71	TM	1,1,1,2-Tetrachloroethane		0.1482	0.1450	0.1379	0.1484	0.1443	0.1501	0.1503	0.1592		0.15	4.1	TM			
72	TM	m&p-Xylene		0.4466	0.4176	0.3935	0.4407	0.4258	0.4622	0.4685	0.4843		0.44	6.7	TM			
73	TM	o-Xylene		0.4432	0.4247	0.4307	0.4685	0.4654	0.4946	0.5089	0.5309		0.47	8.1	TM			
74	TML	Styrene		0.2907	0.2822	0.3020	0.3308	0.3367	0.3814	0.4058	0.4396		0.35	17	TML	0.999		
75	SL	4-Bromofluorobenzene(S)	0.8390	0.7724	0.6130	0.6072	0.5490	0.5504	0.5329	0.5301	0.5292		0.61	19	SL	1.000		
76	TM	1,3-Dichloropropane		0.1897	0.2059	0.2089	0.2140	0.2035	0.2079	0.1998	0.2071		0.20	3.6	TM			
77	TM	Dibromochloromethane		0.1370	0.1403	0.1529	0.1543	0.1534	0.1585	0.1603	0.1722		0.15	7.3	TM			
78	TM**	Chlorobenzene		0.4407	0.3698	0.3811	0.3945	0.3795	0.3892	0.3852	0.3892		0.39	5.5	TM**			
79	TM*	Ethylbenzene		0.6021	0.5718	0.5519	0.5755	0.5651	0.6025	0.5984	0.6180		0.59	3.9	TM*			
80	TM**	Bromoform		0.0967	0.1159	0.1124	0.1142	0.1170	0.1271	0.1295	0.1412		0.12	11	TM**			
81	I	1,4-Dichlorobenzene-D (IS)																
82	TM	Isopropylbenzene		0.9545	0.9039	0.9160	1.020	1.019	1.045	1.039	1.034		0.99	5.8	TM			
83	TM**	1,1,2,2-Tetrachloroethane		0.3170	0.3050	0.3329	0.3179	0.3253	0.3126	0.3115	0.3040		0.32	3.1	TM**			
84	TM	1,2,3-Trichloropropane		0.1027	0.1053	0.1081	0.1132	0.1095	0.1072	0.1048	0.1015		0.11	3.5	TM			
85	TM	t-1,4-Dichloro-2-Butene		0.0389	0.0507	0.0536	0.0526	0.0572	0.0595	0.0623	0.0640		0.05	15	TM			
86	TM	Bromobenzene		0.5123	0.5593	0.5196	0.5639	0.5535	0.5448	0.5431	0.5325		0.54	3.4	TM			
87	TM	n-Propylbenzene		1.035	1.038	1.004	1.098	1.053	1.113	1.122	1.163		1.1	5.0	TM			
88	TM	4-Ethyltoluene		0.9894	0.8936	0.8366	0.9212	0.9108	0.9310	0.9550	0.9963		0.93	5.6	TM			
89	TM	2-Chlorotoluene		0.8896	0.8076	0.7922	0.8136	0.8164	0.8431	0.8339	0.8309		0.83	3.6	TM			
90	TM	1,3,5-Trimethylbenzene		0.8224	0.8137	0.7898	0.8962	0.8954	0.9107	0.9159	0.9022		0.87	5.8	TM			
91	TM	4-Chlorotoluene		0.8316	0.8125	0.7939	0.8430	0.8172	0.8463	0.8592	0.8632		0.83	2.9	TM			
92	TM	Tert-Butylbenzene		0.9213	0.8200	0.8213	0.8520	0.8263	0.8909	0.8889	0.9020		0.87	4.7	TM			
93	TM	1,2,4-Trimethylbenzene		1.032	0.8639	0.8516	0.9060	0.9154	0.9308	0.9443	0.9282		0.92	6.0	TM			
94	TM	Sec-Butylbenzene		0.9656	0.8514	0.8666	0.9507	0.9354	0.9818	1.017	1.070		0.95	7.6	TM			
95	TM	p-Isopropyltoluene		0.8067	0.7790	0.8153	0.8581	0.8582	0.8703	0.8814	0.9278		0.85	5.6	TM			
96	TM	Benzyl Chloride		0.3280	0.2928	0.2888	0.2693	0.2884	0.2948	0.2961	0.3222		0.30	6.4	TM			
97	TM	1,3-DCB		0.5697	0.5388	0.5678	0.5876	0.5586	0.5731	0.5668	0.5744		0.57	2.5	TM			
98	TM	1,4-DCB		0.6658	0.6060	0.5875	0.5942	0.5776	0.5746	0.5713	0.5773		0.59	5.2	TM			
99	TM	n-Butylbenzene		0.7198	0.6823	0.6456	0.7087	0.7309	0.7261	0.7306	0.7194		0.71	4.2	TM			
100	TM	1,2-DCB		0.6166	0.6092	0.5695	0.6002	0.5776	0.5667	0.5732	0.5768		0.59	3.3	TM			
101	TML	Hexachloroethane		0.1023	0.1543	0.1623	0.1586	0.1747	0.1770	0.1723	0.1786		0.16	16	TML	1.000		
102	TML	1,2-Dibromo-3-chloropropane		0.0337	0.0447	0.0569	0.0670	0.0668	0.0701	0.0718	0.0756		0.06	24	TML	1.000		
103	TM	1,2,4-Trichlorobenzene		0.3928	0.3234	0.3491	0.3492	0.3455	0.3534	0.3667	0.3904		0.36	6.5	TM			
104	TM	Hexachlorobutadiene		0.1333	0.1784	0.1912	0.2077	0.2054	0.1910	0.1819	0.1902		0.18	13	TM			
105	TML	Naphthalene		0.0627	0.0417	0.0322	0.0404	0.0398	0.0415	0.0462	0.0541		0.04	21	TML	0.996		

VOLATILE ORGANIC ANALYSIS
VOLATILE ORGANIC COMPOUNDS

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Initial Cal. Date: 01/21/20
Matrix: Instrument: Thor Initials: DP

		Compound	1	2	3	4	5	6	7	8	9		Avg	%RSD	Type		Q	MRF
106	TM	1,2,3-Trichlorobenzene		0.3134	0.3132	0.2937	0.3161	0.3243	0.3387	0.3440	0.3638		0.33	6.7	TM			
107																		
108																		
109																		
110																		
111																		
112																		
113																		
114																		
115																		
116																		
117																		
118																		
119																		
120																		
121																		
122																		
123																		
124																		
125																		
126																		
127																		
128																		
129																		
130																		
131																		
132																		
133																		
134																		
135																		
136																		
137																		
138																		
139																		
140																		

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0121T02.D Vial: 2
Acq On : 21 Jan 20 7:41 Operator:
Sample : 0.3ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 21 15:54 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene (IS)	6.51	96	1021866	25.00	ppb		0.00
66) Chlorobenzene-D5 (IS)	9.96	117	789770	25.00	ppb		0.00
81) 1,4-Dichlorobenzene-D (IS)	12.52	152	406901	25.00	ppb		0.00
System Monitoring Compounds							
41) Dibromofluoromethane(S)	5.66	111	107330	4.97	ppb		0.00
Spiked Amount 25.000			Recovery =	19.880%			
46) 1,2-DCA-D4(S)	6.07	65	117550	4.90	ppb		0.00
Spiked Amount 25.000			Recovery =	19.588%			
67) Toluene-D8(S)	8.37	98	393419	4.58	ppb		0.00
Spiked Amount 25.000			Recovery =	18.324%			
75) 4-Bromofluorobenzene(S)	11.25	95	132516	6.09	ppb		0.00
Spiked Amount 25.000			Recovery =	24.348%			
Target Compounds							Qvalue
2) Chlorotrifluoroethene	1.15	116	4088	2.83	ppb		96
3) Dichlorodifluoromethane	1.17	85	1209	0.40	ppb		94
4) Freon 114	1.28	85	955	0.30	ppb	#	82
5) Chloromethane	1.32	50	2655	-0.57	ppb	#	85
6) Vinyl chloride	1.42	62	1460	0.41	ppb		95
7) 2-Chloro-1,1,1-trifluoroet	1.51	118	13533	3.02	ppb		98
8) Bromomethane	1.69	96	1645	-0.44	ppb		81
9) Chloroethane	1.77	64	160	-0.18	ppb	#	44
10) Dichlorofluoromethane	1.98	67	2520	0.36	ppb		96
11) Trichlorofluoromethane	2.04	101	1721	0.34	ppb	#	60
14) Acrolein	2.44	56	2370	5.61	ppb		84
15) Acetone	2.61	43	1448	-0.72	ppb		100
16) Freon-113	2.59	101	1041	0.37	ppb	#	82
17) 1,1-DCE	2.55	61	1474	0.32	ppb		97
18) 2-Propanol	2.84	45	959	4.19	ppb		99
19) Acetonitrile	2.94	40	658	5.32	ppb	#	17
20) t-Butanol	3.35	59	1029	6.71	ppb		93
21) Methyl Acetate	3.03	43	1289	0.40	ppb	#	51
22) Iodomethane	2.70	142	469	2.58	ppb	#	36
23) Acrylonitrile	3.45	52	164	0.13	ppb	#	40
24) Methylene chloride	3.13	49	1921	0.38	ppb		94
25) Carbon disulfide	2.77	76	3361	0.38	ppb		99
26) Methyl t-butyl ether (MtBE	3.54	73	3616	0.32	ppb	#	78
27) Trans-1,2-DCE	3.50	61	1449	0.30	ppb	#	90
29) Diisopropyl Ether	4.35	45	3348	0.31	ppb		96
31) 1,1-DCA	4.13	63	2245	0.35	ppb	#	85
32) Vinyl Acetate	4.30	43	768	0.35	ppb	#	72
33) Ethyl tert Butyl Ether	4.88	59	3700	0.33	ppb		87
34) MEK (2-Butanone)	5.07	43	1297	0.77	ppb	#	83
35) Cis-1,2-DCE	5.00	61	2149	0.35	ppb	#	76
36) 2,2-Dichloropropane	4.99	77	1740	0.32	ppb	#	79
39) Chloroform	5.45	83	2671	0.35	ppb		95
40) Bromochloromethane	5.30	49	993	0.30	ppb		92
42) 1,1,1-TCA	5.67	97	1948	0.32	ppb		91
43) Cyclohexane	5.76	56	1380	0.33	ppb	#	91
44) 1,1-Dichloropropene	5.90	75	1478	0.34	ppb	#	89
45) 2,2,4-Trimethylpentane	6.32	57	2941	0.37	ppb		88
47) Carbon Tetrachloride	5.90	117	1751	0.34	ppb	#	79
48) Tert Amyl Methyl Ether	6.36	73	3191	0.29	ppb		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0121T02.D Vial: 2
Acq On : 21 Jan 20 7:41 Operator:
Sample : 0.3ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 21 15:54 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
50)	1,2-DCA	6.17	62	2475	0.39	ppb	#	76
51)	Benzene	6.15	78	4974	0.32	ppb		95
52)	TCE	6.96	130	1300	0.28	ppb	#	50
53)	2-Pentanone	7.20	43	12791	4.42	ppb		95
54)	1,2-Dichloropropane	7.20	63	1170	0.29	ppb	#	84
55)	Bromodichloromethane	7.54	83	2057	0.36	ppb	#	71
56)	Methyl Cyclohexane	7.20	83	1599	0.36	ppb	#	76
57)	Dibromomethane	7.33	174	1021	0.27	ppb		90
58)	MIBK (methyl isobutyl ket	8.26	43	1047	0.28	ppb	#	78
59)	1-Bromo-2-chloroethane	7.88	63	965	0.33	ppb	#	73
60)	2-Chloroethyl vinyl ether	7.92	106	328	10.39	ppb	#	87
61)	Cis-1,3-Dichloropropene	8.06	75	1891	0.30	ppb	#	77
62)	Toluene	8.45	91	5738	0.31	ppb		100
63)	Trans-1,3-Dichloropropene	8.69	75	1836	0.31	ppb	#	52
64)	1,1,2-TCA	8.89	97	1552	0.38	ppb	#	78
65)	2-Hexanone	9.19	43	610	2.25	ppb	#	34
68)	1,2-EDB	9.43	107	1302	0.31	ppb	#	95
69)	Tetrachloroethene	9.06	166	1319	0.28	ppb		93
70)	1-Chlorohexane	10.00	91	1174	1.39	ppb		97
71)	1,1,1,2-Tetrachloroethane	10.08	131	1318	0.28	ppb		96
72)	m&p-Xylene	10.26	91	10358	0.74	ppb		95
73)	o-Xylene	10.69	91	5071	0.34	ppb		96
74)	Styrene	10.71	104	3100	1.60	ppb	#	65
76)	1,3-Dichloropropane	9.07	76	1890	0.29	ppb	#	74
77)	Dibromochloromethane	9.32	129	1257	0.26	ppb	#	72
78)	Chlorobenzene	9.99	112	3951	0.32	ppb	#	87
79)	Ethylbenzene	10.13	91	5659	0.31	ppb	#	76
80)	Bromoform	10.88	173	1115	0.30	ppb	#	77
82)	Isopropylbenzene	11.11	105	5022	0.31	ppb		93
83)	1,1,2,2-Tetrachloroethane	11.41	83	1585	0.31	ppb		93
84)	1,2,3-Trichloropropane	11.45	110	359	0.21	ppb	#	54
85)	t-1,4-Dichloro-2-Butene	11.47	53	81	0.09	ppb	#	18
86)	Bromobenzene	11.41	77	2828	0.32	ppb		91
87)	n-Propylbenzene	11.55	91	6046	0.34	ppb		94
88)	4-Ethyltoluene	11.68	105	6287	0.42	ppb		97
89)	2-Chlorotoluene	11.64	91	4809	0.36	ppb		95
90)	1,3,5-Trimethylbenzene	11.75	105	4906	0.35	ppb		88
91)	4-Chlorotoluene	11.75	91	4408	0.32	ppb		100
92)	Tert-Butylbenzene	12.11	119	4724	0.34	ppb		94
93)	1,2,4-Trimethylbenzene	12.16	105	6226	0.42	ppb		87
94)	Sec-Butylbenzene	12.35	105	4723	0.30	ppb		96
95)	p-Isopropyltoluene	12.51	119	4716	0.34	ppb		99
96)	Benzyl Chloride	12.69	91	1984	0.41	ppb	#	85
97)	1,3-DCB	12.46	146	3144	0.34	ppb		91
98)	1,4-DCB	12.55	146	3610	0.37	ppb	#	79
99)	n-Butylbenzene	12.96	91	4035	0.35	ppb	#	83
100)	1,2-DCB	12.95	146	3070	0.32	ppb	#	79
101)	Hexachloroethane	13.25	201	663	0.59	ppb	#	19
103)	1,2,4-Trichlorobenzene	14.72	180	1930	0.33	ppb		87
104)	Hexachlorobutadiene	14.94	225	1159	0.39	ppb	#	45
105)	Naphthalene	15.00	127	387	2.32	ppb	#	37
106)	1,2,3-Trichlorobenzene	15.26	180	2116	0.40	ppb		90

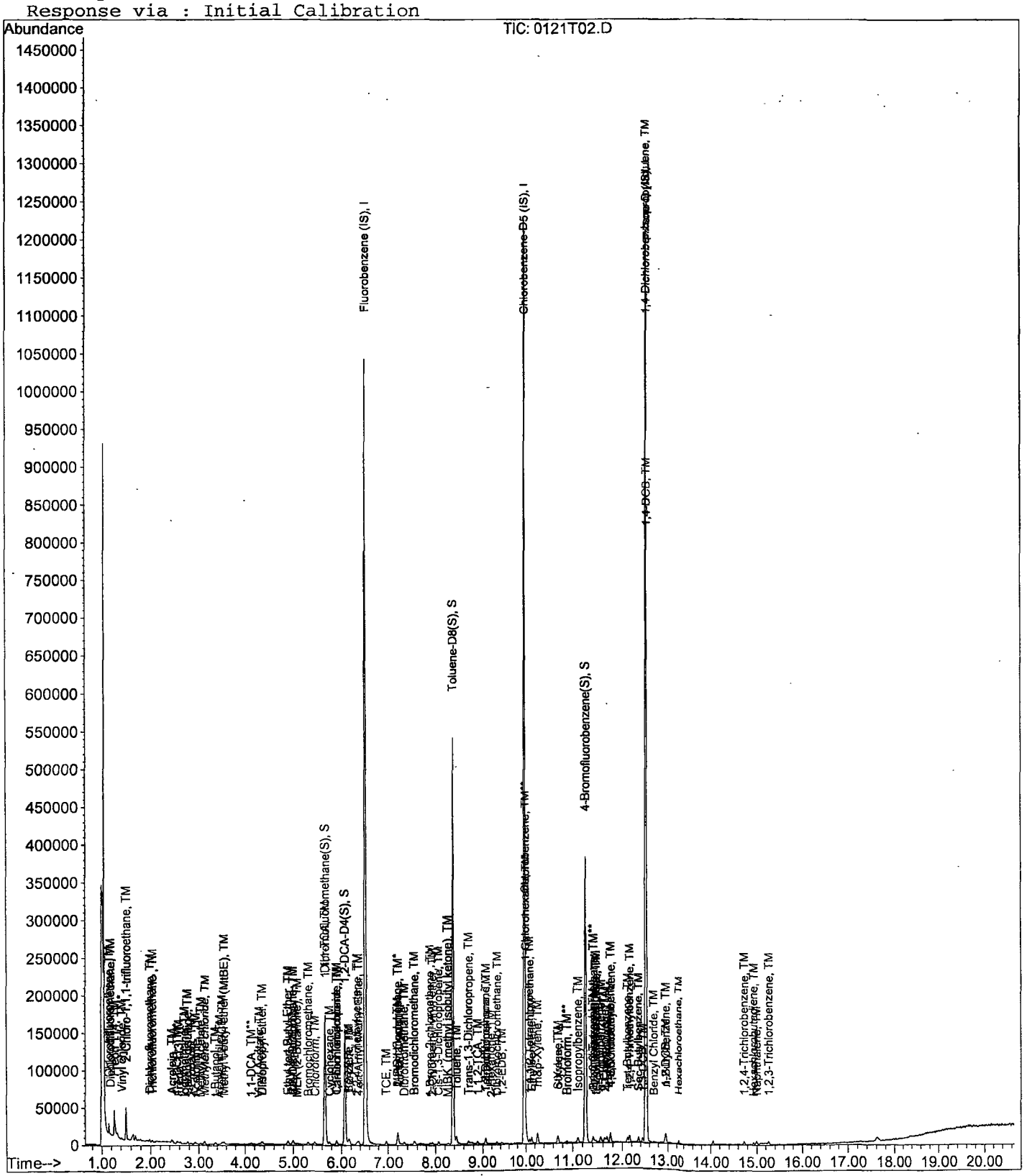
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0121T02.D Vial: 2
Acq On : 21 Jan 20 7:41 Operator:
Sample : 0.3ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 21 15:54 2020 Quant Results File: T0121W.RES

Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0121T03.D Vial: 3
Acq On : 21 Jan 20 8:09 Operator:
Sample : 0.5ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 21 15:54 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene (IS)	6.51	96	1004691	25.00	ppb		0.00
66) Chlorobenzene-D5 (IS)	9.96	117	790347	25.00	ppb		0.00
81) 1,4-Dichlorobenzene-D (IS)	12.52	152	406984	25.00	ppb		0.00
System Monitoring Compounds							
41) Dibromofluoromethane(S)	5.66	111	100543	4.51	ppb		0.00
Spiked Amount 25.000			Recovery = 18.056%				
46) 1,2-DCA-D4(S)	6.07	65	106574	4.11	ppb		0.00
Spiked Amount 25.000			Recovery = 16.448%				
67) Toluene-D8(S)	8.37	98	356692	3.61	ppb		0.00
Spiked Amount 25.000			Recovery = 14.444%				
75) 4-Bromofluorobenzene(S)	11.25	95	122029	5.44	ppb		0.00
Spiked Amount 25.000			Recovery = 21.748%				
Target Compounds							Qvalue
2) Chlorotrifluoroethene	1.14	116	7084	4.98	ppb		97
3) Dichlorodifluoromethane	1.17	85	1559	0.52	ppb	#	62
4) Freon 114	1.28	85	1851	0.59	ppb	#	73
5) Chloromethane	1.32	50	3615	-0.29	ppb		96
6) Vinyl chloride	1.42	62	1948	0.55	ppb		96
7) 2-Chloro-1,1,1-trifluoroet	1.51	118	22917	5.21	ppb		95
8) Bromomethane	1.69	96	2457	-0.13	ppb		92
9) Chloroethane	1.79	64	1607	0.45	ppb	#	40
10) Dichlorofluoromethane	1.98	67	3575	0.53	ppb		98
11) Trichlorofluoromethane	2.04	101	2605	0.52	ppb	#	78
14) Acrolein	2.44	56	10279	24.76	ppb		96
15) Acetone	2.62	43	1352	-0.86	ppb	#	89
16) Freon-113	2.59	101	1517	0.55	ppb	#	87
17) 1,1-DCE	2.55	61	2405	0.54	ppb		97
18) 2-Propanol	2.83	45	1090	4.85	ppb	#	77
19) Acetonitrile	2.92	40	3052	25.11	ppb		97
20) t-Butanol	3.35	59	3545	23.53	ppb		94
21) Methyl Acetate	3.04	43	1795	0.57	ppb	#	85
22) Iodomethane	2.70	142	508	2.60	ppb	#	36
23) Acrylonitrile	3.45	52	528	0.44	ppb	#	94
24) Methylene chloride	3.13	49	2822	0.57	ppb		90
25) Carbon disulfide	2.77	76	4757	0.55	ppb	#	84
26) Methyl t-butyl ether (MtBE	3.54	73	5322	0.49	ppb		94
27) Trans-1,2-DCE	3.50	61	2790	0.59	ppb	#	86
29) Diisopropyl Ether	4.35	45	5168	0.48	ppb		92
31) 1,1-DCA	4.12	63	3647	0.57	ppb	#	89
32) Vinyl Acetate	4.29	43	963	0.45	ppb	#	72
33) Ethyl tert Butyl Ether	4.89	59	5180	0.47	ppb		94
34) MEK (2-Butanone)	5.06	43	1755	1.04	ppb	#	78
35) Cis-1,2-DCE	5.00	61	3311	0.55	ppb		93
36) 2,2-Dichloropropane	5.00	77	2822	0.53	ppb		93
39) Chloroform	5.46	83	3966	0.53	ppb		96
40) Bromochloromethane	5.31	49	1692	0.51	ppb	#	77
42) 1,1,1-TCA	5.68	97	2854	0.48	ppb		91
43) Cyclohexane	5.76	56	2233	0.55	ppb		96
44) 1,1-Dichloropropene	5.89	75	2105	0.49	ppb	#	90
45) 2,2,4-Trimethylpentane	6.32	57	4578	0.58	ppb		99
47) Carbon Tetrachloride	5.90	117	2635	0.52	ppb		85
48) Tert Amyl Methyl Ether	6.36	73	5004	0.46	ppb		92

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0121T03.D Vial: 3
Acq On : 21 Jan 20 8:09 Operator:
Sample : 0.5ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 21 15:54 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
50)	1,2-DCA	6.17	62	3504	0.57	ppb		96
51)	Benzene	6.15	78	8175	0.53	ppb	#	90
52)	TCE	6.96	130	2464	0.55	ppb		92
53)	2-Pentanone	7.20	43	62617	22.02	ppb		96
54)	1,2-Dichloropropane	7.20	63	2071	0.52	ppb	#	84
55)	Bromodichloromethane	7.55	83	2595	0.46	ppb		98
56)	Methyl Cyclohexane	7.20	83	2403	0.55	ppb		93
57)	Dibromomethane	7.33	174	1631	0.44	ppb	#	81
58)	MIBK (methyl isobutyl ket	8.26	43	1559	0.43	ppb		91
59)	1-Bromo-2-chloroethane	7.88	63	1403	0.49	ppb	#	80
60)	2-Chloroethyl vinyl ether	7.93	106	630	12.34	ppb	#	87
61)	Cis-1,3-Dichloropropene	8.06	75	2558	0.41	ppb	#	85
62)	Toluene	8.44	91	9320	0.52	ppb		89
63)	Trans-1,3-Dichloropropene	8.70	75	2756	0.48	ppb	#	60
64)	1,1,2-TCA	8.89	97	1765	0.44	ppb		95
65)	2-Hexanone	9.19	43	1041	2.40	ppb	#	96
68)	1,2-EDB	9.43	107	1977	0.47	ppb	#	85
69)	Tetrachloroethene	9.06	166	2722	0.57	ppb		98
70)	1-Chlorohexane	9.99	91	3246	1.87	ppb		90
71)	1,1,1,2-Tetrachloroethane	10.09	131	2343	0.50	ppb		93
72)	m&p-Xylene	10.26	91	14120	1.01	ppb		89
73)	o-Xylene	10.69	91	7005	0.47	ppb		96
74)	Styrene	10.70	104	4595	1.70	ppb		99
76)	1,3-Dichloropropane	9.07	76	2999	0.46	ppb		91
77)	Dibromochloromethane	9.31	129	2165	0.45	ppb		99
78)	Chlorobenzene	9.99	112	6966	0.56	ppb		95
79)	Ethylbenzene	10.13	91	9517	0.51	ppb		100
80)	Bromoform	10.88	173	1529	0.41	ppb		95
82)	Isopropylbenzene	11.11	105	7769	0.48	ppb		98
83)	1,1,2,2-Tetrachloroethane	11.41	83	2580	0.50	ppb	#	96
84)	1,2,3-Trichloropropane	11.44	110	836	0.48	ppb		95
85)	t-1,4-Dichloro-2-Butene	11.48	53	317	0.35	ppb	#	57
86)	Bromobenzene	11.41	77	4170	0.47	ppb		93
87)	n-Propylbenzene	11.56	91	8424	0.48	ppb		94
88)	4-Ethyltoluene	11.68	105	8053	0.53	ppb		93
89)	2-Chlorotoluene	11.63	91	7241	0.54	ppb		96
90)	1,3,5-Trimethylbenzene	11.75	105	6694	0.47	ppb		88
91)	4-Chlorotoluene	11.76	91	6769	0.50	ppb		99
92)	Tert-Butylbenzene	12.11	119	7499	0.53	ppb		99
93)	1,2,4-Trimethylbenzene	12.16	105	8403	0.56	ppb		91
94)	Sec-Butylbenzene	12.35	105	7860	0.51	ppb		97
95)	p-Isopropyltoluene	12.51	119	6566	0.47	ppb		91
96)	Benzyl Chloride	12.70	91	2670	0.55	ppb	#	91
97)	1,3-DCB	12.46	146	4637	0.50	ppb	#	87
98)	1,4-DCB	12.55	146	5419	0.56	ppb	#	92
99)	n-Butylbenzene	12.96	91	5859	0.51	ppb		100
100)	1,2-DCB	12.95	146	5019	0.53	ppb		94
101)	Hexachloroethane	13.25	201	833	0.65	ppb	#	75
102)	1,2-Dibromo-3-chloropropan	13.80	157	274	1.06	ppb	#	80
103)	1,2,4-Trichlorobenzene	14.73	180	3197	0.55	ppb		85
104)	Hexachlorobutadiene	14.93	225	1085	0.36	ppb		89
105)	Naphthalene	14.99	127	510	2.46	ppb	#	26
106)	1,2,3-Trichlorobenzene	15.26	180	2551	0.48	ppb		90

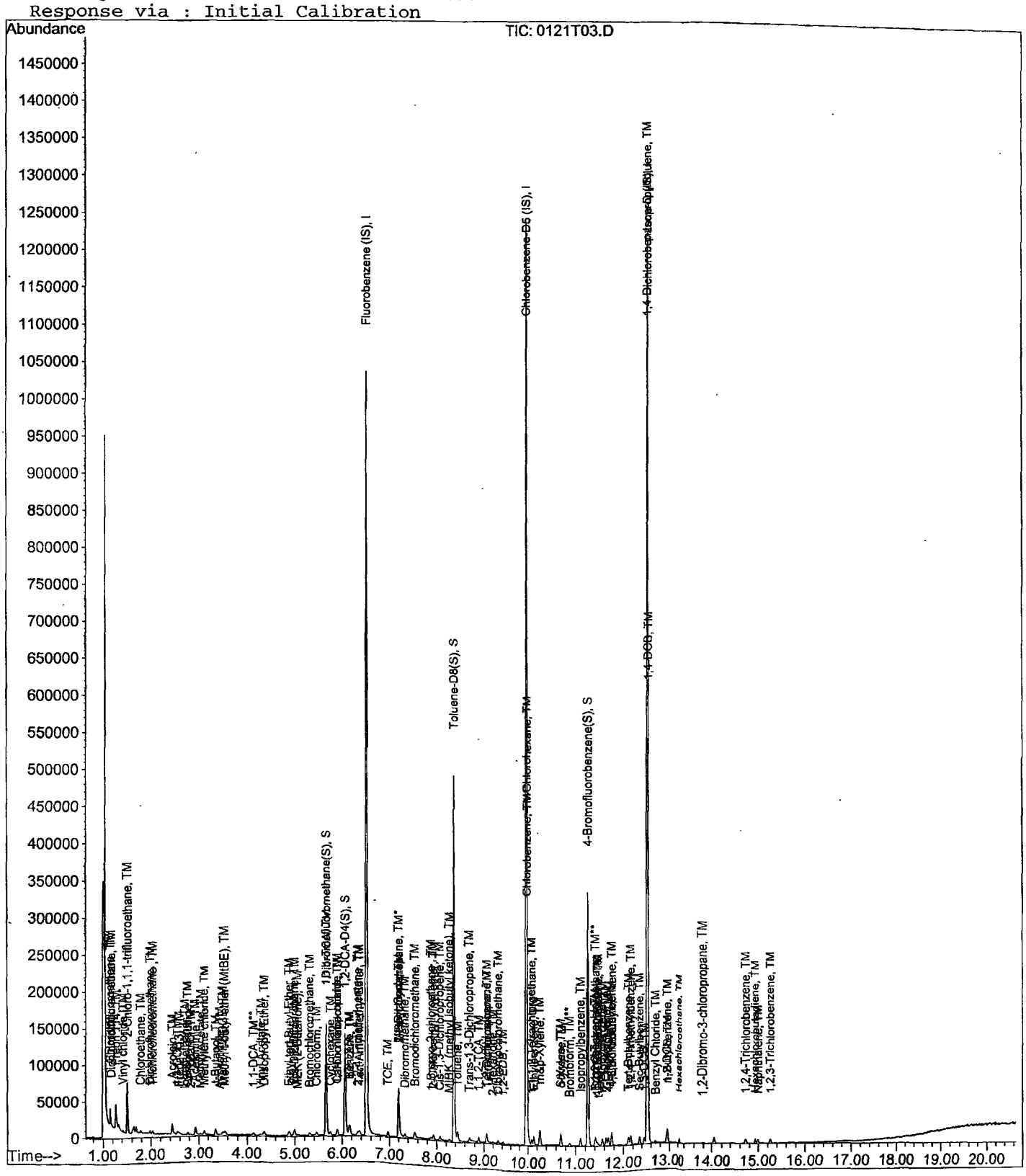
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0121T03.D Vial: 3
Acq On : 21 Jan 20 8:09 Operator:
Sample : 0.5ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 21 15:54 2020 Quant Results File: T0121W.RES

Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0121T04.D Vial: 4
Acq On : 21 Jan 20 8:37 Operator:
Sample : 1ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 21 15:54 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene (IS)	6.51	96	1003430	25.00	ppb		0.00
66) Chlorobenzene-D5 (IS)	9.96	117	793951	25.00	ppb		0.00
81) 1,4-Dichlorobenzene-D (IS)	12.52	152	414015	25.00	ppb		0.00
System Monitoring Compounds							
41) Dibromofluoromethane(S)	5.66	111	156037	9.61	ppb		0.00
Spiked Amount 25.000			Recovery =	38.440%			
46) 1,2-DCA-D4(S)	6.07	65	170767	9.73	ppb		0.00
Spiked Amount 25.000			Recovery =	38.916%			
67) Toluene-D8(S)	8.37	98	565068	9.00	ppb		0.00
Spiked Amount 25.000			Recovery =	36.020%			
75) 4-Bromofluorobenzene(S)	11.25	95	194688	9.84	ppb		0.00
Spiked Amount 25.000			Recovery =	39.372%			
Target Compounds							Qvalue
2) Chlorotrifluoroethene	1.14	116	13689	9.64	ppb		95
3) Dichlorodifluoromethane	1.17	85	3012	1.01	ppb		99
4) Freon 114	1.28	85	3413	1.09	ppb		82
5) Chloromethane	1.32	50	5400	0.21	ppb		92
6) Vinyl chloride	1.42	62	3891	1.10	ppb		94
7) 2-Chloro-1,1,1-trifluoroet	1.51	118	42956	9.77	ppb		98
8) Bromomethane	1.69	96	4541	0.63	ppb		90
9) Chloroethane	1.78	64	3072	1.09	ppb		93
10) Dichlorofluoromethane	1.98	67	6858	1.01	ppb		96
11) Trichlorofluoromethane	2.03	101	5236	1.05	ppb		89
14) Acrolein	2.44	56	21518	51.91	ppb		96
15) Acetone	2.61	43	1358	-0.84	ppb		97
16) Freon-113	2.58	101	2768	1.01	ppb	#	86
17) 1,1-DCE	2.55	61	4360	0.98	ppb		99
18) 2-Propanol	2.83	45	2349	10.45	ppb		95
19) Acetonitrile	2.92	40	5870	48.36	ppb		86
20) t-Butanol	3.36	59	8044	53.45	ppb	#	88
21) Methyl Acetate	3.03	43	3610	1.14	ppb		97
22) Iodomethane	2.70	142	907	2.75	ppb	#	83
23) Acrylonitrile	3.45	52	1176	0.97	ppb		97
24) Methylene chloride	3.13	49	5134	1.04	ppb		94
25) Carbon disulfide	2.77	76	9093	1.04	ppb	#	78
26) Methyl t-butyl ether (MtBE	3.55	73	10854	0.99	ppb		94
27) Trans-1,2-DCE	3.50	61	4505	0.96	ppb		87
29) Diisopropyl Ether	4.36	45	10824	1.01	ppb		95
31) 1,1-DCA	4.13	63	6173	0.97	ppb		95
32) Vinyl Acetate	4.29	43	2108	0.98	ppb	#	92
33) Ethyl tert Butyl Ether	4.89	59	10792	0.98	ppb		95
34) MEK (2-Butanone)	5.06	43	2342	1.37	ppb		94
35) Cis-1,2-DCE	4.99	61	5572	0.93	ppb	#	93
36) 2,2-Dichloropropane	4.99	77	5262	1.00	ppb	#	85
39) Chloroform	5.46	83	7806	1.04	ppb		86
40) Bromochloromethane	5.31	49	3369	1.03	ppb	#	78
42) 1,1,1-TCA	5.68	97	6311	1.06	ppb		97
43) Cyclohexane	5.75	56	3981	0.98	ppb		97
44) 1,1-Dichloropropene	5.90	75	4428	1.02	ppb		93
45) 2,2,4-Trimethylpentane	6.32	57	7754	0.99	ppb		97
47) Carbon Tetrachloride	5.90	117	4953	0.98	ppb		99
48) Tert Amyl Methyl Ether	6.37	73	9875	0.92	ppb		91

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0121T04.D Vial: 4
Acq On : 21 Jan 20 8:37 Operator:
Sample : 1ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 21 15:54 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
50)	1,2-DCA	6.17	62	6133	0.99 ppb	#	94
51)	Benzene	6.15	78	15171	0.99 ppb		98
52)	TCE	6.97	130	4412	0.98 ppb		98
53)	2-Pentanone	7.20	43	131509	46.31 ppb		99
54)	1,2-Dichloropropane	7.21	63	3810	0.96 ppb	#	84
55)	Bromodichloromethane	7.55	83	5632	0.99 ppb		87
56)	Methyl Cyclohexane	7.20	83	3984	0.91 ppb	#	48
57)	Dibromomethane	7.33	174	3855	1.05 ppb		96
58)	MIBK (methyl isobutyl ket	8.27	43	3528	0.98 ppb	#	86
59)	1-Bromo-2-chloroethane	7.88	63	2662	0.92 ppb	#	86
60)	2-Chloroethyl vinyl ether	7.93	106	1855	19.87 ppb	#	87
61)	Cis-1,3-Dichloropropene	8.07	75	6169	1.00 ppb		91
62)	Toluene	8.45	91	17655	0.99 ppb		100
63)	Trans-1,3-Dichloropropene	8.69	75	5350	0.93 ppb	#	79
64)	1,1,2-TCA	8.89	97	4063	1.00 ppb		96
65)	2-Hexanone	9.19	43	2108	2.77 ppb	#	93
68)	1,2-EDB	9.43	107	4077	0.97 ppb	#	85
69)	Tetrachloroethene	9.06	166	4678	0.97 ppb		93
70)	1-Chlorohexane	10.00	91	4849	2.24 ppb		89
71)	1,1,1,2-Tetrachloroethane	10.08	131	4604	0.98 ppb		87
72)	m&p-Xylene	10.26	91	26523	1.89 ppb		94
73)	o-Xylene	10.69	91	13489	0.90 ppb		97
74)	Styrene	10.70	104	8961	2.01 ppb		98
76)	1,3-Dichloropropane	9.07	76	6540	1.01 ppb	#	86
77)	Dibromochloromethane	9.32	129	4457	0.91 ppb		94
78)	Chlorobenzene	9.99	112	11743	0.95 ppb	#	88
79)	Ethylbenzene	10.13	91	18158	0.98 ppb		94
80)	Bromoform	10.88	173	3680	0.97 ppb		88
82)	Isopropylbenzene	11.11	105	14969	0.91 ppb	#	89
83)	1,1,2,2-Tetrachloroethane	11.41	83	5051	0.97 ppb	#	89
84)	1,2,3-Trichloropropane	11.45	110	1743	0.99 ppb		91
85)	t-1,4-Dichloro-2-Butene	11.47	53	839	0.92 ppb	#	79
86)	Bromobenzene	11.41	77	9263	1.03 ppb		94
87)	n-Propylbenzene	11.56	91	17193	0.96 ppb		100
88)	4-Ethyltoluene	11.68	105	14799	0.96 ppb		98
89)	2-Chlorotoluene	11.64	91	13375	0.97 ppb		95
90)	1,3,5-Trimethylbenzene	11.75	105	13475	0.94 ppb	#	81
91)	4-Chlorotoluene	11.76	91	13455	0.97 ppb	#	86
92)	Tert-Butylbenzene	12.11	119	13579	0.95 ppb		95
93)	1,2,4-Trimethylbenzene	12.16	105	14306	0.94 ppb		93
94)	Sec-Butylbenzene	12.35	105	14100	0.89 ppb		99
95)	p-Isopropyltoluene	12.51	119	12900	0.92 ppb		98
96)	Benzyl Chloride	12.69	91	4849	0.98 ppb	#	88
97)	1,3-DCB	12.45	146	8923	0.95 ppb		97
98)	1,4-DCB	12.55	146	10036	1.02 ppb		93
99)	n-Butylbenzene	12.96	91	11300	0.96 ppb		86
100)	1,2-DCB	12.95	146	10089	1.04 ppb		93
101)	Hexachloroethane	13.25	201	2556	1.22 ppb		94
102)	1,2-Dibromo-3-chloropropan	13.79	157	741	1.43 ppb	#	76
103)	1,2,4-Trichlorobenzene	14.73	180	5355	0.90 ppb		86
104)	Hexachlorobutadiene	14.94	225	2954	0.96 ppb		96
105)	Naphthalene	14.99	127	691	2.65 ppb		65
106)	1,2,3-Trichlorobenzene	15.26	180	5187	0.96 ppb		92

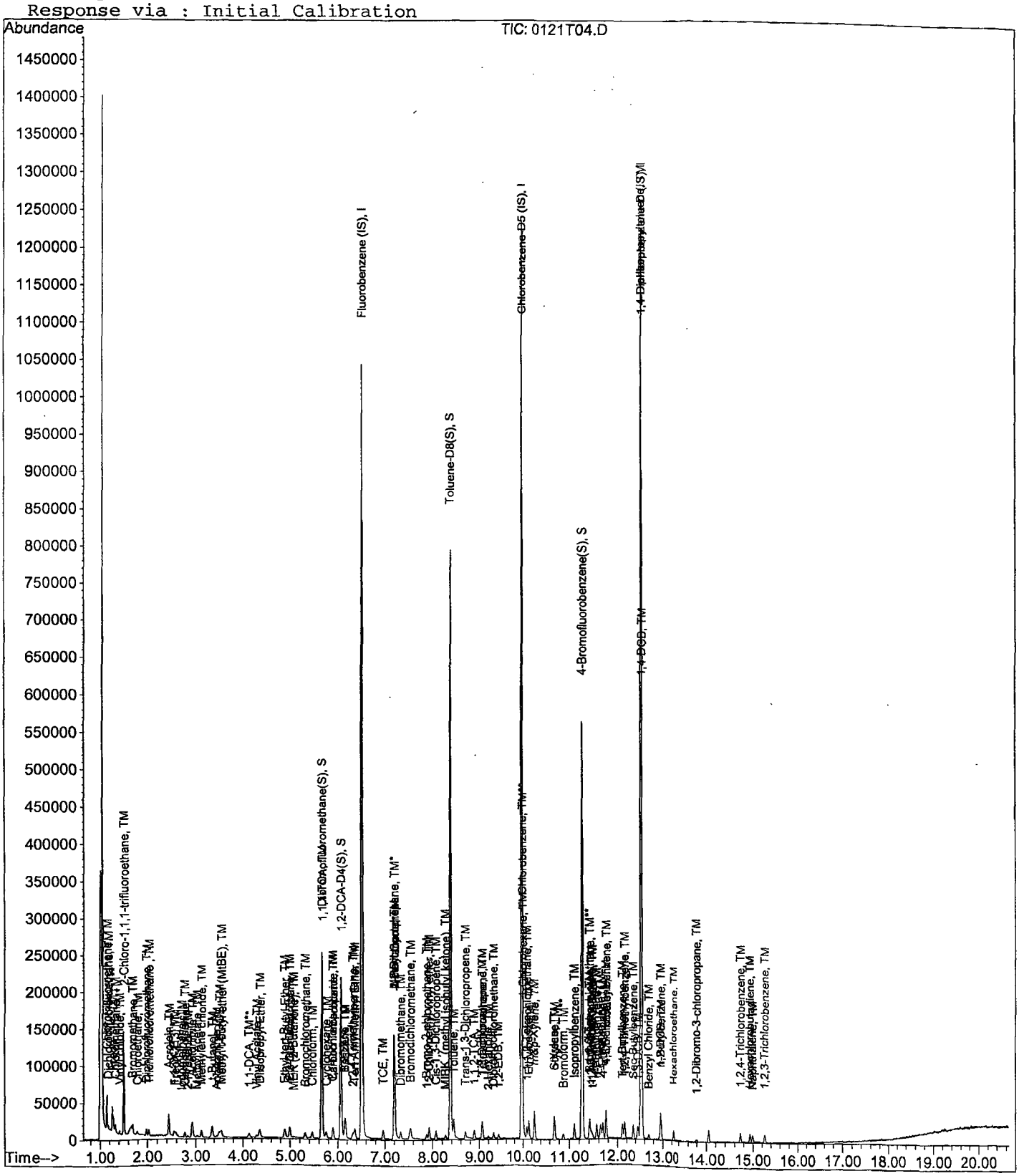
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0121T04.D Vial: 4
Acq On : 21 Jan 20 8:37 Operator:
Sample : 1ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 21 15:54 2020 Quant Results File: T0121W.RES

Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0121T05.D Vial: 5
Acq On : 21 Jan 20 9:05 Operator:
Sample : 2ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 21 15:54 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene (IS)	6.51	96	1013704	25.00	ppb		0.00
66) Chlorobenzene-D5 (IS)	9.96	117	798540	25.00	ppb		0.00
81) 1,4-Dichlorobenzene-D (IS)	12.52	152	418905	25.00	ppb		0.00
System Monitoring Compounds							
41) Dibromofluoromethane(S)	5.66	111	156838	9.54	ppb		0.00
Spiked Amount 25.000			Recovery =	38.152%			
46) 1,2-DCA-D4(S)	6.07	65	170607	9.56	ppb		0.00
Spiked Amount 25.000			Recovery =	38.256%			
67) Toluene-D8(S)	8.37	98	560877	8.81	ppb		0.00
Spiked Amount 25.000			Recovery =	35.244%			
75) 4-Bromofluorobenzene(S)	11.25	95	193951	9.73	ppb		0.00
Spiked Amount 25.000			Recovery =	38.920%			
Target Compounds							Qvalue
2) Chlorotrifluoroethene	1.14	116	29833	20.80	ppb		98
3) Dichlorodifluoromethane	1.17	85	6790	2.26	ppb		95
4) Freon 114	1.28	85	6190	1.96	ppb		93
5) Chloromethane	1.32	50	9928	1.45	ppb		99
6) Vinyl chloride	1.41	62	7542	2.12	ppb		98
7) 2-Chloro-1,1,1-trifluoroet	1.51	118	90485	20.38	ppb		99
8) Bromomethane	1.68	96	8924	2.20	ppb		99
9) Chloroethane	1.78	64	4707	1.78	ppb		99
10) Dichlorofluoromethane	1.98	67	14497	2.11	ppb		93
11) Trichlorofluoromethane	2.03	101	10411	2.06	ppb		97
14) Acrolein	2.44	56	34035	81.27	ppb		99
15) Acetone	2.62	43	2707	1.58	ppb		93
16) Freon-113	2.58	101	5884	2.12	ppb	#	91
17) 1,1-DCE	2.55	61	9688	2.15	ppb		98
18) 2-Propanol	2.84	45	4413	19.44	ppb		90
19) Acetonitrile	2.92	40	10422	84.99	ppb		98
20) t-Butanol	3.36	59	12040	79.19	ppb		97
21) Methyl Acetate	3.03	43	6990	2.18	ppb		99
22) Iodomethane	2.71	142	1406	2.95	ppb	#	87
23) Acrylonitrile	3.45	52	2467	2.02	ppb	#	68
24) Methylene chloride	3.12	49	10215	2.05	ppb		95
25) Carbon disulfide	2.77	76	17752	2.02	ppb		96
26) Methyl t-butyl ether (MtBE	3.55	73	23104	2.09	ppb		92
27) Trans-1,2-DCE	3.50	61	9756	2.06	ppb		96
29) Diisopropyl Ether	4.36	45	20914	1.93	ppb		92
31) 1,1-DCA	4.14	63	12878	2.00	ppb	#	89
32) Vinyl Acetate	4.29	43	4342	1.99	ppb	#	93
33) Ethyl tert Butyl Ether	4.89	59	21839	1.97	ppb		99
34) MEK (2-Butanone)	5.06	43	4577	2.60	ppb		99
35) Cis-1,2-DCE	4.99	61	12371	2.05	ppb	#	87
36) 2,2-Dichloropropane	4.99	77	10920	2.04	ppb		91
39) Chloroform	5.46	83	14805	1.96	ppb		99
40) Bromochloromethane	5.31	49	7238	2.18	ppb	#	84
42) 1,1,1-TCA	5.67	97	11966	2.00	ppb		97
43) Cyclohexane	5.75	56	7967	1.94	ppb		96
44) 1,1-Dichloropropene	5.90	75	8278	1.90	ppb		95
45) 2,2,4-Trimethylpentane	6.32	57	15832	2.00	ppb		96
47) Carbon Tetrachloride	5.89	117	10100	1.99	ppb		94
48) Tert Amyl Methyl Ether	6.36	73	20978	1.93	ppb		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0121T05.D Vial: 5
Acq On : 21 Jan 20 9:05 Operator:
Sample : 2ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 21 15:54 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
50)	1,2-DCA	6.16	62	12661	2.03	ppb		97
51)	Benzene	6.15	78	30396	1.96	ppb		98
52)	TCE	6.97	130	8472	1.86	ppb		88
53)	2-Pentanone	7.20	43	205159	71.51	ppb		100
54)	1,2-Dichloropropane	7.20	63	8122	2.04	ppb	#	95
55)	Bromodichloromethane	7.54	83	11188	1.95	ppb		93
56)	Methyl Cyclohexane	7.20	83	8862	1.99	ppb		83
57)	Dibromomethane	7.33	174	8131	2.20	ppb	#	90
58)	MIBK (methyl isobutyl ket	8.26	43	7082	1.94	ppb		94
59)	1-Bromo-2-chloroethane	7.88	63	6054	2.08	ppb		99
60)	2-Chloroethyl vinyl ether	7.93	106	3484	29.09	ppb	#	87
61)	Cis-1,3-Dichloropropene	8.07	75	11966	1.92	ppb		98
62)	Toluene	8.45	91	35076	1.94	ppb		97
63)	Trans-1,3-Dichloropropene	8.70	75	10674	1.84	ppb	#	88
64)	1,1,2-TCA	8.89	97	7569	1.85	ppb		95
65)	2-Hexanone	9.20	43	4251	3.50	ppb	#	94
68)	1,2-EDB	9.43	107	8363	1.98	ppb		97
69)	Tetrachloroethene	9.06	166	9135	1.89	ppb	#	86
70)	1-Chlorohexane	9.99	91	6208	2.55	ppb		96
71)	1,1,1,2-Tetrachloroethane	10.08	131	8808	1.86	ppb		95
72)	m&p-Xylene	10.26	91	50272	3.56	ppb		97
73)	o-Xylene	10.69	91	27516	1.83	ppb		94
74)	Styrene	10.71	104	19291	2.74	ppb		97
76)	1,3-Dichloropropane	9.07	76	13348	2.04	ppb		98
77)	Dibromochloromethane	9.32	129	9766	1.99	ppb		86
78)	Chlorobenzene	9.99	112	24343	1.95	ppb		95
79)	Ethylbenzene	10.13	91	35254	1.88	ppb		100
80)	Bromoform	10.88	173	7180	1.89	ppb		94
82)	Isopropylbenzene	11.11	105	30699	1.85	ppb		92
83)	1,1,2,2-Tetrachloroethane	11.41	83	11157	2.11	ppb		93
84)	1,2,3-Trichloropropane	11.45	110	3621	2.03	ppb	#	83
85)	t-1,4-Dichloro-2-Butene	11.48	53	1795	1.95	ppb		90
86)	Bromobenzene	11.41	77	17413	1.92	ppb		98
87)	n-Propylbenzene	11.56	91	33648	1.86	ppb		99
88)	4-Ethyltoluene	11.68	105	28035	1.80	ppb		90
89)	2-Chlorotoluene	11.64	91	26550	1.91	ppb		95
90)	1,3,5-Trimethylbenzene	11.75	105	26468	1.82	ppb		98
91)	4-Chlorotoluene	11.76	91	26605	1.91	ppb		98
92)	Tert-Butylbenzene	12.11	119	27523	1.90	ppb		93
93)	1,2,4-Trimethylbenzene	12.16	105	28540	1.85	ppb		98
94)	Sec-Butylbenzene	12.35	105	29041	1.82	ppb		93
95)	p-Isopropyltoluene	12.51	119	27324	1.92	ppb		97
96)	Benzyl Chloride	12.69	91	9680	1.94	ppb	#	90
97)	1,3-DCB	12.45	146	19029	2.00	ppb		98
98)	1,4-DCB	12.55	146	19690	1.98	ppb		97
99)	n-Butylbenzene	12.96	91	21634	1.82	ppb		96
100)	1,2-DCB	12.96	146	19085	1.94	ppb		97
101)	Hexachloroethane	13.25	201	5439	2.18	ppb		94
102)	1,2-Dibromo-3-chloropropan	13.80	157	1907	2.34	ppb		95
103)	1,2,4-Trichlorobenzene	14.73	180	11698	1.95	ppb		96
104)	Hexachlorobutadiene	14.93	225	6406	2.07	ppb		89
105)	Naphthalene	15.00	127	1079	3.07	ppb		93
106)	1,2,3-Trichlorobenzene	15.26	180	9842	1.80	ppb	#	77

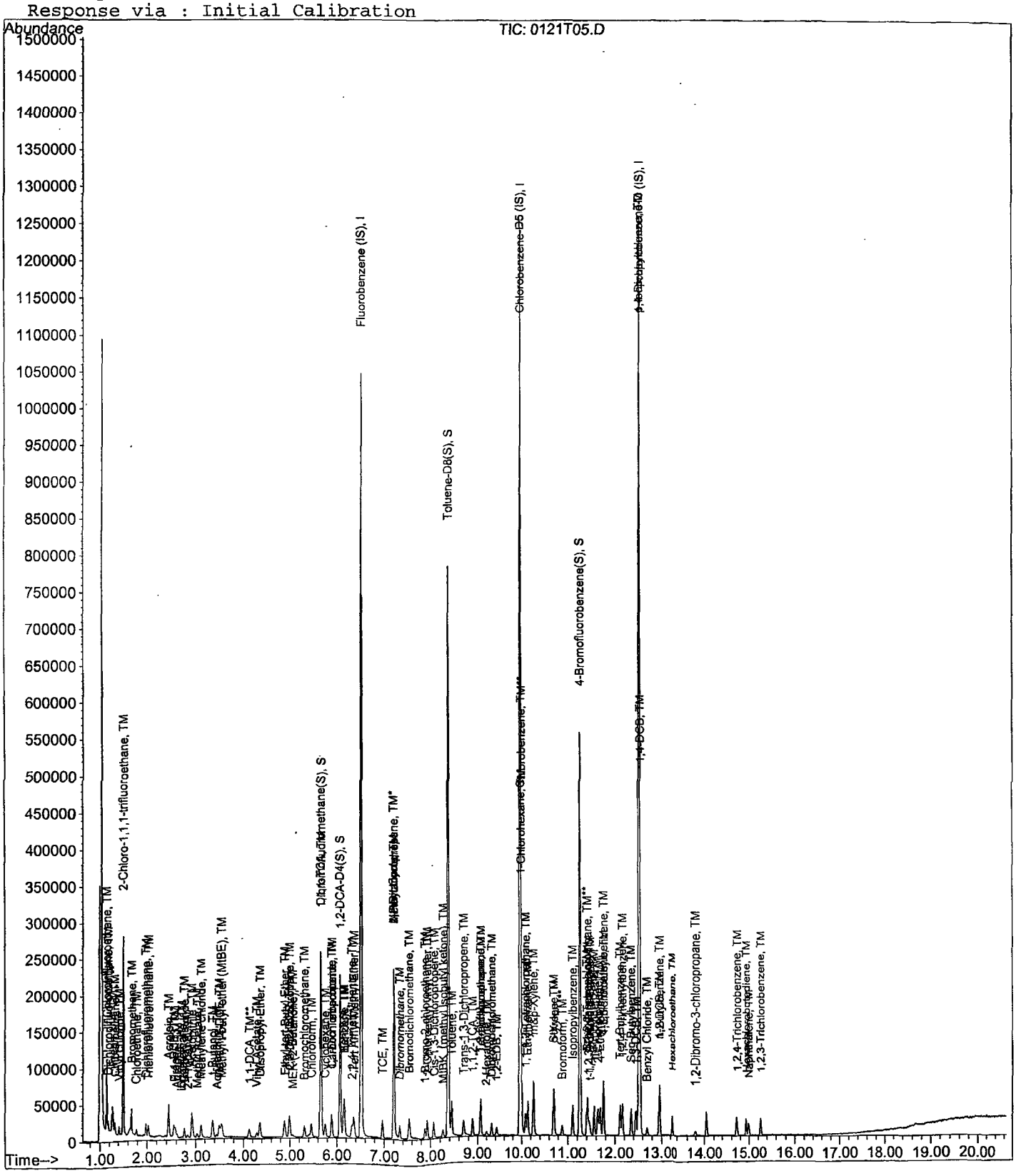
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0121T05.D Vial: 5
Acq On : 21 Jan 20 9:05 Operator:
Sample : 2ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 21 15:54 2020 Quant Results File: T0121W.RES

Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0121T06.D Vial: 6
Acq On : 21 Jan 20 9:34 Operator:
Sample : 5ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 21 15:54 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene (IS)	6.51	96	1014454	25.00	ppb		0.00
66) Chlorobenzene-D5 (IS)	9.96	117	790523	25.00	ppb		0.00
81) 1,4-Dichlorobenzene-D (IS)	12.52	152	420669	25.00	ppb		0.00
System Monitoring Compounds							
41) Dibromofluoromethane(S)	5.66	111	340025	26.13	ppb		0.00
Spiked Amount 25.000			Recovery =	104.524%			
46) 1,2-DCA-D4(S)	6.07	65	362839	26.16	ppb		0.00
Spiked Amount 25.000			Recovery =	104.624%			
67) Toluene-D8(S)	8.37	98	1238785	26.72	ppb		0.00
Spiked Amount 25.000			Recovery =	106.888%			
75) 4-Bromofluorobenzene(S)	11.25	95	433975	24.58	ppb		0.00
Spiked Amount 25.000			Recovery =	98.316%			
Target Compounds							Qvalue
2) Chlorotrifluoroethene	1.14	116	60396	42.08	ppb		98
3) Dichlorodifluoromethane	1.17	85	15263	5.07	ppb		93
4) Freon 114	1.28	85	15191	4.82	ppb		96
5) Chloromethane	1.32	50	21489	4.65	ppb		97
6) Vinyl chloride	1.41	62	18112	5.08	ppb		98
7) 2-Chloro-1,1,1-trifluoroet	1.50	118	183686	41.33	ppb		98
8) Bromomethane	1.68	96	18576	5.70	ppb		99
9) Chloroethane	1.78	64	12100	4.96	ppb		96
10) Dichlorofluoromethane	1.98	67	35339	5.14	ppb		96
11) Trichlorofluoromethane	2.03	101	24701	4.88	ppb		90
14) Acrolein	2.44	56	43745	104.38	ppb		93
15) Acetone	2.62	43	4316	4.50	ppb		99
16) Freon-113	2.58	101	13822	4.97	ppb	#	84
17) 1,1-DCE	2.55	61	23661	5.24	ppb		95
18) 2-Propanol	2.84	45	8822	38.84	ppb	#	85
19) Acetonitrile	2.92	40	12366	100.76	ppb	#	85
20) t-Butanol	3.36	59	17176	112.89	ppb		98
21) Methyl Acetate	3.04	43	15841	4.94	ppb		91
22) Iodomethane	2.70	142	3858	3.90	ppb		94
23) Acrylonitrile	3.45	52	6554	5.35	ppb		94
24) Methylene chloride	3.12	49	25046	5.02	ppb		94
25) Carbon disulfide	2.77	76	44057	5.01	ppb		100
26) Methyl t-butyl ether (MtBE	3.55	73	55927	5.05	ppb		96
27) Trans-1,2-DCE	3.50	61	23096	4.88	ppb		98
29) Diisopropyl Ether	4.35	45	56221	5.18	ppb		99
31) 1,1-DCA	4.13	63	33537	5.20	ppb		98
32) Vinyl Acetate	4.29	43	10767	4.93	ppb		95
33) Ethyl tert Butyl Ether	4.89	59	56602	5.09	ppb		96
34) MEK (2-Butanone)	5.05	43	9359	5.26	ppb	#	86
35) Cis-1,2-DCE	5.00	61	30437	5.04	ppb		98
36) 2,2-Dichloropropane	4.99	77	27182	5.08	ppb		96
39) Chloroform	5.46	83	38702	5.11	ppb		97
40) Bromochloromethane	5.31	49	16112	4.86	ppb		96
42) 1,1,1-TCA	5.67	97	30414	5.07	ppb		96
43) Cyclohexane	5.75	56	19044	4.64	ppb		96
44) 1,1-Dichloropropene	5.90	75	22019	5.04	ppb		97
45) 2,2,4-Trimethylpentane	6.32	57	35465	4.47	ppb		98
47) Carbon Tetrachloride	5.89	117	25112	4.93	ppb		98
48) Tert Amyl Methyl Ether	6.37	73	54283	4.99	ppb		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0121T06.D Vial: 6
Acq On : 21 Jan 20 9:34 Operator:
Sample : 5ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 21 15:54 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
50)	1,2-DCA	6.17	62	32354	5.17	ppb		98
51)	Benzene	6.15	78	78727	5.08	ppb		98
52)	TCE	6.96	130	23789	5.22	ppb		98
53)	2-Pentanone	7.20	43	281616	98.09	ppb		100
54)	1,2-Dichloropropane	7.21	63	20001	5.01	ppb	#	97
55)	Bromodichloromethane	7.54	83	28643	4.99	ppb		92
56)	Methyl Cyclohexane	7.20	83	20774	4.67	ppb		91
57)	Dibromomethane	7.33	174	18331	4.94	ppb		98
58)	MIBK (methyl isobutyl ket	8.26	43	16333	4.47	ppb		92
59)	1-Bromo-2-chloroethane	7.88	63	14869	5.11	ppb		96
60)	2-Chloroethyl vinyl ether	7.93	106	4947	37.00	ppb	#	87
61)	Cis-1,3-Dichloropropene	8.07	75	30202	4.85	ppb		99
62)	Toluene	8.45	91	90788	5.01	ppb		98
63)	Trans-1,3-Dichloropropene	8.70	75	27773	4.77	ppb		97
64)	1,1,2-TCA	8.89	97	21067	5.14	ppb		95
65)	2-Hexanone	9.20	43	10614	5.68	ppb		96
68)	1,2-EDB	9.43	107	21113	5.05	ppb	#	100
69)	Tetrachloroethene	9.06	166	24593	5.15	ppb		95
70)	1-Chlorohexane	10.00	91	18198	5.36	ppb		95
71)	1,1,1,2-Tetrachloroethane	10.09	131	23466	5.02	ppb		100
72)	m&p-Xylene	10.26	91	139357	9.96	ppb		100
73)	o-Xylene	10.69	91	74068	4.97	ppb		95
74)	Styrene	10.70	104	52294	5.12	ppb		95
76)	1,3-Dichloropropane	9.07	76	33830	5.23	ppb		95
77)	Dibromochloromethane	9.31	129	24402	5.02	ppb		97
78)	Chlorobenzene	9.99	112	62373	5.04	ppb		99
79)	Ethylbenzene	10.13	91	90992	4.91	ppb		98
80)	Bromoform	10.88	173	18051	4.79	ppb		97
82)	Isopropylbenzene	11.11	105	85826	5.14	ppb		99
83)	1,1,2,2-Tetrachloroethane	11.41	83	26750	5.03	ppb		97
84)	1,2,3-Trichloropropane	11.45	110	9523	5.31	ppb		88
85)	t-1,4-Dichloro-2-Butene	11.48	53	4427	4.80	ppb	#	83
86)	Bromobenzene	11.41	77	47446	5.21	ppb		98
87)	n-Propylbenzene	11.56	91	92370	5.09	ppb		99
88)	4-Ethyltoluene	11.68	105	77503	4.96	ppb		100
89)	2-Chlorotoluene	11.64	91	68450	4.91	ppb		99
90)	1,3,5-Trimethylbenzene	11.75	105	75398	5.16	ppb		96
91)	4-Chlorotoluene	11.76	91	70926	5.06	ppb		99
92)	Tert-Butylbenzene	12.11	119	71681	4.92	ppb		96
93)	1,2,4-Trimethylbenzene	12.16	105	76228	4.92	ppb		96
94)	Sec-Butylbenzene	12.35	105	79982	4.98	ppb		99
95)	p-Isopropyltoluene	12.51	119	72192	5.05	ppb		98
96)	Benzyl Chloride	12.69	91	22653	4.52	ppb		93
97)	1,3-DCB	12.45	146	49438	5.18	ppb		98
98)	1,4-DCB	12.55	146	49991	5.00	ppb		94
99)	n-Butylbenzene	12.96	91	59629	5.01	ppb		95
100)	1,2-DCB	12.95	146	50493	5.12	ppb		99
101)	Hexachloroethane	13.25	201	13340	4.80	ppb	#	85
102)	1,2-Dibromo-3-chloropropan	13.79	157	5635	5.26	ppb		99
103)	1,2,4-Trichlorobenzene	14.73	180	29378	4.87	ppb		94
104)	Hexachlorobutadiene	14.93	225	17473	5.62	ppb		98
105)	Naphthalene	14.99	127	3400	5.62	ppb		79
106)	1,2,3-Trichlorobenzene	15.26	180	26596	4.85	ppb		96

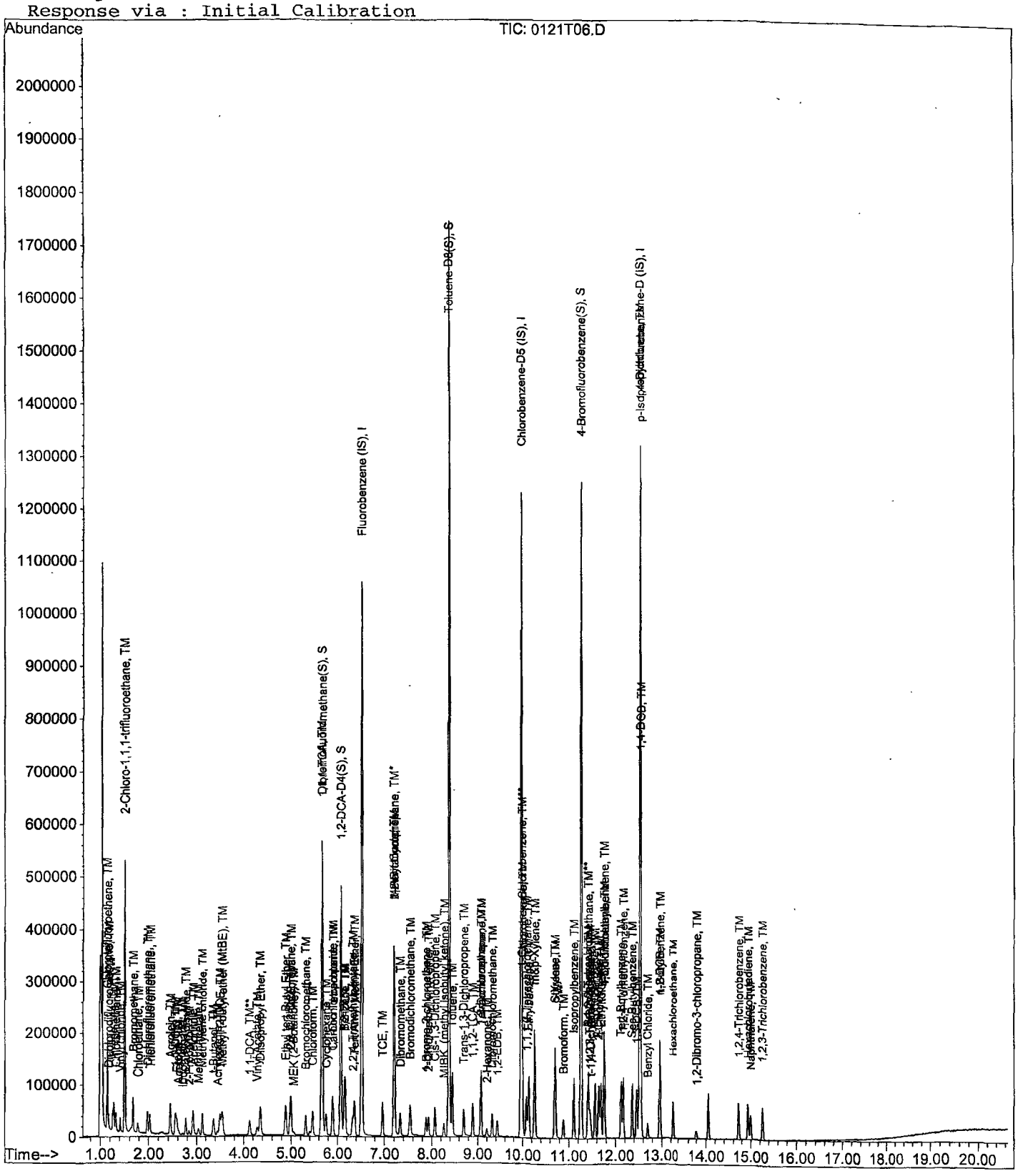
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0121T06.D Vial: 6
Acq On : 21 Jan 20 9:34 Operator:
Sample : 5ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 21 15:54 2020 Quant Results File: T0121W.RES

Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0121T07.D Vial: 7
Acq On : 21 Jan 20 10:02 Operator:
Sample : 10ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 21 15:54 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	1052818	25.00	ppb	0.00
66) Chlorobenzene-D5 (IS)	9.96	117	824642	25.00	ppb	0.00
81) 1,4-Dichlorobenzene-D (IS)	12.52	152	433370	25.00	ppb	0.00
System Monitoring Compounds						
41) Dibromofluoromethane(S)	5.66	111	344638	25.41	ppb	0.00
Spiked Amount 25.000			Recovery =	101.644%		
46) 1,2-DCA-D4(S)	6.07	65	369870	25.60	ppb	0.00
Spiked Amount 25.000			Recovery =	102.396%		
67) Toluene-D8(S)	8.37	98	1263271	25.99	ppb	0.00
Spiked Amount 25.000			Recovery =	103.976%		
75) 4-Bromofluorobenzene(S)	11.25	95	453846	24.65	ppb	0.00
Spiked Amount 25.000			Recovery =	98.584%		
Target Compounds						Qvalue
2) Chlorotrifluoroethene	1.14	116	149494	100.37	ppb	99
3) Dichlorodifluoromethane	1.17	85	29464	9.44	ppb	100
4) Freon 114	1.28	85	32142	9.82	ppb	100
5) Chloromethane	1.32	50	42471	10.03	ppb	100
6) Vinyl chloride	1.41	62	34547	9.33	ppb	100
7) 2-Chloro-1,1,1-trifluoroet	1.51	118	444296	96.33	ppb	99
8) Bromomethane	1.68	96	33096	10.52	ppb	100
9) Chloroethane	1.78	64	24034	9.73	ppb	100
10) Dichlorofluoromethane	1.98	67	69789	9.79	ppb	100
11) Trichlorofluoromethane	2.02	101	50679	9.64	ppb	100
14) Acrolein	2.44	56	55000	126.45	ppb	99
15) Acetone	2.62	43	7999	10.65	ppb	100
16) Freon-113	2.58	101	28359	9.83	ppb	100
17) 1,1-DCE	2.55	61	44121	9.41	ppb	100
18) 2-Propanol	2.85	45	22969	97.43	ppb	100
19) Acetonitrile	2.93	40	17273	135.62	ppb	100
20) t-Butanol	3.37	59	20352	128.89	ppb	100
21) Methyl Acetate	3.03	43	29735	8.94	ppb	100
22) Iodomethane	2.70	142	11387	6.62	ppb	100
23) Acrylonitrile	3.45	52	12568	9.89	ppb	100
24) Methylene chloride	3.12	49	49458	9.55	ppb	100
25) Carbon disulfide	2.77	76	85603	9.37	ppb	100
26) Methyl t-butyl ether (MtBE	3.55	73	112777	9.82	ppb	100
27) Trans-1,2-DCE	3.50	61	47290	9.62	ppb	100
29) Diisopropyl Ether	4.35	45	110040	9.77	ppb	100
31) 1,1-DCA	4.13	63	64088	9.58	ppb	100
32) Vinyl Acetate	4.29	43	22544	9.95	ppb	100
33) Ethyl tert Butyl Ether	4.89	59	111572	9.68	ppb	100
34) MEK (2-Butanone)	5.05	43	16993	9.17	ppb	100
35) Cis-1,2-DCE	4.99	61	60205	9.61	ppb	100
36) 2,2-Dichloropropane	4.99	77	53233	9.59	ppb	100
39) Chloroform	5.46	83	75327	9.59	ppb	100
40) Bromochloromethane	5.31	49	33049	9.60	ppb	100
42) 1,1,1-TCA	5.68	97	60516	9.73	ppb	100
43) Cyclohexane	5.75	56	39719	9.32	ppb	100
44) 1,1-Dichloropropene	5.90	75	44001	9.71	ppb	100
45) 2,2,4-Trimethylpentane	6.32	57	75960	9.23	ppb	100
47) Carbon Tetrachloride	5.89	117	52741	9.98	ppb	100
48) Tert Amyl Methyl Ether	6.36	73	112129	9.93	ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0121T07.D Vial: 7
Acq On : 21 Jan 20 10:02 Operator:
Sample : 10ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 21 15:54 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
50) 1,2-DCA	6.17	62	63870	9.84 ppb	100
51) Benzene	6.15	78	155971	9.70 ppb	100
52) TCE	6.96	130	46083	9.74 ppb	100
53) 2-Pentanone	7.20	43	364684	122.39 ppb	100
54) 1,2-Dichloropropane	7.21	63	40119	9.68 ppb	100
55) Bromodichloromethane	7.54	83	58783	9.86 ppb	100
56) Methyl Cyclohexane	7.20	83	44677	9.67 ppb	100
57) Dibromomethane	7.33	174	36805	9.57 ppb	100
58) MIBK (methyl isobutyl ket	8.27	43	33880	8.93 ppb	100
59) 1-Bromo-2-chloroethane	7.88	63	29376	9.72 ppb	100
60) 2-Chloroethyl vinyl ether	7.93	106	6766	45.11 ppb	100
61) Cis-1,3-Dichloropropene	8.07	75	63116	9.76 ppb	100
62) Toluene	8.45	91	178422	9.49 ppb	100
63) Trans-1,3-Dichloropropene	8.69	75	57485	9.52 ppb	100
64) 1,1,2-TCA	8.89	97	41433	9.75 ppb	100
65) 2-Hexanone	9.19	43	22847	9.58 ppb	100
68) 1,2-EDB	9.43	107	43603	9.99 ppb	100
69) Tetrachloroethene	9.06	166	50478	10.13 ppb	100
70) 1-Chlorohexane	10.00	91	35945	9.15 ppb	100
71) 1,1,1,2-Tetrachloroethane	10.09	131	47600	9.76 ppb	100
72) m&p-Xylene	10.26	91	280924	19.25 ppb	100
73) o-Xylene	10.69	91	153530	9.88 ppb	100
74) Styrene	10.70	104	111070	9.01 ppb	100
76) 1,3-Dichloropropane	9.07	76	67135	9.95 ppb	100
77) Dibromochloromethane	9.31	129	50596	9.98 ppb	100
78) Chlorobenzene	9.99	112	125190	9.70 ppb	100
79) Ethylbenzene	10.13	91	186393	9.65 ppb	100
80) Bromoform	10.88	173	38587	9.81 ppb	100
82) Isopropylbenzene	11.11	105	176689	10.28 ppb	100
83) 1,1,2,2-Tetrachloroethane	11.41	83	56387	10.30 ppb	100
84) 1,2,3-Trichloropropane	11.45	110	18977	10.28 ppb	100
85) t-1,4-Dichloro-2-Butene	11.47	53	9916	10.43 ppb	100
86) Bromobenzene	11.41	77	95946	10.23 ppb	100
87) n-Propylbenzene	11.56	91	182470	9.76 ppb	100
88) 4-Ethyltoluene	11.68	105	157879	9.80 ppb	100
89) 2-Chlorotoluene	11.64	91	141518	9.85 ppb	100
90) 1,3,5-Trimethylbenzene	11.75	105	155217	10.31 ppb	100
91) 4-Chlorotoluene	11.76	91	141667	9.81 ppb	100
92) Tert-Butylbenzene	12.11	119	143244	9.55 ppb	100
93) 1,2,4-Trimethylbenzene	12.16	105	158685	9.93 ppb	100
94) Sec-Butylbenzene	12.35	105	162153	9.80 ppb	100
95) p-Isopropyltoluene	12.51	119	148773	10.10 ppb	100
96) Benzyl Chloride	12.69	91	49997	9.69 ppb	100
97) 1,3-DCB	12.45	146	96840	9.85 ppb	100
98) 1,4-DCB	12.55	146	100121	9.72 ppb	100
99) n-Butylbenzene	12.96	91	126693	10.32 ppb	100
100) 1,2-DCB	12.95	146	100128	9.85 ppb	100
101) Hexachloroethane	13.25	201	30284	10.14 ppb	100
102) 1,2-Dibromo-3-chloropropan	13.79	157	11577	9.66 ppb	100
103) 1,2,4-Trichlorobenzene	14.73	180	59894	9.63 ppb	100
104) Hexachlorobutadiene	14.93	225	35598	11.11 ppb	100
105) Naphthalene	14.99	127	6896	9.24 ppb	100
106) 1,2,3-Trichlorobenzene	15.26	180	56216	9.95 ppb	100

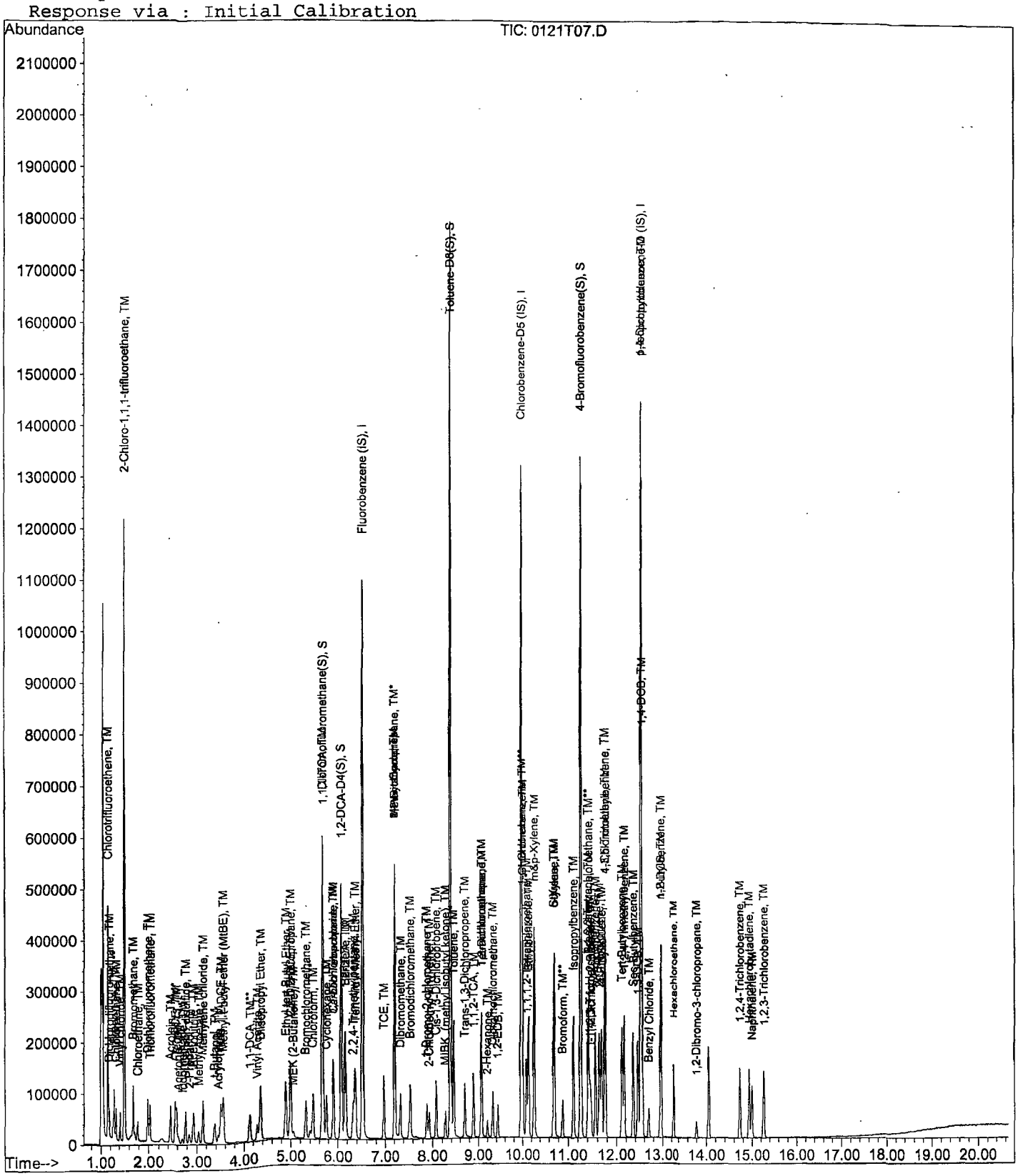
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0121T07.D Vial: 7
Acq On : 21 Jan 20 10:02 Operator:
Sample : 10ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 21 15:54 2020 Quant Results File: T0121W.RES

Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0121T08.D Vial: 8
Acq On : 21 Jan 20 10:30 Operator:
Sample : 20ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 21 15:54 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	1076126	25.00	ppb	0.00
66) Chlorobenzene-D5 (IS)	9.96	117	852719	25.00	ppb	0.00
81) 1,4-Dichlorobenzene-D (IS)	12.52	152	475060	25.00	ppb	0.00
System Monitoring Compounds						
41) Dibromofluoromethane(S)	5.66	111	651247	50.96	ppb	0.00
Spiked Amount 25.000			Recovery = 203.828%			
46) 1,2-DCA-D4(S)	6.07	65	693335	51.27	ppb	0.00
Spiked Amount 25.000			Recovery = 205.076%			
67) Toluene-D8(S)	8.37	98	2429130	53.27	ppb	0.00
Spiked Amount 25.000			Recovery = 213.084%			
75) 4-Bromofluorobenzene(S)	11.25	95	908776	49.65	ppb	0.00
Spiked Amount 25.000			Recovery = 198.596%			
Target Compounds						Qvalue
2) Chlorotrifluoroethene	1.14	116	182883	120.13	ppb	98
3) Dichlorodifluoromethane	1.17	85	63294	19.83	ppb	93
4) Freon 114	1.28	85	64179	19.18	ppb	95
5) Chloromethane	1.32	50	88283	21.73	ppb	99
6) Vinyl chloride	1.41	62	74149	19.59	ppb	98
7) 2-Chloro-1,1,1-trifluoroet	1.50	118	559758	118.73	ppb	99
8) Bromomethane	1.68	96	60376	19.58	ppb	98
9) Chloroethane	1.77	64	50228	20.16	ppb	98
10) Dichlorofluoromethane	1.97	67	142244	19.52	ppb	98
11) Trichlorofluoromethane	2.02	101	108479	20.19	ppb	89
14) Acrolein	2.44	56	66647	149.91	ppb	95
15) Acetone	2.62	43	14223	21.00	ppb	96
16) Freon-113	2.57	101	57134	19.37	ppb	94
17) 1,1-DCE	2.54	61	94146	19.65	ppb	94
18) 2-Propanol	2.86	45	30008	124.53	ppb	98
19) Acetonitrile	2.93	40	19665	151.06	ppb	90
20) t-Butanol	3.38	59	25072	155.35	ppb	93
21) Methyl Acetate	3.03	43	60365	17.75	ppb	99
22) Iodomethane	2.69	142	43300	17.31	ppb	92
23) Acrylonitrile	3.45	52	26638	20.50	ppb	92
24) Methylene chloride	3.12	49	101887	19.24	ppb	97
25) Carbon disulfide	2.76	76	183575	19.66	ppb	99
26) Methyl t-butyl ether (MtBE	3.55	73	234023	19.93	ppb	95
27) Trans-1,2-DCE	3.50	61	97878	19.49	ppb	97
29) Diisopropyl Ether	4.36	45	234774	20.39	ppb	100
31) 1,1-DCA	4.13	63	133620	19.55	ppb	98
32) Vinyl Acetate	4.29	43	50017	21.59	ppb	98
33) Ethyl tert Butyl Ether	4.89	59	241760	20.51	ppb	99
34) MEK (2-Butanone)	5.05	43	37592	19.78	ppb	92
35) Cis-1,2-DCE	4.99	61	128798	20.11	ppb	98
36) 2,2-Dichloropropane	4.99	77	111773	19.71	ppb	100
39) Chloroform	5.45	83	158222	19.71	ppb	94
40) Bromochloromethane	5.31	49	70429	20.01	ppb	95
42) 1,1,1-TCA	5.67	97	128997	20.28	ppb	97
43) Cyclohexane	5.75	56	88102	20.22	ppb	98
44) 1,1-Dichloropropene	5.90	75	94568	20.41	ppb	96
45) 2,2,4-Trimethylpentane	6.32	57	166188	19.75	ppb	96
47) Carbon Tetrachloride	5.89	117	108438	20.08	ppb	100
48) Tert Amyl Methyl Ether	6.36	73	240559	20.83	ppb	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0121T08.D Vial: 8
Acq On : 21 Jan 20 10:30 Operator:
Sample : 20ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 21 15:54 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
50)	1,2-DCA	6.17	62	126506	19.07	ppb	98
51)	Benzene	6.15	78	327958	19.96	ppb	98
52)	TCE	6.96	130	95870	19.82	ppb	91
53)	2-Pentanone	7.20	43	481940	158.24	ppb	99
54)	1,2-Dichloropropane	7.21	63	83971	19.83	ppb	98
55)	Bromodichloromethane	7.54	83	124991	20.52	ppb	98
56)	Methyl Cyclohexane	7.20	83	96070	20.35	ppb	95
57)	Dibromomethane	7.33	174	78959	20.08	ppb	97
58)	MIBK (methyl isobutyl ket	8.27	43	73353	18.92	ppb	96
59)	1-Bromo-2-chloroethane	7.88	63	62592	20.27	ppb	95
60)	2-Chloroethyl vinyl ether	7.93	106	11858	67.12	ppb	100
61)	Cis-1,3-Dichloropropene	8.07	75	137375	20.79	ppb	97
62)	Toluene	8.45	91	384888	20.03	ppb	100
63)	Trans-1,3-Dichloropropene	8.69	75	127017	20.58	ppb	98
64)	1,1,2-TCA	8.89	97	88633	20.40	ppb	96
65)	2-Hexanone	9.19	43	48967	17.86	ppb	96
68)	1,2-EDB	9.43	107	92053	20.40	ppb	98
69)	Tetrachloroethene	9.06	166	104453	20.27	ppb	98
70)	1-Chlorohexane	10.00	91	82121	18.87	ppb	97
71)	1,1,1,2-Tetrachloroethane	10.09	131	102397	20.29	ppb	97
72)	m&p-Xylene	10.26	91	630657	41.79	ppb	97
73)	o-Xylene	10.69	91	337410	21.01	ppb	98
74)	Styrene	10.70	104	260171	18.67	ppb	99
76)	1,3-Dichloropropane	9.07	76	141824	20.32	ppb	96
77)	Dibromochloromethane	9.31	129	108154	20.64	ppb	97
78)	Chlorobenzene	9.99	112	265501	19.90	ppb	99
79)	Ethylbenzene	10.13	91	411004	20.58	ppb	99
80)	Bromoform	10.88	173	86728	21.32	ppb	100
82)	Isopropylbenzene	11.11	105	397064	21.07	ppb	99
83)	1,1,2,2-Tetrachloroethane	11.41	83	118793	19.80	ppb	97
84)	1,2,3-Trichloropropane	11.45	110	40723	20.12	ppb	88
85)	t-1,4-Dichloro-2-Butene	11.47	53	22606	21.69	ppb	88
86)	Bromobenzene	11.41	77	207057	20.14	ppb	99
87)	n-Propylbenzene	11.56	91	423024	20.65	ppb	99
88)	4-Ethyltoluene	11.68	105	353833	20.04	ppb	99
89)	2-Chlorotoluene	11.64	91	320436	20.36	ppb	99
90)	1,3,5-Trimethylbenzene	11.75	105	346099	20.98	ppb	100
91)	4-Chlorotoluene	11.76	91	321646	20.31	ppb	98
92)	Tert-Butylbenzene	12.11	119	338600	20.59	ppb	98
93)	1,2,4-Trimethylbenzene	12.16	105	353744	20.20	ppb	99
94)	Sec-Butylbenzene	12.35	105	373121	20.57	ppb	100
95)	p-Isopropyltoluene	12.51	119	330744	20.49	ppb	99
96)	Benzyl Chloride	12.69	91	112049	19.82	ppb	98
97)	1,3-DCB	12.45	146	217787	20.21	ppb	99
98)	1,4-DCB	12.55	146	218387	19.34	ppb	99
99)	n-Butylbenzene	12.96	91	275951	20.51	ppb	98
100)	1,2-DCB	12.95	146	215390	19.34	ppb	97
101)	Hexachloroethane	13.25	201	67271	20.19	ppb	95
102)	1,2-Dibromo-3-chloropropan	13.79	157	26651	19.36	ppb	97
103)	1,2,4-Trichlorobenzene	14.73	180	134324	19.70	ppb	99
104)	Hexachlorobutadiene	14.93	225	72572	20.66	ppb	91
105)	Naphthalene	14.99	127	15758	17.23	ppb	92
106)	1,2,3-Trichlorobenzene	15.26	180	128721	20.79	ppb	98

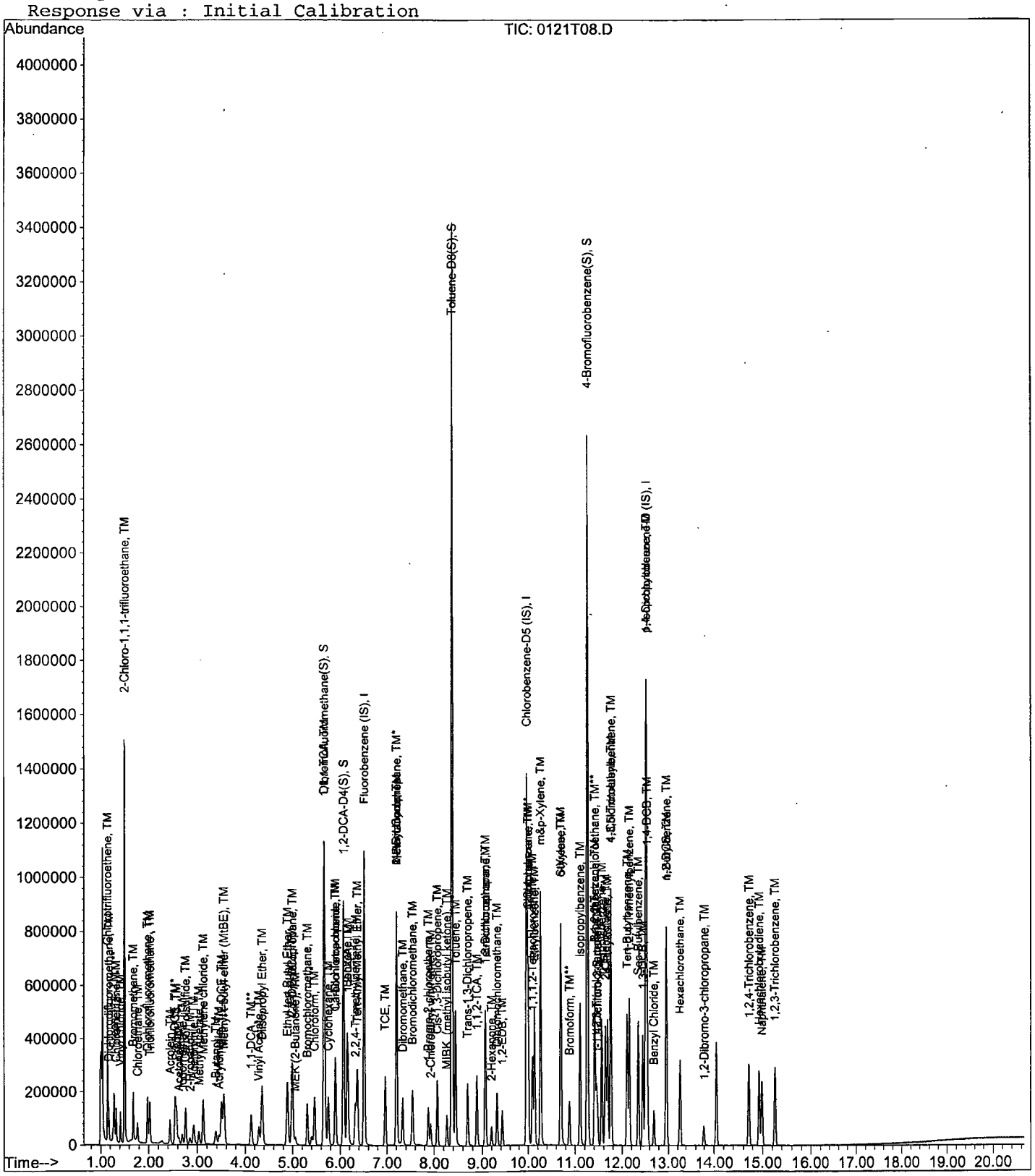
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0121T08.D Vial: 8
Acq On : 21 Jan 20 10:30 Operator:
Sample : 20ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 21 15:54 2020 Quant Results File: T0121W.RES

Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0121T09.D Vial: 9
Acq On : 21 Jan 20 10:59 Operator:
Sample : 40ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 21 15:54 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	1054648	25.00	ppb	0.00
66) Chlorobenzene-D5 (IS)	9.96	117	894422	25.00	ppb	0.00
81) 1,4-Dichlorobenzene-D (IS)	12.52	152	515905	25.00	ppb	0.00
System Monitoring Compounds						
41) Dibromofluoromethane(S)	5.66	111	618615	49.24	ppb	0.00
Spiked Amount 25.000			Recovery =	196.980%		
46) 1,2-DCA-D4(S)	6.07	65	655265	49.26	ppb	0.00
Spiked Amount 25.000			Recovery =	197.024%		
67) Toluene-D8(S)	8.37	98	2407625	50.02	ppb	0.00
Spiked Amount 25.000			Recovery =	200.084%		
75) 4-Bromofluorobenzene(S)	11.26	95	948175	49.37	ppb	0.00
Spiked Amount 25.000			Recovery =	197.500%		
Target Compounds						Qvalue
2) Chlorotrifluoroethene	1.14	116	202699	135.86	ppb	98
3) Dichlorodifluoromethane	1.17	85	117291	37.50	ppb	95
4) Freon 114	1.28	85	118373	36.10	ppb	97
5) Chloromethane	1.32	50	161623	41.72	ppb	99
6) Vinyl chloride	1.42	62	134164	36.17	ppb	96
7) 2-Chloro-1,1,1-trifluoroet	1.50	118	635844	137.62	ppb	99
8) Bromomethane	1.68	96	88824	29.91	ppb	97
9) Chloroethane	1.77	64	57199	23.46	ppb	97
10) Dichlorofluoromethane	1.97	67	269362	37.72	ppb	98
11) Trichlorofluoromethane	2.01	101	201905	38.35	ppb	93
14) Acrolein	2.44	56	74737	171.53	ppb	95
15) Acetone	2.63	43	26111	42.24	ppb	94
16) Freon-113	2.57	101	105771	36.59	ppb	96
17) 1,1-DCE	2.54	61	175251	37.32	ppb	97
18) 2-Propanol	2.87	45	35948	152.22	ppb	96
19) Acetonitrile	2.93	40	23716	185.88	ppb	93
20) t-Butanol	3.40	59	28968	183.14	ppb	97
21) Methyl Acetate	3.03	43	120496	36.16	ppb	97
22) Iodomethane	2.69	142	127591	42.48	ppb	92
23) Acrylonitrile	3.45	52	52835	41.49	ppb	89
24) Methylene chloride	3.12	49	195429	37.65	ppb	97
25) Carbon disulfide	2.76	76	345888	37.80	ppb	97
26) Methyl t-butyl ether (MtBE	3.55	73	454331	39.47	ppb	96
27) Trans-1,2-DCE	3.50	61	184858	37.55	ppb	97
29) Diisopropyl Ether	4.36	45	453966	40.23	ppb	99
31) 1,1-DCA	4.13	63	253490	37.84	ppb	98
32) Vinyl Acetate	4.29	43	96304	42.41	ppb	97
33) Ethyl tert Butyl Ether	4.89	59	471334	40.80	ppb	98
34) MEK (2-Butanone)	5.05	43	72222	38.73	ppb	91
35) Cis-1,2-DCE	4.99	61	244673	38.98	ppb	99
36) 2,2-Dichloropropane	4.99	77	214464	38.58	ppb	99
39) Chloroform	5.46	83	305203	38.79	ppb	95
40) Bromochloromethane	5.31	49	133369	38.66	ppb	94
42) 1,1,1-TCA	5.68	97	239600	38.44	ppb	97
43) Cyclohexane	5.75	56	170868	40.01	ppb	99
44) 1,1-Dichloropropene	5.90	75	182143	40.11	ppb	96
45) 2,2,4-Trimethylpentane	6.32	57	321757	39.01	ppb	98
47) Carbon Tetrachloride	5.89	117	206419	38.99	ppb	98
48) Tert Amyl Methyl Ether	6.36	73	479954	42.42	ppb	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0121T09.D Vial: 9
Acq On : 21 Jan 20 10:59 Operator:
Sample : 40ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 21 15:54 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
50)	1,2-DCA	6.16	62	245527	37.76	ppb	98
51)	Benzene	6.15	78	627743	38.98	ppb	98
52)	TCE	6.96	130	184547	38.94	ppb	96
53)	2-Pentanone	7.21	43	593462	198.82	ppb	99
54)	1,2-Dichloropropane	7.21	63	162975	39.27	ppb	99
55)	Bromodichloromethane	7.54	83	245468	41.11	ppb	97
56)	Methyl Cyclohexane	7.20	83	185698	40.14	ppb	96
57)	Dibromomethane	7.33	174	153486	39.83	ppb	95
58)	MIBK (methyl isobutyl ket	8.27	43	162798	42.84	ppb	97
59)	1-Bromo-2-chloroethane	7.88	63	119448	39.47	ppb	95
60)	2-Chloroethyl vinyl ether	7.93	106	19756	99.27	ppb	99
61)	Cis-1,3-Dichloropropene	8.07	75	275552	42.54	ppb	97
62)	Toluene	8.45	91	771076	40.95	ppb	99
63)	Trans-1,3-Dichloropropene	8.69	75	261977	43.31	ppb	97
64)	1,1,2-TCA	8.89	97	183228	43.04	ppb	96
65)	2-Hexanone	9.20	43	106475	37.13	ppb	99
68)	1,2-EDB	9.43	107	190276	40.19	ppb	99
69)	Tetrachloroethene	9.06	166	202797	37.52	ppb	97
70)	1-Chlorohexane	10.00	91	174011	36.99	ppb	98
71)	1,1,1,2-Tetrachloroethane	10.09	131	215047	40.63	ppb	97
72)	m&p-Xylene	10.26	91	1340898	84.72	ppb	97
73)	o-Xylene	10.69	91	728284	43.23	ppb	98
74)	Styrene	10.70	104	580797	38.19	ppb	98
76)	1,3-Dichloropropane	9.07	76	285992	39.07	ppb	99
77)	Dibromochloromethane	9.32	129	229456	41.75	ppb	95
78)	Chlorobenzene	9.99	112	551214	39.39	ppb	99
79)	Ethylbenzene	10.13	91	856351	40.87	ppb	99
80)	Bromoform	10.88	173	185295	43.43	ppb	99
82)	Isopropylbenzene	11.11	105	857693	41.92	ppb	98
83)	1,1,2,2-Tetrachloroethane	11.41	83	257156	39.46	ppb	98
84)	1,2,3-Trichloropropane	11.45	110	86535	39.37	ppb	95
85)	t-1,4-Dichloro-2-Butene	11.47	53	51455	45.45	ppb	93
86)	Bromobenzene	11.41	77	448280	40.14	ppb	97
87)	n-Propylbenzene	11.56	91	926311	41.63	ppb	100
88)	4-Ethyltoluene	11.68	105	788291	41.11	ppb	98
89)	2-Chlorotoluene	11.64	91	688336	40.26	ppb	100
90)	1,3,5-Trimethylbenzene	11.75	105	756063	42.20	ppb	100
91)	4-Chlorotoluene	11.76	91	709213	41.24	ppb	99
92)	Tert-Butylbenzene	12.11	119	733765	41.09	ppb	99
93)	1,2,4-Trimethylbenzene	12.16	105	779496	40.99	ppb	99
94)	Sec-Butylbenzene	12.35	105	839271	42.60	ppb	98
95)	p-Isopropyltoluene	12.51	119	727526	41.50	ppb	99
96)	Benzyl Chloride	12.69	91	244403	39.80	ppb	99
97)	1,3-DCB	12.45	146	467874	39.98	ppb	99
98)	1,4-DCB	12.55	146	471615	38.46	ppb	98
99)	n-Butylbenzene	12.96	91	603110	41.28	ppb	99
100)	1,2-DCB	12.95	146	473147	39.11	ppb	100
101)	Hexachloroethane	13.25	201	142211	38.96	ppb	92
102)	1,2-Dibromo-3-chloropropan	13.79	157	59275	38.77	ppb	98
103)	1,2,4-Trichlorobenzene	14.73	180	302706	40.88	ppb	99
104)	Hexachlorobutadiene	14.93	225	150112	39.35	ppb	93
105)	Naphthalene	14.99	127	38160	36.11	ppb	95
106)	1,2,3-Trichlorobenzene	15.26	180	283936	42.22	ppb	100

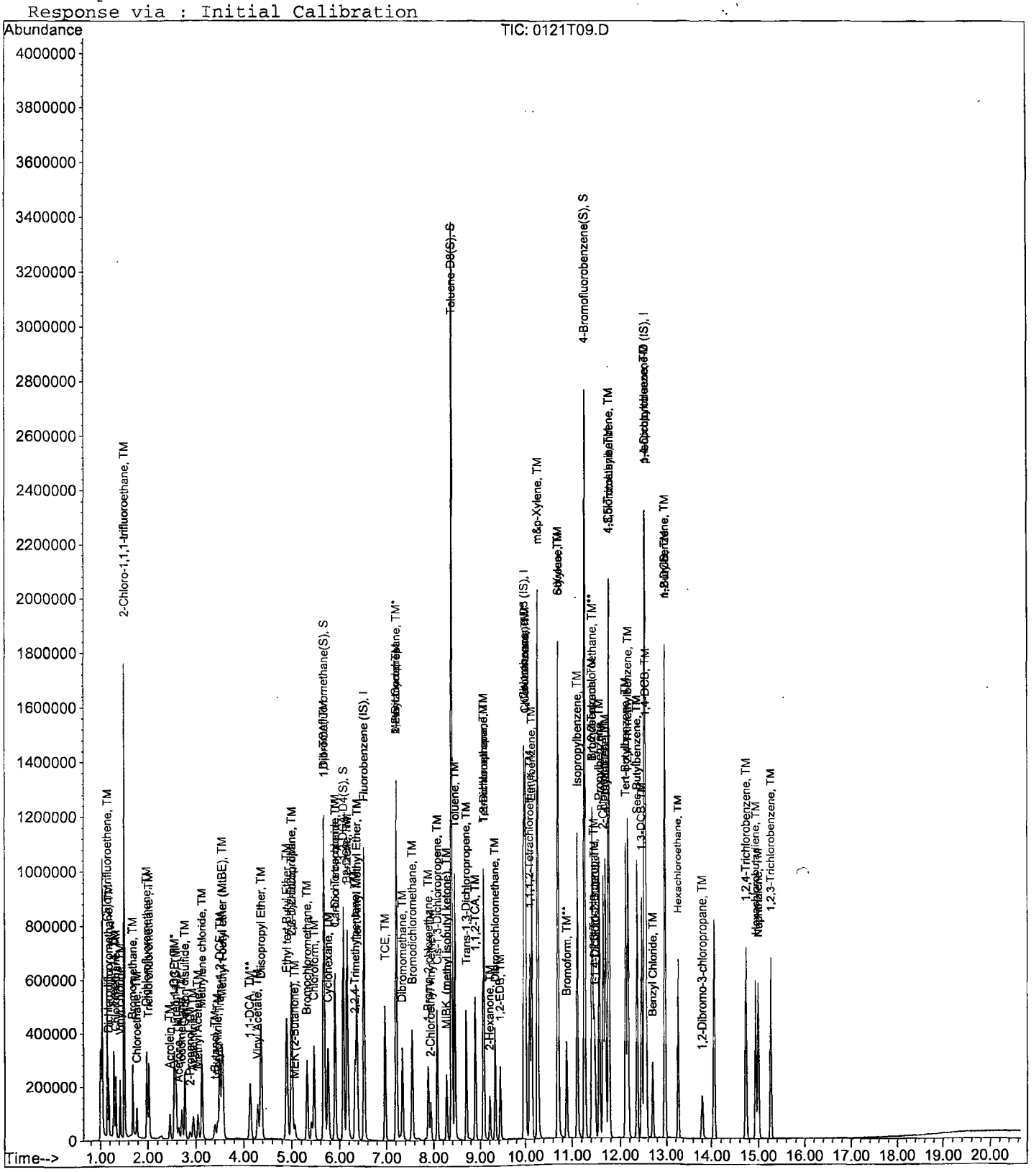
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0121T09.D Vial: 9
Acq On : 21 Jan 20 10:59 Operator:
Sample : 40ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 21 15:54 2020 Quant Results File: T0121W.RES

Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0121T10.D Vial: 10
Acq On : 21 Jan 20 11:27 Operator:
Sample : 100ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 21 15:54 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene (IS)	6.51	96	1065218	25.00	ppb		0.00
66) Chlorobenzene-D5 (IS)	9.96	117	916624	25.00	ppb		0.00
81) 1,4-Dichlorobenzene-D (IS)	12.52	152	565783	25.00	ppb		0.00
System Monitoring Compounds							
41) Dibromofluoromethane(S)	5.66	111	1208474	99.62	ppb		0.00
Spiked Amount 25.000			Recovery =	398.500%			
46) 1,2-DCA-D4(S)	6.07	65	1271687	99.42	ppb		0.00
Spiked Amount 25.000			Recovery =	397.676%			
67) Toluene-D8(S)	8.37	98	4589751	97.98	ppb		0.00
Spiked Amount 25.000			Recovery =	391.936%			
75) 4-Bromofluorobenzene(S)	11.26	95	1940451	100.65	ppb		0.00
Spiked Amount 25.000			Recovery =	402.584%			
Target Compounds							Qvalue
2) Chlorotrifluoroethene	1.14	116	234471	155.59	ppb		100
3) Dichlorodifluoromethane	1.17	85	292201	92.49	ppb		96
4) Freon 114	1.28	85	308794	93.23	ppb		100
5) Chloromethane	1.32	50	380597	99.00	ppb		99
6) Vinyl chloride	1.41	62	339058	90.50	ppb		97
7) 2-Chloro-1,1,1-trifluoroet	1.51	118	741931	158.99	ppb		100
8) Bromomethane	1.68	96	184128	62.47	ppb		98
9) Chloroethane	1.76	64	124932	51.03	ppb		97
10) Dichlorofluoromethane	1.96	67	689483	95.58	ppb		97
11) Trichlorofluoromethane	2.00	101	519736	97.73	ppb		91
14) Acrolein	2.45	56	84981	193.10	ppb		92
15) Acetone	2.64	43	59169	98.91	ppb		97
16) Freon-113	2.56	101	284026	97.27	ppb		96
17) 1,1-DCE	2.53	61	459847	96.96	ppb		96
18) 2-Propanol	2.90	45	43404	181.97	ppb		90
19) Acetonitrile	2.95	40	21166	164.25	ppb	#	90
20) t-Butanol	3.42	59	36848	230.65	ppb		97
21) Methyl Acetate	3.04	43	326003	96.87	ppb		97
22) Iodomethane	2.69	142	388993	99.80	ppb		93
23) Acrylonitrile	3.46	52	133527	103.81	ppb		94
24) Methylene chloride	3.12	49	489786	93.43	ppb		98
25) Carbon disulfide	2.75	76	913407	98.83	ppb		97
26) Methyl t-butyl ether (MtBE	3.56	73	1185788	102.00	ppb		96
27) Trans-1,2-DCE	3.50	61	480666	96.67	ppb		97
29) Diisopropyl Ether	4.36	45	1171036	102.76	ppb		97
31) 1,1-DCA	4.13	63	653831	96.63	ppb		98
32) Vinyl Acetate	4.29	43	233600	101.86	ppb		98
33) Ethyl tert Butyl Ether	4.90	59	1234540	105.81	ppb		100
34) MEK (2-Butanone)	5.06	43	189778	100.68	ppb		92
35) Cis-1,2-DCE	4.99	61	624609	98.52	ppb		98
36) 2,2-Dichloropropane	4.99	77	556329	99.10	ppb		99
39) Chloroform	5.46	83	781573	98.36	ppb		98
40) Bromochloromethane	5.31	49	332624	95.46	ppb		93
42) 1,1,1-TCA	5.67	97	637624	101.29	ppb		98
43) Cyclohexane	5.75	56	466966	108.25	ppb		99
44) 1,1-Dichloropropene	5.90	75	483037	105.30	ppb		96
45) 2,2,4-Trimethylpentane	6.32	57	890440	106.89	ppb		96
47) Carbon Tetrachloride	5.89	117	543183	101.59	ppb		95
48) Tert Amyl Methyl Ether	6.37	73	1254546	109.77	ppb		96

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0121T10.D Vial: 10
Acq On : 21 Jan 20 11:27 Operator:
Sample : 100ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 21 15:54 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
50)	1,2-DCA	6.17	62	622637	94.81	ppb	97
51)	Benzene	6.15	78	1632509	100.37	ppb	98
52)	TCE	6.96	130	487497	101.84	ppb	94
53)	2-Pentanone	7.21	43	738342	244.91	ppb	100
54)	1,2-Dichloropropane	7.21	63	431033	102.82	ppb	99
55)	Bromodichloromethane	7.54	83	653917	108.43	ppb	99
56)	Methyl Cyclohexane	7.20	83	506976	108.50	ppb	91
57)	Dibromomethane	7.33	174	396027	101.74	ppb	94
58)	MIBK (methyl isobutyl ket	8.27	43	447646	116.63	ppb	97
59)	1-Bromo-2-chloroethane	7.88	63	326080	106.69	ppb	97
60)	2-Chloroethyl vinyl ether	7.93	106	53926	199.98	ppb	99
61)	Cis-1,3-Dichloropropene	8.07	75	758982	116.02	ppb	95
62)	Toluene	8.45	91	1957086	102.91	ppb	99
63)	Trans-1,3-Dichloropropene	8.70	75	719391	117.75	ppb	95
64)	1,1,2-TCA	8.89	97	473840	110.19	ppb	95
65)	2-Hexanone	9.20	43	304972	101.54	ppb	98
68)	1,2-EDB	9.43	107	515312	106.22	ppb	99
69)	Tetrachloroethene	9.06	166	523299	94.47	ppb	98
70)	1-Chlorohexane	10.00	91	498897	101.47	ppb	96
71)	1,1,1,2-Tetrachloroethane	10.09	131	583829	107.64	ppb	98
72)	m&p-Xylene	10.26	91	3551060	218.92	ppb	98
73)	o-Xylene	10.69	91	1946656	112.75	ppb	97
74)	Styrene	10.71	104	1611706	101.05	ppb	98
76)	1,3-Dichloropropane	9.07	76	759219	101.20	ppb	100
77)	Dibromochloromethane	9.32	129	631371	112.09	ppb	100
78)	Chlorobenzene	9.99	112	1427057	99.51	ppb	99
79)	Ethylbenzene	10.13	91	2265790	105.52	ppb	100
80)	Bromoform	10.88	173	517736	118.42	ppb	99
82)	Isopropylbenzene	11.11	105	2341115	104.33	ppb	99
83)	1,1,2,2-Tetrachloroethane	11.41	83	687956	96.27	ppb	98
84)	1,2,3-Trichloropropane	11.45	110	229718	95.29	ppb	94
85)	t-1,4-Dichloro-2-Butene	11.47	53	144930	116.74	ppb	87
86)	Bromobenzene	11.41	77	1205224	98.41	ppb	98
87)	n-Propylbenzene	11.56	91	2632990	107.89	ppb	99
88)	4-Ethyltoluene	11.68	105	2254712	107.22	ppb	98
89)	2-Chlorotoluene	11.64	91	1880411	100.30	ppb	98
90)	1,3,5-Trimethylbenzene	11.75	105	2041787	103.91	ppb	100
91)	4-Chlorotoluene	11.76	91	1953454	103.58	ppb	100
92)	Tert-Butylbenzene	12.11	119	2041371	104.24	ppb	100
93)	1,2,4-Trimethylbenzene	12.16	105	2100620	100.72	ppb	100
94)	Sec-Butylbenzene	12.35	105	2421016	112.05	ppb	100
95)	p-Isopropyltoluene	12.51	119	2099825	109.21	ppb	100
96)	Benzyl Chloride	12.69	91	729222	108.29	ppb	99
97)	1,3-DCB	12.45	146	1299940	101.29	ppb	99
98)	1,4-DCB	12.55	146	1306402	97.13	ppb	99
99)	n-Butylbenzene	12.96	91	1627991	101.61	ppb	99
100)	1,2-DCB	12.95	146	1305325	98.39	ppb	98
101)	Hexachloroethane	13.25	201	404099	100.37	ppb	87
102)	1,2-Dibromo-3-chloropropan	13.79	157	170994	100.63	ppb	98
103)	1,2,4-Trichlorobenzene	14.73	180	883580	108.81	ppb	100
104)	Hexachlorobutadiene	14.93	225	430491	102.90	ppb	93
105)	Naphthalene	14.99	127	122528	102.11	ppb	96
106)	1,2,3-Trichlorobenzene	15.26	180	823407	111.64	ppb	98

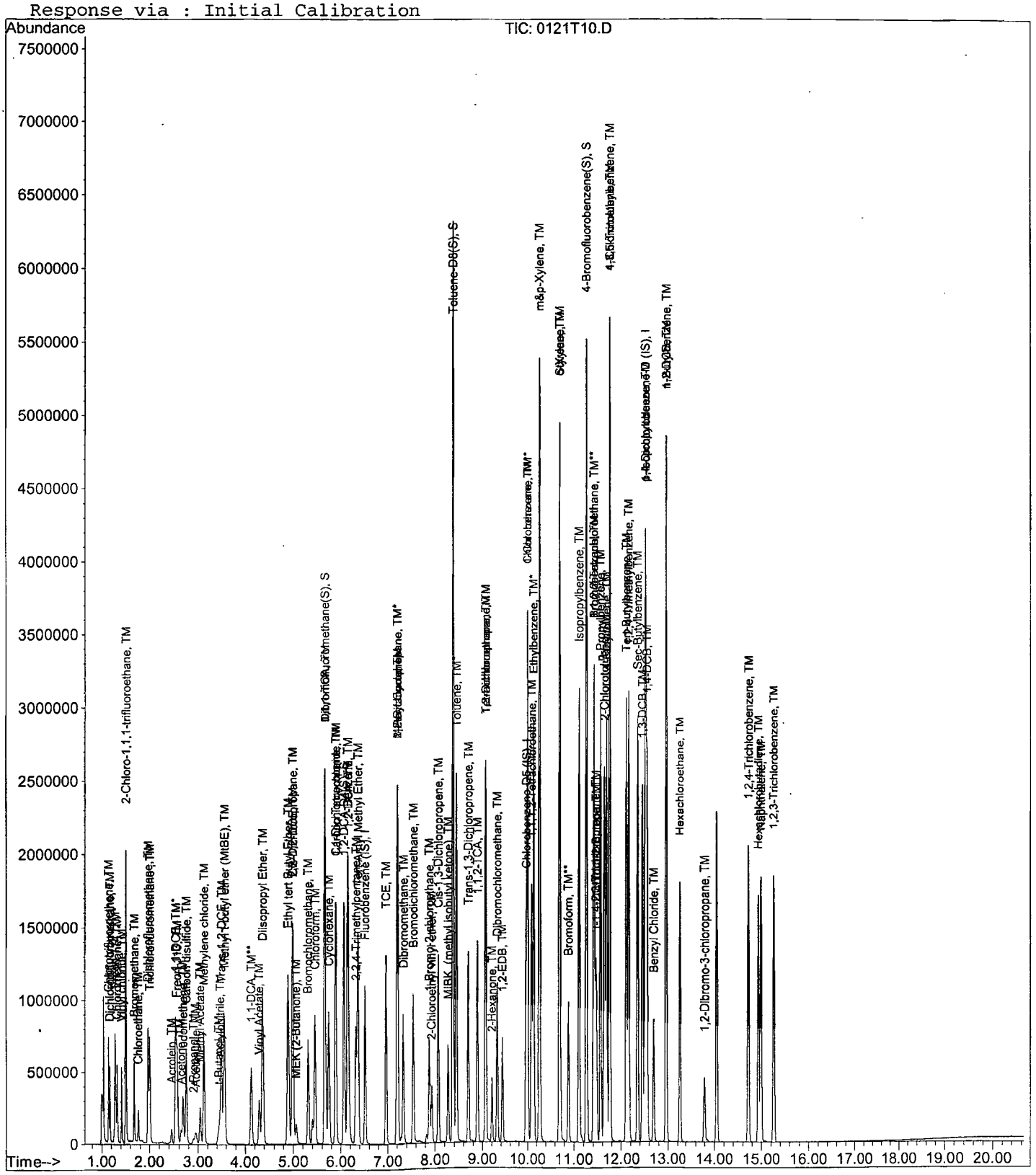
(#) = qualifier out of range (m) = manual integration

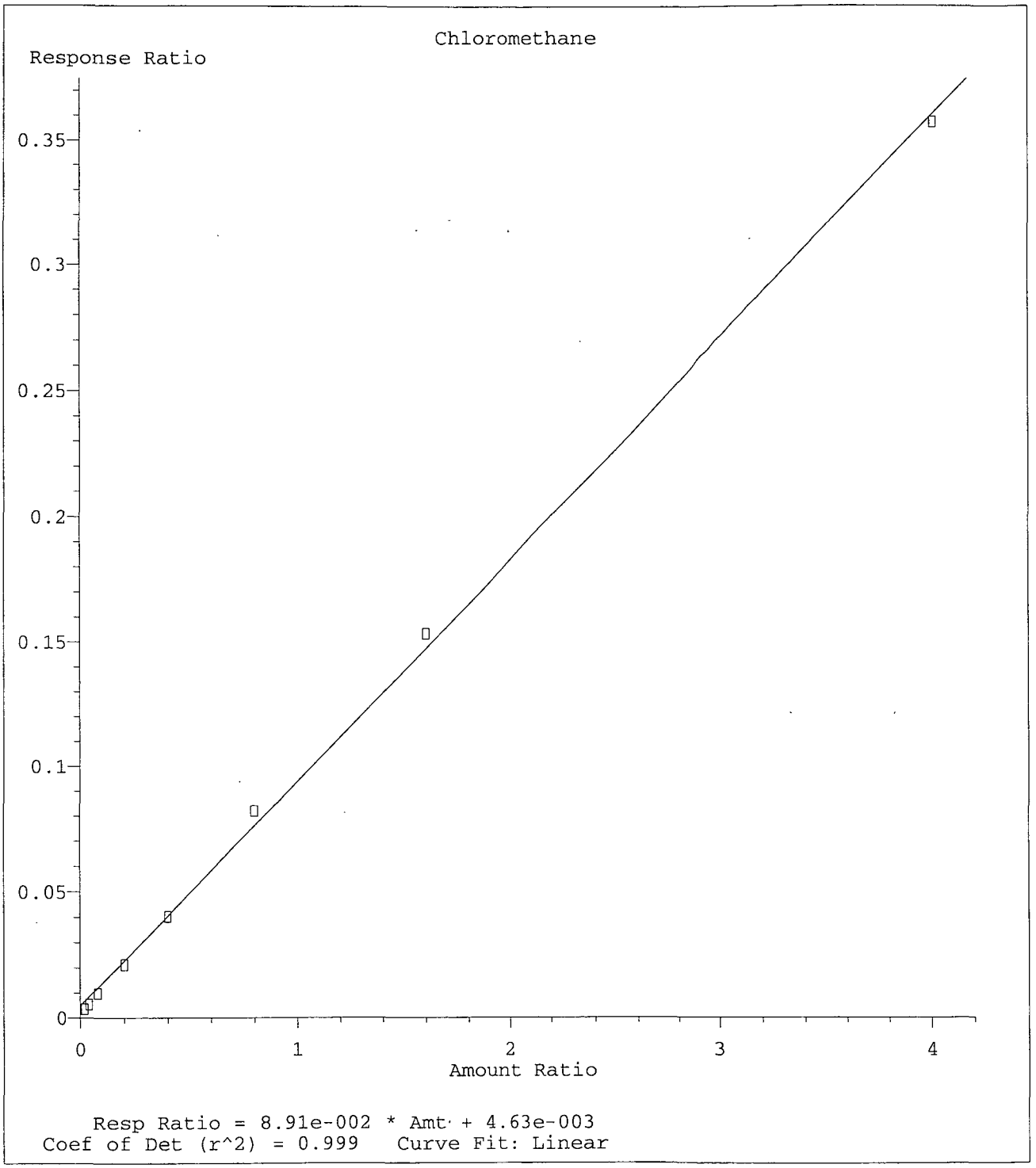
Quantitation Report

Data File : M:\THOR\DATA\T200121\0121T10.D Vial: 10
Acq On : 21 Jan 20 11:27 Operator:
Sample : 100ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

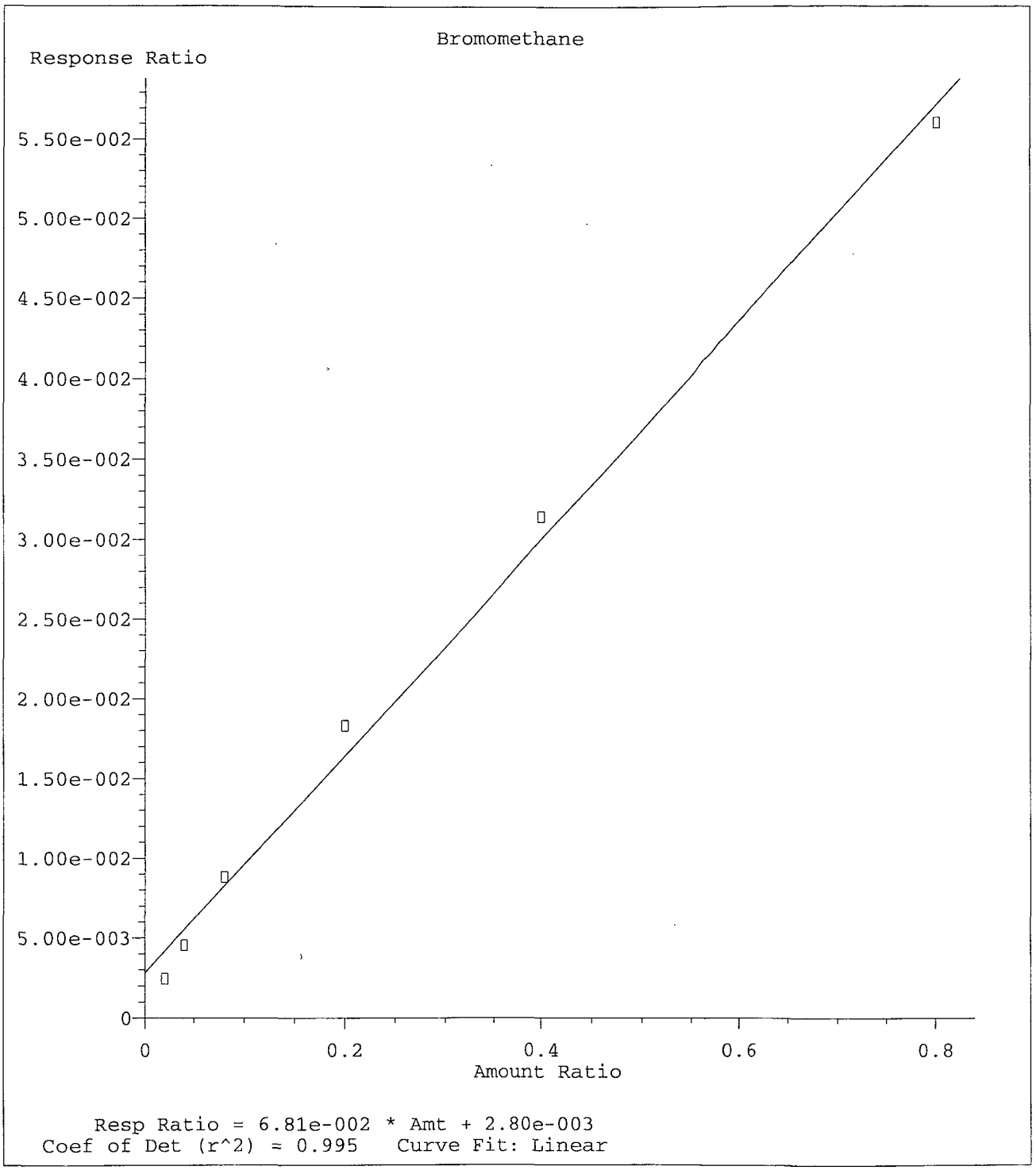
Quant Time: Jan 21 15:54 2020 Quant Results File: T0121W.RES

Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration

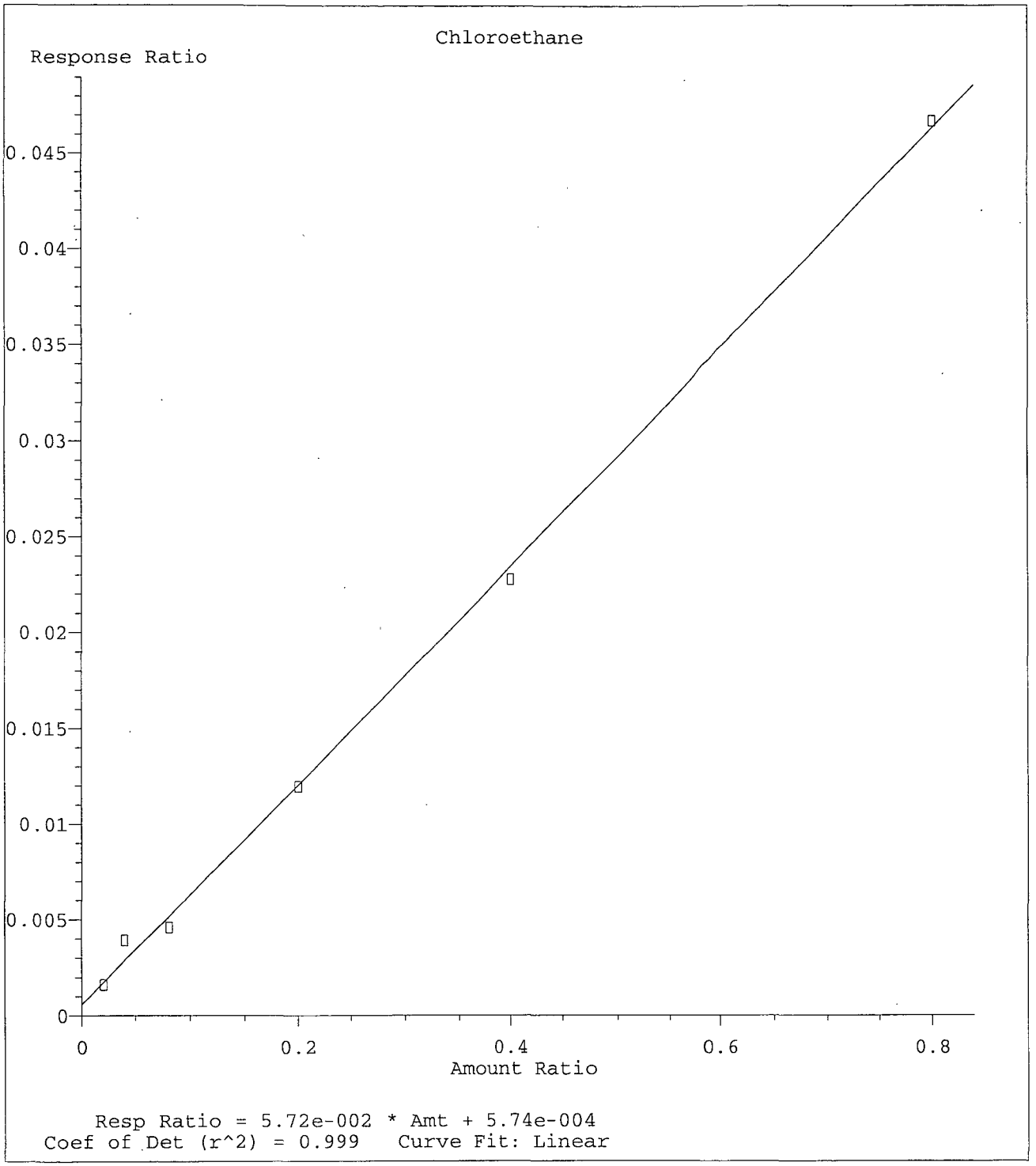




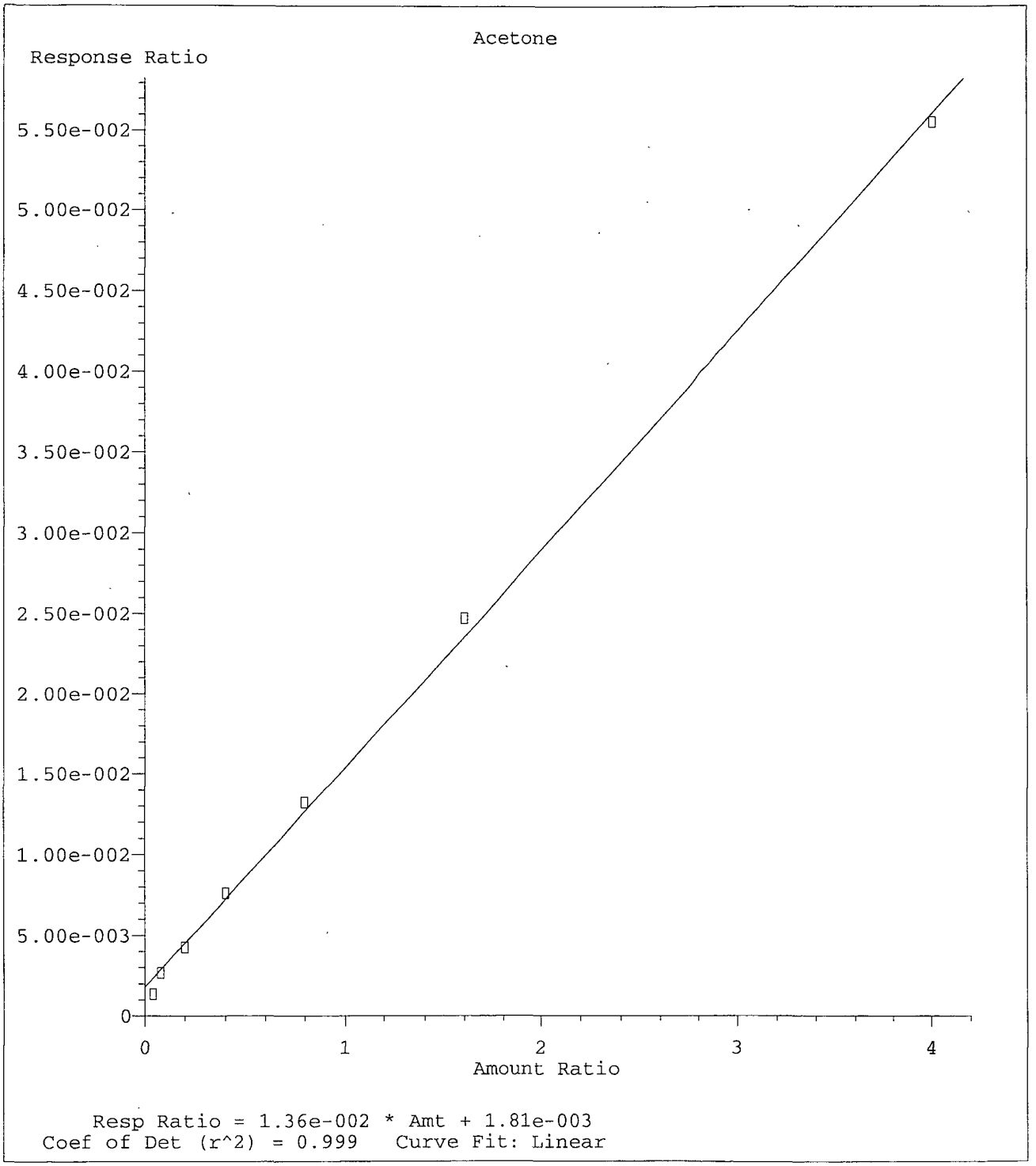
Method Name: M:\THOR\DATA\T200121\T0121W.M
Calibration Table Last Updated: Tue Jan 21 15:36:55 2020



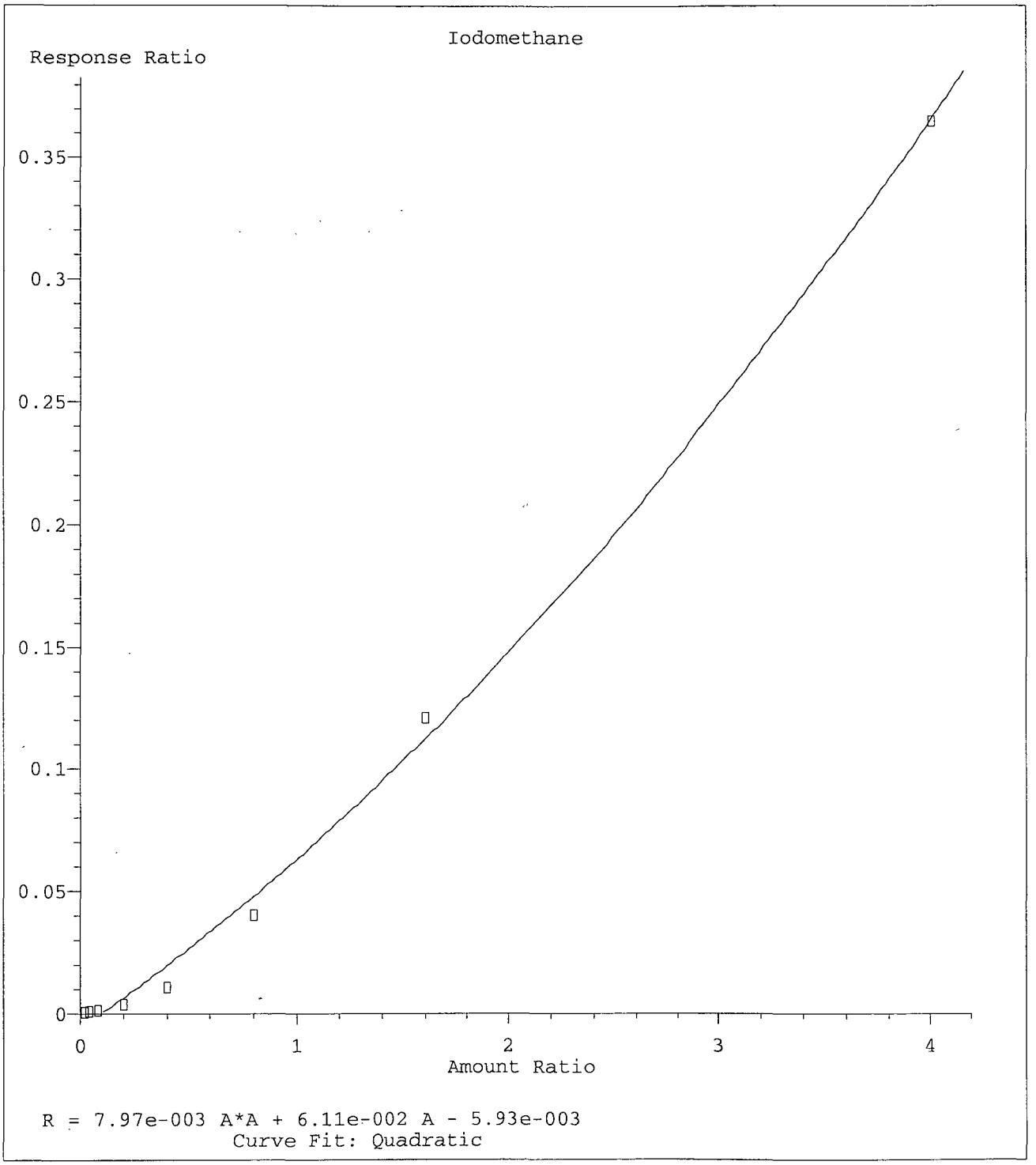
Method Name: M:\THOR\DATA\T200121\T0121W.M
Calibration Table Last Updated: Tue Jan 21 15:36:55 2020



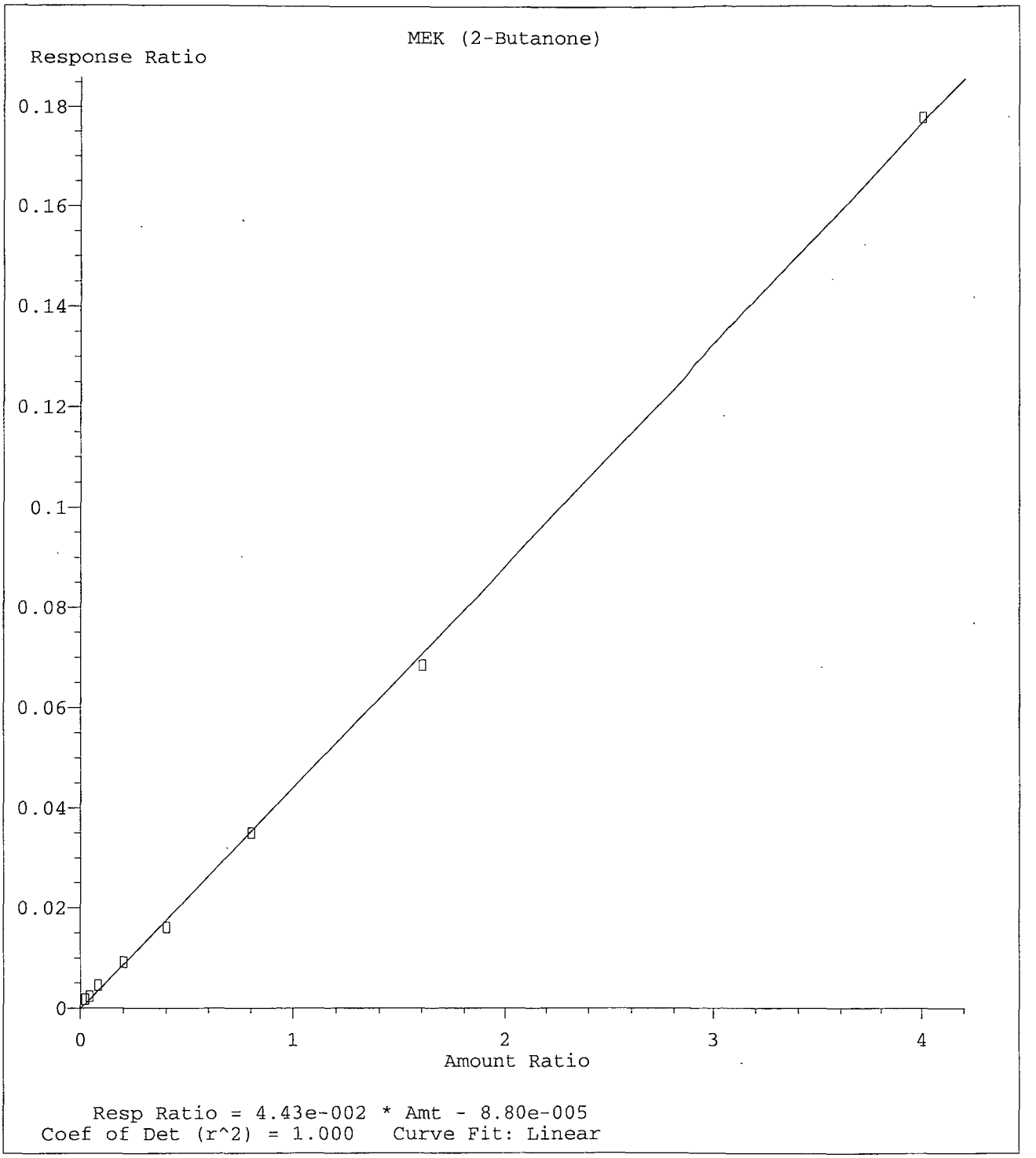
Method Name: M:\THOR\DATA\T200121\T0121W.M
Calibration Table Last Updated: Tue Jan 21 15:36:55 2020



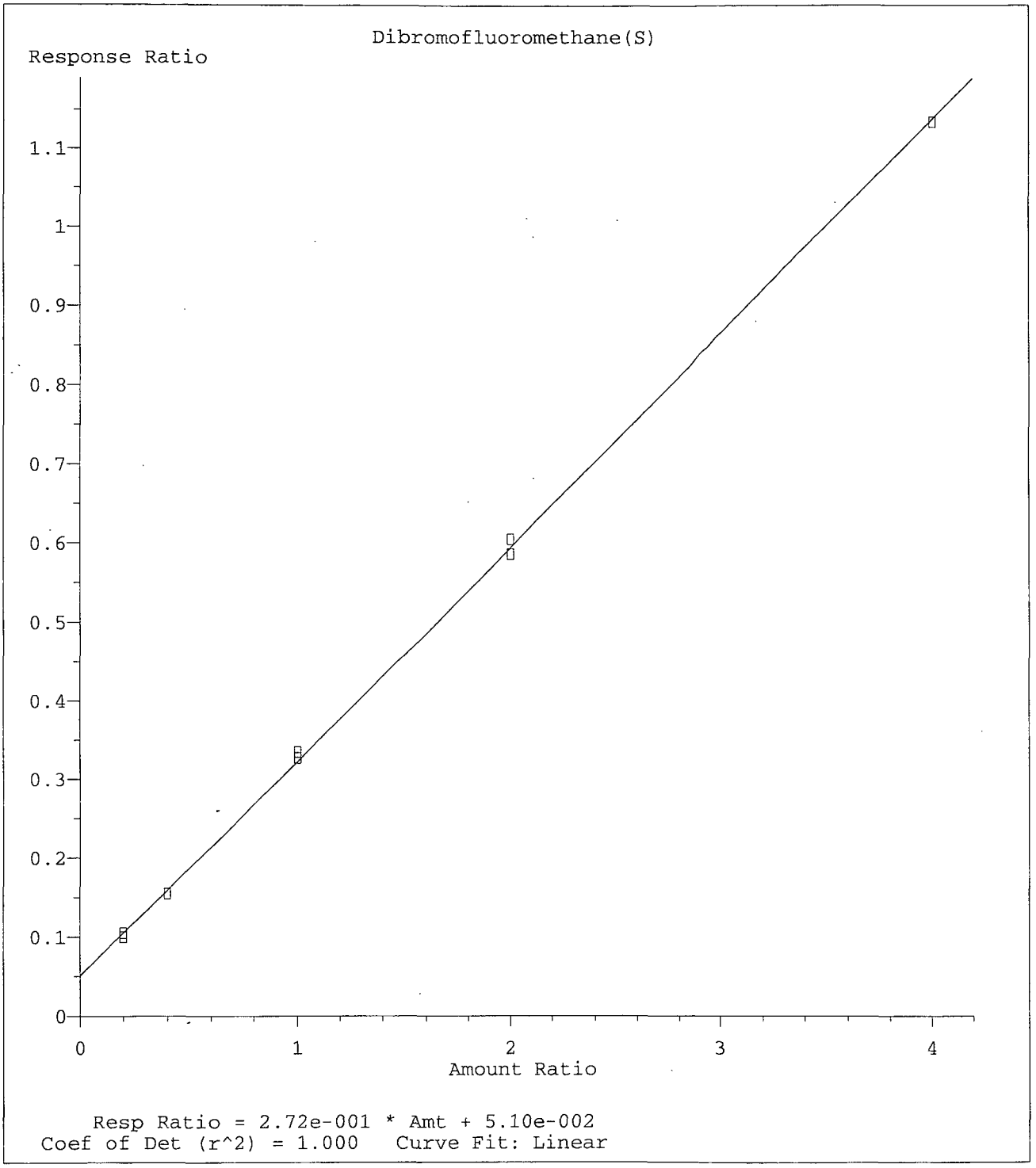
Method Name: M:\THOR\DATA\T200121\T0121W.M
Calibration Table Last Updated: Tue Jan 21 15:36:55 2020



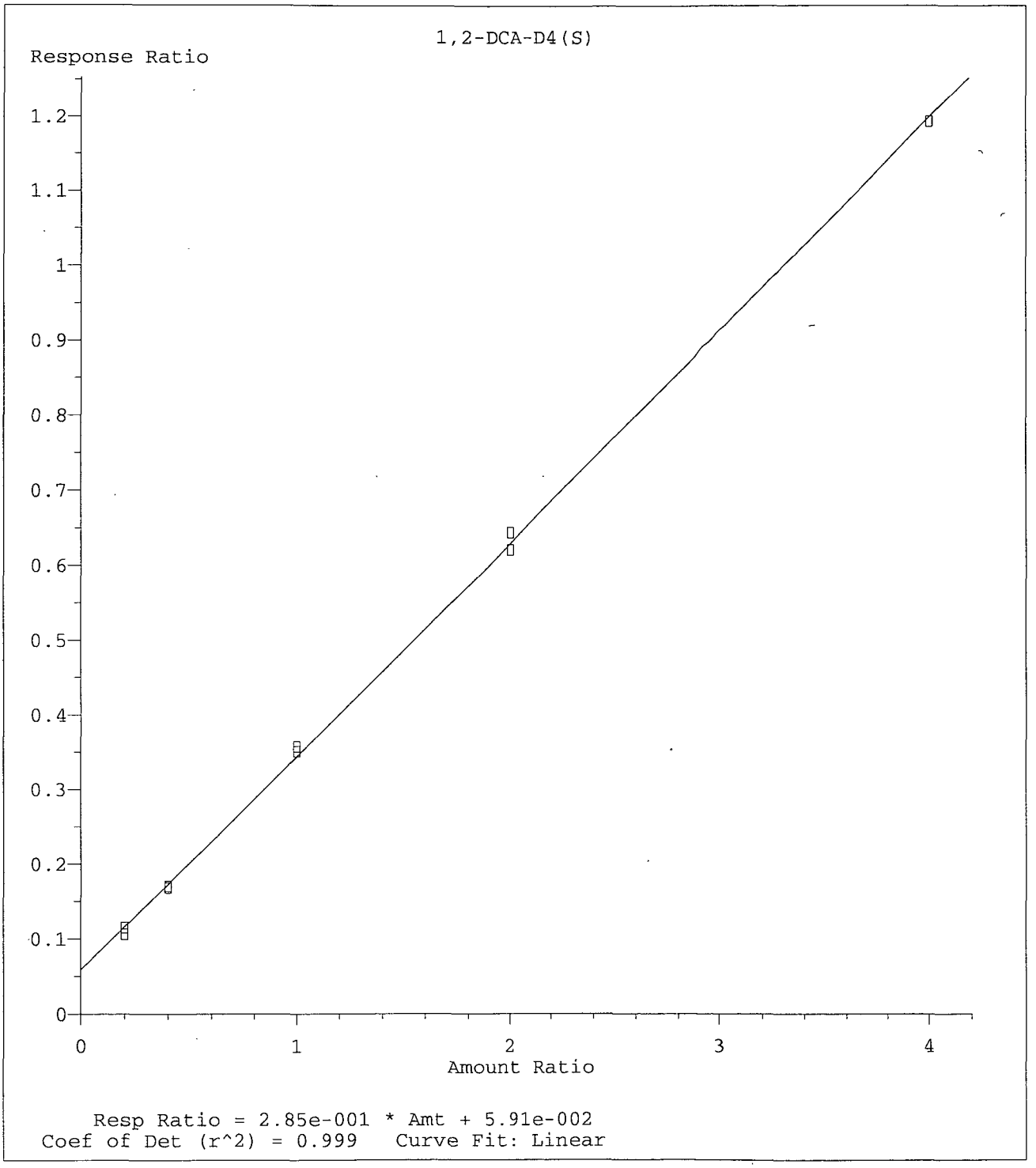
Method Name: M:\THOR\DATA\T200121\T0121W.M
Calibration Table Last Updated: Tue Jan 21 15:36:55 2020



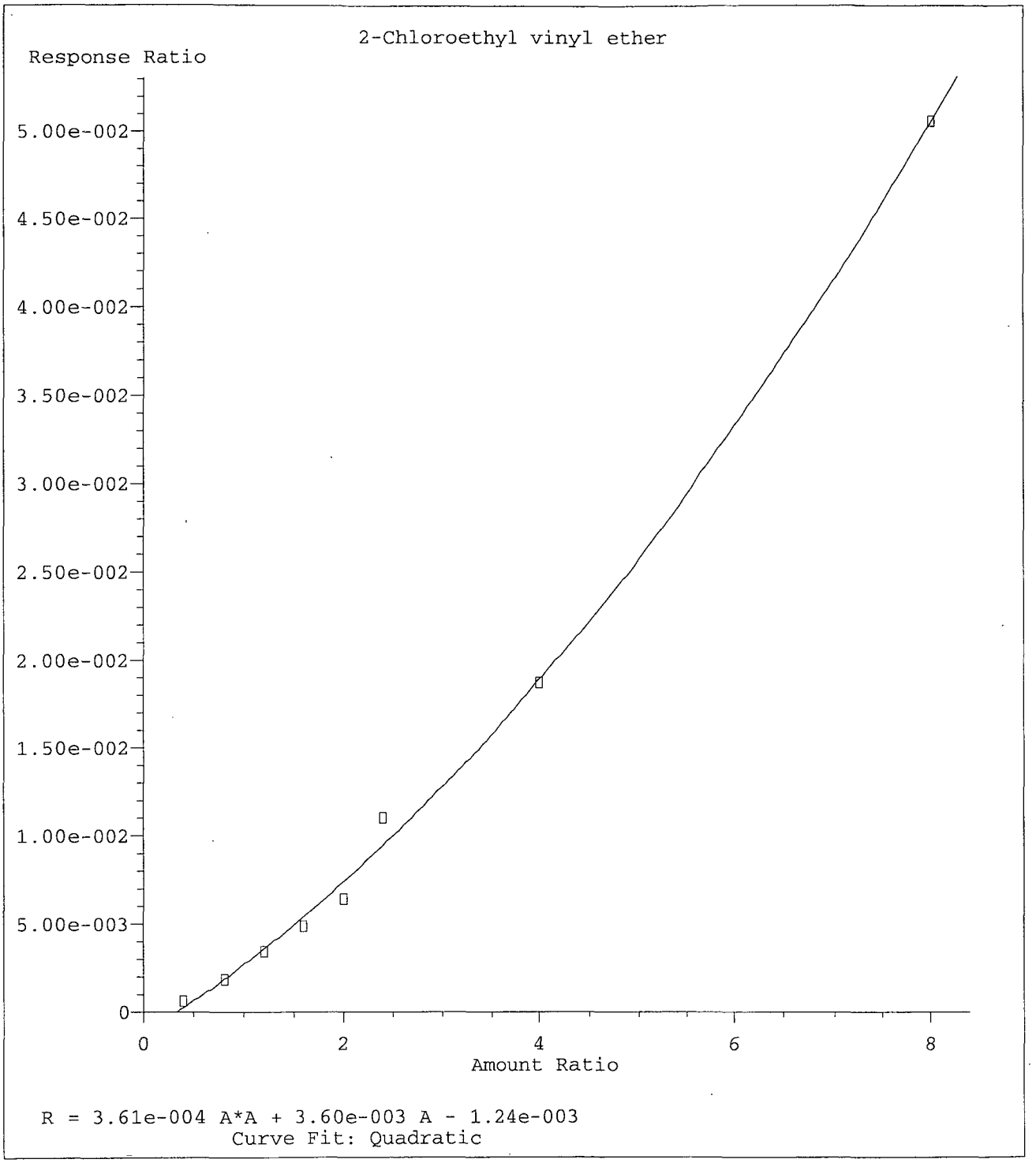
Method Name: M:\THOR\DATA\T200121\T0121W.M
Calibration Table Last Updated: Tue Jan 21 15:36:55 2020



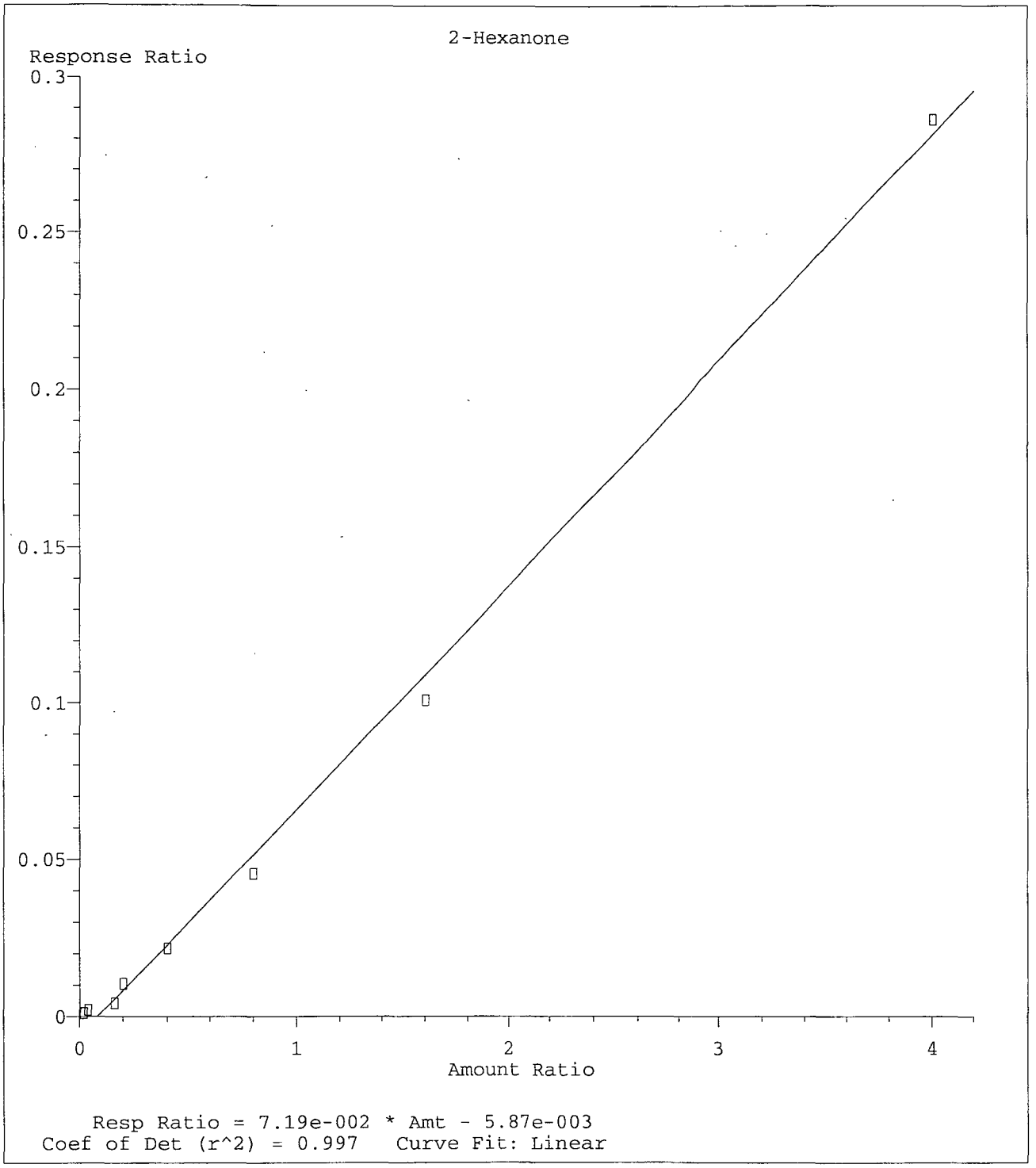
Method Name: M:\THOR\DATA\T200121\T0121W.M
Calibration Table Last Updated: Tue Jan 21 15:36:55 2020



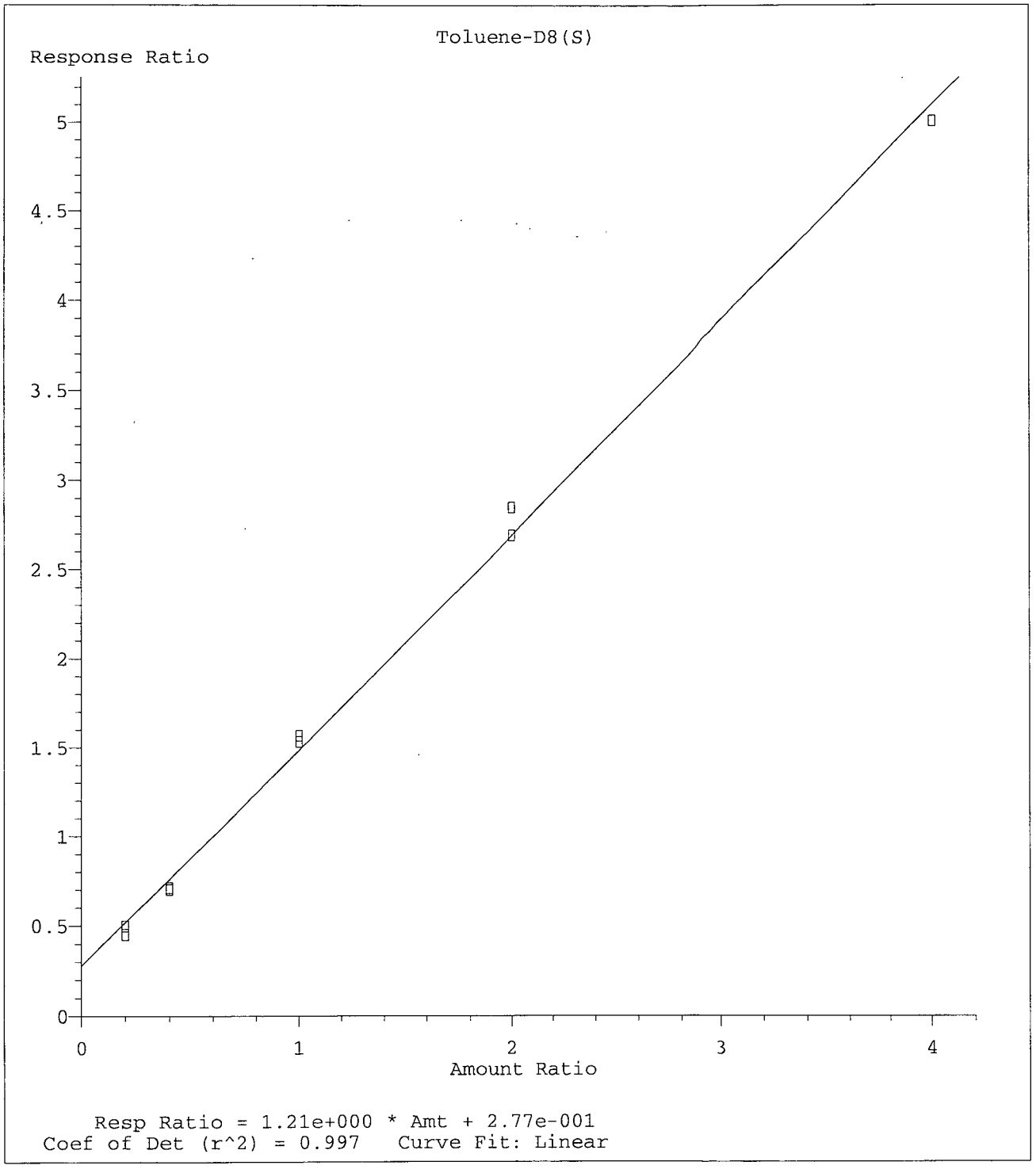
Method Name: M:\THOR\DATA\T200121\T0121W.M
Calibration Table Last Updated: Tue Jan 21 15:36:55 2020



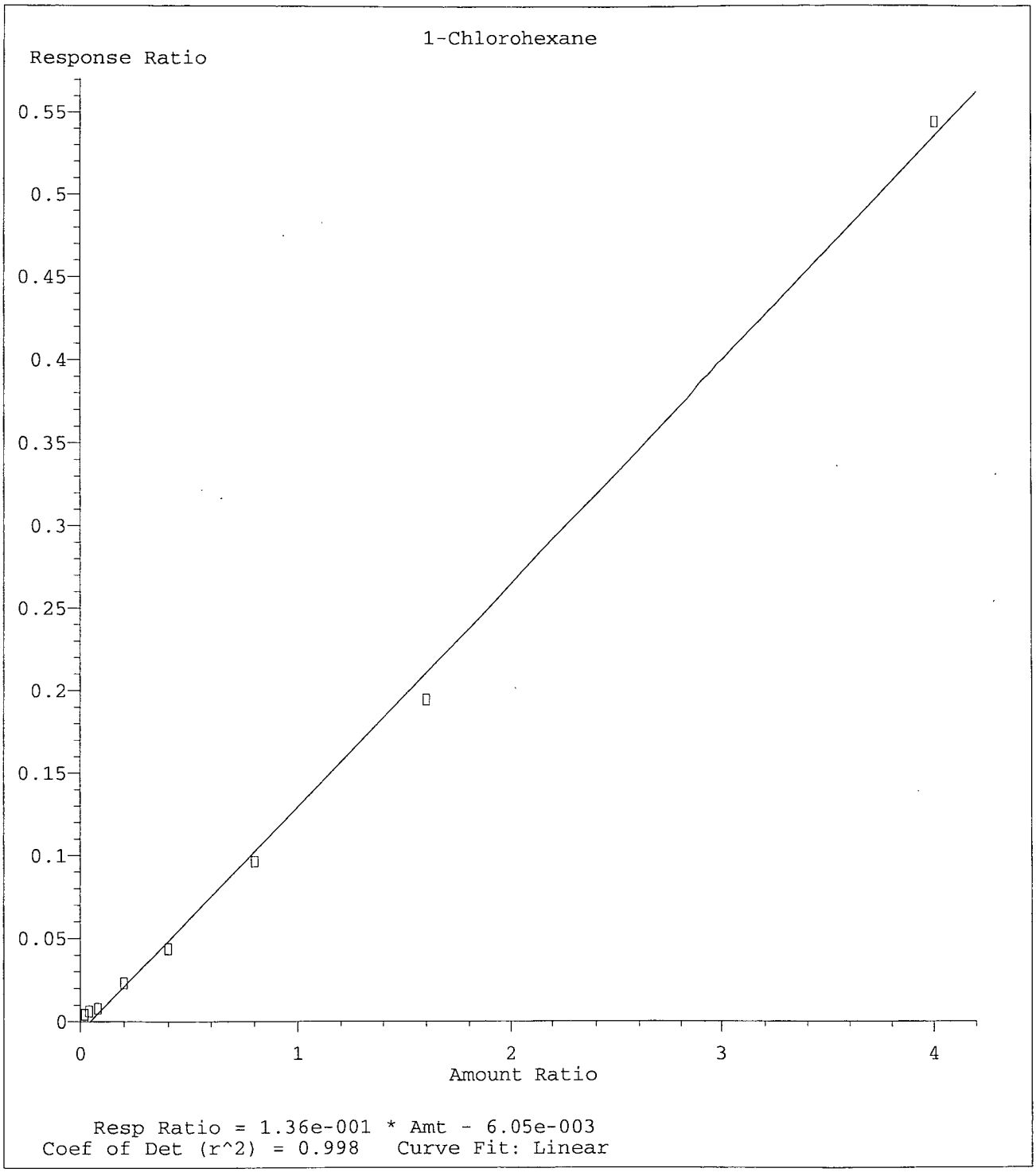
Method Name: M:\THOR\DATA\T200121\T0121W.M
Calibration Table Last Updated: Tue Jan 21 15:36:55 2020



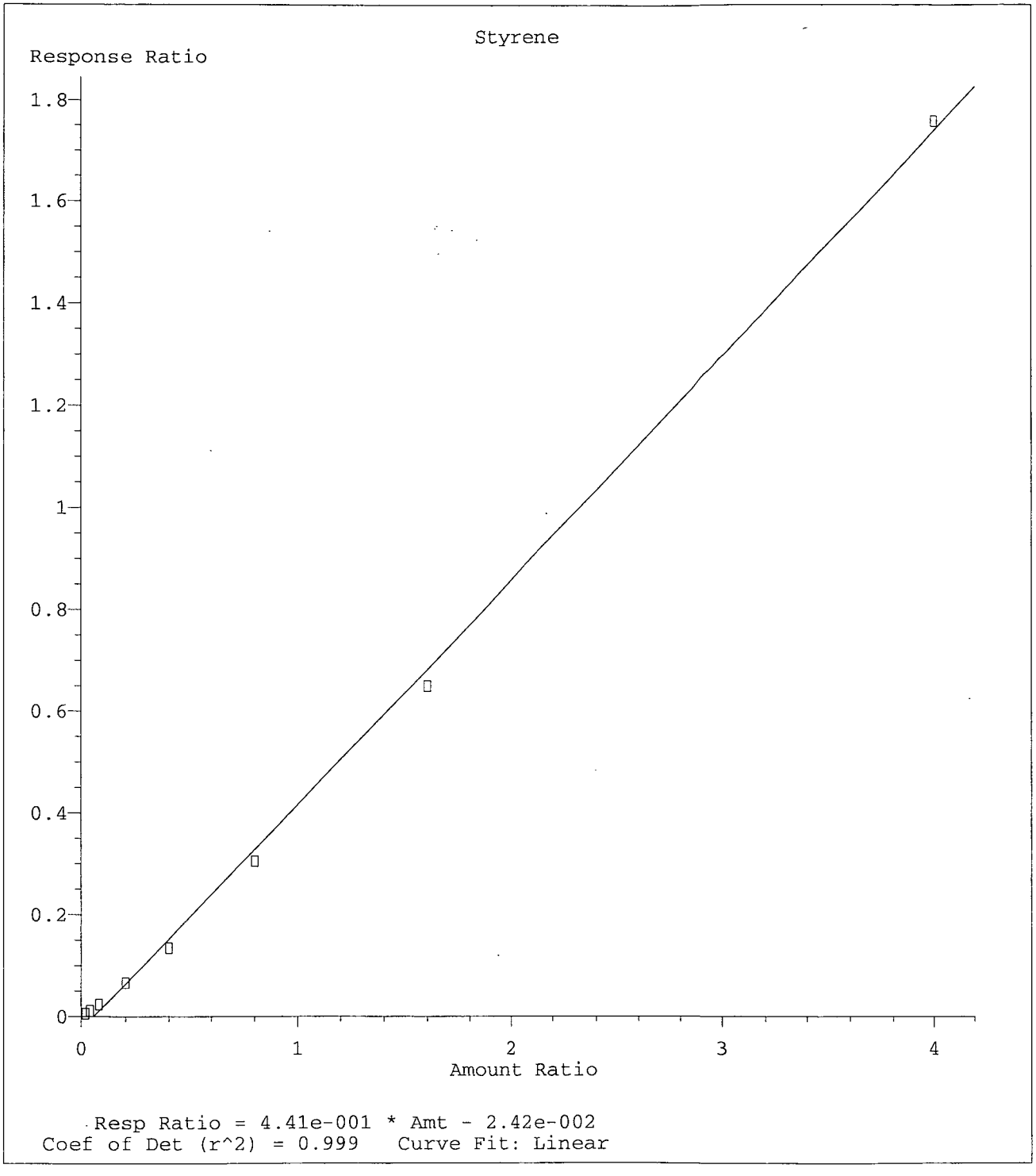
Method Name: M:\THOR\DATA\T200121\T0121W.M
Calibration Table Last Updated: Tue Jan 21 15:36:55 2020



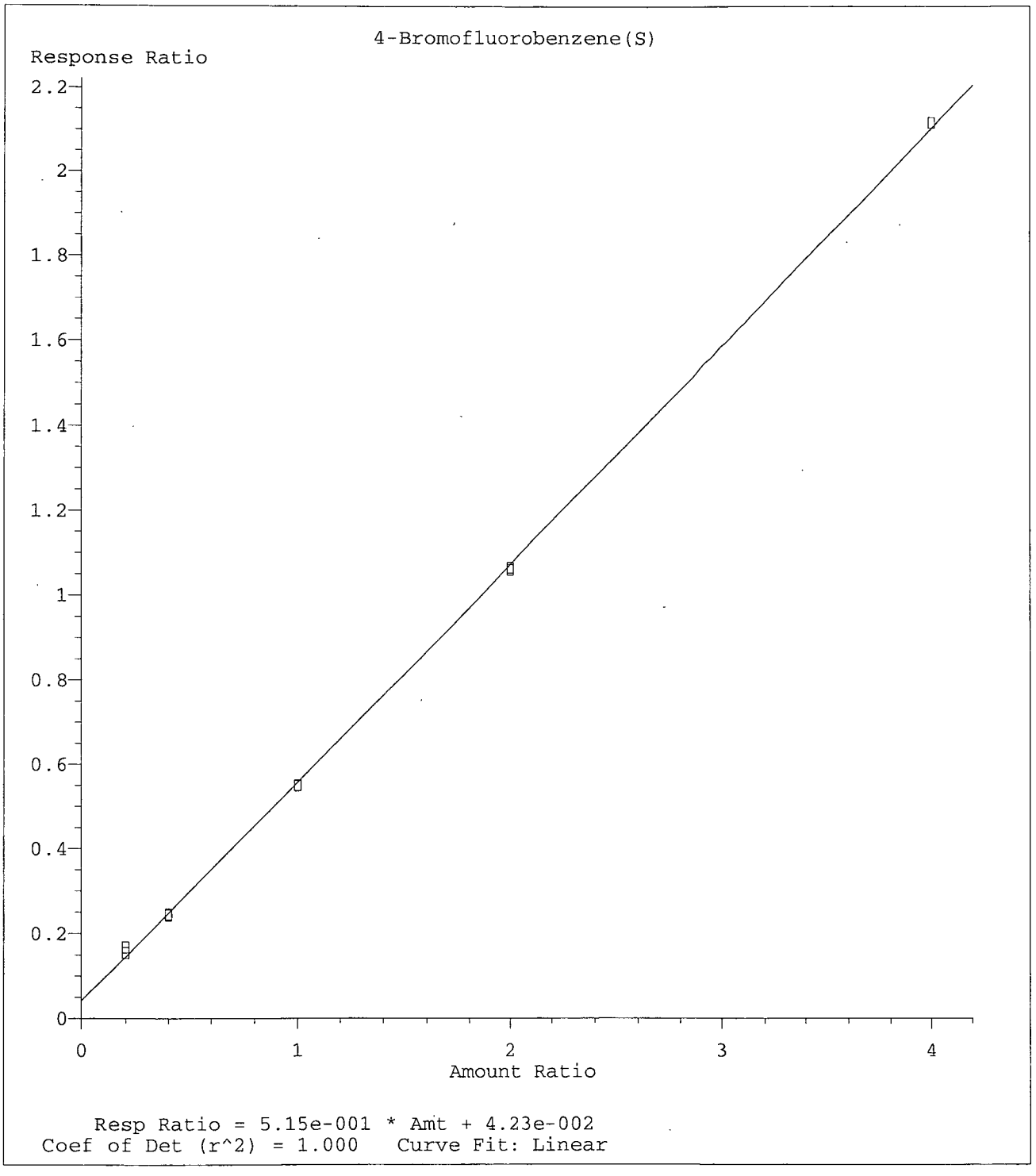
Method Name: M:\THOR\DATA\T200121\T0121W.M
Calibration Table Last Updated: Tue Jan 21 15:36:55 2020



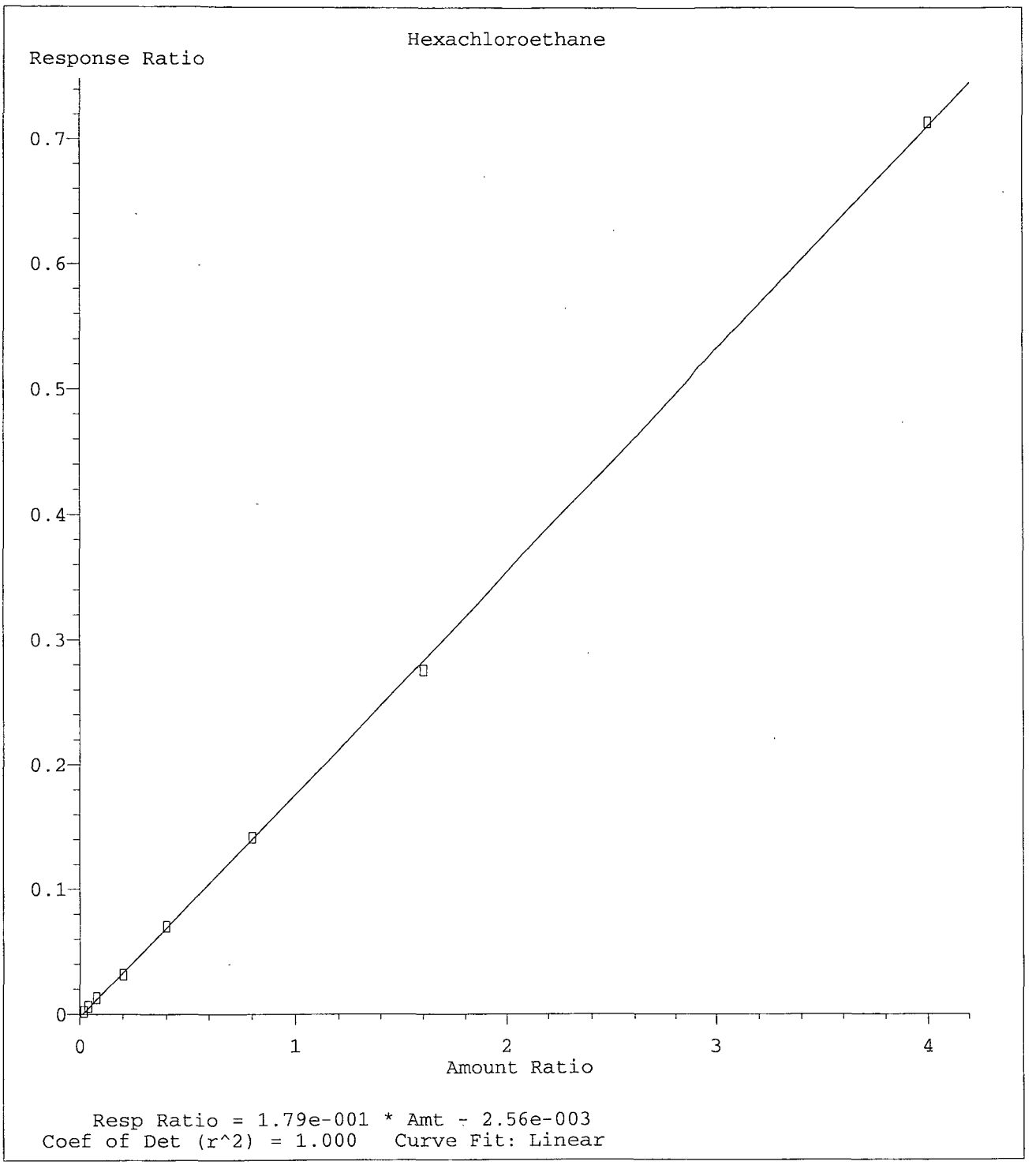
Method Name: M:\THOR\DATA\T200121\T0121W.M
Calibration Table Last Updated: Tue Jan 21 15:36:55 2020



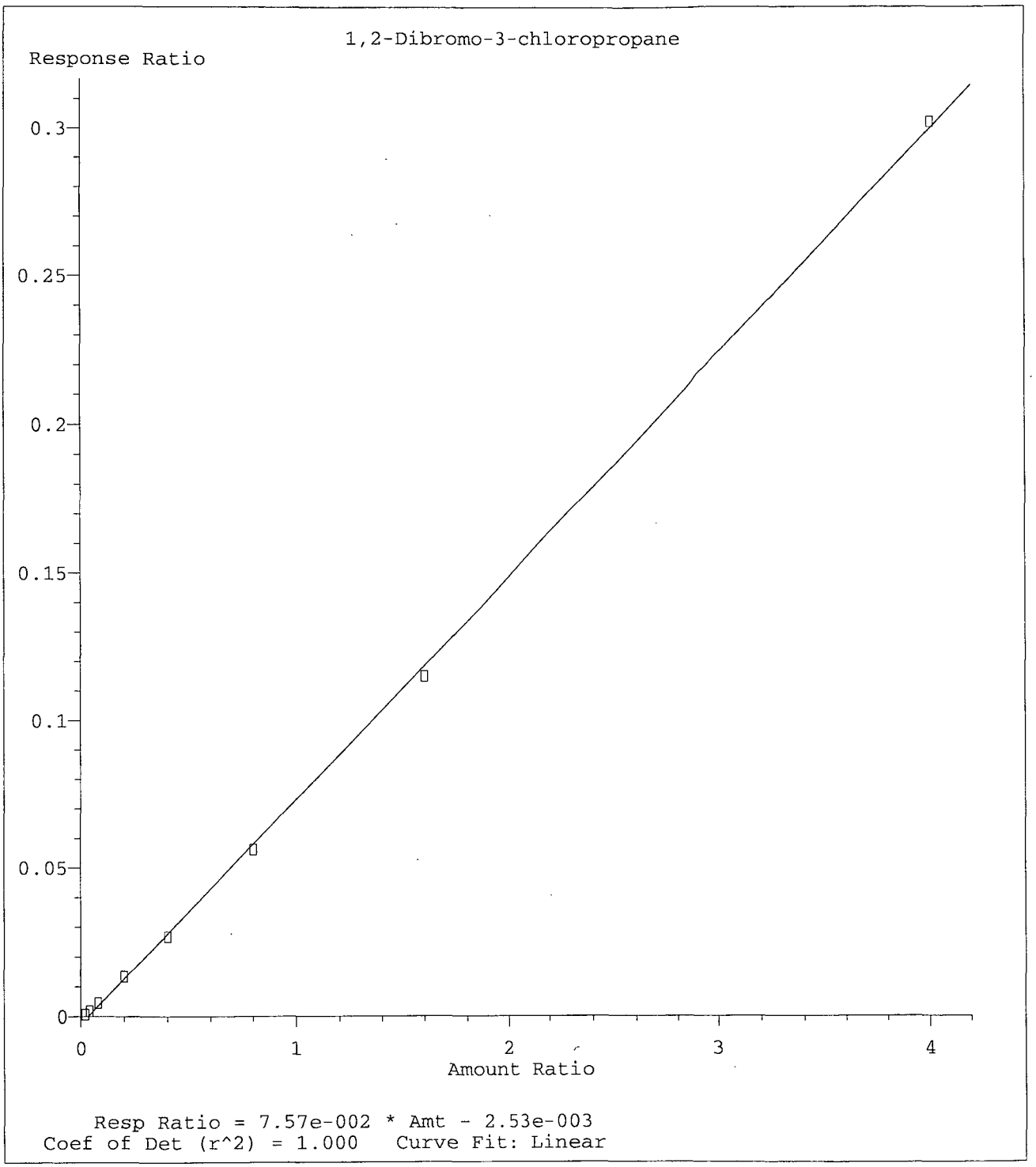
Method Name: M:\THOR\DATA\T200121\T0121W.M
Calibration Table Last Updated: Tue Jan 21 15:36:55 2020



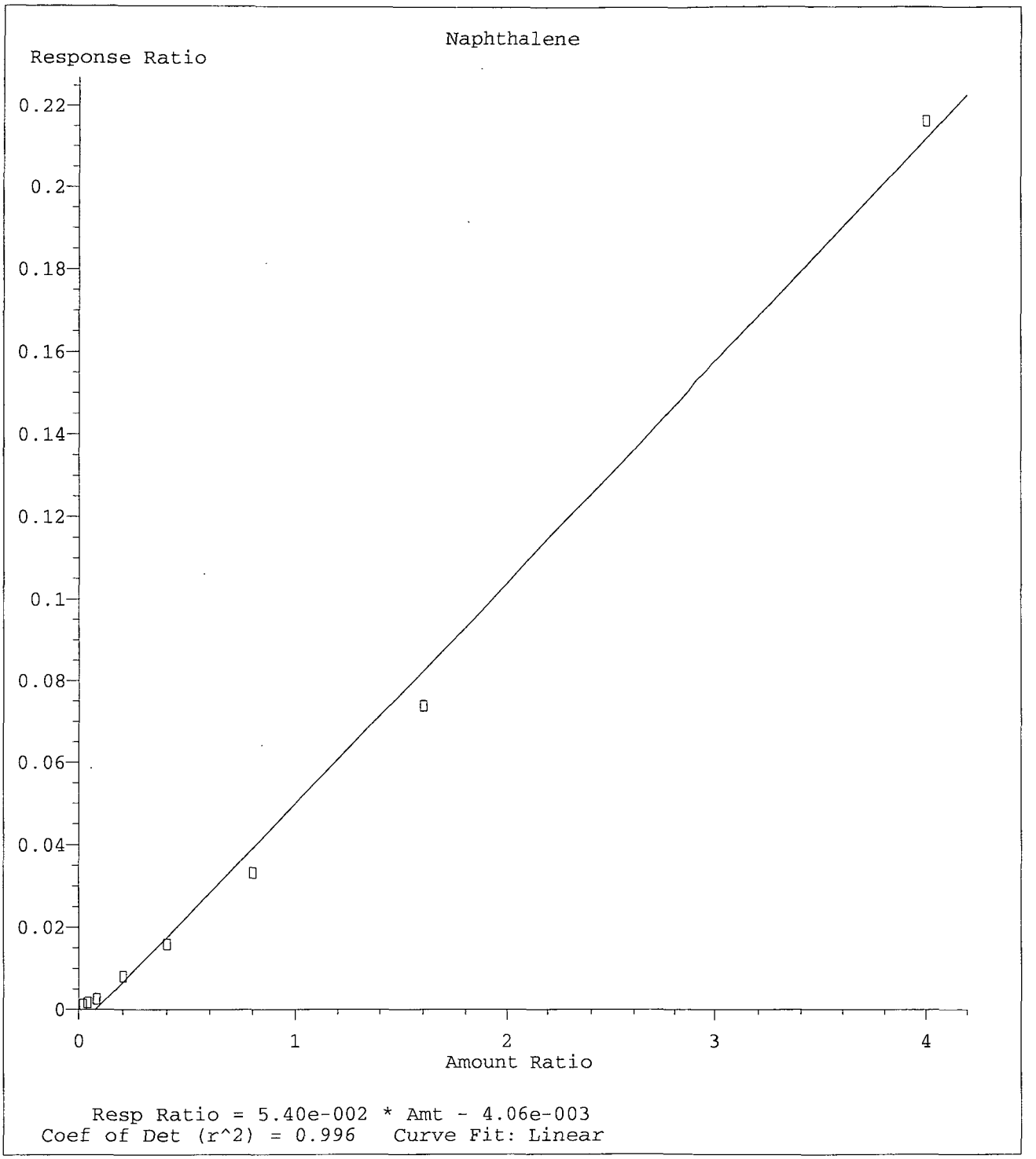
Method Name: M:\THOR\DATA\T200121\T0121W.M
Calibration Table Last Updated: Tue Jan 21 15:36:55 2020



Method Name: M:\THOR\DATA\T200121\T0121W.M
Calibration Table Last Updated: Tue Jan 21 15:36:55 2020



Method Name: M:\THOR\DATA\T200121\T0121W.M
Calibration Table Last Updated: Tue Jan 21 15:36:55 2020



Method Name: M:\THOR\DATA\T200121\T0121W.M
Calibration Table Last Updated: Tue Jan 21 15:36:55 2020

VOLATILE ORGANIC ANALYSIS
VOLATILE ORGANIC COMPOUNDS

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 01/21/20
Instrument: Thor
Initial Cal. Date: 01/21/20
Data File: 0121T13.D

		Compound	MEAN	CCRF	%D		%Drift	
1	TM	Chlorotrifluoroethene	0.0354	0.0404	14	TM		
2	TM	Dichlorodifluoromethane	0.0741	0.0945	28	TM		*
3	TM	Freon 114	0.0777	0.0838	7.8	TM		
4	TM**L	Chloromethane	0.1164	0.1171	0.59	TM**L	18	
5	TM*	Vinyl chloride	0.0879	0.1010	15	TM*		
6	TM	2-Chloro-1,1,1-trifluoroethane	0.1095	0.1152	5.2	TM		
7	TML	Bromomethane	0.0976	0.0859	12	TML	16	
8	TML	Chloroethane	0.0684	0.0826	21	TML	42	*
9	TM	Dichlorofluoromethane	0.1693	0.1728	2.1	TM		
10	TM	Trichlorofluoromethane	0.1248	0.1346	7.8	TM		
11	TM	Diethyl ether	0.0000	0.0007	0.00	TM		
12	TM	1,2 Dichlorotrifluoroethane	0.0000	0.0003	0.00	TM		
13	TM	Acrolein	0.0103	0.0089	14	TM		
14	TML	Acetone	0.0219	0.0220	0.30	TML	28	*
15	TM	Freon-113	0.0685	0.0714	4.2	TM		
16	TM*	1,1-DCE	0.1113	0.1019	8.5	TM*		
17	TM	2-Propanol	0.0056	0.0058	2.8	TM		
18	TM	Acetonitrile	0.0030	0.0032	6.5	TM		
19	TM	t-Butanol	0.0037	0.0038	1.4	TM		
20	TM	Methyl Acetate	0.0790	0.0773	2.1	TM		
21	TMQ	Iodomethane	0.0411	0.0399	2.8	TMQ	14	
22	TM	Acrylonitrile	0.0302	0.0325	7.6	TM		
23	TM	Methylene chloride	0.1230	0.1180	4.1	TM		
24	TM	Carbon disulfide	0.2169	0.2386	10.0	TM		
25	TM	Methyl t-butyl ether (MtBE)	0.2728	0.2779	1.8	TM		
26	TM	Trans-1,2-DCE	0.1167	0.1089	6.7	TM		
27	TM	Hexane	0.0000	0.0004	0.00	TM		
28	TM	Diisopropyl Ether	0.2675	0.2723	1.8	TM		
29	TM**	2,2-Dichloro-1,1,1-trifluoroethane	0.0000	0.0001	0.00	TM**		
30	TM**	1,1-DCA	0.1588	0.1544	2.8	TM**		
31	TM	Vinyl Acetate	0.0538	0.0311	42	TM		* NT
32	TM	Ethyl tert Butyl Ether	0.2738	0.2731	0.25	TM		
33	TML	MEK (2-Butanone)	0.0524	0.0481	8.2	TML	9.2	
34	TM	Cis-1,2-DCE	0.1488	0.1377	7.4	TM		
35	TM	2,2-Dichloropropane	0.1318	0.1189	9.8	TM		
36	TM	2-Methylpentane	0.0000	0.0000	0.00	TM		
37	TM	3-Methylpentane	0.0000	0.0579	0.00	TM		
38	TM*	Chloroform	0.1865	0.1718	7.9	TM*		
39	TM	Bromochloromethane	0.0818	0.0745	8.9	TM		
40	TM	1,1,1-TCA	0.1477	0.1414	4.3	TM		
		Average			7.0			

VOLATILE ORGANIC ANALYSIS
VOLATILE ORGANIC COMPOUNDS

Form 7

Second Source Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Date Analyzed: 01/21/20
Matrix: 0 Instrument: Thor
Cal. Date: 01/21/20
Data File: 0121T13.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	Cyclohexane	0.1012	0.1063	5.0	TM	
42	TM	1,1-Dichloropropene	0.1077	0.1001	7.0	TM	
43	TM	2,2,4-Trimethylpentane	0.1955	0.1929	1.3	TM	
44	TM	Carbon Tetrachloride	0.1255	0.1168	6.9	TM	
45	TM	Tert Amyl Methyl Ether	0.2682	0.2721	1.4	TM	
46	TM	Methylcyclopentane	0.0000	0.0178	0.00	TM	
47	TM	1,2-DCA	0.1541	0.1409	8.6	TM	
48	TM	Benzene	0.3817	0.3591	5.9	TM	
49	TM	TCE	0.1123	0.1052	6.4	TM	
50	TM	2-Pentanone	0.0708	0.0744	5.1	TM	
51	TM*	1,2-Dichloropropane	0.0984	0.0903	8.3	TM*	
52	TM	Bromodichloromethane	0.1415	0.1322	6.6	TM	
53	TM	Methyl Cyclohexane	0.1097	0.1159	5.7	TM	
54	TM	Dibromomethane	0.0914	0.0844	7.6	TM	
55	TM	MIBK (methyl isobutyl ketone)	0.0901	0.0968	7.5	TM	
56	TM	1-Bromo-2-chloroethane	0.0717	0.0711	0.86	TM	
57	TMQ	2-Chloroethyl vinyl ether	0.0036	0.0037	3.1	TMQ	0.25
58	TM	Cis-1,3-Dichloropropene	0.1535	0.1402	8.7	TM	
59	TM*	Toluene	0.4463	0.4118	7.7	TM*	
60	TM	Trans-1,3-Dichloropropene	0.1434	0.1288	10	TM	
61	TM	1,1,2-TCA	0.1009	0.0913	9.5	TM	
62	TML	2-Hexanone	0.0536	0.0614	15	TML	5.8
63	TM	1,2-EDB	0.1323	0.1249	5.6	TM	
64	TM	Tetrachloroethene	0.1511	0.1489	1.5	TM	
65	TML	1-Chlorohexane	0.1322	0.1238	6.3	TML	2.4
66	TM	1,1,1,2-Tetrachloroethane	0.1479	0.1414	4.4	TM	
67	TM	m&p-Xylene	0.4424	0.4149	6.2	TM	
68	TM	o-Xylene	0.4709	0.4532	3.8	TM	
69	TML	Styrene	0.3461	0.3328	3.8	TML	11
70	TM	1,3-Dichloropropane	0.2046	0.1939	5.2	TM	
71	TM	Dibromochloromethane	0.1536	0.1412	8.1	TM	
72	TM**	Chlorobenzene	0.3911	0.3631	7.2	TM**	
73	TM*	Ethylbenzene	0.5856	0.5463	6.7	TM*	
74	TM**	Bromoform	0.1192	0.1127	5.5	TM**	
75	TM	Isopropylbenzene	0.9915	0.9395	5.2	TM	
76	TM**	1,1,2,2-Tetrachloroethane	0.3158	0.2957	6.4	TM**	
77	TM	1,2,3-Trichloropropane	0.1065	0.1070	0.46	TM	
78	TM	t-1,4-Dichloro-2-Butene	0.0549	0.0604	10	TM	
79	TM	Bromobenzene	0.5411	0.5060	6.5	TM	
80	TM	n-Propylbenzene	1.078	0.9937	7.8	TM	
		Average			6.0		

VOLATILE ORGANIC ANALYSIS
VOLATILE ORGANIC COMPOUNDS

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 01/21/20
Instrument: Thor
Cal. Date: 01/21/20
Data File: 0121T13.D

		Compound	MEAN	CCRF	%D		%Drift
81	TM	4-Ethyltoluene	0.9292	0.9320	0.30	TM	
82	TM	2-Chlorotoluene	0.8284	0.7905	4.6	TM	
83	TM	1,3,5-Trimethylbenzene	0.8683	0.8205	5.5	TM	
84	TM	4-Chlorotoluene	0.8334	0.7722	7.3	TM	
85	TM	Tert-Butylbenzene	0.8653	0.7832	9.5	TM	
86	TM	1,2,4-Trimethylbenzene	0.9216	0.8590	6.8	TM	
87	TM	Sec-Butylbenzene	0.9547	0.8770	8.1	TM	
88	TM	p-Isopropyltoluene	0.8496	0.8146	4.1	TM	
89	TM	Benzyl Chloride	0.2976	0.2866	3.7	TM	
90	TM	1,3-DCB	0.5671	0.5458	3.8	TM	
91	TM	1,4-DCB	0.5943	0.5412	8.9	TM	
92	TM	n-Butylbenzene	0.7079	0.7011	0.96	TM	
93	TM	1,2-DCB	0.5862	0.5406	7.8	TM	
94	TML	Hexachloroethane	0.1600	0.1689	5.6	TML	1.8
95	TML	1,2-Dibromo-3-chloropropane	0.0608	0.0633	4.0	TML	8.1
96	TM	1,2,4-Trichlorobenzene	0.3588	0.3475	3.1	TM	
97	TM	Hexachlorobutadiene	0.1849	0.1792	3.1	TM	
98	TML	Naphthalene	0.0448	0.0439	2.1	TML	0.03
99	TM	1,2,3-Trichlorobenzene	0.3259	0.3290	0.96	TM	
100							
101							
102							
103							
104							
105							
106							
107							
108							
109							
110							
111							
112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			4.7		

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0121T13.D Vial: 13
Acq On : 21 Jan 20 12:52 Operator:
Sample : (SS) 10ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 21 15:37 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene (IS)	6.51	96	1067609	25.00	ppb		0.00
66) Chlorobenzene-D5 (IS)	9.96	117	828210	25.00	ppb		0.00
81) 1,4-Dichlorobenzene-D (IS)	12.52	152	445896	25.00	ppb		0.00
System Monitoring Compounds							
41) Dibromofluoromethane(S)	5.66	111	344605	24.99	ppb		0.00
Spiked Amount 25.000			Recovery =	99.964%			
46) 1,2-DCA-D4(S)	6.07	65	368110	25.03	ppb		0.00
Spiked Amount 25.000			Recovery =	100.112%			
67) Toluene-D8(S)	8.37	98	1259404	25.76	ppb		0.00
Spiked Amount 25.000			Recovery =	103.044%			
75) 4-Bromofluorobenzene(S)	11.26	95	453005	24.48	ppb		0.00
Spiked Amount 25.000			Recovery =	97.928%			
Target Compounds							Qvalue
2) Chlorotrifluoroethene	1.14	116	172422	114.16	ppb		98
3) Dichlorodifluoromethane	1.17	85	40376	12.75	ppb		95
4) Freon 114	1.28	85	35797	10.78	ppb		95
5) Chloromethane	1.32	50	50005	11.85	ppb		98
6) Vinyl chloride	1.41	62	43111	11.48	ppb		100
7) 2-Chloro-1,1,1-trifluoroet	1.50	118	492101	105.22	ppb		99
8) Bromomethane	1.68	96	36688	11.59	ppb		99
9) Chloroethane	1.77	64	35257	14.19	ppb		95
10) Dichlorofluoromethane	1.98	67	73785	10.21	ppb		94
11) Trichlorofluoromethane	2.03	101	57463	10.78	ppb		91
14) Acrolein	2.44	56	47354	107.36	ppb		87
15) Acetone	2.62	43	9384	12.85	ppb		100
16) Freon-113	2.58	101	30498	10.42	ppb		96
17) 1,1-DCE	2.55	61	43509	9.15	ppb		91
18) 2-Propanol	2.85	45	24577	102.81	ppb		98
19) Acetonitrile	2.92	40	17189	133.09	ppb		92
20) t-Butanol	3.37	59	20304	126.81	ppb		96
21) Methyl Acetate	3.03	43	33024	9.79	ppb		92
22) Iodomethane	2.70	142	17037	8.57	ppb		89
23) Acrylonitrile	3.45	52	13867	10.76	ppb		87
24) Methylene chloride	3.12	49	50402	9.59	ppb		98
25) Carbon disulfide	2.76	76	101875	11.00	ppb		98
26) Methyl t-butyl ether (MtBE	3.55	73	118665	10.18	ppb		97
27) Trans-1,2-DCE	3.50	61	46499	9.33	ppb		98
29) Diisopropyl Ether	4.35	45	116305	10.18	ppb		100
31) 1,1-DCA	4.13	63	65919	9.72	ppb		97
32) Vinyl Acetate	4.29	43	13274	5.78	ppb		97
33) Ethyl tert Butyl Ether	4.89	59	116639	9.97	ppb		99
34) MEK (2-Butanone)	5.05	43	20539	10.92	ppb	#	86
35) Cis-1,2-DCE	5.00	61	58814	9.26	ppb		99
36) 2,2-Dichloropropane	4.99	77	50755	9.02	ppb		94
39) Chloroform	5.46	83	73371	9.21	ppb		95
40) Bromochloromethane	5.31	49	31819	9.11	ppb		96
42) 1,1,1-TCA	5.68	97	60402	9.57	ppb		98
43) Cyclohexane	5.75	56	45379	10.50	ppb		96
44) 1,1-Dichloropropene	5.90	75	42763	9.30	ppb		98
45) 2,2,4-Trimethylpentane	6.32	57	82394	9.87	ppb		100
47) Carbon Tetrachloride	5.89	117	49883	9.31	ppb		94
48) Tert Amyl Methyl Ether	6.36	73	116183	10.14	ppb		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0121T13.D Vial: 13
Acq On : 21 Jan 20 12:52 Operator:
Sample : (SS) 10ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 21 15:37 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
50)	1,2-DCA	6.17	62	60151	9.14	ppb		98
51)	Benzene	6.15	78	153346	9.41	ppb		96
52)	TCE	6.96	130	44922	9.36	ppb		96
53)	2-Pentanone	7.20	43	396934	131.37	ppb		99
54)	1,2-Dichloropropane	7.21	63	38545	9.17	ppb		98
55)	Bromodichloromethane	7.54	83	56455	9.34	ppb		98
56)	Methyl Cyclohexane	7.20	83	49488	10.57	ppb		95
57)	Dibromomethane	7.33	174	36058	9.24	ppb		97
58)	MIBK (methyl isobutyl ket	8.27	43	41344	10.75	ppb		93
59)	1-Bromo-2-chloroethane	7.88	63	30368	9.91	ppb		91
60)	2-Chloroethyl vinyl ether	7.93	106	7872	49.88	ppb	#	97
61)	Cis-1,3-Dichloropropene	8.07	75	59891	9.13	ppb		94
62)	Toluene	8.45	91	175841	9.23	ppb		100
63)	Trans-1,3-Dichloropropene	8.70	75	55017	8.99	ppb		95
64)	1,1,2-TCA	8.89	97	38988	9.05	ppb		95
65)	2-Hexanone	9.20	43	26237	10.58	ppb		95
68)	1,2-EDB	9.43	107	41386	9.44	ppb		99
69)	Tetrachloroethene	9.06	166	49322	9.85	ppb		98
70)	1-Chlorohexane	10.00	91	41005	10.24	ppb		97
71)	1,1,1,2-Tetrachloroethane	10.09	131	46854	9.56	ppb		96
72)	m&p-Xylene	10.26	91	274917	18.76	ppb		98
73)	o-Xylene	10.69	91	150137	9.62	ppb		95
74)	Styrene	10.70	104	110257	8.92	ppb		99
76)	1,3-Dichloropropane	9.07	76	64251	9.48	ppb		99
77)	Dibromochloromethane	9.31	129	46781	9.19	ppb		97
78)	Chlorobenzene	9.99	112	120304	9.28	ppb		100
79)	Ethylbenzene	10.13	91	180995	9.33	ppb		99
80)	Bromoform	10.88	173	37319	9.45	ppb		92
82)	Isopropylbenzene	11.11	105	167569	9.48	ppb		100
83)	1,1,2,2-Tetrachloroethane	11.41	83	52732	9.36	ppb		98
84)	1,2,3-Trichloropropane	11.45	110	19087	10.05	ppb		95
85)	t-1,4-Dichloro-2-Butene	11.47	53	10780	11.02	ppb		96
86)	Bromobenzene	11.41	77	90254	9.35	ppb		98
87)	n-Propylbenzene	11.56	91	177237	9.22	ppb		100
88)	4-Ethyltoluene	11.68	105	166224	10.03	ppb		95
89)	2-Chlorotoluene	11.64	91	140984	9.54	ppb		99
90)	1,3,5-Trimethylbenzene	11.75	105	146347	9.45	ppb		97
91)	4-Chlorotoluene	11.76	91	137727	9.27	ppb		97
92)	Tert-Butylbenzene	12.11	119	139691	9.05	ppb		100
93)	1,2,4-Trimethylbenzene	12.16	105	153203	9.32	ppb		96
94)	Sec-Butylbenzene	12.35	105	156423	9.19	ppb		100
95)	p-Isopropyltoluene	12.51	119	145296	9.59	ppb		99
96)	Benzyl Chloride	12.69	91	51120	9.63	ppb		98
97)	1,3-DCB	12.45	146	97349	9.62	ppb		97
98)	1,4-DCB	12.55	146	96531	9.11	ppb		97
99)	n-Butylbenzene	12.96	91	125046	9.90	ppb		100
100)	1,2-DCB	12.95	146	96418	9.22	ppb		99
101)	Hexachloroethane	13.25	201	30127	9.82	ppb		96
102)	1,2-Dibromo-3-chloropropan	13.79	157	11285	9.19	ppb		96
103)	1,2,4-Trichlorobenzene	14.73	180	61981	9.69	ppb		98
104)	Hexachlorobutadiene	14.93	225	31956	9.69	ppb		94
105)	Naphthalene	14.99	127	7826	10.00	ppb		87
106)	1,2,3-Trichlorobenzene	15.26	180	58683	10.10	ppb		98

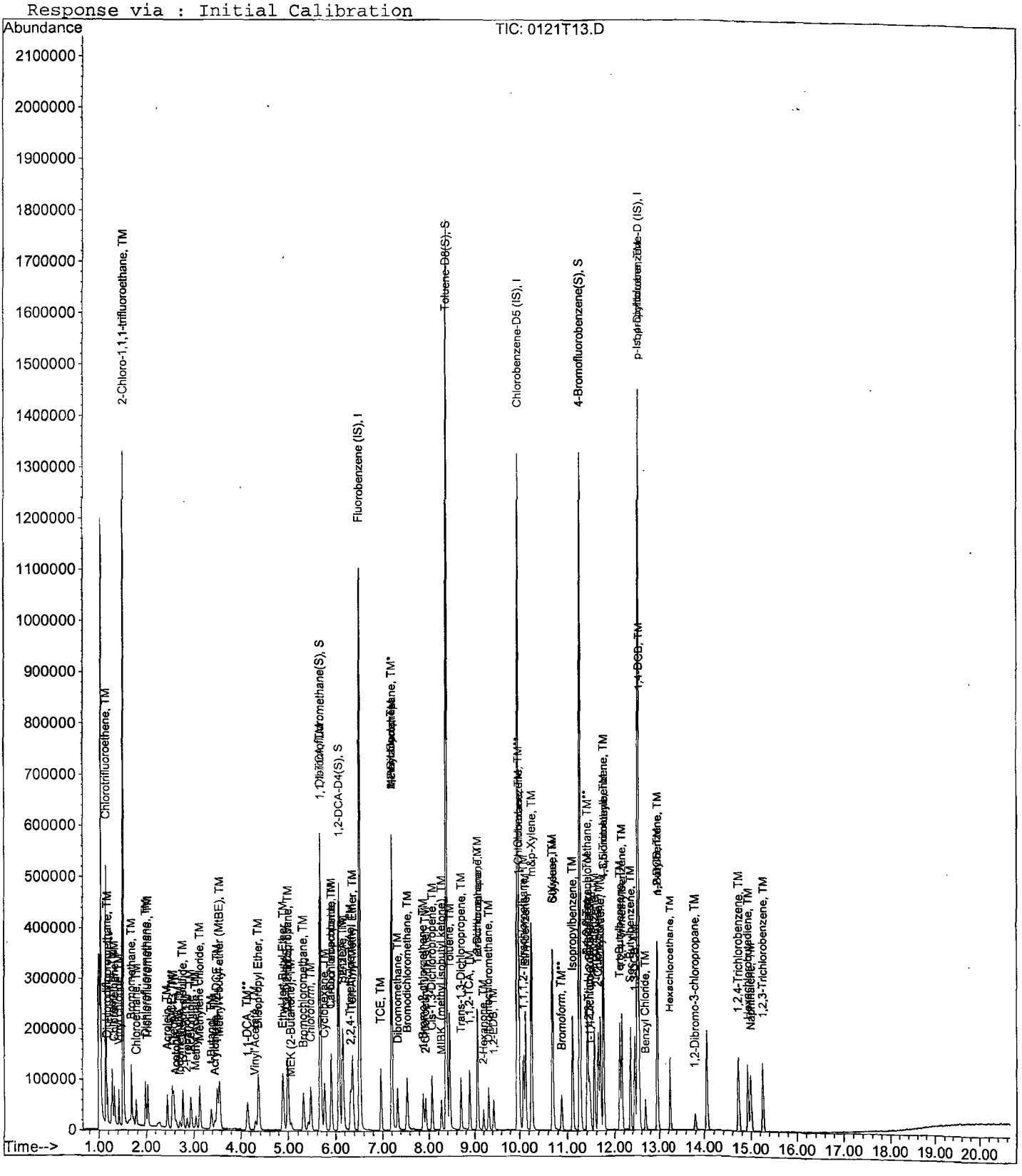
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0121T13.D Vial: 13
Acq On : 21 Jan 20 12:52 Operator:
Sample : (SS) 10ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 21 15:37 2020 Quant Results File: T0121W.RES

Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS
VOLATILE ORGANIC COMPOUNDS

Form 7

Continuing Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Date Analyzed: 01/23/20
Matrix: Instrument: Thor
Initial Cal. Date: 01/21/20
Data File: 0123T27.D

		Compound	MEAN	CCRF	%D	%Drift		
1	I	Fluorobenzene (IS)	ISTD			I		
2	TM	Chlorotrifluoroethene	0.0354	0.0001	100	TM		* NT
3	TM	Dichlorodifluoromethane	0.0741	0.0679	8.4	TM		
4	TM	Freon 114	0.0777	0.0675	13	TM		
5	TM**L	Chloromethane	0.1164	0.0989	15	TM**L	1.9	
6	TM*	Vinyl chloride	0.0879	0.0831	5.5	TM*		
7	TM	2-Chloro-1,1,1-trifluoroethane	0.1095	0.0009	99	TM		* NT
8	TML	Bromomethane	0.0976	0.0555	43	TML	29	* NT
9	TML	Chloroethane	0.0684	0.0583	15	TML	0.58	
10	TM	Dichlorofluoromethane	0.1693	0.1586	6.3	TM		
11	TM	Trichlorofluoromethane	0.1248	0.1188	4.8	TM		
12	TM	1,2 Dichlorotrifluoroethane	0.0000	0.0001	0.00	TM		
13	TM	Acrolein	0.0103	0.0089	14	TM		
14	TML	Acetone	0.0219	0.0167	24	TML	11	
15	TM	Freon-113	0.0685	0.0639	6.7	TM		
16	TM*	1,1-DCE	0.1113	0.0990	11	TM*		
17	TM	2-Propanol	0.0056	0.0001	98	TM		* NT
18	TM	Acetonitrile	0.0030	0.0032	5.3	TM		
19	TM	t-Butanol	0.0037	0.0036	4.7	TM		
20	TM	Methyl Acetate	0.0790	0.0666	16	TM		
21	TMQ	Iodomethane	0.0411	0.0178	57	TMQ	48	* NT
22	TM	Acrylonitrile	0.0302	0.0284	5.9	TM		
23	TM	Methylene chloride	0.1230	0.1143	7.1	TM		
24	TM	Carbon disulfide	0.2169	0.1795	17	TM		
25	TM	Methyl t-butyl ether (MtBE)	0.2728	0.2531	7.2	TM		
26	TM	Trans-1,2-DCE	0.1167	0.1067	8.5	TM		
27	TM	Diisopropyl Ether	0.2675	0.2514	6.0	TM		
28	TM**	1,1-DCA	0.1588	0.1473	7.2	TM**		
29	TM	Vinyl Acetate	0.0538	0.0322	40	TM		* NT
30	TM	Ethyl tert Butyl Ether	0.2738	0.2471	9.8	TM		
31	TML	MEK (2-Butanone)	0.0524	0.0396	25	TML	10	
32	TM	Cis-1,2-DCE	0.1488	0.1441	3.1	TM		
33	TM	2,2-Dichloropropane	0.1318	0.1060	20	TM		
34	TM	2-Methylpentane	0.0000	0.0002	0.00	TM		
35	TM	3-Methylpentane	0.0000	0.0528	0.00	TM		
36	TM*	Chloroform	0.1865	0.1746	6.4	TM*		
37	TM	Bromochloromethane	0.0818	0.0773	5.5	TM		
38	SL	Dibromofluoromethane(S)	0.3715	0.3204	14	SL	0.90	
39	TM	1,1,1-TCA	0.1477	0.1413	4.4	TM		
40	TM	Cyclohexane	0.1012	0.0891	12	TM		
		Average			19.1			

VOLATILE ORGANIC ANALYSIS
VOLATILE ORGANIC COMPOUNDS

Form 7

Continuing Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Date Analyzed: 01/23/20
Matrix: 0 Instrument: Thor
Cal. Date: 01/21/20
Data File: 0123T27.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	1,1-Dichloropropene	0.1077	0.1001	7.0	TM	
42	TM	2,2,4-Trimethylpentane	0.1955	0.1610	18	TM	
43	SL	1,2-DCA-D4(S)	0.3991	0.3468	13	SL	0.82
44	TM	Carbon Tetrachloride	0.1255	0.1158	7.7	TM	
45	TM	Tert Amyl Methyl Ether	0.2682	0.2426	9.5	TM	
46	TM	Methylcyclopentane	0.0000	0.0172	0.00	TM	
47	TM	1,2-DCA	0.1541	0.1459	5.3	TM	
48	TM	Benzene	0.3817	0.3599	5.7	TM	
49	TM	TCE	0.1123	0.1121	0.25	TM	
50	TM	2-Pentanone	0.0708	0.0657	7.1	TM	
51	TM*	1,2-Dichloropropane	0.0984	0.0956	2.8	TM*	
52	TM	Bromodichloromethane	0.1415	0.1370	3.2	TM	
53	TM	Methyl Cyclohexane	0.1097	0.1005	8.4	TM	
54	TM	Dibromomethane	0.0914	0.0888	2.8	TM	
55	TM	MIBK (methyl isobutyl ketone)	0.0901	0.0787	13	TM	
56	TM	1-Bromo-2-chloroethane	0.0717	0.0673	6.2	TM	
57	TM	Cis-1,3-Dichloropropene	0.1535	0.1368	11	TM	
58	TM*	Toluene	0.4463	0.4146	7.1	TM*	
59	TM	Trans-1,3-Dichloropropene	0.1434	0.1314	8.4	TM	
60	TM	1,1,2-TCA	0.1009	0.1011	0.16	TM	
61	TML	2-Hexanone	0.0536	0.0492	8.2	TML	11
62	I	Chlorobenzene-D5 (IS)	ISTD			I	
63	SL	Toluene-D8(S)	1.712	1.516	11	SL	2.6
64	TM	1,2-EDB	0.1323	0.1346	1.7	TM	
65	TM	Tetrachloroethene	0.1511	0.1513	0.15	TM	
66	TML	1-Chlorohexane	0.1322	0.1078	18	TML	9.3
67	TM	1,1,1,2-Tetrachloroethane	0.1479	0.1470	0.63	TM	
68	TM	m&p-Xylene	0.4424	0.4215	4.7	TM	
69	TM	o-Xylene	0.4709	0.4525	3.9	TM	
70	TML	Styrene	0.3461	0.3419	1.2	TML	8.7
71	SL	4-Bromofluorobenzene(S)	0.6137	0.5547	9.6	SL	0.58
72	TM	1,3-Dichloropropane	0.2046	0.2004	2.1	TM	
73	TM	Dibromochloromethane	0.1536	0.1542	0.39	TM	
74	TM**	Chlorobenzene	0.3911	0.3735	4.5	TM**	
75	TM*	Ethylbenzene	0.5856	0.5528	5.6	TM*	
76	TM**	Bromoform	0.1192	0.1159	2.8	TM**	
77	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
78	TM	Isopropylbenzene	0.9915	0.9573	3.4	TM	
79	TM**	1,1,2,2-Tetrachloroethane	0.3158	0.2868	9.2	TM**	
80	TM	1,2,3-Trichloropropane	0.1065	0.1079	1.3	TM	
		Average			5.9		

VOLATILE ORGANIC ANALYSIS
VOLATILE ORGANIC COMPOUNDS

Form 7

Continuing Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Date Analyzed: 01/23/20
Matrix: 0 Instrument: Thor
Cal. Date: 01/21/20
Data File: 0123T27.D

		Compound	MEAN	CCRF	%D		%Drift	
81	TM	t-1,4-Dichloro-2-Butene	0.0549	0.0500	8.9	TM		
82	TM	Bromobenzene	0.5411	0.5165	4.6	TM		
83	TM	n-Propylbenzene	1.078	1.028	4.7	TM		
84	TM	4-Ethyltoluene	0.9292	0.8726	6.1	TM		
85	TM	2-Chlorotoluene	0.8284	0.7835	5.4	TM		
86	TM	1,3,5-Trimethylbenzene	0.8683	0.8398	3.3	TM		
87	TM	4-Chlorotoluene	0.8334	0.8147	2.2	TM		
88	TM	Tert-Butylbenzene	0.8653	0.8135	6.0	TM		
89	TM	1,2,4-Trimethylbenzene	0.9216	0.8340	9.5	TM		
90	TM	Sec-Butylbenzene	0.9547	0.9411	1.4	TM		
91	TM	p-Isopropyltoluene	0.8496	0.8094	4.7	TM		
92	TM	Benzyl Chloride	0.2976	0.1976	34	TM		* NT
93	TM	1,3-DCB	0.5671	0.5545	2.2	TM		
94	TM	1,4-DCB	0.5943	0.5532	6.9	TM		
95	TM	n-Butylbenzene	0.7079	0.6553	7.4	TM		
96	TM	1,2-DCB	0.5862	0.5592	4.6	TM		
97	TML	Hexachloroethane	0.1600	0.1603	0.21	TML	6.6	
98	TML	1,2-Dibromo-3-chloropropane	0.0608	0.0694	14	TML	0.07	
99	TM	1,2,4-Trichlorobenzene	0.3588	0.3314	7.6	TM		
100	TM	Hexachlorobutadiene	0.1849	0.1844	0.23	TM		
101	TML	Naphthalene	0.0448	0.0377	16	TML	11	
102	TM	1,2,3-Trichlorobenzene	0.3259	0.3188	2.2	TM		
103								
104								
105								
106								
107								
108								
109								
110								
111								
112								
113								
114								
115								
116								
117								
118								
119								
120								
		Average			6.9			

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0123T27.D Vial: 27
Acq On : 23 Jan 20 20:56 Operator:
Sample : 200123A CCV 10ug/L Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 10:01 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene (IS)	6.51	96	1009078	25.00	ppb		0.00
66) Chlorobenzene-D5 (IS)	9.96	117	783894	25.00	ppb		0.00
81) 1,4-Dichlorobenzene-D (IS)	12.52	152	433003	25.00	ppb		0.00
System Monitoring Compounds							
41) Dibromofluoromethane(S)	5.66	111	323339	24.77	ppb		0.00
Spiked Amount 25.000			Recovery = 99.100%				
46) 1,2-DCA-D4(S)	6.07	65	349959	25.20	ppb		0.00
Spiked Amount 25.000			Recovery = 100.820%				
67) Toluene-D8(S)	8.37	98	1188115	25.66	ppb		0.00
Spiked Amount 25.000			Recovery = 102.632%				
75) 4-Bromofluorobenzene(S)	11.25	95	434805	24.86	ppb		0.00
Spiked Amount 25.000			Recovery = 99.420%				
Target Compounds							Qvalue
2) Chlorotrifluoroethene	1.14	116	601	0.42	ppb	#	75
3) Dichlorodifluoromethane	1.17	85	27400	9.16	ppb		99
4) Freon 114	1.28	85	27250	8.69	ppb		98
5) Chloromethane	1.32	50	39932	9.81	ppb		97
6) Vinyl chloride	1.42	62	33526	9.45	ppb		95
7) 2-Chloro-1,1,1-trifluoroet	1.51	118	3462	0.78	ppb		93
8) Bromomethane	1.68	96	22392	7.12	ppb		94
9) Chloroethane	1.78	64	23523	9.94	ppb		97
10) Dichlorofluoromethane	1.98	67	64032	9.37	ppb		98
11) Trichlorofluoromethane	2.03	101	47954	9.52	ppb		91
14) Acrolein	2.44	56	44671	107.15	ppb		93
15) Acetone	2.62	43	6731	8.95	ppb		95
16) Freon-113	2.58	101	25812	9.33	ppb		95
17) 1,1-DCE	2.55	61	39955	8.89	ppb		98
18) 2-Propanol	2.84	45	345	1.53	ppb	#	56
19) Acetonitrile	2.92	40	16074	131.68	ppb		99
20) t-Butanol	3.36	59	18024	119.10	ppb		94
21) Methyl Acetate	3.03	43	26893	8.44	ppb		98
22) Iodomethane	2.70	142	7168	5.19	ppb	#	87
23) Acrylonitrile	3.45	52	11460	9.41	ppb	#	82
24) Methylene chloride	3.12	49	46126	9.29	ppb		95
25) Carbon disulfide	2.77	76	72434	8.27	ppb		99
26) Methyl t-butyl ether (MtBE	3.55	73	102156	9.28	ppb		100
27) Trans-1,2-DCE	3.50	61	43084	9.15	ppb		97
29) Diisopropyl Ether	4.35	45	101475	9.40	ppb		93
31) 1,1-DCA	4.13	63	59472	9.28	ppb		99
32) Vinyl Acetate	4.29	43	12977	5.97	ppb		99
33) Ethyl tert Butyl Ether	4.89	59	99719	9.02	ppb		98
34) MEK (2-Butanone)	5.05	43	15974	8.99	ppb		91
35) Cis-1,2-DCE	4.99	61	58183	9.69	ppb		97
36) 2,2-Dichloropropane	4.99	77	42800	8.05	ppb	#	90
39) Chloroform	5.46	83	70459	9.36	ppb		95
40) Bromochloromethane	5.31	49	31198	9.45	ppb		92
42) 1,1,1-TCA	5.68	97	57025	9.56	ppb		100
43) Cyclohexane	5.76	56	35974	8.80	ppb		98
44) 1,1-Dichloropropene	5.90	75	40391	9.30	ppb		96
45) 2,2,4-Trimethylpentane	6.32	57	64998	8.24	ppb		98
47) Carbon Tetrachloride	5.89	117	46732	9.23	ppb		89
48) Tert Amyl Methyl Ether	6.36	73	97933	9.05	ppb		92

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0123T27.D Vial: 27
Acq On : 23 Jan 20 20:56 Operator:
Sample : 200123A CCV 10ug/L Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 10:01 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
50)	1,2-DCA	6.16	62	58887	9.47 ppb		98
51)	Benzene	6.15	78	145280	9.43 ppb		100
52)	TCE	6.96	130	45235	9.98 ppb		90
53)	2-Pentanone	7.20	43	331643	116.13 ppb		99
54)	1,2-Dichloropropane	7.21	63	38607	9.72 ppb	#	95
55)	Bromodichloromethane	7.54	83	55306	9.68 ppb		97
56)	Methyl Cyclohexane	7.20	83	40550	9.16 ppb		94
57)	Dibromomethane	7.33	174	35829	9.72 ppb		97
58)	MIBK (methyl isobutyl ket	8.26	43	31746	8.73 ppb		94
59)	1-Bromo-2-chloroethane	7.88	63	27160	9.38 ppb		96
61)	Cis-1,3-Dichloropropene	8.07	75	55201	8.91 ppb		96
62)	Toluene	8.45	91	167340	9.29 ppb		99
63)	Trans-1,3-Dichloropropene	8.70	75	53019	9.16 ppb		96
64)	1,1,2-TCA	8.89	97	40801	10.02 ppb		95
65)	2-Hexanone	9.20	43	19867	8.88 ppb		95
68)	1,2-EDB	9.43	107	42212	10.17 ppb		94
69)	Tetrachloroethene	9.06	166	47442	10.01 ppb		97
70)	1-Chlorohexane	10.00	91	33812	9.07 ppb		97
71)	1,1,1,2-Tetrachloroethane	10.09	131	46091	9.94 ppb		97
72)	m&p-Xylene	10.26	91	264335	19.06 ppb		99
73)	o-Xylene	10.69	91	141881	9.61 ppb		95
74)	Styrene	10.70	104	107203	9.13 ppb		95
76)	1,3-Dichloropropane	9.07	76	62837	9.79 ppb		99
77)	Dibromochloromethane	9.32	129	48359	10.04 ppb		99
78)	Chlorobenzene	9.99	112	117101	9.55 ppb		99
79)	Ethylbenzene	10.13	91	173321	9.44 ppb		99
80)	Bromoform	10.88	173	36335	9.72 ppb		99
82)	Isopropylbenzene	11.11	105	165810	9.66 ppb		98
83)	1,1,2,2-Tetrachloroethane	11.41	83	49673	9.08 ppb		97
84)	1,2,3-Trichloropropane	11.45	110	18681	10.13 ppb		91
85)	t-1,4-Dichloro-2-Butene	11.47	53	8659	9.11 ppb		100
86)	Bromobenzene	11.41	77	89453	9.54 ppb		98
87)	n-Propylbenzene	11.56	91	178007	9.53 ppb		99
88)	4-Ethyltoluene	11.68	105	151143	9.39 ppb		97
89)	2-Chlorotoluene	11.64	91	135711	9.46 ppb		96
90)	1,3,5-Trimethylbenzene	11.75	105	145453	9.67 ppb		100
91)	4-Chlorotoluene	11.76	91	141102	9.78 ppb		94
92)	Tert-Butylbenzene	12.11	119	140898	9.40 ppb		99
93)	1,2,4-Trimethylbenzene	12.16	105	144454	9.05 ppb		98
94)	Sec-Butylbenzene	12.35	105	163001	9.86 ppb		98
95)	p-Isopropyltoluene	12.51	119	140194	9.53 ppb		97
96)	Benzyl Chloride	12.69	91	34230	6.64 ppb		98
97)	1,3-DCB	12.45	146	96046	9.78 ppb		98
98)	1,4-DCB	12.55	146	95817	9.31 ppb		95
99)	n-Butylbenzene	12.96	91	113503	9.26 ppb		95
100)	1,2-DCB	12.95	146	96851	9.54 ppb		99
101)	Hexachloroethane	13.25	201	27771	9.34 ppb		96
102)	1,2-Dibromo-3-chloropropan	13.79	157	12026	10.01 ppb		89
103)	1,2,4-Trichlorobenzene	14.73	180	57402	9.24 ppb		97
104)	Hexachlorobutadiene	14.93	225	31945	9.98 ppb		95
105)	Naphthalene	14.99	127	6523	8.85 ppb		96
106)	1,2,3-Trichlorobenzene	15.26	180	55225	9.78 ppb		100

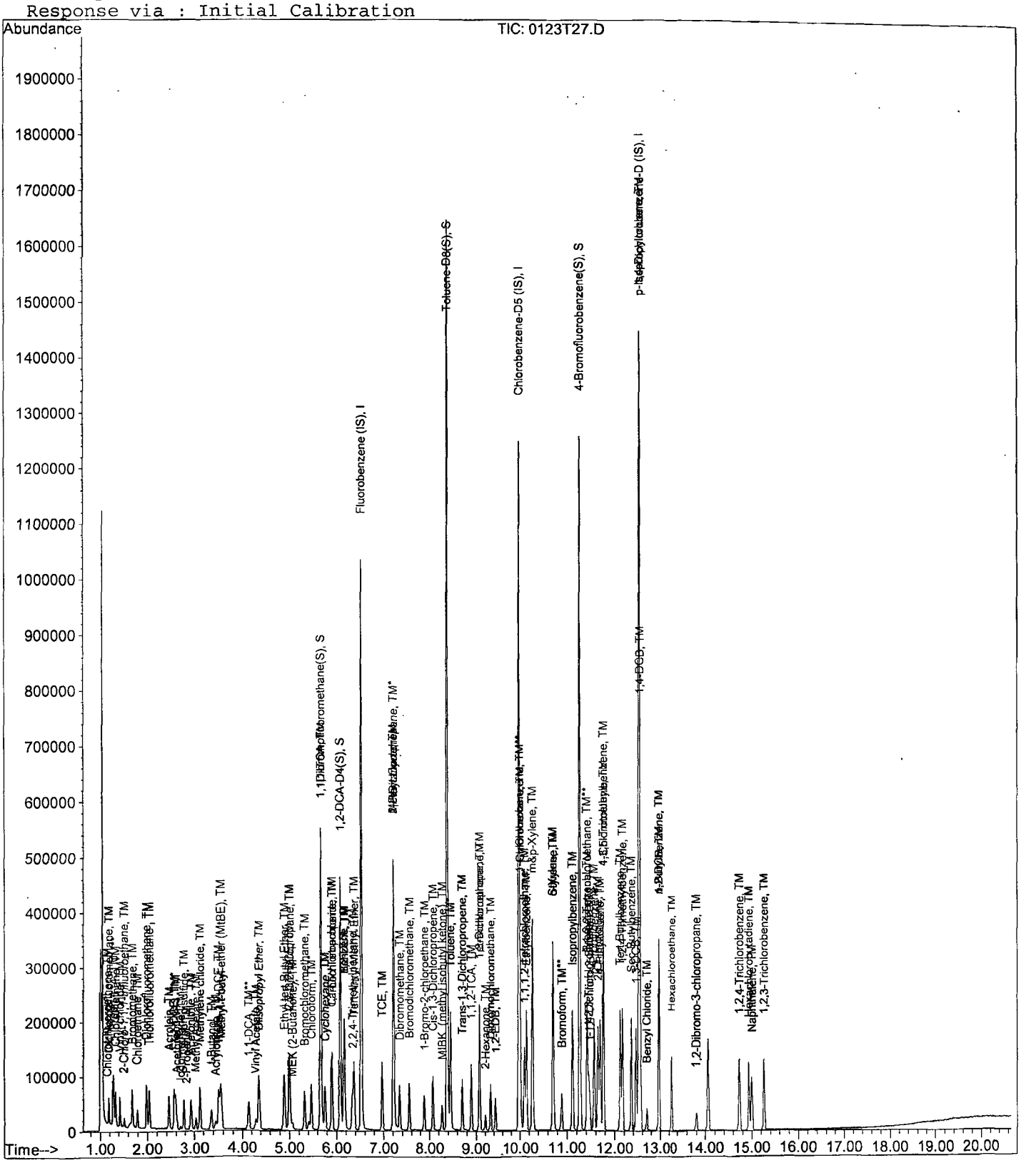
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0123T27.D Vial: 27
Acq On : 23 Jan 20 20:56 Operator:
Sample : 200123A CCV 10ug/L Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 10:01 2020 Quant Results File: T0121W.RES

Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS
VOLATILE ORGANIC COMPOUNDS

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 01/24/20
Instrument: Thor
Initial Cal. Date: 01/21/20
Data File: 0123t52.D

		Compound	MEAN	CCRF	%D		%Drift	
1	I	Fluorobenzene (IS)	ISTD			I		
2	TM	Chlorotrifluoroethene	0.0354	0.0000	100	TM		* NT
3	TM	Dichlorodifluoromethane	0.0741	0.0660	11	TM		
4	TM	Freon 114	0.0777	0.0610	22	TM		
5	TM**L	Chloromethane	0.1164	0.0973	16	TM**L	3.7	
6	TM*	Vinyl chloride	0.0879	0.0797	9.3	TM*		
7	TM	2-Chloro-1,1,1-trifluoroethane	0.1095	0.0000	100	TM		* NT
8	TML	Bromomethane	0.0976	0.0674	31	TML	11	
9	TML	Chloroethane	0.0684	0.0555	19	TML	5.4	
10	TM	Dichlorofluoromethane	0.1693	0.1624	4.1	TM		
11	TM	Trichlorofluoromethane	0.1248	0.1206	3.4	TM		
12	TM	1,2 Dichlorotrifluoroethane	0.0000	0.0002	0.00	TM		
13	TM	Acrolein	0.0103	0.0077	26	TM		
14	TML	Acetone	0.0219	0.0189	14	TML	5.6	
15	TM	Freon-113	0.0685	0.0629	8.3	TM		
16	TM*	1,1-DCE	0.1113	0.1033	7.2	TM*		
17	TM	2-Propanol	0.0056	0.0000	100	TM		* NT
18	TM	Acetonitrile	0.0030	0.0032	6.0	TM		
19	TM	t-Butanol	0.0037	0.0033	12	TM		
20	TM	Methyl Acetate	0.0790	0.0681	14	TM		
21	TMQ	Iodomethane	0.0411	0.0107	74	TMQ	59	* NT
22	TM	Acrylonitrile	0.0302	0.0300	0.70	TM		
23	TM	Methylene chloride	0.1230	0.1191	3.2	TM		
24	TM	Carbon disulfide	0.2169	0.1802	17	TM		
25	TM	Methyl t-butyl ether (MtBE)	0.2728	0.2531	7.2	TM		
26	TM	Trans-1,2-DCE	0.1167	0.1056	9.5	TM		
27	TM	Hexane	0.0000	0.0000	0.00	TM		
28	TM	Diisopropyl Ether	0.2675	0.2538	5.1	TM		
29	TM**	1,1-DCA	0.1588	0.1577	0.69	TM**		
30	TM	Vinyl Acetate	0.0538	0.0121	77	TM		* NT
31	TM	Ethyl tert Butyl Ether	0.2738	0.2568	6.2	TM		
32	TML	MEK (2-Butanone)	0.0524	0.0403	23	TML	8.5	
33	TM	Cis-1,2-DCE	0.1488	0.1351	9.2	TM		
34	TM	2,2-Dichloropropane	0.1318	0.0875	34	TM		
35	TM	2-Methylpentane	0.0000	0.0002	0.00	TM		
36	TM	3-Methylpentane	0.0000	0.0540	0.00	TM		
37	TM*	Chloroform	0.1865	0.1828	2.0	TM*		
38	TM	Bromochloromethane	0.0818	0.0788	3.7	TM		
39	SL	Dibromofluoromethane(S)	0.3715	0.3165	15	SL	2.4	
40	TM	1,1,1-TCA	0.1477	0.1414	4.3	TM		
		Average			20.4			

VOLATILE ORGANIC ANALYSIS
VOLATILE ORGANIC COMPOUNDS

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Date Analyzed: 01/24/20
Matrix: 0 Instrument: Thor
Cal. Date: 01/21/20
Data File: 0123t52.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	Cyclohexane	0.1012	0.0873	14	TM	
42	TM	1,1-Dichloropropene	0.1077	0.1013	5.9	TM	
43	TM	2,2,4-Trimethylpentane	0.1955	0.1393	29	TM	
44	SL	1,2-DCA-D4(S)	0.3991	0.3378	15	SL	2.4
45	TM	Carbon Tetrachloride	0.1255	0.1211	3.5	TM	
46	TM	Tert Amyl Methyl Ether	0.2682	0.2540	5.3	TM	
47	TM	Methylcyclopentane	0.0000	0.0182	0.00	TM	
48	TM	1,2-DCA	0.1541	0.1488	3.5	TM	
49	TM	Benzene	0.3817	0.3661	4.1	TM	
50	TM	TCE	0.1123	0.1262	12	TM	
51	TM	2-Pentanone	0.0708	0.0656	7.2	TM	
52	TM*	1,2-Dichloropropane	0.0984	0.0994	1.1	TM*	
53	TM	Bromodichloromethane	0.1415	0.1396	1.4	TM	
54	TM	Methyl Cyclohexane	0.1097	0.0960	12	TM	
55	TM	Dibromomethane	0.0914	0.0870	4.8	TM	
56	TM	MIBK (methyl isobutyl ketone)	0.0901	0.0752	17	TM	
57	TM	1-Bromo-2-chloroethane	0.0717	0.0707	1.5	TM	
58	TM	Cis-1,3-Dichloropropene	0.1535	0.1378	10	TM	
59	TM*	Toluene	0.4463	0.4336	2.9	TM*	
60	TM	Trans-1,3-Dichloropropene	0.1434	0.1253	13	TM	
61	TM	1,1,2-TCA	0.1009	0.1016	0.62	TM	
62	TML	2-Hexanone	0.0536	0.0488	9.0	TML	12
63	I	Chlorobenzene-D5 (IS)	ISTD			I	
64	SL	Toluene-D8(S)	1.712	1.481	13	SL	0.28
65	TM	1,2-EDB	0.1323	0.1291	2.5	TM	
66	TM	Tetrachloroethene	0.1511	0.1519	0.52	TM	
67	TML	1-Chlorohexane	0.1322	0.0999	24	TML	15
68	TM	1,1,1,2-Tetrachloroethane	0.1479	0.1482	0.17	TM	
69	TM	m&p-Xylene	0.4424	0.4350	1.7	TM	
70	TM	o-Xylene	0.4709	0.4530	3.8	TM	
71	TML	Styrene	0.3461	0.3393	2.0	TML	9.3
72	SL	4-Bromofluorobenzene(S)	0.6137	0.5374	12	SL	3.9
73	TM	1,3-Dichloropropane	0.2046	0.2013	1.6	TM	
74	TM	Dibromochloromethane	0.1536	0.1538	0.10	TM	
75	TM**	Chlorobenzene	0.3911	0.3780	3.4	TM**	
76	TM*	Ethylbenzene	0.5856	0.5604	4.3	TM*	
77	TM**	Bromoform	0.1192	0.1173	1.6	TM**	
78	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
79	TM	Isopropylbenzene	0.9915	0.9696	2.2	TM	
80	TM**	1,1,2,2-Tetrachloroethane	0.3158	0.2481	21	TM**	
		Average			7.0		

VOLATILE ORGANIC ANALYSIS
VOLATILE ORGANIC COMPOUNDS

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Date Analyzed: 01/24/20
Matrix: 0 Instrument: Thor
Cal. Date: 01/21/20
Data File: 0123t52.D

		Compound	MEAN	CCRF	%D		%Drift	
81	TM	1,2,3-Trichloropropane	0.1065	0.1061	0.42	TM		
82	TM	t-1,4-Dichloro-2-Butene	0.0549	0.0458	16	TM		
83	TM	Bromobenzene	0.5411	0.5220	3.5	TM		
84	TM	n-Propylbenzene	1.078	1.042	3.4	TM		
85	TM	4-Ethyltoluene	0.9292	0.9238	0.58	TM		
86	TM	2-Chlorotoluene	0.8284	0.7872	5.0	TM		
87	TM	1,3,5-Trimethylbenzene	0.8683	0.8586	1.1	TM		
88	TM	4-Chlorotoluene	0.8334	0.8035	3.6	TM		
89	TM	Tert-Butylbenzene	0.8653	0.8349	3.5	TM		
90	TM	1,2,4-Trimethylbenzene	0.9216	0.9004	2.3	TM		
91	TM	Sec-Butylbenzene	0.9547	0.9457	0.94	TM		
92	TM	p-Isopropyltoluene	0.8496	0.8108	4.6	TM		
93	TM	Benzyl Chloride	0.2976	0.1333	55	TM		* NT
94	TM	1,3-DCB	0.5671	0.5485	3.3	TM		
95	TM	1,4-DCB	0.5943	0.5554	6.5	TM		
96	TM	n-Butylbenzene	0.7079	0.6340	10	TM		
97	TM	1,2-DCB	0.5862	0.5657	3.5	TM		
98	TML	Hexachloroethane	0.1600	0.1669	4.3	TML	3.0	
99	TML	1,2-Dibromo-3-chloropropane	0.0608	0.0651	7.0	TML	5.7	
100	TM	1,2,4-Trichlorobenzene	0.3588	0.3112	13	TM		
101	TM	Hexachlorobutadiene	0.1849	0.1753	5.2	TM		
102	TML	Naphthalene	0.0448	0.0375	16	TML	12	
103	TM	1,2,3-Trichlorobenzene	0.3259	0.3081	5.5	TM		
104								
105								
106								
107								
108								
109								
110								
111								
112								
113								
114								
115								
116								
117								
118								
119								
120								
		Average			7.6			

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0123t52.D Vial: 52
Acq On : 24 Jan 20 8:43 Operator:
Sample : Ending CCV 10ug/L 1/23/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 10:03 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene (IS)	6.51	96	1004531	25.00	ppb		0.00
66) Chlorobenzene-D5 (IS)	9.96	117	792650	25.00	ppb		0.00
81) 1,4-Dichlorobenzene-D (IS)	12.52	152	429770	25.00	ppb		0.00
System Monitoring Compounds							
41) Dibromofluoromethane(S)	5.66	111	317886	24.41	ppb		0.00
Spiked Amount 25.000			Recovery = 97.636%				
46) 1,2-DCA-D4(S)	6.07	65	339283	24.41	ppb		0.00
Spiked Amount 25.000			Recovery = 97.644%				
67) Toluene-D8(S)	8.37	98	1173547	24.93	ppb		0.00
Spiked Amount 25.000			Recovery = 99.720%				
75) 4-Bromofluorobenzene(S)	11.25	95	425956	24.02	ppb		0.00
Spiked Amount 25.000			Recovery = 96.068%				
Target Compounds							Qvalue
2) Chlorotrifluoroethene	1.14	116	46	0.03	ppb	#	49
3) Dichlorodifluoromethane	1.17	85	26520	8.90	ppb		96
4) Freon 114	1.28	85	24506	7.85	ppb		95
5) Chloromethane	1.32	50	39103	9.63	ppb		95
6) Vinyl chloride	1.41	62	32044	9.07	ppb		99
7) 2-Chloro-1,1,1-trifluoroet	1.50	118	124	0.03	ppb	#	30
8) Bromomethane	1.68	96	27096	8.88	ppb		99
9) Chloroethane	1.78	64	22299	9.46	ppb		93
10) Dichlorofluoromethane	1.98	67	65235	9.59	ppb		100
11) Trichlorofluoromethane	2.03	101	48439	9.66	ppb		100
14) Acrolein	2.44	56	38635	93.09	ppb		92
15) Acetone	2.62	43	7580	10.56	ppb		96
16) Freon-113	2.58	101	25258	9.17	ppb		93
17) 1,1-DCE	2.55	61	41494	9.28	ppb		95
18) 2-Propanol	2.83	45	102	0.45	ppb	#	3
19) Acetonitrile	2.92	40	16095	132.45	ppb		100
20) t-Butanol	3.35	59	16528	109.71	ppb		92
21) Methyl Acetate	3.03	43	27375	8.63	ppb		97
22) Iodomethane	2.70	142	4304	4.09	ppb		92
23) Acrylonitrile	3.44	52	12044	9.93	ppb		98
24) Methylene chloride	3.12	49	47873	9.68	ppb		94
25) Carbon disulfide	2.77	76	72412	8.31	ppb		100
26) Methyl t-butyl ether (MtBE	3.55	73	101685	9.28	ppb		94
27) Trans-1,2-DCE	3.50	61	42426	9.05	ppb		96
29) Diisopropyl Ether	4.35	45	101972	9.49	ppb		97
31) 1,1-DCA	4.13	63	63371	9.93	ppb		99
32) Vinyl Acetate	4.29	43	4867	2.25	ppb		99
33) Ethyl tert Butyl Ether	4.89	59	103195	9.38	ppb		99
34) MEK (2-Butanone)	5.05	43	16183	9.15	ppb		95
35) Cis-1,2-DCE	4.99	61	54286	9.08	ppb		97
36) 2,2-Dichloropropane	4.99	77	35163	6.64	ppb		96
39) Chloroform	5.46	83	73462	9.80	ppb		95
40) Bromochloromethane	5.31	49	31658	9.63	ppb		94
42) 1,1,1-TCA	5.67	97	56802	9.57	ppb		97
43) Cyclohexane	5.75	56	35095	8.63	ppb		94
44) 1,1-Dichloropropene	5.90	75	40708	9.41	ppb		98
45) 2,2,4-Trimethylpentane	6.32	57	55966	7.12	ppb		97
47) Carbon Tetrachloride	5.89	117	48672	9.65	ppb		97
48) Tert Amyl Methyl Ether	6.36	73	102055	9.47	ppb		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0123t52.D Vial: 52
Acq On : 24 Jan 20 8:43 Operator:
Sample : Ending CCV 10ug/L 1/23/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 10:03 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
50)	1,2-DCA	6.17	62	59770	9.65	ppb	#	95
51)	Benzene	6.15	78	147093	9.59	ppb		99
52)	TCE	6.96	130	50694	11.23	ppb		95
53)	2-Pentanone	7.20	43	329682	115.96	ppb		99
54)	1,2-Dichloropropane	7.21	63	39951	10.11	ppb		100
55)	Bromodichloromethane	7.54	83	56078	9.86	ppb		97
56)	Methyl Cyclohexane	7.20	83	38586	8.76	ppb		99
57)	Dibromomethane	7.33	174	34942	9.52	ppb		99
58)	MIBK (methyl isobutyl ket	8.26	43	30205	8.35	ppb		99
59)	1-Bromo-2-chloroethane	7.88	63	28392	9.85	ppb		98
61)	Cis-1,3-Dichloropropene	8.07	75	55382	8.98	ppb		97
62)	Toluene	8.45	91	174218	9.71	ppb		100
63)	Trans-1,3-Dichloropropene	8.69	75	50364	8.74	ppb		100
64)	1,1,2-TCA	8.89	97	40806	10.06	ppb		97
65)	2-Hexanone	9.20	43	19595	8.82	ppb		97
68)	1,2-EDB	9.43	107	40918	9.75	ppb		95
69)	Tetrachloroethene	9.06	166	48150	10.05	ppb		96
70)	1-Chlorohexane	10.00	91	31679	8.48	ppb		96
71)	1,1,1,2-Tetrachloroethane	10.09	131	46983	10.02	ppb		97
72)	m&p-Xylene	10.26	91	275834	19.66	ppb		99
73)	o-Xylene	10.69	91	143622	9.62	ppb		95
74)	Styrene	10.71	104	107572	9.07	ppb		99
76)	1,3-Dichloropropane	9.07	76	63819	9.84	ppb		99
77)	Dibromochloromethane	9.31	129	48755	10.01	ppb		98
78)	Chlorobenzene	9.99	112	119833	9.66	ppb		97
79)	Ethylbenzene	10.13	91	177682	9.57	ppb		99
80)	Bromoform	10.88	173	37185	9.84	ppb		99
82)	Isopropylbenzene	11.11	105	166676	9.78	ppb		99
83)	1,1,2,2-Tetrachloroethane	11.40	83	42658	7.86	ppb		97
84)	1,2,3-Trichloropropane	11.45	110	18235	9.96	ppb		97
85)	t-1,4-Dichloro-2-Butene	11.47	53	7879	8.36	ppb		93
86)	Bromobenzene	11.41	77	89728	9.65	ppb		98
87)	n-Propylbenzene	11.56	91	179097	9.66	ppb		99
88)	4-Ethyltoluene	11.68	105	158816	9.94	ppb		97
89)	2-Chlorotoluene	11.64	91	135324	9.50	ppb		99
90)	1,3,5-Trimethylbenzene	11.75	105	147597	9.89	ppb		98
91)	4-Chlorotoluene	11.76	91	138129	9.64	ppb		95
92)	Tert-Butylbenzene	12.11	119	143519	9.65	ppb		98
93)	1,2,4-Trimethylbenzene	12.16	105	154779	9.77	ppb		100
94)	Sec-Butylbenzene	12.35	105	162581	9.91	ppb		98
95)	p-Isopropyltoluene	12.51	119	139385	9.54	ppb		100
96)	Benzyl Chloride	12.69	91	22918	4.48	ppb		96
97)	1,3-DCB	12.45	146	94297	9.67	ppb		98
98)	1,4-DCB	12.55	146	95481	9.35	ppb		98
99)	n-Butylbenzene	12.96	91	108996	8.96	ppb		98
100)	1,2-DCB	12.95	146	97248	9.65	ppb		98
101)	Hexachloroethane	13.25	201	28686	9.70	ppb		93
102)	1,2-Dibromo-3-chloropropan	13.80	157	11184	9.43	ppb		92
103)	1,2,4-Trichlorobenzene	14.73	180	53498	8.67	ppb		99
104)	Hexachlorobutadiene	14.93	225	30135	9.48	ppb	#	88
105)	Naphthalene	14.99	127	6439	8.81	ppb		96
106)	1,2,3-Trichlorobenzene	15.26	180	52961	9.45	ppb		99

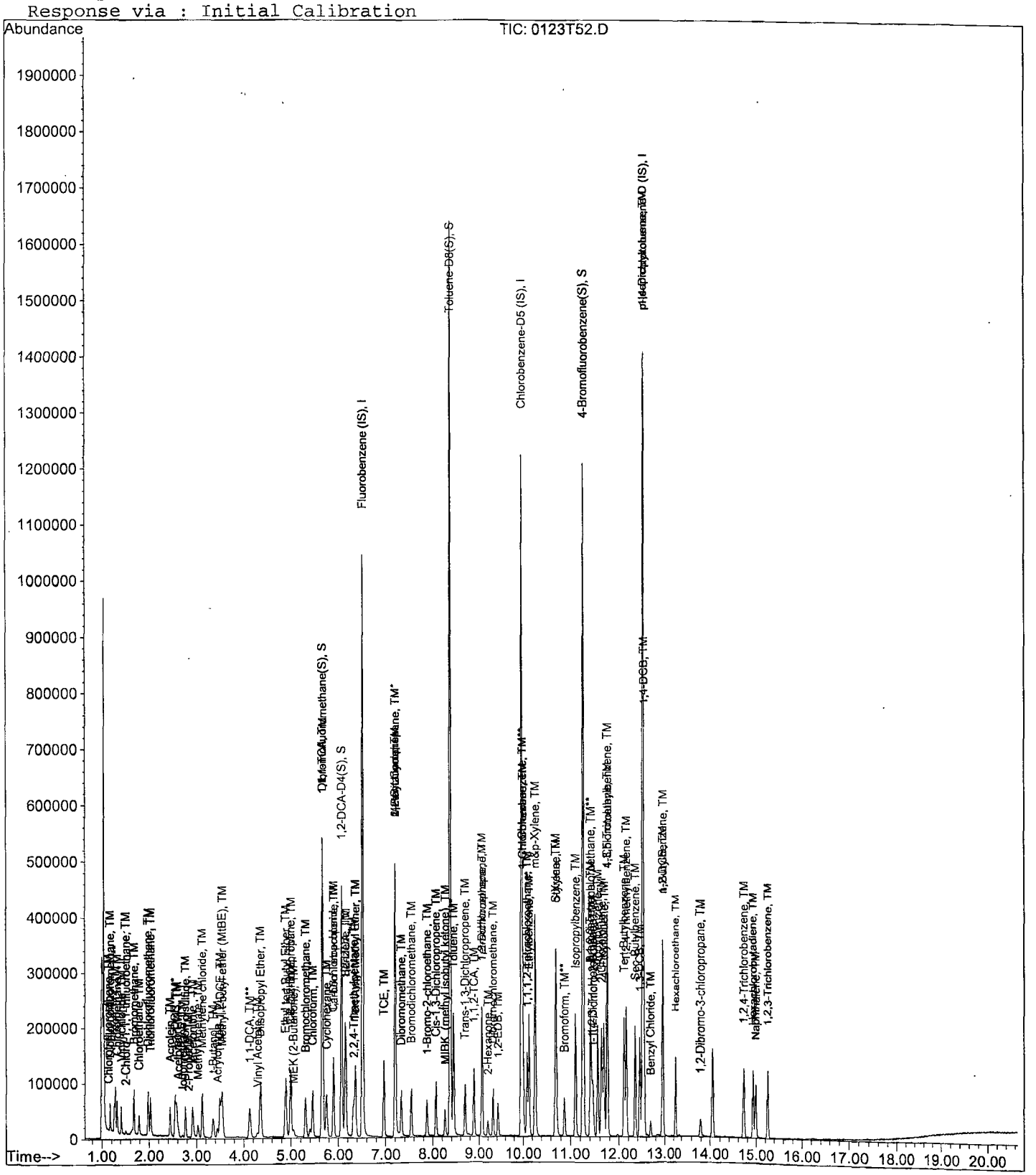
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0123t52.D Vial: 52
Acq On : 24 Jan 20 8:43 Operator:
Sample : Ending CCV 10ug/L 1/23/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 10:03 2020 Quant Results File: T0121W.RES

Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS
VOLATILE ORGANIC COMPOUNDS

Form 7

Continuing Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Date Analyzed: 01/24/20
Matrix: Instrument: Thor
Initial Cal. Date: 01/21/20
Data File: 0124T05.D

		Compound	MEAN	CCRF	%D		%Drift	
1	I	Fluorobenzene (IS)	ISTD			I		
2	TM	Dichlorodifluoromethane	0.0741	0.0606	18	TM		
3	TM	Freon 114	0.0777	0.0681	12	TM		
4	TM**L	Chloromethane	0.1164	0.0935	20	TM**L	8.0	
5	TM*	Vinyl chloride	0.0879	0.0743	15	TM*		
6	TML	Bromomethane	0.0976	0.0619	37	TML	19	
7	TML	Chloroethane	0.0684	0.0528	23	TML	10	
8	TM	Dichlorofluoromethane	0.1693	0.1614	4.6	TM		
9	TM	Trichlorofluoromethane	0.1248	0.1206	3.4	TM		
10	TM	1,2 Dichlorotrifluoroethane	0.0000	0.0005	0.00	TM		
11	TM	Acrolein	0.0103	0.0093	10	TM		
12	TML	Acetone	0.0219	0.0203	7.5	TML	16	
13	TM	Freon-113	0.0685	0.0691	0.76	TM		
14	TM*	1,1-DCE	0.1113	0.1019	8.5	TM*		
15	TM	2-Propanol	0.0056	0.0000	99	TM		*nt
16	TM	Acetonitrile	0.0030	0.0031	0.91	TM		
17	TM	t-Butanol	0.0037	0.0042	11	TM		
18	TM	Methyl Acetate	0.0790	0.0757	4.1	TM		
19	TMQ	Iodomethane	0.0411	0.0319	22	TMQ	26	*nt
20	TM	Acrylonitrile	0.0302	0.0327	8.4	TM		
21	TM	Methylene chloride	0.1230	0.1222	0.68	TM		
22	TM	Carbon disulfide	0.2169	0.1794	17	TM		
23	TM	Methyl t-butyl ether (MtBE)	0.2728	0.2612	4.3	TM		
24	TM	Trans-1,2-DCE	0.1167	0.1057	9.5	TM		
25	TM	Hexane	0.0000	0.0001	0.00	TM		
26	TM	Diisopropyl Ether	0.2675	0.2694	0.72	TM		
27	TM**	1,1-DCA	0.1588	0.1559	1.8	TM**		
28	TM	Vinyl Acetate	0.0538	0.0647	20	TM		
29	TM	Ethyl tert Butyl Ether	0.2738	0.2691	1.7	TM		
30	TML	MEK (2-Butanone)	0.0524	0.0448	14	TML	1.8	
31	TM	Cis-1,2-DCE	0.1488	0.1472	1.1	TM		
32	TM	2,2-Dichloropropane	0.1318	0.1353	2.7	TM		
33	TM	2-Methylpentane	0.0000	0.0001	0.00	TM		
34	TM	3-Methylpentane	0.0000	0.0571	0.00	TM		
35	TM*	Chloroform	0.1865	0.1832	1.7	TM*		
36	TM	Bromochloromethane	0.0818	0.0833	1.9	TM		
37	SL	Dibromofluoromethane(S)	0.3715	0.3104	16	SL	4.6	
38	TM	1,1,1-TCA	0.1477	0.1472	0.40	TM		
39	TM	Cyclohexane	0.1012	0.0939	7.3	TM		
40	TM	1,1-Dichloropropene	0.1077	0.1057	1.8	TM		
		Average			10.5			

VOLATILE ORGANIC ANALYSIS
VOLATILE ORGANIC COMPOUNDS

Form 7

Continuing Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Date Analyzed: 01/24/20
Matrix: 0 Instrument: Thor
Cal. Date: 01/21/20
Data File: 0124T05.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	2,2,4-Trimethylpentane	0.1955	0.1987	1.6	TM	
42	SL	1,2-DCA-D4(S)	0.3991	0.3360	16	SL	3.0
43	TM	Carbon Tetrachloride	0.1255	0.1253	0.15	TM	
44	TM	Tert Amyl Methyl Ether	0.2682	0.2658	0.92	TM	
45	TM	Methylcyclopentane	0.0000	0.0177	0.00	TM	
46	TM	1,2-DCA	0.1541	0.1500	2.7	TM	
47	TM	Benzene	0.3817	0.3747	1.8	TM	
48	TM	TCE	0.1123	0.1097	2.4	TM	
49	TM	2-Pentanone	0.0708	0.0736	4.0	TM	
50	TM*	1,2-Dichloropropane	0.0984	0.1004	2.0	TM*	
51	TM	Bromodichloromethane	0.1415	0.1450	2.4	TM	
52	TM	Methyl Cyclohexane	0.1097	0.1056	3.7	TM	
53	TM	Dibromomethane	0.0914	0.0898	1.8	TM	
54	TM	MIBK (methyl isobutyl ketone)	0.0901	0.0886	1.6	TM	
55	TM	1-Bromo-2-chloroethane	0.0717	0.0768	7.1	TM	
56	TMQ	2-Chloroethyl vinyl ether	0.0036	0.0028	21	TMQ	18
57	TM	Cis-1,3-Dichloropropene	0.1535	0.1601	4.2	TM	
58	TM*	Toluene	0.4463	0.4417	1.0	TM*	
59	TM	Trans-1,3-Dichloropropene	0.1434	0.1493	4.1	TM	
60	TM	1,1,2-TCA	0.1009	0.1021	1.1	TM	
61	TML	2-Hexanone	0.0536	0.0555	3.5	TML	2.5
62	I	Chlorobenzene-D5 (IS)	ISTD			I	
63	SL	Toluene-D8(S)	1.712	1.505	12	SL	1.7
64	TM	1,2-EDB	0.1323	0.1383	4.5	TM	
65	TM	Tetrachloroethene	0.1511	0.1585	4.9	TM	
66	TML	1-Chlorohexane	0.1322	0.1180	11	TML	1.8
67	TM	1,1,1,2-Tetrachloroethane	0.1479	0.1561	5.5	TM	
68	TM	m&p-Xylene	0.4424	0.4515	2.1	TM	
69	TM	o-Xylene	0.4709	0.4839	2.8	TM	
70	TML	Styrene	0.3461	0.3524	1.8	TML	6.3
71	SL	4-Bromofluorobenzene(S)	0.6137	0.5311	13	SL	5.1
72	TM	1,3-Dichloropropane	0.2046	0.2206	7.8	TM	
73	TM	Dibromochloromethane	0.1536	0.1654	7.6	TM	
74	TM**	Chlorobenzene	0.3911	0.3959	1.2	TM**	
75	TM*	Ethylbenzene	0.5856	0.5919	1.1	TM*	
76	TM**	Bromoform	0.1192	0.1238	3.8	TM**	
77	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
78	TM	Isopropylbenzene	0.9915	1.055	6.4	TM	
79	TM**	1,1,2,2-Tetrachloroethane	0.3158	0.3601	14	TM**	
80	TM	1,2,3-Trichloropropane	0.1065	0.1164	9.3	TM	
		Average			5.0		

VOLATILE ORGANIC ANALYSIS
VOLATILE ORGANIC COMPOUNDS

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 01/24/20
Instrument: Thor
Cal. Date: 01/21/20
Data File: 0124T05.D

		Compound	MEAN	CCRF	%D		%Drift
81	TM	t-1,4-Dichloro-2-Butene	0.0549	0.0647	18	TM	
82	TM	Bromobenzene	0.5411	0.5733	6.0	TM	
83	TM	n-Propylbenzene	1.078	1.124	4.2	TM	
84	TM	4-Ethyltoluene	0.9292	0.9554	2.8	TM	
85	TM	2-Chlorotoluene	0.8284	0.8747	5.6	TM	
86	TM	1,3,5-Trimethylbenzene	0.8683	0.9266	6.7	TM	
87	TM	4-Chlorotoluene	0.8334	0.8860	6.3	TM	
88	TM	Tert-Butylbenzene	0.8653	0.8810	1.8	TM	
89	TM	1,2,4-Trimethylbenzene	0.9216	0.9567	3.8	TM	
90	TM	Sec-Butylbenzene	0.9547	1.006	5.4	TM	
91	TM	p-Isopropyltoluene	0.8496	0.9125	7.4	TM	
92	TM	Benzyl Chloride	0.2976	0.3176	6.7	TM	
93	TM	1,3-DCB	0.5671	0.6087	7.3	TM	
94	TM	1,4-DCB	0.5943	0.6021	1.3	TM	
95	TM	n-Butylbenzene	0.7079	0.7960	12	TM	
96	TM	1,2-DCB	0.5862	0.6073	3.6	TM	
97	TML	Hexachloroethane	0.1600	0.1750	9.4	TML	1.6
98	TML	1,2-Dibromo-3-chloropropane	0.0608	0.0742	22	TML	6.4
99	TM	1,2,4-Trichlorobenzene	0.3588	0.4017	12	TM	
100	TM	Hexachlorobutadiene	0.1849	0.2133	15	TM	
101	TML	Naphthalene	0.0448	0.0519	16	TML	15
102	TM	1,2,3-Trichlorobenzene	0.3259	0.3853	18	TM	
103							
104							
105							
106							
107							
108							
109							
110							
111							
112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			8.7		

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0124T05.D Vial: 5
Acq On : 24 Jan 20 12:26 Operator:
Sample : 200124A CCV/LCS 10ug/L Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 13:05 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	1041843	25.0000 ppb	0.00
66) Chlorobenzene-D5 (IS)	9.96	117	814650	25.0000 ppb	0.00
81) 1,4-Dichlorobenzene-D (IS)	12.52	152	427679	25.0000 ppb	0.00
System Monitoring Compounds					
41) Dibromofluoromethane(S)	5.66	111	323395	23.8532 ppb	0.00
Spiked Amount 25.000			Recovery =	95.412%	
46) 1,2-DCA-D4(S)	6.07	65	350095	24.2603 ppb	0.00
Spiked Amount 25.000			Recovery =	97.040%	
67) Toluene-D8(S)	8.37	98	1225811	25.4311 ppb	0.00
Spiked Amount 25.000			Recovery =	101.724%	
75) 4-Bromofluorobenzene(S)	11.25	95	432679	23.7130 ppb	0.00
Spiked Amount 25.000			Recovery =	94.852%	
Target Compounds					Qvalue
3) Dichlorodifluoromethane	1.17	85	25256	8.1738 ppb	96
4) Freon 114	1.28	85	28362	8.7555 ppb	98
5) Chloromethane	1.32	50	38961	9.1987 ppb	93
6) Vinyl chloride	1.41	62	30969	8.4518 ppb	100
8) Bromomethane	1.68	96	25816	8.0728 ppb	100
9) Chloroethane	1.78	64	21993	8.9792 ppb	92
10) Dichlorofluoromethane	1.98	67	67282	9.5367 ppb	100
11) Trichlorofluoromethane	2.03	101	50256	9.6621 ppb	95
14) Acrolein	2.44	56	48350	112.3307 ppb	98
15) Acetone	2.62	43	8445	11.5879 ppb	96
16) Freon-113	2.58	101	28777	10.0762 ppb	90
17) 1,1-DCE	2.55	61	42459	9.1534 ppb	95
18) 2-Propanol	2.85	45	165	0.7073 ppb #	1
19) Acetonitrile	2.92	40	15898	126.1391 ppb	82
20) t-Butanol	3.36	59	21648	138.5448 ppb	98
21) Methyl Acetate	3.03	43	31551	9.5852 ppb	94
22) Iodomethane	2.70	142	13314	7.3663 ppb	89
23) Acrylonitrile	3.44	52	13635	10.8386 ppb	89
24) Methylene chloride	3.12	49	50927	9.9321 ppb	95
25) Carbon disulfide	2.77	76	74762	8.2711 ppb	99
26) Methyl t-butyl ether (MtBE	3.55	73	108833	9.5717 ppb	95
27) Trans-1,2-DCE	3.50	61	44031	9.0540 ppb	95
29) Diisopropyl Ether	4.35	45	112265	10.0720 ppb	98
31) 1,1-DCA	4.13	63	64959	9.8154 ppb	97
32) Vinyl Acetate	4.29	43	26968	12.0232 ppb	97
33) Ethyl tert Butyl Ether	4.89	59	112123	9.8258 ppb	100
34) MEK (2-Butanone)	5.05	43	18678	10.1759 ppb	98
35) Cis-1,2-DCE	4.99	61	61343	9.8930 ppb	98
36) 2,2-Dichloropropane	4.99	77	56400	10.2716 ppb	97
39) Chloroform	5.46	83	76364	9.8258 ppb	95
40) Bromochloromethane	5.31	49	34709	10.1851 ppb	88
42) 1,1,1-TCA	5.68	97	61324	9.9604 ppb	99
43) Cyclohexane	5.75	56	39126	9.2736 ppb	98
44) 1,1-Dichloropropene	5.90	75	44044	9.8172 ppb	98
45) 2,2,4-Trimethylpentane	6.32	57	82809	10.1634 ppb	100
47) Carbon Tetrachloride	5.90	117	52212	9.9845 ppb	96
48) Tert Amyl Methyl Ether	6.36	73	110753	9.9080 ppb	96
50) 1,2-DCA	6.17	62	62528	9.7350 ppb	97
51) Benzene	6.15	78	156142	9.8153 ppb	99

(#) = qualifier out of range (m) = manual integration

Data File : M:\THOR\DATA\T200121\0124T05.D Vial: 5
Acq On : 24 Jan 20 12:26 Operator:
Sample : 200124A CCV/LCS 10ug/L Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 13:05 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
52)	TCE	6.96	130	45700	9.7610	ppb	96
53)	2-Pentanone	7.20	43	383196	129.9579	ppb	100
54)	1,2-Dichloropropane	7.21	63	41835	10.2031	ppb	99
55)	Bromodichloromethane	7.54	83	60412	10.2421	ppb	99
56)	Methyl Cyclohexane	7.20	83	44000	9.6281	ppb	97
57)	Dibromomethane	7.33	174	37403	9.8245	ppb	89
58)	MIBK (methyl isobutyl ket	8.26	43	36928	9.8372	ppb	94
59)	1-Bromo-2-chloroethane	7.88	63	32016	10.7100	ppb	97
60)	2-Chloroethyl vinyl ether	7.93	106	5886	41.0963	ppb	99
61)	Cis-1,3-Dichloropropene	8.07	75	66700	10.4245	ppb	95
62)	Toluene	8.45	91	184084	9.8967	ppb	97
63)	Trans-1,3-Dichloropropene	8.69	75	62229	10.4142	ppb	95
64)	1,1,2-TCA	8.89	97	42541	10.1145	ppb	90
65)	2-Hexanone	9.20	43	23115	9.7517	ppb	92
68)	1,2-EDB	9.43	107	45072	10.4535	ppb	99
69)	Tetrachloroethene	9.06	166	51655	10.4925	ppb	99
70)	1-Chlorohexane	10.00	91	38454	9.8185	ppb	97
71)	1,1,1,2-Tetrachloroethane	10.09	131	50877	10.5547	ppb	95
72)	m&p-Xylene	10.26	91	294249	20.4111	ppb	98
73)	o-Xylene	10.69	91	157688	10.2769	ppb	98
74)	Styrene	10.70	104	114845	9.3652	ppb	99
76)	1,3-Dichloropropane	9.07	76	71876	10.7799	ppb	97
77)	Dibromochloromethane	9.31	129	53887	10.7645	ppb	99
78)	Chlorobenzene	9.99	112	129003	10.1213	ppb	99
79)	Ethylbenzene	10.13	91	192878	10.1069	ppb	99
80)	Bromoform	10.88	173	40340	10.3815	ppb	95
82)	Isopropylbenzene	11.11	105	180440	10.6379	ppb	97
83)	1,1,2,2-Tetrachloroethane	11.40	83	61598	11.4027	ppb	96
84)	1,2,3-Trichloropropane	11.45	110	19909	10.9255	ppb	94
85)	t-1,4-Dichloro-2-Butene	11.47	53	11075	11.8016	ppb	97
86)	Bromobenzene	11.41	77	98082	10.5951	ppb	99
87)	n-Propylbenzene	11.56	91	192305	10.4250	ppb	96
88)	4-Ethyltoluene	11.68	105	163447	10.2821	ppb	98
89)	2-Chlorotoluene	11.64	91	149630	10.5582	ppb	99
90)	1,3,5-Trimethylbenzene	11.75	105	158507	10.6711	ppb	99
91)	4-Chlorotoluene	11.76	91	151561	10.6310	ppb	100
92)	Tert-Butylbenzene	12.11	119	150717	10.1811	ppb	100
93)	1,2,4-Trimethylbenzene	12.16	105	163666	10.3813	ppb	99
94)	Sec-Butylbenzene	12.35	105	172179	10.5418	ppb	99
95)	p-Isopropyltoluene	12.51	119	156101	10.7403	ppb	100
96)	Benzyl Chloride	12.69	91	54330	10.6730	ppb	99
97)	1,3-DCB	12.45	146	104126	10.7330	ppb	99
98)	1,4-DCB	12.55	146	103010	10.1322	ppb	98
99)	n-Butylbenzene	12.96	91	136177	11.2445	ppb	100
100)	1,2-DCB	12.95	146	103894	10.3597	ppb	98
101)	Hexachloroethane	13.25	201	29943	10.1621	ppb	94
102)	1,2-Dibromo-3-chloropropan	13.79	157	12693	10.6357	ppb	99
103)	1,2,4-Trichlorobenzene	14.72	180	68721	11.1956	ppb	96
104)	Hexachlorobutadiene	14.93	225	36493	11.5395	ppb	98
105)	Naphthalene	14.99	127	8884	11.4938	ppb	80
106)	1,2,3-Trichlorobenzene	15.26	180	65914	11.8226	ppb	95

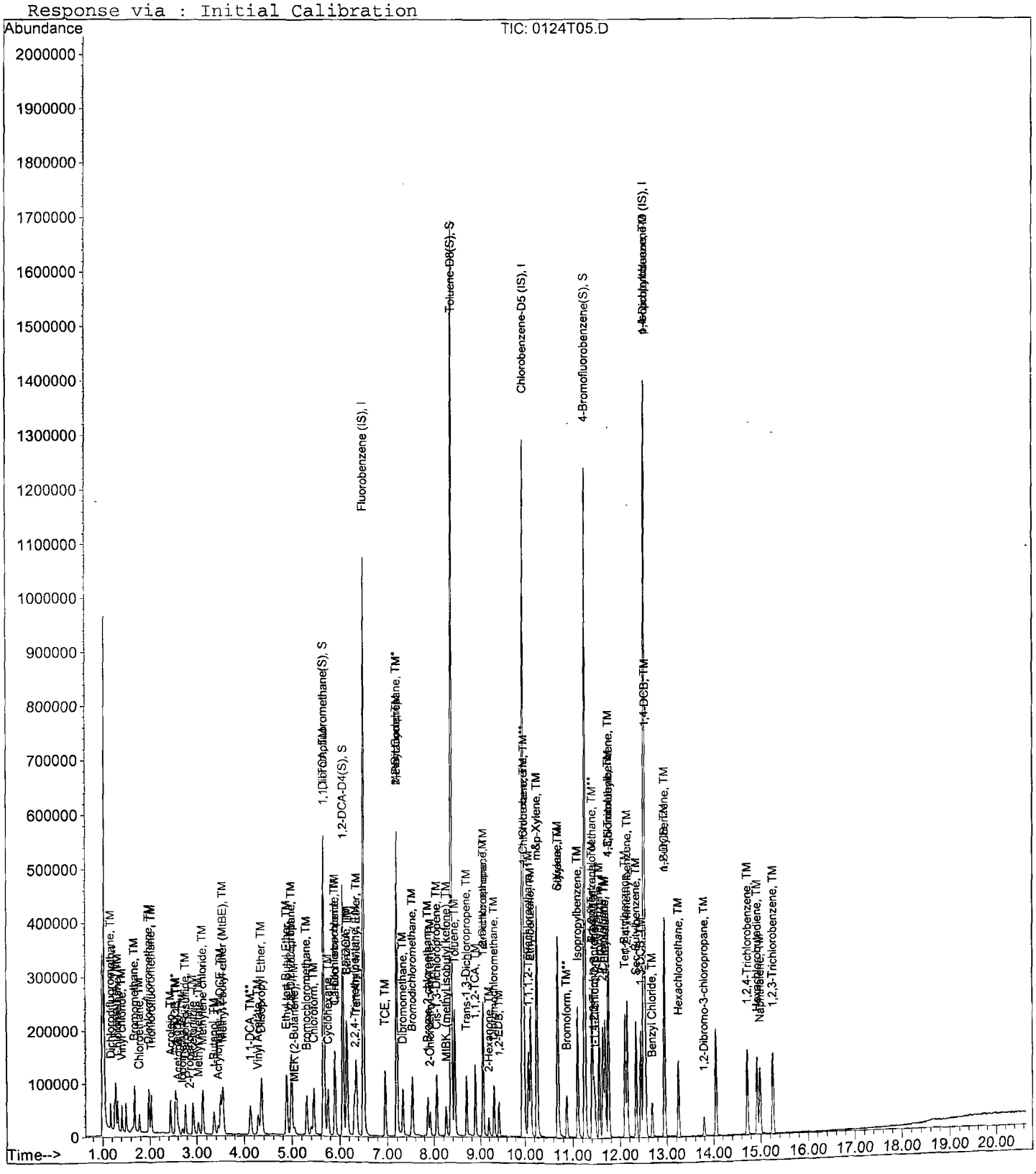
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0124T05.D Vial: 5
Acq On : 24 Jan 20 12:26 Operator:
Sample : 200124A CCV/LCS 10ug/L Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 13:05 2020 Quant Results File: T0121W.RES

Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration



0124T05.D T0121W.M Mon Jan 27 15:00:08 2020 Page 3

VOLATILE ORGANIC ANALYSIS
VOLATILE ORGANIC COMPOUNDS

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Date Analyzed: 01/24/20
Matrix: Instrument: Thor
Initial Cal. Date: 01/21/20
Data File: 0124T28.D

		Compound	MEAN	CCRF	%D		%Drift	
1	I	Fluorobenzene (IS)	ISTD			I		
2	TM	Dichlorodifluoromethane	0.0741	0.0582	22	TM		
3	TM	Freon 114	0.0777	0.0576	26	TM		
4	TM**L	Chloromethane	0.1164	0.0906	22	TM**L	11	
5	TM*	Vinyl chloride	0.0879	0.0747	15	TM*		
6	TM	2-Chloro-1,1,1-trifluoroethane	0.1095	0.0000	100	TM		*nt
7	TML	Bromomethane	0.0976	0.0713	27	TML	5.5	
8	TML	Chloroethane	0.0684	0.0550	20	TML	6.3	
9	TM	Dichlorofluoromethane	0.1693	0.1631	3.6	TM		
10	TM	Trichlorofluoromethane	0.1248	0.1134	9.2	TM		
11	TM	Diethyl ether	0.0000	0.0001	0.00	TM		
12	TM	1,2 Dichlorotrifluoroethane	0.0000	0.0001	0.00	TM		
13	TM	Acrolein	0.0103	0.0083	20	TM		
14	TML	Acetone	0.0219	0.0181	17	TML	0.22	
15	TM	Freon-113	0.0685	0.0632	7.8	TM		
16	TM*	1,1-DCE	0.1113	0.1003	9.9	TM*		
17	TM	2-Propanol	0.0056	0.0001	99	TM		*nt
18	TM	Acetonitrile	0.0030	0.0032	7.4	TM		
19	TM	t-Butanol	0.0037	0.0037	1.5	TM		
20	TM	Methyl Acetate	0.0790	0.0714	9.7	TM		
21	TMQ	Iodomethane	0.0411	0.0193	53	TMQ	46	
22	TM	Acrylonitrile	0.0302	0.0292	3.4	TM		
23	TM	Methylene chloride	0.1230	0.1186	3.6	TM		
24	TM	Carbon disulfide	0.2169	0.1774	18	TM		
25	TM	Methyl t-butyl ether (MtBE)	0.2728	0.2559	6.2	TM		
26	TM	Trans-1,2-DCE	0.1167	0.1056	9.5	TM		
27	TM	Hexane	0.0000	0.0005	0.00	TM		
28	TM	Diisopropyl Ether	0.2675	0.2527	5.5	TM		
29	TM**	1,1-DCA	0.1588	0.1514	4.7	TM**		
30	TM	Vinyl Acetate	0.0538	0.0320	40	TM		
31	TM	Ethyl tert Butyl Ether	0.2738	0.2533	7.5	TM		
32	TML	MEK (2-Butanone)	0.0524	0.0411	22	TML	6.6	
33	TM	Cis-1,2-DCE	0.1488	0.1375	7.6	TM		
34	TM	2,2-Dichloropropane	0.1318	0.1015	23	TM		
35	TM	2-Methylpentane	0.0000	0.0001	0.00	TM		
36	TM	3-Methylpentane	0.0000	0.0550	0.00	TM		
37	TM*	Chloroform	0.1865	0.1772	5.0	TM*		
38	TM	Bromochloromethane	0.0818	0.0795	2.8	TM		
39	SL	Dibromofluoromethane(S)	0.3715	0.3253	12	SL	0.89	
40	TM	1,1,1-TCA	0.1477	0.1426	3.5	TM		
		Average			16.5			

VOLATILE ORGANIC ANALYSIS
VOLATILE ORGANIC COMPOUNDS

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 01/24/20
Instrument: Thor
Cal. Date: 01/21/20
Data File: 0124T28.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	Cyclohexane	0.1012	0.0874	14	TM	
42	TM	1,1-Dichloropropene	0.1077	0.1008	6.4	TM	
43	TM	2,2,4-Trimethylpentane	0.1955	0.1542	21	TM	
44	SL	1,2-DCA-D4(S)	0.3991	0.3424	14	SL	0.71
45	TM	Carbon Tetrachloride	0.1255	0.1217	3.0	TM	
46	TM	Tert Amyl Methyl Ether	0.2682	0.2540	5.3	TM	
47	TM	Methylcyclopentane	0.0000	0.0178	0.00	TM	
48	TM	1,2-DCA	0.1541	0.1437	6.8	TM	
49	TM	Benzene	0.3817	0.3655	4.3	TM	
50	TM	TCE	0.1123	0.1140	1.5	TM	
51	TM	2-Pentanone	0.0708	0.0699	1.2	TM	
52	TM*	1,2-Dichloropropane	0.0984	0.0993	0.93	TM*	
53	TM	Bromodichloromethane	0.1415	0.1435	1.4	TM	
54	TM	Methyl Cyclohexane	0.1097	0.0962	12	TM	
55	TM	Dibromomethane	0.0914	0.0883	3.4	TM	
56	TM	MIBK (methyl isobutyl ketone)	0.0901	0.0852	5.4	TM	
57	TM	1-Bromo-2-chloroethane	0.0717	0.0719	0.30	TM	
58	TMQ	2-Chloroethyl vinyl ether	0.0036	0.0022	38	TMQ	31
59	TM	Cis-1,3-Dichloropropene	0.1535	0.1428	7.0	TM	
60	TM*	Toluene	0.4463	0.4321	3.2	TM*	
61	TM	Trans-1,3-Dichloropropene	0.1434	0.1299	9.4	TM	
62	TM	1,1,2-TCA	0.1009	0.1057	4.8	TM	
63	TML	2-Hexanone	0.0536	0.0528	1.5	TML	6.2
64	I	Chlorobenzene-D5 (IS)	ISTD			I	
65	SL	Toluene-D8(S)	1.712	1.509	12	SL	2.0
66	TM	1,2-EDB	0.1323	0.1309	1.1	TM	
67	TM	Tetrachloroethene	0.1511	0.1418	6.1	TM	
68	TML	1-Chlorohexane	0.1322	0.1083	18	TML	9.0
69	TM	1,1,1,2-Tetrachloroethane	0.1479	0.1447	2.2	TM	
70	TM	m&p-Xylene	0.4424	0.4215	4.7	TM	
71	TM	o-Xylene	0.4709	0.4499	4.5	TM	
72	TML	Styrene	0.3461	0.3351	3.2	TML	10
73	SL	4-Bromofluorobenzene(S)	0.6137	0.5501	10	SL	1.5
74	TM	1,3-Dichloropropane	0.2046	0.2077	1.5	TM	
75	TM	Dibromochloromethane	0.1536	0.1538	0.14	TM	
76	TM**	Chlorobenzene	0.3911	0.3778	3.4	TM**	
77	TM*	Ethylbenzene	0.5856	0.5615	4.1	TM*	
78	TM**	Bromoform	0.1192	0.1207	1.2	TM**	
79	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
80	TM	Isopropylbenzene	0.9915	0.9434	4.9	TM	
		Average			6.4		

VOLATILE ORGANIC ANALYSIS
VOLATILE ORGANIC COMPOUNDS

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Date Analyzed: 01/24/20
Matrix: 0 Instrument: Thor
Cal. Date: 01/21/20
Data File: 0124T28.D

		Compound	MEAN	CCRF	%D		%Drift
81	TM**	1,1,2,2-Tetrachloroethane	0.3158	0.2905	8.0	TM**	
82	TM	1,2,3-Trichloropropane	0.1065	0.1044	2.0	TM	
83	TM	t-1,4-Dichloro-2-Butene	0.0549	0.0514	6.3	TM	
84	TM	Bromobenzene	0.5411	0.5360	0.94	TM	
85	TM	n-Propylbenzene	1.078	1.029	4.5	TM	
86	TM	4-Ethyltoluene	0.9292	0.8725	6.1	TM	
87	TM	2-Chlorotoluene	0.8284	0.7761	6.3	TM	
88	TM	1,3,5-Trimethylbenzene	0.8683	0.8523	1.8	TM	
89	TM	4-Chlorotoluene	0.8334	0.8065	3.2	TM	
90	TM	Tert-Butylbenzene	0.8653	0.8123	6.1	TM	
91	TM	1,2,4-Trimethylbenzene	0.9216	0.8420	8.6	TM	
92	TM	Sec-Butylbenzene	0.9547	0.9142	4.2	TM	
93	TM	p-Isopropyltoluene	0.8496	0.8030	5.5	TM	
94	TM	Benzyl Chloride	0.2976	0.1986	33	TM	
95	TM	1,3-DCB	0.5671	0.5395	4.9	TM	
96	TM	1,4-DCB	0.5943	0.5496	7.5	TM	
97	TM	n-Butylbenzene	0.7079	0.6403	9.6	TM	
98	TM	1,2-DCB	0.5862	0.5591	4.6	TM	
99	TML	Hexachloroethane	0.1600	0.1652	3.3	TML	3.9
100	TML	1,2-Dibromo-3-chloropropane	0.0608	0.0696	15	TML	0.35
101	TM	1,2,4-Trichlorobenzene	0.3588	0.3190	11	TM	
102	TM	Hexachlorobutadiene	0.1849	0.1826	1.2	TM	
103	TML	Naphthalene	0.0448	0.0383	15	TML	10
104	TM	1,2,3-Trichlorobenzene	0.3259	0.2987	8.3	TM	
105							
106							
107							
108							
109							
110							
111							
112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			7.4		

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0124T28.D Vial: 28
Acq On : 24 Jan 20 23:18 Operator:
Sample : Ending CCV 10ug/L 1/24/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 6:36 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	986309	25.0000 ppb	0.00
66) Chlorobenzene-D5 (IS)	9.96	117	781288	25.0000 ppb	0.00
81) 1,4-Dichlorobenzene-D (IS)	12.52	152	431779	25.0000 ppb	0.00
System Monitoring Compounds					
41) Dibromofluoromethane(S)	5.66	111	320836	25.2217 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.888%	
46) 1,2-DCA-D4(S)	6.07	65	337755	24.8219 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.288%	
67) Toluene-D8(S)	8.37	98	1178614	25.5107 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.044%	
75) 4-Bromofluorobenzene(S)	11.25	95	429780	24.6332 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.532%	
Target Compounds					Qvalue
3) Dichlorodifluoromethane	1.17	85	22944	7.8436 ppb	93
4) Freon 114	1.28	85	22722	7.4093 ppb	97
5) Chloromethane	1.32	50	35761	8.8790 ppb	99
6) Vinyl chloride	1.41	62	29465	8.4941 ppb	99
7) 2-Chloro-1,1,1-trifluoroet	1.58	118	19	0.0044 ppb #	30
8) Bromomethane	1.68	96	28136	9.4494 ppb	95
9) Chloroethane	1.78	64	21695	9.3668 ppb	95
10) Dichlorofluoromethane	1.98	67	64359	9.6360 ppb	99
11) Trichlorofluoromethane	2.03	101	44721	9.0821 ppb	90
14) Acrolein	2.44	56	40933	100.4535 ppb	89
15) Acetone	2.62	43	7156	10.0224 ppb	89
16) Freon-113	2.58	101	24931	9.2211 ppb	96
17) 1,1-DCE	2.55	61	39555	9.0075 ppb	95
18) 2-Propanol	2.84	45	306	1.3855 ppb #	47
19) Acetonitrile	2.92	40	16011	134.1884 ppb	94
20) t-Butanol	3.36	59	18208	123.0903 ppb	99
21) Methyl Acetate	3.03	43	28152	9.0341 ppb	99
22) Iodomethane	2.70	142	7627	5.4319 ppb #	87
23) Acrylonitrile	3.45	52	11509	9.6638 ppb	96
24) Methylene chloride	3.12	49	46784	9.6379 ppb	97
25) Carbon disulfide	2.77	76	69982	8.1782 ppb	96
26) Methyl t-butyl ether (MtBE	3.55	73	100946	9.3779 ppb	93
27) Trans-1,2-DCE	3.50	61	41652	9.0470 ppb	98
29) Diisopropyl Ether	4.35	45	99684	9.4468 ppb	98
31) 1,1-DCA	4.13	63	59716	9.5312 ppb	95
32) Vinyl Acetate	4.29	43	12639	5.9522 ppb	98
33) Ethyl tert Butyl Ether	4.89	59	99951	9.2523 ppb	96
34) MEK (2-Butanone)	5.05	43	16229	9.3436 ppb	91
35) Cis-1,2-DCE	4.99	61	54260	9.2434 ppb	97
36) 2,2-Dichloropropane	4.99	77	40059	7.7063 ppb	94
39) Chloroform	5.46	83	69916	9.5027 ppb	96
40) Bromochloromethane	5.31	49	31355	9.7189 ppb	95
42) 1,1,1-TCA	5.68	97	56243	9.6495 ppb	99
43) Cyclohexane	5.75	56	34463	8.6283 ppb	96
44) 1,1-Dichloropropene	5.90	75	39762	9.3618 ppb	96
45) 2,2,4-Trimethylpentane	6.32	57	60831	7.8863 ppb	99
47) Carbon Tetrachloride	5.89	117	48018	9.6995 ppb	97
48) Tert Amyl Methyl Ether	6.36	73	100204	9.4690 ppb	95
50) 1,2-DCA	6.17	62	56694	9.3237 ppb	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0124T28.D Vial: 28
Acq On : 24 Jan 20 23:18 Operator:
Sample : Ending CCV 10ug/L 1/24/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 6:36 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

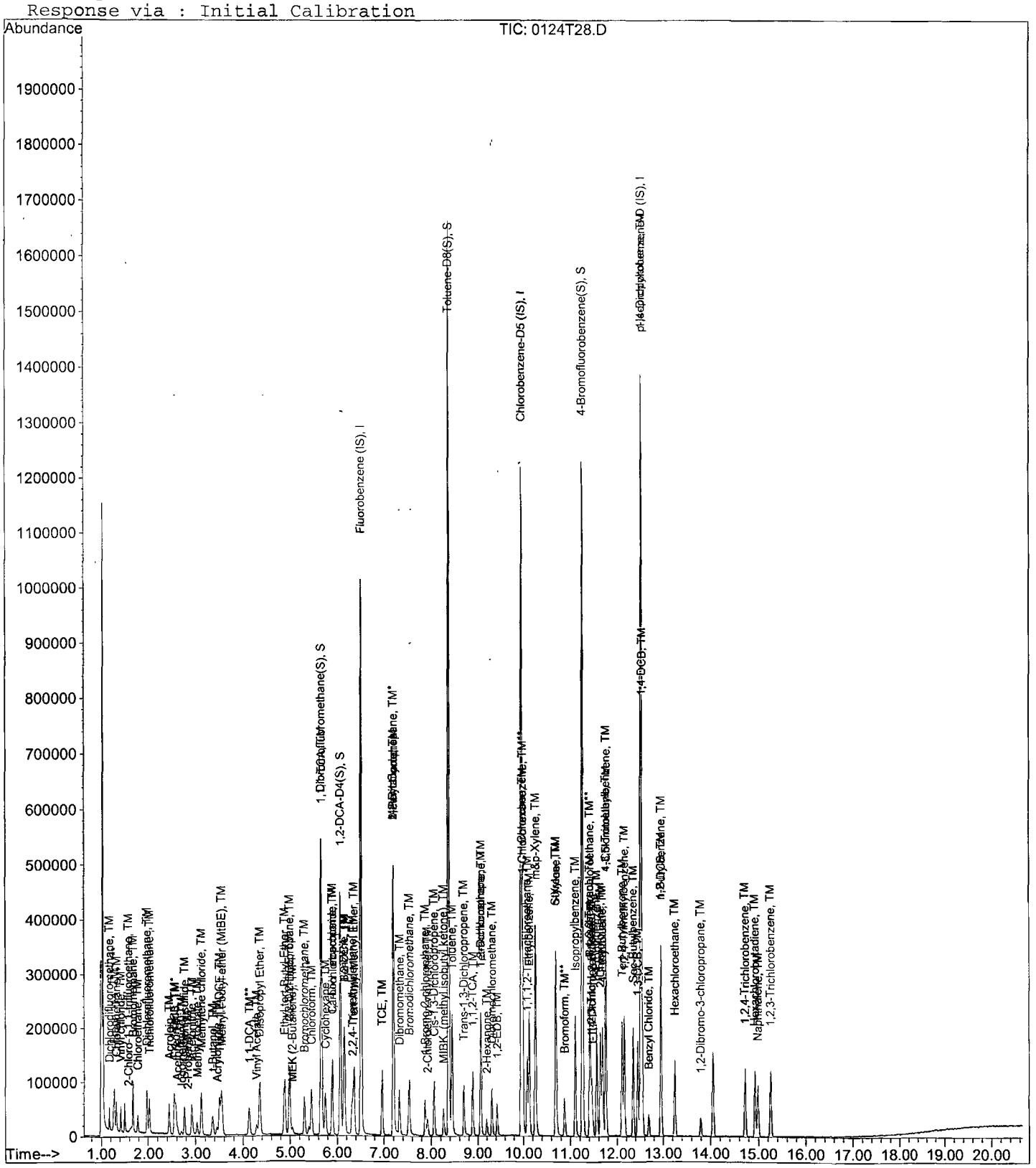
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
51)	Benzene	6.15	78	144191	9.5744	ppb		99
52)	TCE	6.96	130	44983	10.1488	ppb		96
53)	2-Pentanone	7.20	43	344714	123.4895	ppb		99
54)	1,2-Dichloropropane	7.21	63	39176	10.0926	ppb		99
55)	Bromodichloromethane	7.54	83	56605	10.1370	ppb		99
56)	Methyl Cyclohexane	7.20	83	37956	8.7731	ppb		99
57)	Dibromomethane	7.33	174	34823	9.6618	ppb		100
58)	MIBK (methyl isobutyl ket	8.26	43	33620	9.4602	ppb		93
59)	1-Bromo-2-chloroethane	7.88	63	28384	10.0296	ppb		93
60)	2-Chloroethyl vinyl ether	7.93	106	4344	34.4531	ppb	#	87
61)	Cis-1,3-Dichloropropene	8.07	75	56331	9.2996	ppb		98
62)	Toluene	8.45	91	170488	9.6818	ppb		99
63)	Trans-1,3-Dichloropropene	8.69	75	51261	9.0617	ppb		98
64)	1,1,2-TCA	8.89	97	41719	10.4776	ppb		99
65)	2-Hexanone	9.20	43	20830	9.3807	ppb		98
68)	1,2-EDB	9.43	107	40894	9.8895	ppb		100
69)	Tetrachloroethene	9.06	166	44313	9.3855	ppb		95
70)	1-Chlorohexane	10.00	91	33838	9.1008	ppb		92
71)	1,1,1,2-Tetrachloroethane	10.09	131	45207	9.7789	ppb		95
72)	m&p-Xylene	10.27	91	263440	19.0543	ppb		98
73)	o-Xylene	10.69	91	140589	9.5538	ppb		97
74)	Styrene	10.70	104	104721	8.9718	ppb		99
76)	1,3-Dichloropropane	9.07	76	64911	10.1510	ppb		95
77)	Dibromochloromethane	9.31	129	48076	10.0138	ppb		99
78)	Chlorobenzene	9.99	112	118056	9.6579	ppb		98
79)	Ethylbenzene	10.13	91	175477	9.5877	ppb		100
80)	Bromoform	10.88	173	37714	10.1201	ppb		97
82)	Isopropylbenzene	11.11	105	162929	9.5144	ppb		99
83)	1,1,2,2-Tetrachloroethane	11.41	83	50169	9.1989	ppb		93
84)	1,2,3-Trichloropropane	11.45	110	18026	9.7982	ppb		93
85)	t-1,4-Dichloro-2-Butene	11.47	53	8875	9.3675	ppb		96
86)	Bromobenzene	11.41	77	92579	9.9056	ppb		99
87)	n-Propylbenzene	11.56	91	177764	9.5452	ppb		99
88)	4-Ethyltoluene	11.68	105	150690	9.3895	ppb		99
89)	2-Chlorotoluene	11.64	91	134047	9.3688	ppb		100
90)	1,3,5-Trimethylbenzene	11.75	105	147200	9.8158	ppb		98
91)	4-Chlorotoluene	11.76	91	139296	9.6780	ppb		100
92)	Tert-Butylbenzene	12.11	119	140292	9.3869	ppb		99
93)	1,2,4-Trimethylbenzene	12.16	105	145418	9.1362	ppb		99
94)	Sec-Butylbenzene	12.35	105	157899	9.5757	ppb		99
95)	p-Isopropyltoluene	12.51	119	138692	9.4519	ppb		100
96)	Benzyl Chloride	12.69	91	34292	6.6726	ppb		98
97)	1,3-DCB	12.45	146	93183	9.5138	ppb		100
98)	1,4-DCB	12.55	146	94920	9.2478	ppb		100
99)	n-Butylbenzene	12.96	91	110587	9.0447	ppb		100
100)	1,2-DCB	12.95	146	96560	9.5370	ppb		96
101)	Hexachloroethane	13.25	201	28538	9.6134	ppb		93
102)	1,2-Dibromo-3-chloropropan	13.79	157	12029	10.0349	ppb		95
103)	1,2,4-Trichlorobenzene	14.73	180	55098	8.8910	ppb		100
104)	Hexachlorobutadiene	14.93	225	31529	9.8751	ppb		95
105)	Naphthalene	14.99	127	6617	8.9727	ppb		85
106)	1,2,3-Trichlorobenzene	15.26	180	51590	9.1655	ppb		99

(#) = qualifier out of range (m) = manual integration

Data File : M:\THOR\DATA\T200121\0124T28.D Vial: 28
Acq On : 24 Jan 20 23:18 Operator:
Sample : Ending CCV 10ug/L 1/24/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 6:36 2020 Quant Results File: T0121W.RES

Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration



ORGANICS
Raw Data

Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T200121\0123T37.D Vial: 37
Acq On : 24 Jan 20 1:39 Operator:
Sample : BA06271W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 10:37 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	959713	25.0000 ppb	0.00
66) Chlorobenzene-D5 (IS)	9.96	117	769093	25.0000 ppb	0.00
81) 1,4-Dichlorobenzene-D (IS)	12.52	152	388409	25.0000 ppb	0.00
System Monitoring Compounds					
41) Dibromofluoromethane(S)	5.66	111	320184	25.9881 ppb	0.00
Spiked Amount 25.000			Recovery = 103.952%		
46) 1,2-DCA-D4(S)	6.07	65	339573	25.8194 ppb	0.00
Spiked Amount 25.000			Recovery = 103.276%		
67) Toluene-D8(S)	8.37	98	1148856	25.2047 ppb	0.00
Spiked Amount 25.000			Recovery = 100.820%		
75) 4-Bromofluorobenzene(S)	11.26	95	397077	22.9935 ppb	0.00
Spiked Amount 25.000			Recovery = 91.976%		

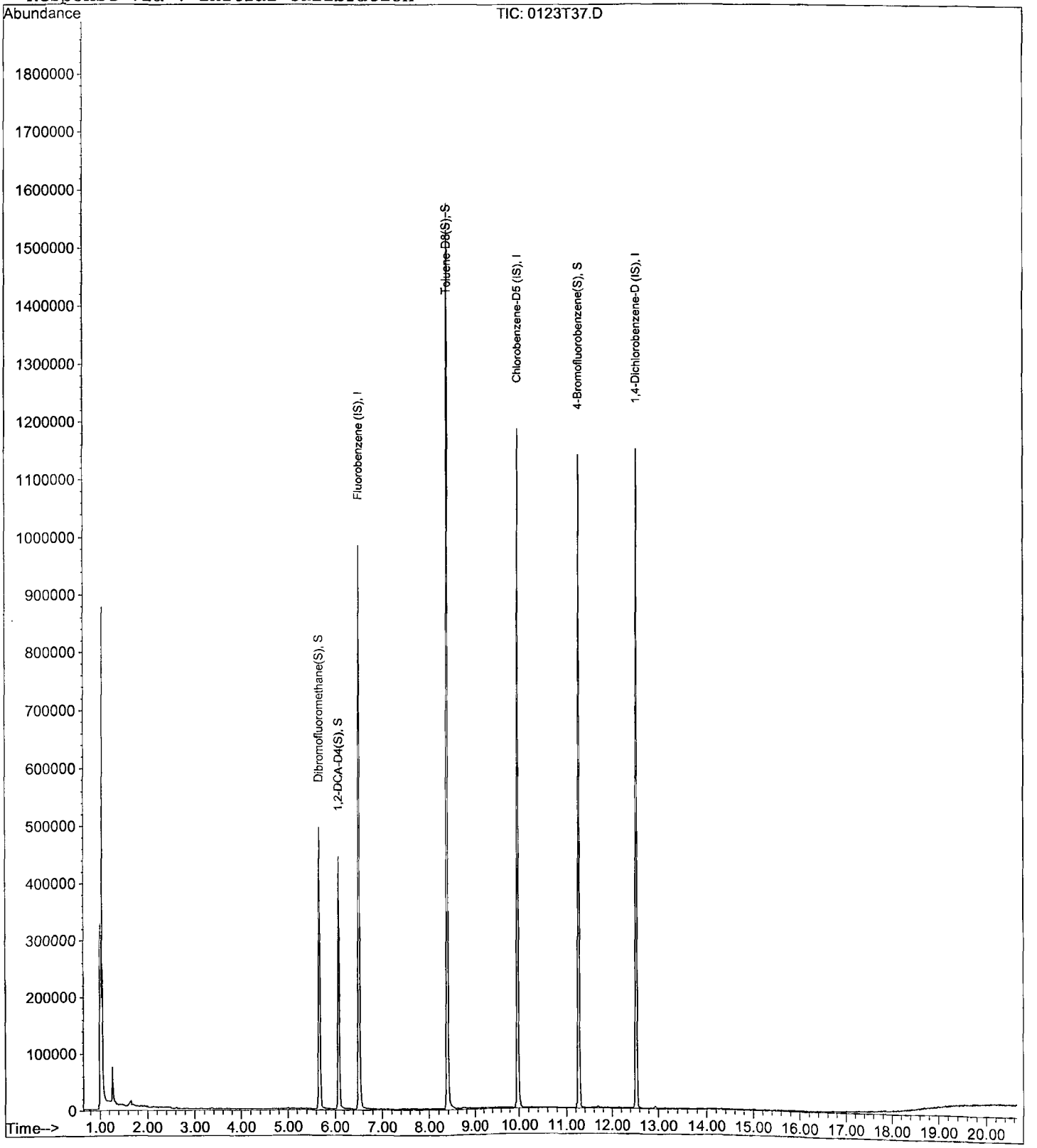
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Data File : M:\THOR\DATA\T200121\0123T37.D Vial: 37
Acq On : 24 Jan 20 1:39 Operator:
Sample : BA06271W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 10:37 2020 Quant Results File: T0121W.RES

Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T200121\0123T38.D Vial: 38
Acq On : 24 Jan 20 2:07 Operator:
Sample : BA06272W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 10:38 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	964709	25.0000 ppb	0.00
66) Chlorobenzene-D5 (IS)	9.96	117	763731	25.0000 ppb	0.00
81) 1,4-Dichlorobenzene-D (IS)	12.52	152	393845	25.0000 ppb	0.00
System Monitoring Compounds					
41) Dibromofluoromethane(S)	5.66	111	317335	25.5577 ppb	0.00
Spiked Amount 25.000			Recovery = 102.232%		
46) 1,2-DCA-D4(S)	6.07	65	338461	25.5578 ppb	0.00
Spiked Amount 25.000			Recovery = 102.232%		
67) Toluene-D8(S)	8.37	98	1135956	25.0721 ppb	0.00
Spiked Amount 25.000			Recovery = 100.288%		
75) 4-Bromofluorobenzene(S)	11.26	95	391930	22.8425 ppb	0.00
Spiked Amount 25.000			Recovery = 91.368%		

Target Compounds Qvalue

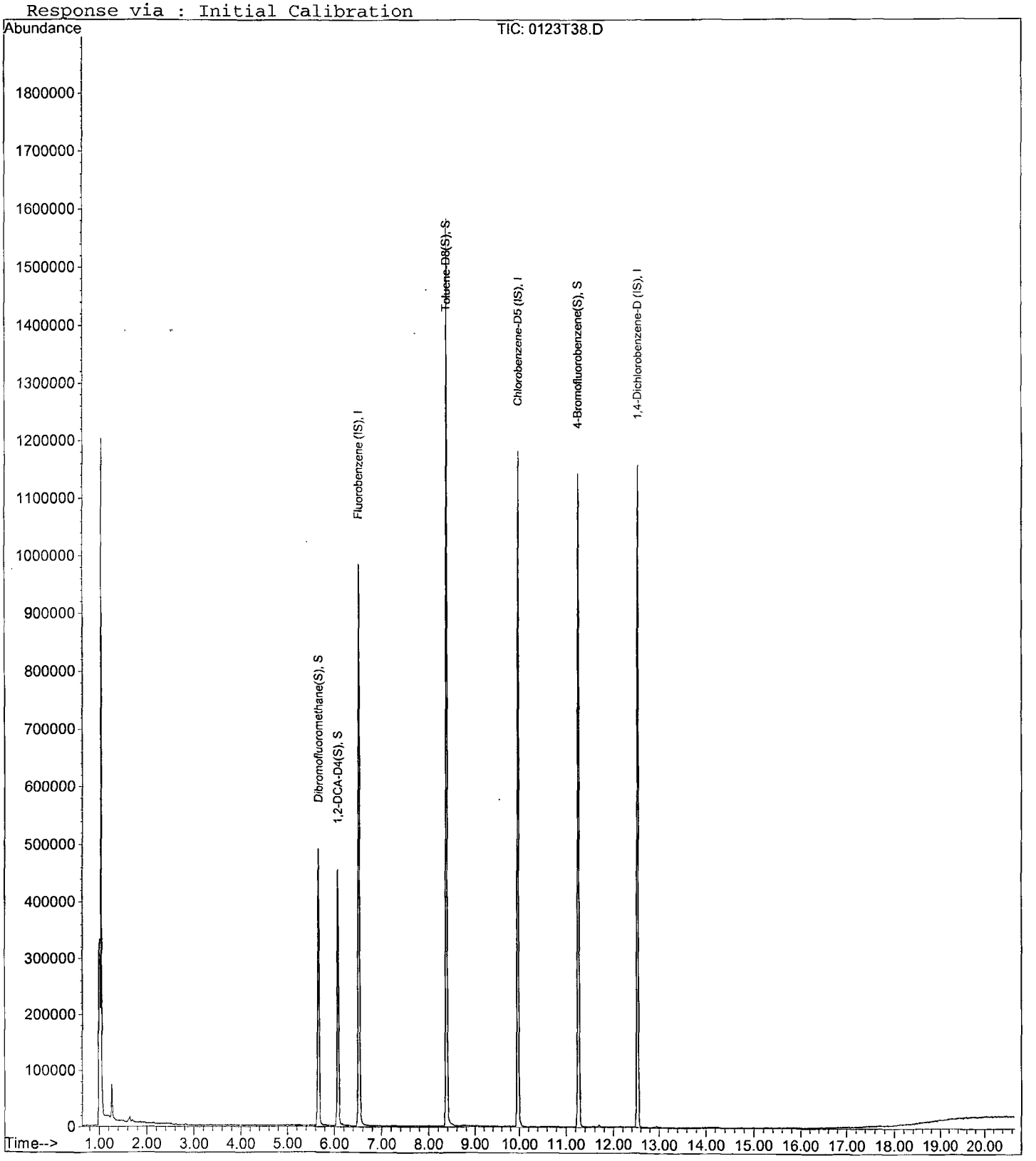
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0123T38.D Vial: 38
Acq On : 24 Jan 20 2:07 Operator:
Sample : BA06272W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 10:38 2020 Quant Results File: T0121W.RES

Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T200121\0123T39.D Vial: 39
Acq On : 24 Jan 20 2:36 Operator:
Sample : BA06273W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 10:39 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	960183	25.0000 ppb	0.00
66) Chlorobenzene-D5 (IS)	9.96	117	764411	25.0000 ppb	0.00
81) 1,4-Dichlorobenzene-D (IS)	12.52	152	393985	25.0000 ppb	0.00
System Monitoring Compounds					
41) Dibromofluoromethane(S)	5.66	111	317356	25.7022 ppb	0.00
Spiked Amount 25.000			Recovery = 102.808%		
46) 1,2-DCA-D4(S)	6.07	65	339184	25.7687 ppb	0.00
Spiked Amount 25.000			Recovery = 103.076%		
67) Toluene-D8(S)	8.37	98	1136149	25.0499 ppb	0.00
Spiked Amount 25.000			Recovery = 100.200%		
75) 4-Bromofluorobenzene(S)	11.25	95	390759	22.7460 ppb	0.00
Spiked Amount 25.000			Recovery = 90.984%		

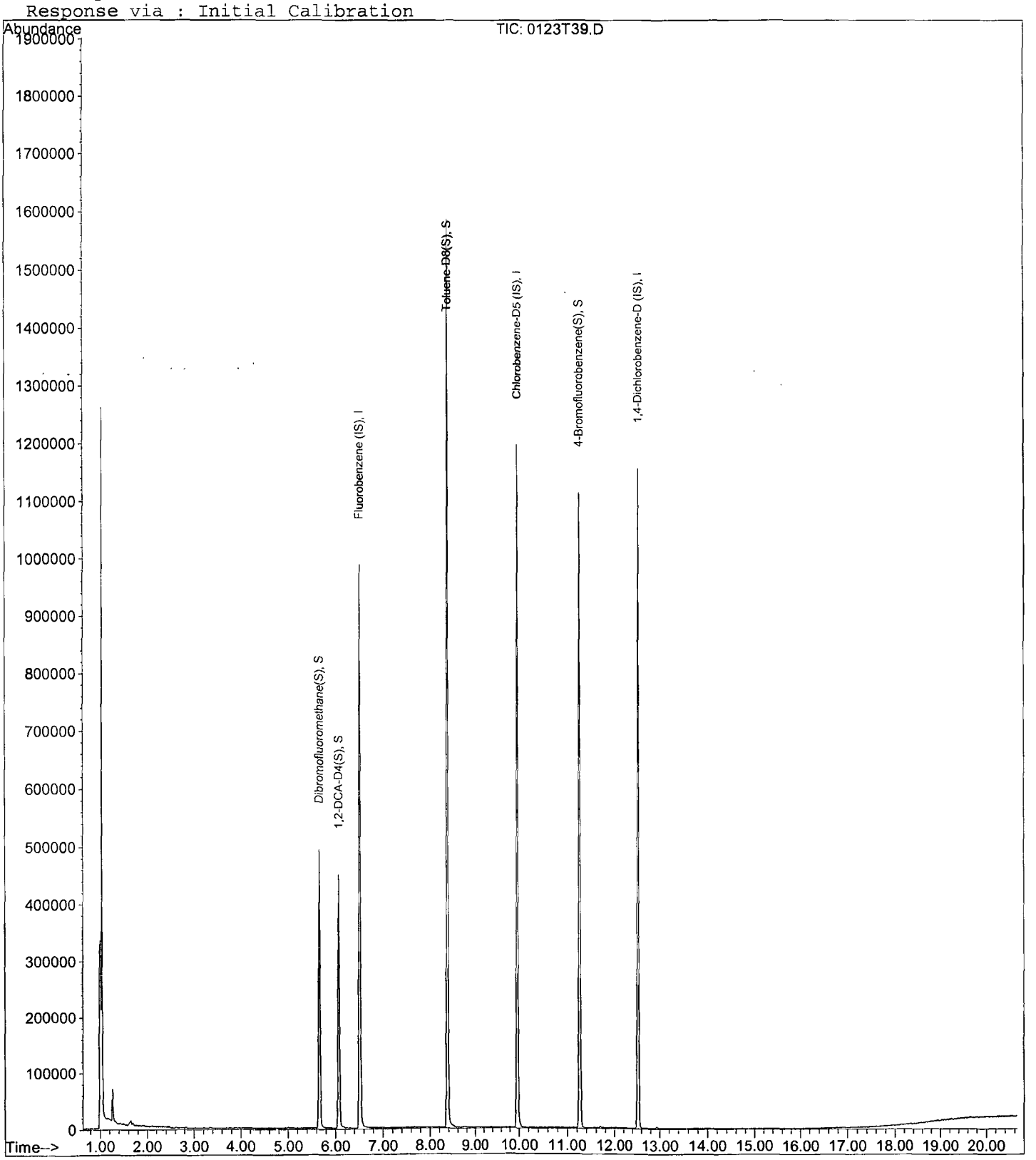
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Data File : M:\THOR\DATA\T200121\0123T39.D Vial: 39
Acq On : 24 Jan 20 2:36 Operator:
Sample : BA06273W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 10:39 2020 Quant Results File: T0121W.RES

Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T200121\0123T40.D Vial: 40
Acq On : 24 Jan 20 3:04 Operator:
Sample : BA06274W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 10:39 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	951214	25.0000 ppb	0.00
66) Chlorobenzene-D5 (IS)	9.96	117	758656	25.0000 ppb	0.00
81) 1,4-Dichlorobenzene-D (IS)	12.52	152	389475	25.0000 ppb	0.00
System Monitoring Compounds					
41) Dibromofluoromethane(S)	5.66	111	310346	25.3112 ppb	0.00
Spiked Amount 25.000			Recovery =	101.244%	
46) 1,2-DCA-D4(S)	6.07	65	329536	25.1718 ppb	0.00
Spiked Amount 25.000			Recovery =	100.688%	
67) Toluene-D8(S)	8.37	98	1114297	24.6868 ppb	0.00
Spiked Amount 25.000			Recovery =	98.748%	
75) 4-Bromofluorobenzene(S)	11.25	95	382057	22.3777 ppb	0.00
Spiked Amount 25.000			Recovery =	89.512%	

Target Compounds Qvalue

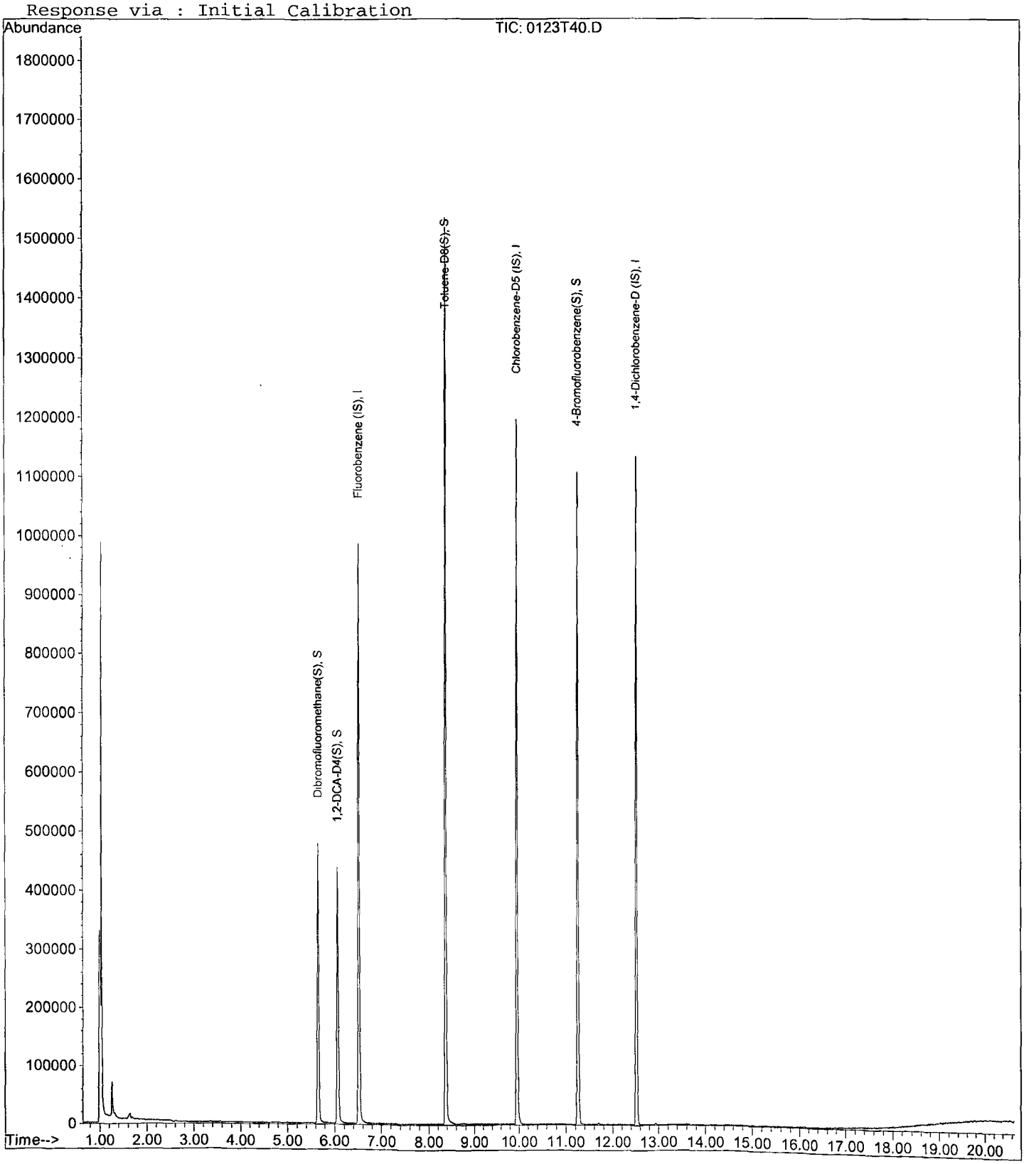
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0123T40.D Vial: 40
Acq On : 24 Jan 20 3:04 Operator:
Sample : BA06274W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 10:39 2020 Quant Results File: T0121W.RES

Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T200121\0123T41.D Vial: 41
Acq On : 24 Jan 20 3:32 Operator:
Sample : BA06275W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 10:40 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	941101	25.0000 ppb	0.00
66) Chlorobenzene-D5 (IS)	9.96	117	751501	25.0000 ppb	0.00
81) 1,4-Dichlorobenzene-D (IS)	12.52	152	389563	25.0000 ppb	0.00
System Monitoring Compounds					
41) Dibromofluoromethane(S)	5.66	111	309915	25.5914 ppb	0.00
Spiked Amount 25.000			Recovery = 102.364%		
46) 1,2-DCA-D4(S)	6.07	65	338480	26.3307 ppb	0.00
Spiked Amount 25.000			Recovery = 105.324%		
67) Toluene-D8(S)	8.37	98	1119574	25.1219 ppb	0.00
Spiked Amount 25.000			Recovery = 100.488%		
75) 4-Bromofluorobenzene(S)	11.26	95	390584	23.1607 ppb	0.00
Spiked Amount 25.000			Recovery = 92.644%		

Target Compounds Qvalue

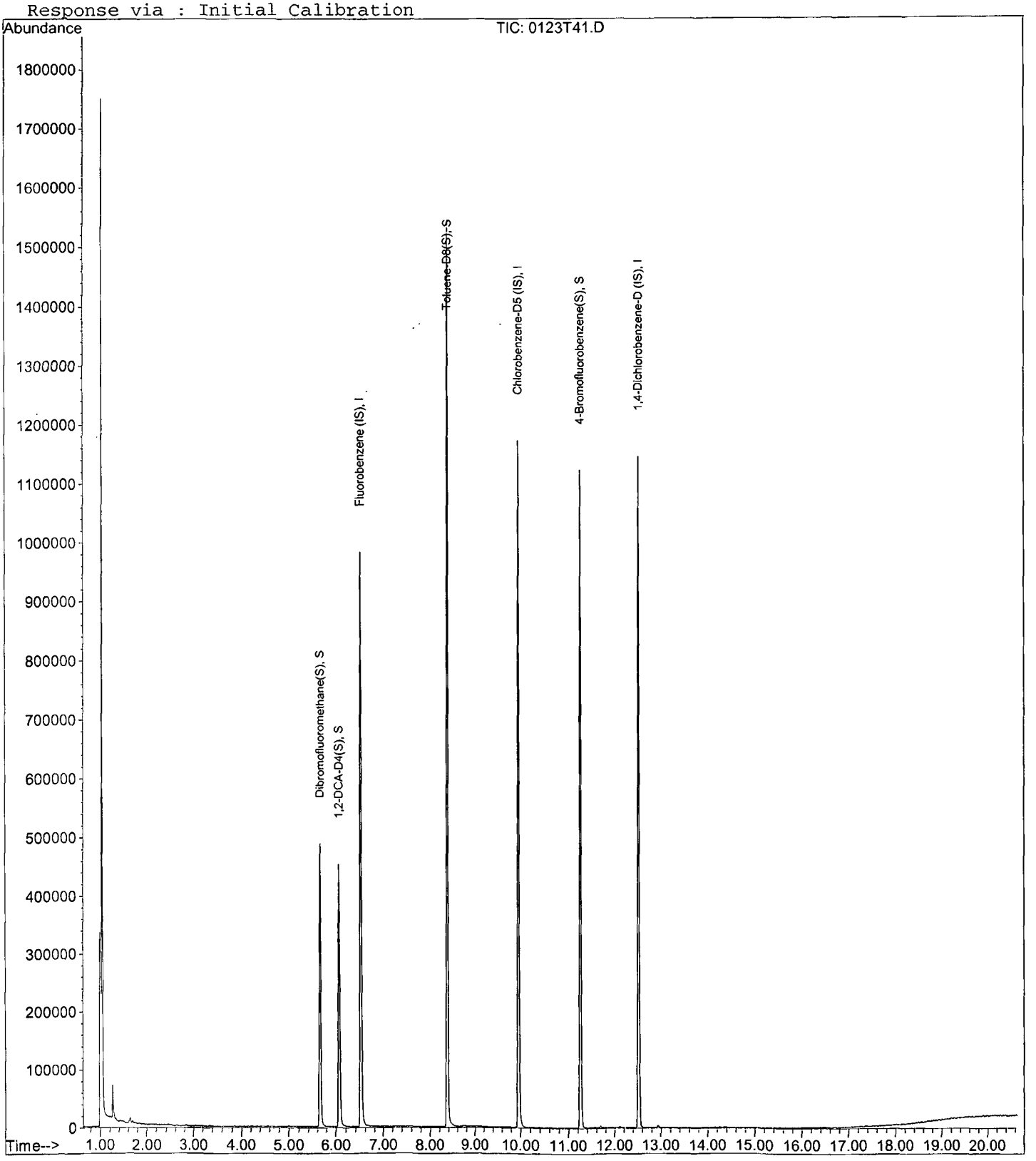
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0123T41.D Vial: 41
Acq On : 24 Jan 20 3:32 Operator:
Sample : BA06275W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 10:40 2020 Quant Results File: T0121W.RES

Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T200121\0123T42.D Vial: 42
Acq On : 24 Jan 20 4:00 Operator:
Sample : BA06276W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 10:40 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	947312	25.0000 ppb	0.00
66) Chlorobenzene-D5 (IS)	9.96	117	754413	25.0000 ppb	0.00
81) 1,4-Dichlorobenzene-D (IS)	12.52	152	388574	25.0000 ppb	0.00
System Monitoring Compounds					
41) Dibromofluoromethane(S)	5.66	111	312051	25.6002 ppb	0.00
Spiked Amount 25.000			Recovery = 102.400%		
46) 1,2-DCA-D4(S)	6.07	65	333943	25.7045 ppb	0.00
Spiked Amount 25.000			Recovery = 102.816%		
67) Toluene-D8(S)	8.37	98	1119904	25.0119 ppb	0.00
Spiked Amount 25.000			Recovery = 100.048%		
75) 4-Bromofluorobenzene(S)	11.26	95	387060	22.8368 ppb	0.00
Spiked Amount 25.000			Recovery = 91.348%		

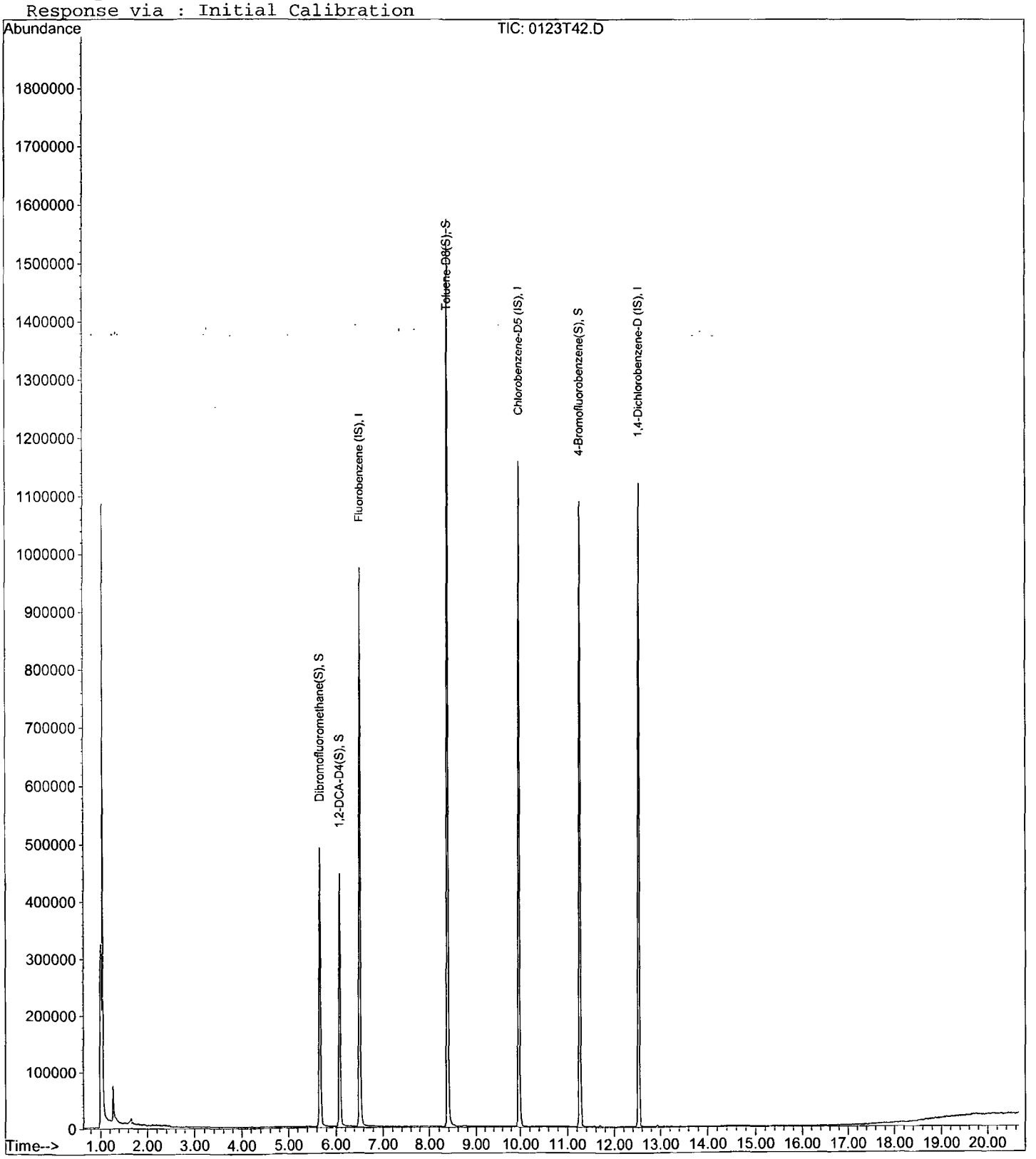
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Data File : M:\THOR\DATA\T200121\0123T42.D Vial: 42
Acq On : 24 Jan 20 4:00 Operator:
Sample : BA06276W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 10:40 2020 Quant Results File: T0121W.RES

Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T200121\0123T34.D Vial: 34
Acq On : 24 Jan 20 00:14 Operator:
Sample : BA06277W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 10:36 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	962598	25.0000 ppb	0.00
66) Chlorobenzene-D5 (IS)	9.96	117	768590	25.0000 ppb	0.00
81) 1,4-Dichlorobenzene-D (IS)	12.53	152	386761	25.0000 ppb	0.00
System Monitoring Compounds					
41) Dibromofluoromethane(S)	5.66	111	321106	25.9842 ppb	0.00
Spiked Amount 25.000			Recovery = 103.936%		
46) 1,2-DCA-D4(S)	6.07	65	342269	25.9718 ppb	0.00
Spiked Amount 25.000			Recovery = 103.888%		
67) Toluene-D8(S)	8.37	98	1156321	25.4262 ppb	0.00
Spiked Amount 25.000			Recovery = 101.704%		
75) 4-Bromofluorobenzene(S)	11.26	95	396015	22.9429 ppb	0.00
Spiked Amount 25.000			Recovery = 91.772%		

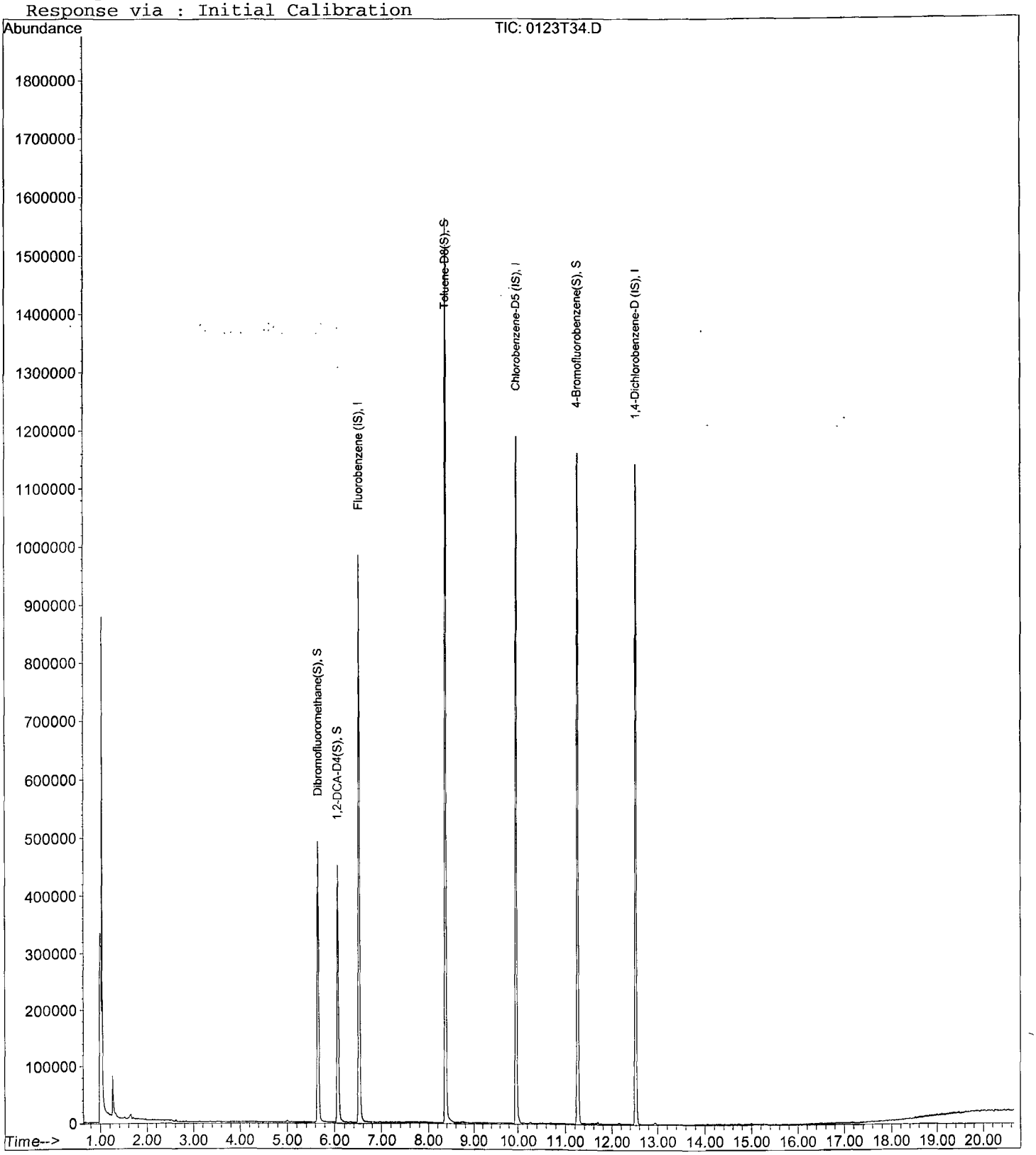
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Data File : M:\THOR\DATA\T200121\0123T34.D Vial: 34
Acq On : 24 Jan 20 00:14 Operator:
Sample : BA06277W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 10:36 2020 Quant Results File: T0121W.RES

Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T200121\0123T35.D Vial: 35
Acq On : 24 Jan 20 00:42 Operator:
Sample : BA06278W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 10:36 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	959579	25.0000 ppb	0.00
66) Chlorobenzene-D5 (IS)	9.96	117	763288	25.0000 ppb	0.00
81) 1,4-Dichlorobenzene-D (IS)	12.52	152	398407	25.0000 ppb	0.00
System Monitoring Compounds					
41) Dibromofluoromethane(S)	5.66	111	315664	25.5592 ppb	0.00
Spiked Amount 25.000			Recovery = 102.236%		
46) 1,2-DCA-D4(S)	6.07	65	336340	25.5285 ppb	0.00
Spiked Amount 25.000			Recovery = 102.112%		
67) Toluene-D8(S)	8.37	98	1132548	24.9975 ppb	0.00
Spiked Amount 25.000			Recovery = 99.988%		
75) 4-Bromofluorobenzene(S)	11.26	95	388134	22.6156 ppb	0.00
Spiked Amount 25.000			Recovery = 90.464%		

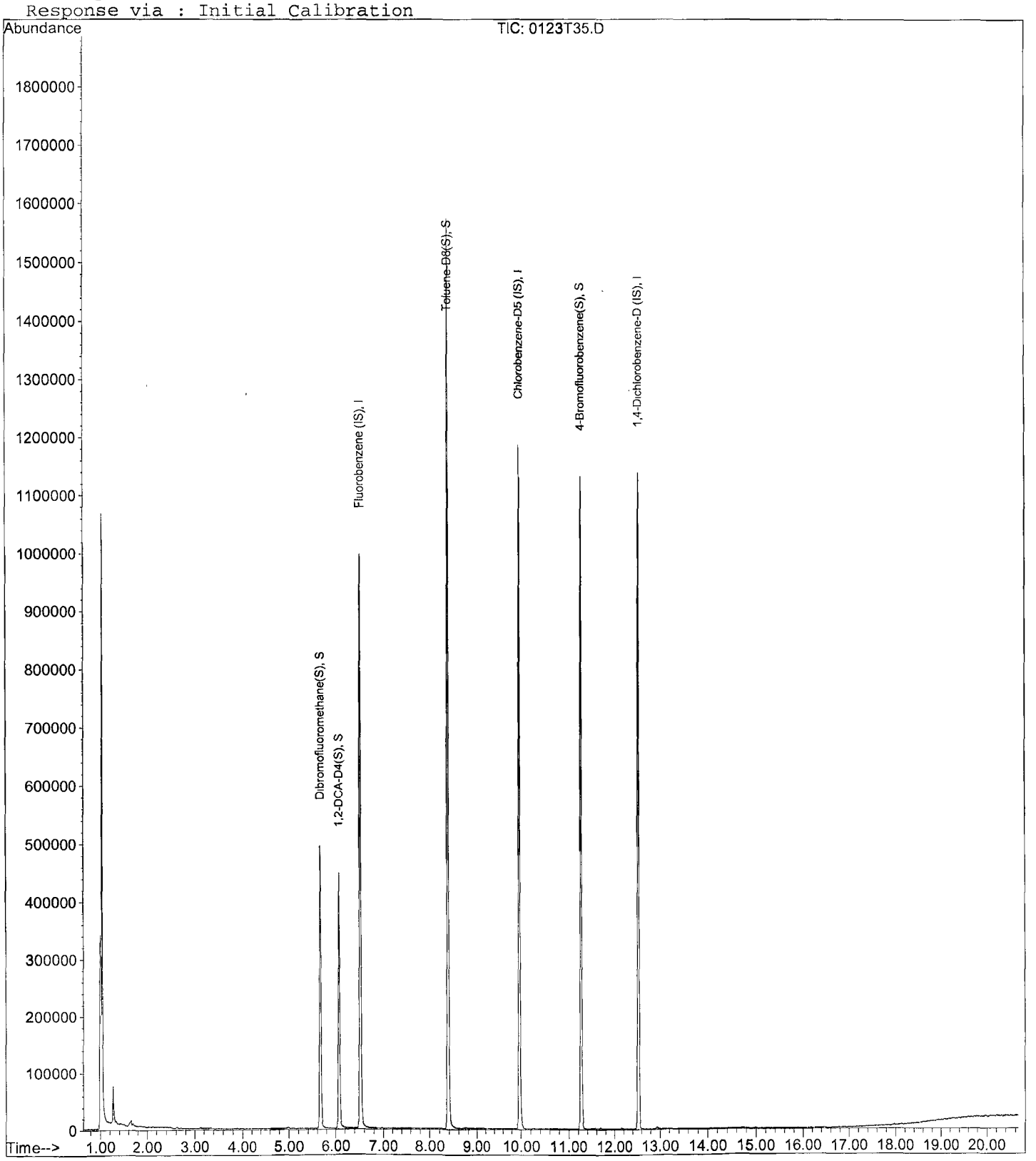
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Data File : M:\THOR\DATA\T200121\0123T35.D Vial: 35
Acq On : 24 Jan 20 00:42 Operator:
Sample : BA06278W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 10:36 2020 Quant Results File: T0121W.RES

Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T200121\0123T43.D Vial: 43
Acq On : 24 Jan 20 4:29 Operator:
Sample : BA06279W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 10:42 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	944377	25.0000 ppb	0.00
66) Chlorobenzene-D5 (IS)	9.96	117	754830	25.0000 ppb	0.00
81) 1,4-Dichlorobenzene-D (IS)	12.52	152	385400	25.0000 ppb	0.00
System Monitoring Compounds					
41) Dibromofluoromethane(S)	5.66	111	310152	25.5095 ppb	0.00
Spiked Amount 25.000			Recovery = 102.036%		
46) 1,2-DCA-D4(S)	6.07	65	332989	25.7120 ppb	0.00
Spiked Amount 25.000			Recovery = 102.848%		
67) Toluene-D8(S)	8.37	98	1103989	24.5581 ppb	0.00
Spiked Amount 25.000			Recovery = 98.232%		
75) 4-Bromofluorobenzene(S)	11.26	95	381580	22.4708 ppb	0.00
Spiked Amount 25.000			Recovery = 89.884%		

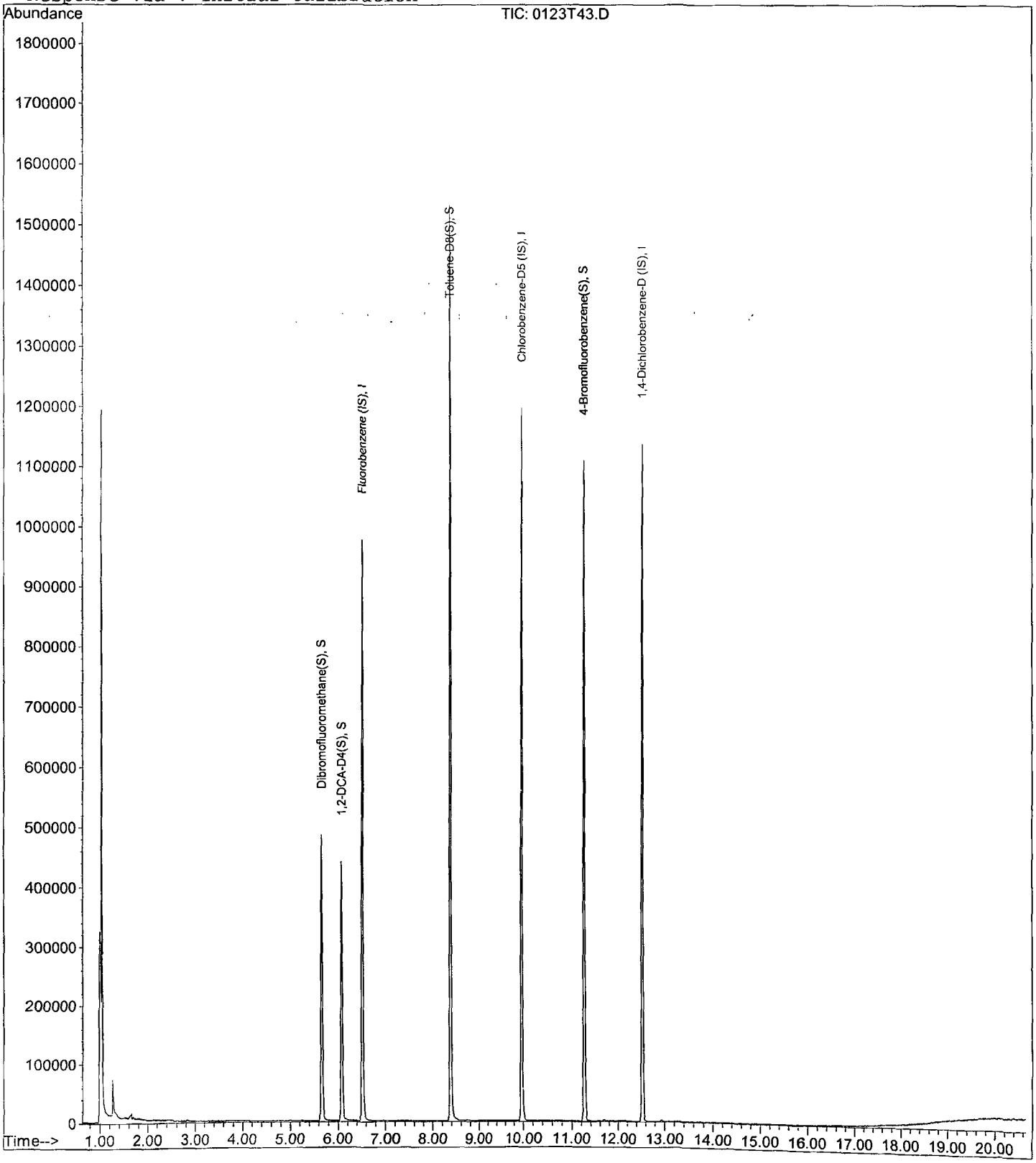
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Data File : M:\THOR\DATA\T200121\0123T43.D Vial: 43
Acq On : 24 Jan 20 4:29 Operator:
Sample : BA06279W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 10:42 2020 Quant Results File: T0121W.RES

Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T200121\0123T44.D Vial: 44
Acq On : 24 Jan 20 4:57 Operator:
Sample : BA06280W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 10:42 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	940760	25.0000 ppb	0.00
66) Chlorobenzene-D5 (IS)	9.96	117	750883	25.0000 ppb	0.00
81) 1,4-Dichlorobenzene-D (IS)	12.52	152	383552	25.0000 ppb	0.00
System Monitoring Compounds					
41) Dibromofluoromethane(S)	5.66	111	314355	26.0364 ppb	0.00
Spiked Amount 25.000			Recovery = 104.144%		
46) 1,2-DCA-D4(S)	6.07	65	331987	25.7374 ppb	0.00
Spiked Amount 25.000			Recovery = 102.948%		
67) Toluene-D8(S)	8.37	98	1119170	25.1362 ppb	0.00
Spiked Amount 25.000			Recovery = 100.544%		
75) 4-Bromofluorobenzene(S)	11.26	95	380585	22.5355 ppb	0.00
Spiked Amount 25.000			Recovery = 90.140%		

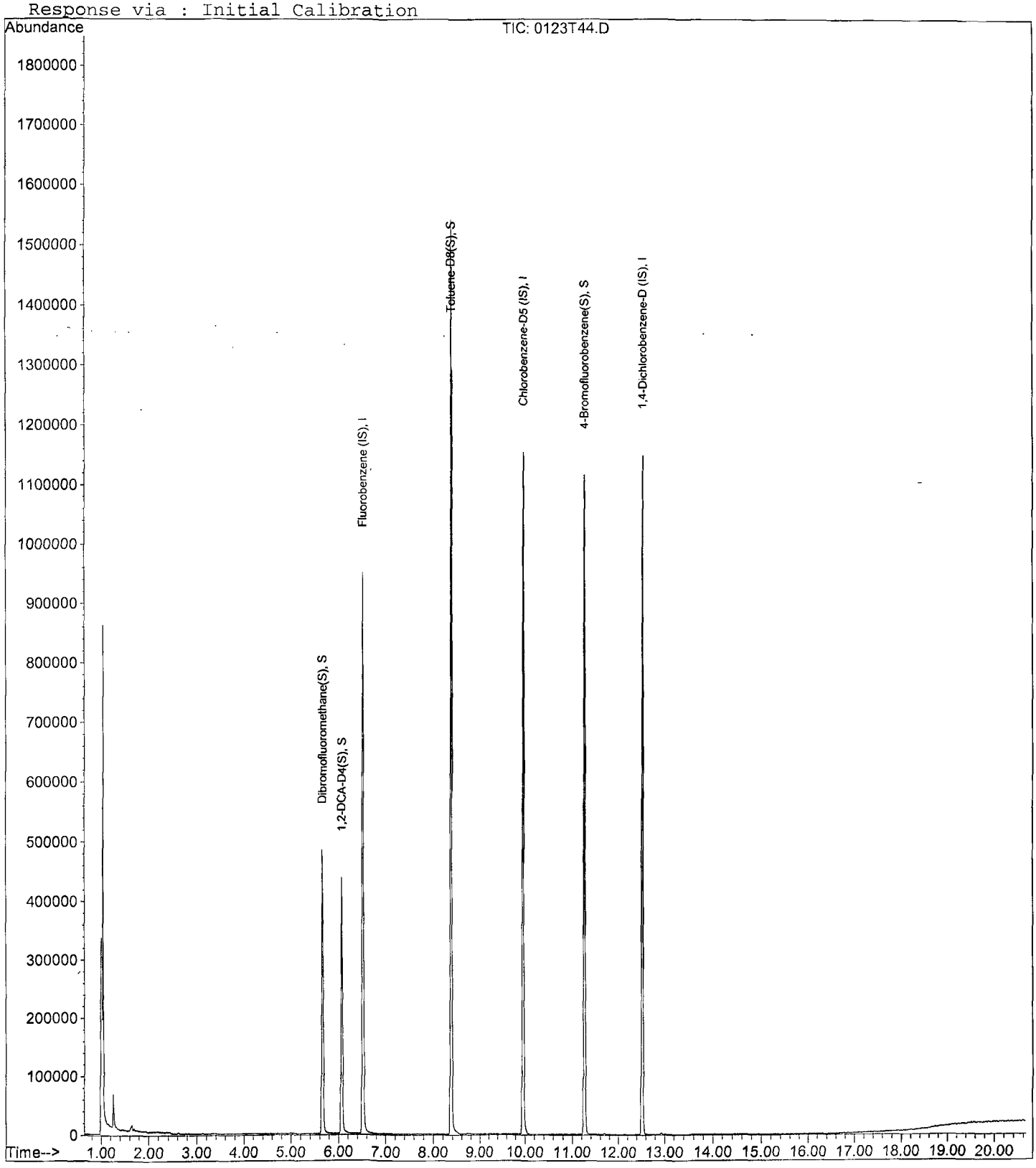
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Data File : M:\THOR\DATA\T200121\0123T44.D Vial: 44
Acq On : 24 Jan 20 4:57 Operator:
Sample : BA06280W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 10:42 2020 Quant Results File: T0121W.RES

Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T200121\0123T45.D Vial: 45
Acq On : 24 Jan 20 5:25 Operator:
Sample : BA06281W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 10:42 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	946268	25.0000 ppb	0.00
66) Chlorobenzene-D5 (IS)	9.96	117	753436	25.0000 ppb	0.00
81) 1,4-Dichlorobenzene-D (IS)	12.52	152	388098	25.0000 ppb	0.00
System Monitoring Compounds					
41) Dibromofluoromethane(S)	5.66	111	319208	26.3291 ppb	0.00
Spiked Amount 25.000			Recovery	= 105.316%	
46) 1,2-DCA-D4(S)	6.07	65	339056	26.2120 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.848%	
67) Toluene-D8(S)	8.37	98	1147725	25.8166 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.268%	
75) 4-Bromofluorobenzene(S)	11.26	95	389286	23.0124 ppb	0.00
Spiked Amount 25.000			Recovery	= 92.048%	

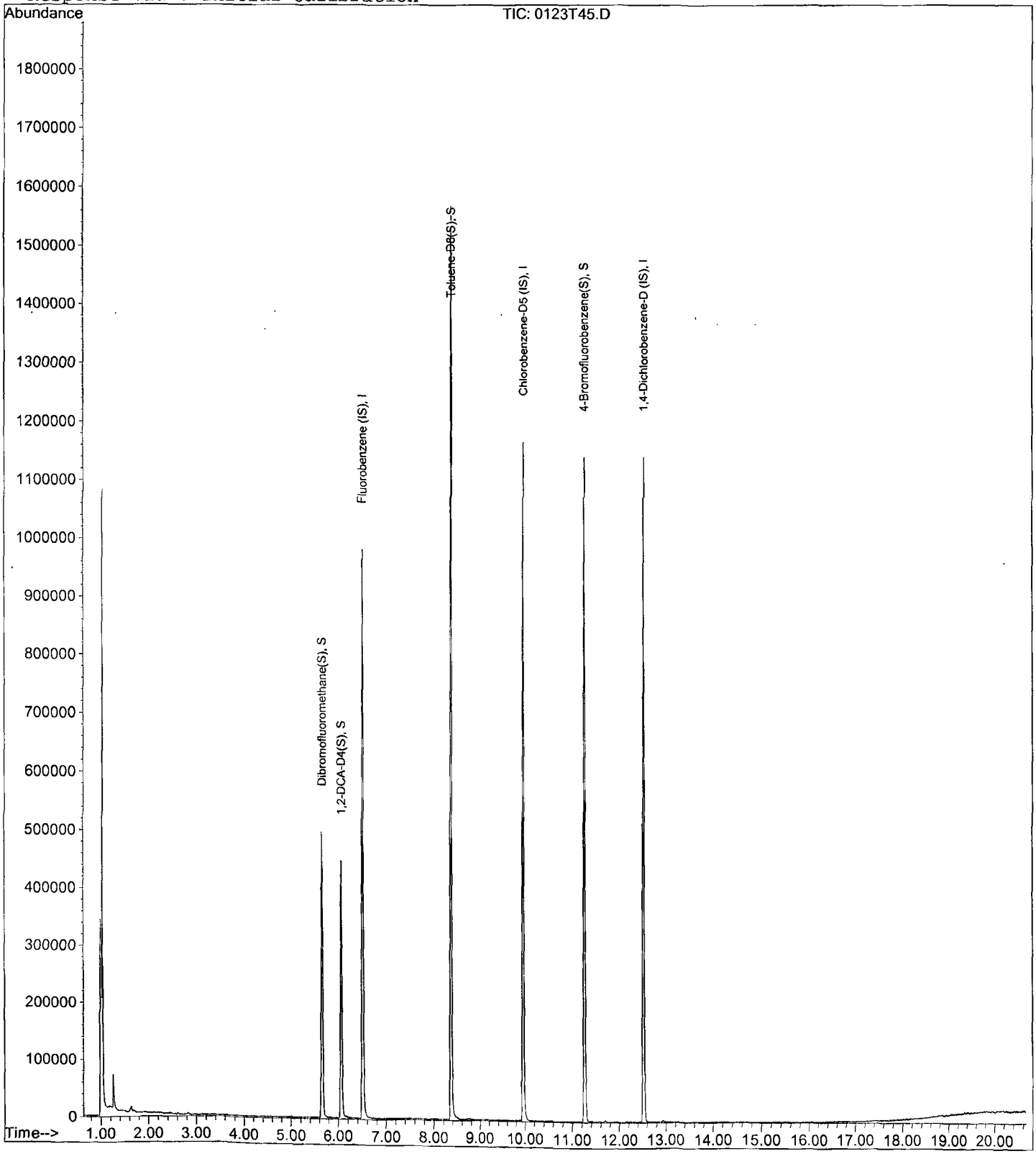
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Data File : M:\THOR\DATA\T200121\0123T45.D Vial: 45
Acq On : 24 Jan 20 5:25 Operator:
Sample : BA06281W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 10:42 2020 Quant Results File: T0121W.RES

Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T200121\0123T46.D Vial: 46
Acq On : 24 Jan 20 5:54 Operator:
Sample : BA06282W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 10:43 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	929237	25.0000 ppb	0.00
66) Chlorobenzene-D5 (IS)	9.96	117	736708	25.0000 ppb	0.00
81) 1,4-Dichlorobenzene-D (IS)	12.52	152	380303	25.0000 ppb	0.00
System Monitoring Compounds					
41) Dibromofluoromethane(S)	5.66	111	308752	25.8629 ppb	0.00
Spiked Amount 25.000			Recovery = 103.452%		
46) 1,2-DCA-D4(S)	6.07	65	327476	25.6955 ppb	0.00
Spiked Amount 25.000			Recovery = 102.780%		
67) Toluene-D8(S)	8.37	98	1097519	25.1215 ppb	0.00
Spiked Amount 25.000			Recovery = 100.484%		
75) 4-Bromofluorobenzene(S)	11.26	95	382021	23.1031 ppb	0.00
Spiked Amount 25.000			Recovery = 92.412%		

Target Compounds Qvalue

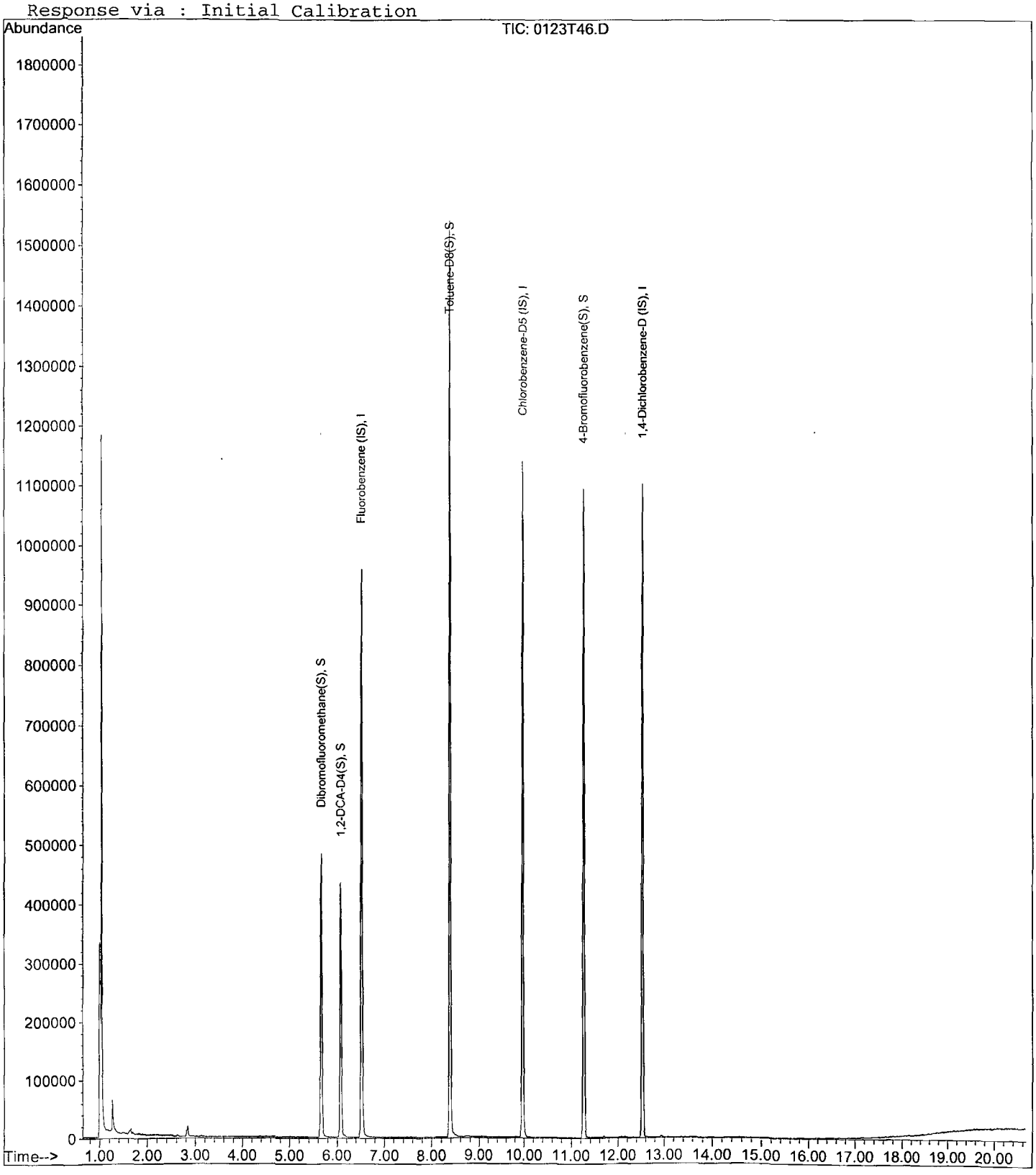
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0123T46.D Vial: 46
Acq On : 24 Jan 20 5:54 Operator:
Sample : BA06282W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 10:43 2020 Quant Results File: T0121W.RES

Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T200121\0123T36.D Vial: 36
Acq On : 24 Jan 20 1:11 Operator:
Sample : BA06283W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 10:37 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	951781	25.0000 ppb	0.00
66) Chlorobenzene-D5 (IS)	9.96	117	755792	25.0000 ppb	0.00
81) 1,4-Dichlorobenzene-D (IS)	12.52	152	399043	25.0000 ppb	0.00
System Monitoring Compounds					
41) Dibromofluoromethane(S)	5.66	111	314694	25.7133 ppb	0.00
Spiked Amount 25.000			Recovery = 102.852%		
46) 1,2-DCA-D4(S)	6.07	65	335685	25.7198 ppb	0.00
Spiked Amount 25.000			Recovery = 102.880%		
67) Toluene-D8(S)	8.37	98	1119047	24.9323 ppb	0.00
Spiked Amount 25.000			Recovery = 99.728%		
75) 4-Bromofluorobenzene(S)	11.25	95	391239	23.0596 ppb	0.00
Spiked Amount 25.000			Recovery = 92.240%		

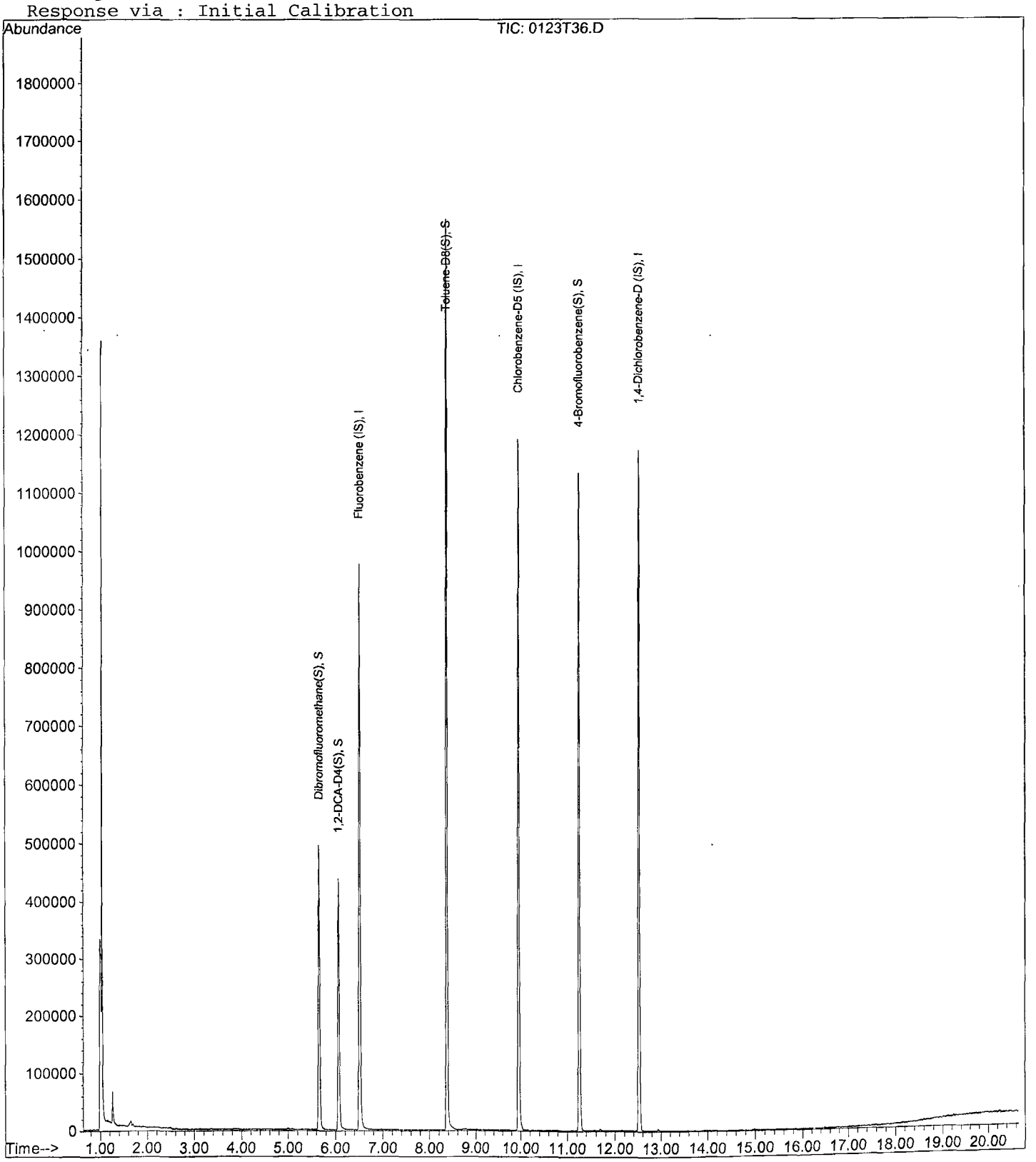
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Data File : M:\THOR\DATA\T200121\0123T36.D Vial: 36
Acq On : 24 Jan 20 1:11 Operator:
Sample : BA06283W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 10:37 2020 Quant Results File: T0121W.RES

Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T200121\0123T47.D Vial: 47
Acq On : 24 Jan 20 6:22 Operator:
Sample : BA06284W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 10:44 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	932047	25.0000 ppb	0.00
66) Chlorobenzene-D5 (IS)	9.96	117	735678	25.0000 ppb	0.00
81) 1,4-Dichlorobenzene-D (IS)	12.53	152	385631	25.0000 ppb	0.00
System Monitoring Compounds					
41) Dibromofluoromethane(S)	5.66	111	311073	25.9998 ppb	0.00
Spiked Amount 25.000			Recovery = 104.000%		
46) 1,2-DCA-D4(S)	6.07	65	332152	26.0420 ppb	0.00
Spiked Amount 25.000			Recovery = 104.168%		
67) Toluene-D8(S)	8.37	98	1096781	25.1439 ppb	0.00
Spiked Amount 25.000			Recovery = 100.576%		
75) 4-Bromofluorobenzene(S)	11.26	95	379839	22.9945 ppb	0.00
Spiked Amount 25.000			Recovery = 91.976%		

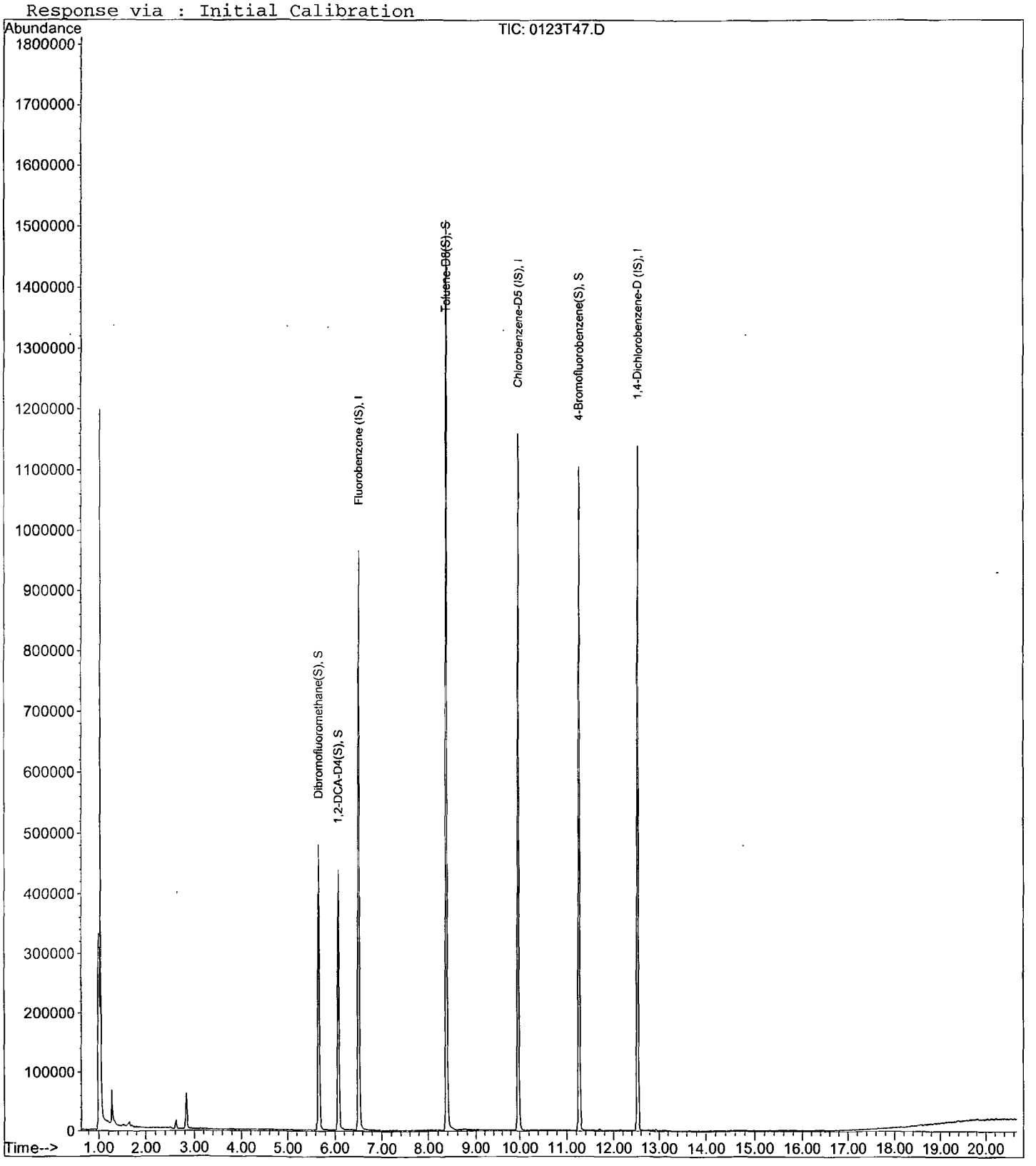
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Data File : M:\THOR\DATA\T200121\0123T47.D Vial: 47
Acq On : 24 Jan 20 6:22 Operator:
Sample : BA06284W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 10:44 2020 Quant Results File: T0121W.RES

Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T200121\0123T33.D Vial: 33
Acq On : 23 Jan 20 23:46 Operator:
Sample : 200123B BLK Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 10:35 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	965669	25.0000 ppb	0.00
66) Chlorobenzene-D5 (IS)	9.96	117	763813	25.0000 ppb	0.00
81) 1,4-Dichlorobenzene-D (IS)	12.52	152	396526	25.0000 ppb	0.00
System Monitoring Compounds					
41) Dibromofluoromethane(S)	5.66	111	321946	25.9666 ppb	0.00
Spiked Amount 25.000			Recovery = 103.868%		
46) 1,2-DCA-D4(S)	6.07	65	346701	26.2749 ppb	0.00
Spiked Amount 25.000			Recovery = 105.100%		
67) Toluene-D8(S)	8.37	98	1158226	25.6727 ppb	0.00
Spiked Amount 25.000			Recovery = 102.692%		
75) 4-Bromofluorobenzene(S)	11.26	95	398912	23.2832 ppb	0.00
Spiked Amount 25.000			Recovery = 93.132%		

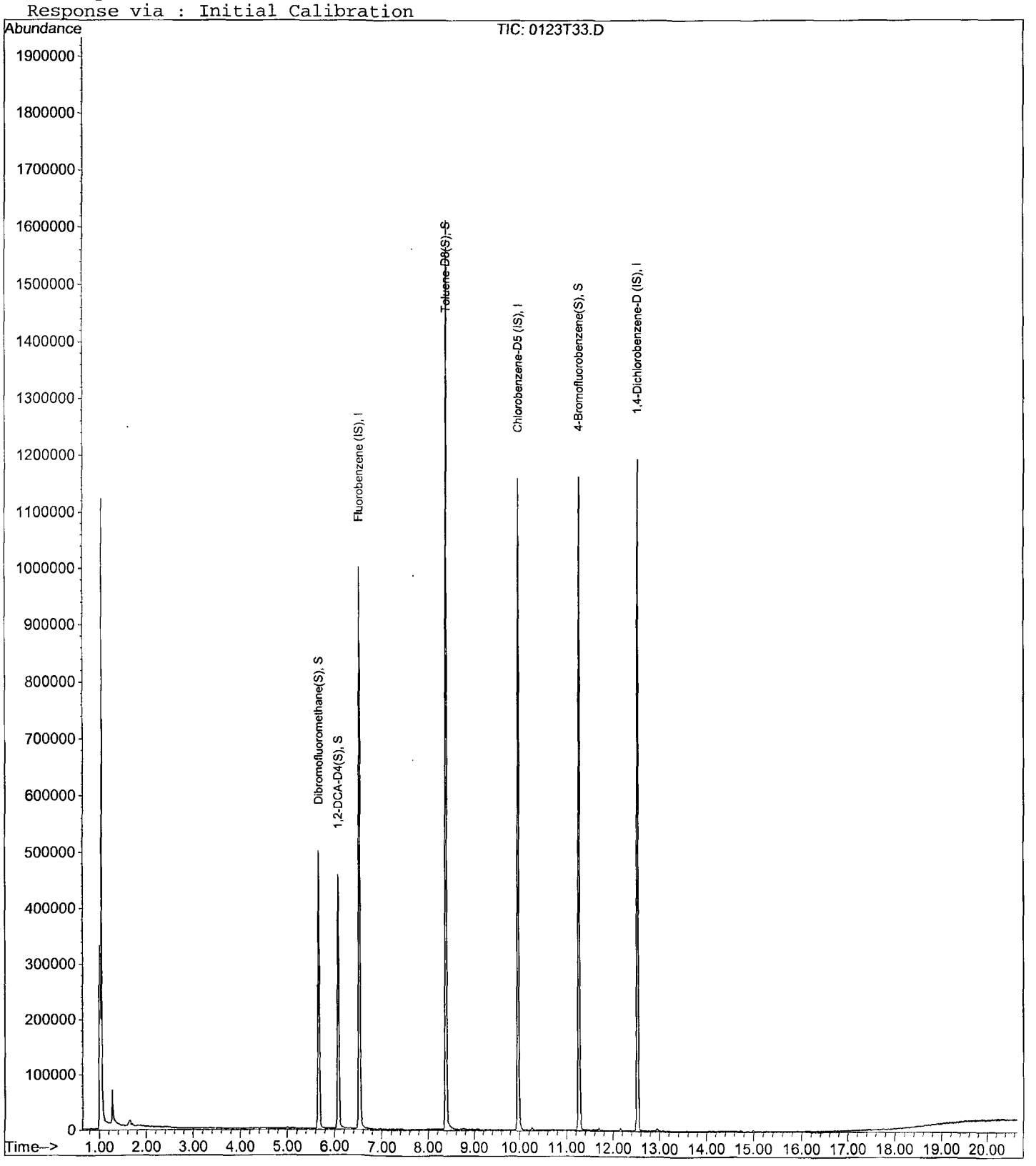
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Data File : M:\THOR\DATA\T200121\0123T33.D Vial: 33
Acq On : 23 Jan 20 23:46 Operator:
Sample : 200123B BLK Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 10:35 2020 Quant Results File: T0121W.RES

Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0123T28.D Vial: 28
Acq On : 23 Jan 20 21:25 Operator:
Sample : 200123B LCS 10ug/L Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 10:02 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Fluorobenzene (IS)	6.51	96	1003372	25.0000 ppb		0.00
66) Chlorobenzene-D5 (IS)	9.96	117	785195	25.0000 ppb		0.00
81) 1,4-Dichlorobenzene-D (IS)	12.52	152	435423	25.0000 ppb		0.00
System Monitoring Compounds						
41) Dibromofluoromethane(S)	5.66	111	324303	25.0307 ppb		0.00
Spiked Amount 25.000			Recovery = 100.124%			
46) 1,2-DCA-D4(S)	6.07	65	341818	24.6664 ppb		0.00
Spiked Amount 25.000			Recovery = 98.664%			
67) Toluene-D8(S)	8.37	98	1179818	25.3870 ppb		0.00
Spiked Amount 25.000			Recovery = 101.548%			
75) 4-Bromofluorobenzene(S)	11.26	95	429408	24.4774 ppb		0.00
Spiked Amount 25.000			Recovery = 97.908%			
Target Compounds						Qvalue
2) Chlorotrifluoroethene	1.14	116	423	0.2980 ppb	#	56
3) Dichlorodifluoromethane	1.17	85	28368	9.5330 ppb		91
4) Freon 114	1.28	85	28954	9.2810 ppb		98
5) Chloromethane	1.32	50	43726	10.9344 ppb		95
6) Vinyl chloride	1.42	62	34526	9.7838 ppb		100
7) 2-Chloro-1,1,1-trifluoroet	1.50	118	311	0.0708 ppb	#	76
8) Bromomethane	1.69	96	22448	7.1887 ppb		99
9) Chloroethane	1.78	64	23586	10.0273 ppb		96
10) Dichlorofluoromethane	1.98	67	66348	9.7649 ppb		97
11) Trichlorofluoromethane	2.03	101	51013	10.1837 ppb		93
14) Acrolein	2.44	56	46397	111.9264 ppb		98
15) Acetone	2.62	43	7553	10.5236 ppb		94
16) Freon-113	2.58	101	27270	9.9147 ppb		93
17) 1,1-DCE	2.55	61	43177	9.6651 ppb		96
18) 2-Propanol	2.76	45	100	0.4451 ppb	#	14
19) Acetonitrile	2.92	40	15293	125.9912 ppb		90
20) t-Butanol	3.35	59	17744	117.9137 ppb		92
21) Methyl Acetate	3.03	43	28262	8.9152 ppb		99
22) Iodomethane	2.70	142	9364	6.0491 ppb		91
23) Acrylonitrile	3.44	52	11634	9.6026 ppb		89
24) Methylene chloride	3.12	49	47664	9.6522 ppb		98
25) Carbon disulfide	2.77	76	75218	8.6406 ppb		99
26) Methyl t-butyl ether (MtBE	3.55	73	104201	9.5157 ppb		95
27) Trans-1,2-DCE	3.50	61	45206	9.6520 ppb		98
29) Diisopropyl Ether	4.36	45	104508	9.7355 ppb		99
31) 1,1-DCA	4.13	63	65015	10.2005 ppb		100
32) Vinyl Acetate	4.29	43	12850	5.9486 ppb		99
33) Ethyl tert Butyl Ether	4.89	59	105548	9.6042 ppb		99
34) MEK (2-Butanone)	5.05	43	15250	8.6344 ppb	#	88
35) Cis-1,2-DCE	4.99	61	61713	10.3343 ppb		98
36) 2,2-Dichloropropane	4.99	77	42768	8.0876 ppb		95
39) Chloroform	5.46	83	73421	9.8094 ppb		96
40) Bromochloromethane	5.31	49	33542	10.2200 ppb		92
42) 1,1,1-TCA	5.68	97	61177	10.3175 ppb		99
43) Cyclohexane	5.76	56	38089	9.3740 ppb		97
44) 1,1-Dichloropropene	5.90	75	42764	9.8974 ppb		96
45) 2,2,4-Trimethylpentane	6.32	57	65083	8.2941 ppb		99
47) Carbon Tetrachloride	5.89	117	52529	10.4303 ppb		99
48) Tert Amyl Methyl Ether	6.36	73	103070	9.5742 ppb		96

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0123T28.D Vial: 28
Acq On : 23 Jan 20 21:25 Operator:
Sample : 200123B LCS 10ug/L Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 10:02 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

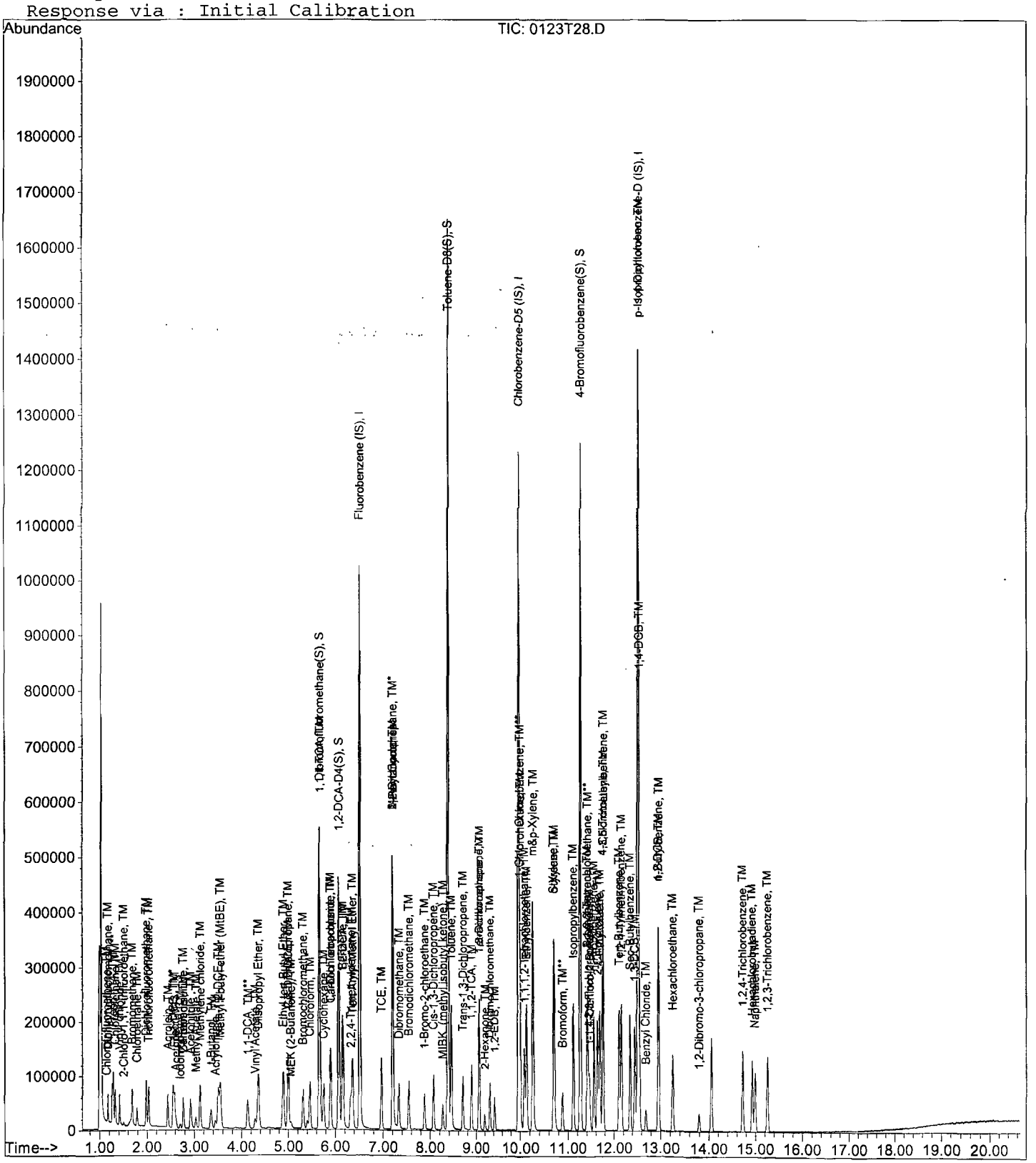
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
50)	1,2-DCA	6.17	62	59203	9.5707	ppb		97
51)	Benzene	6.15	78	151534	9.8909	ppb		100
52)	TCE	6.96	130	48824	10.8280	ppb		93
53)	2-Pentanone	7.20	43	338548	119.2181	ppb		99
54)	1,2-Dichloropropane	7.21	63	39280	9.9473	ppb		100
55)	Bromodichloromethane	7.54	83	57387	10.1022	ppb		98
56)	Methyl Cyclohexane	7.20	83	39359	8.9427	ppb		100
57)	Dibromomethane	7.33	174	36767	10.0277	ppb		93
58)	MIBK (methyl isobutyl ket	8.26	43	31898	8.8230	ppb		97
59)	1-Bromo-2-chloroethane	7.88	63	28808	10.0064	ppb		94
61)	Cis-1,3-Dichloropropene	8.07	75	57030	9.2549	ppb		99
62)	Toluene	8.45	91	175995	9.8246	ppb		97
63)	Trans-1,3-Dichloropropene	8.70	75	54785	9.5199	ppb		96
64)	1,1,2-TCA	8.89	97	41158	10.1609	ppb		95
65)	2-Hexanone	9.20	43	21016	9.3203	ppb		99
68)	1,2-EDB	9.43	107	42920	10.3278	ppb		92
69)	Tetrachloroethene	9.06	166	50605	10.6648	ppb		99
70)	1-Chlorohexane	10.00	91	34582	9.2357	ppb		99
71)	1,1,1,2-Tetrachloroethane	10.09	131	46194	9.9427	ppb		98
72)	m&p-Xylene	10.26	91	281349	20.2484	ppb		98
73)	o-Xylene	10.69	91	150184	10.1550	ppb		99
74)	Styrene	10.71	104	110307	9.3373	ppb		95
76)	1,3-Dichloropropane	9.07	76	63232	9.8392	ppb		100
77)	Dibromochloromethane	9.31	129	49953	10.3530	ppb		97
78)	Chlorobenzene	9.99	112	123526	10.0551	ppb		97
79)	Ethylbenzene	10.13	91	183478	9.9750	ppb		99
80)	Bromoform	10.88	173	38157	10.1880	ppb		98
82)	Isopropylbenzene	11.11	105	175338	10.1533	ppb		99
83)	1,1,2,2-Tetrachloroethane	11.41	83	50318	9.1490	ppb		99
84)	1,2,3-Trichloropropane	11.45	110	18085	9.7480	ppb		91
85)	t-1,4-Dichloro-2-Butene	11.47	53	8038	8.4130	ppb		99
86)	Bromobenzene	11.41	77	93216	9.8903	ppb		98
87)	n-Propylbenzene	11.56	91	190972	10.1686	ppb		100
88)	4-Ethyltoluene	11.68	105	161243	9.9630	ppb		95
89)	2-Chlorotoluene	11.64	91	142361	9.8666	ppb		98
90)	1,3,5-Trimethylbenzene	11.75	105	153431	10.1457	ppb		95
91)	4-Chlorotoluene	11.76	91	149040	10.2683	ppb		98
92)	Tert-Butylbenzene	12.11	119	148020	9.8211	ppb		99
93)	1,2,4-Trimethylbenzene	12.16	105	153518	9.5644	ppb		96
94)	Sec-Butylbenzene	12.35	105	171559	10.3170	ppb		99
95)	p-Isopropyltoluene	12.51	119	151346	10.2280	ppb		97
96)	Benzyl Chloride	12.69	91	34773	6.7096	ppb		93
97)	1,3-DCB	12.45	146	101899	10.3166	ppb		99
98)	1,4-DCB	12.55	146	103542	10.0034	ppb		98
99)	n-Butylbenzene	12.96	91	120472	9.7707	ppb		98
100)	1,2-DCB	12.95	146	103542	10.1410	ppb		98
101)	Hexachloroethane	13.25	201	29728	9.9186	ppb		97
102)	1,2-Dibromo-3-chloropropan	13.79	157	11654	9.6736	ppb		95
103)	1,2,4-Trichlorobenzene	14.72	180	62047	9.9286	ppb		99
104)	Hexachlorobutadiene	14.93	225	32128	9.9785	ppb	#	82
105)	Naphthalene	14.99	127	7741	10.1080	ppb		87
106)	1,2,3-Trichlorobenzene	15.26	180	60259	10.6160	ppb		95

(#) = qualifier out of range (m) = manual integration

Data File : M:\THOR\DATA\T200121\0123T28.D Vial: 28
Acq On : 23 Jan 20 21:25 Operator:
Sample : 200123B LCS 10ug/L Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 10:02 2020 Quant Results File: T0121W.RES

Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0123T29.D Vial: 29
Acq On : 23 Jan 20 21:53 Operator:
Sample : 200123B LCSD 10ug/L Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 10:02 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Fluorobenzene (IS)	6.51	96	997917	25.0000 ppb		0.00
66) Chlorobenzene-D5 (IS)	9.96	117	781681	25.0000 ppb		0.00
81) 1,4-Dichlorobenzene-D (IS)	12.52	152	437419	25.0000 ppb		0.00
System Monitoring Compounds						
41) Dibromofluoromethane(S)	5.66	111	326366	25.3833 ppb		0.00
Spiked Amount 25.000			Recovery = 101.532%			
46) 1,2-DCA-D4(S)	6.07	65	346954	25.2806 ppb		0.00
Spiked Amount 25.000			Recovery = 101.124%			
67) Toluene-D8(S)	8.37	98	1208591	26.2894 ppb		0.00
Spiked Amount 25.000			Recovery = 105.156%			
75) 4-Bromofluorobenzene(S)	11.26	95	436841	25.0580 ppb		0.00
Spiked Amount 25.000			Recovery = 100.232%			
Target Compounds						Qvalue
2) Chlorotrifluoroethene	1.14	116	468	0.3315 ppb	#	71
3) Dichlorodifluoromethane	1.17	85	29224	9.8743 ppb		98
4) Freon 114	1.28	85	29362	9.4632 ppb		96
5) Chloromethane	1.32	50	42869	10.7602 ppb		97
6) Vinyl chloride	1.42	62	34862	9.9331 ppb		98
7) 2-Chloro-1,1,1-trifluoroet	1.51	118	3322	0.7599 ppb		95
8) Bromomethane	1.68	96	23888	7.7637 ppb		99
9) Chloroethane	1.78	64	23872	10.2088 ppb		92
10) Dichlorofluoromethane	1.98	67	68147	10.0845 ppb		96
11) Trichlorofluoromethane	2.03	101	51885	10.4144 ppb		95
14) Acrolein	2.44	56	44773	108.5991 ppb		92
15) Acetone	2.62	43	7038	9.6494 ppb		98
16) Freon-113	2.58	101	28239	10.3231 ppb		88
17) 1,1-DCE	2.55	61	43952	9.8924 ppb		99
18) 2-Propanol	2.82	45	426	1.9064 ppb	#	57
19) Acetonitrile	2.92	40	15103	125.1060 ppb		89
20) t-Butanol	3.35	59	18104	120.9636 ppb		94
21) Methyl Acetate	3.03	43	28113	8.9167 ppb		100
22) Iodomethane	2.70	142	10796	6.6190 ppb		93
23) Acrylonitrile	3.44	52	11904	9.8792 ppb		96
24) Methylene chloride	3.12	49	48036	9.7807 ppb		96
25) Carbon disulfide	2.77	76	78615	9.0802 ppb		99
26) Methyl t-butyl ether (MtBE	3.55	73	104069	9.5556 ppb		92
27) Trans-1,2-DCE	3.50	61	45985	9.8720 ppb		95
29) Diisopropyl Ether	4.35	45	105402	9.8725 ppb		97
31) 1,1-DCA	4.13	63	64001	10.0963 ppb		99
32) Vinyl Acetate	4.29	43	10264	4.7775 ppb	#	89
33) Ethyl tert Butyl Ether	4.89	59	107076	9.7965 ppb		100
34) MEK (2-Butanone)	5.05	43	16085	9.1540 ppb	#	87
35) Cis-1,2-DCE	5.00	61	60742	10.2273 ppb		98
36) 2,2-Dichloropropane	4.99	77	43962	8.3588 ppb		96
39) Chloroform	5.46	83	75099	10.0884 ppb		100
40) Bromochloromethane	5.31	49	33152	10.1564 ppb		89
42) 1,1,1-TCA	5.68	97	61811	10.4814 ppb		98
43) Cyclohexane	5.75	56	38274	9.4710 ppb		94
44) 1,1-Dichloropropene	5.90	75	43372	10.0929 ppb		95
45) 2,2,4-Trimethylpentane	6.32	57	69948	8.9628 ppb		100
47) Carbon Tetrachloride	5.89	117	51276	10.2371 ppb		91
48) Tert Amyl Methyl Ether	6.36	73	105330	9.8376 ppb		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0123T29.D Vial: 29
Acq On : 23 Jan 20 21:53 Operator:
Sample : 200123B LCSD 10ug/L Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 10:02 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
50)	1,2-DCA	6.17	62	60523	9.8376	ppb		98
51)	Benzene	6.15	78	152997	10.0409	ppb		100
52)	TCE	6.96	130	50257	11.2068	ppb		91
53)	2-Pentanone	7.20	43	338807	119.9615	ppb		98
54)	1,2-Dichloropropane	7.21	63	40808	10.3907	ppb	#	97
55)	Bromodichloromethane	7.54	83	58337	10.3256	ppb		92
56)	Methyl Cyclohexane	7.20	83	44441	10.1526	ppb		100
57)	Dibromomethane	7.33	174	36872	10.1113	ppb		99
58)	MIBK (methyl isobutyl ket	8.26	43	33400	9.2890	ppb		94
59)	1-Bromo-2-chloroethane	7.88	63	28624	9.9968	ppb		96
61)	Cis-1,3-Dichloropropene	8.07	75	58917	9.6134	ppb		96
62)	Toluene	8.45	91	179697	10.0861	ppb		100
63)	Trans-1,3-Dichloropropene	8.69	75	55186	9.6420	ppb		99
64)	1,1,2-TCA	8.89	97	41470	10.2939	ppb		93
65)	2-Hexanone	9.20	43	20783	9.2790	ppb		94
68)	1,2-EDB	9.43	107	42745	10.3319	ppb		100
69)	Tetrachloroethene	9.06	166	51390	10.8789	ppb		98
70)	1-Chlorohexane	10.00	91	37306	9.9148	ppb		98
71)	1,1,1,2-Tetrachloroethane	10.08	131	47653	10.3028	ppb		96
72)	m&p-Xylene	10.26	91	286406	20.7050	ppb		98
73)	o-Xylene	10.69	91	152560	10.3621	ppb		96
74)	Styrene	10.71	104	115683	9.7630	ppb		98
76)	1,3-Dichloropropane	9.07	76	65621	10.2568	ppb		98
77)	Dibromochloromethane	9.32	129	50071	10.4241	ppb		99
78)	Chlorobenzene	9.99	112	126538	10.3466	ppb		97
79)	Ethylbenzene	10.13	91	192344	10.5040	ppb		99
80)	Bromoform	10.88	173	38339	10.2827	ppb		99
82)	Isopropylbenzene	11.11	105	178850	10.3094	ppb		98
83)	1,1,2,2-Tetrachloroethane	11.41	83	50114	9.0703	ppb		97
84)	1,2,3-Trichloropropane	11.45	110	18014	9.6654	ppb		96
85)	t-1,4-Dichloro-2-Butene	11.47	53	8636	8.9977	ppb		95
86)	Bromobenzene	11.41	77	96028	10.1422	ppb		98
87)	n-Propylbenzene	11.56	91	199113	10.5537	ppb		98
88)	4-Ethyltoluene	11.68	105	164055	10.0905	ppb		97
89)	2-Chlorotoluene	11.64	91	147179	10.1540	ppb		98
90)	1,3,5-Trimethylbenzene	11.75	105	158779	10.4514	ppb		98
91)	4-Chlorotoluene	11.76	91	151488	10.3893	ppb		100
92)	Tert-Butylbenzene	12.11	119	153630	10.1468	ppb		98
93)	1,2,4-Trimethylbenzene	12.16	105	158908	9.8550	ppb		99
94)	Sec-Butylbenzene	12.35	105	178564	10.6893	ppb		99
95)	p-Isopropyltoluene	12.51	119	155615	10.4685	ppb		97
96)	Benzyl Chloride	12.69	91	35730	6.8628	ppb		99
97)	1,3-DCB	12.45	146	104860	10.5679	ppb		99
98)	1,4-DCB	12.55	146	106584	10.2503	ppb		99
99)	n-Butylbenzene	12.96	91	125778	10.1545	ppb		100
100)	1,2-DCB	12.95	146	105013	10.2381	ppb		98
101)	Hexachloroethane	13.25	201	31214	10.3507	ppb		98
102)	1,2-Dibromo-3-chloropropan	13.79	157	11852	9.7827	ppb		93
103)	1,2,4-Trichlorobenzene	14.73	180	64573	10.2856	ppb		97
104)	Hexachlorobutadiene	14.93	225	35293	10.9115	ppb		94
105)	Naphthalene	14.99	127	7404	9.7139	ppb		93
106)	1,2,3-Trichlorobenzene	15.26	180	63323	11.1049	ppb		100

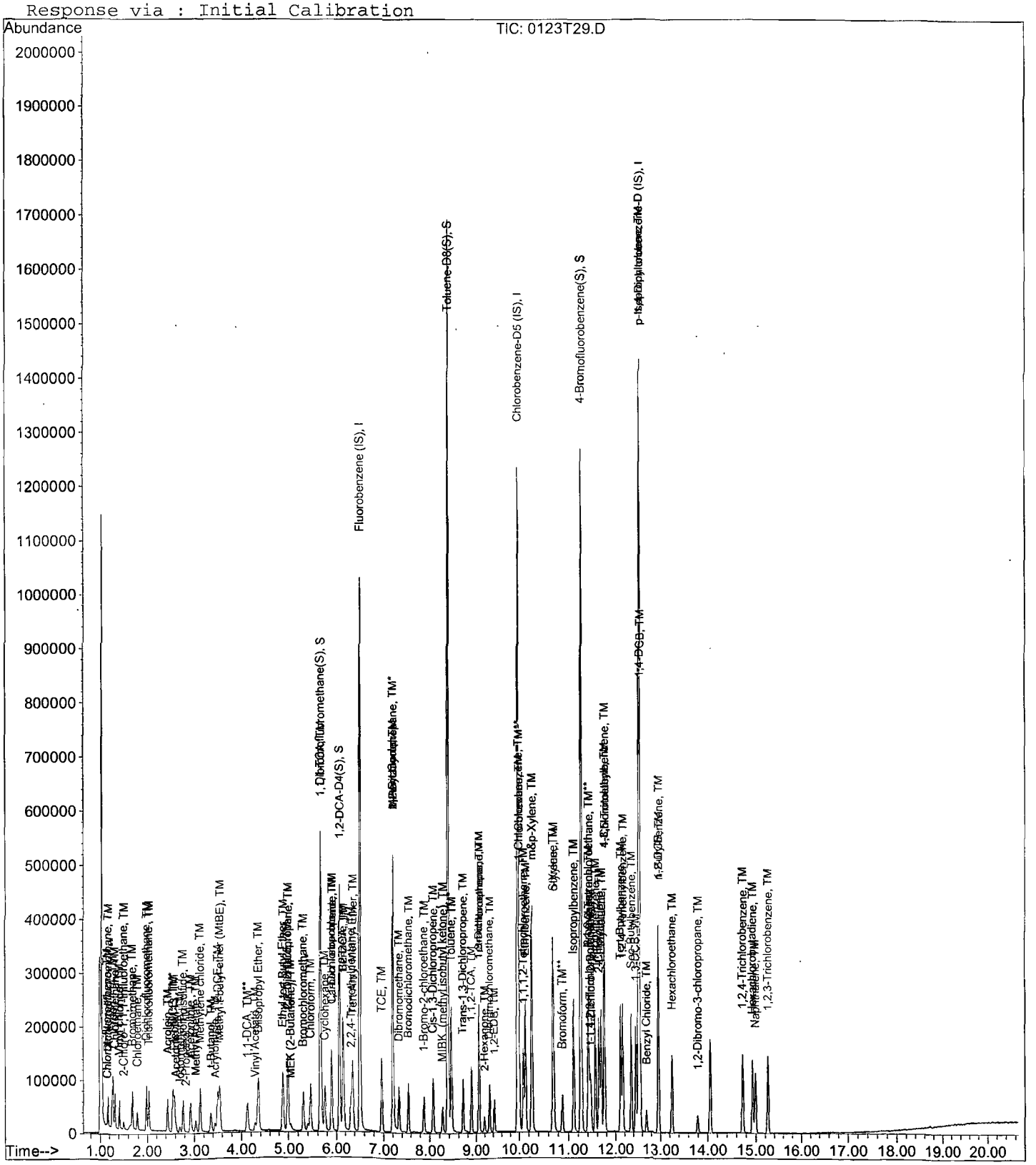
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0123T29.D Vial: 29
Acq On : 23 Jan 20 21:53 Operator:
Sample : 200123B LCSD 10ug/L Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 10:02 2020 Quant Results File: T0121W.RES

Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0124T24.D Vial: 24
Acq On : 24 Jan 20 21:25 Operator:
Sample : BA06272W02,3,4 MS 10ug/L Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 6:36 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Fluorobenzene (IS)	6.51	96	982941	25.0000 ppb		0.00
66) Chlorobenzene-D5 (IS)	9.96	117	772472	25.0000 ppb		0.00
81) 1,4-Dichlorobenzene-D (IS)	12.52	152	421932	25.0000 ppb		0.00
System Monitoring Compounds						
41) Dibromofluoromethane(S)	5.66	111	316053	24.8767 ppb		0.00
Spiked Amount 25.000			Recovery =	99.508%		
46) 1,2-DCA-D4(S)	6.07	65	337591	24.9101 ppb		0.00
Spiked Amount 25.000			Recovery =	99.640%		
67) Toluene-D8(S)	8.37	98	1157984	25.3141 ppb		0.00
Spiked Amount 25.000			Recovery =	101.256%		
75) 4-Bromofluorobenzene(S)	11.25	95	419209	24.2739 ppb		0.00
Spiked Amount 25.000			Recovery =	97.096%		
Target Compounds						Qvalue
3) Dichlorodifluoromethane	1.17	85	27128	9.3058 ppb		95
4) Freon 114	1.28	85	25906	8.4766 ppb		98
5) Chloromethane	1.33	50	36331	9.0767 ppb		99
6) Vinyl chloride	1.42	62	30891	8.9357 ppb		99
8) Bromomethane	1.68	96	27280	9.1654 ppb		98
9) Chloroethane	1.78	64	21170	9.1662 ppb		94
10) Dichlorofluoromethane	1.98	67	62365	9.3695 ppb		96
11) Trichlorofluoromethane	2.03	101	48336	9.8499 ppb		93
14) Acrolein	2.44	56	36405	89.6475 ppb		100
15) Acetone	2.62	43	7154	10.0644 ppb	#	88
16) Freon-113	2.58	101	28206	10.4681 ppb		95
17) 1,1-DCE	2.55	61	40608	9.2790 ppb		95
18) 2-Propanol	2.84	45	6187	28.1101 ppb		92
19) Acetonitrile	2.92	40	16546	139.1474 ppb		90
20) t-Butanol	3.36	59	20168	136.8075 ppb		97
21) Methyl Acetate	3.03	43	27359	8.8097 ppb		100
22) Iodomethane	2.70	142	4560	4.2276 ppb	#	79
23) Acrylonitrile	3.45	52	11907	10.0322 ppb	#	86
24) Methylene chloride	3.12	49	45000	9.3021 ppb		99
25) Carbon disulfide	2.77	76	70709	8.2914 ppb		98
26) Methyl t-butyl ether (MtBE	3.55	73	97762	9.1132 ppb		95
27) Trans-1,2-DCE	3.50	61	41449	9.0338 ppb		97
29) Diisopropyl Ether	4.36	45	94087	8.9469 ppb		95
31) 1,1-DCA	4.13	63	59140	9.4716 ppb		95
32) Vinyl Acetate	4.29	43	22752	10.7515 ppb		98
33) Ethyl tert Butyl Ether	4.89	59	96987	9.0087 ppb		96
34) MEK (2-Butanone)	5.06	43	15835	9.1490 ppb	#	87
35) Cis-1,2-DCE	4.99	61	54750	9.3588 ppb		98
36) 2,2-Dichloropropane	4.99	77	42663	8.2354 ppb	#	88
39) Chloroform	5.46	83	70924	9.6727 ppb		96
40) Bromochloromethane	5.31	49	30917	9.6160 ppb		92
42) 1,1,1-TCA	5.68	97	56595	9.7431 ppb		96
43) Cyclohexane	5.75	56	36423	9.1503 ppb		97
44) 1,1-Dichloropropene	5.90	75	40962	9.6773 ppb		93
45) 2,2,4-Trimethylpentane	6.33	57	68977	8.9730 ppb		98
47) Carbon Tetrachloride	5.90	117	48070	9.7433 ppb		94
48) Tert Amyl Methyl Ether	6.37	73	97835	9.2768 ppb		97
50) 1,2-DCA	6.17	62	55360	9.1355 ppb		95
51) Benzene	6.15	78	141484	9.4268 ppb		100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0124T24.D Vial: 24
Acq On : 24 Jan 20 21:25 Operator:
Sample : BA06272W02,3,4 MS 10ug/L Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 6:36 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
52)	TCE	6.96	130	41552	9.4068 ppb	95
53)	2-Pentanone	7.20	43	343327	123.4140 ppb	98
54)	1,2-Dichloropropane	7.21	63	38764	10.0207 ppb	100
55)	Bromodichloromethane	7.54	83	53912	9.6878 ppb	98
56)	Methyl Cyclohexane	7.20	83	41485	9.6217 ppb	99
57)	Dibromomethane	7.33	174	34115	9.4978 ppb	93
58)	MIBK (methyl isobutyl ket	8.26	43	30057	8.4866 ppb	95
59)	1-Bromo-2-chloroethane	7.88	63	26464	9.3832 ppb	95
61)	Cis-1,3-Dichloropropene	8.07	75	53686	8.8934 ppb	97
62)	Toluene	8.45	91	165669	9.4404 ppb	99
63)	Trans-1,3-Dichloropropene	8.70	75	50928	9.0336 ppb	96
64)	1,1,2-TCA	8.89	97	38407	9.6789 ppb	96
65)	2-Hexanone	9.20	43	19959	9.0979 ppb	99
68)	1,2-EDB	9.43	107	39865	9.7507 ppb	100
69)	Tetrachloroethene	9.06	166	45770	9.8047 ppb	100
70)	1-Chlorohexane	10.00	91	34969	9.4619 ppb	97
71)	1,1,1,2-Tetrachloroethane	10.09	131	44904	9.8242 ppb	97
72)	m&p-Xylene	10.26	91	258391	18.9024 ppb	100
73)	o-Xylene	10.69	91	139431	9.5832 ppb	98
74)	Styrene	10.71	104	100335	8.7367 ppb	97
76)	1,3-Dichloropropane	9.07	76	62627	9.9056 ppb	99
77)	Dibromochloromethane	9.32	129	46425	9.7803 ppb	97
78)	Chlorobenzene	9.99	112	115952	9.5940 ppb	99
79)	Ethylbenzene	10.13	91	171191	9.4603 ppb	98
80)	Bromoform	10.88	173	36911	10.0177 ppb	97
82)	Isopropylbenzene	11.11	105	162886	9.7338 ppb	99
83)	1,1,2,2-Tetrachloroethane	11.41	83	55522	10.4180 ppb	98
84)	1,2,3-Trichloropropane	11.45	110	17980	10.0013 ppb	96
85)	t-1,4-Dichloro-2-Butene	11.47	53	8674	9.3690 ppb	97
86)	Bromobenzene	11.41	77	88217	9.6592 ppb	96
87)	n-Propylbenzene	11.56	91	174819	9.6061 ppb	97
88)	4-Ethyltoluene	11.68	105	148663	9.4794 ppb	100
89)	2-Chlorotoluene	11.64	91	133046	9.5159 ppb	97
90)	1,3,5-Trimethylbenzene	11.75	105	139415	9.5136 ppb	98
91)	4-Chlorotoluene	11.76	91	134611	9.5707 ppb	100
92)	Tert-Butylbenzene	12.11	119	136791	9.3663 ppb	97
93)	1,2,4-Trimethylbenzene	12.16	105	139516	8.9700 ppb	99
94)	Sec-Butylbenzene	12.35	105	160261	9.9457 ppb	98
95)	p-Isopropyltoluene	12.51	119	138029	9.6263 ppb	97
96)	Benzyl Chloride	12.69	91	35579	7.0846 ppb	97
97)	1,3-DCB	12.45	146	90430	9.4482 ppb	99
98)	1,4-DCB	12.55	146	91582	9.1309 ppb	96
99)	n-Butylbenzene	12.96	91	109205	9.1401 ppb	97
100)	1,2-DCB	12.95	146	92685	9.3679 ppb	96
101)	Hexachloroethane	13.25	201	28679	9.8761 ppb	94
102)	1,2-Dibromo-3-chloropropan	13.80	157	11492	9.8294 ppb	92
103)	1,2,4-Trichlorobenzene	14.73	180	51243	8.4619 ppb	99
104)	Hexachlorobutadiene	14.93	225	30681	9.8338 ppb	97
105)	Naphthalene	14.99	127	5836	8.2816 ppb	91
106)	1,2,3-Trichlorobenzene	15.26	180	49430	8.9867 ppb	99

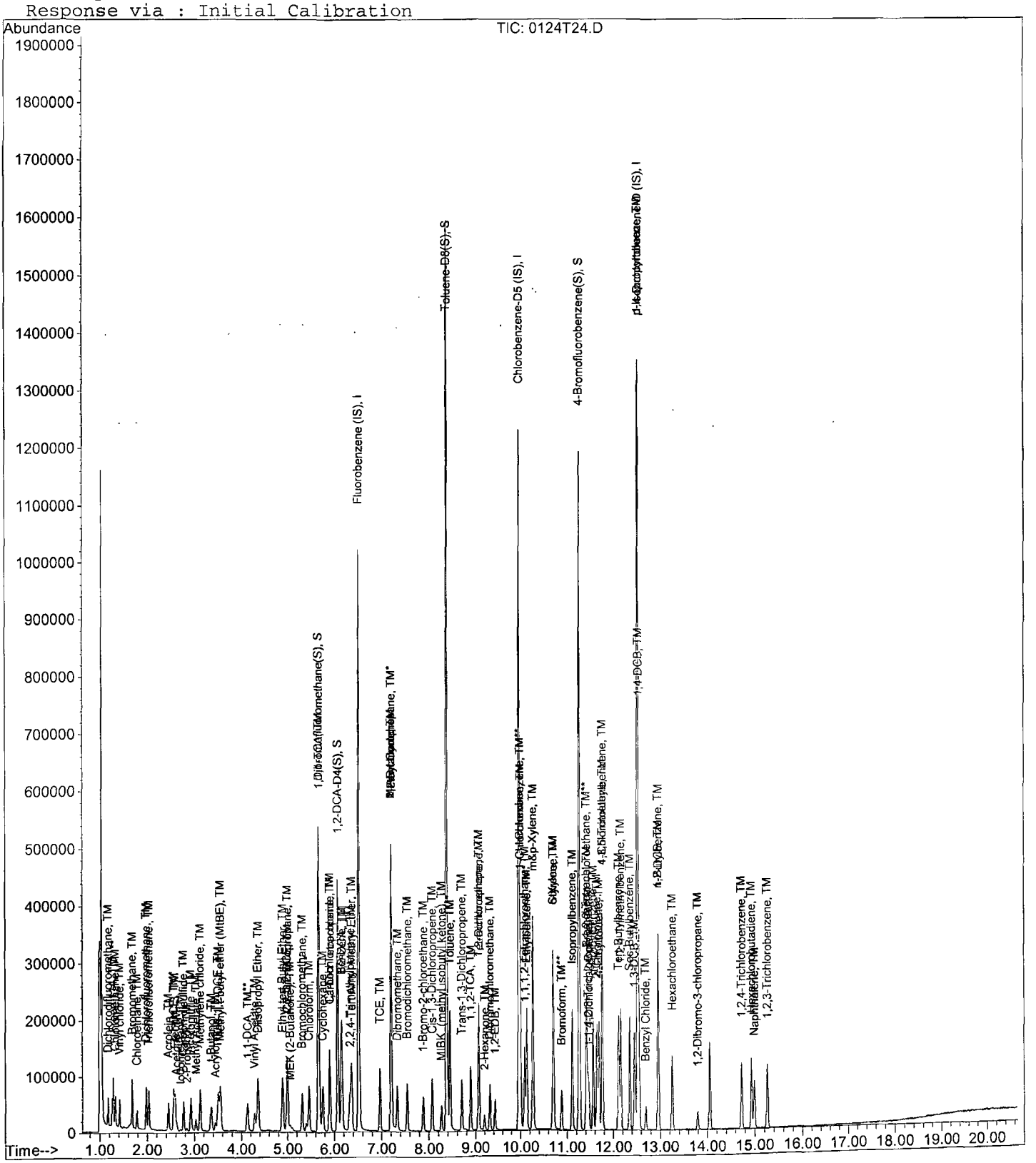
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0124T24.D Vial: 24
Acq On : 24 Jan 20 21:25 Operator:
Sample : BA06272W02,3,4 MS 10ug/L Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 6:36 2020 Quant Results File: T0121W.RES

Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0124T25.D Vial: 25
Acq On : 24 Jan 20 21:53 Operator:
Sample : BA06272W02,3,4 MSD 10ug/L Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 6:36 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Fluorobenzene (IS)	6.51	96	991901	25.0000 ppb		0.00
66) Chlorobenzene-D5 (IS)	9.96	117	778556	25.0000 ppb		0.00
81) 1,4-Dichlorobenzene-D (IS)	12.52	152	429180	25.0000 ppb		0.00
System Monitoring Compounds						
41) Dibromofluoromethane(S)	5.66	111	312857	24.3134 ppb		0.00
Spiked Amount 25.000			Recovery = 97.252%			
46) 1,2-DCA-D4(S)	6.07	65	339742	24.8283 ppb		0.00
Spiked Amount 25.000			Recovery = 99.312%			
67) Toluene-D8(S)	8.37	98	1159894	25.1223 ppb		0.00
Spiked Amount 25.000			Recovery = 100.488%			
75) 4-Bromofluorobenzene(S)	11.26	95	419465	24.0841 ppb		0.00
Spiked Amount 25.000			Recovery = 96.336%			
Target Compounds						Qvalue
3) Dichlorodifluoromethane	1.17	85	26632	9.0531 ppb		99
4) Freon 114	1.28	85	24797	8.0404 ppb		97
5) Chloromethane	1.32	50	35059	8.6230 ppb		95
6) Vinyl chloride	1.41	62	29728	8.5216 ppb		97
8) Bromomethane	1.68	96	24560	8.0659 ppb		94
9) Chloroethane	1.78	64	20510	8.7902 ppb		99
10) Dichlorofluoromethane	1.98	67	63021	9.3825 ppb		99
11) Trichlorofluoromethane	2.03	101	47961	9.6852 ppb		89
14) Acrolein	2.44	56	37396	91.2560 ppb		96
15) Acetone	2.62	43	6974	9.6093 ppb	#	88
16) Freon-113	2.58	101	26703	9.8208 ppb		91
17) 1,1-DCE	2.55	61	39104	8.8546 ppb		93
18) 2-Propanol	2.83	45	6454	29.0583 ppb	#	88
19) Acetonitrile	2.92	40	16758	139.6572 ppb		95
20) t-Butanol	3.36	59	20776	139.6588 ppb		97
21) Methyl Acetate	3.03	43	26924	8.5914 ppb		96
22) Iodomethane	2.70	142	7224	5.2577 ppb	#	90
23) Acrylonitrile	3.45	52	12884	10.7573 ppb		83
24) Methylene chloride	3.12	49	44908	9.1992 ppb		94
25) Carbon disulfide	2.77	76	70840	8.2318 ppb		96
26) Methyl t-butyl ether (MtBE	3.55	73	99170	9.1610 ppb		100
27) Trans-1,2-DCE	3.50	61	41562	8.9766 ppb		97
29) Diisopropyl Ether	4.36	45	97718	9.2083 ppb		98
31) 1,1-DCA	4.13	63	59901	9.5069 ppb		95
32) Vinyl Acetate	4.29	43	22096	10.3471 ppb		99
33) Ethyl tert Butyl Ether	4.89	59	100194	9.2225 ppb		100
34) MEK (2-Butanone)	5.05	43	15678	8.9774 ppb	#	84
35) Cis-1,2-DCE	5.00	61	52834	8.9497 ppb		96
36) 2,2-Dichloropropane	4.99	77	41184	7.8781 ppb		98
39) Chloroform	5.46	83	70134	9.4786 ppb		99
40) Bromochloromethane	5.31	49	31112	9.5892 ppb		93
42) 1,1,1-TCA	5.67	97	57190	9.7566 ppb		95
43) Cyclohexane	5.75	56	37107	9.2379 ppb		97
44) 1,1-Dichloropropene	5.90	75	39528	9.2542 ppb		98
45) 2,2,4-Trimethylpentane	6.32	57	66440	8.5649 ppb		98
47) Carbon Tetrachloride	5.90	117	49252	9.8927 ppb		96
48) Tert Amyl Methyl Ether	6.36	73	97595	9.1705 ppb	#	89
50) 1,2-DCA	6.17	62	56004	9.1583 ppb		96
51) Benzene	6.15	78	141119	9.3176 ppb		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0124T25.D Vial: 25
Acq On : 24 Jan 20 21:53 Operator:
Sample : BA06272W02,3,4 MSD 10ug/L Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 6:36 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
52)	TCE	6.96	130	40558	9.0989	ppb		93
53)	2-Pentanone	7.20	43	350041	124.6909	ppb		99
54)	1,2-Dichloropropane	7.21	63	38491	9.8602	ppb	#	97
55)	Bromodichloromethane	7.54	83	55508	9.8845	ppb		96
56)	Methyl Cyclohexane	7.20	83	39914	9.1737	ppb		93
57)	Dibromomethane	7.33	174	34592	9.5436	ppb		99
58)	MIBK (methyl isobutyl ket	8.27	43	31537	8.8241	ppb		92
59)	1-Bromo-2-chloroethane	7.88	63	26600	9.3463	ppb		91
61)	Cis-1,3-Dichloropropene	8.07	75	53656	8.8081	ppb		98
62)	Toluene	8.45	91	162198	9.1591	ppb		99
63)	Trans-1,3-Dichloropropene	8.70	75	51423	9.0390	ppb		97
64)	1,1,2-TCA	8.89	97	40312	10.0672	ppb		97
65)	2-Hexanone	9.20	43	20188	9.1144	ppb		98
68)	1,2-EDB	9.43	107	41140	9.9839	ppb		95
69)	Tetrachloroethene	9.06	166	47854	10.1710	ppb		95
70)	1-Chlorohexane	10.00	91	34250	9.2264	ppb		98
71)	1,1,1,2-Tetrachloroethane	10.09	131	44685	9.6999	ppb		98
72)	m&p-Xylene	10.26	91	262358	19.0426	ppb		96
73)	o-Xylene	10.69	91	137557	9.3805	ppb		97
74)	Styrene	10.71	104	101919	8.7945	ppb		98
76)	1,3-Dichloropropane	9.07	76	63469	9.9603	ppb		97
77)	Dibromochloromethane	9.31	129	48472	10.1317	ppb		99
78)	Chlorobenzene	9.99	112	116831	9.5912	ppb		98
79)	Ethylbenzene	10.13	91	169728	9.3062	ppb		97
80)	Bromoform	10.88	173	36491	9.8263	ppb		97
82)	Isopropylbenzene	11.11	105	160876	9.4514	ppb		98
83)	1,1,2,2-Tetrachloroethane	11.40	83	56410	10.4058	ppb		98
84)	1,2,3-Trichloropropane	11.45	110	17945	9.8133	ppb		89
85)	t-1,4-Dichloro-2-Butene	11.47	53	8117	8.6193	ppb	#	79
86)	Bromobenzene	11.41	77	87960	9.4684	ppb		98
87)	n-Propylbenzene	11.56	91	175846	9.4994	ppb		98
88)	4-Ethyltoluene	11.68	105	151861	9.5198	ppb		100
89)	2-Chlorotoluene	11.64	91	133502	9.3872	ppb		97
90)	1,3,5-Trimethylbenzene	11.75	105	141960	9.5237	ppb		100
91)	4-Chlorotoluene	11.76	91	136944	9.5722	ppb		99
92)	Tert-Butylbenzene	12.11	119	140043	9.4270	ppb		98
93)	1,2,4-Trimethylbenzene	12.16	105	145067	9.1694	ppb		99
94)	Sec-Butylbenzene	12.35	105	162036	9.8861	ppb		99
95)	p-Isopropyltoluene	12.51	119	140366	9.6239	ppb		100
96)	Benzyl Chloride	12.69	91	36672	7.1790	ppb	#	96
97)	1,3-DCB	12.45	146	95384	9.7975	ppb		99
98)	1,4-DCB	12.55	146	95524	9.3630	ppb		98
99)	n-Butylbenzene	12.96	91	113887	9.3710	ppb		99
100)	1,2-DCB	12.95	146	95948	9.5339	ppb		98
101)	Hexachloroethane	13.25	201	27939	9.4740	ppb		97
102)	1,2-Dibromo-3-chloropropan	13.79	157	11743	9.8706	ppb		99
103)	1,2,4-Trichlorobenzene	14.73	180	59003	9.5788	ppb		97
104)	Hexachlorobutadiene	14.93	225	31384	9.8892	ppb		96
105)	Naphthalene	14.99	127	6882	9.3014	ppb		96
106)	1,2,3-Trichlorobenzene	15.26	180	55832	9.9792	ppb		98

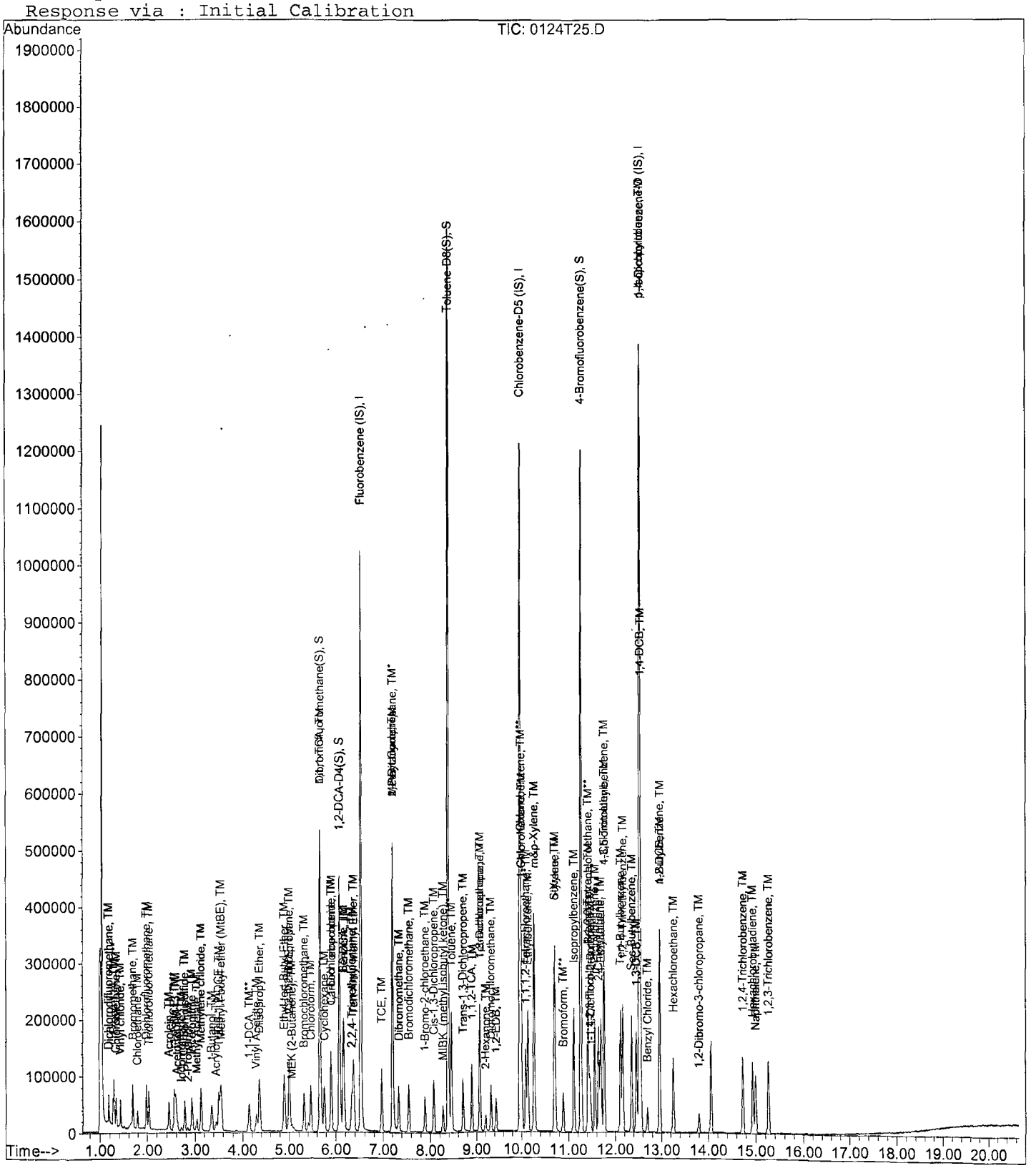
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0124T25.D Vial: 25
Acq On : 24 Jan 20 21:53 Operator:
Sample : BA06272W02,3,4 MSD 10ug/L Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 6:36 2020 Quant Results File: T0121W.RES

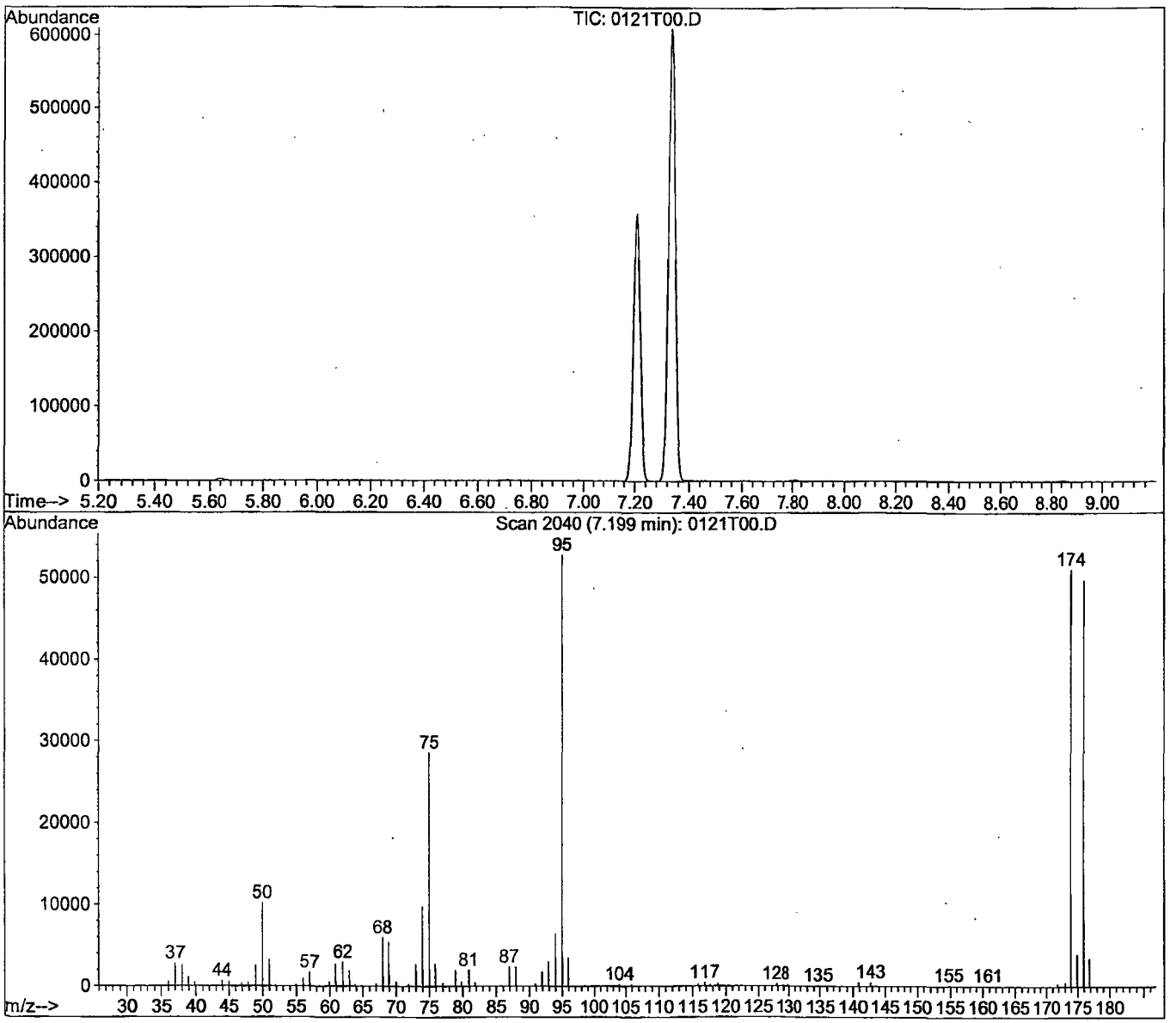
Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration



BFB

Data File : M:\THOR\DATA\T200121\0121T00.D Vial: 1
Acq On : 21 Jan 20 6:29 Operator:
Sample : 25ug/L BFB STD 12/29/19 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B

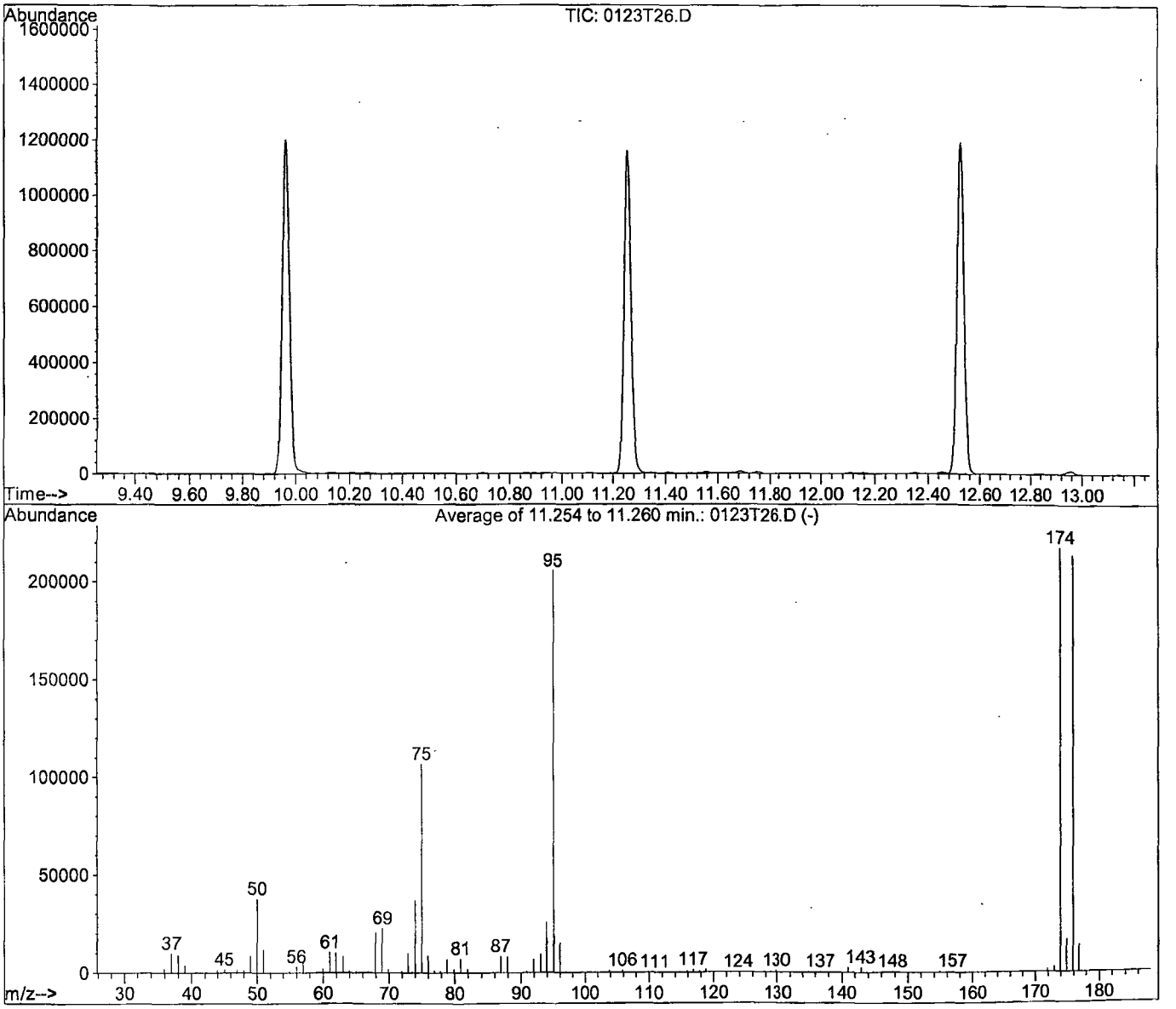


Spectrum Information: Scan 2040

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	19.4	10240	PASS
75	95	30	60	54.2	28568	PASS
95	95	100	100	100.0	52752	PASS
96	95	5	9	6.5	3454	PASS
173	174	0.00	2	1.1	544	PASS
174	95	50	200	96.9	51112	PASS
175	174	5	9	7.8	3990	PASS
176	174	95	101	97.3	49728	PASS
177	176	5	9	7.1	3512	PASS

Data File : M:\THOR\DATA\T200121\0123t26.D Vial: 26
Acq On : 23 Jan 20 20:28 Operator:
Sample : 25ug/L BFB STD 12/29/19 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B

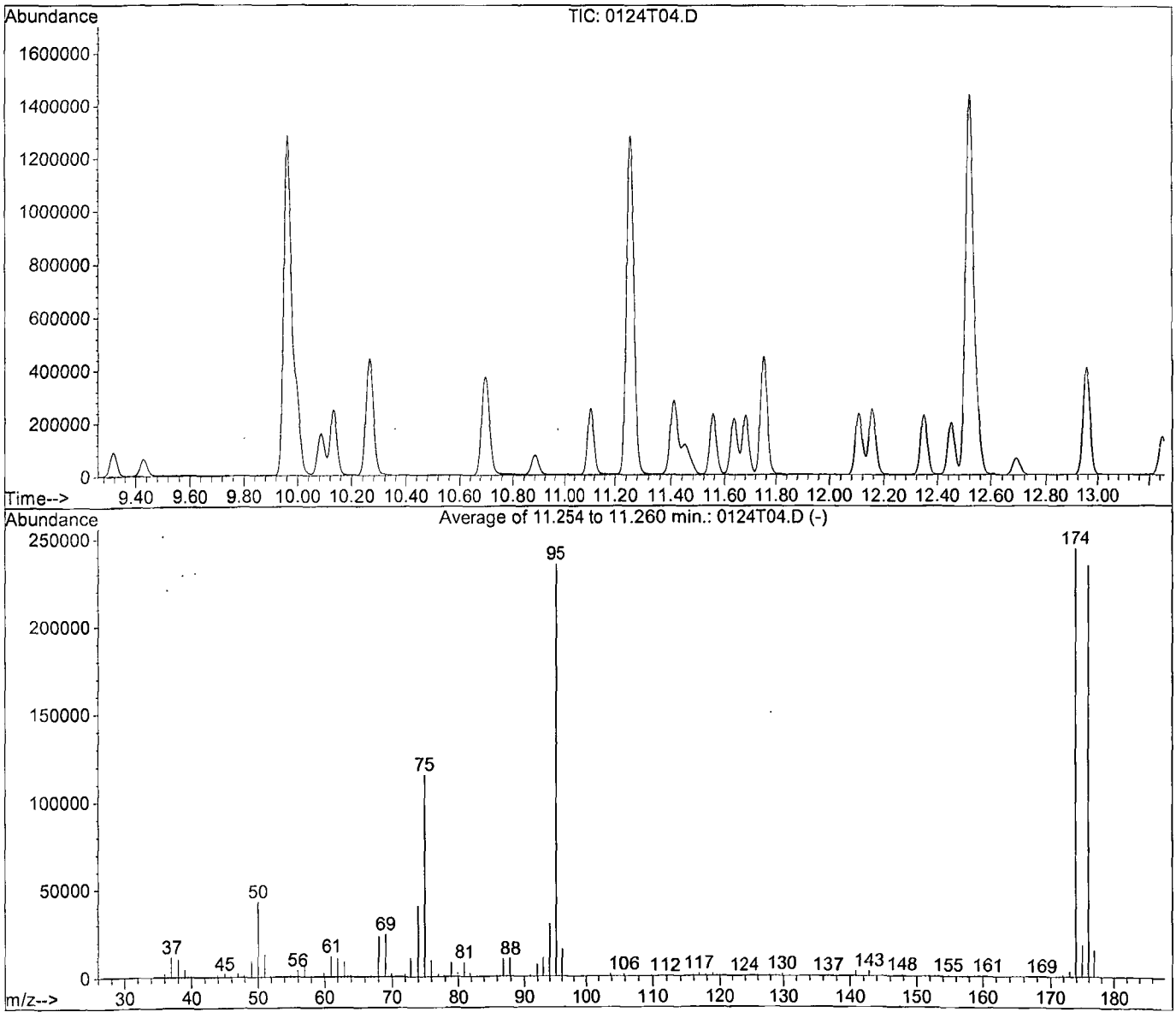


Spectrum Information: Average of 11.254 to 11.260 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	18.4	37835	PASS
75	95	30	60	51.9	106779	PASS
95	95	100	100	100.0	205547	PASS
96	95	5	9	7.3	15066	PASS
173	174	0.00	2	1.2	2552	PASS
174	95	50	200	106.0	217963	PASS
175	174	5	9	7.6	16543	PASS
176	174	95	101	98.3	214165	PASS
177	176	5	9	6.5	14002	PASS

Data File : M:\THOR\DATA\T200121\0124T04.D Vial: 4
Acq On : 24 Jan 20 11:58 Operator:
Sample : 25ug/L BFB STD 12/29/19 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B



AutoFind: Scans 3301, 3302, 3303; Background Corrected with Scan 3284

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	18.2	42840	PASS
75	95	30	60	48.9	115040	PASS
95	95	100	100	100.0	235051	PASS
96	95	5	9	6.6	15563	PASS
173	174	0.00	2	1.1	2778	PASS
174	95	50	200	103.7	243797	PASS
175	174	5	9	7.5	18165	PASS
176	174	95	101	95.9	233899	PASS
177	176	5	9	6.5	15091	PASS

0124T04.D T0121W.M Mon Jan 27 14:56:33 2020

Thor 8260 Standard Prep

Thor 8260 Water Calibration Curve

Prepared By (Initials): CH

0.3ug/L

Prepared: 01/21/20

Expires: 02/20/20

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	APPL Mix Name	Conc. (ug/mL)	Reference To APPL Prep Date	Exp. Date	Exp. Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/L)
VOA STD. 9	O2SI	0.3ug/L	5	Prepared 01/15/20	03/15/20	N/A	3uL	50mL	P&T Water	0.3
VOA STD. 10	O2SI		5	Prepared 01/15/20	03/15/20	N/A	3uL			0.3
VOA STD. 12	O2SI		5	Prepared 01/15/20	03/15/20	N/A	3uL			0.3
VOA STD TBA	Various		250	Prepared 01/15/20	01/15/20	N/A	2uL			10

0.5ug/L

Prepared: 01/21/20

Expires: 02/20/20

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	APPL Mix Name	Conc. (ug/mL)	Reference To APPL Prep Date	Exp. Date	Exp. Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/L)
VOA STD. 9	O2SI	0.5ug/L	5	Prepared 01/15/20	03/15/20	N/A	5uL	50mL	P&T Water	0.5
VOA STD. 10	O2SI		5	Prepared 01/15/20	03/15/20	N/A	5uL			0.5
VOA STD. 12	O2SI		5	Prepared 01/15/20	03/15/20	N/A	5uL			0.5
VOA STD. TBA	Various		250	Prepared 01/15/20	01/15/20	N/A	5uL			25

1.0ug/L

Prepared: 01/21/20

Expires: 02/20/20

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	APPL Mix Name	Conc. (ug/mL)	Reference To APPL Prep Date	Exp. Date	Exp. Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/L)
VOA STD. 9	O2SI	1.0ug/L	5	Prepared 01/15/20	03/15/20	N/A	10uL	50mL	P&T Water	1
VOA STD. 10	O2SI		5	Prepared 01/15/20	03/15/20	N/A	10uL			1
VOA STD. 12	O2SI		5	Prepared 01/15/20	03/15/20	N/A	10uL			1
VOA STD. TBA	Various		250	Prepared 01/15/20	01/15/20	N/A	10uL			50

2.0ug/L

Prepared: 01/21/20

Expires: 02/20/20

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	APPL Mix Name	Conc. (ug/mL)	Reference To APPL Prep Date	Exp. Date	Exp. Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/L)
VOA STD. 9	O2SI	2.0ug/L	5	Prepared 01/15/20	03/15/20	N/A	20uL	50mL	P&T Water	2
VOA STD. 10	O2SI		5	Prepared 01/15/20	03/15/20	N/A	20uL			2
VOA STD. 12	O2SI		5	Prepared 01/15/20	03/15/20	N/A	20uL			2
VOA STD. TBA	Various		250	Prepared 01/15/20	01/15/20	N/A	15uL			75

5ug/L

Prepared: 01/21/20

Expires: 02/20/20

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	APPL Mix Name	Conc. (ug/mL)	Reference To APPL Prep Date	Exp. Date	Exp Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/L)
VOA STD. 7	Various	5ug/L	50	Prepared 01/15/20	03/15/20	N/A	5uL	50mL	P&T Water	5
VOA STD. 8	Phenova		50	Prepared 01/15/20	01/15/20	N/A	5uL			5
VOA STD. 1	O2SI		50	Prepared 01/15/20	03/15/20	N/A	5uL			5
VOA STD. 2	O2SI		50	Prepared 01/15/20	03/15/20	N/A	5uL			5
VOA STD. TBA	Various		250	Prepared 01/15/20	01/15/20	N/A	20uL			100

10ug/L

Prepared: 01/21/20

Expires: 02/20/20

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	APPL Mix Name	Conc. (ug/mL)	Reference To APPL Prep Date	Exp. Date	Exp. Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/L)
VOA STD. 7	Various	10ug/L	50	Prepared 01/15/20	03/15/20	N/A	10uL	50mL	P&T Water	10
VOA STD. 8	Phenova		50	Prepared 01/15/20	01/15/20	N/A	10uL			10
VOA STD. 1	O2SI		50	Prepared 01/15/20	03/15/20	N/A	10uL			10
VOA STD. 2	O2SI		50	Prepared 01/15/20	03/15/20	N/A	10uL			10
VOA STD. TBA	Various		250	Prepared 01/15/20	01/15/20	N/A	25uL			125

20ug/L

Prepared: 01/21/20

Expires: 02/20/20

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	APPL Mix Name	Conc. (ug/mL)	Reference To APPL Prep Date	Exp. Date	Exp. Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/L)
VOA STD. 7	Various	20ug/L	50	Prepared 01/15/20	03/15/20	N/A	20uL	50mL	P&T Water	20
VOA STD. 8	Phenova		50	Prepared 01/15/20	01/15/20	N/A	20uL			20
VOA STD. 1	O2SI		50	Prepared 01/15/20	03/15/20	N/A	20uL			20
VOA STD. 2	O2SI		50	Prepared 01/15/20	03/15/20	N/A	20uL			20
VOA STD. TBA	Various		250	Prepared 01/15/20	01/15/20	N/A	30uL			150

40ug/L

Prepared: 01/21/20

Expires: 02/20/20

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	APPL Mix Name	Conc. (ug/mL)	Reference To APPL Prep Date	Exp. Date	Exp. Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/L)
VOA STD. 7	Various	40ug/L	50	Prepared 01/15/20	03/15/20	N/A	40uL	50mL	P&T Water	40
VOA STD. 8	Phenova		50	Prepared 01/15/20	01/15/20	N/A	40uL			40
VOA STD. 1	O2SI		50	Prepared 01/15/20	03/15/20	N/A	40uL			40
VOA STD. 2	O2SI		50	Prepared 01/15/20	03/15/20	N/A	40uL			40
VOA STD. TBA	Various		250	Prepared 01/15/20	01/15/20	N/A	35uL			175

100ug/L

Prepared: 01/21/20

Expires: 02/20/20

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	APPL Mix Name	Conc. (ug/mL)	Reference To APPL Prep Date	Exp. Date	Exp. Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/L)
VOA STD. 7	Various	100ug/L	50	Prepared 01/15/20	03/15/20	N/A	100uL	50mL	P&T Water	100
VOA STD. 8	Phenova		50	Prepared 01/15/20	01/15/20	N/A	100uL			100
VOA STD. 1	O2SI		50	Prepared 01/15/20	03/15/20	N/A	100uL			100
VOA STD. 2	O2SI		50	Prepared 01/15/20	03/15/20	N/A	100uL			100
VOA STD. TBA	Various		250	Prepared 01/15/20	01/15/20	N/A	40uL			200

Thor 8260 Water Second Source (SS)

Prepared: 01/21/20

Prepared By (Initials): CH

Expires: 02/20/20

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	APPL Mix Name	Conc. (ug/mL)	Reference To APPL Prep Date	Exp. Date	Exp. Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/L)
VOA STD. 4	Phenova	8260 Water SS	50	Prepared 01/15/20	03/15/20	N/A	10uL	50mL	P&T Water	10
VOA STD. 5	O2SI	8260 Water SS	50	Prepared 01/15/20	03/15/20	N/A	10uL			10
VOA STD. 6	Various	8260 Water SS	50	Prepared 01/15/20	01/01/20	N/A	10uL			10
Voa STD. TBA	Various	8260 Water SS	250	Prepared 01/15/20	01/01/20	N/A	25uL			250

8260 Water Continuing Calibrations (CCV)/ Lab Control Spikes (LCS)

Prepared: 01/21/20

Prepared By (Initials): CH

Expires: 01/22/20

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	APPL Mix Name	Conc. (ug/mL)	Reference To APPL Prep Date	Exp. Date	Exp. Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/L)
VOA STD. 7	Various	CCV/ LCS	50	Prepared 01/15/20	03/15/20	N/A	10uL	50mL	P&T Water	10
VOA STD. 8	Phenova	CCV/ LCS	50	Prepared 01/15/20	01/15/20	N/A	10uL			10
VOA STD. 1	O2SI	CCV/ LCS	50	Prepared 01/15/20	03/15/20	N/A	10uL			10
VOA STD. 2	O2SI	CCV/ LCS	50	Prepared 01/15/20	03/15/20	N/A	10uL			10
VOA STD. TBA	Various	CCV/ LCS	250	Prepared 01/15/20	01/15/20	N/A	25uL			125

LCS (X4 Ketones)

Prepared: 01/21/20

Prepared By (Initials): CH

Expires: 01/22/20

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	APPL Mix Name	Conc. (ug/mL)	Reference To APPL Prep Date	Exp. Date	Exp. Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/L)
VOA STD. 7	Various	LCS X4 Ketones	50	Prepared 01/15/20	03/15/20	N/A	10uL	50mL	P&T Water	10
VOA STD. 8	Phenova	LCS X4 Ketones	50	Prepared 01/15/20	01/15/20	N/A	10uL			10
VOA STD. 1	O2SI	LCS X4 Ketones	50	Prepared 01/15/20	03/15/20	N/A	10uL			10
VOA STD. 2	O2SI	LCS X4 Ketones	50	Prepared 01/15/20	03/15/20	N/A	40uL			40
VOA STD. TBA	Various	LCS X4 Ketones	250	Prepared 01/15/20	01/15/20	N/A	25uL			125

Thor 8260 Surrogate

Prepared: 09/23/19 — **Prepared By (Initials): DG**

Expires: 09/12/20

Methanol Lot No: 58243

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	Supplier P/N#	Conc. (ug/mL)	Lot Number - QA Number	Exp. Date (1 yr.)	Exp. Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/mL)
8260 Surrogate Solution	O2SI	120002-01	2,000	**348756-39339**	**09/12/20**	**02/10/22**	375uL	15mL	Methanol	50

Thor 8260 Internal Standard

Prepared: 11/11/19 — **Prepared By (Initials): DG**

Expires: 11/10/20

Methanol Lot No: 58243

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	Supplier P/N#	Conc. (ug/mL)	Lot Number - QA Number	Exp. Date (1 yr.)	Exp. Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/mL)
Internal Standard Solution	Phenova	ALO-101215	2,500	**CL12444-40616**	**11/11/20**	**04/30/23**	300uL	15mL	Methanol	50

Injection Log

Directory: M:\THOR\DATA\T200121\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	1	0121T00.D	1	25ug/L BFB STD 12/29/19	IS&S 12/26/19,12/26/19	21 Jan 20 6:29
2	2	0121T02.D	1	0.3ug/L VOC STD 1/21/20	IS&S 12/26/19,12/26/19	21 Jan 20 7:41
3	3	0121T03.D	1	0.5ug/L VOC STD 1/21/20	IS&S 12/26/19,12/26/19	21 Jan 20 8:09
4	4	0121T04.D	1	1ug/L VOC STD 1/21/20	IS&S 12/26/19,12/26/19	21 Jan 20 8:37
5	5	0121T05.D	1	2ug/L VOC STD 1/21/20	IS&S 12/26/19,12/26/19	21 Jan 20 9:05
6	6	0121T06.D	1	5ug/L VOC STD 1/21/20	IS&S 12/26/19,12/26/19	21 Jan 20 9:34
7	7	0121T07.D	1	10ug/L VOC STD 1/21/20	IS&S 12/26/19,12/26/19	21 Jan 20 10:02
8	8	0121T08.D	1	20ug/L VOC STD 1/21/20	IS&S 12/26/19,12/26/19	21 Jan 20 10:30
9	9	0121T09.D	1	40ug/L VOC STD 1/21/20	IS&S 12/26/19,12/26/19	21 Jan 20 10:59
10	10	0121T10.D	1	100ug/L VOC STD 1/21/20	IS&S 12/26/19,12/26/19	21 Jan 20 11:27
11	13	0121T13.D	1	(SS) 10ug/L VOC STD 1/21/20	IS&S 12/26/19,12/26/19	21 Jan 20 12:52
12	26	0123T26.D	1	25ug/L BFB STD 12/29/19	IS&S 12/26/19,12/26/19	23 Jan 20 20:28
13	27	0123T27.D	1	200123B CCV 10ug/L	IS&S 12/26/19,12/26/19	23 Jan 20 20:56
14	28	0123T28.D	1	200123B LCS 10ug/L	IS&S 12/26/19,12/26/19	23 Jan 20 21:25
15	29	0123T29.D	1	200123B LCSD 10ug/L	IS&S 12/26/19,12/26/19	23 Jan 20 21:53
16	33	0123T33.D	1	200123B BLK	IS&S 12/26/19,12/26/19	23 Jan 20 23:46
17	34	0123T34.D	1	BA06277W01	IS&S 12/26/19,12/26/19	24 Jan 20 00:14
18	35	0123T35.D	1	BA06278W01	IS&S 12/26/19,12/26/19	24 Jan 20 00:42
19	36	0123T36.D	1	BA06283W01	IS&S 12/26/19,12/26/19	24 Jan 20 1:11
20	37	0123T37.D	1	BA06271W01	IS&S 12/26/19,12/26/19	24 Jan 20 1:39
21	38	0123T38.D	1	BA06272W01	IS&S 12/26/19,12/26/19	24 Jan 20 2:07
22	39	0123T39.D	1	BA06273W01	IS&S 12/26/19,12/26/19	24 Jan 20 2:36
23	40	0123T40.D	1	BA06274W01	IS&S 12/26/19,12/26/19	24 Jan 20 3:04
24	41	0123T41.D	1	BA06275W01	IS&S 12/26/19,12/26/19	24 Jan 20 3:32
25	42	0123T42.D	1	BA06276W01	IS&S 12/26/19,12/26/19	24 Jan 20 4:00
26	43	0123T43.D	1	BA06279W01	IS&S 12/26/19,12/26/19	24 Jan 20 4:29
27	44	0123T44.D	1	BA06280W01	IS&S 12/26/19,12/26/19	24 Jan 20 4:57
28	45	0123T45.D	1	BA06281W01	IS&S 12/26/19,12/26/19	24 Jan 20 5:25
29	46	0123T46.D	1	BA06282W01	IS&S 12/26/19,12/26/19	24 Jan 20 5:54
30	47	0123T47.D	1	BA06284W01	IS&S 12/26/19,12/26/19	24 Jan 20 6:22
31	52	0123T52.D	1	Ending CCV 10ug/L 1/23/20	IS&S 12/26/19,12/26/19	24 Jan 20 8:43
32	4	0124T04.D	1	25ug/L BFB STD 12/29/19	IS&S 12/26/19,12/26/19	24 Jan 20 11:58
33	5	0124T05.D	1	200124A CCV/LCS 10ug/L	IS&S 12/26/19,12/26/19	24 Jan 20 12:26
34	24	0124T24.D	1	BA06272W02,3,4 MS 10ug/L	IS&S 12/26/19,12/26/19	24 Jan 20 21:25
35	25	0124T25.D	1	BA06272W02,3,4 MSD 10ug/L	IS&S 12/26/19,12/26/19	24 Jan 20 21:53
36	28	0124T28.D	1	Ending CCV 10ug/L 1/24/20	IS&S 12/26/19,12/26/19	24 Jan 20 23:18

ORGANICS
Calibration Data

VOLATILE ORGANIC ANALYSIS
VOLATILE ORGANIC COMPOUNDS

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Initial Cal. Date: 01/16/20
Matrix: water Instrument: Thor
Initials: DG

			0116T20.D	0116T21.D	0116T22.D	0116T23.D	0116T24.D	0116T25.D	0116T26.D										
		Compound	1	2	3	4	5	6	7				Avg	%RSD	Type	r^2	Q	MRF
1	I	Fluorobenzene (IS)																
2	TMHBL	Gasoline C6-C10	14.6	6.167	3.214	1.315	0.8187	0.7104	0.6355				3.9	130	TMHBL	1.000		
3	I	Chlorobenzene-D5 (IS)																
4	I	1,4-Dichlorobenzene-D (IS)																
5																		
6																		
7																		
8																		
9																		
10																		
11																		
12																		
13																		
14																		
15																		
16																		
17																		
18																		
19																		
20																		
21																		
22																		
23																		
24																		
25																		
26																		
27																		
28																		
29																		
30																		
31																		
32																		
33																		
34																		
35																		

Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T200116\0116T20.D Vial: 14
Acq On : 16 Jan 20 22:12 Operator:
Sample : 20ug/L GAS STD 1/16/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 17 10:02 2020 Quant Results File: TGAS0116.RES

Quant Method : M:\THOR\DATA\T200116\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 09:40:47 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	TIC	1065212	25.000	ppb	0.00
3) Chlorobenzene-D5 (IS)	9.96	TIC	1248213	25.000	ppb	0.00
4) 1,4-Dichlorobenzene-D (IS)	12.52	TIC	1244038	25.000	ppb	0.00
System Monitoring Compounds						
Target Compounds						Qvalue
2) Gasoline C6-C10	8.37	TIC	12439089m	13.048	ppb	100

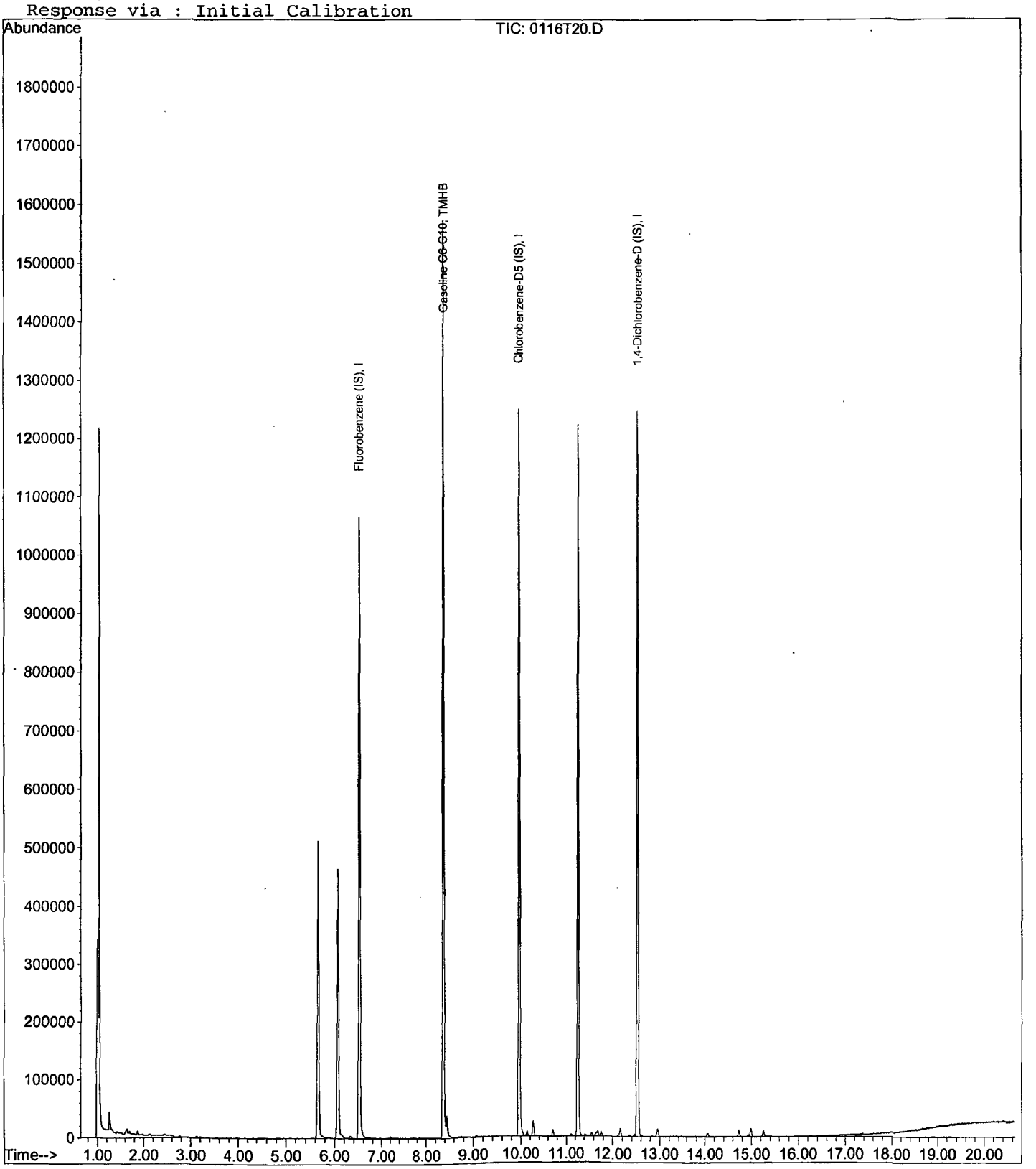
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200116\0116T20.D Vial: 14
Acq On : 16 Jan 20 22:12 Operator:
Sample : 20ug/L GAS STD 1/16/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 17 10:02 2020 Quant Results File: TGAS0116.RES

Method : M:\THOR\DATA\T200116\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T200116\0116T21.D Vial: 15
Acq On : 16 Jan 20 22:40 Operator:
Sample : 50ug/L GAS STD 1/16/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 17 10:03 2020 Quant Results File: TGAS0116.RES

Quant Method : M:\THOR\DATA\T200116\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 09:40:47 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	TIC	1030969	25.000	ppb	0.00
3) Chlorobenzene-D5 (IS)	9.96	TIC	1239650	25.000	ppb	0.00
4) 1,4-Dichlorobenzene-D (IS)	12.52	TIC	1263422	25.000	ppb	0.00

System Monitoring Compounds

Target Compounds						Qvalue
2) Gasoline C6-C10	8.37	TIC	12715661m	60.359	ppb	100

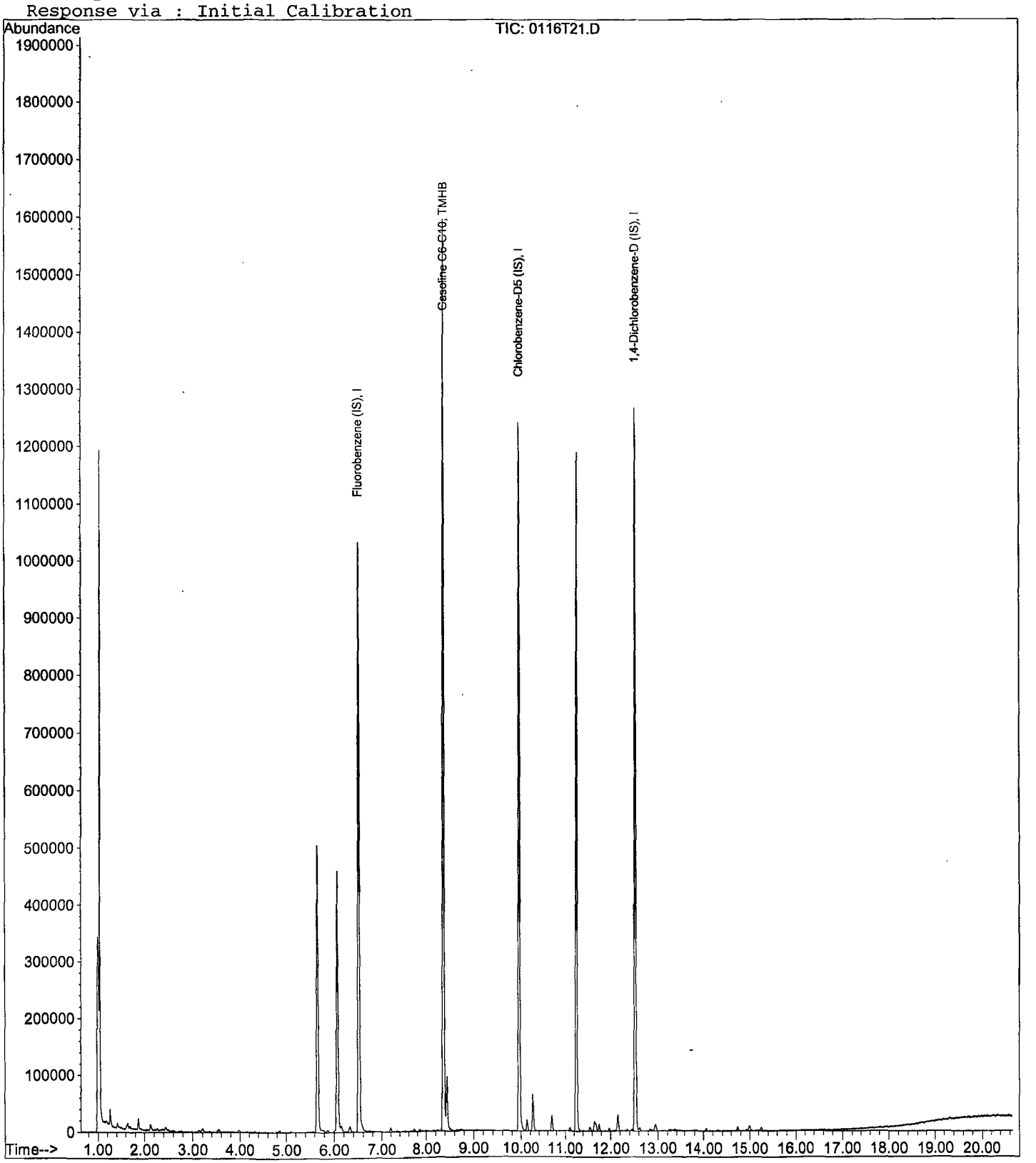
(#) = qualifier out of range (m) = manual integration
0116T21.D TGAS0116.M Fri Jan 17 10:09:48 2020

Quantitation Report

Data File : M:\THOR\DATA\T200116\0116T21.D Vial: 15
Acq On : 16 Jan 20 22:40 Operator:
Sample : 50ug/L GAS STD 1/16/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 17 10:03 2020 Quant Results File: TGAS0116.RES

Method : M:\THOR\DATA\T200116\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T200116\0116T22.D Vial: 16
Acq On : 16 Jan 20 23:08 Operator:
Sample : 100ug/L GAS STD 1/16/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 17 10:03 2020 Quant Results File: TGAS0116.RES

Quant Method : M:\THOR\DATA\T200116\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 09:40:47 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	TIC	1047091	25.000	ppb	0.00
3) Chlorobenzene-D5 (IS)	9.96	TIC	1238298	25.000	ppb	0.00
4) 1,4-Dichlorobenzene-D (IS)	12.52	TIC	1235111	25.000	ppb	0.00

System Monitoring Compounds

Target Compounds						Qvalue
2) Gasoline C6-C10	8.37	TIC	13461175m	98.004	ppb	100

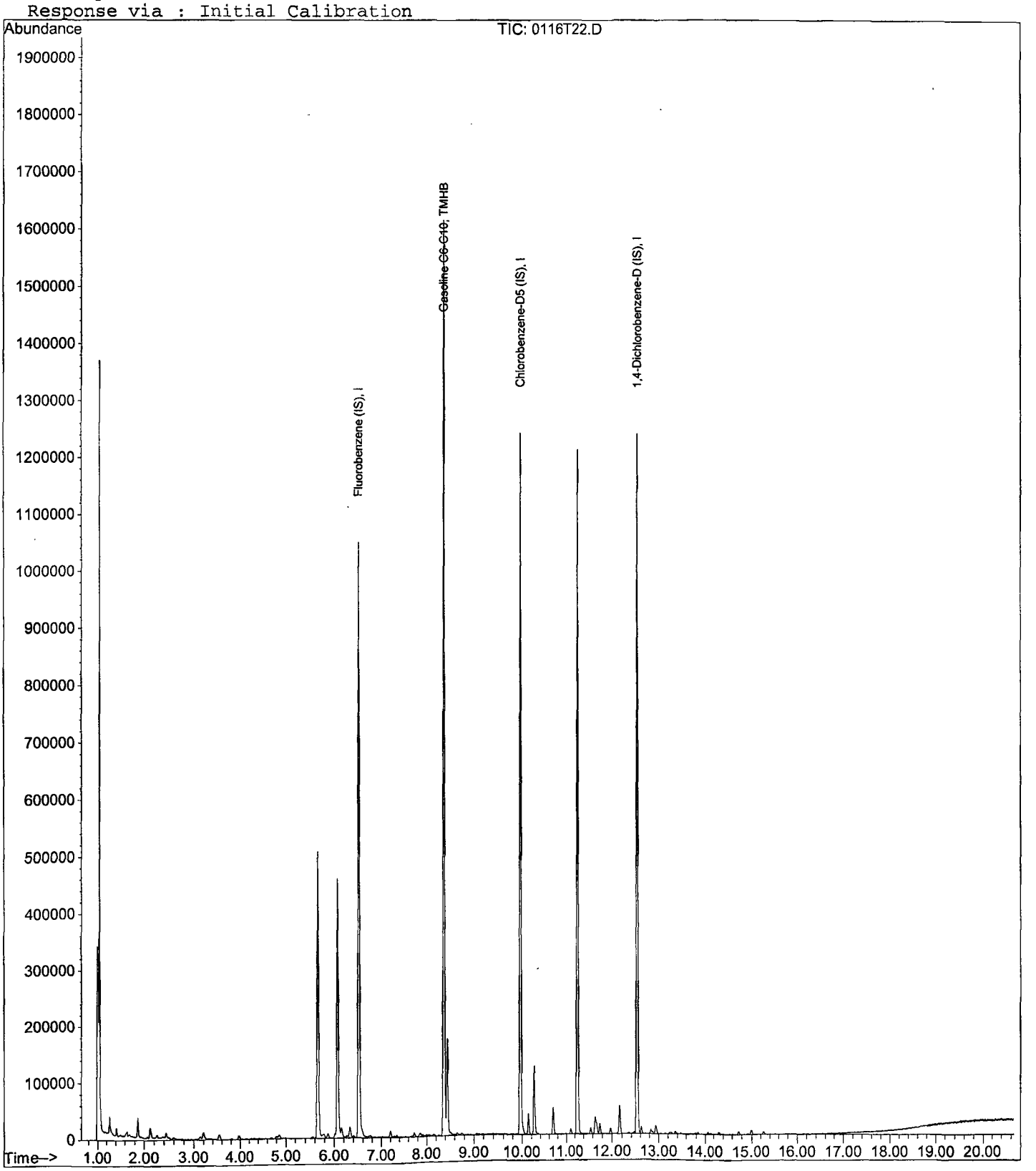
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200116\0116T22.D Vial: 16
Acq On : 16 Jan 20 23:08 Operator:
Sample : 100ug/L GAS STD 1/16/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 17 10:03 2020 Quant Results File: TGAS0116.RES

Method : M:\THOR\DATA\T200116\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T200116\0116T23.D Vial: 17
Acq On : 16 Jan 20 23:37 Operator:
Sample : 300ug/L GAS STD 1/16/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 17 10:04 2020 Quant Results File: TGAS0116.RES

Quant Method : M:\THOR\DATA\T200116\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 09:40:47 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	TIC	1050438	25.000 ppb	0.00
3) Chlorobenzene-D5 (IS)	9.96	TIC	1265632	25.000 ppb	0.00
4) 1,4-Dichlorobenzene-D (IS)	12.52	TIC	1261017	25.000 ppb	0.00
System Monitoring Compounds					
Target Compounds					Qvalue
2) Gasoline C6-C10	8.37	TIC	16572917m	308.652 ppb	100

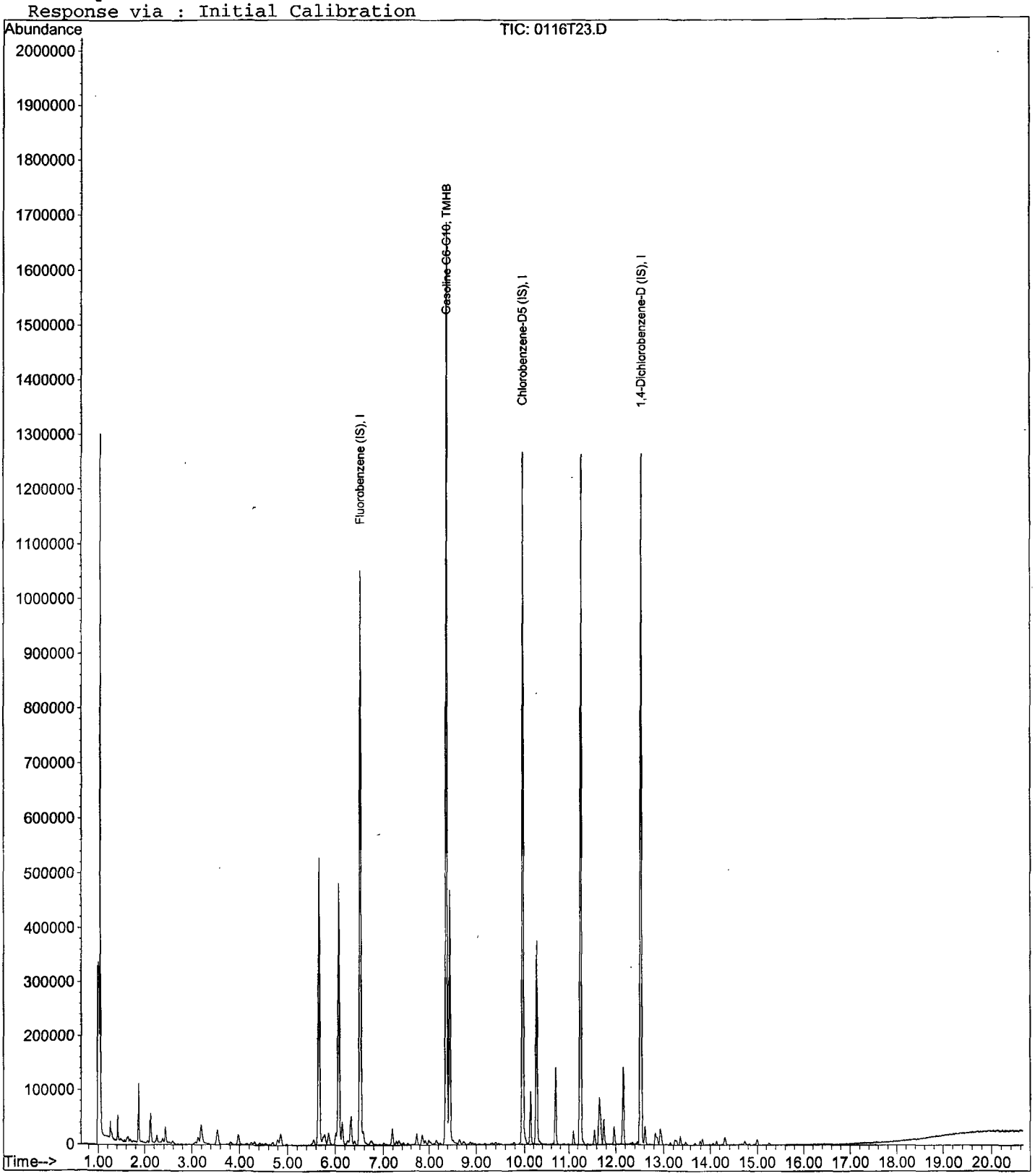
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200116\0116T23.D Vial: 17
Acq On : 16 Jan 20 23:37 Operator:
Sample : 300ug/L GAS STD 1/16/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 17 10:04 2020 Quant Results File: TGAS0116.RES

Method : M:\THOR\DATA\T200116\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T200116\0116T24.D Vial: 18
Acq On : 17 Jan 20 00:05 Operator:
Sample : 600ug/L GAS STD 1/16/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 17 10:05 2020 Quant Results File: TGAS0116.RES

Quant Method : M:\THOR\DATA\T200116\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 09:40:47 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	TIC	1044608	25.000	ppb	0.00
3) Chlorobenzene-D5 (IS)	9.96	TIC	1228227	25.000	ppb	0.00
4) 1,4-Dichlorobenzene-D (IS)	12.52	TIC	1245746	25.000	ppb	0.00

System Monitoring Compounds

Target Compounds						Qvalue
2) Gasoline C6-C10	8.37	TIC	20524559m	587.771	ppb	100

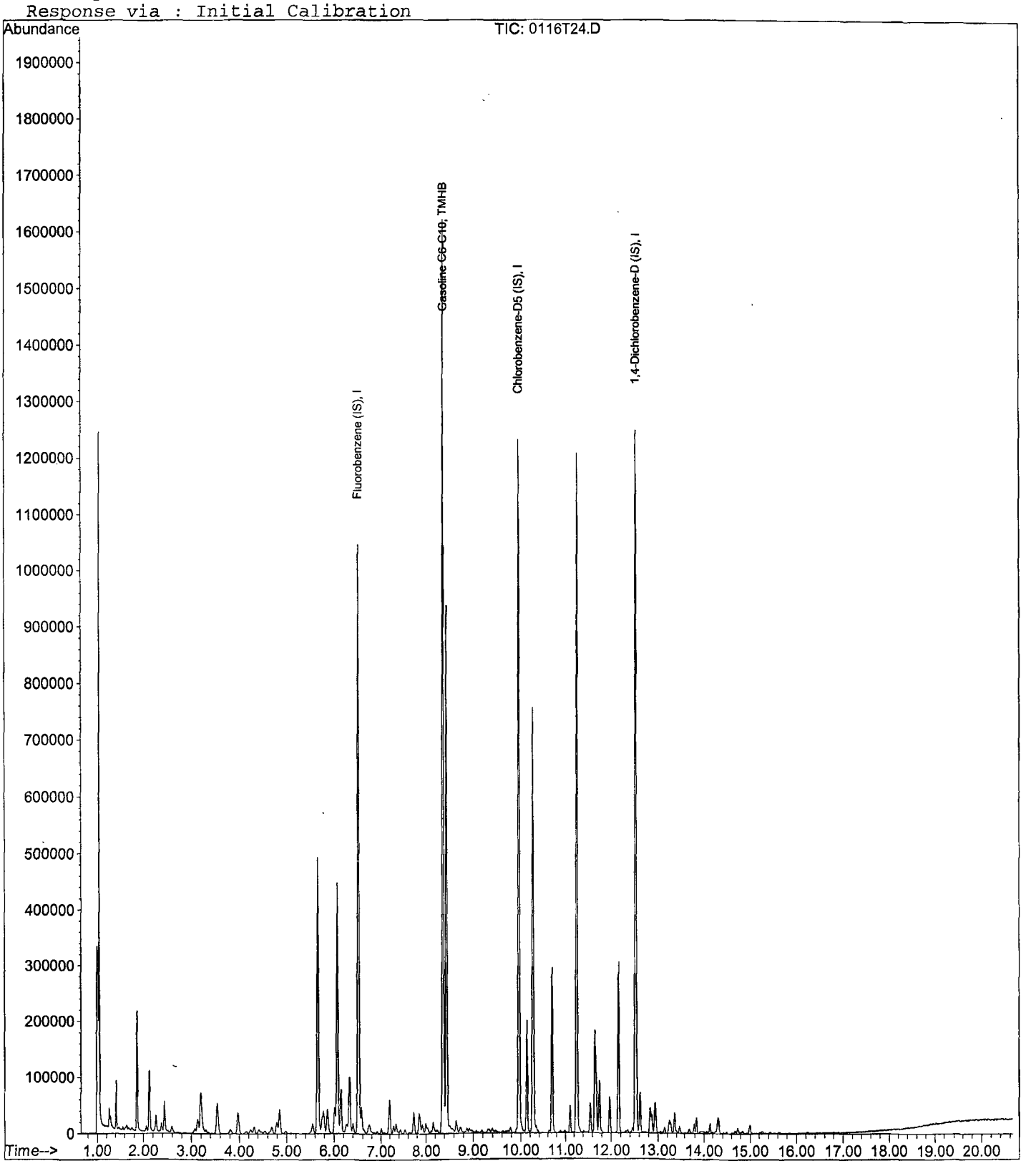
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200116\0116T24.D Vial: 18
Acq On : 17 Jan 20 00:05 Operator:
Sample : 600ug/L GAS STD 1/16/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 17 10:05 2020 Quant Results File: TGAS0116.RES

Method : M:\THOR\DATA\T200116\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T200116\0116T25.D Vial: 19
Acq On : 17 Jan 20 00:33 Operator:
Sample : 800ug/L GAS STD 1/16/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 17 10:05 2020 Quant Results File: TGAS0116.RES

Quant Method : M:\THOR\DATA\T200116\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 09:40:47 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	TIC	1064412	25.000 ppb	0.00
3) Chlorobenzene-D5 (IS)	9.96	TIC	1289326	25.000 ppb	0.00
4) 1,4-Dichlorobenzene-D (IS)	12.52	TIC	1307330	25.000 ppb	0.00
System Monitoring Compounds					
Target Compounds					Qvalue
2) Gasoline C6-C10	8.37	TIC	24197442m	810.222 ppb	100

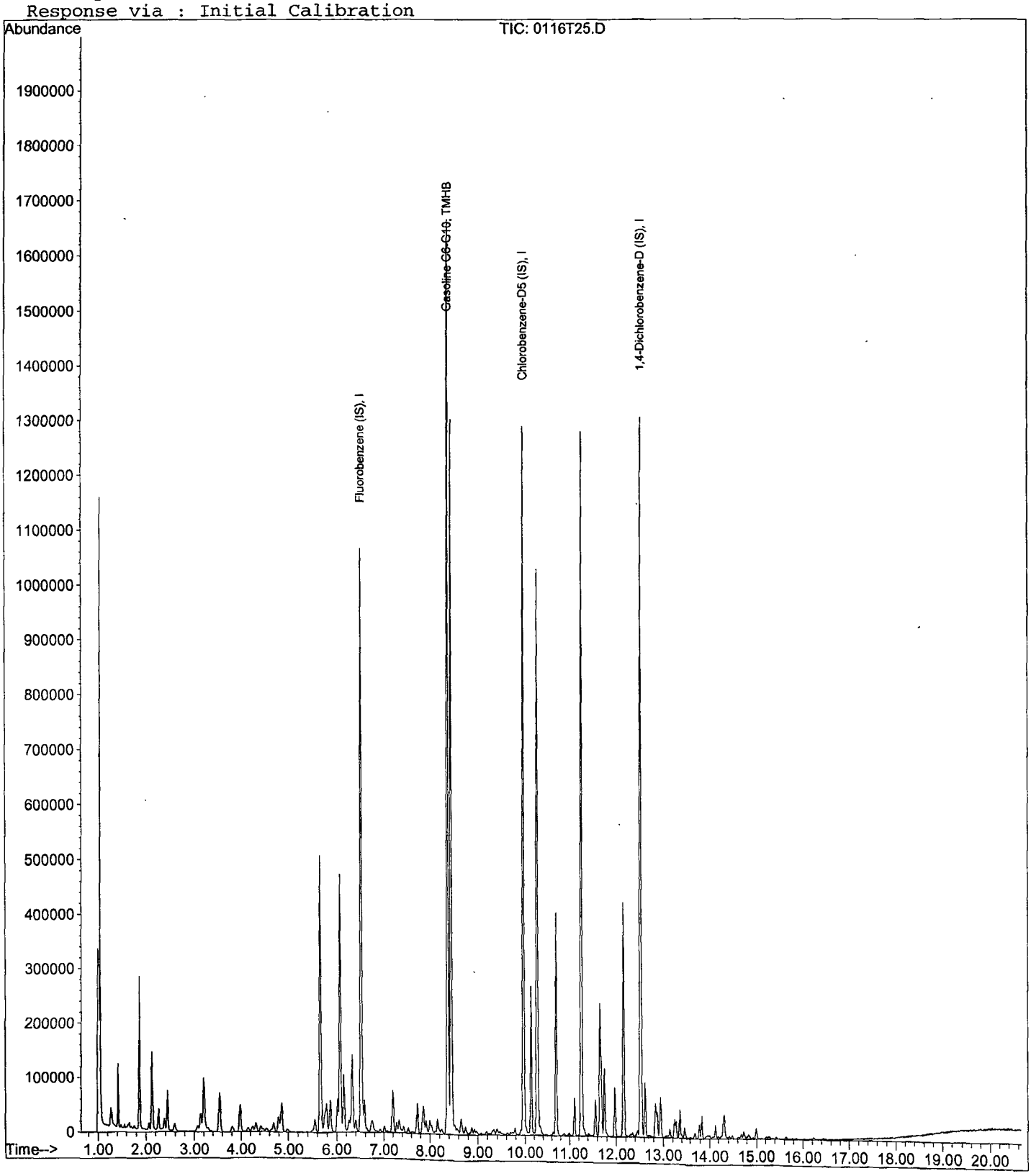
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200116\0116T25.D Vial: 19
Acq On : 17 Jan 20 00:33 Operator:
Sample : 800ug/L GAS STD 1/16/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 17 10:05 2020 Quant Results File: TGAS0116.RES

Method : M:\THOR\DATA\T200116\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T200116\0116T26.D Vial: 20
Acq On : 17 Jan 20 1:02 Operator:
Sample : 1000ug/L GAS STD 1/16/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 17 10:06 2020 Quant Results File: TGAS0116.RES

Quant Method : M:\THOR\DATA\T200116\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 09:40:47 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	TIC	1067613	25.000 ppb	0.00
3) Chlorobenzene-D5 (IS)	9.96	TIC	1245143	25.000 ppb	0.00
4) 1,4-Dichlorobenzene-D (IS)	12.52	TIC	1309319	25.000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	8.37	TIC	27138242m	1003.927 ppb	100

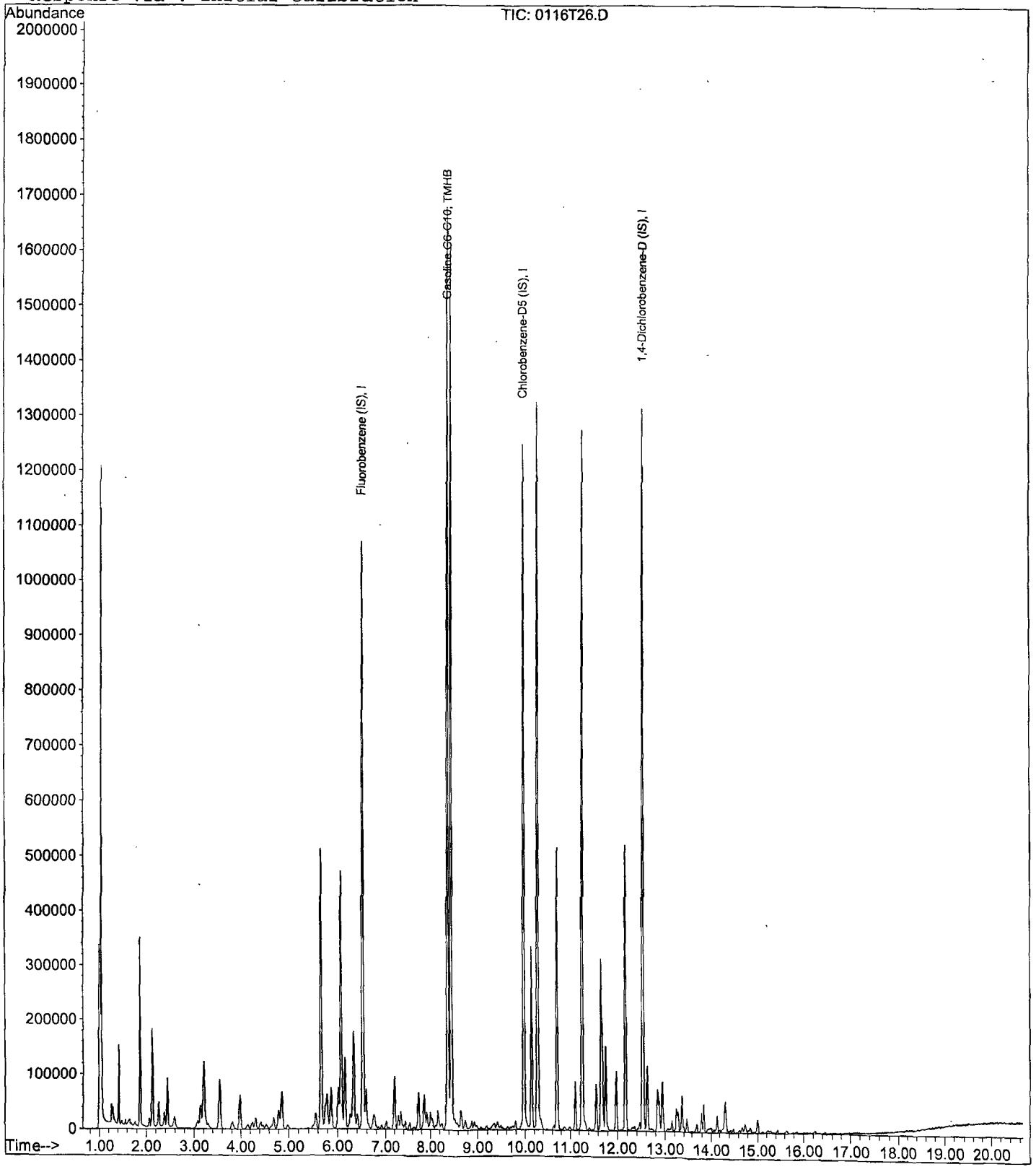
(#) = qualifier out of range (m) = manual integration

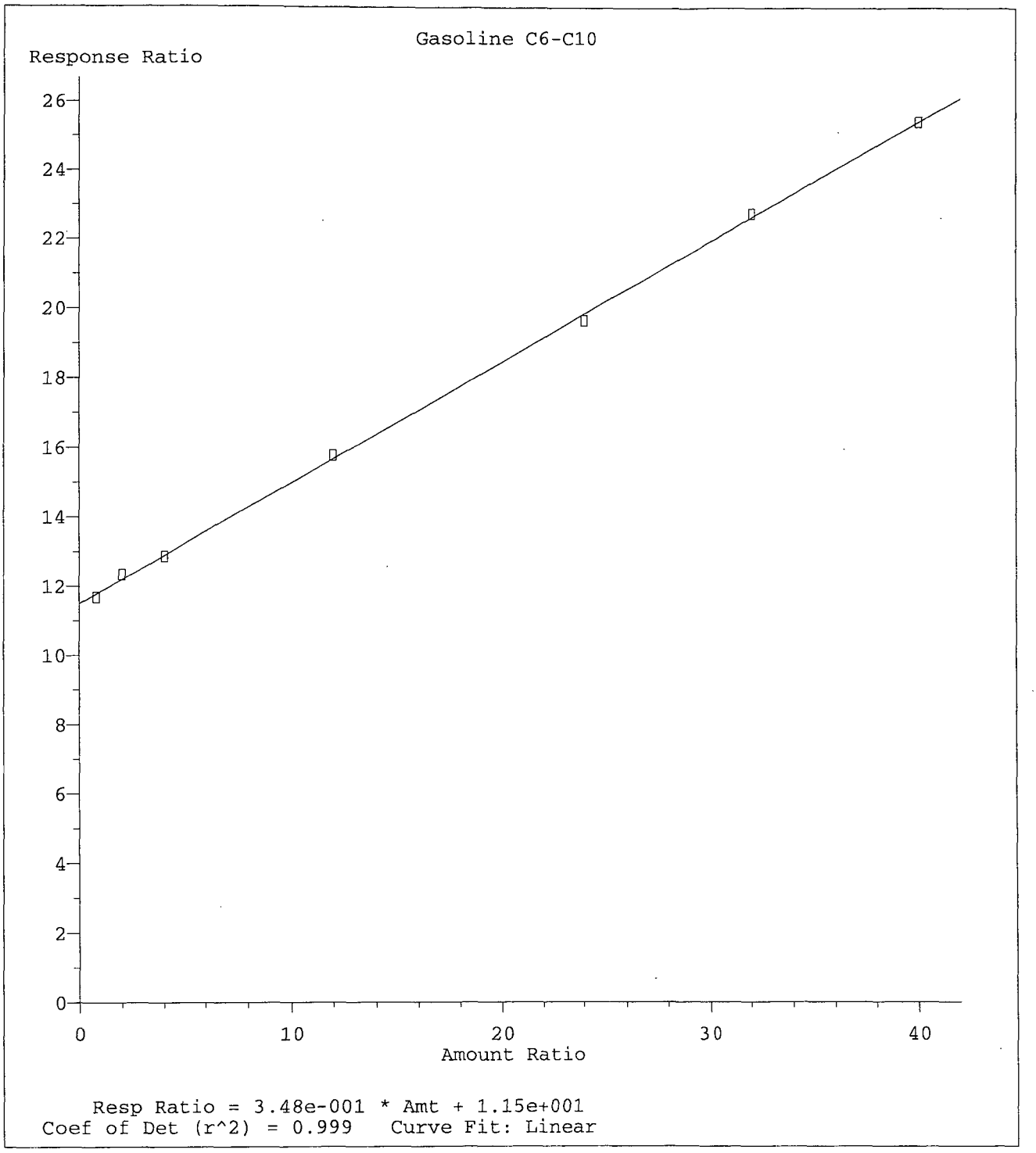
Quantitation Report

Data File : M:\THOR\DATA\T200116\0116T26.D Vial: 20
Acq On : 17 Jan 20 1:02 Operator:
Sample : 1000ug/L GAS STD 1/16/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 17 10:06 2020 Quant Results File: TGAS0116.RES

Method : M:\THOR\DATA\T200116\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration





Method Name: M:\THOR\DATA\T200116\TGAS0116.M
Calibration Table Last Updated: Fri Jan 17 10:06:37 2020

VOLATILE ORGANIC ANALYSIS
VOLATILE ORGANIC COMPOUNDS

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: water

SDG No:
Date Analyzed: 01/17/20
Instrument: Thor
Initial Cal. Date: 01/16/20
Data File: 0116T28.D

		Compound	MEAN	CCRF	%D		%Drift
1	TMHB	Gasoline C6-C10	3.922	1.312	67	TMHBL	1.6
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			67.0		

Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T200116\0116T28.D Vial: 22
Acq On : 17 Jan 20 1:58 Operator:
Sample : (SS) 300ug/L GAS STD 1/16/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 17 10:08 2020 Quant Results File: TGAS0116.RES

Quant Method : M:\THOR\DATA\T200116\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	TIC	1044816	25.000	ppb	0.00
3) Chlorobenzene-D5 (IS)	9.96	TIC	1228554	25.000	ppb	0.00
4) 1,4-Dichlorobenzene-D (IS)	12.52	TIC	1250181	25.000	ppb	0.00
System Monitoring Compounds						
Target Compounds						Qvalue
2) Gasoline C6-C10	8.37	TIC	16447897m	304.733	ppb	100

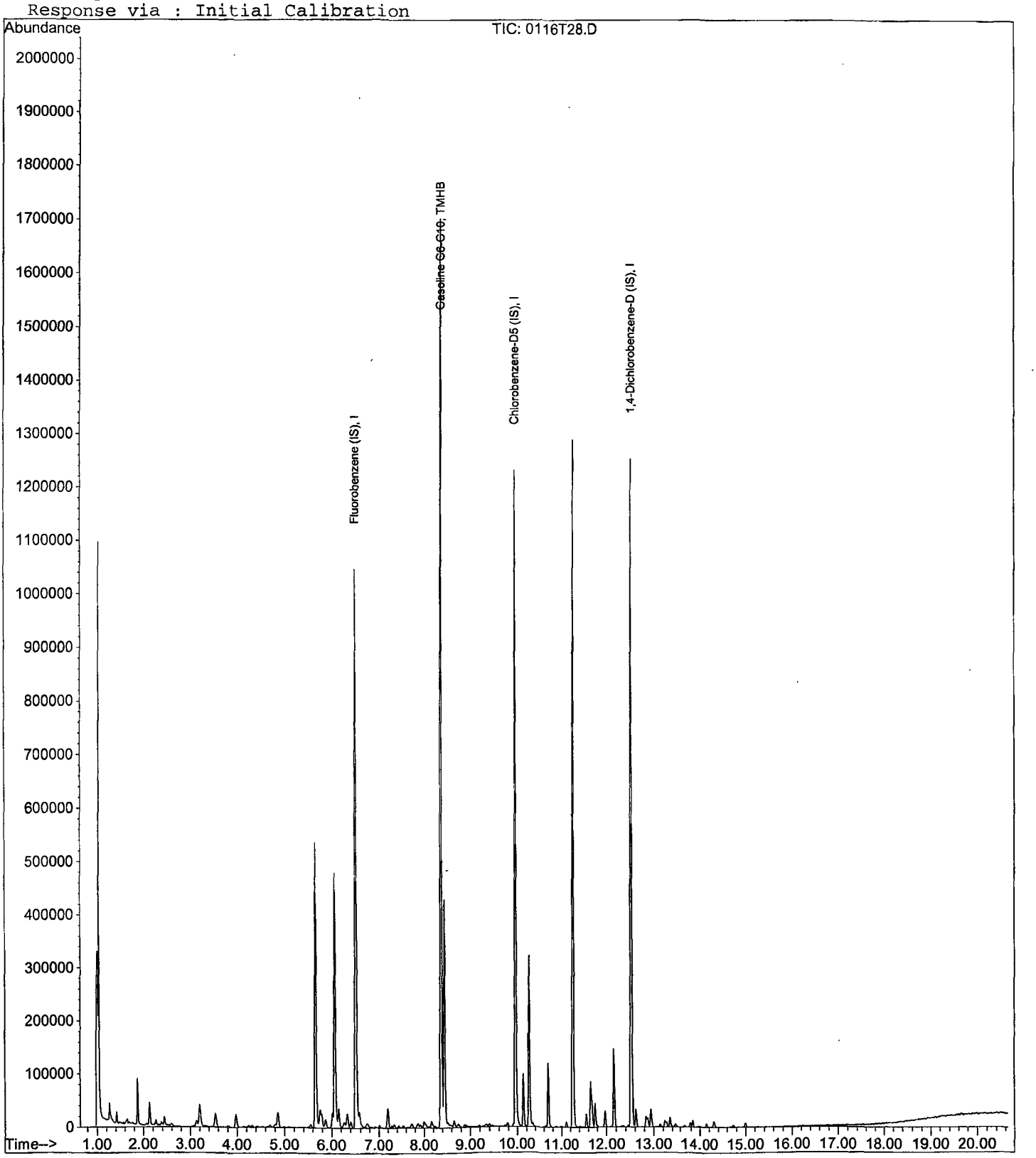
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200116\0116T28.D Vial: 22
Acq On : 17 Jan 20 1:58 Operator:
Sample : (SS) 300ug/L GAS STD 1/16/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 17 10:08 2020 Quant Results File: TGAS0116.RES

Method : M:\THOR\DATA\T200116\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS
VOLATILE ORGANIC COMPOUNDS

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Initial Cal. Date: 01/21/20
Matrix: water Instrument: Thor Initials: DG

			0121T02.D	0121T03.D	0121T04.D	0121T05 D	0121T06.D	0121T07.D	0121T08.D	0121T09.D	0121T10 D							
		Compound	1	2	3	4	5	6	7	8	9		Avg	%RSD	Type	r^2	Q	MRF
1	I	Fluorobenzene (IS)																
2	SL	Dibromofluoromethane(S)	0.5252	0.5004	0.3888	0.3868	0.3352	0.3273	0.3026	0.2933	0.2836		0.37	24	SL	1.000		
3	SL	1,2-DCA-D4(S)	0.5752	0.5304	0.4255	0.4208	0.3577	0.3513	0.3221	0.3107	0.2985		0.40	25	SL	0.999		
4	I	Chlorobenzene-D5 (IS)																
5	SL	Toluene-D8(S)	2.491	2.257	1.779	1.756	1.567	1.532	1.424	1.346	1.252		1.7	24	SL	0.997		
6	SL	4-Bromofluorobenzene(S)	0.8390	0.7724	0.6130	0.6072	0.5490	0.5504	0.5329	0.5301	0.5292		0.61	19	SL	1.000		
7	I	1,4-Dichlorobenzene-D (IS)																
8																		
9																		
10																		
11																		
12																		
13																		
14																		
15																		
16																		
17																		
18																		
19																		
20																		
21																		
22																		
23																		
24																		
25																		
26																		
27																		
28																		
29																		
30																		
31																		
32																		
33																		
34																		
35																		

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0121T02.D Vial: 2
Acq On : 21 Jan 20 7:41 Operator:
Sample : 0.3ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 23 15:07 2020 Quant Results File: TSUR121W.RES

Quant Method : M:\THOR\DATA\T200121\TSUR121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	1021866	25.000	ppb	0.00
4) Chlorobenzene-D5 (IS)	9.96	117	789770	25.000	ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.52	152	406901	25.000	ppb	0.00
System Monitoring Compounds						
2) Dibromofluoromethane(S)	5.66	111	107330	4.970	ppb	0.00
Spiked Amount 25.000			Recovery =	19.880%		
3) 1,2-DCA-D4(S)	6.07	65	117550	4.897	ppb	0.00
Spiked Amount 25.000			Recovery =	19.588%		
5) Toluene-D8(S)	8.37	98	393419	4.581	ppb	0.00
Spiked Amount 25.000			Recovery =	18.324%		
6) 4-Bromofluorobenzene(S)	11.25	95	132516	6.087	ppb	0.00
Spiked Amount 25.000			Recovery =	24.348%		

Target Compounds Qvalue

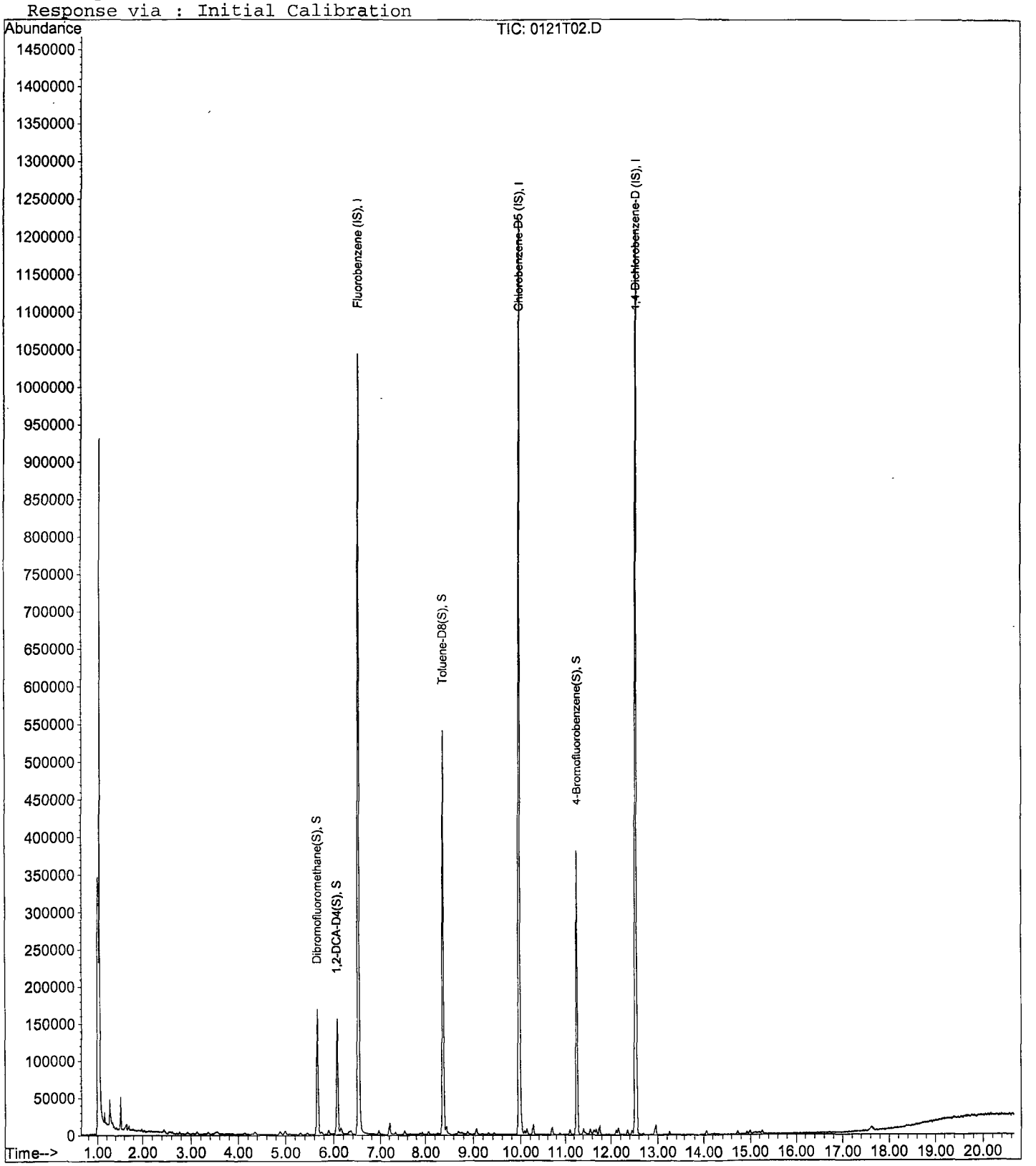
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0121T02.D Vial: 2
Acq On : 21 Jan 20 7:41 Operator:
Sample : 0.3ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 23 15:07 2020 Quant Results File: TSUR121W.RES

Method : M:\THOR\DATA\T200121\TSUR121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0121T03.D Vial: 3
Acq On : 21 Jan 20 8:09 Operator:
Sample : 0.5ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 23 15:07 2020 Quant Results File: TSUR121W.RES

Quant Method : M:\THOR\DATA\T200121\TSUR121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	1004691	25.000	ppb	0.00
4) Chlorobenzene-D5 (IS)	9.96	117	790347	25.000	ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.52	152	406984	25.000	ppb	0.00
System Monitoring Compounds						
2) Dibromofluoromethane(S)	5.66	111	100543	4.514	ppb	0.00
Spiked Amount 25.000			Recovery =	18.056%		
3) 1,2-DCA-D4(S)	6.07	65	106574	4.112	ppb	0.00
Spiked Amount 25.000			Recovery =	16.448%		
5) Toluene-D8(S)	8.37	98	356692	3.611	ppb	0.00
Spiked Amount 25.000			Recovery =	14.444%		
6) 4-Bromofluorobenzene(S)	11.25	95	122029	5.437	ppb	0.00
Spiked Amount 25.000			Recovery =	21.748%		

Target Compounds Qvalue

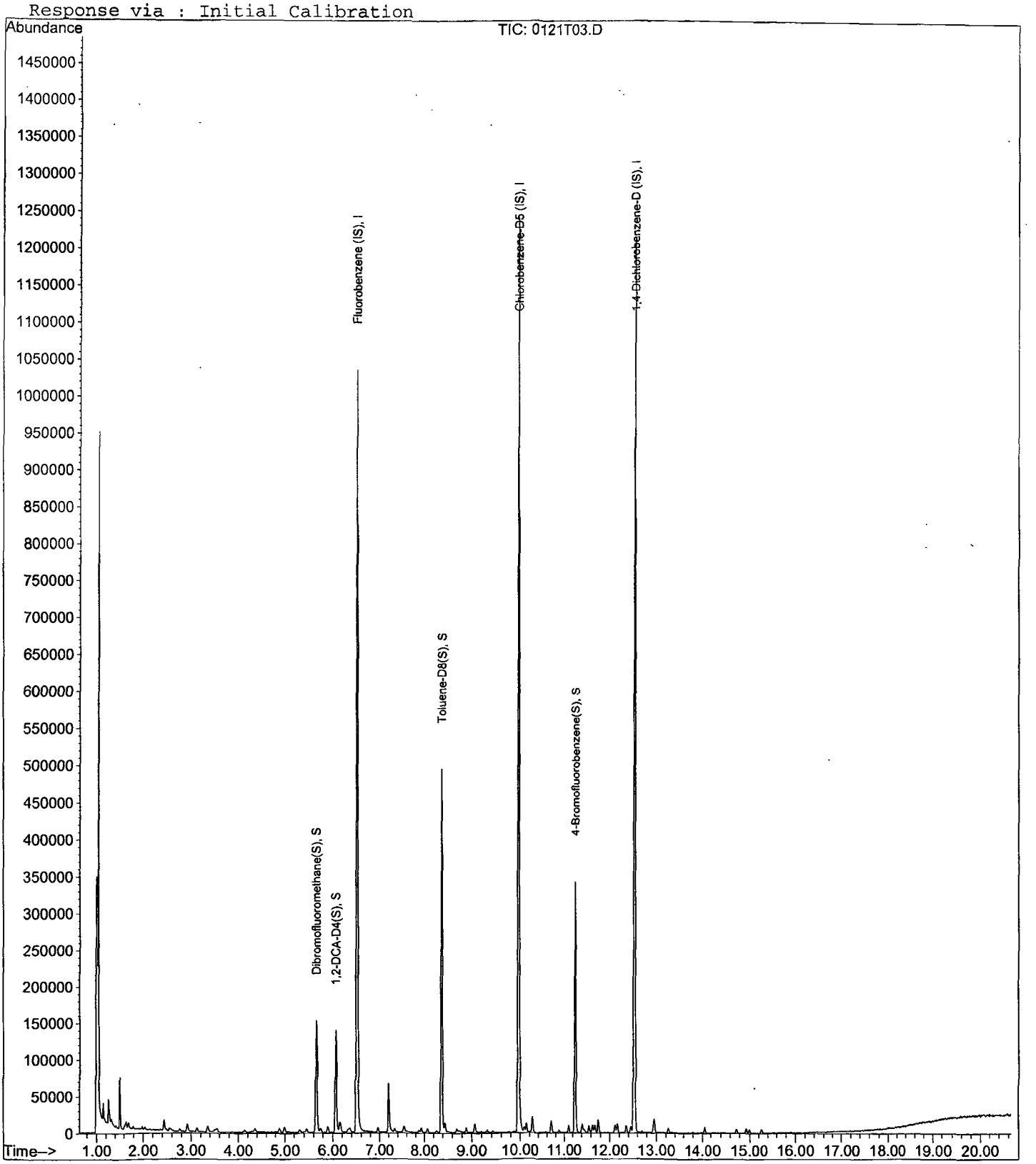
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0121T03.D Vial: 3
Acq On : 21 Jan 20 8:09 Operator:
Sample : 0.5ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 23 15:07 2020 Quant Results File: TSUR121W.RES

Method : M:\THOR\DATA\T200121\TSUR121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0121T04.D Vial: 4
Acq On : 21 Jan 20 8:37 Operator:
Sample : 1ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 23 15:07 2020 Quant Results File: TSUR121W.RES

Quant Method : M:\THOR\DATA\T200121\TSUR121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	1003430	25.000	ppb	0.00
4) Chlorobenzene-D5 (IS)	9.96	117	793951	25.000	ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.52	152	414015	25.000	ppb	0.00
System Monitoring Compounds						
2) Dibromofluoromethane(S)	5.66	111	156037	9.610	ppb	0.00
Spiked Amount 25.000			Recovery =	38.440%		
3) 1,2-DCA-D4(S)	6.07	65	170767	9.729	ppb	0.00
Spiked Amount 25.000			Recovery =	38.916%		
5) Toluene-D8(S)	8.37	98	565068	9.005	ppb	0.00
Spiked Amount 25.000			Recovery =	36.020%		
6) 4-Bromofluorobenzene(S)	11.25	95	194688	9.843	ppb	0.00
Spiked Amount 25.000			Recovery =	39.372%		
Target Compounds						Qvalue

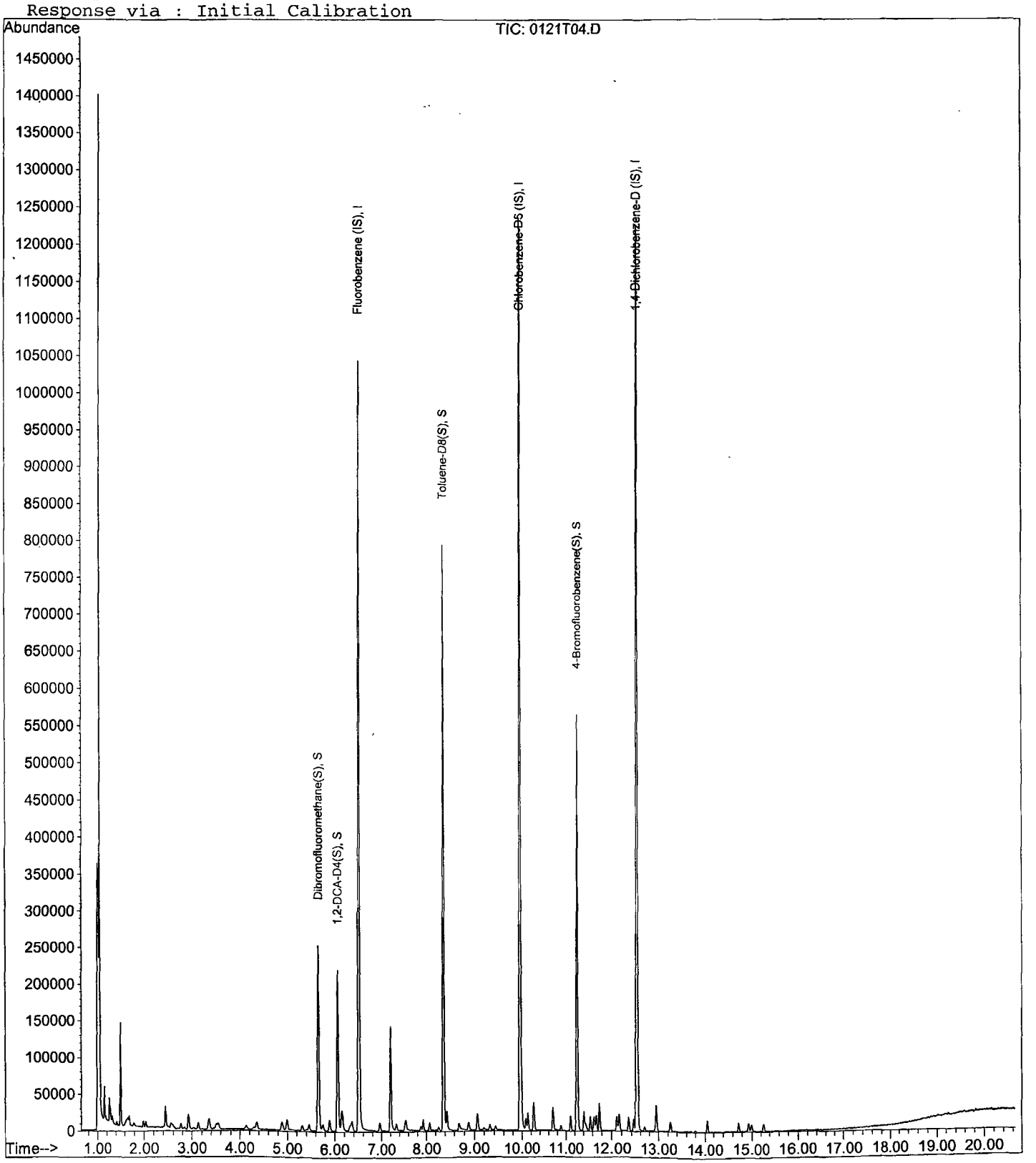
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0121T04.D Vial: 4
Acq On : 21 Jan 20 8:37 Operator:
Sample : 1ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 23 15:07 2020 Quant Results File: TSUR121W.RES

Method : M:\THOR\DATA\T200121\TSUR121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0121T05.D Vial: 5
Acq On : 21 Jan 20 9:05 Operator:
Sample : 2ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 23 15:07 2020 Quant Results File: TSUR121W.RES

Quant Method : M:\THOR\DATA\T200121\TSUR121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	1013704	25.000	ppb	0.00
4) Chlorobenzene-D5 (IS)	9.96	117	798540	25.000	ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.52	152	418905	25.000	ppb	0.00
System Monitoring Compounds						
2) Dibromofluoromethane(S)	5.66	111	156838	9.538	ppb	0.00
Spiked Amount 25.000			Recovery =	38.152%		
3) 1,2-DCA-D4(S)	6.07	65	170607	9.564	ppb	0.00
Spiked Amount 25.000			Recovery =	38.256%		
5) Toluene-D8(S)	8.37	98	560877	8.811	ppb	0.00
Spiked Amount 25.000			Recovery =	35.244%		
6) 4-Bromofluorobenzene(S)	11.25	95	193951	9.730	ppb	0.00
Spiked Amount 25.000			Recovery =	38.920%		

Target Compounds Qvalue

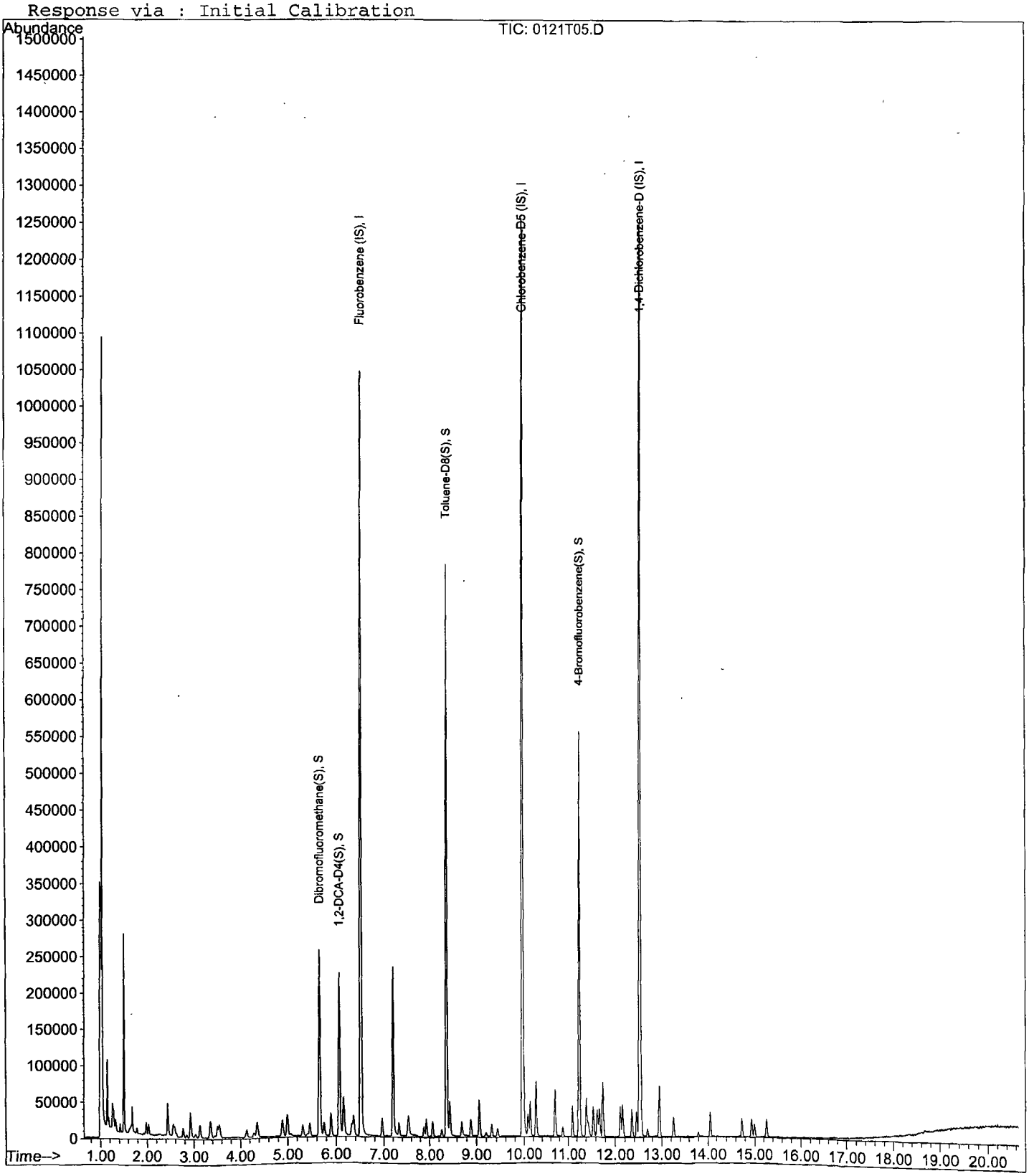
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0121T05.D Vial: 5
Acq On : 21 Jan 20 9:05 Operator:
Sample : 2ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 23 15:07 2020 Quant Results File: TSUR121W.RES

Method : M:\THOR\DATA\T200121\TSUR121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0121T06.D Vial: 6
Acq On : 21 Jan 20 9:34 Operator:
Sample : 5ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 23 15:07 2020 Quant Results File: TSUR121W.RES

Quant Method : M:\THOR\DATA\T200121\TSUR121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	1014454	25.000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.96	117	790523	25.000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.52	152	420669	25.000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	5.66	111	340025	26.131 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.524%	
3) 1,2-DCA-D4(S)	6.07	65	362839	26.156 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.624%	
5) Toluene-D8(S)	8.37	98	1238785	26.722 ppb	0.00
Spiked Amount 25.000			Recovery	= 106.888%	
6) 4-Bromofluorobenzene(S)	11.25	95	433975	24.579 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.316%	

Target Compounds Qvalue

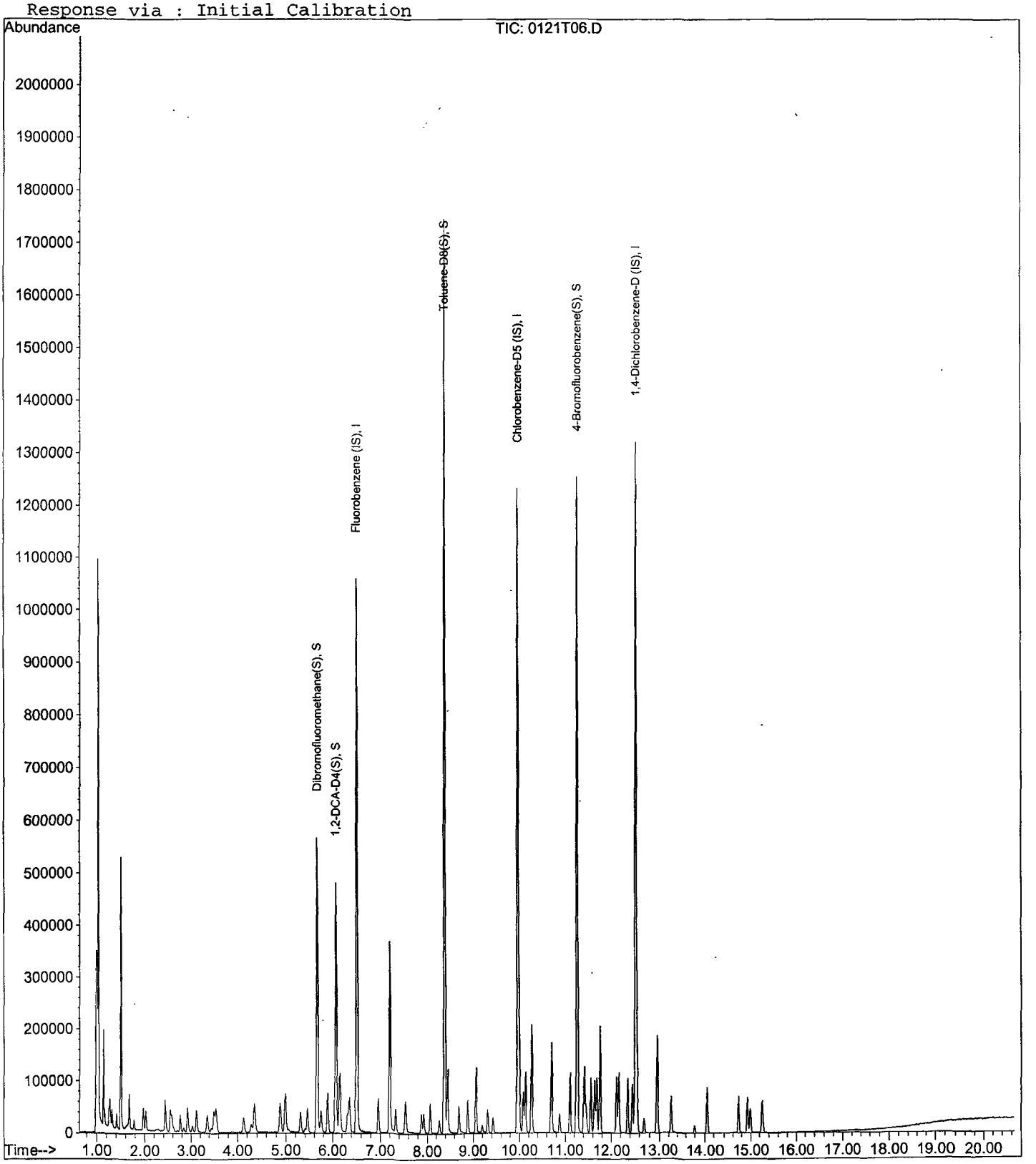
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0121T06.D Vial: 6
Acq On : 21 Jan 20 9:34 Operator:
Sample : 5ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 23 15:07 2020 Quant Results File: TSUR121W.RES

Method : M:\THOR\DATA\T200121\TSUR121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0121T07.D Vial: 7
Acq On : 21 Jan 20 10:02 Operator:
Sample : 10ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 23 15:07 2020 Quant Results File: TSUR121W.RES

Quant Method : M:\THOR\DATA\T200121\TSUR121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	1052818	25.000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.96	117	824642	25.000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.52	152	433370	25.000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	5.66	111	344638	25.411 ppb	0.00
Spiked Amount 25.000			Recovery =	101.644%	
3) 1,2-DCA-D4(S)	6.07	65	369870	25.599 ppb	0.00
Spiked Amount 25.000			Recovery =	102.396%	
5) Toluene-D8(S)	8.37	98	1263271	25.994 ppb	0.00
Spiked Amount 25.000			Recovery =	103.976%	
6) 4-Bromofluorobenzene(S)	11.25	95	453846	24.646 ppb	0.00
Spiked Amount 25.000			Recovery =	98.584%	

Target Compounds Qvalue

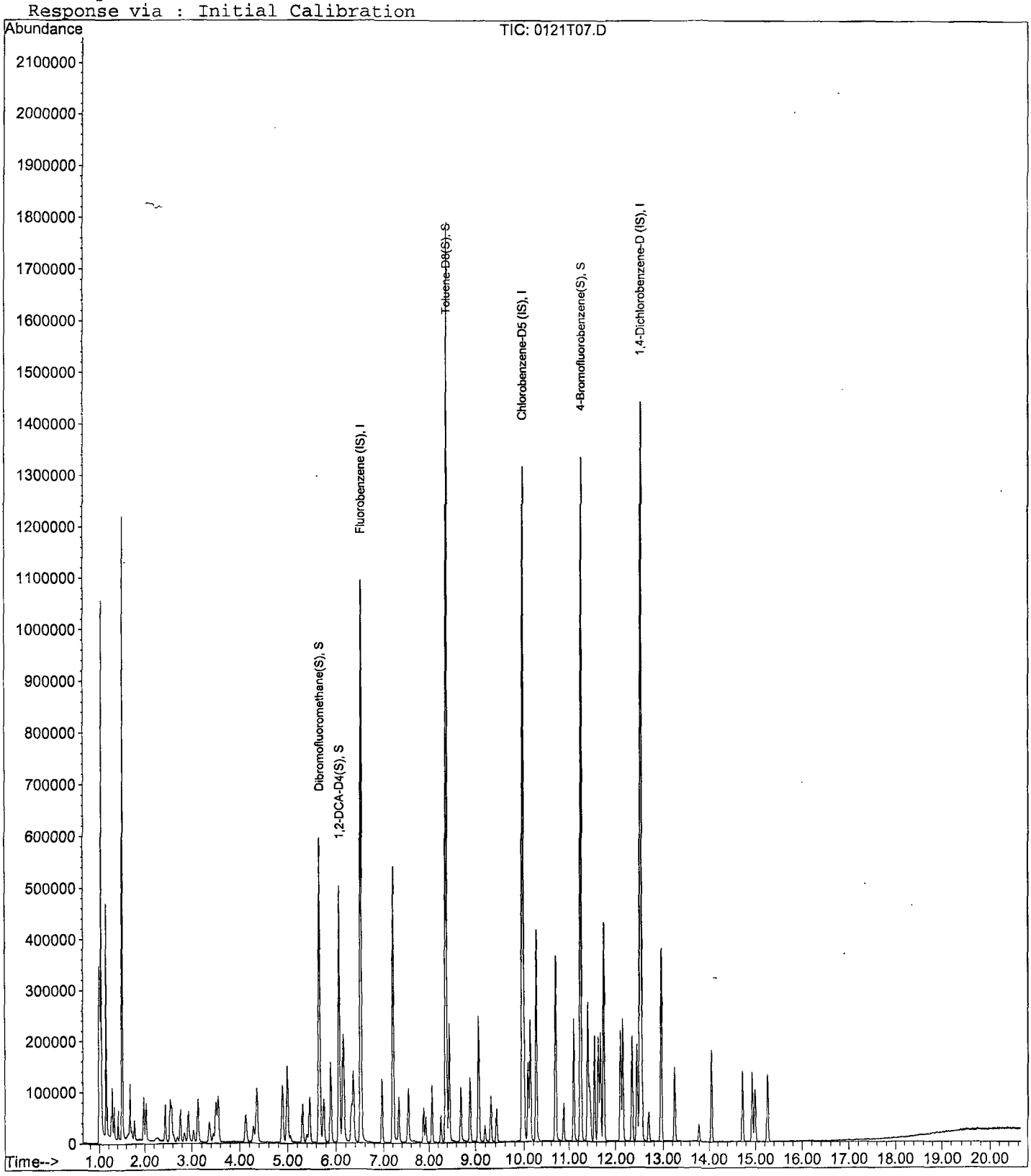
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0121T07.D Vial: 7
Acq On : 21 Jan 20 10:02 Operator:
Sample : 10ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 23 15:07 2020 Quant Results File: TSUR121W.RES

Method : M:\THOR\DATA\T200121\TSUR121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0121T08.D Vial: 8
Acq On : 21 Jan 20 10:30 Operator:
Sample : 20ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 23 15:07 2020 Quant Results File: TSUR121W.RES

Quant Method : M:\THOR\DATA\T200121\TSUR121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	1076126	25.000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.96	117	852719	25.000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.52	152	475060	25.000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	5.66	111	651247	50.957 ppb	0.00
Spiked Amount 25.000			Recovery	= 203.828%	
3) 1,2-DCA-D4(S)	6.07	65	693335	51.269 ppb	0.00
Spiked Amount 25.000			Recovery	= 205.076%	
5) Toluene-D8(S)	8.37	98	2429130	53.271 ppb	0.00
Spiked Amount 25.000			Recovery	= 213.084%	
6) 4-Bromofluorobenzene(S)	11.25	95	908776	49.649 ppb	0.00
Spiked Amount 25.000			Recovery	= 198.596%	

Target Compounds Qvalue

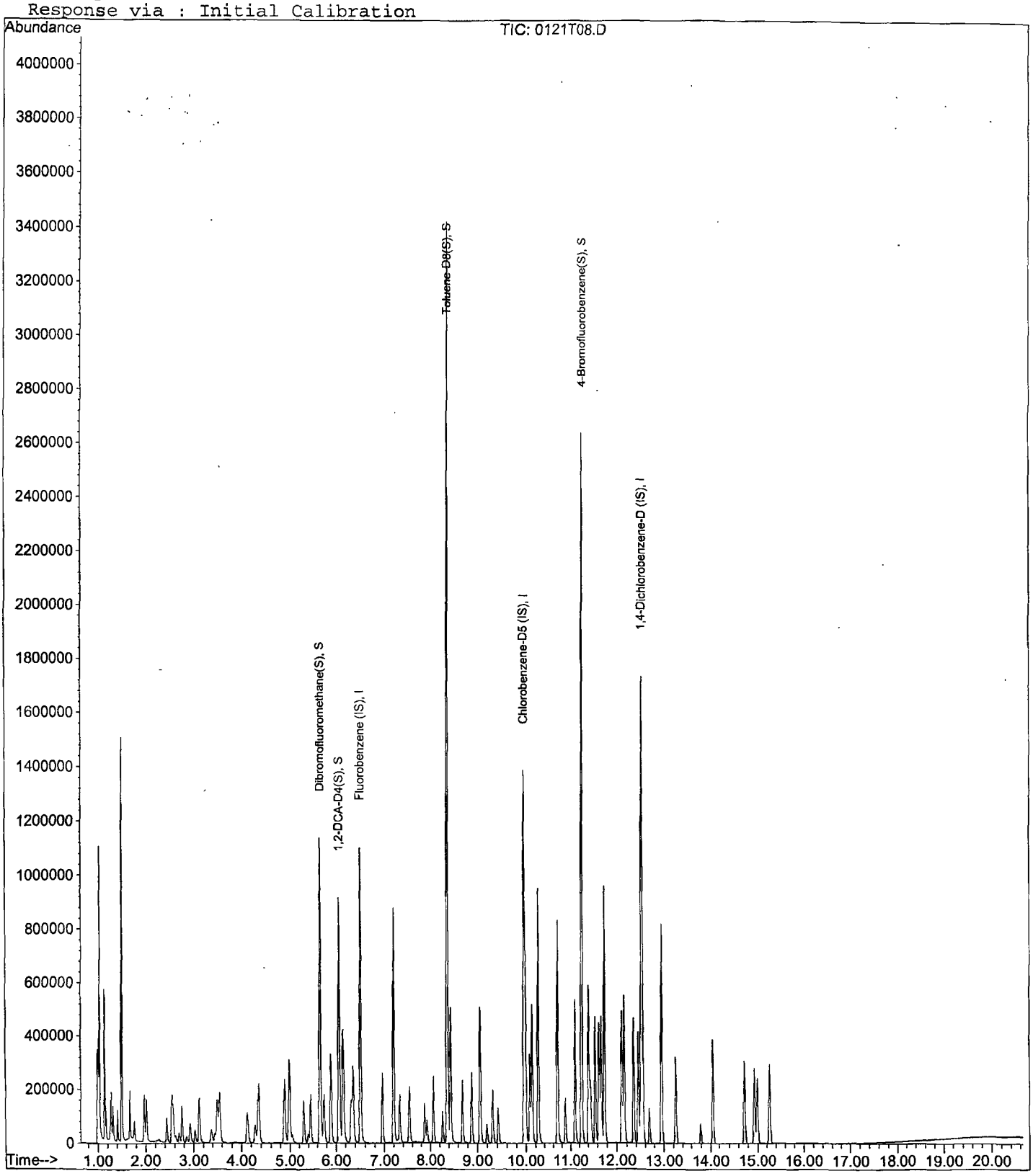
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0121T08.D Vial: 8
Acq On : 21 Jan 20 10:30 Operator:
Sample : 20ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 23 15:07 2020 Quant Results File: TSUR121W.RES

Method : M:\THOR\DATA\T200121\TSUR121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0121T09.D Vial: 9
Acq On : 21 Jan 20 10:59 Operator:
Sample : 40ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 23 15:07 2020 Quant Results File: TSUR121W.RES

Quant Method : M:\THOR\DATA\T200121\TSUR121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	1054648	25.000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.96	117	894422	25.000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.52	152	515905	25.000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	5.66	111	618615	49.245 ppb	0.00
Spiked Amount 25.000			Recovery	= 196.980%	
3) 1,2-DCA-D4(S)	6.07	65	655265	49.256 ppb	0.00
Spiked Amount 25.000			Recovery	= 197.024%	
5) Toluene-D8(S)	8.37	98	2407625	50.021 ppb	0.00
Spiked Amount 25.000			Recovery	= 200.084%	
6) 4-Bromofluorobenzene(S)	11.26	95	948175	49.375 ppb	0.00
Spiked Amount 25.000			Recovery	= 197.500%	

Target Compounds Qvalue

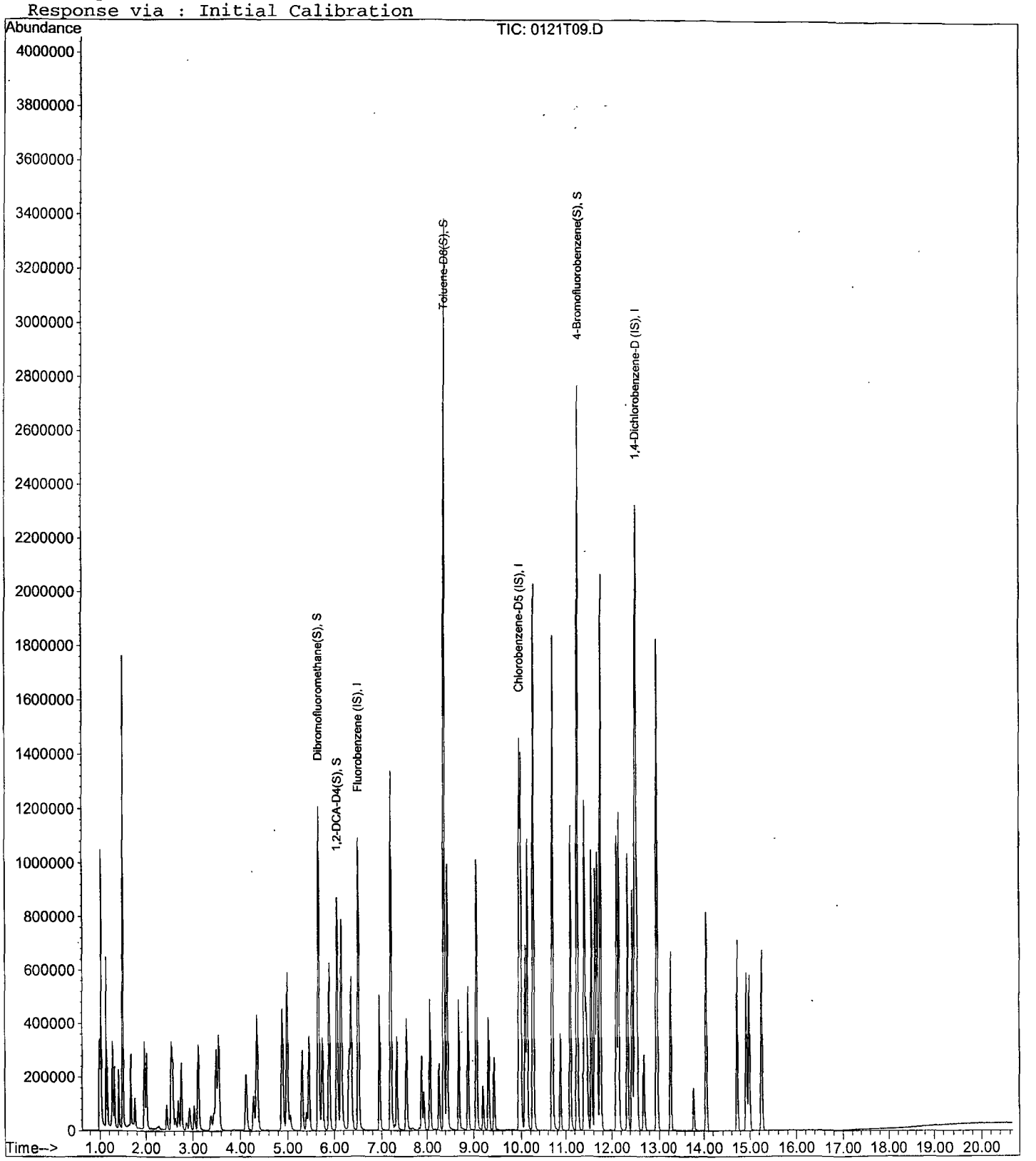
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0121T09.D Vial: 9
Acq On : 21 Jan 20 10:59 Operator:
Sample : 40ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 23 15:07 2020 Quant Results File: TSUR121W.RES

Method : M:\THOR\DATA\T200121\TSUR121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0121T10.D Vial: 10
Acq On : 21 Jan 20 11:27 Operator:
Sample : 100ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 23 15:07 2020 Quant Results File: TSUR121W.RES

Quant Method : M:\THOR\DATA\T200121\TSUR121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	1065218	25.000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.96	117	916624	25.000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.52	152	565783	25.000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	5.66	111	1208474	99.625 ppb	0.00
Spiked Amount 25.000			Recovery	= 398.500%	
3) 1,2-DCA-D4(S)	6.07	65	1271687	99.419 ppb	0.00
Spiked Amount 25.000			Recovery	= 397.676%	
5) Toluene-D8(S)	8.37	98	4589751	97.984 ppb	0.00
Spiked Amount 25.000			Recovery	= 391.936%	
6) 4-Bromofluorobenzene(S)	11.26	95	1940451	100.646 ppb	0.00
Spiked Amount 25.000			Recovery	= 402.584%	
Target Compounds					Qvalue

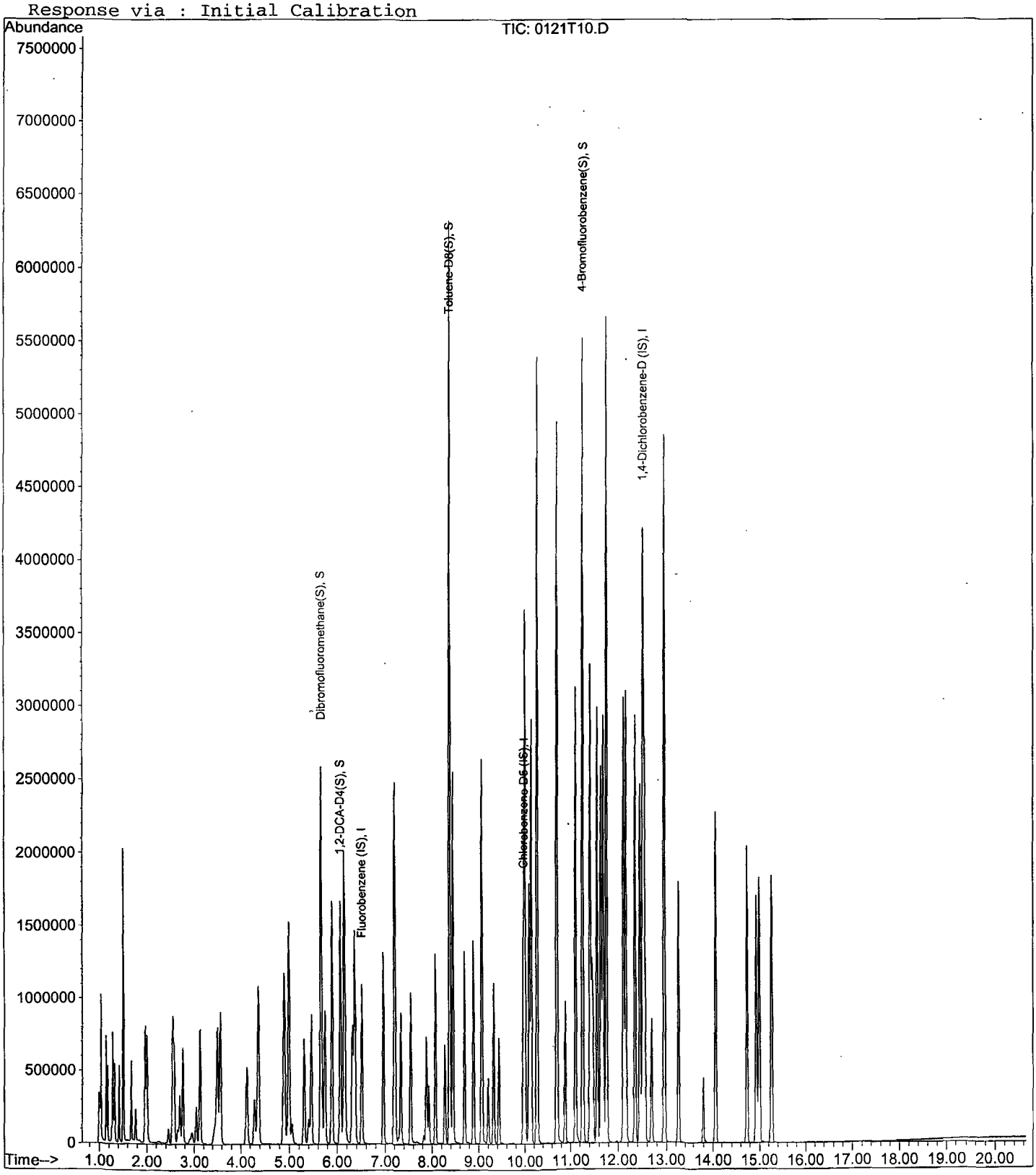
(#) = qualifier out of range (m) = manual integration

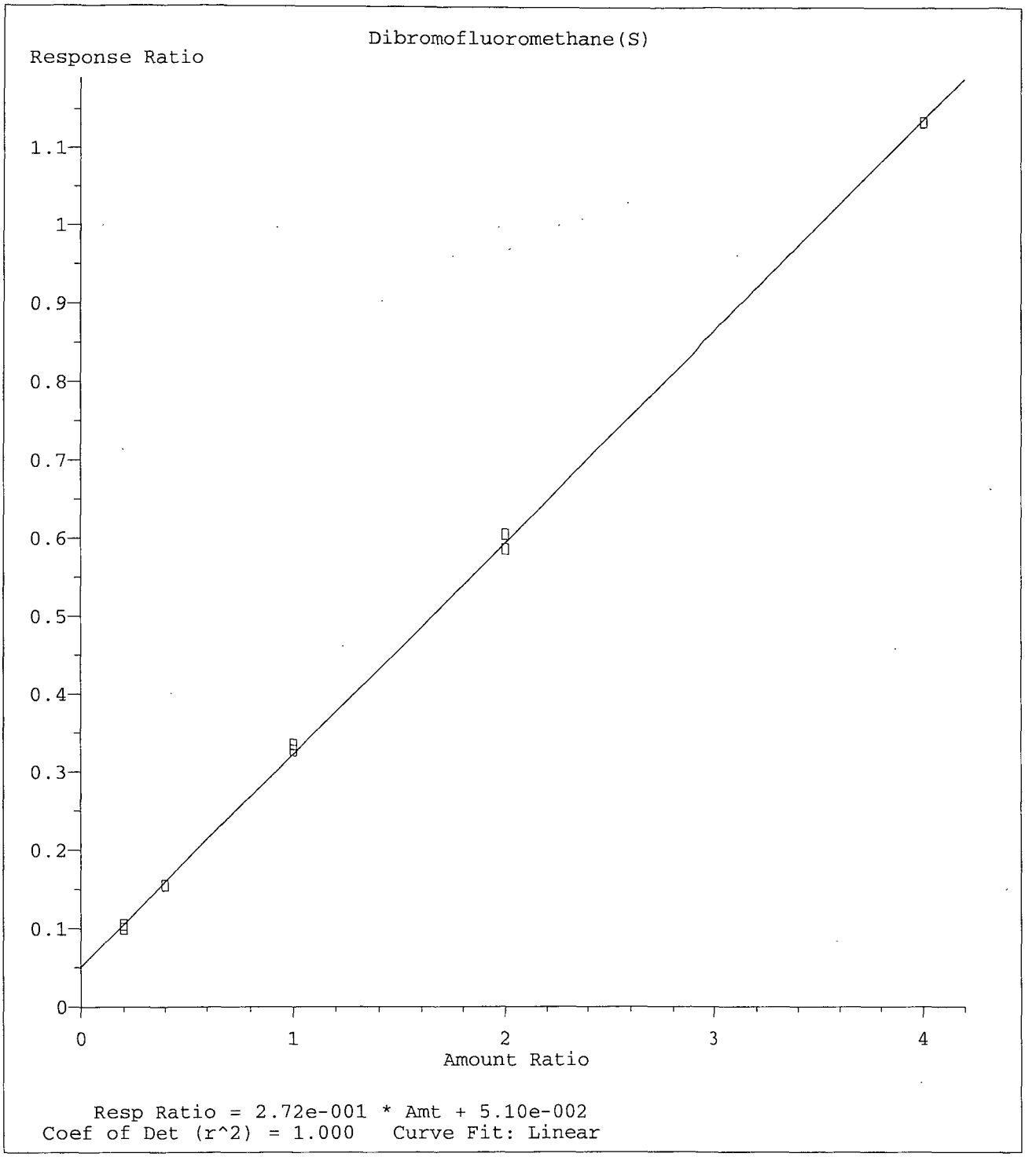
Quantitation Report

Data File : M:\THOR\DATA\T200121\0121T10.D Vial: 10
Acq On : 21 Jan 20 11:27 Operator:
Sample : 100ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

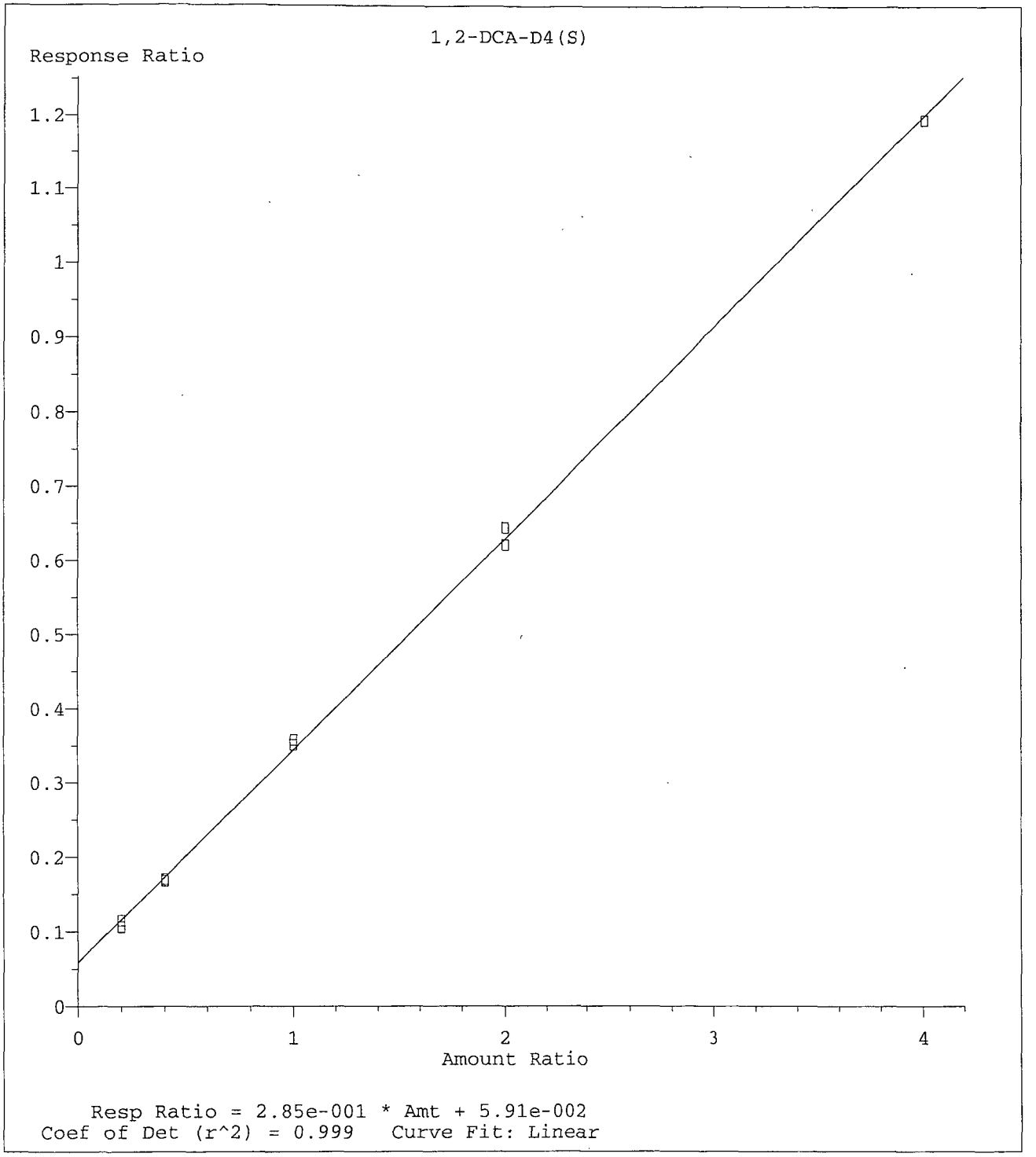
Quant Time: Jan 23 15:07 2020 Quant Results File: TSUR121W.RES

Method : M:\THOR\DATA\T200121\TSUR121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration

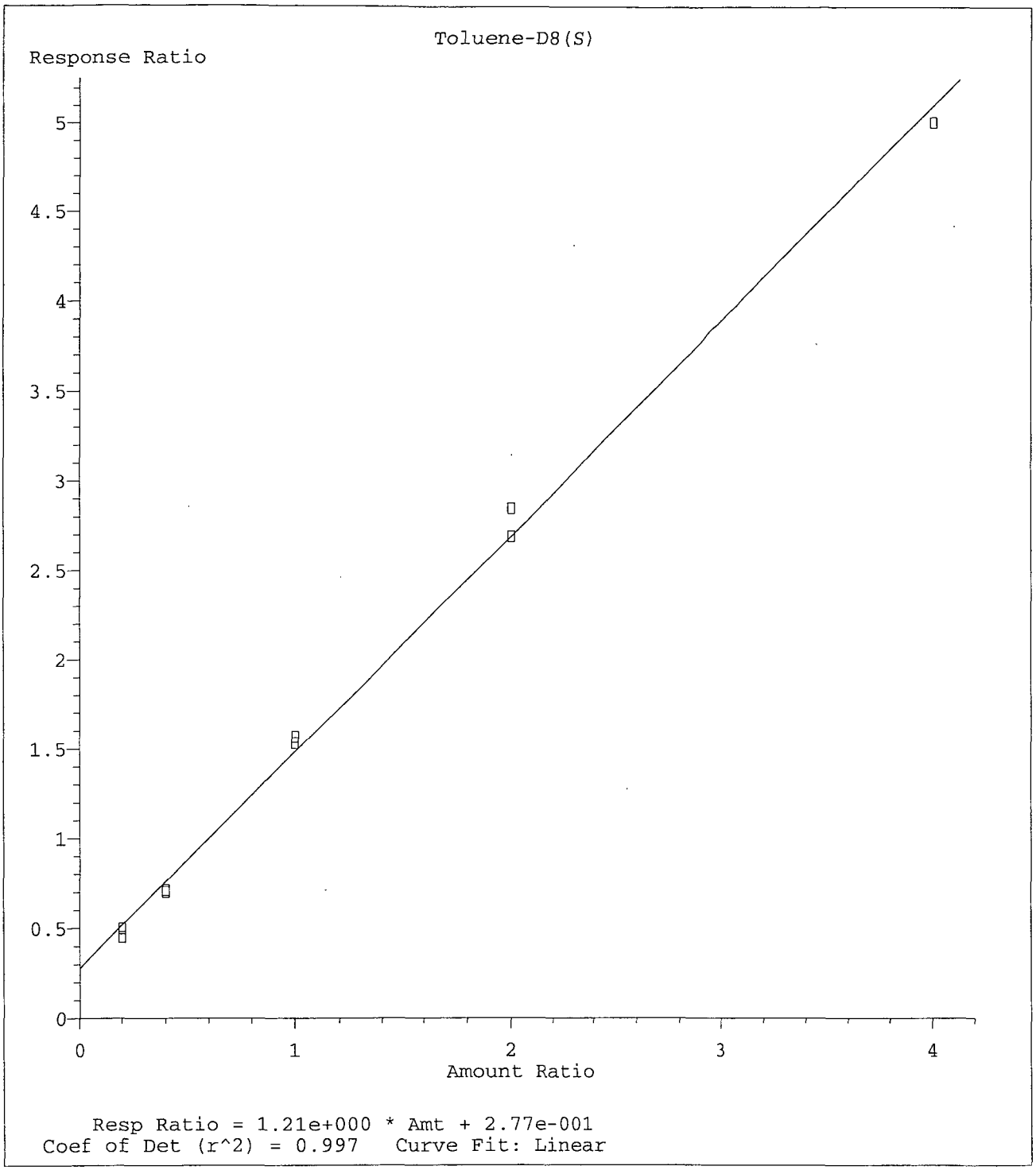




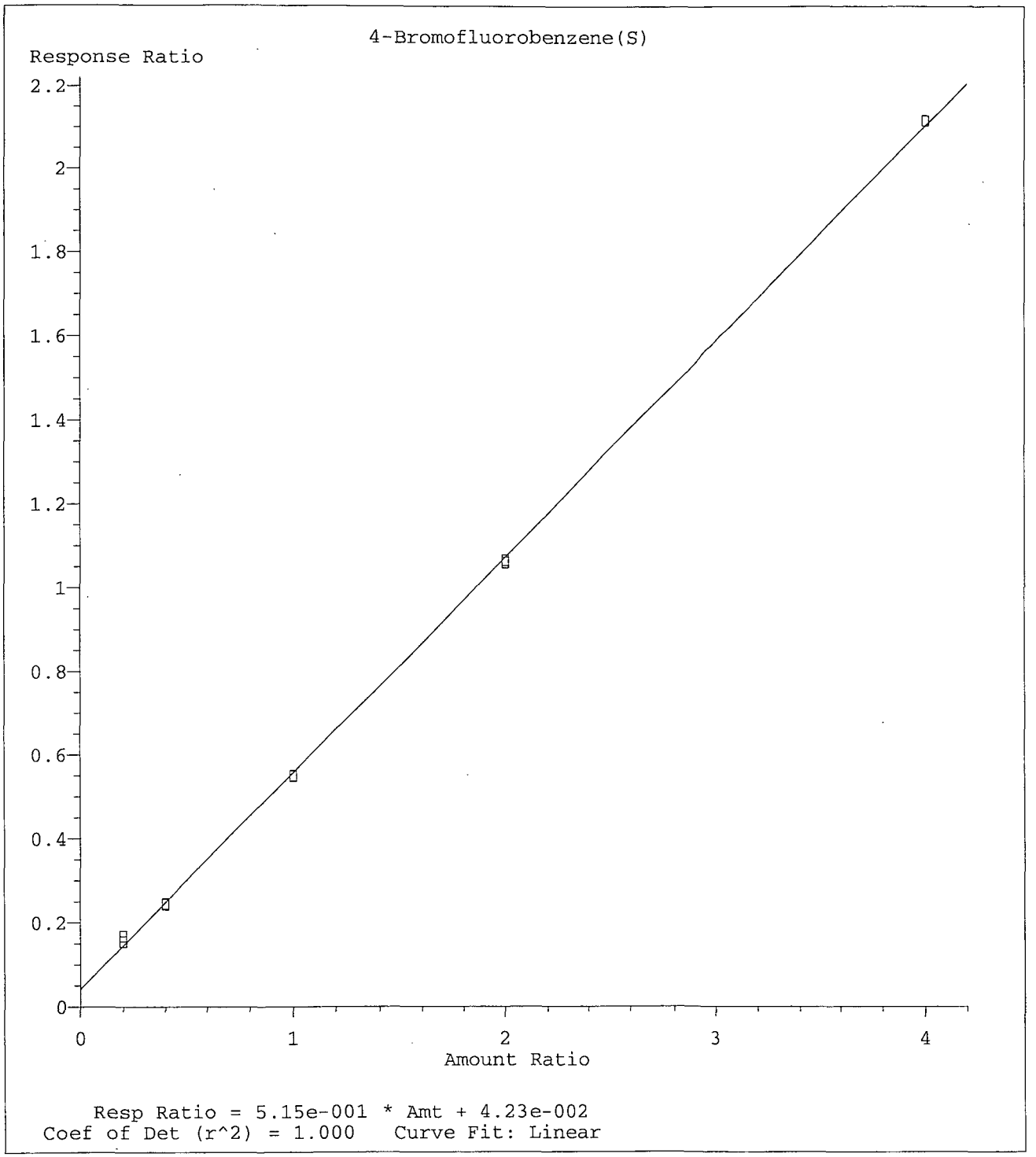
Method Name: M:\THOR\DATA\T200121\TSUR121W.M
Calibration Table Last Updated: Tue Jan 21 15:36:55 2020



Method Name: M:\THOR\DATA\T200121\TSUR121W.M
Calibration Table Last Updated: Tue Jan 21 15:36:55 2020



Method Name: M:\THOR\DATA\T200121\TSUR121W.M
Calibration Table Last Updated: Tue Jan 21 15:36:55 2020



Method Name: M:\THOR\DATA\T200121\TSUR121W.M
Calibration Table Last Updated: Tue Jan 21 15:36:55 2020

VOLATILE ORGANIC ANALYSIS
VOLATILE ORGANIC COMPOUNDS

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: water

SDG No:
Date Analyzed: 01/23/20
Instrument: Thor
Initial Cal. Date: 01/21/20
Data File: 0123T30.D

		Compound	MEAN	CCRF	%D	%Drift	
1	I	Fluorobenzene (IS)	ISTD			I	
2	TMHB	Gasoline C6-C10	3.922	1.307	67	TMHBL	0.15
3	I	Chlorobenzene-D5 (IS)	ISTD			I	
4	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			67.0		

VOLATILE ORGANIC ANALYSIS
VOLATILE ORGANIC COMPOUNDS

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: water

SDG No:
Date Analyzed: 01/23/20
Instrument: Thor
Initial Cal. Date: 01/21/20
Data File: 0123T30.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Fluorobenzene (IS)	ISTD			I	
2	SL	Dibromofluoromethane(S)	0.3715	0.3288	11	SL	2.2
3	SL	1,2-DCA-D4(S)	0.3991	0.3476	13	SL	1.1
4	I	Chlorobenzene-D5 (IS)	ISTD			I	
5	SL	Toluene-D8(S)	1.712	1.507	12	SL	1.9
6	SL	4-Bromofluorobenzene(S)	0.6137	0.5351	13	SL	4.4
7	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			12.3		

Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T200121\0123T30.D Vial: 30
Acq On : 23 Jan 20 22:21 Operator:
Sample : 200123B CCV 300ug/L Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 10:07 2020 Quant Results File: TGAS0116.RES

Quant Method : M:\THOR\DATA\T200121\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	TIC	1018414	25.000	ppb	0.00
3) Chlorobenzene-D5 (IS)	9.96	TIC	1228332	25.000	ppb	0.00
4) 1,4-Dichlorobenzene-D (IS)	12.52	TIC	1200134	25.000	ppb	0.00
System Monitoring Compounds						
Target Compounds						Qvalue
2) Gasoline C6-C10	8.37	TIC	15971608m	300.450	ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0123T30.D Vial: 30
Acq On : 23 Jan 20 22:21 Operator:
Sample : 200123B CCV 300ug/L Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 11:08 2020 Quant Results File: TSUR121W.RES

Quant Method : M:\THOR\DATA\T200121\TSUR121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	989018	25.000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.96	117	789223	25.000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.52	152	412205	25.000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	5.66	111	325209	25.546 ppb	0.00
Spiked Amount 25.000			Recovery = 102.184%		
3) 1,2-DCA-D4(S)	6.07	65	343757	25.271 ppb	0.00
Spiked Amount 25.000			Recovery = 101.084%		
5) Toluene-D8(S)	8.37	98	1189405	25.480 ppb	0.00
Spiked Amount 25.000			Recovery = 101.920%		
6) 4-Bromofluorobenzene(S)	11.26	95	422315	23.906 ppb	0.00
Spiked Amount 25.000			Recovery = 95.624%		

Target Compounds Qvalue

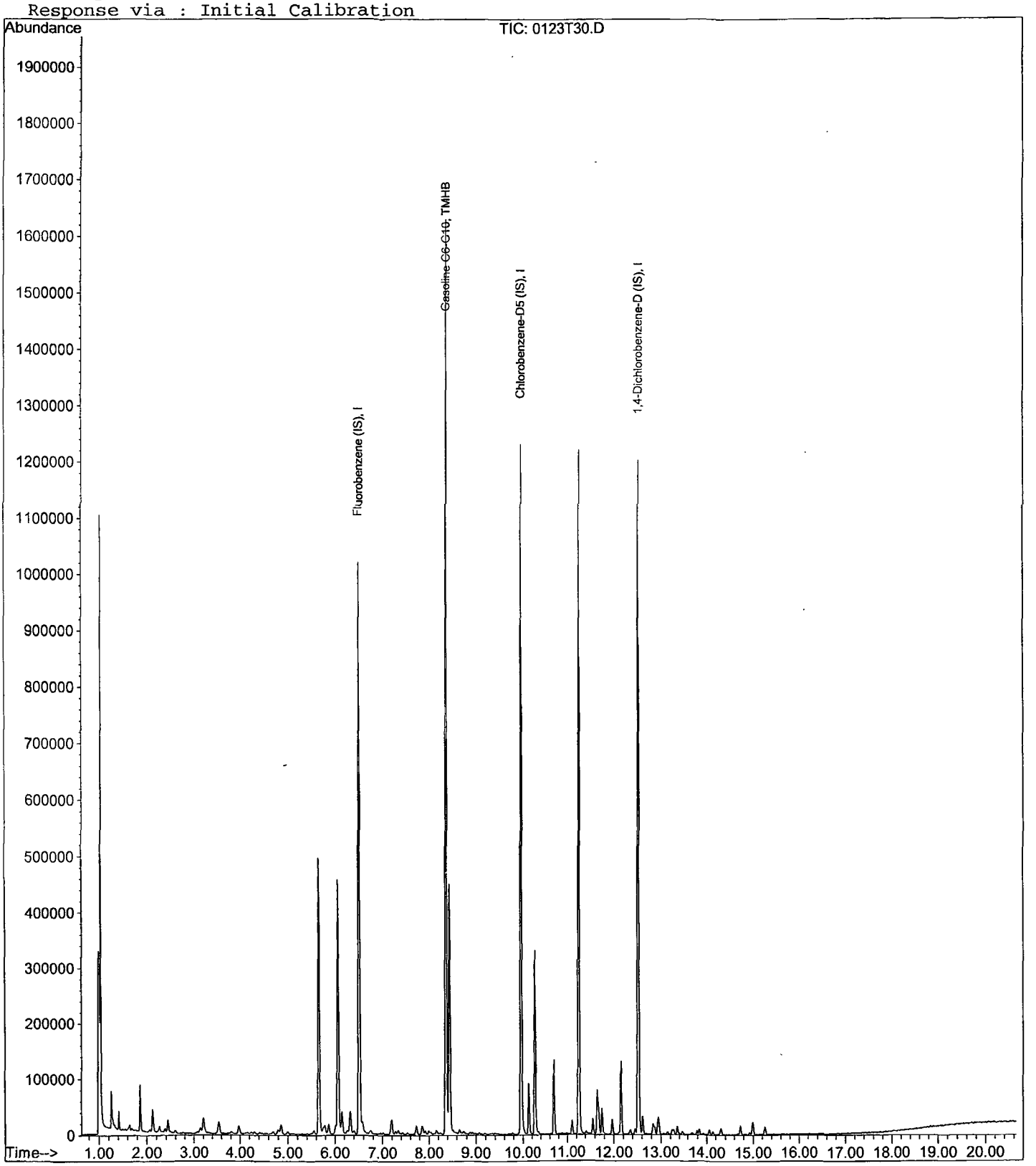
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0123T30.D Vial: 30
Acq On : 23 Jan 20 22:21 Operator:
Sample : 200123B CCV 300ug/L Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 10:07 2020 Quant Results File: TGAS0116.RES

Method : M:\THOR\DATA\T200121\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS
VOLATILE ORGANIC COMPOUNDS

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: water

SDG No:
Date Analyzed: 01/24/20
Instrument: Thor
Initial Cal. Date: 01/21/20
Data File: 0123T53.D

		Compound	MEAN	CCRF	%D	%Drift	
1	I	Fluorobenzene (IS)	ISTD			I	
2	TMHB	Gasoline C6-C10	3.922	1.324	66	TMHBL	5.0
3	I	Chlorobenzene-D5 (IS)	ISTD			I	
4	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			66.0		

VOLATILE ORGANIC ANALYSIS
VOLATILE ORGANIC COMPOUNDS

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: water

SDG No:
Date Analyzed: 01/24/20
Instrument: Thor
Initial Cal. Date: 01/21/20
Data File: 0123T53.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Fluorobenzene (IS)	ISTD			I	
2	SL	Dibromofluoromethane(S)	0.3715	0.3288	11	SL	2.2
3	SL	1,2-DCA-D4(S)	0.3991	0.3477	13	SL	1.1
4	I	Chlorobenzene-D5 (IS)	ISTD			I	
5	SL	Toluene-D8(S)	1.712	1.511	12	SL	2.3
6	SL	4-Bromofluorobenzene(S)	0.6137	0.5327	13	SL	4.8
7	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			12.3		

Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T200121\0123T53.D Vial: 53
Acq On : 24 Jan 20 9:11 Operator:
Sample : Ending CCV 300ug/L 1/23/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 14:42 2020 Quant Results File: TGAS0116.RES

Quant Method : M:\THOR\DATA\T200121\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	TIC	979778	25.000	ppb	0.00
3) Chlorobenzene-D5 (IS)	9.96	TIC	1193237	25.000	ppb	0.00
4) 1,4-Dichlorobenzene-D (IS)	12.52	TIC	1188684	25.000	ppb	0.00
System Monitoring Compounds						
Target Compounds						Qvalue
2) Gasoline C6-C10	8.37	TIC	15564195m	315.018	ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0123T53.D Vial: 53
Acq On : 24 Jan 20 9:11 Operator:
Sample : Ending CCV 300ug/L 1/23/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 14:57 2020 Quant Results File: TSUR121W.RES

Quant Method : M:\THOR\DATA\T200121\TSUR121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	961296	25.000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.96	117	763962	25.000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.52	152	403116	25.000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	5.66	111	316085	25.545 ppb	0.00
Spiked Amount 25.000			Recovery = 102.180%		
3) 1,2-DCA-D4(S)	6.07	65	334274	25.285 ppb	0.00
Spiked Amount 25.000			Recovery = 101.140%		
5) Toluene-D8(S)	8.37	98	1154492	25.565 ppb	0.00
Spiked Amount 25.000			Recovery = 102.260%		
6) 4-Bromofluorobenzene(S)	11.25	95	406939	23.788 ppb	0.00
Spiked Amount 25.000			Recovery = 95.152%		
Target Compounds					Qvalue

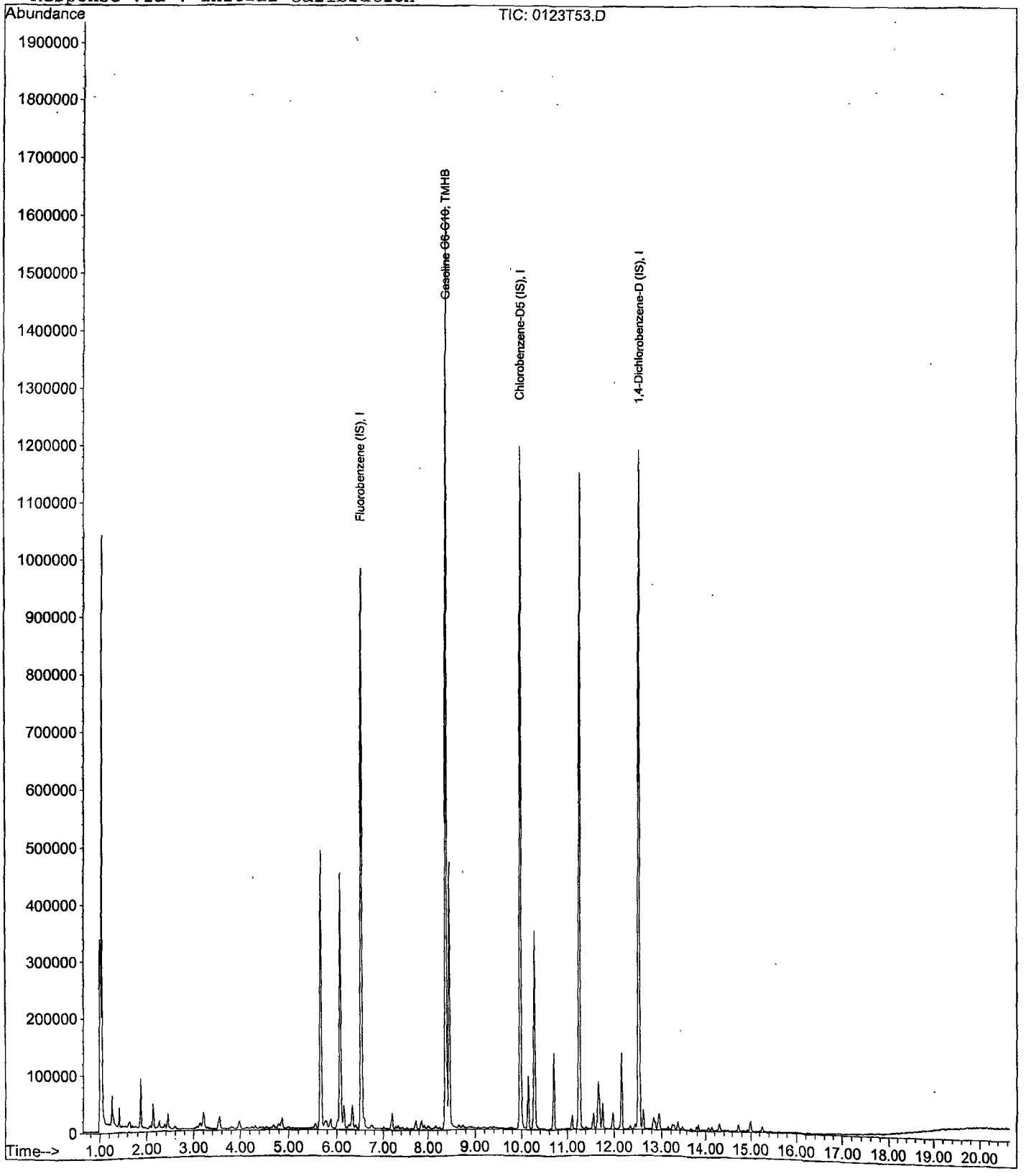
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0123T53.D Vial: 53
Acq On : 24 Jan 20 9:11 Operator:
Sample : Ending CCV 300ug/L 1/23/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 14:42 2020 Quant Results File: TGAS0116.RES

Method : M:\THOR\DATA\T200121\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS
VOLATILE ORGANIC COMPOUNDS

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 01/24/20
Instrument: Thor
Initial Cal. Date: 01/21/20
Data File: 0124T08.D

		Compound	MEAN	CCRF	%D	%Drift	
1	I	Fluorobenzene (IS)	ISTD			I	
2	TMHB	Gasoline C6-C10	3.922	1.307	67	TMHBL	0.24
3	I	Chlorobenzene-D5 (IS)	ISTD			I	
4	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			67.0		

VOLATILE ORGANIC ANALYSIS
VOLATILE ORGANIC COMPOUNDS

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 01/24/20
Instrument: Thor
Initial Cal. Date: 01/21/20
Data File: 0124T08.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Fluorobenzene (IS)	ISTD			I	
2	SL	Dibromofluoromethane(S)	0.3715	0.3141	15	SL	3.2
3	SL	1,2-DCA-D4(S)	0.3991	0.3380	15	SL	2.3
4	I	Chlorobenzene-D5 (IS)	ISTD			I	
5	SL	Toluene-D8(S)	1.712	1.471	14	SL	1.1
6	SL	4-Bromofluorobenzene(S)	0.6137	0.5136	16	SL	8.6
7	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			15.0		

Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T200121\0124T08.D Vial: 8
Acq On : 24 Jan 20 13:51 Operator:
Sample : 200124A CCV 300ug/L Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 14:14 2020 Quant Results File: TGAS0116.RES

Quant Method : M:\THOR\DATA\T200121\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	TIC	1041832	25.0000	ppb	0.00
3) Chlorobenzene-D5 (IS)	9.96	TIC	1223770	25.0000	ppb	0.00
4) 1,4-Dichlorobenzene-D (IS)	12.52	TIC	1234281	25.0000	ppb	0.00
System Monitoring Compounds						
Target Compounds						Qvalue
2) Gasoline C6-C10	8.37	TIC	16342751m	300.7179	ppb	100

(#) = qualifier out of range (m) = manual integration
0124T08.D TGAS0116.M Mon Jan 27 15:16:14 2020 Page 1

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0124T08.D Vial: 8
Acq On : 24 Jan 20 13:51 Operator:
Sample : 200124A CCV 300ug/L Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 7:28 2020 Quant Results File: TSUR121W.RES

Quant Method : M:\THOR\DATA\T200121\TSUR121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	1006742	25.0000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.96	117	795197	25.0000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.52	152	414924	25.0000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	5.66	111	316228	24.1938 ppb	0.00
Spiked Amount 25.000			Recovery =	96.776%	
3) 1,2-DCA-D4(S)	6.07	65	340288	24.4334 ppb	0.00
Spiked Amount 25.000			Recovery =	97.732%	
5) Toluene-D8(S)	8.37	98	1169402	24.7242 ppb	0.00
Spiked Amount 25.000			Recovery =	98.896%	
6) 4-Bromofluorobenzene(S)	11.25	95	408395	22.8618 ppb	0.00
Spiked Amount 25.000			Recovery =	91.448%	

Target Compounds Qvalue

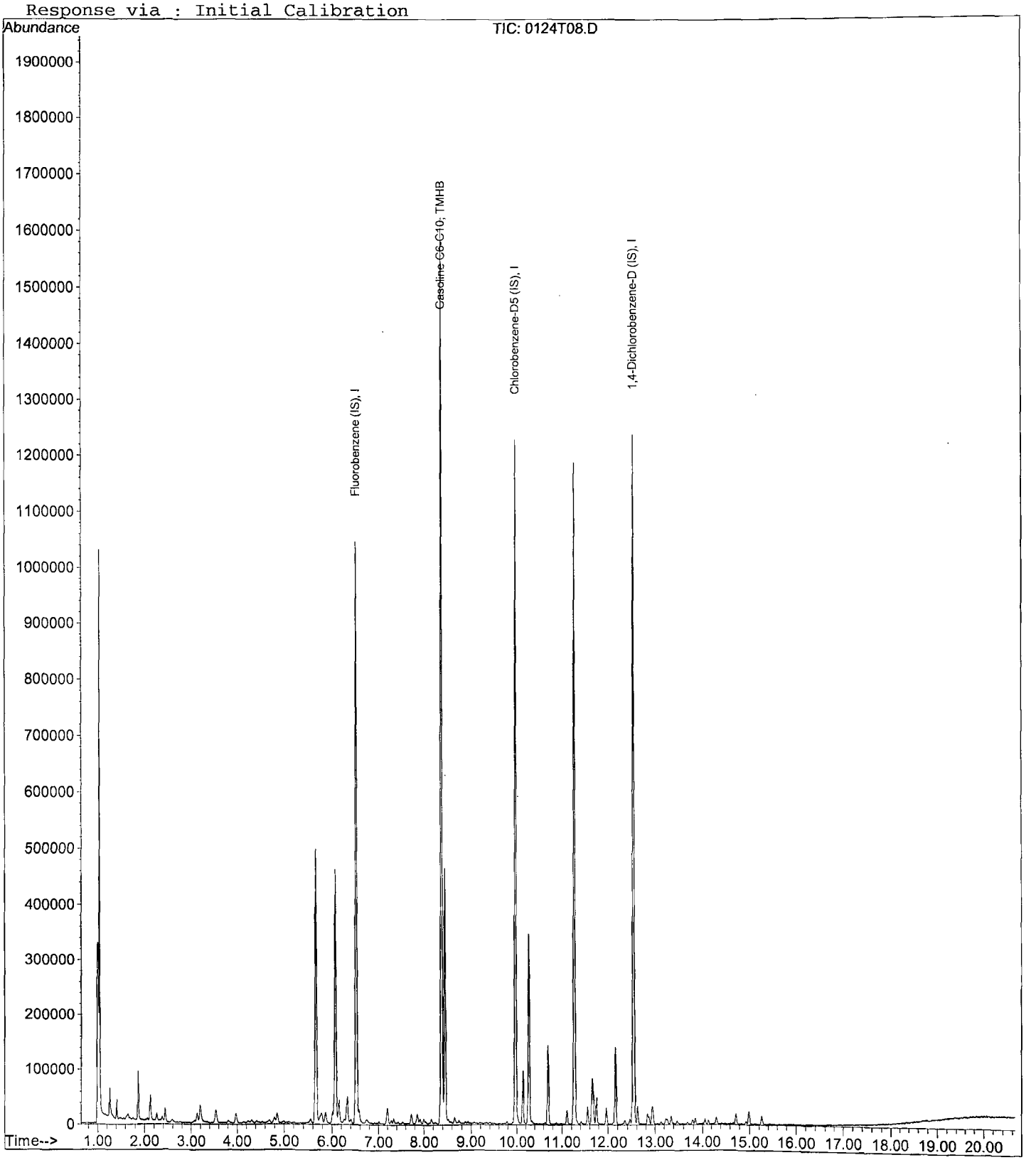
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0124T08.D Vial: 8
Acq On : 24 Jan 20 13:51 Operator:
Sample : 200124A CCV 300ug/L Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 14:14 2020 Quant Results File: TGAS0116.RES

Method : M:\THOR\DATA\T200121\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS
VOLATILE ORGANIC COMPOUNDS

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 01/24/20
Instrument: Thor
Initial Cal. Date: 01/21/20
Data File: 0124T29.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Fluorobenzene (IS)	ISTD			I	
2	TMHB	Gasoline C6-C10	3.922	1.303	67	TMHBL	0.85
3	I	Chlorobenzene-D5 (IS)	ISTD			I	
4	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			67.0		

VOLATILE ORGANIC ANALYSIS
VOLATILE ORGANIC COMPOUNDS

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Date Analyzed: 01/24/20
Matrix: Instrument: Thor
Initial Cal. Date: 01/21/20
Data File: 0124T29.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Fluorobenzene (IS)	ISTD			I	
2	SL	Dibromofluoromethane(S)	0.3715	0.3260	12	SL	1.1
3	SL	1,2-DCA-D4(S)	0.3991	0.3534	11	SL	3.1
4	I	Chlorobenzene-D5 (IS)	ISTD			I	
5	SL	Toluene-D8(S)	1.712	1.501	12	SL	1.4
6	SL	4-Bromofluorobenzene(S)	0.6137	0.5314	13	SL	5.1
7	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			12.0		

Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T200121\0124T29.D Vial: 29
Acq On : 24 Jan 20 23:46 Operator:
Sample : Ending CCV 300ug/L 1/24/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 7:18 2020 Quant Results File: TGAS0116.RES

Quant Method : M:\THOR\DATA\T200121\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	TIC	978323	25.0000	ppb	0.00
3) Chlorobenzene-D5 (IS)	9.96	TIC	1185546	25.0000	ppb	0.00
4) 1,4-Dichlorobenzene-D (IS)	12.52	TIC	1178311	25.0000	ppb	0.00

System Monitoring Compounds

Target Compounds						Qvalue
2) Gasoline C6-C10	8.37	TIC	15301932m	297.4413	ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0124T29.D Vial: 29
Acq On : 24 Jan 20 23:46 Operator:
Sample : Ending CCV 300ug/L 1/24/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 7:28 2020 Quant Results File: TSUR121W.RES

Quant Method : M:\THOR\DATA\T200121\TSUR121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	965901	25.0000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.96	117	761972	25.0000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.52	152	401183	25.0000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	5.66	111	314837	25.2825 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.132%	
3) 1,2-DCA-D4(S)	6.07	65	341310	25.7783 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.112%	
5) Toluene-D8(S)	8.37	98	1143549	25.3496 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.400%	
6) 4-Bromofluorobenzene(S)	11.26	95	404914	23.7266 ppb	0.00
Spiked Amount 25.000			Recovery	= 94.908%	

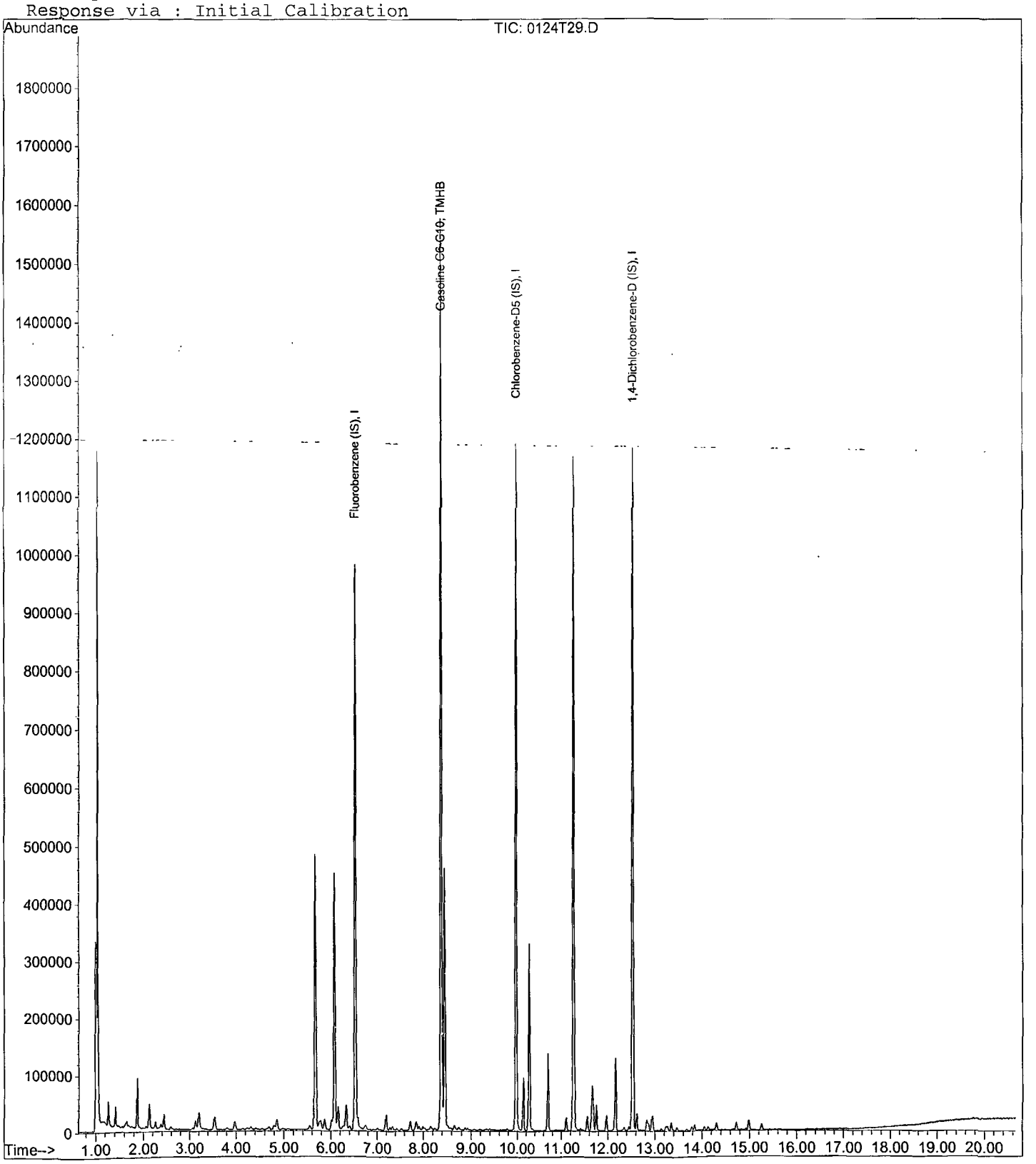
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Data File : M:\THOR\DATA\T200121\0124T29.D Vial: 29
Acq On : 24 Jan 20 23:46 Operator:
Sample : Ending CCV 300ug/L 1/24/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 7:18 2020 Quant Results File: TGAS0116.RES

Method : M:\THOR\DATA\T200121\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration



ORGANICS
Raw Data

Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T200121\0123T37.D Vial: 37
Acq On : 24 Jan 20 1:39 Operator:
Sample : BA06271W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 11:06 2020 Quant Results File: TGAS0116.RES

Quant Method : M:\THOR\DATA\T200121\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	TIC	982967	25.0000 ppb	0.00
3) Chlorobenzene-D5 (IS)	9.96	TIC	1184197	25.0000 ppb	0.00
4) 1,4-Dichlorobenzene-D (IS)	12.52	TIC	1147864	25.0000 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
0123T37.D TGAS0116.M Mon Jan 27 15:19:43 2020 Page 1

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0123T37.D Vial: 37
Acq On : 24 Jan 20 1:39 Operator:
Sample : BA06271W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 11:08 2020 Quant Results File: TSUR121W.RES

Quant Method : M:\THOR\DATA\T200121\TSUR121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	959713	25.0000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.96	117	769093	25.0000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.52	152	388409	25.0000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	5.66	111	320184	25.9881 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.952%	
3) 1,2-DCA-D4(S)	6.07	65	339573	25.8194 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.276%	
5) Toluene-D8(S)	8.37	98	1148856	25.2047 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.820%	
6) 4-Bromofluorobenzene(S)	11.26	95	397077	22.9935 ppb	0.00
Spiked Amount 25.000			Recovery	= 91.976%	

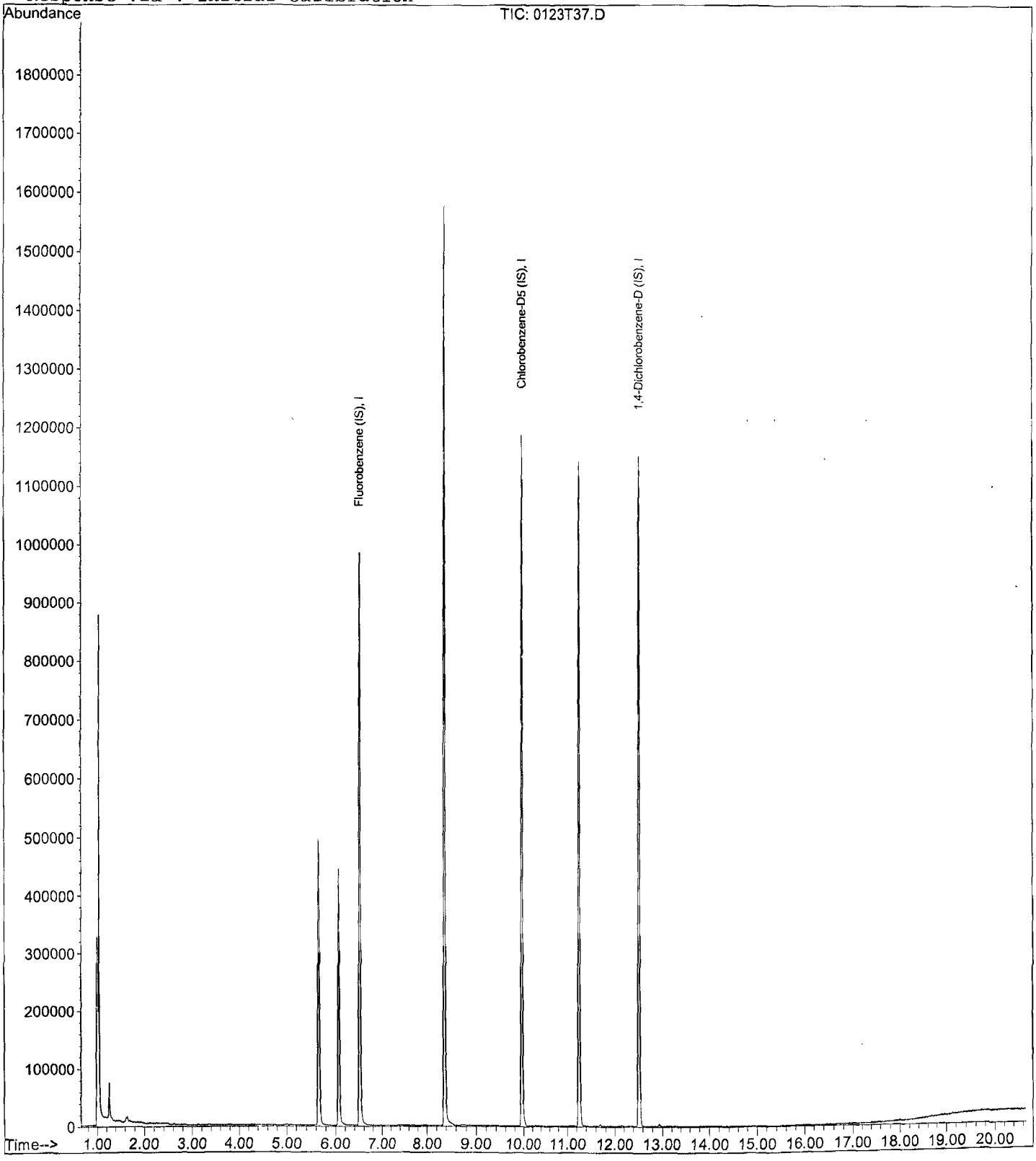
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Data File : M:\THOR\DATA\T200121\0123T37.D Vial: 37
Acq On : 24 Jan 20 1:39 Operator:
Sample : BA06271W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 11:06 2020 Quant Results File: TGAS0116.RES

Method : M:\THOR\DATA\T200121\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T200121\0123T38.D Vial: 38
Acq On : 24 Jan 20 2:07 Operator:
Sample : BA06272W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 11:06 2020 Quant Results File: TGAS0116.RES

Quant Method : M:\THOR\DATA\T200121\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	TIC	983036	25.0000	ppb	0.00
3) Chlorobenzene-D5 (IS)	9.96	TIC	1178790	25.0000	ppb	0.00
4) 1,4-Dichlorobenzene-D (IS)	12.52	TIC	1154643	25.0000	ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0123T38.D Vial: 38
Acq On : 24 Jan 20 2:07 Operator:
Sample : BA06272W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 11:08 2020 Quant Results File: TSUR121W.RES

Quant Method : M:\THOR\DATA\T200121\TSUR121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	964709	25.0000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.96	117	763731	25.0000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.52	152	393845	25.0000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	5.66	111	317335	25.5577 ppb	0.00
Spiked Amount 25.000			Recovery =	102.232%	
3) 1,2-DCA-D4(S)	6.07	65	338461	25.5578 ppb	0.00
Spiked Amount 25.000			Recovery =	102.232%	
5) Toluene-D8(S)	8.37	98	1135956	25.0721 ppb	0.00
Spiked Amount 25.000			Recovery =	100.288%	
6) 4-Bromofluorobenzene(S)	11.26	95	391930	22.8425 ppb	0.00
Spiked Amount 25.000			Recovery =	91.368%	

Target Compounds Qvalue

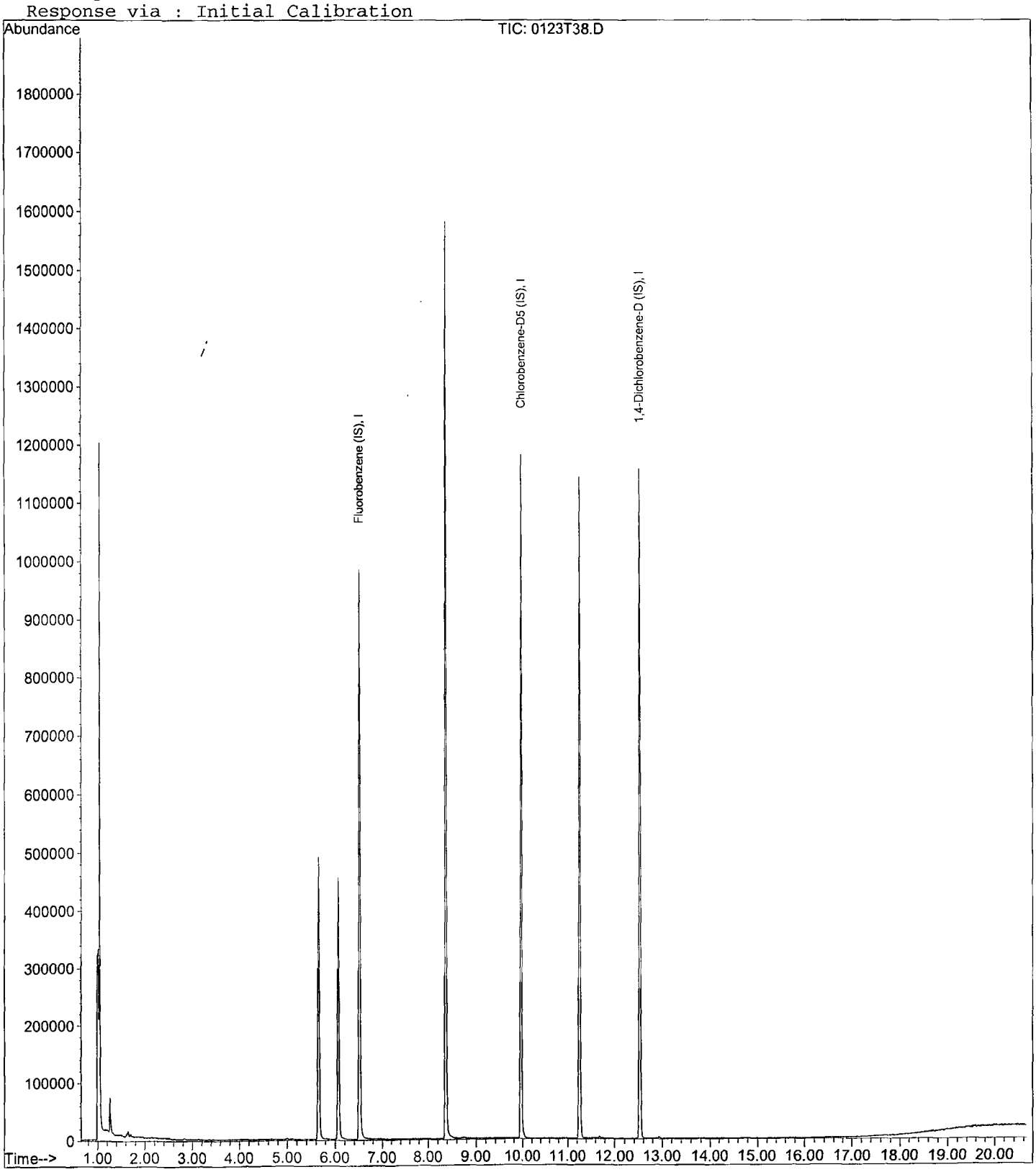
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0123T38.D Vial: 38
Acq On : 24 Jan 20 2:07 Operator:
Sample : BA06272W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 11:06 2020 Quant Results File: TGAS0116.RES

Method : M:\THOR\DATA\T200121\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T200121\0123T39.D Vial: 39
Acq On : 24 Jan 20 2:36 Operator:
Sample : BA06273W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 11:06 2020 Quant Results File: TGAS0116.RES

Quant Method : M:\THOR\DATA\T200121\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	TIC	985866	25.0000	ppb	0.00
3) Chlorobenzene-D5 (IS)	9.96	TIC	1193012	25.0000	ppb	0.00
4) 1,4-Dichlorobenzene-D (IS)	12.52	TIC	1152102	25.0000	ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0123T39.D Vial: 39
Acq On : 24 Jan 20 2:36 Operator:
Sample : BA06273W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 11:08 2020 Quant Results File: TSUR121W.RES

Quant Method : M:\THOR\DATA\T200121\TSUR121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	960183	25.0000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.96	117	764411	25.0000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.52	152	393985	25.0000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	5.66	111	317356	25.7022 ppb	0.00
Spiked Amount 25.000			Recovery =	102.808%	
3) 1,2-DCA-D4(S)	6.07	65	339184	25.7687 ppb	0.00
Spiked Amount 25.000			Recovery =	103.076%	
5) Toluene-D8(S)	8.37	98	1136149	25.0499 ppb	0.00
Spiked Amount 25.000			Recovery =	100.200%	
6) 4-Bromofluorobenzene(S)	11.25	95	390759	22.7460 ppb	0.00
Spiked Amount 25.000			Recovery =	90.984%	

Target Compounds Qvalue

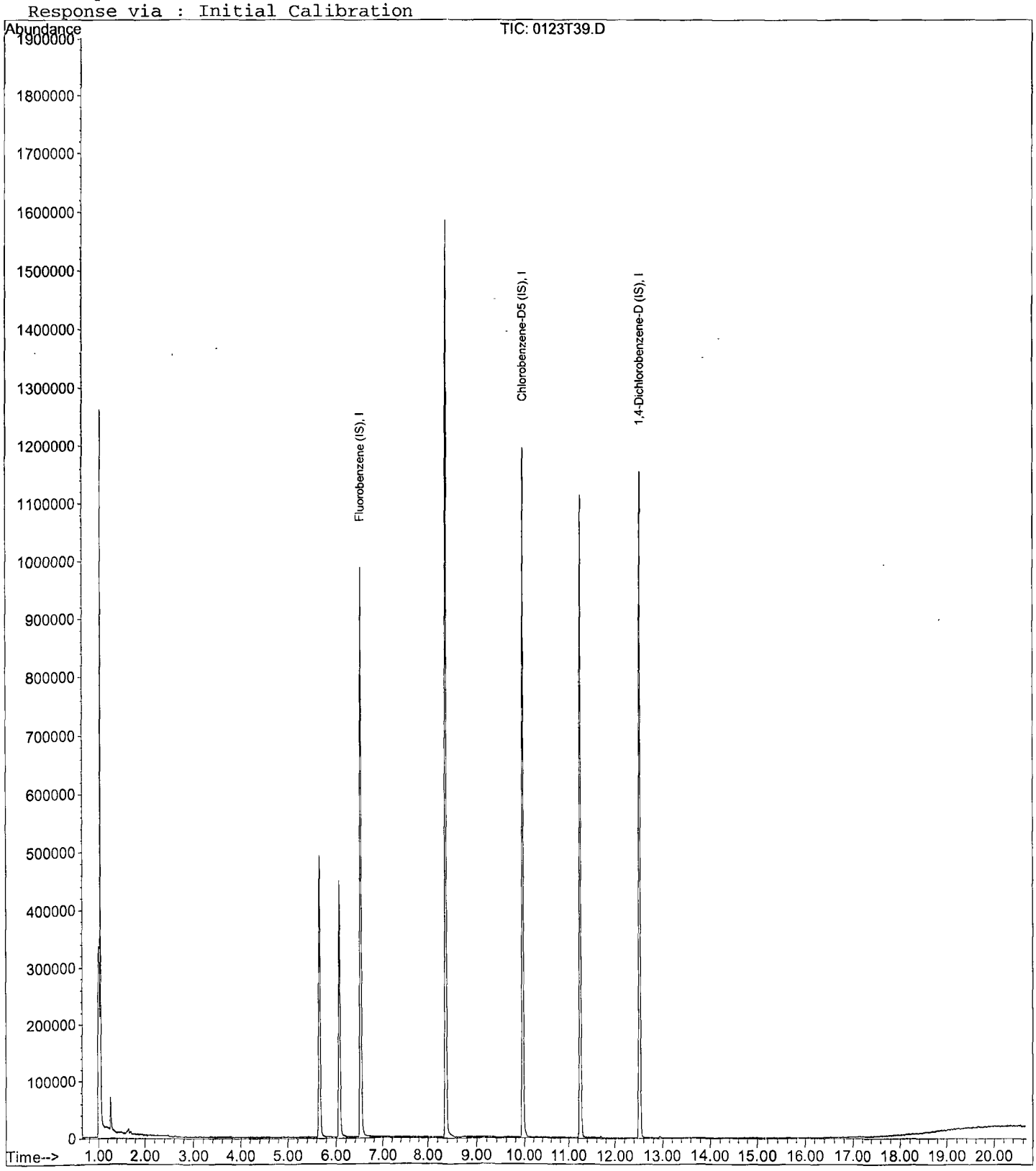
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0123T39.D Vial: 39
Acq On : 24 Jan 20 2:36 Operator:
Sample : BA06273W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 11:06 2020 Quant Results File: TGAS0116.RES

Method : M:\THOR\DATA\T200121\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T200121\0123T40.D Vial: 40
Acq On : 24 Jan 20 3:04 Operator:
Sample : BA06274W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 11:06 2020 Quant Results File: TGAS0116.RES

Quant Method : M:\THOR\DATA\T200121\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	TIC	984121	25.0000	ppb	0.00
3) Chlorobenzene-D5 (IS)	9.96	TIC	1194421	25.0000	ppb	0.00
4) 1,4-Dichlorobenzene-D (IS)	12.52	TIC	1131877	25.0000	ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0123T40.D Vial: 40
Acq On : 24 Jan 20 3:04 Operator:
Sample : BA06274W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 11:08 2020 Quant Results File: TSUR121W.RES

Quant Method : M:\THOR\DATA\T200121\TSUR121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	951214	25.0000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.96	117	758656	25.0000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.52	152	389475	25.0000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	5.66	111	310346	25.3112 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.244%	
3) 1,2-DCA-D4(S)	6.07	65	329536	25.1718 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.688%	
5) Toluene-D8(S)	8.37	98	1114297	24.6868 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.748%	
6) 4-Bromofluorobenzene(S)	11.25	95	382057	22.3777 ppb	0.00
Spiked Amount 25.000			Recovery	= 89.512%	

Target Compounds	Qvalue

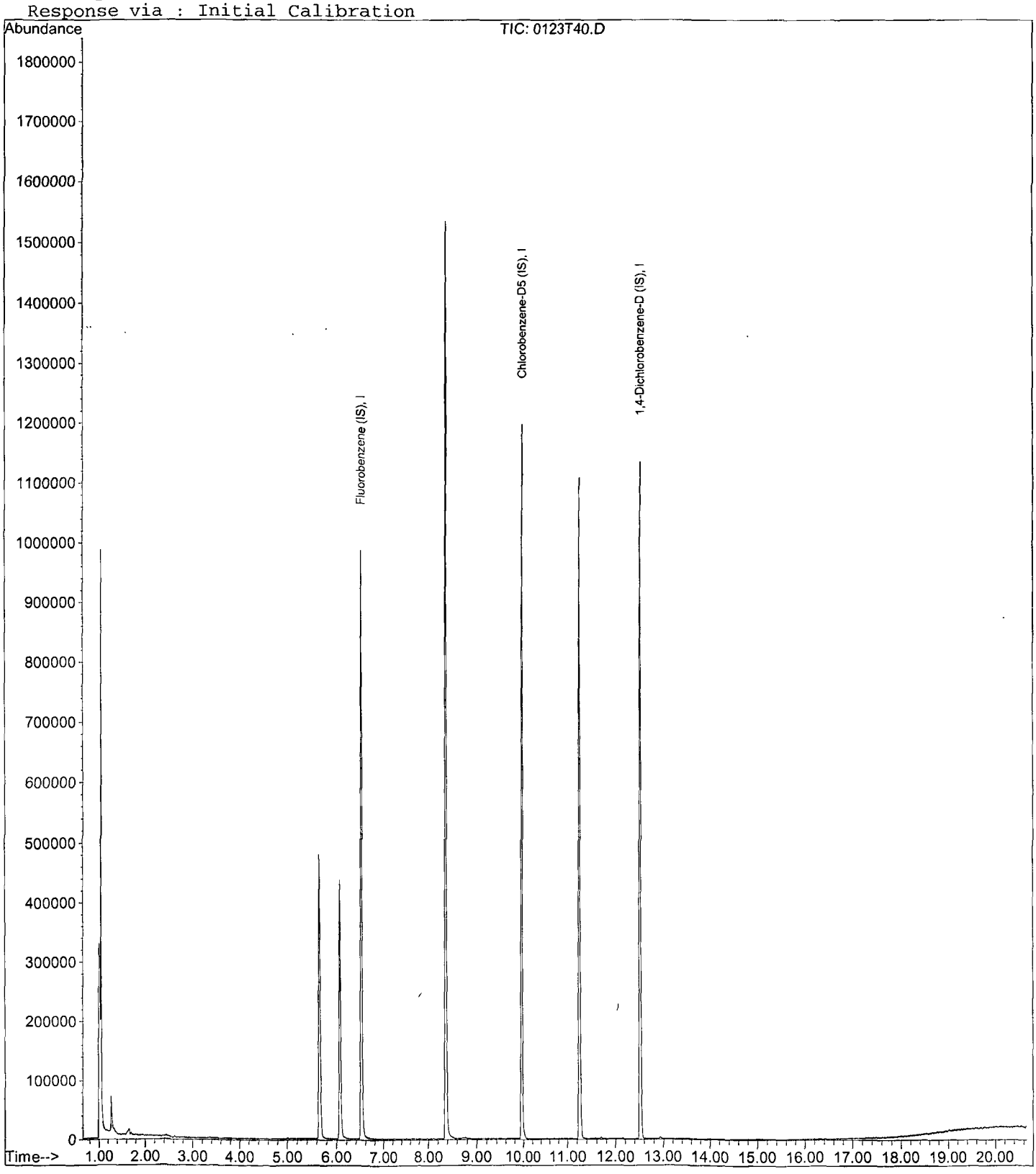
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0123T40.D Vial: 40
Acq On : 24 Jan 20 3:04 Operator:
Sample : BA06274W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 11:06 2020 Quant Results File: TGAS0116.RES

Method : M:\THOR\DATA\T200121\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T200121\0123T41.D Vial: 41
Acq On : 24 Jan 20 3:32 Operator:
Sample : BA06275W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 11:07 2020 Quant Results File: TGAS0116.RES

Quant Method : M:\THOR\DATA\T200121\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	TIC	981433	25.0000 ppb	0.00
3) Chlorobenzene-D5 (IS)	9.96	TIC	1170469	25.0000 ppb	0.00
4) 1,4-Dichlorobenzene-D (IS)	12.52	TIC	1143297	25.0000 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
0123T41.D TGAS0116.M Mon Jan 27 15:19:49 2020 Page 1

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0123T41.D Vial: 41
Acq On : 24 Jan 20 3:32 Operator:
Sample : BA06275W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 11:08 2020 Quant Results File: TSUR121W.RES

Quant Method : M:\THOR\DATA\T200121\TSUR121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	941101	25.0000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.96	117	751501	25.0000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.52	152	389563	25.0000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	5.66	111	309915	25.5914 ppb	0.00
Spiked Amount 25.000			Recovery =	102.364%	
3) 1,2-DCA-D4(S)	6.07	65	338480	26.3307 ppb	0.00
Spiked Amount 25.000			Recovery =	105.324%	
5) Toluene-D8(S)	8.37	98	1119574	25.1219 ppb	0.00
Spiked Amount 25.000			Recovery =	100.488%	
6) 4-Bromofluorobenzene(S)	11.26	95	390584	23.1607 ppb	0.00
Spiked Amount 25.000			Recovery =	92.644%	
Target Compounds					Qvalue

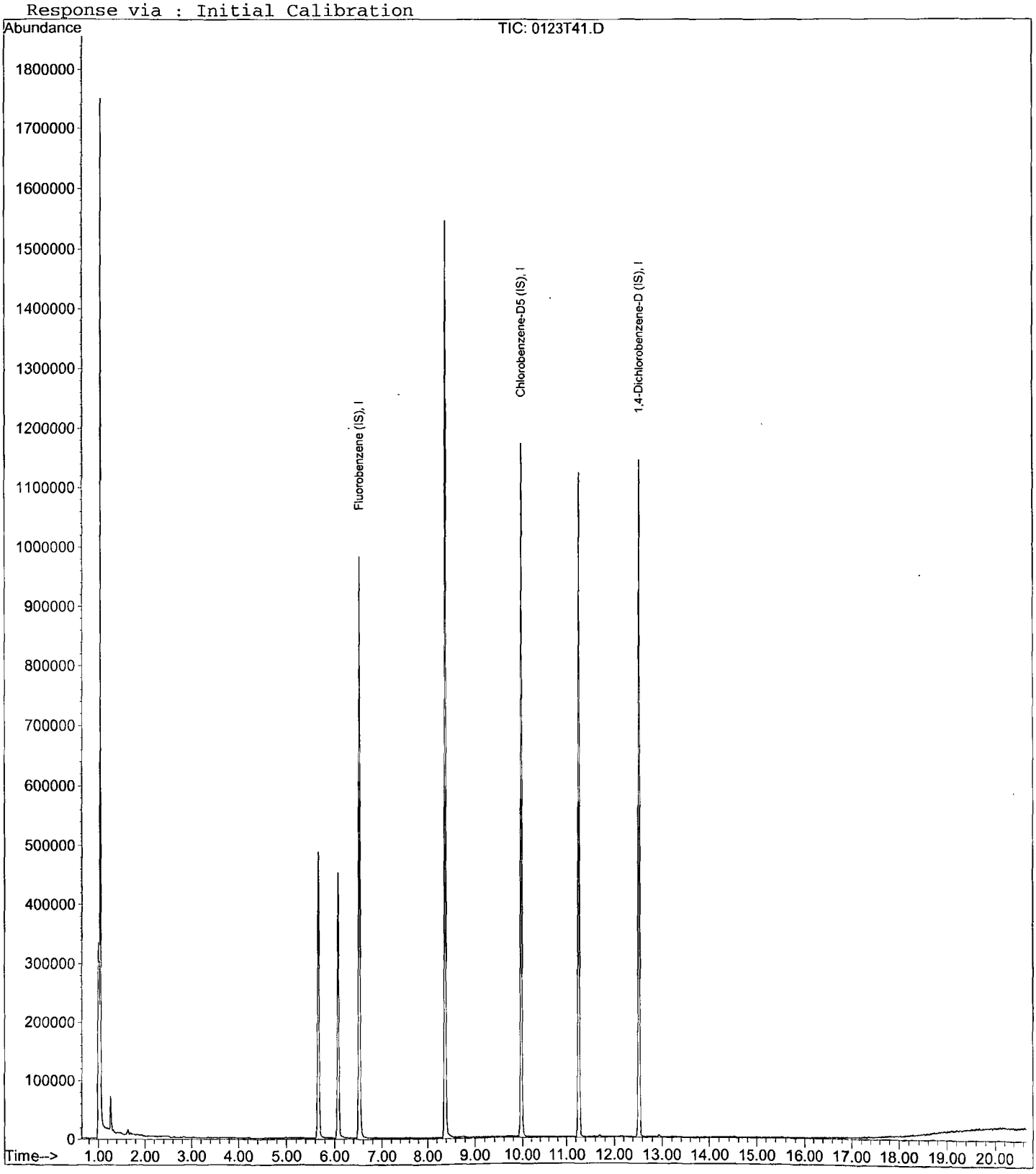
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0123T41.D Vial: 41
Acq On : 24 Jan 20 3:32 Operator:
Sample : BA06275W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 11:07 2020 Quant Results File: TGAS0116.RES

Method : M:\THOR\DATA\T200121\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T200121\0123T42.D Vial: 42
Acq On : 24 Jan 20 4:00 Operator:
Sample : BA06276W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 11:07 2020 Quant Results File: TGAS0116.RES

Quant Method : M:\THOR\DATA\T200121\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	TIC	972594	25.0000	ppb	0.00
3) Chlorobenzene-D5 (IS)	9.96	TIC	1155829	25.0000	ppb	0.00
4) 1,4-Dichlorobenzene-D (IS)	12.52	TIC	1118149	25.0000	ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0123T42.D Vial: 42
Acq On : 24 Jan 20 4:00 Operator:
Sample : BA06276W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 11:08 2020 Quant Results File: TSUR121W.RES

Quant Method : M:\THOR\DATA\T200121\TSUR121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	947312	25.0000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.96	117	754413	25.0000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.52	152	388574	25.0000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	5.66	111	312051	25.6002 ppb	0.00
Spiked Amount 25.000			Recovery = 102.400%		
3) 1,2-DCA-D4(S)	6.07	65	333943	25.7045 ppb	0.00
Spiked Amount 25.000			Recovery = 102.816%		
5) Toluene-D8(S)	8.37	98	1119904	25.0119 ppb	0.00
Spiked Amount 25.000			Recovery = 100.048%		
6) 4-Bromofluorobenzene(S)	11.26	95	387060	22.8368 ppb	0.00
Spiked Amount 25.000			Recovery = 91.348%		

Target Compounds Qvalue

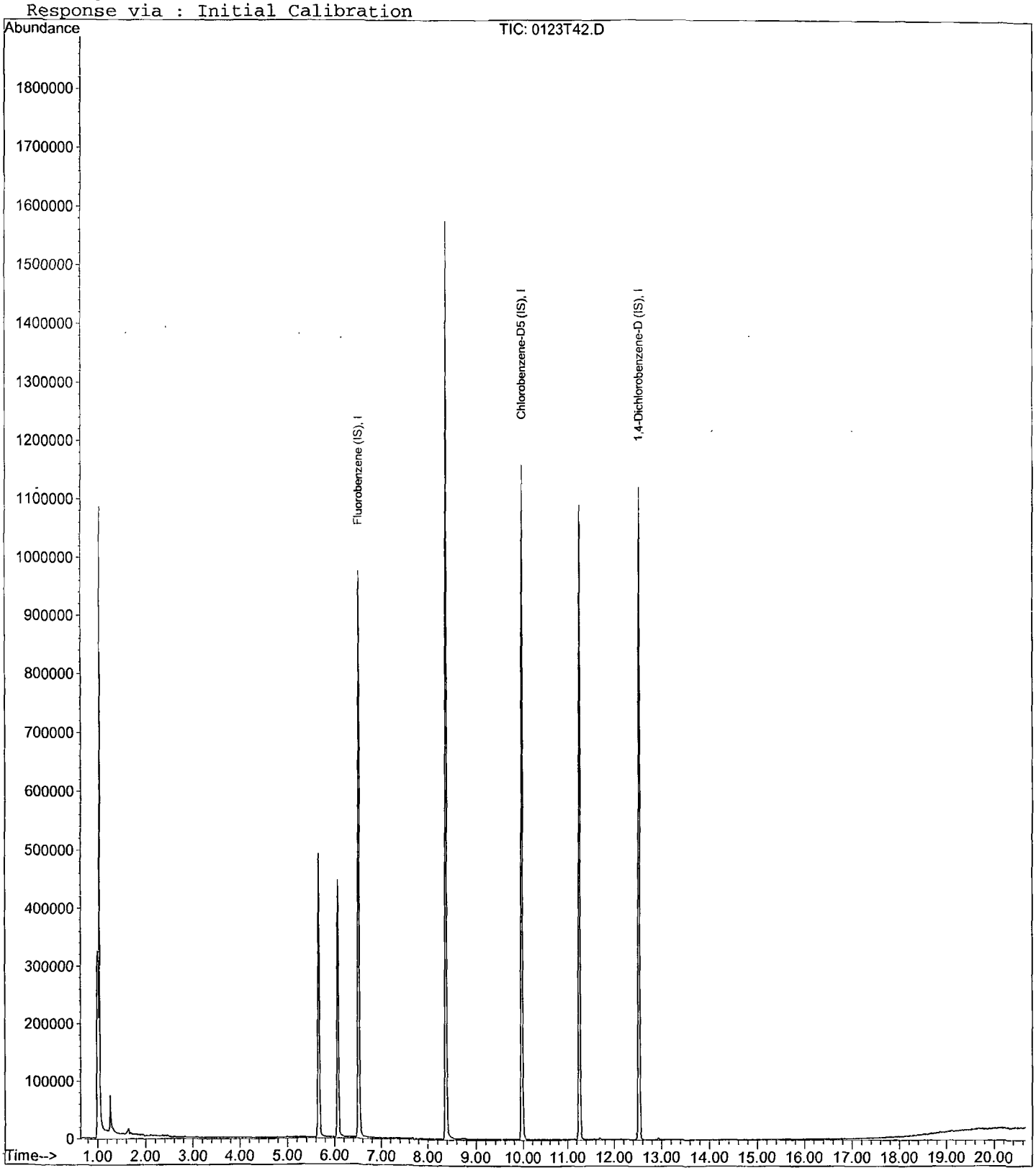
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0123T42.D Vial: 42
Acq On : 24 Jan 20 4:00 Operator:
Sample : BA06276W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 11:07 2020 Quant Results File: TGAS0116.RES

Method : M:\THOR\DATA\T200121\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T200121\0123T34.D Vial: 34
Acq On : 24 Jan 20 00:14 Operator:
Sample : BA06277W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 11:06 2020 Quant Results File: TGAS0116.RES

Quant Method : M:\THOR\DATA\T200121\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	TIC	983344	25.0000 ppb	0.00
3) Chlorobenzene-D5 (IS)	9.96	TIC	1187443	25.0000 ppb	0.00
4) 1,4-Dichlorobenzene-D (IS)	12.53	TIC	1140294	25.0000 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0123T34.D Vial: 34
Acq On : 24 Jan 20 00:14 Operator:
Sample : BA06277W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 11:08 2020 Quant Results File: TSUR121W.RES

Quant Method : M:\THOR\DATA\T200121\TSUR121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	962598	25.0000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.96	117	768590	25.0000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.53	152	386761	25.0000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	5.66	111	321106	25.9842 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.936%	
3) 1,2-DCA-D4(S)	6.07	65	342269	25.9718 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.888%	
5) Toluene-D8(S)	8.37	98	1156321	25.4262 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.704%	
6) 4-Bromofluorobenzene(S)	11.26	95	396015	22.9429 ppb	0.00
Spiked Amount 25.000			Recovery	= 91.772%	

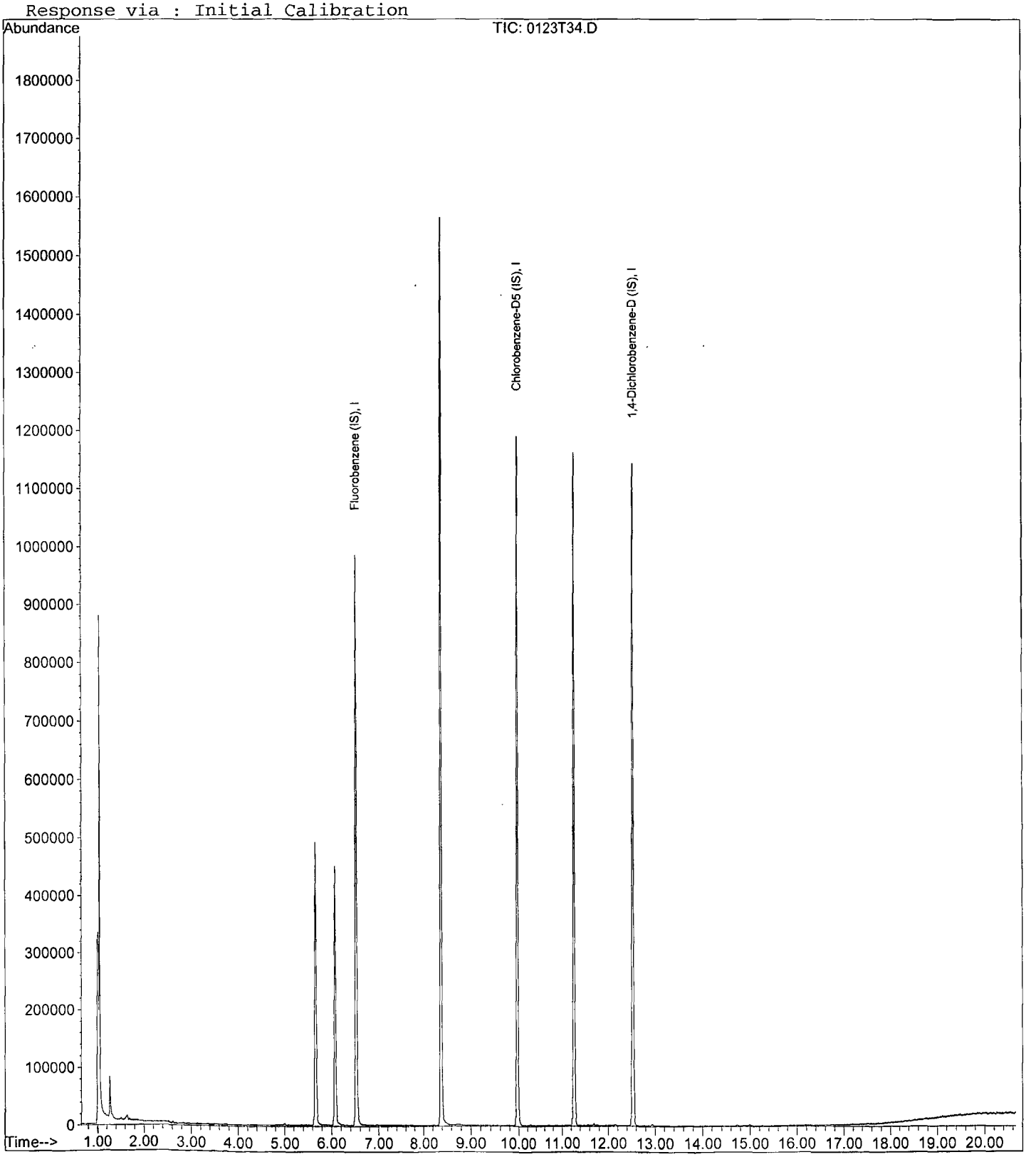
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Data File : M:\THOR\DATA\T200121\0123T34.D Vial: 34
Acq On : 24 Jan 20 00:14 Operator:
Sample : BA06277W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 11:06 2020 Quant Results File: TGAS0116.RES

Method : M:\THOR\DATA\T200121\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T200121\0123T35.D Vial: 35
Acq On : 24 Jan 20 00:42 Operator:
Sample : BA06278W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 11:06 2020 Quant Results File: TGAS0116.RES

Quant Method : M:\THOR\DATA\T200121\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	TIC	994629	25.0000	ppb	0.00
3) Chlorobenzene-D5 (IS)	9.96	TIC	1183852	25.0000	ppb	0.00
4) 1,4-Dichlorobenzene-D (IS)	12.52	TIC	1135854	25.0000	ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0123T35.D Vial: 35
Acq On : 24 Jan 20 00:42 Operator:
Sample : BA06278W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 11:08 2020 Quant Results File: TSUR121W.RES

Quant Method : M:\THOR\DATA\T200121\TSUR121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	959579	25.0000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.96	117	763288	25.0000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.52	152	398407	25.0000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	5.66	111	315664	25.5592 ppb	0.00
Spiked Amount 25.000			Recovery = 102.236%		
3) 1,2-DCA-D4(S)	6.07	65	336340	25.5285 ppb	0.00
Spiked Amount 25.000			Recovery = 102.112%		
5) Toluene-D8(S)	8.37	98	1132548	24.9975 ppb	0.00
Spiked Amount 25.000			Recovery = 99.988%		
6) 4-Bromofluorobenzene(S)	11.26	95	388134	22.6156 ppb	0.00
Spiked Amount 25.000			Recovery = 90.464%		

Target Compounds Qvalue

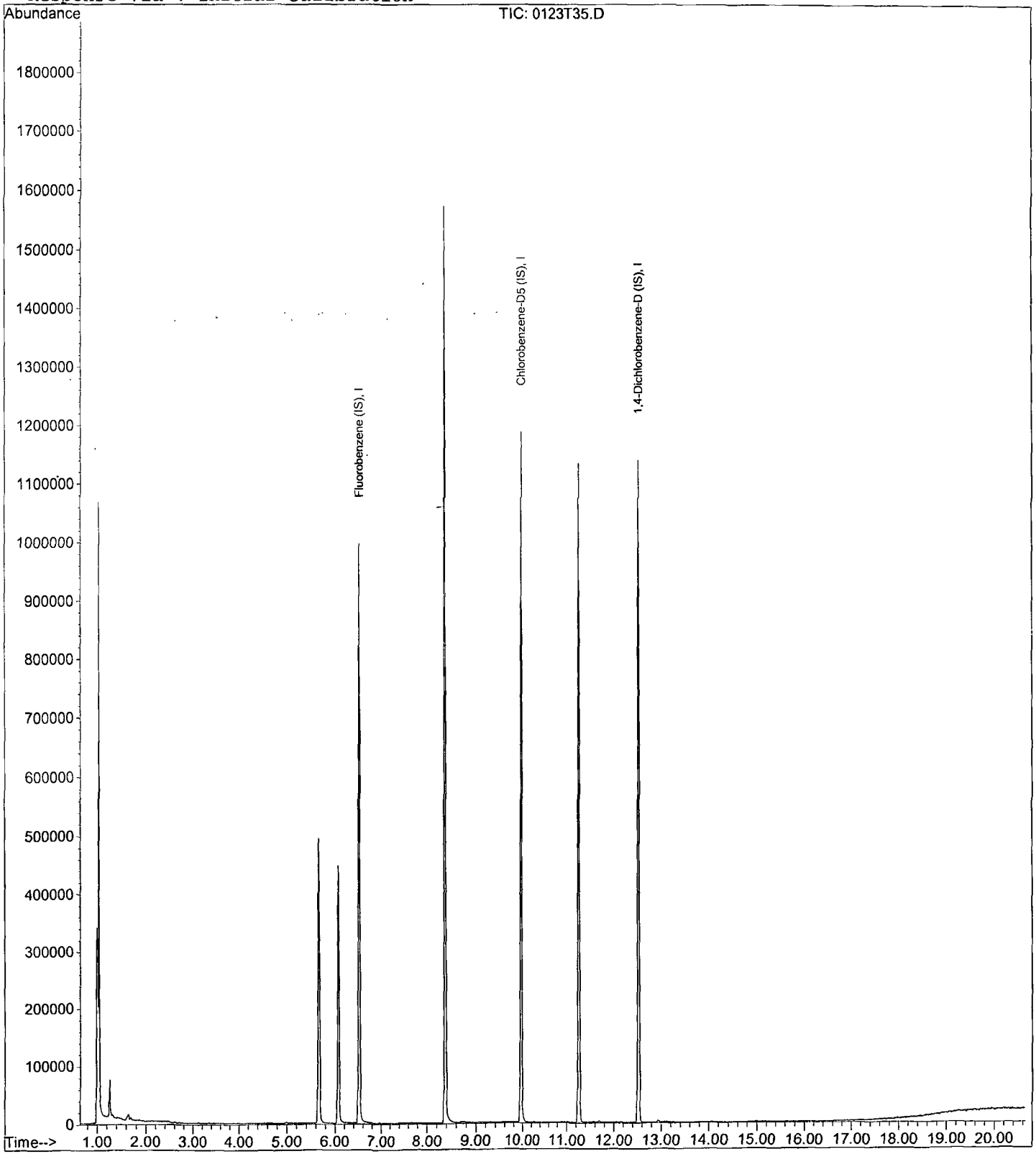
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0123T35.D Vial: 35
Acq On : 24 Jan 20 00:42 Operator:
Sample : BA06278W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 11:06 2020 Quant Results File: TGAS0116.RES

Method : M:\THOR\DATA\T200121\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T200121\0123T43.D Vial: 43
Acq On : 24 Jan 20 4:29 Operator:
Sample : BA06279W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 11:07 2020 Quant Results File: TGAS0116.RES

Quant Method : M:\THOR\DATA\T200121\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	TIC	974372	25.0000 ppb	0.00
3) Chlorobenzene-D5 (IS)	9.96	TIC	1192600	25.0000 ppb	0.00
4) 1,4-Dichlorobenzene-D (IS)	12.52	TIC	1132572	25.0000 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
0123T43.D TGAS0116.M Mon Jan 27 15:19:53 2020 Page 1

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0123T43.D Vial: 43
Acq On : 24 Jan 20 4:29 Operator:
Sample : BA06279W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 11:08 2020 Quant Results File: TSUR121W.RES

Quant Method : M:\THOR\DATA\T200121\TSUR121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	944377	25.0000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.96	117	754830	25.0000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.52	152	385400	25.0000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	5.66	111	310152	25.5095 ppb	0.00
Spiked Amount 25.000			Recovery =	102.036%	
3) 1,2-DCA-D4(S)	6.07	65	332989	25.7120 ppb	0.00
Spiked Amount 25.000			Recovery =	102.848%	
5) Toluene-D8(S)	8.37	98	1103989	24.5581 ppb	0.00
Spiked Amount 25.000			Recovery =	98.232%	
6) 4-Bromofluorobenzene(S)	11.26	95	381580	22.4708 ppb	0.00
Spiked Amount 25.000			Recovery =	89.884%	

Target Compounds Qvalue

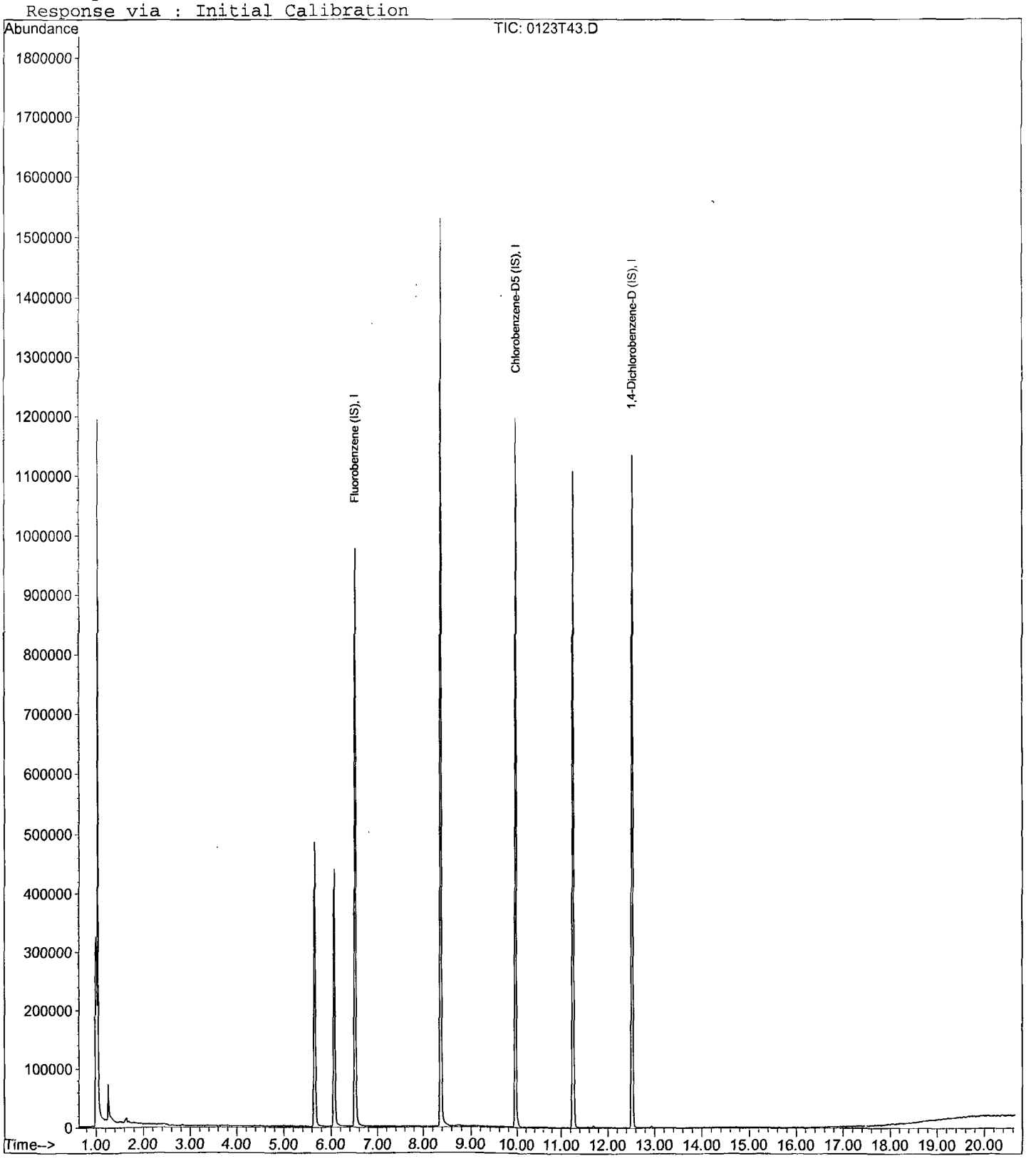
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0123T43.D Vial: 43
Acq On : 24 Jan 20 4:29 Operator:
Sample : BA06279W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 11:07 2020 Quant Results File: TGAS0116.RES

Method : M:\THOR\DATA\T200121\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T200121\0123T44.D Vial: 44
Acq On : 24 Jan 20 4:57 Operator:
Sample : BA06280W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 11:07 2020 Quant Results File: TGAS0116.RES

Quant Method : M:\THOR\DATA\T200121\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	TIC	947637	25.0000 ppb	0.00
3) Chlorobenzene-D5 (IS)	9.96	TIC	1151724	25.0000 ppb	0.00
4) 1,4-Dichlorobenzene-D (IS)	12.52	TIC	1145491	25.0000 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0123T44.D Vial: 44
Acq On : 24 Jan 20 4:57 Operator:
Sample : BA06280W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 11:08 2020 Quant Results File: TSUR121W.RES

Quant Method : M:\THOR\DATA\T200121\TSUR121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	940760	25.0000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.96	117	750883	25.0000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.52	152	383552	25.0000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	5.66	111	314355	26.0364 ppb	0.00
Spiked Amount 25.000			Recovery = 104.144%		
3) 1,2-DCA-D4(S)	6.07	65	331987	25.7374 ppb	0.00
Spiked Amount 25.000			Recovery = 102.948%		
5) Toluene-D8(S)	8.37	98	1119170	25.1362 ppb	0.00
Spiked Amount 25.000			Recovery = 100.544%		
6) 4-Bromofluorobenzene(S)	11.26	95	380585	22.5355 ppb	0.00
Spiked Amount 25.000			Recovery = 90.140%		

Target Compounds Qvalue

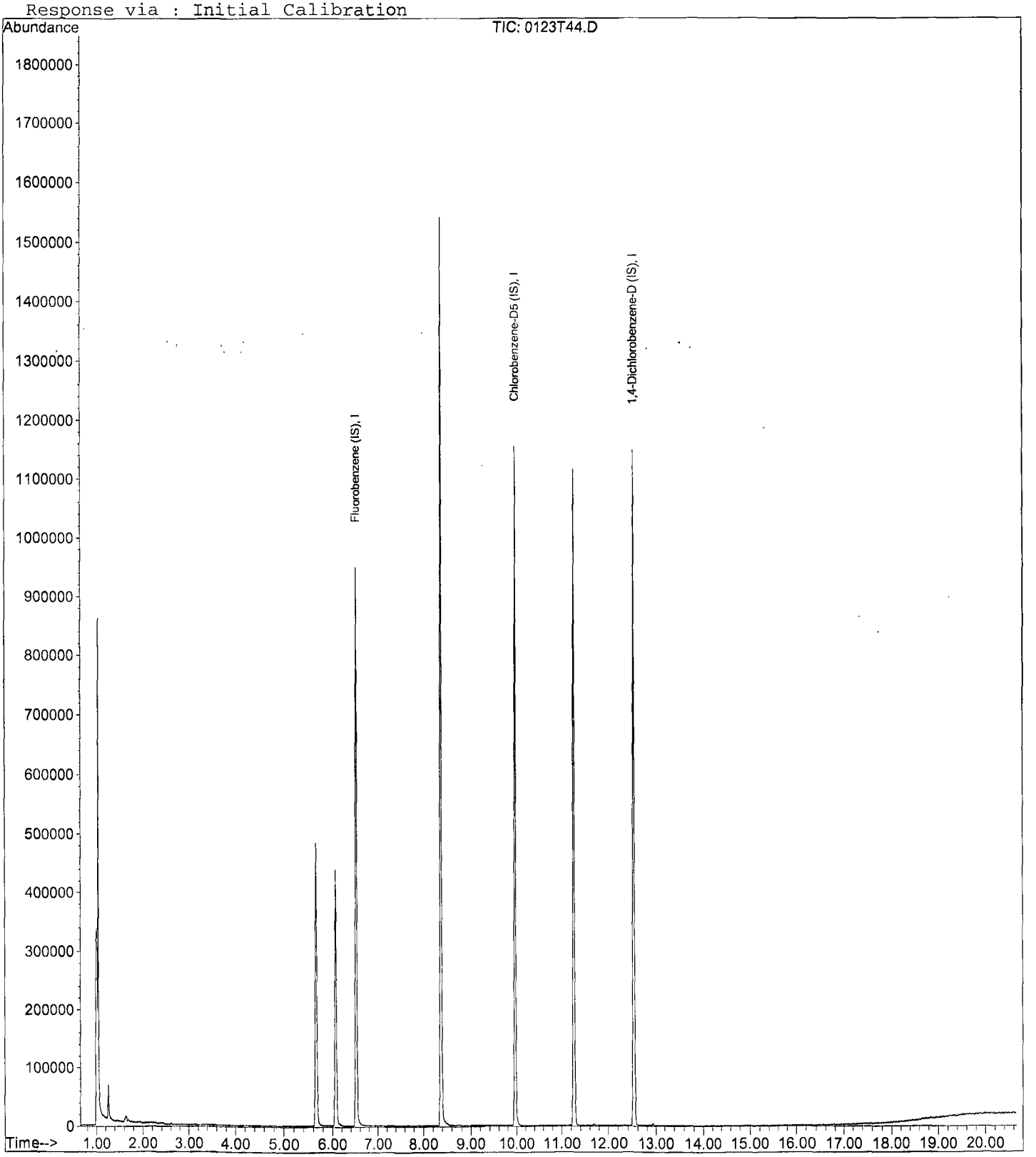
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0123T44.D Vial: 44
Acq On : 24 Jan 20 4:57 Operator:
Sample : BA06280W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 11:07 2020 Quant Results File: TGAS0116.RES

Method : M:\THOR\DATA\T200121\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T200121\0123T45.D Vial: 45
Acq On : 24 Jan 20 5:25 Operator:
Sample : BA06281W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 11:07 2020 Quant Results File: TGAS0116.RES

Quant Method : M:\THOR\DATA\T200121\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	TIC	979940	25.0000	ppb	0.00
3) Chlorobenzene-D5 (IS)	9.96	TIC	1164895	25.0000	ppb	0.00
4) 1,4-Dichlorobenzene-D (IS)	12.52	TIC	1139658	25.0000	ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0123T45.D Vial: 45
Acq On : 24 Jan 20 5:25 Operator:
Sample : BA06281W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 11:08 2020 Quant Results File: TSUR121W.RES

Quant Method : M:\THOR\DATA\T200121\TSUR121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	946268	25.0000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.96	117	753436	25.0000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.52	152	388098	25.0000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	5.66	111	319208	26.3291 ppb	0.00
Spiked Amount 25.000			Recovery	= 105.316%	
3) 1,2-DCA-D4(S)	6.07	65	339056	26.2120 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.848%	
5) Toluene-D8(S)	8.37	98	1147725	25.8166 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.268%	
6) 4-Bromofluorobenzene(S)	11.26	95	389286	23.0124 ppb	0.00
Spiked Amount 25.000			Recovery	= 92.048%	

Target Compounds Qvalue

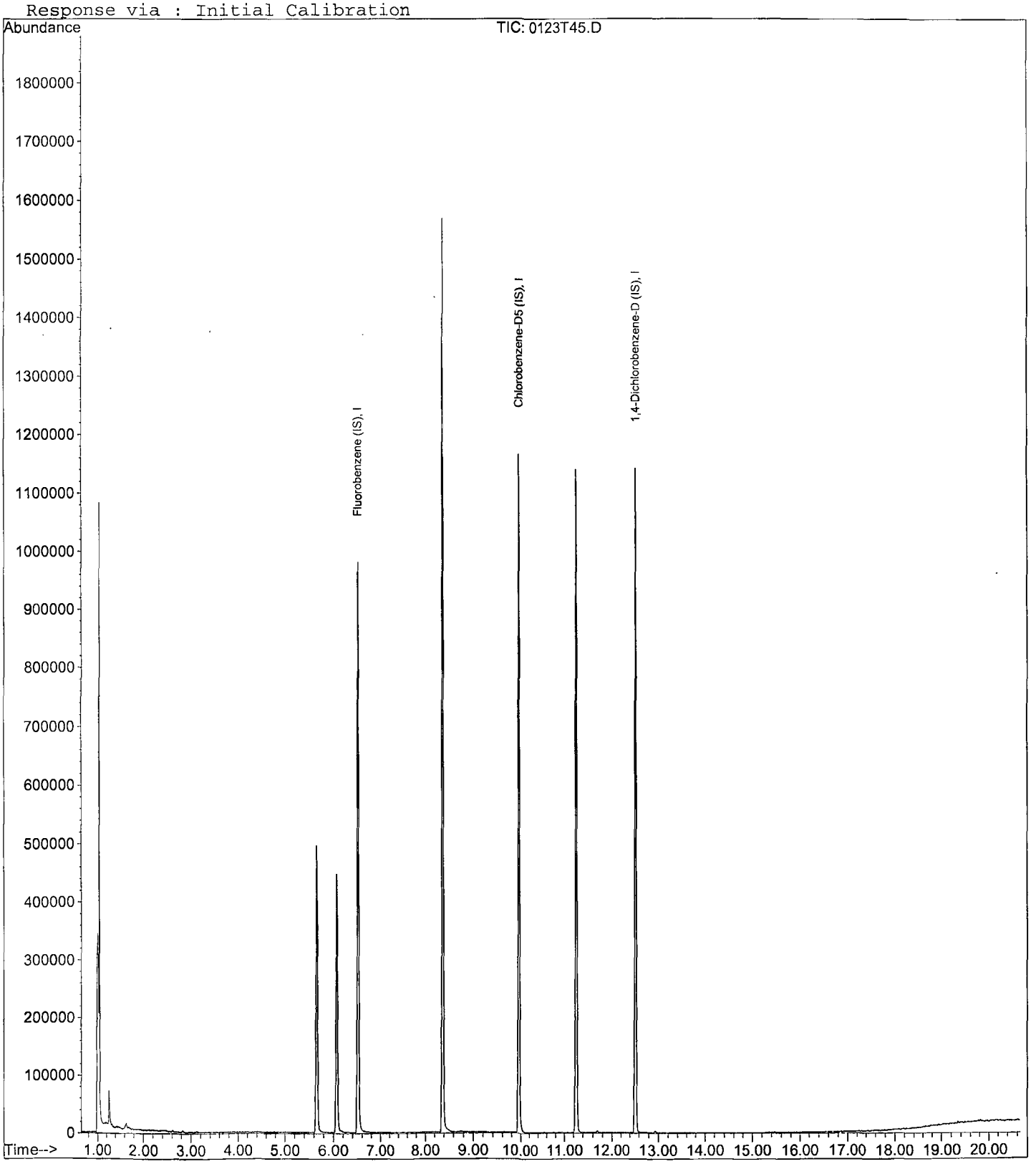
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0123T45.D Vial: 45
Acq On : 24 Jan 20 5:25 Operator:
Sample : BA06281W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 11:07 2020 Quant Results File: TGAS0116.RES

Method : M:\THOR\DATA\T200121\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T200121\0123T46.D Vial: 46
Acq On : 24 Jan 20 5:54 Operator:
Sample : BA06282W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 11:07 2020 Quant Results File: TGAS0116.RES

Quant Method : M:\THOR\DATA\T200121\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	TIC	957410	25.0000	ppb	0.00
3) Chlorobenzene-D5 (IS)	9.96	TIC	1136263	25.0000	ppb	0.00
4) 1,4-Dichlorobenzene-D (IS)	12.52	TIC	1098610	25.0000	ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0123T46.D Vial: 46
Acq On : 24 Jan 20 5:54 Operator:
Sample : BA06282W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 11:08 2020 Quant Results File: TSUR121W.RES

Quant Method : M:\THOR\DATA\T200121\TSUR121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	929237	25.0000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.96	117	736708	25.0000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.52	152	380303	25.0000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	5.66	111	308752	25.8629 ppb	0.00
Spiked Amount 25.000			Recovery = 103.452%		
3) 1,2-DCA-D4(S)	6.07	65	327476	25.6955 ppb	0.00
Spiked Amount 25.000			Recovery = 102.780%		
5) Toluene-D8(S)	8.37	98	1097519	25.1215 ppb	0.00
Spiked Amount 25.000			Recovery = 100.484%		
6) 4-Bromofluorobenzene(S)	11.26	95	382021	23.1031 ppb	0.00
Spiked Amount 25.000			Recovery = 92.412%		

Target Compounds Qvalue

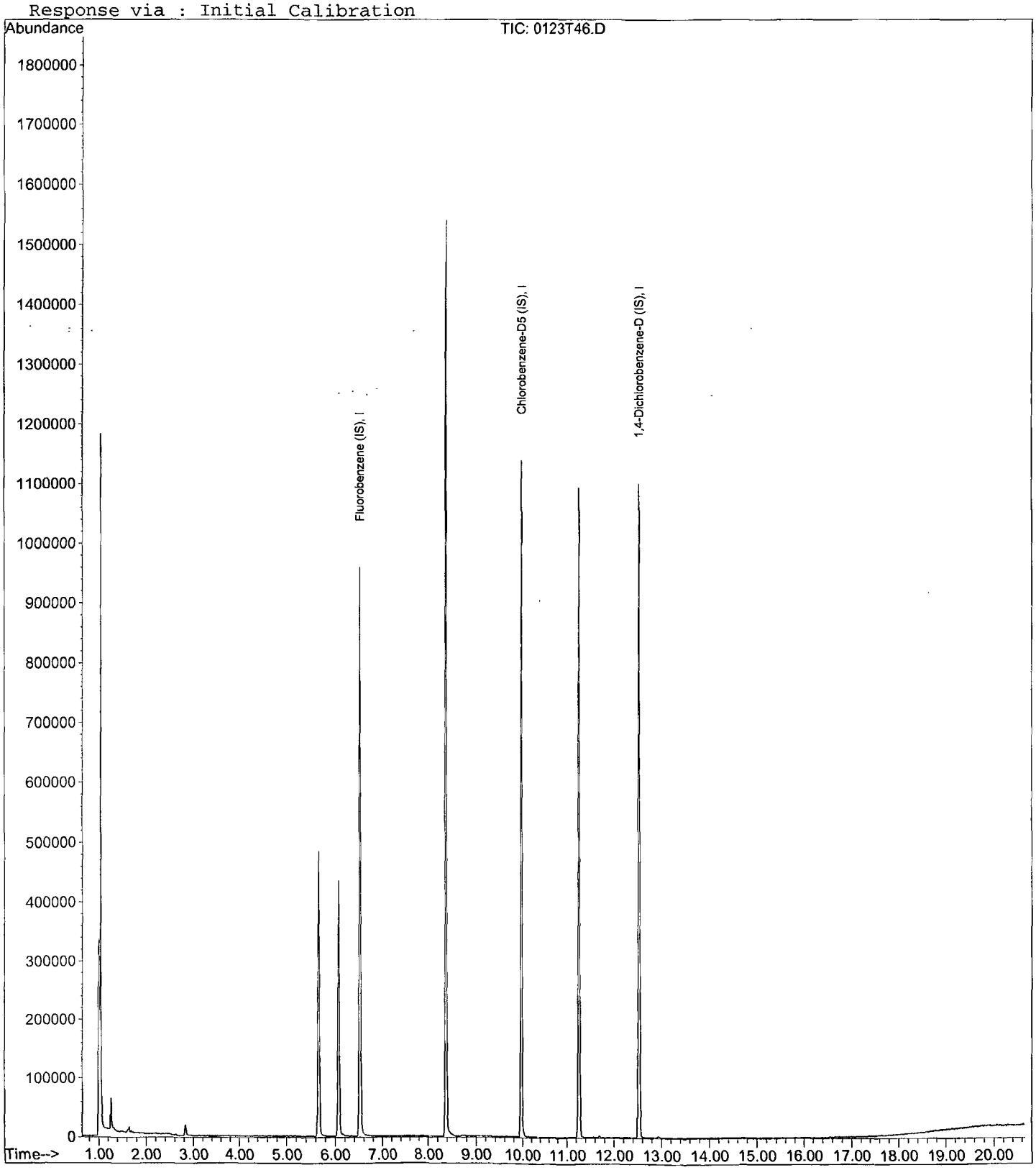
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0123T46.D Vial: 46
Acq On : 24 Jan 20 5:54 Operator:
Sample : BA06282W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 11:07 2020 Quant Results File: TGAS0116.RES

Method : M:\THOR\DATA\T200121\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T200121\0123T36.D Vial: 36
Acq On : 24 Jan 20 1:11 Operator:
Sample : BA06283W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 11:06 2020 Quant Results File: TGAS0116.RES

Quant Method : M:\THOR\DATA\T200121\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	TIC	974959	25.0000	ppb	0.00
3) Chlorobenzene-D5 (IS)	9.96	TIC	1189549	25.0000	ppb	0.00
4) 1,4-Dichlorobenzene-D (IS)	12.52	TIC	1170568	25.0000	ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0123T36.D Vial: 36
Acq On : 24 Jan 20 1:11 Operator:
Sample : BA06283W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 11:08 2020 Quant Results File: TSUR121W.RES

Quant Method : M:\THOR\DATA\T200121\TSUR121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	951781	25.0000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.96	117	755792	25.0000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.52	152	399043	25.0000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	5.66	111	314694	25.7133 ppb	0.00
Spiked Amount 25.000			Recovery =	102.852%	
3) 1,2-DCA-D4(S)	6.07	65	335685	25.7198 ppb	0.00
Spiked Amount 25.000			Recovery =	102.880%	
5) Toluene-D8(S)	8.37	98	1119047	24.9323 ppb	0.00
Spiked Amount 25.000			Recovery =	99.728%	
6) 4-Bromofluorobenzene(S)	11.25	95	391239	23.0596 ppb	0.00
Spiked Amount 25.000			Recovery =	92.240%	

Target Compounds Qvalue

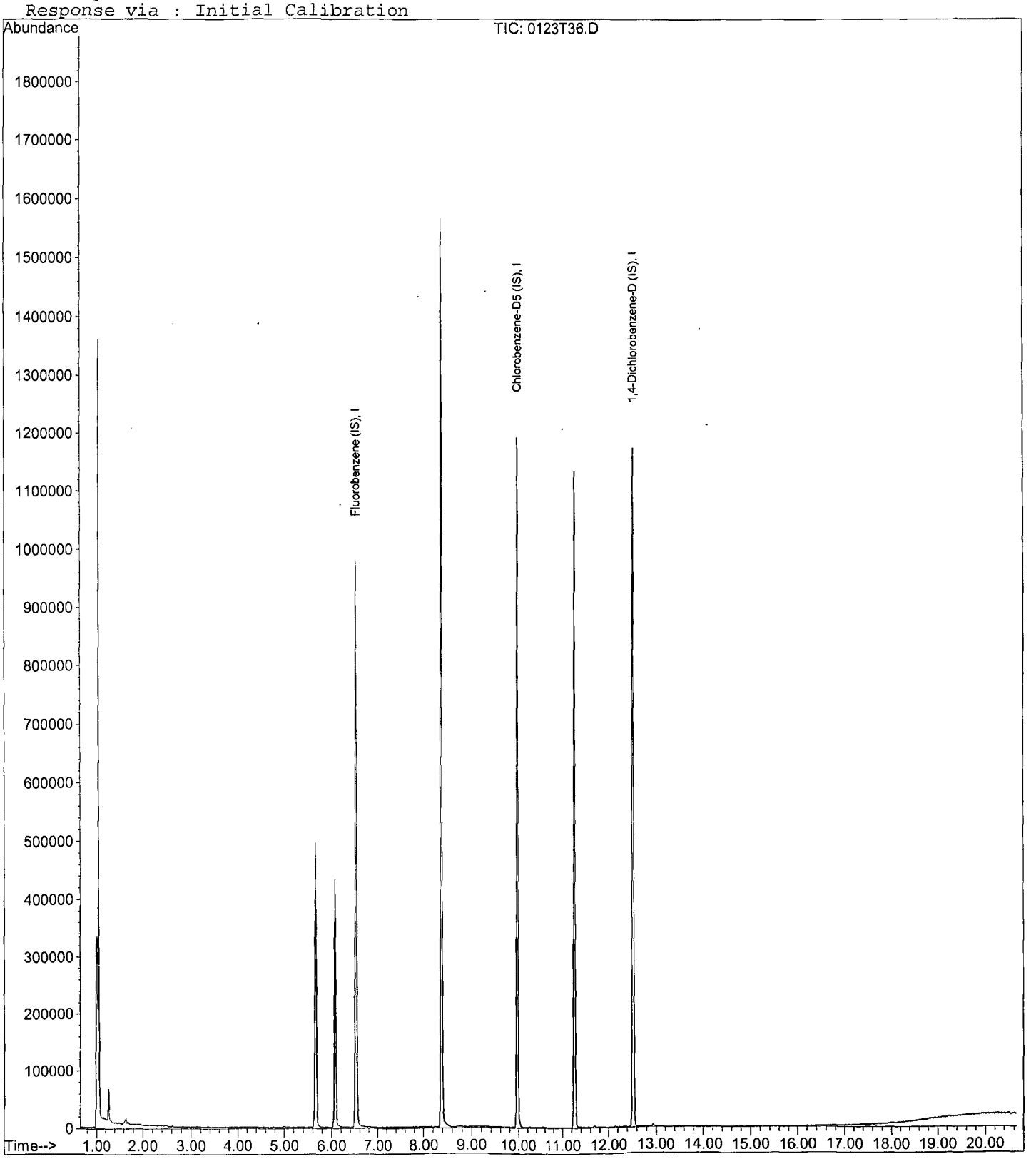
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0123T36.D Vial: 36
Acq On : 24 Jan 20 1:11 Operator:
Sample : BA06283W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 11:06 2020 Quant Results File: TGAS0116.RES

Method : M:\THOR\DATA\T200121\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T200121\0123T47.D Vial: 47
Acq On : 24 Jan 20 6:22 Operator:
Sample : BA06284W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 11:07 2020 Quant Results File: TGAS0116.RES

Quant Method : M:\THOR\DATA\T200121\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	TIC	963078	25.0000 ppb	0.00
3) Chlorobenzene-D5 (IS)	9.96	TIC	1156641	25.0000 ppb	0.00
4) 1,4-Dichlorobenzene-D (IS)	12.52	TIC	1137158	25.0000 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0123T47.D Vial: 47
Acq On : 24 Jan 20 6:22 Operator:
Sample : BA06284W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 11:08 2020 Quant Results File: TSUR121W.RES

Quant Method : M:\THOR\DATA\T200121\TSUR121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	932047	25.0000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.96	117	735678	25.0000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.53	152	385631	25.0000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	5.66	111	311073	25.9998 ppb	0.00
Spiked Amount 25.000			Recovery = 104.000%		
3) 1,2-DCA-D4(S)	6.07	65	332152	26.0420 ppb	0.00
Spiked Amount 25.000			Recovery = 104.168%		
5) Toluene-D8(S)	8.37	98	1096781	25.1439 ppb	0.00
Spiked Amount 25.000			Recovery = 100.576%		
6) 4-Bromofluorobenzene(S)	11.26	95	379839	22.9945 ppb	0.00
Spiked Amount 25.000			Recovery = 91.976%		

Target Compounds Qvalue

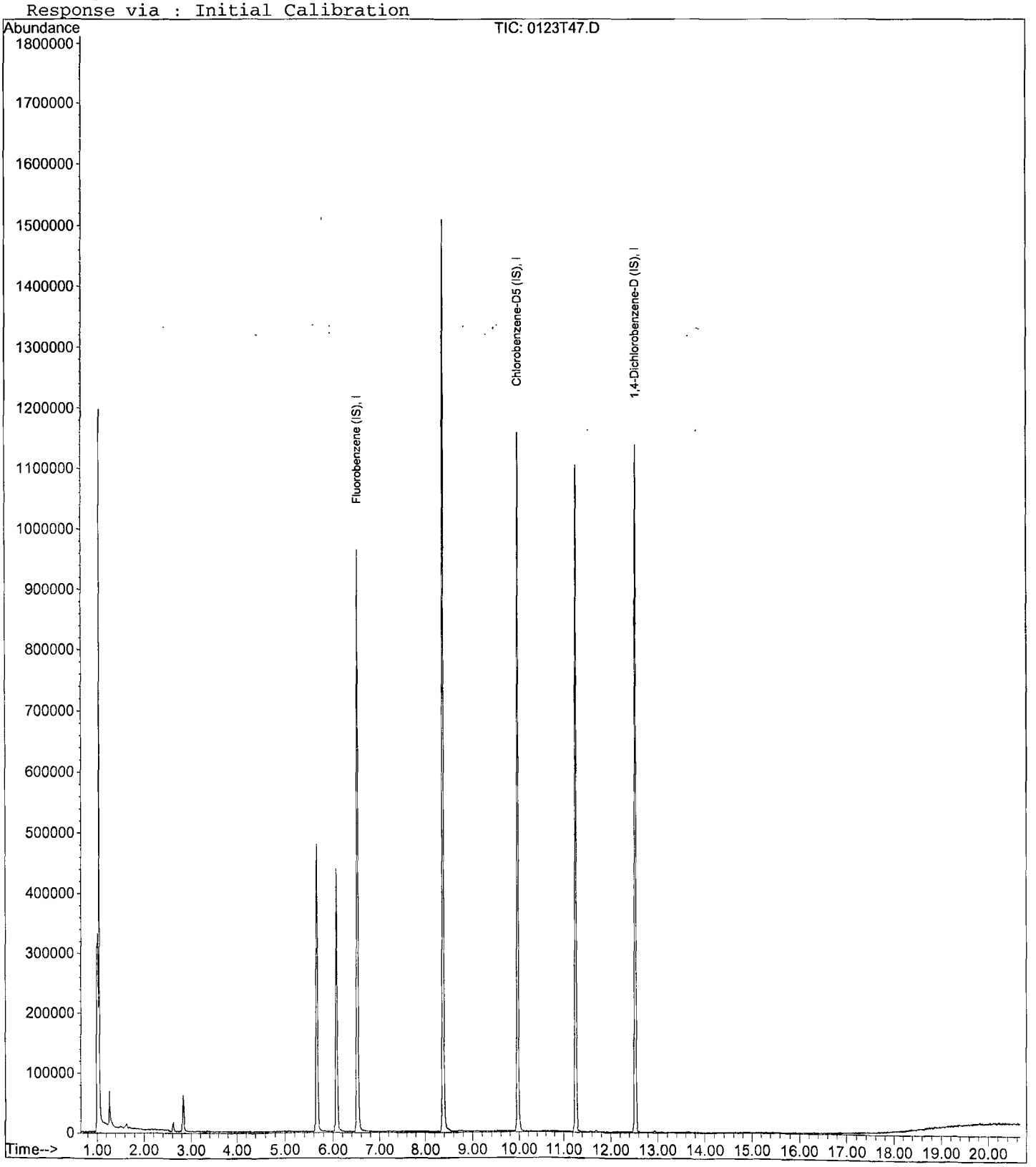
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0123T47.D Vial: 47
Acq On : 24 Jan 20 6:22 Operator:
Sample : BA06284W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 11:07 2020 Quant Results File: TGAS0116.RES

Method : M:\THOR\DATA\T200121\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T200121\0123T31.D Vial: 31
Acq On : 23 Jan 20 22:50 Operator:
Sample : 200123B LCS 300ug/L Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 10:07 2020 Quant Results File: TGAS0116.RES

Quant Method : M:\THOR\DATA\T200121\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	TIC	999948	25.0000	ppb	0.00
3) Chlorobenzene-D5 (IS)	9.96	TIC	1197641	25.0000	ppb	0.00
4) 1,4-Dichlorobenzene-D (IS)	12.52	TIC	1218374	25.0000	ppb	0.00
System Monitoring Compounds						
Target Compounds						Qvalue
2) Gasoline C6-C10	8.37	TIC	15863780m	313.5203	ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0123T31.D Vial: 31
Acq On : 23 Jan 20 22:50 Operator:
Sample : 200123B LCS 300ug/L Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 11:08 2020 Quant Results File: TSUR121W.RES

Quant Method : M:\THOR\DATA\T200121\TSUR121W.M (RTE Integrator)
Title : METHOD`8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	978813	25.0000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.96	117	774986	25.0000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.52	152	406670	25.0000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	5.66	111	321364	25.5003 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.000%	
3) 1,2-DCA-D4(S)	6.07	65	341887	25.4215 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.688%	
5) Toluene-D8(S)	8.37	98	1166813	25.4494 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.796%	
6) 4-Bromofluorobenzene(S)	11.25	95	418162	24.1230 ppb	0.00
Spiked Amount 25.000			Recovery	= 96.492%	

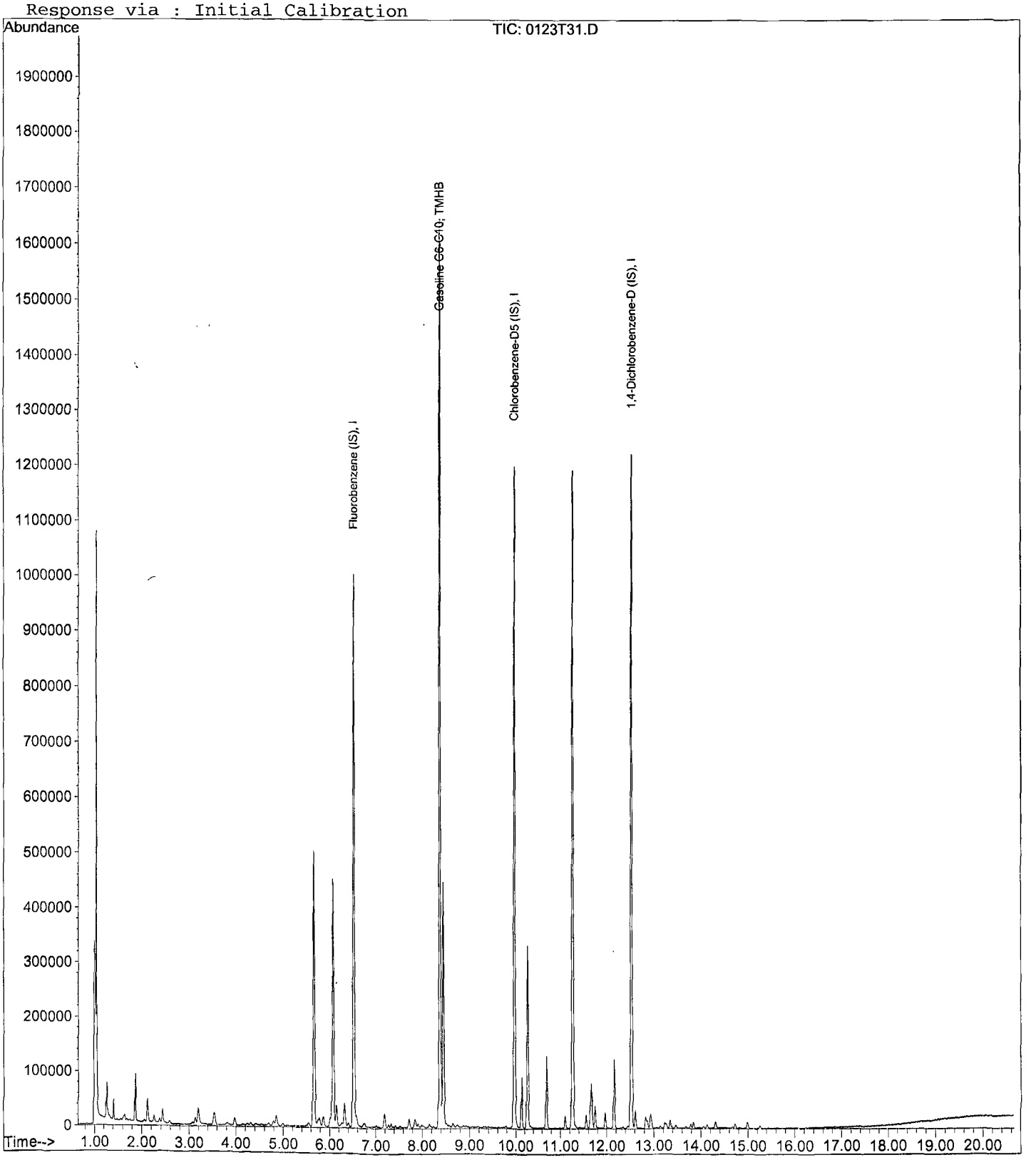
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Data File : M:\THOR\DATA\T200121\0123T31.D Vial: 31
Acq On : 23 Jan 20 22:50 Operator:
Sample : 200123B LCS 300ug/L Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 10:07 2020 Quant Results File: TGAS0116.RES

Method : M:\THOR\DATA\T200121\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T200121\0123T32.D Vial: 32
Acq On : 23 Jan 20 23:18 Operator:
Sample : 200123B LCSD 300ug/L Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 10:07 2020 Quant Results File: TGAS0116.RES

Quant Method : M:\THOR\DATA\T200121\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	TIC	983588	25.0000	ppb	0.00
3) Chlorobenzene-D5 (IS)	9.96	TIC	1199885	25.0000	ppb	0.00
4) 1,4-Dichlorobenzene-D (IS)	12.52	TIC	1177070	25.0000	ppb	0.00

System Monitoring Compounds

Target Compounds						Qvalue
2) Gasoline C6-C10	8.37	TIC	15678994m	318.9853	ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0123T32.D Vial: 32
Acq On : 23 Jan 20 23:18 Operator:
Sample : 200123B LCSD 300ug/L Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 11:08 2020 Quant Results File: TSUR121W.RES

Quant Method : M:\THOR\DATA\T200121\TSUR121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	966874	25.0000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.96	117	760999	25.0000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.52	152	406116	25.0000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	5.66	111	320161	25.7587 ppb	0.00
Spiked Amount 25.000			Recovery = 103.036%		
3) 1,2-DCA-D4(S)	6.07	65	340943	25.7139 ppb	0.00
Spiked Amount 25.000			Recovery = 102.856%		
5) Toluene-D8(S)	8.37	98	1138064	25.2401 ppb	0.00
Spiked Amount 25.000			Recovery = 100.960%		
6) 4-Bromofluorobenzene(S)	11.25	95	404768	23.7502 ppb	0.00
Spiked Amount 25.000			Recovery = 95.000%		

Target Compounds Qvalue

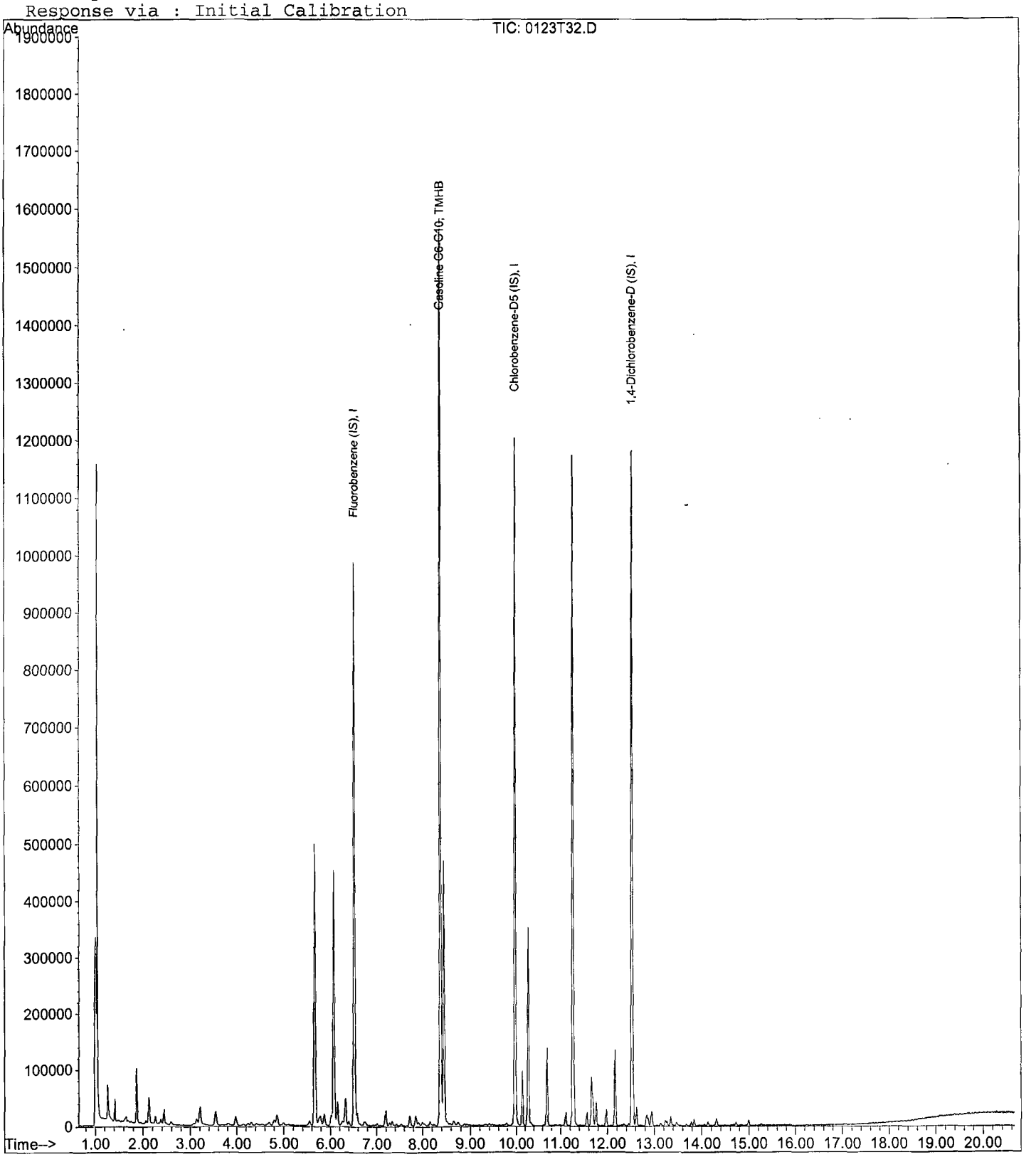
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0123T32.D Vial: 32
Acq On : 23 Jan 20 23:18 Operator:
Sample : 200123B LCSD 300ug/L Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 10:07 2020 Quant Results File: TGAS0116.RES

Method : M:\THOR\DATA\T200121\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T200121\0123T33.D Vial: 33
Acq On : 23 Jan 20 23:46 Operator:
Sample : 200123B BLK Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 11:05 2020 Quant Results File: TGAS0116.RES

Quant Method : M:\THOR\DATA\T200121\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	TIC	997869	25.0000 ppb	0.00
3) Chlorobenzene-D5 (IS)	9.96	TIC	1155549	25.0000 ppb	0.00
4) 1,4-Dichlorobenzene-D (IS)	12.52	TIC	1188780	25.0000 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
0123T33.D TGAS0116.M Mon Jan 27 15:19:36 2020 Page 1

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0123T33.D Vial: 33
Acq On : 23 Jan 20 23:46 Operator:
Sample : 200123B BLK Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 11:08 2020 Quant Results File: TSUR121W.RES

Quant Method : M:\THOR\DATA\T200121\TSUR121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	965669	25.0000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.96	117	763813	25.0000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.52	152	396526	25.0000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	5.66	111	321946	25.9666 ppb	0.00
Spiked Amount 25.000			Recovery =	103.868%	
3) 1,2-DCA-D4(S)	6.07	65	346701	26.2749 ppb	0.00
Spiked Amount 25.000			Recovery =	105.100%	
5) Toluene-D8(S)	8.37	98	1158226	25.6727 ppb	0.00
Spiked Amount 25.000			Recovery =	102.692%	
6) 4-Bromofluorobenzene(S)	11.26	95	398912	23.2832 ppb	0.00
Spiked Amount 25.000			Recovery =	93.132%	

Target Compounds Qvalue

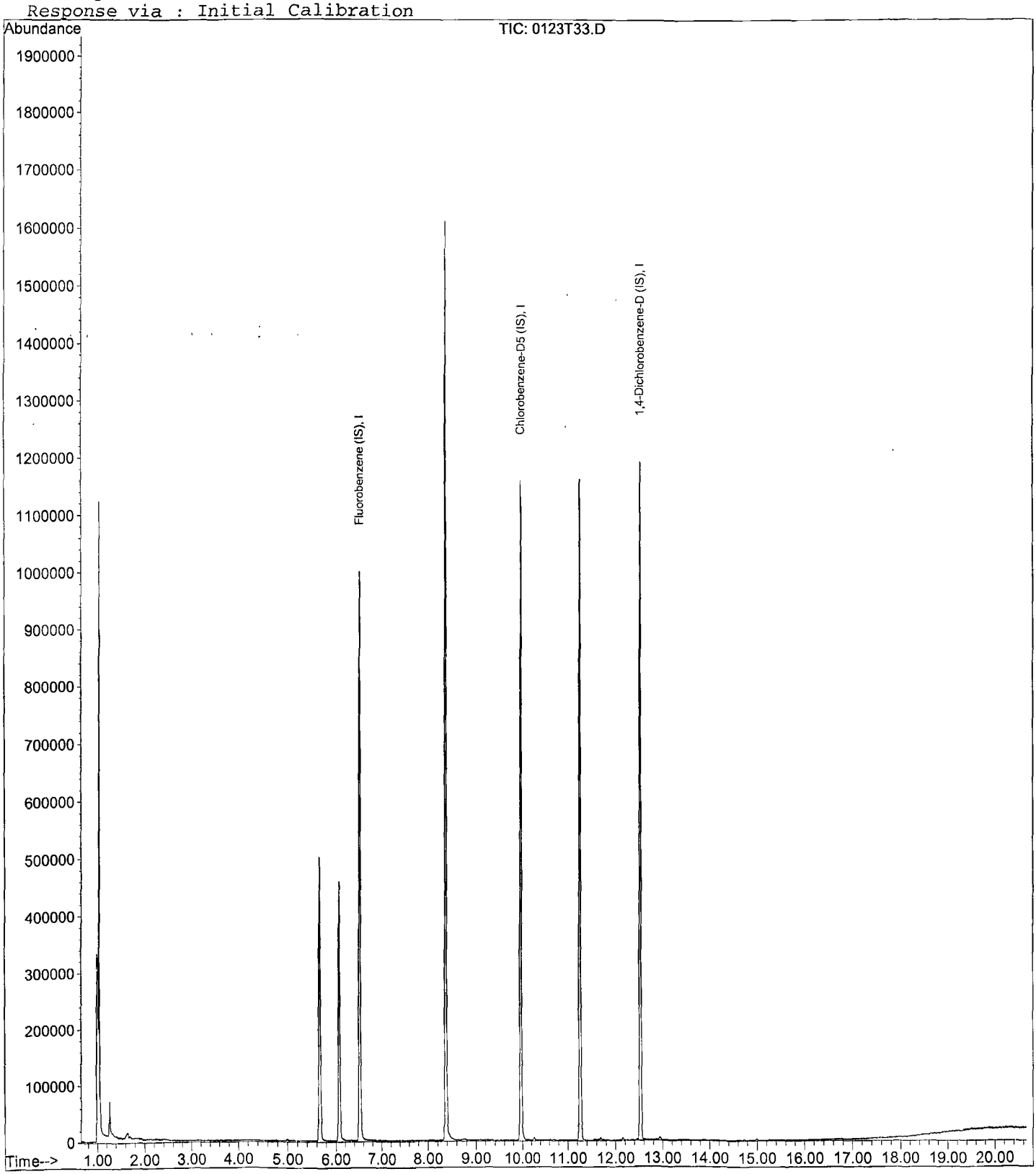
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0123T33.D Vial: 33
Acq On : 23 Jan 20 23:46 Operator:
Sample : 200123B BLK Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 11:05 2020 Quant Results File: TGAS0116.RES

Method : M:\THOR\DATA\T200121\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T200121\0124T26.D Vial: 26
Acq On : 24 Jan 20 22:21 Operator:
Sample : BA06272W04,5,6 MS 300ug/L Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 7:16 2020 Quant Results File: TGAS0116.RES

Quant Method : M:\THOR\DATA\T200121\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	TIC	983922	25.0000	ppb	0.00
3) Chlorobenzene-D5 (IS)	9.96	TIC	1189329	25.0000	ppb	0.00
4) 1,4-Dichlorobenzene-D (IS)	12.52	TIC	1173062	25.0000	ppb	0.00

System Monitoring Compounds

Target Compounds						Qvalue
2) Gasoline C6-C10	8.37	TIC	14876289m	259.9371	ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0124T26.D Vial: 26
Acq On : 24 Jan 20 22:21 Operator:
Sample : BA06272W04,5,6 MS 300ug/L Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 7:28 2020 Quant Results File: TSUR121W.RES

Quant Method : M:\THOR\DATA\T200121\TSUR121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	964742	25.0000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.96	117	756328	25.0000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.52	152	395013	25.0000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	5.66	111	307743	24.6424 ppb	0.00
Spiked Amount 25.000			Recovery =	98.568%	
3) 1,2-DCA-D4(S)	6.07	65	328034	24.6098 ppb	0.00
Spiked Amount 25.000			Recovery =	98.440%	
5) Toluene-D8(S)	8.37	98	1106121	24.5565 ppb	0.00
Spiked Amount 25.000			Recovery =	98.228%	
6) 4-Bromofluorobenzene(S)	11.26	95	393407	23.1809 ppb	0.00
Spiked Amount 25.000			Recovery =	92.724%	

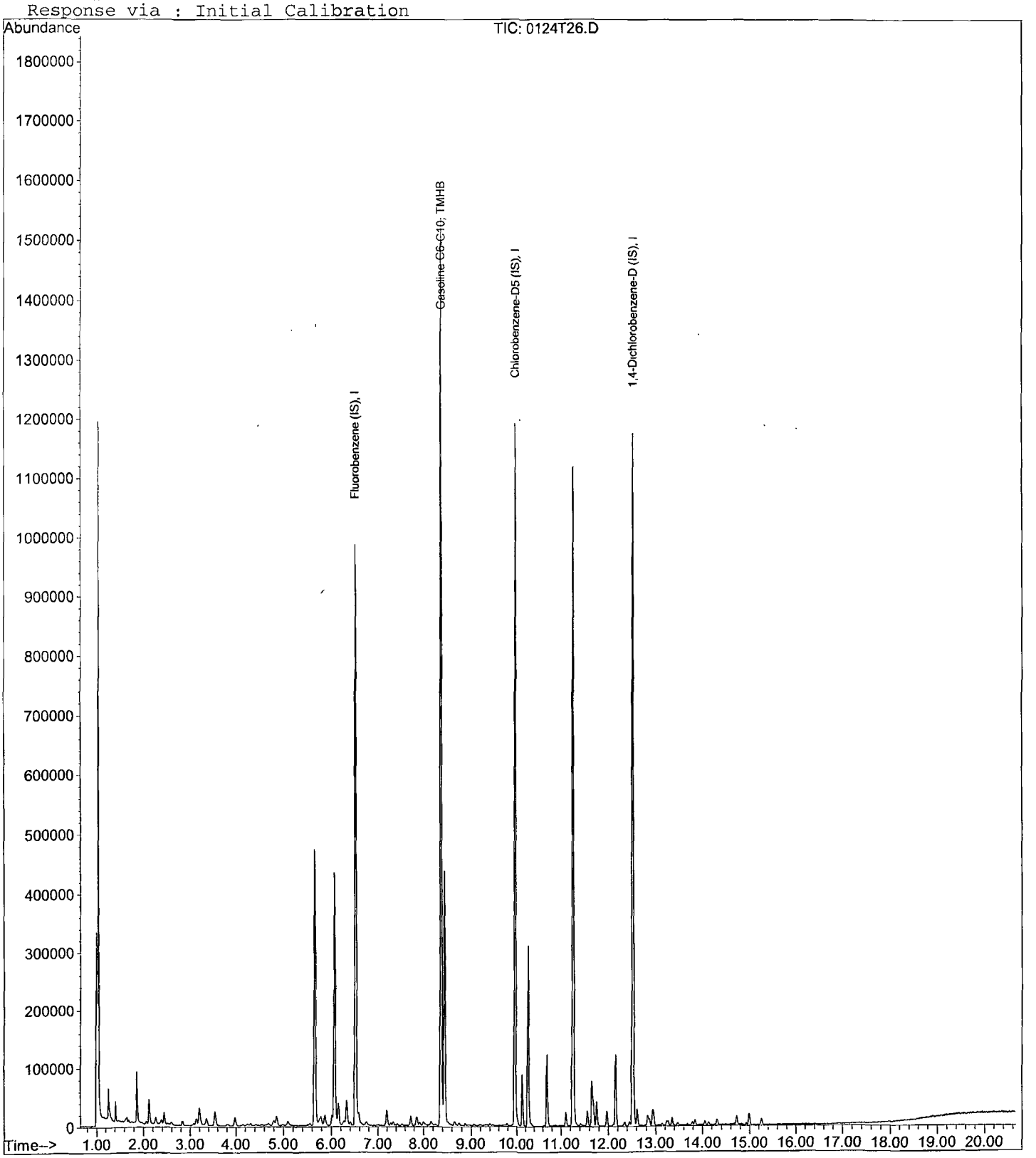
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
0124T26.D TSUR121W.M Mon Jan 27 15:19:02 2020 Page 1

Data File : M:\THOR\DATA\T200121\0124T26.D Vial: 26
Acq On : 24 Jan 20 22:21 Operator:
Sample : BA06272W04,5,6 MS 300ug/L Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 7:16 2020 Quant Results File: TGAS0116.RES

Method : M:\THOR\DATA\T200121\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T200121\0124T27.D Vial: 27
Acq On : 24 Jan 20 22:50 Operator:
Sample : BA06272W04,5,6 MSD 300ug/L Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 7:17 2020 Quant Results File: TGAS0116.RES

Quant Method : M:\THOR\DATA\T200121\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	TIC	971086	25.0000 ppb	0.00
3) Chlorobenzene-D5 (IS)	9.96	TIC	1181593	25.0000 ppb	0.00
4) 1,4-Dichlorobenzene-D (IS)	12.52	TIC	1152625	25.0000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	8.37	TIC	14917936m	277.3904 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0124T27.D Vial: 27
Acq On : 24 Jan 20 22:50 Operator:
Sample : BA06272W04,5,6 MSD 300ug/L Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 7:28 2020 Quant Results File: TSUR121W.RES

Quant Method : M:\THOR\DATA\T200121\TSUR121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	946295	25.0000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.96	117	753999	25.0000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.52	152	389614	25.0000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	5.66	111	310504	25.4825 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.928%	
3) 1,2-DCA-D4(S)	6.07	65	333882	25.7320 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.928%	
5) Toluene-D8(S)	8.37	98	1132313	25.3697 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.480%	
6) 4-Bromofluorobenzene(S)	11.26	95	400967	23.7452 ppb	0.00
Spiked Amount 25.000			Recovery	= 94.980%	

Target Compounds Qvalue

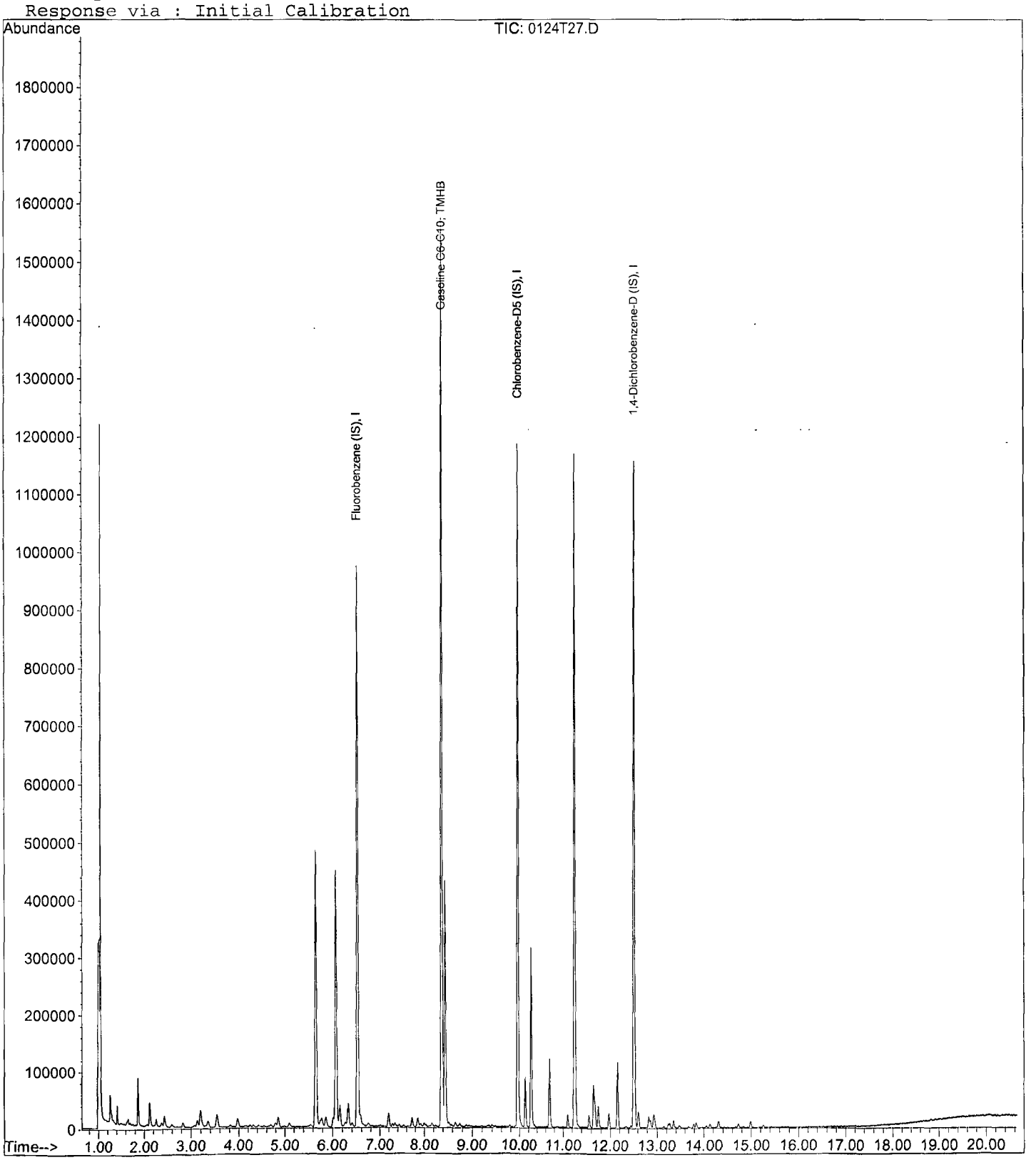
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0124T27.D Vial: 27
Acq On : 24 Jan 20 22:50 Operator:
Sample : BA06272W04,5,6 MSD 300ug/L Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 7:17 2020 Quant Results File: TGAS0116.RES

Method : M:\THOR\DATA\T200121\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration



Thor Gas Standard Prep

Gas Primary Working Standard

Prepared: 01/06/20 — **Prepared By (Initials): DG**
Expires: 01/05/21
Methanol Lot No. 58019-00962

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	Supplier P/N#	Conc. (ug/mL)	Lot Number - QA Number	Exp. Date (1 yr)	Exp Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/mL)
50,000ug/mL Gas STD	Restek	30205	50,000	A0132443-39859	01/06/21	12/31/24	80uL	2mL	Methanol	2,000

Gas Second Source (SS) Working Standard

Prepared: 01/06/20 — **Prepared By (Initials): DG**
Expires: 07/16/20
Methanol Lot No. 58019-00962

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	Supplier P/N#	Conc. (ug/mL)	Lot Number - QA Number	Exp. Date (1 yr)	Exp. Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/mL)
Gasoline (5,000ppm)	O2SI	020246-06	5,000	CL11750-40999	07/16/20	02/28/27	800uL	2mL	Methanol	2,000

Thor Gas Calibration Curve

Prepared: 01/16/20 — **Prepared By (Initials): CH**
Expires: 03/16/20

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	APPL Mix Name	Conc. (ug/mL)	Reference To APPL Prep Date	Exp. Date	Exp. Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/L)
VOA Gasses Standards	Phenova	20ug/L	2,000	Prepared 01/06/20	01/05/21	N/A	1uL	100mL	P&T Water	20
VOA Gasses Standards	Phenova	50ug/L	2,000	Prepared 01/06/20	01/05/21	N/A	2.5uL	100mL	P&T Water	50
VOA Gasses Standards	Phenova	100ug/L	2,000	Prepared 01/06/20	01/05/21	N/A	5uL	100mL	P&T Water	100
VOA Gasses Standards	Phenova	300ug/L	2,000	Prepared 01/06/20	01/05/21	N/A	15uL	100mL	P&T Water	300
VOA Gasses Standards	Phenova	600ug/L	2,000	Prepared 01/06/20	01/05/21	N/A	30uL	100mL	P&T Water	600
VOA Gasses Standards	Phenova	800ug/L	2,000	Prepared 01/06/20	01/05/21	N/A	40uL	100mL	P&T Water	800
VOA Gasses Standards	Phenova	1,000ug/L	2,000	Prepared 01/06/20	01/05/21	N/A	50uL	100mL	P&T Water	1,000

Thor Gas Second Source

Prepared: 01/16/20 — **Prepared By (Initials): CH**
Expires: 03/16/20

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	APPL Mix Name	Conc. (ug/mL)	Reference To APPL Prep Date	Exp. Date	Exp. Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/L)
50,000ug/mL Gas STD	Phenova	SS 300ug/L	2,000	Prepared 01/06/20	07/16/20	N/A	15uL	100mL	P&T Water	300

Thor Gas Continuing Calibrations/Lab Control Spikes

Prepared: 01/16/20 — **Prepared By (Initials): CH**
Expires: 01/17/20

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	Supplier P/N#	Conc. (ug/mL)	Lot Number - QA Number	Exp Date (1 yr)	Exp. Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/mL)
VOA Gasses Standards	Phenova	300ug/L	2,000	Prepared 01/06/20	01/05/21	N/A	15uL	100mL	P&T Water	300

Thor 8260 Standard Prep

Thor 8260 Water Calibration Curve

0.3ug/L

Prepared: 01/21/20

Expires: 02/20/20

Prepared By (Initials): CH

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	APPL Mix Name	Conc. (ug/mL)	Reference To APPL Prep Date	Exp. Date	Exp. Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/L)
VOA STD. 9	O2SI	0.3ug/L	5	Prepared 01/15/20	03/15/20	N/A	3uL	50mL	P&T Water	0.3
VOA STD. 10	O2SI		5	Prepared 01/15/20	03/15/20	N/A	3uL			0.3
VOA STD. 12	O2SI		5	Prepared 01/15/20	03/15/20	N/A	3uL			0.3
VOA STD. TBA	Various		250	Prepared 01/15/20	01/15/20	N/A	2uL			10

0.5ug/L

Prepared: 01/21/20

Expires: 02/20/20

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	APPL Mix Name	Conc. (ug/mL)	Reference To APPL Prep Date	Exp. Date	Exp. Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/L)
VOA STD. 9	O2SI	0.5ug/L	5	Prepared 01/15/20	03/15/20	N/A	5uL	50mL	P&T Water	0.5
VOA STD. 10	O2SI		5	Prepared 01/15/20	03/15/20	N/A	5uL			0.5
VOA STD. 12	O2SI		5	Prepared 01/15/20	03/15/20	N/A	5uL			0.5
VOA STD. TBA	Various		250	Prepared 01/15/20	01/15/20	N/A	5uL			25

1.0ug/L

Prepared: 01/21/20

Expires: 02/20/20

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	APPL Mix Name	Conc. (ug/mL)	Reference To APPL Prep Date	Exp. Date	Exp. Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/L)
VOA STD. 9	O2SI	1.0ug/L	5	Prepared 01/15/20	03/15/20	N/A	10uL	50mL	P&T Water	1
VOA STD. 10	O2SI		5	Prepared 01/15/20	03/15/20	N/A	10uL			1
VOA STD. 12	O2SI		5	Prepared 01/15/20	03/15/20	N/A	10uL			1
VOA STD. TBA	Various		250	Prepared 01/15/20	01/15/20	N/A	10uL			50

2.0ug/L

Prepared: 01/21/20

Expires: 02/20/20

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	APPL Mix Name	Conc. (ug/mL)	Reference To APPL Prep Date	Exp. Date	Exp. Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/L)
VOA STD. 9	O2SI	2.0ug/L	5	Prepared 01/15/20	03/15/20	N/A	20uL	50mL	P&T Water	2
VOA STD. 10	O2SI		5	Prepared 01/15/20	03/15/20	N/A	20uL			2
VOA STD. 12	O2SI		5	Prepared 01/15/20	03/15/20	N/A	20uL			2
VOA STD TBA	Various		250	Prepared 01/15/20	01/15/20	N/A	15uL			75

5ug/L

Prepared: 01/21/20

Expires: 02/20/20

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	APPL Mix Name	Conc. (ug/mL)	Reference To APPL Prep Date	Exp. Date	Exp. Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/L)
VOA STD. 7	Various	5ug/L	50	Prepared 01/15/20	03/15/20	N/A	5uL	50mL	P&T Water	5
VOA STD. 8	Phenova		50	Prepared 01/15/20	01/15/20	N/A	5uL			5
VOA STD. 1	O2SI		50	Prepared 01/15/20	03/15/20	N/A	5uL			5
VOA STD 2	O2SI		50	Prepared 01/15/20	03/15/20	N/A	5uL			5
VOA STD. TBA	Various		250	Prepared 01/15/20	01/15/20	N/A	20uL			100

10ug/L

Prepared: 01/21/20

Expires: 02/20/20

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	APPL Mix Name	Conc (ug/mL)	Reference To APPL Prep Date	Exp. Date	Exp. Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc (ug/L)
VOA STD 7	Various	10ug/L	50	Prepared 01/15/20	03/15/20	N/A	10uL	50mL	P&T Water	10
VOA STD 8	Phenova		50	Prepared 01/15/20	01/15/20	N/A	10uL			10
VOA STD. 1	O2SI		50	Prepared 01/15/20	03/15/20	N/A	10uL			10
VOA STD. 2	O2SI		50	Prepared 01/15/20	03/15/20	N/A	10uL			10
VOA STD. TBA	Various		250	Prepared 01/15/20	01/15/20	N/A	25uL			125

20ug/L

Prepared: 01/21/20

Expires: 02/20/20

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	APPL Mix Name	Conc. (ug/mL)	Reference To APPL Prep Date	Exp. Date	Exp. Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/L)
VOA STD. 7	Various	20ug/L	50	Prepared 01/15/20	03/15/20	N/A	20uL	50mL	P&T Water	20
VOA STD. 8	Phenova		50	Prepared 01/15/20	01/15/20	N/A	20uL			20
VOA STD. 1	O2SI		50	Prepared 01/15/20	03/15/20	N/A	20uL			20
VOA STD. 2	O2SI		50	Prepared 01/15/20	03/15/20	N/A	20uL			20
VOA STD. TBA	Various		250	Prepared 01/15/20	01/15/20	N/A	30uL			150

40ug/L

Prepared: 01/21/20

Expires: 02/20/20

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	APPL Mix Name	Conc. (ug/mL)	Reference To APPL Prep Date	Exp. Date	Exp. Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/L)
VOA STD. 7	Various	40ug/L	50	Prepared 01/15/20	03/15/20	N/A	40uL	50mL	P&T Water	40
VOA STD. 8	Phenova		50	Prepared 01/15/20	01/15/20	N/A	40uL			40
VOA STD. 1	O2SI		50	Prepared 01/15/20	03/15/20	N/A	40uL			40
VOA STD. 2	O2SI		50	Prepared 01/15/20	03/15/20	N/A	40uL			40
VOA STD. TBA	Various		250	Prepared 01/15/20	01/15/20	N/A	35uL			175

100ug/L

Prepared: 01/21/20

Expires: 02/20/20

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	APPL Mix Name	Conc. (ug/mL)	Reference To APPL Prep Date	Exp. Date	Exp. Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/L)
VOA STD. 7	Various	100ug/L	50	Prepared 01/15/20	03/15/20	N/A	100uL	50mL	P&T Water	100
VOA STD. 8	Phenova		50	Prepared 01/15/20	01/15/20	N/A	100uL			100
VOA STD. 1	O2SI		50	Prepared 01/15/20	03/15/20	N/A	100uL			100
VOA STD. 2	O2SI		50	Prepared 01/15/20	03/15/20	N/A	100uL			100
VOA STD. TBA	Various		250	Prepared 01/15/20	01/15/20	N/A	40uL			200

Thor 8260 Water Second Source (SS)

Prepared: 01/21/20

Expires: 02/20/20

Prepared By (Initials): CH

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	APPL Mix Name	Conc. (ug/mL)	Reference To APPL Prep Date	Exp Date	Exp. Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/L)
VOA STD. 4	Phenova	8260 Water SS	50	Prepared 01/15/20	03/15/20	N/A	10uL	50mL	P&T Water	10
VOA STD. 5	O2SI	8260 Water SS	50	Prepared 01/15/20	03/15/20	N/A	10uL			10
VOA STD. 6	Various	8260 Water SS	50	Prepared 01/15/20	01/01/20	N/A	10uL			10
Voa STD. TBA	Various	8260 Water SS	250	Prepared 01/15/20	01/01/20	N/A	25uL			250

8260 Water Continuing Calibrations (CCV)/ Lab Control Spikes (LCS)

Prepared: 01/21/20

Expires: 01/22/20

Prepared By (Initials): CH

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	APPL Mix Name	Conc. (ug/mL)	Reference To APPL Prep Date	Exp. Date	Exp. Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/L)
VOA STD. 7	Various	CCV/ LCS	50	Prepared 01/15/20	03/15/20	N/A	10uL	50mL	P&T Water	10
VOA STD. 8	Phenova	CCV/ LCS	50	Prepared 01/15/20	01/15/20	N/A	10uL			10
VOA STD. 1	O2SI	CCV/ LCS	50	Prepared 01/15/20	03/15/20	N/A	10uL			10
VOA STD 2	O2SI	CCV/ LCS	50	Prepared 01/15/20	03/15/20	N/A	10uL			10
VOA STD. TBA	Various	CCV/ LCS	250	Prepared 01/15/20	01/15/20	N/A	25uL			125

LCS (X4 Ketones)

Prepared: 01/21/20

Expires: 01/22/20

Prepared By (Initials): CH

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	APPL Mix Name	Conc. (ug/mL)	Reference To APPL Prep Date	Exp. Date	Exp. Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/L)
VOA STD. 7	Various	LCS X4 Ketones	50	Prepared 01/15/20	03/15/20	N/A	10uL	50mL	P&T Water	10
VOA STD. 8	Phenova	LCS X4 Ketones	50	Prepared 01/15/20	01/15/20	N/A	10uL			10
VOA STD. 1	O2SI	LCS X4 Ketones	50	Prepared 01/15/20	03/15/20	N/A	10uL			10
VOA STD. 2	O2SI	LCS X4 Ketones	50	Prepared 01/15/20	03/15/20	N/A	40uL			40
VOA STD. TBA	Various	LCS X4 Ketones	250	Prepared 01/15/20	01/15/20	N/A	25uL			125

Thor 8260 Surrogate

Prepared: 09/23/19 — **Prepared By (Initials):** DG

Expires: 09/12/20

Methanol Lot No: 58243

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	Supplier P/N#	Conc. (ug/mL)	Lot Number - QA Number	Exp. Date (1 yr.)	Exp. Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/mL)
8260 Surrogate Solution	O2SI	120002-01	2,000	**348756-39339**	**09/12/20**	**02/10/22**	375uL	15mL	Methanol	50

Thor 8260 Internal Standard

Prepared: 11/11/19 — **Prepared By (Initials):** DG

Expires: 11/10/20

Methanol Lot No: 58243

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	Supplier P/N#	Conc. (ug/mL)	Lot Number - QA Number	Exp. Date (1 yr.)	Exp. Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/mL)
Internal Standard Solution	Phenova	ALO-101215	2,500	**CL12444-40616**	**11/11/20**	**04/30/23**	300uL	15mL	Methanol	50

Injection Log

Directory: M:\THOR\DATA\T200116\

Vial	FileName	Multiplier	SampleName	Misc Info	Injected
14	0116T20.D	1	20ug/L GAS STD 1/16/20	IS&S 12/26/19,12/26/19	16 Jan 20 22:12
15	0116T21.D	1	50ug/L GAS STD 1/16/20	IS&S 12/26/19,12/26/19	16 Jan 20 22:40
16	0116T22.D	1	100ug/L GAS STD 1/16/20	IS&S 12/26/19,12/26/19	16 Jan 20 23:08
17	0116T23.D	1	300ug/L GAS STD 1/16/20	IS&S 12/26/19,12/26/19	16 Jan 20 23:37
18	0116T24.D	1	600ug/L GAS STD 1/16/20	IS&S 12/26/19,12/26/19	17 Jan 20 00:05
19	0116T25.D	1	800ug/L GAS STD 1/16/20	IS&S 12/26/19,12/26/19	17 Jan 20 00:33
20	0116T26.D	1	1000ug/L GAS STD 1/16/20	IS&S 12/26/19,12/26/19	17 Jan 20 1:02
22	0116T28.D	1	(SS) 300ug/L GAS STD 1/16/20	IS&S 12/26/19,12/26/19	17 Jan 20 1:58
2	0121T02.D	1	0.3ug/L VOC STD 1/21/20	IS&S 12/26/19,12/26/19	21 Jan 20 7:41
3	0121T03.D	1	0.5ug/L VOC STD 1/21/20	IS&S 12/26/19,12/26/19	21 Jan 20 8:09
4	0121T04.D	1	1ug/L VOC STD 1/21/20	IS&S 12/26/19,12/26/19	21 Jan 20 8:37
5	0121T05.D	1	2ug/L VOC STD 1/21/20	IS&S 12/26/19,12/26/19	21 Jan 20 9:05
6	0121T06.D	1	5ug/L VOC STD 1/21/20	IS&S 12/26/19,12/26/19	21 Jan 20 9:34
7	0121T07.D	1	10ug/L VOC STD 1/21/20	IS&S 12/26/19,12/26/19	21 Jan 20 10:02
8	0121T08.D	1	20ug/L VOC STD 1/21/20	IS&S 12/26/19,12/26/19	21 Jan 20 10:30
9	0121T09.D	1	40ug/L VOC STD 1/21/20	IS&S 12/26/19,12/26/19	21 Jan 20 10:59
10	0121T10.D	1	100ug/L VOC STD 1/21/20	IS&S 12/26/19,12/26/19	21 Jan 20 11:27
30	0123T30.D	1	200123B CCV 300ug/L	IS&S 12/26/19,12/26/19	23 Jan 20 22:21
31	0123T31.D	1	200123B LCS 300ug/L	IS&S 12/26/19,12/26/19	23 Jan 20 22:50
32	0123T32.D	1	200123B LCSD 300ug/L	IS&S 12/26/19,12/26/19	23 Jan 20 23:18
33	0123T33.D	1	200123B BLK	IS&S 12/26/19,12/26/19	23 Jan 20 23:46
34	0123T34.D	1	BA06277W01	IS&S 12/26/19,12/26/19	24 Jan 20 00:14
35	0123T35.D	1	BA06278W01	IS&S 12/26/19,12/26/19	24 Jan 20 00:42
36	0123T36.D	1	BA06283W01	IS&S 12/26/19,12/26/19	24 Jan 20 1:11
37	0123T37.D	1	BA06271W01	IS&S 12/26/19,12/26/19	24 Jan 20 1:39
38	0123T38.D	1	BA06272W01	IS&S 12/26/19,12/26/19	24 Jan 20 2:07
39	0123T39.D	1	BA06273W01	IS&S 12/26/19,12/26/19	24 Jan 20 2:36
40	0123T40.D	1	BA06274W01	IS&S 12/26/19,12/26/19	24 Jan 20 3:04
41	0123T41.D	1	BA06275W01	IS&S 12/26/19,12/26/19	24 Jan 20 3:32
42	0123T42.D	1	BA06276W01	IS&S 12/26/19,12/26/19	24 Jan 20 4:00
43	0123T43.D	1	BA06279W01	IS&S 12/26/19,12/26/19	24 Jan 20 4:29
44	0123T44.D	1	BA06280W01	IS&S 12/26/19,12/26/19	24 Jan 20 4:57
45	0123T45.D	1	BA06281W01	IS&S 12/26/19,12/26/19	24 Jan 20 5:25
46	0123T46.D	1	BA06282W01	IS&S 12/26/19,12/26/19	24 Jan 20 5:54
47	0123T47.D	1	BA06284W01	IS&S 12/26/19,12/26/19	24 Jan 20 6:22
53	0123T53.D	1	Ending CCV 300ug/L 1/23/20	IS&S 12/26/19,12/26/19	24 Jan 20 9:11
8	0124T08.D	1	200124A CCV 300ug/L	IS&S 12/26/19,12/26/19	24 Jan 20 13:51
26	0124T26.D	1	BA06272W04,5,6 MS 300ug/L	IS&S 12/26/19,12/26/19	24 Jan 20 22:21
27	0124T27.D	1	BA06272W04,5,6 MSD 300ug/L	IS&S 12/26/19,12/26/19	24 Jan 20 22:50
29	0124T29.D	1	Ending CCV 300ug/L 1/24/20	IS&S 12/26/19,12/26/19	24 Jan 20 23:46

ORGANICS
Calibration Data

RSK 175
RSK 175

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Initial Cal. Date: 10/02/19
Matrix: Instrument: 7890
Initials:

1002R02.D 1002R03.D 1002R04.D 1002R05.D 1002R06.D 1002R07.D 1002R08.D

		Compound	1	2	3	4	5	6	7				Avg	%RSD	Type	r^2	Q
1	ATM	Methane	63820	40452	36215	45202	48427	44031	45774				46274	19	ATM		
2	ATM	Ethane	42546	31037	26553	34655	37738	32771	32974				34039	15	ATM		
3	ATM	Ethene	32900	24299	20841	27689	29847	25651	26297				26775	15	ATM		
4																	
5																	
6																	
7																	
8																	
9																	
10																	
11																	
12																	
13																	
14																	
15																	
16																	
17																	
18																	
19																	
20																	
21																	
22																	
23																	
24																	
25																	
26																	
27																	
28																	
29																	
30																	
31																	
32																	
33																	
34																	
35																	

1.377886

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\191002RS\1002R02.D Vial: 2
Acq On : 2 Oct 19 17:45 Operator: GA
Sample : RSK STD 1 10/2/19 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Oct 2 18:11 2019 Quant Results File: RSK1002.RES

Method : G:\ROCKY\DATA\190929RS\RSK1002.M (Chemstation Integrator)
Title : RSK 175
Last Update : Wed Oct 02 18:14:49 2019
Response via : Multiple Level Calibration

Volume Inj. : 0.500 mL
Signal Phase : CARBOPACK
Signal Info :

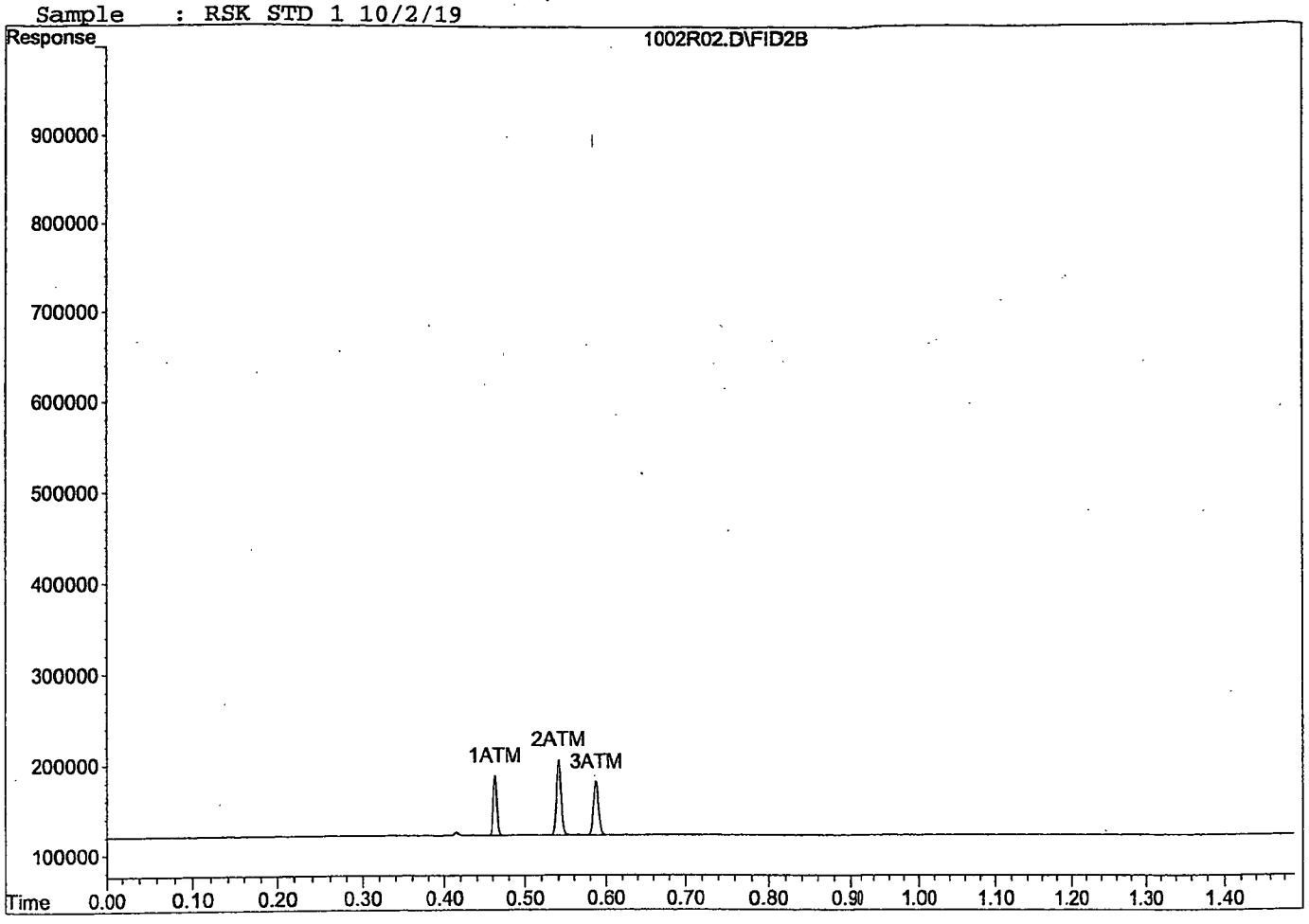
Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.46	66373	8.306 ppb
2) ATM Ethane	0.54	83177	6.216 ppb
3) ATM Ethene	0.59	60042	5.640 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.
1002R02.D RSK1002.M Wed Oct 02 18:16:53 2019 Page 1

Quantitation Report

Data File: G:\ROCKY\DATA\191002RS\1002R02.D
Sample : RSK STD 1 10/2/19



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\191002RS\1002R03.D Vial: 3
Acq On : 2 Oct 19 17:50 Operator: GA
Sample : RSK STD 2 10/2/19 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Oct 2 18:11 2019 Quant Results File: RSK1002.RES

Method : G:\ROCKY\DATA\190929RS\RSK1002.M (Chemstation Integrator)
Title : RSK 175
Last Update : Wed Oct 02 18:14:49 2019
Response via : Multiple Level Calibration

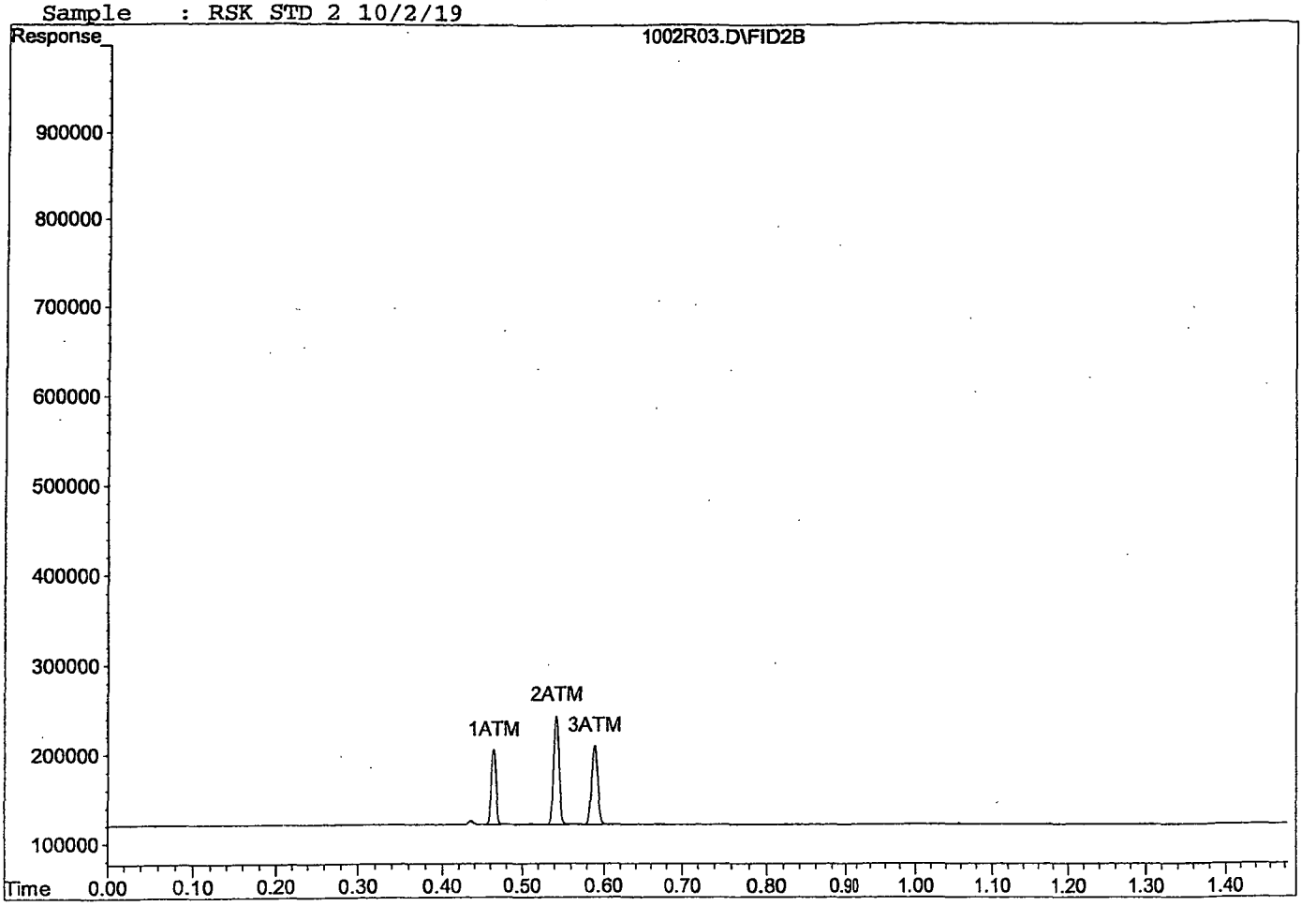
Volume Inj. : 0.500 mL
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.46	84140	9.332 ppb
2) ATM Ethane	0.54	121200	9.058 ppb
3) ATM Ethene	0.59	88693	8.332 ppb

Target Compounds

Quantitation Report

Data File: G:\ROCKY\DATA\191002RS\1002R03.D
Sample : RSK STD 2 10/2/19



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\191002RS\1002R04.D Vial: 4
Acq On : 2 Oct 19 17:52 Operator: GA
Sample : RSK STD 3 10/2/19 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Oct 2 18:11 2019 Quant Results File: RSK1002.RES

Method : G:\ROCKY\DATA\190929RS\RSK1002.M (Chemstation Integrator)
Title : RSK 175
Last Update : Wed Oct 02 18:14:49 2019
Response via : Multiple Level Calibration

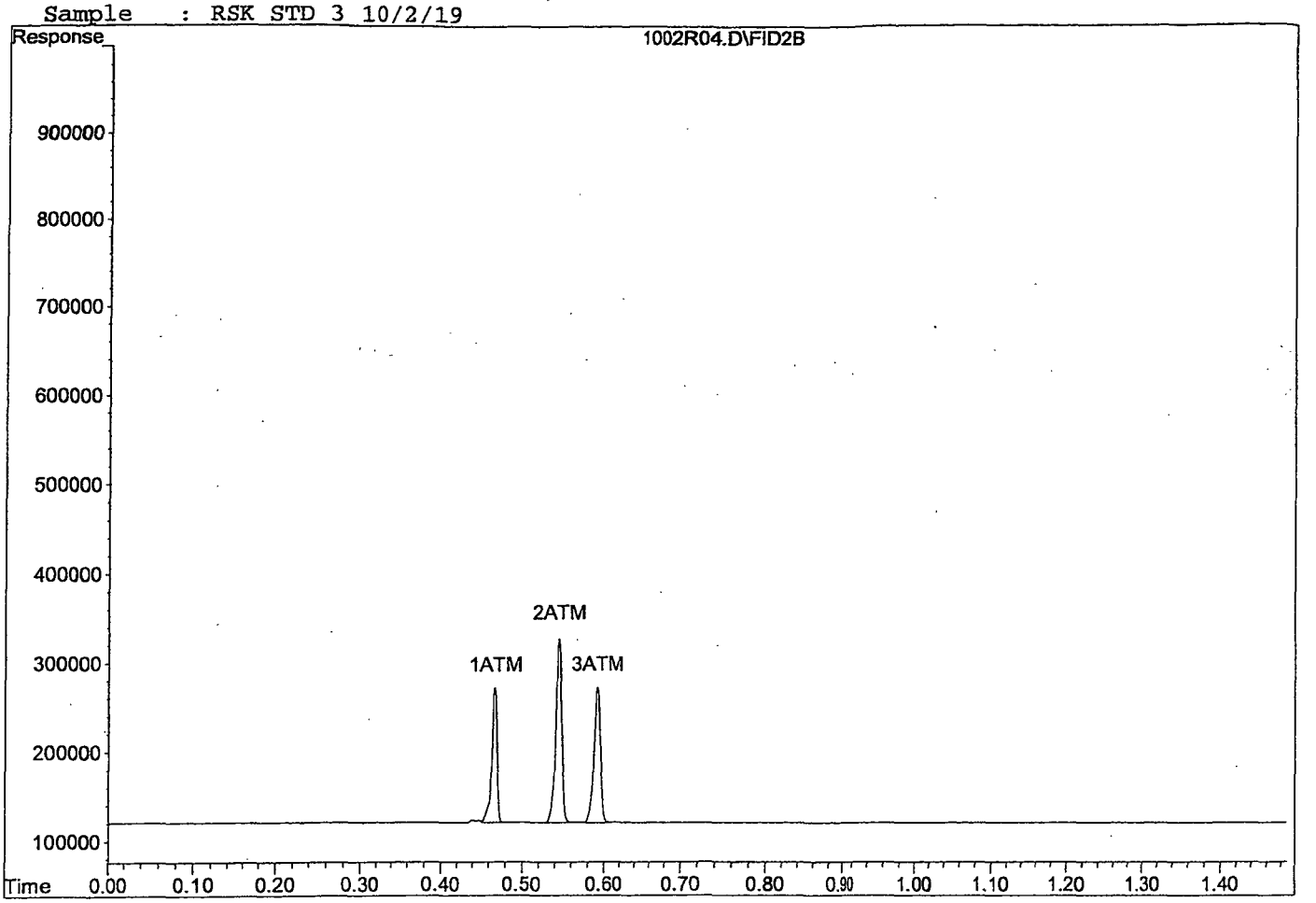
Volume Inj. : 0.500 mL
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.47	151018	13.195 ppb
2) ATM Ethane	0.55	207113	15.479 ppb
3) ATM Ethene	0.59	152138	14.292 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\191002RS\1002R04.D
Sample : RSK STD 3 10/2/19



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\191002RS\1002R05.D Vial: 5
Acq On : 2 Oct 19 17:57 Operator: GA
Sample : RSK STD 4 10/2/19 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Oct 2 18:11 2019 Quant Results File: RSK1002.RES

Method : G:\ROCKY\DATA\190929RS\RSK1002.M (Chemstation Integrator)
Title : RSK 175
Last Update : Wed Oct 02 18:14:49 2019
Response via : Multiple Level Calibration

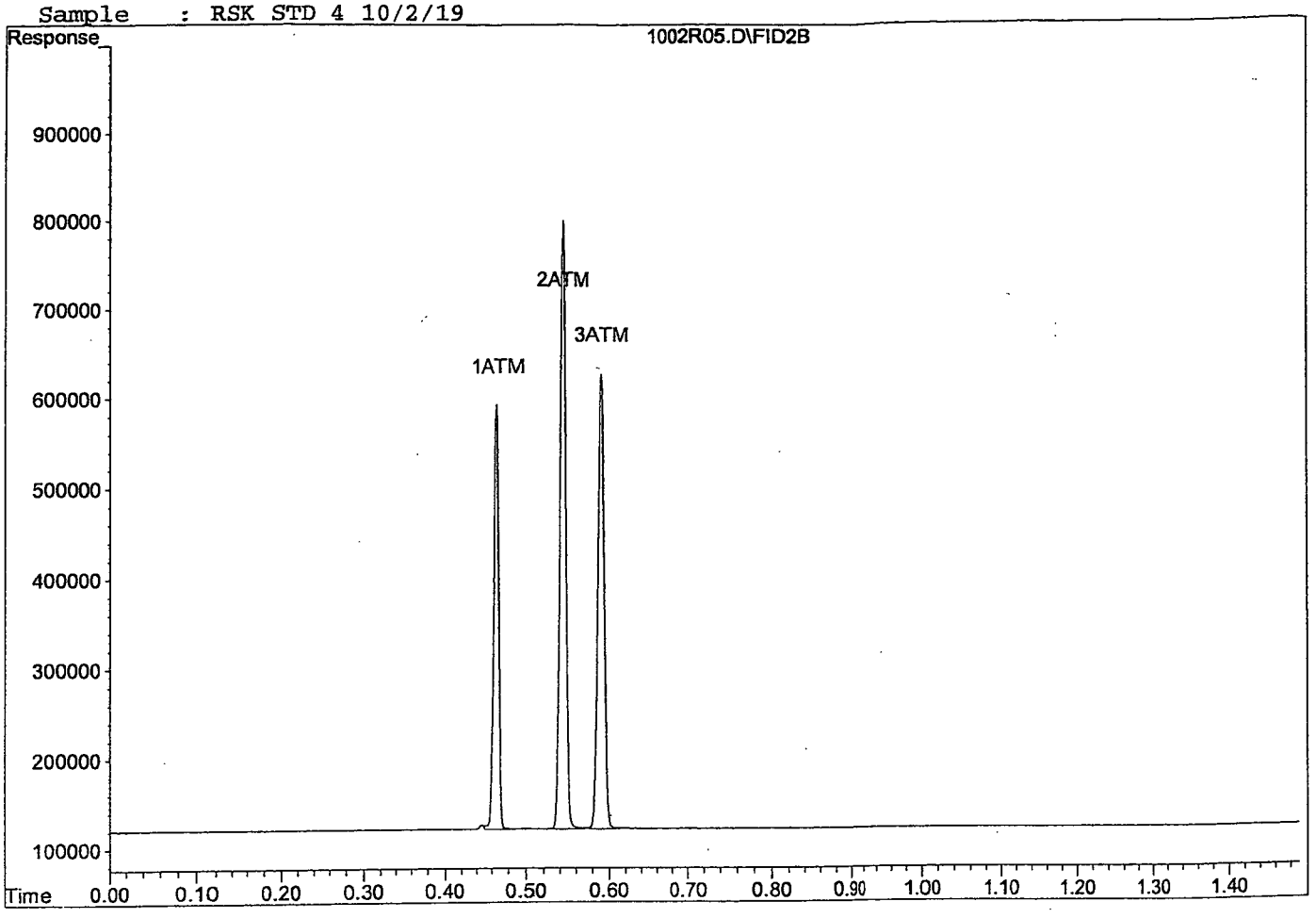
Volume Inj. : 0.500 mL
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.47	471234	31.689 ppb
2) ATM Ethane	0.54	677330	50.623 ppb
3) ATM Ethene	0.59	504779	47.419 ppb

Target Compounds

Quantitation Report

Data File: G:\ROCKY\DATA\191002RS\1002R05.D
Sample : RSK STD 4 10/2/19



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\191002RS\1002R06.D Vial: 6
Acq On : 2 Oct 19 17:59 Operator: GA
Sample : RSK STD 5 10/2/19 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Oct 2 18:11 2019 Quant Results File: RSK1002.RES

Method : G:\ROCKY\DATA\190929RS\RSK1002.M (Chemstation Integrator)
Title : RSK 175
Last Update : Wed Oct 02 18:14:49 2019
Response via : Multiple Level Calibration

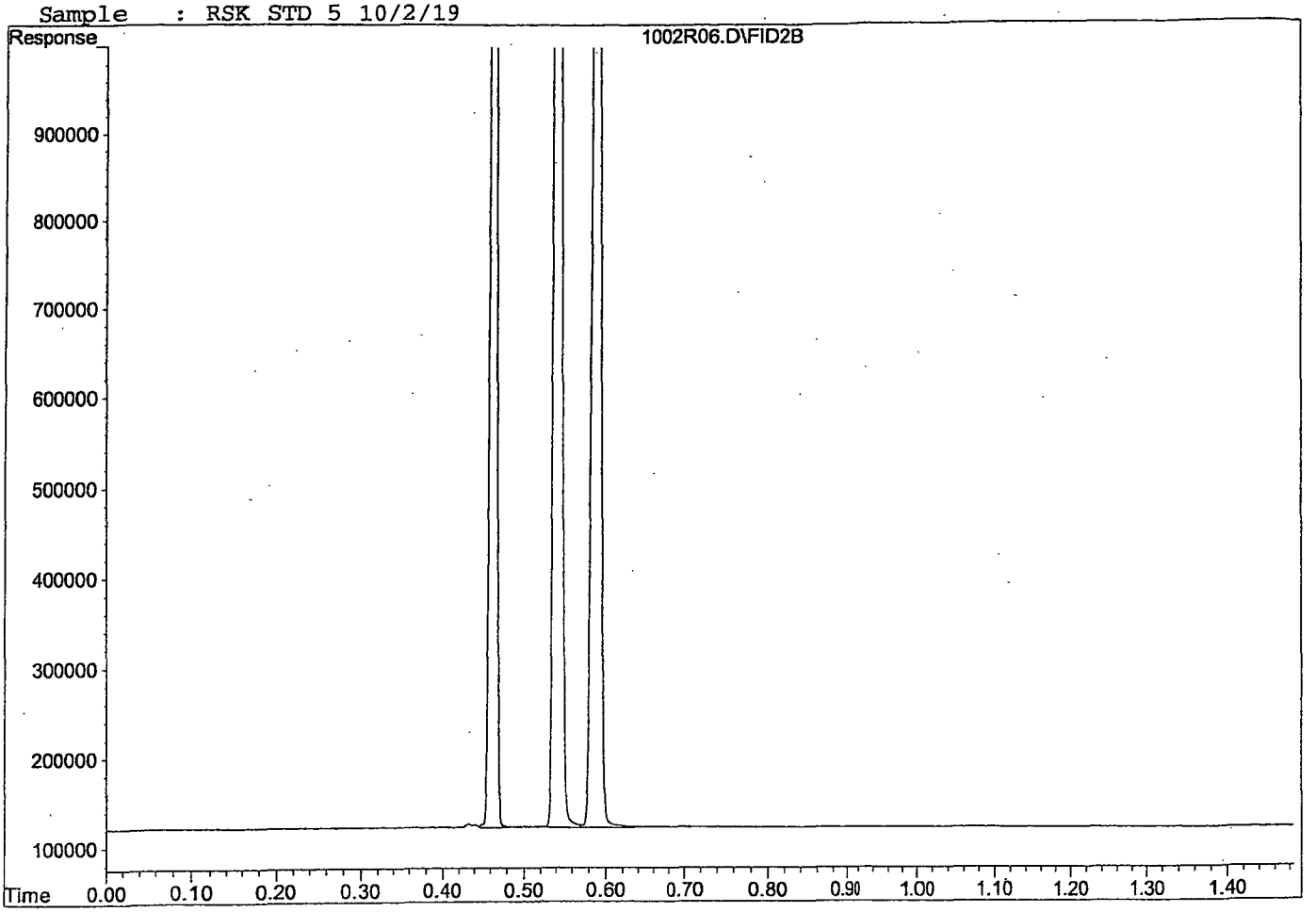
Volume Inj. : 0.500 mL
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.46	2019402	121.105 ppb
2) ATM Ethane	0.54	2950189	220.492 ppb
3) ATM Ethene	0.59	2176445	204.454 ppb

Target Compounds

Quantitation Report

Data File: G:\ROCKY\DATA\191002RS\1002R06.D
Sample : RSK STD 5 10/2/19



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\191002RS\1002R07.D Vial: 7
Acq On : 2 Oct 19 18:05 Operator: GA
Sample : RSK STD 6 10/2/19 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Oct 2 18:11 2019 Quant Results File: RSK1002.RES

Method : G:\ROCKY\DATA\190929RS\RSK1002.M (Chemstation Integrator)
Title : RSK 175
Last Update : Wed Oct 02 18:14:49 2019
Response via : Multiple Level Calibration

Volume Inj. : 0.500 mL
Signal Phase : CARBOPACK
Signal Info :

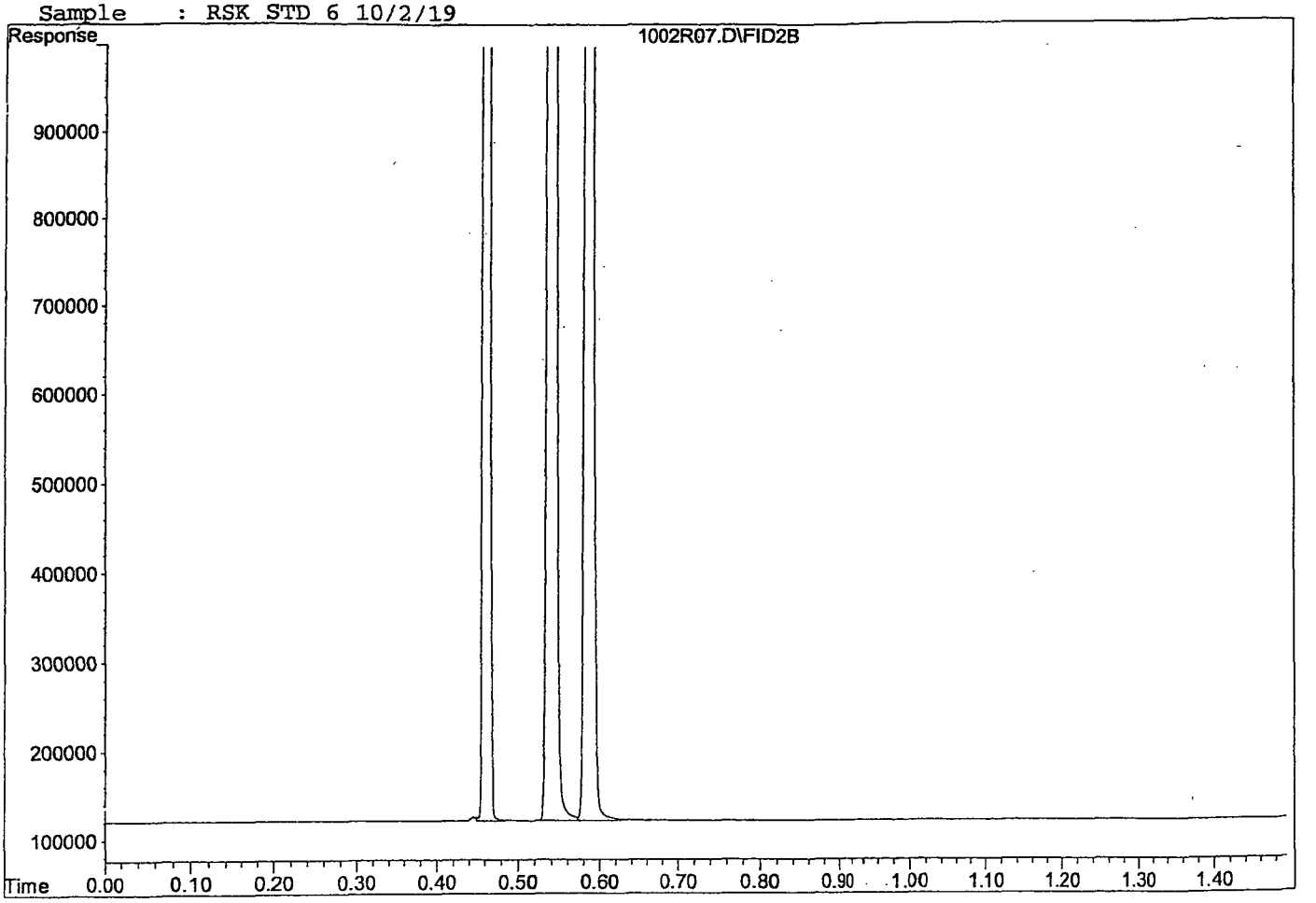
Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.46	4590194	269.583 ppb
2) ATM Ethane	0.54	6405030	478.702 ppb
3) ATM Ethene	0.59	4657966	437.567 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.
1002R07.D RSK1002.M Wed Oct 02 18:17:05 2019 Page 1

Quantitation Report

Data File: G:\ROCKY\DATA\191002RS\1002R07.D
Sample : RSK STD 6 10/2/19



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\191002RS\1002R08.D Vial: 8
Acq On : 2 Oct 19 18:07 Operator: GA
Sample : RSK STD 7 10/2/19 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Oct 2 18:11 2019 Quant Results File: RSK1002.RES

Method : G:\ROCKY\DATA\190929RS\RSK1002.M (Chemstation Integrator)
Title : RSK 175
Last Update : Wed Oct 02 18:14:49 2019
Response via : Multiple Level Calibration

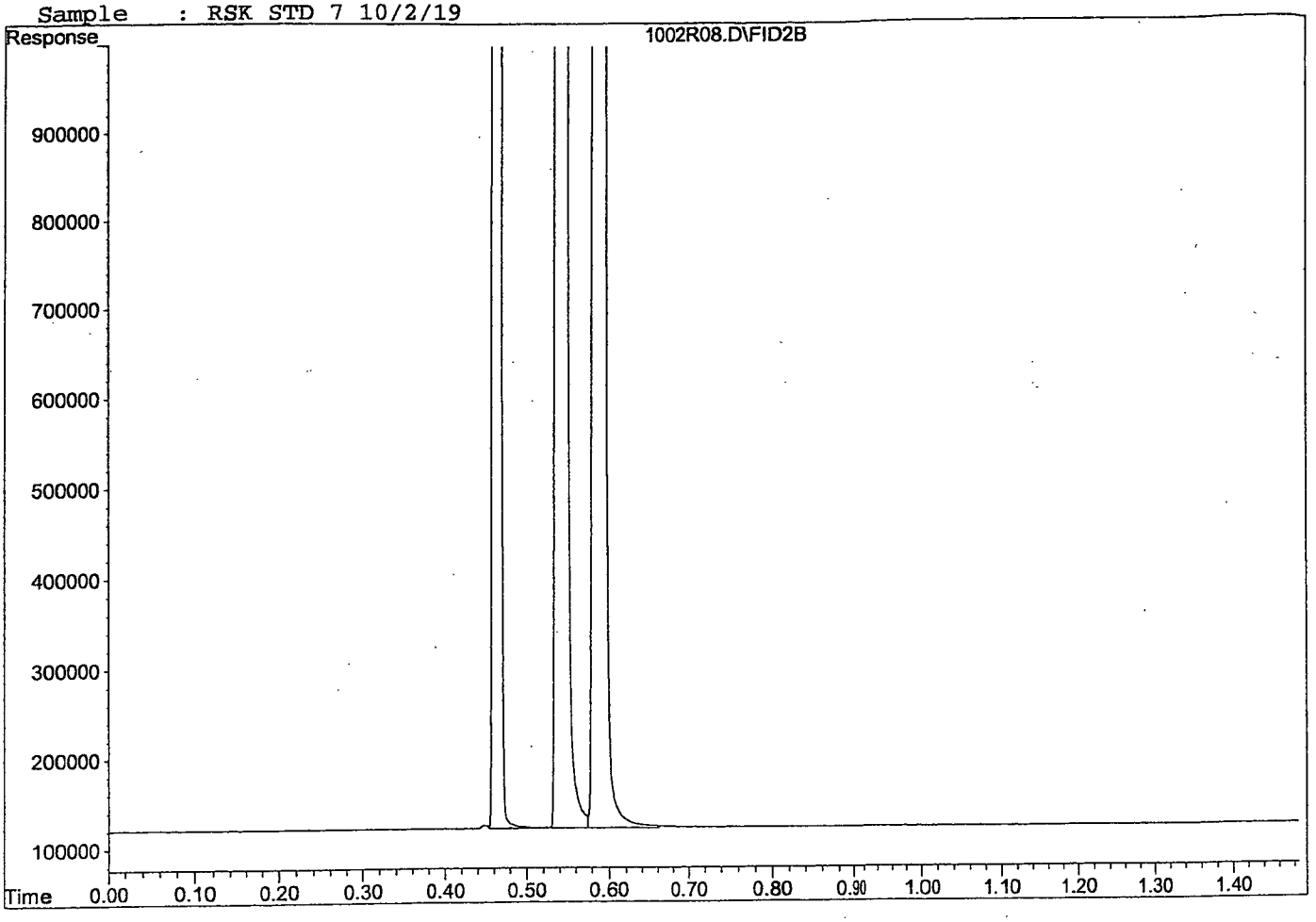
Volume Inj. : 0.500 mL
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
1) ATM Methane	0.46	19087907	1106.909	ppb
2) ATM Ethane	0.54	25777712	1926.584	ppb
3) ATM Ethene	0.59	19176068	1801.389	ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.
1002R08.D RSK1002.M Wed Oct 02 18:17:07 2019 Page 1

Data File: G:\ROCKY\DATA\191002RS\1002R08.D
Sample : RSK STD 7 10/2/19



RSK 175
RSK 175

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 2 Oct 19 18:24
Instrument: 7890
Initial Cal. Date: 10/02/19
Data File: 1002R10.D

		Compound	MEAN	CCRF	%D		%Drift
1	ATM	Methane	46275	50203	8.5	ATM	
2	ATM	Ethane	34039	37011	8.7	ATM	
3	ATM	Ethene	26775	28699	7.2	ATM	
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			8.1		

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\191002RS\1002R10.D Vial: 10
Acq On : 2 Oct 19 18:24 Operator: GA
Sample : SS RSK STD 5 10/2/19 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Oct 2 18:27 2019 Quant Results File: RSK1002.RES

Method : G:\ROCKY\DATA\190929RS\RSK1002.M (Chemstation Integrator)
Title : RSK 175
Last Update : Wed Oct 02 18:14:49 2019
Response via : Multiple Level Calibration

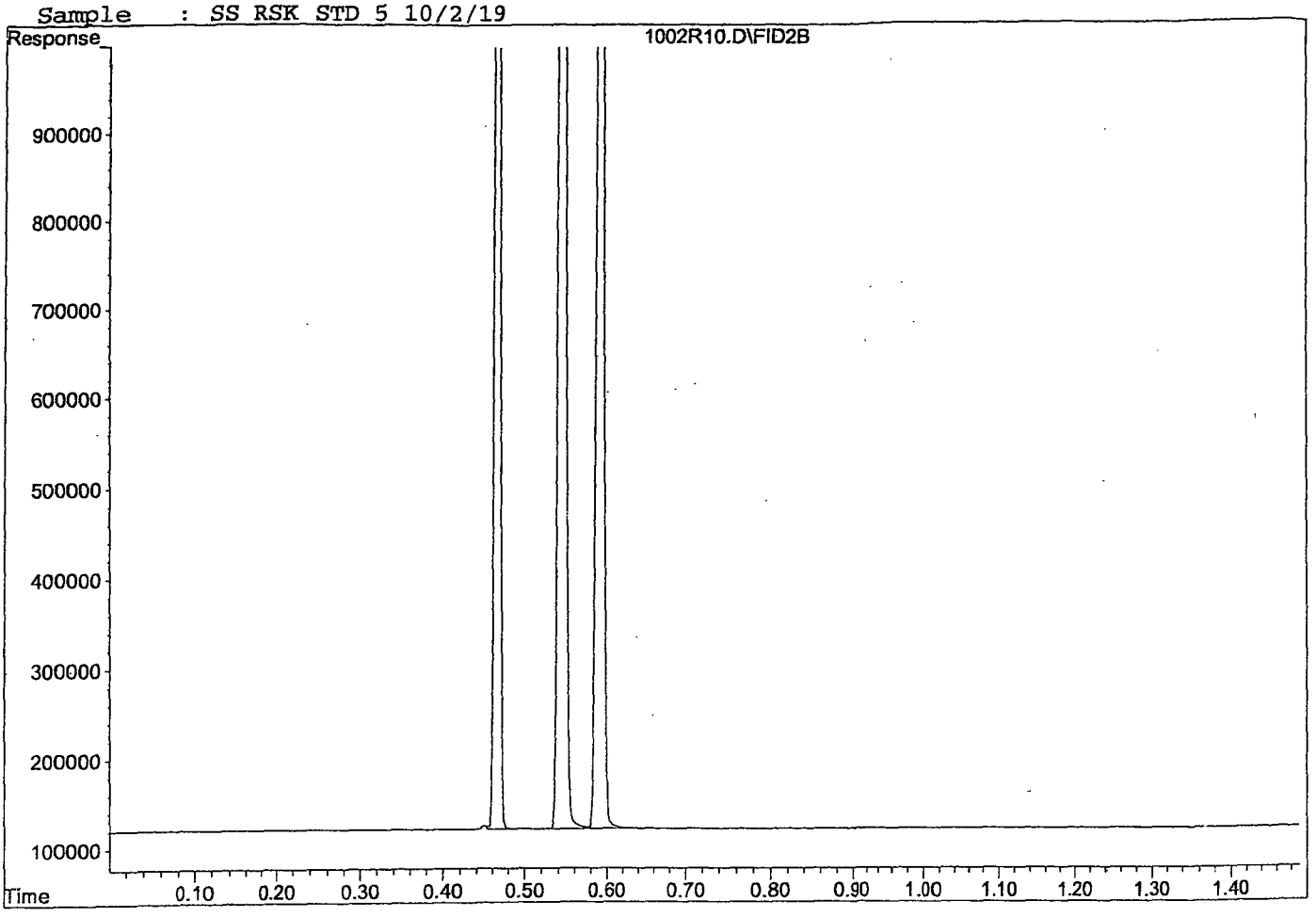
Volume Inj. : 0.500 mL
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.47	2093456	90.480 ppb
2) ATM Ethane	0.54	2893356	170.002 ppb
3) ATM Ethene	0.59	2092707	156.318 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\191002RS\1002R10.D
Sample : SS RSK STD 5 10/2/19



RSK 175
RSK 175

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 01/24/20
Instrument: 7890
Initial Cal. Date: 10/02/19
Data File: 0124R03.D

		Compound	MEAN	CCRF	%D		%Drift
1	ATM	Methane	46275	38103	18	ATM	
2	ATM	Ethane	34039	29964	12	ATM	
3	ATM	Ethene	26775	26528	0.92	ATM	
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			10.3		

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\191002RS\0124R03.D Vial: 3
Acq On : 24 Jan 20 11:32 Operator: GA
Sample : 200124A LCS/CCV RSK STD 5 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Jan 24 11:37 2020 Quant Results File: RSK1002.RES

Method : G:\ROCKY\DATA\190929RS\RSK1002.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Jan 23 14:45:26 2020
Response via : Multiple Level Calibration

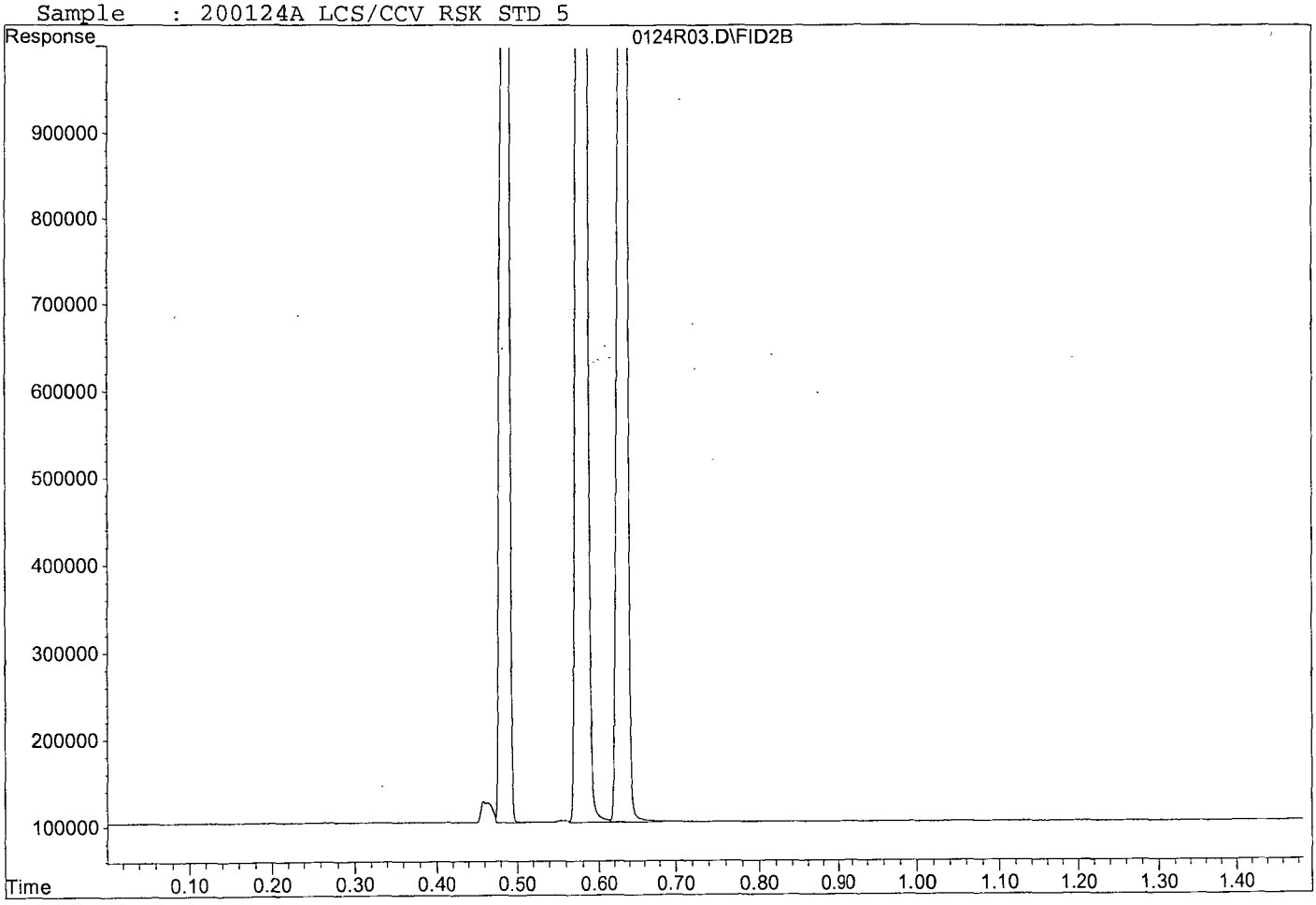
Volume Inj. : 0.500 mL
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.49	1588889	68.672 ppb
2) ATM Ethane	0.58	2342443	137.632 ppb
3) ATM Ethene	0.63	1934436	144.496 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\191002RS\0124R03.D
Sample : 200124A LCS/CCV RSK STD 5



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 01/24/20
Instrument: 7890
Initial Cal. Date: 10/02/19
Data File: 0124R28.D

		Compound	MEAN	CCRF	%D		%Drift
1	ATM	Methane	46275	46857	1.3	ATM	
2	ATM	Ethane	34039	35389	4.0	ATM	
3	ATM	Ethene	26775	29656	11	ATM	
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			5.4		

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\191002RS\0124R28.D Vial: 28
Acq On : 24 Jan 20 14:26 Operator: GA
Sample : ENDING CCV RSK STD 5 01/24/20 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Jan 24 14:31 2020 Quant Results File: RSK1002.RES

Method : G:\ROCKY\DATA\190929RS\RSK1002.M (Chemstation Integrator)
Title : RSK 175
Last Update : Fri Jan 24 14:31:23 2020
Response via : Multiple Level Calibration

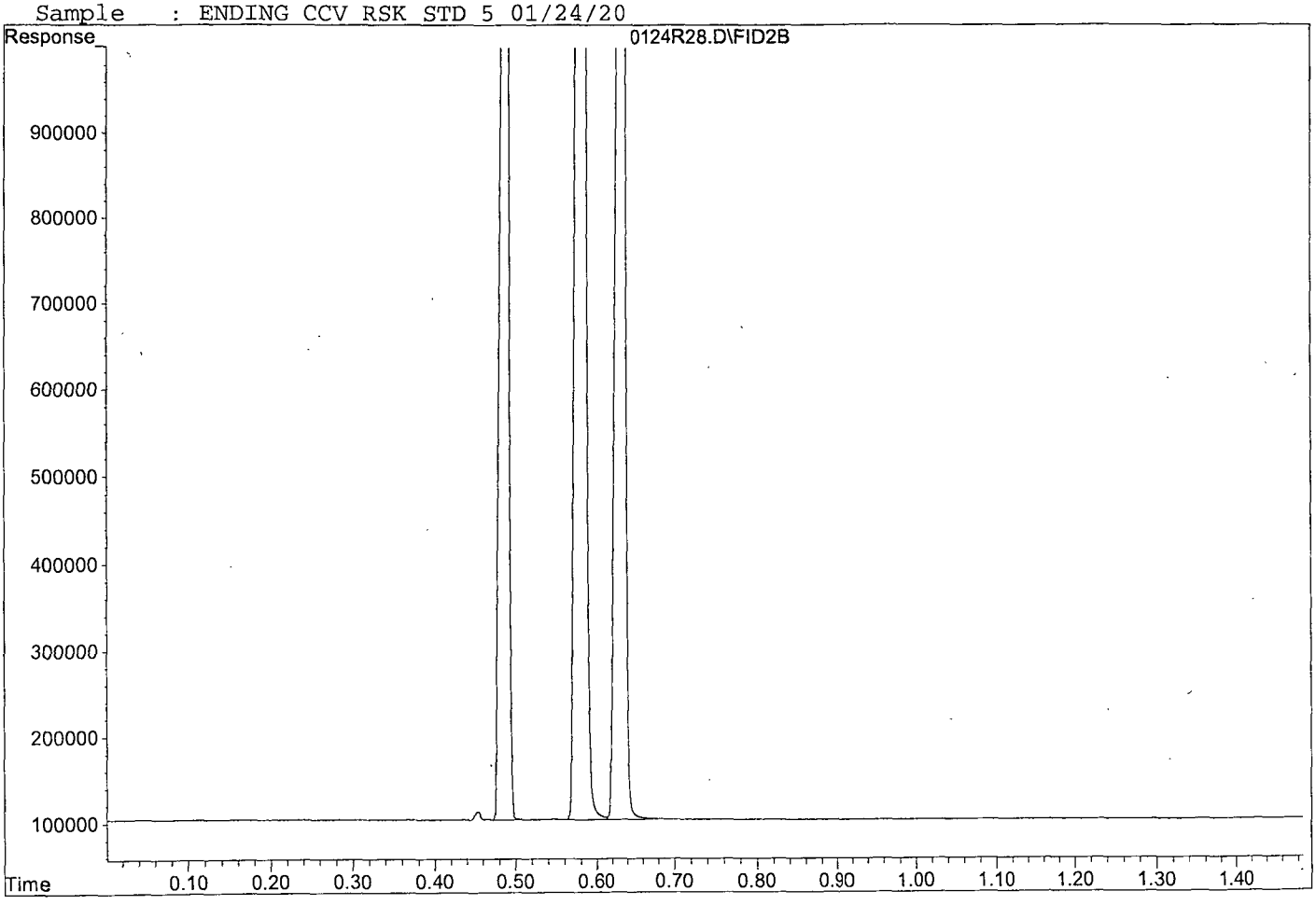
Volume Inj. : 0.500 mL
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
1) ATM Methane	0.49	1953936	84.450	ppb
2) ATM Ethane	0.58	2766495	162.548	ppb
3) ATM Ethene	0.63	2162491	161.531	ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\191002RS\0124R28.D
Sample : ENDING CCV RSK STD 5 01/24/20



ORGANICS
Raw Data

Quantitation Report (QT Reviewed)

Data File : G:\ROCKY\DATA\191002RS\0124R16.D Vial: 16
Acq On : 24 Jan 20 12:49 Operator: GA
Sample : BA06271W04 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Jan 24 12:52 2020 Quant Results File: RSK1002.RES

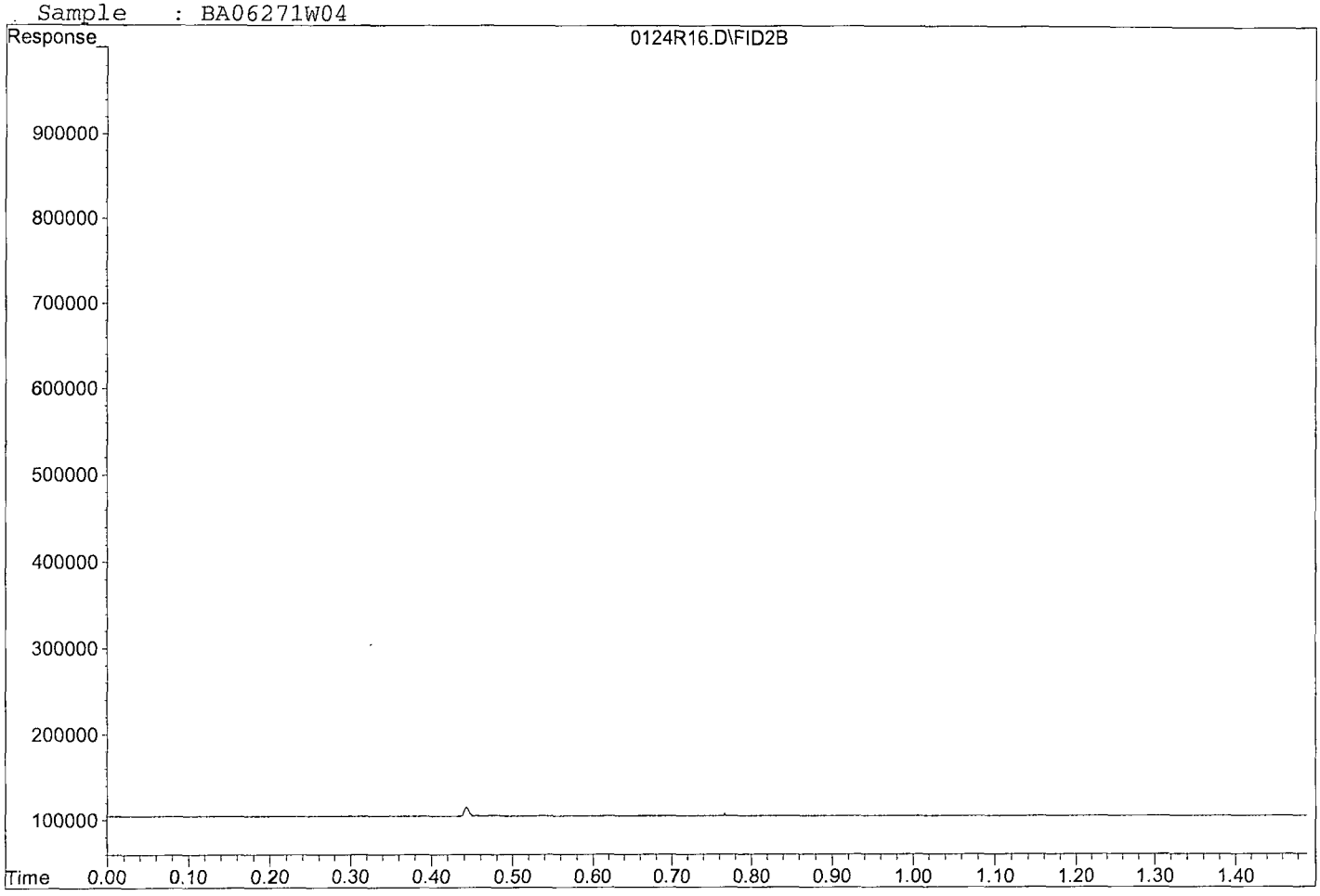
Method : G:\ROCKY\DATA\190929RS\RSK1002.M (Chemstation Integrator)
Title : RSK 175
Last Update : Fri Jan 24 12:36:17 2020
Response via : Multiple Level Calibration

Volume Inj. : 0.500 mL
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units	
Target Compounds					
Target Compounds					
1) ATM Methane	0.00	0	N.D.	ppb	d
2) ATM Ethane	0.00	0	N.D.	ppb	d
3) ATM Ethene	0.00	0	N.D.	ppb	d

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\191002RS\0124R16.D
Sample : BA06271W04



Quantitation Report (QT Reviewed)

Data File : G:\ROCKY\DATA\191002RS\0124R17.D Vial: 17
Acq On : 24 Jan 20 12:52 Operator: GA
Sample : BA06272W07 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Jan 24 12:56 2020 Quant Results File: RSK1002.RES

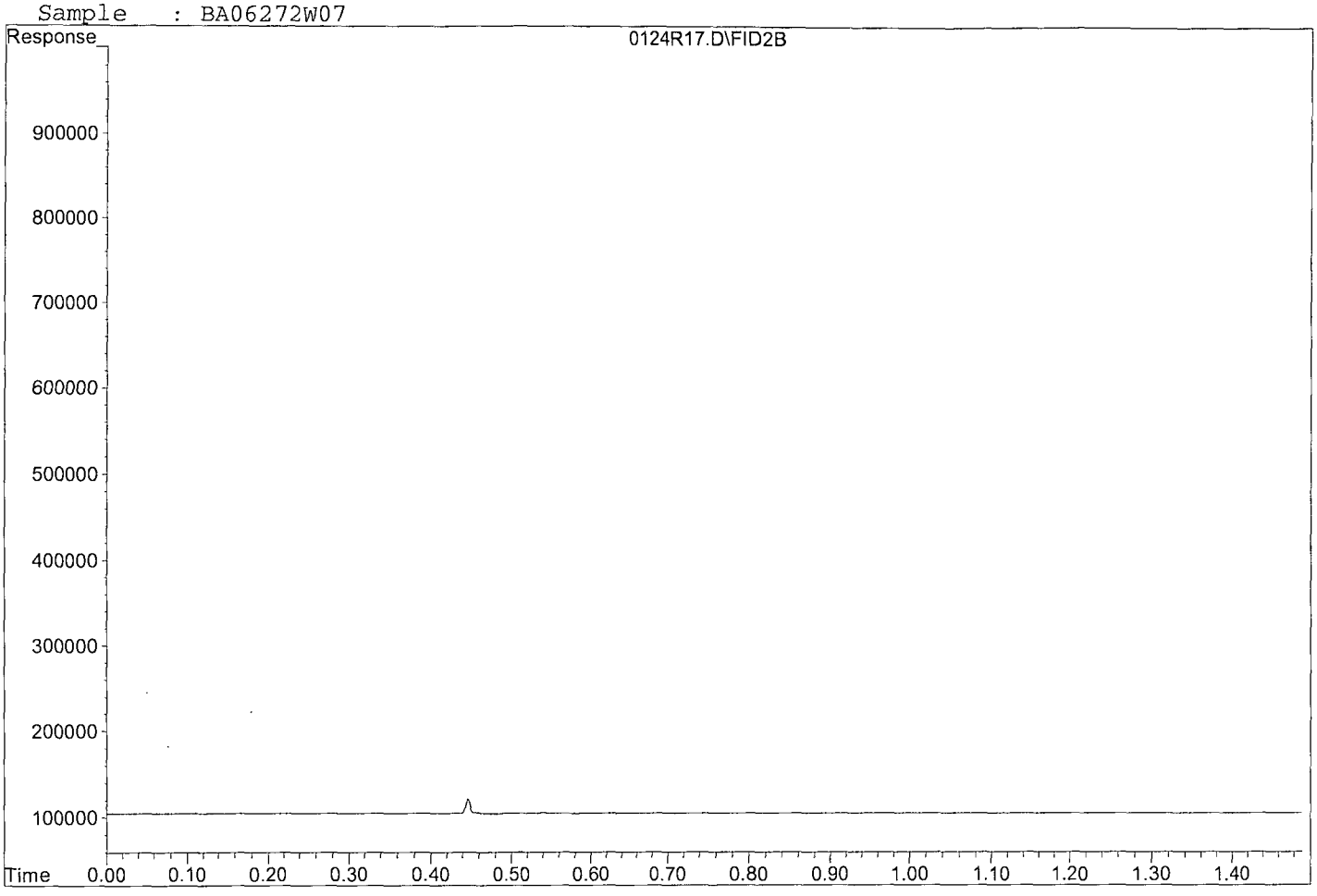
Method : G:\ROCKY\DATA\190929RS\RSK1002.M (Chemstation Integrator)
Title : RSK 175
Last Update : Fri Jan 24 12:36:17 2020
Response via : Multiple Level Calibration

Volume Inj. : 0.500 mL
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units	
Target Compounds					
Target Compounds					
1) ATM Methane	0.00	0	N.D.	ppb	d
2) ATM Ethane	0.00	0	N.D.	ppb	d
3) ATM Ethene	0.00	0	N.D.	ppb	d

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\191002RS\0124R17.D
Sample : BA06272W07



Quantitation Report (QT Reviewed)

Data File : G:\ROCKY\DATA\191002RS\0124R20.D Vial: 20
Acq On : 24 Jan 20 13:07 Operator: GA
Sample : BA06274W04 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Jan 24 13:10 2020 Quant Results File: RSK1002.RES

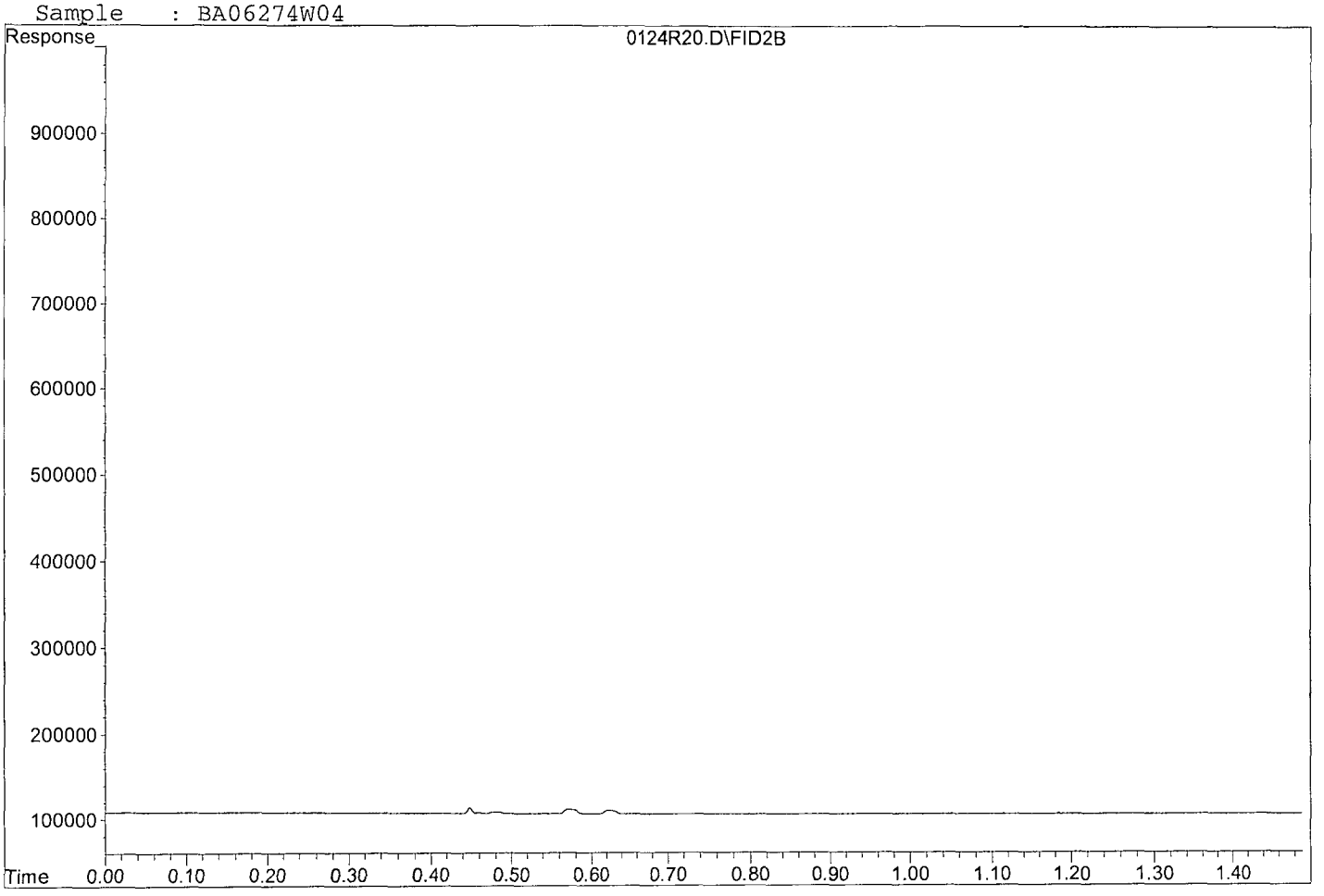
Method : G:\ROCKY\DATA\190929RS\RSK1002.M (Chemstation Integrator)
Title : RSK 175
Last Update : Fri Jan 24 12:36:17 2020
Response via : Multiple Level Calibration

Volume Inj. : 0.500 mL
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units	
Target Compounds					
Target Compounds					
1) ATM Methane	0.00	0	N.D.	ppb	d
2) ATM Ethane	0.00	0	N.D.	ppb	d
3) ATM Ethene	0.00	0	N.D.	ppb	d

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\191002RS\0124R20.D
Sample : BA06274W04



Quantitation Report (QT Reviewed)

Data File : G:\ROCKY\DATA\191002RS\0124R21.D Vial: 21
Acq On : 24 Jan 20 13:11 Operator: GA
Sample : BA06275W04 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Jan 24 13:15 2020 Quant Results File: RSK1002.RES

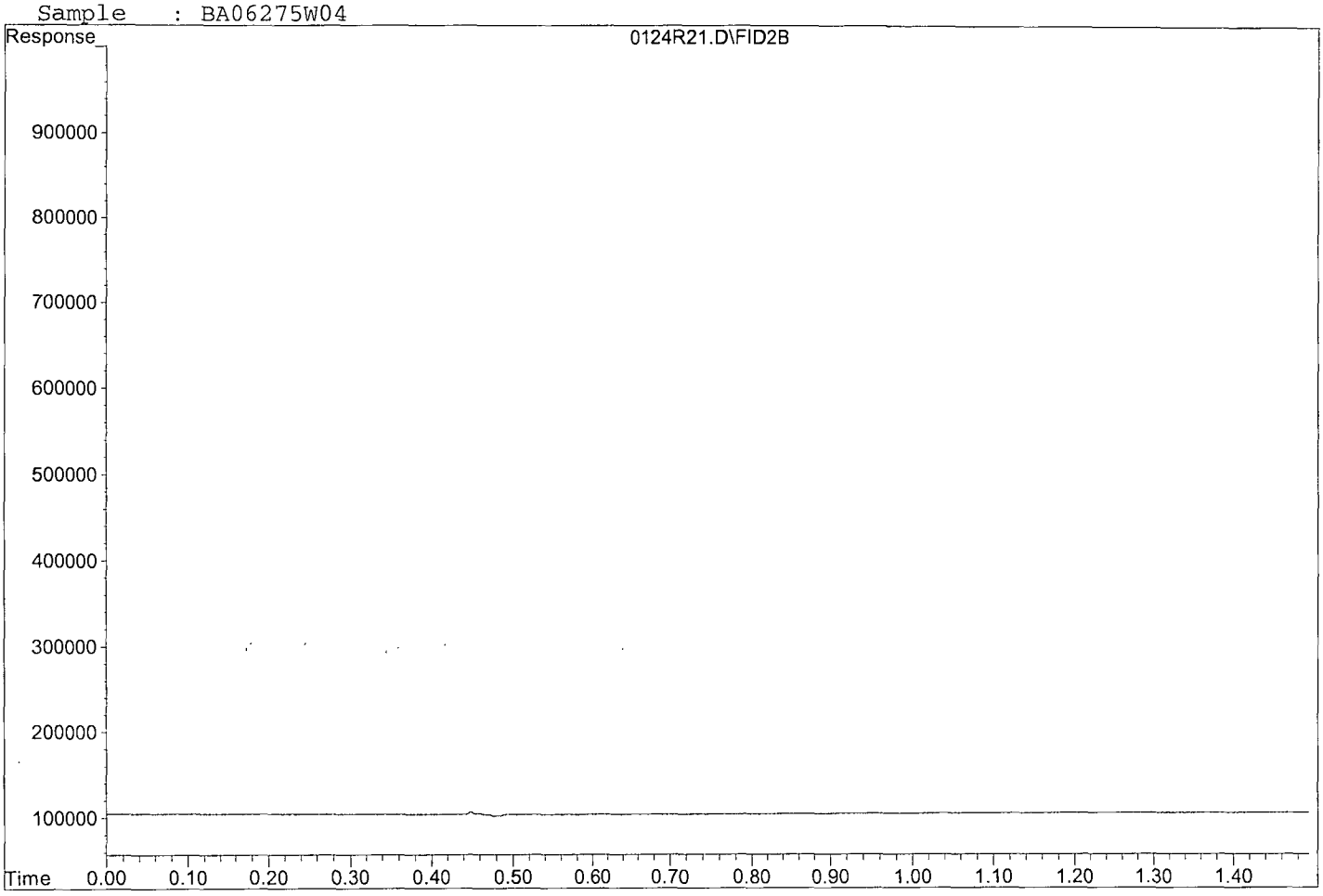
Method : G:\ROCKY\DATA\190929RS\RSK1002.M (Chemstation Integrator)
Title : RSK 175
Last Update : Fri Jan 24 12:36:17 2020
Response via : Multiple Level Calibration

Volume Inj. : 0.500 mL
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units	
Target Compounds					
Target Compounds					
1) ATM Methane	0.00	0	N.D.	ppb	d
2) ATM Ethane	0.00	0	N.D.	ppb	d
3) ATM Ethene	0.00	0	N.D.	ppb	d

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\191002RS\0124R21.D
Sample : BA06275W04



Quantitation Report (QT Reviewed)

Data File : G:\ROCKY\DATA\191002RS\0124R22.D Vial: 22
Acq On : 24 Jan 20 13:16 Operator: GA
Sample : BA06276W04 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Jan 24 13:19 2020 Quant Results File: RSK1002.RES

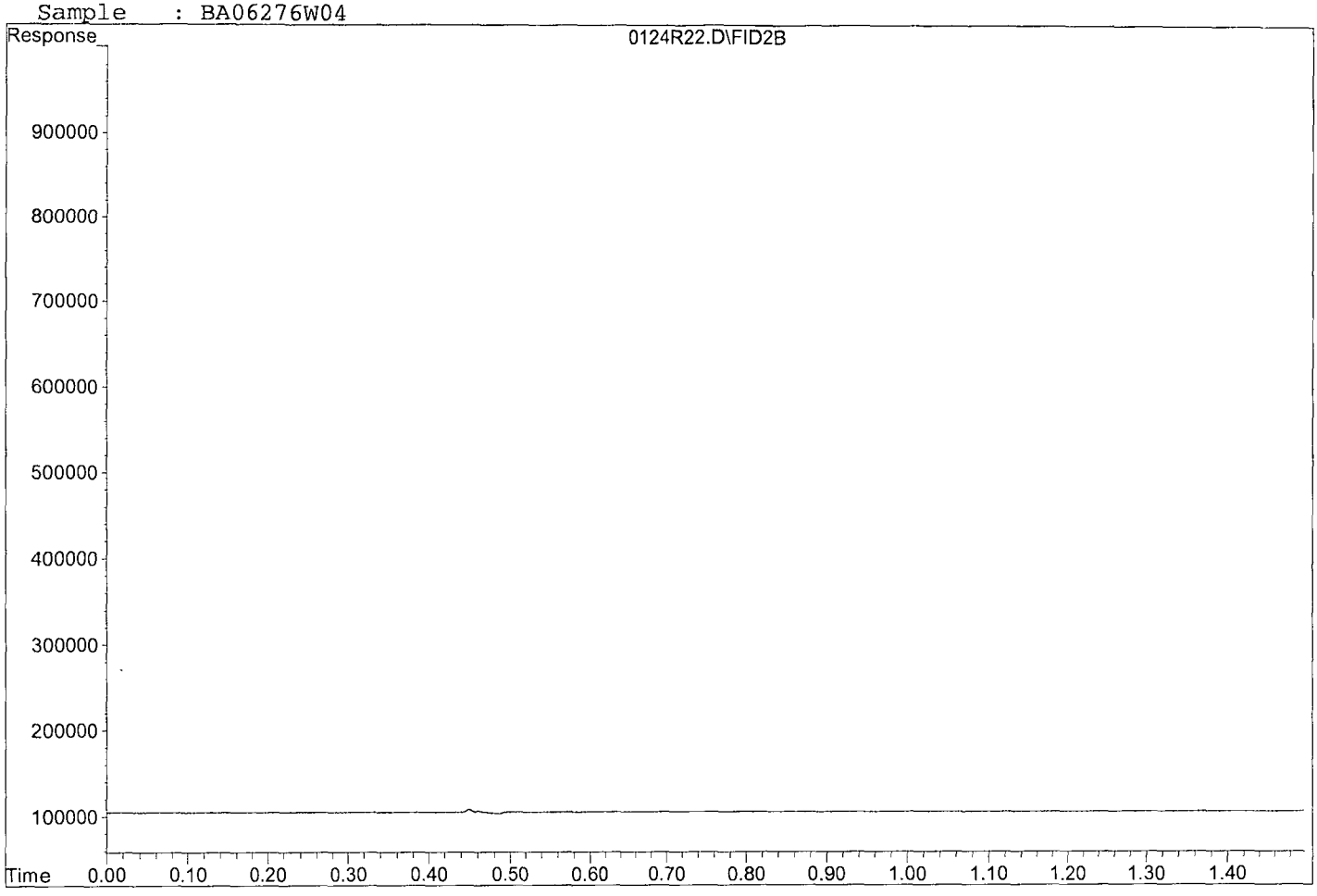
Method : G:\ROCKY\DATA\190929RS\RSK1002.M (Chemstation Integrator)
Title : RSK 175
Last Update : Fri Jan 24 12:36:17 2020
Response via : Multiple Level Calibration

Volume Inj. : 0.500 mL
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units	
Target Compounds					
Target Compounds					
1) ATM Methane	0.00	0	N.D.	ppb	d
2) ATM Ethane	0.00	0	N.D.	ppb	d
3) ATM Ethene	0.00	0	N.D.	ppb	d

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\191002RS\0124R22.D
Sample : BA06276W04



Quantitation Report (QT Reviewed)

Data File : G:\ROCKY\DATA\191002RS\0124R23.D Vial: 23
Acq On : 24 Jan 20 13:20 Operator: GA
Sample : BA06277W04 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Jan 24 14:13 2020 Quant Results File: RSK1002.RES

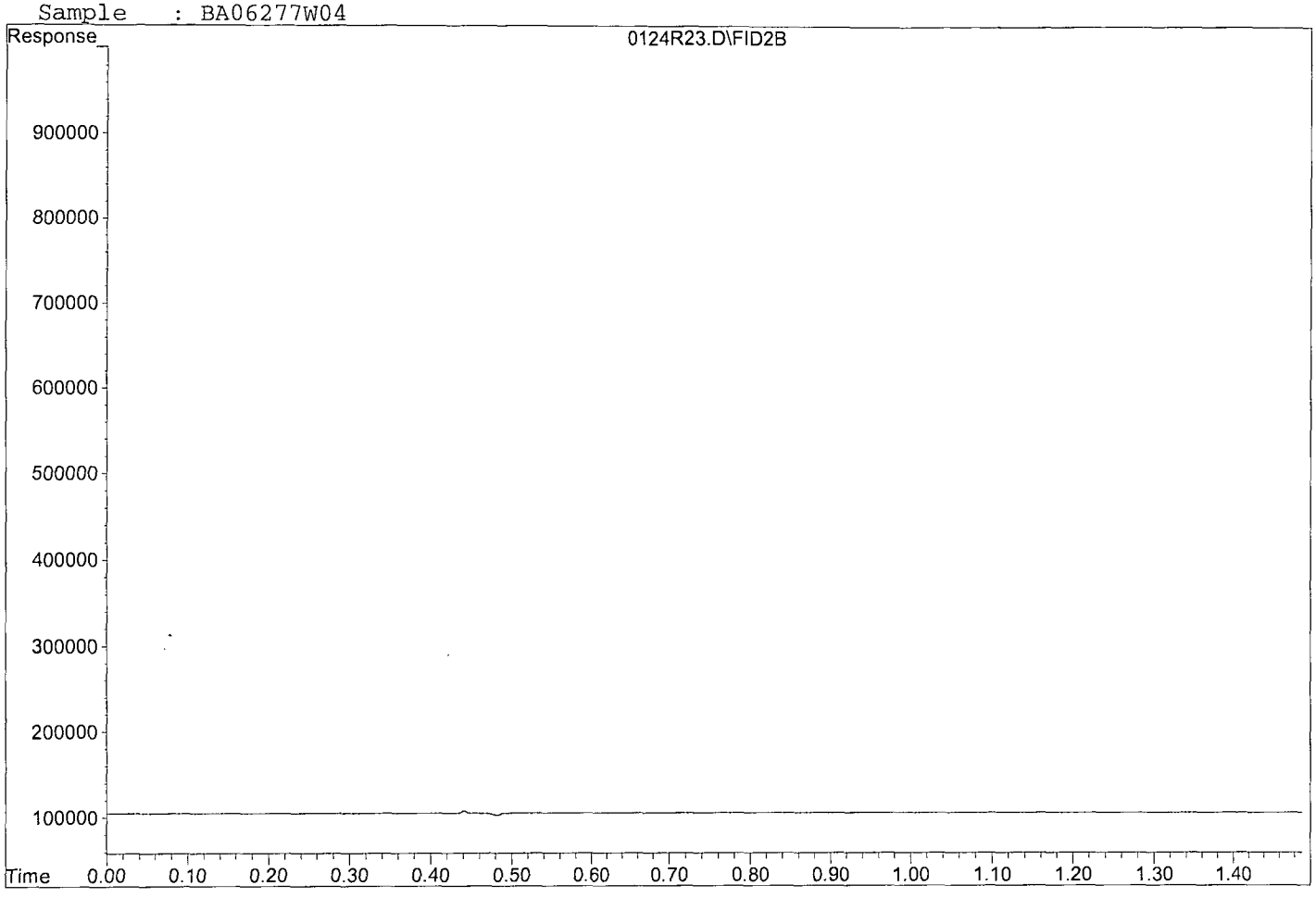
Method : G:\ROCKY\DATA\190929RS\RSK1002.M (Chemstation Integrator)
Title : RSK 175
Last Update : Fri Jan 24 12:36:17 2020
Response via : Multiple Level Calibration

Volume Inj. : 0.500 mL
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units	
Target Compounds					
Target Compounds					
1) ATM Methane	0.00	0	N.D.	ppb	d
2) ATM Ethane	0.00	0	N.D.	ppb	d
3) ATM Ethene	0.00	0	N.D.	ppb	d

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\191002RS\0124R23.D
Sample : BA06277W04



Quantitation Report (QT Reviewed)

Data File : G:\ROCKY\DATA\191002RS\0124R24.D Vial: 24
Acq On : 24 Jan 20 14:09 Operator: GA
Sample : BA06278W04 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Jan 24 14:14 2020 Quant Results File: RSK1002.RES

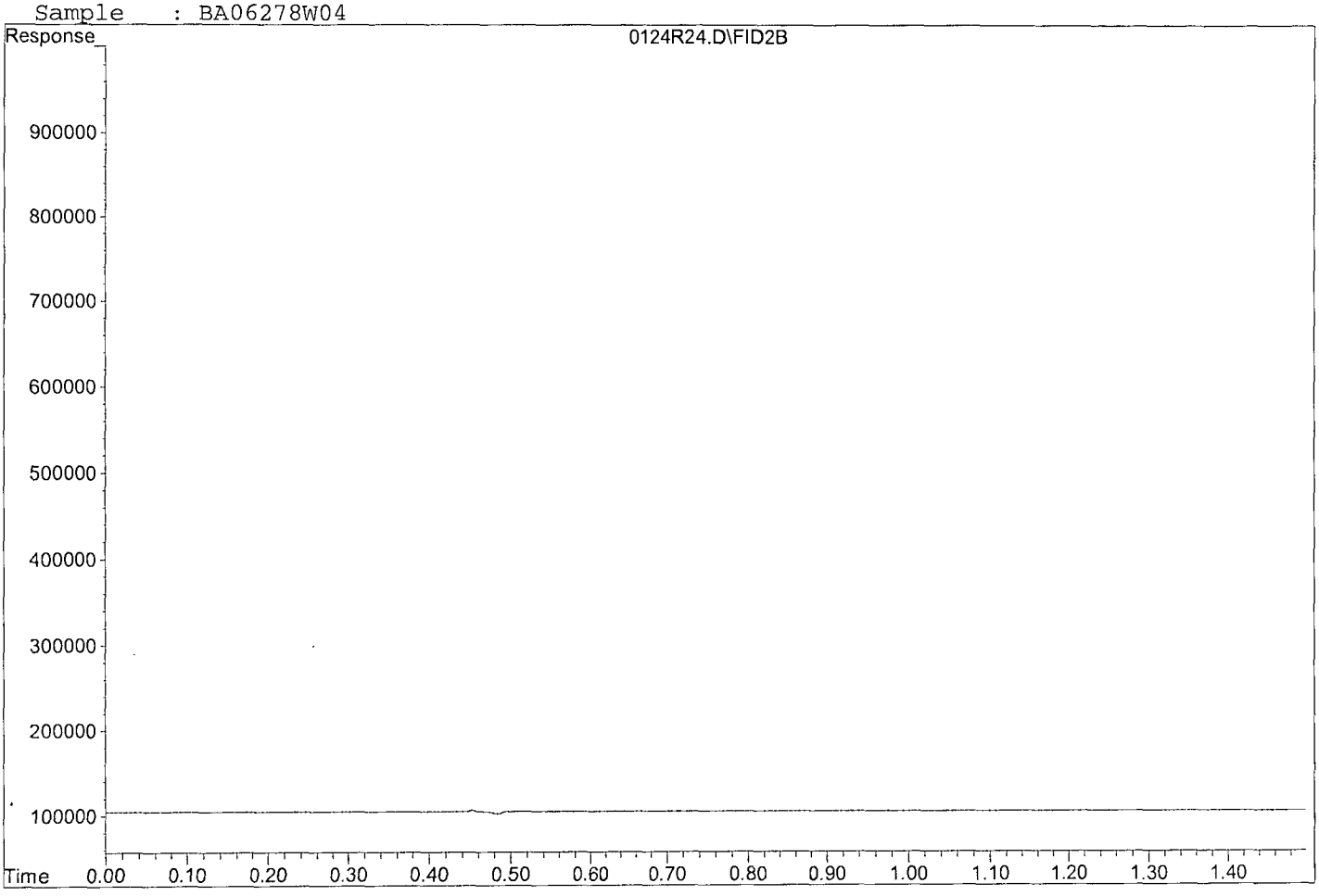
Method : G:\ROCKY\DATA\190929RS\RSK1002.M (Chemstation Integrator)
Title : RSK 175
Last Update : Fri Jan 24 12:36:17 2020
Response via : Multiple Level Calibration

Volume Inj. : 0.500 mL
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units	
Target Compounds					
Target Compounds					
1) ATM Methane	0.00	0	N.D.	ppb	d
2) ATM Ethane	0.00	0	N.D.	ppb	d
3) ATM Ethene	0.00	0	N.D.	ppb	d

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\191002RS\0124R24.D
Sample : BA06278W04



Quantitation Report (QT Reviewed)

Data File : G:\ROCKY\DATA\191002RS\0124R25.D Vial: 25
Acq On : 24 Jan 20 14:15 Operator: GA
Sample : BA06279W04 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Jan 24 14:18 2020 Quant Results File: RSK1002.RES

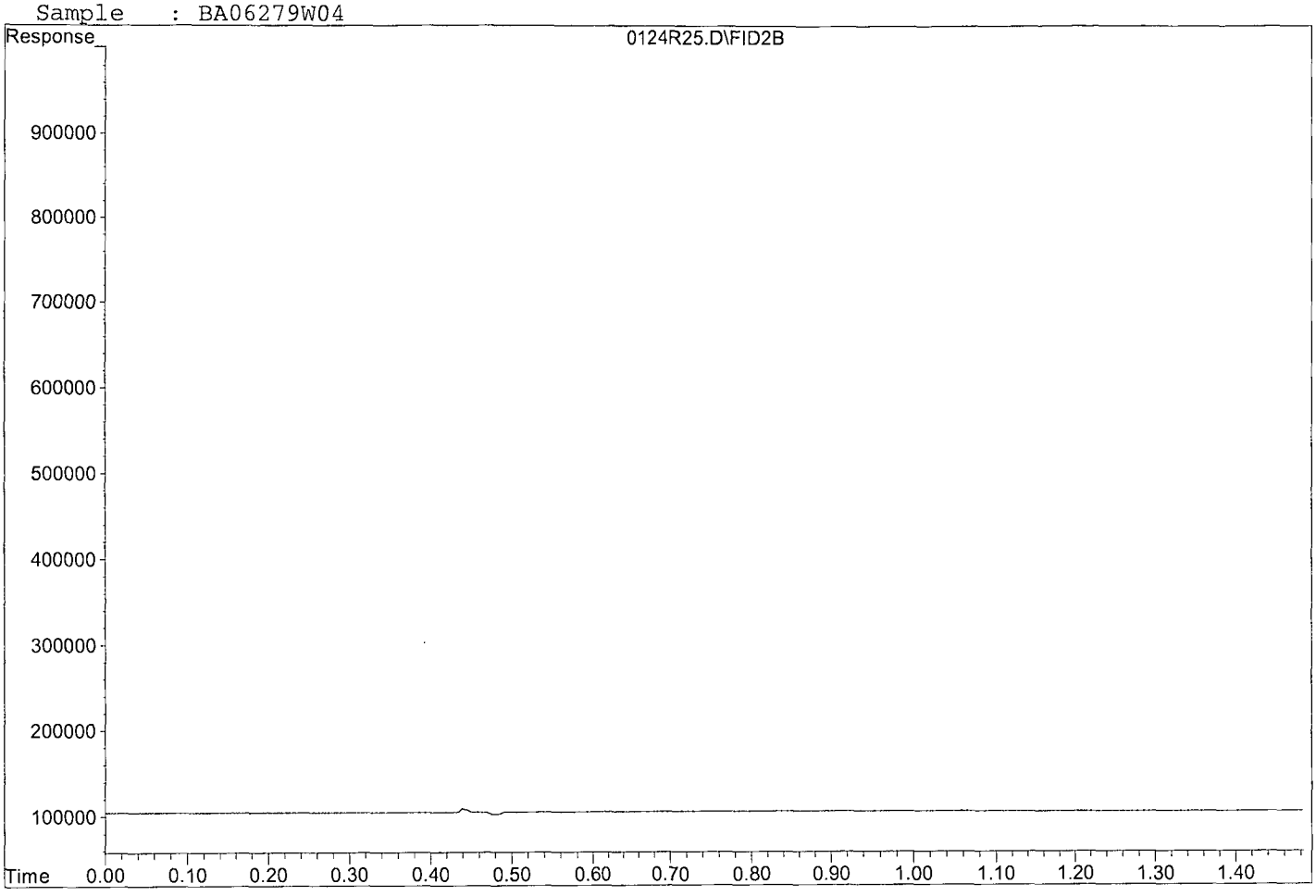
Method : G:\ROCKY\DATA\190929RS\RSK1002.M (Chemstation Integrator)
Title : RSK 175
Last Update : Fri Jan 24 12:36:17 2020
Response via : Multiple Level Calibration

Volume Inj. : 0.500 mL
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units	
Target Compounds					
Target Compounds					
1) ATM Methane	0.00	0	N.D.	ppb	d
2) ATM Ethane	0.00	0	N.D.	ppb	d
3) ATM Ethene	0.00	0	N.D.	ppb	d

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\191002RS\0124R25.D
Sample : BA06279W04



Quantitation Report (QT Reviewed)

Data File : G:\ROCKY\DATA\191002RS\0124R26.D Vial: 26
Acq On : 24 Jan 20 14:18 Operator: GA
Sample : BA06283W04 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Jan 24 14:21 2020 Quant Results File: RSK1002.RES

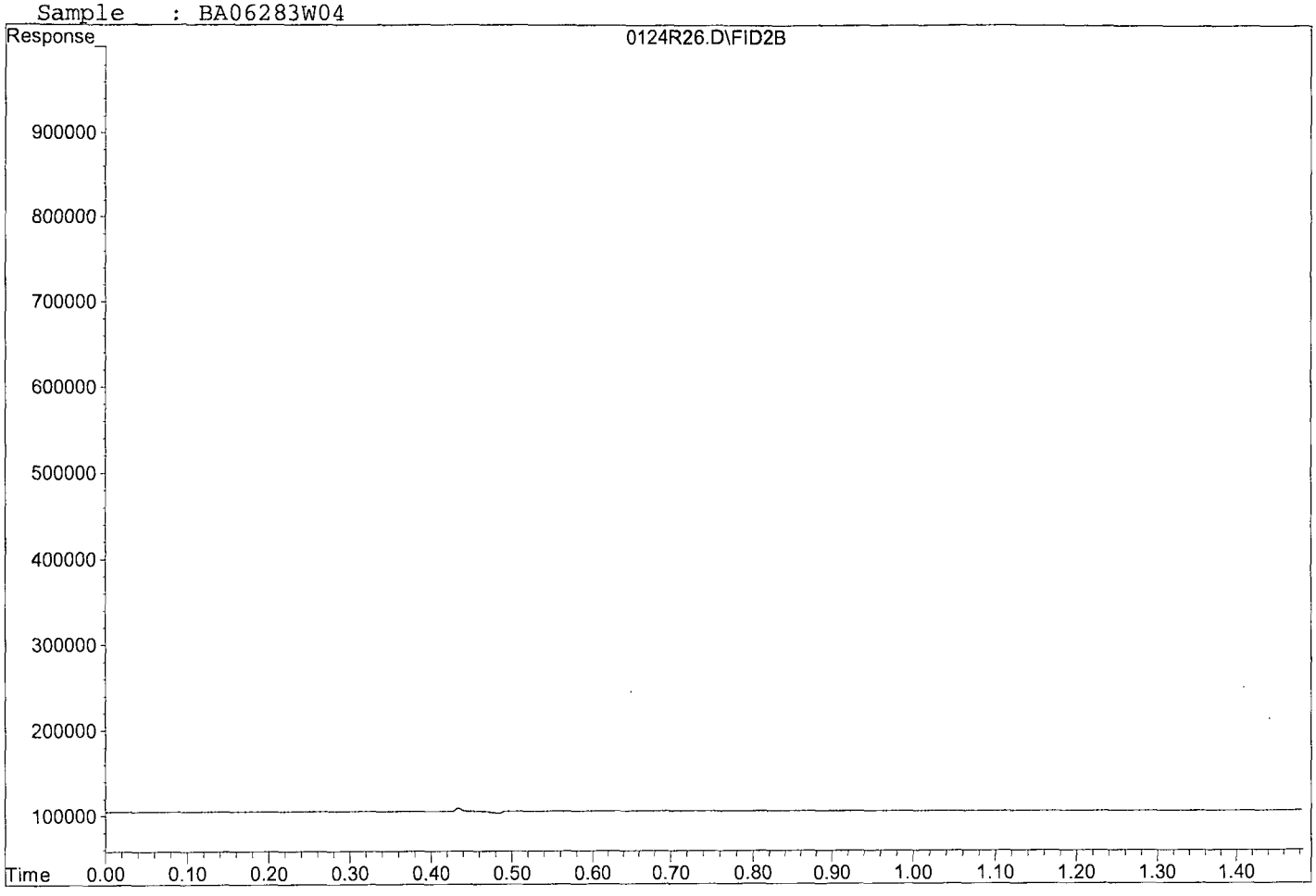
Method : G:\ROCKY\DATA\190929RS\RSK1002.M (Chemstation Integrator)
Title : RSK 175
Last Update : Fri Jan 24 12:36:17 2020
Response via : Multiple Level Calibration

Volume Inj. : 0.500 mL
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units	
Target Compounds					
Target Compounds					
1) ATM Methane	0.00	0	N.D.	ppb	d
2) ATM Ethane	0.00	0	N.D.	ppb	d
3) ATM Ethene	0.00	0	N.D.	ppb	d

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\191002RS\0124R26.D
Sample : BA06283W04



Quantitation Report (QT Reviewed)

Data File : G:\ROCKY\DATA\191002RS\0124R27.D Vial: 27
Acq On : 24 Jan 20 14:22 Operator: GA
Sample : BA06284W04 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Jan 24 14:25 2020 Quant Results File: RSK1002.RES

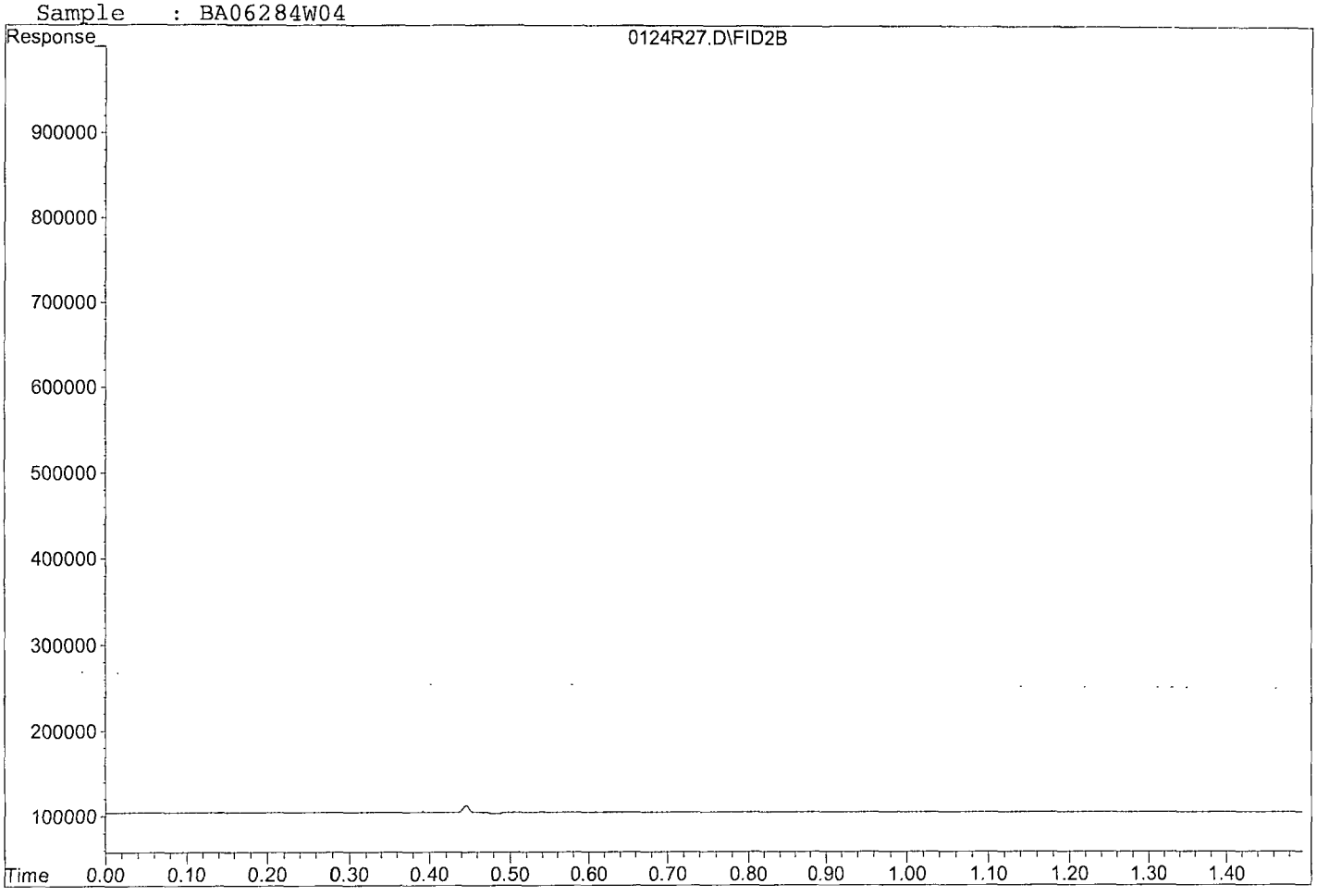
Method : G:\ROCKY\DATA\190929RS\RSK1002.M (Chemstation Integrator)
Title : RSK 175
Last Update : Fri Jan 24 12:36:17 2020
Response via : Multiple Level Calibration

Volume Inj. : 0.500 mL
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units	
Target Compounds					
Target Compounds					
1) ATM Methane	0.00	0	N.D.	ppb	d
2) ATM Ethane	0.00	0	N.D.	ppb	d
3) ATM Ethene	0.00	0	N.D.	ppb	d

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\191002RS\0124R27.D
Sample : BA06284W04



Quantitation Report (QT Reviewed)

Data File : G:\ROCKY\DATA\191002RS\0124R05.D Vial: 5
Acq On : 24 Jan 20 11:41 Operator: GA
Sample : 200124A BLK Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Jan 24 11:46 2020 Quant Results File: RSK1002.RES

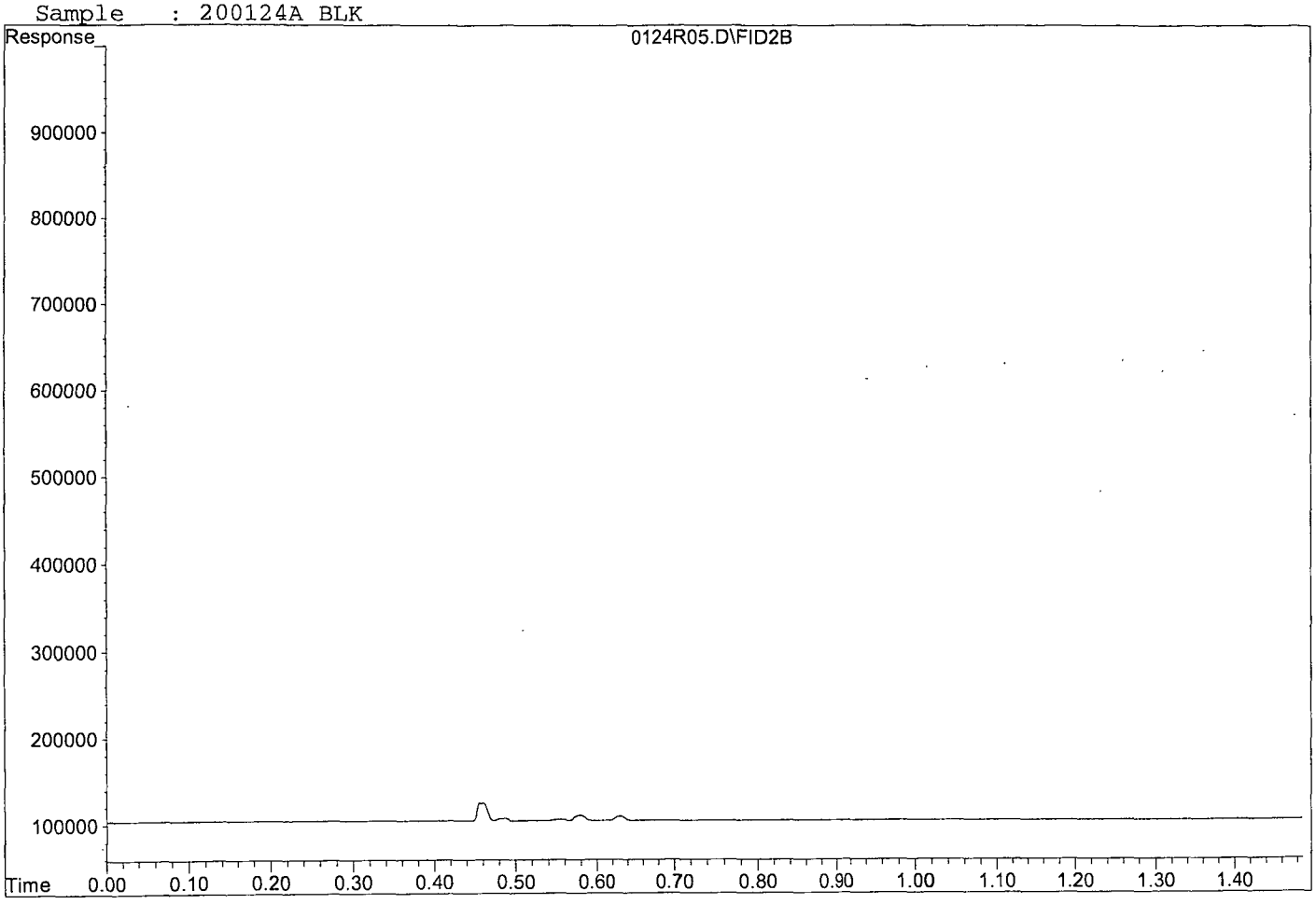
Method : G:\ROCKY\DATA\190929RS\RSK1002.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Jan 23 14:45:26 2020
Response via : Multiple Level Calibration

Volume Inj. : 0.500 mL
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units	
Target Compounds					
Target Compounds					
1) ATM Methane	0.00	0	N.D.	ppb	d
2) ATM Ethane	0.00	0	N.D.	ppb	d
3) ATM Ethene	0.00	0	N.D.	ppb	d

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\191002RS\0124R05.D
Sample : 200124A BLK



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\191002RS\0124R03.D Vial: 3
Acq On : 24 Jan 20 11:32 Operator: GA
Sample : 200124A LCS/CCV RSK STD 5 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Jan 24 11:37 2020 Quant Results File: RSK1002.RES

Method : G:\ROCKY\DATA\190929RS\RSK1002.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Jan 23 14:45:26 2020
Response via : Multiple Level Calibration

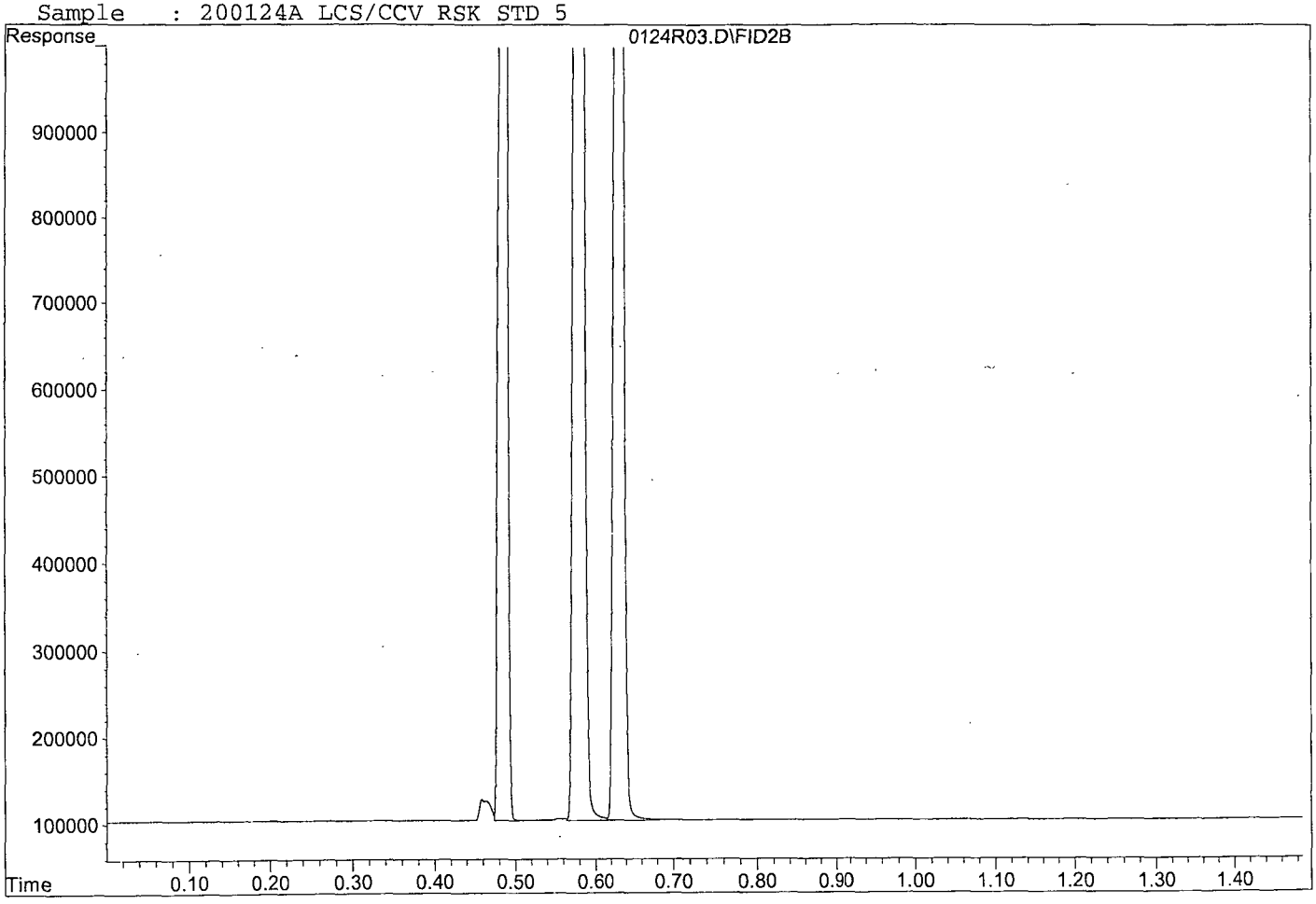
Volume Inj. : 0.500 mL
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.49	1588889	68.672 ppb
2) ATM Ethane	0.58	2342443	137.632 ppb
3) ATM Ethene	0.63	1934436	144.496 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\191002RS\0124R03.D
Sample : 200124A LCS/CCV RSK STD 5



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\191002RS\0124R04.D Vial: 4
Acq On : 24 Jan 20 11:38 Operator: GA
Sample : 200124A LCSD Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Jan 24 11:40 2020 Quant Results File: RSK1002.RES

Method : G:\ROCKY\DATA\190929RS\RSK1002.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Jan 23 14:45:26 2020
Response via : Multiple Level Calibration

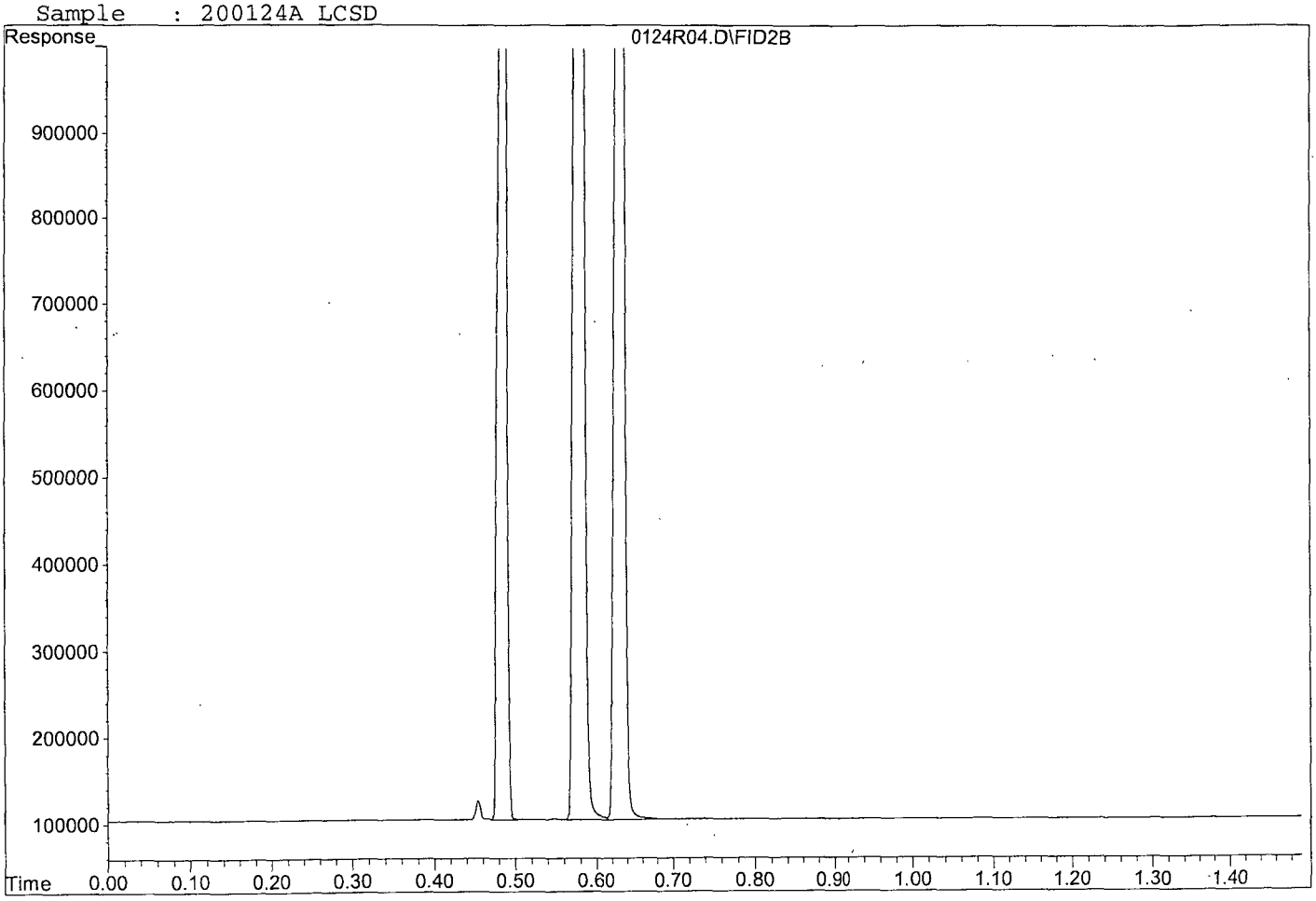
Volume Inj. : 0.500 mL
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.49	1684489	72.804 ppb
2) ATM Ethane	0.58	2508413	147.384 ppb
3) ATM Ethene	0.63	2050313	153.151 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\191002RS\0124R04.D
Sample : 200124A LCSD



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\191002RS\0124R18.D Vial: 18
Acq On : 24 Jan 20 12:56 Operator: GA
Sample : BA06272W08 MS Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Jan 24 13:04 2020 Quant Results File: RSK1002.RES

Method : G:\ROCKY\DATA\190929RS\RSK1002.M (Chemstation Integrator)
Title : RSK 175
Last Update : Fri Jan 24 12:36:17 2020
Response via : Multiple Level Calibration

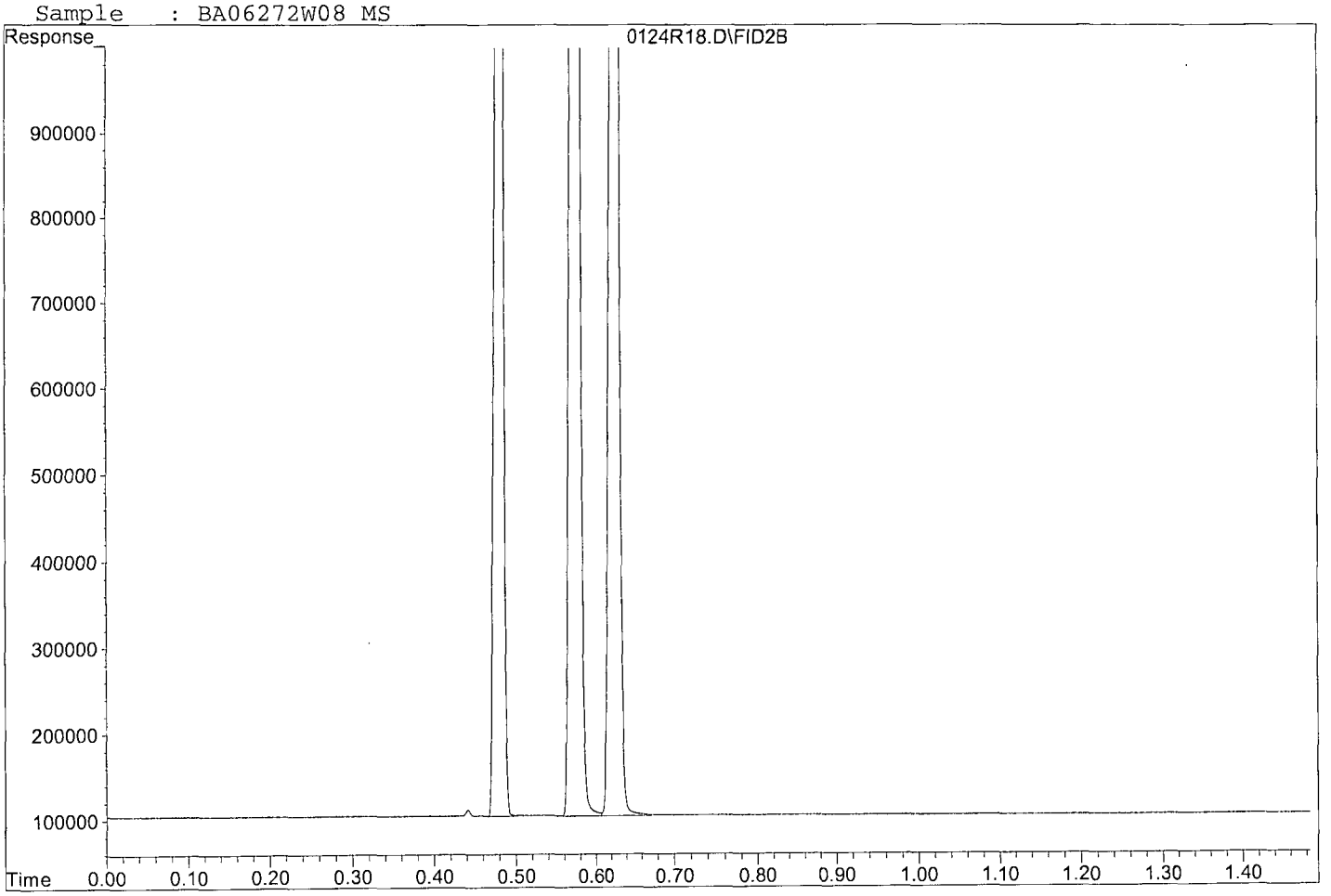
Volume Inj. : 0.500 mL
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.48	1603430	69.301 ppb
2) ATM Ethane	0.57	2481747	145.817 ppb
3) ATM Ethene	0.63	1919338	143.368 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\191002RS\0124R18.D
Sample : BA06272W08 MS



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\191002RS\0124R19.D Vial: 19
Acq On : 24 Jan 20 13:04 Operator: GA
Sample : BA06272W08 MSD Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Jan 24 13:07 2020 Quant Results File: RSK1002.RES

Method : G:\ROCKY\DATA\190929RS\RSK1002.M (Chemstation Integrator)
Title : RSK 175
Last Update : Fri Jan 24 12:36:17 2020
Response via : Multiple Level Calibration

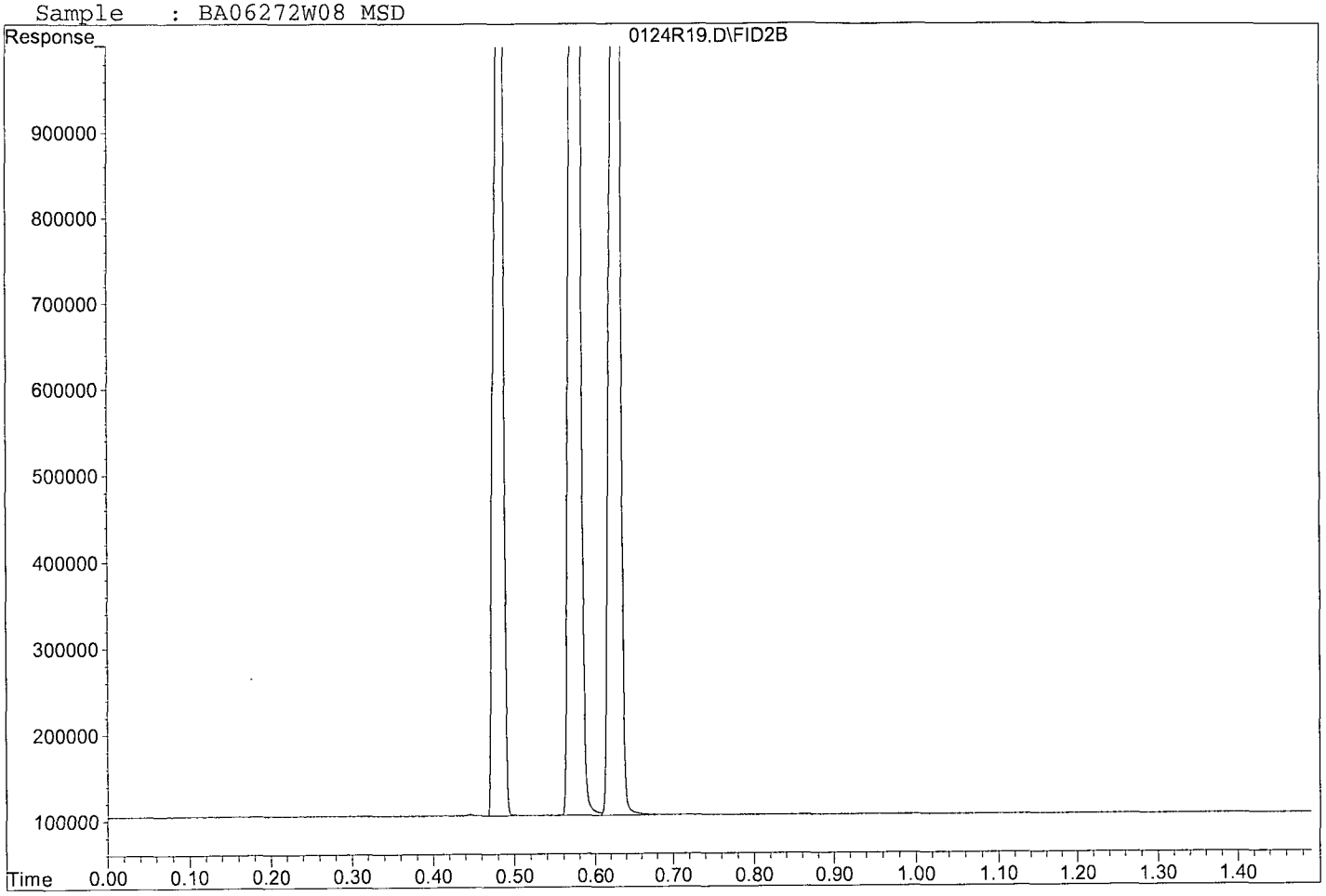
Volume Inj. : 0.500 mL
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.48	1684104	72.788 ppb
2) ATM Ethane	0.58	2481342	145.794 ppb
3) ATM Ethene	0.63	1900998	141.998 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\191002RS\0124R19.D
Sample : BA06272W08 MSD



Primary Stock Source

10,000ppmV **Manufacture Expiration:** 09/21/21

RSK Gas Mix (Scott Specialty Gas) CAT#X04NI97CP140001 LOT#160-401558175-1

1% Gas Concentration Moles = 10,000ppmV Methane, Ethane, Ethene

RSK Calibration Curve (prepared in 1.0 L Tedlar Bags at room temp) **01/02/19** **10/02/19**

Analyte	Conc Std 1 (1/2 = LOD) (ug/L)	Conc Std 2 (LOQ Chk) (ug/L)	Conc Std 3 (ug/L)	Conc Std 4 (ug/L)	Conc Std 5 (ug/L)	Conc Std 6 (ug/L)	Conc Std 7 (ug/L)
Methane (MW 16.04)	2.08	4.16	8.34	20.85	83.40	208.5	834.0
Ethane (MW 30.07)	3.91	7.81	15.6	39.09	156.35	390.9	1563.5
Ethene (MW 28.05)	3.65	7.30	14.6	36.46	145.84	364.6	1458.4
Stock Source	160-401558175-1	160-401558175-1	160-401558175-1	160-401558175-1	160-401558175-1	160-401558175-1	160-401558175-1
Stock Conc (ppmv)	10,000 ppmV	10,000 ppmV	10,000 ppmV	10,000 ppmV	10,000 ppmV	10,000 ppmV	10,000 ppmV
Stock Aliquot (mL)	0.010	0.020	0.040	0.100	0.400	1.00	4.00
Final Volume P&T Water	32 mL	32 mL	32 mL	32 mL	32 mL	32 mL	32 mL

Second Source Stock Standard 10,000ppmV **Manufacturer Exp date 9-21-2021**

RSK Gas Mix (Scott Specialty Gas) Cat.# 23452, Lot # 160-401303032-1-39774

1% Gas Concentration Moles = 10,000ppmV Methane, Ethane, Ethene

Second Source **Expires 10/03/19** **GA 10/02/19**

2.0mL of SS from tank into 980 mL Nitrogen

final conc: 13.3ug/L Methane, 25.0 ug/L Ethane, and 23.3 ug/L Ethene

CCV/LCS/LCSD **GA 01/24/20**

Spike 0.400mL of 10,000ppmV into 32mL DI water, with 8mL Nitrogen headspace
final conc: 83.40ug/L Methane, 156.35ug/L Ethane, and 145.84ug/L Ethene

BA06272W08 MS/MSD **GA 01/24/20**

Spike 0.400mL of 10,000ppmV into 32mL DI water, with 8mL Nitrogen headspace
final conc: 83.40ug/L Methane, 156.35ug/L Ethane, and 145.84ug/L Ethene

Injection Log

Directory: G:\ROCKY\DATA\191002RS\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	2	1002R02.D	1	RSK STD 1 10/2/19		2 Oct 19 17:45
2	3	1002R03.D	1	RSK STD 2 10/2/19		2 Oct 19 17:50
3	4	1002R04.D	1	RSK STD 3 10/2/19		2 Oct 19 17:52
4	5	1002R05.D	1	RSK STD 4 10/2/19		2 Oct 19 17:57
5	6	1002R06.D	1	RSK STD 5 10/2/19		2 Oct 19 17:59
6	7	1002R07.D	1	RSK STD 6 10/2/19		2 Oct 19 18:05
7	8	1002R08.D	1	RSK STD 7 10/2/19		2 Oct 19 18:07
8	10	1002R10.D	1	SS RSK STD 5 10/2/19		2 Oct 19 18:24
9	3	0124R03.D	1	200124A LCS/CCV RSK STD 5		24 Jan 20 11:32
10	4	0124R04.D	1	200124A LCSD		24 Jan 20 11:38
11	5	0124R05.D	1	200124A BLK		24 Jan 20 11:41
12	16	0124R16.D	1	BA06271W04		24 Jan 20 12:49
13	17	0124R17.D	1	BA06272W07		24 Jan 20 12:52
14	18	0124R18.D	1	BA06272W08 MS		24 Jan 20 12:56
15	19	0124R19.D	1	BA06272W08 MSD		24 Jan 20 13:04
16	20	0124R20.D	1	BA06274W04		24 Jan 20 13:07
17	21	0124R21.D	1	BA06275W04		24 Jan 20 13:11
18	22	0124R22.D	1	BA06276W04		24 Jan 20 13:16
19	23	0124R23.D	1	BA06277W04		24 Jan 20 13:20
20	24	0124R24.D	1	BA06278W04		24 Jan 20 14:09
21	25	0124R25.D	1	BA06279W04		24 Jan 20 14:15
22	26	0124R26.D	1	BA06283W04		24 Jan 20 14:18
23	27	0124R27.D	1	BA06284W04		24 Jan 20 14:22
24	28	0124R28.D	1	ENDING CCV RSK STD 5 01/24/20		24 Jan 20 14:26

INORGANIC ANALYSIS
Calibration Data

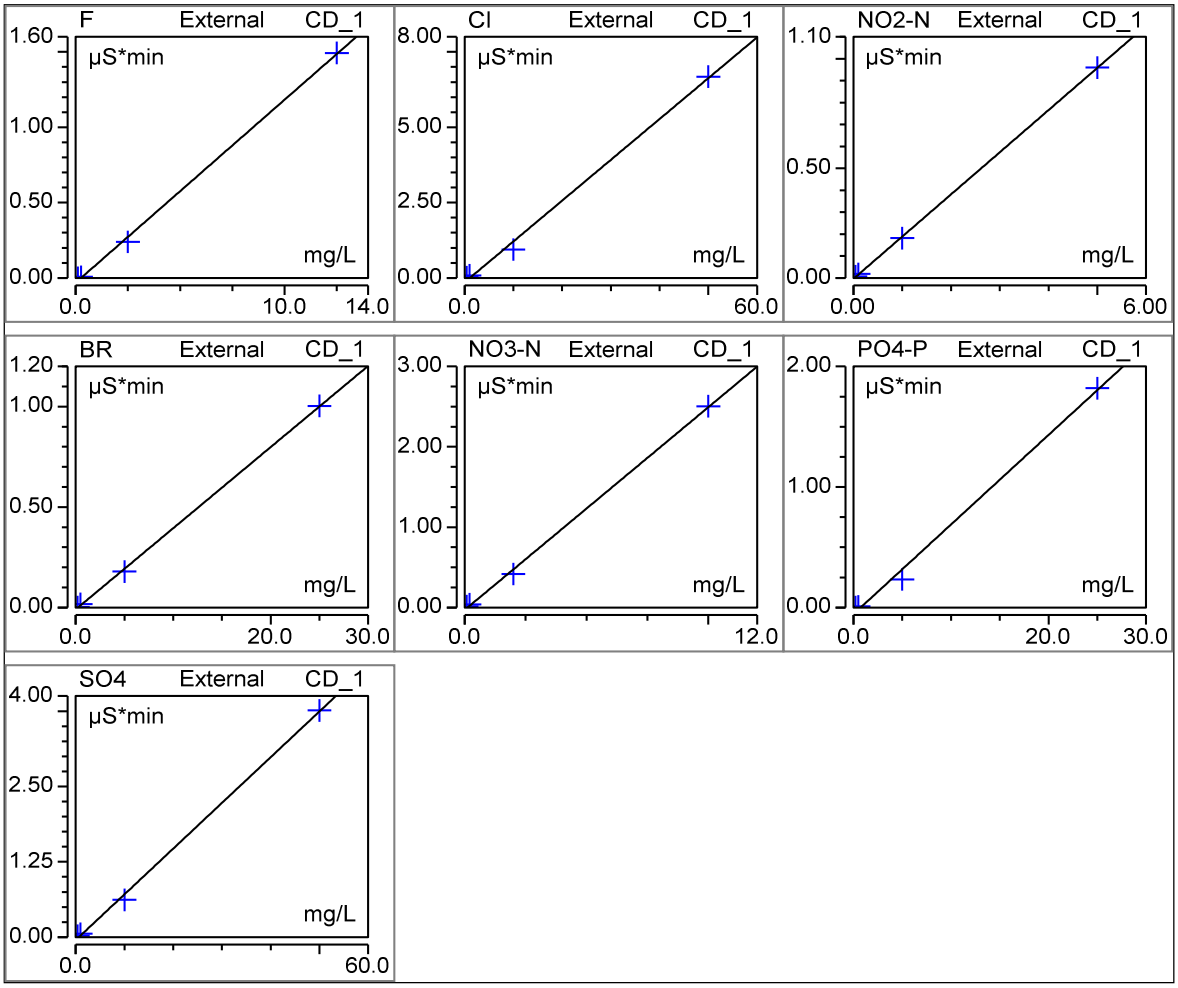
Calibration Batch Report

Sequence:	**200122**	*Injection Volume:*	**25.00**
Instrument Method:	**Anions IM**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**22-Jan-2020 / 19:06**	*Run Time:*	**4**

Calibration Summary

Peak Name	Eval.Type	Cal.Type	Points	Offset (C0)	Slope (C1)	Curve (C2)	Coeff.Det. %
F	Area	Lin, WithOffset	4.000	-0.031	0.121	0.000	99.8990
Cl	Area	Lin, WithOffset	4.000	-0.145	0.136	0.000	99.6816
NO2-N	Area	Lin, WithOffset	4.000	-0.004	0.192	0.000	99.9884
BR	Area	Lin, WithOffset	4.000	-0.009	0.040	0.000	99.9611
NO3-N	Area	Lin, WithOffset	4.000	-0.030	0.252	0.000	99.8924
PO4-P	Area	Lin, WithOffset	4.000	-0.054	0.074	0.000	99.5697
SO4	Area	Lin, WithOffset	4.000	-0.049	0.076	0.000	99.8808

Injection Name	Amount mg/L CD_1 F	Amount mg/L CD_1 Cl	Amount mg/L CD_1 NO2-N	Amount mg/L CD_1 BR	Amount mg/L CD_1 NO3-N	Amount mg/L CD_1 PO4-P	Amount mg/L CD_1 SO4
ICAL1 2020.01.22	0.257	1.2962	0.0577	0.3044	0.1846	0.7752	0.9583
ICAL2 2020.01.22	0.313	1.6986	0.1127	0.6730	0.2806	0.8465	1.4154
ICAL3 2020.01.22	2.229	8.0330	0.9625	4.6586	1.7716	3.8622	8.7988
ICAL4 2020.01.22	12.552	50.3723	5.0071	25.0640	10.0432	25.2160	50.2275

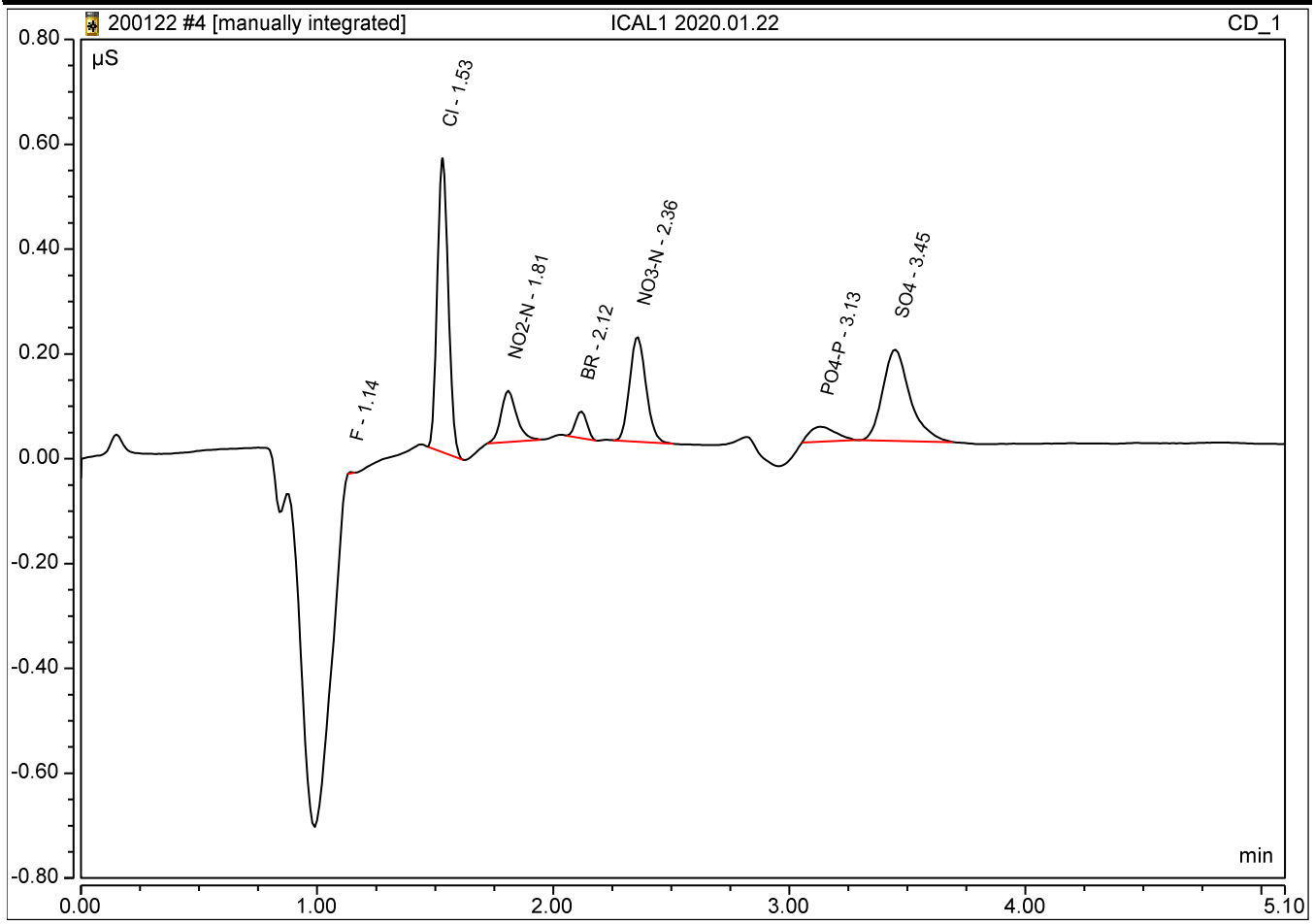


Logged on User: BW
Instrument: Charlie System_1
Sequence: 200122

Peak Integration Report

Sample Name:	**ICAL1 2020.01.22**	*Inj. Vol.:*	**25uL**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.22**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**22-Jan-2020 / 18:43**	*Run Time:*	**5.10**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.14	**F**	BMB*	0.000	0.003	0.26	0.1	256.6%
2	1.53	**Cl**	BMB	0.030	0.561	1.30	0.4	324.0%
3	1.81	**NO2-N**	BMB*	0.008	0.098	0.06	0.04	144.2%
4	2.12	**BR**	BMB	0.003	0.051	0.30	0.2	152.2%
5	2.36	**NO3-N**	BMB	0.016	0.201	0.18	0.08	230.8%
6	3.13	**PO4-P**	BMB*	0.004	0.028	0.78	0.2	387.6%
7	3.45	**SO4**	BMB	0.023	0.174	0.96	0.4	239.6%



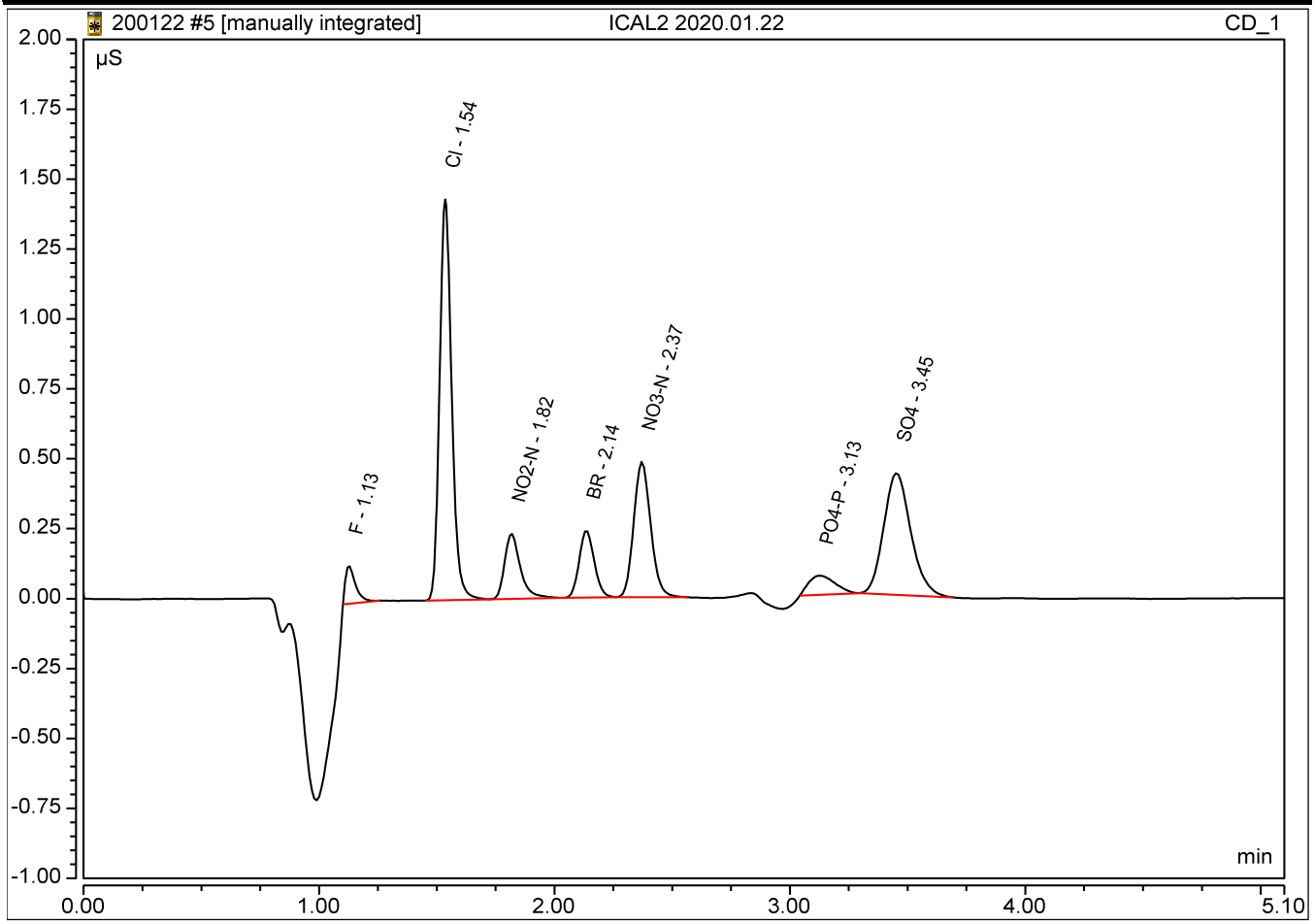
Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Logged on User: BW
Instrument: Charlie System_1
Sequence: 200122

Peak Integration Report

Sample Name:	**ICAL2 2020.01.22**	*Inj. Vol.:*	**25uL**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.22**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**22-Jan-2020 / 18:51**	*Run Time:*	**5.10**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.13	**F**	BMB*	0.007	0.137	0.31	0.25	125.2%
2	1.54	**Cl**	BMB	0.085	1.433	1.70	1	169.9%
3	1.82	**NO2-N**	BMB	0.018	0.233	0.11	0.1	112.7%
4	2.14	**BR**	BMB	0.018	0.240	0.67	0.5	134.6%
5	2.37	**NO3-N**	BMB	0.040	0.484	0.28	0.2	140.3%
6	3.13	**PO4-P**	BMB*	0.009	0.069	0.85	0.5	169.3%
7	3.45	**SO4**	BMB	0.058	0.435	1.42	1	141.5%



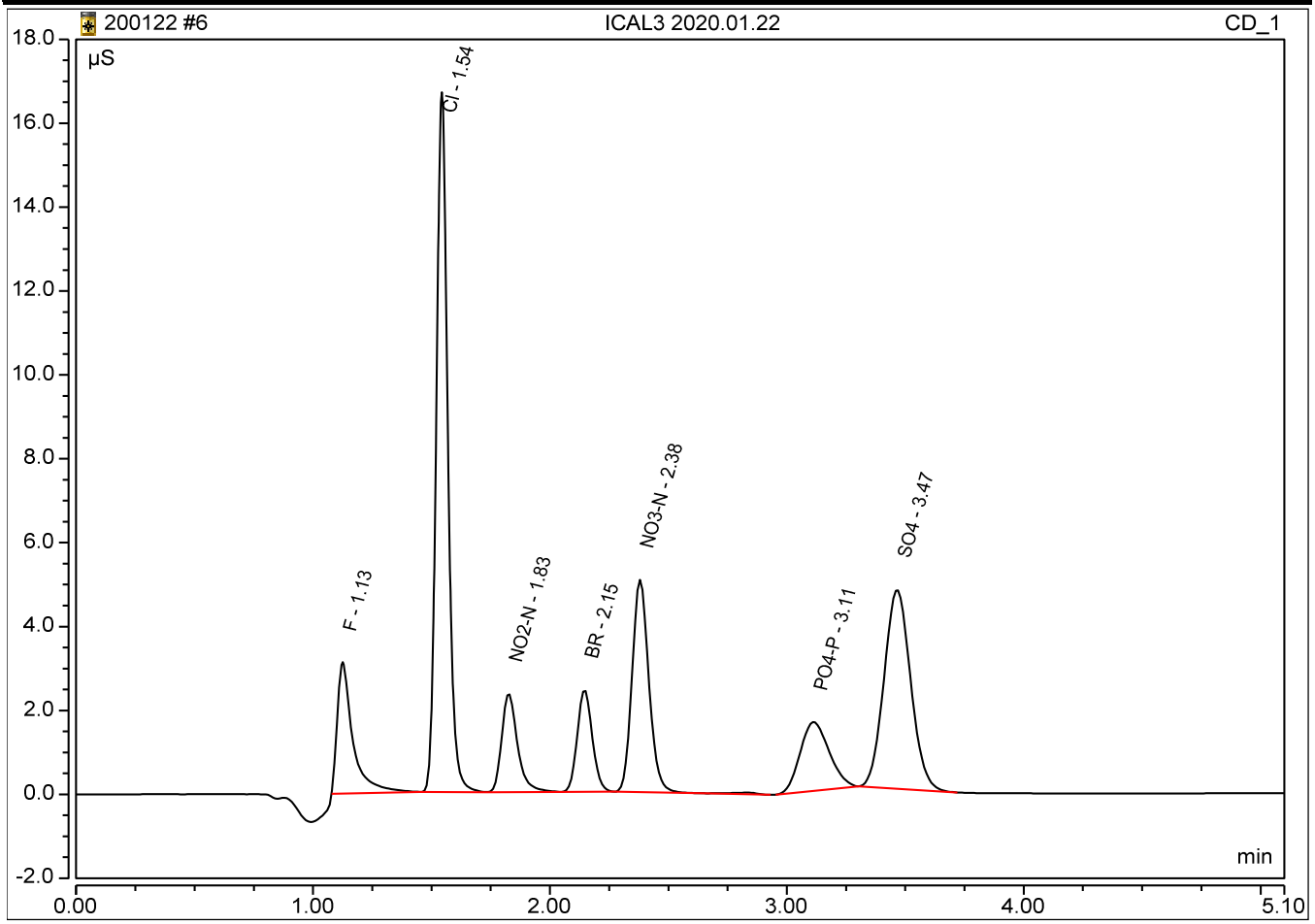
Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Logged on User: BW
Instrument: Charlie System_1
Sequence: 200122

Peak Integration Report

Sample Name:	**ICAL3 2020.01.22**	*Inj. Vol.:*	**25uL**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.22**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**22-Jan-2020 / 18:58**	*Run Time:*	**5.10**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.13	**F**	BMB	0.239	3.136	2.23	2.5	89.1%
2	1.54	**Cl**	BMB	0.943	16.684	8.03	10	80.3%
3	1.83	**NO2-N**	BMB	0.182	2.354	0.96	1	96.3%
4	2.15	**BR**	BMB	0.179	2.435	4.66	5	93.2%
5	2.38	**NO3-N**	BMB	0.417	5.067	1.77	2	88.6%
7	3.11	**PO4-P**	BMB	0.233	1.642	3.86	5	77.2%
8	3.47	**SO4**	BMB	0.618	4.746	8.80	10	88.0%



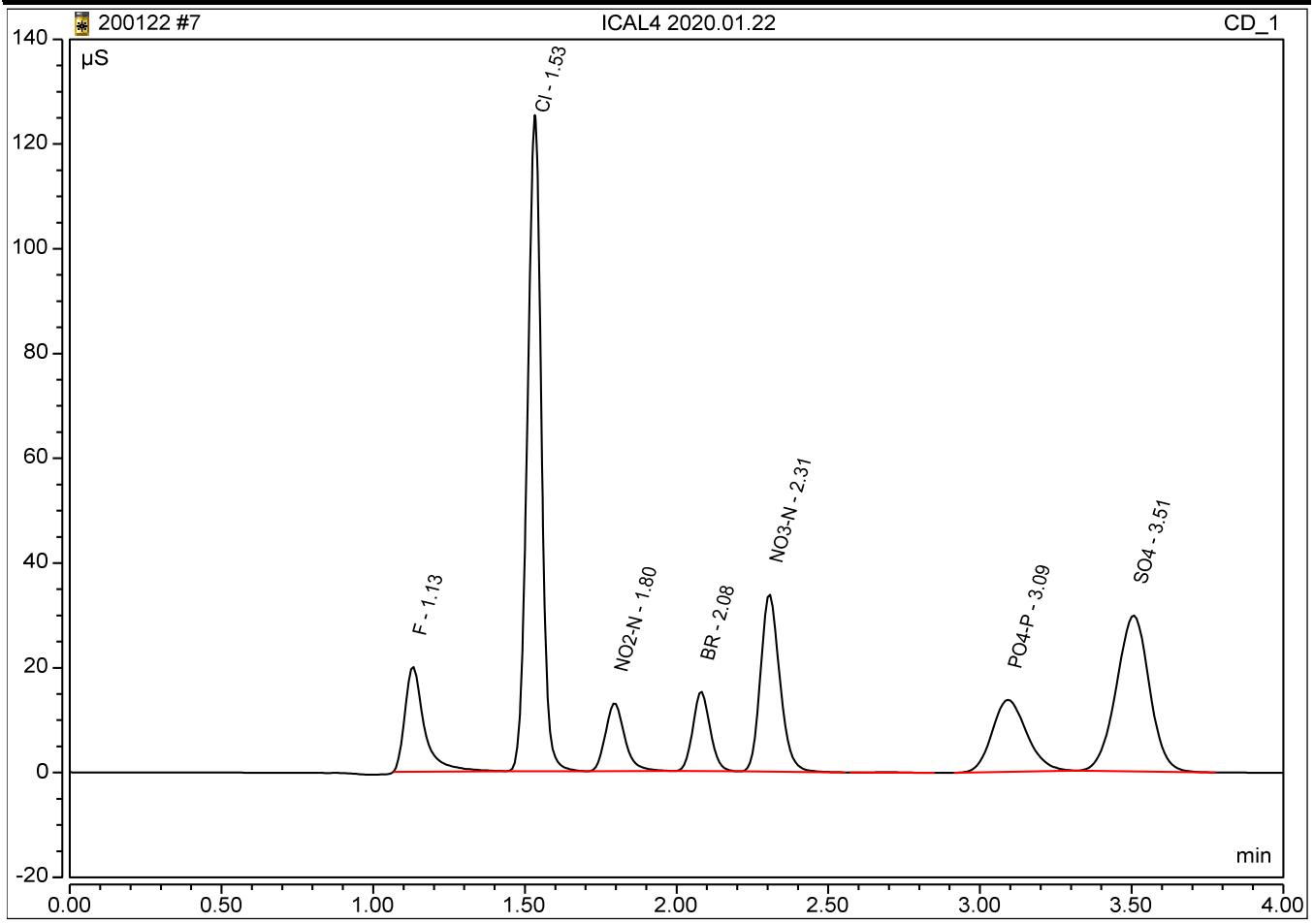
Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Logged on User: BW
Instrument: Charlie System_1
Sequence: 200122

Peak Integration Report

Sample Name:	**ICAL4 2020.01.22**	*Inj. Vol.:*	**25uL**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.22**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**22-Jan-2020 / 19:06**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.13	**F**	BMB	1.493	20.118	12.55	12.5	100.4%
2	1.53	**Cl**	BMB	6.681	125.275	50.37	50	100.7%
3	1.80	**NO2-N**	BMB	0.960	13.003	5.01	5	100.1%
4	2.08	**BR**	BMB	1.003	15.213	25.06	25	100.3%
5	2.31	**NO3-N**	BMB	2.505	33.965	10.04	10	100.4%
7	3.09	**PO4-P**	BMB	1.820	13.759	25.22	25	100.9%
8	3.51	**SO4**	BMB	3.762	29.786	50.23	50	100.5%

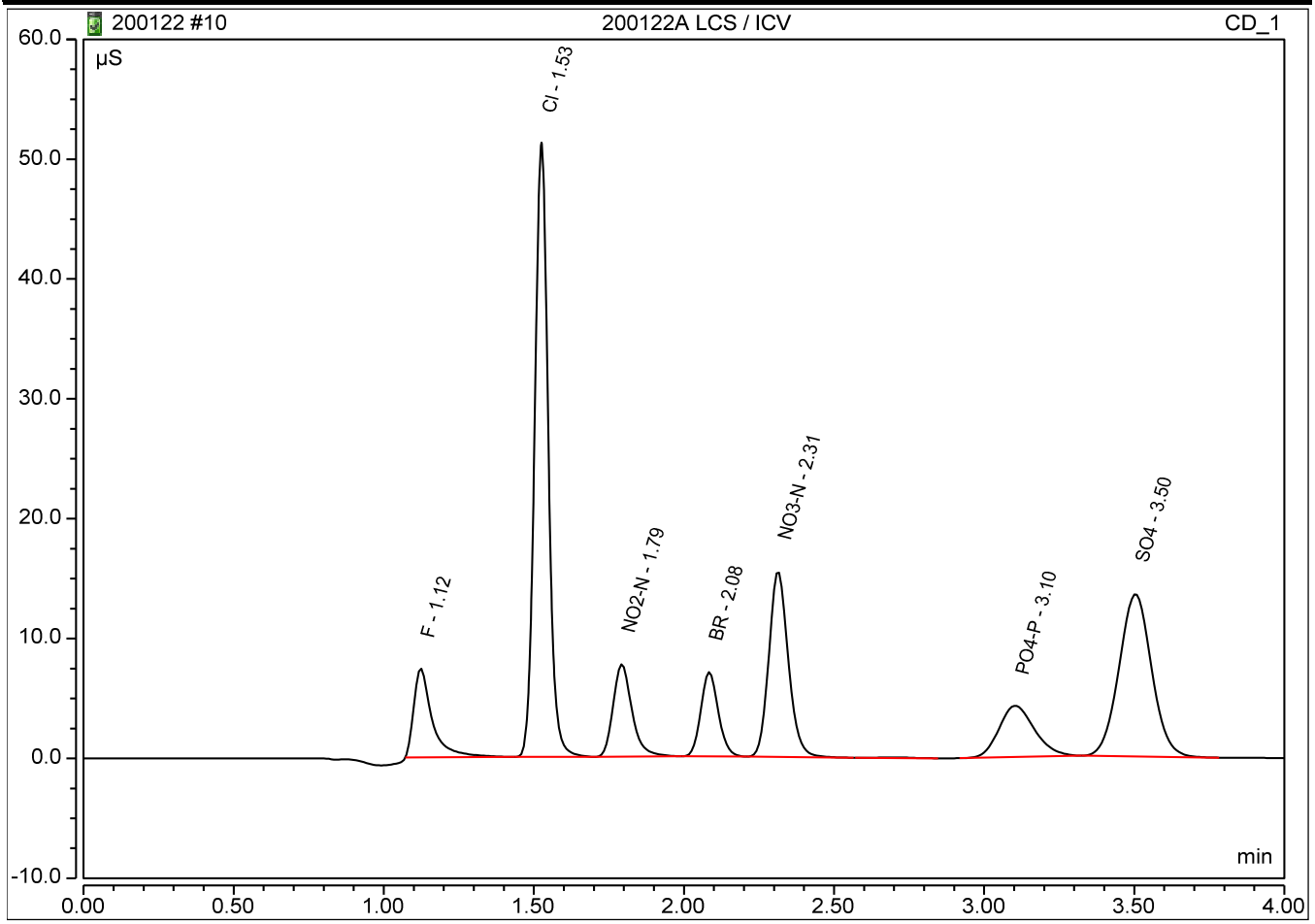


Logged on User: BW
Instrument: Charlie System_1
Sequence: 200122

Peak Integration Report

Sample Name:	**200122A LCS / ICV**	*Inj. Vol.:*	**25uL**
Injection Type:	**Check Standard**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.22**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**22-Jan-2020 / 19:25**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.12	**F**	BMB	0.532	7.426	4.64	5	92.7%
2	1.53	**Cl**	BMB	2.679	51.259	20.84	25	83.3%
3	1.79	**NO2-N**	BMB	0.562	7.723	2.94	3.04	96.7%
4	2.08	**BR**	BMB	0.476	7.043	12.02	12.5	96.1%
5	2.31	**NO3-N**	BMB	1.164	15.518	4.73	5	94.7%
7	3.10	**PO4-P**	BMB	0.588	4.283	8.64	10	86.4%
8	3.50	**SO4**	BMB	1.703	13.555	23.09	25	92.4%



Algorithm Check
y = Peak Area
x = mg/L S04

y = 0.0759 x + -0.0494
y = 1.7028 therefor x =

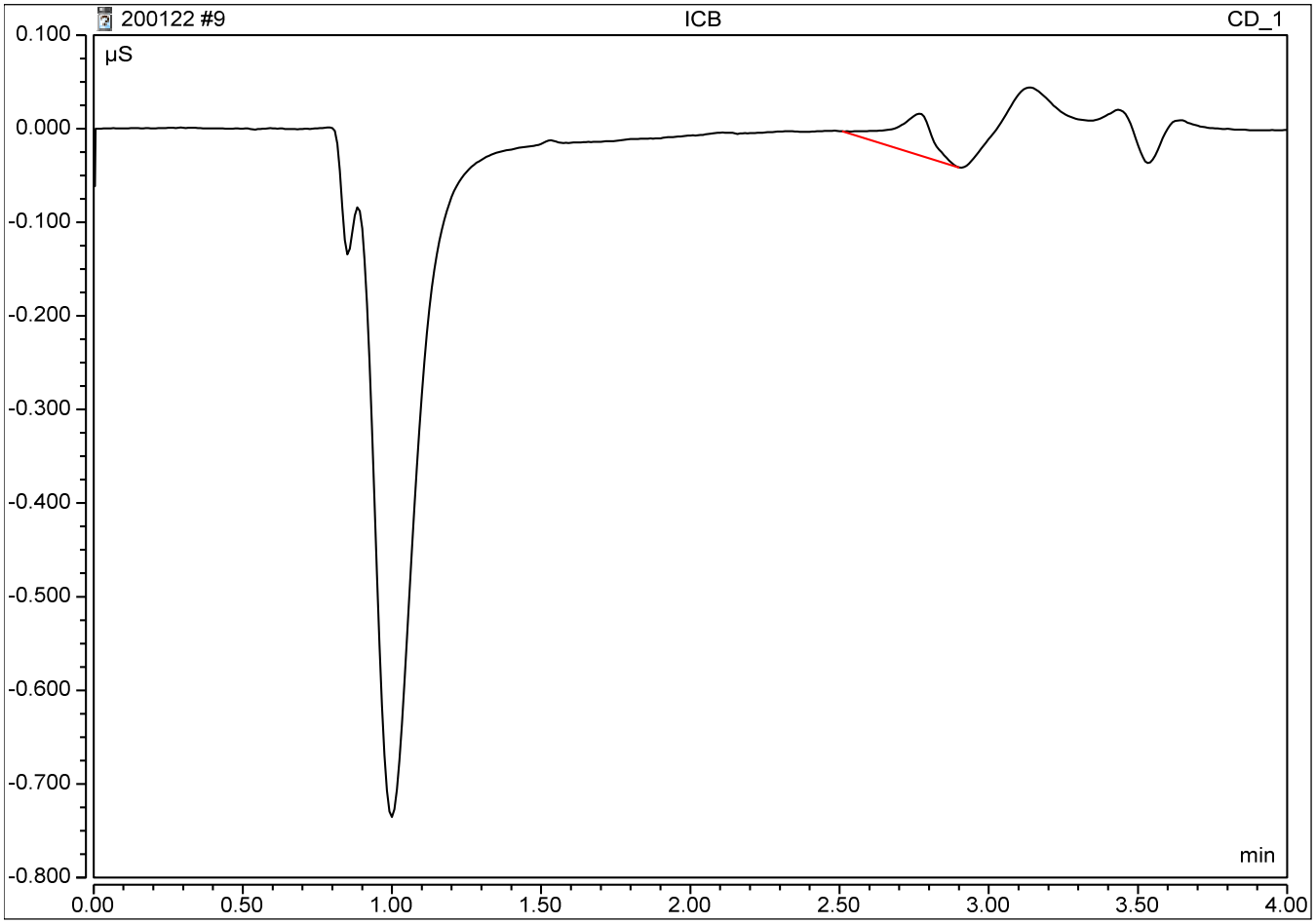
Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Logged on User: BW
Instrument: Charlie System_1
Sequence: 200122

Peak Integration Report

Sample Name:	**ICB**	*Inj. Vol.:*	**25uL**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.22**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**22-Jan-2020 / 19:18**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery

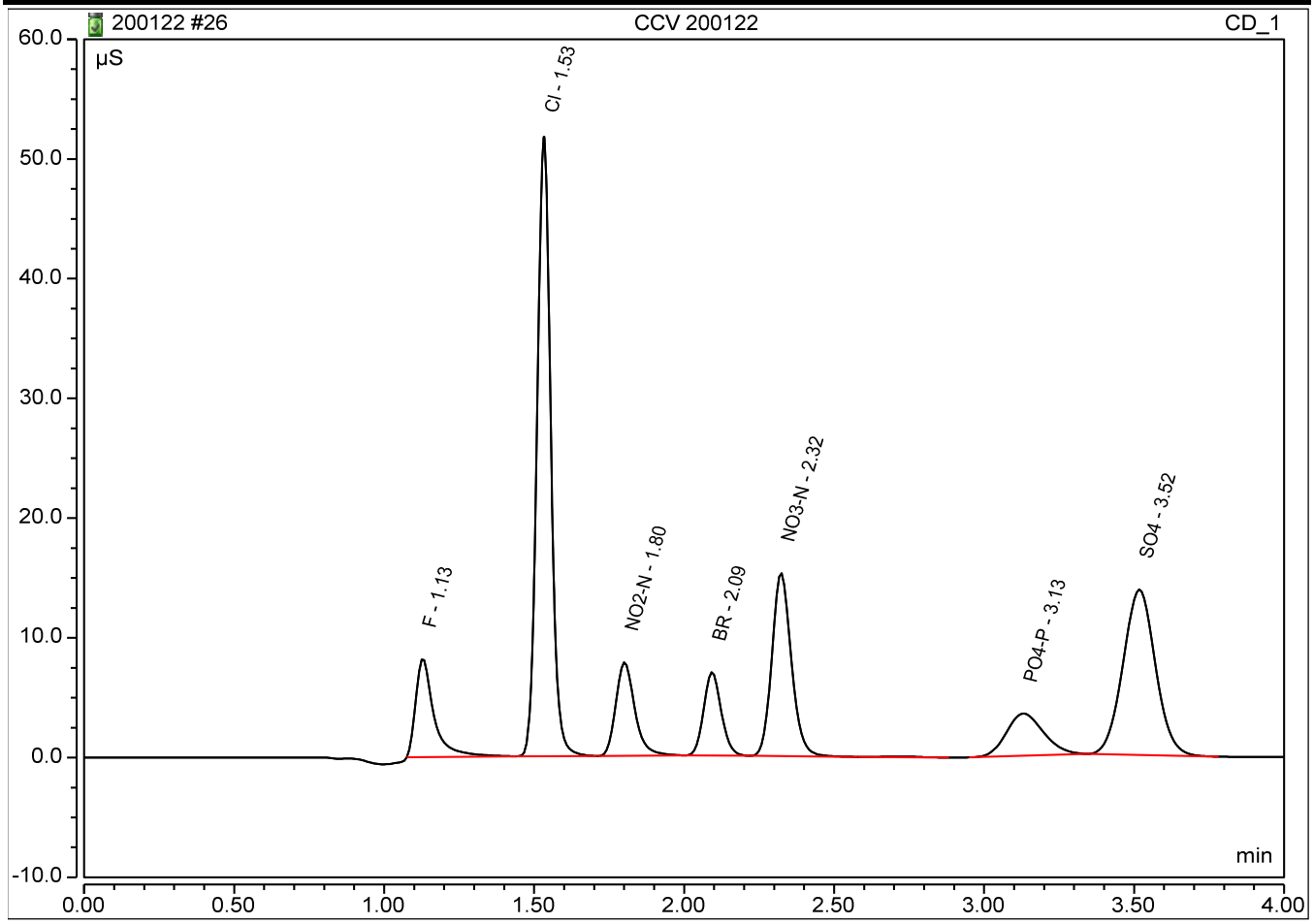


Logged on User: BW
Instrument: Charlie System_1
Sequence: 200122

Peak Integration Report

Sample Name:	**CCV 200122**	*Inj. Vol.:*	**25uL**
Injection Type:	**Check Standard**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.22**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**22-Jan-2020 / 21:07**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.13	**F**	BMB	0.585	8.250	5.08	5	101.5%
2	1.53	**Cl**	BMB	2.737	51.749	21.27	25	85.1%
3	1.80	**NO2-N**	BMB	0.574	7.818	3.00	3.04	98.8%
4	2.09	**BR**	BMB	0.474	6.975	11.97	12.5	95.7%
5	2.32	**NO3-N**	BMB	1.155	15.314	4.70	5	94.0%
7	3.13	**PO4-P**	BMB	0.508	3.529	7.57	10	75.7%
8	3.52	**SO4**	BMB	1.736	13.821	23.53	25	94.1%



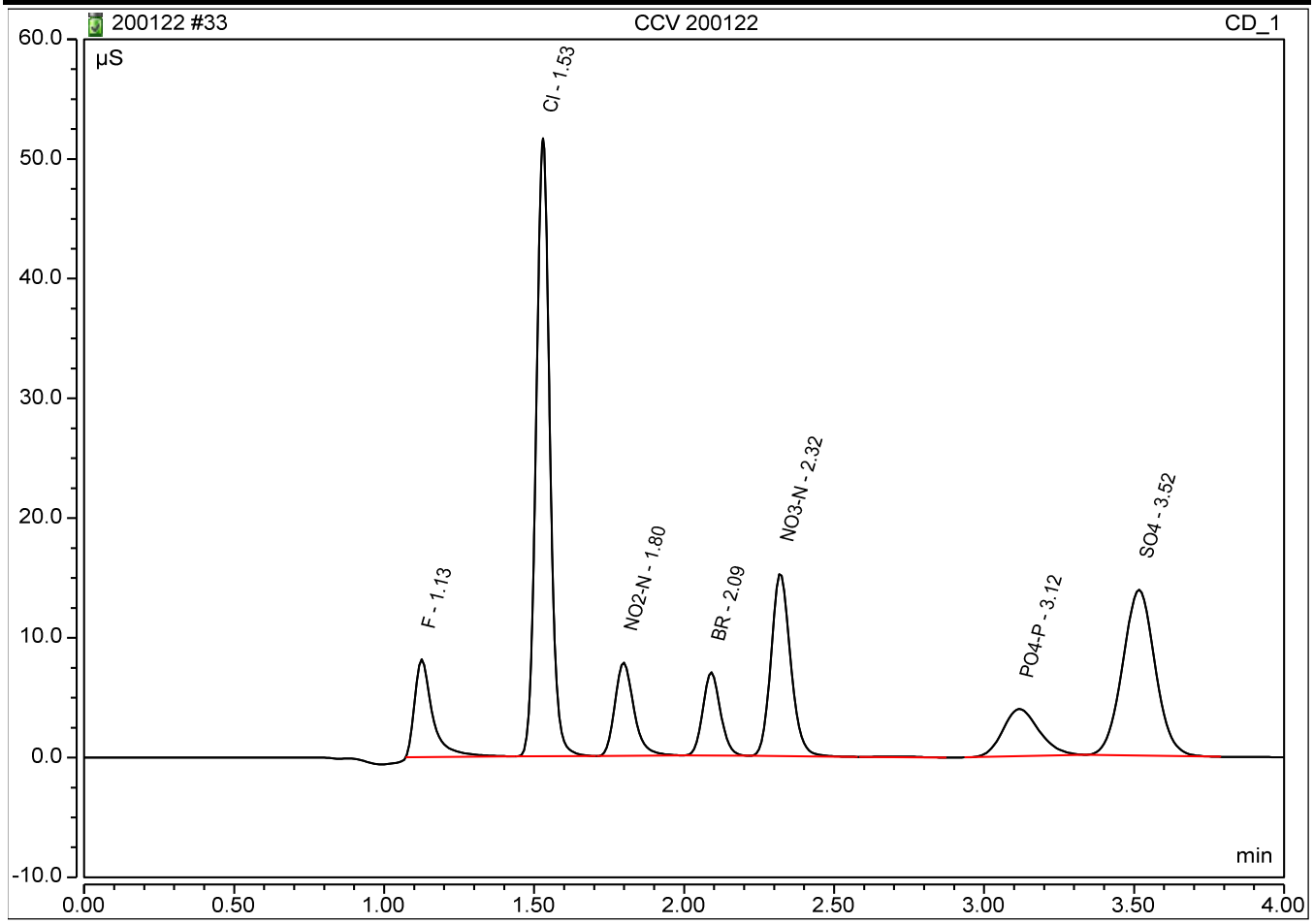
Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Logged on User: BW
Instrument: Charlie System_1
Sequence: 200122

Peak Integration Report

Sample Name:	**CCV 200122**	*Inj. Vol.:*	**25uL**
Injection Type:	**Check Standard**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.22**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**22-Jan-2020 / 21:52**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.13	**F**	BMB	0.574	8.169	4.98	5	99.6%
2	1.53	**Cl**	BMB	2.736	51.621	21.26	25	85.0%
3	1.80	**NO2-N**	BMB	0.573	7.812	3.00	3.04	98.7%
4	2.09	**BR**	BMB	0.474	6.960	11.96	12.5	95.7%
5	2.32	**NO3-N**	BMB	1.154	15.301	4.69	5	93.8%
7	3.12	**PO4-P**	BMB	0.553	3.940	8.17	10	81.7%
8	3.52	**SO4**	BMB	1.742	13.838	23.61	25	94.4%



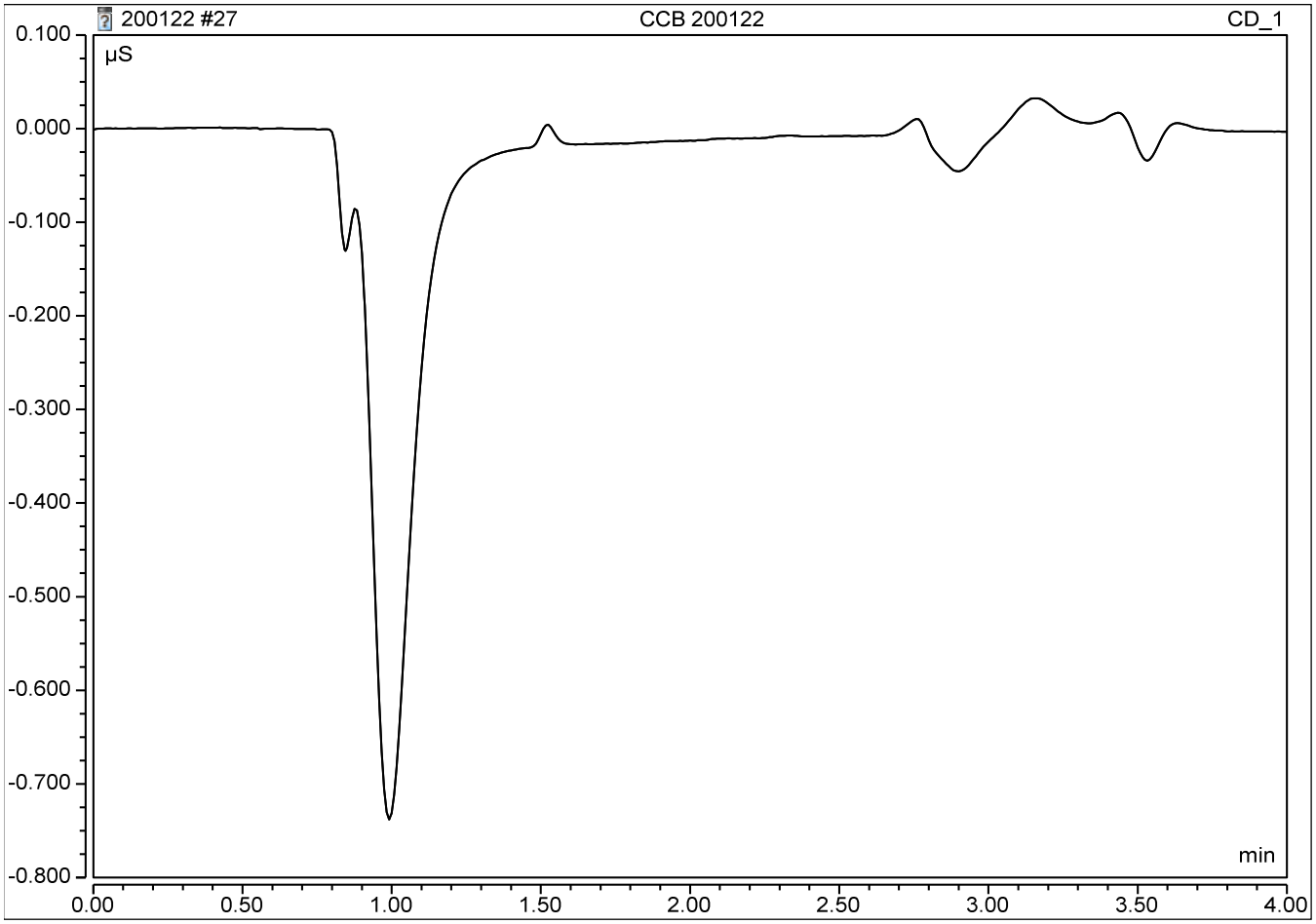
Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Logged on User: BW
Instrument: Charlie System_1
Sequence: 200122

Peak Integration Report

Sample Name:	**CCB 200122**	*Inj. Vol.:*	**25uL**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.22**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**22-Jan-2020 / 21:13**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery



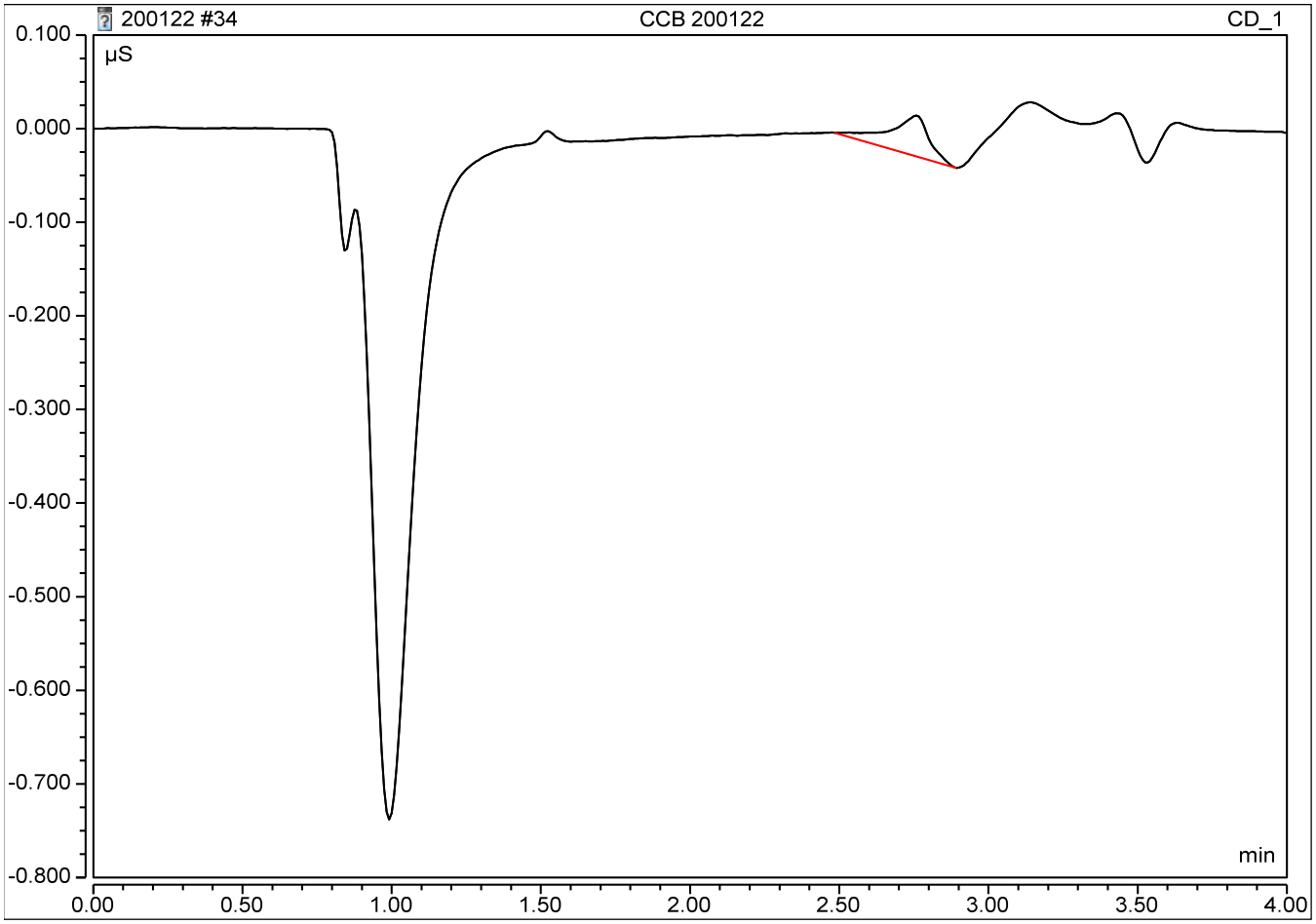
Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Logged on User: BW
Instrument: Charlie System_1
Sequence: 200122

Peak Integration Report

Sample Name:	**CCB 200122**	*Inj. Vol.:*	**25uL**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.22**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**22-Jan-2020 / 21:58**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery



Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

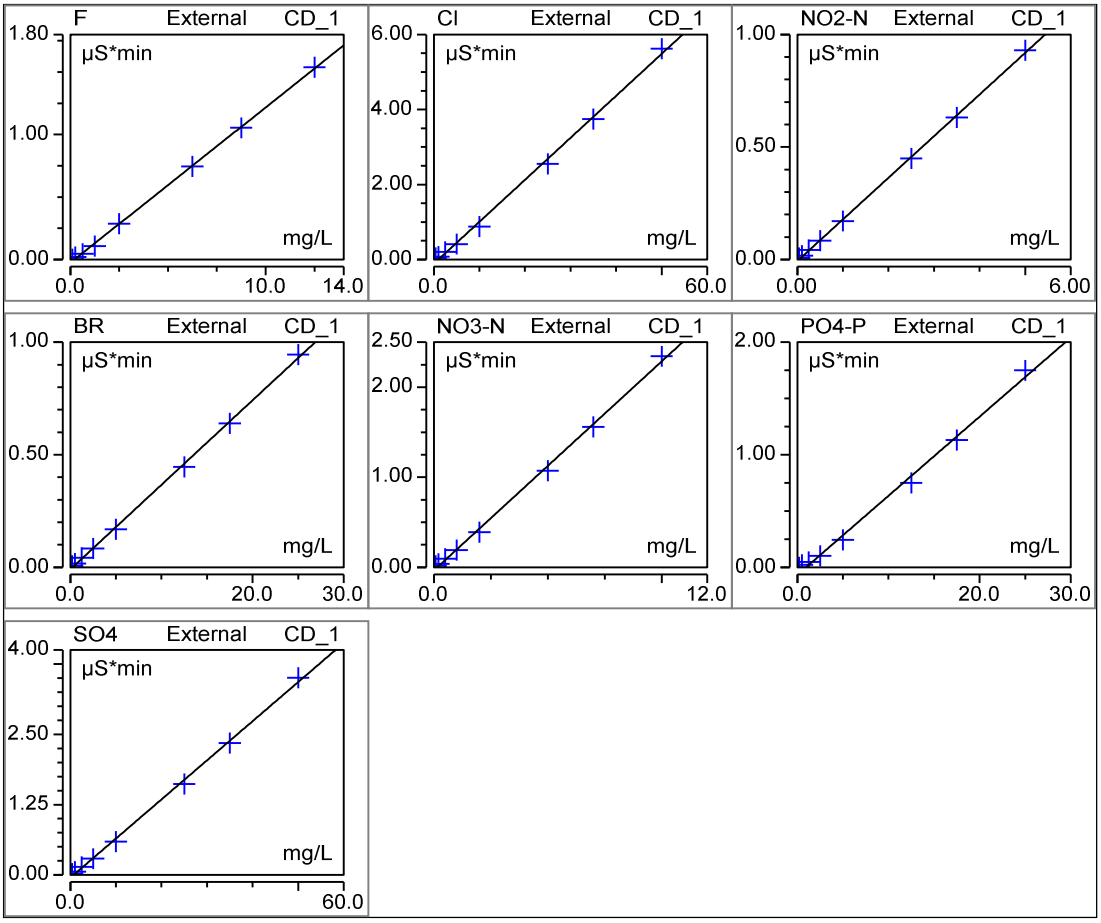
Calibration Batch Report

Sequence:	**200124 Soils & Calibration**	*Injection Volume:*	**25.00**
Instrument Method:	**Anions IM**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**24-Jan-2020 / 11:24**	*Run Time:*	**4**

Calibration Summary

Peak Name	Eval.Type	Cal.Type	Points	Offset (C0)	Slope (C1)	Curve (C2)	Coeff.Det. %
F	Area	Lin, WithOffset	8.000	-0.025	0.124	0.000	99.9488
Cl	Area	Lin, WithOffset	8.000	-0.113	0.112	0.000	99.7405
NO2-N	Area	Lin, WithOffset	8.000	-0.007	0.185	0.000	99.9513
BR	Area	Lin, WithOffset	8.000	-0.009	0.038	0.000	99.9109
NO3-N	Area	Lin, WithOffset	8.000	-0.035	0.232	0.000	99.7977
PO4-P	Area	Lin, WithOffset	7.000	-0.068	0.070	0.000	99.4792
SO4	Area	Lin, WithOffset	8.000	-0.048	0.070	0.000	99.8299

Injection Name	Amount mg/L CD_1 F	Amount mg/L CD_1 Cl	Amount mg/L CD_1 NO2-N	Amount mg/L CD_1 BR	Amount mg/L CD_1 NO3-N	Amount mg/L CD_1 PO4-P	Amount mg/L CD_1 SO4
Cal1 2020.01.24	0.228	1.3600	0.0722	0.4229	0.2234	n.a.	1.0723
Cal2 2020.01.24	0.362	1.7181	0.1262	0.6872	0.3116	1.2621	1.5442
Cal3 2020.01.24	0.586	2.8243	0.2660	1.3612	0.5638	1.6564	2.7826
Cal4 2020.01.24	1.070	4.7051	0.4917	2.4619	0.9732	2.3867	4.8512
Cal5 2020.01.24	2.511	8.8539	0.9620	4.7332	1.8368	4.4319	9.2057
Cal6 2020.01.24	6.197	23.7634	2.4619	12.1193	4.7654	11.6172	23.9660
Cal7 2020.01.24	8.687	34.4548	3.4470	17.2598	6.8658	17.0500	34.3918
Cal8 2020.01.24	12.585	51.2204	5.0630	25.4046	10.2400	25.8458	51.0861

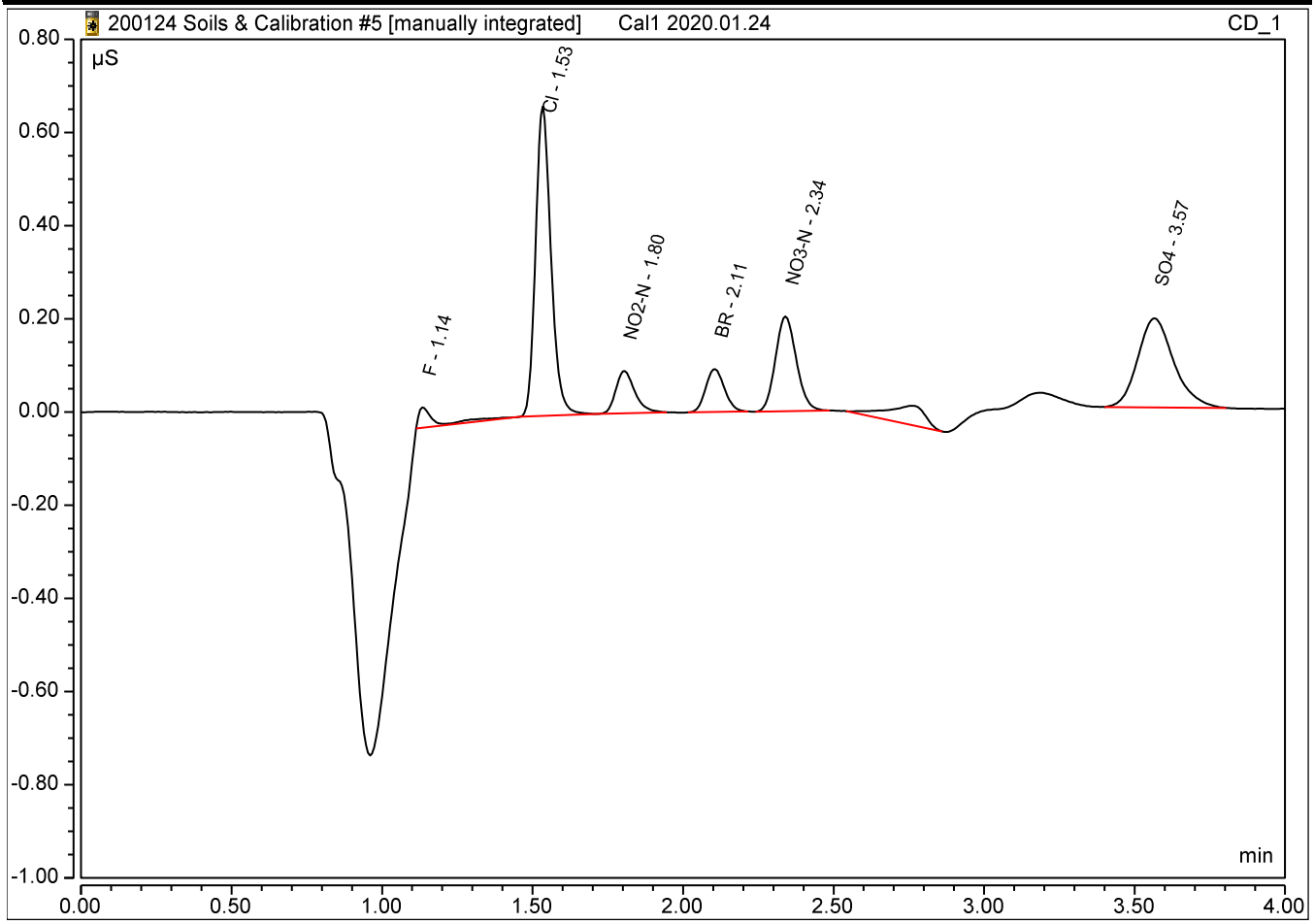


Logged on User: BW
Instrument: Charlie System_1
Sequence: 200124 Soils Calibration

Peak Integration Report

Sample Name:	**Cal1 2020.01.24**	*Inj. Vol.:*	**25uL**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**24-Jan-2020 / 10:39**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.14	**F**	BMB*	0.003	0.044	0.23	0.1	227.6%
2	1.53	**Cl**	BMB	0.039	0.664	1.36	0.4	340.0%
3	1.80	**NO2-N**	BMB	0.007	0.091	0.07	0.04	180.4%
4	2.11	**BR**	BMB	0.007	0.093	0.42	0.2	211.4%
5	2.34	**NO3-N**	BMB	0.016	0.204	0.22	0.08	279.3%
7	3.57	**SO4**	BMB	0.027	0.191	1.07	0.4	268.1%

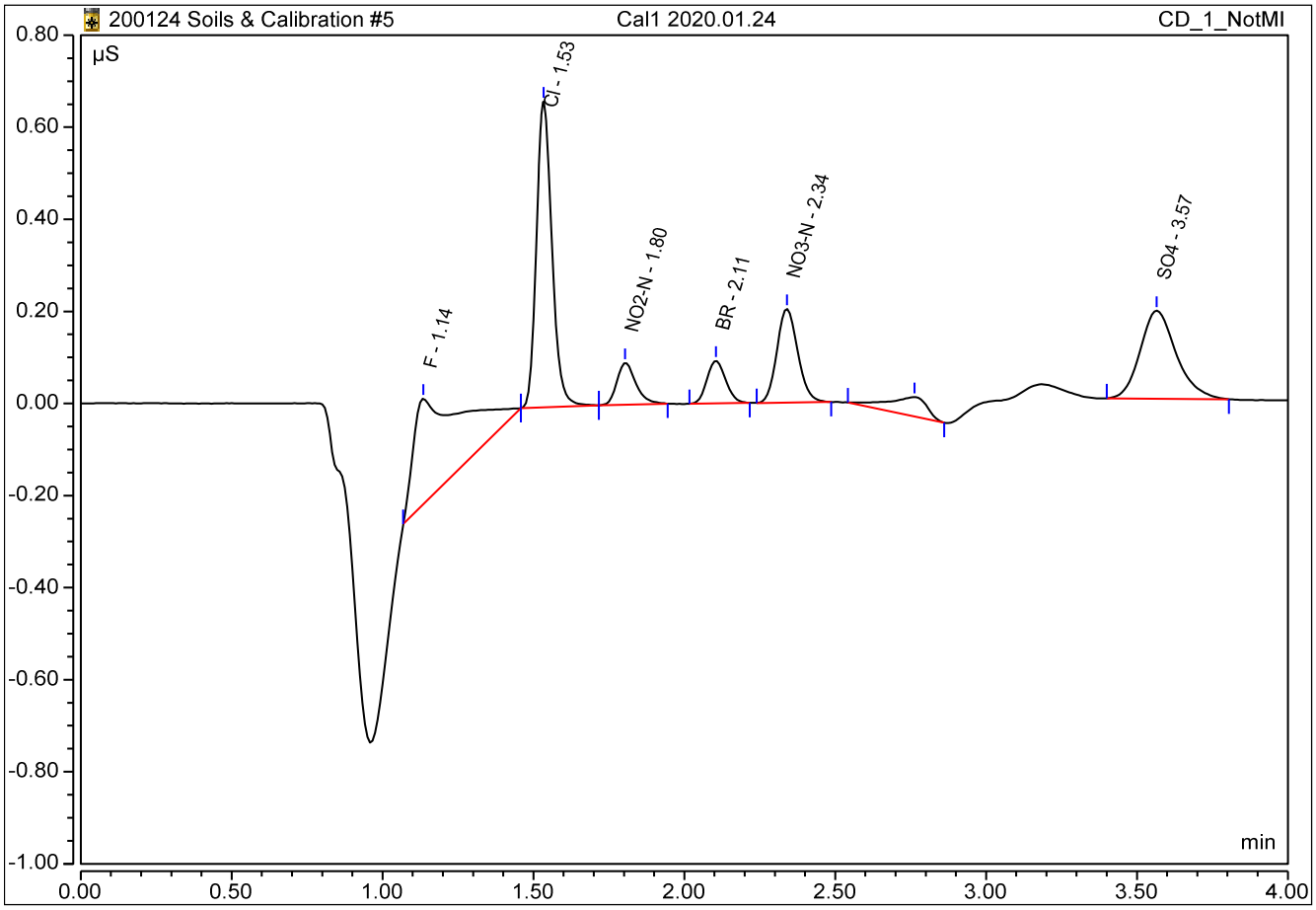


F, PO4 mi1 CD, 2020.01.24 HH

Not Manipulated Peak Integration Report

Sample Name:	**Cal1 2020.01.24**	*Inj. Vol.:*	**25uL**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**24-Jan-2020 / 10:39**	*Run Time:*	**4.00**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Ammount mg/L
1	1.14	**F**	BMB*	0.041	0.229	0.1940
2	1.53	**Cl**	BMB	0.039	0.664	1.3600
3	1.80	**NO2-N**	BMB	0.007	0.091	0.0722
4	2.11	**BR**	BMB	0.007	0.093	0.4229
5	2.34	**NO3-N**	BMB	0.016	0.204	0.2234
7	3.57	**SO4**	BMB	0.027	0.191	1.0723

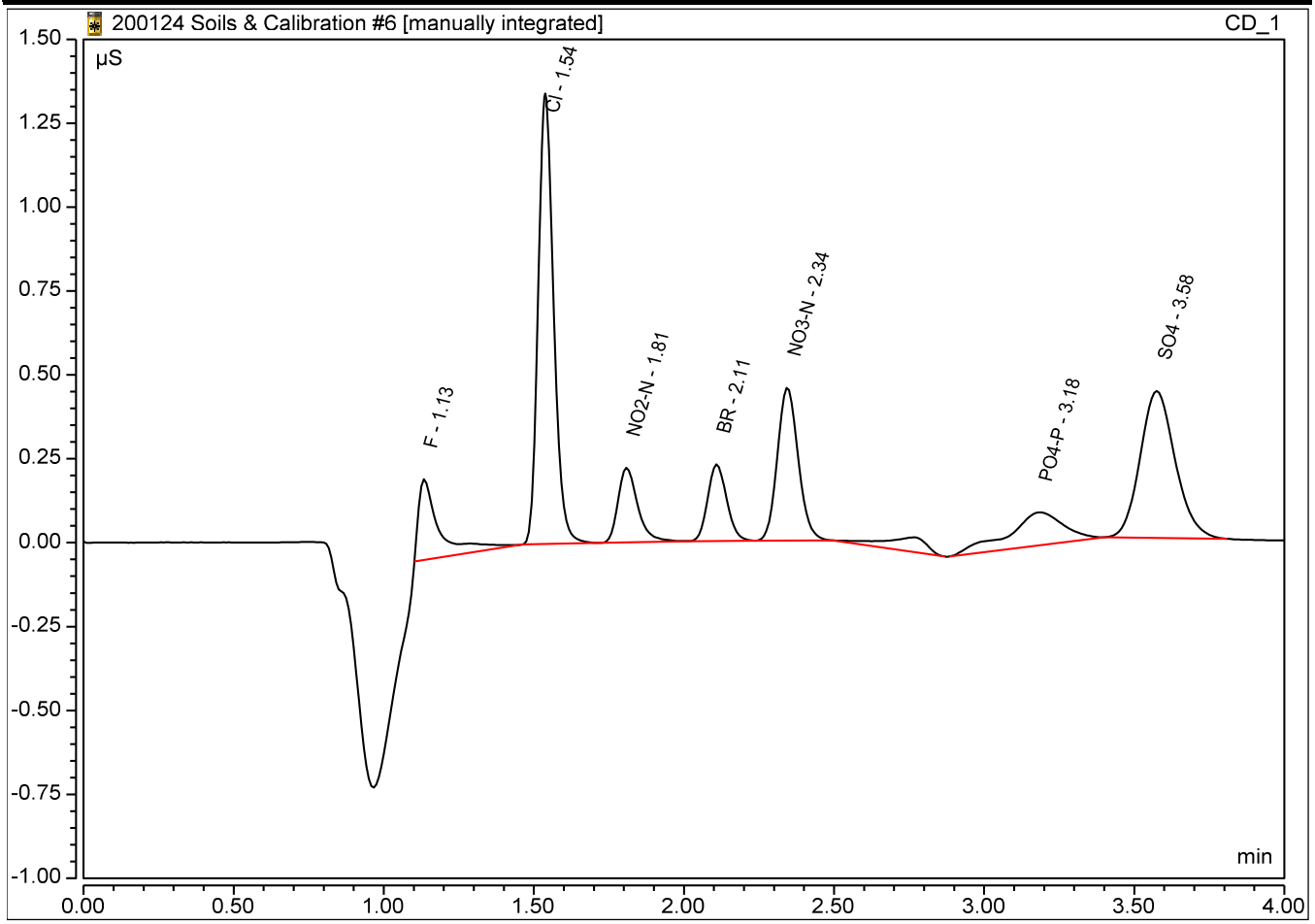


Logged on User: BW
Instrument: Charlie System_1
Sequence: 200124 Soils Calibration

Peak Integration Report

Sample Name:	**Cal2 2020.01.24**	*Inj. Vol.:*	**25uL**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**24-Jan-2020 / 10:46**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.13	**F**	BMB*	0.019	0.241	0.36	0.25	144.6%
2	1.54	**Cl**	BMB	0.080	1.343	1.72	1	171.8%
3	1.81	**NO2-N**	BMB	0.017	0.222	0.13	0.1	126.2%
4	2.11	**BR**	BMB	0.017	0.228	0.69	0.5	137.4%
5	2.34	**NO3-N**	BMB	0.037	0.456	0.31	0.2	155.8%
7	3.18	**PO4-P**	BMB	0.021	0.098	1.26	0.5	252.4%
8	3.58	**SO4**	BMB	0.059	0.438	1.54	1	154.4%



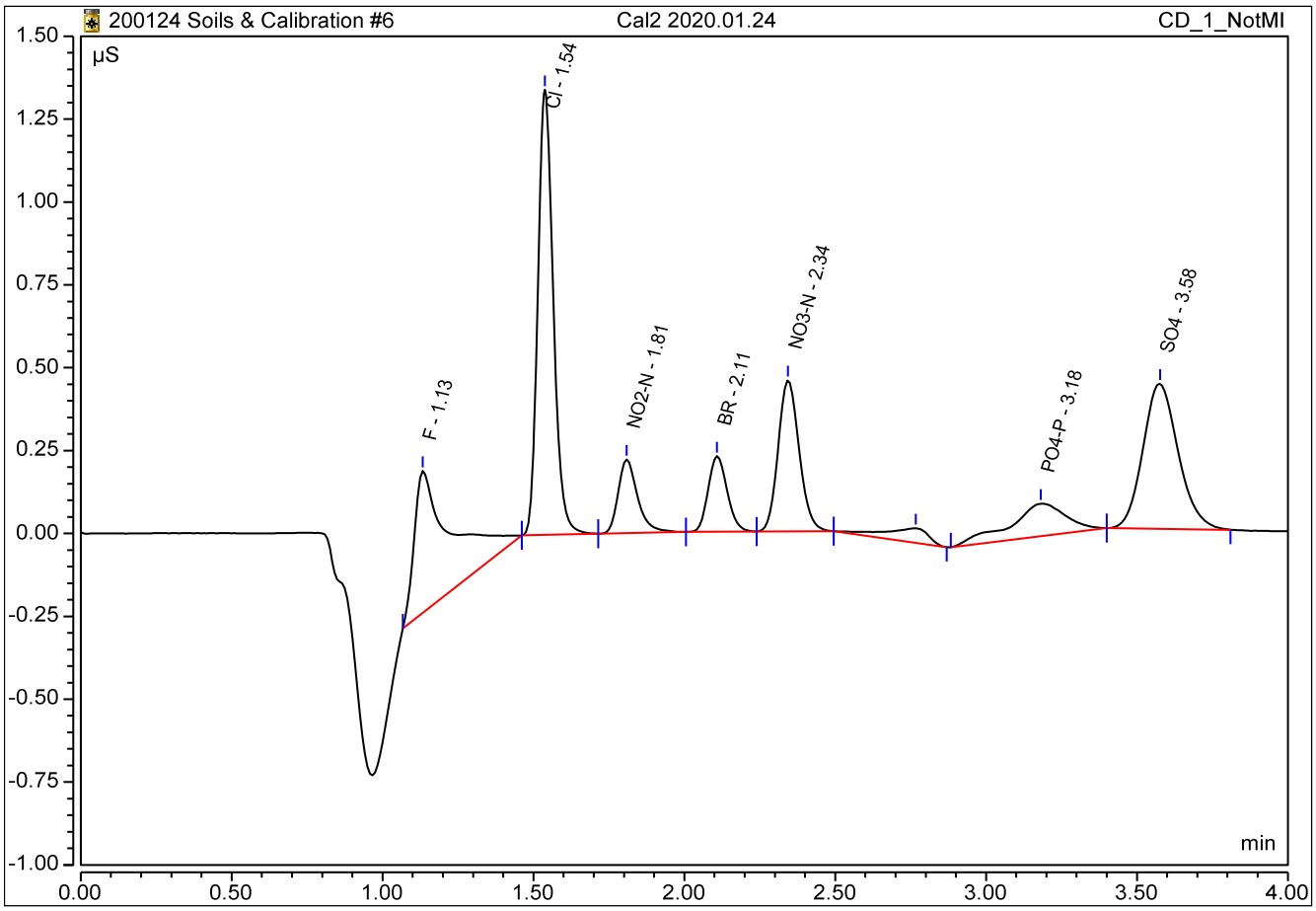
F, PO4 mi1 CD, 2020.01.24 HH

Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Not Manipulated Peak Integration Report

Sample Name:	**Cal2 2020.01.24**	*Inj. Vol.:*	**25uL**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**24-Jan-2020 / 10:46**	*Run Time:*	**4.00**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Ammount mg/L
1	1.13	**F**	BMB*	0.059	0.428	0.3466
2	1.54	**Cl**	BMB	0.080	1.343	1.7181
3	1.81	**NO2-N**	BMB	0.017	0.222	0.1262
4	2.11	**BR**	BMB	0.017	0.228	0.6872
5	2.34	**NO3-N**	BMB	0.037	0.456	0.3116
7	3.18	**PO4-P**	BMB	0.021	0.098	1.2621
8	3.58	**SO4**	BMB	0.059	0.438	1.5442

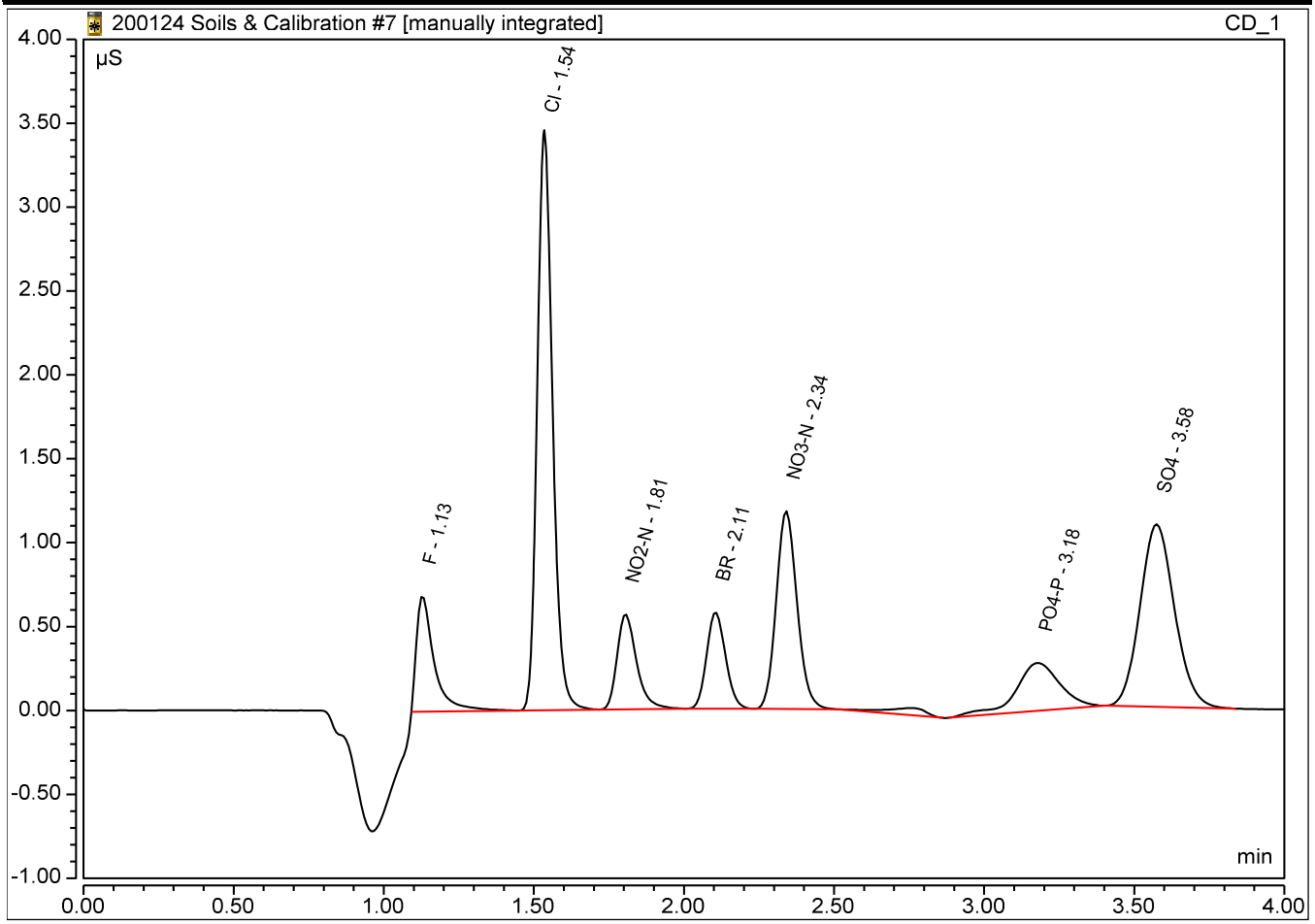


Logged on User: BW
Instrument: Charlie System_1
Sequence: 200124 Soils Calibration

Peak Integration Report

Sample Name:	**Cal3 2020.01.24**	*Inj. Vol.:*	**25uL**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**24-Jan-2020 / 10:52**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.13	**F**	BMB*	0.047	0.692	0.59	0.625	93.8%
2	1.54	**Cl**	BMB	0.203	3.456	2.82	2.5	113.0%
3	1.81	**NO2-N**	BMB	0.043	0.567	0.27	0.25	106.4%
4	2.11	**BR**	BMB	0.042	0.577	1.36	1.25	108.9%
5	2.34	**NO3-N**	BMB	0.095	1.180	0.56	0.5	112.8%
7	3.18	**PO4-P**	BMB	0.049	0.286	1.66	1.25	132.5%
8	3.58	**SO4**	BMB	0.145	1.089	2.78	2.5	111.3%



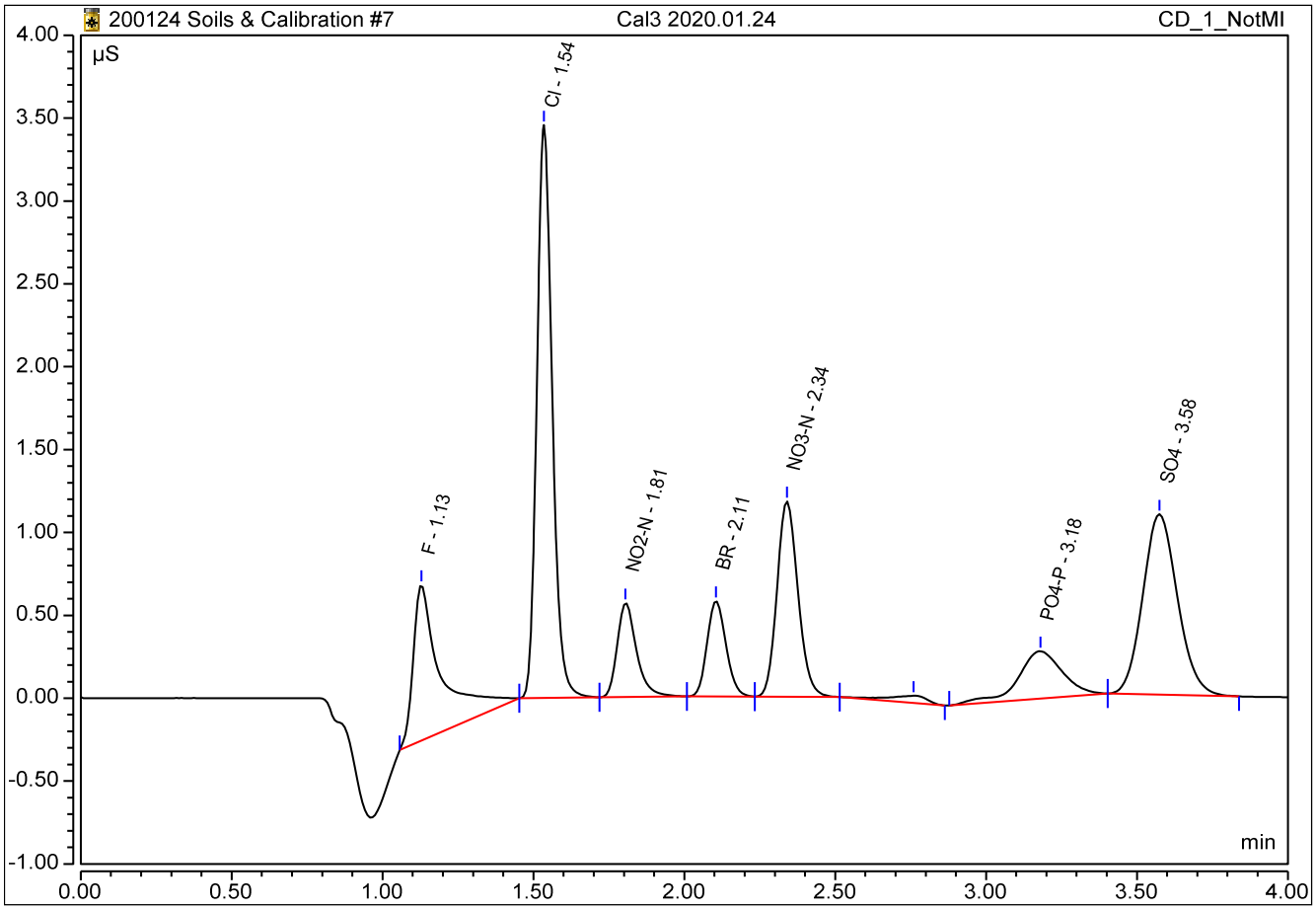
F, PO4 mi1 CD, 2020.01.24 HH

Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Not Manipulated Peak Integration Report

Sample Name:	**Cal3 2020.01.24**	*Inj. Vol.:*	**25uL**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**24-Jan-2020 / 10:52**	*Run Time:*	**4.00**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Ammount mg/L
1	1.13	**F**	BMB*	0.101	0.940	0.6915
2	1.54	**Cl**	BMB	0.203	3.456	2.8243
3	1.81	**NO2-N**	BMB	0.043	0.567	0.2660
4	2.11	**BR**	BMB	0.042	0.577	1.3612
5	2.34	**NO3-N**	BMB	0.095	1.180	0.5638
7	3.18	**PO4-P**	BMB	0.049	0.286	1.6564
8	3.58	**SO4**	BMB	0.145	1.089	2.7826

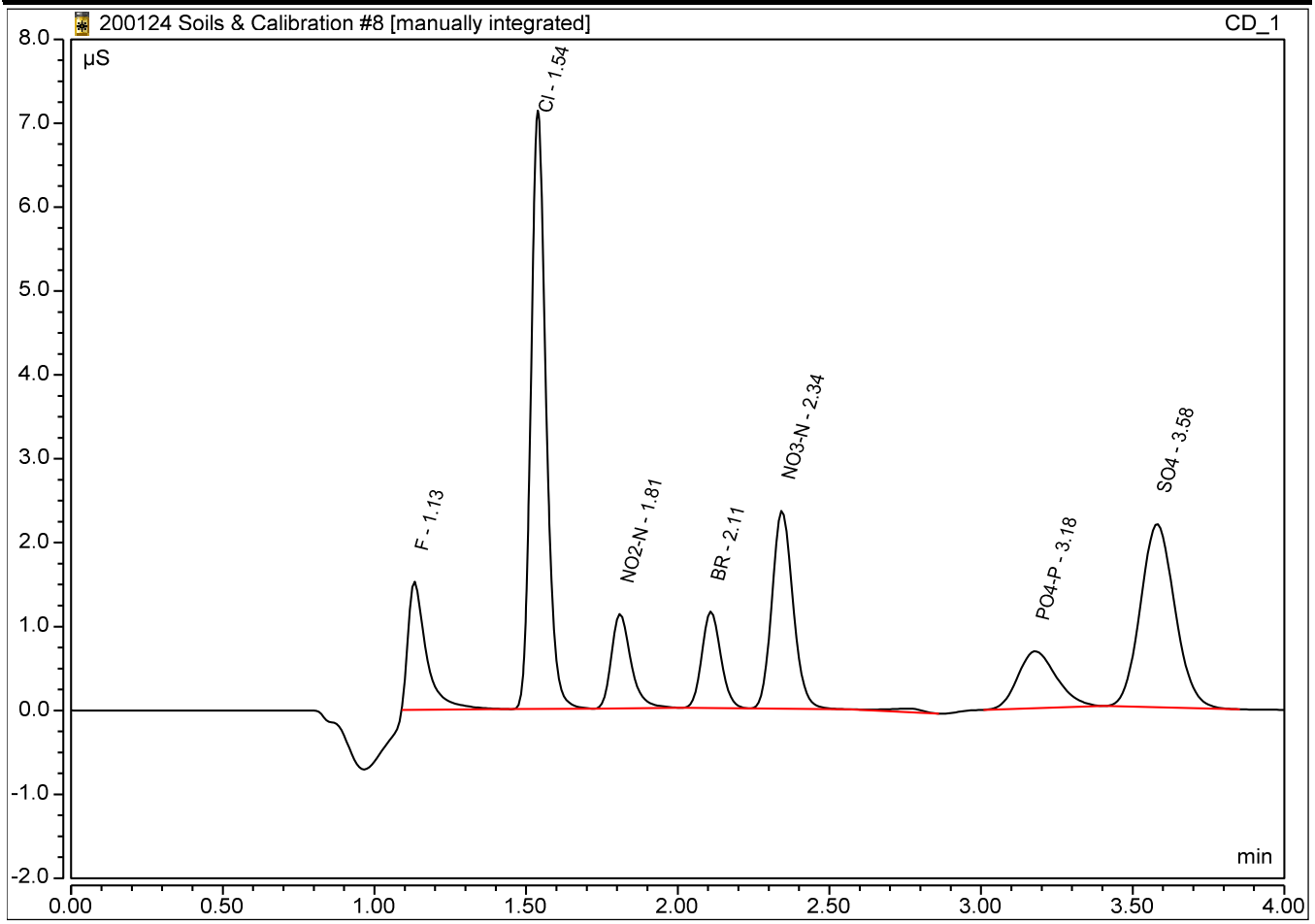


Logged on User: BW
Instrument: Charlie System_1
Sequence: 200124 Soils Calibration

Peak Integration Report

Sample Name:	**Cal4 2020.01.24**	*Inj. Vol.:*	**25uL**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**24-Jan-2020 / 10:58**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.13	**F**	BMB*	0.107	1.531	1.07	1.25	85.6%
2	1.54	**Cl**	BMB	0.414	7.133	4.71	5	94.1%
3	1.81	**NO2-N**	BMB	0.084	1.126	0.49	0.5	98.3%
4	2.11	**BR**	BMB	0.083	1.149	2.46	2.5	98.5%
5	2.34	**NO3-N**	BMB	0.191	2.361	0.97	1	97.3%
7	3.18	**PO4-P**	BMB	0.100	0.678	2.39	2.5	95.5%
8	3.58	**SO4**	BMB	0.289	2.186	4.85	5	97.0%



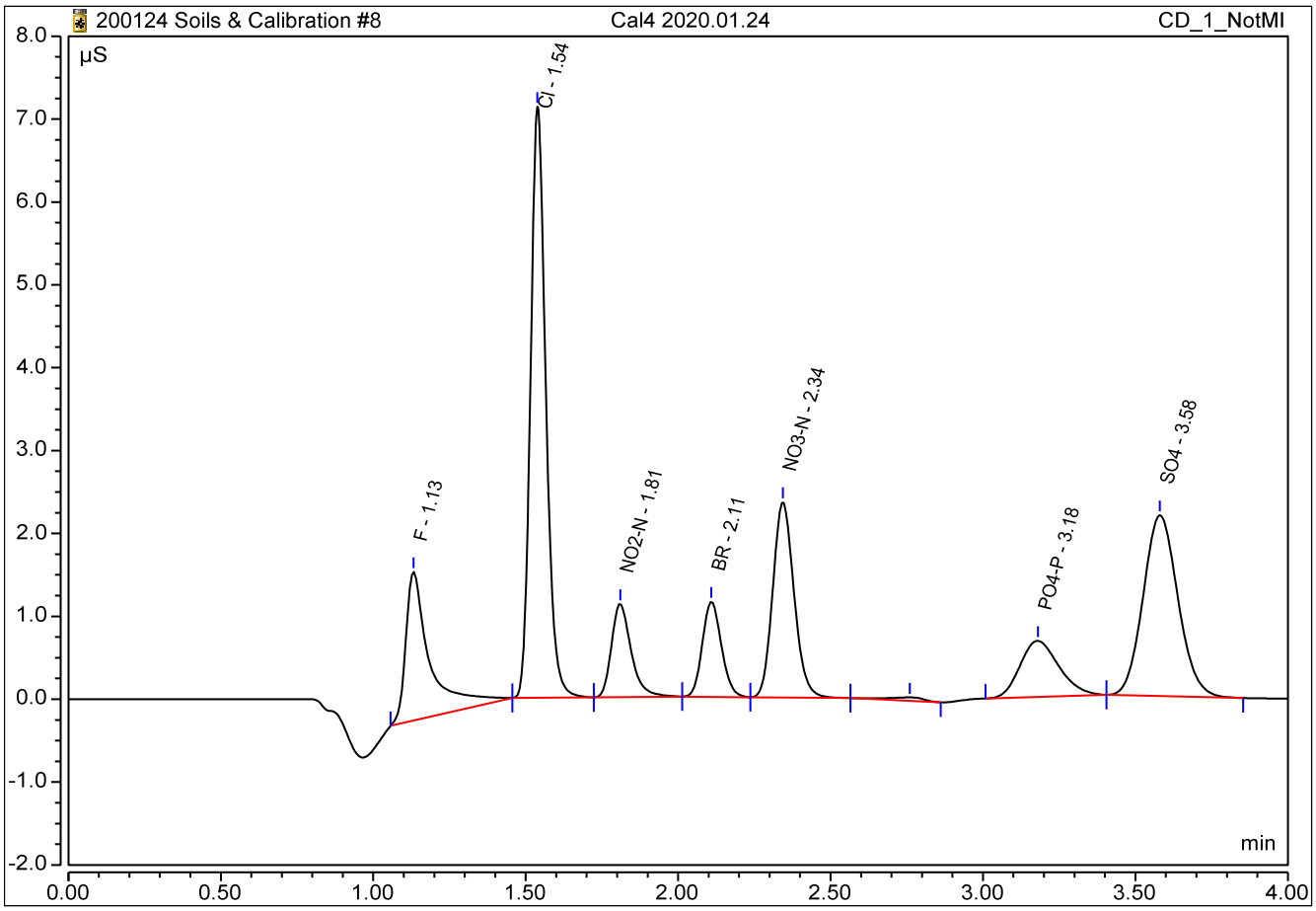
F, PO4 mi1 CD, 2020.01.24 HH

Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Not Manipulated Peak Integration Report

Sample Name:	**Cal4 2020.01.24**	*Inj. Vol.:*	**25uL**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**24-Jan-2020 / 10:58**	*Run Time:*	**4.00**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Ammount mg/L
1	1.13	**F**	BMB*	0.165	1.796	1.2337
2	1.54	**Cl**	BMB	0.414	7.133	4.7051
3	1.81	**NO2-N**	BMB	0.084	1.126	0.4917
4	2.11	**BR**	BMB	0.083	1.149	2.4619
5	2.34	**NO3-N**	BMB	0.191	2.361	0.9732
7	3.18	**PO4-P**	BMB	0.100	0.678	2.3867
8	3.58	**SO4**	BMB	0.289	2.186	4.8512

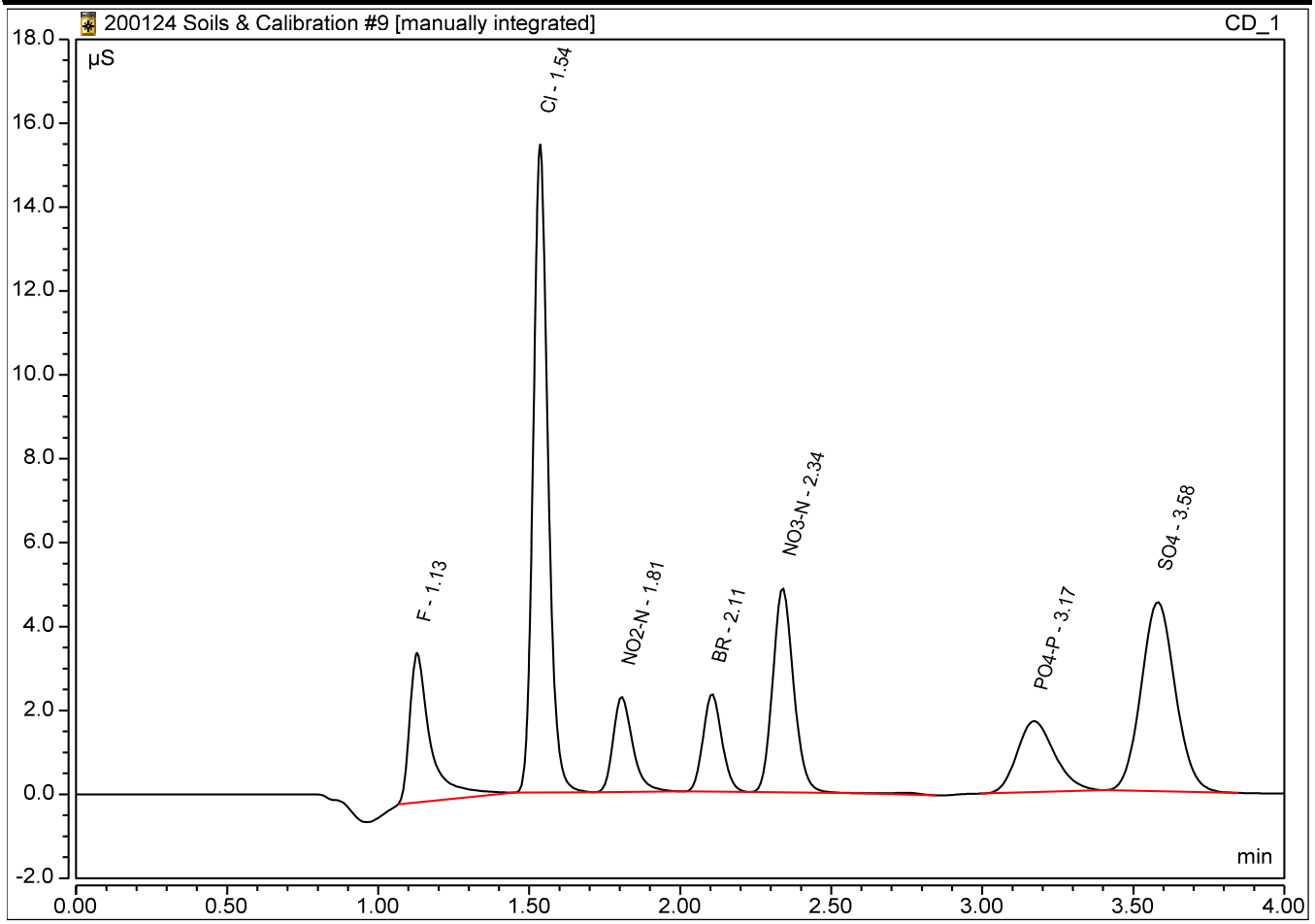


Logged on User: BW
Instrument: Charlie System_1
Sequence: 200124 Soils Calibration

Peak Integration Report

Sample Name:	**Cal5 2020.01.24**	*Inj. Vol.:*	**25uL**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**24-Jan-2020 / 11:05**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.13	**F**	BMB*	0.286	3.571	2.51	2.5	100.4%
2	1.54	**Cl**	BMB	0.878	15.449	8.85	10	88.5%
3	1.81	**NO2-N**	BMB	0.171	2.277	0.96	1	96.2%
4	2.11	**BR**	BMB	0.169	2.336	4.73	5	94.7%
5	2.34	**NO3-N**	BMB	0.391	4.883	1.84	2	91.8%
7	3.17	**PO4-P**	BMB	0.244	1.692	4.43	5	88.6%
8	3.58	**SO4**	BMB	0.592	4.514	9.21	10	92.1%

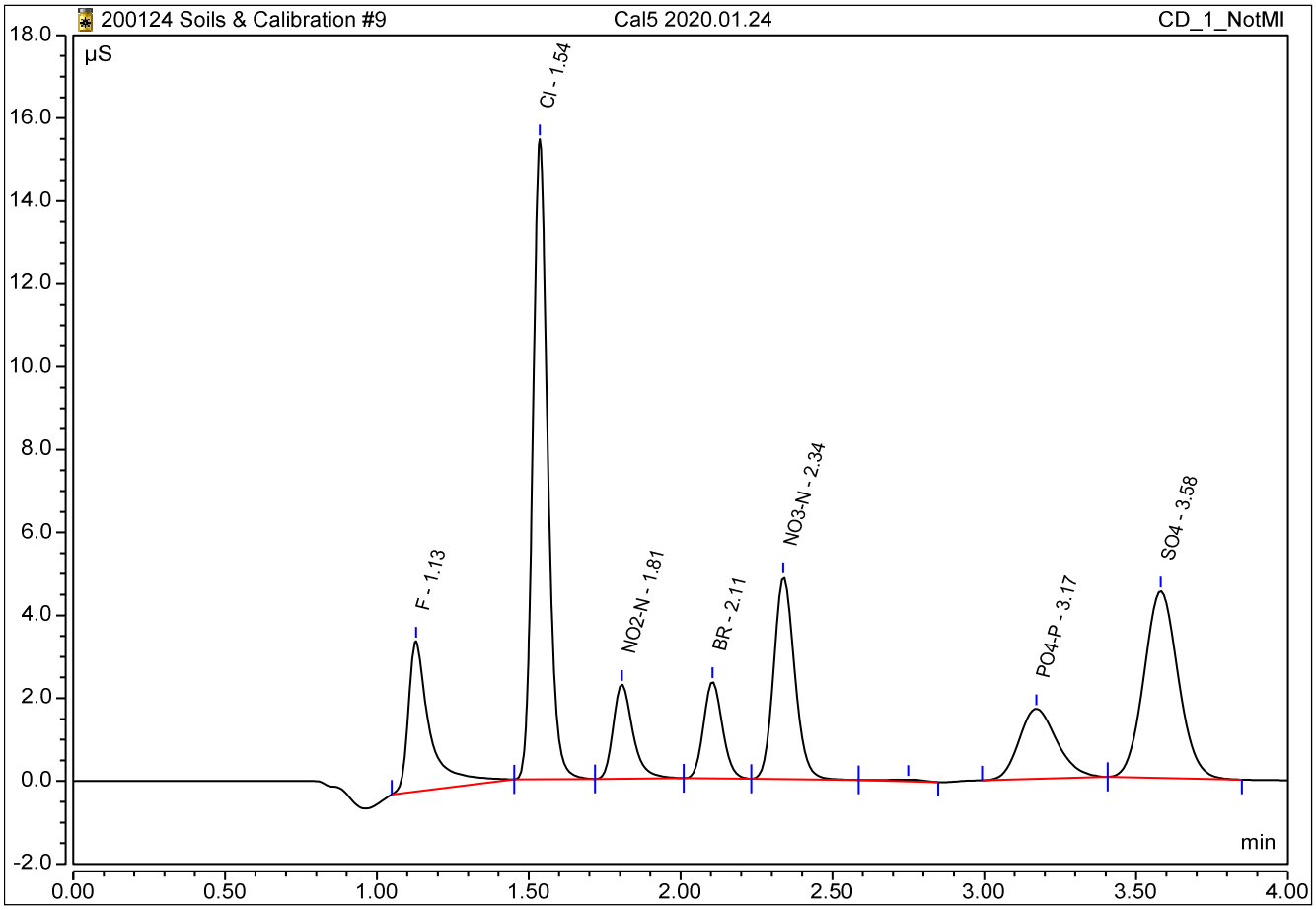


F, PO4 mi1 CD, 2020.01.24 HH

Not Manipulated Peak Integration Report

Sample Name:	**Cal5 2020.01.24**	*Inj. Vol.:*	**25uL**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**24-Jan-2020 / 11:05**	*Run Time:*	**4.00**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Ammount mg/L
1	1.13	**F**	BMB*	0.300	3.629	2.3591
2	1.54	**Cl**	BMB	0.878	15.449	8.8539
3	1.81	**NO2-N**	BMB	0.171	2.277	0.9620
4	2.11	**BR**	BMB	0.169	2.336	4.7332
5	2.34	**NO3-N**	BMB	0.391	4.883	1.8368
7	3.17	**PO4-P**	BMB	0.244	1.692	4.4319
8	3.58	**SO4**	BMB	0.592	4.514	9.2057

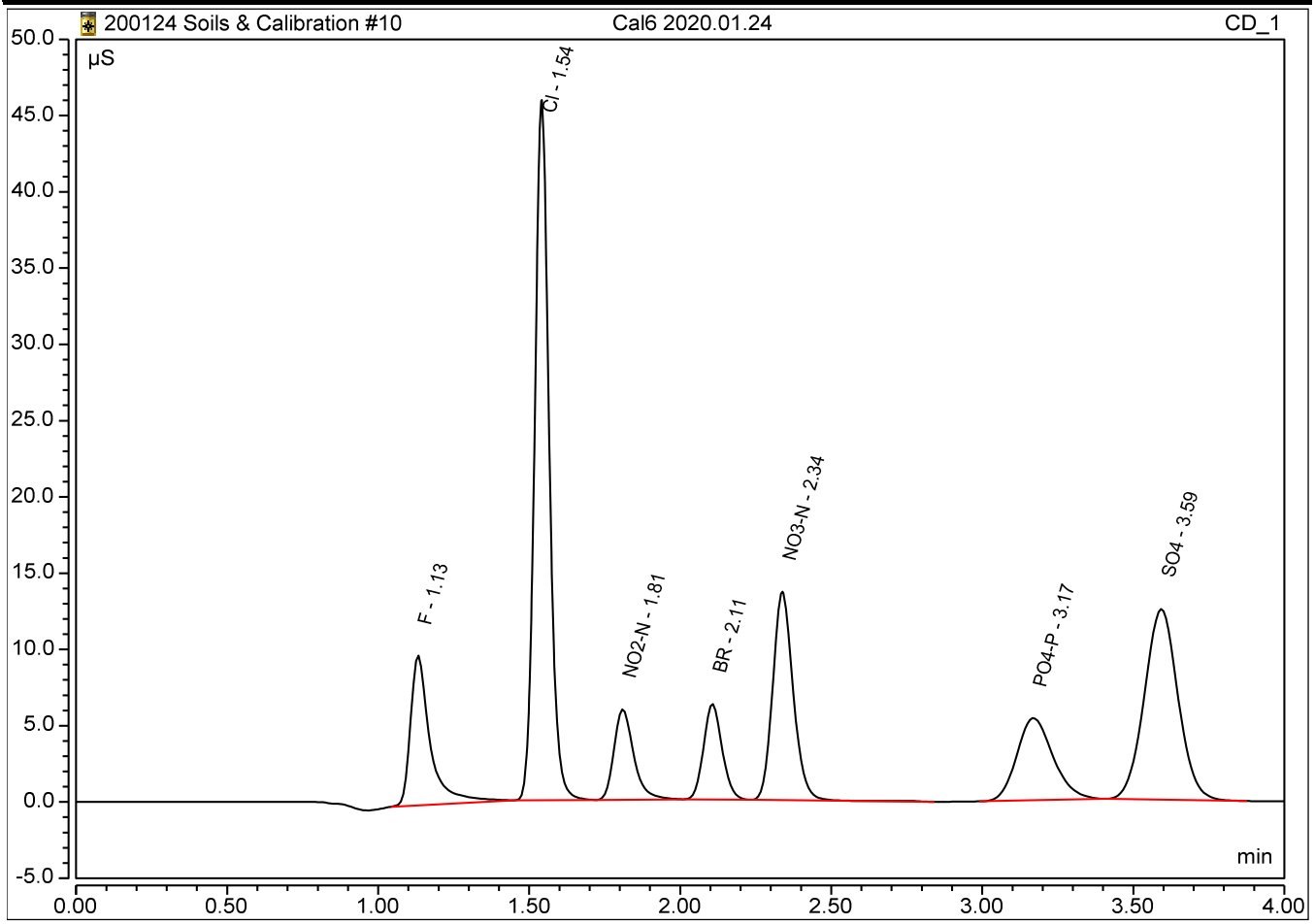


Logged on User: BW
Instrument: Charlie System_1
Sequence: 200124 Soils Calibration

Peak Integration Report

Sample Name:	**Cal6 2020.01.24**	*Inj. Vol.:*	**25uL**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**24-Jan-2020 / 11:11**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.13	**F**	BMB	0.744	9.837	6.20	6.25	99.2%
2	1.54	**Cl**	BMB	2.547	45.898	23.76	25	95.1%
3	1.81	**NO2-N**	BMB	0.449	5.934	2.46	2.5	98.5%
4	2.11	**BR**	BMB	0.446	6.270	12.12	12.5	97.0%
5	2.34	**NO3-N**	BMB	1.071	13.663	4.77	5	95.3%
7	3.17	**PO4-P**	BMB	0.749	5.390	11.62	12.5	92.9%
8	3.59	**SO4**	BMB	1.619	12.507	23.97	25	95.9%



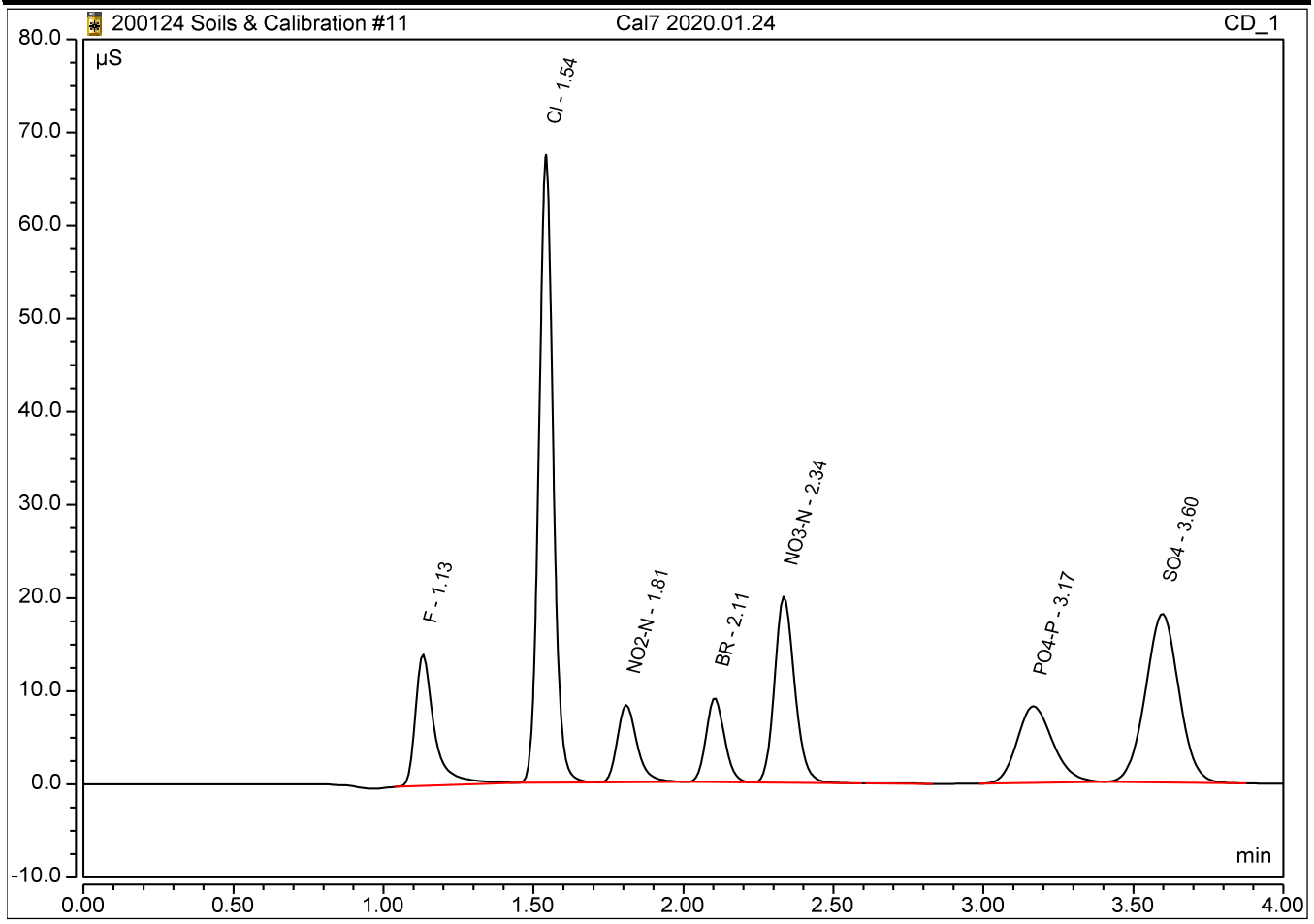
Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Logged on User: BW
Instrument: Charlie System_1
Sequence: 200124 Soils Calibration

Peak Integration Report

Sample Name:	**Cal7 2020.01.24**	*Inj. Vol.:*	**25uL**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**24-Jan-2020 / 11:18**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.13	**F**	BMB	1.053	14.161	8.69	8.75	99.3%
2	1.54	**Cl**	BMB	3.744	67.416	34.45	35	98.4%
3	1.81	**NO2-N**	BMB	0.631	8.309	3.45	3.5	98.5%
4	2.11	**BR**	BMB	0.639	9.051	17.26	17.5	98.6%
5	2.34	**NO3-N**	BMB	1.559	20.012	6.87	7	98.1%
7	3.17	**PO4-P**	BMB	1.131	8.229	17.05	17.5	97.4%
8	3.60	**SO4**	BMB	2.344	18.127	34.39	35	98.3%



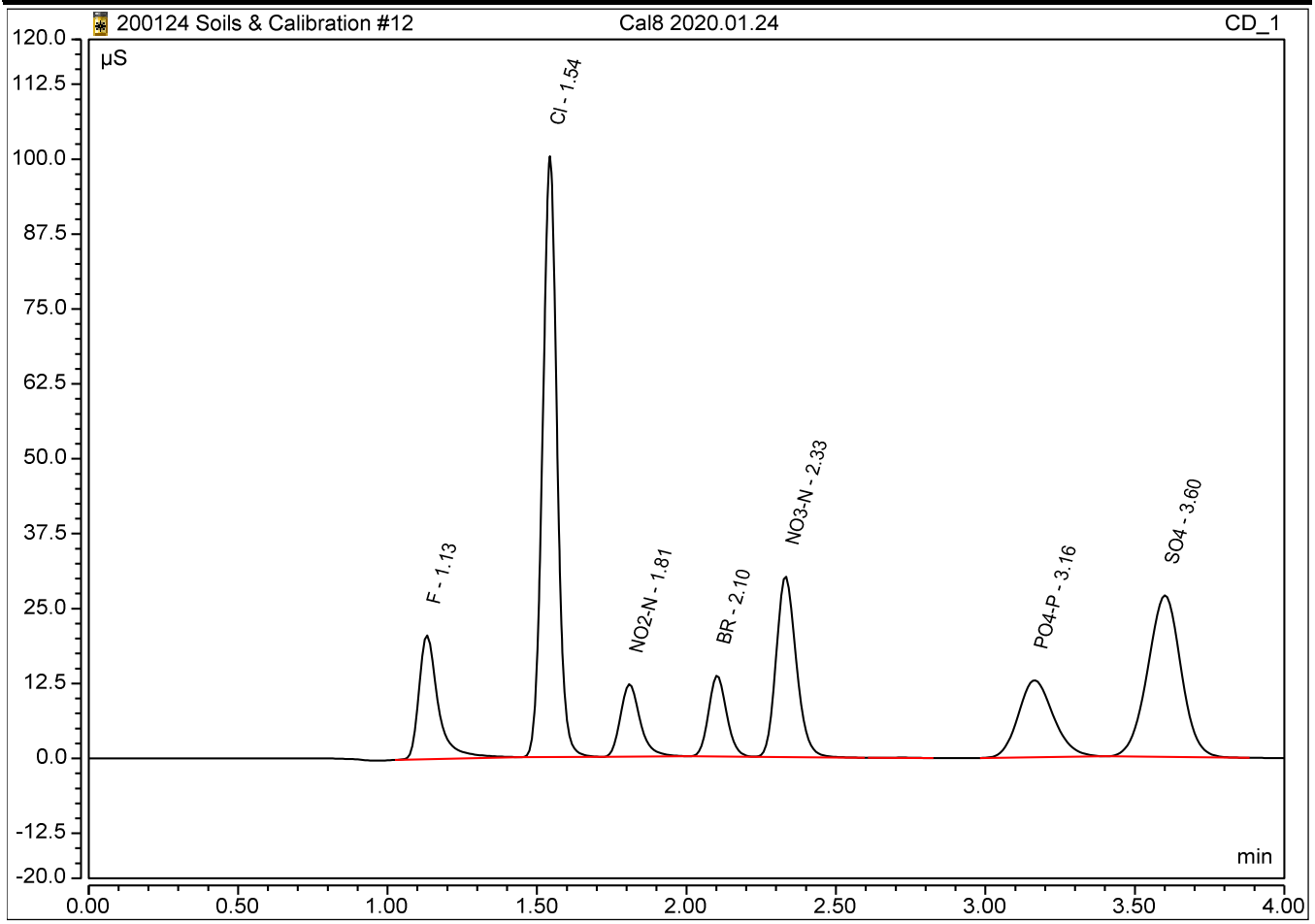
Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Logged on User: BW
Instrument: Charlie System_1
Sequence: 200124 Soils Calibration

Peak Integration Report

Sample Name:	**Cal8 2020.01.24**	*Inj. Vol.:*	**25uL**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**24-Jan-2020 / 11:24**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.13	**F**	BMB	1.537	20.700	12.59	12.5	100.7%
2	1.54	**Cl**	BMB	5.621	100.270	51.22	50	102.4%
3	1.81	**NO2-N**	BMB	0.930	12.106	5.06	5	101.3%
4	2.10	**BR**	BMB	0.945	13.502	25.40	25	101.6%
5	2.33	**NO3-N**	BMB	2.343	30.202	10.24	10	102.4%
7	3.16	**PO4-P**	BMB	1.749	12.851	25.85	25	103.4%
8	3.60	**SO4**	BMB	3.505	26.950	51.09	50	102.2%



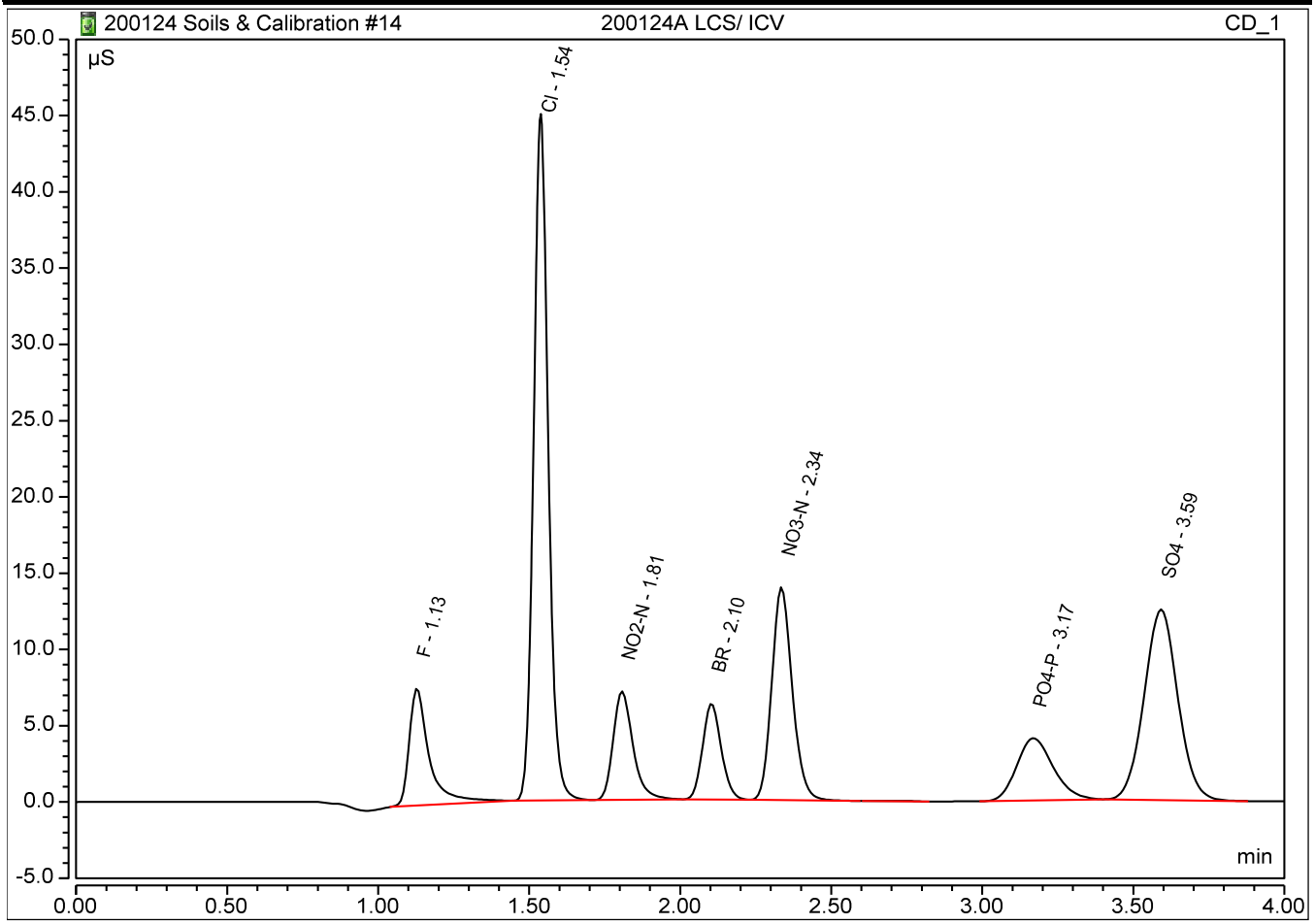
Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Logged on User: BW
Instrument: Charlie System_1
Sequence: 200124 Soils Calibration

Peak Integration Report

Sample Name:	**200124A LCS/ ICV**	*Inj. Vol.:*	**25uL**
Injection Type:	**Check Standard**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**24-Jan-2020 / 11:37**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.13	**F**	BMB	0.593	7.697	4.98	5	99.7%
2	1.54	**Cl**	BMB	2.516	45.013	23.48	25	93.9%
3	1.81	**NO2-N**	BMB	0.541	7.120	2.96	3.04	97.4%
4	2.10	**BR**	BMB	0.450	6.297	12.22	12.5	97.7%
5	2.34	**NO3-N**	BMB	1.099	13.953	4.89	5	97.7%
7	3.17	**PO4-P**	BMB	0.573	4.076	9.11	10	91.1%
8	3.59	**SO4**	BMB	1.618	12.498	23.96	25	95.9%



Algorithm Check
y = Peak Area
x = mg/L S04

y = 0.0695 x + -0.0480
y = 1.6184 therefor x = 23.97 CD 2020.01.24

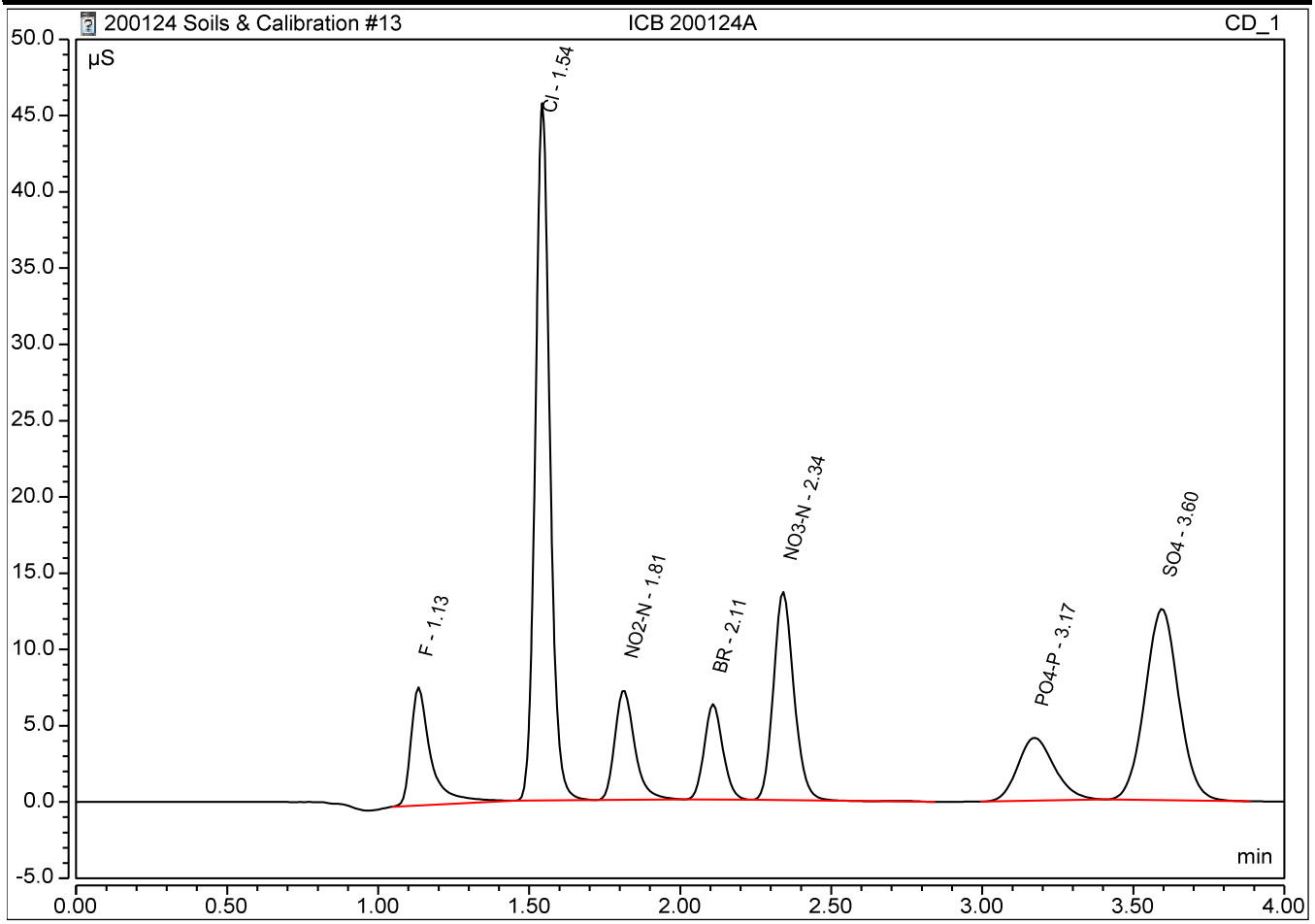
Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Logged on User: BW
Instrument: Charlie System_1
Sequence: 200124 Soils Calibration

Peak Integration Report

Sample Name:	**ICB 200124A**	*Inj. Vol.:*	**25uL**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**24-Jan-2020 / 11:30**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.13	**F**	BMB	0.595	7.739	5.00		
2	1.54	**Cl**	BMB	2.547	45.712	23.76		
3	1.81	**NO2-N**	BMB	0.548	7.202	3.00		
4	2.11	**BR**	BMB	0.446	6.258	12.13		
5	2.34	**NO3-N**	BMB	1.077	13.675	4.79		
7	3.17	**PO4-P**	BMB	0.579	4.119	9.19		
8	3.60	**SO4**	BMB	1.626	12.547	24.08		



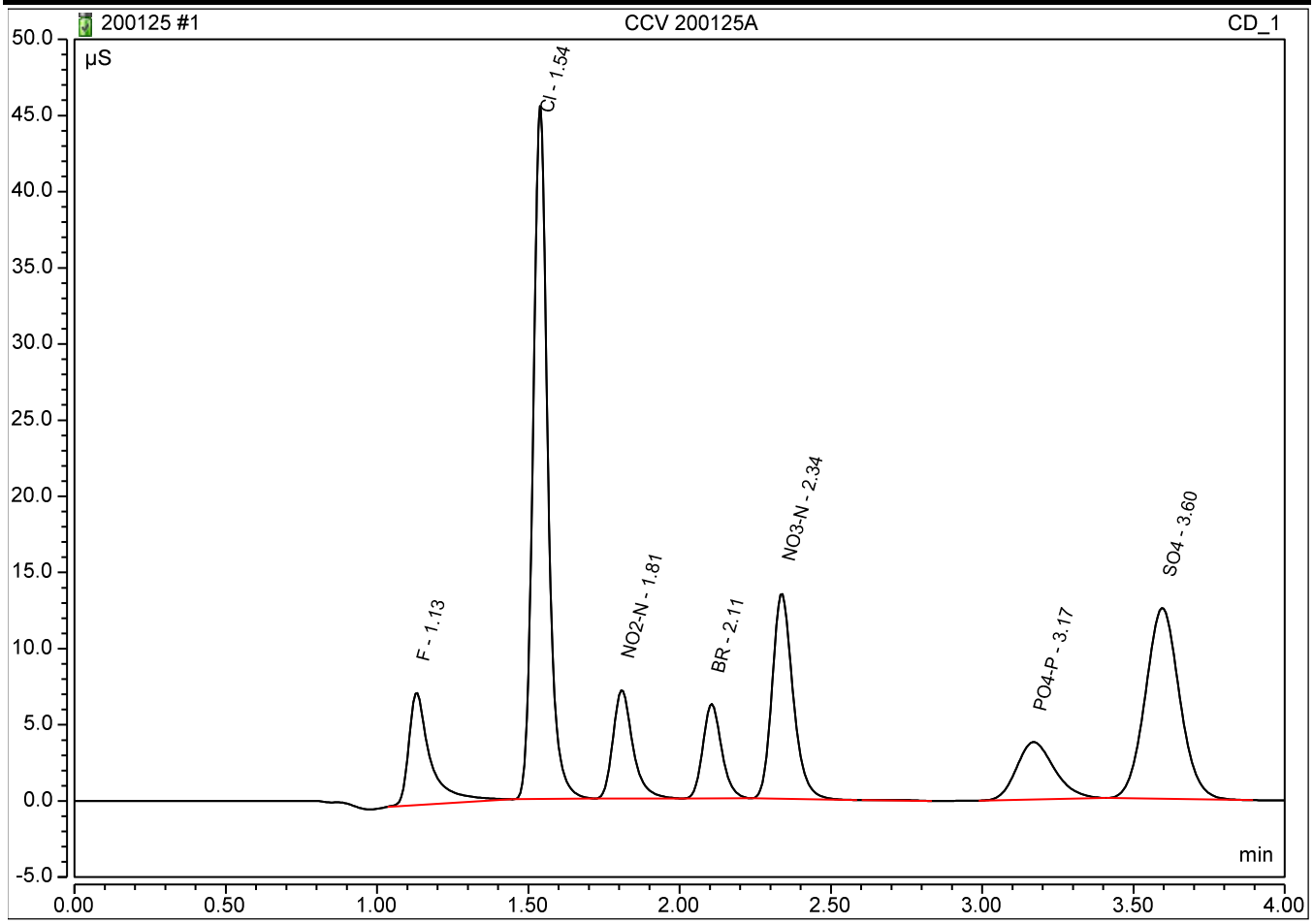
Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Logged on User: BW
Instrument: Charlie System_1
Sequence: 200125

Peak Integration Report

Sample Name:	**CCV 200125A**	*Inj. Vol.:*	**25uL**
Injection Type:	**Check Standard**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**25-Jan-2020 / 09:10**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.13	**F**	BMB	0.614	7.401	5.15	5	103.0%
2	1.54	**Cl**	BMB	2.566	45.498	23.93	25	95.7%
3	1.81	**NO2-N**	BMB	0.544	7.140	2.97	3.04	97.8%
4	2.11	**BR**	BMB	0.447	6.202	12.14	12.5	97.1%
5	2.34	**NO3-N**	BMB	1.081	13.509	4.81	5	96.1%
7	3.17	**PO4-P**	BMB	0.544	3.765	8.71	10	87.1%
8	3.60	**SO4**	BMB	1.648	12.534	24.39	25	97.5%



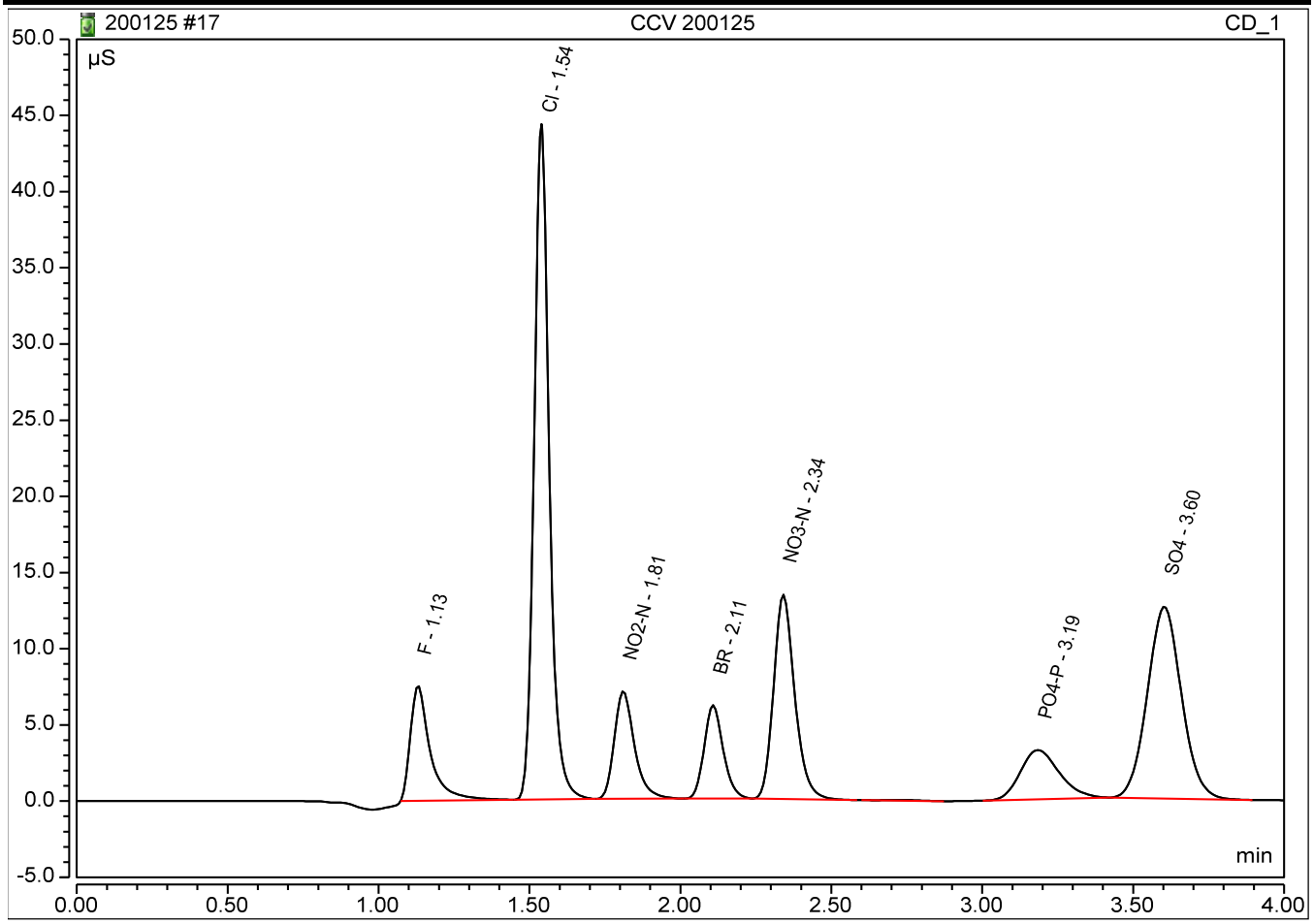
Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Logged on User: BW
Instrument: Charlie System_1
Sequence: 200125

Peak Integration Report

Sample Name:	**CCV 200125**	*Inj. Vol.:*	**25uL**
Injection Type:	**Check Standard**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**25-Jan-2020 / 10:52**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.13	**F**	BMB	0.573	7.562	4.82	5	96.4%
2	1.54	**Cl**	BMB	2.574	44.322	24.00	25	96.0%
3	1.81	**NO2-N**	BMB	0.548	7.066	3.00	3.04	98.6%
4	2.11	**BR**	BMB	0.449	6.134	12.20	12.5	97.6%
5	2.34	**NO3-N**	BMB	1.090	13.421	4.85	5	96.9%
7	3.19	**PO4-P**	BMB	0.485	3.239	7.85	10	78.5%
8	3.60	**SO4**	BMB	1.655	12.590	24.50	25	98.0%



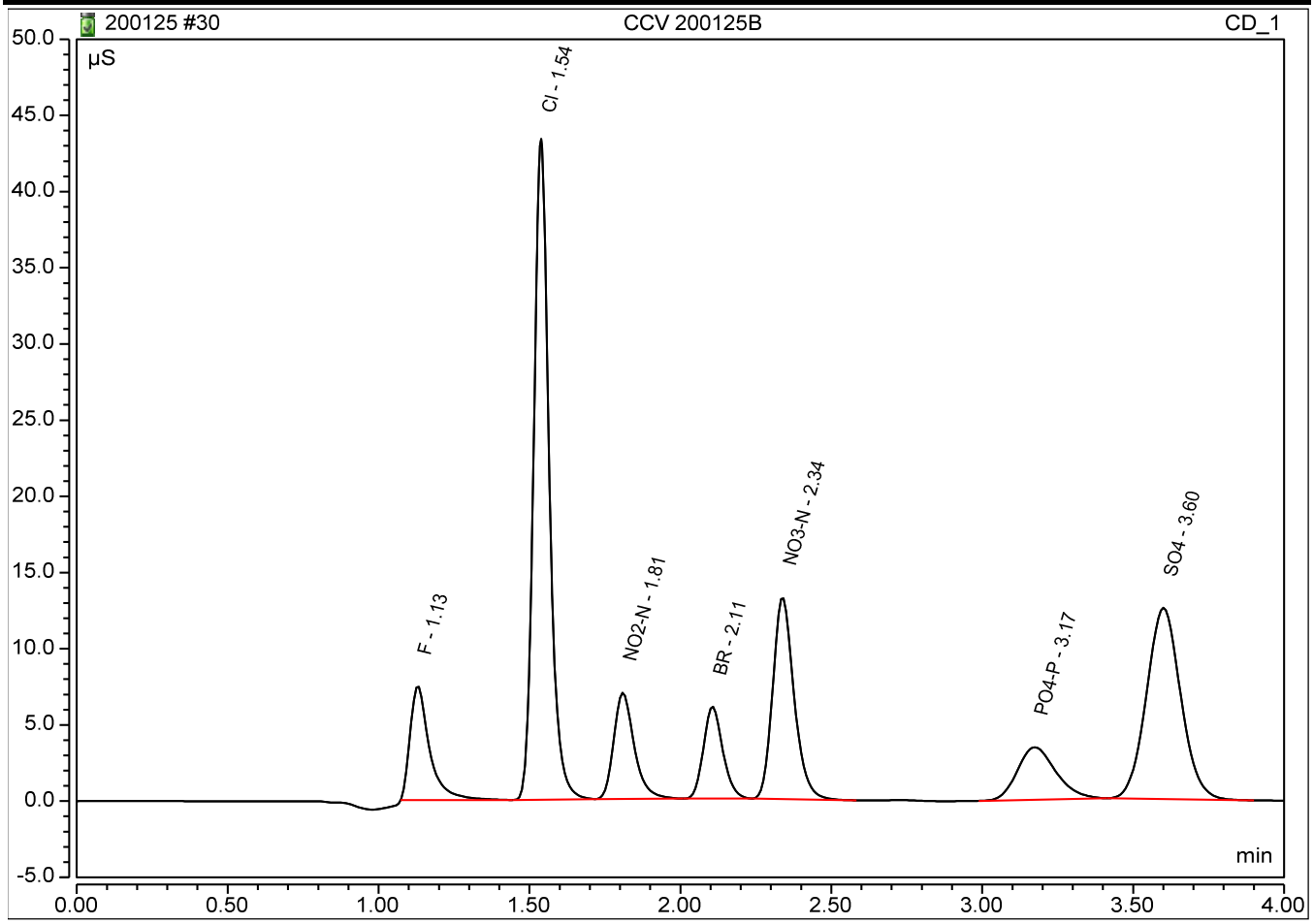
Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Logged on User: BW
Instrument: Charlie System_1
Sequence: 200125

Peak Integration Report

Sample Name:	**CCV 200125B**	*Inj. Vol.:*	**25uL**
Injection Type:	**Check Standard**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**25-Jan-2020 / 12:15**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.13	**F**	BMB	0.562	7.519	4.74	5	94.7%
2	1.54	**Cl**	BMB	2.574	43.360	24.00	25	96.0%
3	1.81	**NO2-N**	BMB	0.550	6.974	3.01	3.04	98.9%
4	2.11	**BR**	BMB	0.449	6.052	12.21	12.5	97.7%
5	2.34	**NO3-N**	BMB	1.086	13.274	4.83	5	96.6%
6	3.17	**PO4-P**	BMB	0.509	3.444	8.20	10	82.0%
7	3.60	**SO4**	BMB	1.658	12.556	24.53	25	98.1%



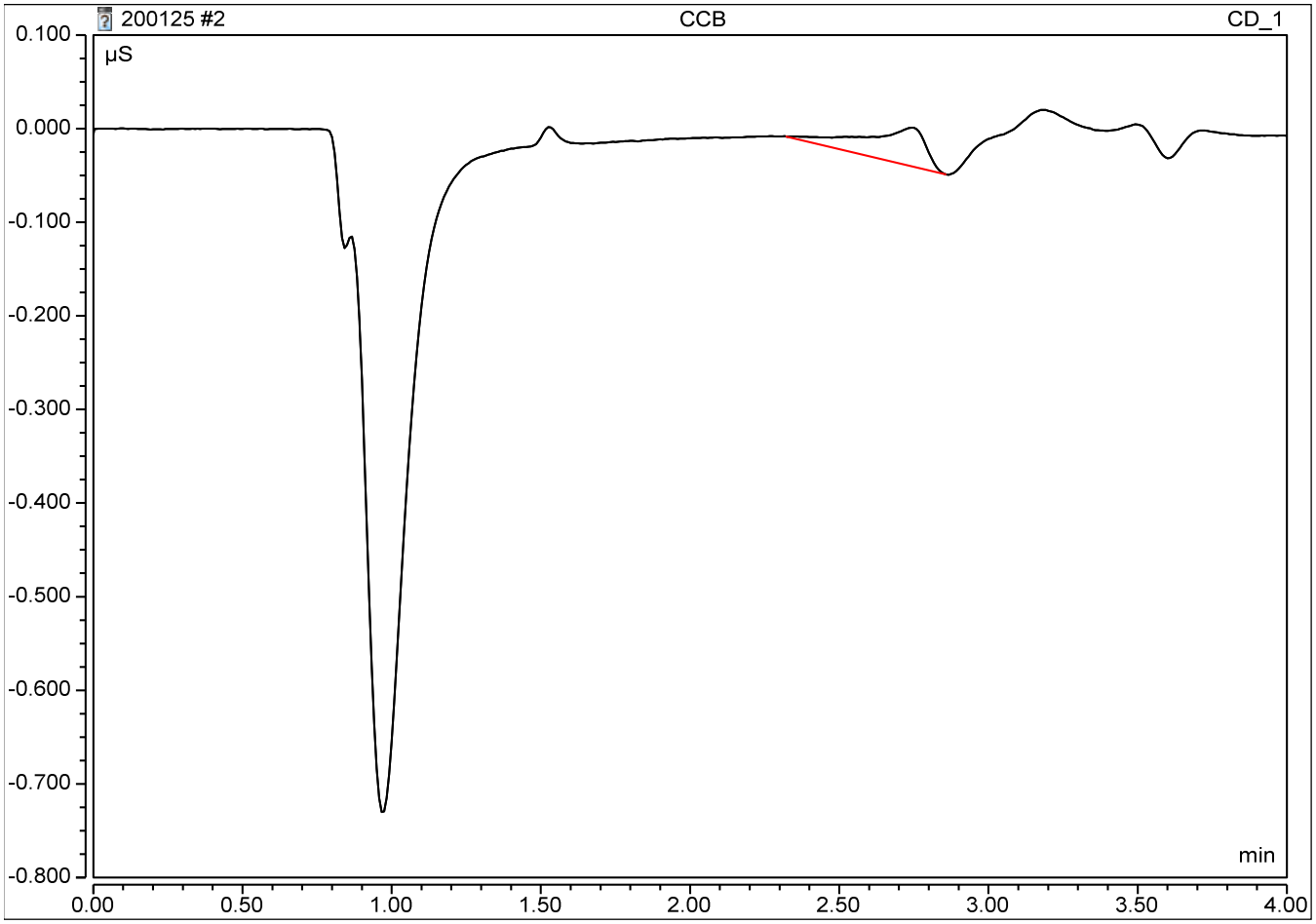
Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Logged on User: BW
Instrument: Charlie System_1
Sequence: 200125

Peak Integration Report

Sample Name:	**CCB**	*Inj. Vol.:*	**25uL**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**25-Jan-2020 / 09:16**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery

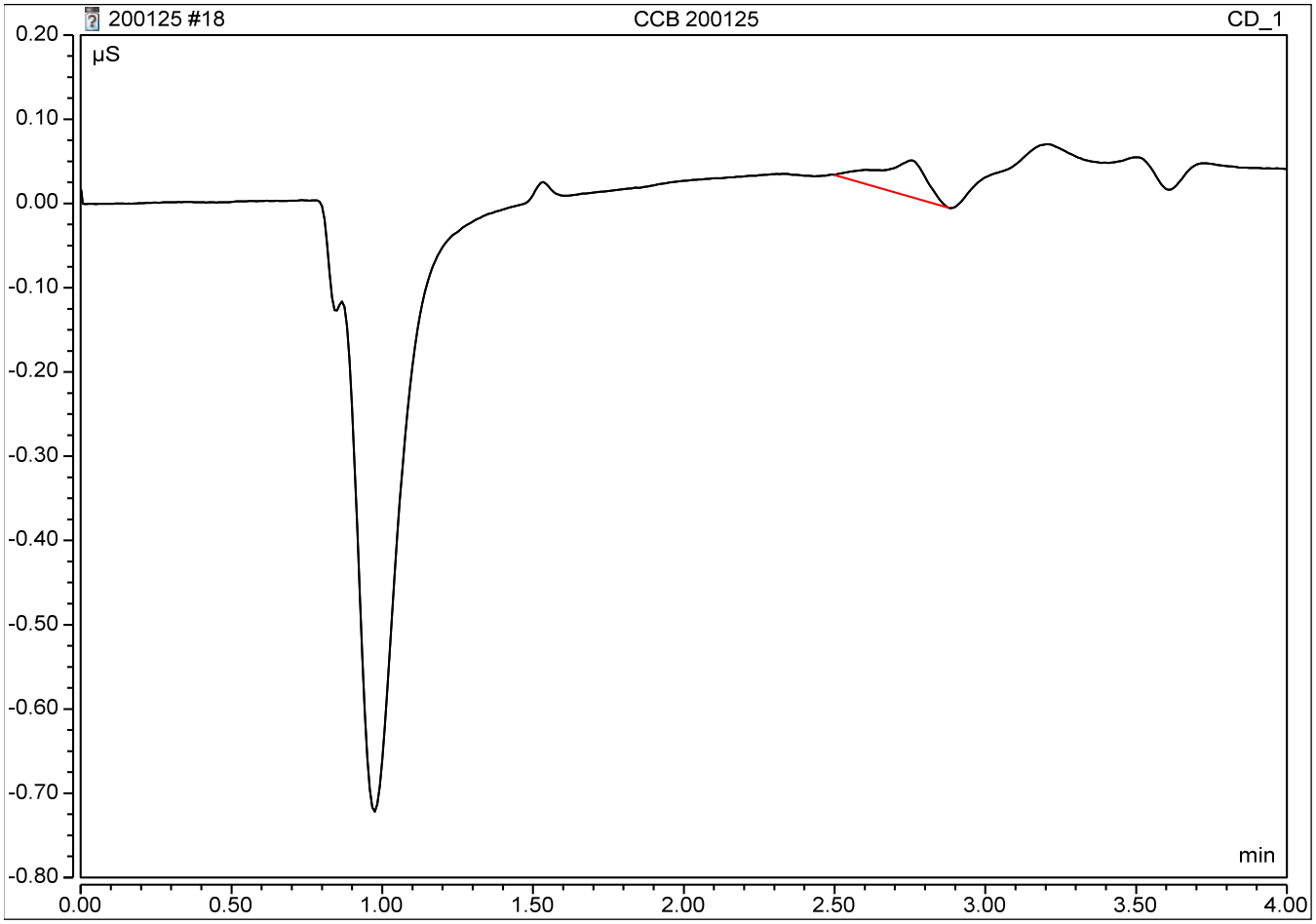


Logged on User: BW
Instrument: Charlie System_1
Sequence: 200125

Peak Integration Report

Sample Name:	**CCB 200125**	*Inj. Vol.:*	**25uL**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**25-Jan-2020 / 10:59**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery

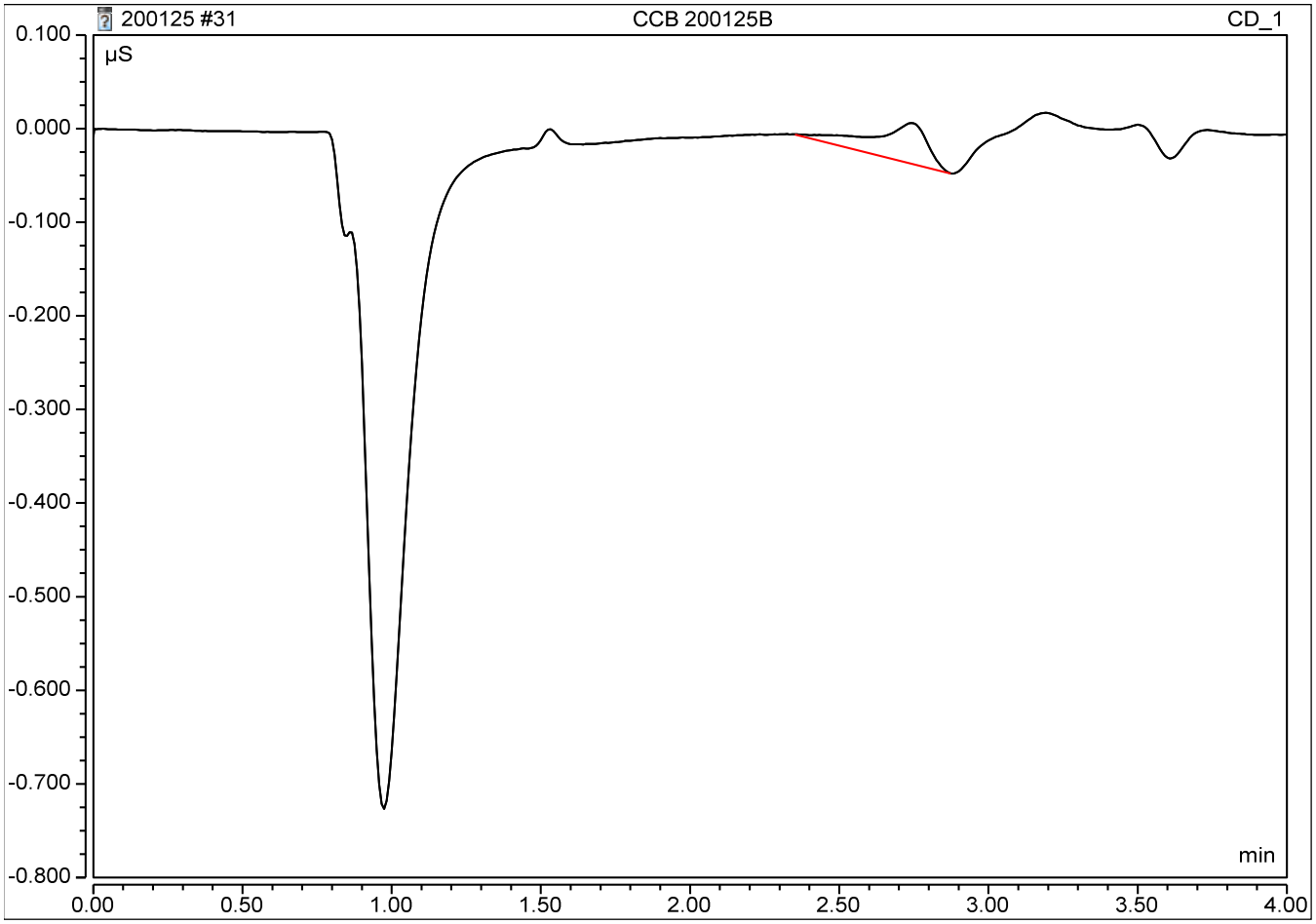


Logged on User: BW
Instrument: Charlie System_1
Sequence: 200125

Peak Integration Report

Sample Name:	**CCB 200125B**	*Inj. Vol.:*	**25uL**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**25-Jan-2020 / 12:22**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery



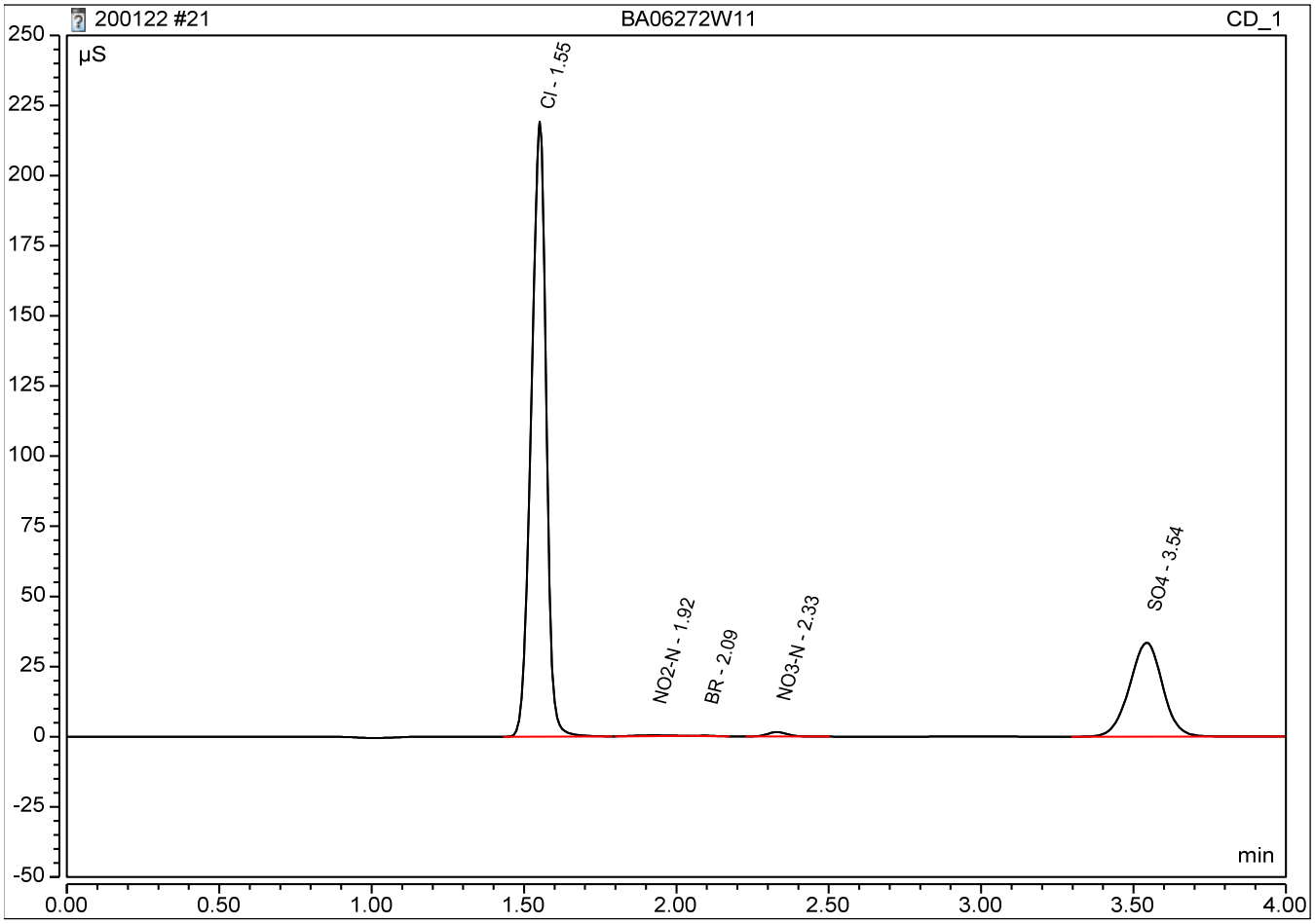
INORGANIC ANALYSIS
Raw Data

Logged on User: BW
Instrument: Charlie System_1
Sequence: 200122

Peak Integration Report

Sample Name:	**BA06272W11**	*Inj. Vol.:*	**25uL**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.22**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**22-Jan-2020 / 20:35**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.55	**Cl**	BMB	12.384	219.118	92.45		
2	1.92	**NO2-N**	BMB	0.034	0.263	0.20		
3	2.09	**BR**	BMB	0.009	0.145	0.46		
4	2.33	**NO3-N**	BMB	0.123	1.579	0.61		
5	3.54	**SO4**	BMB	4.215	33.529	56.20		



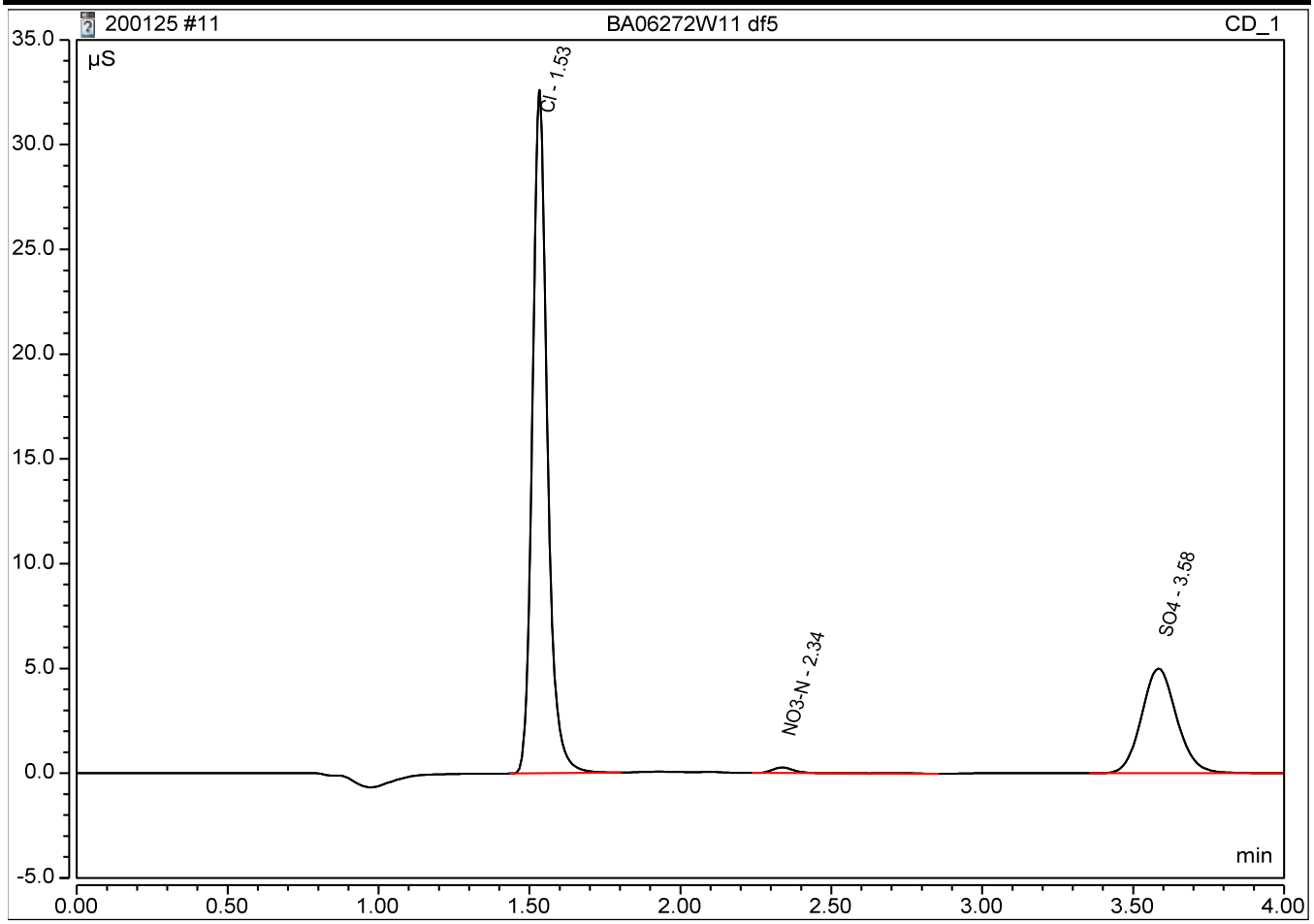
Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Logged on User: BW
Instrument: Charlie System_1
Sequence: 200125

Peak Integration Report

Sample Name:	**BA06272W11 df5**	*Inj. Vol.:*	**25uL**
Injection Type:	**Unknown**	*Dilution Factor:*	**5.00**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**25-Jan-2020 / 10:14**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.53	**Cl**	BMB	1.871	32.613	88.61		
2	2.34	**NO3-N**	BMB	0.022	0.268	1.24		
4	3.58	**SO4**	BMB	0.677	4.997	52.10		



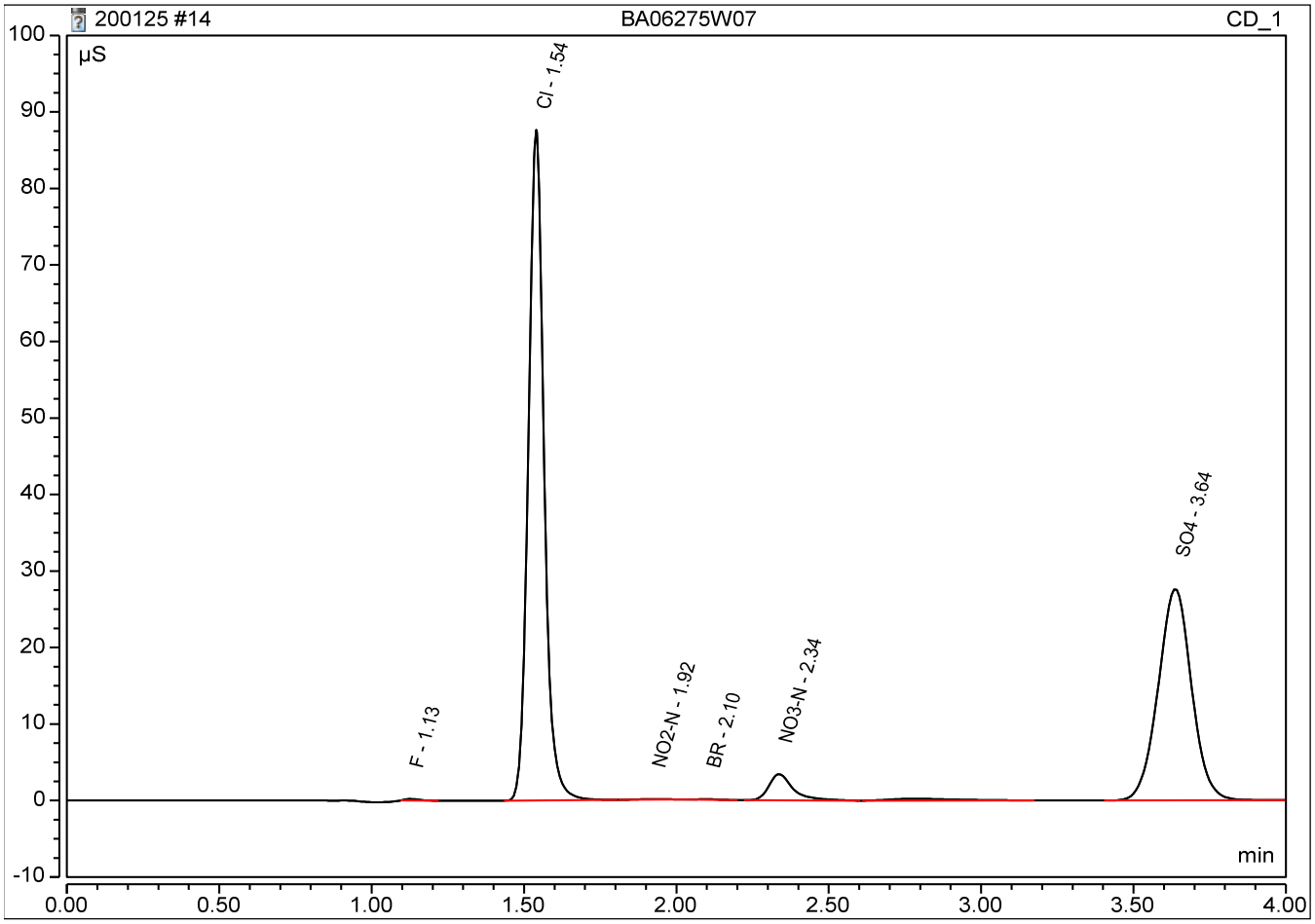
Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Logged on User: BW
Instrument: Charlie System_1
Sequence: 200125

Peak Integration Report

Sample Name:	**BA06275W07**	*Inj. Vol.:*	**25uL**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**25-Jan-2020 / 10:33**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.13	**F**	BMB	0.011	0.196	0.29		
2	1.54	**Cl**	BMB	5.191	87.610	47.38		
3	1.92	**NO2-N**	BMB	0.007	0.062	0.07		
4	2.10	**BR**	BMB	0.006	0.085	0.41		
5	2.34	**NO3-N**	BMB	0.317	3.425	1.52		
7	3.64	**SO4**	BMB	3.513	27.646	51.21		

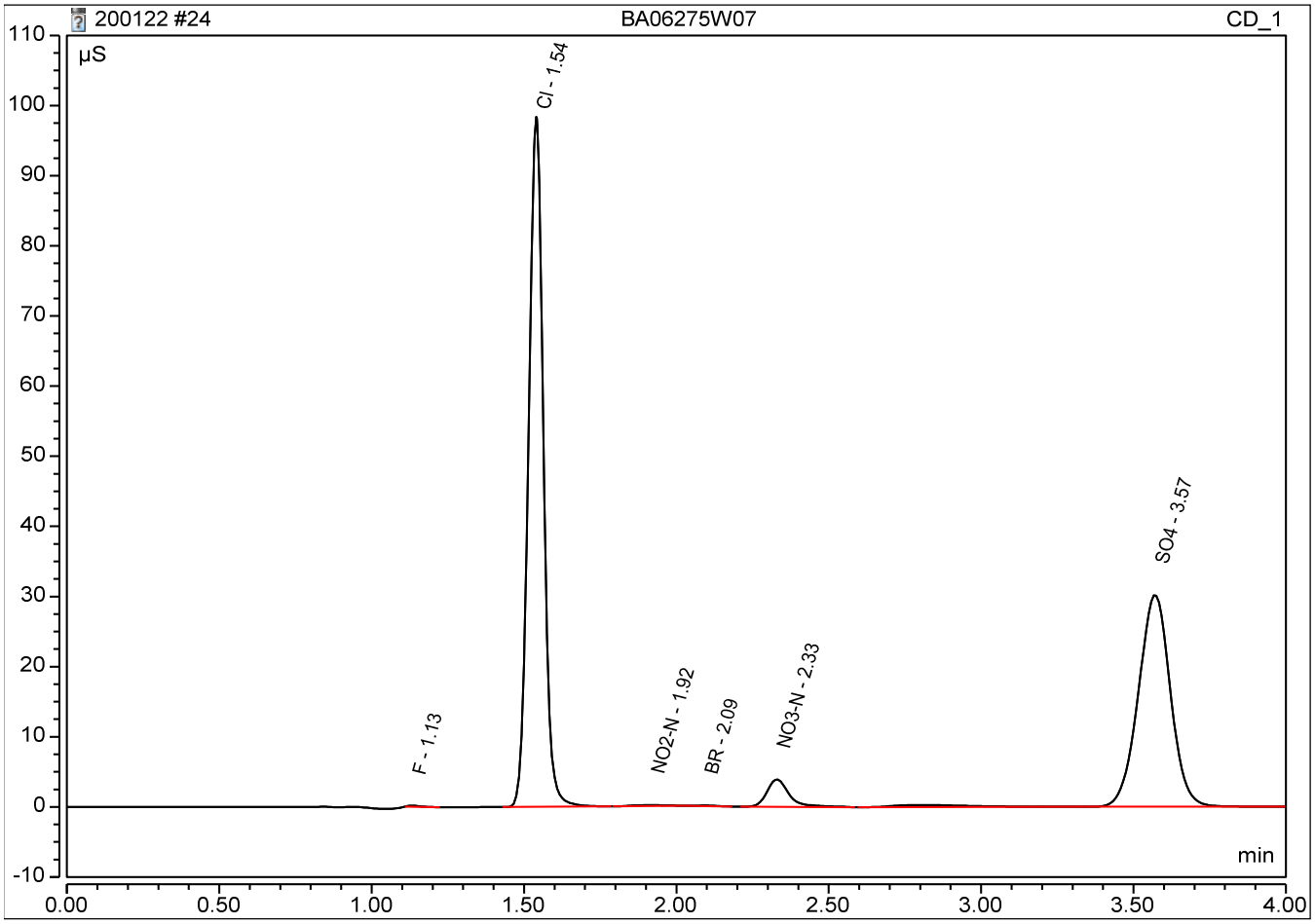


Logged on User: BW
Instrument: Charlie System_1
Sequence: 200122

Peak Integration Report

Sample Name:	**BA06275W07**	*Inj. Vol.:*	**25uL**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.22**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**22-Jan-2020 / 20:54**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.13	**F**	BMB	0.008	0.156	0.32		
2	1.54	**Cl**	BMB	5.513	98.367	41.75		
3	1.92	**NO2-N**	BMB	0.018	0.132	0.11		
4	2.09	**BR**	BMB	0.006	0.088	0.38		
5	2.33	**NO3-N**	BMB	0.332	3.902	1.44		
7	3.57	**SO4**	BMB	3.684	30.217	49.20		

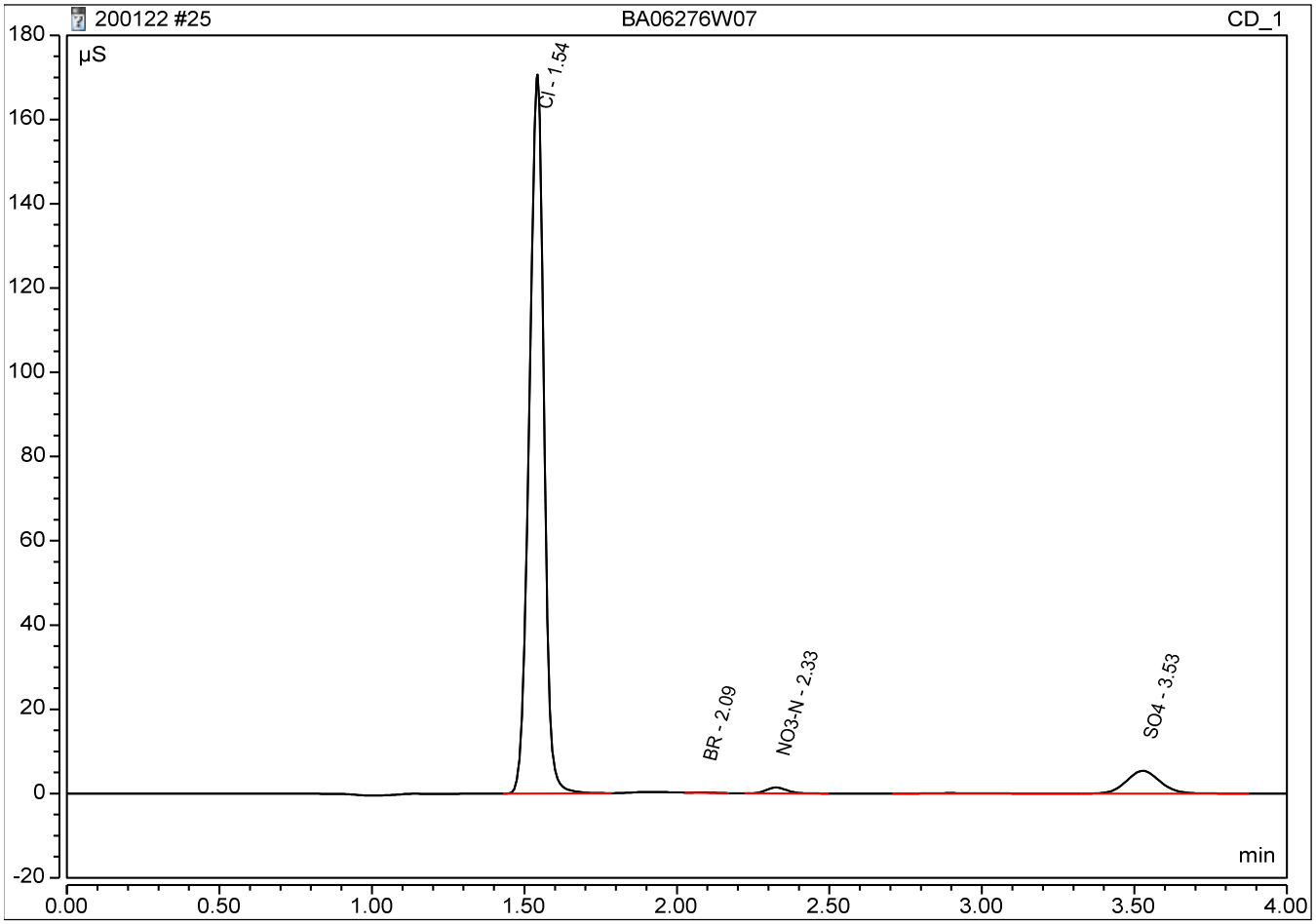


Logged on User: BW
Instrument: Charlie System_1
Sequence: 200122

Peak Integration Report

Sample Name:	**BA06276W07**	*Inj. Vol.:*	**25uL**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.22**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**22-Jan-2020 / 21:00**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.54	**Cl**	BMB	9.438	170.669	70.72		
2	2.09	**BR**	BMB	0.007	0.110	0.41		
3	2.33	**NO3-N**	BMB	0.109	1.397	0.55		
5	3.53	**SO4**	BMB	0.690	5.401	9.74		



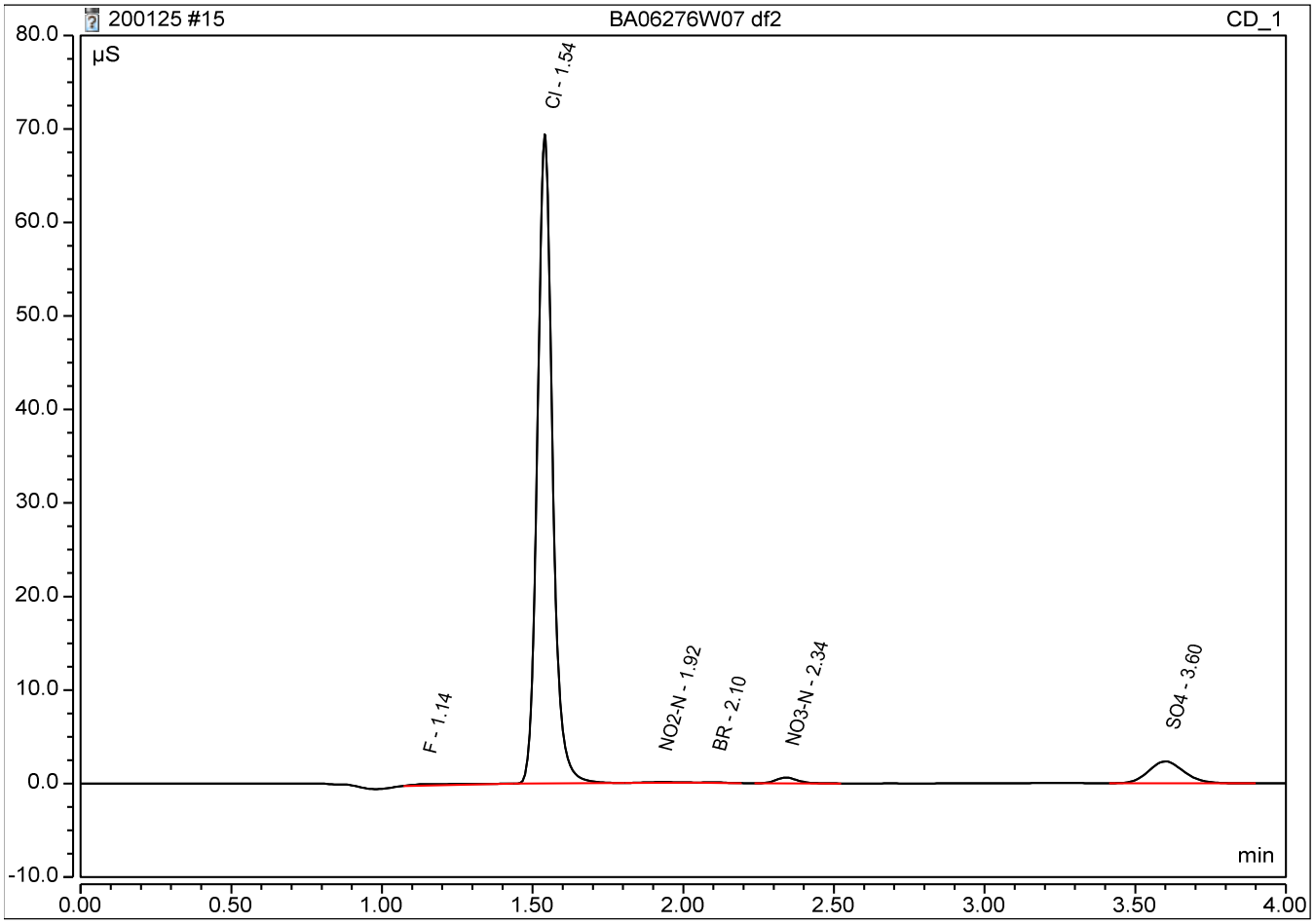
Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Logged on User: BW
Instrument: Charlie System_1
Sequence: 200125

Peak Integration Report

Sample Name:	**BA06276W07 df2**	*Inj. Vol.:*	**25uL**
Injection Type:	**Unknown**	*Dilution Factor:*	**2.00**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**25-Jan-2020 / 10:40**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.14	**F**	BMB	0.030	0.150	0.89		
2	1.54	**Cl**	BMB	4.049	69.408	74.36		
3	1.92	**NO2-N**	BMB	0.009	0.065	0.17		
4	2.10	**BR**	BMB	0.003	0.049	0.67		
5	2.34	**NO3-N**	BMB	0.051	0.614	0.75		
6	3.60	**SO4**	BMB	0.319	2.345	10.57		



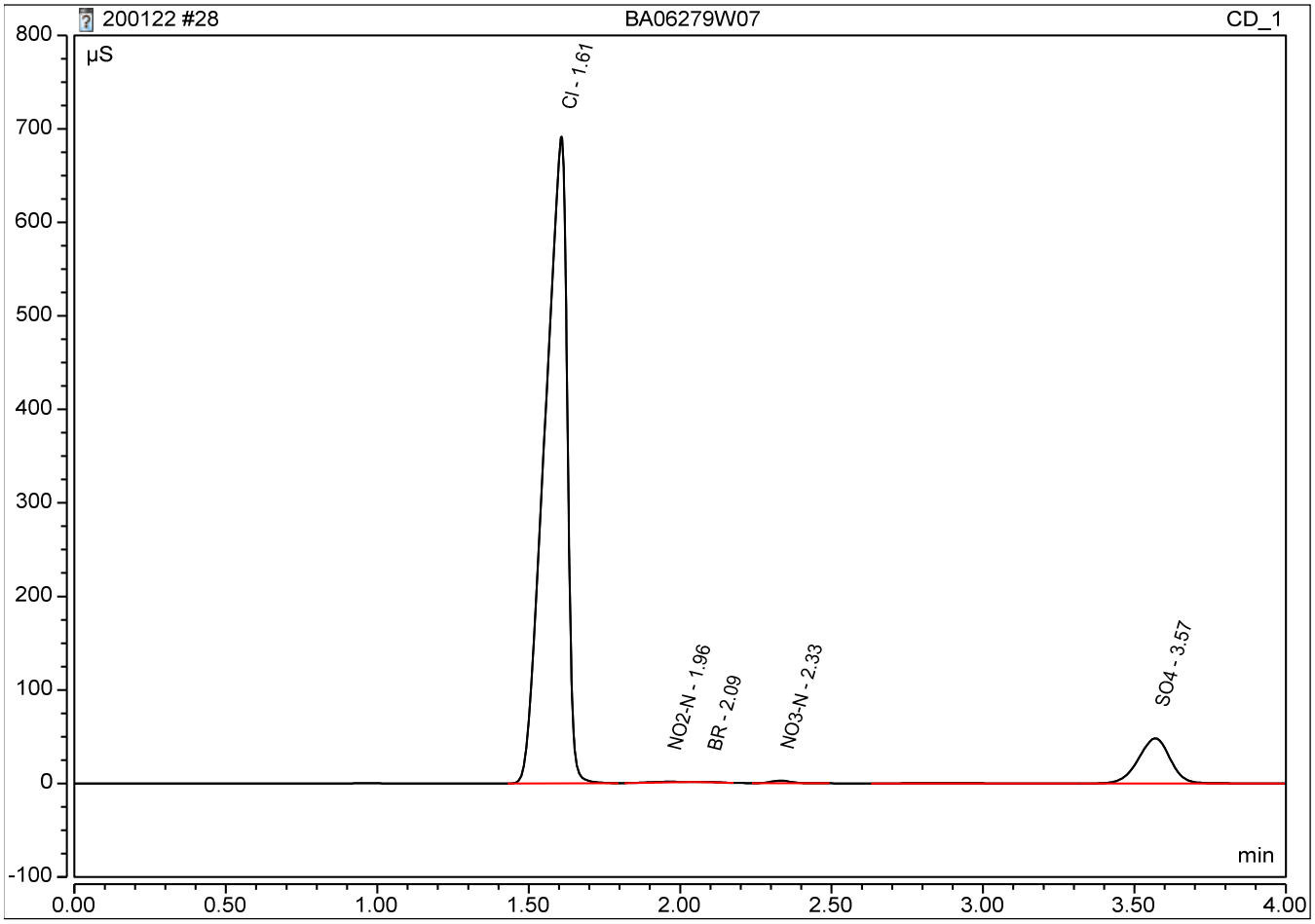
Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Logged on User: BW
Instrument: Charlie System_1
Sequence: 200122

Peak Integration Report

Sample Name:	**BA06279W07**	*Inj. Vol.:*	**25uL**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.22**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**22-Jan-2020 / 21:20**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.61	**Cl**	BMB	58.571	691.505	433.26		
2	1.96	**NO2-N**	BMB	0.090	0.789	0.49		
3	2.09	**BR**	BMB	0.037	0.588	1.14		
4	2.33	**NO3-N**	BMB	0.207	2.703	0.94		
6	3.57	**SO4**	BMB	5.871	48.208	78.01		



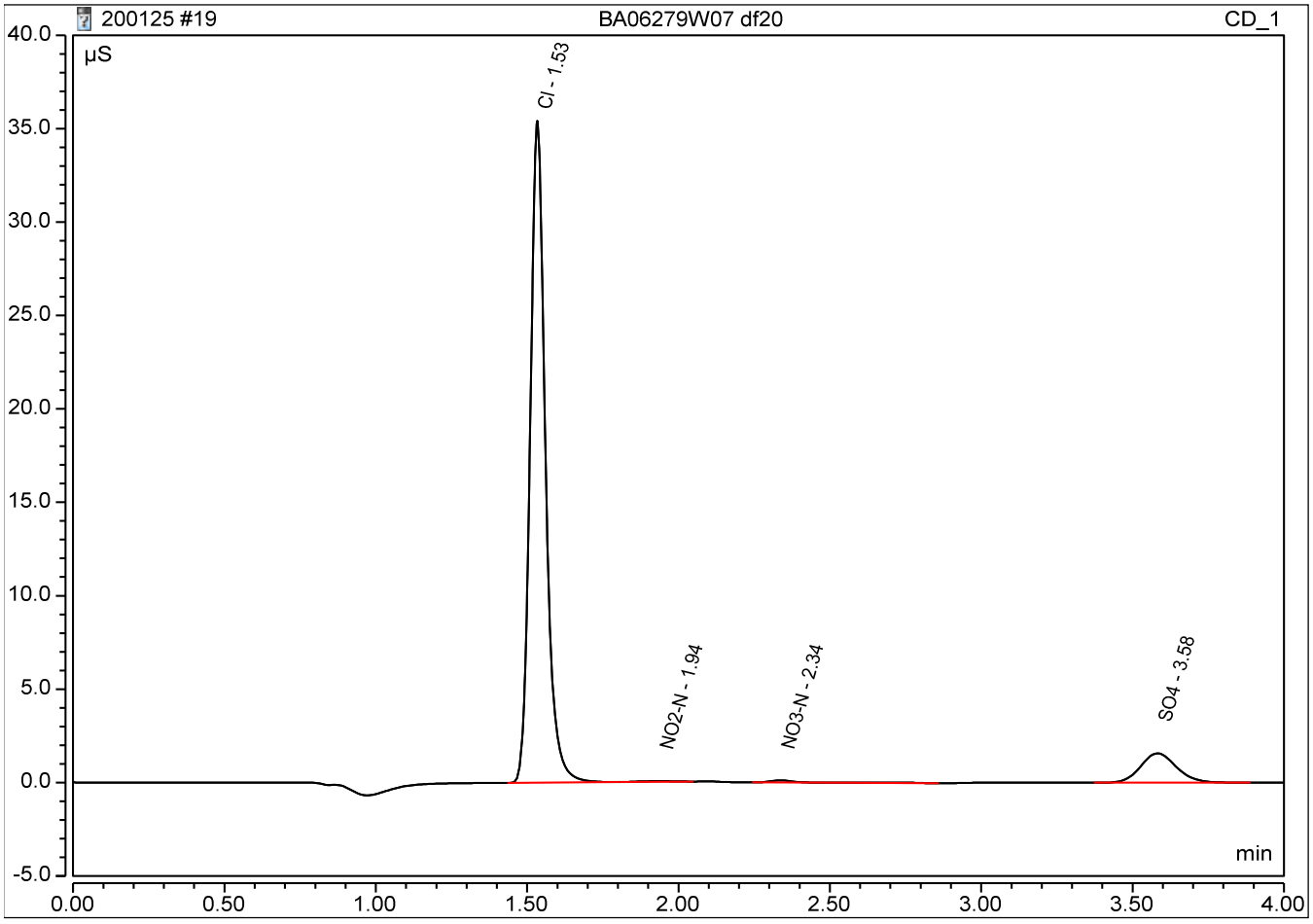
Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Logged on User: BW
Instrument: Charlie System_1
Sequence: 200125

Peak Integration Report

Sample Name:	**BA06279W07 df20**	*Inj. Vol.:*	**25uL**
Injection Type:	**Unknown**	*Dilution Factor:*	**20.00**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**25-Jan-2020 / 11:05**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.53	**Cl**	BMB	2.073	35.428	390.47		
2	1.94	**NO2-N**	BMB	0.005	0.037	1.28		
3	2.34	**NO3-N**	BMB	0.010	0.119	3.90		
5	3.58	**SO4**	BMB	0.217	1.573	76.16		



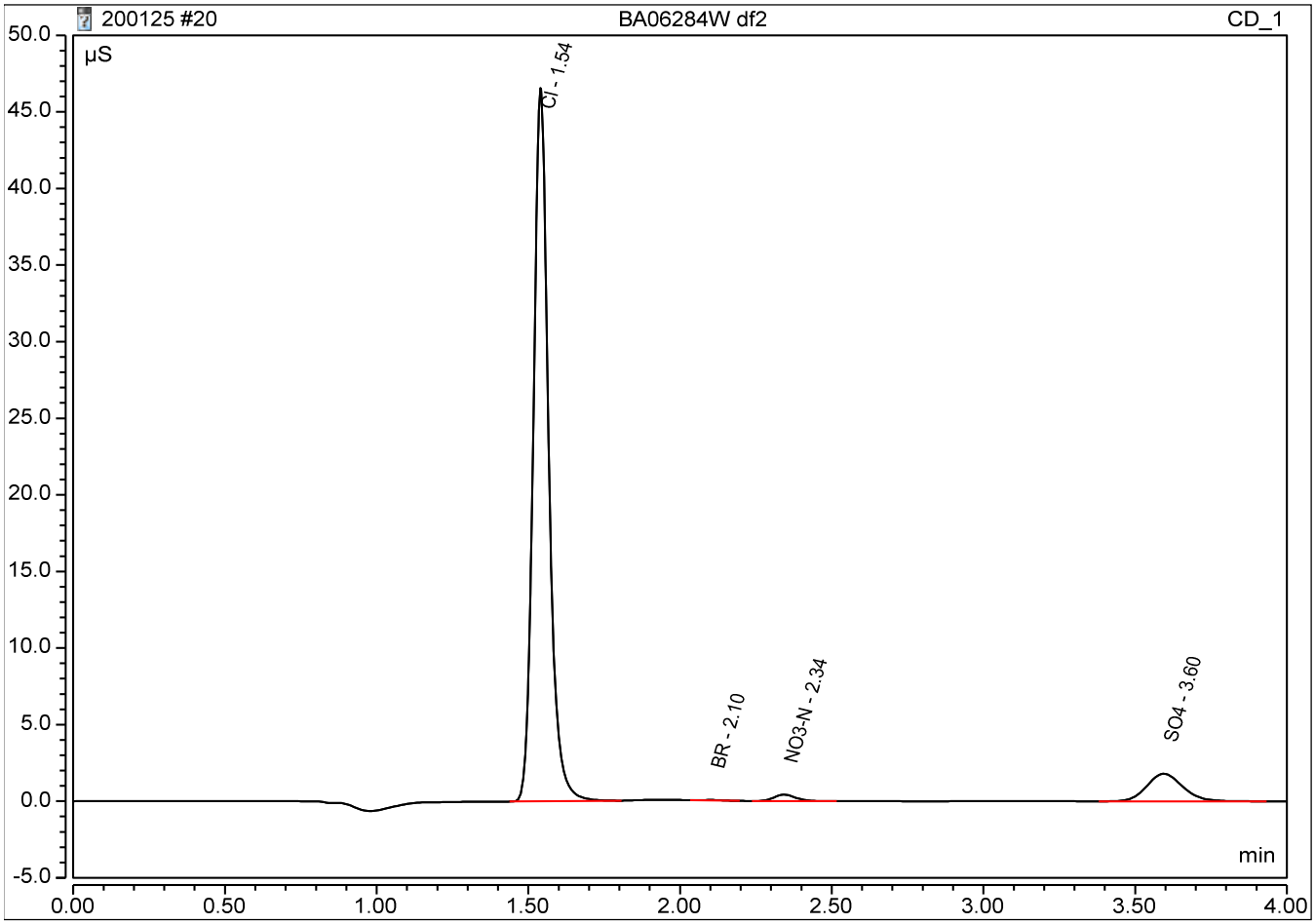
Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Logged on User: BW
Instrument: Charlie System_1
Sequence: 200125

Peak Integration Report

Sample Name:	**BA06284W df2**	*Inj. Vol.:*	**25uL**
Injection Type:	**Unknown**	*Dilution Factor:*	**2.00**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**25-Jan-2020 / 11:12**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.54	**Cl**	BMB	2.718	46.558	50.57		
2	2.10	**BR**	BMB	0.003	0.038	0.63		
3	2.34	**NO3-N**	BMB	0.036	0.425	0.61		
4	3.60	**SO4**	BMB	0.247	1.798	8.49		



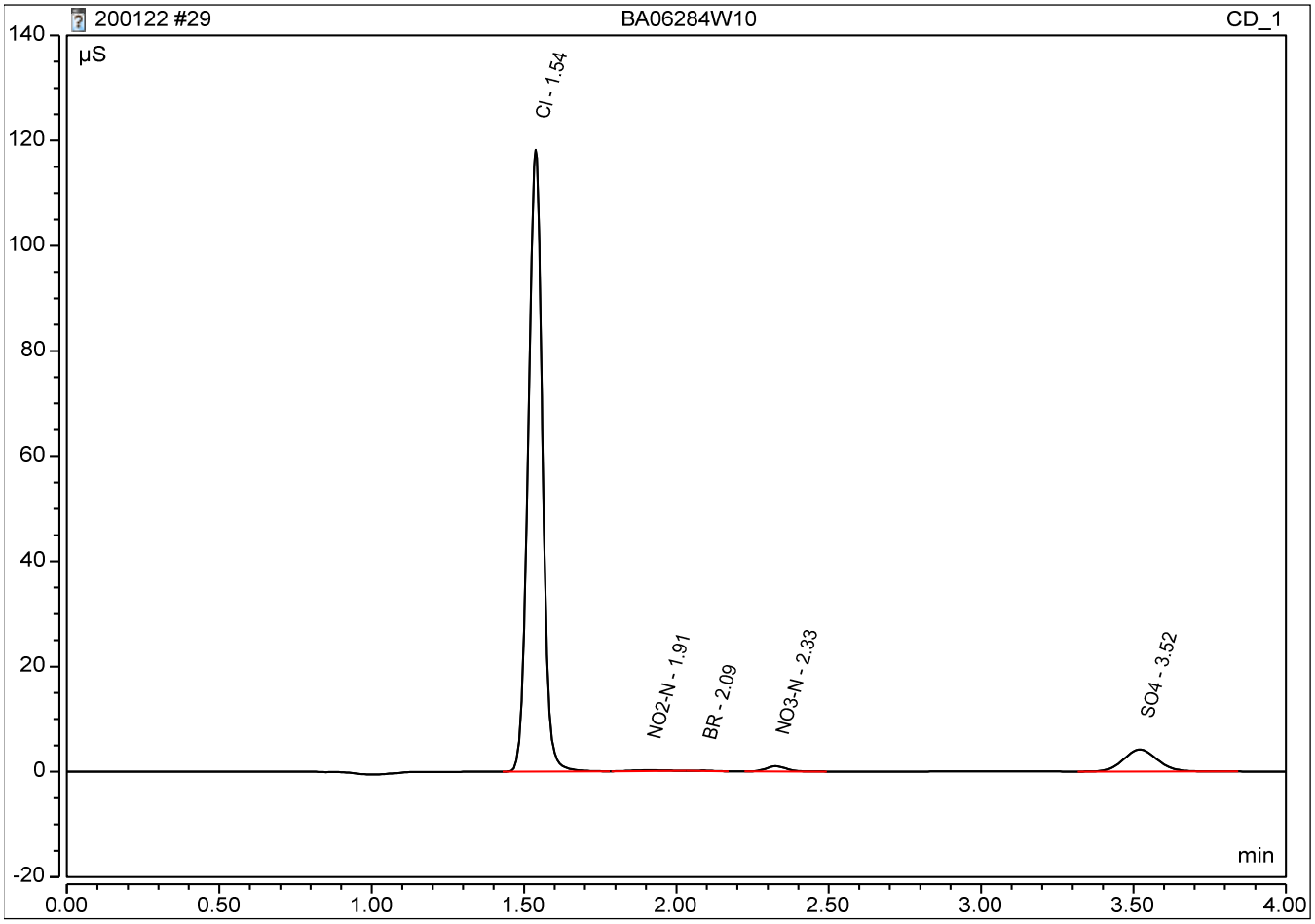
Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Logged on User: BW
Instrument: Charlie System_1
Sequence: 200122

Peak Integration Report

Sample Name:	**BA06284W10**	*Inj. Vol.:*	**25uL**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.22**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**22-Jan-2020 / 21:26**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.54	**Cl**	BMB	6.375	118.193	48.12		
2	1.91	**NO2-N**	BMB	0.020	0.157	0.12		
3	2.09	**BR**	BMB	0.005	0.078	0.36		
4	2.33	**NO3-N**	BMB	0.078	0.994	0.43		
5	3.52	**SO4**	BMB	0.539	4.178	7.75		



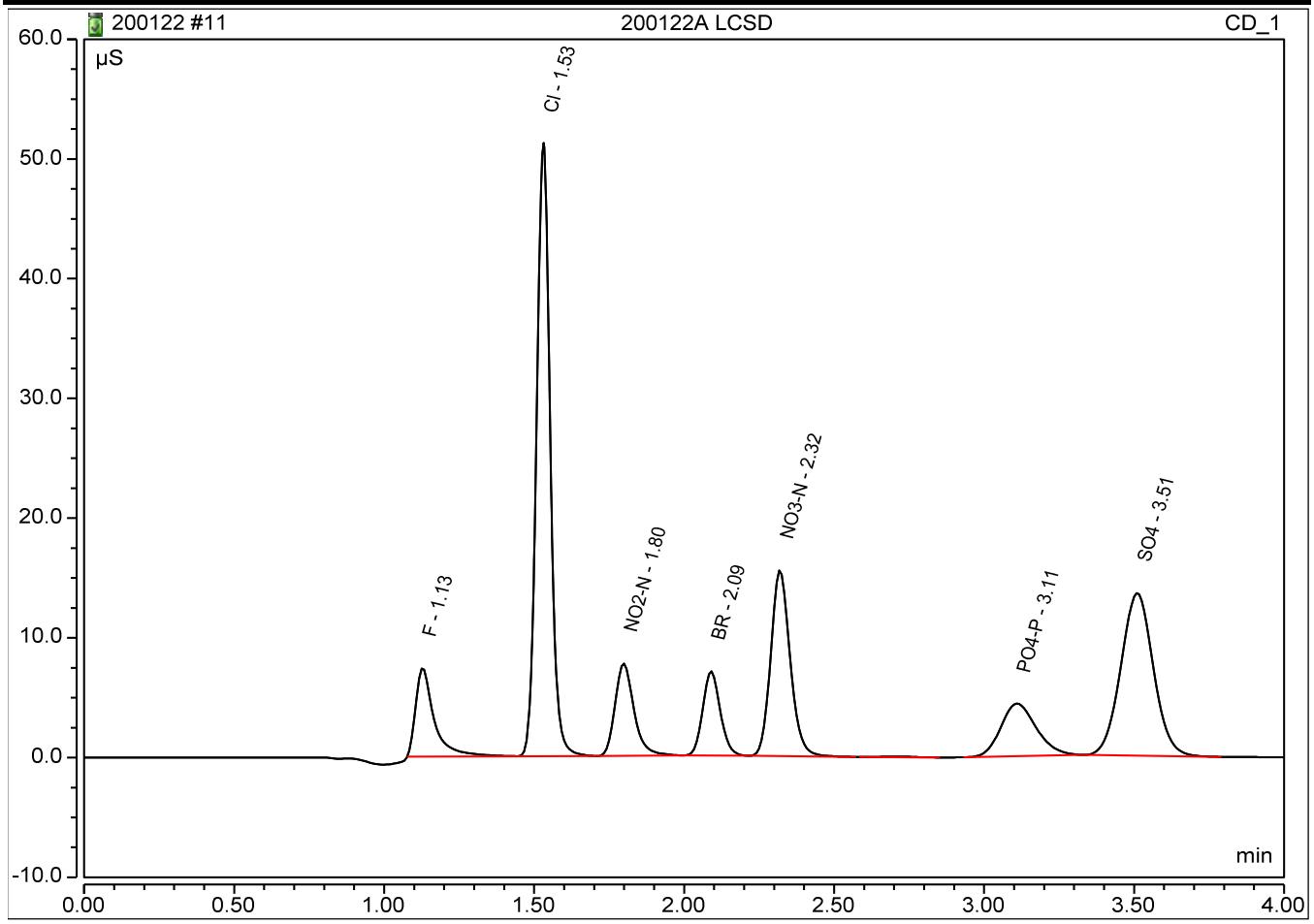
Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Logged on User: BW
Instrument: Charlie System_1
Sequence: 200122

Peak Integration Report

Sample Name:	**200122A LCSD**	*Inj. Vol.:*	**25uL**
Injection Type:	**Check Standard**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.22**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**22-Jan-2020 / 19:31**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.13	**F**	BMB	0.532	7.425	4.64	5	92.7%
2	1.53	**Cl**	BMB	2.687	51.209	20.90	25	83.6%
3	1.80	**NO2-N**	BMB	0.564	7.728	2.95	3.04	97.0%
4	2.09	**BR**	BMB	0.477	7.046	12.03	12.5	96.2%
5	2.32	**NO3-N**	BMB	1.167	15.538	4.74	5	94.8%
7	3.11	**PO4-P**	BMB	0.603	4.395	8.84	10	88.4%
8	3.51	**SO4**	BMB	1.706	13.580	23.13	25	92.5%



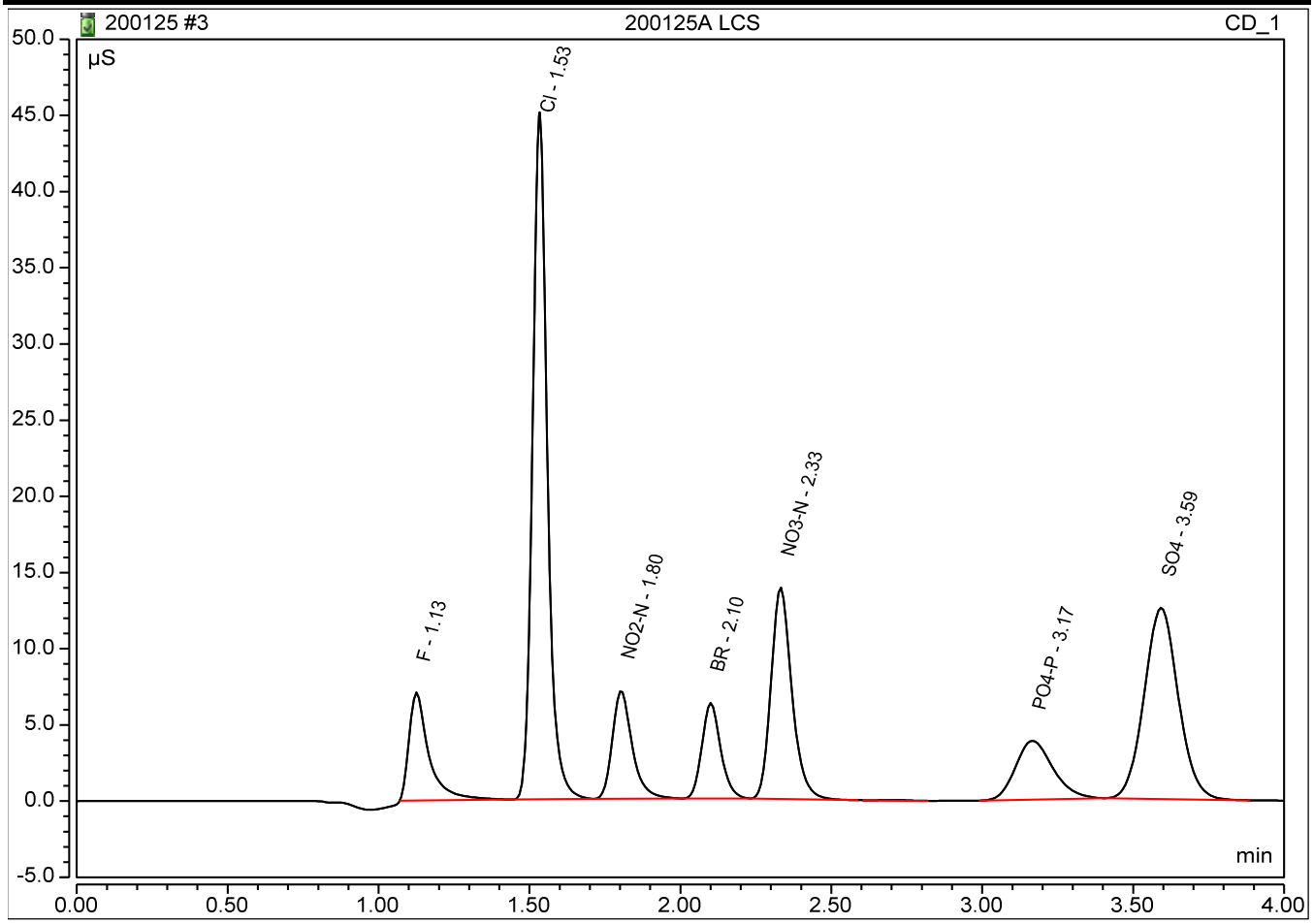
Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Logged on User: BW
Instrument: Charlie System_1
Sequence: 200125

Peak Integration Report

Sample Name:	**200125A LCS**	*Inj. Vol.:*	**25uL**
Injection Type:	**Check Standard**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**25-Jan-2020 / 09:23**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.13	**F**	BMB	0.539	7.093	4.55	5	91.0%
2	1.53	**Cl**	BMB	2.549	45.083	23.77	25	95.1%
3	1.80	**NO2-N**	BMB	0.541	7.093	2.96	3.04	97.3%
4	2.10	**BR**	BMB	0.452	6.265	12.27	12.5	98.2%
5	2.33	**NO3-N**	BMB	1.112	13.889	4.94	5	98.8%
7	3.17	**PO4-P**	BMB	0.555	3.856	8.86	10	88.6%
8	3.59	**SO4**	BMB	1.648	12.555	24.39	25	97.5%



Algorithm Check
y = Peak Area
x = mg/L S04

y = 0.0695 x + -0.0480
y = 1.6477 therefor x =

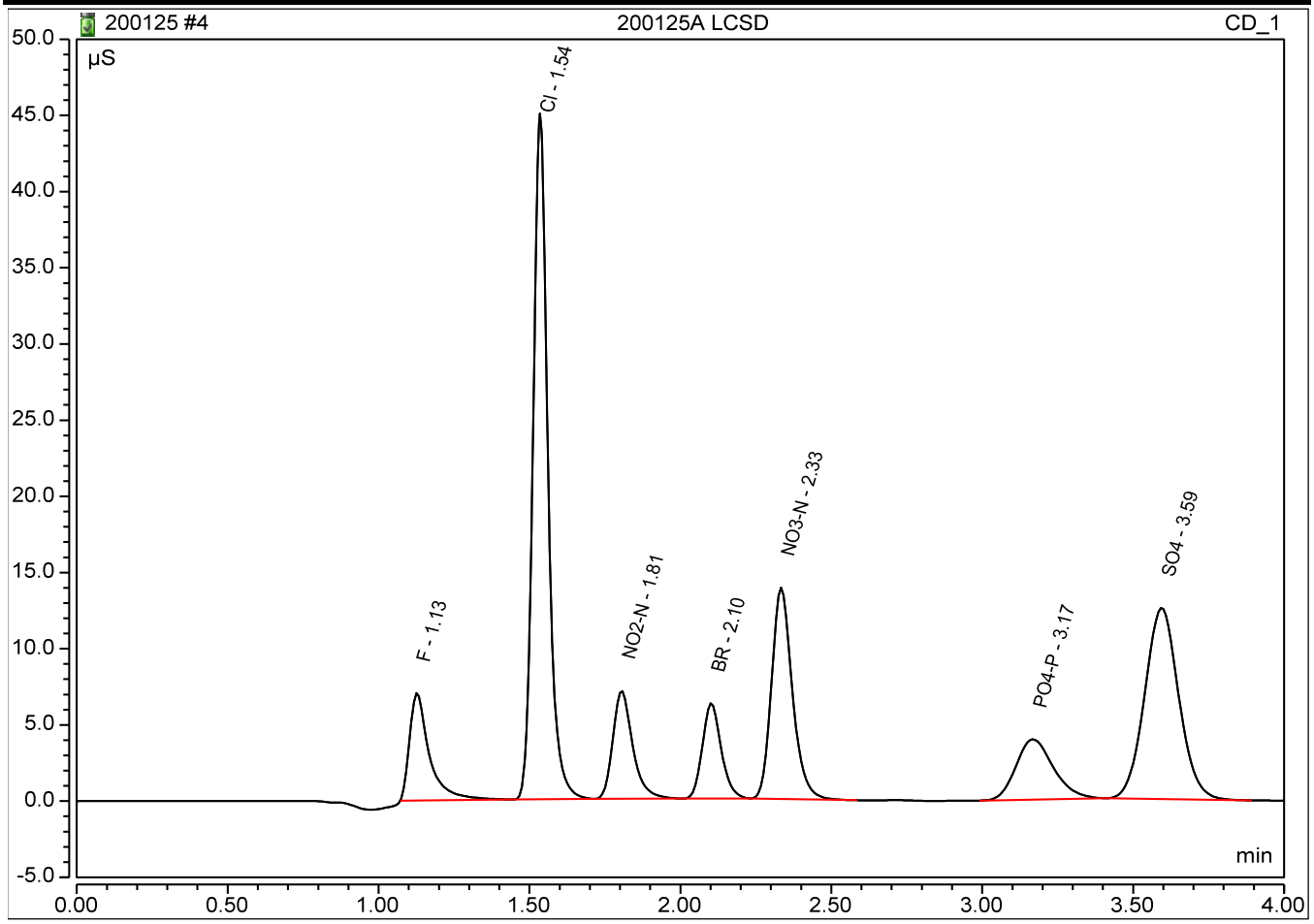
Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Logged on User: BW
Instrument: Charlie System_1
Sequence: 200125

Peak Integration Report

Sample Name:	**200125A LCSD**	*Inj. Vol.:*	**25uL**
Injection Type:	**Check Standard**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**25-Jan-2020 / 09:29**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.13	**F**	BMB	0.537	7.076	4.53	5	90.6%
2	1.54	**Cl**	BMB	2.549	45.011	23.77	25	95.1%
3	1.81	**NO2-N**	BMB	0.542	7.096	2.96	3.04	97.5%
4	2.10	**BR**	BMB	0.452	6.266	12.28	12.5	98.2%
5	2.33	**NO3-N**	BMB	1.111	13.883	4.94	5	98.8%
6	3.17	**PO4-P**	BMB	0.569	3.960	9.06	10	90.6%
7	3.59	**SO4**	BMB	1.647	12.557	24.37	25	97.5%



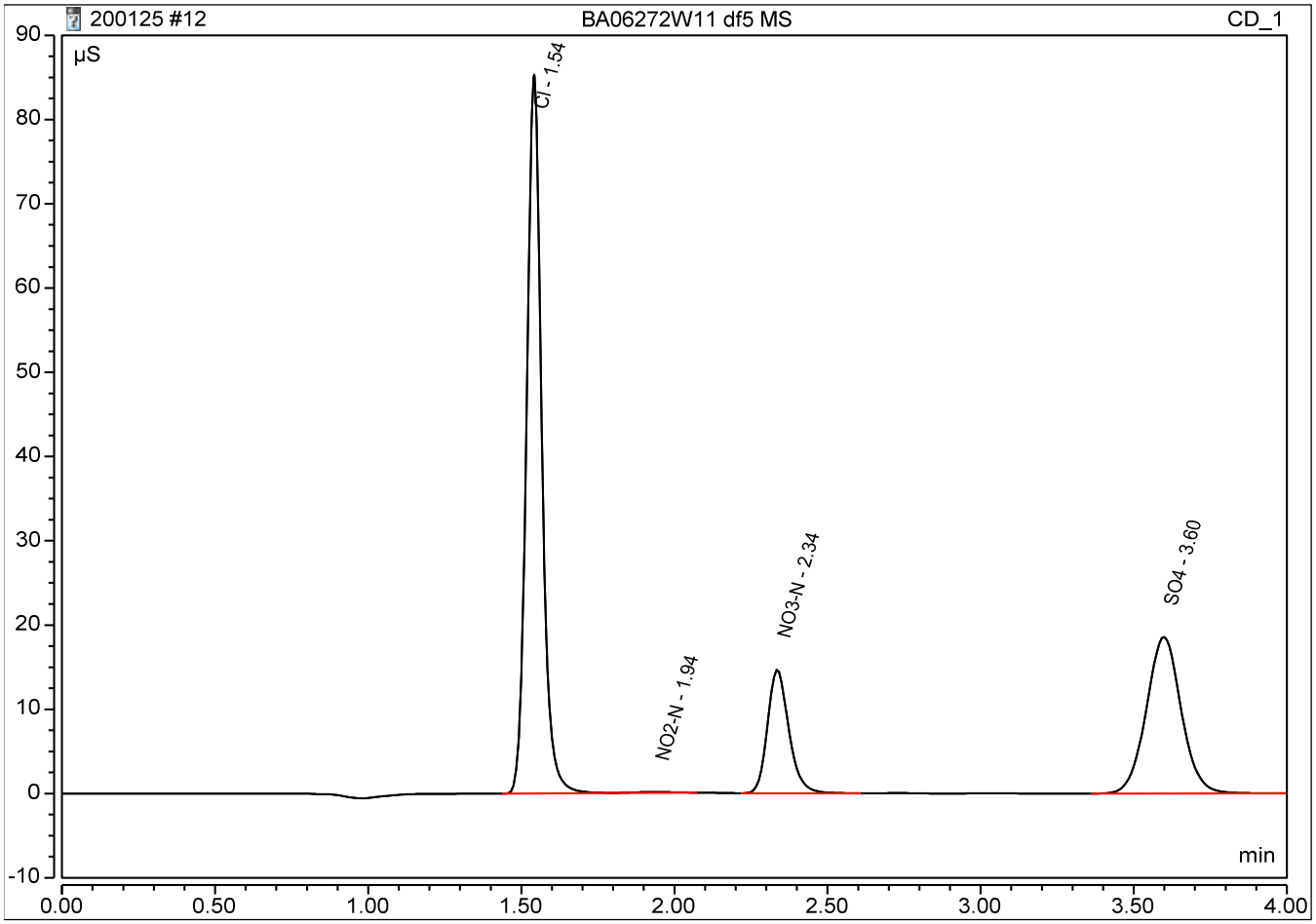
Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Logged on User: BW
Instrument: Charlie System_1
Sequence: 200125

Peak Integration Report

Sample Name:	**BA06272W11 df5 MS**	*Inj. Vol.:*	**25uL**
Injection Type:	**Unknown**	*Dilution Factor:*	**5.00**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**25-Jan-2020 / 10:21**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.54	**Cl**	BMB	4.870	85.323	222.58		
2	1.94	**NO2-N**	BMB	0.012	0.077	0.49		
3	2.34	**NO3-N**	BMB	1.186	14.688	26.28		
4	3.60	**SO4**	BMB	2.452	18.592	179.78		



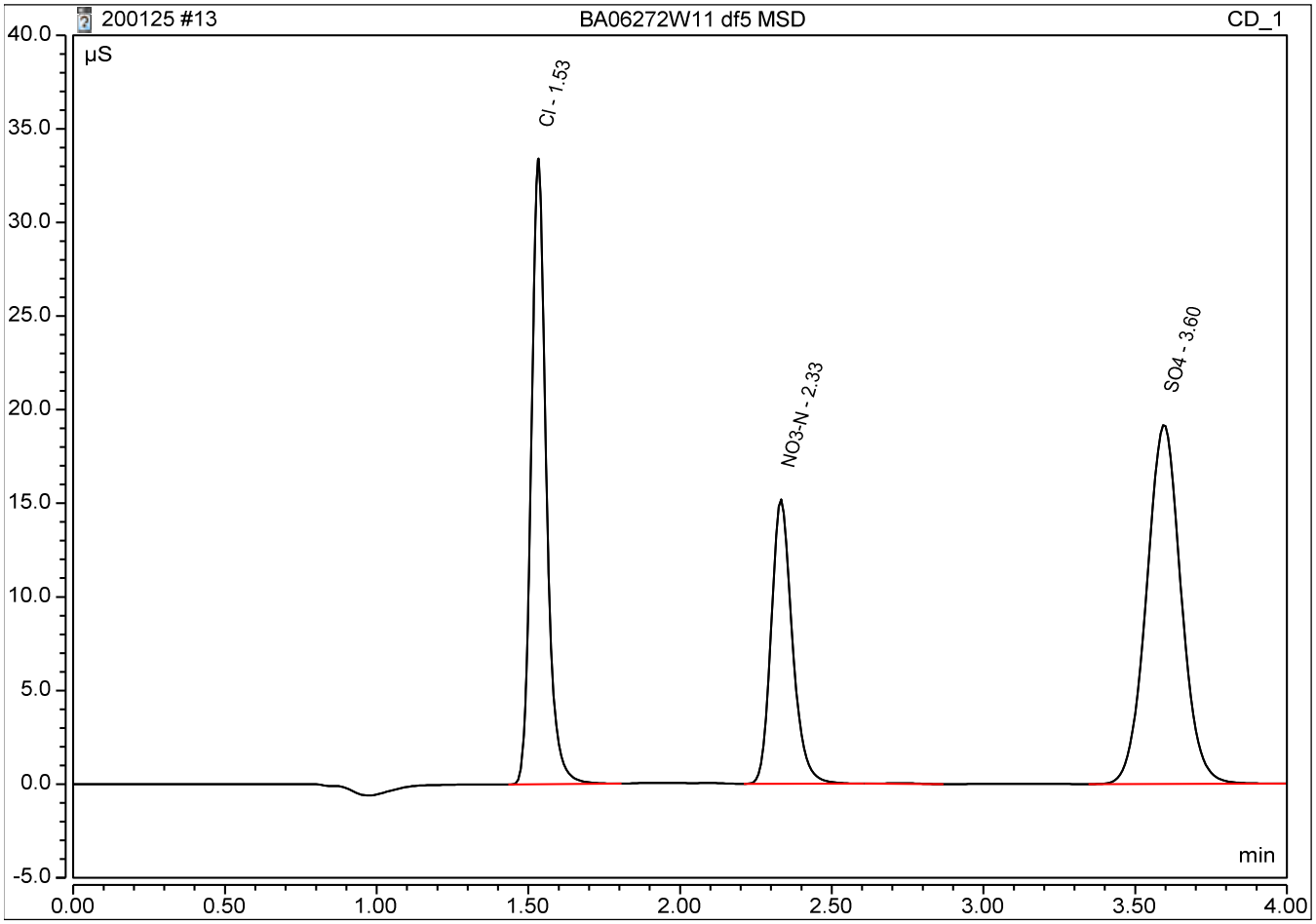
Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Logged on User: BW
Instrument: Charlie System_1
Sequence: 200125

Peak Integration Report

Sample Name:	**BA06272W11 df5 MSD**	*Inj. Vol.:*	**25uL**
Injection Type:	**Unknown**	*Dilution Factor:*	**5.00**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**25-Jan-2020 / 10:27**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.53	**Cl**	BMB	1.923	33.410	90.94		
2	2.33	**NO3-N**	BMB	1.227	15.206	27.18		
4	3.60	**SO4**	BMB	2.538	19.208	185.94		



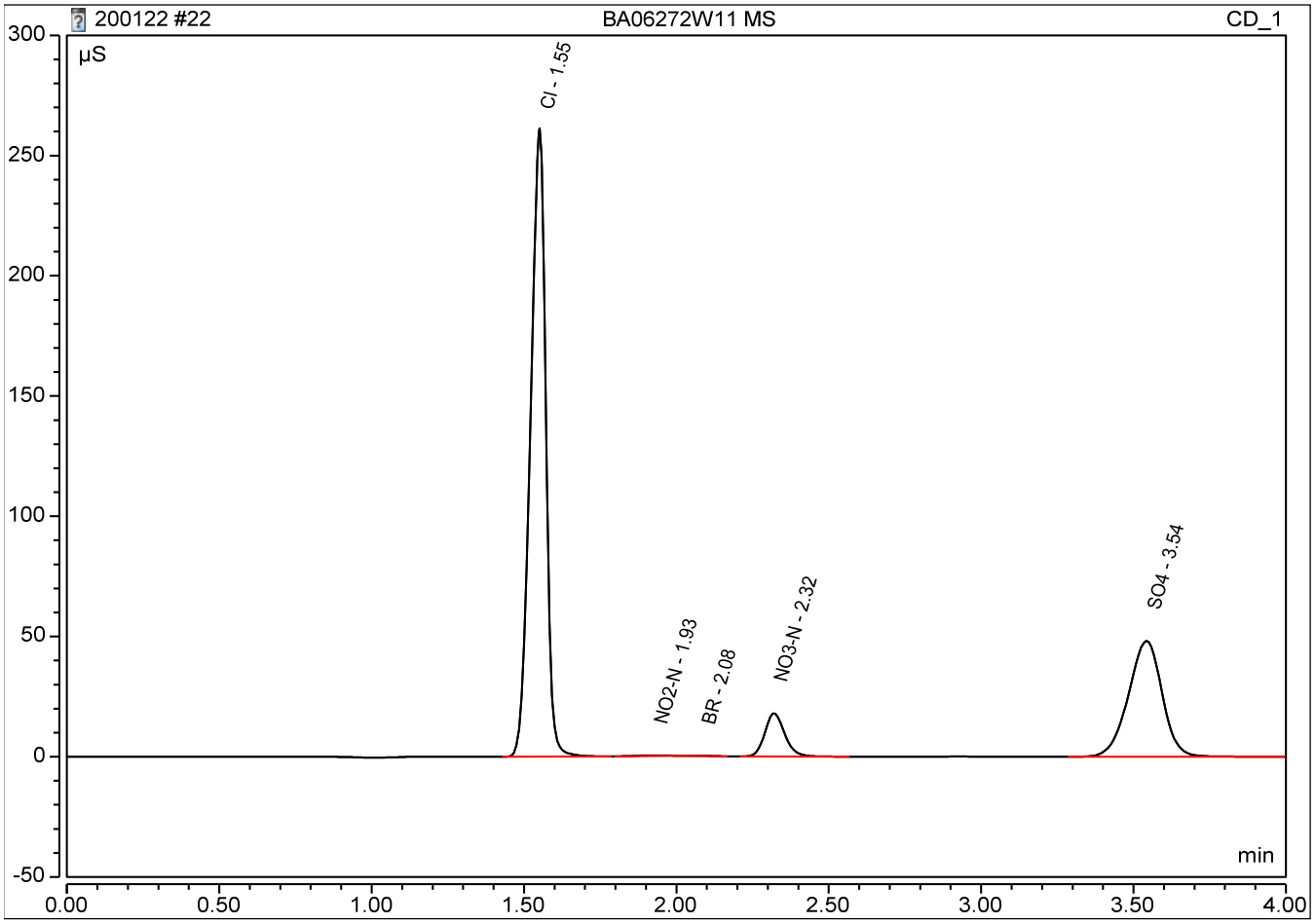
Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Logged on User: BW
Instrument: Charlie System_1
Sequence: 200122

Peak Integration Report

Sample Name:	**BA06272W11 MS**	*Inj. Vol.:*	**25uL**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.22**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**22-Jan-2020 / 20:41**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.55	**Cl**	BMB	15.159	261.258	112.93		
2	1.93	**NO2-N**	BMB	0.035	0.270	0.20		
3	2.08	**BR**	BMB	0.008	0.132	0.44		
4	2.32	**NO3-N**	BMB	1.366	18.093	5.53		
5	3.54	**SO4**	BMB	6.158	48.165	81.80		



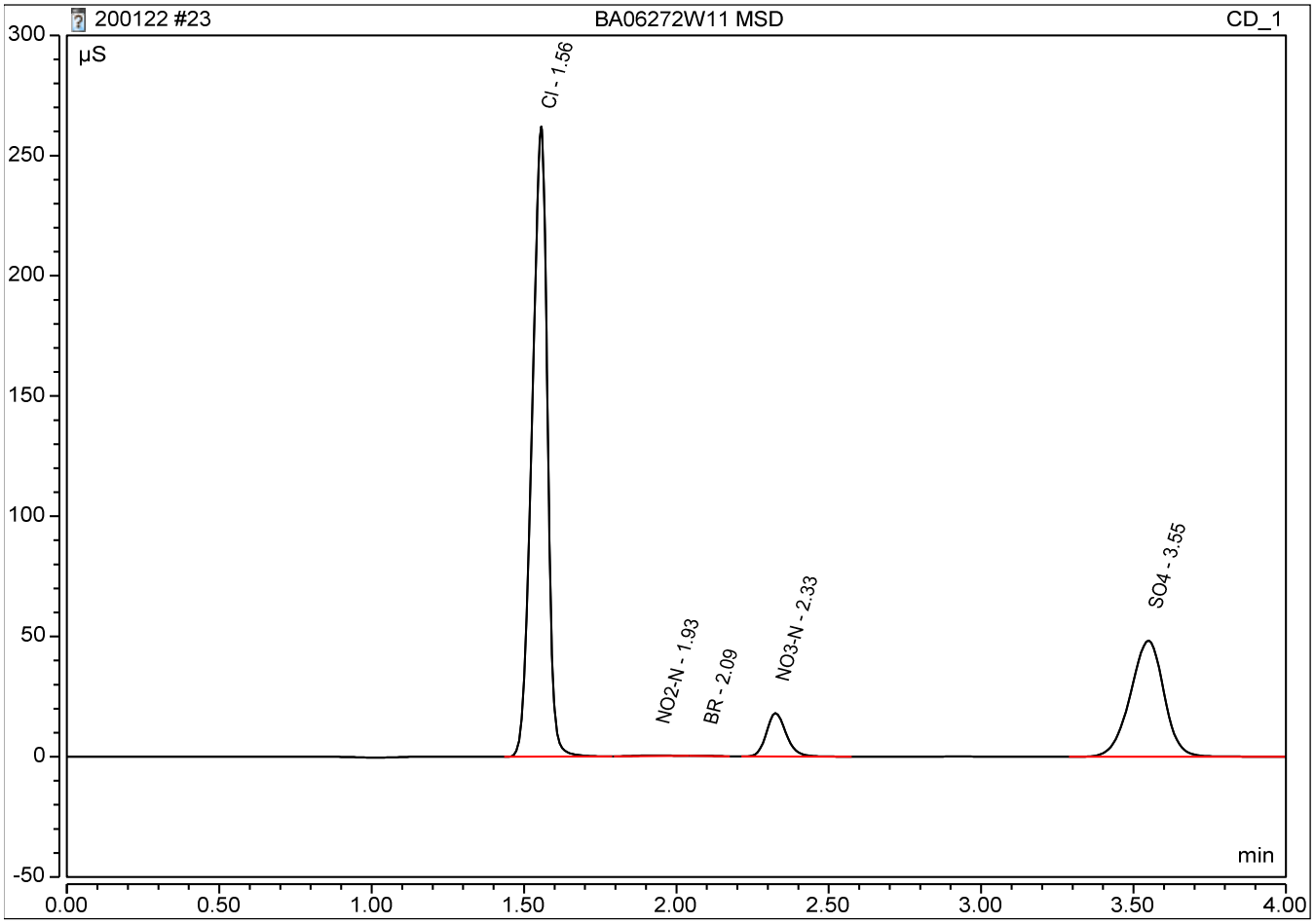
Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Logged on User: BW
Instrument: Charlie System_1
Sequence: 200122

Peak Integration Report

Sample Name:	**BA06272W11 MSD**	*Inj. Vol.:*	**25uL**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.22**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**22-Jan-2020 / 20:48**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.56	**Cl**	BMB	15.181	262.091	113.10		
2	1.93	**NO2-N**	BMB	0.041	0.301	0.23		
3	2.09	**BR**	BMB	0.008	0.134	0.44		
4	2.33	**NO3-N**	BMB	1.363	18.053	5.52		
5	3.55	**SO4**	BMB	6.171	48.263	81.98		



Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Anion Chromatography Working Standard

Prep Date: 01/24/20

Exp Date: 01/25/20

Prep'd By (Initials): CD

Initial Standard Information						Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	Supplier Part No.	Conc. (ug/mL)	Lot Number - QA Number	Exp. Date	Aliquot from Stock	Final Volume	Solvent	Final Standard Conc (µg/mL)
Ion Chromatography Standard Fluoride 1000 µg/mL in H2O	o2si	O2SI-062002-01-01	1000	687393-38-40744	10/30/20	312.5 µL	25 mL	Millipore Water	12.5
Ion Chromatography Standard Nitrite 1000 µg/mL in H2O	Inorganic Ventures	ICN021	1000	N2-NOX672889-40759	05/01/20	411 µL	25 mL	Millipore Water	5 as NO2-N
Ion Chromatography Standard Chloride 5000 µg/mL in H2O	o2si	062001-08-03	5000	10084781-1-39578	02/21/20	250 µL	25 mL	Millipore Water	50
Ortho-Phosphate as P Standard	Ultra Scientific	ICC-005A	1000	G34-CP-3323-39057	08/31/23	625 µL	25 mL	Millipore Water	25
Ion Chromatography Standard Nitrate as N 1000 µg/mL in H2O	o2si	062003-01-03	1000	880117-4-39577	02/21/20	250 µL	25 mL	Millipore Water	10
Bromide Standard	Ultra Scientific	ICC-001	1000	CR-5372-39521	12/31/21	625 µL	25 mL	Millipore Water	25
Sulfate Standard	Agilent	ICC-006	1000	CS-0688-41050	03/31/22	1250 µL	25 mL	Millipore Water	50

Anion Chromatography Calibration Curve

Prep Date: 01/24/20

Exp Date: 01/25/20

Prep'd By (Initials): CD

Initial Standard Information						Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	APPL Mix Name	Conc. Range (ug/mL)	Reference To APPL Prep Date	Exp. Date	Aliquot from Stock	Final Volume	Solvent	Final Standard Conc. Range (µg/mL)
Anion Chromatography Working Standard	Varies	ICal1	5.0-50.0	Prepared 01/24/20	01/25/20	200 µL	25000 µL	Millipore Water	0.04-0.40
Anion Chromatography Working Standard	Varies	ICal2	5.0-50.0	Prepared 01/24/20	01/25/20	20 µL	1000 µL	Millipore Water	0.1-1.0
Anion Chromatography Working Standard	Varies	ICal3	5.0-50.0	Prepared 01/24/20	01/25/20	50 µL	1000 µL	Millipore Water	0.25-2.5
Anion Chromatography Working Standard	Varies	ICal4	5.0-50.0	Prepared 01/24/20	01/25/20	100 µL	1000 µL	Millipore Water	0.5-5.0
Anion Chromatography Working Standard	Varies	ICal5	5.0-50.0	Prepared 01/24/20	01/25/20	200 µL	1000 µL	Millipore Water	1.0-10.0
Anion Chromatography Working Standard	Varies	ICal6	5.0-50.0	Prepared 01/24/20	01/25/20	500 µL	1000 µL	Millipore Water	2.5-25.0
Anion Chromatography Working Standard	Varies	ICal7	5.0-50.0	Prepared 01/24/20	01/25/20	700 µL	1000 µL	Millipore Water	3.5-35.0
Anion Chromatography Working Standard	Varies	ICal8	5.0-50.0	Prepared 01/24/20	01/25/20	1000 µL	1000 µL	Millipore Water	5.0-50.0

Anion Chromatography LCS/ICV

Prep Date: See injection Log

Exp Date: 24 hours after prep

Prep'd By (Initials): CD

Initial Standard Information						Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	Supplier Part No.	Conc. Range (ug/mL)	Lot Number - QA Number	Exp. Date	Aliquot from Stock	Final Volume	Solvent	Final Standard Conc (µg/mL)
Flouride	Inorganic Ventures	ICF1	993-999	K-F652018-39801**	04/23/20	125 µL	25 mL	Millipore Water	5
Nitrite	Inorganic Ventures	ICNO21	993-1001	M2-NOX660562-40468	08/25/21	250 µL	25 mL	Millipore Water	10
Chloride	Inorganic Ventures	ICCL1	995-1001	N2CL664868-39905	03/07/22	625 µL	25 mL	Millipore Water	25
O-Phosphate as P	Inorganic Ventures	ICPPO41	1001-1009	M2-POX655826-39803**	04/23/20	250 µL	25 mL	Millipore Water	10
Nitrate as N	Inorganic Ventures	ICNNO31	997-1005	P2-NOX675324-49391	02/14/23	125 µL	25 mL	Millipore Water	5
Ion Chromatography Standard Bromide, 1000 µg/mL in H2O	CPI International	4400-IC8M	995-1005	161681-8-39539	02/06/20	312.5 µL	25 mL	Millipore Water	12.5
Sulfate	Inorganic Ventures	ICSO41	998-1006	N2-SOX664928-39507**	05/27/20	625 µL	25 mL	Millipore Water	25

Anion Chromatography CCV

Prep Date: See injection Log

Exp Date: 24 hours after prep

**Recertified with CCV Standards listed below on 191021; extended exp. date by 6 mo.

Prep'd By (Initials): CD

Initial Standard Information						Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	Supplier Part No.	Conc. (ug/mL)	Lot Number - QA Number	Exp. Date	Aliquot from Stock	Final Volume	Solvent	Final Standard Conc (µg/mL)
Ion Chromatography Standard Fluoride 1000 µg/mL in H2O	o2si	O2SI-062002-01-01	1000	687393-38-40744	10/30/20	125 µL	25 mL	Millipore Water	5
Ion Chromatography Standard Nitrite 1000 µg/mL in H2O	Inorganic Ventures	ICN021	1000	N2-NOX672889-40759	05/01/20	250 µL	25 mL	Millipore Water	10
Ion Chromatography Standard Chloride 5000 µg/mL in H2O	o2si	062001-08-03	5000	10084781-1-39578	02/21/20	125 µL	25 mL	Millipore Water	25
Ortho-Phosphate as P Standard	Ultra Scientific	ICC-005A	1000	G34-CP-3323-39057	08/31/23	250 µL	25 mL	Millipore Water	10
Ion Chromatography Standard Nitrate as N 1000 µg/mL in H2O	o2si	062003-01-03	1000	880117-4-39577	02/21/20	125 µL	25 mL	Millipore Water	5
Bromide Standard	Ultra Scientific	ICC-001	1000	CR-5372-39521	12/31/21	312.5 µL	25 mL	Millipore Water	12.5
Sulfate Standard	Agilent	ICC-006	1000	CS-0688-41050	03/31/22	625 µL	25 mL	Millipore Water	25

Method 300 and 9056 Injection Log

No.	Position	Injection Description	Inject Time		Type	Comment
1	R2	CCV 200122	22/Jan/2020	18:01	Check Standard	
2	RE1	ICAL1 2020.01.22	22/Jan/2020	18:09	Unknown	
3	RE1	ICAL1 2020.01.22	22/Jan/2020	18:30	Check Standard	
4	RE1	ICAL1 2020.01.22	22/Jan/2020	18:43	Calibration Standard	guard column removed
5	RE2	ICAL2 2020.01.22	22/Jan/2020	18:51	Calibration Standard	
6	RE3	ICAL3 2020.01.22	22/Jan/2020	18:58	Calibration Standard	
7	RE4	ICAL4 2020.01.22	22/Jan/2020	19:06	Calibration Standard	
8	RE5	ICAL4 2020.01.22	22/Jan/2020	19:10	Check Standard	
9	R1	ICB	22/Jan/2020	19:18	Unknown	
10	R3	200122A LCS / ICV	22/Jan/2020	19:25	Check Standard	
11	R3	200122A LCSD	22/Jan/2020	19:31	Check Standard	
12	RA1	BA06263W07	22/Jan/2020	19:37	Unknown	
13	RA2	BA06264W22	22/Jan/2020	19:44	Unknown	
14	RA3	BA06264W22 MS	22/Jan/2020	19:50	Unknown	
15	RA4	BA06264W22 MSD	22/Jan/2020	19:57	Unknown	
16	RA5	BA06265W08	22/Jan/2020	20:03	Unknown	
17	RA6	BA06290W06 df2	22/Jan/2020	20:09	Unknown	df2 high EC
18	RA7	BA06291W06 df2	22/Jan/2020	20:16	Unknown	df2 high EC
19	RA8	BA06292W06 df2	22/Jan/2020	20:22	Unknown	df2 high EC
20	RB1	BA06293W06 df2	22/Jan/2020	20:29	Unknown	df2 high EC
21	RB2	BA06272W11	22/Jan/2020	20:35	Unknown	
22	RB3	BA06272W11 MS	22/Jan/2020	20:41	Unknown	
23	RB4	BA06272W11 MSD	22/Jan/2020	20:48	Unknown	
24	RB5	BA06275W07	22/Jan/2020	20:54	Unknown	
25	RB6	BA06276W07	22/Jan/2020	21:00	Unknown	
26	R2	CCV 200122	22/Jan/2020	21:07	Check Standard	
27	R1	CCB 200122	22/Jan/2020	21:13	Unknown	
28	RB7	BA06279W07	22/Jan/2020	21:20	Unknown	
29	RB8	BA06284W10	22/Jan/2020	21:26	Unknown	
30	RC1	BA05744W01	22/Jan/2020	21:32	Unknown	
31	RC2	BA05745W01	22/Jan/2020	21:39	Unknown	
32	RC3	BA05746W01	22/Jan/2020	21:45	Unknown	
33	R2	CCV 200122	22/Jan/2020	21:52	Check Standard	
34	R1	CCB 200122	22/Jan/2020	21:58	Unknown	
35	RE1	ICAL1 2020.01.22	22/Jan/2020	22:04	Check Standard	guard column removed
36	RE2	ICAL2 2020.01.22	22/Jan/2020	22:11	Check Standard	
37	RE3	ICAL3 2020.01.22	22/Jan/2020	22:17	Check Standard	
38	RE4	ICAL4 2020.01.22	22/Jan/2020	22:24	Check Standard	
39	RE5	ICAL4 2020.01.22	22/Jan/2020	22:28	Check Standard	
40	R1	ICB	22/Jan/2020	22:36	Unknown	
41	R3	200122A LCS / ICV	22/Jan/2020	22:42	Check Standard	
42	R3	200122A LCSD	22/Jan/2020	22:49	Check Standard	
43	RA1	BA06263W07	22/Jan/2020	22:55	Unknown	
44	RA2	BA06264W22	22/Jan/2020	23:02	Unknown	
45	RA3	BA06264W22 MS	22/Jan/2020	23:08	Unknown	
46	RA4	BA06264W22 MSD	22/Jan/2020	23:14	Unknown	
47	RA5	BA06265W08	22/Jan/2020	23:21	Unknown	
48	RA6	BA06290W06 df2	22/Jan/2020	23:27	Unknown	df2 high EC
49	RA7	BA06291W06 df2	22/Jan/2020	23:33	Unknown	df2 high EC
50	RA8	BA06292W06 df2	22/Jan/2020	23:40	Unknown	df2 high EC
51	RB1	BA06293W06 df2	22/Jan/2020	23:46	Unknown	df2 high EC
52	RB2	BA06272W11	22/Jan/2020	23:53	Unknown	
53	RB3	BA06272W11 MS	22/Jan/2020	23:59	Unknown	
54	RB4	BA06272W11 MSD	23/Jan/2020	00:05	Unknown	
55	RB5	BA06275W07	23/Jan/2020	00:12	Unknown	
56	RB6	BA06276W07	23/Jan/2020	00:18	Unknown	
57	R2	CCV 200122	23/Jan/2020	00:25	Check Standard	
58	R1	CCB 200122	23/Jan/2020	00:31	Unknown	
59	RB7	BA06279W07	23/Jan/2020	00:37	Unknown	
60	RB8	BA06284W10	23/Jan/2020	00:44	Unknown	
61	RC1	BA05744W01	23/Jan/2020	00:50	Unknown	
62	RC2	BA05745W01	23/Jan/2020	00:56	Unknown	
63	RC3	BA05746W01	23/Jan/2020	01:03	Unknown	
64	R2	CCV 200122	23/Jan/2020	01:09	Check Standard	
65	R1	CCB 200122	23/Jan/2020	01:16	Unknown	
66	R3	STOP	23/Jan/2020	01:20	Unknown	

Method 300 and 9056 Injection Log

No.	Position	Injection Description	Inject Time		Type	Comment
1	R2	CCV 20014A	24/Jan/2020	10:06	Check Standard	Cl NO3 SO4 fail
2	R1	CCB 200124A	24/Jan/2020	10:12	Unknown	
3	R2	CCV 20014A	24/Jan/2020	10:21	Check Standard	
4	R1	CCB 200124A	24/Jan/2020	10:28	Unknown	
5	BE1	Cal1 2020.01.24	24/Jan/2020	10:39	Calibration Standard	
6	BE2	Cal2 2020.01.24	24/Jan/2020	10:46	Calibration Standard	
7	BE3	Cal3 2020.01.24	24/Jan/2020	10:52	Calibration Standard	
8	BE4	Cal4 2020.01.24	24/Jan/2020	10:58	Calibration Standard	
9	BE5	Cal5 2020.01.24	24/Jan/2020	11:05	Calibration Standard	
10	BE6	Cal6 2020.01.24	24/Jan/2020	11:11	Calibration Standard	
11	BE7	Cal7 2020.01.24	24/Jan/2020	11:18	Calibration Standard	
12	BE8	Cal8 2020.01.24	24/Jan/2020	11:24	Calibration Standard	
13	R2	ICB 200124A	24/Jan/2020	11:30	Unknown	
14	R3	200124A LCS/ ICV	24/Jan/2020	11:37	Check Standard	
15	R3	200124A LCSD	24/Jan/2020	11:43	Check Standard	
16	R2	CCV 200124	24/Jan/2020	11:50	Check Standard	
17	R1	CCB	24/Jan/2020	11:56	Unknown	
18	GC1	Method LCS 191015	24/Jan/2020	14:41	Check Standard	half spike
19	GC2	Method LCSD 191015	24/Jan/2020	14:48	Check Standard	half spike
20	GC1	200124A LCS	24/Jan/2020	14:58	Check Standard	full spike
21	GC2	200124A LCSD	24/Jan/2020	15:04	Check Standard	full spike
22	GC3	200124A BLK	24/Jan/2020	15:11	Unknown	
23	GC4	BA06100S04	24/Jan/2020	15:17	Unknown	
24	GC5	BA06100S04 MS	24/Jan/2020	15:24	Unknown	half spike
25	GC6	BA06100S04 MSD	24/Jan/2020	15:30	Unknown	half spike
26	GC7	BA06101S04	24/Jan/2020	15:36	Unknown	
27	GC8	BA06102S04	24/Jan/2020	15:43	Unknown	
28	GD1	BA06103S04	24/Jan/2020	15:49	Unknown	
29	R2	CCV 200124	24/Jan/2020	15:55	Check Standard	
30	R1	CCB	24/Jan/2020	16:02	Unknown	
31	R3	STOP	n.a.		Unknown	

Method 300 and 9056 Injection Log

No.	Position	Injection Description	Inject Time		Type	Comment
1	R2	CCV 200125A	25/Jan/2020	09:10	Check Standard	
2	R1	CCB	25/Jan/2020	09:16	Unknown	
3	R3	200125A LCS	25/Jan/2020	09:23	Check Standard	
4	R3	200125A LCSD	25/Jan/2020	09:29	Check Standard	
5	RA3	BA05746W01	25/Jan/2020	09:36	Unknown	
6	RB3	BA06265W07 df5	25/Jan/2020	09:42	Unknown	
7	RB4	BA06290W06 df10	25/Jan/2020	09:48	Unknown	
8	RB5	BA06291W06 df5	25/Jan/2020	09:55	Unknown	
9	RB6	BA06292W06 df20	25/Jan/2020	10:01	Unknown	
10	RB7	BA06293W06 df10	25/Jan/2020	10:08	Unknown	
11	RB8	BA06272W11 df5	25/Jan/2020	10:14	Unknown	
12	RC1	BA06272W11 df5 MS	25/Jan/2020	10:21	Unknown	
13	RC2	BA06272W11 df5 MSD	25/Jan/2020	10:27	Unknown	
14	RC3	BA06275W07	25/Jan/2020	10:33	Unknown	
15	RC4	BA06276W07 df2	25/Jan/2020	10:40	Unknown	
16	RE7	BA05777W07 df2	25/Jan/2020	10:46	Unknown	
17	R2	CCV 200125	25/Jan/2020	10:52	Check Standard	
18	R1	CCB 200125	25/Jan/2020	10:59	Unknown	
19	RC5	BA06279W07 df20	25/Jan/2020	11:05	Unknown	
20	RE4	BA06284W df2	25/Jan/2020	11:12	Unknown	
21	RC6	BA06299W18 df50	25/Jan/2020	11:18	Unknown	
22	RC7	BA06299W18 df50 MS	25/Jan/2020	11:24	Unknown	
23	RC8	BA06299W18 df50 MSD	25/Jan/2020	11:31	Unknown	
24	RD1	BA0300W06 df50	25/Jan/2020	11:37	Unknown	
25	RD2	BA06301W06 df50	25/Jan/2020	11:44	Unknown	
26	RD3	BA06302W06 df20	25/Jan/2020	11:50	Unknown	
27	RD4	BA06303W06 df10	25/Jan/2020	11:56	Unknown	
28	RD5	BA06304W06 df10	25/Jan/2020	12:03	Unknown	
29	RD6	BA6305W06	25/Jan/2020	12:09	Unknown	
30	R2	CCV 200125B	25/Jan/2020	12:15	Check Standard	
31	R1	CCB 200125B	25/Jan/2020	12:22	Unknown	
32	R3	200125B LCS	25/Jan/2020	12:28	Check Standard	
33	R3	200125B LCSD	25/Jan/2020	12:35	Check Standard	
34	RD7	BA6313W07	25/Jan/2020	12:41	Unknown	
35	RD8	BA06315W07	25/Jan/2020	12:47	Unknown	
36	RE1	BA06317W07 df2	25/Jan/2020	12:54	Unknown	
37	RE2	BA06319W10	25/Jan/2020	13:00	Unknown	
38	RE3	BA06324W04	25/Jan/2020	13:07	Unknown	
39	RE5	BA06324W04 MS	25/Jan/2020	13:13	Unknown	
40	RE6	BA06324W04 MSD	25/Jan/2020	13:19	Unknown	
41	GE1	BA06136W07	25/Jan/2020	13:26	Unknown	
42	GE2	BA06138W07	25/Jan/2020	13:32	Unknown	
43	GE3	BA06141W07 df10	25/Jan/2020	13:38	Unknown	
44	GE4	BA06143W07 df10	25/Jan/2020	13:45	Unknown	
45	GE5	BA06146W04	25/Jan/2020	13:51	Unknown	
46	R2	CCV 200125B	25/Jan/2020	13:58	Check Standard	
47	R1	CCB 200125B	25/Jan/2020	14:04	Unknown	
48	R3	STOP	25/Jan/2020	14:08	Unknown	

INORGANIC ANALYSIS
Calibration Data

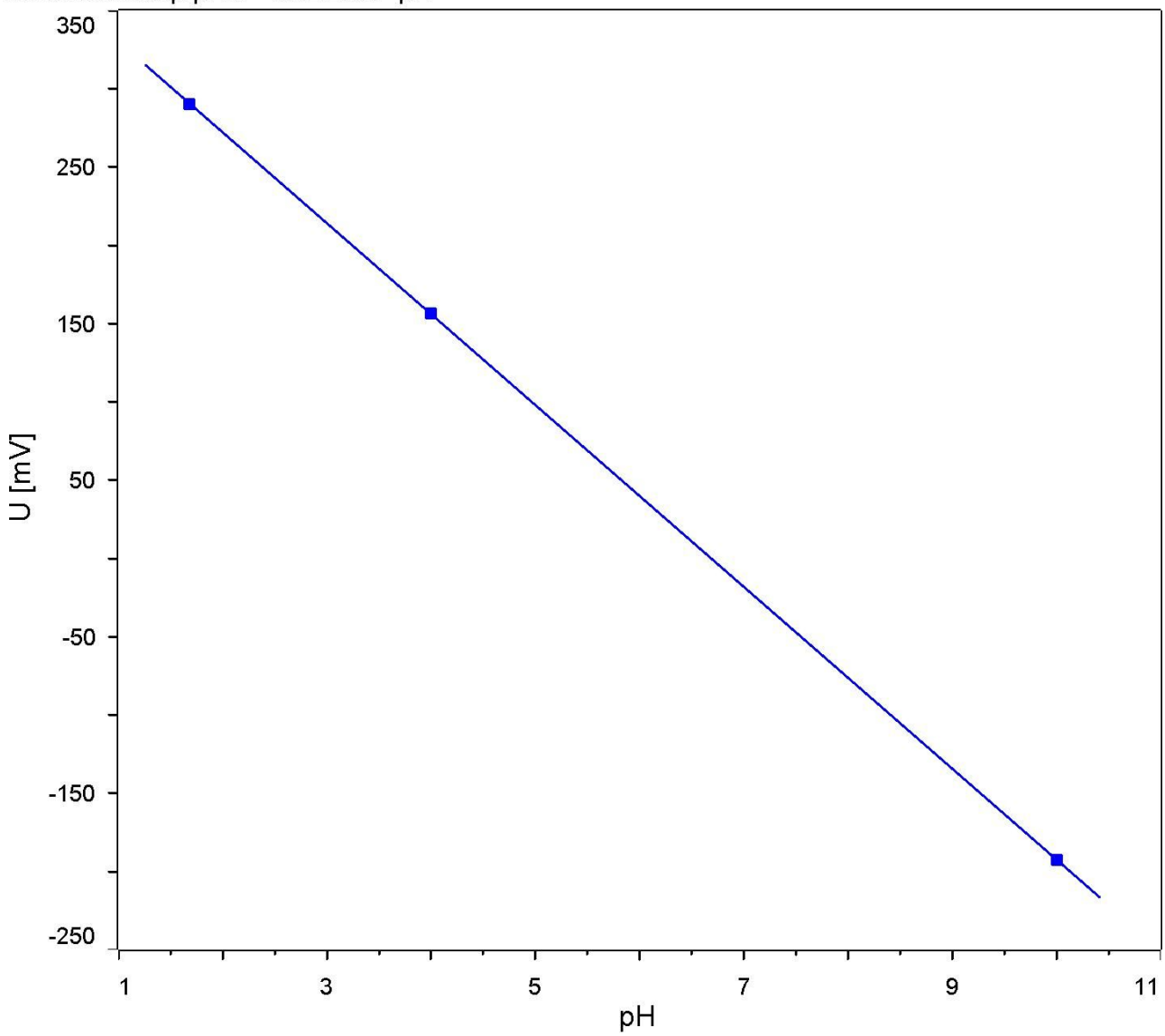
Timao Calibration Curve

2020-01-30 11:30:21

Calculations

Buffer 7	7.05	
Formula	'MEAS pH.EME'	
MEAS pH.EME	7.0456	
Slope	99.20	
Formula	'Calibration loop pH.SLO'	
Calibration loop pH.SLO	99.2	
pH(as)	6.69	
Formula	'Calibration loop pH.ENP'	
Calibration loop pH.ENP	6.686	
Res19	21.9	°C
Formula	'CAL MEAS pH.ETE'	
CAL MEAS pH.ETE	21.9264	

Calibration loop pH.1 - CAL LOOP pH



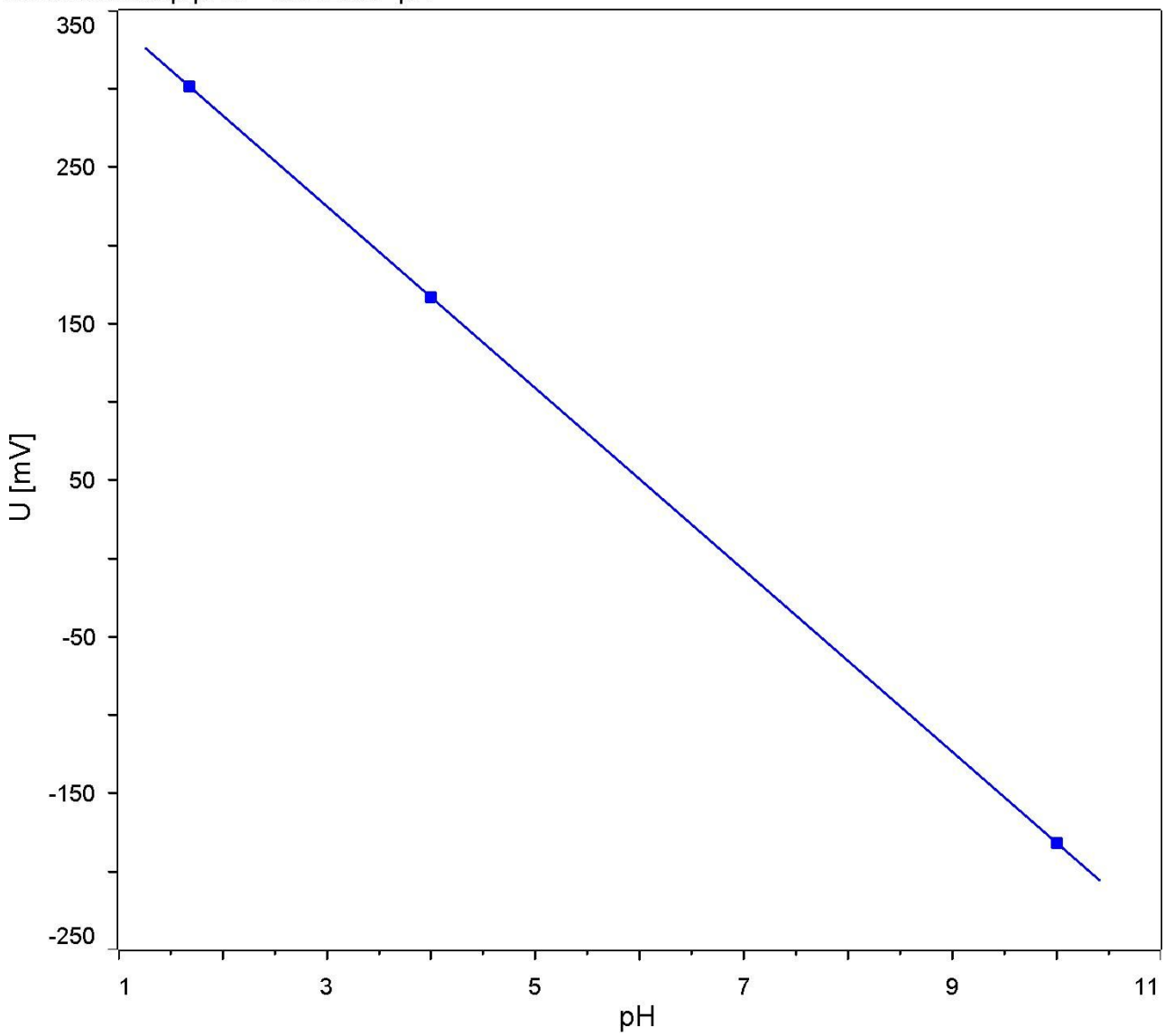
Timao Calibration Curve

2020-01-27 19:21:51

Calculations

Buffer 7	7.04	
Formula	'MEAS pH.EME'	
MEAS pH.EME	7.0382	
Slope	99.40	
Formula	'Calibration loop pH.SLO'	
Calibration loop pH.SLO	99.4	
pH(as)	6.87	
Formula	'Calibration loop pH.ENP'	
Calibration loop pH.ENP	6.871	
Res19	21.4	°C
Formula	'CAL MEAS pH.ETE'	
CAL MEAS pH.ETE	21.3891	

Calibration loop pH.1 - CAL LOOP pH



A.P.P.L. INC.
2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: AECOM
ARF No: 91282 SDG: 91282
Initial Calibration Source: CPI
Continuing Calibration Source: Environmental Express
Analysis Date: 01/27/20

Analyte	Calibration Verification									M
	True CCV1	Found 14:13	%R(1)	True CCV1	Found 14:41	%R(1)	True CCV1	Found 15:04	%R(1)	
TOXN	3	2.8876	96.3	3	3.0182	101	3	2.7945	93.2	

(1) Control Limits: 90-110

A.P.P.L. INC.
2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: AECOM
ARF No: 91282 SDG: 91282
Initial Calibration Source: CPI
Continuing Calibration Source: Environmental Express
Analysis Date: 01/27/20

Analyte	Calibration Verification									M
	True CCV1	Found 15:09	%R(1)	True	Found	%R(1)	True	Found	%R(1)	
TOXN	3	2.8006	93.4							

(1) Control Limits: 90-110

ILM02.0

A.P.P.L. INC.
3
BLANKS

Lab Name: A.P.P.L. INC. Contract: AECOM

ARF No.: 91282 SDG: 91282

Preparation Blank Matrix (soil/water): water

Preparation Blank Concentration Units (ug/L or mg/kg): mg/L

Analyte	Calibration Blanks										M
	CCB 01/27/20 14:16	C	CCB 01/27/20 14:43	C	CCB 01/27/20 15:05	C	CCB 01/27/20 15:10	C		C	
TOXN	.100	U	.100	U	.100	U	.100	U			

INORGANIC ANALYSIS
Raw Data

Ferrous Iron — Rev 2, 04-05-19

Method SM3500Fe | Units mg/L | Instrument: Genisis Spectrometer
Analyte Fe2+ | QCG: 200122A | Wavelength: 510 nm
Analyist fjr | Final Volume: 50mL | Units: mg/L

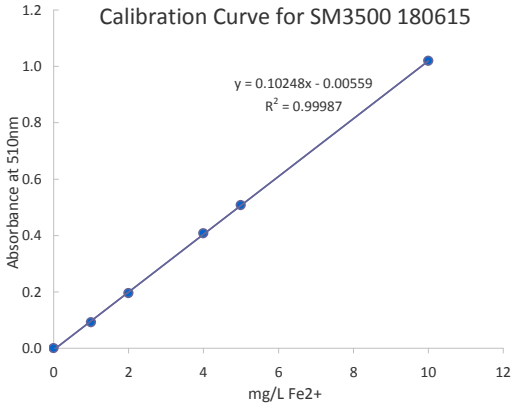
Date	Time	Appl ID	[Fe2+]	Absorbance	% Recovery
06/28/19	12:48	ICB	0.00	0.000	
06/28/19	12:49	Ical 1	1.00	0.092	95.2%
06/28/19	12:50	Ical 2	2.00	0.195	97.9%
06/28/19	12:51	Ical 3	4.00	0.408	100.9%
06/28/19	12:51	Ical 4	5.00	0.507	100.0%
06/28/19	12:52	Ical 5	10.00	1.019	100.0%
06/28/19	13:08	ICV	3.00	0.326	107.9%
06/28/19	12:53	ICB	0.00	0.002	

Slope	0.102479592
Intercept	-0.005591837
Coefficient of Determination	0.999872044

Algortithm Check:	Appl ID	Absorbance	Result
	LCS 200122A	0.311	3.09

Result = (Absorbance-Raw Blk-Intercept)/ Slope

Test:	FJR	01/22/20	3.09



Date	Time	Appl ID	DF	Raw Result	SubSample Amount	Raw BLK	Calc Conc	Result	QC True	% Recovery
01/22/20	13:59	CCV 4.0 200122A	1	0.413	25mL		4.08	4.08	4.00	102.1%
01/22/20	13:58	CCB 200122A	1	0.000	25mL		0.05	0.05		
01/22/20	13:59	LCS 200122A	1	0.311	25mL		3.09	3.09	3.00	103.0%
01/22/20	14:00	LCSD 200122A	1	0.310	25mL		3.08	3.08	3.00	102.7%
01/22/20	14:01	BA06136W09	1	0.061	25mL		0.65	0.65		
01/22/20	14:04	BA06138W09	1	0.219	25mL		2.19	2.19		
01/22/20	14:04	BA06141W09	1	0.005	25mL		0.10	0.10		
01/22/20	14:05	BA06143W09	1	0.006	25mL		0.11	0.11		
01/22/20	14:05	BA06272W13	1	0.009	25mL		0.14	0.14		
01/22/20	14:06	BA06272W13 MS	1	0.318	25mL		3.16	3.16		
01/22/20	14:06	BA06272W13 MSD	1	0.316	25mL		3.14	3.14		
01/22/20	14:07	BA06275W09	1	0.008	25mL		0.13	0.13		
01/22/20	14:07	BA06276W09	1	0.011	25mL		0.16	0.16		
01/22/20	14:08	BA06279W09	1	0.004	25mL		0.09	0.09		
01/22/20	14:08	BA06284W12	1	0.005	25mL		0.10	0.10		
01/22/20	14:09	BA06293W07	1	0.032	25mL		0.37	0.37		
01/22/20	14:09	BA06290W07	1	0.099	25mL		1.02	1.02		
01/22/20	14:09	BA06291W07	1	0.113	25mL		1.16	1.16		
01/22/20	14:10	BA06292W07	1	0.663	25mL		6.52	6.52		
01/22/20	14:11	CCV 4.0 200122A	1	0.425	25mL		4.20	4.20	4.00	105.0%
01/22/20	14:11	CCB 200122A	1	0.002	25mL		0.07	0.07		

Standard Prep

	Ferrous Iron Standards		Prep'd By (Initials)		FJR		
Prep Date	06/28/18						
Exp Date	06/28/19						
Stock Label	Supplier	Batch Number	Exp Date	Aliquot from Stock	Final Volume	Solvent	Ferrous Iron Concentration
Ferrous Ammonium Sulfate	J.T.Baker	0000184592	08/21/20	0.351	250mL	5ml H2SO4 (0000167828) Diluted with water	200ug/L
Ferrous Sulfate	Mallinckrodt	Lot 5056 KDRX	NA	0.250	250mL	5ml H2SO4 (0000167828) Diluted with water	200ug/L
Ferrous Iron CCV/LCS/MS/ICV			Prep'd By (Initials)		FJR		
Prep Date	See Injection Log						
Exp Date	24 Hours						
Initial Standard Information	Supplier	Batch Number	Exp Date	Final Standard Information			
Ferrous Iron CCV	J.T.Baker	0000184592	06/14/19	500uL	25mL	Deionized water	4mg/L
Ferrous Iron ICV/LCS	Mallinckrodt	Lot 5056 KDRX	06/14/19	375uL	25mL	Deionized water	3mg/L
	Ferrous Iron Calibration Curve		Prep'd By (Initials)		FJR		
Prep Date	06/28/18						
Exp Date	06/28/19						
Final Standard Information							
Point Label	Supplier	Batch Number	Exp Date	Aliquot from Stock (mL)	Final Volume	Solvent	Ferrous Iron Concentration
CCB	J.T.Baker	0000184592	06/14/19	0	25mL	Deionized water	0mg/L
Ical 1	J.T.Baker	0000184592	06/14/19	0.125	25mL	Deionized water	1mg/L
Ical 2	J.T.Baker	0000184592	06/14/19	0.25	25mL	Deionized water	2mg/L
Ical 3	J.T.Baker	0000184592	06/14/19	0.5	25mL	Deionized water	4mg/L
Ical 4	J.T.Baker	0000184592	06/14/19	0.625	25mL	Deionized water	5mg/L
Ical 5	J.T.Baker	0000184592	06/14/19	1.25	25mL	Deionized water	10mg/L
ICV	Mallinckrodt	Lot 5056 KDRX	06/14/19	0.375	25mL	Deionized water	3mg/L

Reagent Prep

Reagent	Chemical Lot #	Chemical	Chemical Expiration Date	Amount	Date Prep
Colorizer	0747C107	1,10-phenanthroline	na	0.2056	06/28/19
		10% HCL conc	na	enough to dissolve	01/15/19
Buffer	Z28B018	Ammonia Acetate	na	249.2	06/28/19
	2018071399	Glacial Acetic Acid	06/27/20	700mL	

Metrohm 814/809 Titrando Data

Sample ID	Analysis Date/Time	Method	Titration Volume (to 8.3)	Titration Volume (total)	OH	CO3	HCO3	Total Alk	Unit	Sample Vol	N	Batch	Initials
BA06284W10	2020-01-27 21:59:33 UTC-8	Alkalinity	0.000	1.256	0.00	0.00	52.00	52.00	mg/L	25 mL	0.0207	200127A	AR
BA06279W07	2020-01-27 21:54:18 UTC-8	Alkalinity	0.000	2.450	0.00	0.00	101.43	101.43	mg/L	25 mL	0.0207	200127A	AR
BA06276W07	2020-01-27 21:06:12 UTC-8	Alkalinity	0.000	1.798	0.00	0.00	74.44	74.44	mg/L	25 mL	0.0207	200127A	AR
BA06275W07	2020-01-27 20:55:55 UTC-8	Alkalinity	0.000	6.682	0.00	0.00	276.63	276.63	mg/L	25 mL	0.0207	200127A	AR
200127A LCSD	2020-01-27 20:47:15 UTC-8	Alkalinity	0.026	5.784	0.00	2.15	237.30	239.46	mg/L	25 mL	0.0207	200127A	AR
200127A LCS	2020-01-27 20:39:03 UTC-8	Alkalinity	0.028	5.770	0.00	2.32	236.56	238.88	mg/L	25 mL	0.0207	200127A	AR
200127A BLK	2020-01-27 20:35:37 UTC-8	Alkalinity	0.000	0.048	0.00	0.00	1.99	1.99	mg/L	25 mL	0.0207	200127A	AR

Metrohm 814/809 Titrando Data

Sample ID	Analysis Date/Time	Method	Titration Volume (to 8.3)	Titration Volume (total)	OH	CO3	HCO3	Total Alk	Unit	Sample Vol	N	Batch	Initials
200130A LCSD	2020-01-30 18:33:04 UTC-8	Alkalinity	0.000	5.742	0.00	0.00	235.42	235.42	mg/L	25 mL	0.0205	200130A	AR
200130A LCS	2020-01-30 18:24:01 UTC-8	Alkalinity	0.050	5.744	0.00	4.10	231.40	235.50	mg/L	25 mL	0.0205	200130A	AR
200130A BLK	2020-01-30 16:57:59 UTC-8	Alkalinity	0.000	0.028	0.00	0.00	1.15	1.15	mg/L	25 mL	0.0205	200130A	AR
BA06272W11	2020-01-30 16:36:06 UTC-8	Alkalinity	0.000	0.474	0.00	0.00	19.43	19.43	mg/L	25 mL	0.0205	200130A	AR

Bold and Blue= Needs to be filled out everytime reagent is prepped
Bold and Green= Needs to be filled out everytime reagent is switched out

Tiamo Alkalinity Standard Prep

Prep Date:
Exp Date:
Prep'd By (Initials): CD

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	Unit	Conc	Lot Number - QA Number	Prep/Opened	Exp. Date	Aliquot from Stock	Final Volume	Solvent	Final Standard Conc
Sulfuric Acid (H2SO4)	J.T.Baker	NA	NA	**167828**	**NA**	**NA**	PURCHASED	NA	NA	NA
0.10N Sulfuric Acid (H2SO4)	J.T.Baker	Normality	0.1N	**167828**	**05/24/19**	**05/24/20**	3ml	1L	DI	0.10N
0.02N Sulfuric Acid (H2SO4)	J.T.Baker	Normality	0.02N	**167828**	**05/24/19**	**05/24/20**	200mL	1L	DI	0.02N
Inorganic Spike(NaHCO3)	BDH	NA	NA	**1575C510**	**10/18/18**	**08/14/20**	PURCHASED	NA	NA	NA
Inorganic Spike Solution	BDH	Milligrams/Liters	250mg/L	**1575C510**	**09/17/19**	**03/17/20**	3.5g	500mL	DI	250mg/L
Standarizing Solution(NaCO3)	J.T.Baker	Normality	1N	**178494**	**07/25/17**	**07/25/19**	PURCHASED	NA	NA	NA

Tiamo Electroconductivity Standard Prep

Prep Date:
Exp Date:
Prep'd By (Initials): CD

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	Units	Conc	Lot Number	Prep/Opened	Exp. Date	Aliquot from Stock	Final Volume	Solvent	Final Standard Conc. Range (µg/mL)
EC Spike(KCl)	Mallinckrodt AR	Na	NA	**6858 KHMV**	**NA**	**NA**	PURCHASED	NA	NA	NA
EC Spike Solution	Mallinckrodt AR	Moles/Conductivity	0.01M	**6858 KHMV**	**10/01/19**	10/1/20	0.7456g	1L	DI	1412umos
EC Daily LCS Solution	Mallinckrodt AR	Moles/Conductivity	0.0070824M	**6858 KHMV**	09/10/19	9/10/20	0.5280g	1L	DI	1000umos
Storage Solution EC Probe	APPL	NA	NA	NA	NA	NA	NA	NA	DI	NA

Tiamo pH Buffer Reference Standards

Prep Date: Daily
Exp Date: Daily
Prep'd By (Initials): AR

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	Units	pH	Lot Number - QA Number	Opened	Exp. Date	Aliquot from Stock	Final Volume	Solvent	Final Standard Conc (µg/mL)
pH 1.68 Buffer	ORION	pH Units	1.68	**WX1-40709**	**04/22/19**	**01/01/21**	NA	NA	NA	NA
pH 4.00 Buffer	RICCA	pH Units	4	**1807191-39782**	**04/22/19**	**01/01/21**	NA	NA	NA	NA
pH 10.01 Buffer	VWR	pH Units	10.01	**0903980-40707**	**04/22/19**	**08/27/20**	NA	NA	NA	NA
pH 7.00 Buffer	Ricca	pH Units	7	**1805M17 - 39765**	**10/11/18**	**05/01/20**	NA	NA	NA	NA

Bold and Blue= Needs to be filled out everytime reagent is prepped
Bold and Green= Needs to be filled out everytime reagent is switched out

Tiamo Alkalinity Standard Prep

Prep Date:
Exp Date:

Prep'd By (Initials): AR

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	Unit	Conc	Lot Number - QA Number	Prep/Opened	Exp. Date	Aliquot from Stock	Final Volume	Solvent	Final Standard Conc
Sulfuric Acid (H2SO4)	J.T.Baker	NA	NA	**167828**	**NA**	**NA**	PURCHASED	NA	NA	NA
0.10N Sulfuric Acid (H2SO4)	J.T.Baker	Normality	0.1N	**167828**	**05/24/19**	**05/24/20**	3ml	1L	DI	0.10N
0.02N Sulfuric Acid (H2SO4)	J.T.Baker	Normality	0.02N	**167828**	**05/24/19**	**05/24/20**	200mL	1L	DI	0.02N
Inorganic Spike(NaHCO3)	BDH	NA	NA	**1575C510**	**10/18/18**	**08/14/20**	PURCHASED	NA	NA	NA
Inorganic Spike Solution	BDH	Milligrams/Liters	250mg/L	**1575C510**	**01/30/20**	**07/30/20**	3.5g	500mL	DI	250mg/L
Standarizing Solution(NaCO3)	J.T.Baker	Normality	1N	**178494**	**07/25/17**	**07/25/19**	PURCHASED	NA	NA	NA

Tiamo Electroconductivity Standard Prep

Prep Date:
Exp Date:

Prep'd By (Initials): CD

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	Units	Conc	Lot Number	Prep/Opened	Exp. Date	Aliquot from Stock	Final Volume	Solvent	Final Standard Conc. Range (µg/mL)
EC Spike(KCl)	Mallinckrodt AR	Na	NA	**6858 KHMV**	**NA**	**NA**	PURCHASED	NA	NA	NA
EC Spike Solution	Mallinckrodt AR	Moles/Conductivity	0.01M	**6858 KHMV**	**10/01/19**	10/1/20	0.7456g	1L	DI	1412umos
EC Daily LCS Solution	Mallinckrodt AR	Moles/Conductivity	0.0070824M	**6858 KHMV**	09/10/19	9/10/20	0.5280g	1L	DI	1000umos
Storage Solution EC Probe	APPL	NA	NA	NA	NA	NA	NA	NA	DI	NA

Tiamo pH Buffer Reference Standards

Prep Date: Daily
Exp Date: Daily

Prep'd By (Initials): AR

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	Units	pH	Lot Number - QA Number	Opened	Exp. Date	Aliquot from Stock	Final Volume	Solvent	Final Standard Conc (µg/mL)
pH 1.68 Buffer	ORION	pH Units	1.68	**WX1-40709**	**04/22/19**	**01/01/21**	NA	NA	NA	NA
pH 4.00 Buffer	RICCA	pH Units	4	**1807191-39782**	**04/22/19**	**01/01/21**	NA	NA	NA	NA
pH 10.01 Buffer	VWR	pH Units	10.01	**0903980-40707**	**04/22/19**	**08/27/20**	NA	NA	NA	NA
pH 7.00 Buffer	Ricca	pH Units	7	**1805M17 - 39765**	**10/11/18**	**05/01/20**	NA	NA	NA	NA

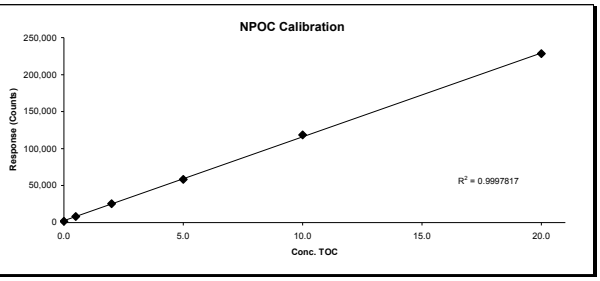
TOTAL ORGANIC CARBON

Method: WetChem | Units mg/L | Instrument: Tic Toc

Analyte: TOC | QCG: 200122A

Analyist: AR | Final Volume: 40mL

Date	Time	Appl ID	[TOC]	Raw	% Recovery
01/15/20	13:42	QC blank	0.00	1639	
01/15/20	14:25	Ical 1	0.50	8021	
01/15/20	15:01	Ical 2	2.00	25461	
01/15/20	15:37	Ical 3	5.00	58252	
01/15/20	16:13	Ical 4	10.00	118315	
01/15/20	16:49	Ical 5	20.00	228427	
01/16/20	15:11	ICB	0.08	906	
01/16/20	14:33	ICV	5.20	59018	104.0%



Date	Time	Appl ID	DF	Raw Result	SubSample Amount	Filter Blank Subtract	Calc Conc	Result	Range (mg/L)	QC True	% Recovery
2020-01-22	07:27 PM	CCV	1	57868	40mL	0.000	5.098	5.10	0.06	5.00	102.0%
2020-01-22	08:08 PM	CCB	1	1594	40mL	0.000	0.141	0.14	0.02		
2020-01-22	08:46 PM	200122A LCS	1	55716	40mL	0.000	4.909	4.91	0.06	5.00	98.2%
2020-01-22	09:26 PM	200122A LCSD	1	56829	40mL	0.000	5.006	5.01	0.01	5.00	100.1%
2020-01-22	11:23 PM	BA06136W06	1	9109	40mL	0.000	0.772	0.77	0.05		
2020-01-23	12:00 AM	BA06138W06	1	41705	40mL	0.000	3.644	3.64	0.28		
2020-01-23	12:37 AM	BA06141W06	1	3384	40mL	0.000	0.268	0.27	0.03		
2020-01-23	01:14 AM	BA06143W06	1	8622	40mL	0.000	0.73	0.73	0.00		
2020-01-23	01:51 AM	200122A LCS LOQ	1	23628	40mL	0.000	2.082	2.08	0.05	2.00	104.1%
2020-01-23	02:31 AM	BA06212W01	1	12517	40mL	0.000	1.103	1.10	0.03	1.00	110.3%
2020-01-23	03:09 AM	BA06212W01 DUP	1	13391	40mL	0.000	1.179	1.18	0.03	1.00	117.9%
2020-01-23	03:48 AM	CCV	1	57361	40mL	0.000	5.054	5.05	0.06	5.00	101.1%
2020-01-23	04:28 AM	CCB	1	1276	40mL	0.000	0.113	0.11	0.02		
2020-01-23	05:06 AM	BA06272W09	1	2549	40mL	0.000	0.195	0.20	0.06		
2020-01-23	05:41 AM	BA06272W09 DUP	1	3503	40mL	0.000	0.279	0.28	0.00		
2020-01-23	06:17 AM	BA06272W10 MS	1	54765	40mL	0.000	4.795	4.80	0.06		
2020-01-23	06:55 AM	BA06272W10 MSD	1	52712	40mL	0.000	4.614	4.61	0.19		
2020-01-23	07:33 AM	BA06275W06	1	16396	40mL	0.000	1.415	1.42	0.23		
2020-01-23	08:10 AM	BA06276W06	1	2272	40mL	0.000	0.171	0.17	0.00		
2020-01-23	08:45 AM	BA06279W05	1	2327	40mL	0.000	0.175	0.18	0.07		
2020-01-23	09:22 AM	BA06284W08	1	6998	40mL	0.000	0.587	0.59	0.06		
2020-01-23	10:00 AM	CCV	1	53497	40mL	0.000	4.713	4.71	0.16	5.00	94.3%
2020-01-23	10:41 AM	CCB	1	423	40mL	0.000	0.037	0.04	0.00		

Name of Final Standard TOC Calibration Curve — **Prep'd By (Initials)** AR

Prep Date 01/15/20

Exp Date 01/15/21

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from contianer Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
Total Organic Carbon (TOC) Standard	Agilent	IQC-1 06-5	1000 mg/L	CS-5157-40233	11/30/20	20 uL	40 mL	DI Water	0.5 ppm
Total Organic Carbon (TOC) Standard	Agilent	IQC-1 06-5	1000 mg/L	CS-5157-40233	11/30/20	100 uL	40 mL	DI Water	2 ppm
Total Organic Carbon (TOC) Standard	Agilent	IQC-1 06-5	1000 mg/L	CS-5157-40233	11/30/20	250 uL	40 mL	DI Water	5 ppm
Total Organic Carbon (TOC) Standard	Agilent	IQC-1 06-5	1000 mg/L	CS-5157-40233	11/30/20	500 uL	40 mL	DI Water	10 ppm
Total Organic Carbon (TOC) Standard	Agilent	IQC-1 06-5	1000 mg/L	CS-5157-40233	11/30/20	1000 uL	40 mL	DI Water	20 ppm

Name of Final Standard ICV (TOC) — **Prep'd By (Initials)** HH

Prep Date 01/15/20

Exp Date 01/15/21

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from contianer Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
1000 PPM ICV TOC Intermediate	APPL Inc.	Prep: 2/11/19	1000 mg/L	Prep: 2/11/19	01/15/21	500 uL	40mL	DI Water	10 ppm

Name of Final Standard CCV (TOC) — **Prep'd By (Initials)** AR

Prep Date See Data

Exp Date 1 year

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from contianer Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
Total Organic Carbon (TOC) Standard	Agilent	IQC-1 06-5	1000 mg/L	CS-5157-40233	11/30/20	200 uL	40 mL	DI Water	5 ppm

Name of Final Standard TOC_LCS/LCSD — **Prep'd By (Initials)** AR

Prep Date See Data

Exp Date 1 year

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from contianer Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
Total Organic Carbon (TOC) Standard	ULTRA Scientific	IQC-106-5	1000 mg/L	CR-0328-37639	02/28/19	200 uL	40 mL	DI Water	5 ppm

Name of Final Standard TOC_MS/MSD — **Prep'd By (Initials)** AR

Prep Date See Data

Exp Date 1 year

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from contianer Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
Total Organic Carbon (TOC) Standard	ULTRA Scientific	IQC-106-5	1000 mg/L	CR-0328-37639	02/28/19	200 uL	40 mL	sample	5 ppm

AQ2 Tray Report

Serial Number:	190170
Software Version:	2.1.0
Report Requested By:	Kyle S
Date & Time:	2020-01-27 15:19:49
Tray Number:	4
Tray Name:	200127A TOXN

Nitrite-N

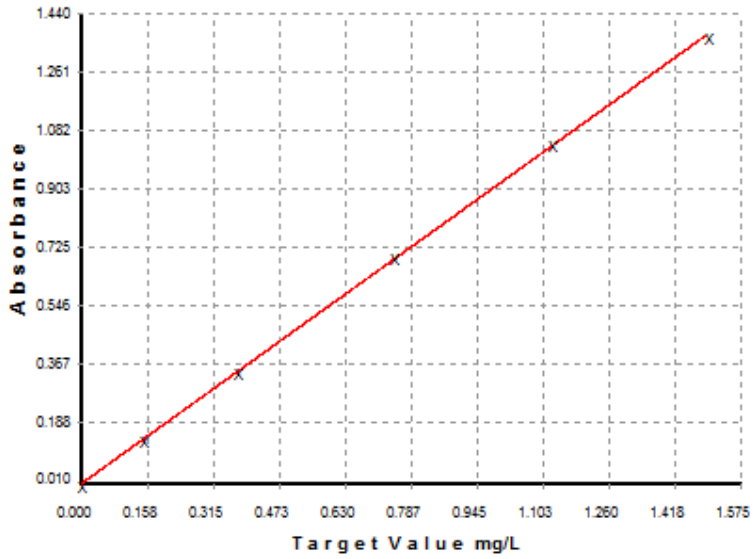
Calibration Chart

Type	Absorbance	Calc mg/L	Target mg/L	% Error
S1	0.0096	-0.0017	0.0000	
S90	0.1445	0.1461	0.1500	-2.59
S91	0.3547	0.3766	0.3750	0.43
S92	0.6982	0.7533	0.7500	0.44
S93	1.0456	1.1343	1.1250	0.83
S94	1.3712	1.4913	1.5000	-0.58
S0	0.0196	0.0092	0.0000	

Polynomial Order:	1
Correlation Coefficient:	0.9999
Carryover(%):	0.7
Calibration equation:	y = bx + a
y =:	Concentration mg/L
x =:	Measured absorbance
a =:	-1.228615E-002
b =:	1.096562E+000
Date & Time:	2020-01-27 12:58:18

Algorithm Check:
y=(1.096562)(0.678177)-1.228615E-002
y=0.7314 ✓

Calibration Graph



Reagents

Name	Batch	Prepared By	Expiry Date
Sulfa-NEDD		Joel	
NO2 Buffer		Joel	

Test Results

Cup Type	ID	Result	Units	QC Pro	Raw Data	Auto Dil.	Man Dil.	User	Time/Date
S1	Standard 1	0.0096			0.009640			KS	2020-01-27 12:50:33
S90	Standard 90	0.1445			0.144456			KS	2020-01-27 12:51:50
S91	Standard 91	0.3547			0.354659			KS	2020-01-27 12:53:08
S92	Standard 92	0.6982			0.698199			KS	2020-01-27 12:54:25
S93	Standard 93	1.0456			1.045629			KS	2020-01-27 12:55:43
S94	Standard 94	1.3712			1.371212			KS	2020-01-27 12:57:01
S0	Standard 0	0.0196			0.019628			KS	2020-01-27 12:58:18
CCV	CCV .75	0.7394	mg/L		0.685528			KS	2020-01-27 12:59:36
CCB	CCB	0.0046	mg/L		0.015439			KS	2020-01-27

							13:00:54
3	U1	ICV NO2	0.7219	mg/L	0.669531	KS	2020-01-27 13:02:13
4	U2	ICV NO3 TOXN	0.0046	mg/L	0.015354	KS	2020-01-27 13:03:31
5	U3	ICB NO2 NO3 TOXN	-0.0008	mg/L	0.010500	KS	2020-01-27 13:04:48
6	U28	200127A Blk NO2 NO3 TOXN pH5.28 Thing 0	-0.0001	mg/L	0.011093	KS	2020-01-27 13:06:07
7	U5	200127A LCS NO2 pH5.28	0.7314	mg/L	0.678177	KS	2020-01-27 13:07:25
8	U6	200127A LCSD NO2 pH5.28	0.7226	mg/L	0.670175	KS	2020-01-27 13:08:43
9	U7	200127A LCS NO3 TOXN pH5.28	0.0049	mg/L	0.015696	KS	2020-01-27 13:09:59
10	U8	200127A LCSD NO3 TOXN pH5.28	-0.0009	mg/L	0.010401	KS	2020-01-27 13:11:13
11	U9	1 ppm NO2	1.0193	mg/L	0.940773	KS	2020-01-27 13:12:28
12	U10	1 ppm NO3	0.0057	mg/L	0.016440	KS	2020-01-27 13:13:42
	CCV	CCV .75	0.7508	mg/L	0.695868	KS	2020-01-27 13:14:56
	CCB	CCB	0.0045	mg/L	0.015311	KS	2020-01-27 13:16:11
13	U11	BA06136W08 MS pH6.95	0.0016	mg/L	0.012693	KS	2020-01-27 13:17:25
14	U12	BA06136W08 MSD pH6.95	0.0012	mg/L	0.012282	KS	2020-01-27 13:18:39
15	U13	BA06136W08 pH6.02	-0.0009	mg/L	0.010387	KS	2020-01-27 13:19:52
16	U14	BA06138W08 pH7.53	-0.0007	mg/L	0.010556	KS	2020-01-27 13:21:08
17	U15	BA06141W08 pH5.89	-0.0009	mg/L	0.010344	KS	2020-01-27 13:22:21
18	U16	BA06143W08 pH7.01	-0.0005	mg/L	0.010768	KS	2020-01-27 13:23:35
19	U17	BA06272W12 pH6.77	-0.0000	mg/L	0.011164	KS	2020-01-27 13:24:49
20	U18	BA06275W08 pH5.92	0.0007	mg/L	0.011871	KS	2020-01-27 13:26:02
21	U19	BA06276W08 pH5.41	-0.0004	mg/L	0.010810	KS	2020-01-27 13:27:15
22	U20	BA06279W08 pH7.30	-0.0009	mg/L	0.010373	KS	2020-01-27 13:28:29
	CCV	CCV .75	0.7501	mg/L	0.695252	KS	2020-01-27 13:29:42
	CCB	CCB	0.0039	mg/L	0.014755	KS	2020-01-27 13:30:56
23	U21	BA06284W11 pH5.33	0.0000	mg/L	0.011234	KS	2020-01-27 13:32:11
24	U22	BA06313W08 pH6.82	-0.0001	mg/L	0.011093	KS	2020-01-27 13:32:49
25	U23	BA06315W08 pH6.47	-0.0002	mg/L	0.011008	KS	2020-01-27 13:34:58
26	U24	BA06317W08 pH6.25	0.0022	mg/L	0.013232	KS	2020-01-27 13:37:12
27	U25	BA06319W11 pH7.63	-0.0006	mg/L	0.010669	KS	2020-01-27 13:39:29
28	U26	BA06361W11 pH6.99	-0.0005	mg/L	0.010782	KS	2020-01-27 13:41:49
29	U27	BA06364W08 pH6.48	0.0001	mg/L	0.011319	KS	2020-01-27 13:44:13
	CCV	CCV .75	0.7493	mg/L	0.694502	KS	2020-01-27 13:46:35
	CCB	CCB	0.0034	mg/L	0.014313	KS	2020-01-27 13:48:48

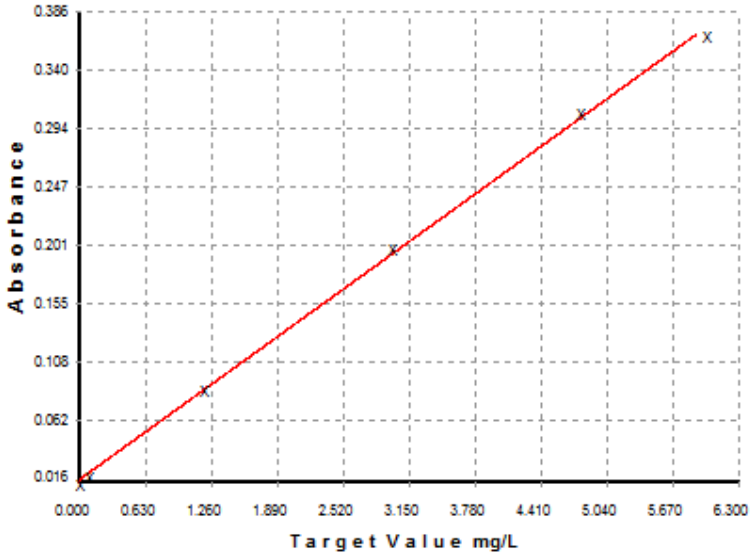
TOXN

Calibration Chart

Type	Absorbance	Calc mg/L	Target mg/L	% Error
S1	0.0158	-0.0336	0.0000	
S90	0.0221	0.0726	0.1000	-27.44
S91	0.0894	1.2059	1.2000	0.49
S92	0.2007	3.0791	3.0000	2.64
S93	0.3077	4.8815	4.8000	1.70
S94	0.3679	5.8945	6.0000	-1.76
S0	0.0162	-0.0273	0.0000	

Polynomial Order:	1
Correlation Coefficient:	0.9996
Carryover(%):	0.1
Calibration equation:	y = bx + a
y =:	Concentration mg/L
x =:	Measured absorbance
a =:	-2.994905E-001
b =:	1.683517E+001
Date & Time:	2020-01-27 14:11:30

Calibration Graph



Reagents

Name	Batch	Prepared By	Expiry Date
NO3 W Buffer		Joel	
Sulfa-NEDD		Joel	

Test Results

Cup	Type	ID	Result	Units	QC Pro	Raw Data	Auto Dil.	Man Dil.	User	Time/Date
	S1	Standard 1	0.0158			0.015796			KS	2020-01-27 13:57:50
	S90	Standard 90	0.0221			0.022100			KS	2020-01-27 14:00:07
	S91	Standard 91	0.0894			0.089419			KS	2020-01-27 14:02:25
	S92	Standard 92	0.2007			0.200684			KS	2020-01-27 14:04:41
	S93	Standard 93	0.3077			0.307750			KS	2020-01-27 14:06:57
	S94	Standard 94	0.3679			0.367922			KS	2020-01-27 14:09:12
	S0	Standard 0	0.0162			0.016168			KS	2020-01-27 14:11:30
	CCV	CCV	2.8876	mg/L		0.189309			KS	2020-01-27 14:13:48
	CCB	CCB	-0.0362	mg/L		0.015639			KS	2020-01-27 14:16:02
4	U2	ICV NO3 TOXN	2.9311	mg/L		0.191895			KS	2020-01-27 14:18:14
5	U3	ICB NO2 NO3 TOXN	-0.0220	mg/L		0.016483			KS	2020-01-27 14:20:29
6	U28	200127A Blk NO2 NO3 TOXN pH5.28 Thing 0	-0.0403ELL	mg/L		0.015396			KS	2020-01-27 14:22:48
9	U7	200127A LCS NO3 TOXN pH5.28	3.0156	mg/L		0.196917			KS	2020-01-27 14:25:05
10	U8	200127A LCSD NO3 TOXN pH5.28	2.8955	mg/L		0.189778			KS	2020-01-27 14:27:23
12	U10	1 ppm NO3	0.9568	mg/L		0.074626			KS	2020-01-27 14:29:41
13	U11	BA06136W08 MS pH6.95	-0.0078	mg/L		0.017328			KS	2020-01-27 14:31:59
14	U12	BA06136W08 MSD pH6.95	-0.0107	mg/L		0.017156			KS	2020-01-27 14:34:17
										2020-01-27

15	U13	BA06136W08 pH6.02	-0.0326	mg/L	0.015853	KS	14:36:35
16	U14	BA06138W08 pH7.53	-0.0213	mg/L	0.016526	KS	2020-01-27 14:38:53
	CCV	CCV	3.0182	mg/L	0.197069	KS	2020-01-27 14:41:12
	CCB	CCB	-0.0396	mg/L	0.015439	KS	2020-01-27 14:43:31
17	U15	BA06141W08 pH5.89	0.6315	mg/L	0.055300	KS	2020-01-27 14:45:50
18	U16	BA06143W08 pH7.01	1.3202	mg/L	0.096208	KS	2020-01-27 14:48:08
19	U17	BA06272W12 pH6.77	0.5599	mg/L	0.051049	KS	2020-01-27 14:50:27
20	U18	BA06275W08 pH5.92	1.5126	mg/L	0.107636	KS	2020-01-27 14:52:45
21	U19	BA06276W08 pH5.41	0.5092	mg/L	0.048038	KS	2020-01-27 14:55:04
22	U20	BA06279W08 pH7.30	1.0737	mg/L	0.081568	KS	2020-01-27 14:57:22
23	U21	BA06284W11 pH5.33	0.3486	mg/L	0.038495	KS	2020-01-27 14:59:41
24	U22	BA06313W08 pH6.82	0.7599	mg/L	0.062924	KS	2020-01-27 15:02:00
25	U23	BA06315W08 pH6.47	0.4512	mg/L	0.044590	KS	2020-01-27 15:02:39
26	U24	BA06317W08 pH6.25	1.7857	mg/L	0.123856	KS	2020-01-27 15:03:44
	CCV	CCV	2.7945	mg/L	0.183784	KS	2020-01-27 15:04:40
	CCB	CCB	-0.0573	mg/L	0.014384	KS	2020-01-27 15:05:38
27	U25	BA06319W11 pH7.63	0.2878	mg/L	0.034883	KS	2020-01-27 15:06:35
28	U26	BA06361W11 pH6.99	0.3337	mg/L	0.037608	KS	2020-01-27 15:07:31
29	U27	BA06364W08 pH6.48	0.1671	mg/L	0.027717	KS	2020-01-27 15:08:28
	CCV	CCV	2.8006	mg/L	0.184142	KS	2020-01-27 15:09:24
	CCB	CCB	-0.0456	mg/L	0.015083	KS	2020-01-27 15:10:21

Nitrate-N

Test Results

Cup	Type	ID	Result	Units	QC Pro	Raw Data	Auto Dil.	Man Dil.	User	Time/Date
4	U2	ICV NO3 TOXN	2.9265	mg/L		0.000000			KS	2020-01-27 14:18:14
4	U2	ICV NO3 TOXN				0.000000			KS	2020-01-27 14:18:14
5	U3	ICB NO2 NO3 TOXN	-0.0212	mg/L		0.000000			KS	2020-01-27 14:20:29
5	U3	ICB NO2 NO3 TOXN				0.000000			KS	2020-01-27 14:20:29
6	U28	200127A Blk NO2 NO3 TOXN pH5.28 Thing 0	-0.0402	mg/L		0.000000			KS	2020-01-27 14:22:48
6	U28	200127A Blk NO2 NO3 TOXN pH5.28 Thing 0				0.000000			KS	2020-01-27 14:22:48
9	U7	200127A LCS NO3 TOXN pH5.28	3.0107	mg/L		0.000000			KS	2020-01-27 14:25:05
9	U7	200127A LCS NO3 TOXN pH5.28				0.000000			KS	2020-01-27 14:25:05
10	U8	200127A LCSD NO3 TOXN pH5.28	2.8963	mg/L		0.000000			KS	2020-01-27 14:27:23
10	U8	200127A LCSD NO3 TOXN pH5.28				0.000000			KS	2020-01-27 14:27:23
12	U10	1 ppm NO3	0.9511	mg/L		0.000000			KS	2020-01-27 14:29:41
12	U10	1 ppm NO3				0.000000			KS	2020-01-27 14:29:41
13	U11	BA06136W08 MS pH6.95	-0.0094	mg/L		0.000000			KS	2020-01-27 14:31:59
13	U11	BA06136W08 MS pH6.95				0.000000			KS	2020-01-27 14:31:59
14	U12	BA06136W08 MSD pH6.95	-0.0119	mg/L		0.000000			KS	2020-01-27 14:34:17
14	U12	BA06136W08 MSD pH6.95				0.000000			KS	2020-01-27 14:34:17
15	U13	BA06136W08 pH6.02	-0.0317	mg/L		0.000000			KS	2020-01-27 14:36:35
15	U13	BA06136W08 pH6.02				0.000000			KS	2020-01-27 14:36:35
16	U14	BA06138W08 pH7.53	-0.0206	mg/L		0.000000			KS	2020-01-27 14:38:53
16	U14	BA06138W08 pH7.53				0.000000			KS	2020-01-27 14:38:53
17	U15	BA06141W08 pH5.89	0.6324	mg/L		0.000000			KS	2020-01-27 14:45:50
17	U15	BA06141W08 pH5.89				0.000000			KS	2020-01-27 14:45:50
18	U16	BA06143W08 pH7.01	1.3207	mg/L		0.000000			KS	2020-01-27 14:48:08
18	U16	BA06143W08 pH7.01				0.000000			KS	2020-01-27 14:48:08
19	U17	BA06272W12 pH6.77	0.5600	mg/L		0.000000			KS	2020-01-27 14:50:27
19	U17	BA06272W12 pH6.77				0.000000			KS	2020-01-27 14:50:27
20	U18	BA06275W08 pH5.92	1.5118	mg/L		0.000000			KS	2020-01-27 14:52:45
20	U18	BA06275W08 pH5.92				0.000000			KS	2020-01-27 14:52:45
21	U19	BA06276W08 pH5.41	0.5097	mg/L		0.000000			KS	2020-01-27 14:55:04
21	U19	BA06276W08 pH5.41				0.000000			KS	2020-01-27 14:55:04
22	U20	BA06279W08 pH7.30	1.0746	mg/L		0.000000			KS	2020-01-27 14:57:22
22	U20	BA06279W08 pH7.30				0.000000			KS	2020-01-27 14:57:22
23	U21	BA06284W11 pH5.33	0.3486	mg/L		0.000000			KS	2020-01-27 14:59:41
23	U21	BA06284W11 pH5.33				0.000000			KS	2020-01-27

							14:59:41
24	U22	BA06313W08 pH6.82	0.7600	mg/L	0.000000	KS	2020-01-27 15:02:00
24	U22	BA06313W08 pH6.82			0.000000	KS	2020-01-27 15:02:00
25	U23	BA06315W08 pH6.47	0.4514	mg/L	0.000000	KS	2020-01-27 15:02:39
25	U23	BA06315W08 pH6.47			0.000000	KS	2020-01-27 15:02:39
26	U24	BA06317W08 pH6.25	1.7834	mg/L	0.000000	KS	2020-01-27 15:03:44
26	U24	BA06317W08 pH6.25			0.000000	KS	2020-01-27 15:03:44
27	U25	BA06319W11 pH7.63	0.2884	mg/L	0.000000	KS	2020-01-27 15:06:35
27	U25	BA06319W11 pH7.63			0.000000	KS	2020-01-27 15:06:35
28	U26	BA06361W11 pH6.99	0.3341	mg/L	0.000000	KS	2020-01-27 15:07:31
28	U26	BA06361W11 pH6.99			0.000000	KS	2020-01-27 15:07:31
29	U27	BA06364W08 pH6.48	0.1670	mg/L	0.000000	KS	2020-01-27 15:08:28
29	U27	BA06364W08 pH6.48			0.000000	KS	2020-01-27 15:08:28

Nitrite

High Point @ 1.5 mg/L
0.2463 mL NO2 Inorganic Ventures lot N2-NOX672889-40759 exp: 05/01/20
50 mL DI Water

CCV @ 0.75 mg/L
0.1232 mL NO2 Inorganic Ventures lot N2-NOX672889-40759 exp: 05/01/20
50 mL DI Water

ICV/LCS @ 0.73 mg/L
0.120 mL NO2 Inorganic Ventures lot M2-NOX660562-40468 exp: 08/25/21
50 mL DI Water

1 mg/L NO2
400 uL of High point and 200 uL of DI made directly into a sample cup

Prep 01/27/20
Exp 02/03/20
KS

Nitrate/TOXN

High Point @ 6 mg/L
0.300 mL NO3 O2Si lot 880117-4-39577 exp: 2/21/20
50 mL DI Water

CCV @ 3.0 mg/L
0.150 mL NO3 O2Si lot 880117-4-39577 exp: 2/21/20
50 mL DI Water

ICV/LCS @ 3.0 mg/L
0.150 mL NO3 Inorganic Ventures lot P2-NOX675324-49391 exp: 02/14/23
50 mL DI Water

1 mg/L NO3
100 uL of High point and 500 uLof DI made directly into a sample cup

MS @ 0.73 mg/L NO2 and 2.5 mg/L NO3
0.120 mL NO2 Inorganic Ventures lot M2-NOX660562-40468 exp: 08/25/21and
0.125 mL NO3 Inorganic Ventures lot P2-NOX675324-49391 exp: 02/14/23
Final volume 50 mL of sample

Prep 01/27/20
Exp 02/03/20
KS

908 North Temperance Ave. ∇ Clovis, CA 93611 ∇ Phone 559-275-2175 ∇ Fax 559-275-4422

Certification Number: CA1312
NELAP Certification number: CA00046
DoD-ELAP Certificate number: 4064.01

Data Validatable Report

March 3, 2020

AECOM
1001 Bishop Street, Suite 1600
Honolulu, Hawaii 96813

Attn: Margie Pascua

Title: Report of Data: Case 91288

Project: 60571032 CV18F0126 Red Hill Fuel Storage. HI

Contract #: Prime contract # for DoD: NAVY CLEAN N62742-17-F-1800, CV18F0126
Subcontract: 18S-22209-HI27

Dear Ms. Pascua:

Eight water samples were received January 23,2020. Revised written results for the requested analyses are being provided on this March 3, 2020. **Revisions**: Chloride and sulfate MS/MSD added for sample ERH983; 1/28/2020 raw data for CCB and CCV EPA 300 were added; alkalinity ICAL and raw data were added; the EPA 8011 raw data was replaced.

Results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

If you have any questions or require further information, please contact your APPL Project Manager, Libby Cheeseborough, libby@applinc.com, at your convenience. Thank you for choosing APPL, Inc.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. These test results meet all requirements of NELAC and DoD QSM. Release of the hard copy has been authorized by the Laboratory Manager or her designee, as verified by the following signature.

Paula McCartney, Laboratory Director
APPL, Inc.

PM/lac
Enclosure
cc: File

Data Validation Package
for
60481245 CIV 0053 Red Hill Fuel Storage
APPL SDG 91288
TABLE OF CONTENTS

LABORATORY NAME: *APPL, Inc.*

Case Narrative	4
Sample Management Records	10
Sample Results	19
QC Forms	74
Method 8011 Calibration Data	159
Method 8011 Raw Data	182
Method 8015B Calibration Data	197
Method 8015B Raw Data	276
Method 8270D SIM Calibration Data	315
Method 8270D SIM Raw Data	342
Method 8270D Calibration Data	369
Method 8270D Raw Data	415
APPL SOP 2-MEE Calibration Data	447
APPL SOP 2-MEE Raw Data	474
Method 8260B Calibration Data	502
Method 8260B Raw Data	552
Method 8260B GRO Calibration Data	580
Method 8260B GRO Raw Data	633
Method RSK-175 Calibration Data	669
Method RSK-175 Raw Data	694

Method 300 Calibration Data 719
Method 300 Raw Data 776
Inorganic Analyses Calibration Data 786
Inorganic Analyses Raw Data 790

CASE NARRATIVE

Case Narrative

ARF: 91288

Project: 60571032 CV18F0126 Red Hill Fuel Storage. HI

Sample Receipt Information:

Eight water samples were received January 23,2020, at 0.9°C, 0.9°C, 1.4°C, and 1.9°C. The sample group was assigned Analytical Request Form (ARF) number 91288.

Sample Preparation and Analysis Information:

For the EPA 8011 analysis, the samples were extracted according to APPL SOP method MWE012.

For the EPA 8015B analysis, the sample was extracted according to EPA method 3510C. The sample extracts were silica gel cleaned according to APPL's SOP CLN004 and placed on hold.

For the EPA 8270D SIM analysis, the samples were extracted according to EPA method 3520C.

For the EPA 8270D Phenol analysis, the samples were extracted according to EPA method 3520C.

For the APPL SOP ANA2MEE analysis, the samples were extracted according to EPA method 3535.

For the EPA 8260B analysis, the samples were purged according to EPA method 5030B.

For the RSK-175 analysis, the samples were allowed to equilibrate for 10 minutes at 40°C and a portion of the headspace was analyzed.

For the EPA 9060A, 300.0, 353.2, SM 2320B, SM 3500FeB analyses, the samples were prepared according to the methods.

Only the portion of the injection log relative to these samples is included. A full sequence log is available upon request. Measurement uncertainty can be reported upon request.

Analytical Exceptions, Deviations and Abnormalities.

EPA 8015B: Manual integrations were performed in accordance with APPL's SOP. Chromatograms of before and after manual integration are enclosed.

The surrogate Octacosane recovered below the lower control limit of 60% at 57% in the silica gel analysis of one sample.

The continuing calibration 129016.D for Decanoic Acid increased in sensitivity with a 28% Drift.

The continuing calibration 129042.D for Decanoic Acid increased in sensitivity with a 28% Drift.

EPA 300: For the ERH983 MS/MSD, Chloride and Sulfate recover above their upper recovery limits.

Inorganics: Samples received out of hold time for nitrate analysis, they were analyzed on the day of arrival.

SDG	Received	Client ID	APPL ID	Collected DateTime	Matrix	Method	Method Description
91288	01/23/20	ERH982	BA06312	01/21/20 12:30:00 PM	WATER	EPA 8260B	EPA 8260B BTEX WATER
91288	01/23/20	ERH982	BA06312	01/21/20 12:30:00 PM	WATER	EPA 8260-GAS	EPA 8260 with GAS
91288	01/23/20	ERH982	BA06312	01/21/20 12:30:00 PM	WATER	EPA 8260B	EPA 8260B GRO WATER
91288	01/23/20	ERH982	BA06312	01/21/20 12:30:00 PM	WATER	RSK 175	METHANE BY RSK 175
91288	01/23/20	ERH983	BA06313	01/21/20 12:40:00 PM	WATER	SM 2320B	Wetlab 2320B - Water
91288	01/23/20	ERH983	BA06313	01/21/20 12:40:00 PM	WATER	EPA 300.0	Wetlab 300.0 - Water
91288	01/23/20	ERH983	BA06313	01/21/20 12:40:00 PM	WATER	EPA 300.0	Wetlab 300.0 - Water
91288	01/23/20	ERH983	BA06313	01/21/20 12:40:00 PM	WATER	SM3500FeB	Ferrous Iron
91288	01/23/20	ERH983	BA06313	01/21/20 12:40:00 PM	WATER	EPA 353.2	EPA 353.2 - WATER
91288	01/23/20	ERH983	BA06313	01/21/20 12:40:00 PM	WATER	EPA 8260B	EPA 8260B BTEX WATER
91288	01/23/20	ERH983	BA06313	01/21/20 12:40:00 PM	WATER	EPA 8270D	EPA 8270D WATER
91288	01/23/20	ERH983	BA06313	01/21/20 12:40:00 PM	WATER	EPA 8270D	EPA 8270D MODIFIED WATER
91288	01/23/20	ERH983	BA06313	01/21/20 12:40:00 PM	WATER	EPA 8015B-eLL	EPA 8015B TPH WATER L-L SGC
91288	01/23/20	ERH983	BA06313	01/21/20 12:40:00 PM	WATER	EPA 8015B-eLL	EPA 8015B TPH LIQ-LIQ
91288	01/23/20	ERH983	BA06313	01/21/20 12:40:00 PM	WATER	EPA 8260-GAS	EPA 8260 with GAS
91288	01/23/20	ERH983	BA06313	01/21/20 12:40:00 PM	WATER	EPA 8260B	EPA 8260B GRO WATER
91288	01/23/20	ERH983	BA06313	01/21/20 12:40:00 PM	WATER	RSK 175	METHANE BY RSK 175
91288	01/23/20	ERH983	BA06313	01/21/20 12:40:00 PM	WATER	8270D-SIM	EPA 8270D SIM LIQ-LIQ
91288	01/23/20	ERH983	BA06313	01/21/20 12:40:00 PM	WATER	SW846 9060A	9060A TOC
91288	01/23/20	ERH990	BA06314	01/21/20 12:20:00 PM	WATER	EPA 8260B	EPA 8260B BTEX WATER
91288	01/23/20	ERH990	BA06314	01/21/20 12:20:00 PM	WATER	EPA 8260-GAS	EPA 8260 with GAS
91288	01/23/20	ERH990	BA06314	01/21/20 12:20:00 PM	WATER	EPA 8260B	EPA 8260B GRO WATER
91288	01/23/20	ERH990	BA06314	01/21/20 12:20:00 PM	WATER	RSK 175	METHANE BY RSK 175
91288	01/23/20	ERH991	BA06315	01/21/20 1:10:00 PM	WATER	SM 2320B	Wetlab 2320B - Water
91288	01/23/20	ERH991	BA06315	01/21/20 1:10:00 PM	WATER	EPA 300.0	Wetlab 300.0 - Water
91288	01/23/20	ERH991	BA06315	01/21/20 1:10:00 PM	WATER	SM3500FeB	Ferrous Iron
91288	01/23/20	ERH991	BA06315	01/21/20 1:10:00 PM	WATER	EPA 353.2	EPA 353.2 - WATER
91288	01/23/20	ERH991	BA06315	01/21/20 1:10:00 PM	WATER	EPA 8260B	EPA 8260B BTEX WATER
91288	01/23/20	ERH991	BA06315	01/21/20 1:10:00 PM	WATER	EPA 8270D	EPA 8270D WATER
91288	01/23/20	ERH991	BA06315	01/21/20 1:10:00 PM	WATER	EPA 8270D	EPA 8270D MODIFIED WATER
91288	01/23/20	ERH991	BA06315	01/21/20 1:10:00 PM	WATER	EPA 8015B-eLL	EPA 8015B TPH WATER L-L SGC
91288	01/23/20	ERH991	BA06315	01/21/20 1:10:00 PM	WATER	EPA 8015B-eLL	EPA 8015B TPH LIQ-LIQ
91288	01/23/20	ERH991	BA06315	01/21/20 1:10:00 PM	WATER	EPA 8260-GAS	EPA 8260 with GAS
91288	01/23/20	ERH991	BA06315	01/21/20 1:10:00 PM	WATER	EPA 8260B	EPA 8260B GRO WATER
91288	01/23/20	ERH991	BA06315	01/21/20 1:10:00 PM	WATER	RSK 175	METHANE BY RSK 175
91288	01/23/20	ERH991	BA06315	01/21/20 1:10:00 PM	WATER	8270D-SIM	EPA 8270D SIM LIQ-LIQ
91288	01/23/20	ERH991	BA06315	01/21/20 1:10:00 PM	WATER	SW846 9060A	9060A TOC
91288	01/23/20	ERH994	BA06316	01/22/20 7:55:00 AM	WATER	EPA 8260B	EPA 8260B BTEX WATER

91288	01/23/20	ERH994	BA06316	01/22/20 7:55:00 AM	WATER	EPA 8260-GAS	EPA 8260 with GAS
91288	01/23/20	ERH994	BA06316	01/22/20 7:55:00 AM	WATER	EPA 8260B	EPA 8260B GRO WATER
91288	01/23/20	ERH994	BA06316	01/22/20 7:55:00 AM	WATER	RSK 175	METHANE BY RSK 175
91288	01/23/20	ERH995	BA06317	01/22/20 8:40:00 AM	WATER	SM 2320B	Wetlab 2320B - Water
91288	01/23/20	ERH995	BA06317	01/22/20 8:40:00 AM	WATER	EPA 300.0	Wetlab 300.0 - Water
91288	01/23/20	ERH995	BA06317	01/22/20 8:40:00 AM	WATER	EPA 300.0	Wetlab 300.0 - Water
91288	01/23/20	ERH995	BA06317	01/22/20 8:40:00 AM	WATER	SM3500FeB	Ferrous Iron
91288	01/23/20	ERH995	BA06317	01/22/20 8:40:00 AM	WATER	EPA 353.2	EPA 353.2 - WATER
91288	01/23/20	ERH995	BA06317	01/22/20 8:40:00 AM	WATER	EPA 8260B	EPA 8260B BTEX WATER
91288	01/23/20	ERH995	BA06317	01/22/20 8:40:00 AM	WATER	EPA 8270D	EPA 8270D WATER
91288	01/23/20	ERH995	BA06317	01/22/20 8:40:00 AM	WATER	EPA 8270D	EPA 8270D MODIFIED WATER
91288	01/23/20	ERH995	BA06317	01/22/20 8:40:00 AM	WATER	EPA 8015B-eLL	EPA 8015B TPH WATER L-L SGC
91288	01/23/20	ERH995	BA06317	01/22/20 8:40:00 AM	WATER	EPA 8015B-eLL	EPA 8015B TPH LIQ-LIQ
91288	01/23/20	ERH995	BA06317	01/22/20 8:40:00 AM	WATER	EPA 8260-GAS	EPA 8260 with GAS
91288	01/23/20	ERH995	BA06317	01/22/20 8:40:00 AM	WATER	EPA 8260B	EPA 8260B GRO WATER
91288	01/23/20	ERH995	BA06317	01/22/20 8:40:00 AM	WATER	RSK 175	METHANE BY RSK 175
91288	01/23/20	ERH995	BA06317	01/22/20 8:40:00 AM	WATER	8270D-SIM	EPA 8270D SIM LIQ-LIQ
91288	01/23/20	ERH995	BA06317	01/22/20 8:40:00 AM	WATER	SW846 9060A	9060A TOC
91288	01/23/20	ERH1005	BA06318	01/21/20 10:00:00 AM	WATER	8011	EPA 8011
91288	01/23/20	ERH1005	BA06318	01/21/20 10:00:00 AM	WATER	EPA 8260B	EPA 8260B BTEX & 1,2-DCA WATER
91288	01/23/20	ERH1005	BA06318	01/21/20 10:00:00 AM	WATER	EPA 8260-GAS	EPA 8260 with GAS
91288	01/23/20	ERH1005	BA06318	01/21/20 10:00:00 AM	WATER	EPA 8260B	EPA 8260B GRO WATER
91288	01/23/20	ERH1005	BA06318	01/21/20 10:00:00 AM	WATER	RSK 175	METHANE BY RSK 175
91288	01/23/20	ERH1006	BA06319	01/21/20 10:30:00 AM	WATER	SM 2320B	Wetlab 2320B - Water
91288	01/23/20	ERH1006	BA06319	01/21/20 10:30:00 AM	WATER	EPA 300.0	Wetlab 300.0 - Water
91288	01/23/20	ERH1006	BA06319	01/21/20 10:30:00 AM	WATER	SM3500FeB	Ferrous Iron
91288	01/23/20	ERH1006	BA06319	01/21/20 10:30:00 AM	WATER	EPA 353.2	EPA 353.2 - WATER
91288	01/23/20	ERH1006	BA06319	01/21/20 10:30:00 AM	WATER	8011	EPA 8011
91288	01/23/20	ERH1006	BA06319	01/21/20 10:30:00 AM	WATER	EPA 8260B	EPA 8260B BTEX & 1,2-DCA WATER
91288	01/23/20	ERH1006	BA06319	01/21/20 10:30:00 AM	WATER	EPA 8270D	EPA 8270D WATER
91288	01/23/20	ERH1006	BA06319	01/21/20 10:30:00 AM	WATER	EPA 8270D	EPA 8270D MODIFIED WATER
91288	01/23/20	ERH1006	BA06319	01/21/20 10:30:00 AM	WATER	EPA 8015B-eLL	EPA 8015B TPH WATER L-L SGC
91288	01/23/20	ERH1006	BA06319	01/21/20 10:30:00 AM	WATER	EPA 8015B-eLL	EPA 8015B TPH LIQ-LIQ
91288	01/23/20	ERH1006	BA06319	01/21/20 10:30:00 AM	WATER	EPA 8260-GAS	EPA 8260 with GAS
91288	01/23/20	ERH1006	BA06319	01/21/20 10:30:00 AM	WATER	EPA 8260B	EPA 8260B GRO WATER
91288	01/23/20	ERH1006	BA06319	01/21/20 10:30:00 AM	WATER	RSK 175	METHANE BY RSK 175
91288	01/23/20	ERH1006	BA06319	01/21/20 10:30:00 AM	WATER	8270D-SIM	EPA 8270D SIM LIQ-LIQ
91288	01/23/20	ERH1006	BA06319	01/21/20 10:30:00 AM	WATER	SW846 9060A	9060A TOC

APPL Inc.
Abbreviations and Flags

FLAG	DESCRIPTION
#	Recovery or RPD outside control limits
*	Recovery or RPD outside control limits
B	Analyte detected in associated method blank
C1	Reason for correction: wrote incorrect response
C2	Reason for correction: calculated incorrectly
C3	Reason for correction: needs to be rechecked
C4	Reason for correction: data not usable
DO	Diluted out
E	Exceeds linear range
F	Estimated value
G1	Includes a wide range of hydrocarbons which does not match our gasoline standard
G10	Includes a match to hydrocarbon profiles within the range of mineral spirits
G11	Includes a match to hydrocarbon profiles within the range of JP-4
G12	Pattern does not match the gasoline standard; the carbon range for this sample is consistent with JP8
G13	Closely resembles the hydrocarbon profile of aviation gasoline
G14	Analyte concentration may be biased due to carry over
G2	Closely resembles the boiling point hydrocarbon profile consistent with weathered gasoline
G3	Includes higher boiling hydrocarbons
G4	Includes dominant peak(s) not indicative of petroleum hydrocarbons
G5	Is mainly dominant peak(s) not indicative of petroleum hydrocarbons
G6	Contains recognizable contaminant peak(s) which has been removed from quantitation
G7	Is mainly a match to hydrocarbons within the range of gasoline
G8	Closely resembles the boiling point hydrocarbon profile consistent with weathered gasoline
G9	Includes hydrocarbons within the range of kerosene
J	Estimated value
M	Matrix effect
MI1	Manual integration: integration does not follow baseline
MI2	Manual integration: non-target peak interference
MI3	Manual integration: to split a peak that was integrated as one peak by the computer.
MI4	Manual integration: to integrate a split peak
MI5	Manual integration: the whole peak or part of the peak was not integrated
MI6	Manual integration: computer integrated wrong peak
MI7	Manual integration: other – (See case narrative)
MDL	Method detection limit
ND	Not detected
NT	Non-target
Q	Acceptance criteria not met
T1 I	Includes wide range of hydrocarbons not indicative of diesel
T1 M	Is mainly wide range of hydrocarbons not necessarily indicative of diesel
T2 I	Includes lower boiling hydrocarbons, e.g. mineral spirits, kerosene, stoddard solvent, white gas
T2 M	Is mainly lower boiling hydrocarbons, e.g. mineral spirits, kerosene, stoddard solvent, white gas
T3 I	Includes higher boiling hydrocarbons, e.g. asphaltene, waste oil, motor oil, or weathered diesel fuel
T3 M	Is mainly higher boiling hydrocarbons, e.g. asphaltene, waste oil, motor oil, or weathered diesel fuel
T4 I	Includes dominant peak(s) not indicative of hydrocarbons
T4 M	Is mainly dominant peak(s) not indicative of hydrocarbons
T5	Contains recognizable contaminant peak(s) which has been removed from quantitation
T6	Is mainly a match to hydrocarbons within range of diesel fuel
T7	Closely resembles the boiling point hydrocarbon profile consistent with diesel fuel
T8	Includes a match to hydrocarbon profiles within range of diesel and kerosene fuel
T9 I	Includes non-diesel hydrocarbons within boiling point range of diesel fuel
T9 M	Is mainly non-diesel hydrocarbons within boiling point range of diesel fuel
U	Not detected
Y	Percent difference between primary and confirmation column > 40%

SAMPLE RECORDS MANAGEMENT

CHAIN OF CUSTODY,

ARF, CRF, AND

CLIENT COMMUNICATION

APPL - Analysis Request Form 91288

Client: **AECOM**
Address: **1001 Bishop Street, Suite 1600**
Honolulu, HI 96813
Attn: **Margie Pascua**
Phone: **808-356-5373** Fax: **808-523-8950**
Job: **60571032 CV18F0126 Red Hill Fuel Storage**
PO #: **18S-22209-HI27 PO# 102604**
Chain of Custody (Y/N): **Y** # **150,159,152,151**
RAD Screen (Y/N): **Y** pH (Y/N): **Y**
Turn Around Type: **1 WEEK**

Received by: **AAR**
Date Received: **01/23/20** Time: **10:00**
Delivered by: **FEDEX**
Shuttle Custody Seals (Y/N): **Y** Time Zone: **-10**
Chest Temp(s): **1.9,1.4,0.9,0.9°C**
Color: **VFRG/G-Blue**
Samples Chilled until Placed in Refrig/Freezer: **Y**
Project Manager: **Libby Cheesebor**
QC Report Type: **DVP4DOD/EQUIS/HI**
Due Date: **01/30/20**

Comments:
PM: login and F1s to Margie.Pascua@aecom.com
AN: 7 day TAT for Form 1s; 21 day TAT for PKG STYLE 1; DOD v5.1; DOD Forms: LOD database
Wetlab: NO3,SO4, & CL by EPA 300 and NO3-N & NO2-N by 353.2
8260: BTEX & TPH-G only; 8270 SIM: 1-methylnaphthalene, 2-methylnaphthalene & naphthalene only.
TPH D & O both with and w/o SGC, reverse surrogate for the SGC; analyze SGC if detections
RSK: Methane only; 8011: EDB only; $87DC53W5: report phenol + TICs
FR: email ftp info to Margie, Stella, trommelfanger@lab-data.com & jcanlas@lab-data.com
EDD: AECOM EQuIS EDD 2.5.3 Red Hill 87DMEE->3535A to Margie.Pascua@aecom.com & jecklund@lab-data.com

Sample Distribution:
GC: 4-$87DC53W5, 4-$87DMEEW5, 4-$DOC53W5LIQ, 4-$SIM53LIQ51, 2-$8011
Extractions: 4-_LIQ003, 4-_LIQ005, 4-_MWE2MEE, 2-_MWE012
VOA: 6-$86BTOTXDOD5W, 8-$GASBL, 8-$GRO86BW, 8-$RSKMETH, 2-$86BTOTXDCAW
Wetlab: 4-$232W(HCO3,CO3,ALK), 4-$300W, 4-$35FE,4-$35OF, 4-$TOCW53

Charges:

Invoice To:
ACCOUNTS PAYABLE
1001 Bishop Street, Ste 1600
USAPImaging@aecom.com
mary.basano@aecom.com

	Client ID	APPL ID	Sampled	Analyses Requested
1.	ERH982	LCSD BA06312W	01/21/20 12:30	$86BTOTXDOD5W, $GASBL, $GRO86BW, $RSKMETH -- See Comments
2.	ERH983	LCSD BA06313W	01/21/20 12:40	$232W(HCO3,CO3,ALK), $300W, $35FE, $35OF, $86BTOTXDOD5W, $87DC53W5, $87DMEEW5, $DOC53W5LIQ, $GASBL, $GRO86BW, $RSKMETH, $SIM53LIQ51, $TOCW53 -- See Comments
3.	ERH990	LCSD BA06314W	01/21/20 12:20	$86BTOTXDOD5W, $GASBL, $GRO86BW, $RSKMETH -- See Comments

Note: All times, excluding sample collection times, are Pacific Time Zone unless noted otherwise. Collection times are in: -10 UTC
Page 1 Client Code: AECOM-REDHILL *Printed 01/27/20 4:47:36 PM* Computer: APPL-LC **# 91288**

4.	ERH991	LCSD BA06315W	01/21/20 13:10	$232W(HCO3,CO3,ALK), $300W, $35FE, $35OF, $86BTOTXDOD5W, $87DC53W5, $87DMEEW5, $DOC53W5LIQ, $GASBL, $GRO86BW, $RSKMETH, $SIM53LIQ51, $TOCW53 -- See Comments
5.	ERH994	LCSD BA06316W	01/22/20 07:55	$86BTOTXDOD5W, $GASBL, $GRO86BW, $RSKMETH -- See Comments
6.	ERH995	LCSD BA06317W	01/22/20 08:40	$232W(HCO3,CO3,ALK), $300W, $35FE, $35OF, $86BTOTXDOD5W, $87DC53W5, $87DMEEW5, $DOC53W5LIQ, $GASBL, $GRO86BW, $RSKMETH, $SIM53LIQ51, $TOCW53 -- See Comments
7.	ERH1005	LCSD BA06318W	01/21/20 10:00	$8011, $86BTOTXDCAW, $GASBL, $GRO86BW, $RSKMETH -- See Comments
8.	ERH1006	LCSD BA06319W	01/21/20 10:30	$232W(HCO3,CO3,ALK), $300W, $35FE, $35OF, $8011, $86BTOTXDCAW, $87DC53W5, $87DMEEW5, $DOC53W5LIQ, $GASBL, $GRO86BW, $RSKMETH, $SIM53LIQ51, $TOCW53 -- See Comments

APPL Sample Receipt Form

ARF# **91288**

Sample	Container Type	Count	p
BA06312	[13] VOAs - HCL	4	NA
BA06313	[3] PL 250mL	1	NA
	[10] PL 250mL - H2SO4	1	1.6
	[13] VOAs - HCL	4	NA
	[17] Amber Liter	4	NA
	[32] Clear VOA - H2SO4	2	NA
	[38] 250mL brn poly, HCl prsvd	1	1.6
	[40] 500mL Amber, unprsrvd	3	NA
BA06314	[13] VOAs - HCL	4	NA
BA06315	[3] PL 250mL	1	NA
	[10] PL 250mL - H2SO4	1	1.6
	[13] VOAs - HCL	4	NA
	[17] Amber Liter	4	NA
	[32] Clear VOA - H2SO4	2	NA
	[38] 250mL brn poly, HCl prsvd	1	1.6
	[40] 500mL Amber, unprsrvd	3	NA
BA06316	[13] VOAs - HCL	4	NA
BA06317	[3] PL 250mL	1	NA
	[10] PL 250mL - H2SO4	1	1.6
	[13] VOAs - HCL	4	NA
	[17] Amber Liter	4	NA
	[32] Clear VOA - H2SO4	2	NA
	[38] 250mL brn poly, HCl prsvd	1	1.6
	[40] 500mL Amber, unprsrvd	3	NA
BA06318	[13] VOAs - HCL	4	NA
	[15] VOAs - NP	3	NA
BA06319	[3] PL 250mL	1	NA
	[10] PL 250mL - H2SO4	1	1.6
	[13] VOAs - HCL	4	NA
	[15] VOAs - NP	3	NA
	[17] Amber Liter	4	NA
	[32] Clear VOA - H2SO4	2	NA
	[38] 250mL brn poly, HCl prsvd	1	1.6
	[40] 500mL Amber, unprsrvd	3	NA

Sample	Container Type	Count	p

91288

APPL, Inc.
908 N Temperance Ave
Clovis, CA 93611
www.applinc.com
Phone: (559) 275-2175
Fax: (559) 275-4422
coc@applinc.com

CHAIN OF CUSTODY RECORD

C.O.C. 150

Report to: PLEASE PRINT	Invoice to: PLEASE PRINT
Company Name: AECOM Phone: 808-356-5373	Company Name: AECOM Phone: 808-529-7249
Address: 1001 Bishop St, Suite 1600 Honolulu, HI 96813 Fax: 808-523-8950	Address: 1001 Bishop St, Suite 1600 Honolulu, HI 96813 Fax: 808-523-8950
Attn: Margie Pascua	Attn: Mary Basano
Email: margie.pascua@aecom.com	Email: mary.basano@aecom.com; usapimaging@aecom.com

Project Name/Number: CV18F0126 / 60571032
Purchase Order Number: 102604
Sampler (Print): KL, MC, EH
Sampler (Signature): MP for KL, MC, EH

Date Shipped:
Carrier: FedEx
Waybill No.:
Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Sed.	Soil	8260C BTEX,TPH-g	8260C DCA 8011 EDB	8015C TPH-d/o	3630/8015C TPH-d/o w/ SGT	8270DSIM PAHs short list	8270D Phenol, TICs	8270D 2-(2-methoxy ethoxy)-ethanol	RSK175M Methane	SM3500-Fe Ferrous Iron	353.2 Nitrate-Nitrite N	SM2320B Alkalinity 300.0 Nitrate,Sulfate,Chloride	300.0 Bromide/Fluoride 3010 Total Ca,Mg,Mn,K,Na SM4500 Total & Dissolved Silica	9060A TOC
ERH982	Trip Blank	01/21/20	1230	HST	4	x			X							X					
ERH983	RHMW05	01/21/20	1240	HST	16	x			X		X	X*	X	X	X	X	X	X	X		X

EB 01/22/20

*Analyze TPH w/SGT only if TPH-d/o detected.

TPH-d/o & PAHs need liquid-liquid extraction.

Shuttle Temperature: R5 1.5/1.9, 1.6/1.4°, 0.5/0.9° 0.5/0.9°

Turnaround Requested: Check one
☐ Standard 2-3 wk ☒ One week ☐ 3 days ☐ 24/48 Hrs. ☐ Other:

Sample Disposal:
☐ Return to client ☒ Disposal by Lab (30-day retention)

Relinquished by sampler: AECOM	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
Estelle BONNY	01/22/20	1040					
Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received at lab by:
					1/23/20	1000	

See page 2 for Container Preservative and Sampling Information

APPL, Inc.
908 N Temperance Ave
Clovis, CA 93611
www.applinc.com

Phone: (559) 275-2175
Fax: (559) 275-4422
coc@applinc.com

CHAIN OF CUSTODY RECORD

C.O.C. 159

Report to: PLEASE PRINT	Invoice to: PLEASE PRINT
Company Name: AECOM Phone: 808-356-5373	Company Name: AECOM Phone: 808-529-7249
Address: 1001 Bishop St, Suite 1600 Honolulu, HI 96813 Fax: 808-523-8950	Address: 1001 Bishop St, Suite 1600 Honolulu, HI 96813 Fax: 808-523-8950
Attn: Margie Pascua	Attn: Mary Basano
Email: margie.pascua@aecom.com	Email: mary.basano@aecom.com; usapimaging@aecom.com

Project Name/Number: CV18F0126 / 60571032
Purchase Order Number: 102604
Sampler (Print): BM, BL, TV, SP
Sampler (Signature): MP for BM, BL, TV, SP
Date Shipped: MM/DD/YY
Carrier: FedEx
Waybill No.:
Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Sed.	Soil	8260C BTEX,TPH-g	8260C DCA 8011 EDB	8015C TPH-d/o	3630/8015C TPH-d/o w/ SGT	8270DSIM PAHs short list	8270D Phenol, TCLP	8270D 2-(2-methoxy ethoxy)-ethanol	RSK175M Methane	SM3500-Fe Ferrous Iron	353.2 Nitrate-Nitrite N	SM2320B Alkalinity 300.0 Nitrate,Sulfate,Chloride	300.0 Bromide/Fluoride 6010 Total Ca,Mg,Mn,K,Na SM4500 Total & Dissolved Silica	9060A TOC
ERH1005	Trip Blank	01/21/20	1000	HST	7	X			X	X						X					
ERH1006	RHMW14-02	01/21/20	1030	HST	19	X			X	X	X	X*	X	X	X	X	X	X	X		X

FB 01/22/20

*Analyze TPH w/SGT only if TPH-d/o detected.

TPH-d/o & PAHs need liquid-liquid extraction

Shuttle Temperature:

Turnaround Requested: Check one
☐ Standard 2-3 wk ☒ One week ☐ 3 days ☐ 24/48 Hrs. ☐ Other:

Sample Disposal:
☐ Return to client ☒ Disposal by Lab (30-day retention)

Relinquished by sampler: AECOM	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
Estelle BONNY	01/22/20	1030					
Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received at lab by:
					1/23/20	1000	

See page 2 for Container Preservative and Sampling Information

APPL, Inc.
908 N Temperance Ave
Clovis, CA 93611
www.applinc.com

Phone: (559) 275-2175
Fax: (559) 275-4422
coc@applinc.com

CHAIN OF CUSTODY RECORD

C.O.C. 152

Report to: PLEASE PRINT	Invoice to: PLEASE PRINT
Company Name: AECOM Phone: 808-356-5373	Company Name: AECOM Phone: 808-529-7249
Address: 1001 Bishop St, Suite 1600 Honolulu, HI 96813 Fax: 808-523-8950	Address: 1001 Bishop St, Suite 1600 Honolulu, HI 96813 Fax: 808-523-8950
Attn: Margie Pascua	Attn: Mary Basano
Email: margie.pascua@aecom.com	Email: mary.basano@aecom.com; usapimaging@aecom.com

Project Name/Number	Sampler (Print)
CV18F0126 / 60571032	KL, MC, MM, EH
Purchase Order Number	**Sampler (Signature)**
102604	MP for KL, MC, MM, EH

Date Shipped: MM/DD/YY
Carrier: FedEx
Waybill No.:
Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Sed.	Soil	8260C BTEX,TPH-g	8260C DCA 8011 EDB	8015C TPH-d/o	3630/8015C TPH-d/o w/ SGT	8270DSIM PAHs short list	8270D Phenol, Cresols	8270D 2-(2-methoxy ethoxy)-ethanol	RSK175M Methane	SM3500-Fe Ferrous Iron	353.2 Nitrate-Nitrite N	SM2320B Alkalinity 300.0 Nitrate,Sulfate,Chloride	300.0 Bromide/Fluoride 6010 Total Ca,Mg,Mn,K,Na SM4500 Total & Dissolved Silica	9060A TOC
ERH994	Trip Blank	01/22/20	0755	HST	4	X			X							X					
ERH995	OWDFMW01	01/22/20	0840	HST	16	X			X		X	X*	X	X	X	X	X	X	X		X

EB 01/22/20

*Analyze TPH w/SGT only if TPH-d/o detected.

TPH-d/o & PAHs need liquid-liquid extraction.

Shuttle Temperature: EB

Turnaround Requested: Check one
☐ Standard 2-3 wk ☒ One week ☐ 3 days ☐ 24/48 Hrs. ☐ Other:

Sample Disposal:
☐ Return to client ☒ Disposal by Lab (30-day retention)

Relinquished by sampler: AECOM	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
Estelle BONNY	01/22/20	1100					
Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received at lab by:
					1/23/20	1000	

See page 2 for Container Preservative and Sampling Information

APPL, Inc.
908 N Temperance Ave
Clovis, CA 93611
www.applinc.com

Phone: (559) 275-2175
Fax: (559) 275-4422
coc@applinc.com

CHAIN OF CUSTODY RECORD

C.O.C. 151

Report to: PLEASE PRINT	Invoice to: PLEASE PRINT
Company Name: AECOM Phone: 808-356-5373	Company Name: AECOM Phone: 808-529-7249
Address: 1001 Bishop St, Suite 1600 Honolulu, HI 96813 Fax: 808-523-8950	Address: 1001 Bishop St, Suite 1600 Honolulu, HI 96813 Fax: 808-523-8950
Attn: Margie Pascua	Attn: Mary Basano
Email: margie.pascua@aecom.com	Email: mary.basano@aecom.com; usapimaging@aecom.com

Project Name/Number	Sampler (Print)
CV18F0126 / 60571032	GM, DM, RS
Purchase Order Number	**Sampler (Signature)**
102604	MP for GM, DM, RS

Date Shipped: MM/DD/YY
Carrier: FedEx
Waybill No.:
Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Matrix: Sed.	Matrix: Soil	8260C BTEX,TPH-g	8260C DCA 8011 EDB	8015C TPH-d/o	3630/8015C TPH-d/o w/ SGT	8270DSIM PAHs short list	8270D Phenol, TICs MW	8270D 2-(2-methoxy ethoxy)-ethanol	RSK175M Methane	SM3500-Fe Ferrous Iron	353.2 Nitrate-Nitrite N	SM2320B Alkalinity 300.0 Nitrate,Sulfate,Chloride	300.0 Bromide/Fluoride 3010 Total Ca,Mg,Mn,K,Na SM4500 Total & Dissolved Silica	9060A TOC
ERH990	Trip Blank	01/21/20	1220	HST	4	X			X							X					
ERH991	RHMW09	01/21/20	1310	HST	16	X			X		X	X*	X	X	X	X	X	X	X		X

EB 01/21/20

*Analyze TPH w/SGT only if TPH-d/o detected.

TPH-d/o & PAHs need liquid-liquid extraction.

Shuttle Temperature:

Turnaround Requested: Check one
☐ Standard 2-3 wk ☒ One week ☐ 3 days ☐ 24/48 Hrs. ☐ Other: _____

Sample Disposal:
☐ Return to client ☒ Disposal by Lab (30-day retention)

Relinquished by sampler: AECOM	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
Estelle BONNY	01/22/20	1010					
Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received at lab by:
					1/23/20	1000	

See page 2 for Container Preservative and Sampling Information

COOLER RECEIPT FORM **ARF: 91288**

1) Project: 60571032 CV18F0126 Red Hill Fuel Storage Date Received: 01/23/20

2) Coolers: Number of Coolers: 4

3) YES Were custody seals present and intact?
How many? 4 Name/Date on seal? see below

4) YES Was there a shipping slip? Carrier name: FEDEX

5) Type of packing in cooler: X bubble wrap __ popcorn __ foam X plastic bags __ other
X wet ice __ dry ice __ no ice __ gel ice

6) YES Were cooler temperatures acceptable?

7) Serial number of certified NIST thermometer use R5 CF: +0.4

8) Cooler temp(s): In °C. Thermometer Temp / Corrected Temp
1: 1.4/1.9 2: 1.0/1.4 3: 0.5/0.9 4: 0.5/0.9 5: _____ 6: _____
7: _____ 8: _____ 9: _____ 10: _____ 11: _____ 12: _____

Chain of custody:

9) YES Was a chain of custody received?

10) YES Were the custody papers complete/signed in the appropriate places?

Sample Labels:

11) YES Were all sample labels complete (sample ID, date/time of sampling, etc.)?

12) YES Did all container labels agree with custody papers?

Sample Containers:

13) YES Were all containers sealed in separate bags?

14) YES Did all containers arrive in good condition:(unbroken, no leakage, no cracked/broken lids)?

15) YES Were correct containers and preservatives used for the tests indicated?

16) YES Was a sufficient amount of sample sent for tests indicated?

17) NA Were bubbles present in volatile samples?
If yes, the following were received with air bubbles:
Larger than a pea: _____
Smaller than a pea: _____

Preservation Hold time:

18) Yes Was a sufficient amount of holding time remaining to analyze the samples?

19) Yes Was the pH taken of all non-VOA preserved samples and written on the sample container?

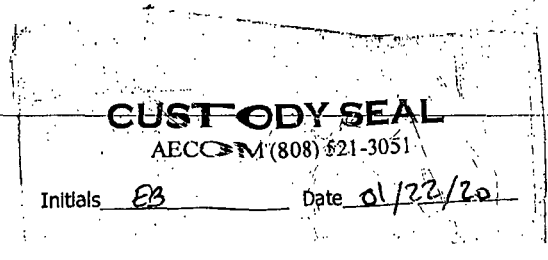
20) Yes Was the pH of acid preserved non-VOA samples < 2?

21) NA Was the pH of sodium hydroxide preserved samples for Cyanide > 12 and Sulfide >9?

22) Yes Were unpreserved VOA Vials received?

23) NA Are unpreserved VOA vials noted in the ADD TEST FIELD on the ARF?
pH strip lot number: HC982588
Lab notified if pH was not adequate: _____

Notes/Deficiencies:



Personnel receiving samples: AA Second reviewer: AA
Personnel labeling samples: AD
Project manager notified: AA Date/Time of notification 01/23/20
Name of client notified: _____ Date/Time of notification _____

Revision: 22, November 5, 2013

SAMPLE RESULTS

EPA 8011

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91288

Sample ID: ERH1005

APPL ID: BA06318

Sample Collection Date: 01/21/20

QCG: #8011-200127A-249503

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8011	EDB	0.019 U	0.02	0.019	0.010	ug/L	01/27/20	01/27/20
8011	SURROGATE: 1,3-DIBROMOPROPANE	98.5	70-132			%	01/27/20	01/27/20

Quant Method: 8010127A.M
Run #: 1126270
Instrument: Herbie
Sequence: 191126
Dilution Factor: 1
Initials: GAG

Printed: 01/28/20 9:32:49 AM

APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8011

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91288

Sample ID: ERH1006

APPL ID: BA06319

Sample Collection Date: 01/21/20

QCG: #8011-200127A-249503

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8011	EDB	0.019 U	0.02	0.019	0.010	ug/L	01/27/20	01/27/20
8011	SURROGATE: 1,3-DIBROMOPROPANE	96.4	70-132			%	01/27/20	01/27/20

Quant Method:	8010127A.M
Run #:	1126271
Instrument:	Herbie
Sequence:	191126
Dilution Factor:	1
Initials:	GAG

Printed: 01/28/20 9:32:50 AM

APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8015B TPH LIQ-LIQ

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

Attn: Margie Pascua

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91288

Sample ID: ERH983

APPL ID: BA06313

Sample Collection Date: 01/21/20

QCG: #DOC53-200123A-249599

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8015B-eL	DIESEL (C10-C24)	93 ++	40.0	25.00	13.07	ug/L	01/23/20	01/30/20
EPA 8015B-eL	OIL (C24-C40)	92	40.0	40.00	5.54	ug/L	01/23/20	01/30/20
EPA 8015B-eL	SURROGATE: OCTACOSANE (S)	118.0	60-142			%	01/23/20	01/30/20
EPA 8015B-eL	SURROGATE: ORTHO-TERPHENYL (S)	97.1	56-125			%	01/23/20	01/30/20

++(T1M) The analyst has noted that the chromatogram of this sample is mainly a wide range of hydrocarbons which are not necessarily indicative of diesel.

Quant Method: DOC0129.M
Run #: 129043
Instrument: Apollo
Sequence: 200129
Dilution Factor: 1
Initials: SSE

Printed: 01/30/20 11:18:18 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8015B TPH WATER L-L SGC

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91288

Sample ID: ERH983

APPL ID: BA06313

Sample Collection Date: 01/21/20

QCG: #DOC53-200123A1-249601

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8015B-eL	DIESEL (C10-C24)	25.00 U	40.0	25.00	13.07	ug/L	01/23/20	01/29/20
EPA 8015B-eL	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	01/23/20	01/29/20
EPA 8015B-eL	SURROGATE: (R) DECANOIC ACID (S)	0.0	0-1			%	01/23/20	01/29/20
EPA 8015B-eL	SURROGATE: OCTACOSANE (S)	57.0 #	60-142			%	01/23/20	01/29/20
EPA 8015B-eL	SURROGATE: ORTHO-TERPHENYL (S)	58.4	56-125			%	01/23/20	01/29/20

= Recovery (or RPD) is outside QC limits.

Quant Method: DOC0129.M
Run #: 129031
Instrument: Apollo
Sequence: 200129
Dilution Factor: 1
Initials: SSE

Printed: 01/30/20 11:12:21 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8015B TPH LIQ-LIQ

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91288

Sample ID: ERH991

APPL ID: BA06315

Sample Collection Date: 01/21/20

QCG: #DOC53-200123A-249599

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8015B-eL	DIESEL (C10-C24)	100 ++	40.0	25.00	13.07	ug/L	01/23/20	01/30/20
EPA 8015B-eL	OIL (C24-C40)	98	40.0	40.00	5.54	ug/L	01/23/20	01/30/20
EPA 8015B-eL	SURROGATE: OCTACOSANE (S)	120.8	60-142			%	01/23/20	01/30/20
EPA 8015B-eL	SURROGATE: ORTHO-TERPHENYL (S)	95.1	56-125			%	01/23/20	01/30/20

++(T1M) The analyst has noted that the chromatogram of this sample is mainly a wide range of hydrocarbons which are not necessarily indicative of diesel.

Quant Method: DOC0129.M
Run #: 129044
Instrument: Apollo
Sequence: 200129
Dilution Factor: 1
Initials: SSE

Printed: 01/30/20 11:18:18 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8015B TPH WATER L-L SGC

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91288

Sample ID: ERH991

APPL ID: BA06315

Sample Collection Date: 01/21/20

QCG: #DOC53-200123A1-249601

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8015B-eL	DIESEL (C10-C24)	25.00 U	40.0	25.00	13.07	ug/L	01/23/20	01/29/20
EPA 8015B-eL	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	01/23/20	01/29/20
EPA 8015B-eL	SURROGATE: (R) DECANOIC ACID (S)	0.0	0-1			%	01/23/20	01/29/20
EPA 8015B-eL	SURROGATE: OCTACOSANE (S)	89.8	60-142			%	01/23/20	01/29/20
EPA 8015B-eL	SURROGATE: ORTHO-TERPHENYL (S)	90.8	56-125			%	01/23/20	01/29/20

Quant Method: DOC0129.M
Run #: 129032
Instrument: Apollo
Sequence: 200129
Dilution Factor: 1
Initials: SSE

Printed: 01/30/20 11:12:21 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8015B TPH LIQ-LIQ

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91288

Sample ID: ERH995

APPL ID: BA06317

Sample Collection Date: 01/22/20

QCG: #DOC53-200123A-249599

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8015B-eL	DIESEL (C10-C24)	120 ++	40.0	25.00	13.07	ug/L	01/23/20	01/30/20
EPA 8015B-eL	OIL (C24-C40)	120	40.0	40.00	5.54	ug/L	01/23/20	01/30/20
EPA 8015B-eL	SURROGATE: OCTACOSANE (S)	94.7	60-142			%	01/23/20	01/30/20
EPA 8015B-eL	SURROGATE: ORTHO-TERPHENYL (S)	81.6	56-125			%	01/23/20	01/30/20

++(T1M) The analyst has noted that the chromatogram of this sample is mainly a wide range of hydrocarbons which are not necessarily indicative of diesel.

Quant Method: DOC0129.M
Run #: 129045
Instrument: Apollo
Sequence: 200129
Dilution Factor: 1
Initials: SSE

Printed: 01/30/20 11:18:18 AM

APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8015B TPH WATER L-L SGC

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91288

Sample ID: ERH995

APPL ID: BA06317

Sample Collection Date: 01/22/20

QCG: #DOC53-200123A1-249601

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8015B-eL	DIESEL (C10-C24)	25.00 U	40.0	25.00	13.07	ug/L	01/23/20	01/29/20
EPA 8015B-eL	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	01/23/20	01/29/20
EPA 8015B-eL	SURROGATE: (R) DECANOIC ACID (S)	0.0	0-1			%	01/23/20	01/29/20
EPA 8015B-eL	SURROGATE: OCTACOSANE (S)	79.8	60-142			%	01/23/20	01/29/20
EPA 8015B-eL	SURROGATE: ORTHO-TERPHENYL (S)	79.8	56-125			%	01/23/20	01/29/20

Quant Method: DOC0129.M
Run #: 129033
Instrument: Apollo
Sequence: 200129
Dilution Factor: 1
Initials: SSE

Printed: 01/30/20 11:12:22 AM

APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8015B TPH LIQ-LIQ

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91288

Sample ID: ERH1006

APPL ID: BA06319

Sample Collection Date: 01/21/20

QCG: #DOC53-200123A-249599

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8015B-eL	DIESEL (C10-C24)	130 ++	40.0	25.00	13.07	ug/L	01/23/20	01/30/20
EPA 8015B-eL	OIL (C24-C40)	110	40.0	40.00	5.54	ug/L	01/23/20	01/30/20
EPA 8015B-eL	SURROGATE: OCTACOSANE (S)	108.6	60-142			%	01/23/20	01/30/20
EPA 8015B-eL	SURROGATE: ORTHO-TERPHENYL (S)	99.4	56-125			%	01/23/20	01/30/20

++(T1M) The analyst has noted that the chromatogram of this sample is mainly a wide range of hydrocarbons which are not necessarily indicative of diesel.

Quant Method: DOC0129.M
Run #: 129046
Instrument: Apollo
Sequence: 200129
Dilution Factor: 1
Initials: SSE

Printed: 01/30/20 11:18:18 AM

APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8015B TPH WATER L-L SGC

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua
Project: 60571032 CV18F0126 Red Hill Fuel Storage
Sample ID: ERH1006
Sample Collection Date: 01/21/20

ARF: 91288
APPL ID: BA06319
QCG: #DOC53-200123A1-249601

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8015B-eL	DIESEL (C10-C24)	25.00 U	40.0	25.00	13.07	ug/L	01/23/20	01/30/20
EPA 8015B-eL	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	01/23/20	01/30/20
EPA 8015B-eL	SURROGATE: (R) DECANOIC ACID (S)	0.0	0-1			%	01/23/20	01/30/20
EPA 8015B-eL	SURROGATE: OCTACOSANE (S)	89.1	60-142			%	01/23/20	01/30/20
EPA 8015B-eL	SURROGATE: ORTHO-TERPHENYL (S)	91.0	56-125			%	01/23/20	01/30/20

Quant Method: DOC0129.M
Run #: 129034
Instrument: Apollo
Sequence: 200129
Dilution Factor: 1
Initials: SSE

Printed: 01/30/20 11:12:22 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8270D SIM LIQ-LIQ

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91288

Sample ID: ERH983

APPL ID: BA06313

Sample Collection Date: 01/21/20

QCG: #SIM53-200124A-249501

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8270D-SIM	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.04	ug/L	01/24/20	01/27/20
8270D-SIM	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.04	ug/L	01/24/20	01/27/20
8270D-SIM	NAPHTHALENE	0.10 U	0.2	0.10	0.04	ug/L	01/24/20	01/27/20
8270D-SIM	SURROGATE: 2-METHYLNAPHTHALEN	91.6	39-114			%	01/24/20	01/27/20
8270D-SIM	SURROGATE: FLUORANTHENE-D10 (S	92.6	58-120			%	01/24/20	01/27/20

Quant Method: L0113PCP.M
Run #: 0113L175
Instrument: Linus
Sequence: L200113P
Dilution Factor: 1
Initials: JPR

Printed: 01/28/20 9:30:25 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8270D SIM LIQ-LIQ

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua
Project: 60571032 CV18F0126 Red Hill Fuel Storage
Sample ID: ERH991
Sample Collection Date: 01/21/20

ARF: 91288
APPL ID: BA06315
QCG: #SIM53-200124A-249501

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8270D-SIM	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.04	ug/L	01/24/20	01/27/20
8270D-SIM	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.04	ug/L	01/24/20	01/27/20
8270D-SIM	NAPHTHALENE	0.10 U	0.2	0.10	0.04	ug/L	01/24/20	01/27/20
8270D-SIM	SURROGATE: 2-METHYLNAPHTHALEN	92.4	39-114			%	01/24/20	01/27/20
8270D-SIM	SURROGATE: FLUORANTHENE-D10 (S	94.6	58-120			%	01/24/20	01/27/20

Quant Method: L0113PCP.M
Run #: 0113L176
Instrument: Linus
Sequence: L200113P
Dilution Factor: 1
Initials: JPR

Printed: 01/28/20 9:30:25 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8270D SIM LIQ-LIQ

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua
Project: 60571032 CV18F0126 Red Hill Fuel Storage
Sample ID: ERH995
Sample Collection Date: 01/22/20

ARF: 91288
APPL ID: BA06317
QCG: #SIM53-200124A-249501

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8270D-SIM	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.04	ug/L	01/24/20	01/27/20
8270D-SIM	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.04	ug/L	01/24/20	01/27/20
8270D-SIM	NAPHTHALENE	0.10 U	0.2	0.10	0.04	ug/L	01/24/20	01/27/20
8270D-SIM	SURROGATE: 2-METHYLNAPHTHALEN	88.1	39-114			%	01/24/20	01/27/20
8270D-SIM	SURROGATE: FLUORANTHENE-D10 (S	90.8	58-120			%	01/24/20	01/27/20

Quant Method: L0113PCP.M
Run #: 0113L177
Instrument: Linus
Sequence: L200113P
Dilution Factor: 1
Initials: JPR

Printed: 01/28/20 9:30:25 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8270D SIM LIQ-LIQ

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua
Project: 60571032 CV18F0126 Red Hill Fuel Storage
Sample ID: ERH1006
Sample Collection Date: 01/21/20

ARF: 91288
APPL ID: BA06319
QCG: #SIM53-200124A-249501

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8270D-SIM	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.04	ug/L	01/24/20	01/27/20
8270D-SIM	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.04	ug/L	01/24/20	01/27/20
8270D-SIM	NAPHTHALENE	0.10 U	0.2	0.10	0.04	ug/L	01/24/20	01/27/20
8270D-SIM	SURROGATE: 2-METHYLNAPHTHALEN	83.9	39-114			%	01/24/20	01/27/20
8270D-SIM	SURROGATE: FLUORANTHENE-D10 (S	88.7	58-120			%	01/24/20	01/27/20

Quant Method: L0113PCP.M
Run #: 0113L178
Instrument: Linus
Sequence: L200113P
Dilution Factor: 1
Initials: JPR

Printed: 01/28/20 9:30:26 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8270D WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91288

Sample ID: ERH983

APPL ID: BA06313

Sample Collection Date: 01/21/20

QCG: #87DC5-200124A-249499

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	01/24/20	01/27/20
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHENO	97.5	43-140			%	01/24/20	01/27/20
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	85.5	44-119			%	01/24/20	01/27/20
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	92.0	19-119			%	01/24/20	01/27/20
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	101	44-120			%	01/24/20	01/27/20
EPA 8270D	SURROGATE: PHENOL-D6 (S)	97.1	10-115			%	01/24/20	01/27/20
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	112	50-134			%	01/24/20	01/27/20

Quant Method: Y1219.M
Run #: 1219Y260
Instrument: Yoda
Sequence: Y191219
Dilution Factor: 1
Initials: JPR

Printed: 01/28/20 9:22:02 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8270D WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91288

Sample ID: ERH991

APPL ID: BA06315

Sample Collection Date: 01/21/20

QCG: #87DC5-200124A-249499

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	01/24/20	01/27/20
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHENO	101	43-140			%	01/24/20	01/27/20
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	87.7	44-119			%	01/24/20	01/27/20
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	81.9	19-119			%	01/24/20	01/27/20
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	93.4	44-120			%	01/24/20	01/27/20
EPA 8270D	SURROGATE: PHENOL-D6 (S)	87.0	10-115			%	01/24/20	01/27/20
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	114	50-134			%	01/24/20	01/27/20

Quant Method: Y1219.M
Run #: 1219Y261
Instrument: Yoda
Sequence: Y191219
Dilution Factor: 1
Initials: JPR

Printed: 01/28/20 9:22:02 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8270D WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91288

Sample ID: ERH995

APPL ID: BA06317

Sample Collection Date: 01/22/20

QCG: #87DC5-200124A-249499

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	01/24/20	01/28/20
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHENO	84.1	43-140			%	01/24/20	01/28/20
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	87.4	44-119			%	01/24/20	01/28/20
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	59.9	19-119			%	01/24/20	01/28/20
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	98.3	44-120			%	01/24/20	01/28/20
EPA 8270D	SURROGATE: PHENOL-D6 (S)	68.7	10-115			%	01/24/20	01/28/20
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	110	50-134			%	01/24/20	01/28/20

Quant Method: Y1219.M
Run #: 1219Y262
Instrument: Yoda
Sequence: Y191219
Dilution Factor: 1
Initials: JPR

Printed: 01/28/20 9:22:02 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8270D WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91288

Sample ID: ERH1006

APPL ID: BA06319

Sample Collection Date: 01/21/20

QCG: #87DC5-200124A-249499

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	01/24/20	01/28/20
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHENO	92.8	43-140			%	01/24/20	01/28/20
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	80.3	44-119			%	01/24/20	01/28/20
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	73.2	19-119			%	01/24/20	01/28/20
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	92.9	44-120			%	01/24/20	01/28/20
EPA 8270D	SURROGATE: PHENOL-D6 (S)	56.8	10-115			%	01/24/20	01/28/20
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	109	50-134			%	01/24/20	01/28/20

Quant Method: Y1219.M
Run #: 1219Y263
Instrument: Yoda
Sequence: Y191219
Dilution Factor: 1
Initials: JPR

Printed: 01/28/20 9:22:02 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8270D MODIFIED WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91288

Sample ID: ERH983

APPL ID: BA06313

Sample Collection Date: 01/21/20

QCG: #87DME-200128A-249592

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	2-(2-METHOXYETHOXY)-ETHANOL	80.0 U	100	80.0	40.0	ug/L	01/28/20	01/29/20

Quant Method:	YMEE0122.M
Run #:	0122Y032
Instrument:	Yoda
Sequence:	Y200122M
Dilution Factor:	1
Initials:	JPR

Printed: 01/30/20 11:01:12 AM

APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8270D MODIFIED WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua
Project: 60571032 CV18F0126 Red Hill Fuel Storage
Sample ID: ERH991
Sample Collection Date: 01/21/20

ARF: 91288
APPL ID: BA06315
QCG: #87DME-200128A-249592

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	2-(2-METHOXYETHOXY)-ETHANOL	80.0 U	100	80.0	40.0	ug/L	01/28/20	01/29/20

Quant Method: YMEE0122.M
Run #: 0122Y033
Instrument: Yoda
Sequence: Y200122M
Dilution Factor: 1
Initials: JPR

Printed: 01/30/20 11:01:13 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8270D MODIFIED WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua
Project: 60571032 CV18F0126 Red Hill Fuel Storage
Sample ID: ERH995
Sample Collection Date: 01/22/20

ARF: 91288
APPL ID: BA06317
QCG: #87DME-200128A-249592

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	2-(2-METHOXYETHOXY)-ETHANOL	80.0 U	100	80.0	40.0	ug/L	01/28/20	01/29/20

Quant Method: YMEE0122.M
Run #: 0122Y034
Instrument: Yoda
Sequence: Y200122M
Dilution Factor: 1
Initials: JPR

Printed: 01/30/20 11:01:13 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8270D MODIFIED WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua
Project: 60571032 CV18F0126 Red Hill Fuel Storage
Sample ID: ERH1006
Sample Collection Date: 01/21/20

ARF: 91288
APPL ID: BA06319
QCG: #87DME-200128A-249592

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	2-(2-METHOXYETHOXY)-ETHANOL	80.0 U	100	80.0	40.0	ug/L	01/28/20	01/29/20

Quant Method: YMEE0122.M
Run #: 0122Y035
Instrument: Yoda
Sequence: Y200122M
Dilution Factor: 1
Initials: JPR

Printed: 01/30/20 11:01:13 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91288

Sample ID: ERH982

APPL ID: BA06312

Sample Collection Date: 01/21/20

QCG: #86BTO-200124AT-249455

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.15	ug/L	01/24/20	01/24/20
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	01/24/20	01/24/20
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.15	ug/L	01/24/20	01/24/20
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.15	ug/L	01/24/20	01/24/20
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE-	102	81-118			%	01/24/20	01/24/20
EPA 8260B	SURROGATE: 4-BROMOFLUOROBENZ	91.2	85-114			%	01/24/20	01/24/20
EPA 8260B	SURROGATE: DIBROMOFLUOROMETH	101	80-119			%	01/24/20	01/24/20
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	100	89-112			%	01/24/20	01/24/20

Quant Method: T0121W.M
Run #: 0124T13
Instrument: Thor
Sequence: T200121
Dilution Factor: 1
Initials: CMO

Printed: 01/28/20 1:01:56 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91288

Sample ID: ERH983

APPL ID: BA06313

Sample Collection Date: 01/21/20

QCG: #86BTO-200124AT-249455

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.15	ug/L	01/24/20	01/24/20
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	01/24/20	01/24/20
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.15	ug/L	01/24/20	01/24/20
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.15	ug/L	01/24/20	01/24/20
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE-	97.8	81-118			%	01/24/20	01/24/20
EPA 8260B	SURROGATE: 4-BROMOFLUOROBENZ	86.7	85-114			%	01/24/20	01/24/20
EPA 8260B	SURROGATE: DIBROMOFLUOROMETH	97.5	80-119			%	01/24/20	01/24/20
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	96.7	89-112			%	01/24/20	01/24/20

Quant Method: T0121W.M
Run #: 0124T17
Instrument: Thor
Sequence: T200121
Dilution Factor: 1
Initials: CMO

Printed: 01/28/20 1:01:56 PM

APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

Sample ID: ERH990

Sample Collection Date: 01/21/20

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 91288

APPL ID: BA06314

QCG: #86BTO-200124AT-249455

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.15	ug/L	01/24/20	01/24/20
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	01/24/20	01/24/20
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.15	ug/L	01/24/20	01/24/20
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.15	ug/L	01/24/20	01/24/20
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE-	101	81-118			%	01/24/20	01/24/20
EPA 8260B	SURROGATE: 4-BROMOFLUOROBENZ	90.1	85-114			%	01/24/20	01/24/20
EPA 8260B	SURROGATE: DIBROMOFLUOROMETH	100	80-119			%	01/24/20	01/24/20
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	98.1	89-112			%	01/24/20	01/24/20

Quant Method: T0121W.M
Run #: 0124T14
Instrument: Thor
Sequence: T200121
Dilution Factor: 1
Initials: CMO

Printed: 01/28/20 1:01:56 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91288

Sample ID: ERH991

APPL ID: BA06315

Sample Collection Date: 01/21/20

QCG: #86BTO-200124AT-249455

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.15	ug/L	01/24/20	01/24/20
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	01/24/20	01/24/20
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.15	ug/L	01/24/20	01/24/20
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.15	ug/L	01/24/20	01/24/20
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE-	101	81-118			%	01/24/20	01/24/20
EPA 8260B	SURROGATE: 4-BROMOFLUOROBENZ	90.0	85-114			%	01/24/20	01/24/20
EPA 8260B	SURROGATE: DIBROMOFLUOROMETH	100.0	80-119			%	01/24/20	01/24/20
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	101	89-112			%	01/24/20	01/24/20

Quant Method: T0121W.M
Run #: 0124T18
Instrument: Thor
Sequence: T200121
Dilution Factor: 1
Initials: CMO

Printed: 01/28/20 1:01:56 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91288

Sample ID: ERH994

APPL ID: BA06316

Sample Collection Date: 01/22/20

QCG: #86BTO-200124AT-249455

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.15	ug/L	01/24/20	01/24/20
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	01/24/20	01/24/20
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.15	ug/L	01/24/20	01/24/20
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.15	ug/L	01/24/20	01/24/20
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE-	103	81-118			%	01/24/20	01/24/20
EPA 8260B	SURROGATE: 4-BROMOFLUOROBENZ	91.0	85-114			%	01/24/20	01/24/20
EPA 8260B	SURROGATE: DIBROMOFLUOROMETH	102	80-119			%	01/24/20	01/24/20
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	99.8	89-112			%	01/24/20	01/24/20

Quant Method: T0121W.M
Run #: 0124T15
Instrument: Thor
Sequence: T200121
Dilution Factor: 1
Initials: CMO

Printed: 01/28/20 1:01:56 PM

APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91288

Sample ID: ERH995

APPL ID: BA06317

Sample Collection Date: 01/22/20

QCG: #86BTO-200124AT-249455

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.15	ug/L	01/24/20	01/24/20
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	01/24/20	01/24/20
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.15	ug/L	01/24/20	01/24/20
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.15	ug/L	01/24/20	01/24/20
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE-	101	81-118			%	01/24/20	01/24/20
EPA 8260B	SURROGATE: 4-BROMOFLUOROBENZ	88.6	85-114			%	01/24/20	01/24/20
EPA 8260B	SURROGATE: DIBROMOFLUOROMETH	102	80-119			%	01/24/20	01/24/20
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	96.6	89-112			%	01/24/20	01/24/20

Quant Method: T0121W.M
Run #: 0124T19
Instrument: Thor
Sequence: T200121
Dilution Factor: 1
Initials: CMO

Printed: 01/28/20 1:01:57 PM

APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8260B BTEX & 1,2-DCA WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91288

Sample ID: ERH1005

APPL ID: BA06318

Sample Collection Date: 01/21/20

QCG: #86BTO-200124AT1-249456

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	1,2-DICHLOROETHANE	0.30 U	1.0	0.30	0.14	ug/L	01/24/20	01/24/20
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.15	ug/L	01/24/20	01/24/20
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	01/24/20	01/24/20
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.15	ug/L	01/24/20	01/24/20
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.15	ug/L	01/24/20	01/24/20
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE-	101	81-118			%	01/24/20	01/24/20
EPA 8260B	SURROGATE: 4-BROMOFLUOROBENZ	88.3	85-114			%	01/24/20	01/24/20
EPA 8260B	SURROGATE: DIBROMOFLUOROMETH	101	80-119			%	01/24/20	01/24/20
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	97.6	89-112			%	01/24/20	01/24/20

Quant Method: T0121W.M
Run #: 0124T16
Instrument: Thor
Sequence: T200121
Dilution Factor: 1
Initials: CMO

Printed: 01/28/20 1:01:09 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8260B BTEX & 1,2-DCA WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91288

Sample ID: ERH1006

APPL ID: BA06319

Sample Collection Date: 01/21/20

QCG: #86BTO-200124AT1-249456

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	1,2-DICHLOROETHANE	0.30 U	1.0	0.30	0.14	ug/L	01/24/20	01/24/20
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.15	ug/L	01/24/20	01/24/20
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	01/24/20	01/24/20
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.15	ug/L	01/24/20	01/24/20
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.15	ug/L	01/24/20	01/24/20
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE-	103	81-118			%	01/24/20	01/24/20
EPA 8260B	SURROGATE: 4-BROMOFLUOROBENZ	88.2	85-114			%	01/24/20	01/24/20
EPA 8260B	SURROGATE: DIBROMOFLUOROMETH	101	80-119			%	01/24/20	01/24/20
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	96.5	89-112			%	01/24/20	01/24/20

Quant Method: T0121W.M
Run #: 0124T20
Instrument: Thor
Sequence: T200121
Dilution Factor: 1
Initials: CMO

Printed: 01/28/20 1:01:09 PM

APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91288

Sample ID: ERH982

APPL ID: BA06312

Sample Collection Date: 01/21/20

QCG: #GRO86-200124AT-249449

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	01/24/20	01/24/20
EPA 8260B	SURROGATE: 4-BROMOFLUOROBENZ	91.2	85-114			%	01/24/20	01/24/20

Quant Method: TGAS0116.M
Run #: 0124T13
Instrument: Thor
Sequence: T200121
Dilution Factor: 1
Initials: CMO

Printed: 01/28/20 1:08:50 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91288

Sample ID: ERH983

APPL ID: BA06313

Sample Collection Date: 01/21/20

QCG: #GRO86-200124AT-249449

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	01/24/20	01/24/20
EPA 8260B	SURROGATE: 4-BROMOFLUOROBENZ	86.7	85-114			%	01/24/20	01/24/20

Quant Method: TGAS0116.M
Run #: 0124T17
Instrument: Thor
Sequence: T200121
Dilution Factor: 1
Initials: CMO

Printed: 01/28/20 1:08:51 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91288

Sample ID: ERH990

APPL ID: BA06314

Sample Collection Date: 01/21/20

QCG: #GRO86-200124AT-249449

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	01/24/20	01/24/20
EPA 8260B	SURROGATE: 4-BROMOFLUOROBENZ	90.1	85-114			%	01/24/20	01/24/20

Quant Method: TGAS0116.M
Run #: 0124T14
Instrument: Thor
Sequence: T200121
Dilution Factor: 1
Initials: CMO

Printed: 01/28/20 1:08:51 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91288

Sample ID: ERH991

APPL ID: BA06315

Sample Collection Date: 01/21/20

QCG: #GRO86-200124AT-249449

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	01/24/20	01/24/20
EPA 8260B	SURROGATE: 4-BROMOFLUOROBENZ	90.0	85-114			%	01/24/20	01/24/20

Quant Method: TGAS0116.M
Run #: 0124T18
Instrument: Thor
Sequence: T200121
Dilution Factor: 1
Initials: CMO

Printed: 01/28/20 1:08:51 PM

APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91288

Sample ID: ERH994

APPL ID: BA06316

Sample Collection Date: 01/22/20

QCG: #GRO86-200124AT-249449

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	01/24/20	01/24/20
EPA 8260B	SURROGATE: 4-BROMOFLUOROBENZ	91.0	85-114			%	01/24/20	01/24/20

Quant Method: TGAS0116.M
Run #: 0124T15
Instrument: Thor
Sequence: T200121
Dilution Factor: 1
Initials: CMO

Printed: 01/28/20 1:08:51 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91288

Sample ID: ERH995

APPL ID: BA06317

Sample Collection Date: 01/22/20

QCG: #GRO86-200124AT-249449

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	01/24/20	01/24/20
EPA 8260B	SURROGATE: 4-BROMOFLUOROBENZ	88.6	85-114			%	01/24/20	01/24/20

Quant Method: TGAS0116.M
Run #: 0124T19
Instrument: Thor
Sequence: T200121
Dilution Factor: 1
Initials: CMO

Printed: 01/28/20 1:08:51 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91288

Sample ID: ERH1005

APPL ID: BA06318

Sample Collection Date: 01/21/20

QCG: #GRO86-200124AT-249449

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	01/24/20	01/24/20
EPA 8260B	SURROGATE: 4-BROMOFLUOROBENZ	88.3	85-114			%	01/24/20	01/24/20

Quant Method: TGAS0116.M
Run #: 0124T16
Instrument: Thor
Sequence: T200121
Dilution Factor: 1
Initials: CMO

Printed: 01/28/20 1:08:51 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91288

Sample ID: ERH1006

APPL ID: BA06319

Sample Collection Date: 01/21/20

QCG: #GRO86-200124AT-249449

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	01/24/20	01/24/20
EPA 8260B	SURROGATE: 4-BROMOFLUOROBENZ	88.2	85-114			%	01/24/20	01/24/20

Quant Method: TGAS0116.M
Run #: 0124T20
Instrument: Thor
Sequence: T200121
Dilution Factor: 1
Initials: CMO

Printed: 01/28/20 1:08:51 PM

APPL-F1-SC-NoMC-REG MDLs-DOD

METHANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91288

Sample ID: ERH982

APPL ID: BA06312

Sample Collection Date: 01/21/20

QCG: #RSKME-200127A-249486

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	1.00 U	5.0	1.00	0.25	ug/L	01/27/20	01/27/20

Quant Method:	RSK1002.M
Run #:	0127R09
Instrument:	Rocky
Sequence:	191002
Dilution Factor:	1
Initials:	GAG

Printed: 01/28/20 8:33:22 AM

APPL-F1-SC-NoMC-REG MDLs-DOD

METHANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91288

Sample ID: ERH983

APPL ID: BA06313

Sample Collection Date: 01/21/20

QCG: #RSKME-200127A-249486

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	1.00 U	5.0	1.00	0.25	ug/L	01/27/20	01/27/20

Quant Method: RSK1002.M
Run #: 0127R10
Instrument: Rocky
Sequence: 191002
Dilution Factor: 1
Initials: GAG

Printed: 01/28/20 8:33:22 AM

APPL-F1-SC-NoMC-REG MDLs-DOD

METHANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91288

Sample ID: ERH990

APPL ID: BA06314

Sample Collection Date: 01/21/20

QCG: #RSKME-200127A-249486

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	1.00 U	5.0	1.00	0.25	ug/L	01/27/20	01/27/20

Quant Method:	RSK1002.M
Run #:	0127R11
Instrument:	Rocky
Sequence:	191002
Dilution Factor:	1
Initials:	GAG

Printed: 01/28/20 8:33:22 AM

APPL-F1-SC-NoMC-REG MDLs-DOD

METHANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91288

Sample ID: ERH991

APPL ID: BA06315

Sample Collection Date: 01/21/20

QCG: #RSKME-200127A-249486

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	1.00 U	5.0	1.00	0.25	ug/L	01/27/20	01/27/20

Quant Method: RSK1002.M
Run #: 0127R08
Instrument: Rocky
Sequence: 191002
Dilution Factor: 1
Initials: GAG

Printed: 01/28/20 8:33:22 AM

APPL-F1-SC-NoMC-REG MDLs-DOD

METHANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91288

Sample ID: ERH994

APPL ID: BA06316

Sample Collection Date: 01/22/20

QCG: #RSKME-200127A-249486

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	1.00 U	5.0	1.00	0.25	ug/L	01/27/20	01/27/20

Quant Method: RSK1002.M
Run #: 0127R12
Instrument: Rocky
Sequence: 191002
Dilution Factor: 1
Initials: GAG

Printed: 01/28/20 8:33:22 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

METHANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91288

Sample ID: ERH995

APPL ID: BA06317

Sample Collection Date: 01/22/20

QCG: #RSKME-200127A-249486

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	1.00 U	5.0	1.00	0.25	ug/L	01/27/20	01/27/20

Quant Method:	RSK1002.M
Run #:	0127R13
Instrument:	Rocky
Sequence:	191002
Dilution Factor:	1
Initials:	GAG

Printed: 01/28/20 8:33:23 AM

APPL-F1-SC-NoMC-REG MDLs-DOD

METHANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91288

Sample ID: ERH1005

APPL ID: BA06318

Sample Collection Date: 01/21/20

QCG: #RSKME-200127A-249486

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	1.00 U	5.0	1.00	0.25	ug/L	01/27/20	01/27/20

Quant Method:	RSK1002.M
Run #:	0127R14
Instrument:	Rocky
Sequence:	191002
Dilution Factor:	1
Initials:	GAG

Printed: 01/28/20 8:33:23 AM

APPL-F1-SC-NoMC-REG MDLs-DOD

METHANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua
Project: 60571032 CV18F0126 Red Hill Fuel Storage
Sample ID: ERH1006
Sample Collection Date: 01/21/20

ARF: 91288
APPL ID: BA06319
QCG: #RSKME-200127A-249486

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	1.00 U	5.0	1.00	0.25	ug/L	01/27/20	01/27/20

Quant Method:	RSK1002.M
Run #:	0127R15
Instrument:	Rocky
Sequence:	191002
Dilution Factor:	1
Initials:	GAG

Printed: 01/28/20 8:33:23 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Wet Lab Analysis

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

Sample ID: ERH983

Sample Collection Date: 01/21/20

APPL ID: BA06313

ARF: 91288

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
EPA 300.0	CHLORIDE	132	5.0	1.00	0.40	mg/L	5	01/28/20	01/28/20
EPA 300.0	NITRATE	3.4	0.5	0.18	0.04	mg/L	1	01/23/20	01/23/20
EPA 300.0	SULFATE	33.5	1.0	0.20	0.09	mg/L	1	01/23/20	01/23/20

Printed: 02/13/20 3:06:41 PM

APPL-F1-SC-NoMC-REG MDLs

Wet Lab Analysis

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

Sample ID: ERH991

APPL ID: BA06315

Sample Collection Date: 01/21/20

ARF: 91288

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
EPA 300.0	CHLORIDE	54.8	1.0	0.20	0.08	mg/L	1	01/23/20	01/23/20
EPA 300.0	NITRATE	2.3	0.5	0.18	0.04	mg/L	1	01/23/20	01/23/20
EPA 300.0	SULFATE	9.0	1.0	0.20	0.09	mg/L	1	01/23/20	01/23/20

Printed: 02/13/20 3:06:41 PM

APPL-F1-SC-NoMC-REG MDLs

Wet Lab Analysis

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

Sample ID: ERH995
Sample Collection Date: 01/22/20

APPL ID: BA06317
ARF: 91288

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
EPA 300.0	CHLORIDE	1050	50.0	10.00	4.00	mg/L	50	01/28/20	01/28/20
EPA 300.0	SULFATE	331	50.0	10.00	4.50	mg/L	50	01/28/20	01/28/20
EPA 300.0	NITRATE	1.8	0.5	0.18	0.04	mg/L	1	01/23/20	01/23/20

Printed: 02/13/20 3:06:41 PM

APPL-F1-SC-NoMC-REG MDLs

Wet Lab Analysis

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

Sample ID: ERH1006
Sample Collection Date: 01/21/20

APPL ID: BA06319
ARF: 91288

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
EPA 300.0	CHLORIDE	46.6	1.0	0.20	0.08	mg/L	1	01/23/20	01/23/20
EPA 300.0	NITRATE	1.9	0.5	0.18	0.04	mg/L	1	01/23/20	01/23/20
EPA 300.0	SULFATE	6.9	1.0	0.20	0.09	mg/L	1	01/23/20	01/23/20

Printed: 02/13/20 3:06:41 PM

APPL-F1-SC-NoMC-REG MDLs

Wet Lab Analysis

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

Sample ID: ERH983
Sample Collection Date: 01/21/20

APPL ID: BA06313
ARF: 91288

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
EPA 353.2	NITRATE-NITRITE-N	0.76	0.10	0.090	0.028	mg/L	1	01/27/20	01/27/20
SM 2320B	BICARBONATE AS CACO3	89.5	2.0	1.70	0.85	mg/L	1	01/27/20	01/27/20
SM 2320B	CARBONATE AS CACO3	1.70 U	2.0	1.70	0.85	mg/L	1	01/27/20	01/27/20
SM 2320B	TOTAL ALKALINITY AS CACO	89.5	2.0	1.70	0.85	mg/L	1	01/27/20	01/27/20
SM3500FeB	FERROUS IRON	0.32 U	1.0	0.32	0.16	mg/L	1	01/23/20	01/23/20
SW846 9060A	TOTAL ORGANIC CARBON	0.30 J	0.93	0.350	0.130	mg/L	1	01/23/20	01/24/20

J = Estimated value.

Printed: 02/13/20 3:07:09 PM

APPL-F1-SC-NoMC-REG MDLs

Wet Lab Analysis

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

Sample ID: ERH991
Sample Collection Date: 01/21/20

APPL ID: BA06315
ARF: 91288

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
EPA 353.2	NITRATE-NITRITE-N	0.45	0.10	0.090	0.028	mg/L	1	01/27/20	01/27/20
SM 2320B	BICARBONATE AS CACO3	64.3	2.0	1.70	0.85	mg/L	1	01/27/20	01/27/20
SM 2320B	CARBONATE AS CACO3	1.70 U	2.0	1.70	0.85	mg/L	1	01/27/20	01/27/20
SM 2320B	TOTAL ALKALINITY AS CACO	64.3	2.0	1.70	0.85	mg/L	1	01/27/20	01/27/20
SM3500FeB	FERROUS IRON	0.32 U	1.0	0.32	0.16	mg/L	1	01/23/20	01/23/20
SW846 9060A	TOTAL ORGANIC CARBON	0.14 J	0.93	0.350	0.130	mg/L	1	01/23/20	01/24/20

J = Estimated value.

Printed: 02/13/20 3:07:09 PM

APPL-F1-SC-NoMC-REG MDLs

Wet Lab Analysis

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

Sample ID: ERH995

APPL ID: BA06317

Sample Collection Date: 01/22/20

ARF: 91288

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
EPA 353.2	NITRATE-NITRITE-N	1.8	0.10	0.090	0.028	mg/L	1	01/27/20	01/27/20
SM 2320B	BICARBONATE AS CACO3	147	2.0	1.70	0.85	mg/L	1	01/27/20	01/27/20
SM 2320B	CARBONATE AS CACO3	1.70 U	2.0	1.70	0.85	mg/L	1	01/27/20	01/27/20
SM 2320B	TOTAL ALKALINITY AS CACO	147	2.0	1.70	0.85	mg/L	1	01/27/20	01/27/20
SM3500FeB	FERROUS IRON	0.32 U	1.0	0.32	0.16	mg/L	1	01/23/20	01/23/20
SW846 9060A	TOTAL ORGANIC CARBON	1.5	0.93	0.350	0.130	mg/L	1	01/23/20	01/24/20

Printed: 02/13/20 3:07:09 PM

APPL-F1-SC-NoMC-REG MDLs

Wet Lab Analysis

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

Sample ID: ERH1006
Sample Collection Date: 01/21/20

APPL ID: BA06319
ARF: 91288

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
EPA 353.2	NITRATE-NITRITE-N	0.29	0.10	0.090	0.028	mg/L	1	01/27/20	01/27/20
SM 2320B	BICARBONATE AS CACO3	54.8	2.0	1.70	0.85	mg/L	1	01/27/20	01/27/20
SM 2320B	CARBONATE AS CACO3	1.70 U	2.0	1.70	0.85	mg/L	1	01/27/20	01/27/20
SM 2320B	TOTAL ALKALINITY AS CACO	54.8	2.0	1.70	0.85	mg/L	1	01/27/20	01/27/20
SM3500FeB	FERROUS IRON	0.32 U	1.0	0.32	0.16	mg/L	1	01/23/20	01/23/20
SW846 9060A	TOTAL ORGANIC CARBON	2.5	0.93	0.350	0.130	mg/L	1	01/23/20	01/24/20

Printed: 02/13/20 3:07:09 PM

APPL-F1-SC-NoMC-REG MDLs

QC FORMS

8011

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 91288

Case No: 91288 Date Analyzed: 01/27/20

Matrix: WATER Instrument: Herbie

APPL ID.	Client Sample No.	SURROGATE: 1,3-DIBROMOPROPANE (S)					
		Limits	Result	Qualifier	Limits	Result	Qualifier
200127A-BLK	Blank	70-132	99.0				
200127A-LCS	Lab Control Spike	70-132	101				
200127A-LCSD	Lab Control SpikeD	70-132	93.2				
BA06318	ERH1005	70-132	98.5				
BA06319	ERH1006	70-132	96.4				

Comments: Batch: #8011-200127A

8011

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 91288

Case No: 91288 Date Analyzed: 01/27/20

Matrix: WATER Instrument: Herbie

Blank ID: 200127A-BLK Time Analyzed: 1940

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200127A-BLK	Blank	1126262	01/27/20 1940
200127A-LCS	Lab Control Spike	1126263	01/27/20 2000
200127A-LCSD	Lab Control SpikeD	1126264	01/27/20 2020
BA06318	ERH1005	1126270	01/27/20 2220
BA06319	ERH1006	1126271	01/27/20 2240

Comments: Batch: #8011-200127A

Method Blank
EPA 8011

Blank Name/QCG: **200127W-06280 - 249503**
Batch ID: #8011-200127A

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	EDB	0.019 U	0.02	0.019	0.010	ug/L	01/27/20	01/27/20
BLANK	SURROGATE: 1,3-DIBROMOPRO	99.0	70-132			%	01/27/20	01/27/20

Quant Method:8010127A.M
Run #:1126262
Instrument:Herbie
Sequence:191126
Initials:GAG

GC SC-Blank-REG MDLs-DOD
Printed: 01/28/20 9:32:49 AM

8011

Form 4

LCS Summary

Lab Name: APPL, Inc. SDG No: 91288

Case No: 91288 Date Analyzed: 01/27/20

Matrix: WATER Instrument: Herbie

LCS ID: 200127A-LCS Time Analyzed: 2000

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200127A-BLK	Blank	1126262	01/27/20 1940
200127A-LCS	Lab Control Spike	1126263	01/27/20 2000
200127A-LCSD	Lab Control SpikeD	1126264	01/27/20 2020
BA06318	ERH1005	1126270	01/27/20 2220
BA06319	ERH1006	1126271	01/27/20 2240

Comments: Batch: #8011-200127A

Laboratory Control Spike Recoveries

EPA 8011

APPL ID: **200127W-06280 LCS - 249503**
Batch ID: #8011-200127A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
EDB	0.250	0.247	0.229	98.8	91.6	60-140	7.6	25
SURROGATE: 1,3-DIBROMOPROPANE (	0.250	0.252	0.233	101	93.2	70-132		

Comments: _____

Primary	SPK	DUP
Quant Method :	8010127A.M	8010127A.M
Extraction Date :	01/27/20	01/27/20
Analysis Date :	01/27/20	01/27/20
Instrument :	Herbie	Herbie
Run :	1126263	1126264
Initials :	GAG	

Printed: 01/28/20 9:32:57 AM
APPL Standard LCSD

EPA 8015B-eLL

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 91288

Case No: 91288 Date Analyzed: 01/25/20

Matrix: WATER Instrument: Apollo

APPL ID.	Client Sample No.	SURROGATE: OCTACOSANE (S)			SURROGATE: ORTHO-TERPHENYL (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
200123A-BLK	Blank	60-142	87.1		56-125	80.8	
200123A-LCS	Lab Control Spike	60-142	90.1		56-125	85.9	
BA06313	ERH983	60-142	118.0		56-125	97.1	
BA06315	ERH991	60-142	120.8		56-125	95.1	
BA06317	ERH995	60-142	94.7		56-125	81.6	
BA06319	ERH1006	60-142	108.6		56-125	99.4	

Comments: Batch: #DOC53-200123A

EPA 8015B-eLL

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 91288

Case No: 91288 Date Analyzed: 01/29/20

Matrix: WATER Instrument: Apollo

APPL ID.	Client Sample No.	SURROGATE: (R) DECANOIC ACID (S)			SURROGATE: OCTACOSANE (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
200123A1-BLK	Blank	0-1	0.0		60-142	81.5	
200123A1-LCS	Lab Control Spike	0-1	0.0		60-142	90.4	
BA06313	ERH983	0-1	0.0		60-142	57.0	#
BA06315	ERH991	0-1	0.0		60-142	89.8	
BA06317	ERH995	0-1	0.0		60-142	79.8	
BA06319	ERH1006	0-1	0.0		60-142	89.1	

Comments: Batch: #DOC53-200123A1

= Recovery outside of Control Limits on Sample.

EPA 8015B-eLL

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 91288

Case No: 91288 Date Analyzed: 01/29/20

Matrix: WATER Instrument: Apollo

APPL ID.	Client Sample No.	SURROGATE: ORTHO-TERPHENYL (S)					
		Limits	Result	Qualifier	Limits	Result	Qualifier
200123A1-BLK	Blank	56-125	85.2				
200123A1-LCS	Lab Control Spike	56-125	90.7				
BA06313	ERH983	56-125	58.4				
BA06315	ERH991	56-125	90.8				
BA06317	ERH995	56-125	79.8				
BA06319	ERH1006	56-125	91.0				

Comments: Batch: #DOC53-200123A1

EPA 8015B-eL

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 91288

Case No: 91288 Date Analyzed: 01/25/20

Matrix: WATER Instrument: Apollo

Blank ID: 200123A-BLK Time Analyzed: 1547

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200123A-BLK	Blank	111135	01/25/20 1547
200123A-LCS	Lab Control Spike	111136	01/25/20 1607
BA06313	ERH983	129043	01/30/20 0300
BA06315	ERH991	129044	01/30/20 0319
BA06317	ERH995	129045	01/30/20 0339
BA06319	ERH1006	129046	01/30/20 0358

Comments: Batch: #DOC53-200123A

EPA 8015B-eL

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 91288

Case No: 91288 Date Analyzed: 01/29/20

Matrix: WATER Instrument: Apollo

Blank ID: 200123A1-BLK Time Analyzed: 1833

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200123A1-BLK	Blank	129017	01/29/20 1833
200123A1-LCS	Lab Control Spike	129018	01/29/20 1852
BA06313	ERH983	129031	01/29/20 2306
BA06315	ERH991	129032	01/29/20 2325
BA06317	ERH995	129033	01/29/20 2345
BA06319	ERH1006	129034	01/30/20 0005

Comments: Batch: #DOC53-200123A1

Method Blank
EPA 8015B TPH LIQ-LIQ

Blank Name/QCG: **200123W-06272 - 249599**
Batch ID: #DOC53-200123A

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	DIESEL (C10-C24)	25.00 U	40.0	25.00	13.07	ug/L	01/23/20	01/25/20
BLANK	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	01/23/20	01/25/20
BLANK	SURROGATE: OCTACOSANE (S)	87.1	60-142			%	01/23/20	01/25/20
BLANK	SURROGATE: ORTHO-TERPHEN	80.8	56-125			%	01/23/20	01/25/20

Quant Method: DOC0129.M
Run #: 111135
Instrument: Apollo
Sequence: 200111
Initials: SSE

GC SC-Blank-REG MDLs-DOD
Printed: 01/30/20 11:12:21 AM

Method Blank

EPA 8015B TPH WATER L-L SGC

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **200123W-06272 - 249601**
Batch ID: #DOC53-200123A1

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	DIESEL (C10-C24)	25.00 U	40.0	25.00	13.07	ug/L	01/23/20	01/29/20
BLANK	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	01/23/20	01/29/20
BLANK	SURROGATE: (R) DECANOIC AC	0.0	0-1			%	01/23/20	01/29/20
BLANK	SURROGATE: OCTACOSANE (S)	81.5	60-142			%	01/23/20	01/29/20
BLANK	SURROGATE: ORTHO-TERPHEN	85.2	56-125			%	01/23/20	01/29/20

Quant Method:DOC0129.M
Run #:129017
Instrument:Apollo
Sequence:200129
Initials:SSE

GC SC-Blank-REG MDLs-DOD
Printed: 01/30/20 11:12:21 AM

EPA 8015B-eL

Form 4

LCS Summary

Lab Name: APPL, Inc. SDG No: 91288

Case No: 91288 Date Analyzed: 01/25/20

Matrix: WATER Instrument: Apollo

LCS ID: 200123A-LCS Time Analyzed: 1607

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200123A-BLK	Blank	111135	01/25/20 1547
200123A-LCS	Lab Control Spike	111136	01/25/20 1607
BA06313	ERH983	129043	01/30/20 0300
BA06315	ERH991	129044	01/30/20 0319
BA06317	ERH995	129045	01/30/20 0339
BA06319	ERH1006	129046	01/30/20 0358

Comments: Batch: #DOC53-200123A

EPA 8015B-eL

Form 4

LCS Summary

Lab Name: APPL, Inc. SDG No: 91288

Case No: 91288 Date Analyzed: 01/29/20

Matrix: WATER Instrument: Apollo

LCS ID: 200123A1-LCS Time Analyzed: 1852

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200123A1-BLK	Blank	129017	01/29/20 1833
200123A1-LCS	Lab Control Spike	129018	01/29/20 1852
BA06313	ERH983	129031	01/29/20 2306
BA06315	ERH991	129032	01/29/20 2325
BA06317	ERH995	129033	01/29/20 2345
BA06319	ERH1006	129034	01/30/20 0005

Comments: Batch: #DOC53-200123A1

Laboratory Control Spike Recovery

EPA 8015B TPH LIQ-LIQ

APPL ID: **200123W-06272 LCS - 249599**
Batch ID: #DOC53-200123A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
DIESEL (C10-C24)	1250	998	79.8	36-132
OIL (C24-C40)	1250	1140	91.2	41-113
SURROGATE: OCTACOSANE (S)	75.0	67.6	90.1	60-142
SURROGATE: ORTHO-TERPHENYL (S)	75.0	64.4	85.9	56-125

Comments: _____

Primary	SPK
Quant Method :	DOC0129.M
Extraction Date :	01/23/20
Analysis Date :	01/25/20
Instrument :	Apollo
Run :	111136
Initials :	SSE

Printed: 01/30/20 11:12:23 AM
APPL Standard LCS

Laboratory Control Spike Recovery
EPA 8015B TPH WATER L-L SGC

APPL ID: **200123W-06272 LCS - 249601**
Batch ID: #DOC53-200123A1

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
DIESEL (C10-C24)	1250	961	76.9	36-132
OIL (C24-C40)	1250	1170	93.6	41-113
SURROGATE: (R) DECANOIC ACID (S)	10.00	0	0.0	0-1
SURROGATE: OCTACOSANE (S)	75.0	67.8	90.4	60-142
SURROGATE: ORTHO-TERPHENYL (S)	75.0	68.0	90.7	56-125

Comments: _____

Primary	SPK
Quant Method :	DOC0129.M
Extraction Date :	01/23/20
Analysis Date :	01/29/20
Instrument :	Apollo
Run :	129018
Initials :	SSE

Printed: 01/30/20 11:12:23 AM
APPL Standard LCS

8270D-SIM

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 91288

Case No: 91288 Date Analyzed: 01/27/20

Matrix: WATER Instrument: Linus

APPL ID.	Client Sample No.	SURROGATE: 2-METHYLNAPHTHALENE-D10 (S)			SURROGATE: FLUORANTHENE-D10 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
BA06313	ERH983	39-114	91.6		58-120	92.6	
BA06315	ERH991	39-114	92.4		58-120	94.6	
BA06317	ERH995	39-114	88.1		58-120	90.8	
BA06319	ERH1006	39-114	83.9		58-120	88.7	

Comments: Batch: #SIM53-200124A

8270D-SIM

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 91288

Case No: 91288 Date Analyzed: 01/27/20

Matrix: WATER Instrument: Linus

Blank ID: 200124A-BLK Time Analyzed: 1524

APPL ID.	Client Sample No.	File ID.	Date Analyzed
BA06313	ERH983	0113L175	01/27/20 1947
BA06315	ERH991	0113L176	01/27/20 2008
BA06317	ERH995	0113L177	01/27/20 2030
BA06319	ERH1006	0113L178	01/27/20 2052

Comments: Batch: #SIM53-200124A

Printed: 01/28/20 8:59:21 AM
Form 4, Blank Summary

Method Blank

EPA 8270D SIM LIQ-LIQ

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **200124W-06272 - 249501**
Batch ID: #SIM53-200124A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.04	ug/L	01/24/20	01/27/20
BLANK	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.04	ug/L	01/24/20	01/27/20
BLANK	NAPHTHALENE	0.10 U	0.2	0.10	0.04	ug/L	01/24/20	01/27/20
BLANK	SURROGATE: 2-METHYLNAPHT	87.8	39-114			%	01/24/20	01/27/20
BLANK	SURROGATE: FLUORANTHENE-	90.7	58-120			%	01/24/20	01/27/20

Quant Method:L0113PCP.M
Run #:0113L163
Instrument:Linus
Sequence:L200113P
Initials:JPR

GC SC-Blank-REG MDLs-DOD
Printed: 01/28/20 9:30:31 AM

8270D-SIM

Form 4

LCS Summary

Lab Name: APPL, Inc. SDG No: 91288

Case No: 91288 Date Analyzed: 01/27/20

Matrix: WATER Instrument: Linus

LCS ID: 200124A-LCS Time Analyzed: 1546

APPL ID.	Client Sample No.	File ID.	Date Analyzed
BA06313	ERH983	0113L175	01/27/20 1947
BA06315	ERH991	0113L176	01/27/20 2008
BA06317	ERH995	0113L177	01/27/20 2030
BA06319	ERH1006	0113L178	01/27/20 2052

Comments: Batch: #SIM53-200124A

Printed: 01/28/20 8:59:33 AM
Form 4, LCS Summary

Laboratory Control Spike Recovery

EPA 8270D SIM LIQ-LIQ

APPL ID: **200124W-06272 LCS - 249501**
Batch ID: #SIM53-200124A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
1-METHYLNAPHTHALENE	6.25	5.33	85.3	41-115
2-METHYLNAPHTHALENE	6.25	5.31	85.0	39-114
NAPHTHALENE	6.25	5.26	84.2	43-114
SURROGATE: 2-METHYLNAPHTHALEN	6.25	5.43	86.9	39-114
SURROGATE: FLUORANTHENE-D10 (S)	6.25	5.29	84.6	58-120

Comments: _____

Primary	SPK
Quant Method :	L0113PCP.M
Extraction Date :	01/24/20
Analysis Date :	01/27/20
Instrument :	Linus
Run :	0113L164
Initials :	JPR

Printed: 01/28/20 9:30:35 AM
APPL Standard LCS

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No:
Matrix: Soil
ID: 0113L001.D

SDG No:
Date Analyzed: 01/13/20
Instrument: Linus
Time Analyzed: 13:07

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		5.0 SIM PCP 09/10/19	0113L003.D	01/13/20 14:59
2		0.1 SIM PCP 09/10/19	0113L004.D	01/13/20 15:43
3		0.25 SIM PCP 09/10/	0113L005.D	01/13/20 16:05
4		0.5 SIM PCP 09/10/19	0113L006.D	01/13/20 16:26
5		2.5 SIM PCP 09/10/19	0113L007.D	01/13/20 16:48
6		25 SIM PCP 09/10/19	0113L008.D	01/13/20 17:10
7		50 SIM PCP 09/10/19	0113L009.D	01/13/20 17:32
8		SS SIM PCP 01/07/20	0113L010.D	01/13/20 17:54
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	9.95 - 80% of mass 198	19.0
68	0 - 2.05% of mass 69	0.0
70	0 - 2% of mass 69	0.3
127	10 - 80% of mass 198	41.1
197	0 - 2% of mass 198	0.0
198	100 - 100% of mass 198	100.0
199	5 - 9% of mass 198	6.5
275	10 - 60% of mass 198	33.0
365	1 - 100% of mass 198	5.1
441	0.01 - 24% of mass 442	15.2
442	50 - 500% of mass 198	244.5
443	15 - 24% of mass 442	18.6

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 91288
Matrix: Water
ID: 0113L161.D

SDG No: 91288
Date Analyzed: 01/27/20
Instrument: Linus
Time Analyzed: 14:35

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		5ug/mL SIM PCP 01/16	0113L162.D	01/27/20 14:51
2	Blank	200124A BLK 1/800	0113L163.D	01/27/20 15:24
3	Lab Control Spike	200124A LCS-2 1/800	0113L164.D	01/27/20 15:46
4	ERH983	BA06313W13 1/800	0113L175.D	01/27/20 19:47
5	ERH991	BA06315W13 1/800	0113L176.D	01/27/20 20:08
6	ERH995	BA06317W14 1/800	0113L177.D	01/27/20 20:30
7	ERH1006	BA06319W16 1/800	0113L178.D	01/27/20 20:52
8		2.5ug/mL SIMLL SPK 0	0113L182.D	01/27/20 22:20
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	9.95 - 80% of mass 198	20.9
68	0 - 2.05% of mass 69	0.0
70	0 - 2% of mass 69	0.5
127	10 - 80% of mass 198	43.3
197	0 - 2% of mass 198	0.0
198	100 - 100% of mass 198	100.0
199	5 - 9% of mass 198	6.3
275	10 - 60% of mass 198	27.5
365	1 - 100% of mass 198	5.3
441	0.01 - 24% of mass 442	15.7
442	50 - 500% of mass 198	176.6
443	15 - 24% of mass 442	21.3

INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract:

Lab Code: SDG No.:

Lab File ID (Standard): 0113L162.D Date Analyzed: 01/27/20

Instrument ID: Linus Time Analyzed: 14:51

GC Column: ID: Heated Purge: (Y/N)

		Napthalene-D8(IS)		Acenaphthene-D10(IS)		Phenanthrene-D10(IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	119953	4.19	66859	6.18	130657	7.91
	UPPER LIMIT	239906	4.36	133718	6.35	261314	8.08
	LOWER LIMIT	59977	4.02	33430	6.01	65329	7.74
	SAMPLE NO.						
01	200124A BLK 1/800	115033	4.19	64382	6.18	120314	7.91
02	200124A LCS-2 1/800	114861	4.19	61848	6.18	120769	7.91
03	BA06313W13 1/800	99302	4.19	54920	6.18	104388	7.91
04	BA06315W13 1/800	107973	4.19	59486	6.18	112897	7.91
05	BA06317W14 1/800	113779	4.19	64352	6.18	120296	7.91
06	BA06319W16 1/800	108289	4.19	59915	6.18	112697	7.91
07	2.5ug/mL SIMLL SPK 01	117517	4.18	64097	6.18	121027	7.91
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.17 minutes of internal standard RT
RT LOWER LIMIT = -0.17 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

EPA 8270D

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 91288

Case No: 91288 Date Analyzed: 01/27/20

Matrix: WATER Instrument: Yoda

APPL ID.	Client Sample No.	SURROGATE: 2,4,6-TRIBROMOPHENOL (S)			SURROGATE: 2-FLUORBIPHENYL (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
BA06313	ERH983	43-140	97.5		44-119	85.5	
BA06315	ERH991	43-140	101		44-119	87.7	
BA06317	ERH995	43-140	84.1		44-119	87.4	
BA06319	ERH1006	43-140	92.8		44-119	80.3	

Comments: Batch: #87DC5-200124A

EPA 8270D

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 91288

Case No: 91288 Date Analyzed: 01/27/20

Matrix: WATER Instrument: Yoda

APPL ID.	Client Sample No.	SURROGATE: 2-FLUOROPHENOL (S)			SURROGATE: NITROBENZENE-D5 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
BA06313	ERH983	19-119	92.0		44-120	101	
BA06315	ERH991	19-119	81.9		44-120	93.4	
BA06317	ERH995	19-119	59.9		44-120	98.3	
BA06319	ERH1006	19-119	73.2		44-120	92.9	

Comments: Batch: #87DC5-200124A

EPA 8270D

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 91288

Case No: 91288 Date Analyzed: 01/27/20

Matrix: WATER Instrument: Yoda

APPL ID.	Client Sample No.	SURROGATE: PHENOL-D6 (S)			SURROGATE: TERPHENYL-D14 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
BA06313	ERH983	10-115	97.1		50-134	112	
BA06315	ERH991	10-115	87.0		50-134	114	
BA06317	ERH995	10-115	68.7		50-134	110	
BA06319	ERH1006	10-115	56.8		50-134	109	

Comments: Batch: #87DC5-200124A

EPA 8270D

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 91288

Case No: 91288 Date Analyzed: 01/27/20

Matrix: WATER Instrument: Yoda

Blank ID: 200124A-BLK Time Analyzed: 1732

APPL ID.	Client Sample No.	File ID.	Date Analyzed
BA06313	ERH983	1219Y260	01/27/20 2304
BA06315	ERH991	1219Y261	01/27/20 2332
BA06317	ERH995	1219Y262	01/28/20 0000
BA06319	ERH1006	1219Y263	01/28/20 0028

Comments: Batch: #87DC5-200124A

Printed: 01/28/20 9:22:11 AM
Form 4, Blank Summary

Method Blank
EPA 8270D WATER

Blank Name/QCG: **200124W-06272 - 249499**
Batch ID: #87DC5-200124A

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	01/24/20	01/27/20
BLANK	SURROGATE: 2,4,6-TRIBROMOP	99.7	43-140			%	01/24/20	01/27/20
BLANK	SURROGATE: 2-FLUORBIPHENY	82.9	44-119			%	01/24/20	01/27/20
BLANK	SURROGATE: 2-FLUOROPHENO	77.9	19-119			%	01/24/20	01/27/20
BLANK	SURROGATE: NITROBENZENE-	91.1	44-120			%	01/24/20	01/27/20
BLANK	SURROGATE: PHENOL-D6 (S)	80.7	10-115			%	01/24/20	01/27/20
BLANK	SURROGATE: TERPHENYL-D14 (	114	50-134			%	01/24/20	01/27/20

Quant Method:Y1219.M
Run #:1219Y248
Instrument:Yoda
Sequence:Y191219
Initials:JPR

GC SC-Blank-REG MDLs-DOD
Printed: 01/28/20 9:22:19 AM

EPA 8270D

Form 4

LCS Summary

Lab Name: APPL, Inc. SDG No: 91288

Case No: 91288 Date Analyzed: 01/27/20

Matrix: WATER Instrument: Yoda

LCS ID: 200124A-LCS Time Analyzed: 1800

APPL ID.	Client Sample No.	File ID.	Date Analyzed
BA06313	ERH983	1219Y260	01/27/20 2304
BA06315	ERH991	1219Y261	01/27/20 2332
BA06317	ERH995	1219Y262	01/28/20 0000
BA06319	ERH1006	1219Y263	01/28/20 0028

Comments: Batch: #87DC5-200124A

Printed: 01/28/20 9:22:24 AM
Form 4, LCS Summary

Laboratory Control Spike Recovery

EPA 8270D WATER

APPL ID: **200124W-06272 LCS - 249499**
Batch ID: #87DC5-200124A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
PHENOL	62.5	54.3	86.9	10-115
SURROGATE: 2,4,6-TRIBROMOPHENOL	250	253	101	43-140
SURROGATE: 2-FLUORBIPHENYL (S)	125	110	88.0	44-119
SURROGATE: 2-FLUOROPHENOL (S)	250	198	79.2	19-119
SURROGATE: NITROBENZENE-D5 (S)	125	108	86.4	44-120
SURROGATE: PHENOL-D6 (S)	250	213	85.2	10-115
SURROGATE: TERPHENYL-D14 (S)	125	120	96.0	50-134

Comments: _____

Primary	SPK
Quant Method :	Y1219.M
Extraction Date :	01/24/20
Analysis Date :	01/27/20
Instrument :	Yoda
Run :	1219Y249
Initials :	JPR

Printed: 01/28/20 9:22:29 AM
APPL Standard LCS

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No:
Matrix: Soil
ID: 1219Y002.D

SDG No:
Date Analyzed: 12/19/19
Instrument: Yoda
Time Analyzed: 8:50

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		50ug/ml 8270 11/21/1	1219Y003.D	12/19/19 9:06
2		4ug/ml 8270 11/21/19	1219Y004.D	12/19/19 9:33
3		5ug/ml 8270 11/21/19	1219Y005.D	12/19/19 10:01
4		10ug/ml 8270 11/21/1	1219Y006.D	12/19/19 10:28
5		20ug/ml 8270 11/21/1	1219Y007.D	12/19/19 10:56
6		40ug/ml 8270 11/21/1	1219Y008.D	12/19/19 11:24
7		60ug/ml 8270 11/21/1	1219Y009.D	12/19/19 11:51
8		80ug/ml 8270 11/21/1	1219Y010.D	12/19/19 12:19
9		100ug/ml 8270 11/21/	1219Y011.D	12/19/19 12:46
10		SS 8270 11/22/19	1219Y012.D	12/19/19 13:14
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	9.95 - 80.04% of mass 198	39.5
68	0 - 2% of mass 69	0.0
70	0 - 2% of mass 69	1.0
127	10 - 80% of mass 198	51.3
197	0 - 2% of mass 198	0.0
198	100 - 100% of mass 198	100.0
199	5 - 9% of mass 198	6.7
275	10 - 60% of mass 198	29.4
365	1 - 100% of mass 198	3.5
441	0.01 - 24% of mass 442	4.6
442	50 - 500% of mass 198	102.9
443	15 - 24% of mass 442	20.0

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 91288
Matrix: Water
ID: 1219Y241.D

SDG No: 91288
Date Analyzed: 01/27/20
Instrument: Yoda
Time Analyzed: 14:51

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		50ug/ml 8270 01/06/2	1219Y247.D	01/27/20 17:04
2	Blank	200124A BLK 1/800	1219Y248.D	01/27/20 17:32
3	Lab Control Spike	200124A LCS-1 1/800	1219Y249.D	01/27/20 18:00
4	ERH983	BA06313W13 1/800	1219Y260.D	01/27/20 23:04
5	ERH991	BA06315W13 1/800	1219Y261.D	01/27/20 23:32
6	ERH995	BA06317W14 1/800	1219Y262.D	01/28/20 0:00
7	ERH1006	BA06319W16 1/800	1219Y263.D	01/28/20 0:28
8		50ug/ml 8270 01/03/2	1219Y267.D	01/28/20 2:19
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	9.95 - 80.04% of mass 198	36.7
68	0 - 2% of mass 69	0.0
70	0 - 2% of mass 69	0.2
127	10 - 80% of mass 198	49.8
197	0 - 2% of mass 198	0.0
198	100 - 100% of mass 198	100.0
199	5 - 9% of mass 198	6.7
275	10 - 60% of mass 198	30.4
365	1 - 100% of mass 198	3.8
441	0.01 - 24% of mass 442	11.0
442	50 - 500% of mass 198	112.9
443	15 - 24% of mass 442	19.7

INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract: _____

Lab Code: _____ SDG No.: _____

Lab File ID (Standard): 1219Y247.D Date Analyzed: 01/27/20

Instrument ID: Yoda Time Analyzed: 17:04

GC Column: _____ ID: Heated Purge: (Y/N) _____

		1,4-dichlorobenzene-D4(IS)		Napthalene-D8(IS)		Acenaphthene-D10(IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	248048	5.38	1087910	6.81	692449	8.84
	UPPER LIMIT	496096	5.55	2175820	6.98	1384898	9.01
	LOWER LIMIT	124024	5.21	543955	6.64	346225	8.67
	SAMPLE NO.						
01	200124A BLK 1/800	163293	5.37	655142	6.81	449623	8.83
02	200124A LCS-1 1/800	178391	5.38	698817	6.82	425352	8.83
03	BA06313W13 1/800	148237	5.37	607864	6.81	447682	8.83
04	BA06315W13 1/800	165793	5.37	661375	6.81	443209	8.83
05	BA06317W14 1/800	156804	5.38	618793	6.81	444168	8.83
06	BA06319W16 1/800	153066	5.38	607505	6.81	445252	8.83
07	50ug/ml 8270 01/03/20 (	196253	5.38	822183	6.82	507672	8.84
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.17 minutes of internal standard RT
RT LOWER LIMIT = -0.17 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

EPA 8270D

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 91288

Case No: 91288 Date Analyzed: 01/29/20

Matrix: WATER Instrument: Yoda

Blank ID: 200128A-BLK Time Analyzed: 1617

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200128A-BLK	Blank	0122Y020	01/29/20 1617
200128A-LCS	Lab Control Spike	0122Y022	01/29/20 1704
BA06313	ERH983	0122Y032	01/29/20 2059
BA06315	ERH991	0122Y033	01/29/20 2122
BA06317	ERH995	0122Y034	01/29/20 2146
BA06319	ERH1006	0122Y035	01/29/20 2209

Comments: Batch: #87DME-200128A

Printed: 01/30/20 11:01:17 AM
Form 4, Blank Summary

Method Blank
EPA 8270D MODIFIED WATER

Blank Name/QCG: **200128W-06272 - 249592**
Batch ID: #87DME-200128A

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	2-(2-METHOXYETHOXY)-ETHAN	80.0 U	100	80.0	40.0	ug/L	01/28/20	01/29/20

Quant Method:YMEE0122.M
Run #:0122Y020
Instrument:Yoda
Sequence:Y200122M
Initials:JPR

GC SC-Blank-REG MDLs-DOD
Printed: 01/30/20 11:01:19 AM

EPA 8270D

Form 4

LCS Summary

Lab Name: APPL, Inc. SDG No: 91288

Case No: 91288 Date Analyzed: 01/29/20

Matrix: WATER Instrument: Yoda

LCS ID: 200128A-LCS Time Analyzed: 1704

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200128A-BLK	Blank	0122Y020	01/29/20 1617
200128A-LCS	Lab Control Spike	0122Y022	01/29/20 1704
BA06313	ERH983	0122Y032	01/29/20 2059
BA06315	ERH991	0122Y033	01/29/20 2122
BA06317	ERH995	0122Y034	01/29/20 2146
BA06319	ERH1006	0122Y035	01/29/20 2209

Comments: Batch: #87DME-200128A

Printed: 01/30/20 11:01:25 AM
Form 4, LCS Summary

Laboratory Control Spike Recovery
EPA 8270D MODIFIED WATER

APPL ID: **200128W-06272 LCS - 249592**
Batch ID: #87DME-200128A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
2-(2-METHOXYETHOXY)-ETHANOL	80.0	75.6	94.5	30-130

Comments: _____

Primary	SPK
Quant Method :	YMEE0122.M
Extraction Date :	01/28/20
Analysis Date :	01/29/20
Instrument :	Yoda
Run :	0122Y022
Initials :	JPR

Printed: 01/30/20 11:01:27 AM
APPL Standard LCS

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No:
Matrix: Soil
ID: 0122Y002.D

SDG No:
Date Analyzed: 01/22/20
Instrument: Yoda
Time Analyzed: 15:31

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		50ug/ml MEE 01/22/20	0122Y003.D	01/22/20 15:46
2		100ug/ml MEE 01/22/2	0122Y004.D	01/22/20 16:10
3		200ug/ml MEE 01/22/2	0122Y005.D	01/22/20 16:33
4		400ug/ml MEE 01/22/2	0122Y006.D	01/22/20 16:57
5		500ug/ml MEE 01/22/2	0122Y007.D	01/22/20 17:21
6		600ug/ml MEE 01/22/2	0122Y008.D	01/22/20 17:45
7		800ug/ml MEE 01/22/2	0122Y009.D	01/22/20 18:08
8		1000ug/ml MEE 01/22/	0122Y010.D	01/22/20 18:32
9		SS MEE 01/22/20	0122Y011.D	01/22/20 18:55
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	9.95 - 80.04% of mass 198	37.2
68	0 - 2.04% of mass 69	0.0
70	0 - 2.04% of mass 69	0.2
127	10 - 80% of mass 198	50.4
197	0 - 2% of mass 198	0.0
198	100 - 100% of mass 198	100.0
199	5 - 9% of mass 198	7.1
275	10 - 60% of mass 198	30.1
365	1 - 100% of mass 198	3.7
441	0.01 - 24% of mass 442	15.9
442	50 - 500% of mass 198	109.9
443	15 - 24% of mass 442	19.8

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 91288
Matrix: Water
ID: 0122Y017.D

SDG No: 91288
Date Analyzed: 01/29/20
Instrument: Yoda
Time Analyzed: 14:46

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		500ug/ml MEE 01/29/2	0122Y018.D	01/29/20 15:01
2	Blank	200128A BLK 2/500	0122Y020.D	01/29/20 16:17
3	Lab Control Spike	200128A LCS-1 2/500	0122Y022.D	01/29/20 17:04
4	ERH983	BA06313W10 2/500	0122Y032.D	01/29/20 20:59
5	ERH991	BA06315W12 2/500	0122Y033.D	01/29/20 21:22
6	ERH995	BA06317W11 2/500	0122Y034.D	01/29/20 21:46
7	ERH1006	BA06319W13 2/500	0122Y035.D	01/29/20 22:09
8		500ug/ml MEE 01/29/2	0122Y040.D	01/30/20 0:07
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	9.95 - 80.04% of mass 198	37.9
68	0 - 2.04% of mass 69	0.0
70	0 - 2.04% of mass 69	0.0
127	10 - 80% of mass 198	49.1
197	0 - 2% of mass 198	0.0
198	100 - 100% of mass 198	100.0
199	5 - 9% of mass 198	6.8
275	10 - 60% of mass 198	30.6
365	1 - 100% of mass 198	3.8
441	0.01 - 24% of mass 442	11.4
442	50 - 500% of mass 198	108.4
443	15 - 24% of mass 442	19.2

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract:

Lab Code: SDG No.:

Lab File ID (Standard): 0122Y018.D Date Analyzed: 01/29/20

Instrument ID: Yoda Time Analyzed: 15:01

GC Column: ID: Heated Purge: (Y/N)

		1,4-dichlorobenzene-D4(IS)		Napthalene-D8(IS)		Acenaphthene-D10(IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	173907	5.15	698618	6.57	436389	8.58
	UPPER LIMIT	347814	5.32	1397236	6.74	872778	8.75
	LOWER LIMIT	86954	4.98	349309	6.40	218195	8.41
	SAMPLE NO.						
01	200128A BLK 2/500	101798	5.15	401287	6.57	316737	8.58
02	200128A LCS-1 2/500	109093	5.16	438122	6.57	353433	8.58
03	BA06313W10 2/500	126834	5.15	537068	6.56	390402	8.58
04	BA06315W12 2/500	136050	5.15	550635	6.56	403350	8.58
05	BA06317W11 2/500	122035	5.16	539336	6.57	389901	8.58
06	BA06319W13 2/500	122236	5.15	499150	6.57	397644	8.58
07	500ug/ml MEE 01/29/20	154425	5.15	634344	6.57	403367	8.58
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.17 minutes of internal standard RT
RT LOWER LIMIT = -0.17 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract:

Lab Code: SDG No.:

Lab File ID (Standard): 0122Y018.D Date Analyzed: 01/29/20

Instrument ID: Yoda Time Analyzed: 15:01

GC Column: ID: Heated Purge: (Y/N)

		Phenanthrene-D10(IS)		Chrysene-D12(IS)		Perylene-D12(IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	837531	10.31	754740	13.39	834233	15.12
	UPPER LIMIT	1675062	10.48	1509480	13.56	1668466	15.29
	LOWER LIMIT	418766	10.14	377370	13.22	417117	14.95
	SAMPLE NO.						
01	200128A BLK 2/500	591937	10.31	498560	13.39	485910	15.12
02	200128A LCS-1 2/500	670592	10.31	532090	13.39	726611	15.12
03	BA06313W10 2/500	768693	10.31	645980	13.38	653147	15.12
04	BA06315W12 2/500	802861	10.30	717874	13.39	722415	15.12
05	BA06317W11 2/500	759830	10.31	568927	13.39	548802	15.12
06	BA06319W13 2/500	786594	10.31	662785	13.39	651464	15.12
07	500ug/ml MEE 01/29/20	773403	10.31	688581	13.39	728249	15.12
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.17 minutes of internal standard RT
RT LOWER LIMIT = -0.17 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

EPA 8260B

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 91288

Case No: 91288 Date Analyzed: 01/24/20

Matrix: WATER Instrument: Thor

APPL ID.	Client Sample No.	SURROGATE: 1,2-DICHLOROETHANE-D4 (S)			SURROGATE: 4-BROMOFLUOROBENZENE (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
200124AT-LCS	Lab Control Spike	81-118	97.2		85-114	94.8	
200124AT-LCSD	Lab Control SpikeD	81-118	95.2		85-114	95.6	
200124AT-BLK	Blank	81-118	103		85-114	90.6	
BA06312	ERH982	81-118	102		85-114	91.2	
BA06314	ERH990	81-118	101		85-114	90.1	
BA06316	ERH994	81-118	103		85-114	91.0	
BA06313	ERH983	81-118	97.8		85-114	86.7	
BA06315	ERH991	81-118	101		85-114	90.0	
BA06317	ERH995	81-118	101		85-114	88.6	

Comments: Batch: #86BTO-200124AT

EPA 8260B

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 91288

Case No: 91288 Date Analyzed: 01/24/20

Matrix: WATER Instrument: Thor

APPL ID.	Client Sample No.	SURROGATE: DIBROMOFLUOROMETHANE (S)			SURROGATE: TOLUENE-D8 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
200124AT-LCS	Lab Control Spike	80-119	95.6		89-112	102	
200124AT-LCSD	Lab Control SpikeD	80-119	93.6		89-112	100	
200124AT-BLK	Blank	80-119	101		89-112	100	
BA06312	ERH982	80-119	101		89-112	100	
BA06314	ERH990	80-119	100		89-112	98.1	
BA06316	ERH994	80-119	102		89-112	99.8	
BA06313	ERH983	80-119	97.5		89-112	96.7	
BA06315	ERH991	80-119	100.0		89-112	101	
BA06317	ERH995	80-119	102		89-112	96.6	

Comments: Batch: #86BTO-200124AT

EPA 8260B

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 91288

Case No: 91288 Date Analyzed: 01/24/20

Matrix: WATER Instrument: Thor

APPL ID.	Client Sample No.	SURROGATE: 1,2-DICHLOROETHANE-D4 (S)			SURROGATE: 4-BROMOFLUOROBENZENE (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
200124AT1-LCS	Lab Control Spike	81-118	97.2		85-114	94.8	
200124AT1-LCSD	Lab Control SpikeD	81-118	95.2		85-114	95.6	
200124AT1-BLK	Blank	81-118	103		85-114	90.6	
BA06318	ERH1005	81-118	101		85-114	88.3	
BA06319	ERH1006	81-118	103		85-114	88.2	

Comments: Batch: #86BTO-200124AT

EPA 8260B

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 91288

Case No: 91288 Date Analyzed: 01/24/20

Matrix: WATER Instrument: Thor

APPL ID.	Client Sample No.	SURROGATE: DIBROMOFLUOROMETHANE (S)			SURROGATE: TOLUENE-D8 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
200124AT1-LCS	Lab Control Spike	80-119	95.6		89-112	102	
200124AT1-LCSD	Lab Control SpikeD	80-119	93.6		89-112	100	
200124AT1-BLK	Blank	80-119	101		89-112	100	
BA06318	ERH1005	80-119	101		89-112	97.6	
BA06319	ERH1006	80-119	101		89-112	96.5	

Comments: Batch: #86BTO-200124AT

EPA 8260B

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 91288

Case No: 91288 Date Analyzed: 01/24/20

Matrix: WATER Instrument: Thor

Blank ID: 200124AT-BLK Time Analyzed: 1516

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200124AT-LCS	Lab Control Spike	0124T05	01/24/20 1226
200124AT-LCSD	Lab Control SpikeD	0124T06	01/24/20 1254
200124AT-BLK	Blank	0124T11	01/24/20 1516
BA06312	ERH982	0124T13	01/24/20 1613
BA06314	ERH990	0124T14	01/24/20 1641
BA06316	ERH994	0124T15	01/24/20 1709
BA06313	ERH983	0124T17	01/24/20 1806
BA06315	ERH991	0124T18	01/24/20 1834
BA06317	ERH995	0124T19	01/24/20 1903

Comments: Batch: #86BTO-200124AT

Method Blank
EPA 8260B BTEX WATER

Blank Name/QCG: **200124W-06312 - 249455**
Batch ID: #86BTO-200124AT

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	BENZENE	0.30 U	1.0	0.30	0.15	ug/L	01/24/20	01/24/20
BLANK	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	01/24/20	01/24/20
BLANK	TOLUENE	0.30 U	1.0	0.30	0.15	ug/L	01/24/20	01/24/20
BLANK	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.15	ug/L	01/24/20	01/24/20
BLANK	SURROGATE: 1,2-DICHLOROET	103	81-118			%	01/24/20	01/24/20
BLANK	SURROGATE: 4-BROMOFLUORO	90.6	85-114			%	01/24/20	01/24/20
BLANK	SURROGATE: DIBROMOFLUOR	101	80-119			%	01/24/20	01/24/20
BLANK	SURROGATE: TOLUENE-D8 (S)	100	89-112			%	01/24/20	01/24/20

Quant Method:T0121W.M
Run #:0124T11
Instrument:Thor
Sequence:T200121
Initials:CMO

GC SC-Blank-REG MDLs-DOD
Printed: 01/28/20 1:01:59 PM

EPA 8260B

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 91288

Case No: 91288 Date Analyzed: 01/24/20

Matrix: WATER Instrument: Thor

Blank ID: 200124AT1-BLK Time Analyzed: 1516

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200124AT1-LCS	Lab Control Spike	0124T05	01/24/20 1226
200124AT1-LCSD	Lab Control SpikeD	0124T06	01/24/20 1254
200124AT1-BLK	Blank	0124T11	01/24/20 1516
BA06318	ERH1005	0124T16	01/24/20 1738
BA06319	ERH1006	0124T20	01/24/20 1931

Comments: Batch: #86BTO-200124AT

Printed: 01/28/20 1:00:59 PM
Form 4, Blank Summary

Method Blank

EPA 8260B BTEX & 1,2-DCA WATER

Blank Name/QCG: **200124W-06318 - 249456**
Batch ID: #86BTO-200124AT1

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	1,2-DICHLOROETHANE	0.30 U	1.0	0.30	0.14	ug/L	01/24/20	01/24/20
BLANK	BENZENE	0.30 U	1.0	0.30	0.15	ug/L	01/24/20	01/24/20
BLANK	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	01/24/20	01/24/20
BLANK	TOLUENE	0.30 U	1.0	0.30	0.15	ug/L	01/24/20	01/24/20
BLANK	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.15	ug/L	01/24/20	01/24/20
BLANK	SURROGATE: 1,2-DICHLOROET	103	81-118			%	01/24/20	01/24/20
BLANK	SURROGATE: 4-BROMOFLUORO	90.6	85-114			%	01/24/20	01/24/20
BLANK	SURROGATE: DIBROMOFLUOR	101	80-119			%	01/24/20	01/24/20
BLANK	SURROGATE: TOLUENE-D8 (S)	100	89-112			%	01/24/20	01/24/20

Quant Method:T0121W.M
Run #:0124T11
Instrument:Thor
Sequence:T200121
Initials:CMO

GC SC-Blank-REG MDLs-DOD
Printed: 01/28/20 1:01:13 PM

EPA 8260B

Form 4

LCS Summary

Lab Name: APPL, Inc. SDG No: 91288

Case No: 91288 Date Analyzed: 01/24/20

Matrix: WATER Instrument: Thor

LCS ID: 200124AT-LCS Time Analyzed: 1226

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200124AT-LCS	Lab Control Spike	0124T05	01/24/20 1226
200124AT-LCSD	Lab Control SpikeD	0124T06	01/24/20 1254
200124AT-BLK	Blank	0124T11	01/24/20 1516
BA06312	ERH982	0124T13	01/24/20 1613
BA06314	ERH990	0124T14	01/24/20 1641
BA06316	ERH994	0124T15	01/24/20 1709
BA06313	ERH983	0124T17	01/24/20 1806
BA06315	ERH991	0124T18	01/24/20 1834
BA06317	ERH995	0124T19	01/24/20 1903

Comments: Batch: #86BTO-200124AT

Printed: 01/28/20 1:01:43 PM
Form 4, LCS Summary

Laboratory Control Spike Recoveries
EPA 8260B BTEX WATER

APPL ID: **200124W-06312 LCS - 249455**
Batch ID: #86BTO-200124AT

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
BENZENE	10.00	9.82	8.96	98.2	89.6	79-120	9.2	20
ETHYLBENZENE	10.00	10.1	9.22	101	92.2	79-121	9.1	20
TOLUENE	10.00	9.90	9.11	99.0	91.1	80-121	8.3	20
XYLENES (TOTAL)	30.0	30.7	27.4	102	91.3	79-121	11.4	20
SURROGATE: 1,2-DICHLOROETHANE-D	25.0	24.3	23.8	97.2	95.2	81-118		
SURROGATE: 4-BROMOFLUOROBENZE	25.0	23.7	23.9	94.8	95.6	85-114		
SURROGATE: DIBROMOFLUOROMETH	25.0	23.9	23.4	95.6	93.6	80-119		
SURROGATE: TOLUENE-D8 (S)	25.0	25.4	25.1	102	100	89-112		

Comments: _____

Primary	SPK	DUP
Quant Method :	T0121W.M	T0121W.M
Extraction Date :	01/24/20	01/24/20
Analysis Date :	01/24/20	01/24/20
Instrument :	Thor	Thor
Run :	0124T05	0124T06
Initials :	CMO	

Printed: 01/28/20 1:01:53 PM
APPL Standard LCSD

EPA 8260B

Form 4

LCS Summary

Lab Name: APPL, Inc. SDG No: 91288

Case No: 91288 Date Analyzed: 01/24/20

Matrix: WATER Instrument: Thor

LCS ID: 200124AT1-LCS Time Analyzed: 1226

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200124AT1-LCS	Lab Control Spike	0124T05	01/24/20 1226
200124AT1-LCSD	Lab Control SpikeD	0124T06	01/24/20 1254
200124AT1-BLK	Blank	0124T11	01/24/20 1516
BA06318	ERH1005	0124T16	01/24/20 1738
BA06319	ERH1006	0124T20	01/24/20 1931

Comments: Batch: #86BTO-200124AT

Laboratory Control Spike Recoveries

EPA 8260B BTEX & 1,2-DCA WATER

APPL ID: **200124W-06318 LCS - 249456**
Batch ID: #86BTO-200124AT1

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
1,2-DICHLOROETHANE	10.00	9.73	8.55	97.3	85.5	73-128	12.9	20
BENZENE	10.00	9.82	8.96	98.2	89.6	79-120	9.2	20
ETHYLBENZENE	10.00	10.1	9.22	101	92.2	79-121	9.1	20
TOLUENE	10.00	9.90	9.11	99.0	91.1	80-121	8.3	20
XYLENES (TOTAL)	30.0	30.7	27.4	102	91.3	79-121	11.4	20
SURROGATE: 1,2-DICHLOROETHANE-D	25.0	24.3	23.8	97.2	95.2	81-118		
SURROGATE: 4-BROMOFLUOROBENZE	25.0	23.7	23.9	94.8	95.6	85-114		
SURROGATE: DIBROMOFLUOROMETH	25.0	23.9	23.4	95.6	93.6	80-119		
SURROGATE: TOLUENE-D8 (S)	25.0	25.4	25.1	102	100	89-112		

Comments: _____

Primary	SPK	DUP
Quant Method :	T0121W.M	T0121W.M
Extraction Date :	01/24/20	01/24/20
Analysis Date :	01/24/20	01/24/20
Instrument :	Thor	Thor
Run :	0124T05	0124T06
Initials :	CMO	

Printed: 01/28/20 1:01:06 PM
APPL Standard LCSD

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No:
Matrix: Water
ID: 0121T00.D

SDG No:
Date Analyzed: 01/21/20
Instrument: Thor
Time Analyzed: 6:29

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		0.3ug/L VOC STD 1/21	0121T02.D	01/21/20 7:41
2		0.5ug/L VOC STD 1/21	0121T03.D	01/21/20 8:09
3		1ug/L VOC STD 1/21/2	0121T04.D	01/21/20 8:37
4		2ug/L VOC STD 1/21/2	0121T05.D	01/21/20 9:05
5		5ug/L VOC STD 1/21/2	0121T06.D	01/21/20 9:34
6		10ug/L VOC STD 1/21/	0121T07.D	01/21/20 10:02
7		20ug/L VOC STD 1/21/	0121T08.D	01/21/20 10:30
8		40ug/L VOC STD 1/21/	0121T09.D	01/21/20 10:59
9		100ug/L VOC STD 1/21	0121T10.D	01/21/20 11:27
10		(SS) 10ug/L VOC STD	0121T13.D	01/21/20 12:52
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
50	15 - 40% of mass 95	19.4
75	30 - 60% of mass 95	54.2
95	100 - 100% of mass 95	100.0
96	5 - 9% of mass 95	6.5
173	0 - 2.05% of mass 174	1.1
174	50 - 200% of mass 95	96.9
175	5 - 9% of mass 174	7.8
176	95 - 101% of mass 174	97.3
177	5 - 9% of mass 176	7.1

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 91288
Matrix: Water
ID: 0124t04.D

SDG No: 91288
Date Analyzed: 01/24/20
Instrument: Thor
Time Analyzed: 11:58

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1	Lab Control Spike	200124A CCV/LCS 10ug	0124T05.D	01/24/20 12:26
2	Lab Control SpikeD	200124A LCSD 10ug/L	0124T06.D	01/24/20 12:54
3	Blank	200124A BLK	0124T11.D	01/24/20 15:16
4	ERH982	BA06312W01	0124T13.D	01/24/20 16:13
5	ERH990	BA06314W01	0124T14.D	01/24/20 16:41
6	ERH994	BA06316W01	0124T15.D	01/24/20 17:09
7	ERH1005	BA06318W01	0124T16.D	01/24/20 17:38
8	ERH983	BA06313W01	0124T17.D	01/24/20 18:06
9	ERH991	BA06315W01	0124T18.D	01/24/20 18:34
10	ERH995	BA06317W01	0124T19.D	01/24/20 19:03
11	ERH1006	BA06319W01	0124T20.D	01/24/20 19:31
12		Ending CCV 10ug/L 1/	0124T28.D	01/24/20 23:18
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
50	15 - 40% of mass 95	18.2
75	30 - 60% of mass 95	48.9
95	100 - 100% of mass 95	100.0
96	5 - 9% of mass 95	6.6
173	0 - 2.05% of mass 174	1.1
174	50 - 200% of mass 95	103.7
175	5 - 9% of mass 174	7.5
176	95 - 101% of mass 174	95.9
177	5 - 9% of mass 176	6.5

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract: _____

Lab Code: _____ SDG No.: _____

Lab File ID (Standard): 0121T07.D Date Analyzed: 01/21/20

Instrument ID: Thor Time Analyzed: 10:02

GC Column: _____ ID: Heated Purge: (Y/N) _____

		Fluorobenzene (IS)		Chlorobenzene-D5 (IS)		1,4-Dichlorobenzene-D (IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	1052820	6.51	824642	9.96	433370	12.52
	UPPER LIMIT	2105640	6.68	1649284	10.13	866740	12.69
	LOWER LIMIT	526410	6.34	412321	9.79	216685	12.35
	SAMPLE NO.						
01	200124A CCV/LCS 10u	1041840	6.51	814650	9.96	427679	12.52
02	200124A LCSD 10ug/L	1034060	6.51	800231	9.96	420713	12.52
03	200124A BLK	973223	6.51	769874	9.96	399215	12.52
04	BA06312W01	972438	6.51	766143	9.96	397465	12.52
05	BA06314W01	974799	6.51	774467	9.96	394973	12.52
06	BA06316W01	956826	6.51	758204	9.96	392025	12.52
07	BA06318W01	961992	6.51	769376	9.96	399218	12.52
08	BA06313W01	969536	6.51	763754	9.96	393092	12.52
09	BA06315W01	959728	6.51	754198	9.96	390433	12.52
10	BA06317W01	938910	6.51	751611	9.96	383539	12.52
11	BA06319W01	922763	6.51	743647	9.96	382215	12.52
12	Ending CCV 10ug/L 1/24	986309	6.51	781288	9.96	431779	12.52
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.17 minutes of internal standard RT
RT LOWER LIMIT = -0.17 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

EPA 8260B

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 91288

Case No: 91288 Date Analyzed: 01/24/20

Matrix: WATER Instrument: Thor

APPL ID.	Client Sample No.	SURROGATE: 4-BROMOFLUOROBENZENE (S)					
		Limits	Result	Qualifier	Limits	Result	Qualifier
200124AT-LCS	Lab Control Spike	85-114	91.2				
200124AT-LCSD	Lab Control SpikeD	85-114	95.2				
200124AT-BLK	Blank	85-114	90.6				
BA06312	ERH982	85-114	91.2				
BA06314	ERH990	85-114	90.1				
BA06316	ERH994	85-114	91.0				
BA06318	ERH1005	85-114	88.3				
BA06313	ERH983	85-114	86.7				
BA06315	ERH991	85-114	90.0				
BA06317	ERH995	85-114	88.6				
BA06319	ERH1006	85-114	88.2				

Comments: Batch: #GRO86-200124AT

EPA 8260B

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 91288

Case No: 91288 Date Analyzed: 01/24/20

Matrix: WATER Instrument: Thor

Blank ID: 200124AT-BLK Time Analyzed: 1516

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200124AT-LCS	Lab Control Spike	0124T09	01/24/20 1419
200124AT-LCSD	Lab Control SpikeD	0124T10	01/24/20 1448
200124AT-BLK	Blank	0124T11	01/24/20 1516
BA06312	ERH982	0124T13	01/24/20 1613
BA06314	ERH990	0124T14	01/24/20 1641
BA06316	ERH994	0124T15	01/24/20 1709
BA06318	ERH1005	0124T16	01/24/20 1738
BA06313	ERH983	0124T17	01/24/20 1806
BA06315	ERH991	0124T18	01/24/20 1834
BA06317	ERH995	0124T19	01/24/20 1903
BA06319	ERH1006	0124T20	01/24/20 1931

Comments: Batch: #GRO86-200124AT

Method Blank
EPA 8260B GRO WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **200124W-06312 - 249449**
Batch ID: #GRO86-200124AT

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	01/24/20	01/24/20
BLANK	SURROGATE: 4-BROMOFLUORO	90.6	85-114			%	01/24/20	01/24/20

Quant Method:TGAS0116.M
Run #:0124T11
Instrument:Thor
Sequence:T200121
Initials:CMO

GC SC-Blank-REG MDLs-DOD
Printed: 01/28/20 1:08:54 PM

EPA 8260B

Form 4

LCS Summary

Lab Name: APPL, Inc. SDG No: 91288

Case No: 91288 Date Analyzed: 01/24/20

Matrix: WATER Instrument: Thor

LCS ID: 200124AT-LCS Time Analyzed: 1419

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200124AT-LCS	Lab Control Spike	0124T09	01/24/20 1419
200124AT-LCSD	Lab Control SpikeD	0124T10	01/24/20 1448
200124AT-BLK	Blank	0124T11	01/24/20 1516
BA06312	ERH982	0124T13	01/24/20 1613
BA06314	ERH990	0124T14	01/24/20 1641
BA06316	ERH994	0124T15	01/24/20 1709
BA06318	ERH1005	0124T16	01/24/20 1738
BA06313	ERH983	0124T17	01/24/20 1806
BA06315	ERH991	0124T18	01/24/20 1834
BA06317	ERH995	0124T19	01/24/20 1903
BA06319	ERH1006	0124T20	01/24/20 1931

Comments: Batch: #GRO86-200124AT

Printed: 01/28/20 1:08:36 PM
Form 4, LCS Summary

Laboratory Control Spike Recoveries

EPA 8260B GRO WATER

APPL ID: **200124W-06312 LCS - 249449**
Batch ID: #GRO86-200124AT

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
GASOLINE RANGE ORGANICS	300	298	306	99.3	102	78-122	2.6	20
SURROGATE: 4-BROMOFLUOROBENZE	25.0	22.8	23.8	91.2	95.2	85-114		

Comments: _____

Primary	SPK	DUP
Quant Method :	TGAS0116.M	TGAS0116.M
Extraction Date :	01/24/20	01/24/20
Analysis Date :	01/24/20	01/24/20
Instrument :	Thor	Thor
Run :	0124T09	0124T10
Initials :	CMO	

Printed: 01/28/20 1:08:46 PM
APPL Standard LCSD

RSK 175

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 91288

Case No: 91288 Date Analyzed: 01/27/20

Matrix: WATER Instrument: Rocky

Blank ID: 200127A-BLK Time Analyzed: 1511

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200127A-LCS	Lab Control Spike	0127R04	01/27/20 1454
200127A-LCSD	Lab Control SpikeD	0127R06	01/27/20 1508
200127A-BLK	Blank	0127R07	01/27/20 1511
BA06315	ERH991	0127R08	01/27/20 1514
BA06312	ERH982	0127R09	01/27/20 1518
BA06313	ERH983	0127R10	01/27/20 1522
BA06314	ERH990	0127R11	01/27/20 1527
BA06316	ERH994	0127R12	01/27/20 1530
BA06317	ERH995	0127R13	01/27/20 1534
BA06318	ERH1005	0127R14	01/27/20 1538
BA06319	ERH1006	0127R15	01/27/20 1544

Comments: Batch: #RSKME-200127A

Method Blank
METHANE

Blank Name/QCG: **200127W-06312 - 249486**
Batch ID: #RSKME-200127A

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	METHANE	1.00 U	5.0	1.00	0.25	ug/L	01/27/20	01/27/20

Quant Method: RSK1002.M
Run #: 0127R07
Instrument: Rocky
Sequence: 191002
Initials: GAG

GC SC-Blank-REG MDLs-DOD
Printed: 01/28/20 8:33:22 AM

RSK 175

Form 4

LCS Summary

Lab Name: APPL, Inc. SDG No: 91288

Case No: 91288 Date Analyzed: 01/27/20

Matrix: WATER Instrument: Rocky

LCS ID: 200127A-LCS Time Analyzed: 1454

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200127A-LCS	Lab Control Spike	0127R04	01/27/20 1454
200127A-LCSD	Lab Control SpikeD	0127R06	01/27/20 1508
200127A-BLK	Blank	0127R07	01/27/20 1511
BA06315	ERH991	0127R08	01/27/20 1514
BA06312	ERH982	0127R09	01/27/20 1518
BA06313	ERH983	0127R10	01/27/20 1522
BA06314	ERH990	0127R11	01/27/20 1527
BA06316	ERH994	0127R12	01/27/20 1530
BA06317	ERH995	0127R13	01/27/20 1534
BA06318	ERH1005	0127R14	01/27/20 1538
BA06319	ERH1006	0127R15	01/27/20 1544

Comments: Batch: #RSKME-200127A

Laboratory Control Spike Recoveries

METHANE

APPL ID: **200127W-06312 LCS - 249486**
Batch ID: #RSKME-200127A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
METHANE	83.4	69.6	78.5	83.5	94.1	72-125	12.0	30

Comments: _____

Primary	SPK	DUP
Quant Method :	RSK1002.M	RSK1002.M
Extraction Date :	01/27/20	01/27/20
Analysis Date :	01/27/20	01/27/20
Instrument :	Rocky	Rocky
Run :	0127R04	0127R06
Initials :	GAG	

EPA 300.0

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 91288

Case No: 91288 Date Analyzed: 01/23/20

Matrix: WATER Instrument: Charlie

Blank ID: 200123A-BLK Time Analyzed: 1011

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200123A-BLK	Blank	12	01/23/20 1011
200123A-LCS	Lab Control Spike	13	01/23/20 1018
200123A-LCSD	Lab Control SpikeD	14	01/23/20 1025
BA06313	ERH983	53	01/23/20 2142
BA06315	ERH991	54	01/23/20 2149
BA06317	ERH995	55	01/23/20 2155
BA06319	ERH1006	58	01/23/20 2214

Comments: Batch: #300W-200123A

Printed: 01/30/20 11:37:43 AM
Form 4, Blank Summary

EPA 300.0

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 91288

Case No: 91288 Date Analyzed: 01/28/20

Matrix: WATER Instrument: Charlie

Blank ID: 200128A-BLK Time Analyzed: 0743

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200128A-BLK	Blank	2	01/28/20 0743
BA06313	ERH983	21	01/28/20 1714
BA06317	ERH995	27	01/28/20 1753
200128A-LCS	Lab Control Spike	3	01/28/20 0749
200128A-LCSD	Lab Control SpikeD	4	01/28/20 0756

Comments: Batch: #300WD-200128A

Printed: 01/30/20 11:37:43 AM
Form 4, Blank Summary

WETLAB BLANK

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Analyte	Result	LOQ	LOD	DL	Units	Prep Date	Analysis Date	QC Group
EPA 300.0	CHLORIDE	0.20 U	1.0	0.20	0.08	mg/L	01/28/20	01/28/20	#300WD-200128A-BA06313
EPA 300.0	SULFATE	0.20 U	1.0	0.20	0.09	mg/L	01/28/20	01/28/20	#300WD-200128A-BA06313
EPA 300.0	CHLORIDE	0.20 U	1.0	0.20	0.08	mg/L	01/23/20	01/23/20	#300W-200123A-BA06319
EPA 300.0	NITRATE	0.18 U	0.5	0.18	0.04	mg/L	01/23/20	01/23/20	#300W-200123A-BA06319
EPA 300.0	SULFATE	0.20 U	1.0	0.20	0.09	mg/L	01/23/20	01/23/20	#300W-200123A-BA06319

Wetlab SC-Blank-REG MDLs
Printed: 01/30/20 11:38:56 AM

EPA 300.0

Form 4

LCS Summary

Lab Name: APPL, Inc. SDG No: 91288

Case No: 91288 Date Analyzed: 01/23/20

Matrix: WATER Instrument: Charlie

LCS ID: 200123A-LCS Time Analyzed: 1018

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200123A-BLK	Blank	12	01/23/20 1011
200123A-LCS	Lab Control Spike	13	01/23/20 1018
200123A-LCSD	Lab Control SpikeD	14	01/23/20 1025
BA06313	ERH983	53	01/23/20 2142
BA06315	ERH991	54	01/23/20 2149
BA06317	ERH995	55	01/23/20 2155
BA06319	ERH1006	58	01/23/20 2214

Comments: Batch: #300W-200123A

Printed: 01/30/20 11:37:43 AM
Form 4, LCS Summary

Laboratory Control Spike Recoveries

WETLAB

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Lvl mg/L	SPK Res mg/L	DUP Res mg/L	SPK % Recov	DUP % Recov	RPD	RPD Max	QC Limits	Extract Date-Spk	Analysis Date-Spk	Extract Date-Dup	Analysis Date-Dup	QC Group
EPA 300.0	CHLORIDE	25.0	23.9	23.9	95.6	95.6	0.0	20	90-110	01/23/20	01/23/20	01/23/20	01/23/20	#300W-200123A-BA06319
EPA 300.0	NITRATE	22.1	21.4	21.4	96.8	96.8	0.0	20	90-110	01/23/20	01/23/20	01/23/20	01/23/20	#300W-200123A-BA06319
EPA 300.0	SULFATE	25.0	23.8	23.8	95.2	95.2	0.0	20	90-110	01/23/20	01/23/20	01/23/20	01/23/20	#300W-200123A-BA06319

Comments: _____

Printed: 01/30/20 11:37:42 AM
APPL Standard LCSD

EPA 300.0

Form 4

LCS Summary

Lab Name: APPL, Inc. SDG No: 91288

Case No: 91288 Date Analyzed: 01/28/20

Matrix: WATER Instrument: Charlie

LCS ID: 200128A-LCS Time Analyzed: 0749

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200128A-BLK	Blank	2	01/28/20 0743
BA06313	ERH983	21	01/28/20 1714
BA06317	ERH995	27	01/28/20 1753
200128A-LCS	Lab Control Spike	3	01/28/20 0749
200128A-LCSD	Lab Control SpikeD	4	01/28/20 0756

Comments: Batch: #300WD-200128A

Printed: 01/30/20 11:37:43 AM
Form 4, LCS Summary

Laboratory Control Spike Recoveries

WETLAB

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Lvl mg/L	SPK Res mg/L	DUP Res mg/L	SPK % Recov	DUP % Recov	RPD	RPD Max	QC Limits	Extract Date-Spk	Analysis Date-Spk	Extract Date-Dup	Analysis Date-Dup	QC Group
EPA 300.0	CHLORIDE	25.0	24.2	24.2	96.8	96.8	0.0	20	90-110	01/28/20	01/28/20	01/28/20	01/28/20	#300WD-200128A-BA0631
EPA 300.0	SULFATE	25.0	24.5	24.5	98.0	98.0	0.0	20	90-110	01/28/20	01/28/20	01/28/20	01/28/20	#300WD-200128A-BA0631

Comments:

Printed: 01/30/20 11:37:42 AM
APPL Standard LCSD

Matrix Spike Recoveries

WETLAB

APPL ID: **200128W-06313 MS - 249609**

Sample ID: BA06313

Client ID: ERH983

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Lvl mg/L	Matrix Res mg/L	SPK Res mg/L	DUP Res mg/L	SPK % Recovery	DUP % Recovery	RPD	RPD Max	Recovery Limits	Extract Date-Spk	Analysis Date-Spk	Extract Date-Dup	Analysis Date-Dup	QC Group	QC Sample
EPA 300.0	CHLORIDE	125	132	277	275	116 #	114 #	0.72	20	90-110	01/28/20	01/28/20	01/28/20	01/28/20	249609	BA06313

= Recovery is outside QC limits.

Amended Results.

Comments: _____

Printed: 03/04/20 4:39:56 PM
APPL MSD SCII

EPA 353.2

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 91288

Case No: 91288 Date Analyzed: 01/27/20

Matrix: WATER Instrument: EVE

Blank ID: 200127A-BLK Time Analyzed: 1422

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200127A-BLK	Blank	12	01/27/20 1422
200127A-LCS	Lab Control Spike	13	01/27/20 1425
200127A-LCSD	Lab Control SpikeD	14	01/27/20 1427
BA06313	ERH983	29	01/27/20 1502
BA06315	ERH991	30	01/27/20 1502
BA06317	ERH995	31	01/27/20 1503
BA06319	ERH1006	34	01/27/20 1506

Comments: Batch: #35OF-200127A

Printed: 01/30/20 11:57:35 AM
Form 4, Blank Summary

SM 2320B

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 91288

Case No: 91288 Date Analyzed: 01/27/20

Matrix: WATER Instrument: Tiamo

Blank ID: 200127A-BLK Time Analyzed: 2035

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200127A-BLK	Blank	1	01/27/20 2035
BA06317	ERH995	10	01/27/20 2212
BA06319	ERH1006	11	01/27/20 2219
200127A-LCS	Lab Control Spike	2	01/27/20 2039
200127A-LCSD	Lab Control SpikeD	3	01/27/20 2047
BA06313	ERH983	8	01/27/20 2203
BA06315	ERH991	9	01/27/20 2208

Comments: Batch: #232W-200127A

Printed: 01/30/20 11:57:35 AM
Form 4, Blank Summary

SM3500FeB

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 91288

Case No: 91288 Date Analyzed: 01/23/20

Matrix: WATER Instrument: Manual Spec

Blank ID: A200123-BLK Time Analyzed: 1419

APPL ID.	Client Sample No.	File ID.	Date Analyzed
A200123-BLK	Blank	14	01/23/20 1419
A200123-LCS	Lab Control Spike	16	01/23/20 1419
A200123-LCSD	Lab Control SpikeD	17	01/23/20 1420
BA06315	ERH991	18	01/23/20 1421
BA06313	ERH983	19	01/23/20 1421
BA06317	ERH995	20	01/23/20 1422
BA06319	ERH1006	22	01/23/20 1425

Comments: Batch: #35FE-A200123

Printed: 01/30/20 11:57:35 AM
Form 4, Blank Summary

SW846 9060A

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 91288

Case No: 91288 Date Analyzed: 01/23/20

Matrix: WATER Instrument: TICTOC

Blank ID: 200123A-BLK Time Analyzed: 2201

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200123A-BLK	Blank	14	01/23/20 2201
200123A-LCS	Lab Control Spike	15	01/23/20 2239
200123A-LCSD	Lab Control SpikeD	16	01/23/20 2320
BA06313	ERH983	35	01/24/20 1244
BA06315	ERH991	36	01/24/20 1321
BA06317	ERH995	37	01/24/20 1357
BA06319	ERH1006	38	01/24/20 1435

Comments: Batch: #TOCW5-200123A

Printed: 01/30/20 11:57:35 AM
Form 4, Blank Summary

WETLAB BLANK

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Analyte	Result	LOQ	LOD	DL	Units	Prep Date	Analysis Date	QC Group
SM 2320B	BICARBONATE AS	2.0	2.0	1.70	0.85	mg/L	01/27/20	01/27/20	#232W-200127A-BA06275
SM 2320B	CARBONATE AS C	1.70 U	2.0	1.70	0.85	mg/L	01/27/20	01/27/20	#232W-200127A-BA06275
SM 2320B	TOTAL ALKALINITY	2.0	2.0	1.70	0.85	mg/L	01/27/20	01/27/20	#232W-200127A-BA06275
SM3500Fe	FERROUS IRON	0.32 U	1.0	0.32	0.16	mg/L	01/23/20	01/23/20	#35FE-A200123-BA06299
EPA 353.2	NITRATE-NITRITE-	0.090 U	0.10	0.090	0.028	mg/L	01/27/20	01/27/20	#35OF-200127A-BA06136
SW846 90	TOTAL ORGANIC C	0.350 U	0.93	0.350	0.130	mg/L	01/23/20	01/23/20	#TOCW5-200123A-BA06299

Wetlab SC-Blank-REG MDLs
Printed: 01/30/20 11:57:07 AM

EPA 353.2

Form 4

LCS Summary

Lab Name: APPL, Inc. SDG No: 91288

Case No: 91288 Date Analyzed: 01/27/20

Matrix: WATER Instrument: EVE

LCS ID: 200127A-LCS Time Analyzed: 1425

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200127A-BLK	Blank	12	01/27/20 1422
200127A-LCS	Lab Control Spike	13	01/27/20 1425
200127A-LCSD	Lab Control SpikeD	14	01/27/20 1427
BA06313	ERH983	29	01/27/20 1502
BA06315	ERH991	30	01/27/20 1502
BA06317	ERH995	31	01/27/20 1503
BA06319	ERH1006	34	01/27/20 1506

Comments: Batch: #35OF-200127A

Printed: 01/30/20 11:57:35 AM
Form 4, LCS Summary

SM 2320B

Form 4

LCS Summary

Lab Name: APPL, Inc. SDG No: 91288

Case No: 91288 Date Analyzed: 01/27/20

Matrix: WATER Instrument: Tiamo

LCS ID: 200127A-LCS Time Analyzed: 2039

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200127A-BLK	Blank	1	01/27/20 2035
BA06317	ERH995	10	01/27/20 2212
BA06319	ERH1006	11	01/27/20 2219
200127A-LCS	Lab Control Spike	2	01/27/20 2039
200127A-LCSD	Lab Control SpikeD	3	01/27/20 2047
BA06313	ERH983	8	01/27/20 2203
BA06315	ERH991	9	01/27/20 2208

Comments: Batch: #232W-200127A

Printed: 01/30/20 11:57:35 AM
Form 4, LCS Summary

SM3500FeB

Form 4

LCS Summary

Lab Name: APPL, Inc. SDG No: 91288

Case No: 91288 Date Analyzed: 01/23/20

Matrix: WATER Instrument: Manual Spec

LCS ID: A200123-LCS Time Analyzed: 1419

APPL ID.	Client Sample No.	File ID.	Date Analyzed
A200123-BLK	Blank	14	01/23/20 1419
A200123-LCS	Lab Control Spike	16	01/23/20 1419
A200123-LCSD	Lab Control SpikeD	17	01/23/20 1420
BA06315	ERH991	18	01/23/20 1421
BA06313	ERH983	19	01/23/20 1421
BA06317	ERH995	20	01/23/20 1422
BA06319	ERH1006	22	01/23/20 1425

Comments: Batch: #35FE-A200123

Printed: 01/30/20 11:57:35 AM
Form 4, LCS Summary

SW846 9060A

Form 4

LCS Summary

Lab Name: APPL, Inc. SDG No: 91288

Case No: 91288 Date Analyzed: 01/23/20

Matrix: WATER Instrument: TICTOC

LCS ID: 200123A-LCS Time Analyzed: 2239

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200123A-BLK	Blank	14	01/23/20 2201
200123A-LCS	Lab Control Spike	15	01/23/20 2239
200123A-LCSD	Lab Control SpikeD	16	01/23/20 2320
BA06313	ERH983	35	01/24/20 1244
BA06315	ERH991	36	01/24/20 1321
BA06317	ERH995	37	01/24/20 1357
BA06319	ERH1006	38	01/24/20 1435

Comments: Batch: #TOCW5-200123A

Printed: 01/30/20 11:57:35 AM
Form 4, LCS Summary

Laboratory Control Spike Recoveries

WETLAB

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Lvl mg/L	SPK Res mg/L	DUP Res mg/L	SPK % Recov	DUP % Recov	RPD	RPD Max	QC Limits	Extract Date-Spk	Analysis Date-Spk	Extract Date-Dup	Analysis Date-Dup	QC Group
EPA 353.2	NITRATE-NITRITE-N	3.00	3.02	2.90	101	96.7	4.1	20	90-110	01/27/20	01/27/20	01/27/20	01/27/20	#35OF-200127A-BA06136
SM 2320B	TOTAL ALKALINITY AS CA	238.88	237	237	99.2	99.2	0.0	20	90-110	01/27/20	01/27/20	01/27/20	01/27/20	#232W-200127A-BA06275
SM3500Fe	FERROUS IRON	3.00	2.92	2.96	97.3	98.7	1.4	20	80-120	01/23/20	01/23/20	01/23/20	01/23/20	#35FE-A200123-BA06299
SW846 90	TOTAL ORGANIC CARBO	5.00	4.78	4.73	95.6	94.6	1.1	20	80-120	01/23/20	01/23/20	01/23/20	01/23/20	#TOCW5-200123A-BA062

Comments: _____

_____

_____

Printed: 01/30/20 11:57:08 AM
APPL Standard LCSD

ORGANICS
Calibration Data

DBCP/EDB/1,2,3-TCP Analysis by
504 8011

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Initial Cal. Date: 01/27/20
Matrix: Water Instrument: Herbie
Initials:

1126255.D 1126256.D 1126257.D 1126258.D 1126259.D 1126260 D

		Compound	1	2	3	4	5	6					Avg	%RSD	Type	r^2	Q
1	TM	EDB	797450	848935	816342	739899	737259	709140					774837	7.0	TM		
2	TML	1,2,3-TCP	475825	247660	225004	205262	195409	191844					256834	43	TM	0.999	
3	S	1,3-DIBROMOPROPANE(S)		972155	890394	808536	808203	790992					854056	9.0	S		
4	TM	DBCP	2897925	2698400	2715064	2530921	2542059	2618969					2667223	5.1	TM		
5		Signal #2											0	0			
6																	
7																	
8																	
9																	
10																	
11																	
12																	
13																	
14																	
15																	
16																	
17																	
18																	
19																	
20																	
21																	
22																	
23																	
24																	
25																	
26																	
27																	
28																	
29																	
30																	
31																	
32																	
33																	
34																	
35																	

1.817559

DBCP/EDB/1,2,3-TCP Analysis by
504 8011

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Initial Cal. Date: 01/27/20
Matrix: Water Instrument: Herbie
Initials:

			1126255.D	1126256.D	1126257.D	1126258.D	1126259 D	1126260.D									
		Compound	1	2	3	4	5	6					Avg	%RSD	Type	r^2	Q
36	TM	EDB #2	3872200	3605655	3390022	3070495	3064089	3059461					3343654	10	TM		
37	TM	1,2,3-TCP #2	693775	668715	655884	592167	571891	556649					623180	9.1	TM		
38	S	1,3-DIBROMOPROPANE(S) #2	2762200	2733835	2508588	2289292	2244544	2258348					2466135	9.7	S		
39	TM	DBCP #2	9780100	9934000	10016586	9560982	9990470	10177957					9910016	2.2	TM		
40																	
41																	
42																	
43																	
44																	
45																	
46																	
47																	
48																	
49																	
50																	
51																	
52																	
53																	
54																	
55																	
56																	
57																	
58																	
59																	
60																	
61																	
62																	
63																	
64																	
65																	
66																	
67																	
68																	
69																	
70																	

0.890615

Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\191126\1126255.D\ECD1A.CH Vial: 55
Signal #2 : G:\HERBIE\DATA\191126\1126255.D\ECD2B.CH
Acq On : 01-27-20 17:20:20 Operator: GA
Sample : 8011 1 1/27/20 Inst : Herbie
Misc : water Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Jan 28 8:52 2020 Quant Results File: 8010127A.RES

Quant Method : G:\HERBIE\DATA\191126\8010127A.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Tue Nov 12 13:30:16 2019
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.03	11.03	53126	110488	0.031	0.025
Spiked Amount 0.350			Recovery =		8.86%	7.14%
Target Compounds						
1) TM EDB	5.79	7.22	31898	154888	0.021	0.024
2) TM 1,2,3-TCP	9.23	10.44	19033	27751	0.010	0.023 #
4) TM DBCP	13.34	14.08	115917	391204	0.020	0.021

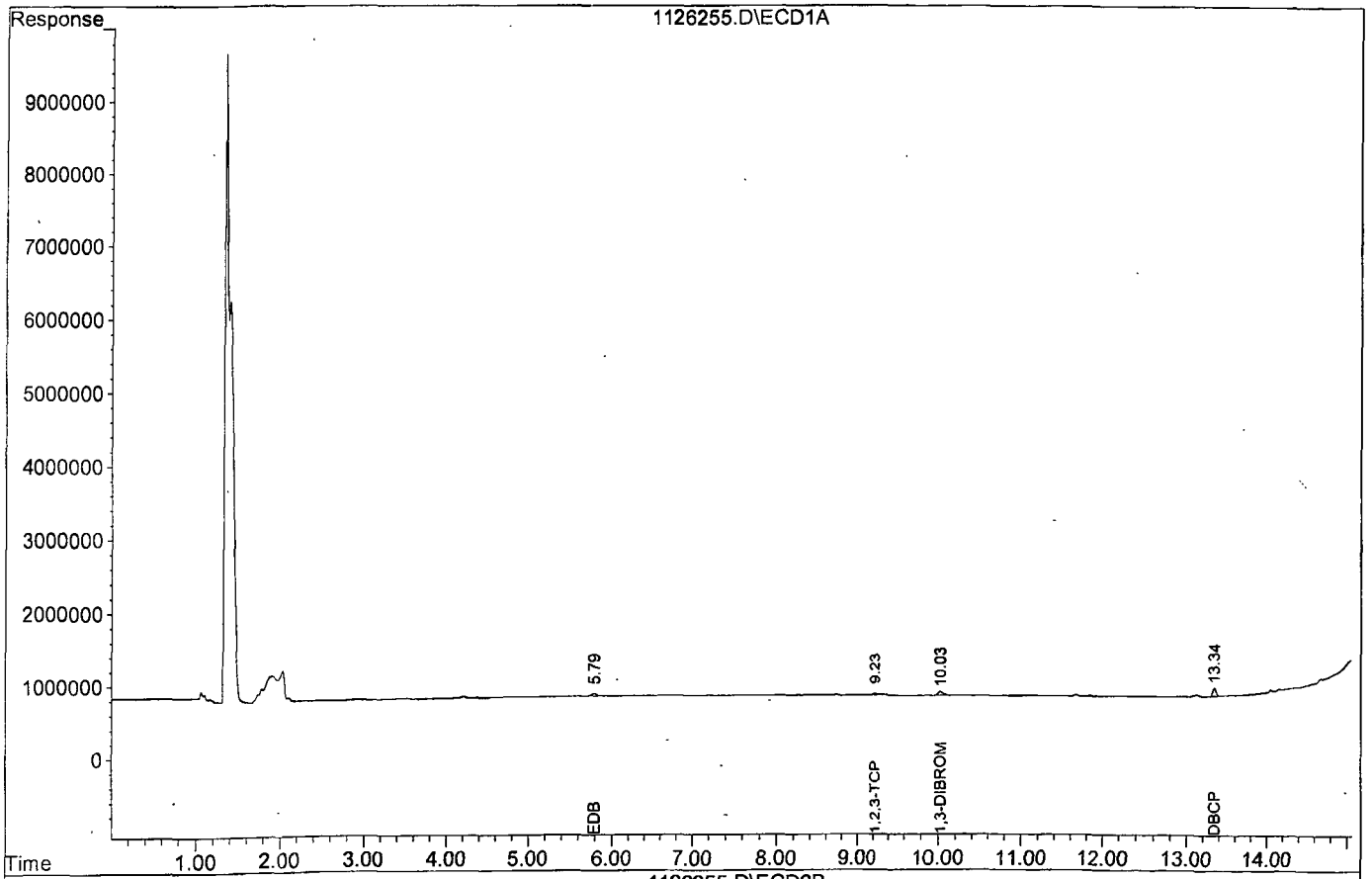
Target Compounds

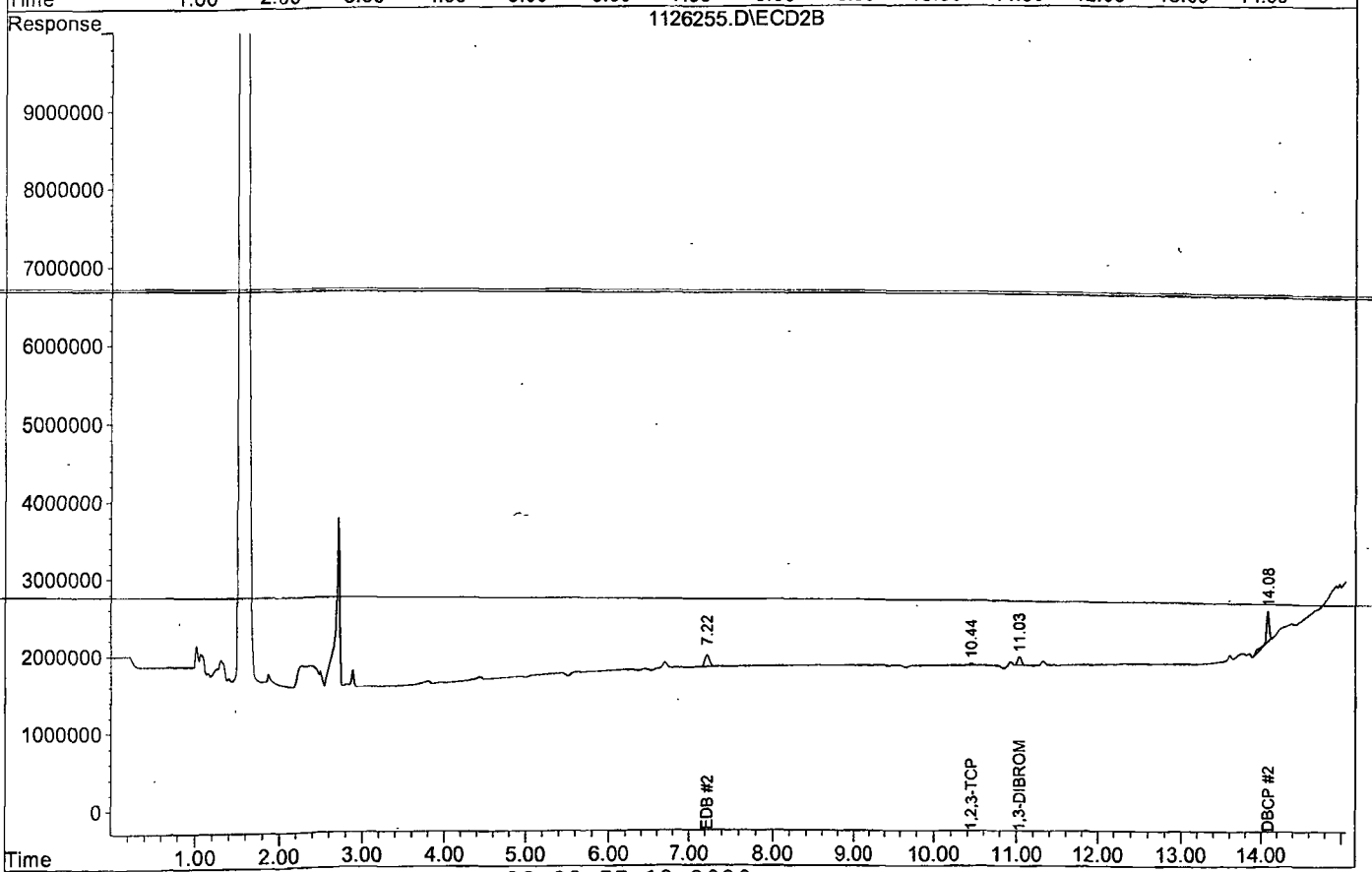
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\191126\1126255.D
Acq On : 01-27-20 17:20:20
Sample : 8011 1 1/27/20
Misc : water
Quant Method : G:\HERBIE\DATA\191126\8010127A.M

Vial: 55
Operator: GA
Inst : Herbie
Multiplr: 1.00





Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\191126\1126256.D\ECD1A.CH Vial: 56
Signal #2 : G:\HERBIE\DATA\191126\1126256.D\ECD2B.CH
Acq On : 01-27-20 17:40:18 Operator: GA
Sample : 8011 2 1/27/20 Inst : Herbie
Misc : water Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Jan 28 8:52 2020 Quant Results File: 8010127A.RES

Quant Method : G:\HERBIE\DATA\191126\8010127A.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Tue Nov 12 13:30:16 2019
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L	
	System Monitoring Compounds							
3)	S 1,3-DIBROMOPROPA	10.02	11.03	194431	546767	0.112	0.126	
	Spiked Amount 0.350			Recovery	=	32.00%	36.00%	
	Target Compounds							
1)	TM EDB	5.79	7.22	169787	721131	0.113	0.111	
2)	TM 1,2,3-TCP	9.25	10.44	49532	133743	0.087	0.112	#
4)	TM DBCP	13.35	14.08	539680	1986800	0.094	0.106	

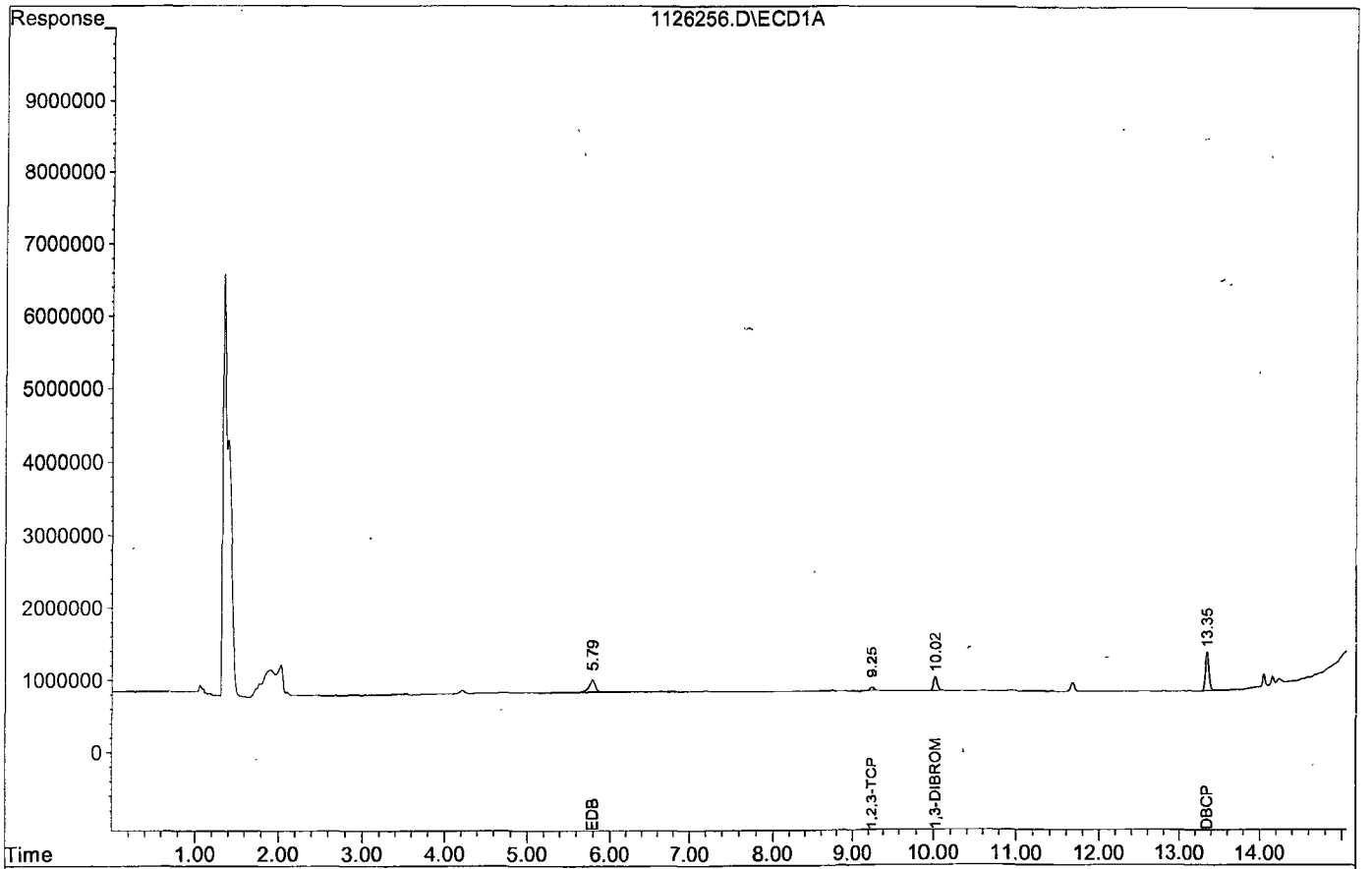
Target Compounds

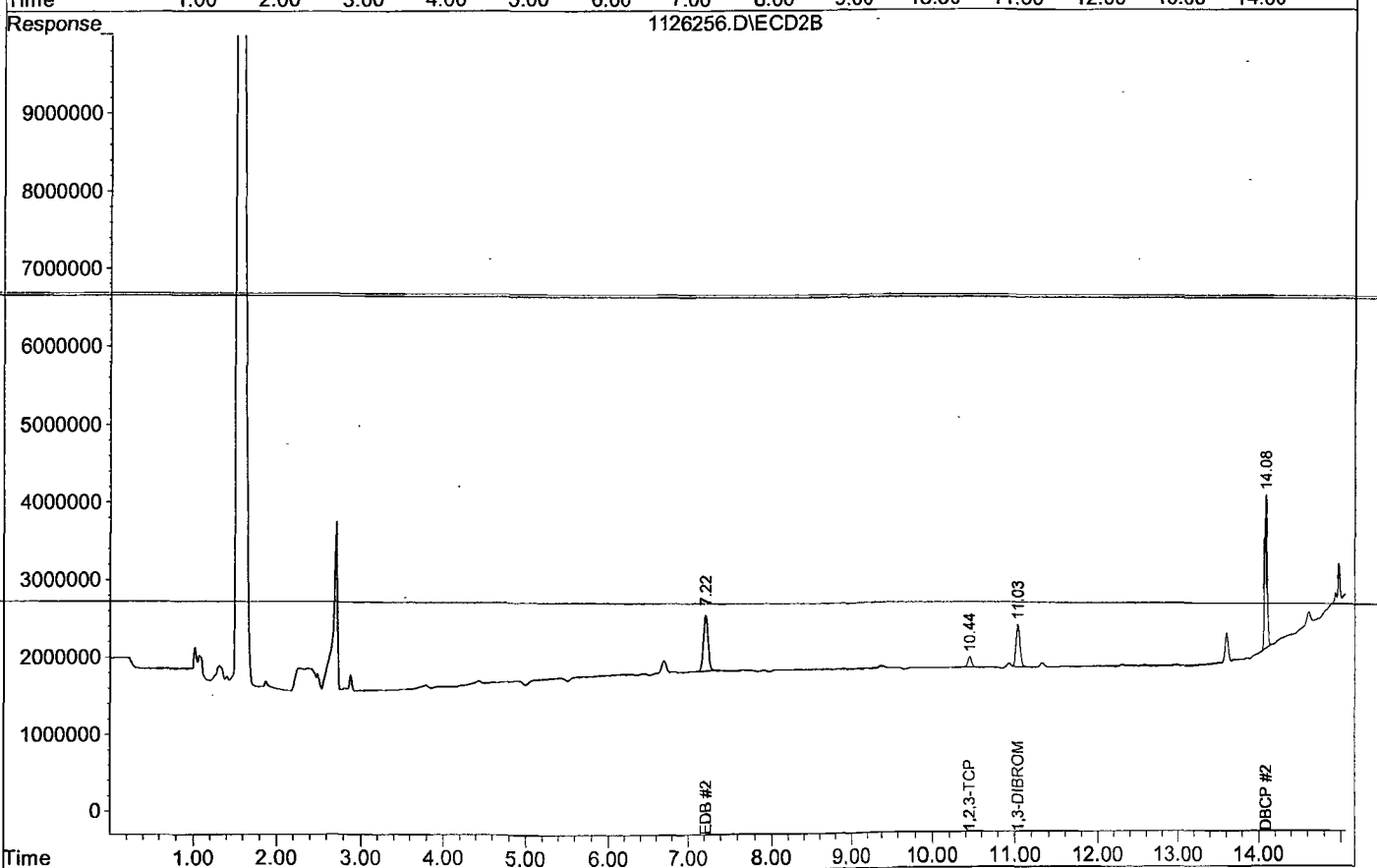
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\191126\1126256.D
Acq On : 01-27-20 17:40:18
Sample : 8011 2 1/27/20
Misc : water
Quant Method : G:\HERBIE\DATA\191126\8010127A.M

Vial: 56
Operator: GA
Inst : Herbie
Multiplr: 1.00





Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\191126\1126257.D\ECD1A.CH Vial: 57
Signal #2 : G:\HERBIE\DATA\191126\1126257.D\ECD2B.CH
Acq On : 01-27-20 18:00:24 Operator: GA
Sample : 8011 3 1/27/20 Inst : Herbie
Misc : water Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Jan 28 8:52 2020 Quant Results File: 8010127A.RES

Quant Method : G:\HERBIE\DATA\191126\8010127A.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Tue Nov 12 13:30:16 2019
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.02	11.04	445197	1254294	0.257	0.289
Spiked Amount 0.350			Recovery =		73.43%	82.57%
Target Compounds						
1) TM EDB	5.79	7.22	408171	1695011	0.272	0.261
2) TM 1,2,3-TCP	9.25	10.44	112502	327942	0.246	0.275
4) TM DBCP	13.35	14.08	1357532	5008293	0.236	0.267

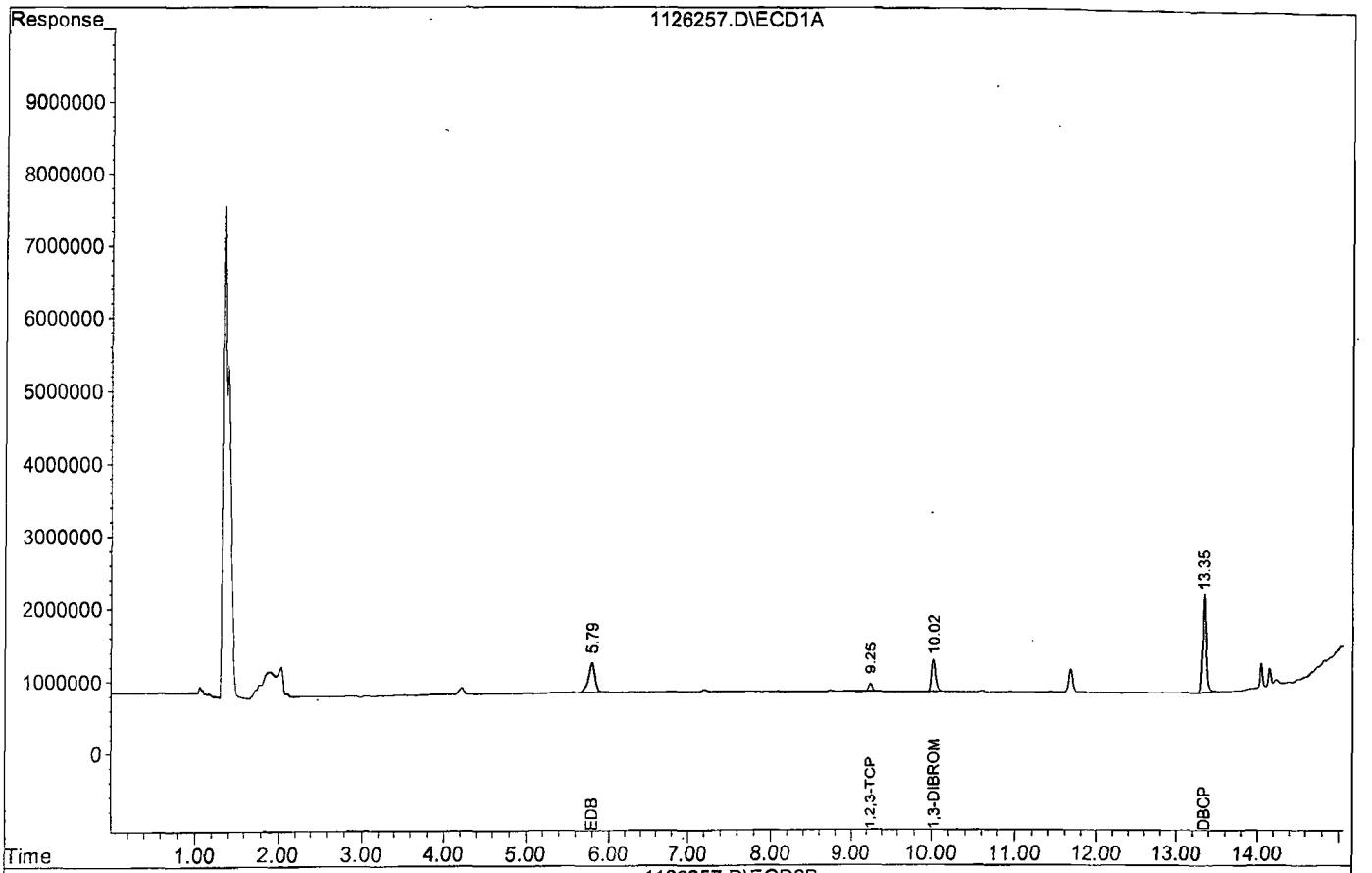
Target Compounds

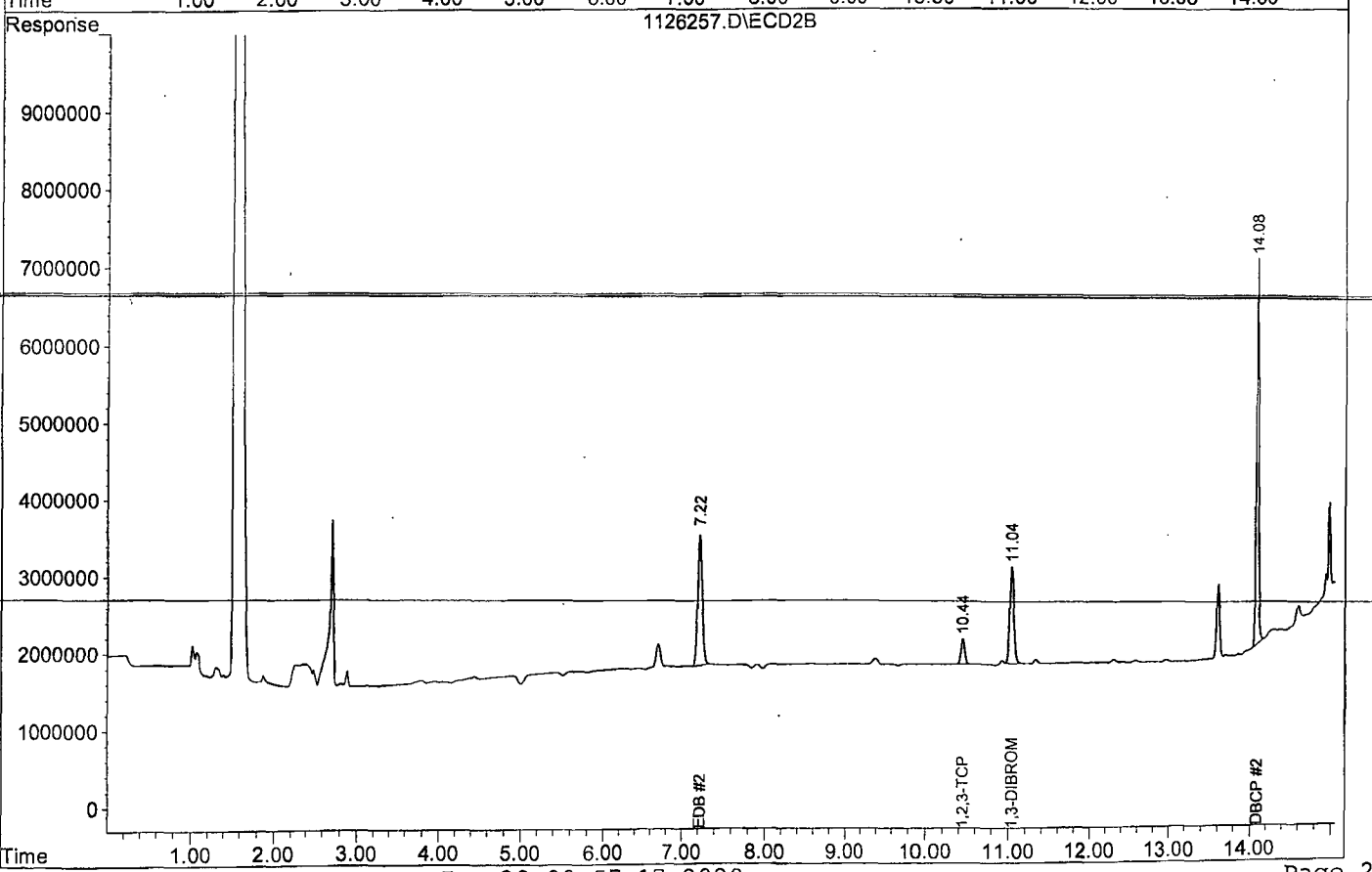
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\191126\1126257.D
Acq On : 01-27-20 18:00:24
Sample : 8011 3 1/27/20
Misc : water
Quant Method : G:\HERBIE\DATA\191126\8010127A.M

Vial: 57
Operator: GA
Inst : Herbie
Multiplr: 1.00





Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\191126\1126258.D\ECD1A.CH Vial: 58
Signal #2 : G:\HERBIE\DATA\191126\1126258.D\ECD2B.CH
Acq On : 01-27-20 18:20:22 Operator: GA
Sample : 8011 4 1/27/20 Inst : Herbie
Misc : water Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Jan 28 8:52 2020 Quant Results File: 8010127A.RES

Quant Method : G:\HERBIE\DATA\191126\8010127A.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Tue Nov 12 13:30:16 2019
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

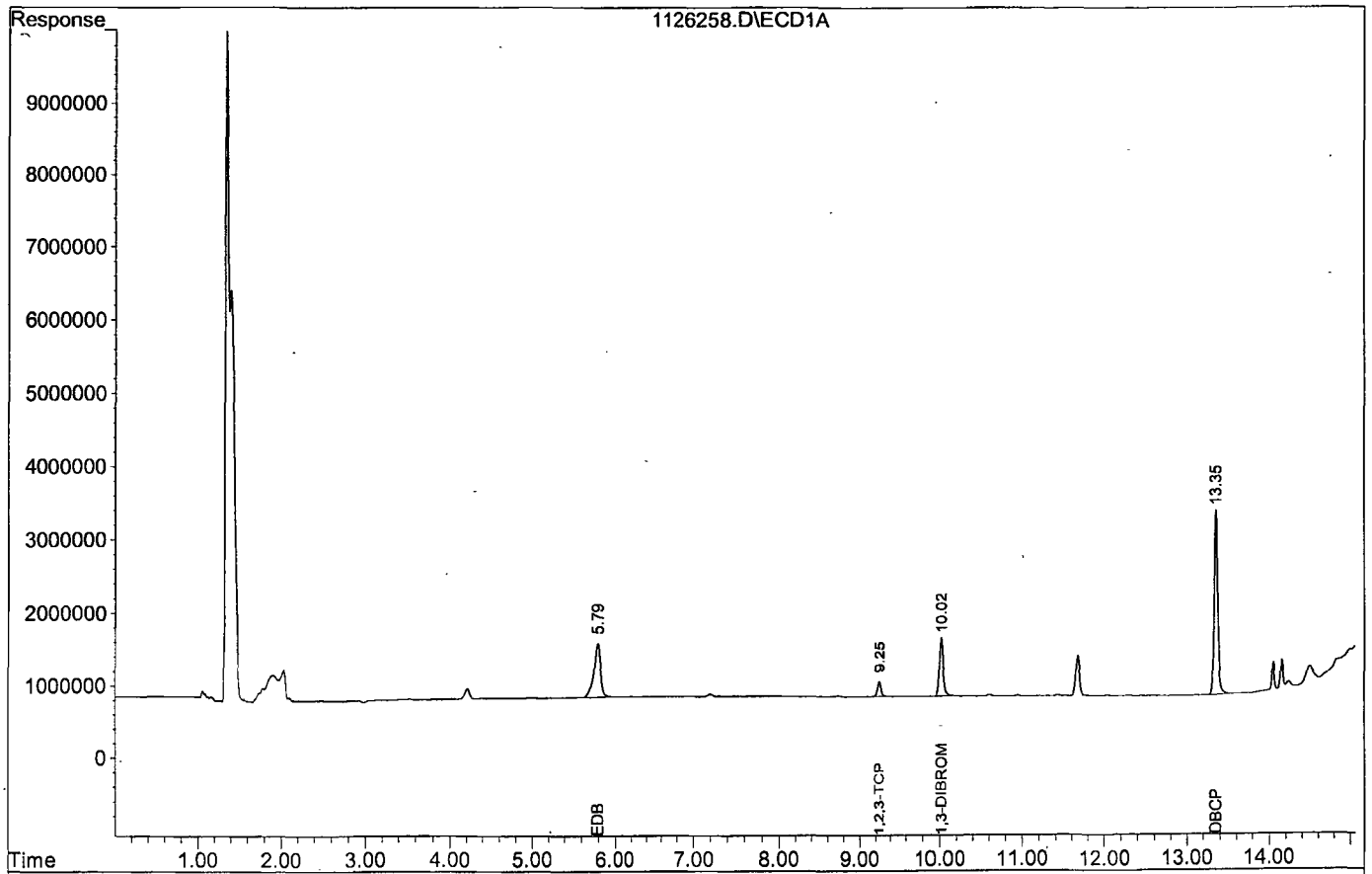
Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.02	11.04	808536	2289292	0.467	0.528
Spiked Amount 0.350			Recovery =		133.43%	150.86%
Target Compounds						
1) TM EDB	5.79	7.22	739899	3070495	0.494	0.473
2) TM 1,2,3-TCP	9.25	10.44	205262	592167	0.482	0.497
4) TM DBCP	13.35	14.09	2530921	9560982	0.441	0.509

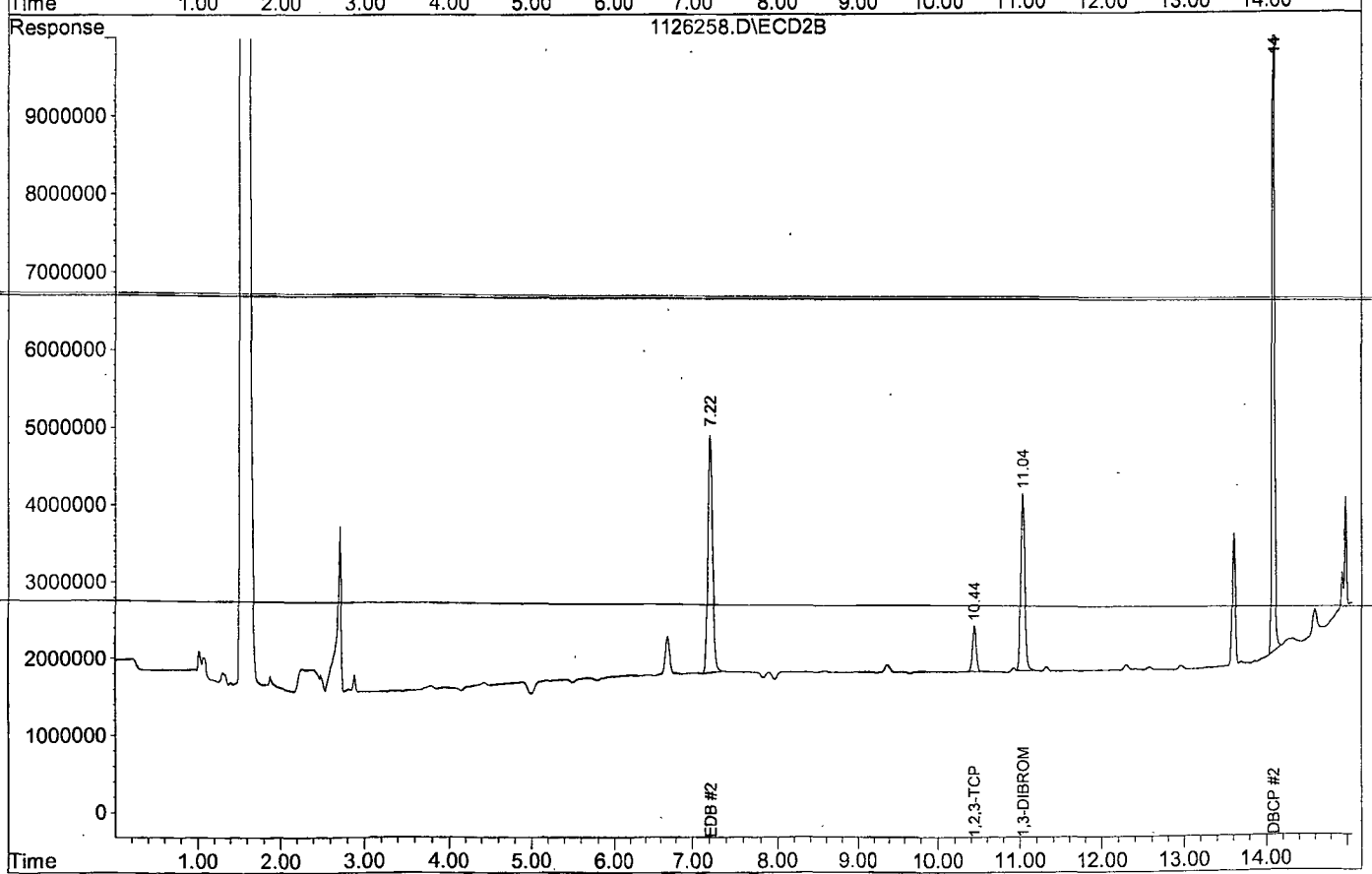
Target Compounds

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\191126\1126258.D Vial: 58
Acq On : 01-27-20 18:20:22 Operator: GA
Sample : 8011 4 1/27/20 Inst : Herbie
Misc : water Multiplr: 1.00
Quant Method : G:\HERBIE\DATA\191126\8010127A.M





Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\191126\1126259.D\ECD1A.CH Vial: 59
Signal #2 : G:\HERBIE\DATA\191126\1126259.D\ECD2B.CH
Acq On : 01-27-20 18:40:19 Operator: GA
Sample : 8011 5 1/27/20 Inst : Herbie
Misc : water Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Jan 28 8:52 2020 Quant Results File: 8010127A.RES

Quant Method : G:\HERBIE\DATA\191126\8010127A.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Tue Nov 12 13:30:16 2019
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

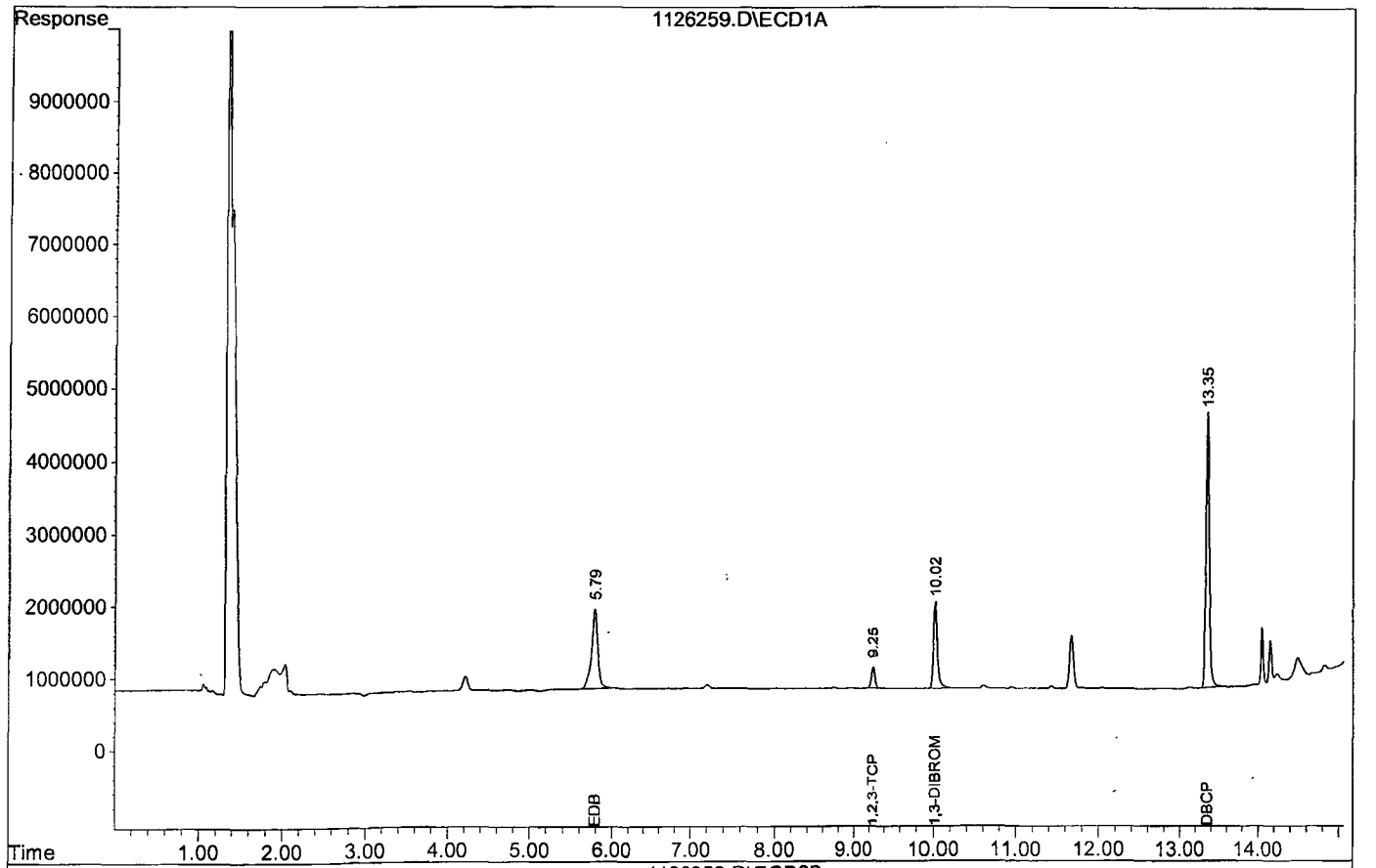
Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.02	11.03	1212305	3366816	0.700	0.776
Spiked Amount 0.350			Recovery =		200.00%	221.71%
Target Compounds						
1) TM EDB	5.79	7.22	1105888	4596134	0.738	0.709
2) TM 1,2,3-TCP	9.25	10.44	293113	857836	0.704	0.720
4) TM DBCP	13.35	14.08	3813088	14985705	0.664	0.797
Target Compounds						

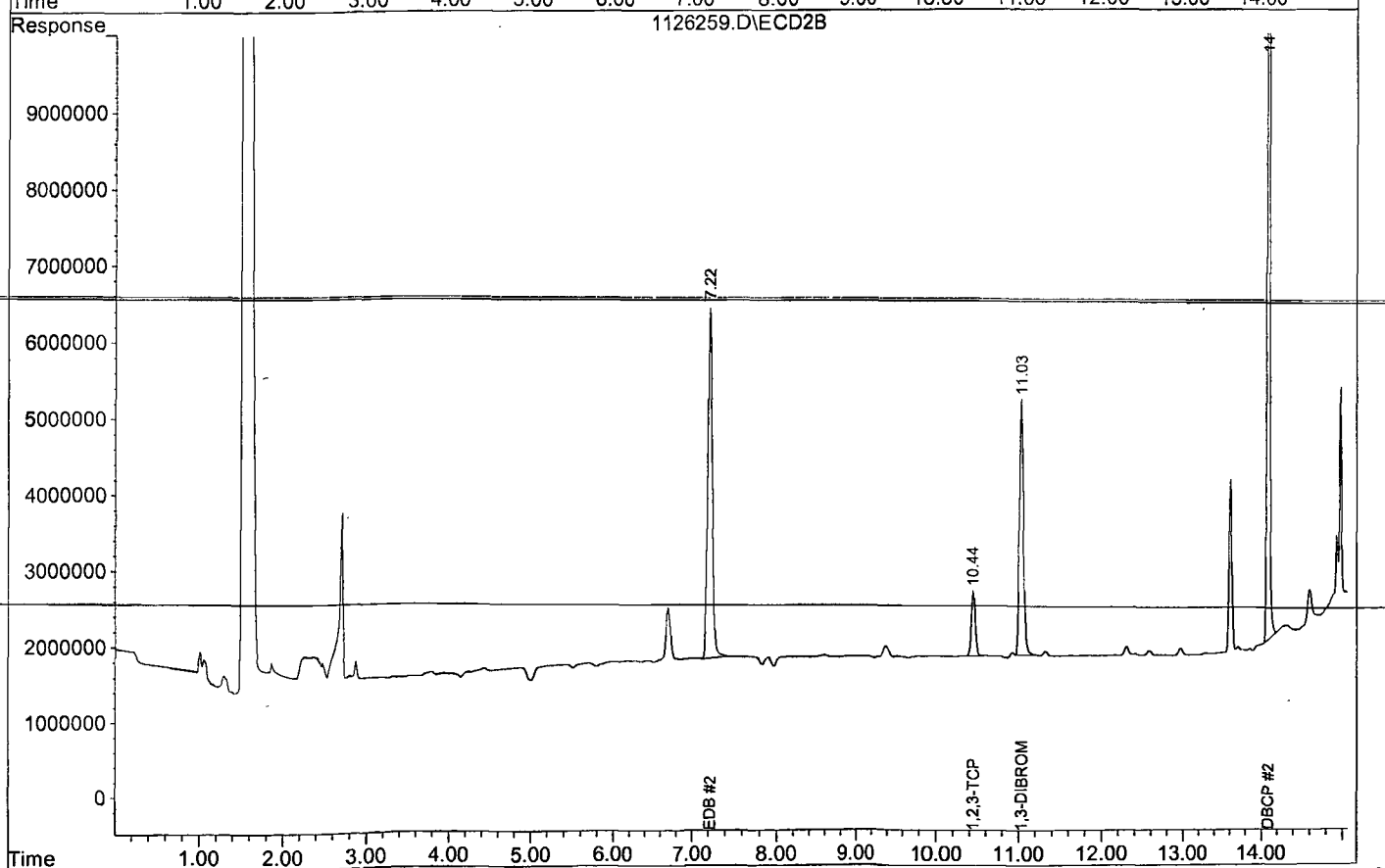
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\191126\1126259.D
Acq On : 01-27-20 18:40:19
Sample : 8011 5 1/27/20
Misc : water
Quant Method : G:\HERBIE\DATA\191126\8010127A.M

Vial: 59
Operator: GA
Inst : Herbie
Multiplr: 1.00





Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\191126\1126260.D\ECD1A.CH Vial: 60
Signal #2 : G:\HERBIE\DATA\191126\1126260.D\ECD2B.CH
Acq On : 01-27-20 19:00:22 Operator: GA
Sample : 8011 6 1/27/20 Inst : Herbie
Misc : water Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Jan 28 8:52 2020 Quant Results File: 8010127A.RES

Quant Method : G:\HERBIE\DATA\191126\8010127A.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Tue Nov 12 13:30:16 2019
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.02	11.04	1581983	4516696	0.913	1.042
Spiked Amount 0.350			Recovery =		260.86%	297.71%
Target Compounds						
1) TM EDB	5.79	7.22	1418279	6118921	0.947	0.944
2) TM 1,2,3-TCP	9.25	10.44	383688	1113298	0.934	0.934
4) TM DBCP	13.35	14.08	5237938	20355914	0.912	1.083

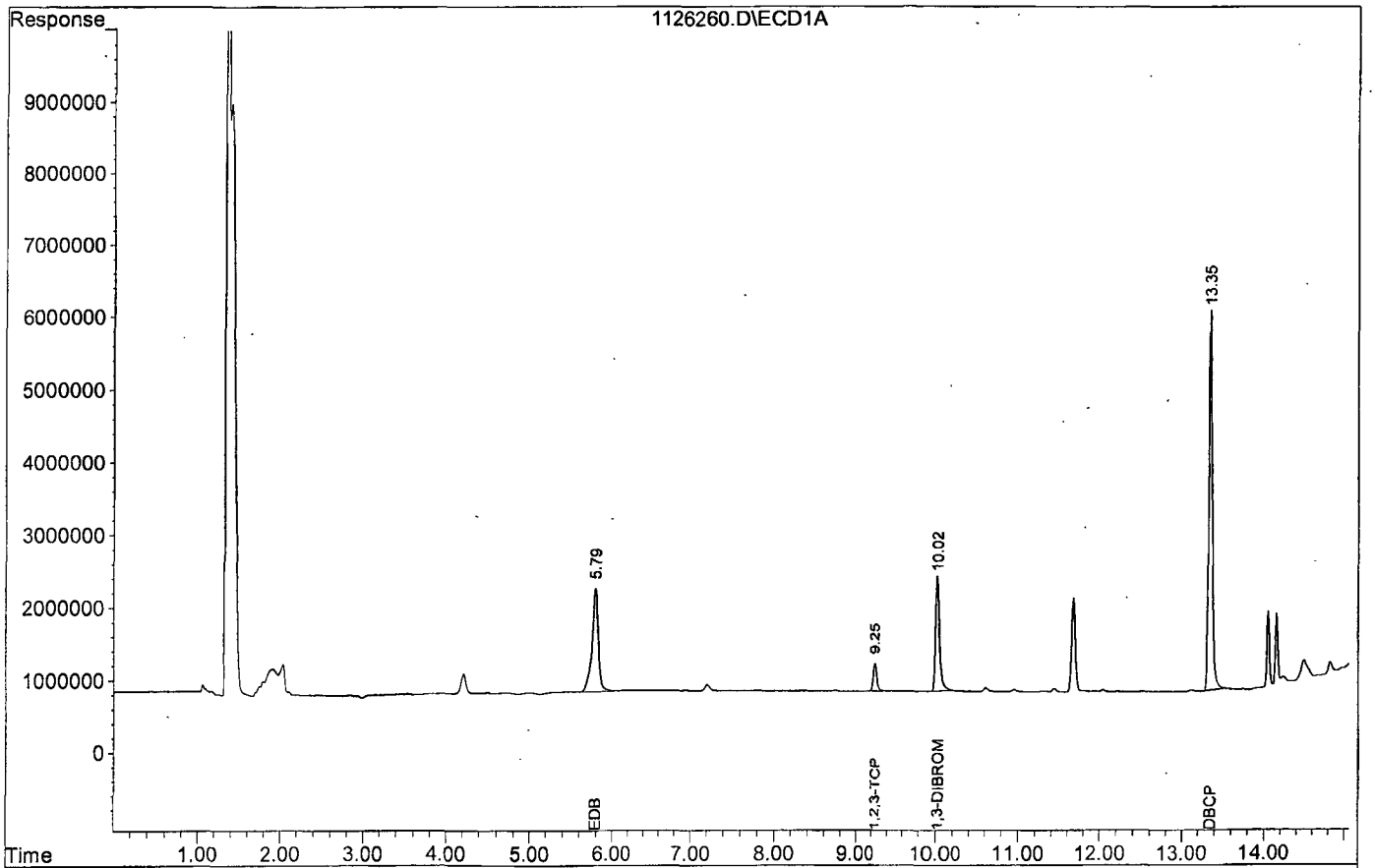
Target Compounds

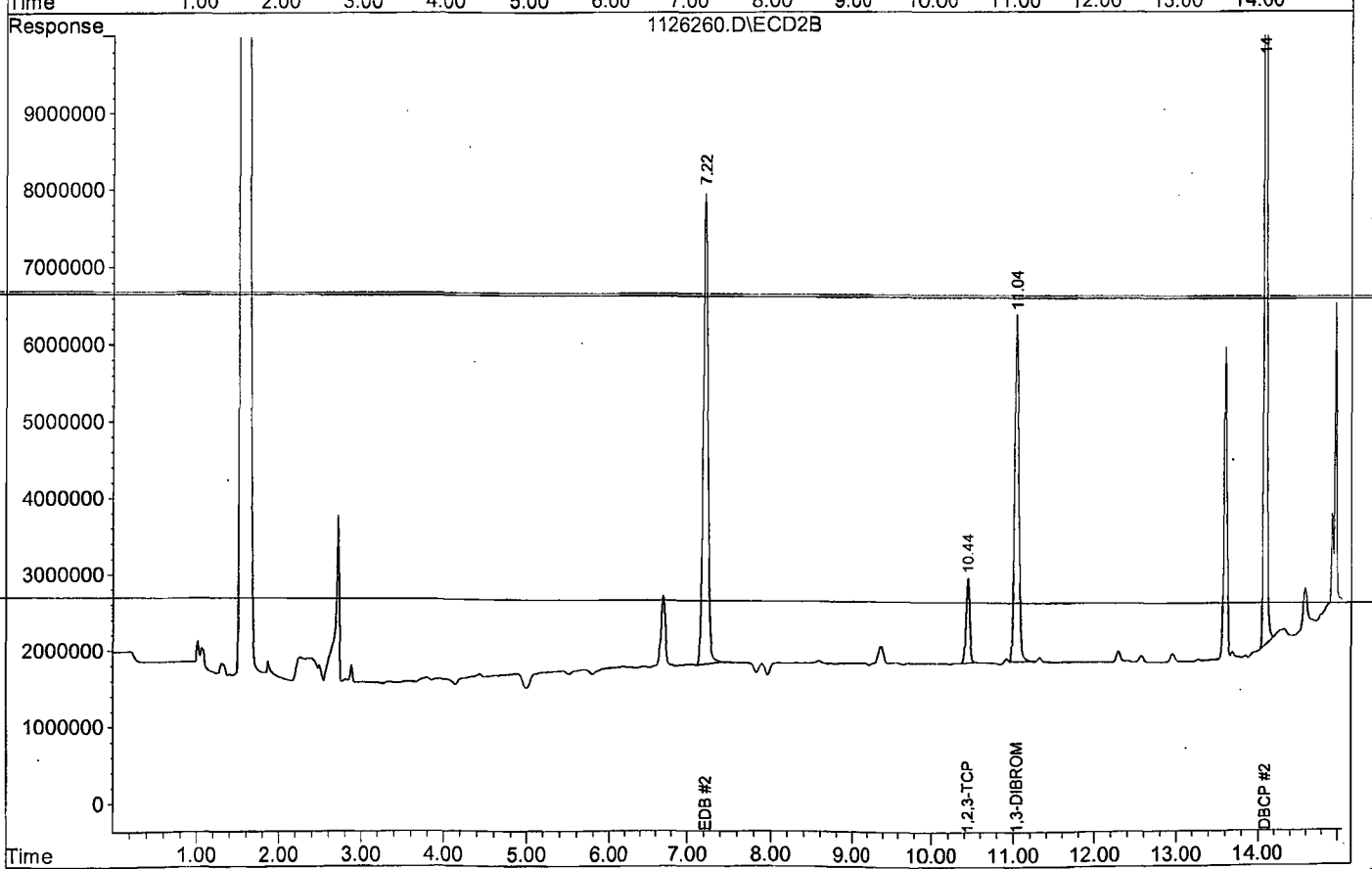
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\191126\1126260.D
Acq On : 01-27-20 19:00:22
Sample : 8011 6 1/27/20
Misc : water
Quant Method : G:\HERBIE\DATA\191126\8010127A.M

Vial: 60
Operator: GA
Inst : Herbie
Multiplr: 1.00





DBCP/EDB/1,2,3-TCP Analysis by
504 8011

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: Water

SDG No:
Date Analyzed: 01/27/20
Instrument: Herbie
Initial Cal. Date: 01/27/20
Data File: 1126261.D

		Compound	MEAN	CCRF	%D	%Drift	
1	TM	EDB	774837	784590	1.3	TM	
2	TML	1,2,3-TCP	256834	252380	1.7	TML	11
3	TM	DBCP	2667220	2829760	6.1	TM	
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			3.0		

DBCP/EDB/1,2,3-TCP Analysis by
504 8011

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: Water

SDG No:
Date Analyzed: 01/27/20
Instrument: Herbie
Cal. Date: 01/27/20
Data File: 1126261.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	EDB	3343650	3388430	1.3	TM	
42	TM	1,2,3-TCP	623180	664855	6.7	TM	
43	TM	DBCP	9910020	10161100	2.5	TM	
44							
45							
46							
47							
48							
49							
50							
51							
52							
53							
54							
55							
56							
57							
58							
59							
60							
61							
62							
63							
64							
65							
66							
67							
68							
69							
70							
71							
72							
73							
74							
75							
76							
77							
78							
79							
80							
		Average			3.5		

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\191126\1126261.D\ECD1A.CH Vial: 61
Acq On : 01-27-20 19:20:20 Operator: GA
Sample : 8011 SS 1/27/20 Inst : Herbie
Misc : water Multiplr: 1.00
IntFile : rteint.p

Data File : G:\HERBIE\DATA\191126\1126261.D\ECD2B.CH Vial: 61
Acq On : 01-27-20 19:20:21 Operator: GA
Sample : 8011 SS 1/27/20 Inst : Herbie
Misc : water Multiplr: 1.00
IntFile : rteint2.p
Quant Time: Jan 28 8:52 2020 Quant Results File: 8010127A.RES

Quant Method : G:\HERBIE\DATA\191126\8010127A.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Tue Nov 12 13:30:16 2019
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.02	11.03	612162	1685909	0.353	0.389
Spiked Amount 0.350			Recovery =		100.86%	111.14%
Target Compounds						
1) TM EDB	5.79	7.22	156918	677686	0.105	0.105
2) TM 1,2,3-TCP	9.25	10.44	50476	132971	0.089	0.112
4) TM DBCP	13.34	14.08	565952	2032222	0.099	0.108

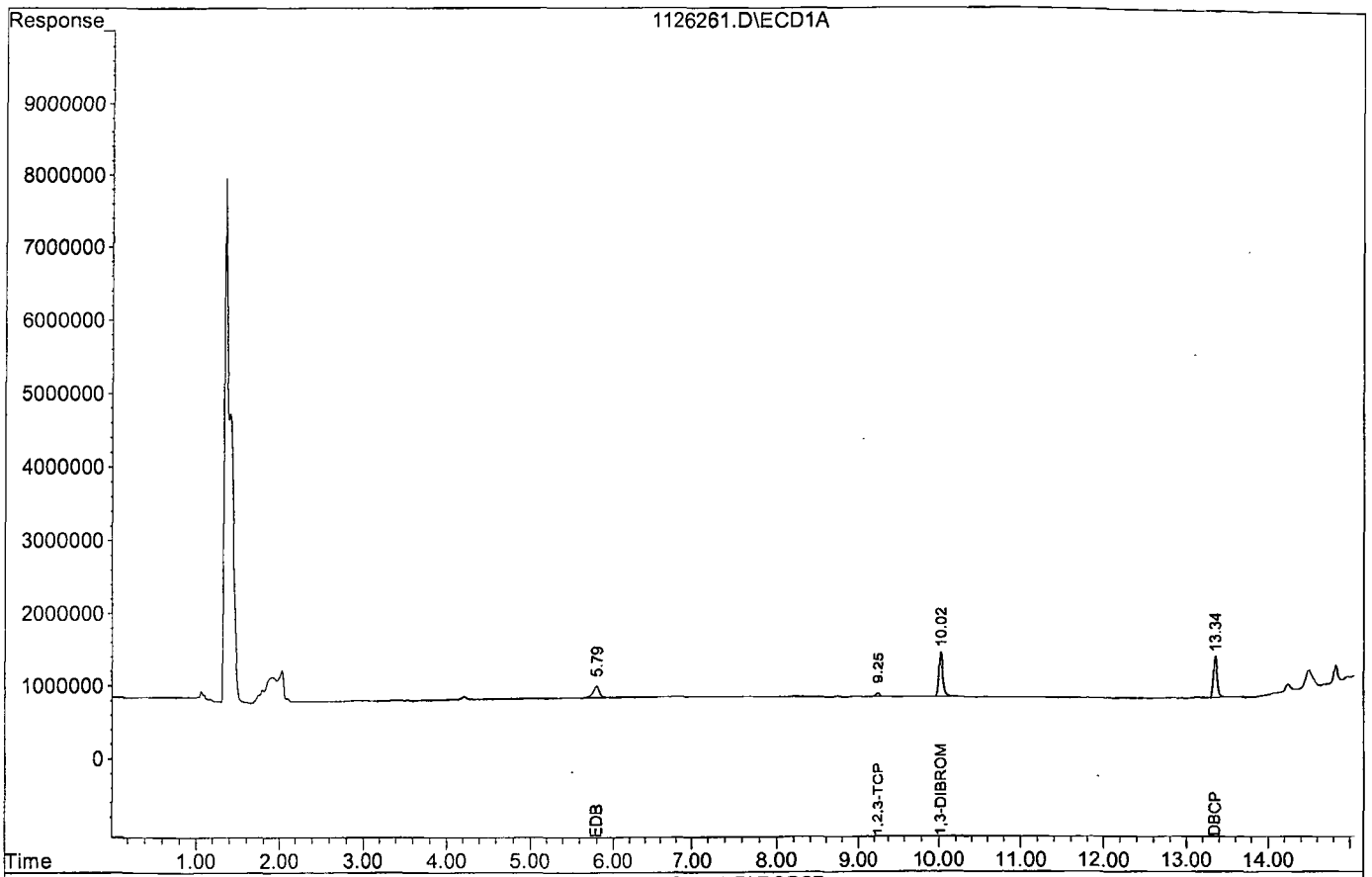
Target Compounds

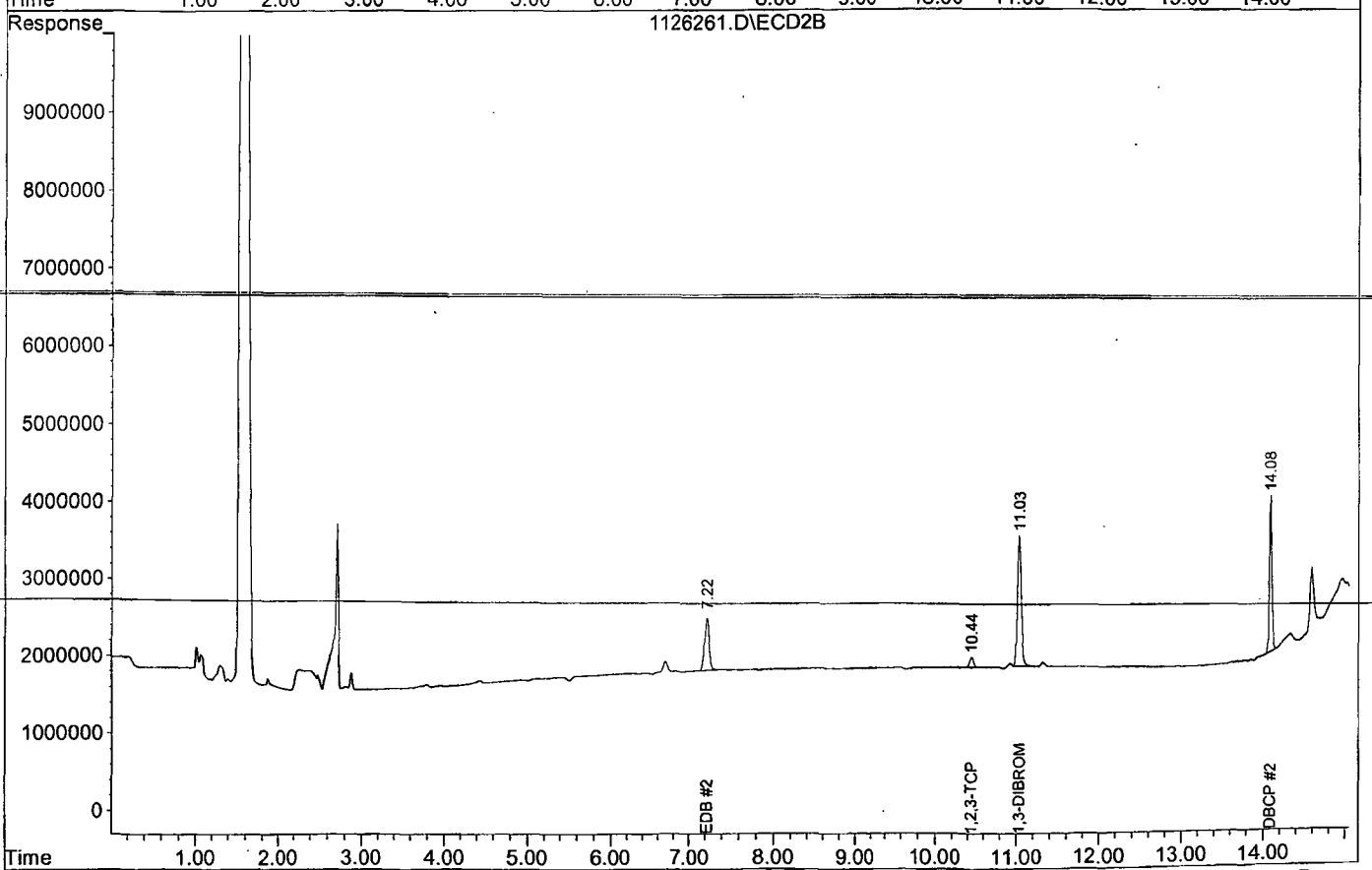
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\191126\1126261.D
Acq On : 01-27-20 19:20:20
Sample : 8011 SS 1/27/20
Misc : water
Quant Method : G:\HERBIE\DATA\191126\8010127A.M

Vial: 61
Operator: GA
Inst : Herbie
Multiplr: 1.00





DBCP/EDB/1,2,3-TCP Analysis by
504 8011

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: Water

SDG No:
Date Analyzed: 01/27/20
Instrument: Herbie
Initial Cal. Date: 01/27/20
Data File: 1126273.D

		Compound	MEAN	CCRF	%D		%Drift
1	TM	EDB	774837	801182	3.4	TM	
2	TML	1,2,3-TCP	256834	225532	12	TML	5.3
3	S	1,3-DIBROMOPROPANE(S)	854056	886420	3.8	S	
4	TM	DBCP	2667220	2707580	1.5	TM	
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			5.2		

DBCP/EDB/1,2,3-TCP Analysis by
504 8011

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: Water

SDG No:
Date Analyzed: 01/27/20
Instrument: Herbie
Cal. Date: 01/27/20
Data File: 1126273.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	EDB	3343650	3276330	2.0	TM	
42	TM	1,2,3-TCP	623180	625854	0.43	TM	
43	S	1,3-DIBROMOPROPANE(S)	2466130	2459560	0.27	S	
44	TM	DBCP	9910020	9764080	1.5	TM	
45							
46							
47							
48							
49							
50							
51							
52							
53							
54							
55							
56							
57							
58							
59							
60							
61							
62							
63							
64							
65							
66							
67							
68							
69							
70							
71							
72							
73							
74							
75							
76							
77							
78							
79							
80							
		Average			1.1		

Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\191126\1126273.D\ECD1A.CH Vial: 73
Signal #2 : G:\HERBIE\DATA\191126\1126273.D\ECD2B.CH
Acq On : 01-27-20 23:20:02 Operator: GA
Sample : 8011 3 1/27/20 Inst : Herbie
Misc : water Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Jan 28 9:01 2020 Quant Results File: 8010127A.RES

Quant Method : G:\HERBIE\DATA\191126\8010127A.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Tue Jan 28 08:55:06 2020
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	System Monitoring Compounds						
3)	S 1,3-DIBROMOPROPA	10.01	11.03	443210	1229778	0.259	0.249
	Spiked Amount 0.350			Recovery	=	74.00%	71.14%
	Target Compounds						
1)	TM EDB	5.78	7.21	400591	1638165	0.259	0.245
2)	TM 1,2,3-TCP	9.25	10.44	112766	312927	0.263	0.251
4)	TM DBCP	13.34	14.08	1353790	4882042	0.254	0.246

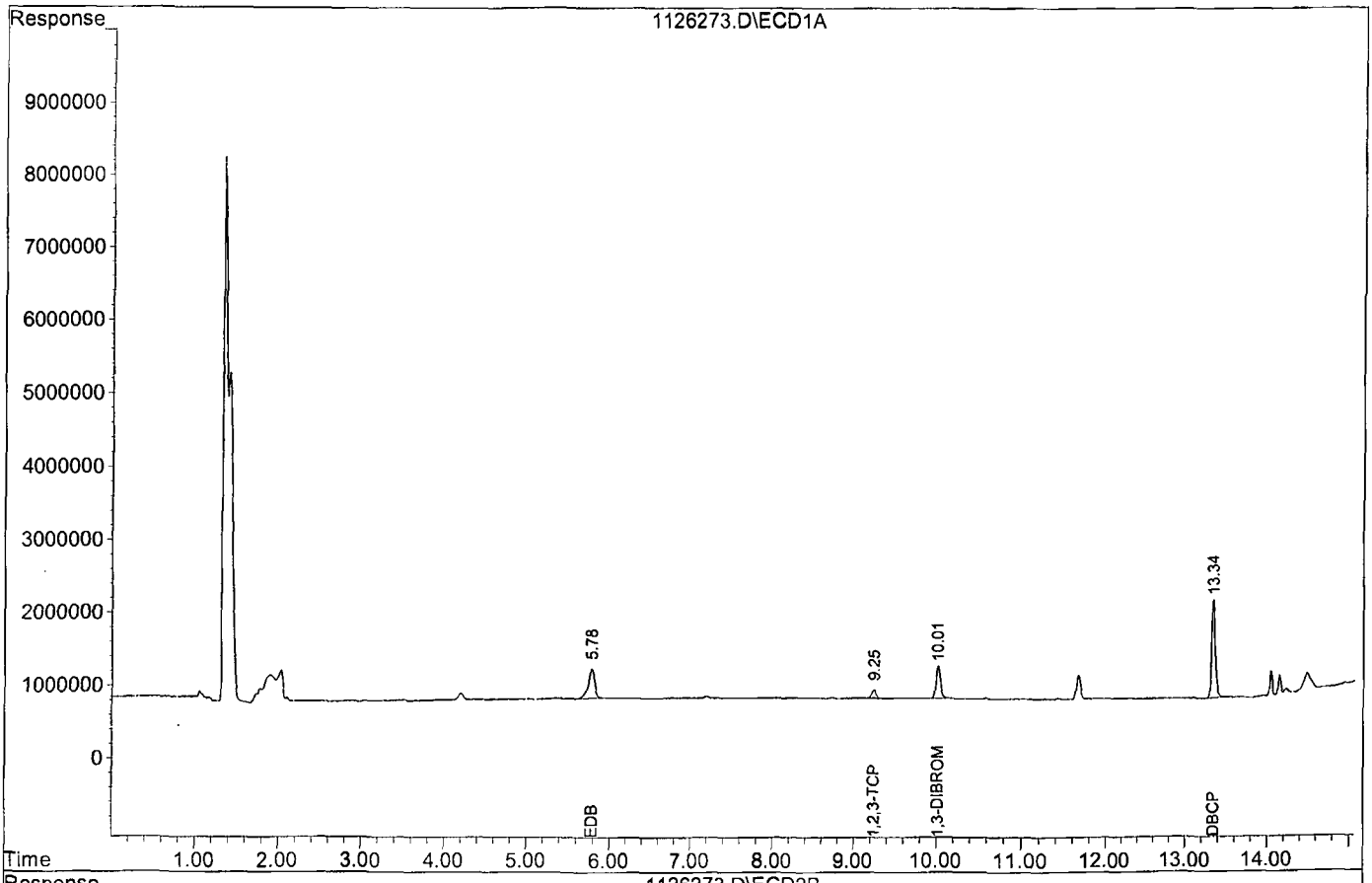
Target Compounds

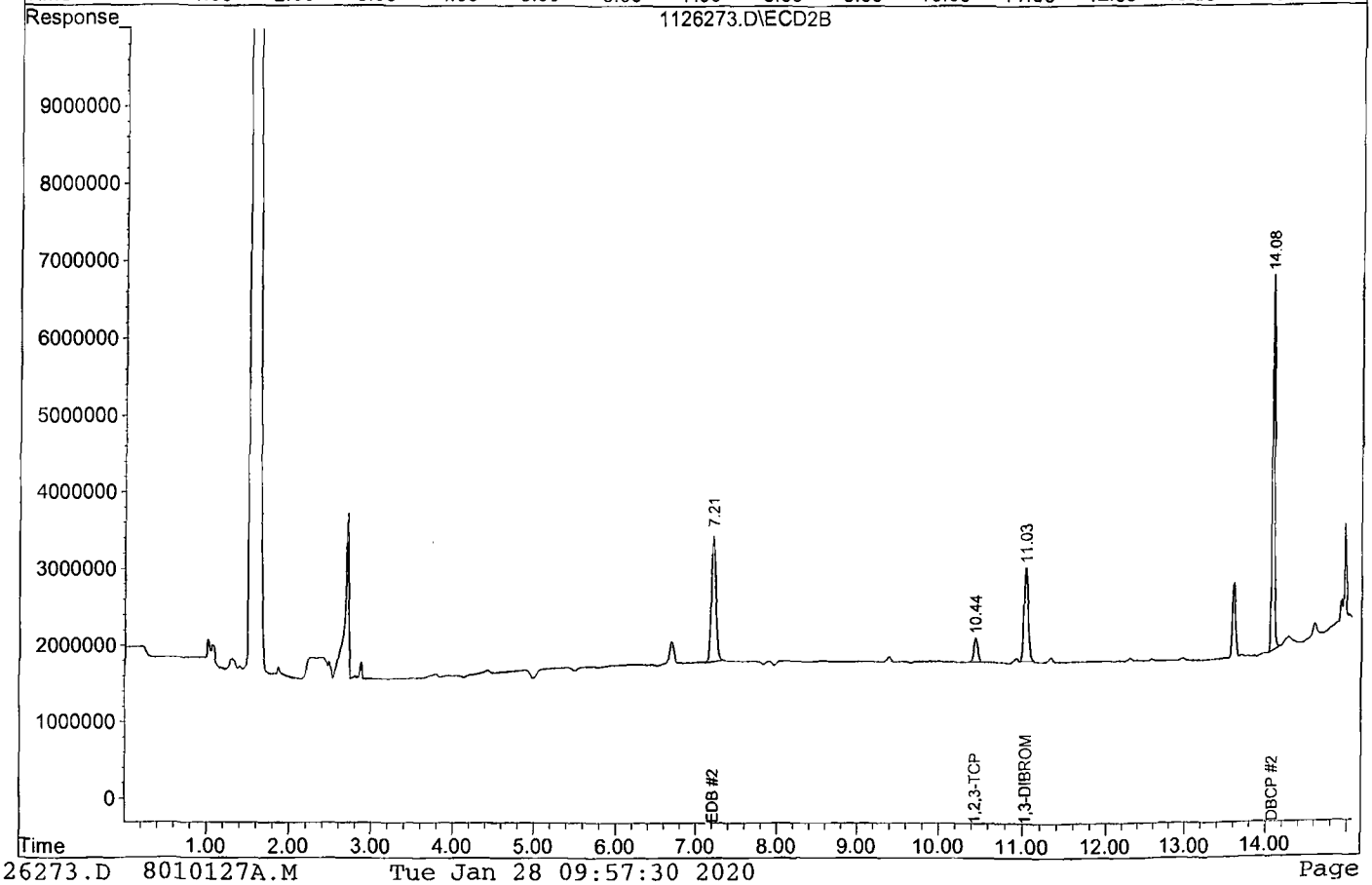
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\191126\1126273.D
Acq On : 01-27-20 23:20:02
Sample : 8011 3 1/27/20
Misc : water
Quant Method : G:\HERBIE\DATA\191126\8010127A.M

Vial: 73
Operator: GA
Inst : Herbie
Multiplr: 1.00





ORGANICS
Raw Data

Quantitation Report (QT Reviewed)

Signal #1 : G:\HERBIE\DATA\191126\1126270.D\ECD1A.CH Vial: 70
Signal #2 : G:\HERBIE\DATA\191126\1126270.D\ECD2B.CH
Acq On : 01-27-20 22:20:05 Operator: GA
Sample : BA06318W01 2/35.00g Inst : Herbie
Misc : water Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Jan 28 9:11 2020 Quant Results File: 8010127A.RES

Quant Method : G:\HERBIE\DATA\191126\8010127A.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Tue Jan 28 08:55:06 2020
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

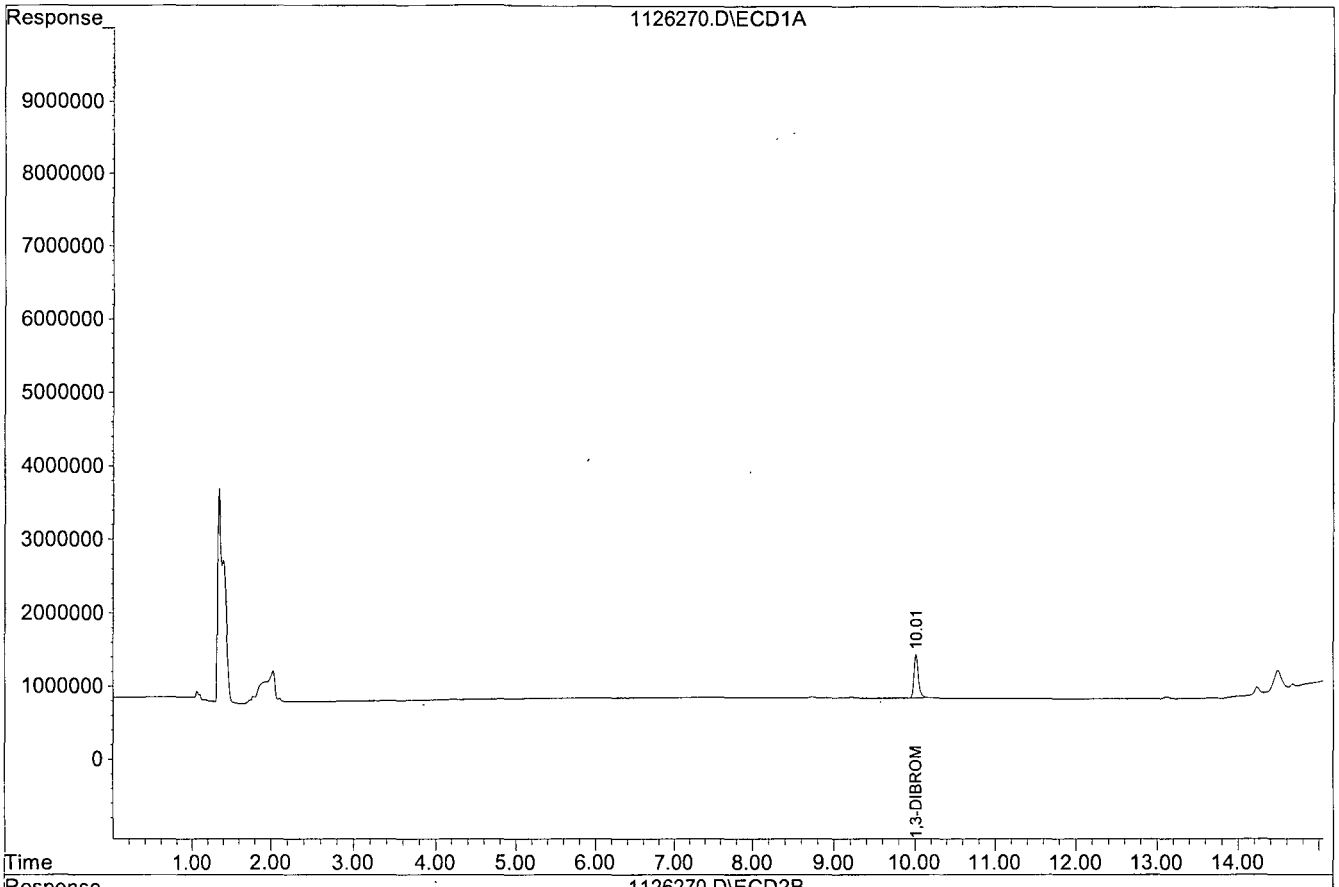
Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.01	11.03	590469	1702833	0.345	0.344
Spiked Amount 0.349			Recovery =		98.82%	98.54%
Target Compounds						
Target Compounds						
1) TM EDB	0.00	0.00	0	0	N.D. d	N.D. d
2) TM 1,2,3-TCP	0.00	0.00	0	0	N.D. d	N.D. d
4) TM DBCP	0.00	0.00	0	0	N.D. d	N.D. d

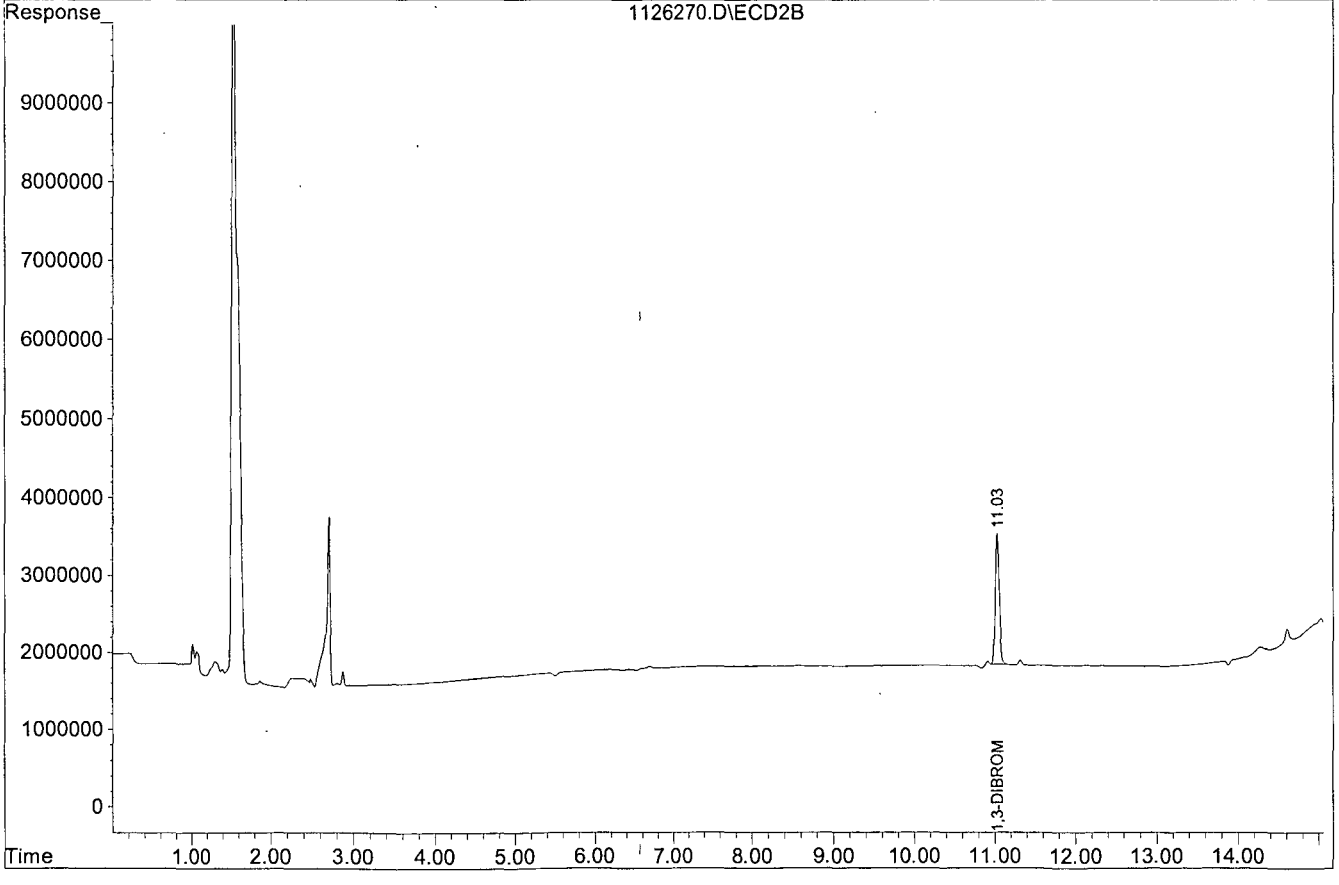
(f)=RT Delta > 1/2 Window (#)=Amount Diff. by > 25% (m)=manual int.

1126270.D 8010127A.M Wed Feb 26 09:08:44 2020 Page 1

Data File : G:\HERBIE\DATA\191126\1126270.D
Acq On : 01-27-20 22:20:05
Sample : BA06318W01 2/35.00g
Misc : water
Quant Method : G:\HERBIE\DATA\191126\8010127A.M

Vial: 70
Operator: GA
Inst : Herbie
Multiplr: 1.00





Quantitation Report (QT Reviewed)

Signal #1 : G:\HERBIE\DATA\191126\1126271.D\ECD1A.CH Vial: 71
Signal #2 : G:\HERBIE\DATA\191126\1126271.D\ECD2B.CH
Acq On : 01-27-20 22:40:05 Operator: GA
Sample : BA06319W01 2/35.00g Inst : Herbie
Misc : water Multiplr: 0.99
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Jan 28 9:12 2020 Quant Results File: 8010127A.RES

Quant Method : G:\HERBIE\DATA\191126\8010127A.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Tue Jan 28 08:55:06 2020
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.01	11.03	589220	1664849	0.341	0.334
Spiked Amount 0.346			Recovery =		98.46%	96.44%
Target Compounds						
Target Compounds						
1) TM EDB	0.00	0.00	0	0	N.D. d	N.D. d
2) TM 1,2,3-TCP	0.00	0.00	0	0	N.D. d	N.D. d
4) TM DBCP	0.00	0.00	0	0	N.D. d	N.D. d

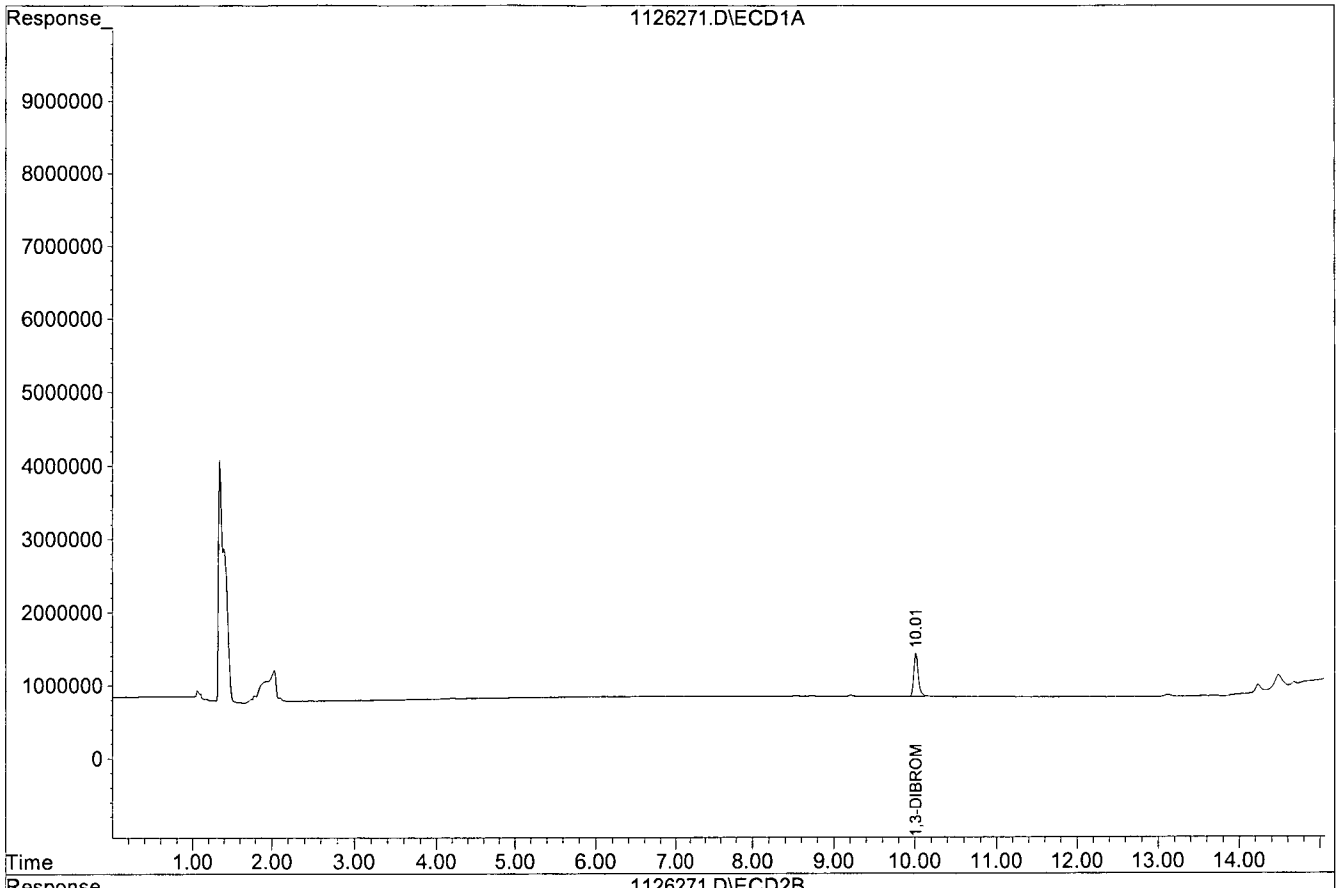
(f)=RT Delta > 1/2 Window (#)=Amount Outlier by > 25% (m)=manual int.

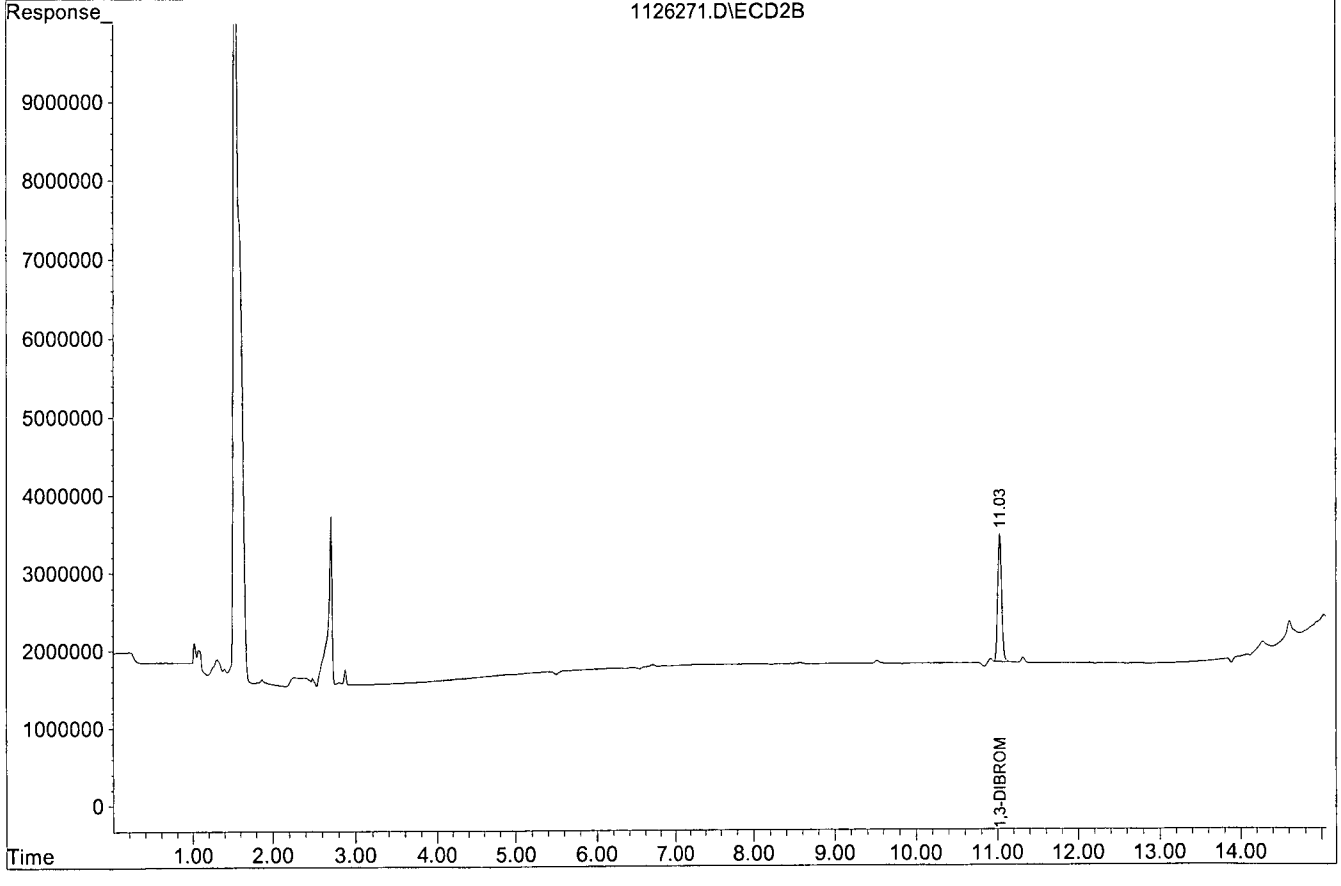
1126271.D 8010127A.M Wed Feb 26 08:56:52 2020 Page 1

Quantitation Report (QT Reviewed)

Data File : G:\HERBIE\DATA\191126\1126271.D
Acq On : 01-27-20 22:40:05
Sample : BA06319W01 2/35.00g
Misc : water
Quant Method : G:\HERBIE\DATA\191126\8010127A.M

Vial: 71
Operator: GA
Inst : Herbie
Multiplr: 0.99





Quantitation Report (QT Reviewed)

Data File : G:\HERBIE\DATA\191126\1126262.D\ECD1A.CH Vial: 62
Acq On : 01-27-20 19:40:19 Operator: GA
Sample : 200127A BLK 2/35.00g Inst : Herbie
Misc : water Multiplr: 0.99
IntFile : rteint.p

Data File : G:\HERBIE\DATA\191126\1126262.D\ECD2B.CH Vial: 62
Acq On : 01-27-20 19:40:20 Operator: GA
Sample : 200127A BLK 2/35.00g Inst : Herbie
Misc : water Multiplr: 0.99
IntFile : rteint2.p
Quant Time: Jan 28 9:08 2020 Quant Results File: 8010127A.RES

Quant Method : G:\HERBIE\DATA\191126\8010127A.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Tue Jan 28 08:55:06 2020
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

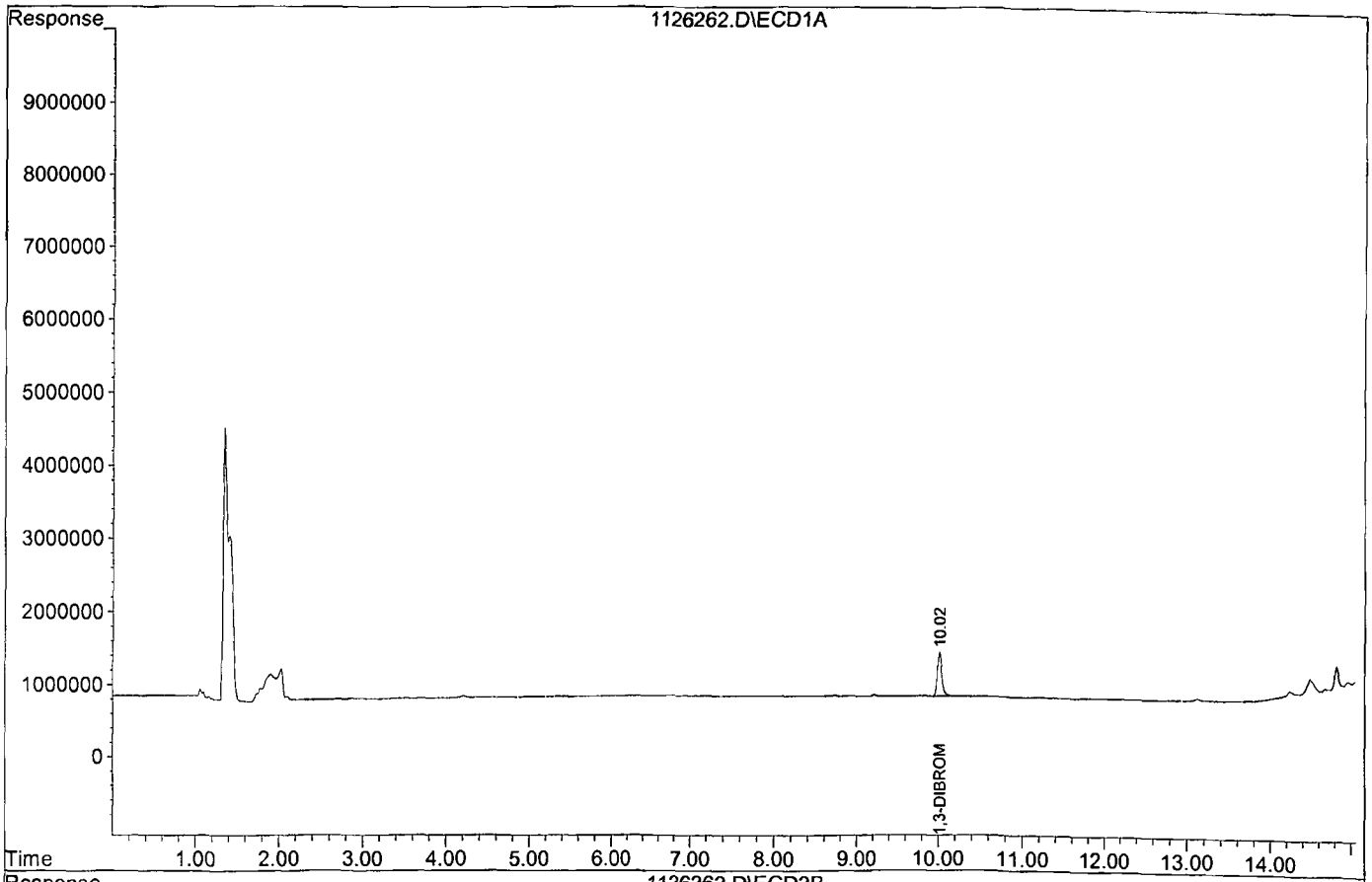
	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	System Monitoring Compounds						
3) S	1,3-DIBROMOPROPA	10.02	11.03	609405	1708299	0.353	0.343
Spiked Amount	0.347			Recovery	=	101.87%	98.98%
	Target Compounds						
	Target Compounds						
1) TM	EDB	0.00	0.00	0	0	N.D. d	N.D. d
2) TM	1,2,3-TCP	0.00	0.00	0	0	N.D. d	N.D. d
4) TM	DBCP	0.00	0.00	0	0	N.D. d	N.D. d

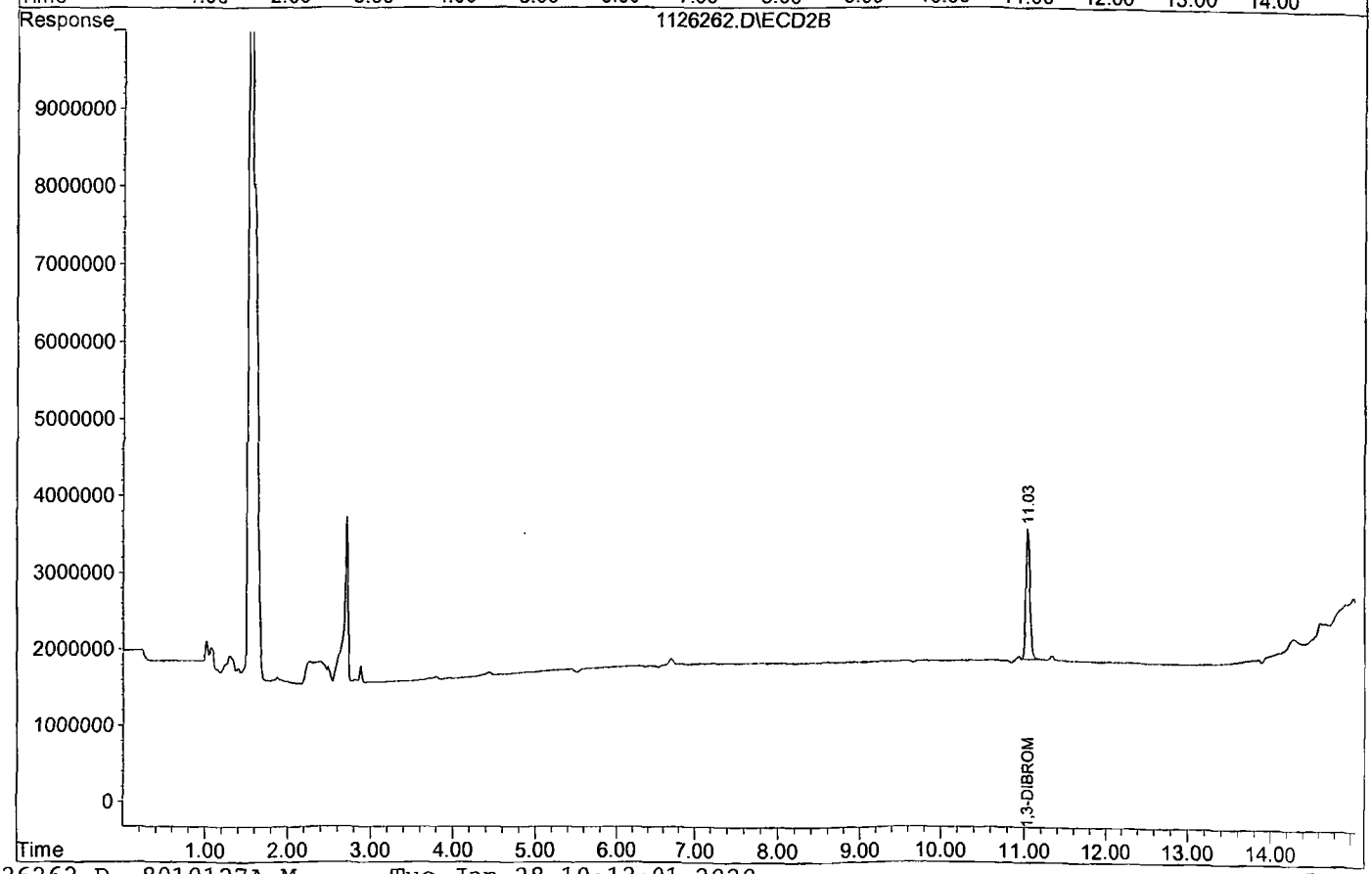
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : G:\HERBIE\DATA\191126\1126262.D
Acq On : 01-27-20 19:40:19
Sample : 200127A BLK 2/35.00g
Misc : water
Quant Method : G:\HERBIE\DATA\191126\8010127A.M

Vial: 62
Operator: GA
Inst : Herbie
Multiplr: 0.99





Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\191126\1126263.D\ECD1A.CH Vial: 63
Acq On : 01-27-20 20:00:15 Operator: GA
Sample : 200127A LCS-1 2/35.00g Inst : Herbie
Misc : water Multiplr: 0.99
IntFile : rteint.p

Data File : G:\HERBIE\DATA\191126\1126263.D\ECD2B.CH Vial: 63
Acq On : 01-27-20 20:00:16 Operator: GA
Sample : 200127A LCS-1 2/35.00g Inst : Herbie
Misc : water Multiplr: 0.99
IntFile : rteint2.p
Quant Time: Jan 28 9:01 2020 Quant Results File: 8010127A.RES

Quant Method : G:\HERBIE\DATA\191126\8010127A.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Tue Jan 28 08:55:06 2020
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	System Monitoring Compounds						
3) S	1,3-DIBROMOPROPA	10.01	11.03	460423	1259777	0.266	0.252
Spiked Amount	0.345			Recovery	=	77.06%	73.01%
	Target Compounds						
1) TM	EDB	5.78	7.21	401871	1672081	0.256	0.247
2) TM	1,2,3-TCP	9.25	10.44	113648	318849	0.262	0.252
4) TM	DBCP	13.34	14.08	1368332	4936062	0.253	0.246

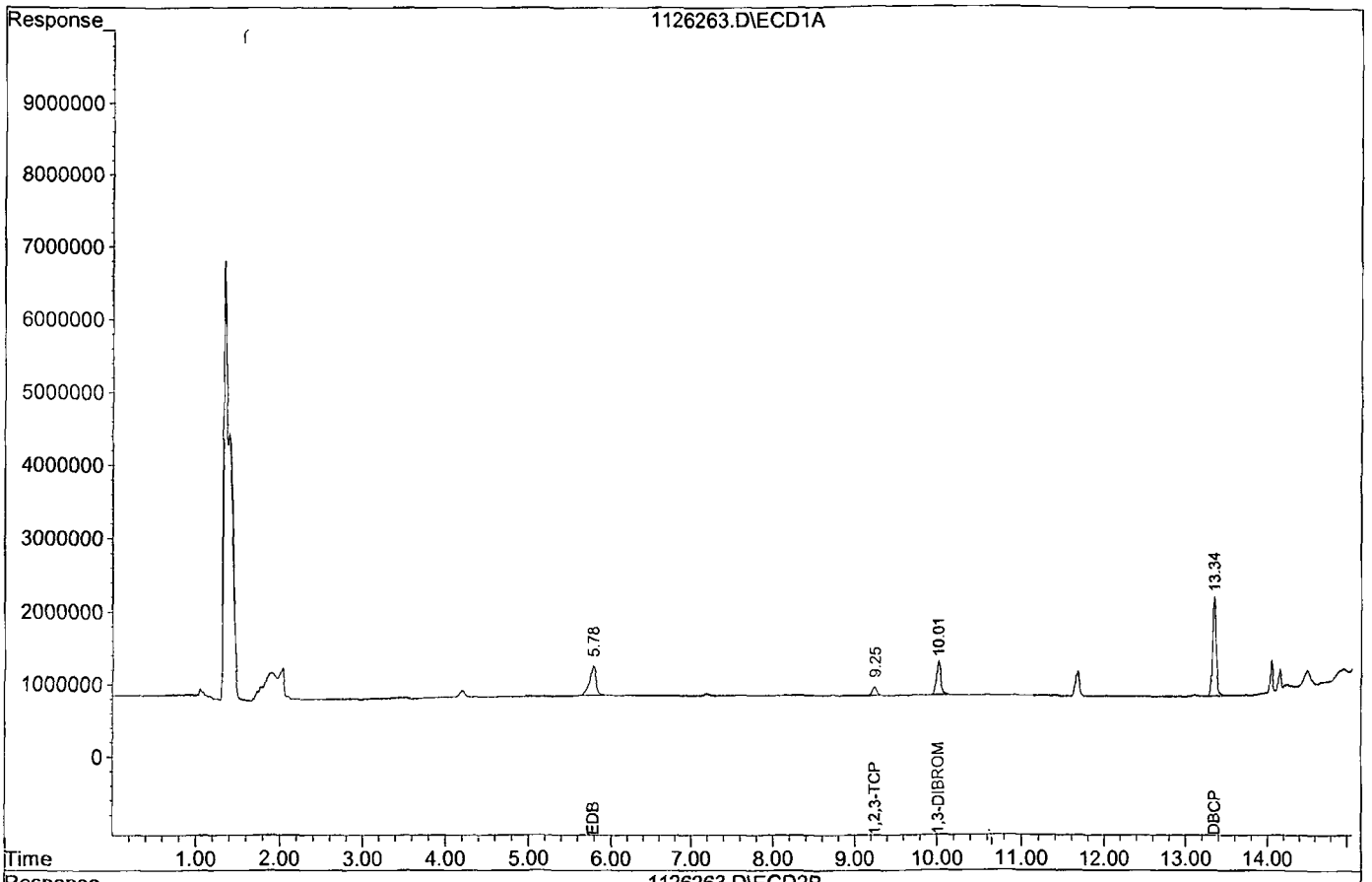
Target Compounds

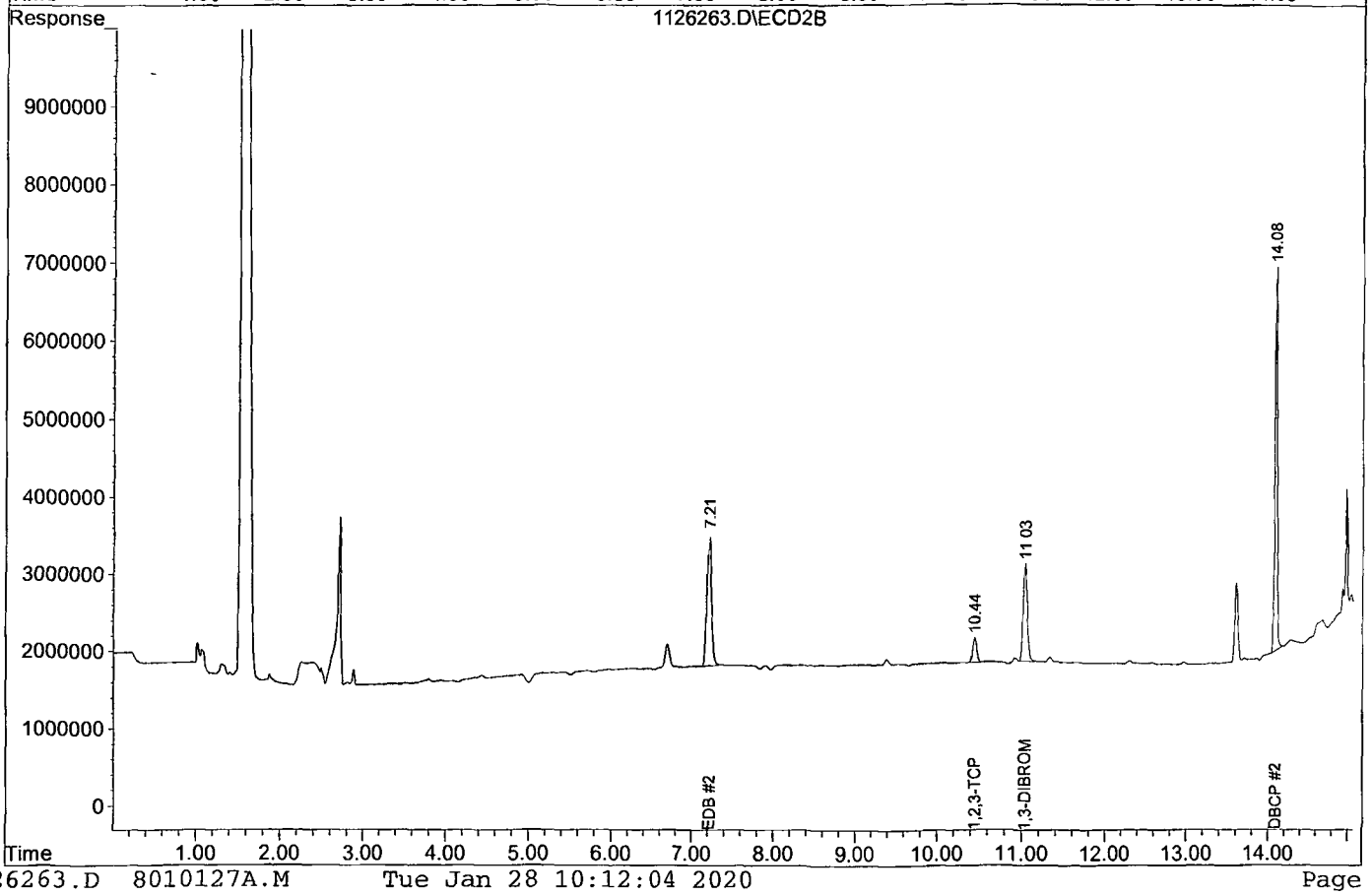
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\191126\1126263.D
Acq On : 01-27-20 20:00:15
Sample : 200127A LCS-1 2/35.00g
Misc : water
Quant Method : G:\HERBIE\DATA\191126\8010127A.M

Vial: 63
Operator: GA
Inst : Herbie
Multiplr: 0.99





Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\191126\1126264.D\ECD1A.CH Vial: 64
Signal #2 : G:\HERBIE\DATA\191126\1126264.D\ECD2B.CH
Acq On : 01-27-20 20:20:11 Operator: GA
Sample : 200127A LCSD-1 2/35.00g Inst : Herbie
Misc : water Multiplr: 0.99
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Jan 28 9:01 2020 Quant Results File: 8010127A.RES

Quant Method : G:\HERBIE\DATA\191126\8010127A.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Tue Jan 28 08:55:06 2020
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

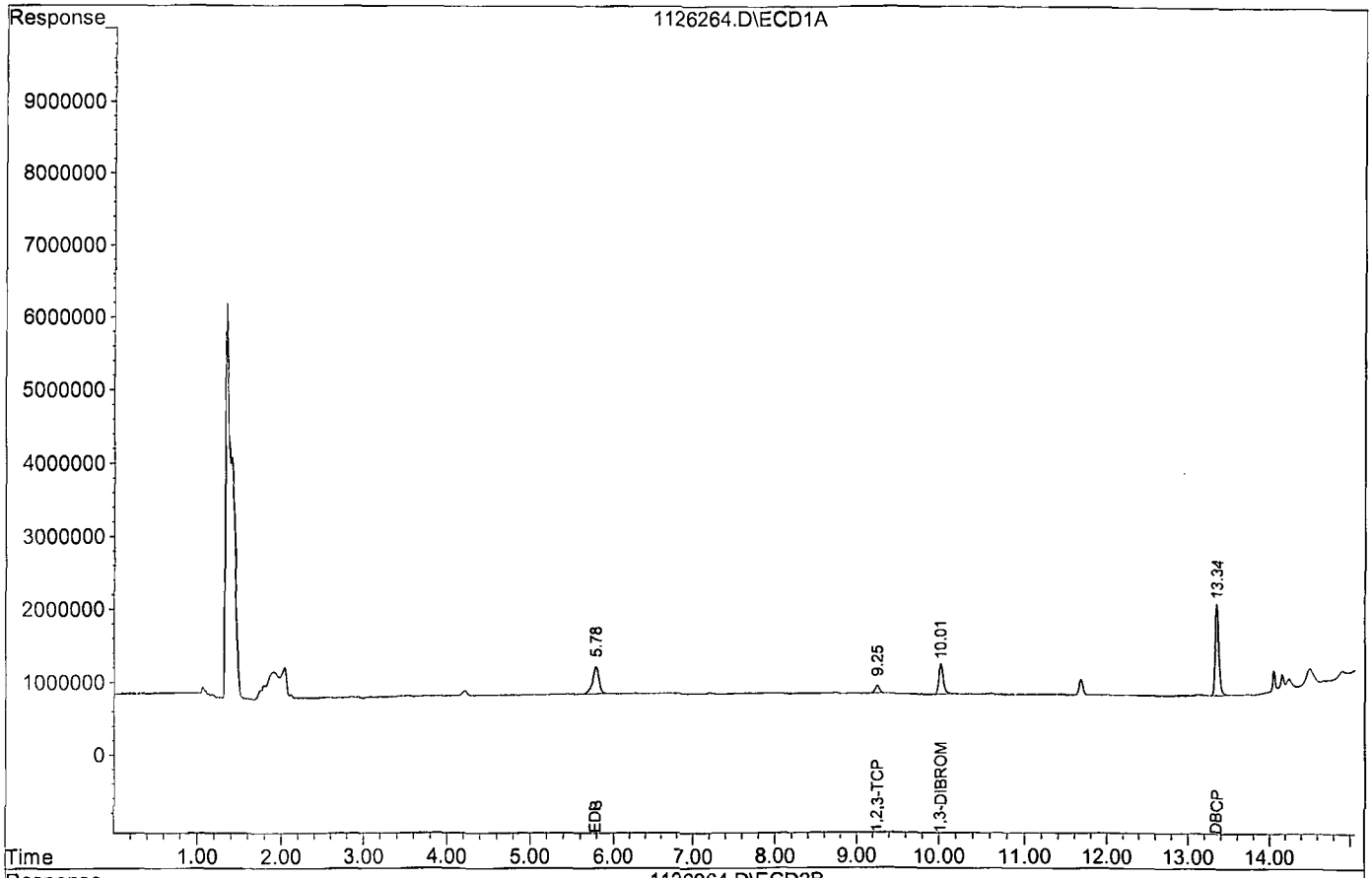
	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	System Monitoring Compounds						
3) S	1,3-DIBROMOPROPA	10.01	11.03	414315	1155709	0.241	0.233
Spiked Amount	0.347			Recovery	=	69.37%	67.07%
	Target Compounds						
1) TM	EDB	5.78	7.21	374155	1540605	0.240	0.229
2) TM	1,2,3-TCP	9.25	10.44	104585	303387	0.239	0.242
4) TM	DBCP	13.34	14.08	1261966	4668826	0.235	0.234

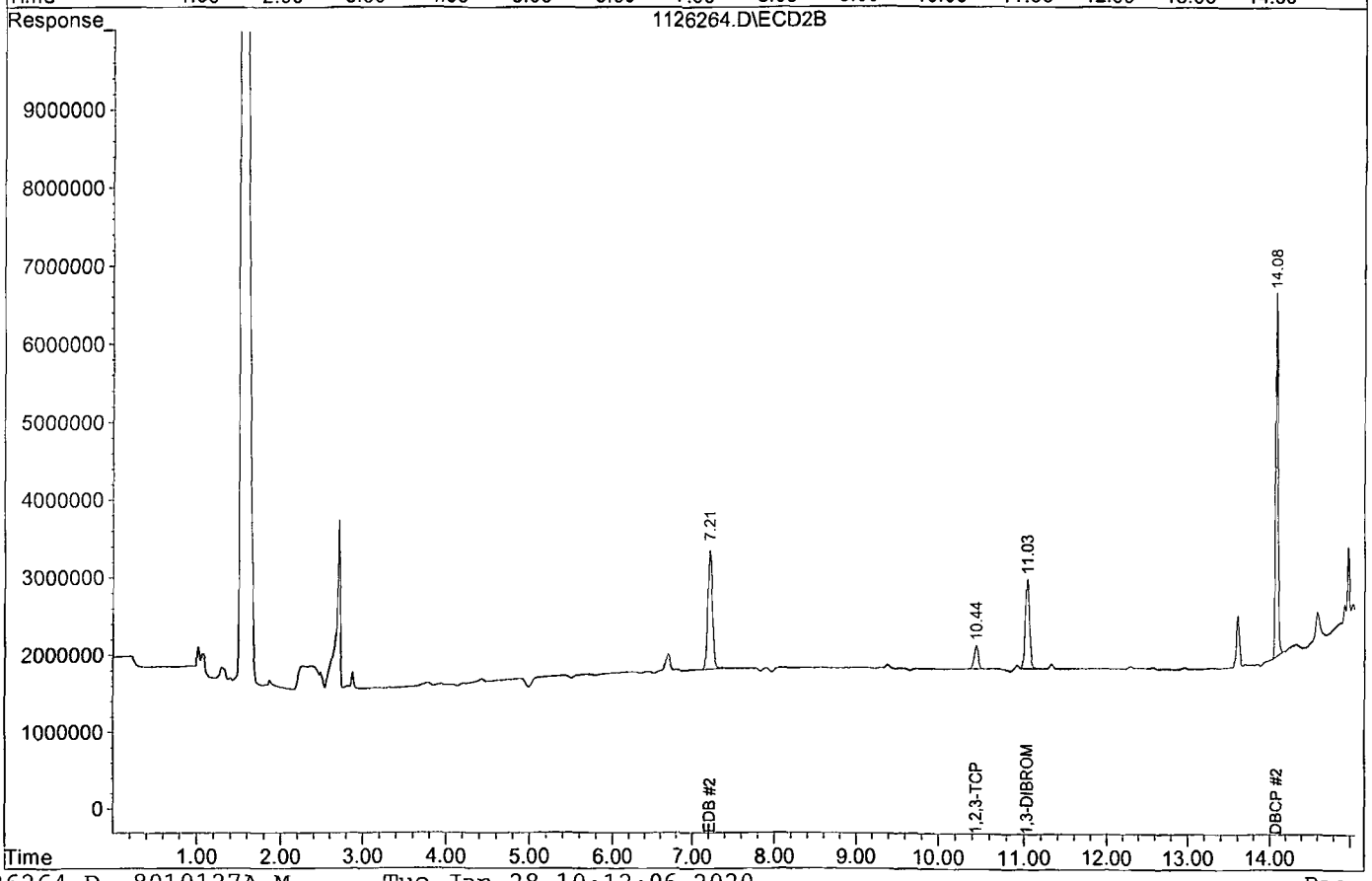
Target Compounds

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\191126\1126264.D Vial: 64
Acq On : 01-27-20 20:20:11 Operator: GA
Sample : 200127A LCSD-1 2/35.00g Inst : Herbie
Misc : water Multiplr: 0.99
Quant Method : G:\HERBIE\DATA\191126\8010127A.M





Name of Final Standard: 504/8011 SS SPK
Prep'd By (Initials): GA
Prep Date: 08/07/19
Exp Date: 04/16/20

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from container Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
504/8011 SS Stock	APPL	504/8011 SS Stock	0.35 ug/mL	01/22/19	01/06/20	1 mL	10 mL	Methanol #042317C	0.035 ug/mL

Re-certified on 01/16/20 against 504/8011 Spike (prep. 01.08.20). Extended expiration by 3 months. Injection #1126237 on Herbie 191126 sequence. GA

Name of Final Standard: 504/8011 Surrogate
Prep'd By (Initials): GA
Prep Date: 01/08/20
Exp Date: 05/08/20

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from container Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
1,3 DBP Stock	APPL	1,3 DBP Stock	100 ug/mL	01/07/20	01/07/21	35 uL	10 mL	Methanol #208858	0.35ug/mL

Name of Final Standard: 504/8011 Spike
Prep'd By (Initials): GA
Prep Date: 01/08/20
Exp Date: 05/08/20

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from container Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc (range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
504/8011 Stock	APPL	504/8011 Stock	0.35 ug/mL	01/08/20	05/08/20	1000 uL	10 mL	Methanol #208858	0.035 ug/mL

Organic Extraction Worksheet

Method	EPA Method 8011 DBCP/EDB	Extraction Set	200127A	Extraction Method	MWE012	Units	mL

Spiked ID 1	504.1 SPIKE 1-8-20 5-8-20		Surrogate ID 1	504.1 Surrogate 1-8-20 5-8-20	
Spiked ID 2	504.1 SS 8-7-19 4-16-20		Surrogate ID 2		
Spiked ID 3			Surrogate ID 3		
Spiked ID 4			Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	NO	
Spiked ID 7			Ext. Start Time:	01/27/20 7:30	
Spiked ID 8			Ext. End Time:	01/27/20 9:00	
			GC Requires Extract By:		

pH1			Water Bath Temp 1 °C	
pH2			Water Bath Temp 2 °C	
pH3			Water Bath Temp 3 °C	

Spiked By: KY **Date** 01/27/20 **Witnessed By:** CFM **Date** 01/27/20

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	200127A Blk				0.035	1 equip	35.35	2	7	01/27/20 7:30	
2	200127A LCS-1		0.250	1	NA	NA equip	35.49	2	7	01/27/20 7:30	
3	200127A LCSD-1		0.250	1	NA	NA equip	35.26	2	7	01/27/20 7:30	
4	BA06280	BA06280W06			0.035	1 equip	35.46	2	7	01/27/20 7:30	91282
5	BA06281	BA06281W04			0.035	1 equip	35.51	2	7	01/27/20 7:30	91282
6	BA06282	BA06282W04			0.035	1 equip	36.55	2	7	01/27/20 7:30	91282
7	BA06283	BA06283W06			0.035	1 equip	35.37	2	7	01/27/20 7:30	91282
8	BA06284	BA06284W07			0.035	1 equip	35.74	2	7	01/27/20 7:30	91282
9	BA06318	BA06318W07			0.035	1 equip	35.09	2	7	01/27/20 7:30	91288
10	BA06319	BA06319W07			0.035	1 equip	35.37	2	7	01/27/20 7:30	91288
11	M STD 1		0.020	1	NA	NA equip	35.05	2	7	01/27/20 7:30	
12	M STD 2		0.100	1	NA	NA equip	35.76	2	7	01/27/20 7:30	
13	M STD 3		0.250	1	NA	NA equip	35.75	2	7	01/27/20 7:30	
14	M STD 4		0.500	1	NA	NA equip	30.10	2	7	01/27/20 7:30	
15	M STD 5		0.750	1	NA	NA equip	35.16	2	7	01/27/20 7:30	
16	M STD 6		1	1	NA	NA equip	35.38	2	7	01/27/20 7:30	

Solvent and Lot#	
ph strip	HC 863463
NaCL	19A035211
GC2 Hexane (2mLs)	DV910

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	
Date	
Time	
Refrigerator	

	Technician's Initials
Scanned By	KY
Sample Preparation	KY
Extraction	KY
Concentration	KY

Modified	01/27/20 10:15:26 AM

Reviewed By: KY **Date** 01/27/20

Organic Extraction Worksheet

Method	EPA Method 8011 DBCP/EDB	Extraction Set	200127A	Extraction Method	MWE012	Units	mL

Spiked ID 1	504.1 SPIKE 1-8-20 5-8-20		Surrogate ID 1	504.1 Surrogate 1-8-20 5-8-20	
Spiked ID 2	504.1 SS 8-7-19 4-16-20		Surrogate ID 2		
Spiked ID 3			Surrogate ID 3		
Spiked ID 4			Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	NO	
Spiked ID 7			Ext. Start Time:	01/27/20 7:30	
Spiked ID 8			Ext. End Time:	01/27/20 9:00	
			GC Requires Extract By:		

pH1			Water Bath Temp 1 °C	
pH2			Water Bath Temp 2 °C	
pH3			Water Bath Temp 3 °C	

Spiked By: KY **Date** 01/27/20 **Witnessed By:** CFM **Date** 01/27/20

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
17	SS		0.100	2	0.035	1	35.79	2	7	01/27/20 7:30	
						equip					

Solvent and Lot#	
ph strip	HC 863463
NaCL	19A035211
GC2 Hexane (2mLs)	DV910

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	
Date	
Time	
Refrigerator	

	Technician's Initials
Scanned By	KY
Sample Preparation	KY
Extraction	KY
Concentration	KY

Modified	01/27/20 10:15:26 AM

Reviewed By: KY **Date** 01/27/20

Injection Log

Directory: G:\HERBIE\DATA\191126\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	55	1126255.D	1	8011 1 1/27/20	water	01-27-20 17:20:20
2	56	1126256.D	1	8011 2 1/27/20	water	01-27-20 17:40:18
3	57	1126257.D	1	8011 3 1/27/20	water	01-27-20 18:00:24
4	58	1126258.D	1	8011 4 1/27/20	water	01-27-20 18:20:22
5	59	1126259.D	1	8011 5 1/27/20	water	01-27-20 18:40:19
6	60	1126260.D	1	8011 6 1/27/20	water	01-27-20 19:00:22
7	61	1126261.D	1	8011 SS 1/27/20	water	01-27-20 19:20:20
8	62	1126262.D	0.990099	200127A BLK 2/35.00g	water	01-27-20 19:40:19
9	63	1126263.D	0.986193	200127A LCS-1 2/35.00g	water	01-27-20 20:00:15
10	64	1126264.D	0.992626	200127A LCSD-1 2/35.00g	water	01-27-20 20:20:11
16	70	1126270.D	0.99744	BA06318W01 2/35.00g	water	01-27-20 22:20:05
17	71	1126271.D	0.98954	BA06319W01 2/35.00g	water	01-27-20 22:40:05
18	73	1126273.D	1	8011 3 1/27/20	water	01-27-20 23:20:02

ORGANICS
Calibration Data

TPH Extractables
DOC0111

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Initial Cal. Date: 01/11/20
Matrix: Water Instrument: Apollo
Initials: SS/

		Compound	111003.D	111004.D	111005.D	111006.D	111007 D	111008 D					Avg	%RSD	Type	r^2	Q
1	HATM	Diesel (C10-C24)	2841982	1986670	1924883	1912582	1919928	1939022					2087511	18	HATM		
2	HBTM	Motor Oil (C24-C40)	1741672	1398165	1463790	1435842	1434834	1461667					1489328	8.5	HBTM		
3	SA	Ortho-Terphenyl(S)	2323085	2018666	2137659	2123698	2118424	2175744					2149546	4.6	SA		
4	SA	Octacosane(S)	2784149	1939553	1932971	1877050	1923095	2033143					2081660	17	SA		
5																	
6																	
7																	
8																	
9																	
10																	
11																	
12																	
13																	
14																	
15																	
16																	
17																	
18																	
19																	
20																	
21																	
22																	
23																	
24																	
25																	
26																	
27																	
28																	
29																	
30																	
31																	
32																	
33																	
34																	
35																	

1.35871

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200111\111003.D Vial: 3
Acq On : 1-11-20 11:35:53 Operator: BT
Sample : Diesel Motor Oil-1 1/11/20 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 13 7:56 2020 Quant Results File: DOC0111.RES

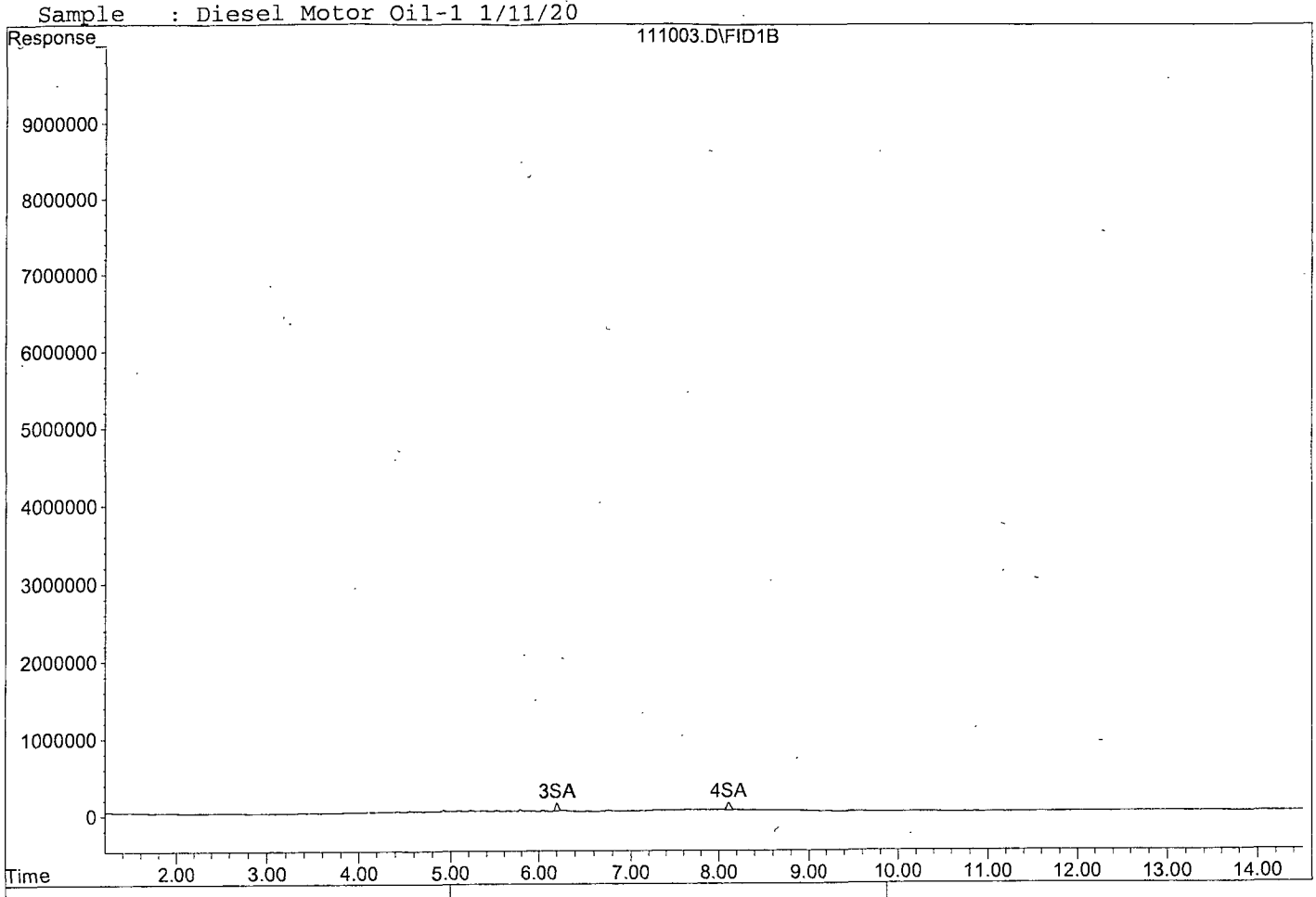
Method : G:\APOLLO\DATA\200111\DOC0111.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Mon Jan 13 07:59:04 2020
Response via : Multiple Level Calibration

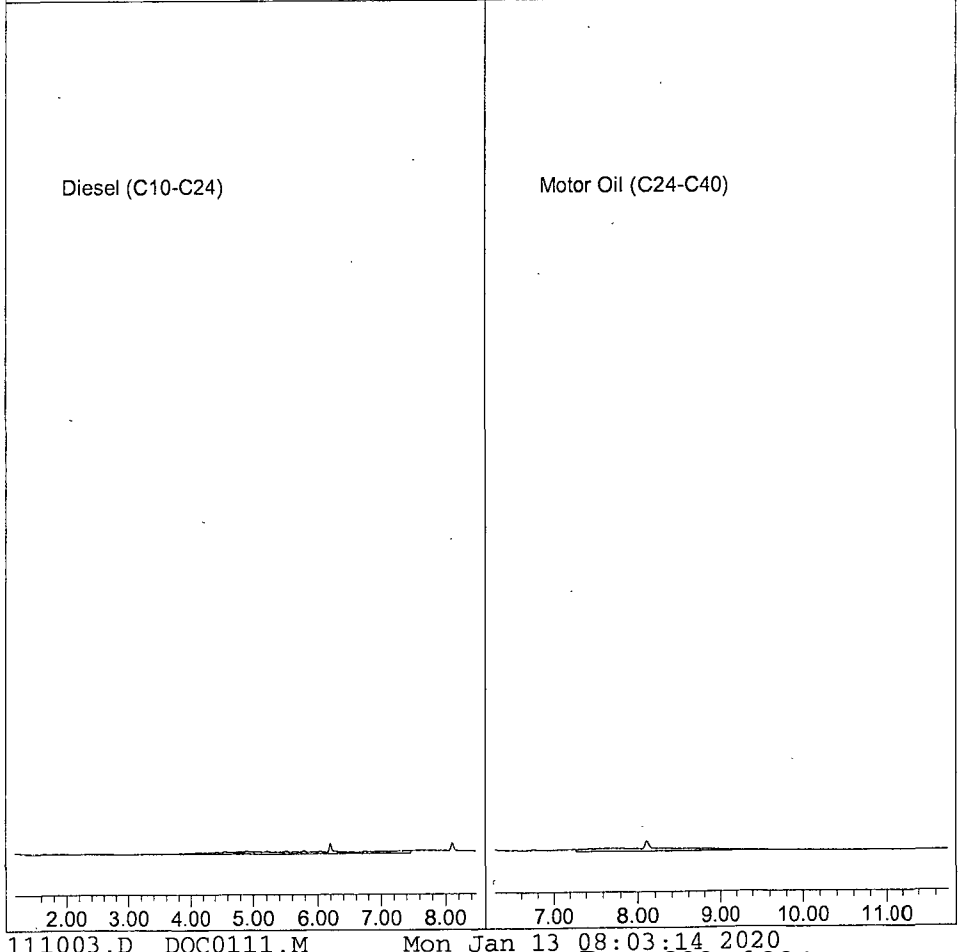
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SA Ortho-Terphenyl(S)	6.20	2323085	0.808 ppb
Surrogate Spike 30.000	Recovery =		2.69%
4) SA Octacosane(S)	8.11	2784149	1.349 ppb
Surrogate Spike 30.000	Recovery =		4.50%
Target Compounds			
1) HATM Diesel (C10-C24)	4.42	56839649	1.708 ppb
2) HBTM Motor Oil (C24-C40)	9.01	34833431	14.238 ppb
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200111\111003.D
Sample : Diesel Motor Oil-1 1/11/20





111003.D DOC0111.M Mon Jan 13 08:03:14 2020

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200111\111004.D Vial: 4
Acq On : 1-11-20 11:55:28 Operator: BT
Sample : Diesel Motor Oil-2 1/11/20 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 13 7:56 2020 Quant Results File: DOC0111.RES

Method : G:\APOLLO\DATA\200111\DOC0111.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Mon Jan 13 07:59:04 2020
Response via : Multiple Level Calibration

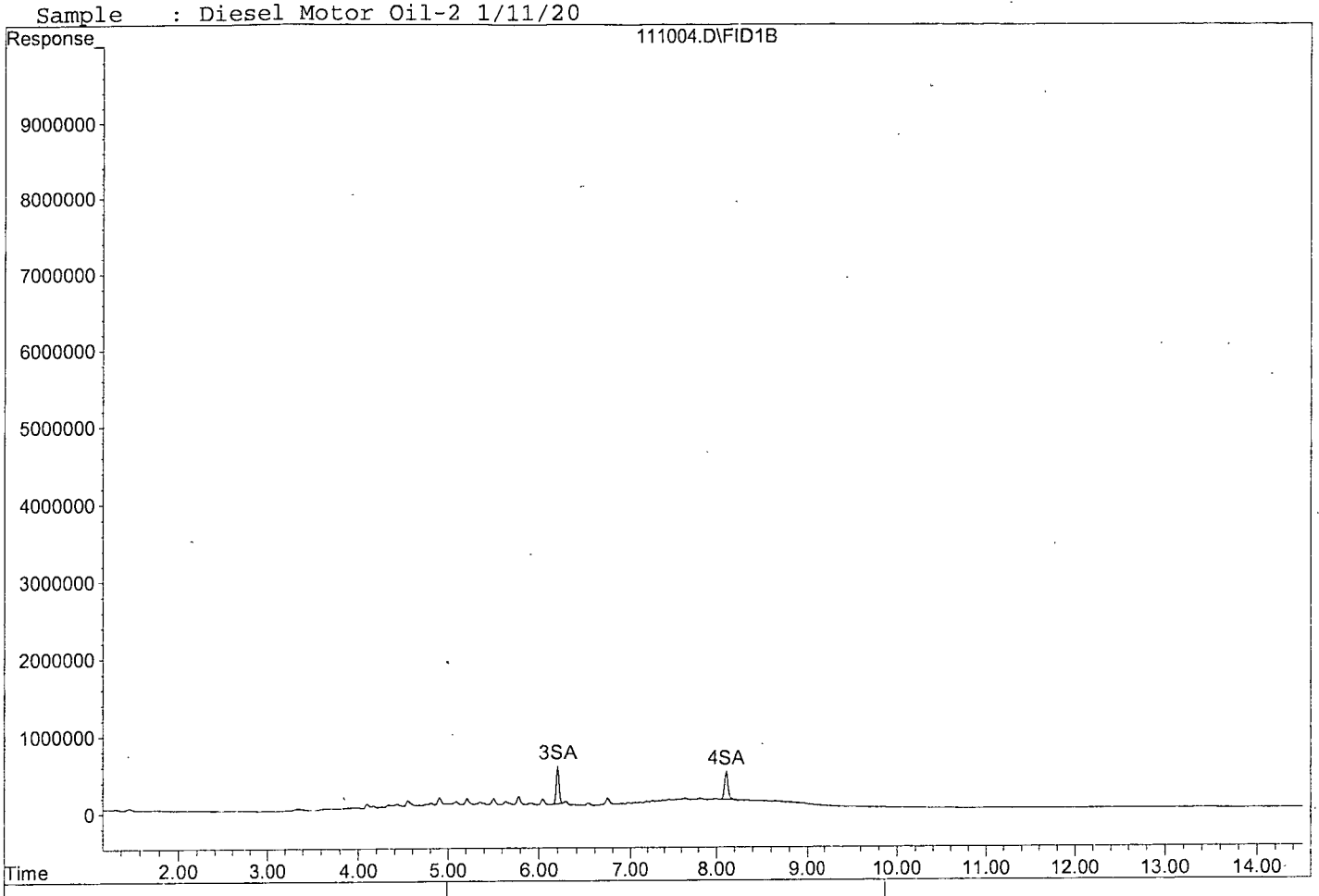
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

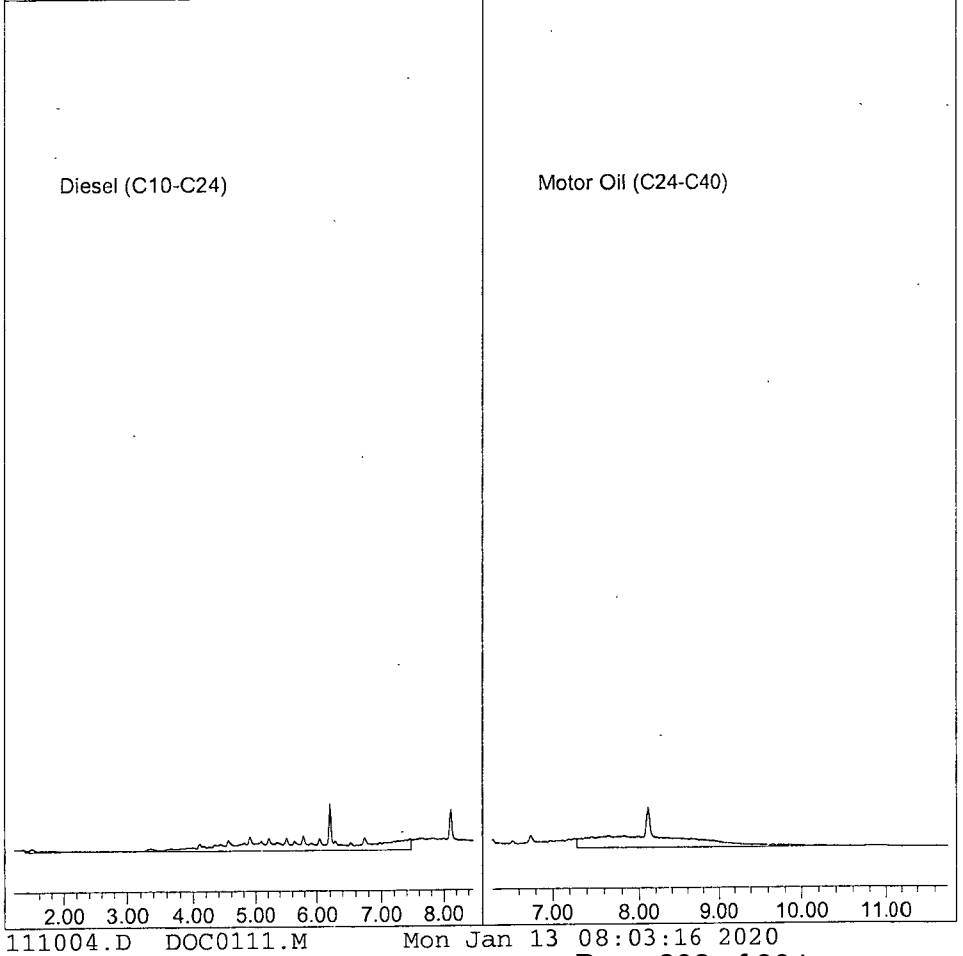
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SA Ortho-Terphenyl(S)	6.20	10093332	2.608 ppb
Surrogate Spike 30.000	Recovery =		8.69%
4) SA Octacosane(S)	8.11	9697764	3.083 ppb
Surrogate Spike 30.000	Recovery =		10.28%
Target Compounds			
1) HATM Diesel (C10-C24)	4.42	198667031	38.722 ppb
2) HBTM Motor Oil (C24-C40)	9.01	139816465	50.388 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200111\111004.D
Sample : Diesel Motor Oil-2 1/11/20





111004.D DOC0111.M Mon Jan 13 08:03:16 2020

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200111\111005.D Vial: 5
Acq On : 1-11-20 12:15:09 Operator: BT
Sample : Diesel Motor Oil-3 1/11/20 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 13 7:57 2020 Quant Results File: DOC0111.RES

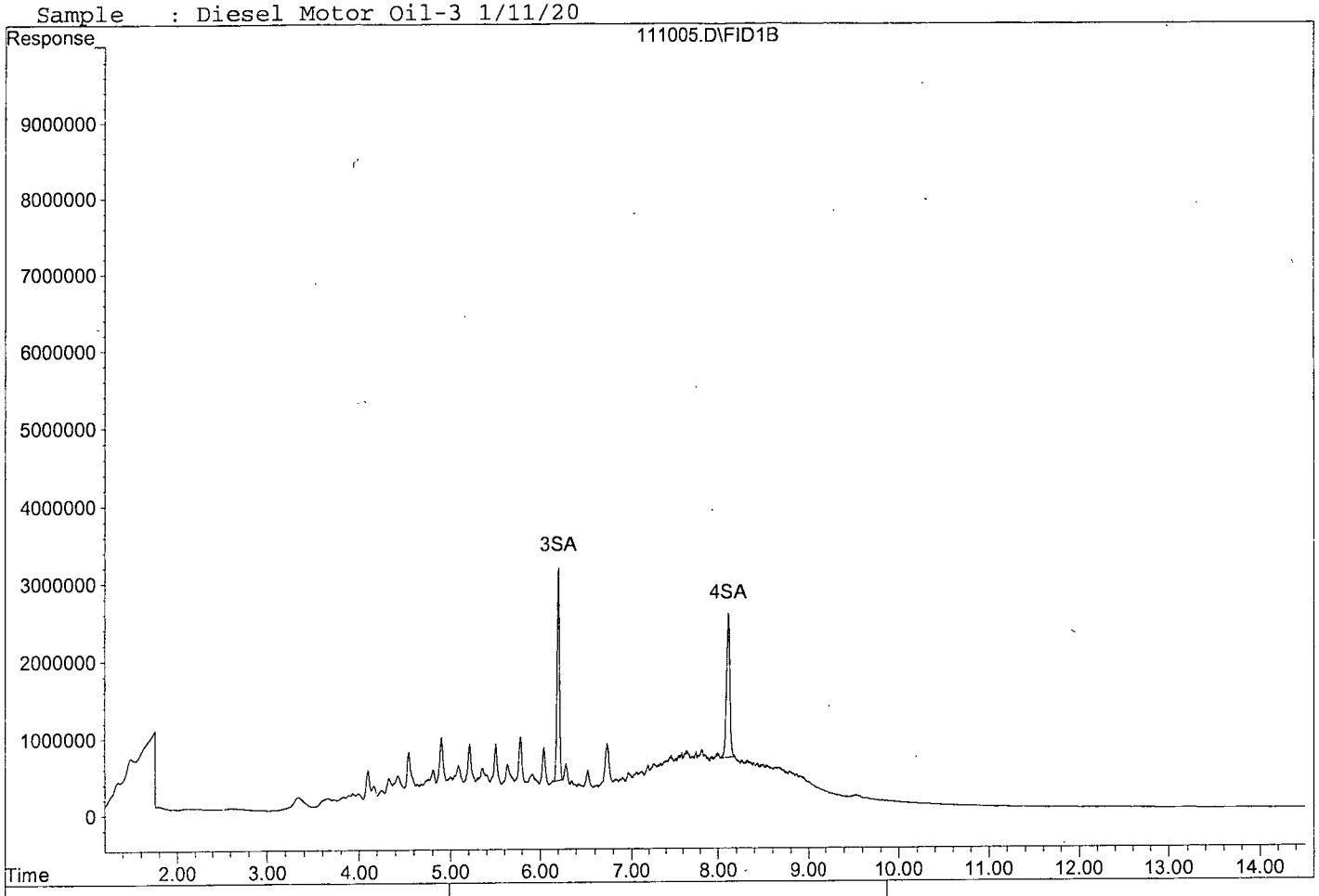
Method : G:\APOLLO\DATA\200111\DOC0111.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Mon Jan 13 07:59:04 2020
Response via : Multiple Level Calibration

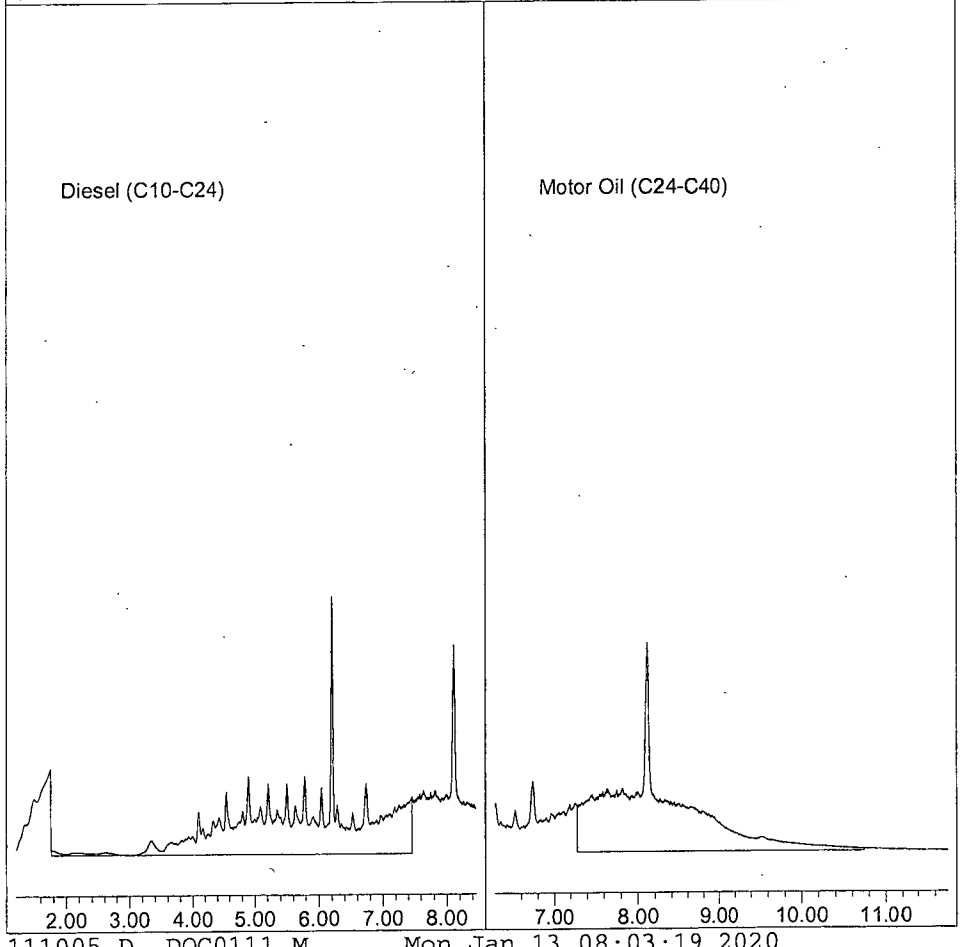
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SA Ortho-Terphenyl(S)	6.20	53441475	12.651 ppb
Surrogate Spike 30.000	Recovery =		42.17%
4) SA Octacosane(S)	8.11	48324263	12.768 ppb
Surrogate Spike 30.000	Recovery =		42.56%
Target Compounds			
1) HATM Diesel (C10-C24)	4.42	962441423	238.050 ppb
2) HBTM Motor Oil (C24-C40)	9.01	731894758	254.269 ppb
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200111\111005.D
Sample : Diesel Motor Oil-3 1/11/20



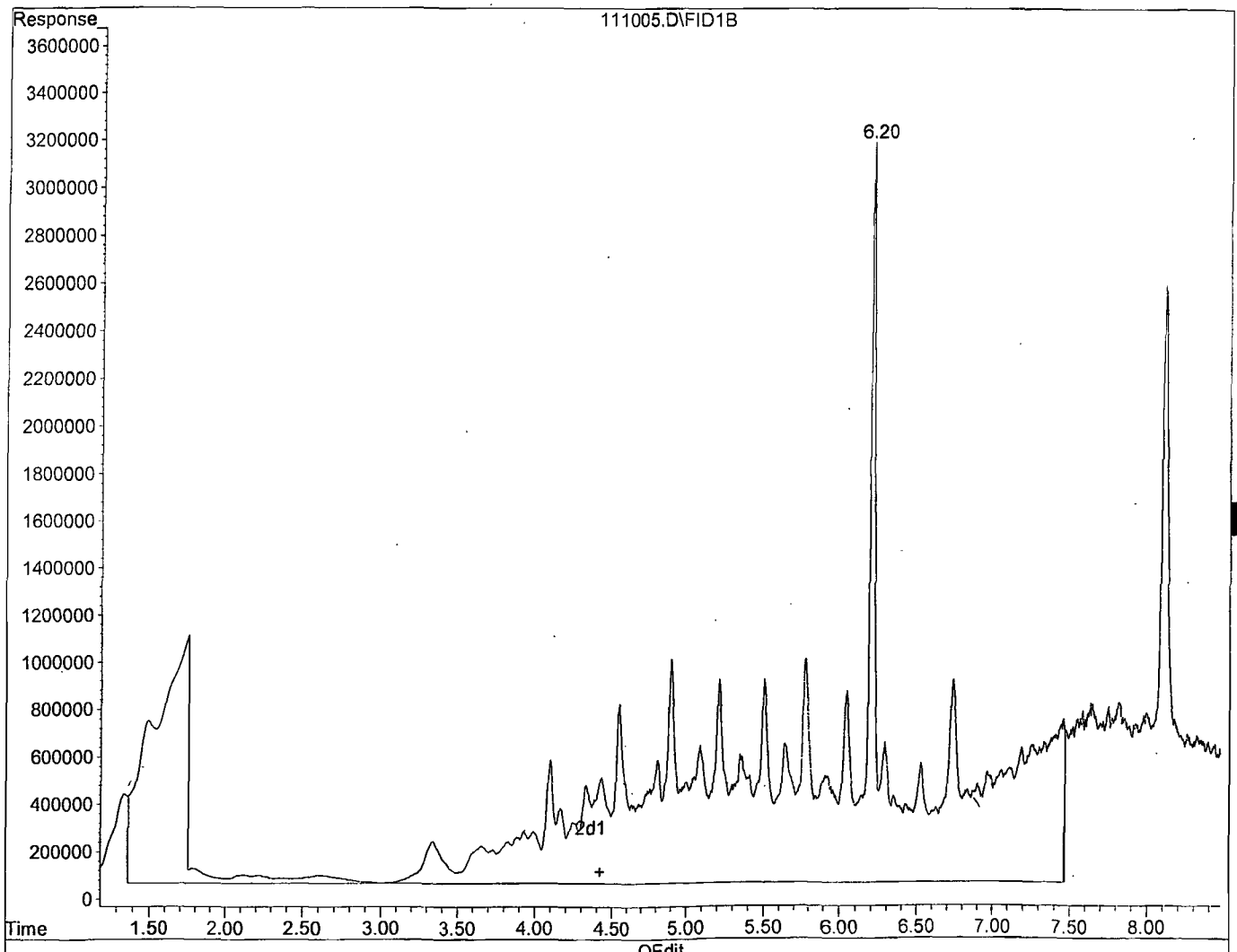


111005.D DOC0111.M Mon Jan 13 08:03:19 2020

Quantitation Report

Data File : G:\APOLLO\DATA\200111\111005.D Vial: 5
Acq On : 1-11-20 12:15:09 Operator: BT
Sample : Diesel Motor Oil-3 1/11/20 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 13 7:56 2020 Quant Results File: DOC0111.RES

Method : G:\APOLLO\DATA\200111\DOC0111.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Mon Jan 13 07:53:21 2020
Response via : Multiple Level Calibration



(1) Diesel (C10-C24) (HATM)

4.42min 283.321ppb m

response 1135907850

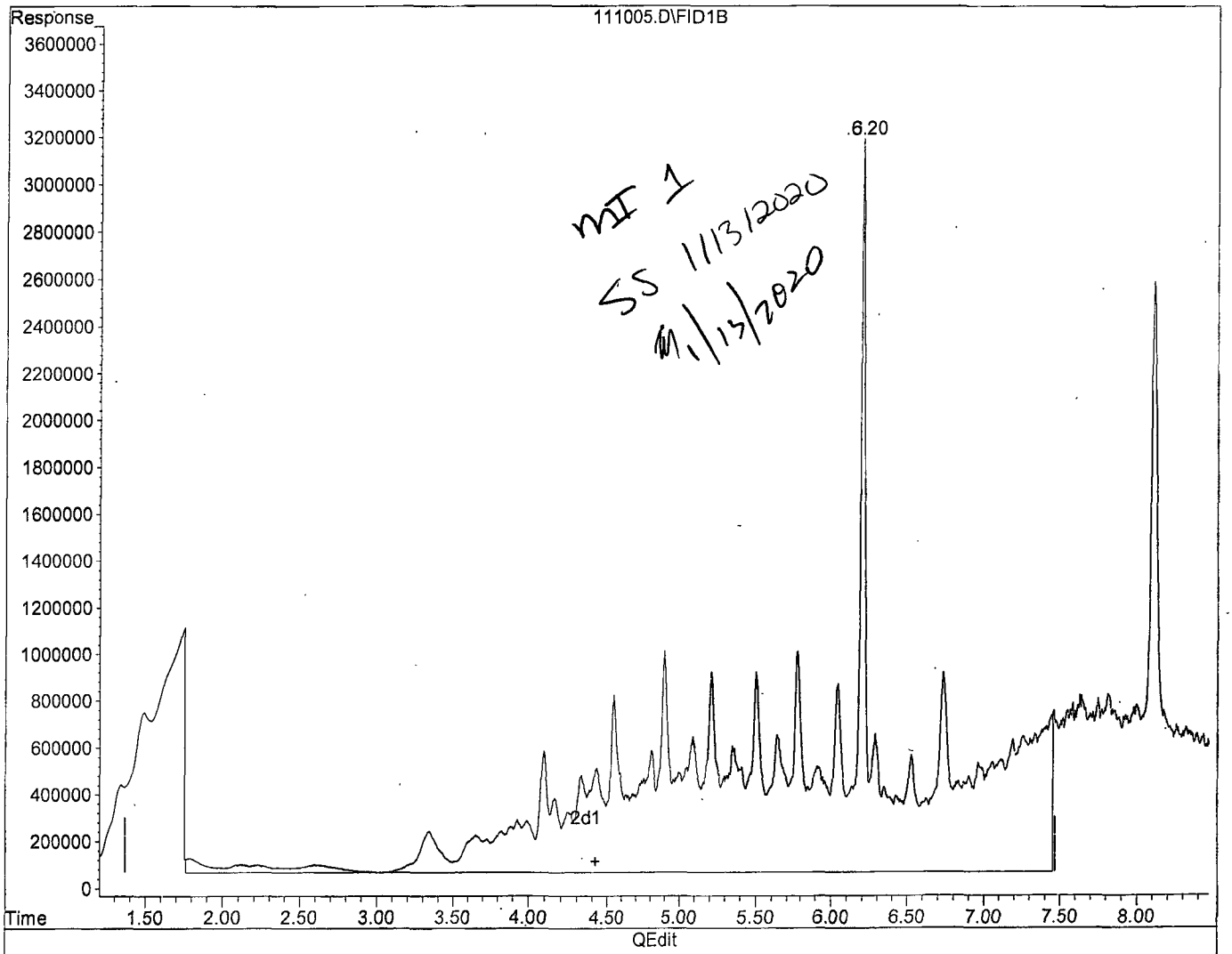
(+) = Expected Retention Time

111005.D DOC0111.M Mon Jan 13 07:57:09 2020

Quantitation Report

Data File : G:\APOLLO\DATA\200111\111005.D Vial: 5
Acq On : 1-11-20 12:15:09 Operator: BT
Sample : Diesel Motor Oil-3 1/11/20 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 13 7:56 2020 Quant Results File: DOC0111.RES

Method : G:\APOLLO\DATA\200111\DOC0111.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Mon Jan 13 07:53:21 2020
Response via : Multiple Level Calibration



(1) Diesel (C10-C24) (HATM)

4.42min 238.050ppb m

response 962441423

(+) = Expected Retention Time
111005.D DOC0111.M Mon Jan 13 07:57:22 2020

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200111\111006.D Vial: 6
Acq On : 1-11-20 12:34:51 Operator: BT
Sample : Diesel Motor Oil-4 1/11/20 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 13 7:56 2020 Quant Results File: DOC0111.RES

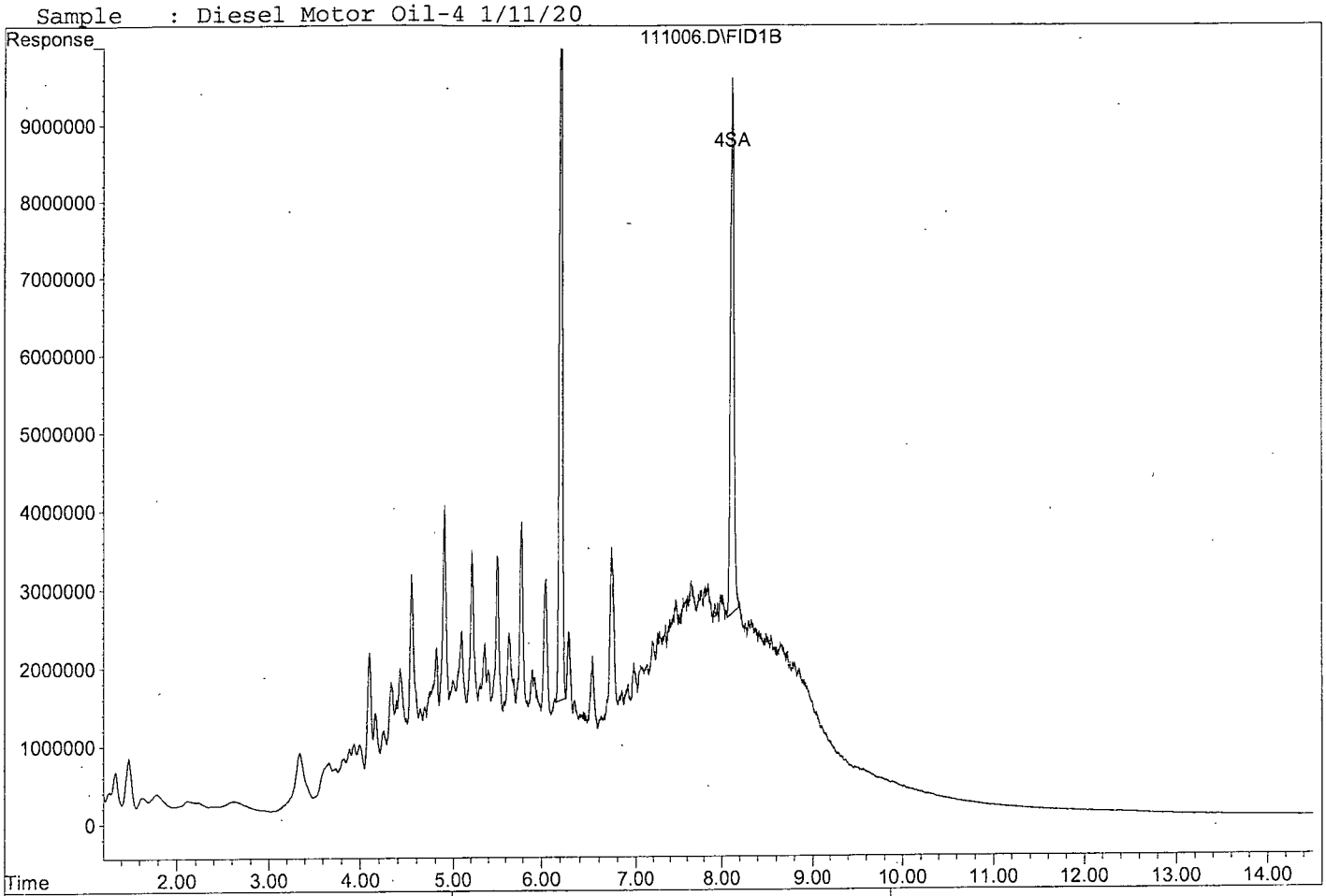
Method : G:\APOLLO\DATA\200111\DOC0111.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Mon Jan 13 07:59:04 2020
Response via : Multiple Level Calibration

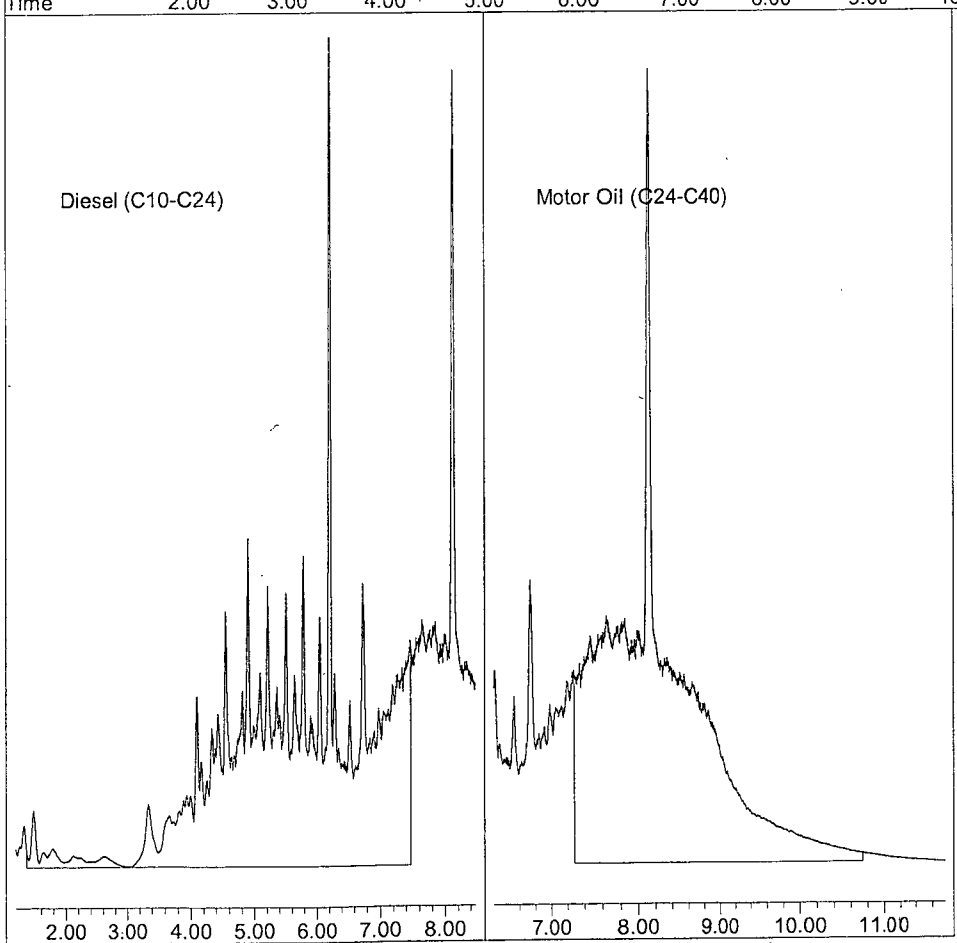
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
3) SA Ortho-Terphenyl(S)	6.21	212369754	49.469	ppb
Surrogate Spike 30.000	Recovery =		164.90%	
4) SA Octacosane(S)	8.12	187705049	47.715	ppb
Surrogate Spike 30.000	Recovery =		159.05%	
Target Compounds				
1) HATM Diesel (C10-C24)	4.42	3825164959	985.158	ppb
2) HBTM Motor Oil (C24-C40)	9.01	2871684053	991.098	ppb
Target Compounds				

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200111\111006.D
Sample : Diesel Motor Oil-4 1/11/20





111006.D DOC0111.M Mon Jan 13 08:03:21 2020

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200111\111007.D Vial: 7
Acq On : 1-11-20 12:53:51 Operator: BT
Sample : Diesel Motor Oil-5 1/11/20 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 13 7:56 2020 Quant Results File: DOC0111.RES

Method : G:\APOLLO\DATA\200111\DOC0111.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Mon Jan 13 07:59:04 2020
Response via : Multiple Level Calibration

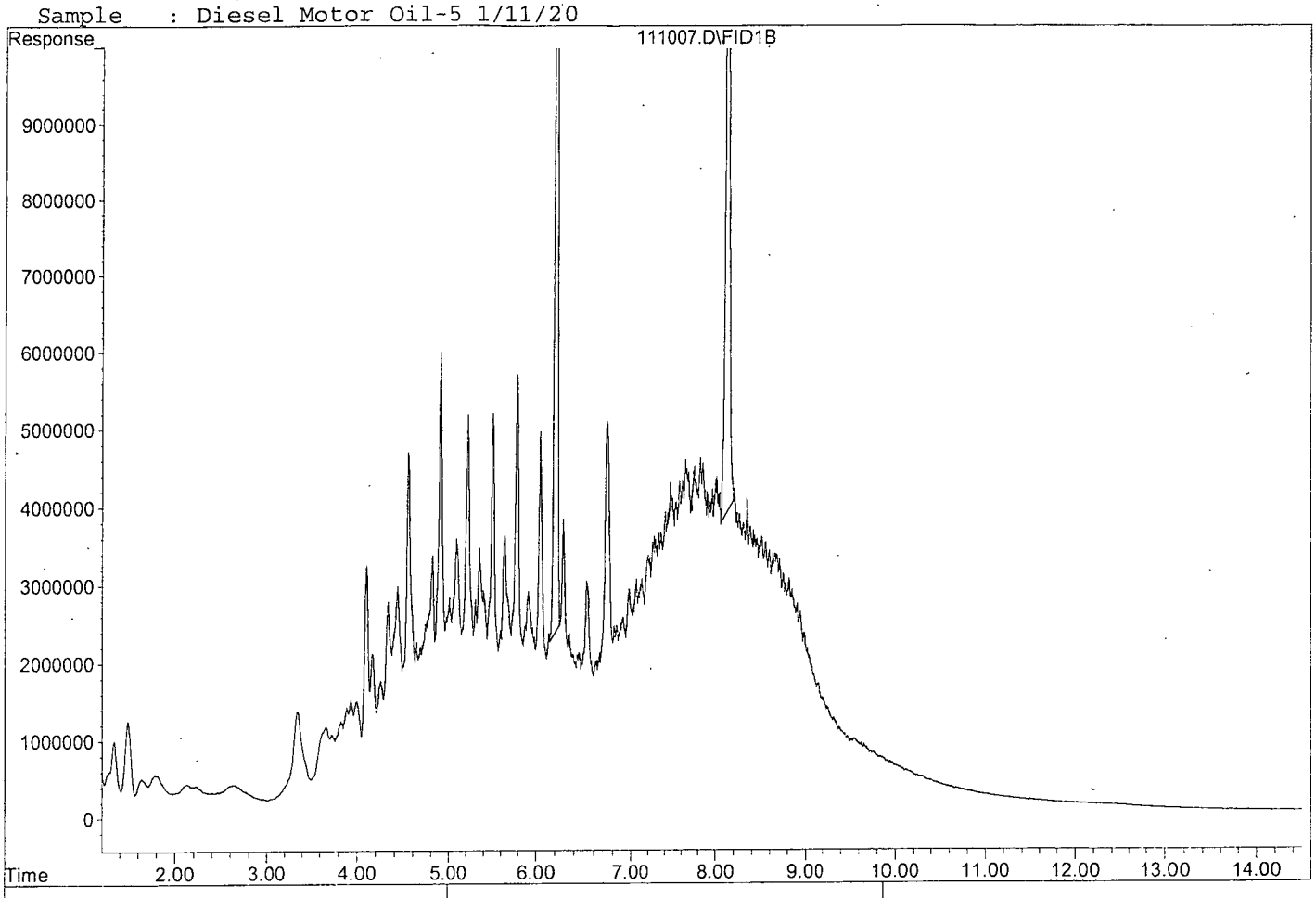
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

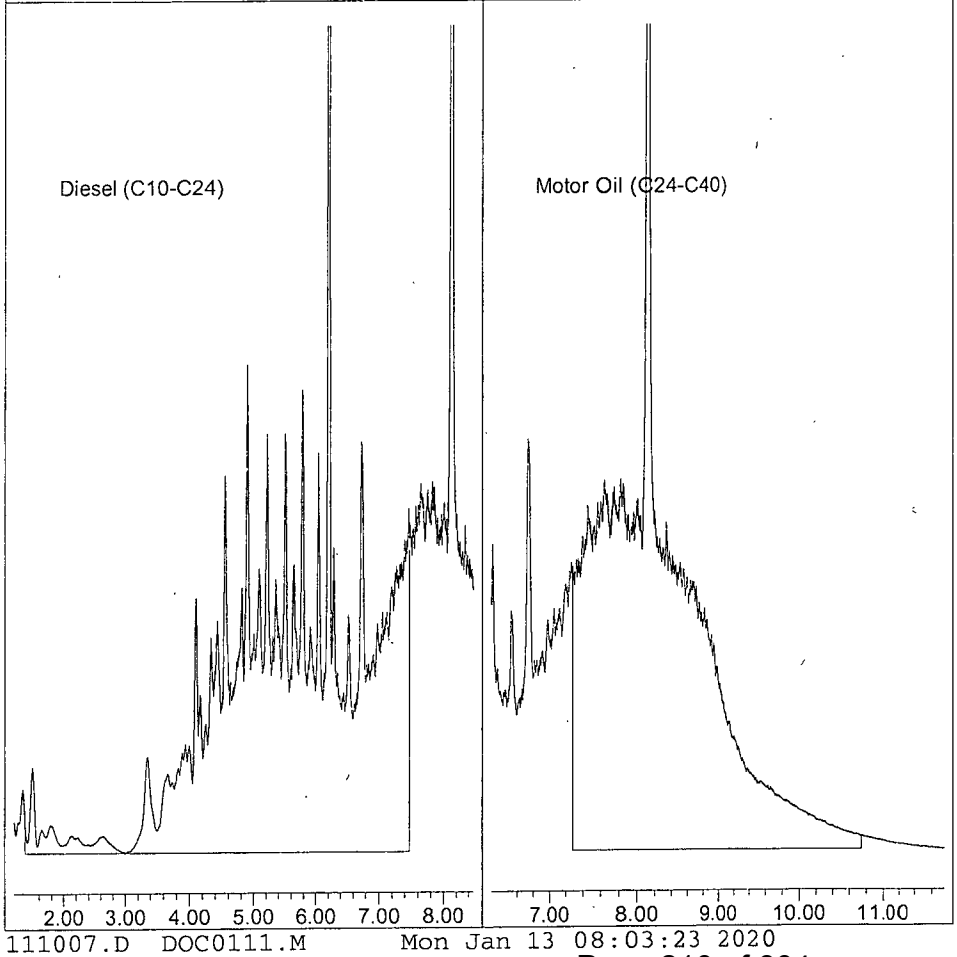
Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
3) SA Ortho-Terphenyl(S)	6.22	317763661	73.885	ppb
Surrogate Spike 30.000	Recovery = 246.28%			
4) SA Octacosane(S)	8.13	288464296	72.979	ppb
Surrogate Spike 30.000	Recovery = 243.26%			
Target Compounds				
1) HATM Diesel (C10-C24)	4.42	5759785331	1490.051	ppb
2) HBTM Motor Oil (C24-C40)	9.01	4304501059	1484.484	ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200111\111007.D
Sample : Diesel Motor Oil-5 1/11/20





111007.D DOC0111.M Mon Jan 13 08:03:23 2020

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200111\111008.D Vial: 8
Acq On : 1-11-20 13:13:29 Operator: BT
Sample : Diesel Motor Oil-6 1/11/20 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 13 7:56 2020 Quant Results File: DOC0111.RES

Method : G:\APOLLO\DATA\200111\DOC0111.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Mon Jan 13 07:59:04 2020
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

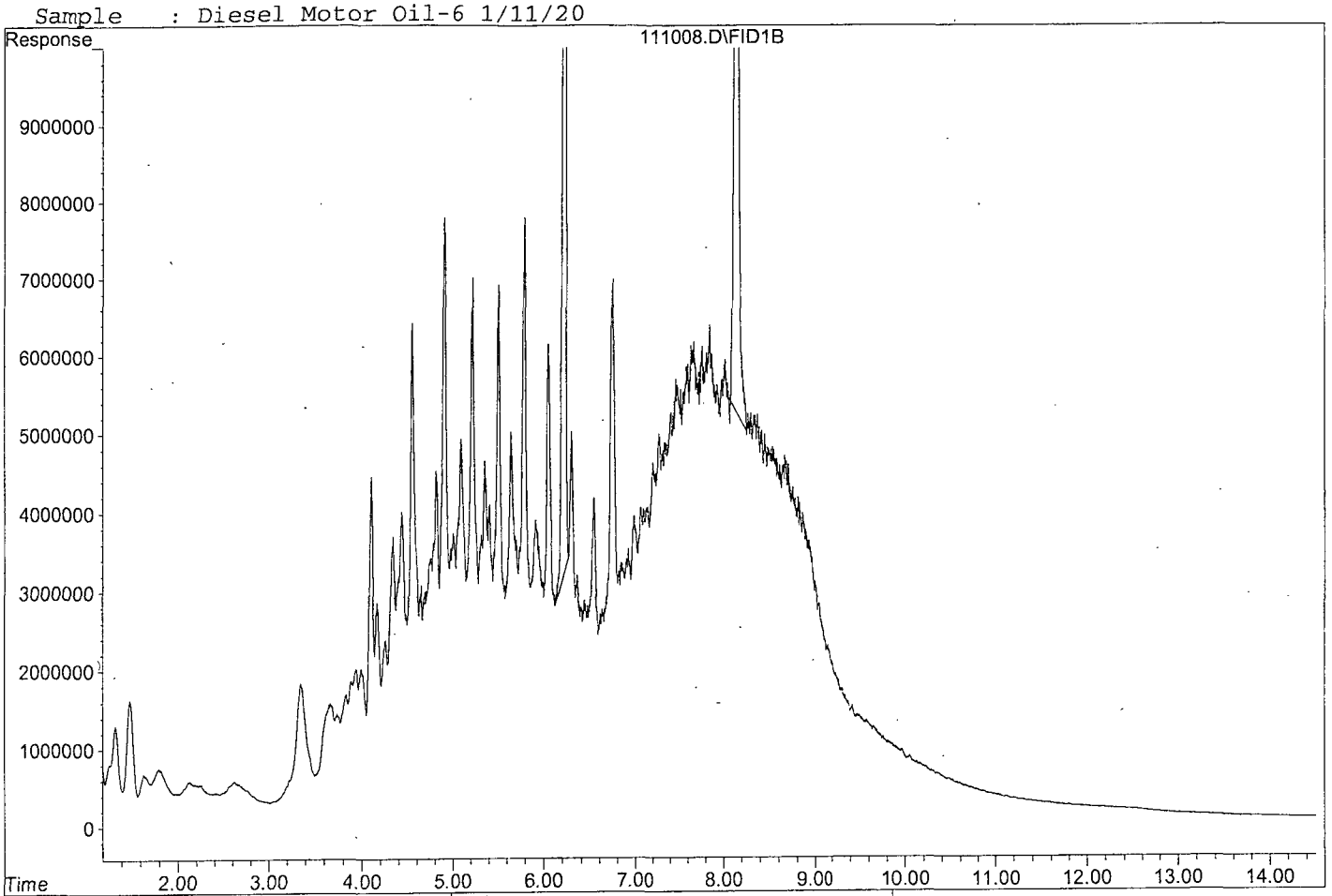
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SA Ortho-Terphenyl(S)	6.22	435148844	101.079 ppb
Surrogate Spike 30.000	Recovery =		336.93%
4) SA Octacosane(S)	8.14	406628533	102.606 ppb
Surrogate Spike 30.000	Recovery =		342.02%
Target Compounds			
1) HATM Diesel (C10-C24)	4.42	7756086002	2011.041 ppb
2) HBTM Motor Oil (C24-C40)	9.01	5846668269	2015.524 ppb

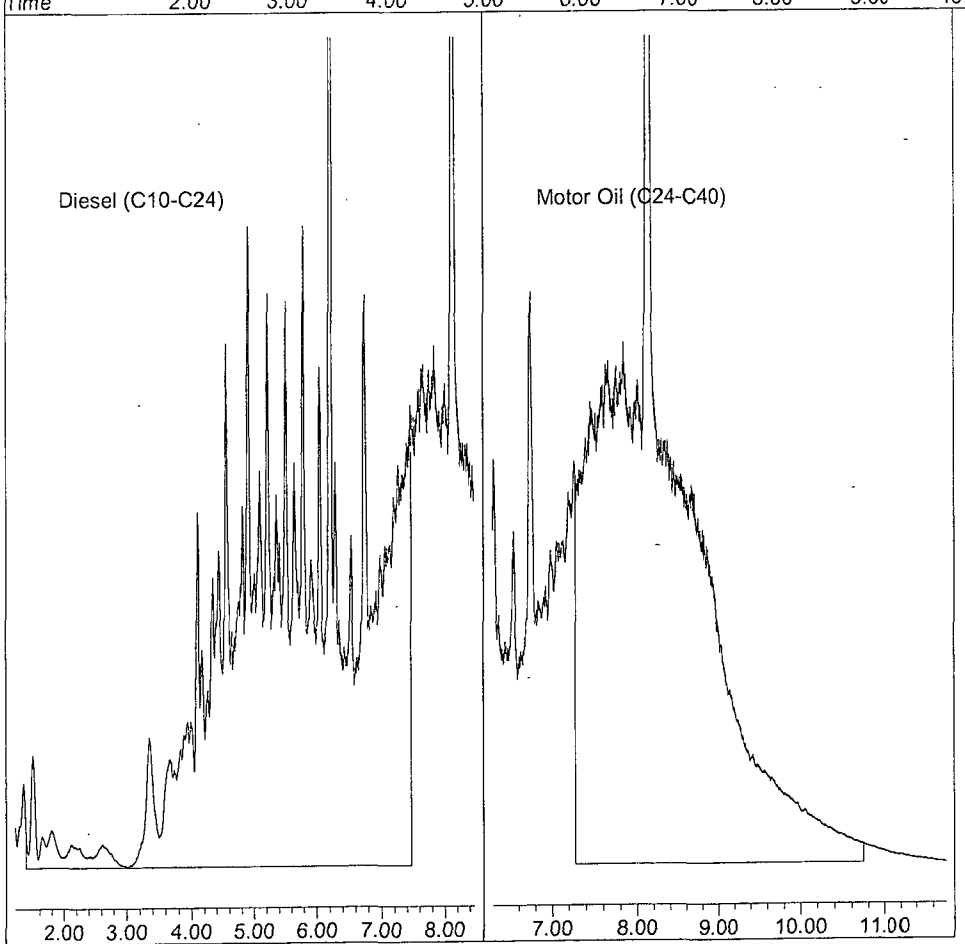
Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\200111\111008.D
Sample : Diesel Motor Oil-6 1/11/20





111008.D DOC0111.M Mon Jan 13 08:03:26 2020

TPH Extractables
DOC0111

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: Water

SDG No:
Date Analyzed: 01/11/20
Instrument: Apollo
Initial Cal. Date: 01/11/20
Data File: 111009.D

		Compound	MEAN	CCRF	%D		%Drift
1	HATM	Diesel (C10-C24)	2087510	1977670	5.3	HATM	
2	HBTM	Motor Oil (C24-C40)	1489330	1360260	8.7	HBTM	
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			7.0		

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200111\111009.D Vial: 9
Acq On : 1-11-20 13:33:12 Operator: BT
Sample : Diesel Motor Oil-SS 12/23/19 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 13 8:03 2020 Quant Results File: DOC0111.RES

Method : G:\APOLLO\DATA\200111\DOC0111.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Mon Jan 13 07:59:04 2020
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

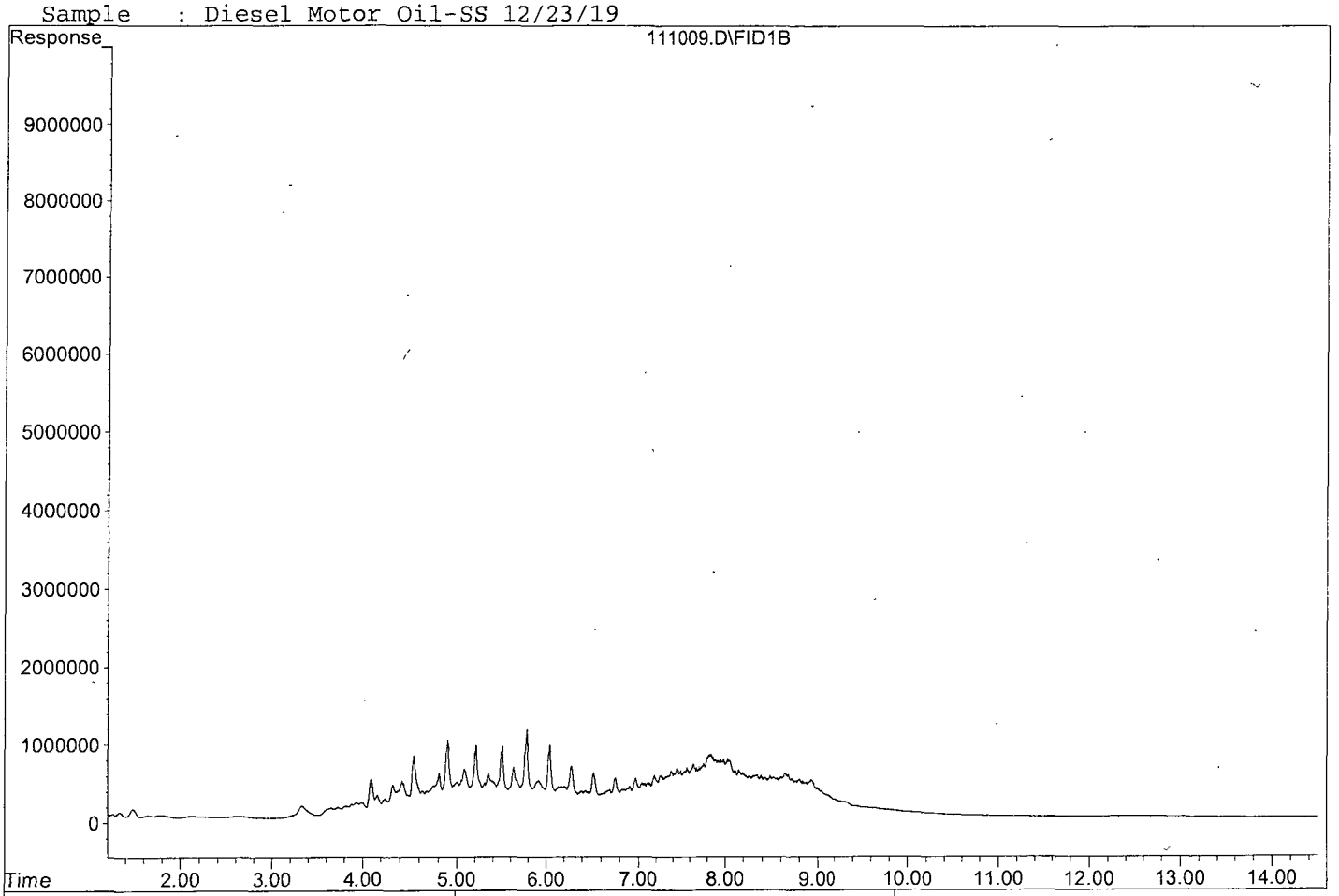
Compound	R.T.	Response	Conc	Units	
System Monitoring Compounds					
3) SA Ortho-Terphenyl(S)	0.00	0	N.D.	ppb	d
Surrogate Spike 30.000	Recovery	=	0.00%		
4) SA Octacosane(S)	0.00	0	N.D.	ppb	d
Surrogate Spike 30.000	Recovery	=	0.00%		
Target Compounds					
1) HATM Diesel (C10-C24)	4.42	988835441	236.846	ppb	
2) HBTM Motor Oil (C24-C40)	9.01	680127899	228.334	ppb	

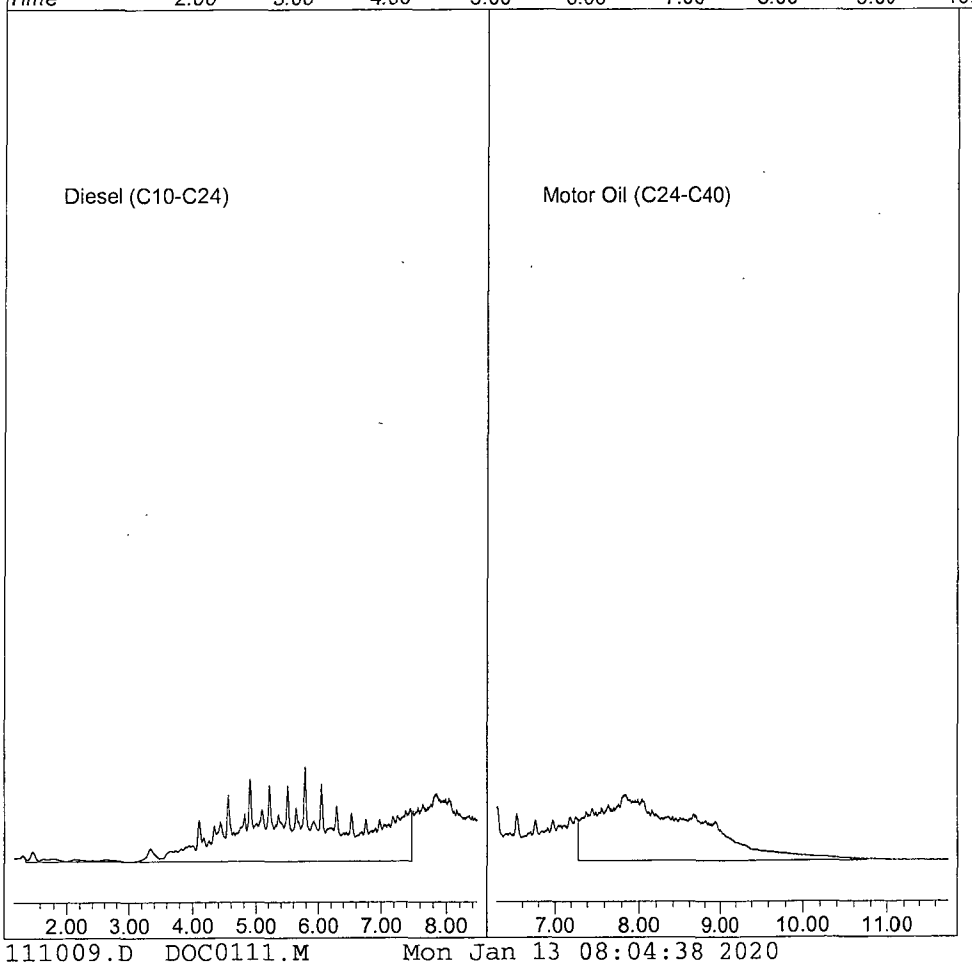
Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\200111\111009.D
Sample : Diesel Motor Oil-SS 12/23/19





TPH Extractables
DOC0129

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Initial Cal. Date: 01/29/20
Matrix: Water Instrument: Apollo
Initials: SS/

129003 D 129004 D 129005 D 129006.D 129007.D 129008.D

		Compound	1	2	3	4	5	6					Avg	%RSD	Type	r^2	Q
1	HATML	Diesel (C10-C24)	4301645	2074327	1969883	1982146	2013208	2034442					2395942	39	HATM	1.000	
2	HBTML	Motor Oil (C24-C40)	3133275	1556987	1523968	1544417	1575167	1599767					1822264	35	HBTM	1.000	
3	SAL	Ortho-Terphenyl(S)	3219032	1590724	1901435	2205187	2248499	2279827					2240784	24	SA	1.000	
4	SAL	Octacosane(S)	3976549	1932634	1971529	2006919	2013066	2152961					2342277	34	SA	0.998	
5																	
6																	
7																	
8																	
9																	
10																	
11																	
12																	
13																	
14																	
15																	
16																	
17																	
18																	
19																	
20																	
21																	
22																	
23																	
24																	
25																	
26																	
27																	
28																	
29																	
30																	
31																	
32																	
33																	
34																	
35																	

3.800686

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200129\129003.D Vial: 3
Acq On : 1-29-20 13:59:43 Operator: BT
Sample : Diesel Motor Oil - 1 1/29/20 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 30 7:58 2020 Quant Results File: DOC0129.RES

Method : G:\APOLLO\DATA\200129\DOC0129.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Jan 30 08:01:08 2020
Response via : Multiple Level Calibration

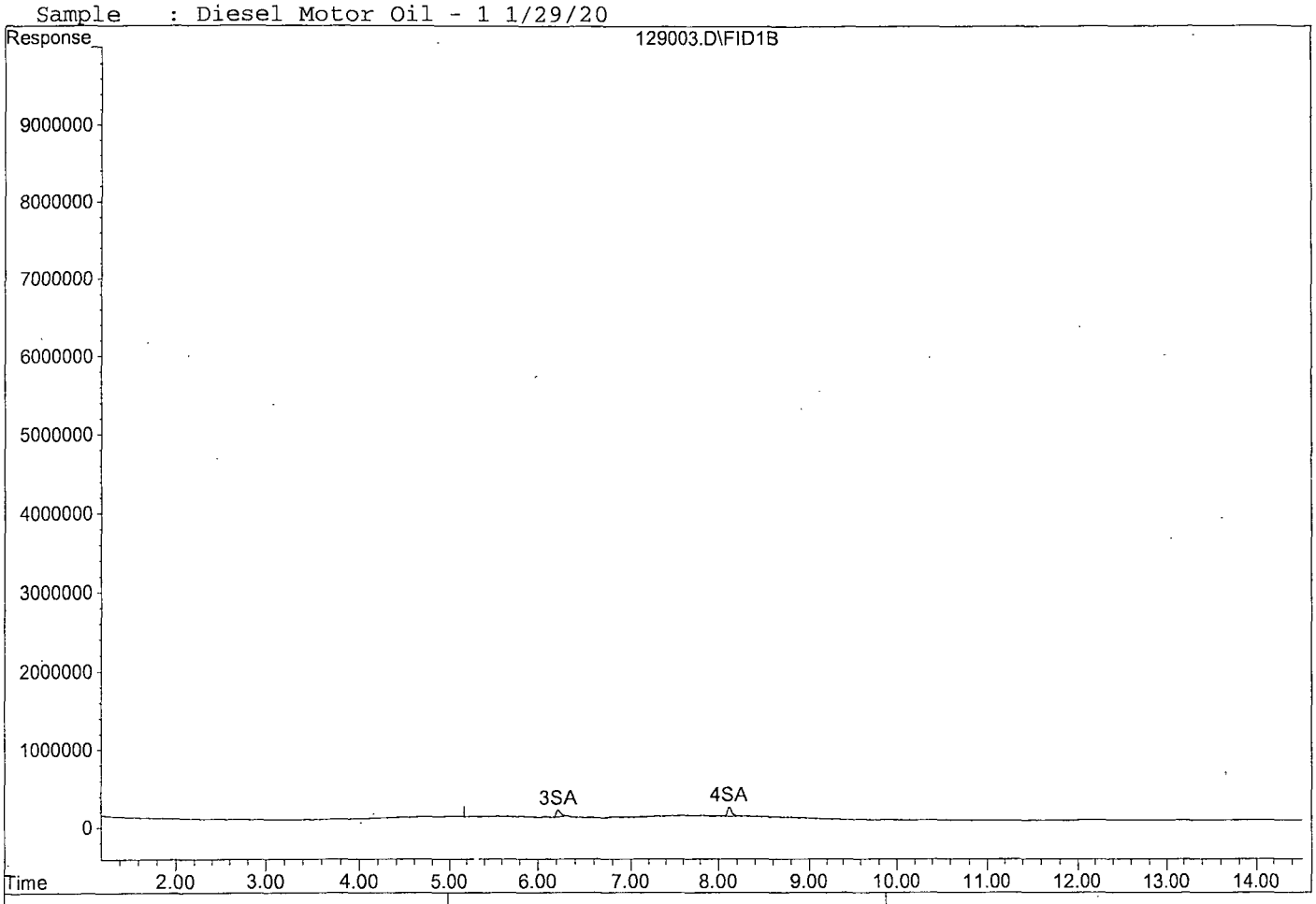
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

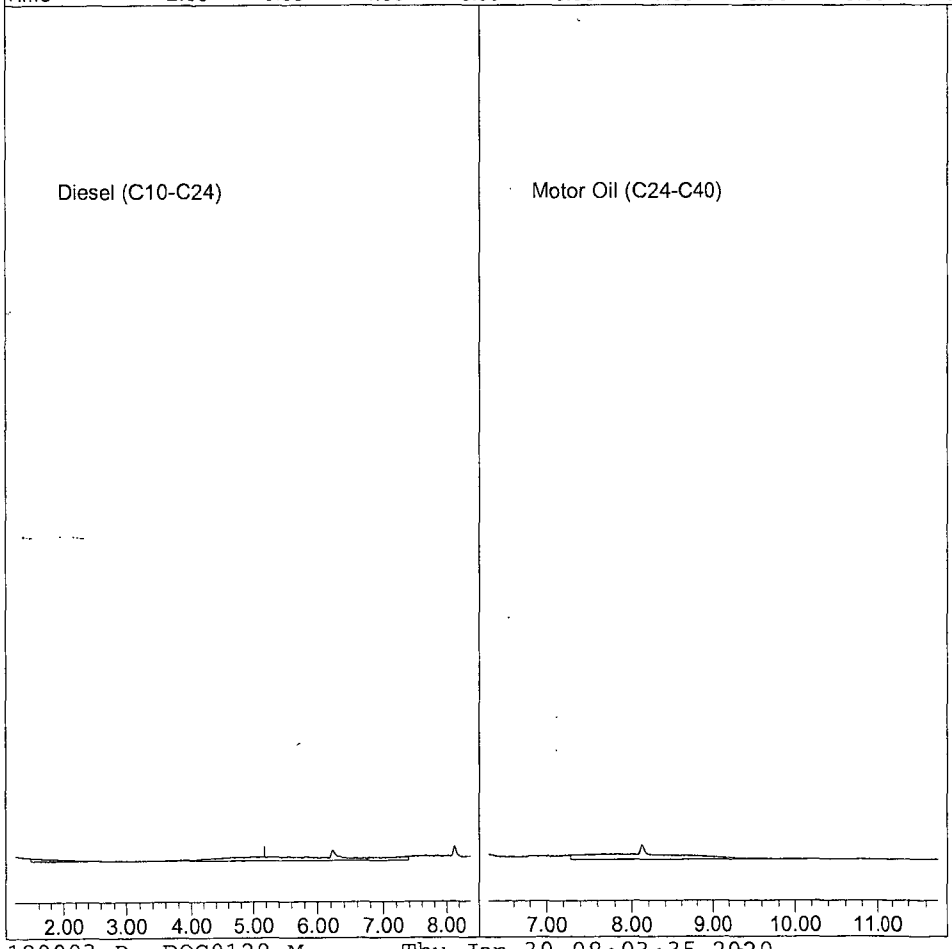
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SA Ortho-Terphenyl(S)	6.22	3219032	0.718 ppb
Surrogate Spike 30.000	Recovery =		2.39%
4) SA Octacosane(S)	8.12	3976549	0.849 ppb
Surrogate Spike 30.000	Recovery =		2.83%
Target Compounds			
1) HATM Diesel (C10-C24)	4.42	86032900	17.172 ppb
2) HBTM Motor Oil (C24-C40)	9.01	62665505	17.194 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200129\129003.D
Sample : Diesel Motor Oil - 1 1/29/20





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200129\129004.D Vial: 4
Acq On : 1-29-20 14:19:23 Operator: BT
Sample : Diesel Motor Oil - 2 1/29/20 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 30 7:58 2020 Quant Results File: DOC0129.RES

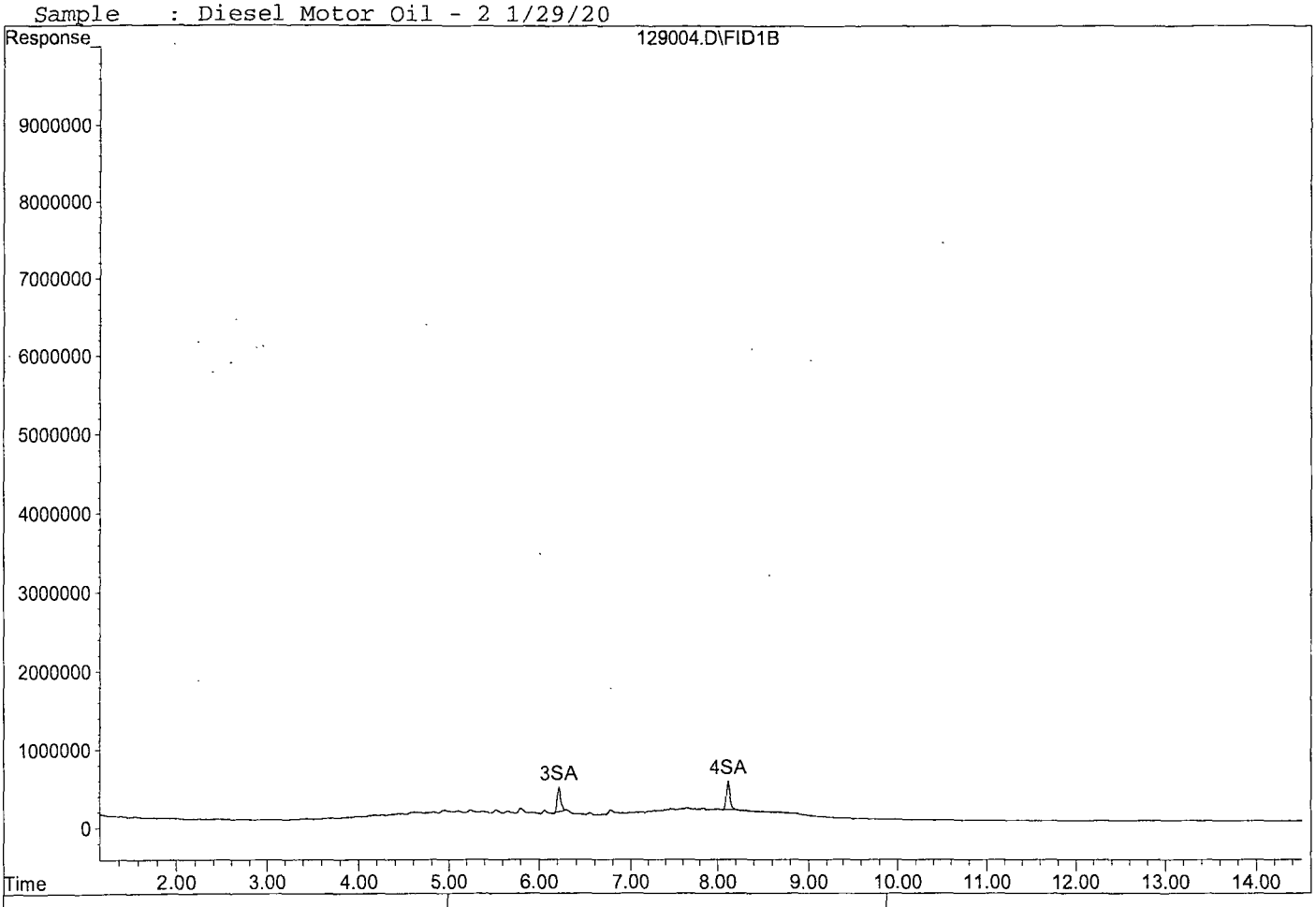
Method : G:\APOLLO\DATA\200129\DOC0129.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Jan 30 08:01:08 2020
Response via : Multiple Level Calibration

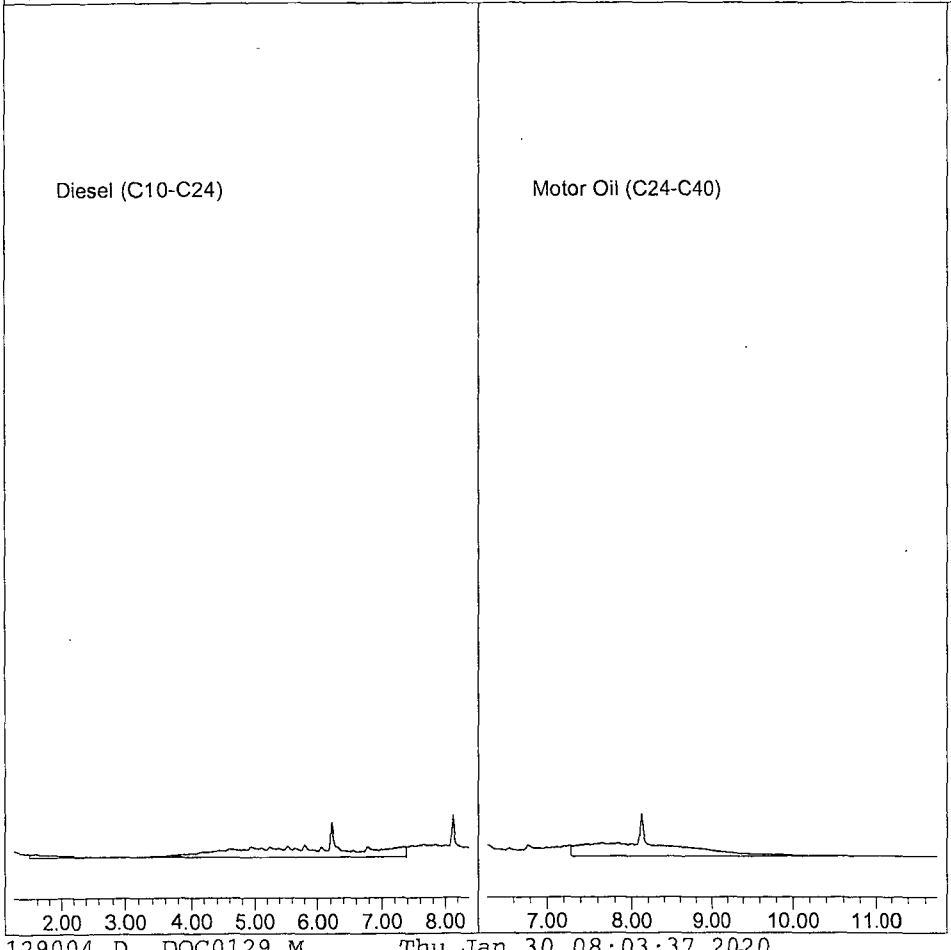
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SA Ortho-Terphenyl(S)	6.21	7953622	1.775 ppb
Surrogate Spike 30.000	Recovery =		5.92%
4) SA Octacosane(S)	8.11	9663172	2.063 ppb
Surrogate Spike 30.000	Recovery =		6.88%
Target Compounds			
1) HATM Diesel (C10-C24)	4.42	207432742	41.402 ppb
2) HBTM Motor Oil (C24-C40)	9.01	155698715	42.721 ppb
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200129\129004.D
Sample : Diesel Motor Oil - 2 1/29/20





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200129\129005.D Vial: 5
Acq On : 1-29-20 14:39:02 Operator: BT
Sample : Diesel Motor Oil - 3 1/29/20 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 30 7:58 2020 Quant Results File: DOC0129.RES

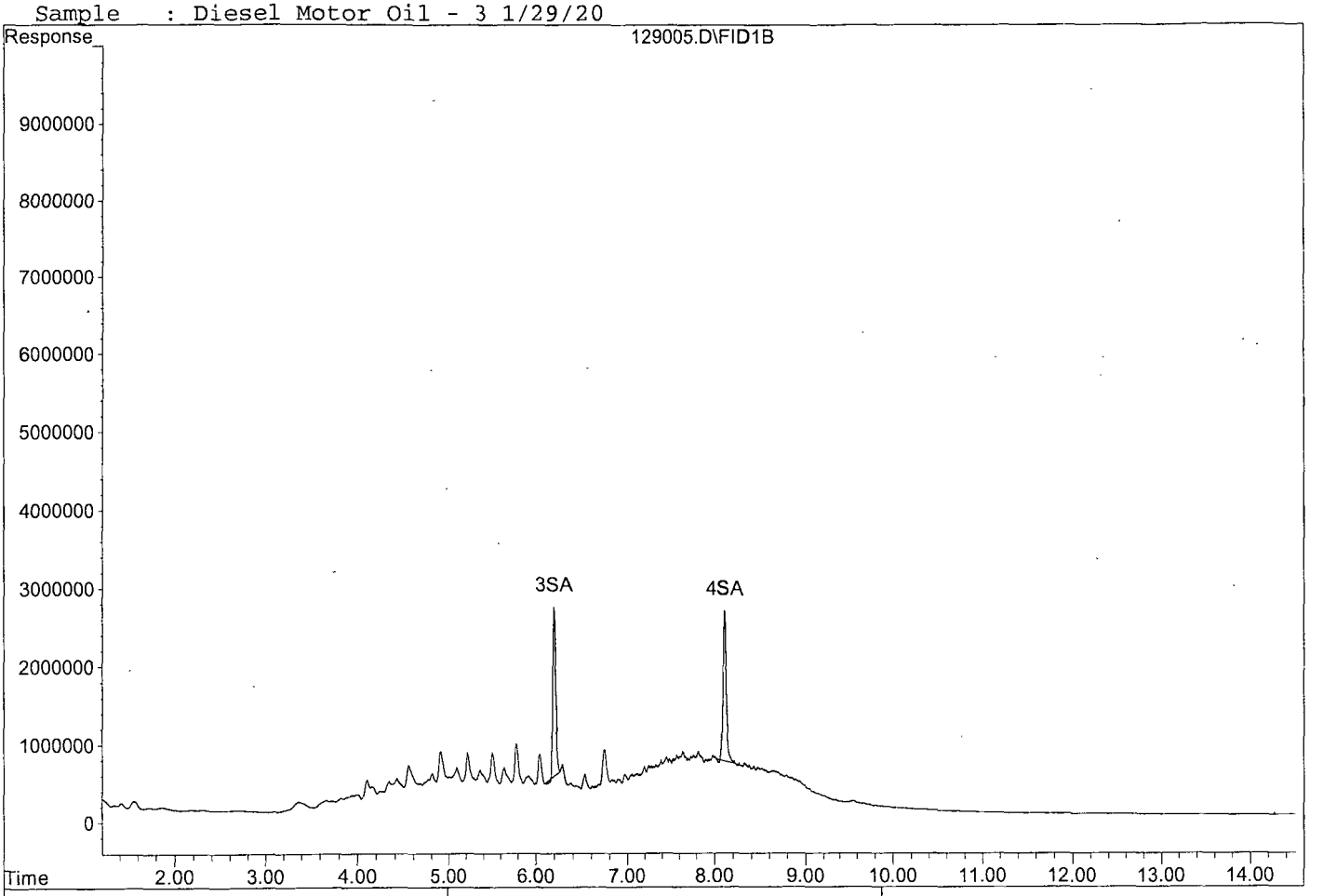
Method : G:\APOLLO\DATA\200129\DOC0129.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Jan 30 08:01:08 2020
Response via : Multiple Level Calibration

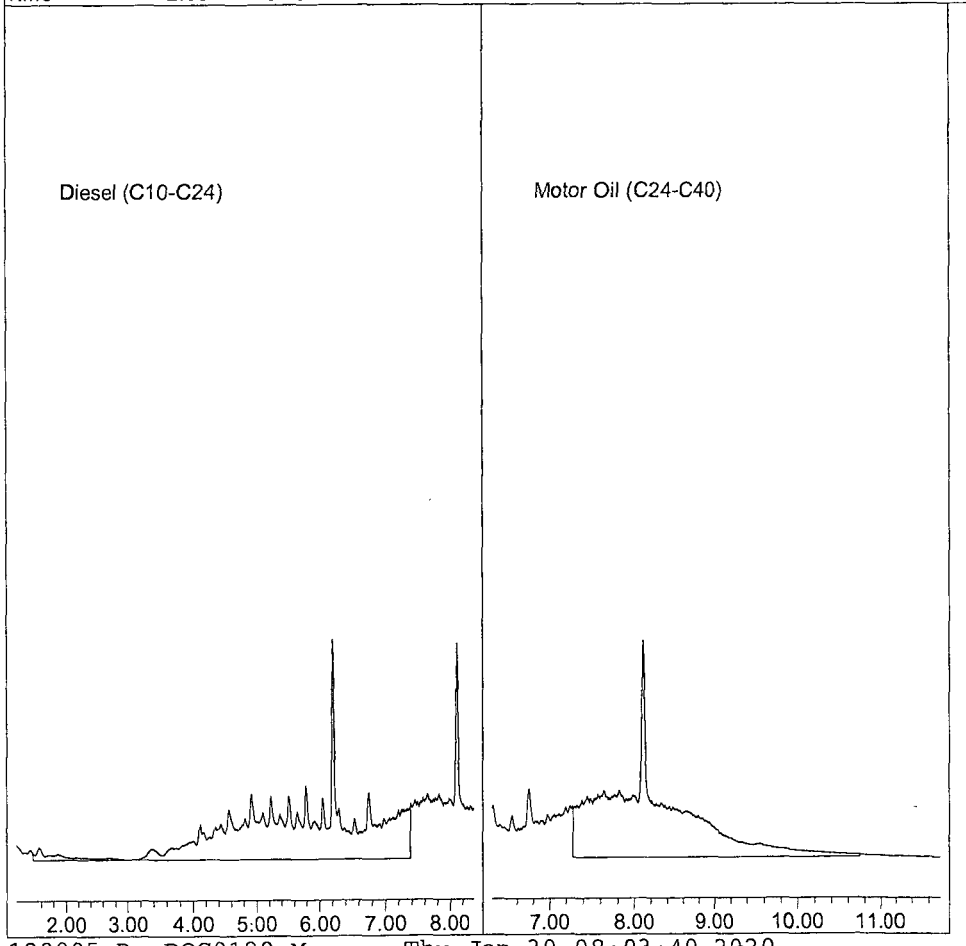
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SA Ortho-Terphenyl(S)	6.21	47535882	10.607 ppb
Surrogate Spike 30.000	Recovery =		35.36%
4) SA Octacosane(S)	8.11	49288227	10.521 ppb
Surrogate Spike 30.000	Recovery =		35.07%
Target Compounds			
1) HATM Diesel (C10-C24)	4.42	984941383	196.588 ppb
2) HBTM Motor Oil (C24-C40)	9.01	761984137	209.076 ppb
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200129\129005.D
Sample : Diesel Motor Oil - 3 1/29/20





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200129\129006.D Vial: 6
Acq On : 1-29-20 14:58:42 Operator: BT
Sample : Diesel Motor Oil - 4 1/29/20 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 30 7:58 2020 Quant Results File: DOC0129.RES

Method : G:\APOLLO\DATA\200129\DOC0129.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Jan 30 08:01:08 2020
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

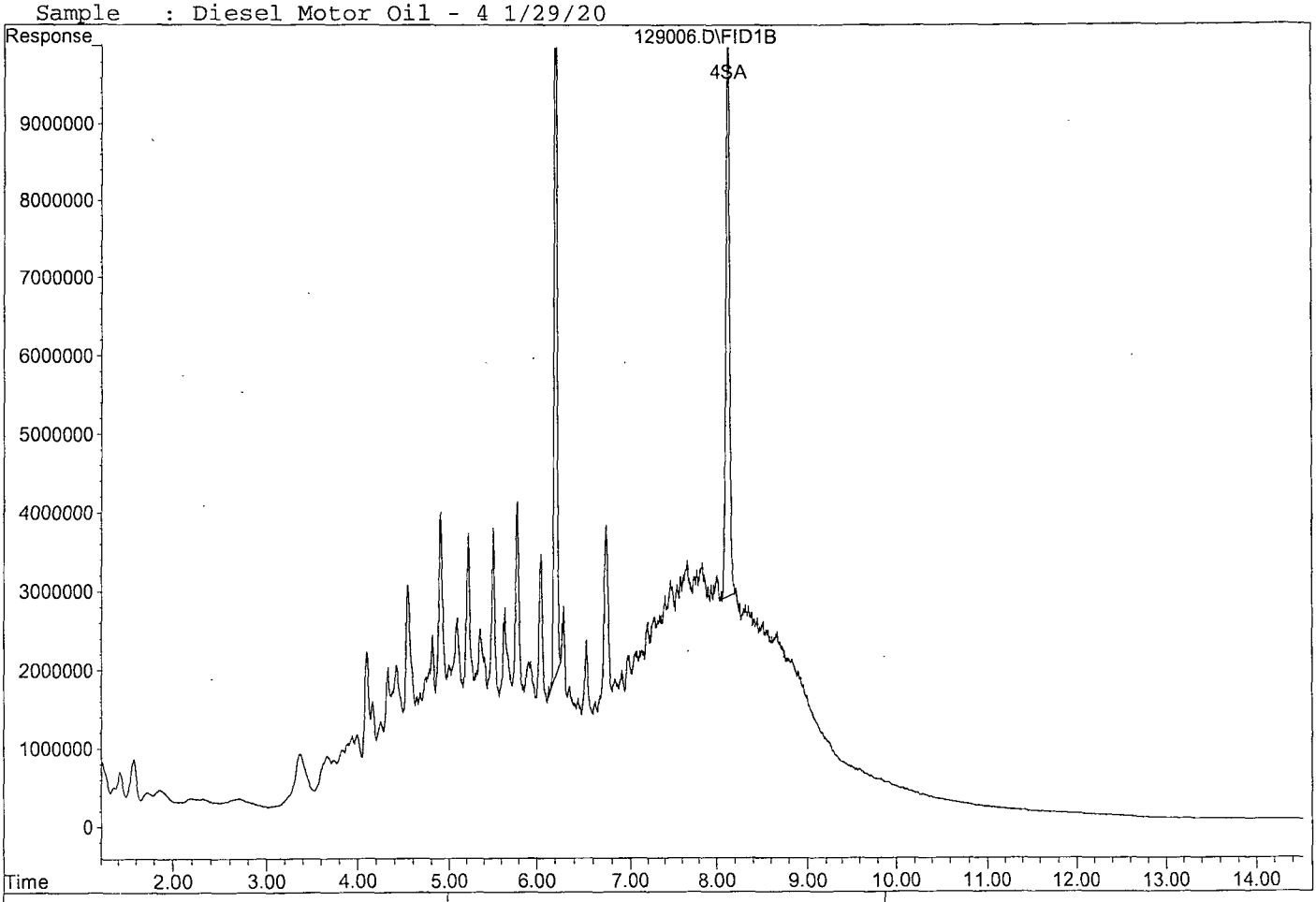
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SA Ortho-Terphenyl(S)	6.21	220518688	49.206 ppb
Surrogate Spike 30.000	Recovery =		164.02%
4) SA Octacosane(S)	8.12	200691942	42.841 ppb
Surrogate Spike 30.000	Recovery =		142.80%
Target Compounds			
1) HATM Diesel (C10-C24)	4.42	3964291090	791.245 ppb
2) HBTM Motor Oil (C24-C40)	9.01	3088833563	847.527 ppb

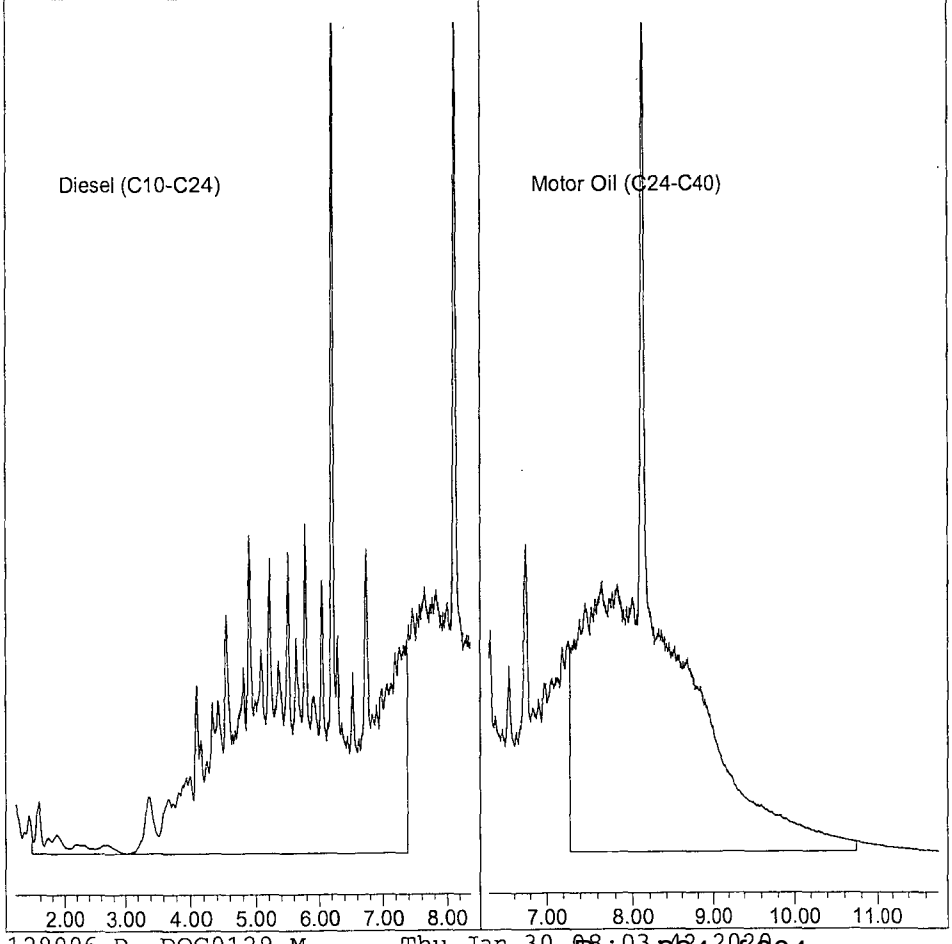
Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\200129\129006.D
Sample : Diesel Motor Oil - 4 1/29/20





129006.D DOC0129.M Thu Jan 30 08:03:42 2020

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200129\129007.D Vial: 7
Acq On : 1-29-20 15:18:28 Operator: BT
Sample : Diesel Motor Oil - 5 1/29/20 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 30 7:58 2020 Quant Results File: DOC0129.RES

Method : G:\APOLLO\DATA\200129\DOC0129.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Jan 30 08:01:08 2020
Response via : Multiple Level Calibration

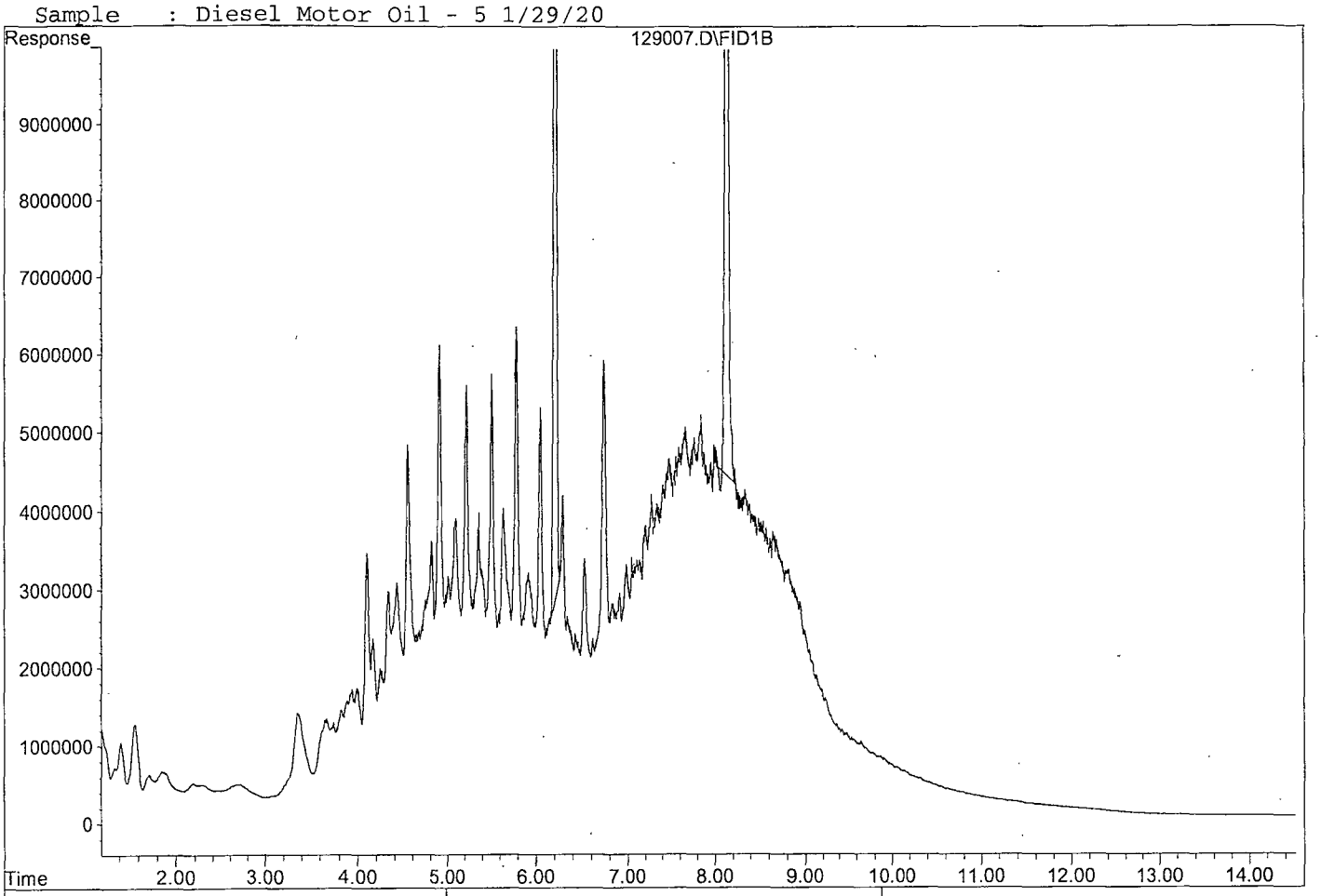
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

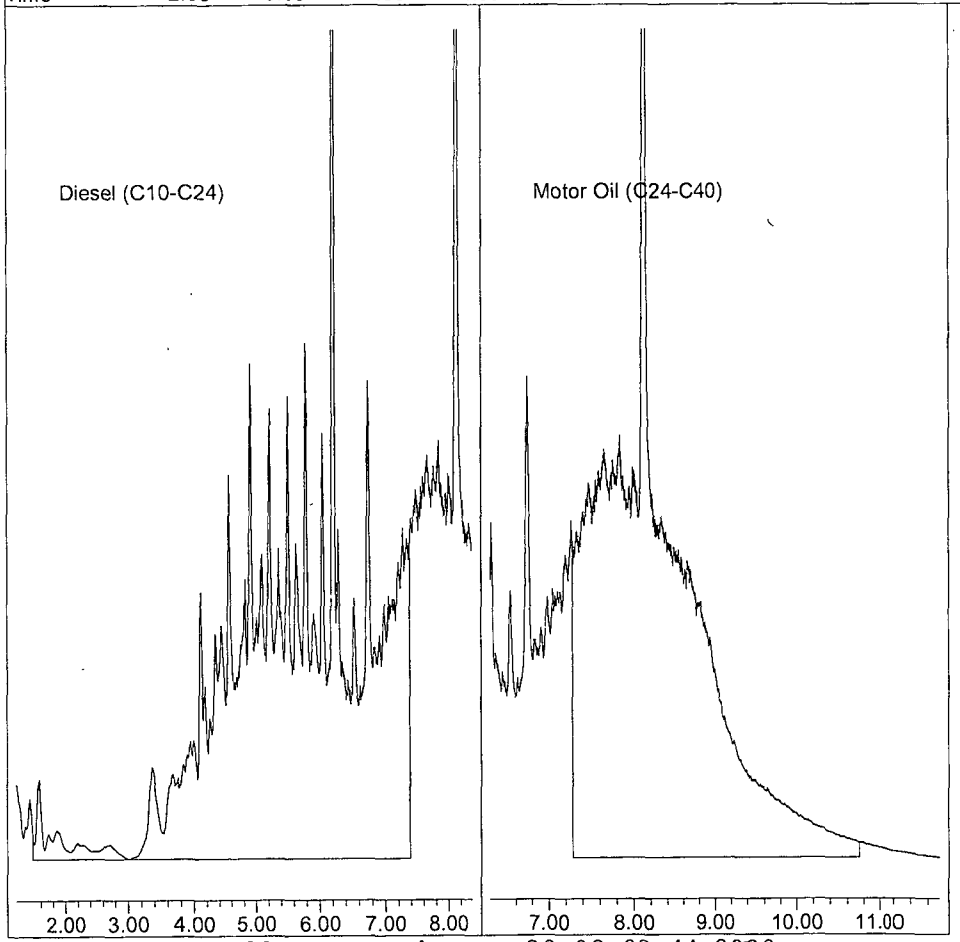
Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
3) SA Ortho-Terphenyl(S)	6.22	337274777	75.258	ppb
Surrogate Spike 30.000	Recovery =		250.86%	
4) SA Octacosane(S)	8.14	301959934	64.459	ppb
Surrogate Spike 30.000	Recovery =		214.86%	
Target Compounds				
1) HATM Diesel (C10-C24)	4.42	6039623685	1205.468	ppb
2) HBTM Motor Oil (C24-C40)	9.01	4725500800	1296.602	ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200129\129007.D
Sample : Diesel Motor Oil - 5 1/29/20





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200129\129008.D Vial: 8
Acq On : 1-29-20 15:38:14 Operator: BT
Sample : Diesel Motor Oil - 6 1/29/20 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 30 7:58 2020 Quant Results File: DOC0129.RES

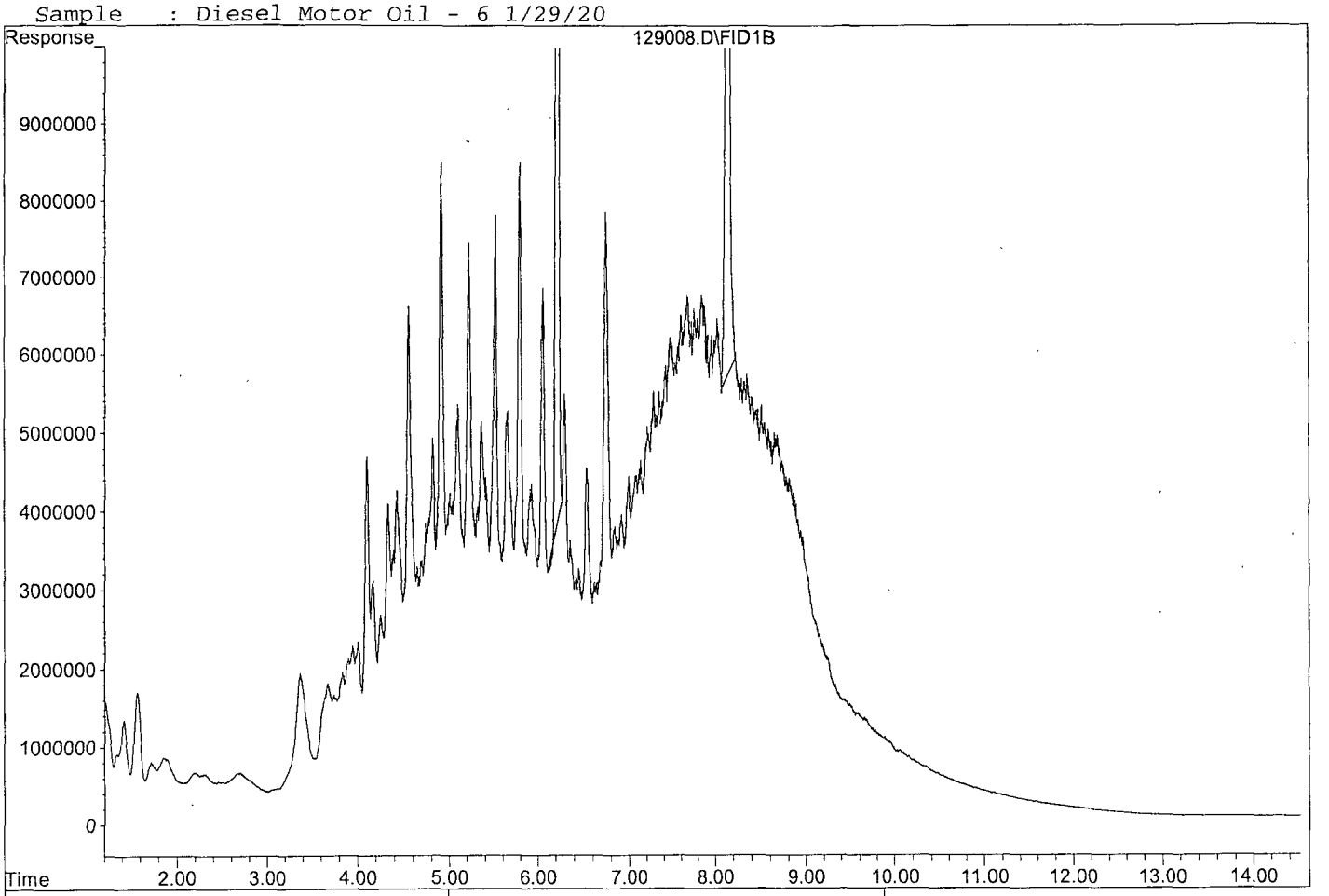
Method : G:\APOLLO\DATA\200129\DOC0129.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Jan 30 08:01:08 2020
Response via : Multiple Level Calibration

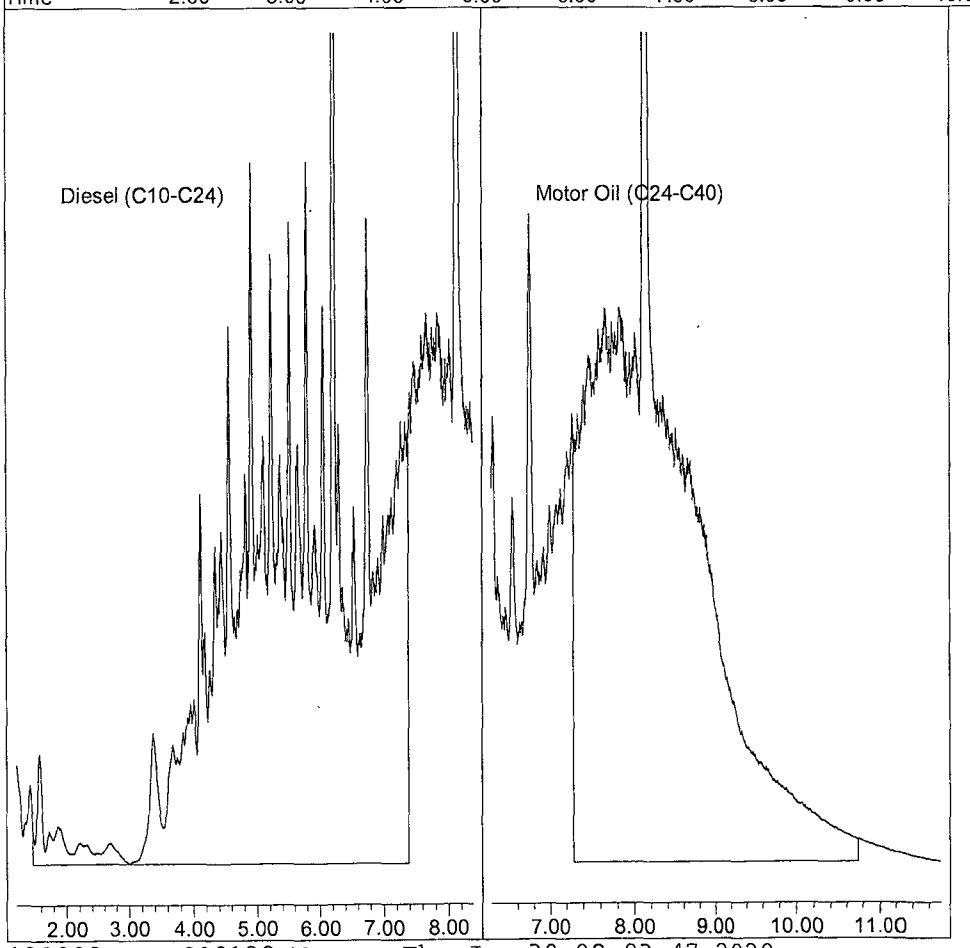
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

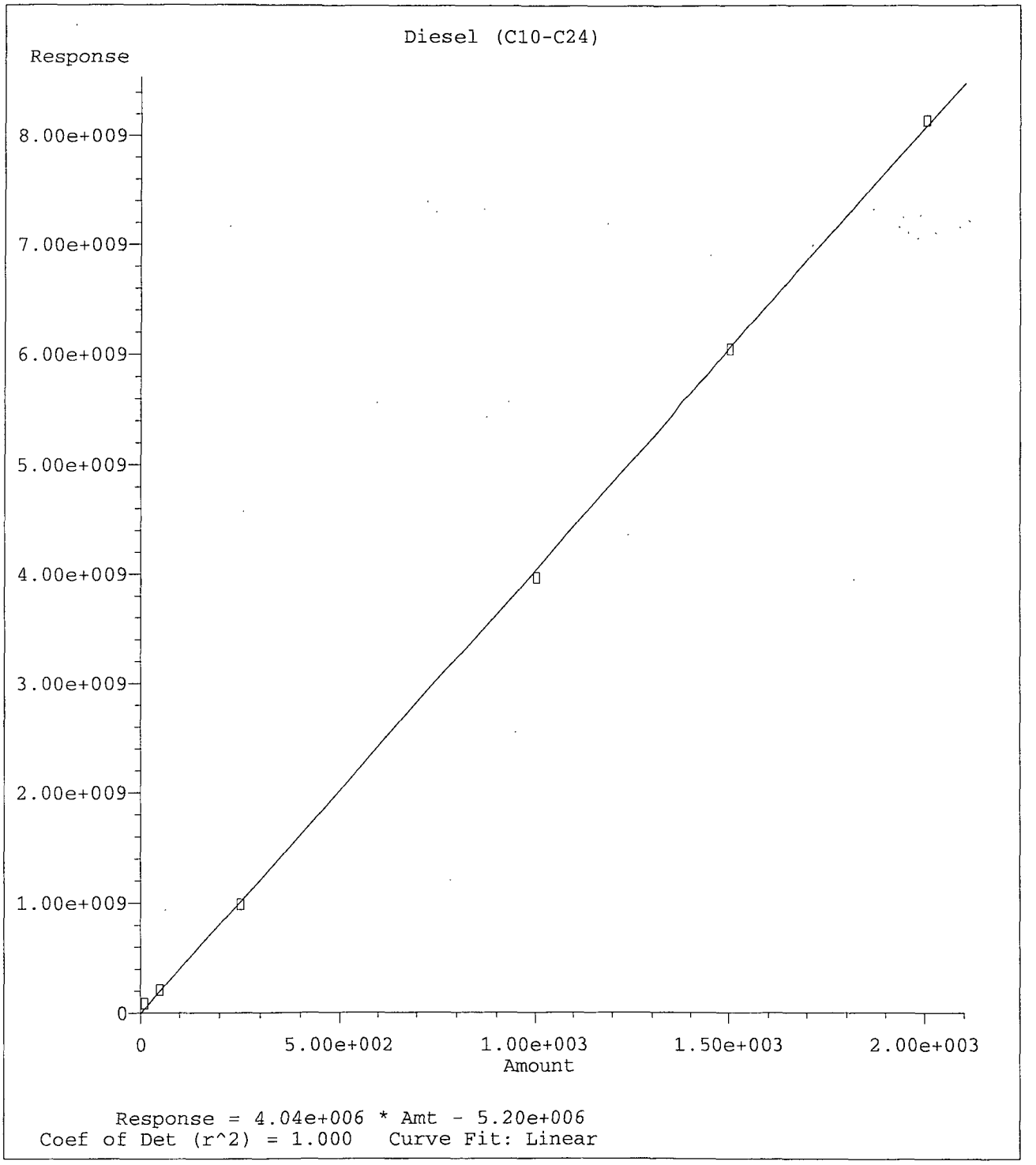
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SA Ortho-Terphenyl(S)	6.23	455965319	101.742 ppb
Surrogate Spike 30.000	Recovery =		339.14%
4) SA Octacosane(S)	8.14	430592170	91.917 ppb
Surrogate Spike 30.000	Recovery =		306.39%
Target Compounds			
1) HATM Diesel (C10-C24)	4.42	8137766957	1624.243 ppb
2) HBTM Motor Oil (C24-C40)	9.01	6399069480	1755.802 ppb
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

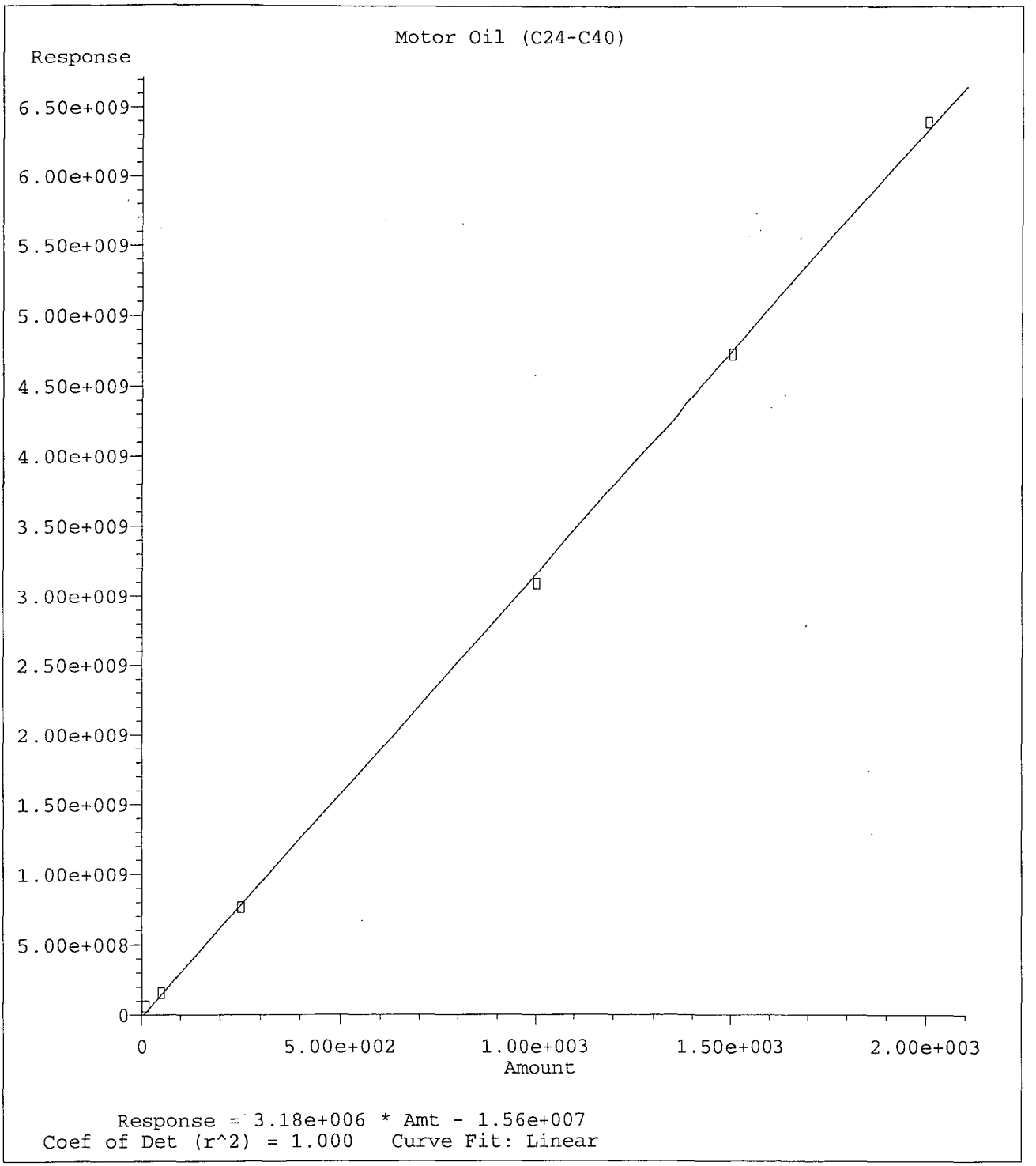
Data File: G:\APOLLO\DATA\200129\129008.D
Sample : Diesel Motor Oil - 6 1/29/20



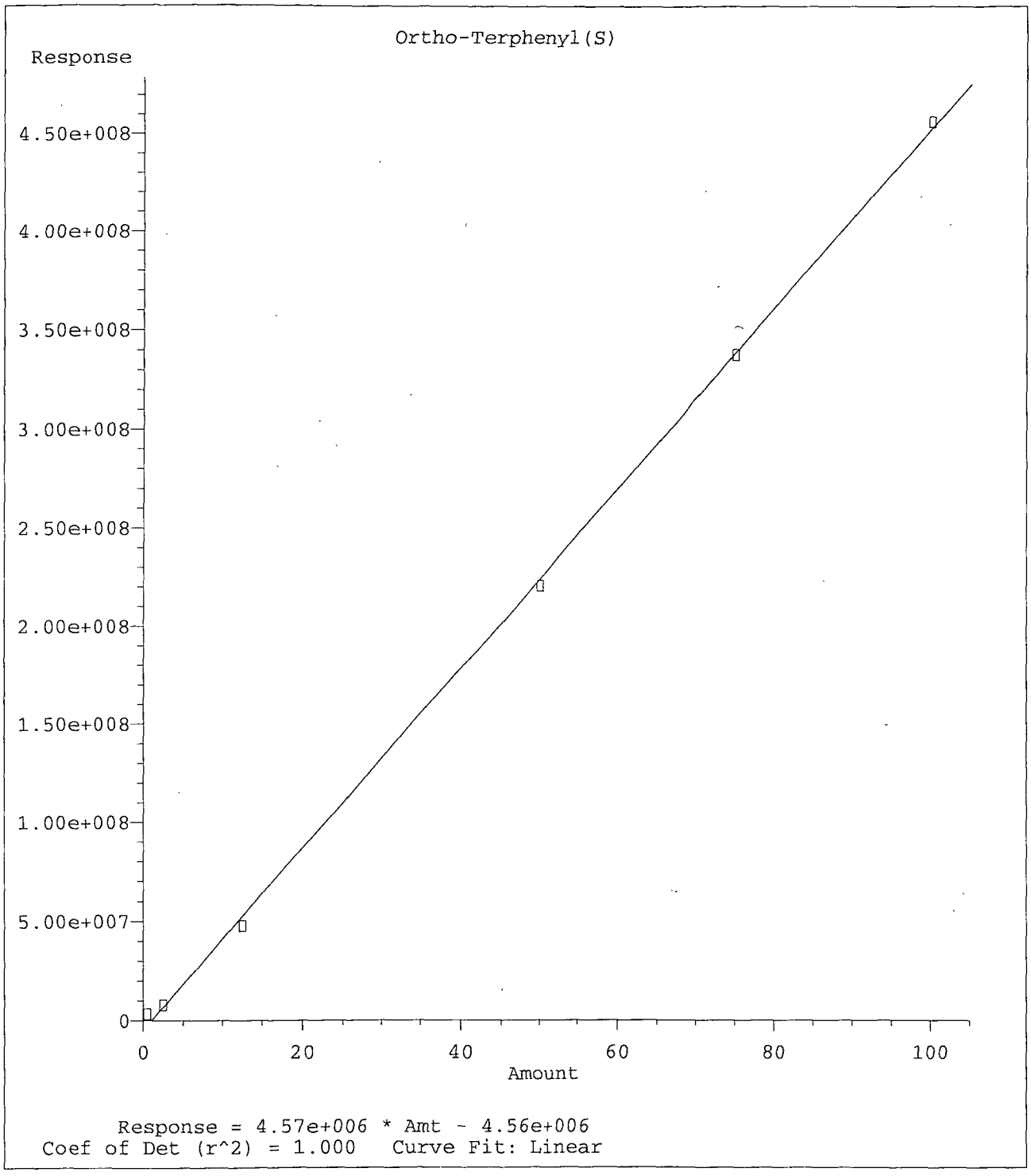




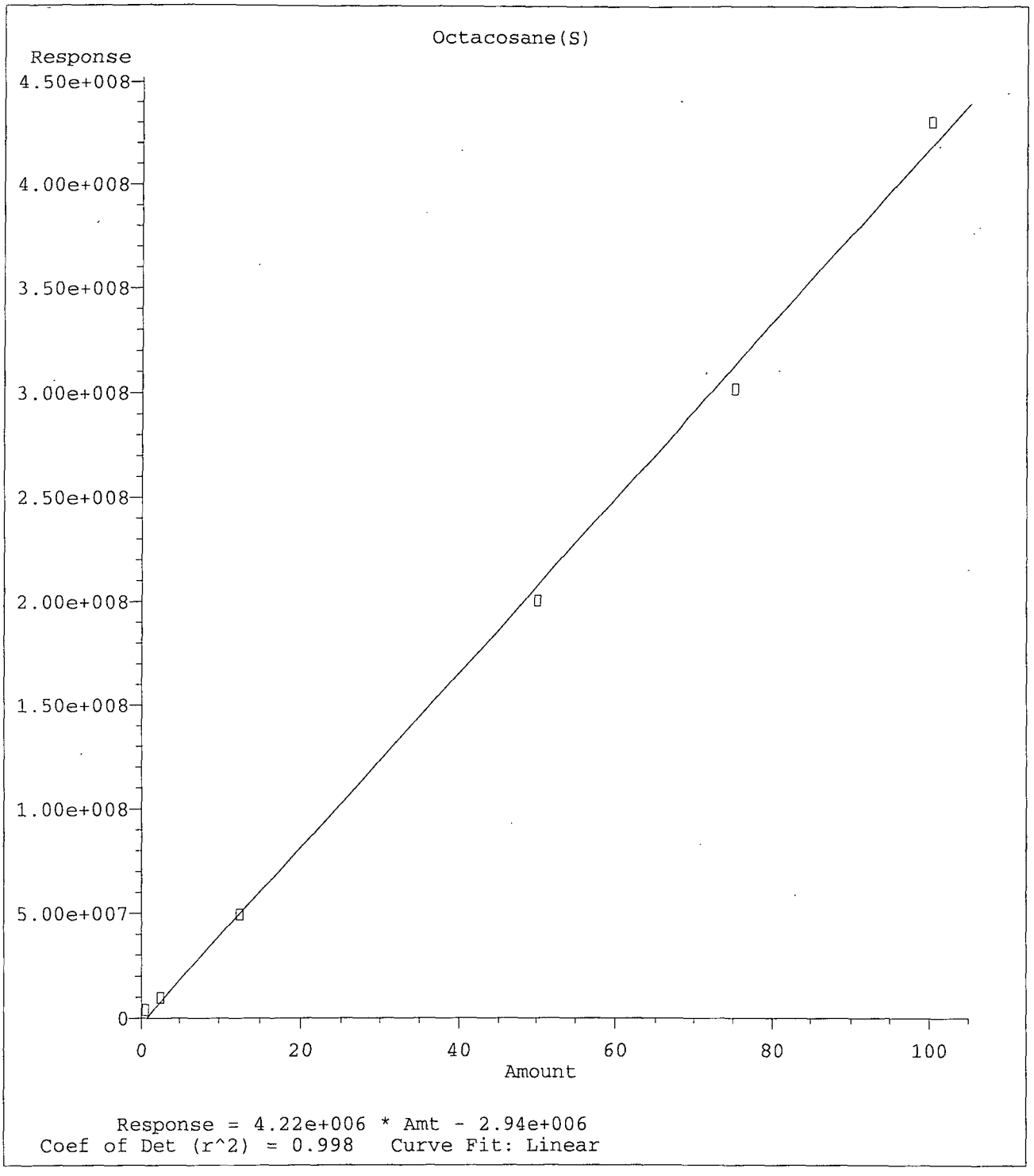
Method Name: G:\APOLLO\DATA\200129\DOC0129.M
Calibration Table Last Updated: Thu Jan 30 08:01:08 2020



Method Name: G:\APOLLO\DATA\200129\DOC0129.M
Calibration Table Last Updated: Thu Jan 30 08:01:08 2020



Method Name: G:\APOLLO\DATA\200129\DOC0129.M
Calibration Table Last Updated: Thu Jan 30 08:01:08 2020



Method Name: G:\APOLLO\DATA\200129\DOC0129.M
Calibration Table Last Updated: Thu Jan 30 08:01:08 2020

TPH Extractables
DOC0129

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: Water

SDG No:
Date Analyzed: 01/29/20
Instrument: Apollo
Initial Cal. Date: 01/29/20
Data File: 129009.D

		Compound	MEAN	CCRF	%D		%Drift
1	HATM	Diesel (C10-C24)	2395940	1924550	20	HATML	4.3
2	HBTM	Motor Oil (C24-C40)	1822260	1434290	21	HBTML	7.8
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			20.5		

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200129\129009.D Vial: 9
Acq On : 1-29-20 15:57:56 Operator: BT
Sample : Diesel Motor Oil - SS 12/23/19 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 30 8:03 2020 Quant Results File: DOC0129.RES

Method : G:\APOLLO\DATA\200129\DOC0129.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Jan 30 08:01:08 2020
Response via : Multiple Level Calibration

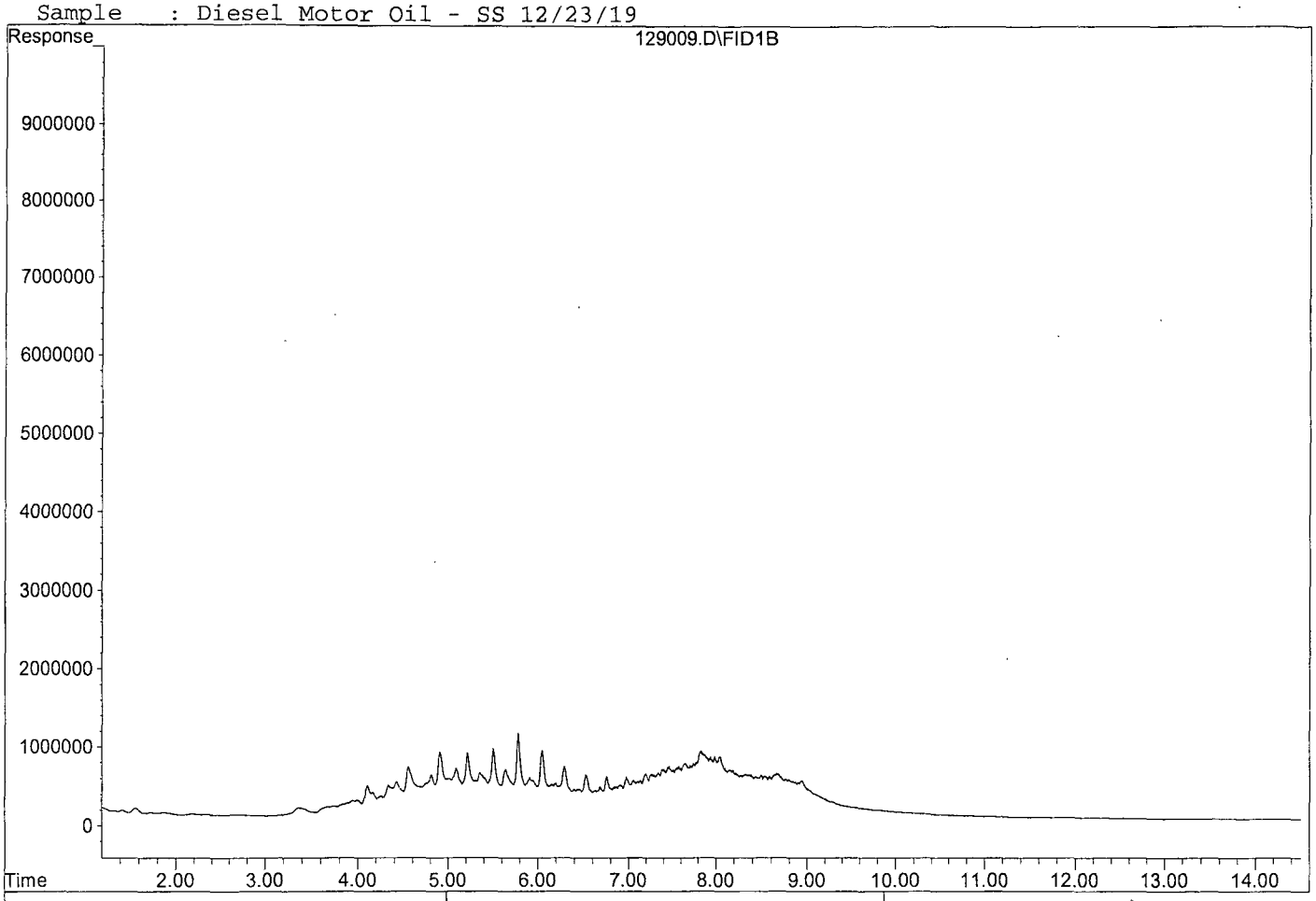
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

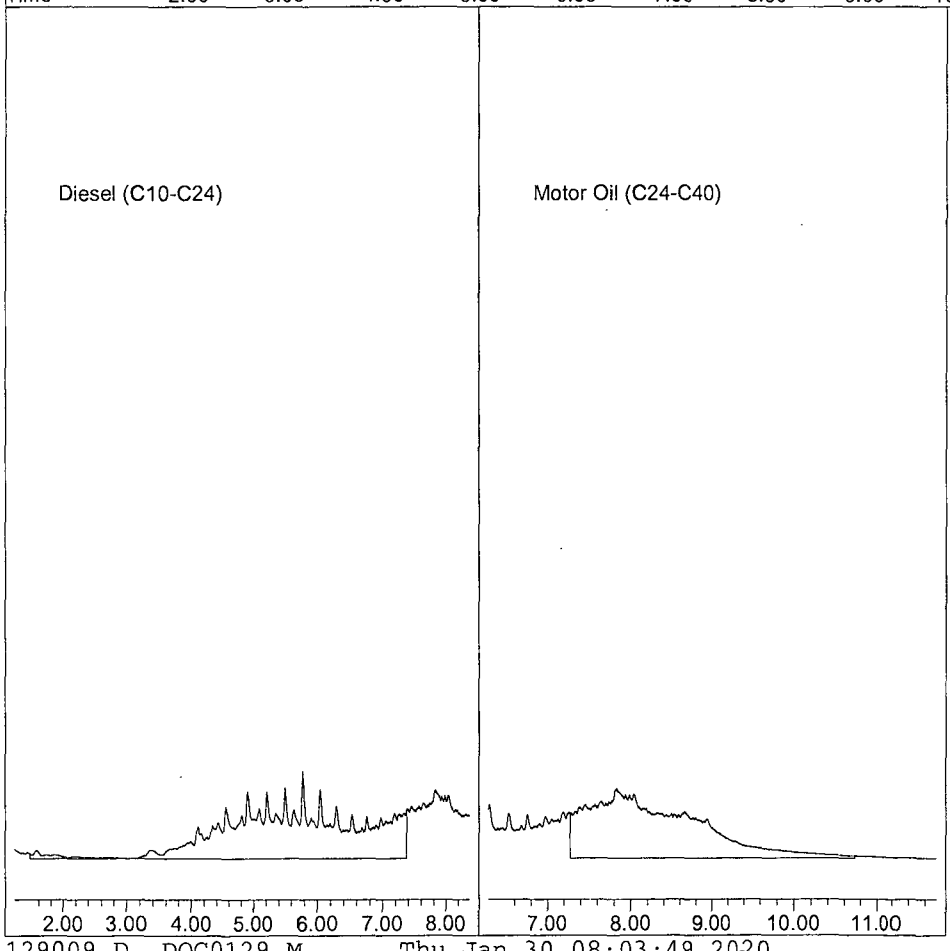
Compound	R.T.	Response	Conc	Units	
System Monitoring Compounds					
3) SA Ortho-Terphenyl(S)	0.00	0	N.D.	ppb	d
Surrogate Spike 30.000	Recovery	=	0.00%		
4) SA Octacosane(S)	0.00	0	N.D.	ppb	d
Surrogate Spike 30.000	Recovery	=	0.00%		
Target Compounds					
1) HATM Diesel (C10-C24)	4.42	962272818	239.241	ppb	
2) HBTM Motor Oil (C24-C40)	9.01	717146414	230.551	ppb	

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200129\129009.D
Sample : Diesel Motor Oil - SS 12/23/19





TPH Extractables
DEC1120

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Initial Cal. Date: Nov-20-2019
Matrix: Water Instrument: Apollo Initials:

1115178.D 1115179.D 1115180.D 1115181 D 1115182 D 1115183.D

		Compound	1	2	3	4	5	6					Avg	%RSD	Type	r^2	Q
1	SCL	Decanoic Acid(S)	405087	460275	729336	758671	822876	812977					664870	28	SC	0.998	
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	
11																	
12																	
13																	
14																	
15																	
16																	
17																	
18																	
19																	
20																	
21																	
22																	
23																	
24																	
25																	
26																	
27																	
28																	
29																	
30																	
31																	
32																	
33																	
34																	
35																	

0.790521

Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\2019\191115\1115178.D Vial: 78
Acq On : 11-20-19 10:33:58 Operator: BT
Sample : Decanoic Acid - 1 11/20/19 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Nov 22 8:50 2019 Quant Results File: DEC1120.RES

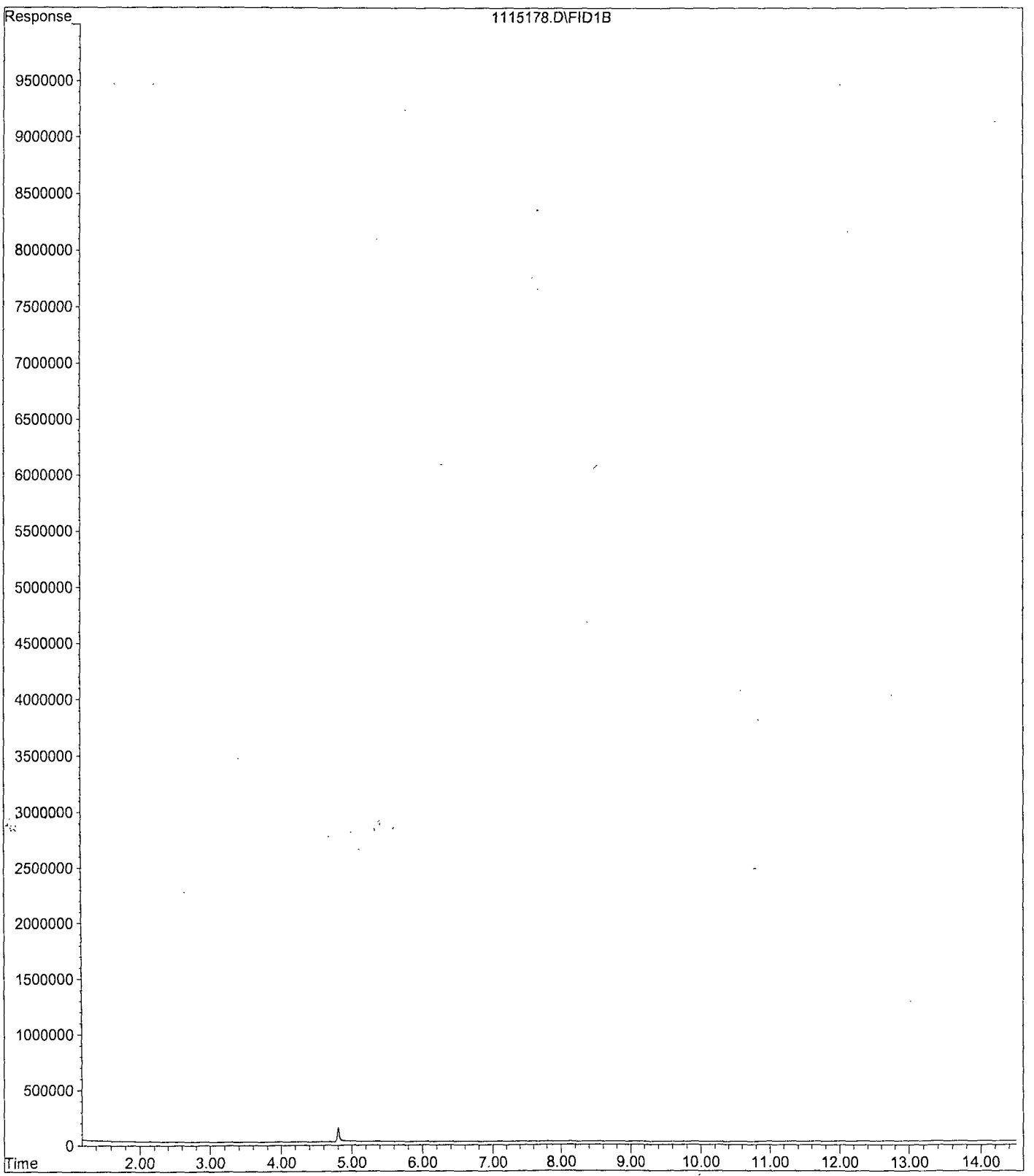
Method : G:\APOLLO\DATA\200129\DEC1120.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Jan 28 08:46:59 2020
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) SC Decanoic Acid(S)	4.80	2430521	1.828 ppb
Surrogate Spike 24.000		Recovery =	7.62%
Target Compounds			
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

File : G:\APOLLO\DATA\2019\191115\1115178.D
Operator : BT
Acquired : 11-20-19 10:33:58 using AcqMethod TPHSN.M
Instrument : Apollo
Sample Name: Decanoic Acid - 1 11/20/19
Misc Info : water
Vial Number: 78



Quantitation Report (Not Reviewed)

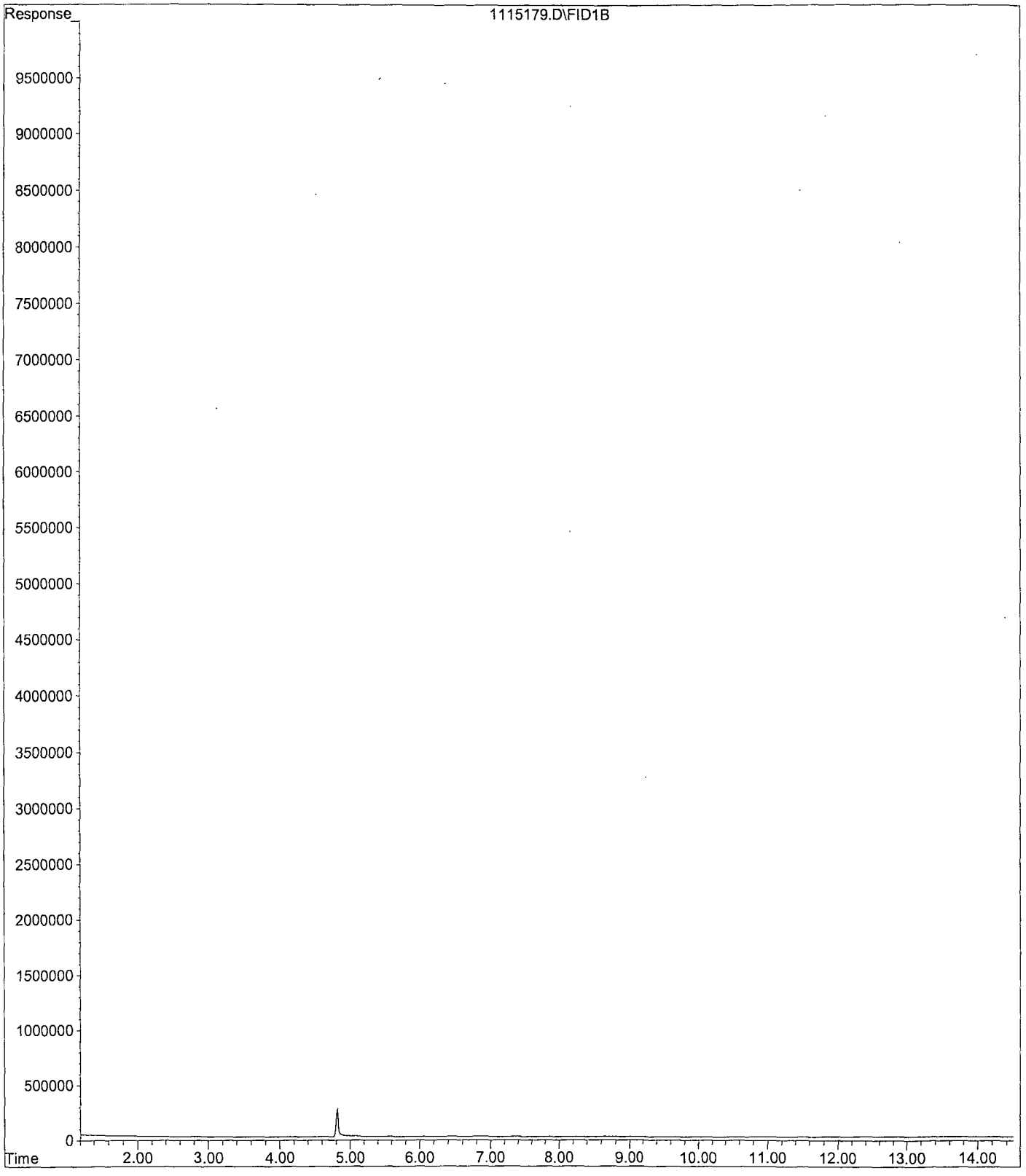
Data File : G:\APOLLO\DATA\2019\191115\1115179.D Vial: 79
Acq On : 11-20-19 10:53:46 Operator: BT
Sample : Decanoic Acid - 2 11/20/19 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Nov 22 8:50 2019 Quant Results File: DEC1120.RES

Method : G:\APOLLO\DATA\200129\DEC1120.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Jan 28 08:46:59 2020
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) SC Decanoic Acid(S)	4.82	5523296	4.154 ppb
Surrogate Spike 24.000	Recovery =		17.31%
Target Compounds			
Target Compounds			

File : G:\APOLLO\DATA\2019\191115\1115179.D
Operator : BT
Acquired : 11-20-19 10:53:46 using AcqMethod TPHSN.M
Instrument : Apollo
Sample Name: Decanoic Acid - 2 11/20/19
Misc Info : water
Vial Number: 79



Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\2019\191115\1115180.D Vial: 80
Acq On : 11-20-19 11:13:35 Operator: BT
Sample : Decanoic Acid - 3 11/20/19 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Nov 22 8:51 2019 Quant Results File: DEC1120.RES

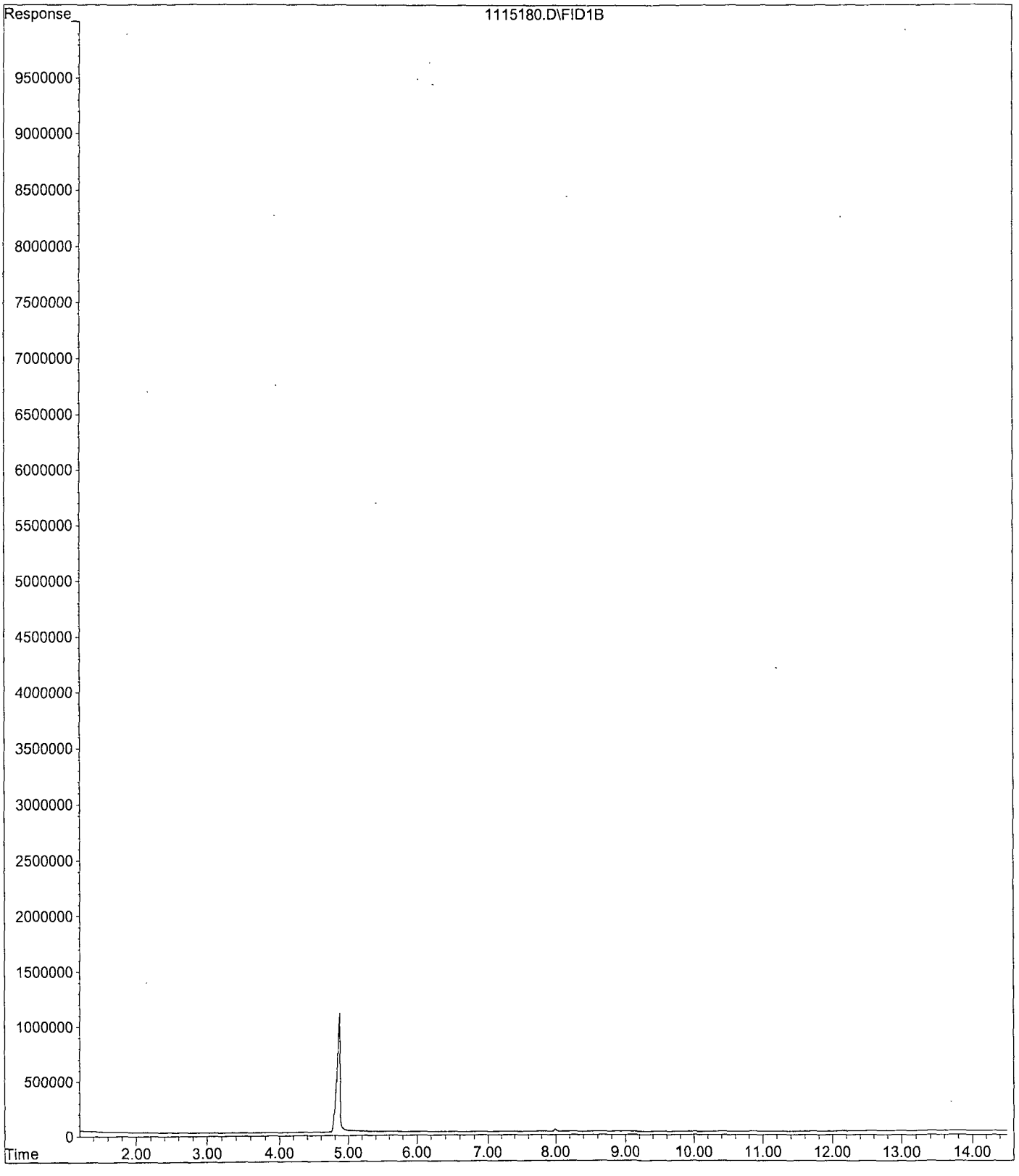
Method : G:\APOLLO\DATA\200129\DEC1120.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Jan 28 08:46:59 2020
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) SC Decanoic Acid(S)	4.87f	35008125	26.327 ppb
Surrogate Spike 24.000	Recovery =		109.70%
Target Compounds			
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

File : G:\APOLLO\DATA\2019\191115\1115180.D
Operator : BT
Acquired : 11-20-19 11:13:35 using AcqMethod TPHSN.M
Instrument : Apollo
Sample Name: Decanoic Acid - 3 11/20/19
Misc Info : water
Vial Number: 80



Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\2019\191115\1115181.D Vial: 81
Acq On : 11-20-19 11:33:26 Operator: BT
Sample : Decanoic Acid - 4 11/20/19 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Nov 22 8:51 2019 Quant Results File: DEC1120.RES

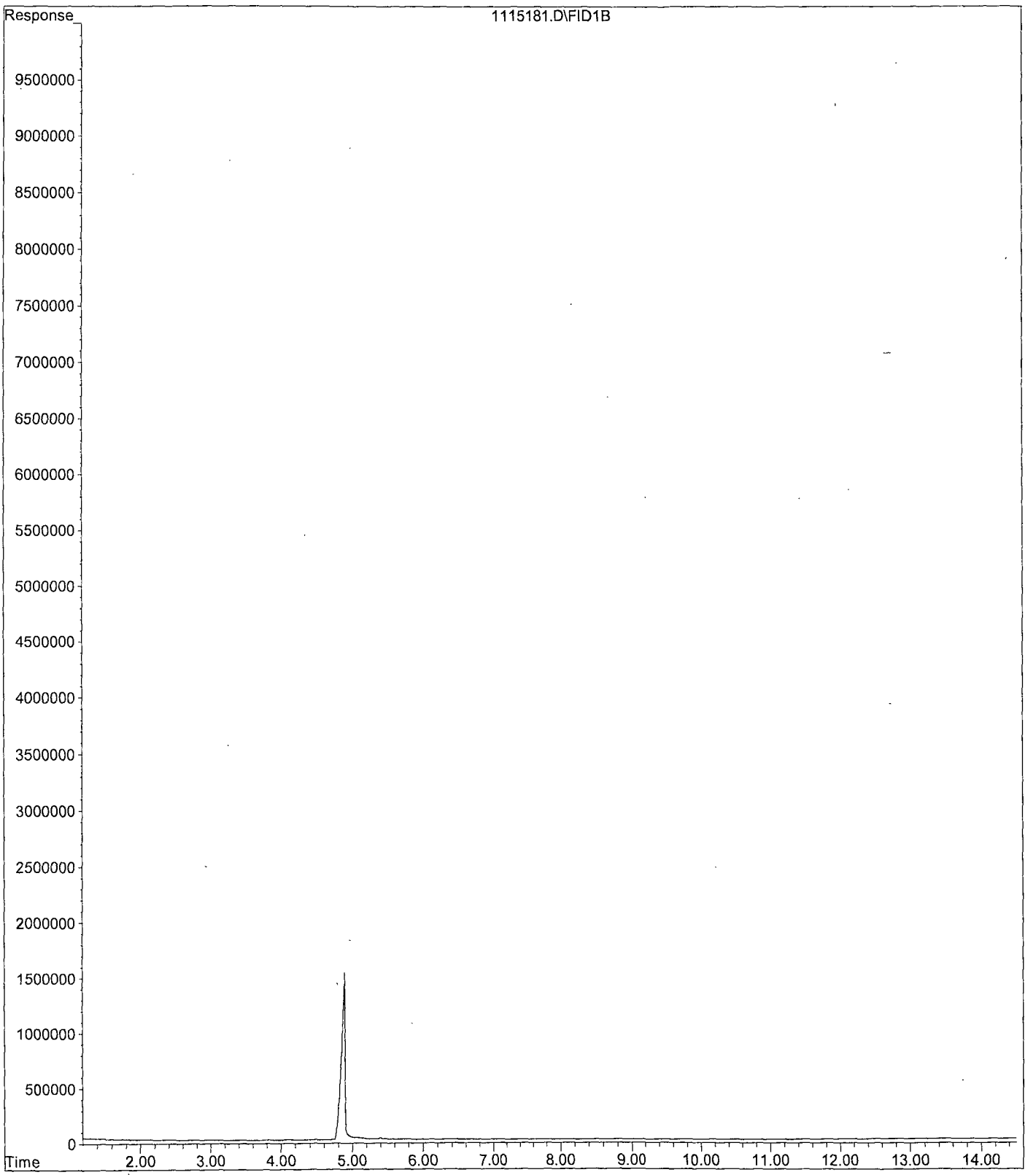
Method : G:\APOLLO\DATA\200129\DEC1120.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Jan 28 08:46:59 2020
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) SC Decanoic Acid(S)	4.89f	54624296	41.079 ppb
Surrogate Spike 24.000	Recovery =		171.16%
Target Compounds			
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

File : G:\APOLLO\DATA\2019\191115\1115181.D
Operator : BT
Acquired : 11-20-19 11:33:26 using AcqMethod TPHSN.M
Instrument : Apollo
Sample Name: Decanoic Acid - 4 11/20/19
Misc Info : water
Vial Number: 81



Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\2019\191115\1115182.D Vial: 82
Acq On : 11-20-19 11:52:35 Operator: BT
Sample : Decanoic Acid - 5 11/20/19 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Nov 22 8:51 2019 Quant Results File: DEC1120.RES

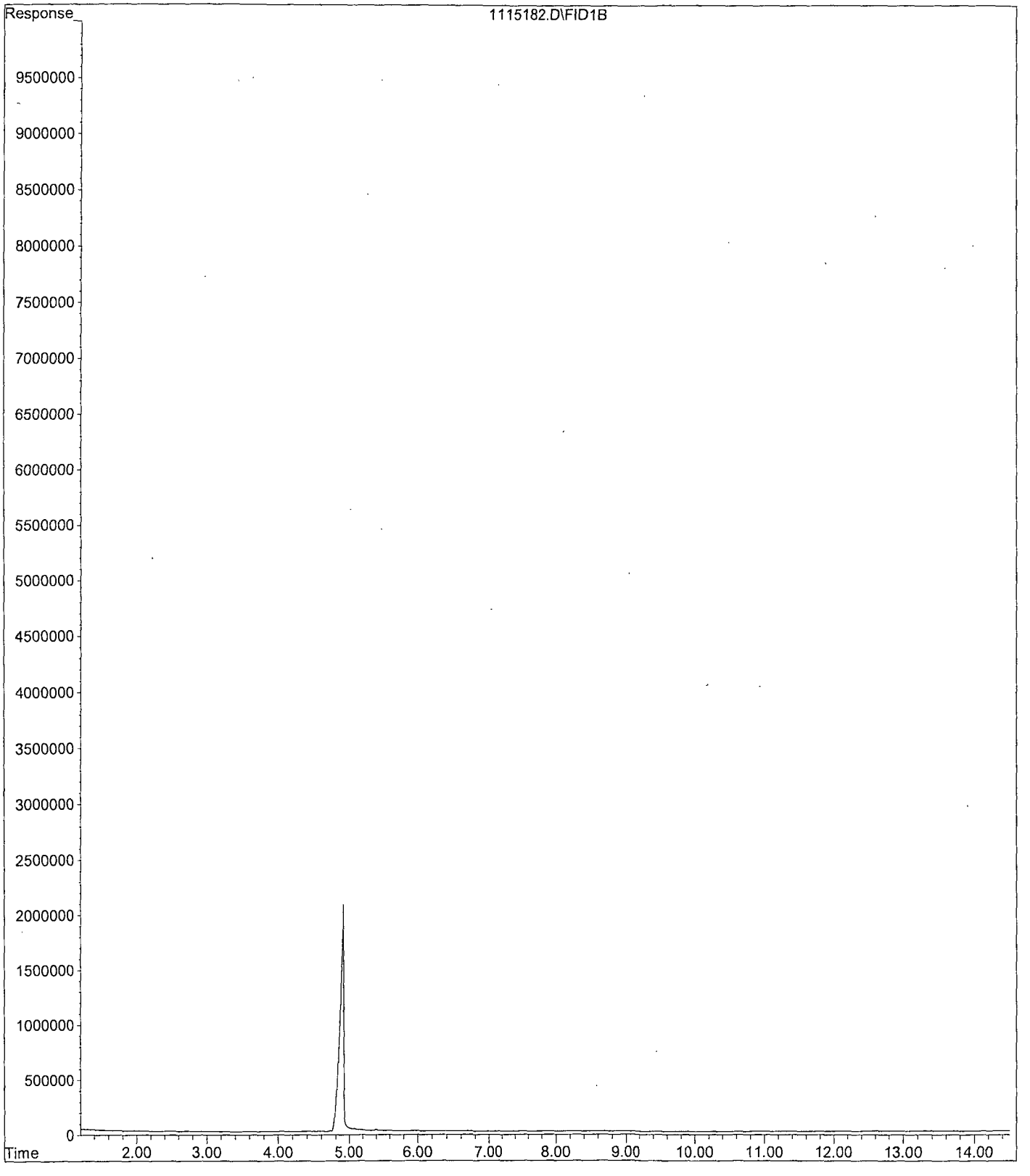
Method : G:\APOLLO\DATA\200129\DEC1120.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Jan 28 08:46:59 2020
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) SC Decanoic Acid(S)	4.92f	78996112	59.407 ppb
Surrogate Spike 24.000	Recovery =		247.53%
Target Compounds			
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

File : G:\APOLLO\DATA\2019\191115\1115182.D
Operator : BT
Acquired : 11-20-19 11:52:35 using AcqMethod TPHSN.M
Instrument : Apollo
Sample Name: Decanoic Acid - 5 11/20/19
Misc Info : water
Vial Number: 82



Quantitation Report (Not Reviewed)

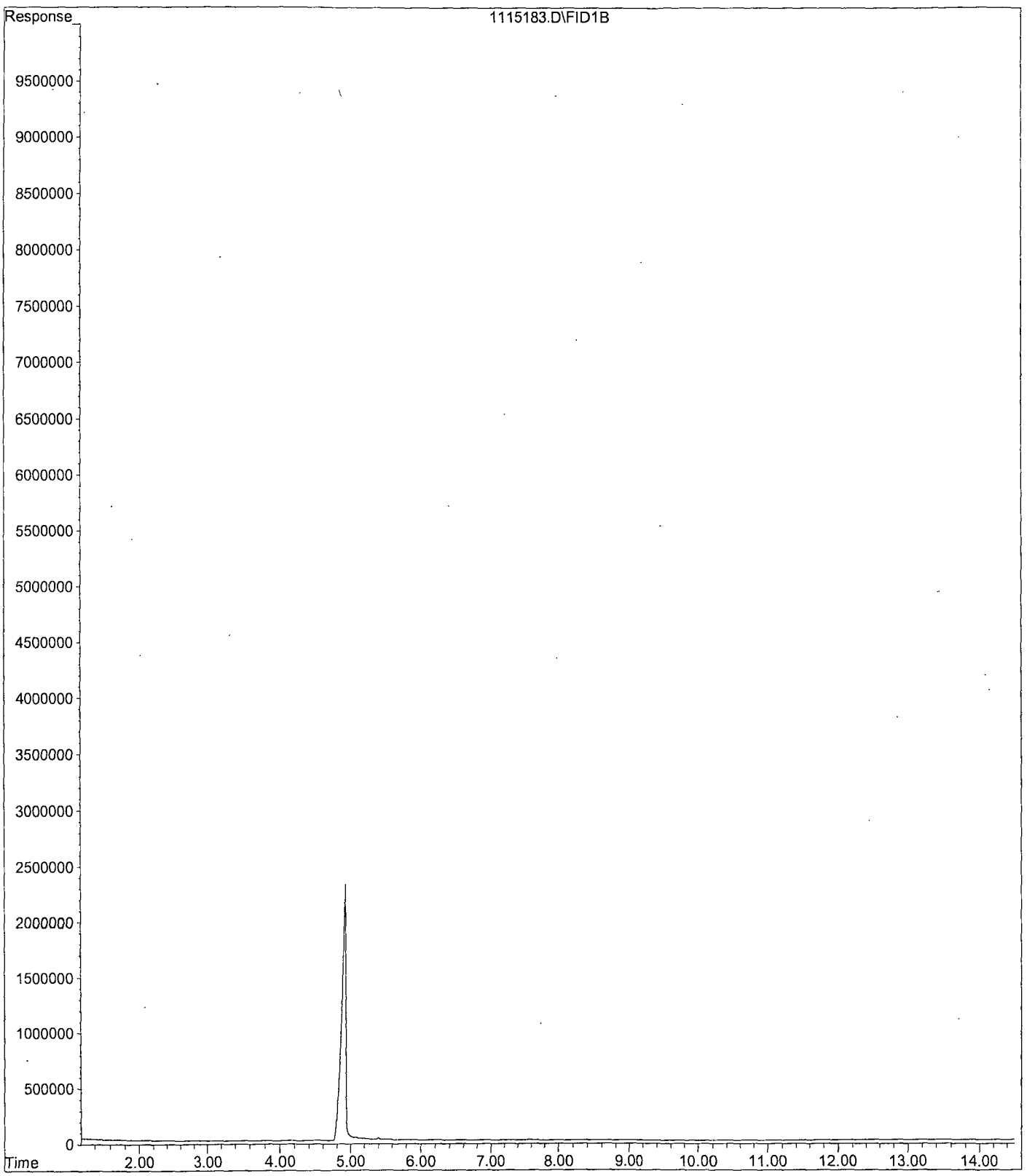
Data File : G:\APOLLO\DATA\2019\191115\1115183.D Vial: 83
Acq On : 11-20-19 12:12:26 Operator: BT
Sample : Decanoic Acid - 6 11/20/19 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Nov 22 8:51 2019 Quant Results File: DEC1120.RES

Method : G:\APOLLO\DATA\200129\DEC1120.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Jan 28 08:46:59 2020
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) SC Decanoic Acid(S)	4.93	97557275	73.366 ppb
Surrogate Spike 24.000	Recovery =		305.69%
Target Compounds			
Target Compounds			

File : G:\APOLLO\DATA\2019\191115\1115183.D
Operator : BT
Acquired : 11-20-19 12:12:26 using AcqMethod TPHSN.M
Instrument : Apollo
Sample Name: Decanoic Acid - 6 11/20/19
Misc Info : water
Vial Number: 83



TPH Extractables
DOC0111

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: Water

SDG No:
Date Analyzed: 01/25/20
Instrument: Apollo
Initial Cal. Date: 01/11/20
Data File: 111134.D

		Compound	MEAN	CCRF	%D	%Drift	
1	HATM	Diesel (C10-C24)	2087510	2035400	2.5	HATM	
2	HBTM	Motor Oil (C24-C40)	1489330	1465670	1.6	HBTM	
3	SA	Ortho-Terphenyl(S)	2149550	1887760	12	SA	
4	SA	Octacosane(S)	2081660	1816230	13	SA	
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			7.3		

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200111\111134.D Vial: 34
Acq On : 1-25-20 15:28:06 Operator: BT
Sample : Diesel/Motor Oil - CCV 12/23/19 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 27 9:56 2020 Quant Results File: DOC0111.RES

Method : G:\APOLLO\DATA\200111\DOC0111.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Mon Jan 13 07:59:04 2020
Response via : Multiple Level Calibration

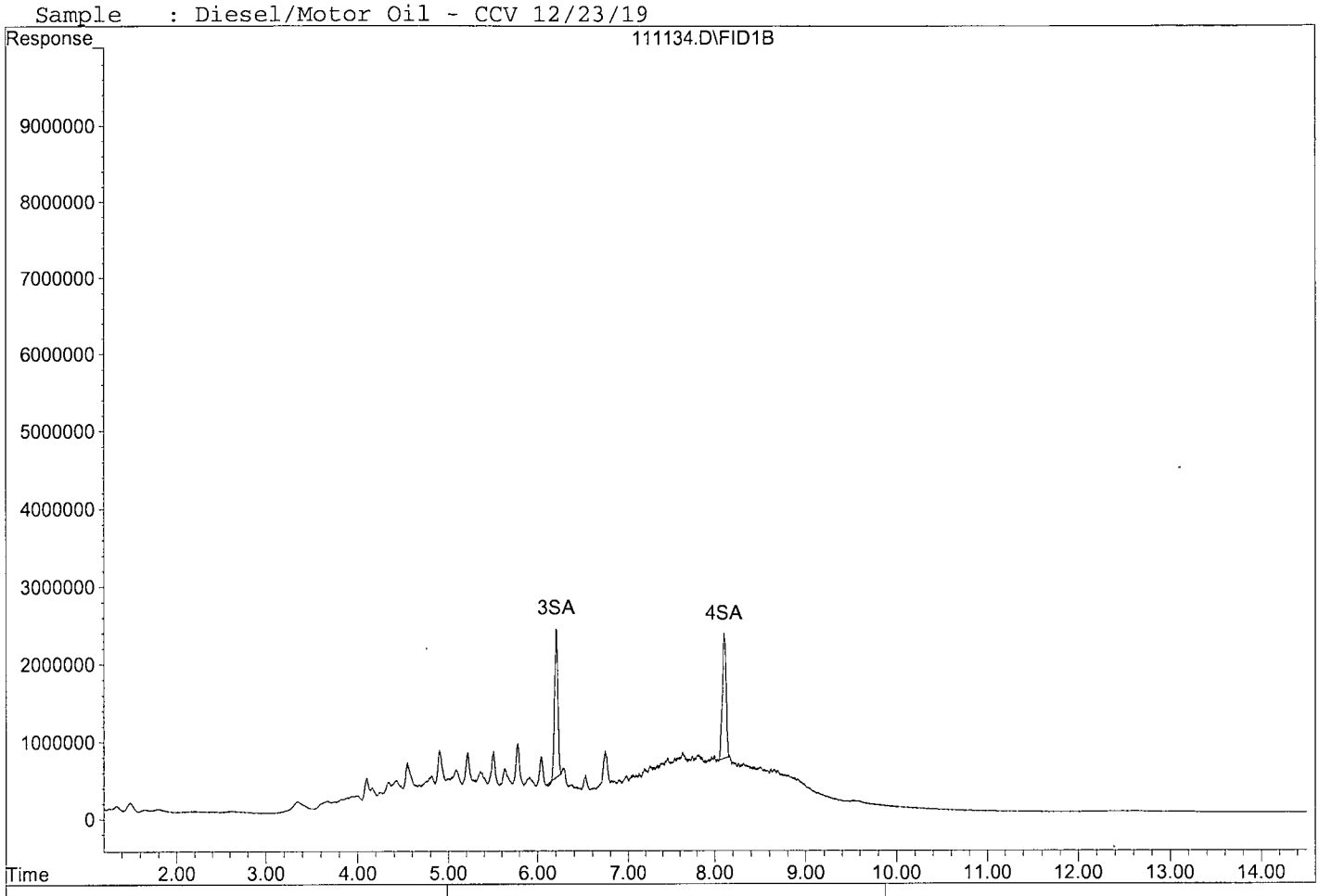
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

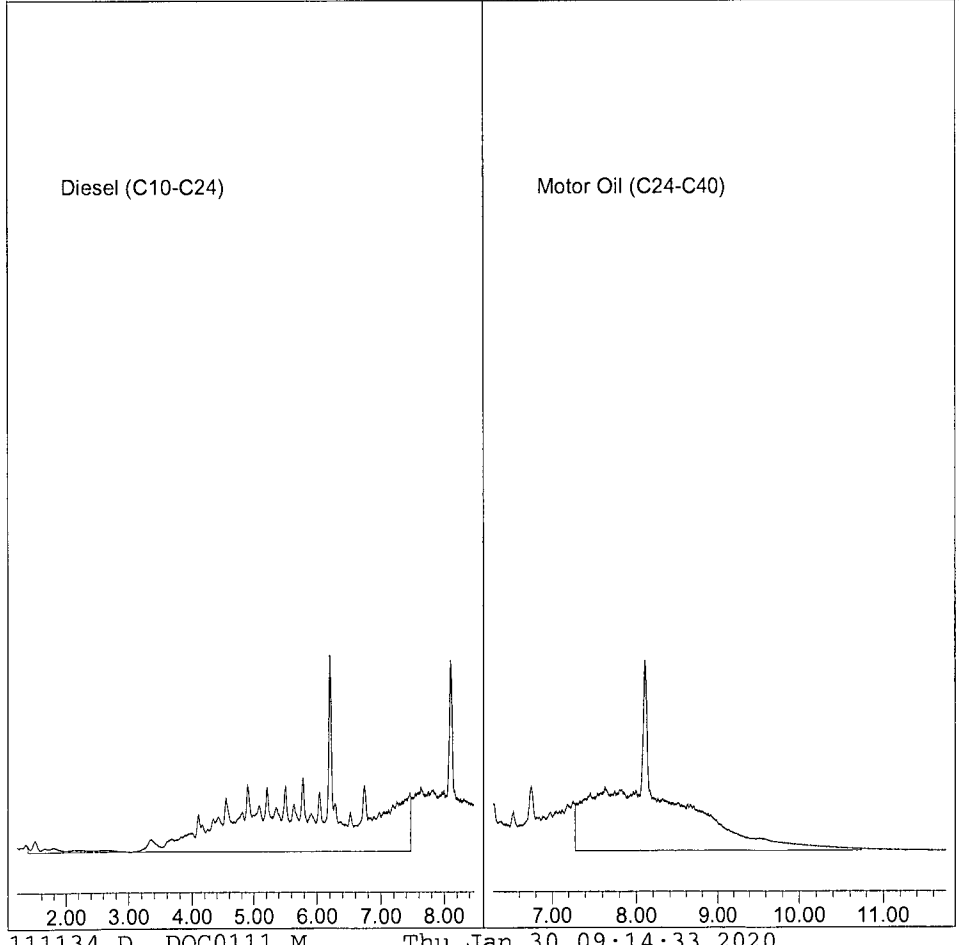
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SA Ortho-Terphenyl(S)	6.21	47194002	10.978 ppb
Surrogate Spike 30.000	Recovery =		36.59%
4) SA Octacosane(S)	8.10	45405855	10.906 ppb
Surrogate Spike 30.000	Recovery =		36.35%
Target Compounds			
1) HATM Diesel (C10-C24)	4.42	1017702065	243.760 ppb
2) HBTM Motor Oil (C24-C40)	9.01	732834599	246.029 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200111\111134.D
Sample : Diesel/Motor Oil - CCV 12/23/19





111134.D DOC0111.M Thu Jan 30 09:14:33 2020

TPH Extractables
DOC0111

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: Water

SDG No:
Date Analyzed: 01/25/20
Instrument: Apollo
Initial Cal. Date: 01/11/20
Data File: 111147.D

		Compound	MEAN	CCRF	%D	%Drift	
1	HATM	Diesel (C10-C24)	2087510	2076940	0.51	HATM	
2	HBTM	Motor Oil (C24-C40)	1489330	1486830	0.17	HBTM	
3	SA	Ortho-Terphenyl(S)	2149550	1932490	10	SA	
4	SA	Octacosane(S)	2081660	2016700	3.1	SA	
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			3.4		

TPH Extractables
DOC0129

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: Water

SDG No:
Date Analyzed: 01/29/20
Instrument: Apollo
Initial Cal. Date: 01/29/20
Data File: 129015.D

		Compound	MEAN	CCRF	%D		%Drift
1	HATM	Diesel (C10-C24)	2395940	1985120	17	HATML	1.3
2	HBTM	Motor Oil (C24-C40)	1822260	1536770	16	HBTML	1.3
3	SAL	Ortho-Terphenyl(S)	2240780	1979110	12	SAL	5.5
4	SAL	Octacosane(S)	2342280	1993940	15	SAL	0.18
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			15.0		

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200129\129015.D Vial: 15
Acq On : 1-29-20 17:54:39 Operator: BT
Sample : Diesel Motor Oil - CCV 12/23/19 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 30 8:18 2020 Quant Results File: DOC0129.RES

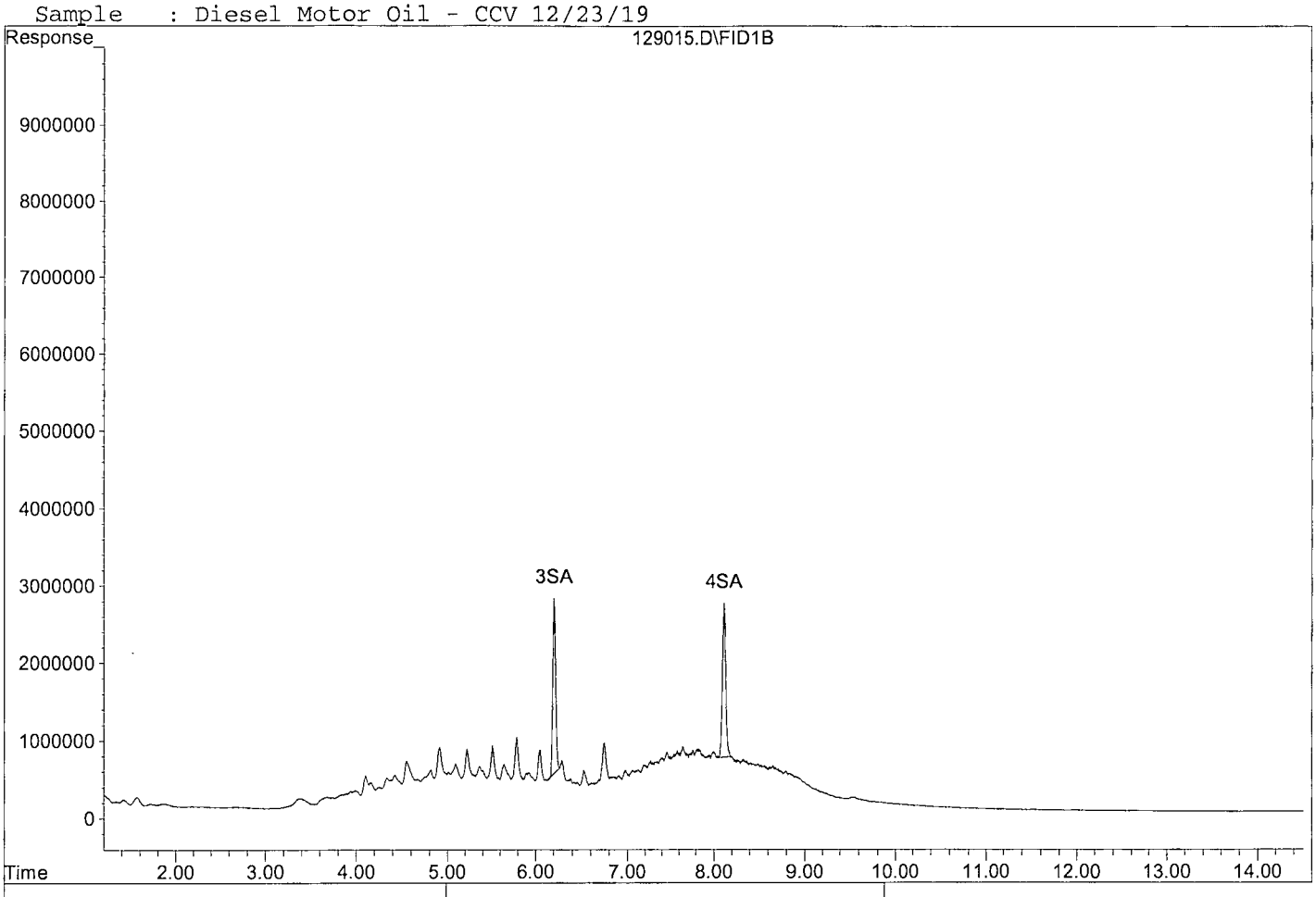
Method : G:\APOLLO\DATA\200129\DOC0129.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Jan 30 08:01:08 2020
Response via : Multiple Level Calibration

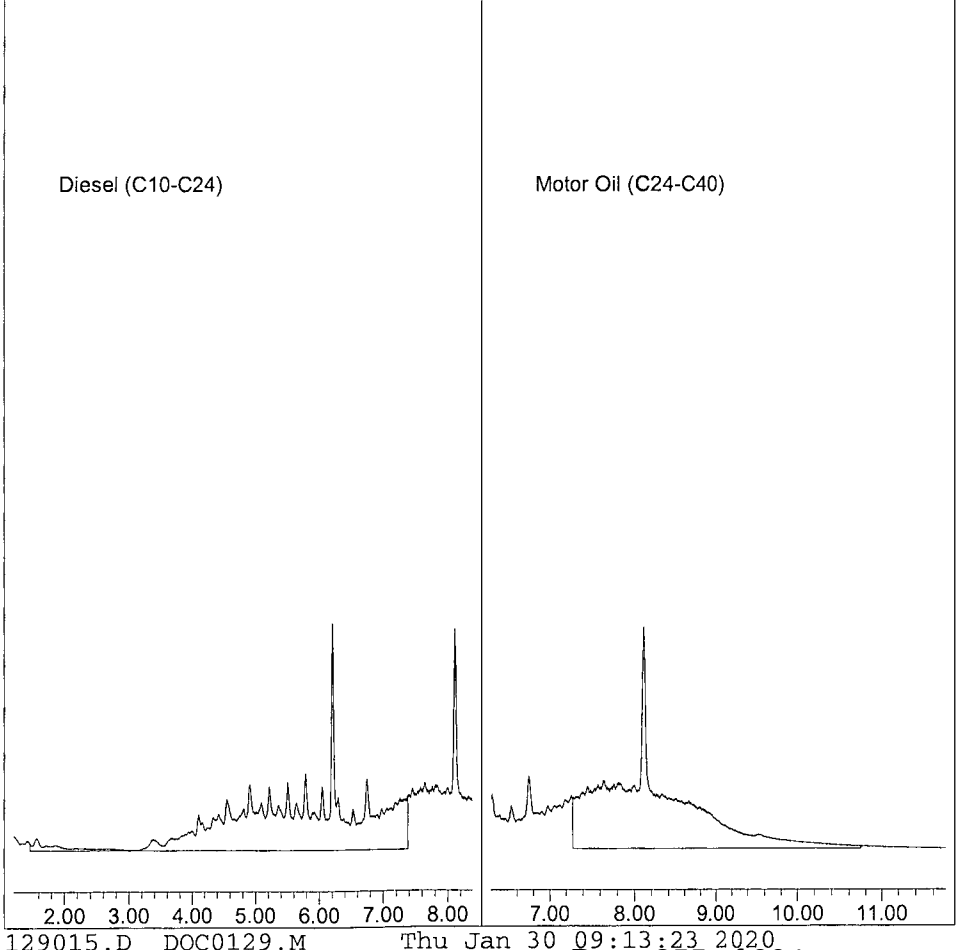
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SA Ortho-Terphenyl(S)	6.21	49477831	11.816 ppb
Surrogate Spike 30.000	Recovery =		39.39%
4) SA Octacosane(S)	8.11	49848513	12.522 ppb
Surrogate Spike 30.000	Recovery =		41.74%
Target Compounds			
1) HATM Diesel (C10-C24)	4.42	992561258	246.731 ppb
2) HBTM Motor Oil (C24-C40)	9.01	768384820	246.672 ppb
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200129\129015.D
Sample : Diesel Motor Oil - CCV 12/23/19





TPH Extractables
DEC1120

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: Water

SDG No:
Date Analyzed: 01/29/20
Instrument: Apollo
Initial Cal. Date: 11/20/19
Data File: 129016.D

		Compound	MEAN	CCRF	%D	%Drift	
1	SCL	Decanoic Acid(S)	664870	1047870	58	SCL	28 *
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			58.0		

Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\200129\129016.D Vial: 16
Acq On : 1-29-20 18:14:16 Operator: BT
Sample : Decanoic Acid CCV 1/27/20 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 30 8:11 2020 Quant Results File: DEC1120.RES

Method : G:\APOLLO\DATA\200129\DEC1120.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Jan 28 08:46:59 2020
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) SC Decanoic Acid(S)	4.97f	125744835	76.740 ppb
Surrogate Spike 24.000		Recovery =	319.75%
Target Compounds			
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

TPH Extractables
DOC0129

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: Water

SDG No:
Date Analyzed: 01/29/20
Instrument: Apollo
Initial Cal. Date: 01/29/20
Data File: 129029.D

		Compound	MEAN	CCRF	%D		%Drift
1	HATM	Diesel (C10-C24)	2395940	1998050	17	HATML	0.67
2	HBTM	Motor Oil (C24-C40)	1822260	1561680	14	HBTML	0.24
3	SAL	Ortho-Terphenyl(S)	2240780	1970790	12	SAL	5.8
4	SAL	Octacosane(S)	2342280	2091300	11	SAL	4.8
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			13.5		

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200129\129029.D Vial: 29
Acq On : 1-29-20 22:27:03 Operator: BT
Sample : Diesel Motor Oil - CCV 12/23/19 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 30 8:19 2020 Quant Results File: DOC0129.RES

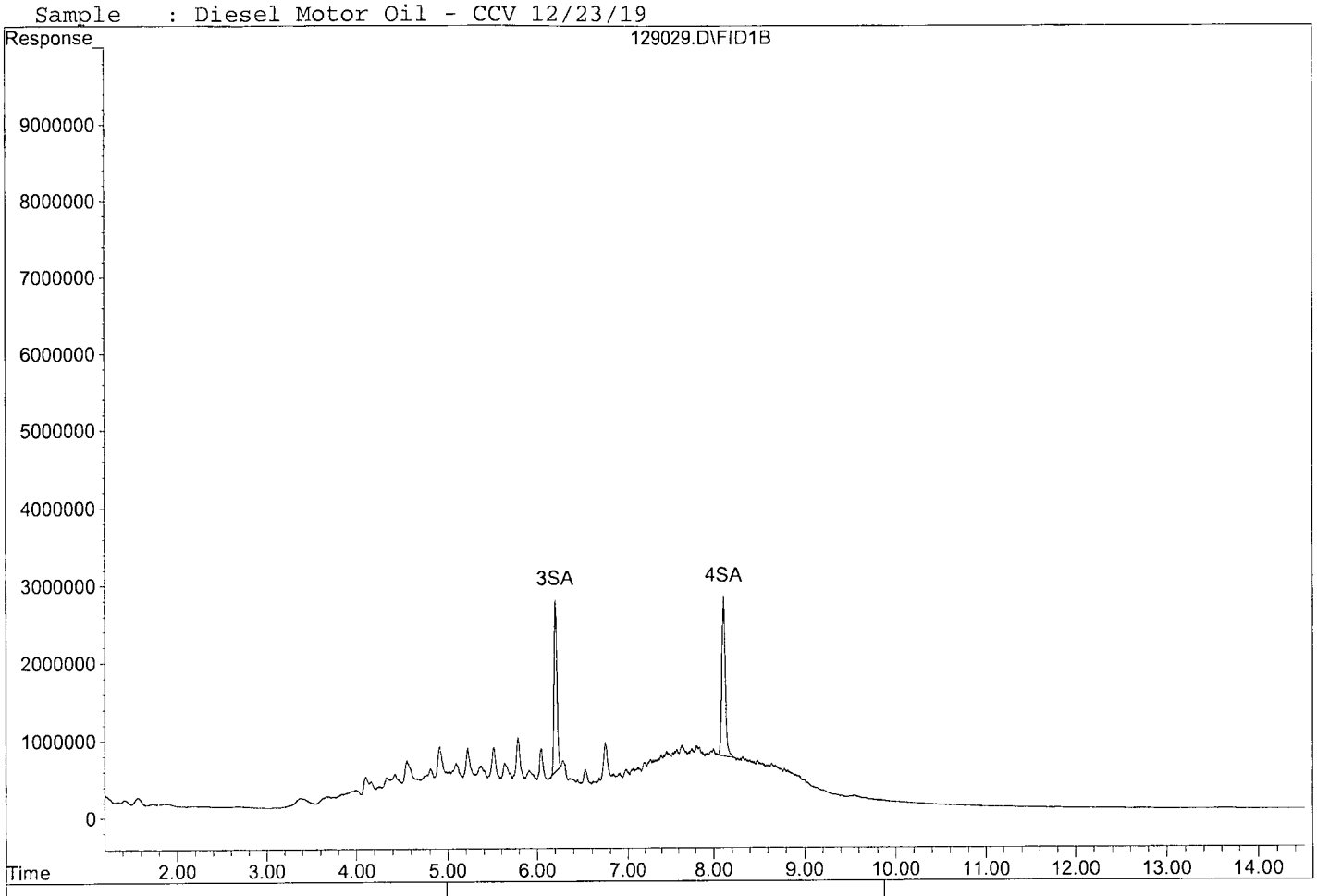
Method : G:\APOLLO\DATA\200129\DOC0129.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Jan 30 08:01:08 2020
Response via : Multiple Level Calibration

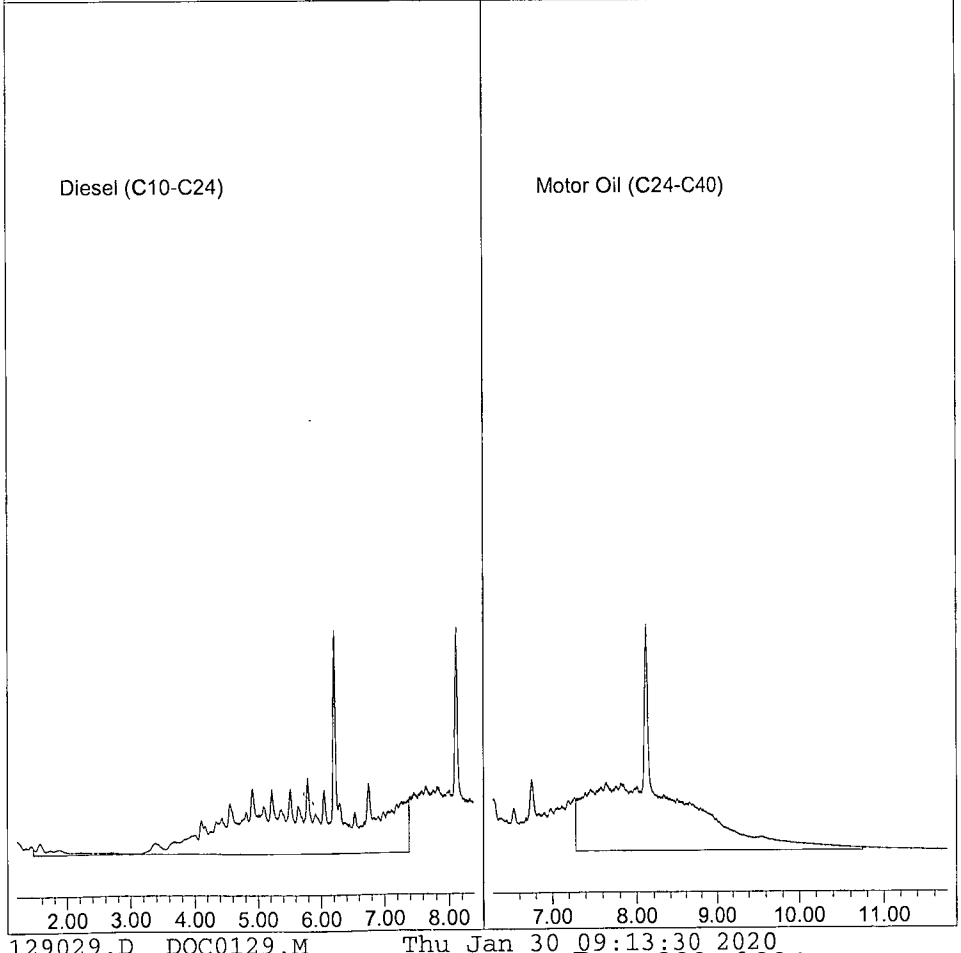
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SA Ortho-Terphenyl(S)	6.21	49269760	11.770 ppb
Surrogate Spike 30.000	Recovery =		39.23%
4) SA Octacosane(S)	8.11	52282451	13.100 ppb
Surrogate Spike 30.000	Recovery =		43.67%
Target Compounds			
1) HATM Diesel (C10-C24)	4.42	999024927	248.330 ppb
2) HBTM Motor Oil (C24-C40)	9.01	780842153	250.592 ppb
Target Compounds			

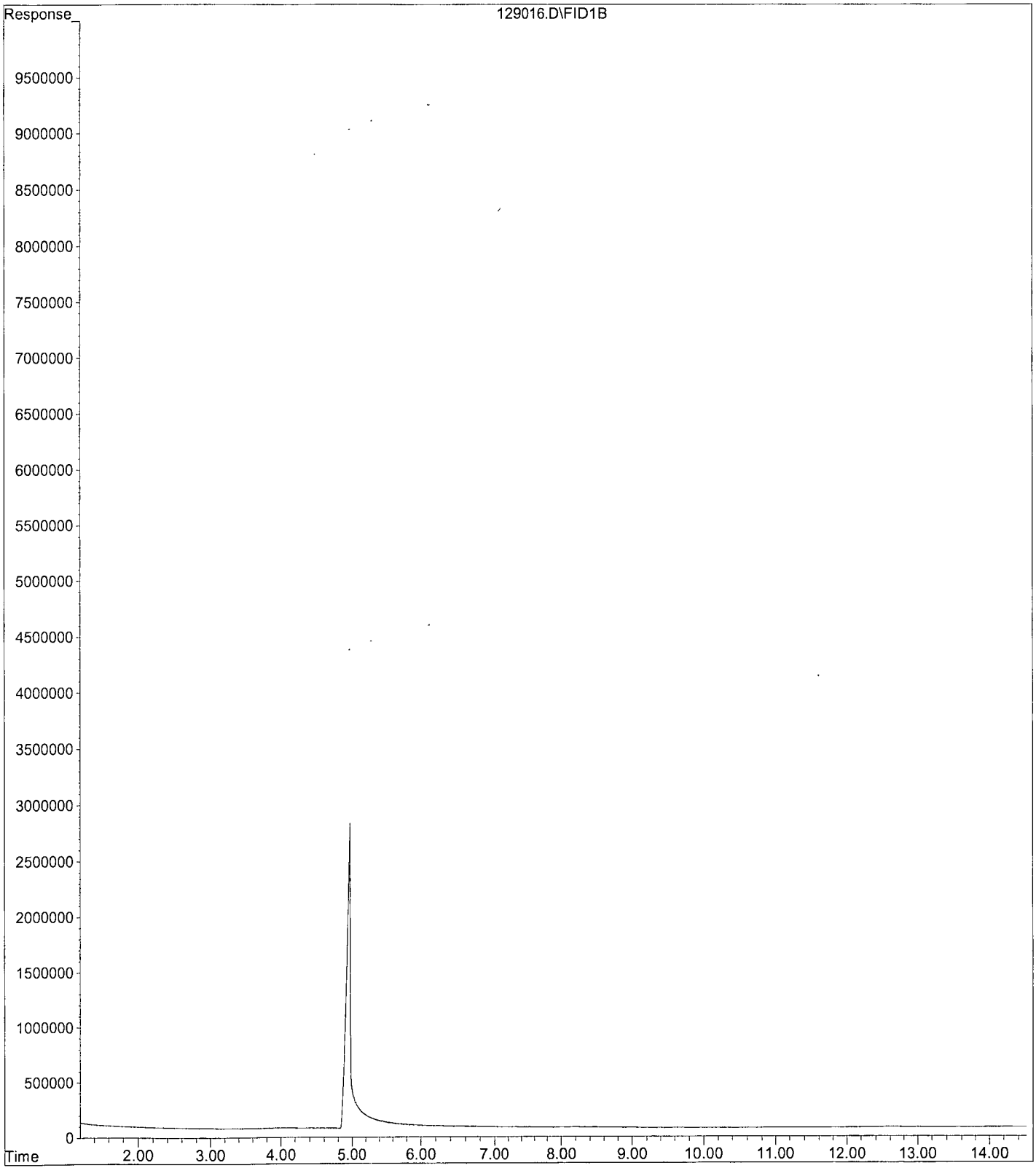
(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200129\129029.D
Sample : Diesel Motor Oil - CCV 12/23/19





File : G:\APOLLO\DATA\200129\129016.D
Operator : BT
Acquired : 1-29-20 18:14:16 using AcqMethod TPHSN.M
Instrument : Apollo
Sample Name: Decanoic Acid CCV 1/27/20
Misc Info : water
Vial Number: 16



TPH Extractables
DEC1120

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: Water

SDG No:
Date Analyzed: 01/29/20
Instrument: Apollo
Initial Cal. Date: 11/20/19
Data File: 129030.D

		Compound	MEAN	CCRF	%D	%Drift	
1	SCL	Decanoic Acid(S)	664870	976813	47	SCL	20
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			47.0		

TPH Extractables
DOC0129

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: Water

SDG No:
Date Analyzed: 01/30/20
Instrument: Apollo
Initial Cal. Date: 01/29/20
Data File: 129041.D

		Compound	MEAN	CCRF	%D		%Drift
1	HATM	Diesel (C10-C24)	2395940	2097950	12	HATML	4.3
2	HBTM	Motor Oil (C24-C40)	1822260	1619480	11	HBTML	3.9
3	SAL	Ortho-Terphenyl(S)	2240780	1814860	19	SAL	13
4	SAL	Octacosane(S)	2342280	2000560	15	SAL	0.49
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			14.3		

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200129\129041.D Vial: 41
Acq On : 1-30-20 2:21:17 Operator: BT
Sample : Diesel Motor Oil - CCV 12/23/19 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 30 8:59 2020 Quant Results File: DOC0129.RES

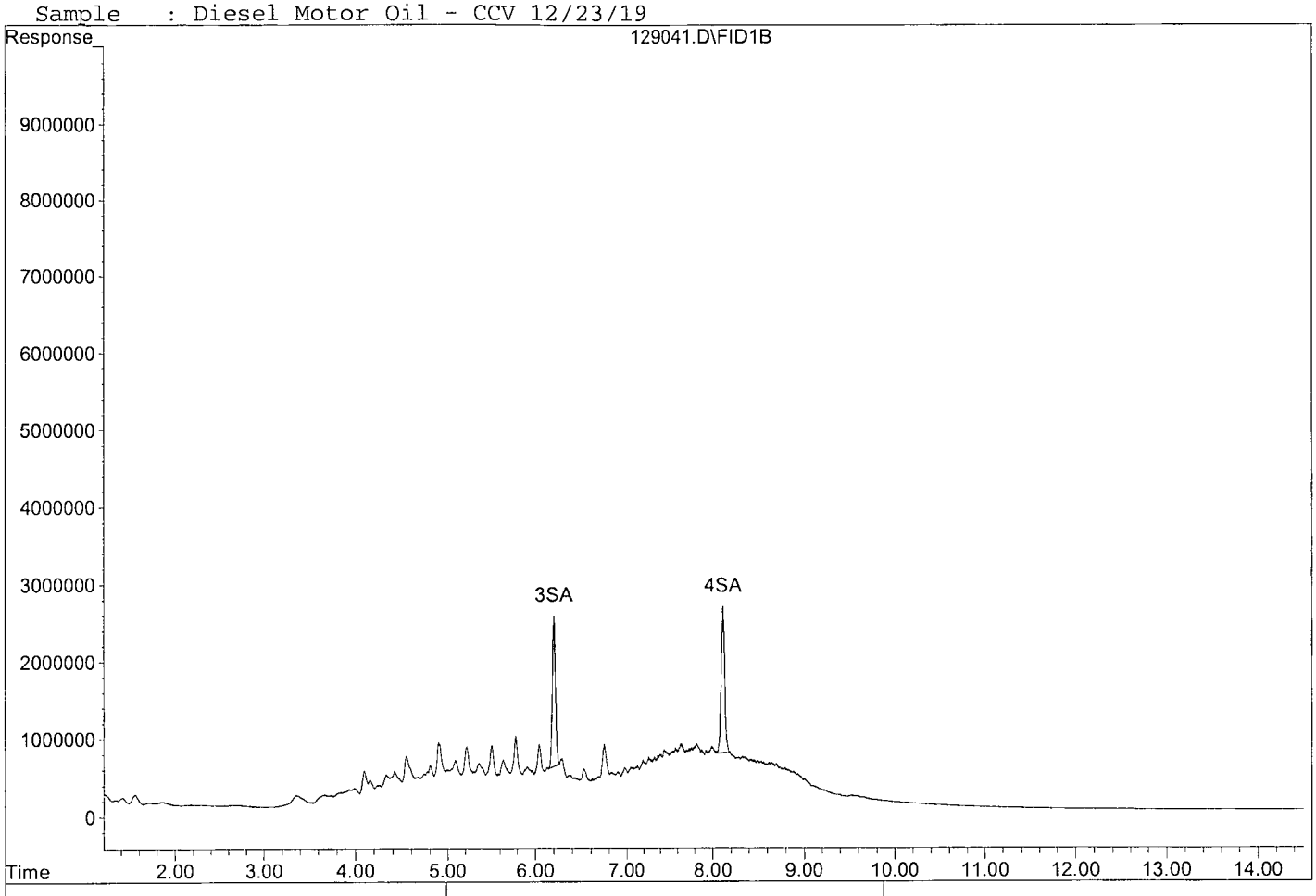
Method : G:\APOLLO\DATA\200129\DOC0129.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Jan 30 08:01:08 2020
Response via : Multiple Level Calibration

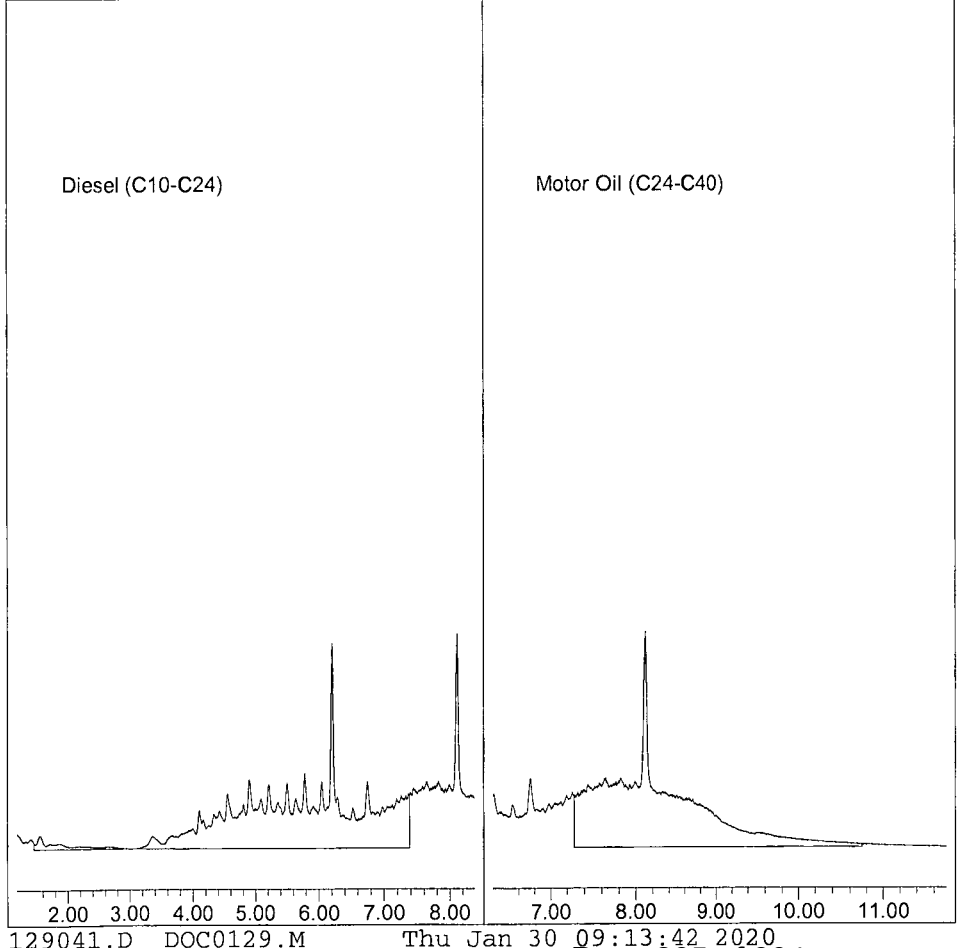
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SA Ortho-Terphenyl(S)	6.20	45371561	10.918 ppb
Surrogate Spike 30.000		Recovery =	36.39%
4) SA Octacosane(S)	8.11	50014014	12.561 ppb
Surrogate Spike 30.000		Recovery =	41.87%
Target Compounds			
1) HATM Diesel (C10-C24)	4.42	1048976107	260.682 ppb
2) HBTM Motor Oil (C24-C40)	9.01	809739887	259.684 ppb
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200129\129041.D
Sample : Diesel Motor Oil - CCV 12/23/19





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200129\129030.D Vial: 30
Acq On : 1-29-20 22:46:43 Operator: BT
Sample : Decanoic Acid CCV 1/27/20 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 30 8:26 2020 Quant Results File: DEC1120.RES

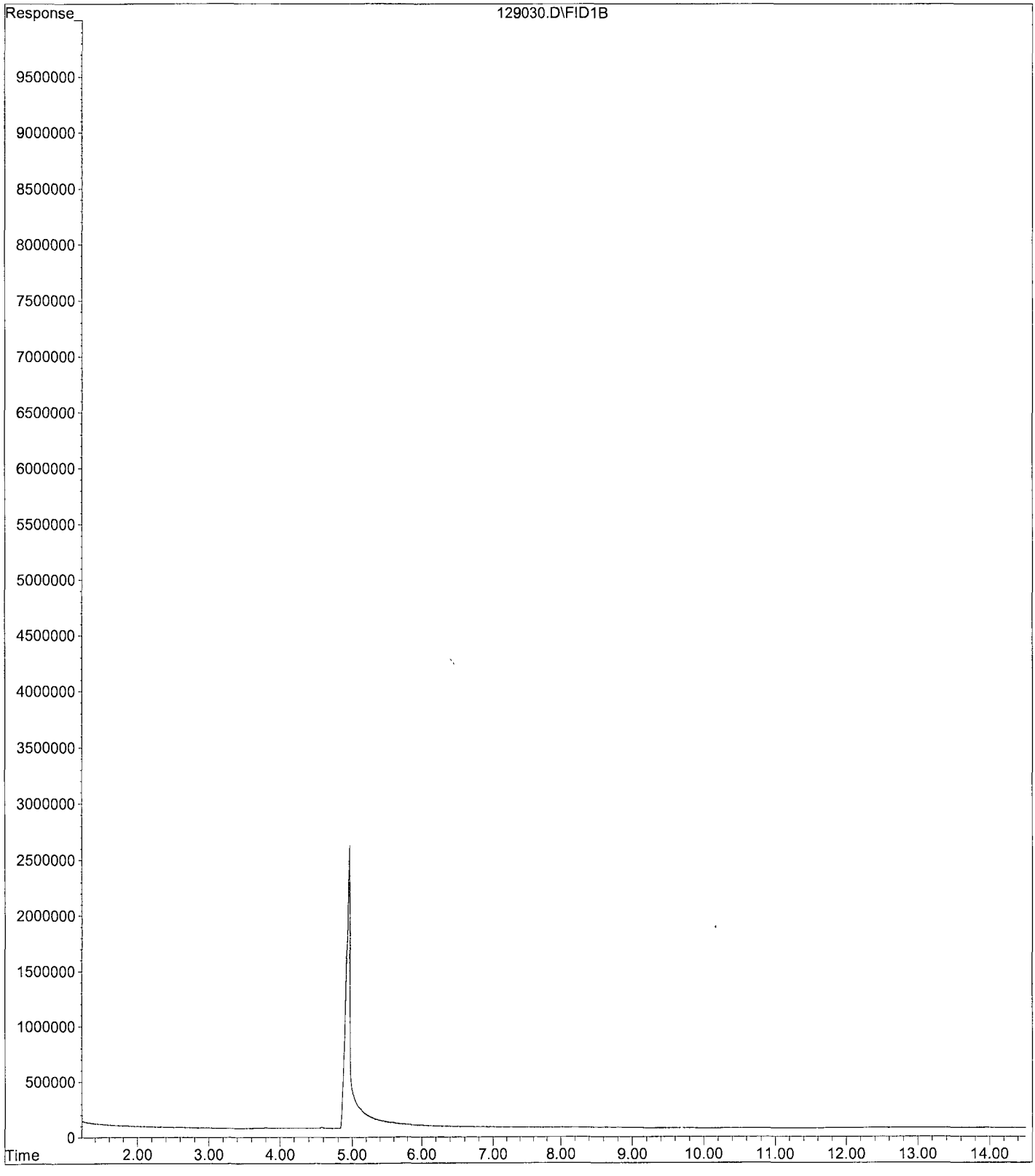
Method : G:\APOLLO\DATA\200129\DEC1120.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Jan 28 08:46:59 2020
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) SC Decanoic Acid(S)	4.96	117217584	71.708 ppb
Surrogate Spike 24.000		Recovery =	298.78%
Target Compounds			
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

File : G:\APOLLO\DATA\200129\129030.D
Operator : BT
Acquired : 1-29-20 22:46:43 using AcqMethod TPHSN.M
Instrument : Apollo
Sample Name: Decanoic Acid CCV 1/27/20
Misc Info : water
Vial Number: 30



TPH Extractables
DEC1120

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: Water

SDG No:
Date Analyzed: 01/30/20
Instrument: Apollo
Initial Cal. Date: 11/20/19
Data File: 129042.D

		Compound	MEAN	CCRF	%D	%Drift	
1	SCL	Decanoic Acid(S)	664870	1068030	61	SCL 30	*
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			61.0		

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200129\129042.D Vial: 42
Acq On : 1-30-20 2:40:50 Operator: BT
Sample : Decanoic Acid CCV 1/27/20 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 30 9:19 2020 Quant Results File: DEC1120.RES

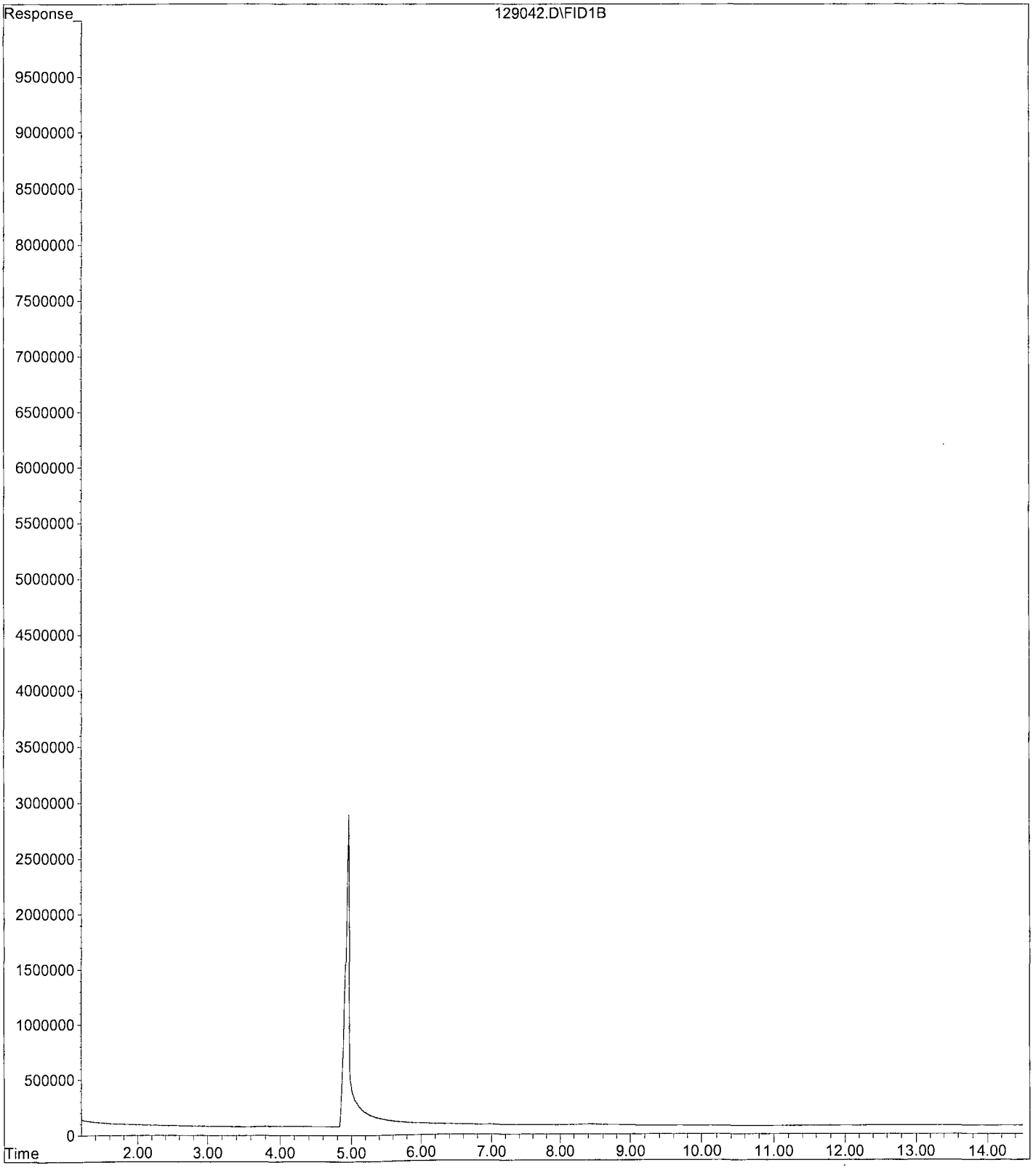
Method : G:\APOLLO\DATA\200129\DEC1120.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Jan 28 08:46:59 2020
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) SC Decanoic Acid(S)	4.97f	128163202	78.167 ppb
Surrogate Spike 24.000		Recovery =	325.70%
Target Compounds			
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

File : G:\APOLLO\DATA\200129\129042.D
Operator : BT
Acquired : 1-30-20 2:40:50 using AcqMethod TPHSN.M
Instrument : Apollo
Sample Name: Decanoic Acid CCV 1/27/20
Misc Info : water
Vial Number: 42



TPH Extractables
DOC0129

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: Water

SDG No:
Date Analyzed: 01/30/20
Instrument: Apollo
Initial Cal. Date: 01/29/20
Data File: 129056.D

		Compound	MEAN	CCRF	%D		%Drift
1	HATM	Diesel (C10-C24)	2395940	2164130	9.7	HATML	7.5
2	HBTM	Motor Oil (C24-C40)	1822260	1681790	7.7	HBTML	7.8
3	SAL	Ortho-Terphenyl(S)	2240780	1932790	14	SAL	7.5
4	SAL	Octacosane(S)	2342280	2151380	8.1	SAL	7.6
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			9.9		

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200129\129056.D Vial: 56
Acq On : 1-30-20 7:13:33 Operator: BT
Sample : Diesel Motor Oil - CCV 12/23/19 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 30 8:59 2020 Quant Results File: DOC0129.RES

Method : G:\APOLLO\DATA\200129\DOC0129.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Jan 30 08:01:08 2020
Response via : Multiple Level Calibration

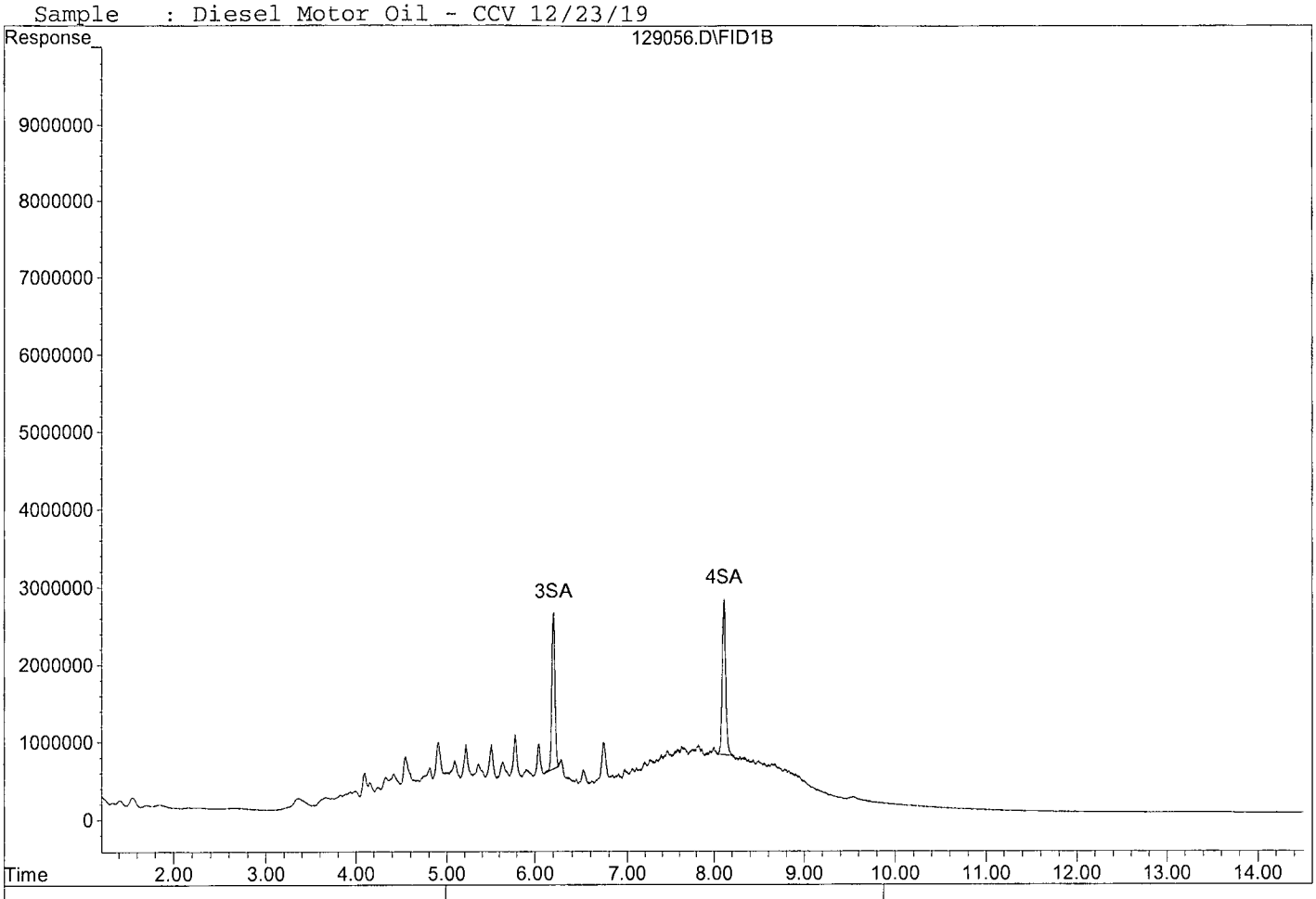
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

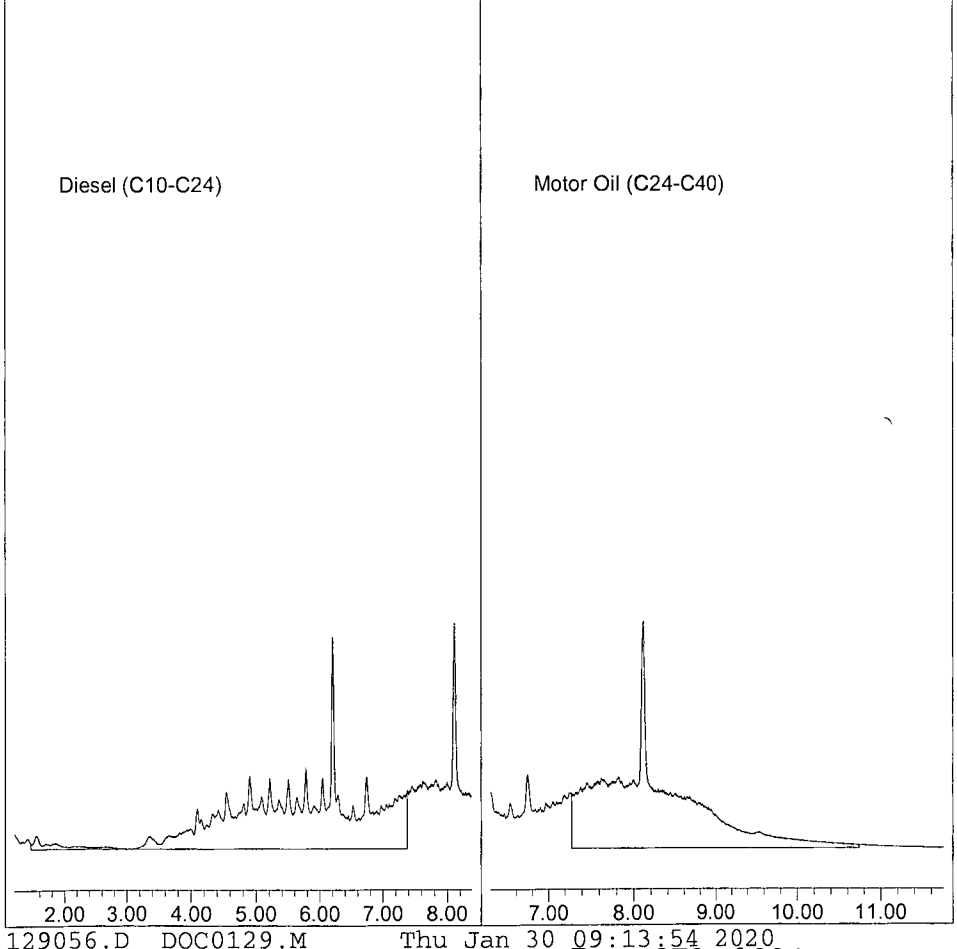
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SA Ortho-Terphenyl(S)	6.20	48319647	11.562 ppb
Surrogate Spike 30.000		Recovery =	38.54%
4) SA Octacosane(S)	8.11	53784589	13.456 ppb
Surrogate Spike 30.000		Recovery =	44.85%
Target Compounds			
1) HATM Diesel (C10-C24)	4.42	1082066144	268.864 ppb
2) HBTM Motor Oil (C24-C40)	9.01	840893967	269.486 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200129\129056.D
Sample : Diesel Motor Oil - CCV 12/23/19





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200111\111147.D Vial: 47
Acq On : 1-25-20 19:42:30 Operator: BT
Sample : Diesel/Motor Oil - CCV 12/23/19 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 27 9:56 2020 Quant Results File: DOC0111.RES

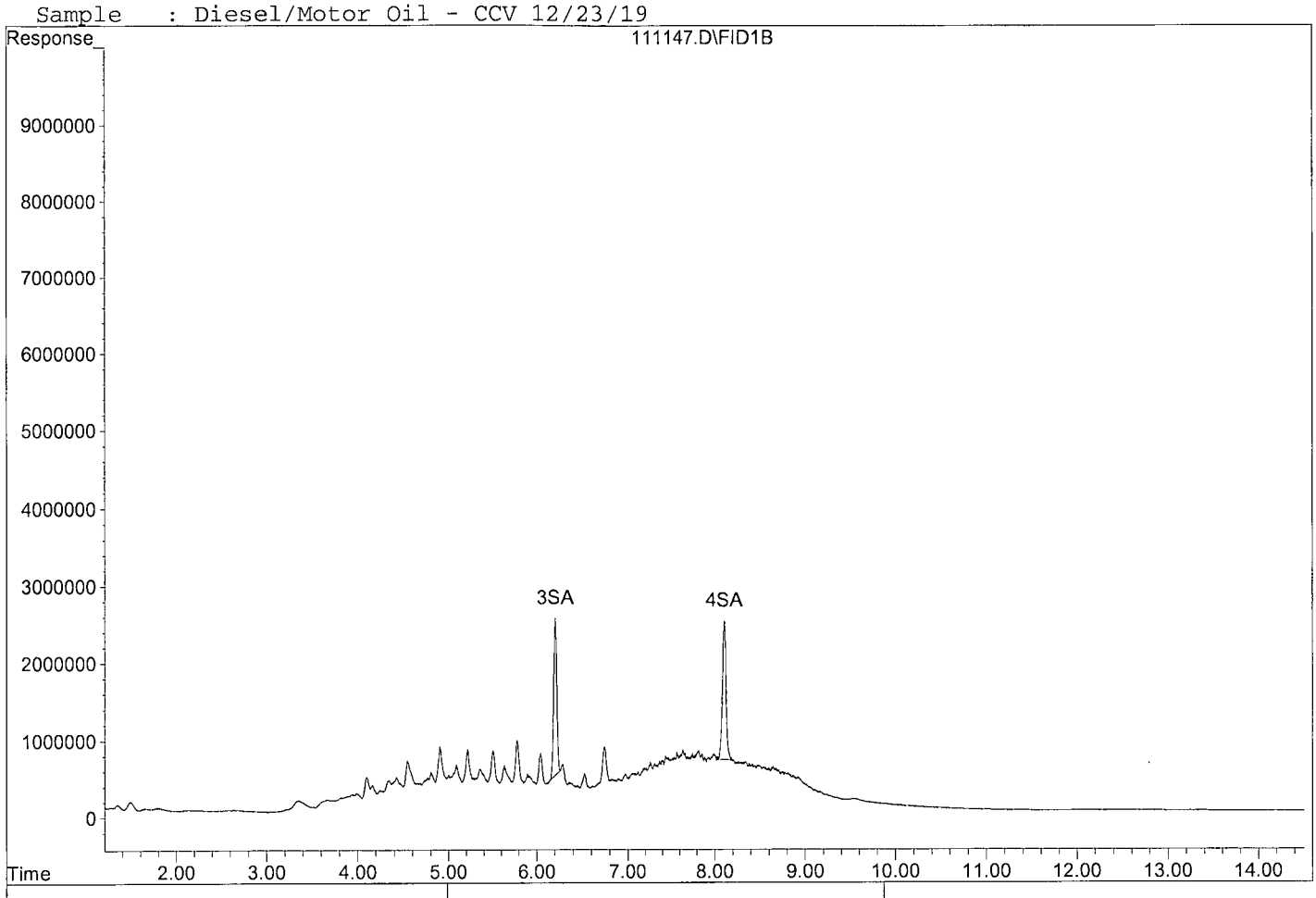
Method : G:\APOLLO\DATA\200111\DOC0111.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Mon Jan 13 07:59:04 2020
Response via : Multiple Level Calibration

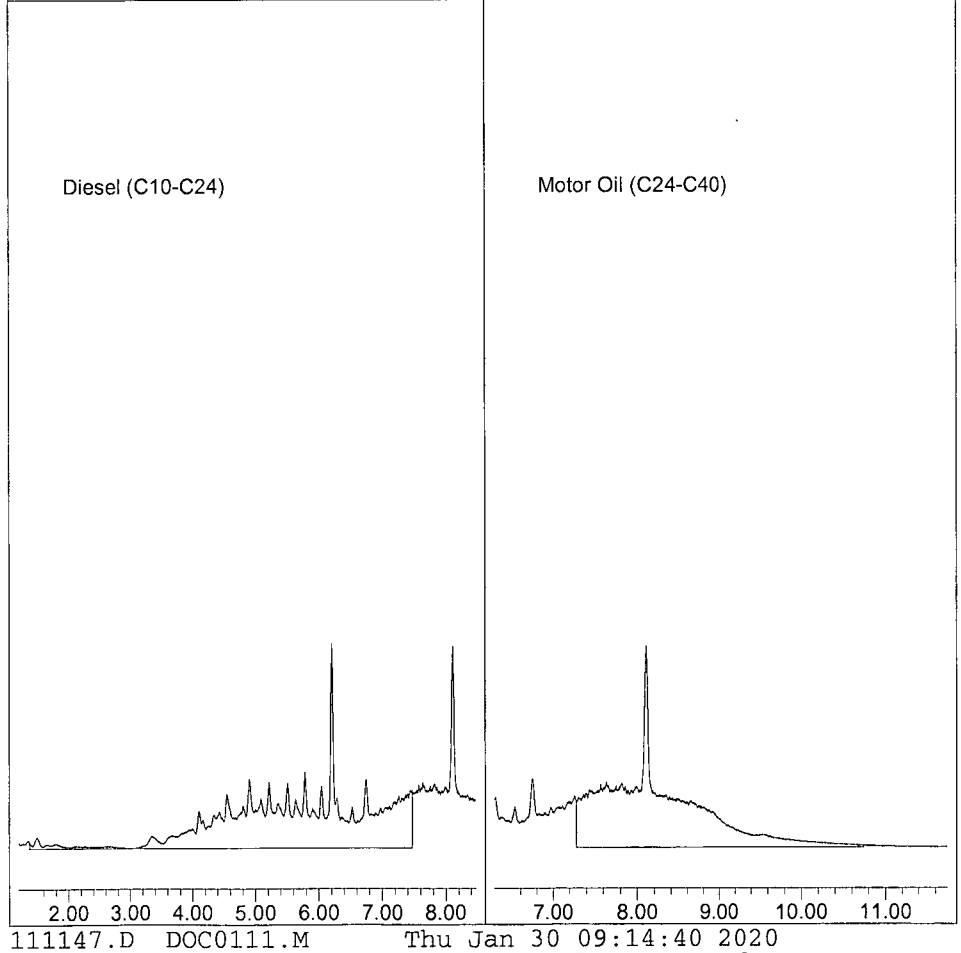
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SA Ortho-Terphenyl(S)	6.21	48312335	11.238 ppb
Surrogate Spike 30.000	Recovery =		37.46%
4) SA Octacosane(S)	8.11	50417477	12.110 ppb
Surrogate Spike 30.000	Recovery =		40.37%
Target Compounds			
1) HATM Diesel (C10-C24)	4.42	1038470842	248.734 ppb
2) HBTM Motor Oil (C24-C40)	9.01	743416723	249.581 ppb
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200111\111147.D
Sample : Diesel/Motor Oil - CCV 12/23/19





ORGANICS
Raw Data

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200129\129043.D Vial: 43
Acq On : 1-30-20 3:00:23 Operator: BT
Sample : BA06313W14 2/800 Inst : Apollo
Misc : water Multiplr: 2.50
IntFile : events.e
Quant Time: Jan 30 8:59 2020 Quant Results File: DOC0129.RES

Method : G:\APOLLO\DATA\200129\DOC0129.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Jan 30 08:01:08 2020
Response via : Multiple Level Calibration

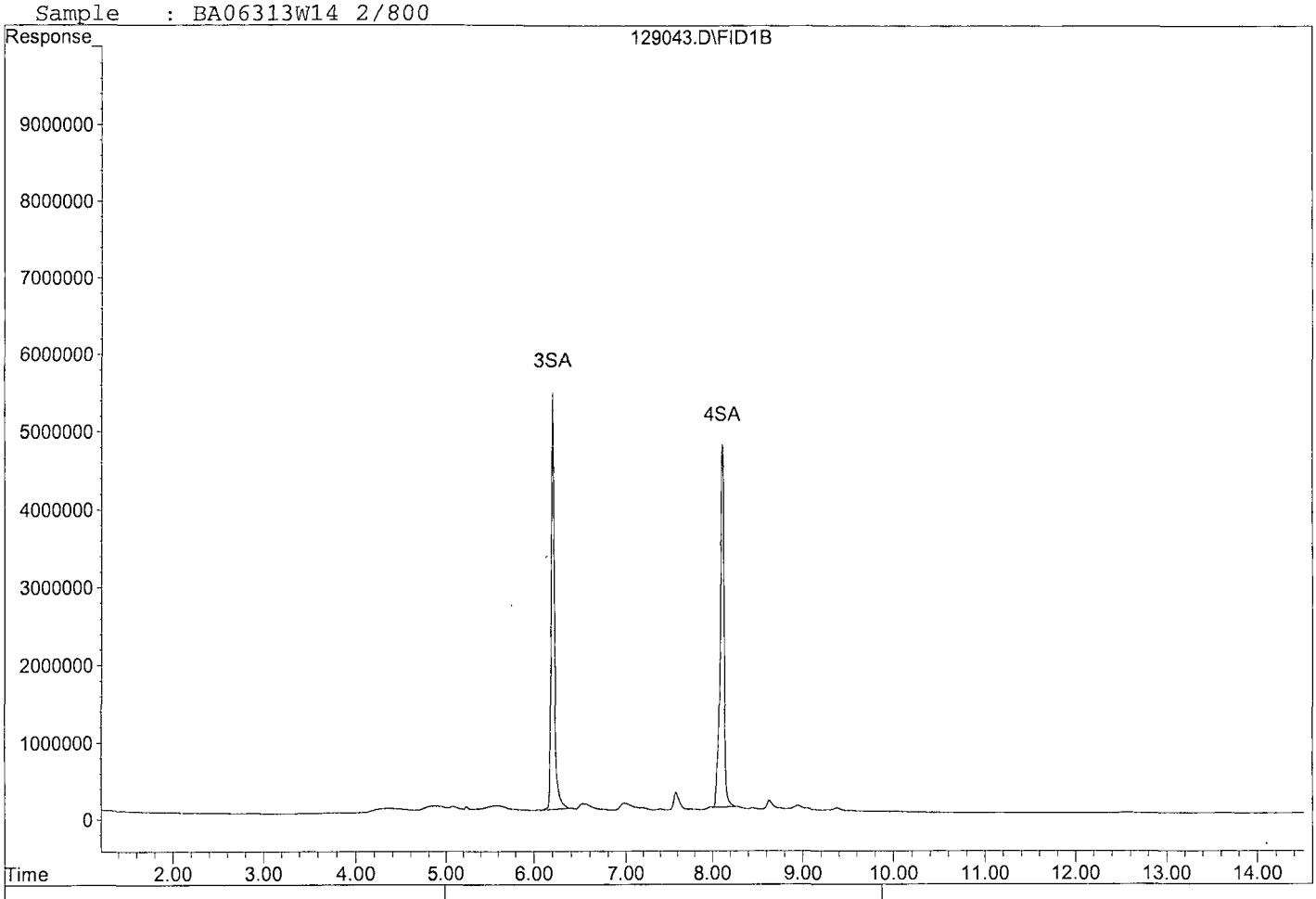
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

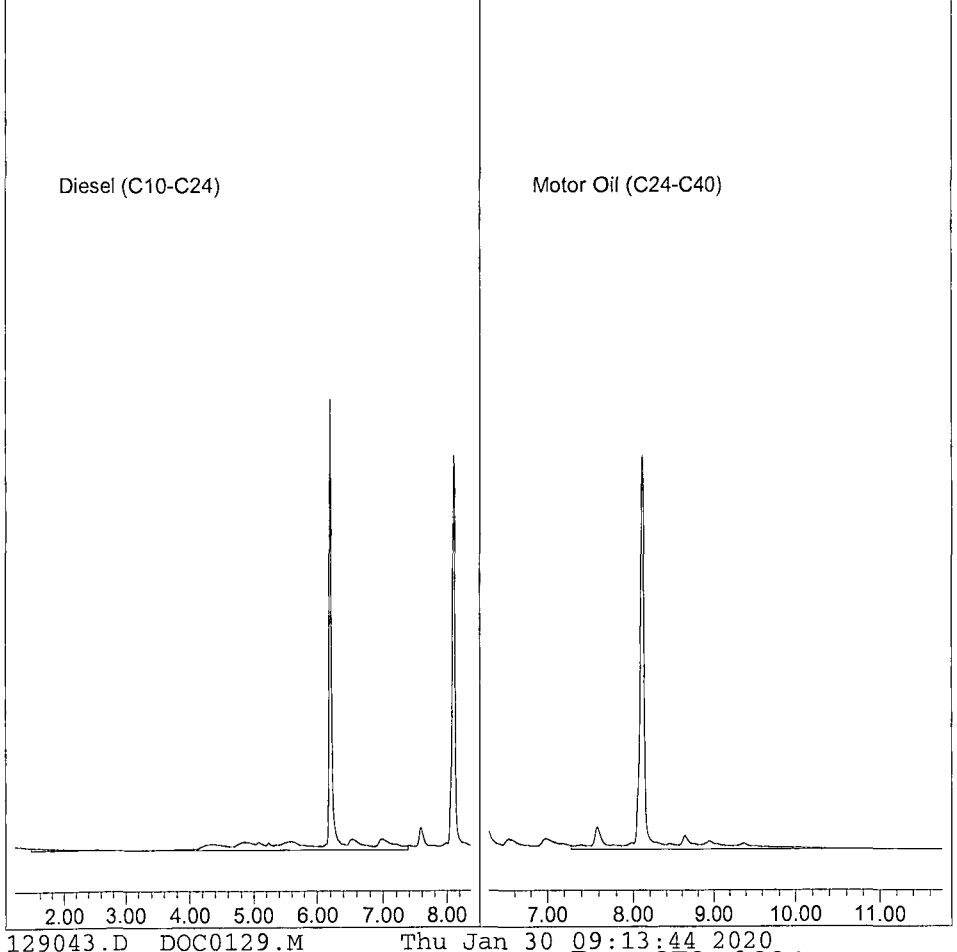
Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
3) SA Ortho-Terphenyl(S)	6.20	128688364	72.843	ppb
Surrogate Spike 75.000	Recovery =		97.12%	
4) SA Octacosane(S)	8.11	146231961	88.468	ppb
Surrogate Spike 75.000	Recovery =		117.96%	
Target Compounds				
1) HATM Diesel (C10-C24)	4.42	144409935	92.492	ppb
2) HBTM Motor Oil (C24-C40)	9.01	101063520	91.767	ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200129\129043.D
Sample : BA06313W14 2/800





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200129\129031.D Vial: 31
Acq On : 1-29-20 23:06:19 Operator: BT
Sample : BA06313W14 2/800 SG Inst : Apollo
Misc : water Multiplr: 2.50
IntFile : events.e
Quant Time: Jan 30 9:01 2020 Quant Results File: DOC0129.RES

Method : G:\APOLLO\DATA\200129\DOC0129.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Jan 30 08:01:08 2020
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
3) SA Ortho-Terphenyl(S)	6.21	75588333	43.814	ppb
Surrogate Spike 75.000	Recovery =		58.42%	
4) SA Octacosane(S)	8.11	69101270	42.724	ppb
Surrogate Spike 75.000	Recovery =		56.97%	
Target Compounds				
Target Compounds				
1) HATM Diesel (C10-C24)	0.00	0	N.D.	ppb
2) HBTM Motor Oil (C24-C40)	0.00	0	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200129\129031.D Vial: 31
Acq On : 1-29-20 23:06:19 Operator: BT
Sample : BA06313W14 2/800 SG Inst : Apollo
Misc : water Multiplr: 2.50
IntFile : events.e
Quant Time: Jan 30 9:19 2020 Quant Results File: DEC1120.RES

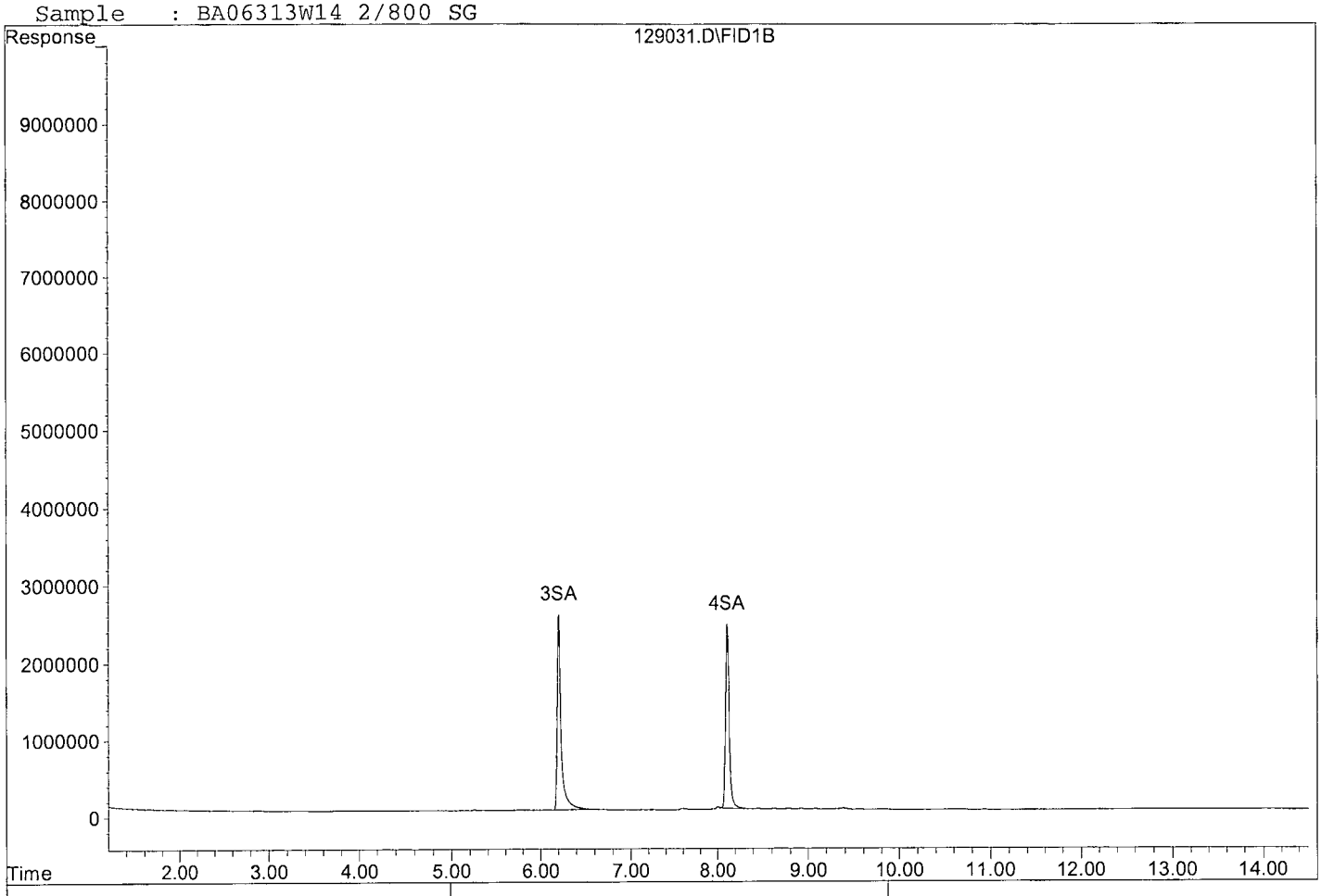
Method : G:\APOLLO\DATA\200129\DEC1120.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Jan 28 08:46:59 2020
Response via : Multiple Level Calibration

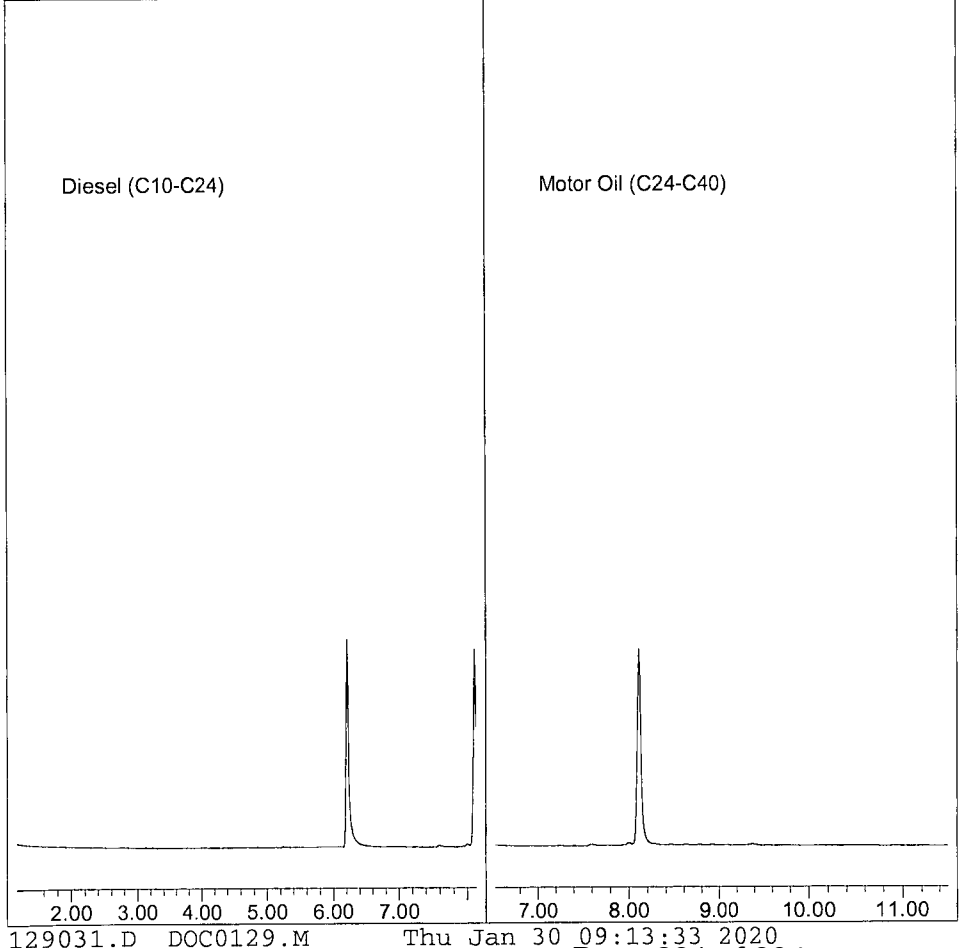
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
1) SC Decanoic Acid(S)	0.00	0	N.D.	ppb
Surrogate Spike 60.000	Recovery	=	0.00%	
Target Compounds				
Target Compounds				

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200129\129031.D
Sample : BA06313W14 2/800 SG





129031.D DOC0129.M Thu Jan 30 09:13:33 2020

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200129\129044.D Vial: 44
Acq On : 1-30-20 3:19:56 Operator: BT
Sample : BA06315W14 2/800 Inst : Apollo
Misc : water Multiplr: 2.50
IntFile : events.e
Quant Time: Jan 30 8:59 2020 Quant Results File: DOC0129.RES

Method : G:\APOLLO\DATA\200129\DOC0129.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Jan 30 08:01:08 2020
Response via : Multiple Level Calibration

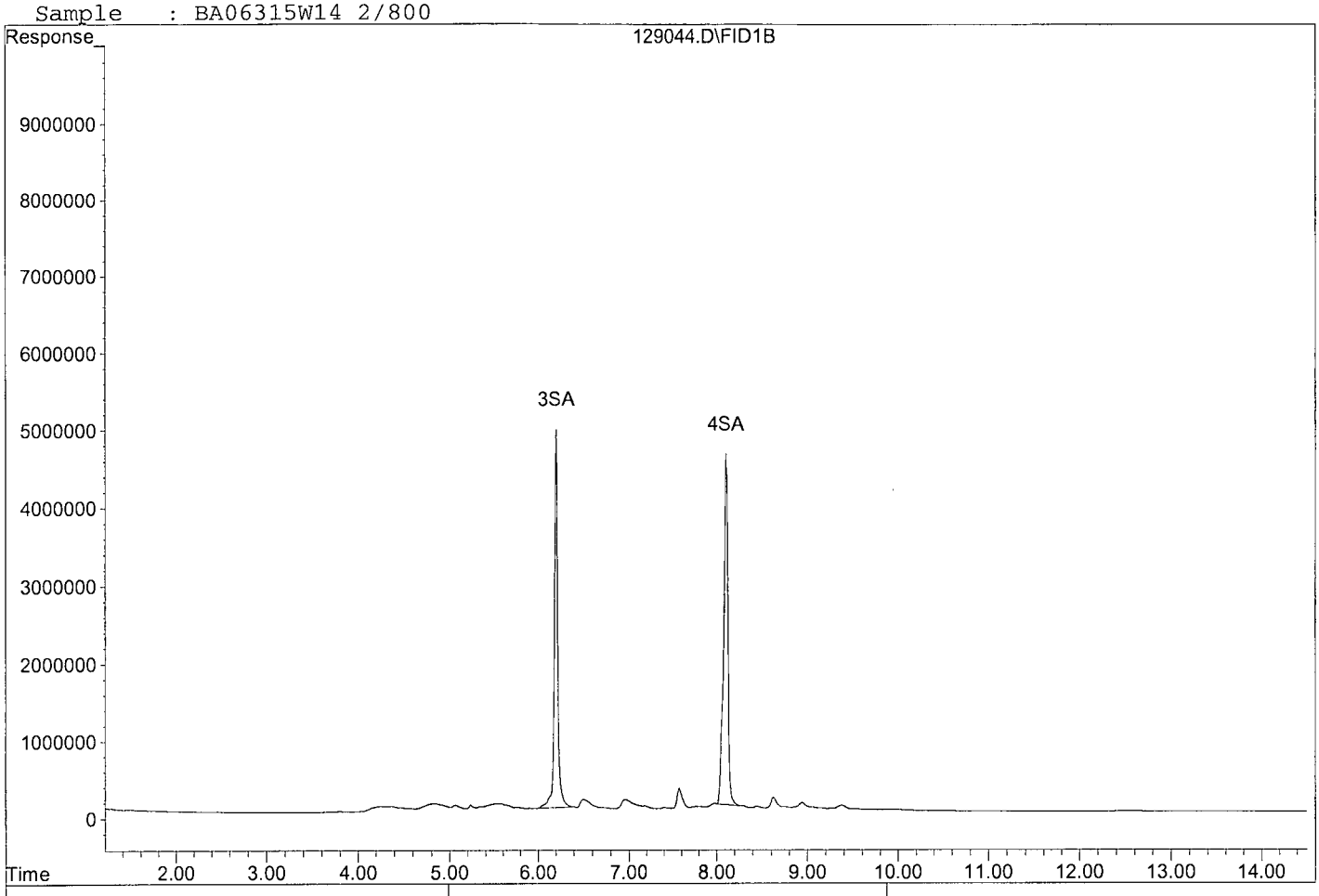
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

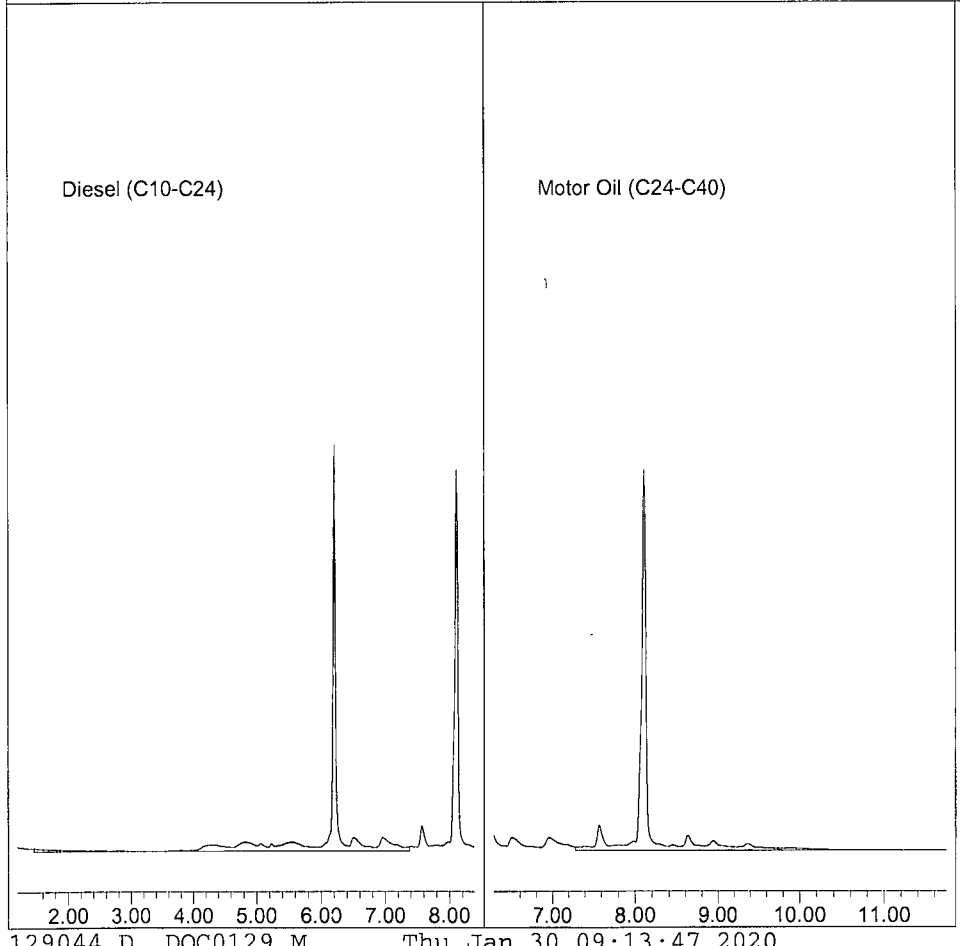
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SA Ortho-Terphenyl(S)	6.20	125862442	71.298 ppb
Surrogate Spike 75.000	Recovery =		95.06%
4) SA Octacosane(S)	8.11	149876819	90.629 ppb
Surrogate Spike 75.000	Recovery =		120.84%
Target Compounds			
1) HATM Diesel (C10-C24)	4.42	157163161	100.376 ppb
2) HBTM Motor Oil (C24-C40)	9.01	109322207	98.263 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200129\129044.D
Sample : BA06315W14 2/800





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200129\129032.D Vial: 32
Acq On : 1-29-20 23:25:54 Operator: BT
Sample : BA06315W14 2/800 SG Inst : Apollo
Misc : water Multiplr: 2.50
IntFile : events.e
Quant Time: Jan 30 9:02 2020 Quant Results File: DOC0129.RES

Method : G:\APOLLO\DATA\200129\DOC0129.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Jan 30 08:01:08 2020
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
3) SA Ortho-Terphenyl(S)	6.21	120027048	68.108	ppb
Surrogate Spike 75.000	Recovery =		90.81%	
4) SA Octacosane(S)	8.11	110673343	67.379	ppb
Surrogate Spike 75.000	Recovery =		89.84%	
Target Compounds				
Target Compounds				
1) HATM Diesel (C10-C24)	0.00	0	N.D.	ppb
2) HBTM Motor Oil (C24-C40)	0.00	0	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200129\129032.D
Acq On : 1-29-20 23:25:54
Sample : BA06315W14 2/800 SG
Misc : water
IntFile : events.e
Quant Time: Jan 30 9:19 2020 Quant Results File: DEC1120.RES

Vial: 32
Operator: BT
Inst : Apollo
Multiplr: 2.50

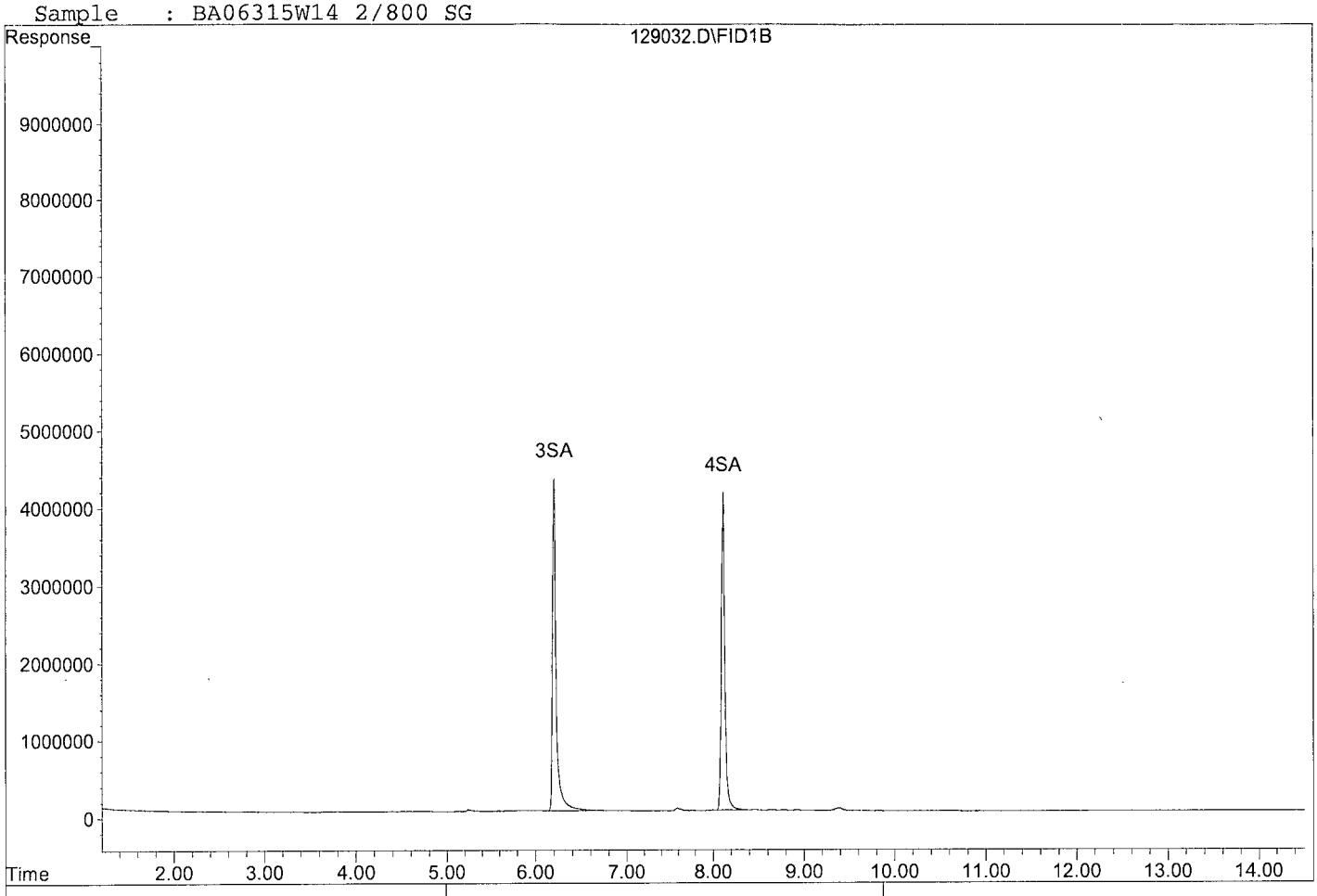
Method : G:\APOLLO\DATA\200129\DEC1120.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Jan 28 08:46:59 2020
Response via : Multiple Level Calibration

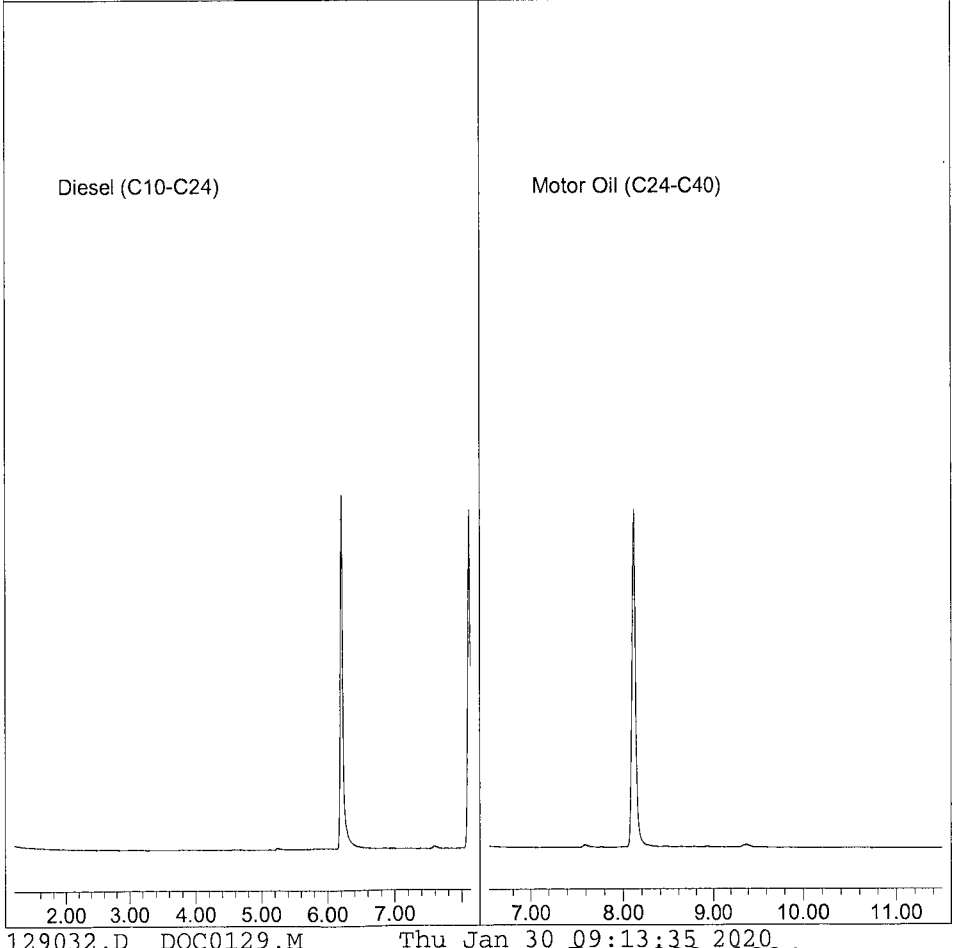
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) SC Decanoic Acid(S)	0.00	0	N.D. ppb
Surrogate Spike 60.000		Recovery =	0.00%
Target Compounds			
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200129\129032.D
Sample : BA06315W14 2/800 SG





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200129\129045.D Vial: 45
Acq On : 1-30-20 3:39:26 Operator: BT
Sample : BA06317W16 2/800 Inst : Apollo
Misc : water Multiplr: 2.50
IntFile : events.e
Quant Time: Jan 30 8:59 2020 Quant Results File: DOC0129.RES

Method : G:\APOLLO\DATA\200129\DOC0129.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Jan 30 08:01:08 2020
Response via : Multiple Level Calibration

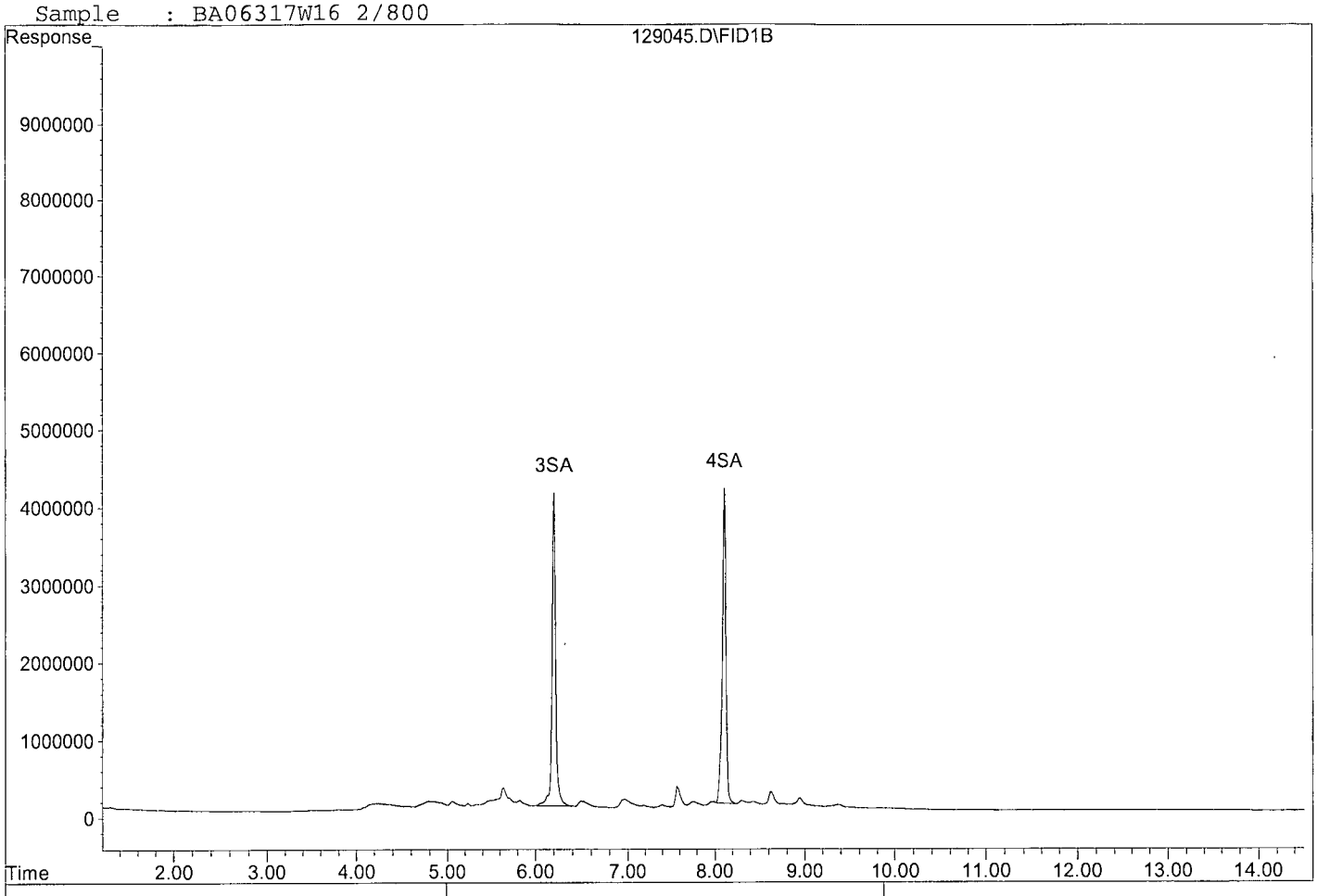
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

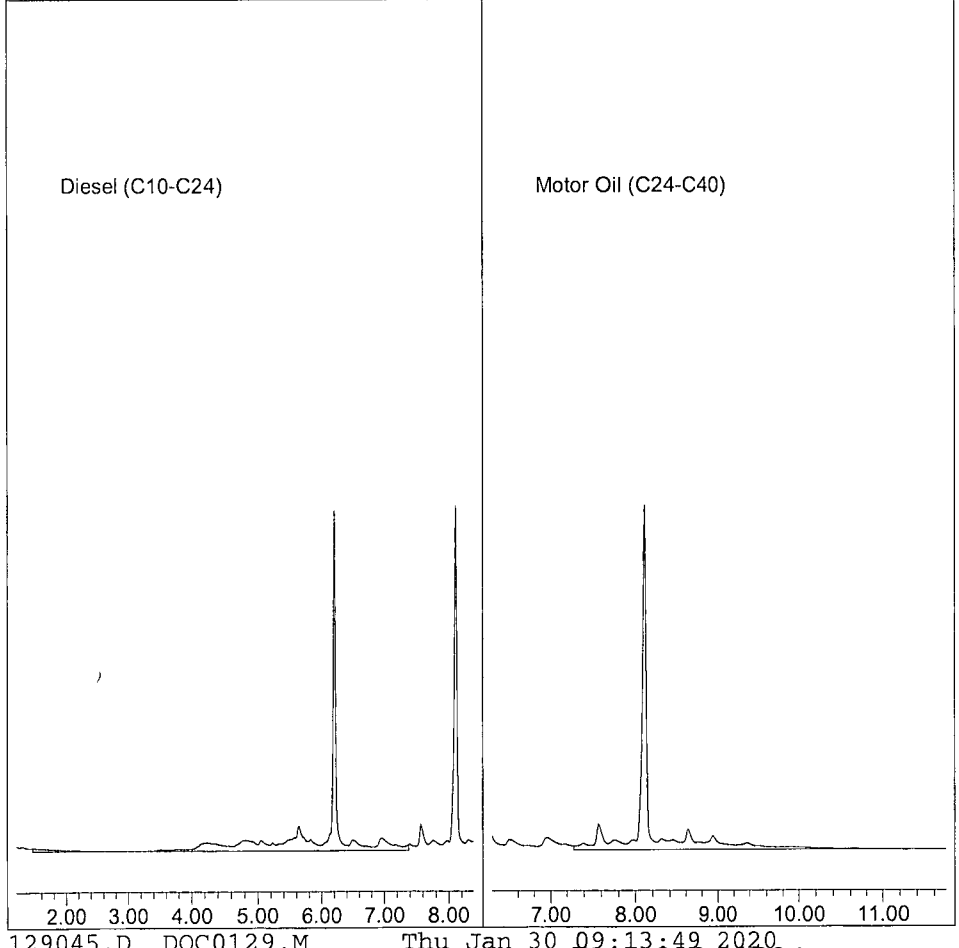
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SA Ortho-Terphenyl(S)	6.20	107421181	61.217 ppb
Surrogate Spike 75.000	Recovery =		81.62%
4) SA Octacosane(S)	8.11	116798373	71.011 ppb
Surrogate Spike 75.000	Recovery =		94.68%
Target Compounds			
1) HATM Diesel (C10-C24)	4.42	196681017	124.806 ppb
2) HBTM Motor Oil (C24-C40)	9.01	138434345	121.163 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200129\129045.D
Sample : BA06317W16 2/800





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200129\129033.D Vial: 33
Acq On : 1-29-20 23:45:30 Operator: BT
Sample : BA06317W16 2/800 SG Inst : Apollo
Misc : water Multiplr: 2.50
IntFile : events.e
Quant Time: Jan 30 9:02 2020 Quant Results File: DOC0129.RES

Method : G:\APOLLO\DATA\200129\DOC0129.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Jan 30 08:01:08 2020
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
3) SA Ortho-Terphenyl(S)	6.20	104980847	59.882	ppb
Surrogate Spike 75.000	Recovery =		79.84%	
4) SA Octacosane(S)	8.11	97967283	59.843	ppb
Surrogate Spike 75.000	Recovery =		79.79%	
Target Compounds				
Target Compounds				
1) HATM Diesel (C10-C24)	0.00	0	N.D.	ppb
2) HBTM Motor Oil (C24-C40)	0.00	0	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200129\129033.D Vial: 33
Acq On : 1-29-20 23:45:30 Operator: BT
Sample : BA06317W16 2/800 SG Inst : Apollo
Misc : water Multiplr: 2.50
IntFile : events.e
Quant Time: Jan 30 9:19 2020 Quant Results File: DEC1120.RES

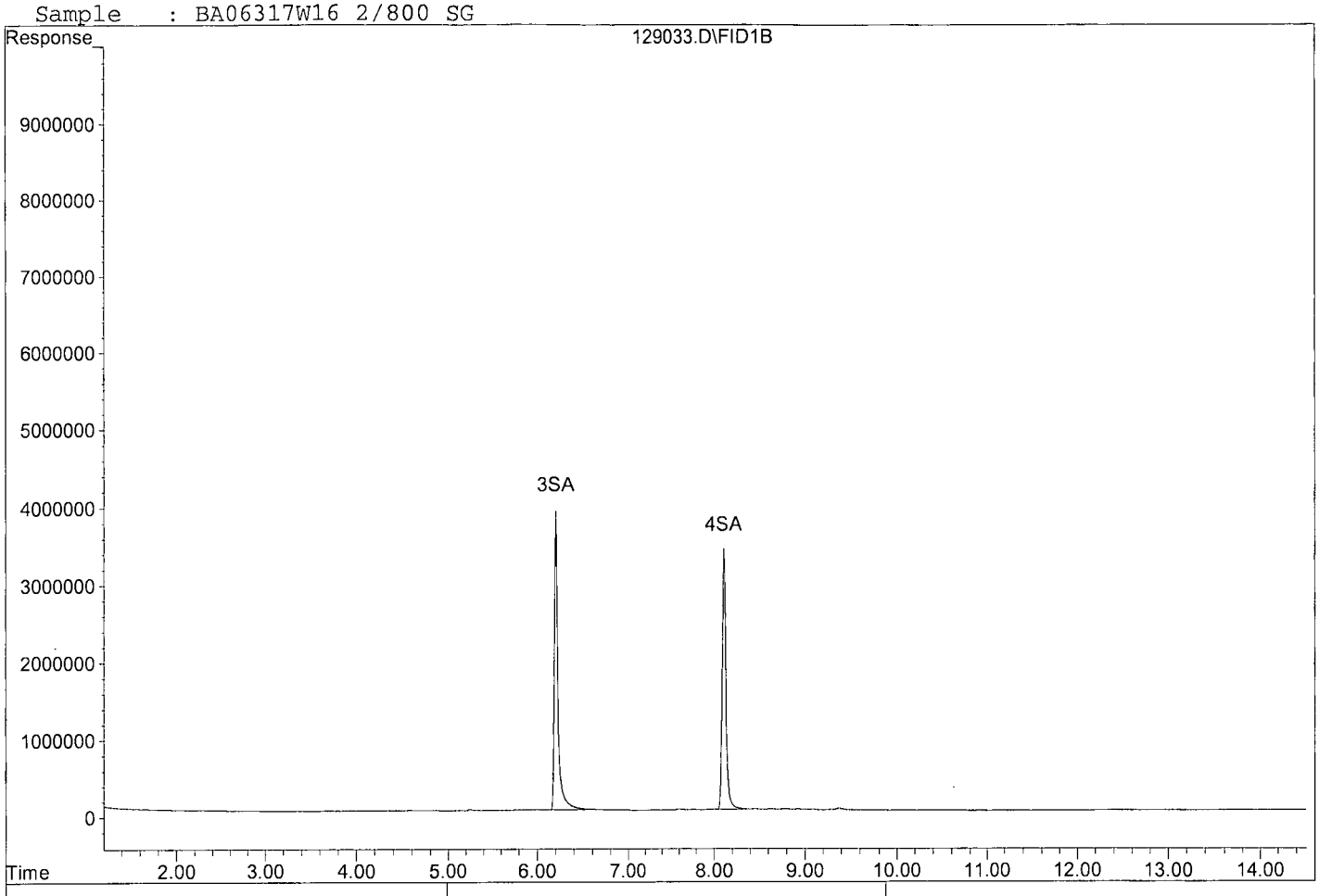
Method : G:\APOLLO\DATA\200129\DEC1120.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Jan 28 08:46:59 2020
Response via : Multiple Level Calibration

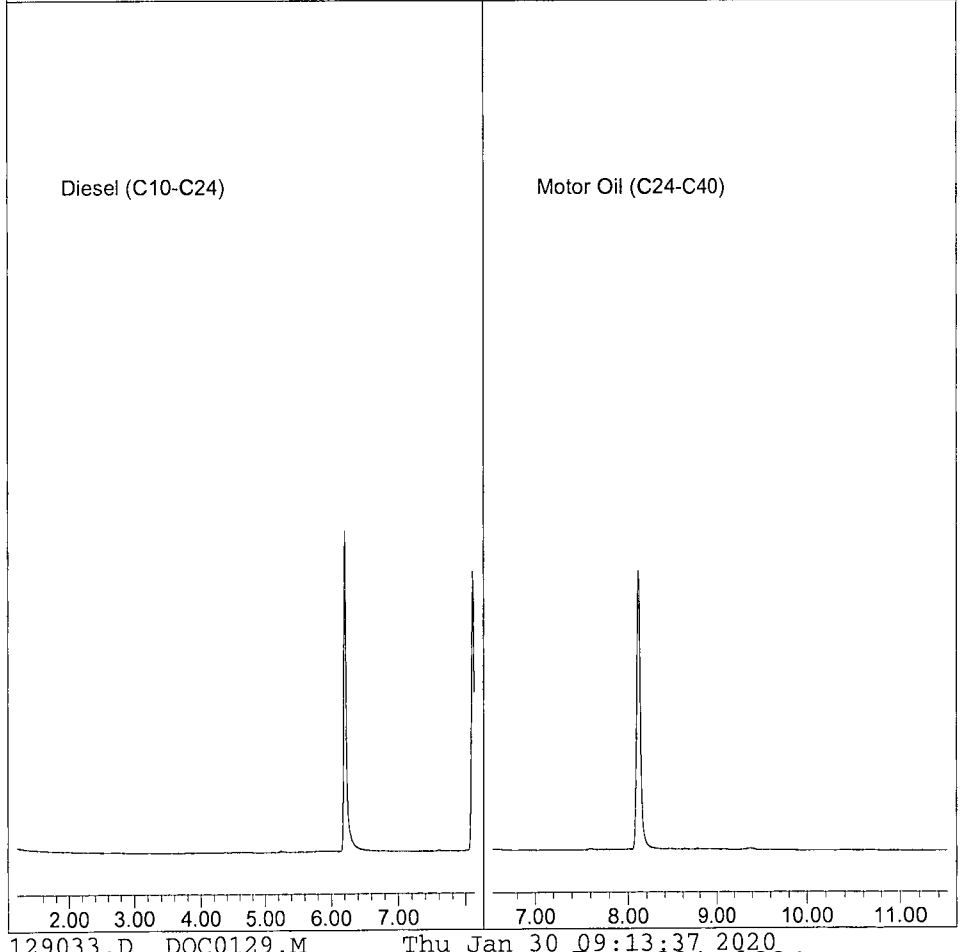
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
1) SC Decanoic Acid(S)	0.00	0	N.D.	ppb
Surrogate Spike 60.000	Recovery	=	0.00%	
Target Compounds				
Target Compounds				

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200129\129033.D
Sample : BA06317W16 2/800 SG





129033.D DOC0129.M Thu Jan 30 09:13:37 2020

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200129\129046.D Vial: 46
Acq On : 1-30-20 3:58:58 Operator: BT
Sample : BA06319W19 2/800 Inst : Apollo
Misc : water Multiplr: 2.50
IntFile : events.e
Quant Time: Jan 30 8:59 2020 Quant Results File: DOC0129.RES

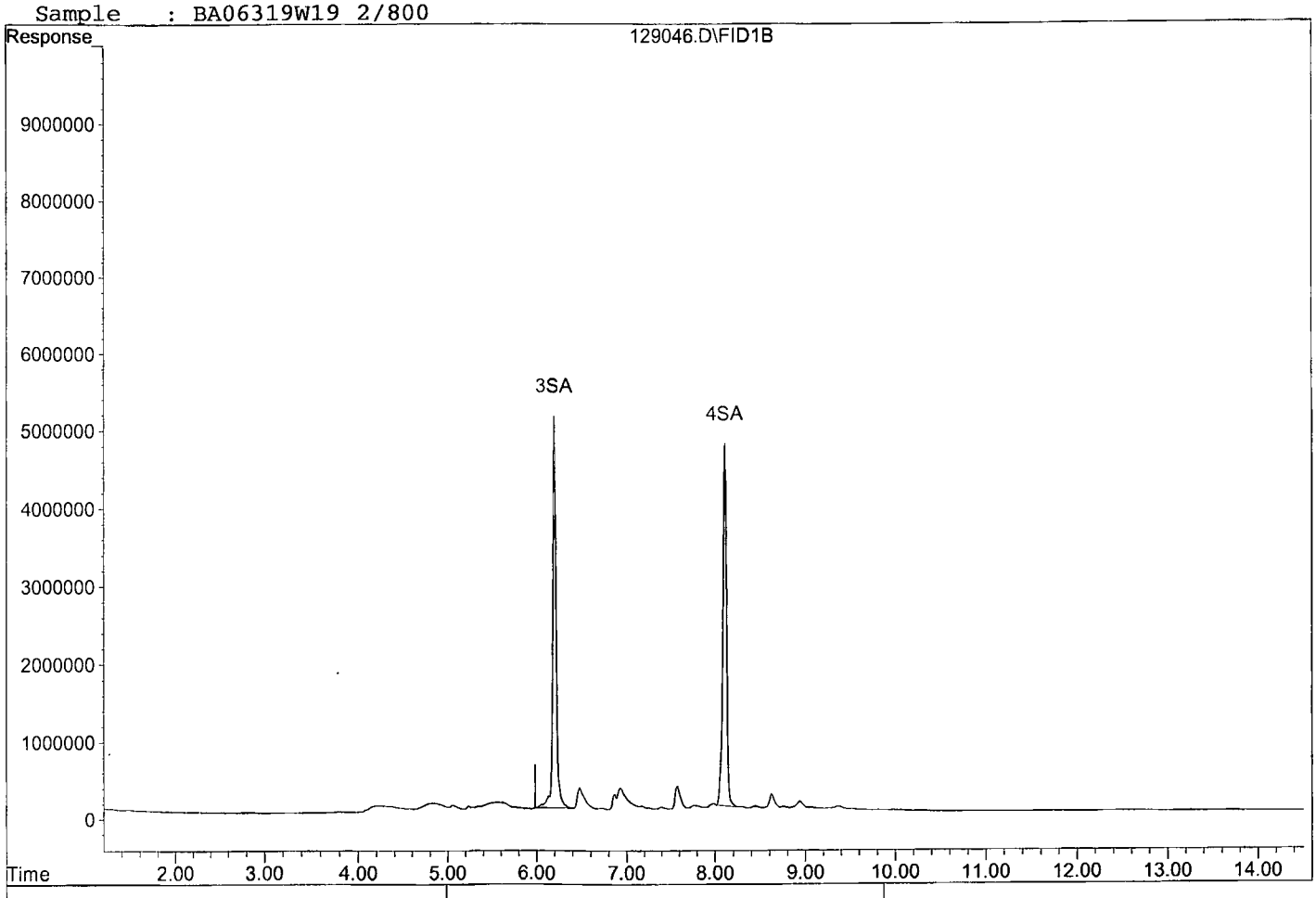
Method : G:\APOLLO\DATA\200129\DOC0129.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Jan 30 08:01:08 2020
Response via : Multiple Level Calibration

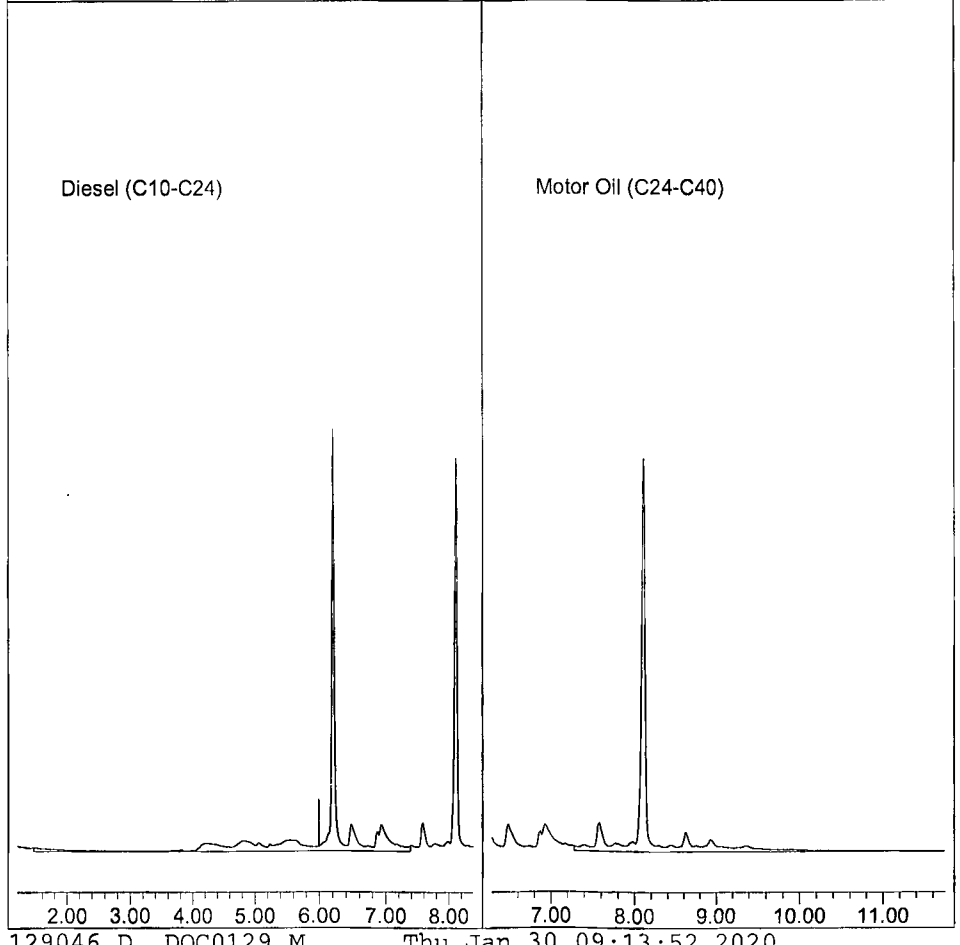
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SA Ortho-Terphenyl(S)	6.20	131815656	74.553 ppb
Surrogate Spike 75.000	Recovery =		99.40%
4) SA Octacosane(S)	8.11	134408239	81.455 ppb
Surrogate Spike 75.000	Recovery =		108.61%
Target Compounds			
1) HATM Diesel (C10-C24)	4.42	200373792	127.089 ppb
2) HBTM Motor Oil (C24-C40)	9.01	121090998	107.520 ppb
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200129\129046.D
Sample : BA06319W19 2/800





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200129\129034.D Vial: 34
Acq On : 1-30-20 0:05:02 Operator: BT
Sample : BA06319W19 2/800 SG Inst : Apollo
Misc : water Multiplr: 2.50
IntFile : events.e
Quant Time: Jan 30 9:03 2020 Quant Results File: DOC0129.RES

Method : G:\APOLLO\DATA\200129\DOC0129.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Jan 30 08:01:08 2020
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
3) SA Ortho-Terphenyl(S)	6.21	120318934	68.268	ppb
Surrogate Spike 75.000	Recovery =		91.02%	
4) SA Octacosane(S)	8.11	109690715	66.796	ppb
Surrogate Spike 75.000	Recovery =		89.06%	
Target Compounds				
Target Compounds				
1) HATM Diesel (C10-C24)	0.00	0	N.D.	ppb
2) HBTM Motor Oil (C24-C40)	0.00	0	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200129\129034.D Vial: 34
Acq On : 1-30-20 0:05:02 Operator: BT
Sample : BA06319W19 2/800 SG Inst : Apollo
Misc : water Multiplr: 2.50
IntFile : events.e
Quant Time: Jan 30 9:19 2020 Quant Results File: DEC1120.RES

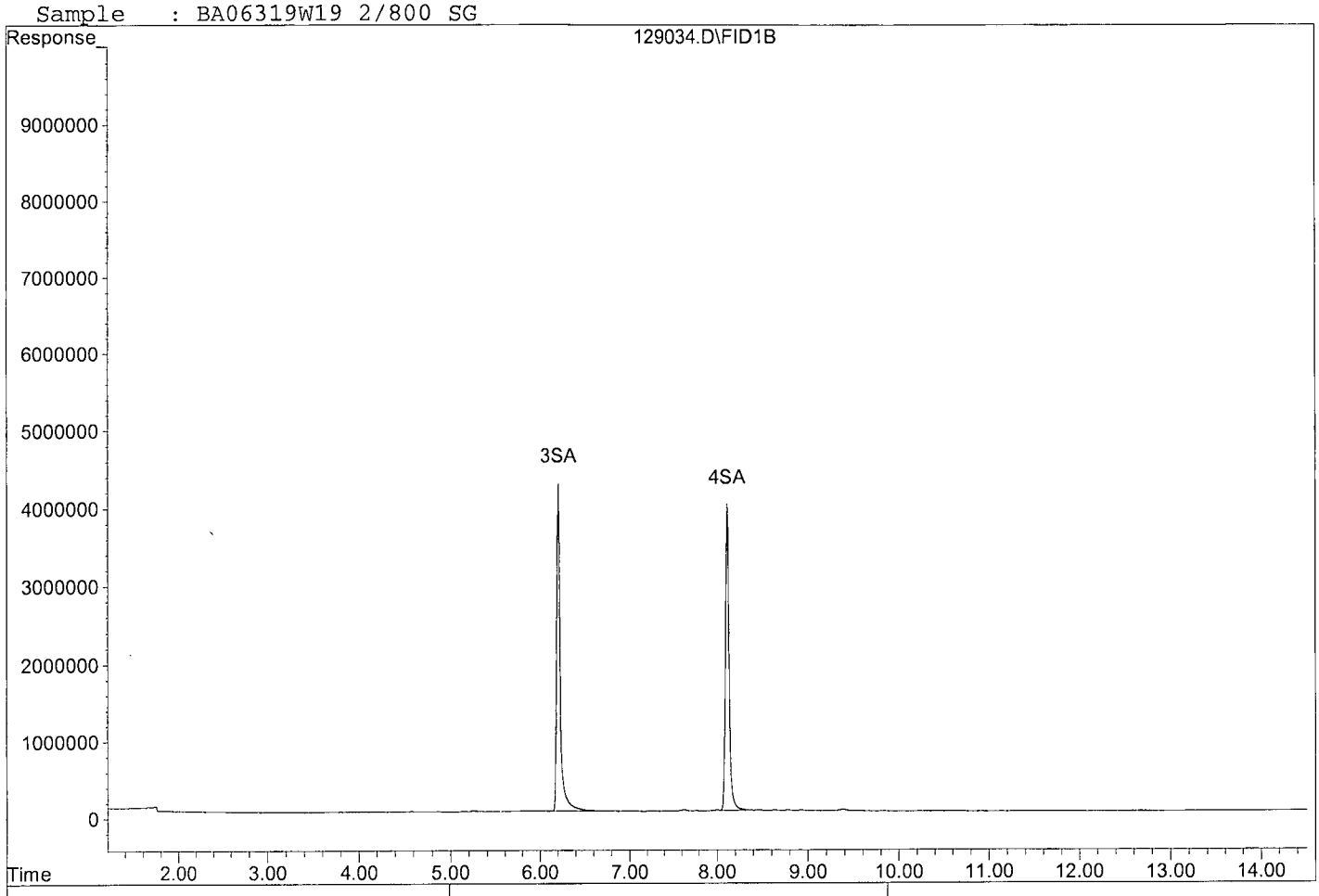
Method : G:\APOLLO\DATA\200129\DEC1120.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Jan 28 08:46:59 2020
Response via : Multiple Level Calibration

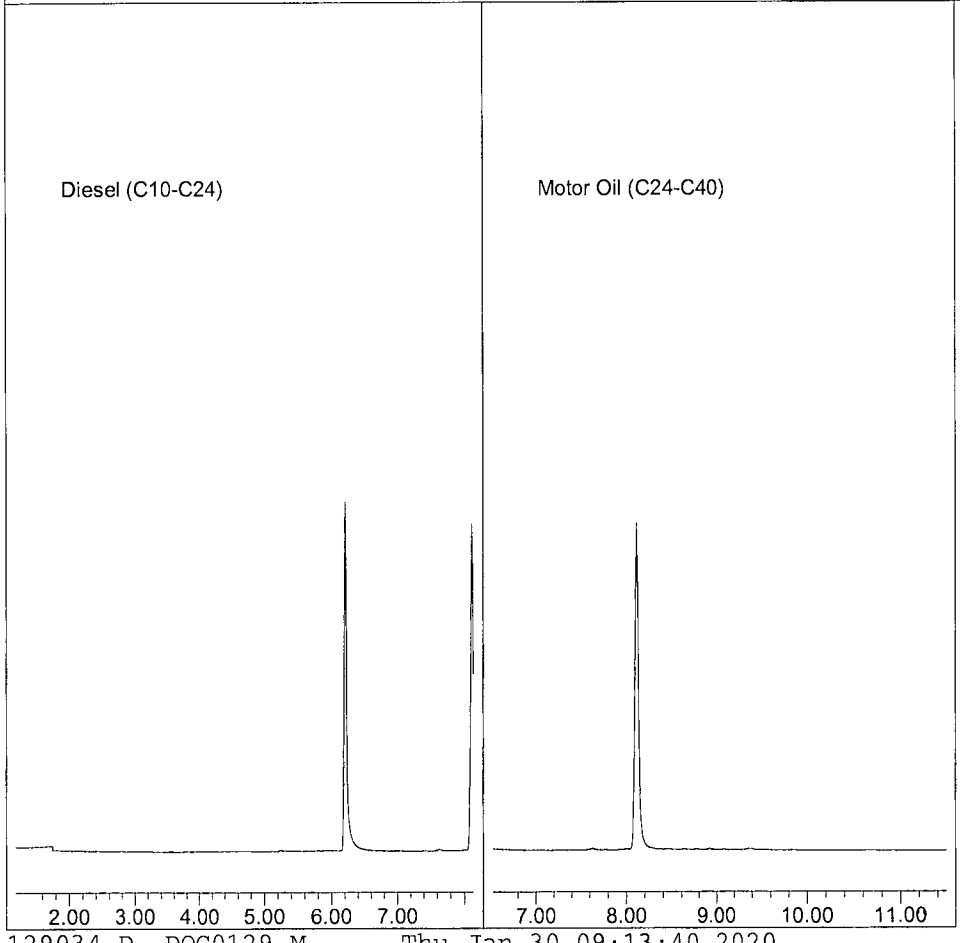
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
1) SC Decanoic Acid(S)	0.00	0	N.D.	ppb
Surrogate Spike 60.000	Recovery	=	0.00%	
Target Compounds				
Target Compounds				

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200129\129034.D
Sample : BA06319W19 2/800 SG





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200111\111135.D Vial: 35
Acq On : 1-25-20 15:47:57 Operator: BT
Sample : 200123A BLK 2/800 Inst : Apollo
Misc : water Multiplr: 2.50
IntFile : events.e
Quant Time: Jan 27 10:46 2020 Quant Results File: DOC0111.RES

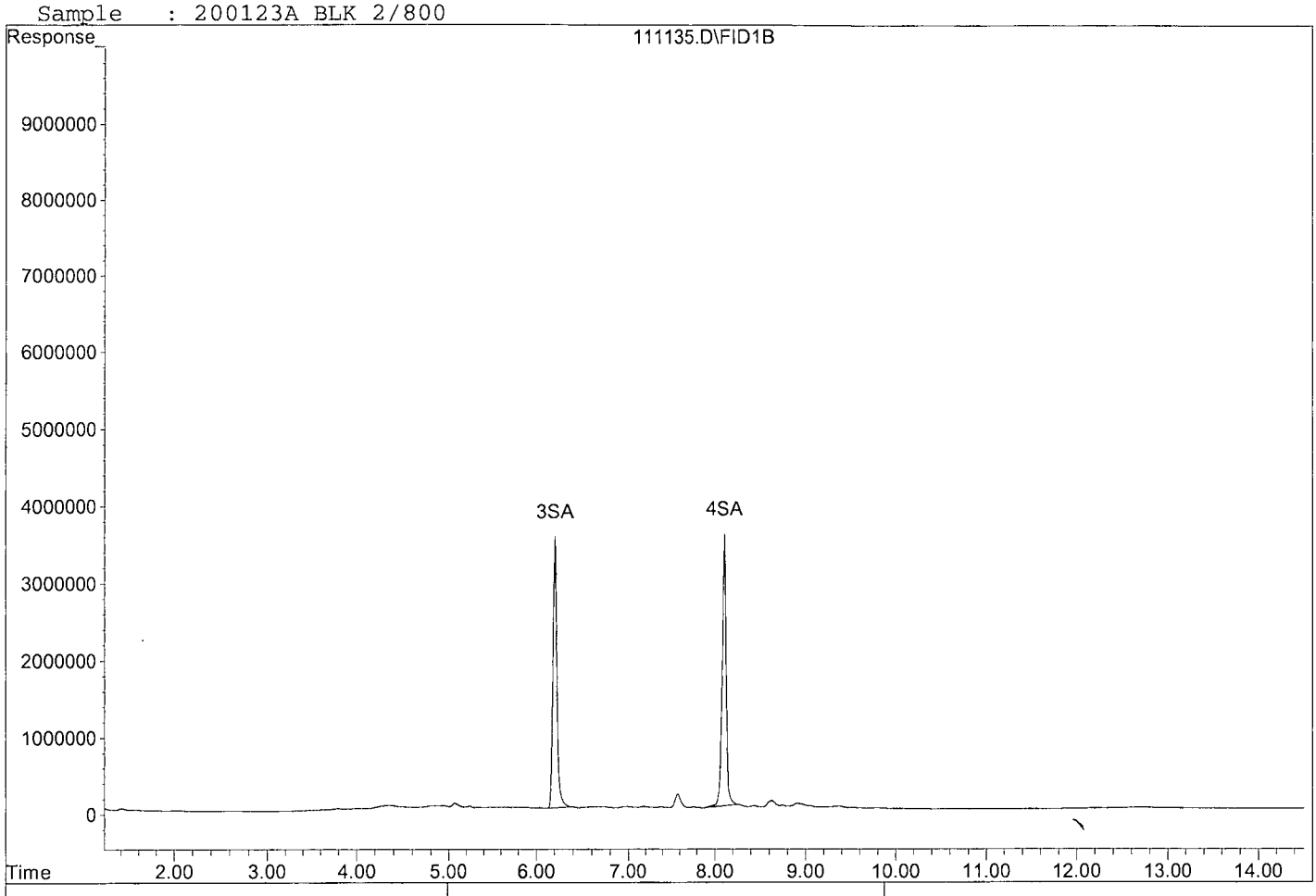
Method : G:\APOLLO\DATA\200111\DOC0111.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Mon Jan 13 07:59:04 2020
Response via : Multiple Level Calibration

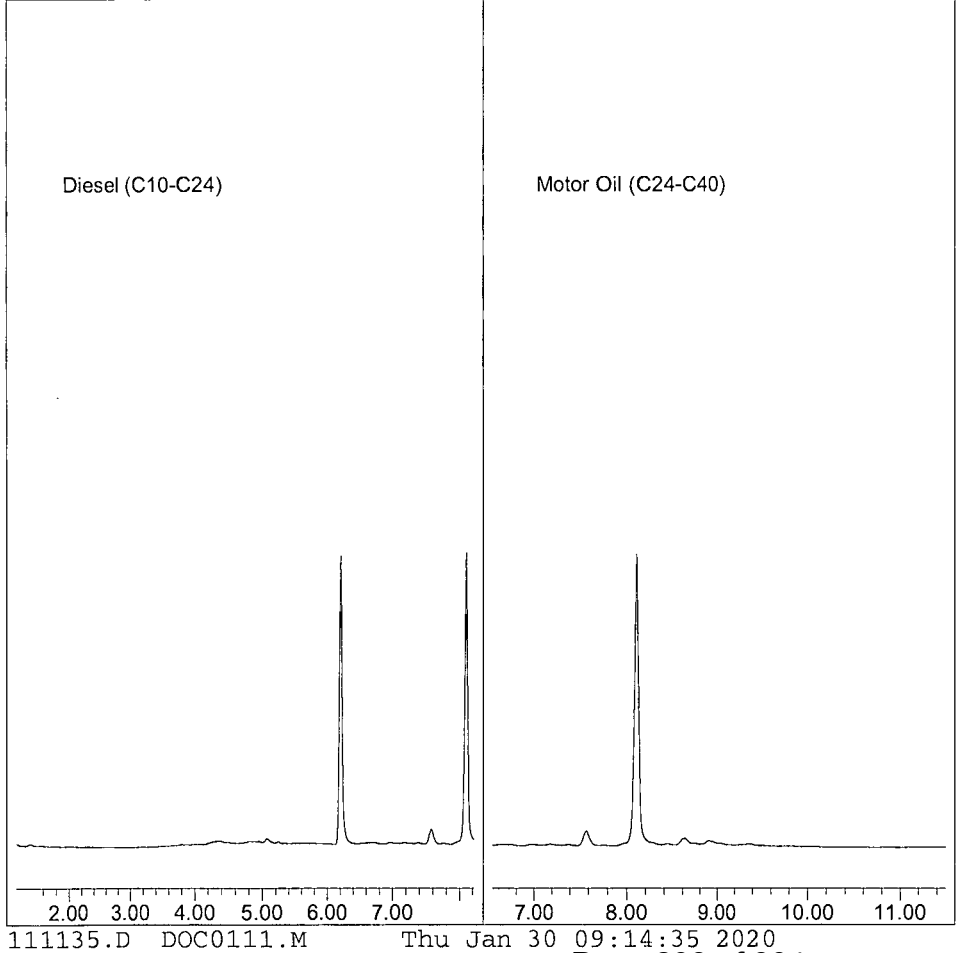
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
3) SA Ortho-Terphenyl(S)	6.21	104150661	60.565	ppb
Surrogate Spike 75.000	Recovery =		80.75%	
4) SA Octacosane(S)	8.11	108812364	65.340	ppb
Surrogate Spike 75.000	Recovery =		87.12%	
Target Compounds				
Target Compounds				
1) HATM Diesel (C10-C24)	0.00	0	N.D.	ppb
2) HBTM Motor Oil (C24-C40)	0.00	0	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200111\111135.D
Sample : 200123A BLK 2/800





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200129\129017.D Vial: 17
Acq On : 1-29-20 18:33:54 Operator: BT
Sample : 200123A BLK 2/800 SG Inst : Apollo
Misc : water Multiplr: 2.50
IntFile : events.e
Quant Time: Jan 30 8:22 2020 Quant Results File: DOC0129.RES

Method : G:\APOLLO\DATA\200129\DOC0129.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Jan 30 08:01:08 2020
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
3) SA Ortho-Terphenyl(S)	6.20	112321796	63.896	ppb
Surrogate Spike 75.000		Recovery =	85.19%	
4) SA Octacosane(S)	8.11	100156955	61.142	ppb
Surrogate Spike 75.000		Recovery =	81.52%	
Target Compounds				
Target Compounds				
1) HATM Diesel (C10-C24)	0.00	0	N.D.	ppb
2) HBTM Motor Oil (C24-C40)	0.00	0	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200129\129017.D Vial: 17
Acq On : 1-29-20 18:33:54 Operator: BT
Sample : 200123A BLK 2/800 SG Inst : Apollo
Misc : water Multiplr: 2.50
IntFile : events.e
Quant Time: Jan 30 8:30 2020 Quant Results File: DEC1120.RES

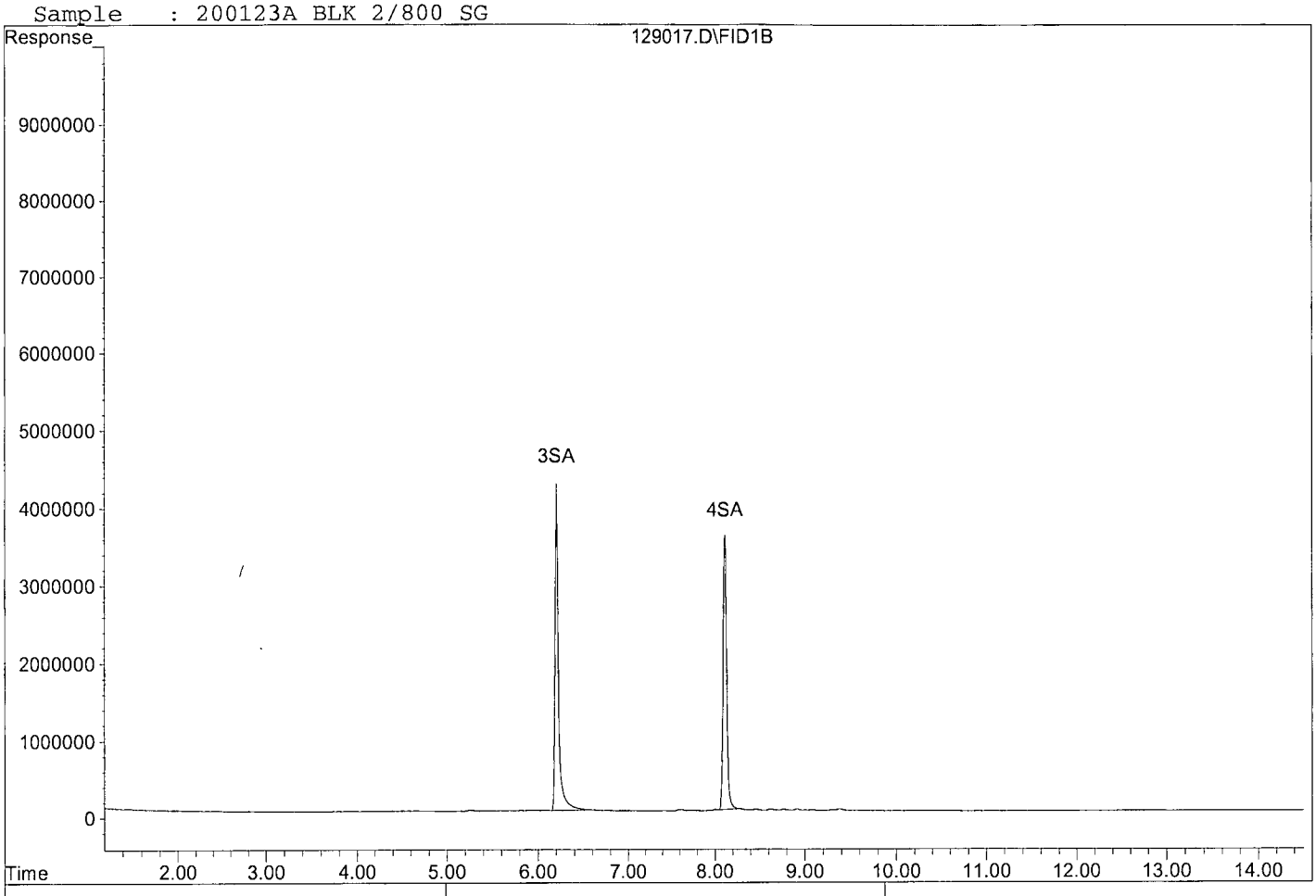
Method : G:\APOLLO\DATA\200129\DEC1120.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Jan 28 08:46:59 2020
Response via : Multiple Level Calibration

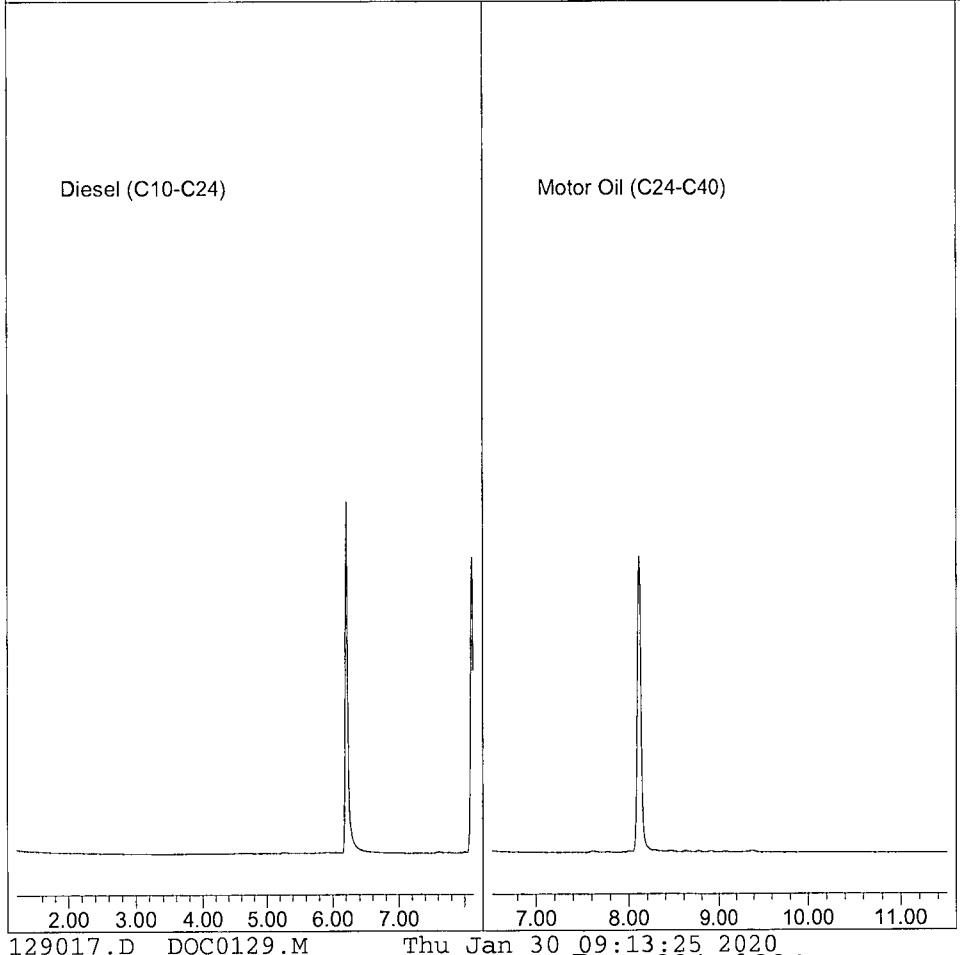
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
1) SC Decanoic Acid(S)	0.00	0	N.D.	ppb d
Surrogate Spike 60.000	Recovery	=	0.00%	
Target Compounds				
Target Compounds				

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200129\129017.D
Sample : 200123A BLK 2/800 SG





129017.D DOC0129.M Thu Jan 30 09:13:25 2020

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200111\111136.D Vial: 36
Acq On : 1-25-20 16:07:44 Operator: BT
Sample : 200123A LCS-1 2/800 Inst : Apollo
Misc : water Multiplr: 2.50
IntFile : events.e
Quant Time: Jan 27 9:56 2020 Quant Results File: DOC0111.RES

Method : G:\APOLLO\DATA\200111\DOC0111.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Mon Jan 13 07:59:04 2020
Response via : Multiple Level Calibration

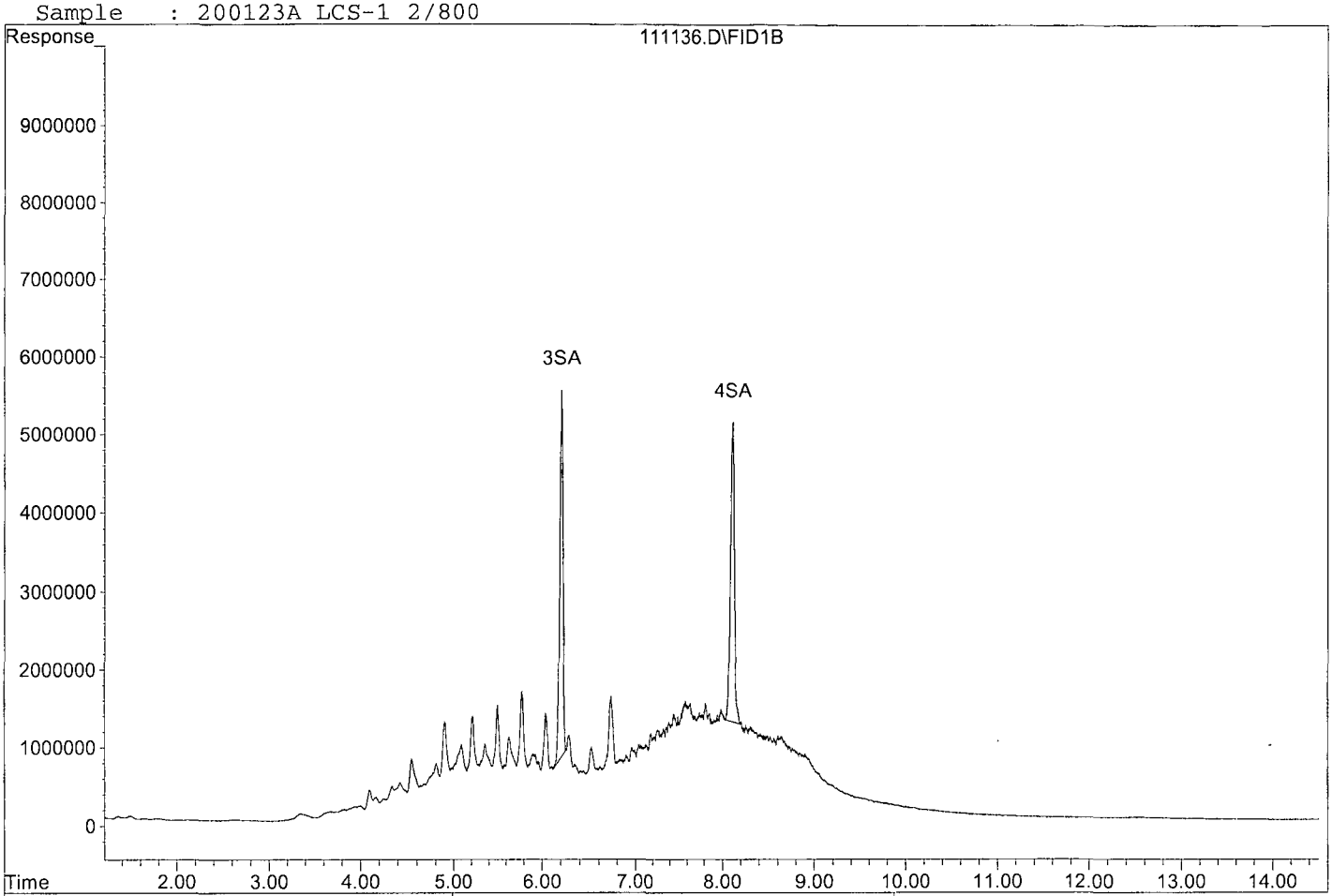
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

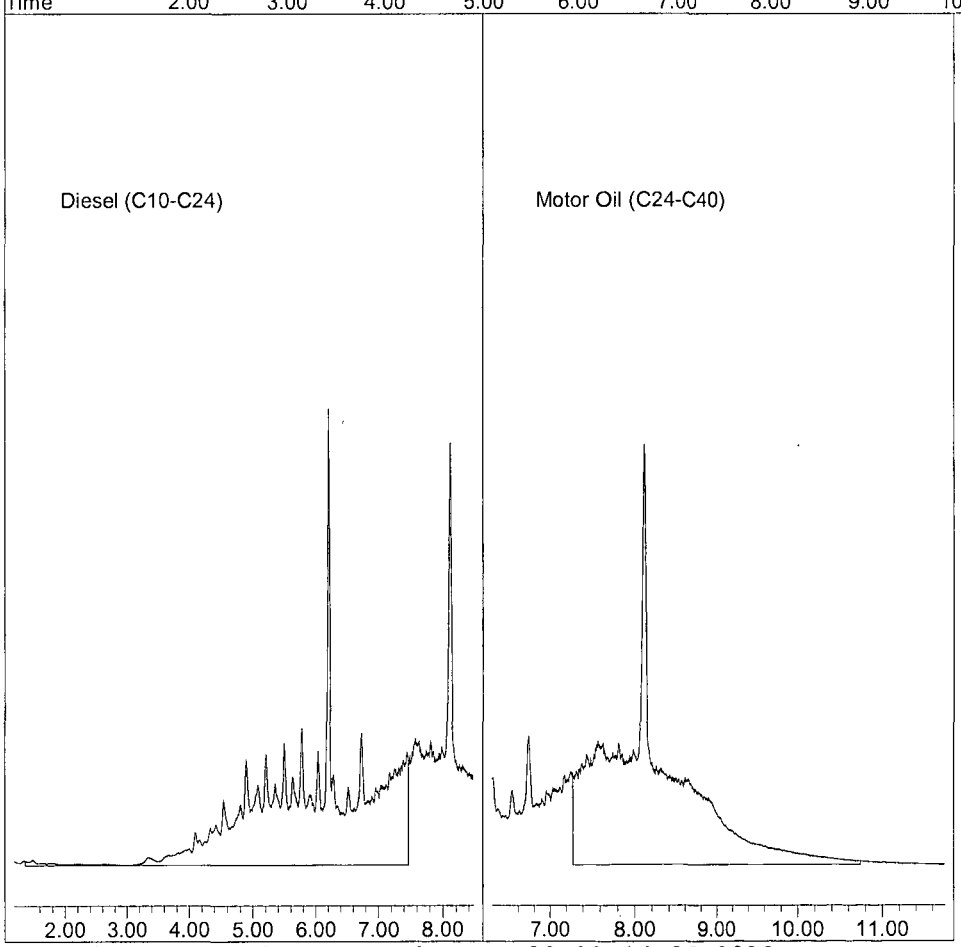
Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
3) SA Ortho-Terphenyl(S)	6.21	110670120	64.357	ppb
Surrogate Spike 75.000	Recovery =		85.81%	
4) SA Octacosane(S)	8.11	112543057	67.580	ppb
Surrogate Spike 75.000	Recovery =		90.11%	
Target Compounds				
1) HATM Diesel (C10-C24)	4.42	1666957204	998.173	ppb
2) HBTM Motor Oil (C24-C40)	9.01	1357831628	1139.634	ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200111\111136.D
Sample : 200123A LCS-1 2/800





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200129\129018.D Vial: 18
Acq On : 1-29-20 18:52:53 Operator: BT
Sample : 200123A LCS-1 2/800 SG Inst : Apollo
Misc : water Multiplr: 2.50
IntFile : events.e
Quant Time: Jan 30 8:18 2020 Quant Results File: DOC0129.RES

Method : G:\APOLLO\DATA\200129\DOC0129.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Jan 30 08:01:08 2020
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
3) SA Ortho-Terphenyl(S)	6.21	119798089	67.983	ppb
Surrogate Spike 75.000	Recovery =		90.64%	
4) SA Octacosane(S)	8.12	111421899	67.823	ppb
Surrogate Spike 75.000	Recovery =		90.43%	
Target Compounds				
1) HATM Diesel (C10-C24)	4.42	1549141208	960.911	ppb
2) HBTM Motor Oil (C24-C40)	9.01	1468985995	1167.772	ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200129\129018.D Vial: 18
Acq On : 1-29-20 18:52:53 Operator: BT
Sample : 200123A LCS-1 2/800 SG Inst : Apollo
Misc : water Multiplr: 2.50
IntFile : events.e
Quant Time: Jan 30 8:30 2020 Quant Results File: DEC1120.RES

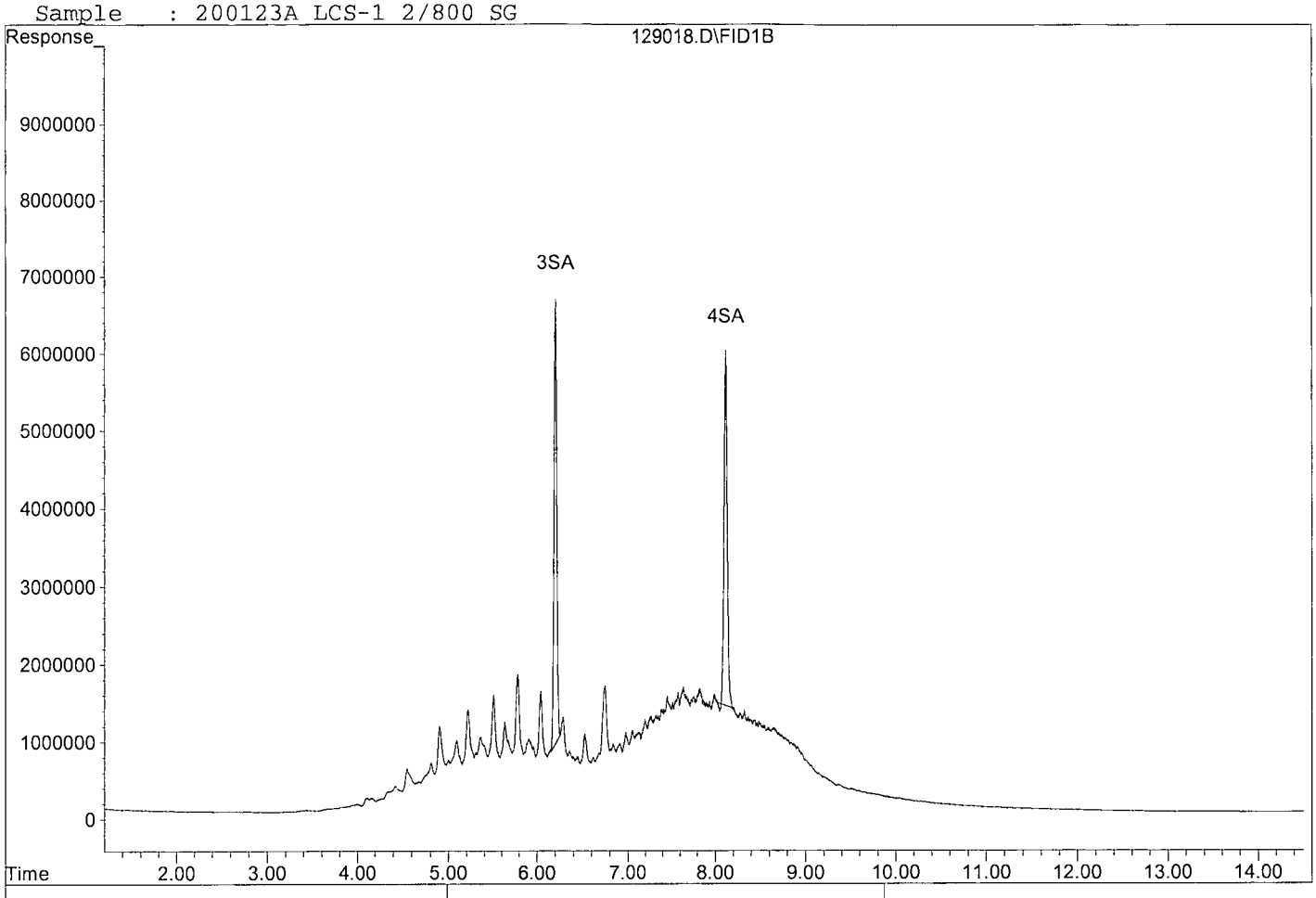
Method : G:\APOLLO\DATA\200129\DEC1120.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Jan 28 08:46:59 2020
Response via : Multiple Level Calibration

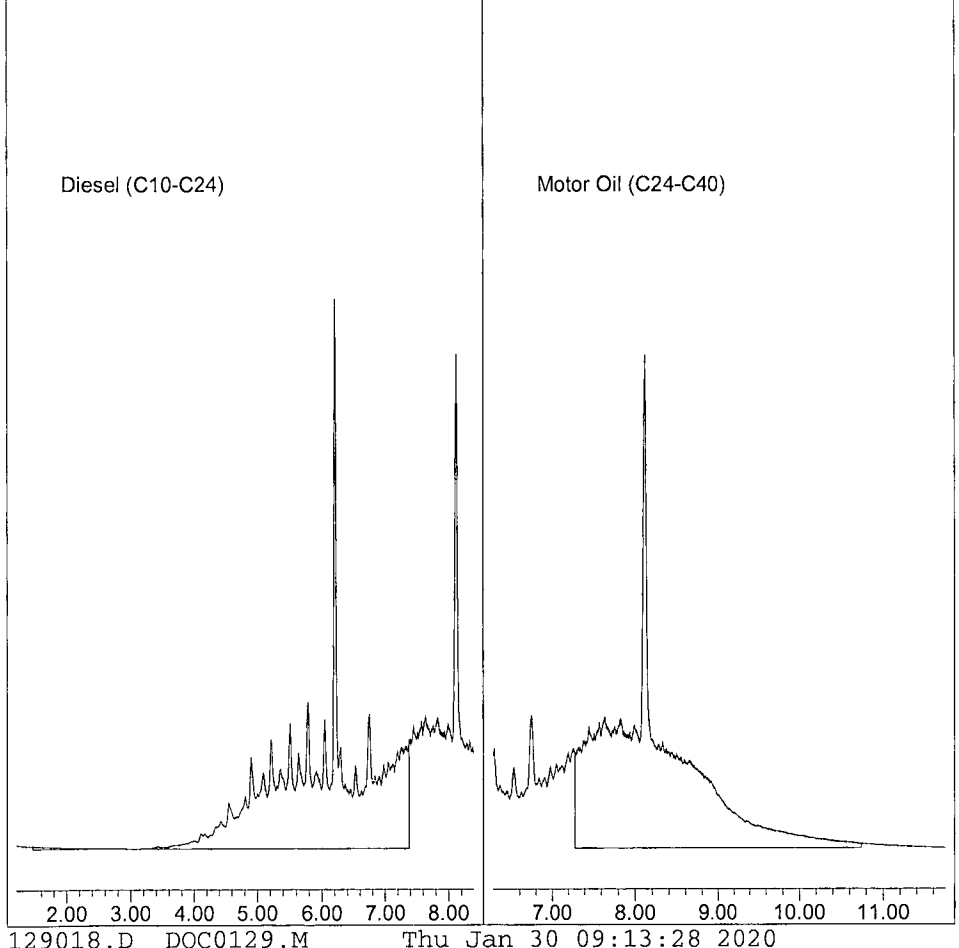
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc	Units	
System Monitoring Compounds					
1) SC Decanoic Acid(S)	0.00	0	N.D.	ppb	d
Surrogate Spike 60.000	Recovery	=	0.00%		
Target Compounds					
Target Compounds					

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200129\129018.D
Sample : 200123A LCS-1 2/800 SG





THC Surrogate

Prepared: 01/06/20
Expires: 01/06/21

Prepared By (Initials): BT

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	Supplier Part No.	Conc. (ug/mL)	Lot Number - QA Number	Exp. Date (1 yr.)	Exp. Date (Manufacturer)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/mL)
O-terphenyl / Octacosane Mix	Phenova	ALO-130161	600	CL13256-49649	01/06/21	02/28/24	N/A	N/A	N/A	600

Diesel Motor Oil Mix

Prepared: 01/15/20 **Prepared By (Initials): SS**

Expires: 01/15/21

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	Supplier Part No.	Conc. (ug/mL)	Lot Number - QA Number	Exp. Date (1 yr.)	Exp. Date (Manufacturer)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/mL)
Diesel Fuel #2	Restek	31258	50,000	**A0149169-49607**	**01/15/21**	**06/30/26**	2.4 mL	4.8 mL	NA	25,000
Motor Oil Composite	Restek	31464	50,000	**A0153577-49614**	**01/15/21**	**11/30/26**	2.4 mL			25,000

Diesel / Motor Oil Calibration Curve

Prepared: 01/29/20
Expires: 06/23/20

Prepared By (Initials): SS

Methylene Chloride Lot No. 58059

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	APPL Mix Name	Conc. (ug/mL)	Reference to APPL Prep Date	Exp. Date	Exp. Date (Manufacturer)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/mL)
Diesel / Motor Oil Calibration STD	APPL	Diesel / Motor Oil - 1	2,000	Prepared 01/29/20	06/23/20	N/A	5uL	1mL	MC	10
Diesel / Motor Oil Calibration STD	APPL	Diesel / Motor Oil -2	2,000	Prepared 01/29/20	06/23/20	N/A	25uL	1mL	MC	50
Diesel / Motor Oil Calibration STD	APPL	Diesel / Motor Oil - 3	2,000	Prepared 01/29/20	06/23/20	N/A	125uL	1mL	MC	250
Diesel / Motor Oil Calibration STD	APPL	Diesel / Motor Oil - 4	2,000	Prepared 01/29/20	06/23/20	N/A	500uL	1mL	MC	1000
Diesel / Motor Oil Calibration STD	APPL	Diesel / Motor Oil - 5	2,000	Prepared 01/29/20	06/23/20	N/A	750uL	1mL	MC	1500
Diesel / Motor Oil Calibration STD	APPL	Diesel / Motor Oil - 6	2,000	Prepared 01/29/20	06/23/20	N/A	100uL	100uL	N/A	2,000

Decanoic Acid Spike

Prepared: 12/11/19 **Prepared By (Initials): BT**

Expires: 12/10/20

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	Supplier Part No.	Conc. (ug/mL)	Lot Number - QA Number	Exp. Date (1 yr.)	Exp. Date (Manufacturer)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/mL)
Decanoic Acid Spike	O2SI	011729-01-05-5PAK	1,000	**371298-40661**	**12/11/20**	**03/31/21**	N/A	N/A	N/A	1,000

Diesel / Motor Oil Calibration Curve

Prepared: 01/11/20

Expires: 06/23/20

Prepared By (Initials): SS

Methylene Chloride Lot No. 58059

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	APPL Mix Name	Conc. (ug/mL)	Reference to APPL Prep Date	Exp. Date	Exp. Date (Manufacturer)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/mL)
Diesel / Motor Oil Calibration STD	APPL	Diesel / Motor Oil - 1	2,000	Prepared 01/11/20	06/23/20	N/A	5uL	1mL	MC	10
Diesel / Motor Oil Calibration STD	APPL	Diesel / Motor Oil -2	2,000	Prepared 01/11/20	06/23/20	N/A	25uL	1mL	MC	50
Diesel / Motor Oil Calibration STD	APPL	Diesel / Motor Oil - 3	2,000	Prepared 01/11/20	06/23/20	N/A	125uL	1mL	MC	250
Diesel / Motor Oil Calibration STD	APPL	Diesel / Motor Oil - 4	2,000	Prepared 01/11/20	06/23/20	N/A	500uL	1mL	MC	1000
Diesel / Motor Oil Calibration STD	APPL	Diesel / Motor Oil - 5	2,000	Prepared 01/11/20	06/23/20	N/A	750uL	1mL	MC	1500
Diesel / Motor Oil Calibration STD	APPL	Diesel / Motor Oil - 6	2,000	Prepared 01/11/20	06/23/20	N/A	100uL	100uL	N/A	2,000

_LIQ005

Organic Extraction Worksheet

Method	Continuous Liq/Liq TPH-Diesel/MO 3520C	Extraction Set	200123A	Extraction Method	LIQ005	Units	mL

Spiked ID 1	Diesel Motor Oil Mix 1-15-20 1-15-21		Surrogate ID 1	THC Surrogate 1-6-20 1-6-21	
Spiked ID 2	Decanoic Acid solution 12-11-19 12-11-20		Surrogate ID 2		
Spiked ID 3			Surrogate ID 3		
Spiked ID 4			Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	YES	
Spiked ID 7			Ext. Start Time:	01/23/20 15:30	
Spiked ID 8			Ext. End Time:	01/23/20 9:30	
			GC Requires Extract By:		

pH1	2	01/23/20 12:26	Water Bath Temp 1 °C	37/36.5 °C
pH2	2	01/23/20 15:00	Water Bath Temp 2 °C	35/38.5
pH3			Water Bath Temp 3 °C	3635.4 °C

Spiked By: DL **Date** 01/23/20 **Witnessed By:** CFM **Date** 01/23/20

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	200123A Blk		0.050	2	0.100	1	800	2	2	01/23/20 13:00	*
						equip	E-HP30 e-wb2				
2	200123A LCS-1		0.040	1,2	0.100	1	800	2	2	01/23/20 13:00	*
						equip	E-HP17 E-WB1				
3	BA06272 MS-1	BA06272W27	0.040	1,2	0.100	1	800	2	2	01/23/20 13:00	91282 *
						equip	E-HP15 E-WB2				
4	BA06272 MSD-1	BA06272W26	0.040	1,2	0.100	1	800	2	2	01/23/20 13:00	91282 *
						equip	E-HP14 E-WB1				
5	BA06272	BA06272W32	0.050	2	0.100	1	800	2	2	01/23/20 13:00	91282 *
						equip	E-HP16 E-WB3				
6	BA06273	BA06273W08	0.050	2	0.100	1	800	2	2	01/23/20 13:00	91282 *
						equip	E-HP13 E-WB3				
7	BA06275	BA06275W16	0.050	2	0.100	1	800	2	2	01/23/20 13:00	91282 *
						equip	E-HP12 E-WB2				
8	BA06276	BA06276W16	0.050	2	0.100	1	800	2	2	01/23/20 13:00	91282 *
						equip	E-HP11 E-WB1				
9	BA06279	BA06279W13	0.050	2	0.100	1	800	2	2	01/23/20 13:00	91282 *
						equip	E-HP10 E-WB3				
10	BA06281	BA06281W12	0.050	2	0.100	1	800	2	2	01/23/20 13:00	91282 *
						equip	E-HP9 E-WB2				
11	BA06282	BA06282W11	0.050	2	0.100	1	800	2	2	01/23/20 13:00	91282 *
						equip	E-HP6 E-WB1				
12	BA06284	BA06284W18	0.050	2	0.100	1	800	2	2	01/23/20 13:00	91282 *
						equip	E-HP7 E-WB3				
13	BA06313	BA06313W14	0.050	2	0.100	1	800	2	2	01/23/20 15:05	91288 *
						equip	E-HP26 E-WB1				
14	BA06315	BA06315W14	0.050	2	0.100	1	800	2	2	01/23/20 15:05	91288 *
						equip	E-HP27 E-WB2				
15	BA06317	BA06317W16	0.050	2	0.100	1	800	2	2	01/23/20 15:05	91288 *
						equip	E-HP28 E-WB3				
16	BA06319	BA06319W19	0.050	2	0.100	1	800	2	2	01/23/20 15:05	91288 *
						equip	E-HP29 E-WB1				

Solvent and Lot#	
1+1 HCL	6-15-19
PH Strips	hc 863463
Dicholormethane (DCM)	59239
Filter Paper	400171
B. Sodium Sulfate	2019020631
Silica Gel (*)	050627t

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	SS
Date	
Time	
Refrigerator	HOBART

	Technician's Initials
Scanned By	DL
Sample Preparation	DL
Extraction	DL
Concentration	DL,DS

Modified	01/28/20 12:34:16 PM

Reviewed By: KY **Date** 01/28/20

01/30/20 10:51:05 AM Ext_ID 65774

Injection Log

Directory: G:\APOLLO\DATA\200111\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	3	111003.D	1	Diesel Motor Oil-1 1/11/20	water	1-11-20 11:35:53
2	4	111004.D	1	Diesel Motor Oil-2 1/11/20	water	1-11-20 11:55:28
3	5	111005.D	1	Diesel Motor Oil-3 1/11/20	water	1-11-20 12:15:09
4	6	111006.D	1	Diesel Motor Oil-4 1/11/20	water	1-11-20 12:34:51
5	7	111007.D	1	Diesel Motor Oil-5 1/11/20	water	1-11-20 12:53:51
6	8	111008.D	1	Diesel Motor Oil-6 1/11/20	water	1-11-20 13:13:29
7	9	111009.D	1	Diesel Motor Oil-SS 12/23/19	water	1-11-20 13:33:12
8	3	129003.D	1	Diesel Motor Oil - 1 1/29/20	water	1-29-20 13:59:43
9	4	129004.D	1	Diesel Motor Oil - 2 1/29/20	water	1-29-20 14:19:23
10	5	129005.D	1	Diesel Motor Oil - 3 1/29/20	water	1-29-20 14:39:02
11	6	129006.D	1	Diesel Motor Oil - 4 1/29/20	water	1-29-20 14:58:42
12	7	129007.D	1	Diesel Motor Oil - 5 1/29/20	water	1-29-20 15:18:28
13	8	129008.D	1	Diesel Motor Oil - 6 1/29/20	water	1-29-20 15:38:14
14	9	129009.D	1	Diesel Motor Oil - SS 12/23/19	water	1-29-20 15:57:56
15	34	111134.D	1	Diesel/Motor Oil - CCV 12/23/19	water	1-25-20 15:28:06
16	35	111135.D	2.5	200123A BLK 2/800	water	1-25-20 15:47:57
17	36	111136.D	2.5	200123A LCS-1 2/800	water	1-25-20 16:07:44
18	47	111147.D	1	Diesel/Motor Oil - CCV 12/23/19	water	1-25-20 19:42:30
19	41	129041.D	1	Diesel Motor Oil - CCV 12/23/19	water	1-30-20 2:21:17
20	43	129043.D	2.5	BA06313W14 2/800	water	1-30-20 3:00:23
21	44	129044.D	2.5	BA06315W14 2/800	water	1-30-20 3:19:56
22	45	129045.D	2.5	BA06317W16 2/800	water	1-30-20 3:39:26
23	46	129046.D	2.5	BA06319W19 2/800	water	1-30-20 3:58:58
24	56	129056.D	1	Diesel Motor Oil - CCV 12/23/19	water	1-30-20 7:13:33

Injection Log

Directory: G:\APOLLO\DATA\200129\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	78	1115178.D	1	Decanoic Acid - 1 11/20/19	water	11-20-19 10:33:58
2	79	1115179.D	1	Decanoic Acid - 2 11/20/19	water	11-20-19 10:53:46
3	80	1115180.D	1	Decanoic Acid - 3 11/20/19	water	11-20-19 11:13:35
4	81	1115181.D	1	Decanoic Acid - 4 11/20/19	water	11-20-19 11:33:26
5	82	1115182.D	1	Decanoic Acid - 5 11/20/19	water	11-20-19 11:52:35
6	83	1115183.D	1	Decanoic Acid - 6 11/20/19	water	11-20-19 12:12:26
7	3	129003.D	1	Diesel Motor Oil - 1 1/29/20	water	1-29-20 13:59:43
8	4	129004.D	1	Diesel Motor Oil - 2 1/29/20	water	1-29-20 14:19:23
9	5	129005.D	1	Diesel Motor Oil - 3 1/29/20	water	1-29-20 14:39:02
10	6	129006.D	1	Diesel Motor Oil - 4 1/29/20	water	1-29-20 14:58:42
11	7	129007.D	1	Diesel Motor Oil - 5 1/29/20	water	1-29-20 15:18:28
12	8	129008.D	1	Diesel Motor Oil - 6 1/29/20	water	1-29-20 15:38:14
13	9	129009.D	1	Diesel Motor Oil - SS 12/23/19	water	1-29-20 15:57:56
14	15	129015.D	1	Diesel Motor Oil - CCV 12/23/19	water	1-29-20 17:54:39
15	16	129016.D	1	Decanoic Acid CCV 1/27/20	water	1-29-20 18:14:16
16	17	129017.D	2.5	200123A BLK 2/800 SG	water	1-29-20 18:33:54
17	18	129018.D	2.5	200123A LCS-1 2/800 SG	water	1-29-20 18:52:53
18	29	129029.D	1	Diesel Motor Oil - CCV 12/23/19	water	1-29-20 22:27:03
19	30	129030.D	1	Decanoic Acid CCV 1/27/20	water	1-29-20 22:46:43
20	31	129031.D	2.5	BA06313W14 2/800 SG	water	1-29-20 23:06:19
21	32	129032.D	2.5	BA06315W14 2/800 SG	water	1-29-20 23:25:54
22	33	129033.D	2.5	BA06317W16 2/800 SG	water	1-29-20 23:45:30
23	34	129034.D	2.5	BA06319W19 2/800 SG	water	1-30-20 0:05:02
24	41	129041.D	1	Diesel Motor Oil - CCV 12/23/19	water	1-30-20 2:21:17
25	42	129042.D	1	Decanoic Acid CCV 1/27/20	water	1-30-20 2:40:50

ORGANICS
Calibration Data

PAH by GCMS SIM
EPA 8270 SIM

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Initial Cal. Date: 01/13/20
Matrix: Instrument: Linus

Initials:

		Compound	0.1	0.2	0.5	2.5	5	25	50				Avg	%RSD	Type	r^2	Q	MRF
			0113L004.D	0113L005.D	0113L006.D	0113L007 D	0113L003.D	0113L008.D	0113L009.D									
1	I	Napthalene-D8(IS)																
2	S	Surrogate Recovery (NBZ)	0.3575	0.3153	0.2912	0.2963	0.2934	0.2750	0.3083				0.31	8.6	S			
3	TM	Naphthalene	1.149	1.117	1.067	1.075	1.035	1.025	0.9925				1.1	5.1	TM			0.700
4	S	2-methylnaphthalene-D10 (2M	1.266	1.244	1.195	1.252	1.200	1.246	1.163				1.2	3.1	S			
5	TM	2-Methylnaphthalene	0.6232	0.6106	0.5931	0.6047	0.5645	0.5839	0.5313				0.59	5.3	TM			0.400
6	TM	1-Methylnaphthalene	0.6633	0.6479	0.6224	0.6211	0.5920	0.6144	0.5537				0.62	5.8	TM			
7	I	Acenaphthene-D10(IS)																
8	S	Surrogate Recovery (FBP)	1.759	1.682	1.668	1.706	1.688	1.628	1.577				1.7	3.4	S			
9	TM	Acenaphthylene	4.638	4.590	4.448	4.525	4.479	4.276	3.884				4.4	5.8	TM			0.900
10	*TM	Acenaphthene	1.435	1.362	1.280	1.275	1.258	1.274	1.190				1.3	6.1	*TM			0.900
11	TM	Fluorene	1.661	1.650	1.607	1.640	1.651	1.590	1.551				1.6	2.5	TM			0.900
12	TML	Pentachlorophenol	0.3168	0.1274	0.1289	0.2039	0.2721	0.3681	0.3838				0.26	41	TML	0.999		0.050
13	I	Phenanthrene-D10(IS)																
14	TM	Phenanthrene	1.317	1.177	1.164	1.143	1.108	1.064	0.9831				1.1	9.1	TM			0.700
15	TM	Anthracene	1.184	1.122	1.065	1.062	1.058	1.006	0.9403				1.1	7.3	TM			0.700
16	S	Fluoranthene-D10 (FRT)	1.599	1.505	1.469	1.502	1.477	1.392	1.348				1.5	5.5	S			
17	*TM	Fluoranthene	1.913	1.675	1.638	1.596	1.575	1.430					1.6	9.7	*TM			0.600
18	I	Chrysene-D12(IS)																
19	TM	Pyrene	1.474	1.280	1.244	1.217	1.245	1.203	1.182				1.3	7.8	TM			0.600
20	S	Surrogate Recovery (TPH)	1.398	1.089	1.024	0.9991	0.9994	0.9558	0.9090				1.1	15	S			
21	TM	Benz (a) anthracene	1.657	1.271	1.239	1.189	1.249	1.227	1.163				1.3	13	TM			0.800
22	TM	Chrysene	1.607	1.254	1.199	1.154	1.165	1.140	1.134				1.2	14	TM			0.700
23	TM	Indeno (1,2,3-cd) pyrene	1.891	1.546	1.448	1.421	1.408	1.494	1.504				1.5	11	TM			0.500
24	I	Perylene-D12(IS)																
25	TM	Benzo (b) fluoranthene	1.449	1.186	1.047	1.150	1.168	1.100	1.068				1.2	12	TM			0.700
26	TML	Benzo (k) fluoranthene	1.580	1.171	1.177	1.050	1.072	1.075	1.055				1.2	16	TML	1.000		0.700
27	*TM	Benzo (a) pyrene	1.354	1.078	1.012	1.013	1.049	1.020	0.9854				1.1	12	*TM			0.700
28	TM	Dibenz (a,h) anthracene	1.416	1.091	1.063	1.042	1.024	1.054	1.059				1.1	12	TM			0.400
29	TM	Benzo (g,h,i) perylene	1.371	1.086	1.044	1.027	1.026	1.048	1.053				1.1	11	TM			0.500
30																		
31																		
32																		
33																		
34																		
35																		

Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L200113P\0113L003.D Vial: 88
Acq On : 13 Jan 20 14:59 Operator: MA
Sample : 5.0 SIM PCP 09/10/19 (0) Inst : Linus
Misc : Multiplr: 1.00

Quant Time: Jan 14 9:41 2020 Quant Results File: L0113PCP.RES

Quant Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 09:17:12 2020
Response via : Initial Calibration
DataAcq Meth : SIM_2

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Napthalene-D8(IS)	4.20	136	142465	2.50000 ppb		0.00
7) Acenaphthene-D10(IS)	6.19	164	70312	2.50000 ppb		0.00
13) Phenanthrene-D10(IS)	7.92	188	147923	2.50000 ppb		0.00
18) Chrysene-D12(IS)	11.04	240	193025	2.50000 ppb		0.00
24) Perylene-D12(IS)	13.47	264	226184	2.50000 ppb		0.00
System Monitoring Compounds						
2) Surrogate Recovery (NBZ)	3.41	82	83596	4.67099 ppb		0.00
Spiked Amount 5.000			Recovery	= 93.420%		
4) 2-methylnaphthalene-D10 (2	4.97	152	341988	4.75169 ppb		0.00
Spiked Amount 5.000			Recovery	= 95.040%		
8) Surrogate Recovery (FBP)	5.43	172	237384	4.86847 ppb		0.00
Spiked Amount 5.000			Recovery	= 97.360%		
16) Fluoranthene-D10 (FRT)	9.30	212	436829	4.83834 ppb		0.00
Spiked Amount 5.000			Recovery	= 96.760%		
20) Surrogate Recovery (TPH)	9.79	244	385818	5.20247 ppb		0.00
Spiked Amount 5.000			Recovery	= 104.040%		
Target Compounds						Qvalue
3) Naphthalene	4.23	128	294773	4.69771 ppb		99
5) 2-Methylnaphthalene	5.01	141	160832	4.62803 ppb		92
6) 1-Methylnaphthalene	5.12	141	168685	4.64680 ppb		92
9) Acenaphthylene	6.04	152	629792	4.89686 ppb		99
10) Acenaphthene	6.23	154	176954	4.67421 ppb		98
11) Fluorene	6.83	166	232144	4.90831 ppb		94
12) Pentachlorophenol	7.73	266	38263	4.18468 ppb		96
14) Phenanthrene	7.94	178	327677	4.69325 ppb		98
15) Anthracene	8.00	178	313146	4.79848 ppb		99
17) Fluoranthene	9.33	202	465935	4.60747 ppb	#	86
19) Pyrene	9.59	202	480458	4.75259 ppb	#	86
21) Benz (a) anthracene	11.02	228	482316	4.69530 ppb		100
22) Chrysene	11.08	228	449760	4.73930 ppb	#	97
23) Indeno (1,2,3-cd) pyrene	14.95	276	543643	4.44026 ppb	#	82
25) Benzo (b) fluoranthene	12.83	252	528222	4.82916 ppb	#	94
26) Benzo (k) fluoranthene	12.88	252	484802	4.66534 ppb	#	90
27) Benzo (a) pyrene	13.38	252	474453	4.71788 ppb	#	93
28) Dibenz (a,h) anthracene	14.99	278	463038	4.46641 ppb	#	85
29) Benzo (g,h,i) perylene	15.33	276	464028	4.52947 ppb	#	74

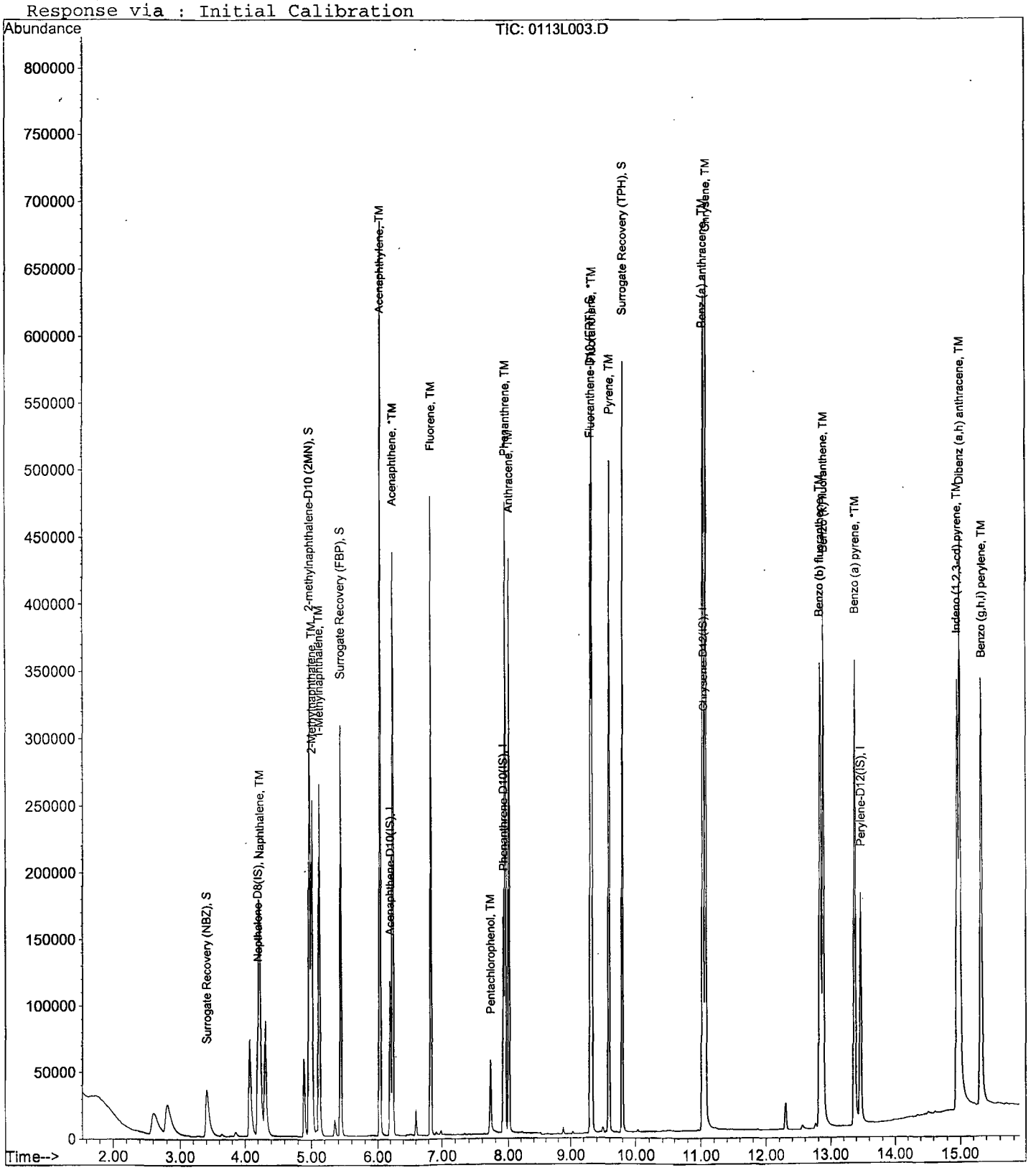
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L200113P\0113L003.D Vial: 88
Acq On : 13 Jan 20 14:59 Operator: MA
Sample : 5.0 SIM PCP 09/10/19 (0) Inst : Linus
Misc : Multiplr: 1.00

Quant Time: Jan 14 9:41 2020 Quant Results File: L0113PCP.RES

Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 09:45:39 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L200113P\0113L004.D Vial: 4
Acq On : 13 Jan 20 15:43 Operator: MA
Sample : 0.1 SIM PCP 09/10/19 Inst : Linus
Misc : Multiplr: 1.00

Quant Time: Jan 14 9:41 2020 Quant Results File: L0113PCP.RES

Quant Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 09:17:12 2020
Response via : Initial Calibration
DataAcq Meth : SIM_2

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	4.20	136	182920	2.50000 ppb	0.00
7) Acenaphthene-D10(IS)	6.19	164	93583	2.50000 ppb	0.00
13) Phenanthrene-D10(IS)	7.92	188	189919	2.50000 ppb	0.00
18) Chrysene-D12(IS)	11.03	240	255292	2.50000 ppb	-0.01
24) Perylene-D12(IS)	13.47	264	299330	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	3.41	82	2616	0.11384 ppb	0.00
Spiked Amount 5.000			Recovery	= 2.280%	
4) 2-methylnaphthalene-D10 (2	4.97	152	9265	0.10026 ppb	0.00
Spiked Amount 5.000			Recovery	= 2.000%	
8) Surrogate Recovery (FBP)	5.43	172	6583	0.10144 ppb	0.00
Spiked Amount 5.000			Recovery	= 2.020%	
16) Fluoranthene-D10 (FRT)	9.30	212	12145	0.10477 ppb	0.00
Spiked Amount 5.000			Recovery	= 2.100%	
20) Surrogate Recovery (TPH)	9.79	244	14279	-0.11979 ppb	0.00
Spiked Amount 5.000			Recovery	= -2.400%	
Target Compounds					Qvalue
3) Naphthalene	4.23	128	8409	0.10437 ppb	99
5) 2-Methylnaphthalene	5.01	141	4560	0.10220 ppb	94
6) 1-Methylnaphthalene	5.12	141	4853	0.10412 ppb	94
9) Acenaphthylene	6.04	152	17362	0.10143 ppb	99
10) Acenaphthene	6.23	154	5372	0.10661 ppb	99
11) Fluorene	6.83	166	6218	0.09878 ppb	94
12) Pentachlorophenol	7.73	266	1186	0.73851 ppb	95
14) Phenanthrene	7.94	178	10006	0.11162 ppb	97
15) Anthracene	8.00	178	8992	0.10732 ppb	98
17) Fluoranthene	9.33	202	14530	0.11191 ppb #	83
19) Pyrene	9.59	202	15048	0.11255 ppb #	83
21) Benz (a) anthracene	11.02	228	16919	0.12453 ppb	98
22) Chrysene	11.08	228	16407	0.13072 ppb #	95
23) Indeno (1,2,3-cd) pyrene	14.95	276	19315	0.11928 ppb #	73
25) Benzo (b) fluoranthene	12.83	252	17349	0.11985 ppb #	90
26) Benzo (k) fluoranthene	12.87	252	18918	0.13756 ppb #	90
27) Benzo (a) pyrene	13.37	252	16209	0.12179 ppb #	95
28) Dibenz (a,h) anthracene	14.99	278	16954	0.12357 ppb #	84
29) Benzo (g,h,i) perylene	15.32	276	16418	0.12110 ppb #	79

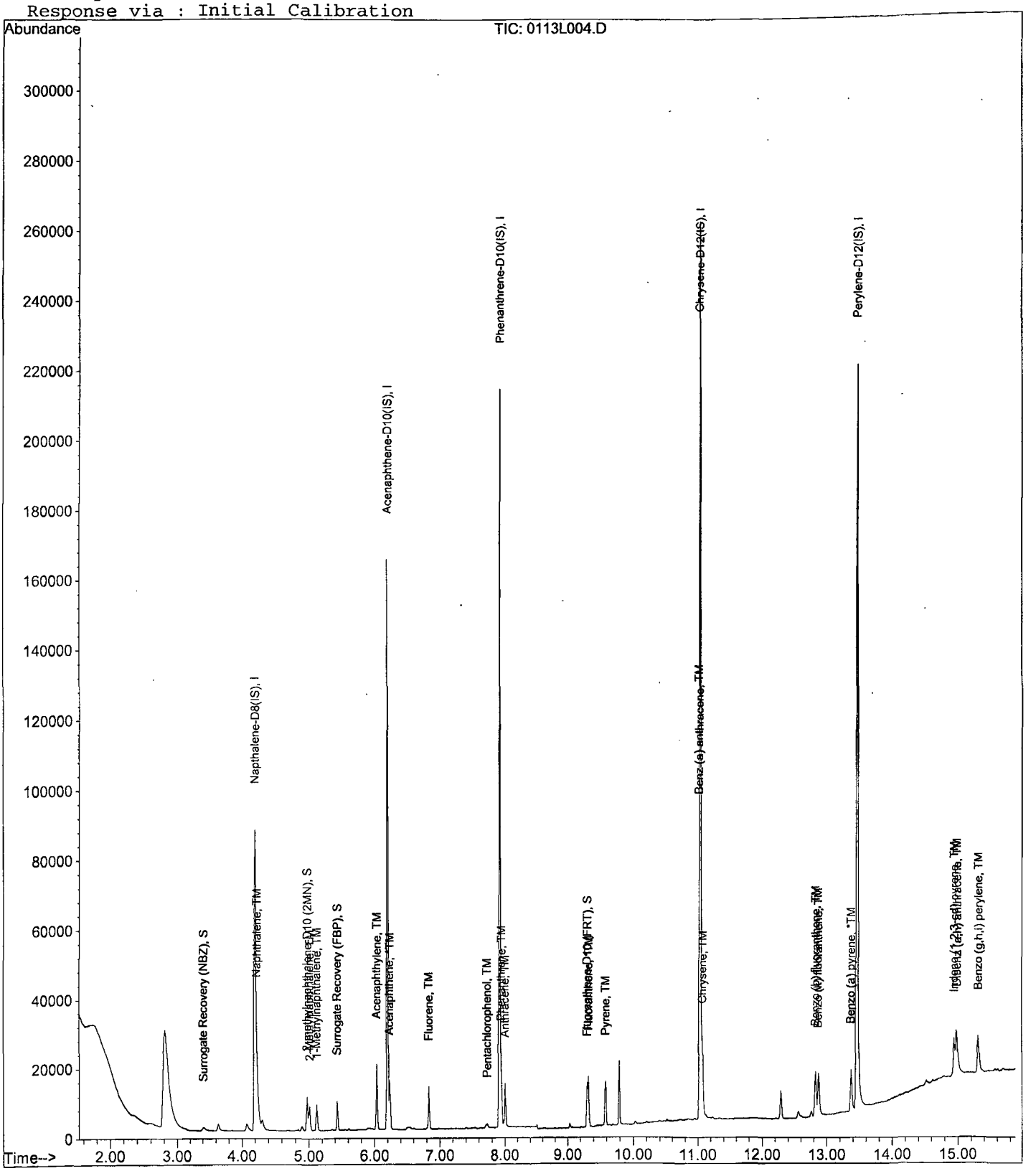
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L200113P\0113L004.D Vial: 4
Acq On : 13 Jan 20 15:43 Operator: MA
Sample : 0.1 SIM PCP 09/10/19 Inst : Linus
Misc : Multiplr: 1.00

Quant Time: Jan 14 9:41 2020 Quant Results File: L0113PCP.RES

Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 09:45:39 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L200113P\0113L005.D Vial: 5
Acq On : 13 Jan 20 16:05 Operator: MA
Sample : 0.25 SIM PCP 09/10/19 Inst : Linus
Misc : Multiplr: 1.00

Quant Time: Jan 14 9:41 2020 Quant Results File: L0113PCP.RES

Quant Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 09:17:12 2020
Response via : Initial Calibration
DataAcq Meth : SIM_2

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Napthalene-D8(IS)	4.20	136	139992	2.50000	ppb		0.00
7) Acenaphthene-D10(IS)	6.19	164	72066	2.50000	ppb		0.00
13) Phenanthrene-D10(IS)	7.92	188	147860	2.50000	ppb		0.00
18) Chrysene-D12(IS)	11.03	240	199568	2.50000	ppb		-0.01
24) Perylene-D12(IS)	13.46	264	234666	2.50000	ppb		-0.01
System Monitoring Compounds							
2) Surrogate Recovery (NBZ)	3.41	82	4414	0.25099	ppb		0.00
Spiked Amount 5.000			Recovery =	5.020%			
4) 2-methylnaphthalene-D10 (2	4.97	152	17420	0.24631	ppb		0.00
Spiked Amount 5.000			Recovery =	4.920%			
8) Surrogate Recovery (FBP)	5.43	172	12118	0.24248	ppb		0.00
Spiked Amount 5.000			Recovery =	4.840%			
16) Fluoranthene-D10 (FRT)	9.30	212	22255	0.24660	ppb		0.00
Spiked Amount 5.000			Recovery =	4.940%			
20) Surrogate Recovery (TPH)	9.78	244	21725	0.02520	ppb		-0.01
Spiked Amount 5.000			Recovery =	0.500%			
Target Compounds							Qvalue
3) Naphthalene	4.23	128	15642	0.25369	ppb		98
5) 2-Methylnaphthalene	5.01	141	8548	0.25032	ppb		96
6) 1-Methylnaphthalene	5.12	141	9070	0.25427	ppb		94
9) Acenaphthylene	6.04	152	33075	0.25091	ppb		99
10) Acenaphthene	6.23	154	9817	0.25300	ppb		98
11) Fluorene	6.83	166	11891	0.24530	ppb		94
12) Pentachlorophenol	7.73	266	918	0.73893	ppb		95
14) Phenanthrene	7.94	178	17401	0.24934	ppb		97
15) Anthracene	8.00	178	16592	0.25436	ppb		98
17) Fluoranthene	9.33	202	24772	0.24507	ppb	#	81
19) Pyrene	9.58	202	25545	0.24440	ppb		95
21) Benz (a) anthracene	11.02	228	25375	0.23892	ppb		97
22) Chrysene	11.07	228	25033	0.25513	ppb		99
23) Indeno (1,2,3-cd) pyrene	14.93	276	30863	0.24381	ppb	#	80
25) Benzo (b) fluoranthene	12.82	252	27828	0.24522	ppb	#	93
26) Benzo (k) fluoranthene	12.87	252	27472	0.25481	ppb	#	90
27) Benzo (a) pyrene	13.37	252	25297	0.24246	ppb	#	94
28) Dibenz (a,h) anthracene	14.98	278	25593	0.23794	ppb	#	86
29) Benzo (g,h,i) perylene	15.30	276	25493	0.23985	ppb	#	82

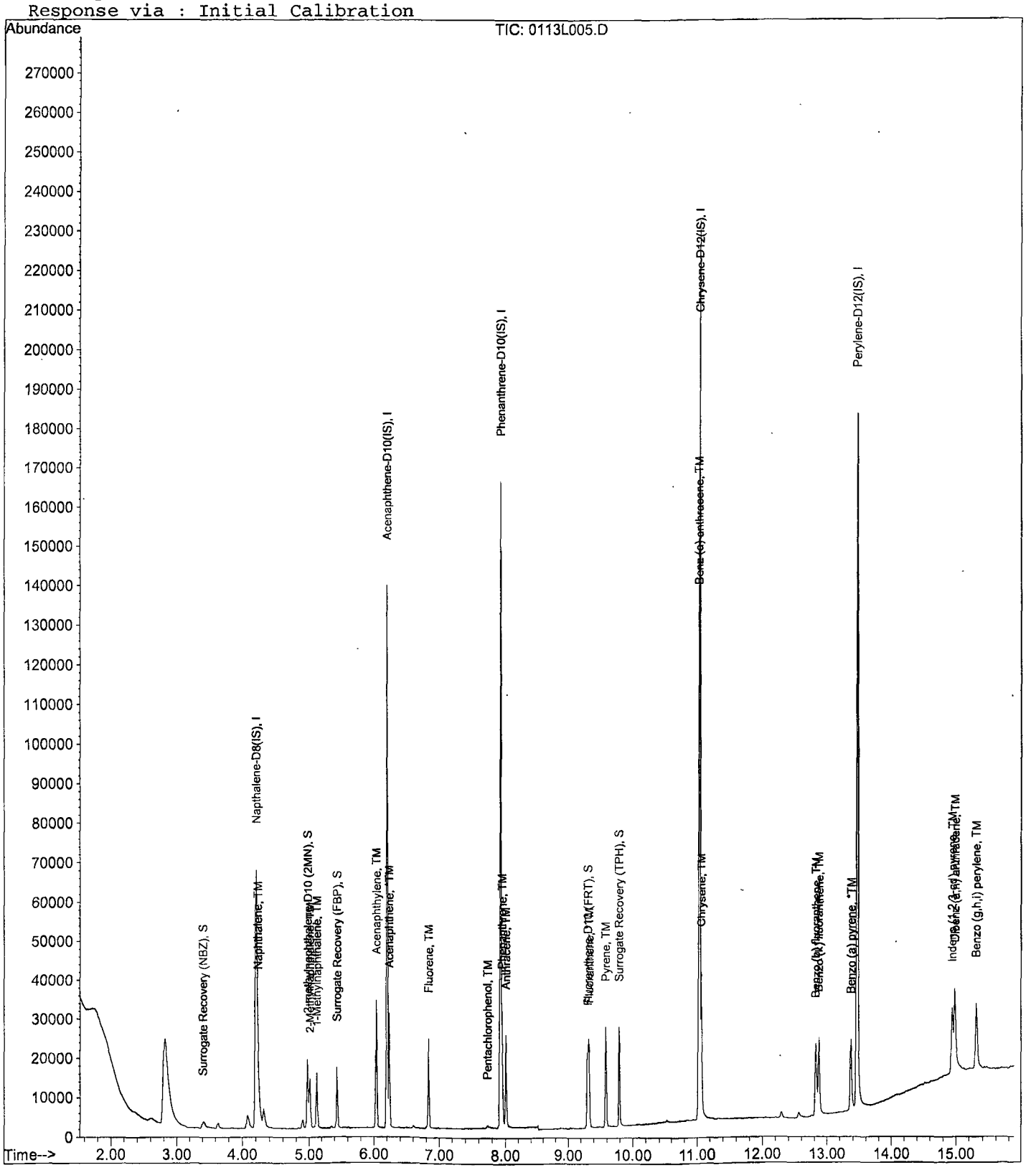
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L200113P\0113L005.D Vial: 5
Acq On : 13 Jan 20 16:05 Operator: MA
Sample : 0.25 SIM PCP 09/10/19 Inst : Linus
Misc : Multiplr: 1.00

Quant Time: Jan 14 9:41 2020 Quant Results File: L0113PCP.RES

Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 09:45:39 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L200113P\0113L006.D Vial: 6
Acq On : 13 Jan 20 16:26 Operator: MA
Sample : 0.5 SIM PCP 09/10/19 Inst : Linus
Misc : Multiplr: 1.00

Quant Time: Jan 14 9:41 2020 Quant Results File: L0113PCP.RES

Quant Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 09:17:12 2020
Response via : Initial Calibration
DataAcq Meth : SIM_2

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Napthalene-D8(IS)	4.20	136	166417	2.50000 ppb		0.00
7) Acenaphthene-D10(IS)	6.19	164	84916	2.50000 ppb		0.00
13) Phenanthrene-D10(IS)	7.92	188	175436	2.50000 ppb		0.00
18) Chrysene-D12(IS)	11.03	240	232237	2.50000 ppb		-0.01
24) Perylene-D12(IS)	13.46	264	275167	2.50000 ppb		-0.01
System Monitoring Compounds						
2) Surrogate Recovery (NBZ)	3.41	82	9691	0.46356 ppb		0.00
Spiked Amount 5.000			Recovery	= 9.280%		
4) 2-methylnaphthalene-D10 (2	4.97	152	39780	0.47317 ppb		0.00
Spiked Amount 5.000			Recovery	= 9.460%		
8) Surrogate Recovery (FBP)	5.43	172	28323	0.48097 ppb		0.00
Spiked Amount 5.000			Recovery	= 9.620%		
16) Fluoranthene-D10 (FRT)	9.29	212	51554	0.48146 ppb		-0.01
Spiked Amount 5.000			Recovery	= 9.620%		
20) Surrogate Recovery (TPH)	9.78	244	47543	0.28779 ppb		-0.01
Spiked Amount 5.000			Recovery	= 5.760%		
Target Compounds						Qvalue
3) Naphthalene	4.23	128	35497	0.48428 ppb		99
5) 2-Methylnaphthalene	5.01	141	19740	0.48627 ppb		93
6) 1-Methylnaphthalene	5.12	141	20714	0.48849 ppb		91
9) Acenaphthylene	6.04	152	75537	0.48632 ppb		99
10) Acenaphthene	6.23	154	21733	0.47534 ppb		99
11) Fluorene	6.83	166	27284	0.47766 ppb		94
12) Pentachlorophenol	7.73	266	2189	0.82348 ppb		91
14) Phenanthrene	7.94	178	40832	0.49311 ppb		98
15) Anthracene	8.00	178	37385	0.48303 ppb		98
17) Fluoranthene	9.32	202	57464	0.47913 ppb		93
19) Pyrene	9.58	202	57781	0.47505 ppb		94
21) Benz (a) anthracene	11.02	228	57542	0.46558 ppb		96
22) Chrysene	11.07	228	55677	0.48763 ppb		98
23) Indeno (1,2,3-cd) pyrene	14.94	276	67267	0.45665 ppb	#	80
25) Benzo (b) fluoranthene	12.82	252	57618	0.43299 ppb	#	92
26) Benzo (k) fluoranthene	12.87	252	64759	0.51225 ppb	#	89
27) Benzo (a) pyrene	13.37	252	55671	0.45504 ppb	#	93
28) Dibenz (a,h) anthracene	14.98	278	58499	0.46383 ppb	#	86
29) Benzo (g,h,i) perylene	15.30	276	57456	0.46100 ppb	#	81

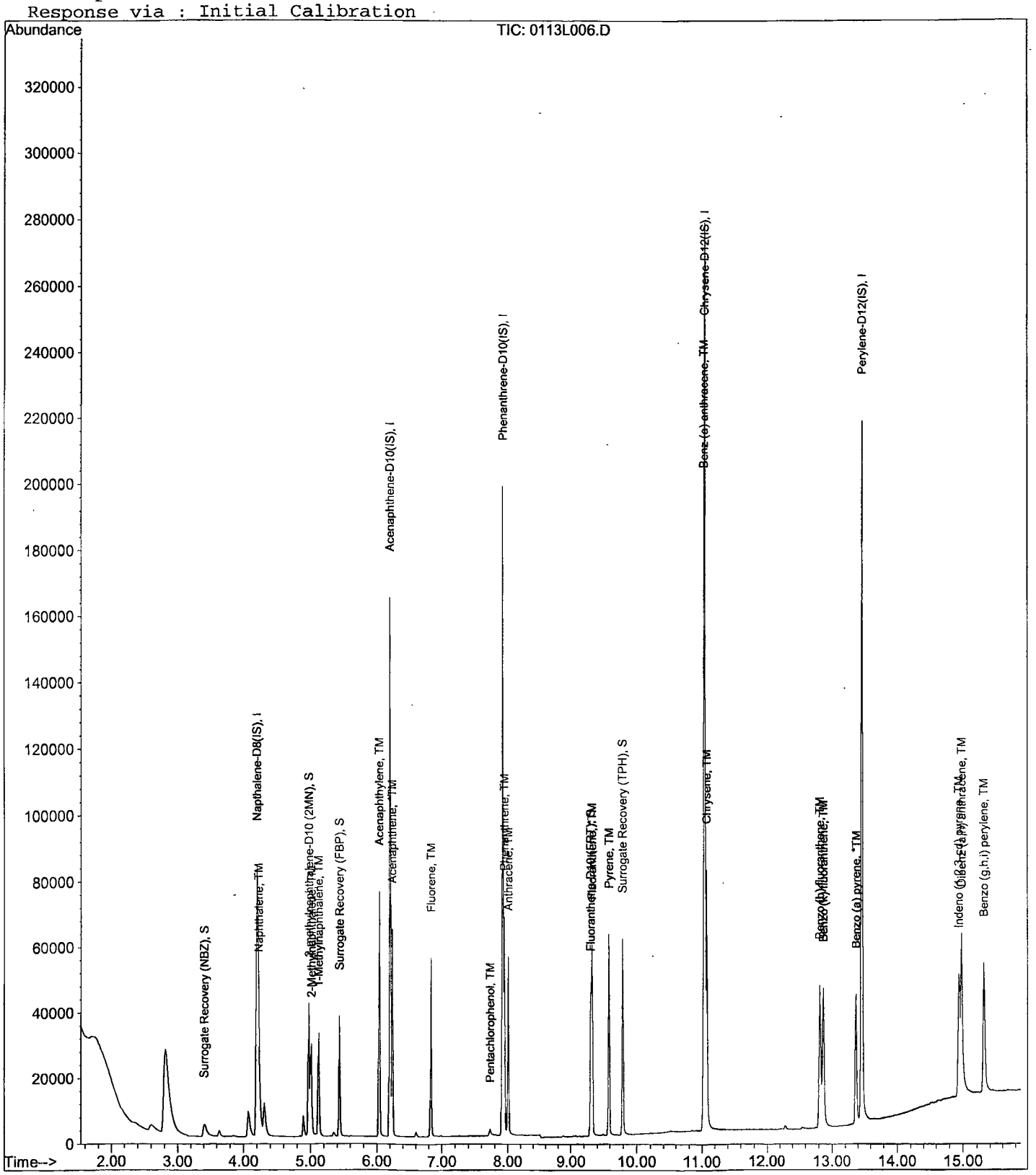
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L200113P\0113L006.D Vial: 6
Acq On : 13 Jan 20 16:26 Operator: MA
Sample : 0.5 SIM PCP 09/10/19 Inst : Linus
Misc : Multiplr: 1.00

Quant Time: Jan 14 9:41 2020 Quant Results File: L0113PCP.RES

Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 09:45:39 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L200113P\0113L007.D Vial: 7
Acq On : 13 Jan 20 16:48 Operator: MA
Sample : 2.5 SIM PCP 09/10/19 Inst : Linus
Misc : Multiplr: 1.00

Quant Time: Jan 14 9:41 2020 Quant Results File: L0113PCP.RES

Quant Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 09:17:12 2020
Response via : Initial Calibration
DataAcq Meth : SIM_2

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Napthalene-D8(IS)	4.20	136	124911	2.50000 ppb		0.00
7) Acenaphthene-D10(IS)	6.19	164	63938	2.50000 ppb		0.00
13) Phenanthrene-D10(IS)	7.92	188	134311	2.50000 ppb		0.00
18) Chrysene-D12(IS)	11.03	240	178972	2.50000 ppb		-0.01
24) Perylene-D12(IS)	13.46	264	210319	2.50000 ppb		-0.01
System Monitoring Compounds						
2) Surrogate Recovery (NBZ)	3.41	82	37017	2.35902 ppb		0.00
Spiked Amount 5.000			Recovery	= 47.180%		
4) 2-methylnaphthalene-D10 (2	4.97	152	156336	2.47744 ppb		0.00
Spiked Amount 5.000			Recovery	= 49.540%		
8) Surrogate Recovery (FBP)	5.43	172	109067	2.45983 ppb		0.00
Spiked Amount 5.000			Recovery	= 49.200%		
16) Fluoranthene-D10 (FRT)	9.29	212	201671	2.46010 ppb		-0.01
Spiked Amount 5.000			Recovery	= 49.200%		
20) Surrogate Recovery (TPH)	9.78	244	178817	2.46400 ppb		-0.01
Spiked Amount 5.000			Recovery	= 49.280%		
Target Compounds						Qvalue
3) Naphthalene	4.23	128	134284	2.44079 ppb		99
5) 2-Methylnaphthalene	5.01	141	75534	2.47898 ppb		93
6) 1-Methylnaphthalene	5.12	141	77579	2.43741 ppb		92
9) Acenaphthylene	6.04	152	289336	2.47397 ppb		98
10) Acenaphthene	6.23	154	81546	2.36876 ppb		98
11) Fluorene	6.83	166	104879	2.43856 ppb		92
12) Pentachlorophenol	7.73	266	13035	1.97816 ppb		94
14) Phenanthrene	7.94	178	153482	2.42108 ppb		97
15) Anthracene	8.00	178	142641	2.40727 ppb		98
17) Fluoranthene	9.32	202	214315	2.33407 ppb		94
19) Pyrene	9.58	202	217868	2.32433 ppb		93
21) Benz (a) anthracene	11.02	228	212782	2.23406 ppb		97
22) Chrysene	11.07	228	206585	2.34780 ppb		99
23) Indeno (1,2,3-cd) pyrene	14.93	276	254376	2.24078 ppb	#	80
25) Benzo (b) fluoranthene	12.82	252	241795	2.37731 ppb	#	93
26) Benzo (k) fluoranthene	12.87	252	220737	2.28443 ppb	#	90
27) Benzo (a) pyrene	13.37	252	213128	2.27917 ppb	#	93
28) Dibenz (a,h) anthracene	14.98	278	219101	2.27284 ppb	#	85
29) Benzo (g,h,i) perylene	15.30	276	216035	2.26783 ppb	#	80

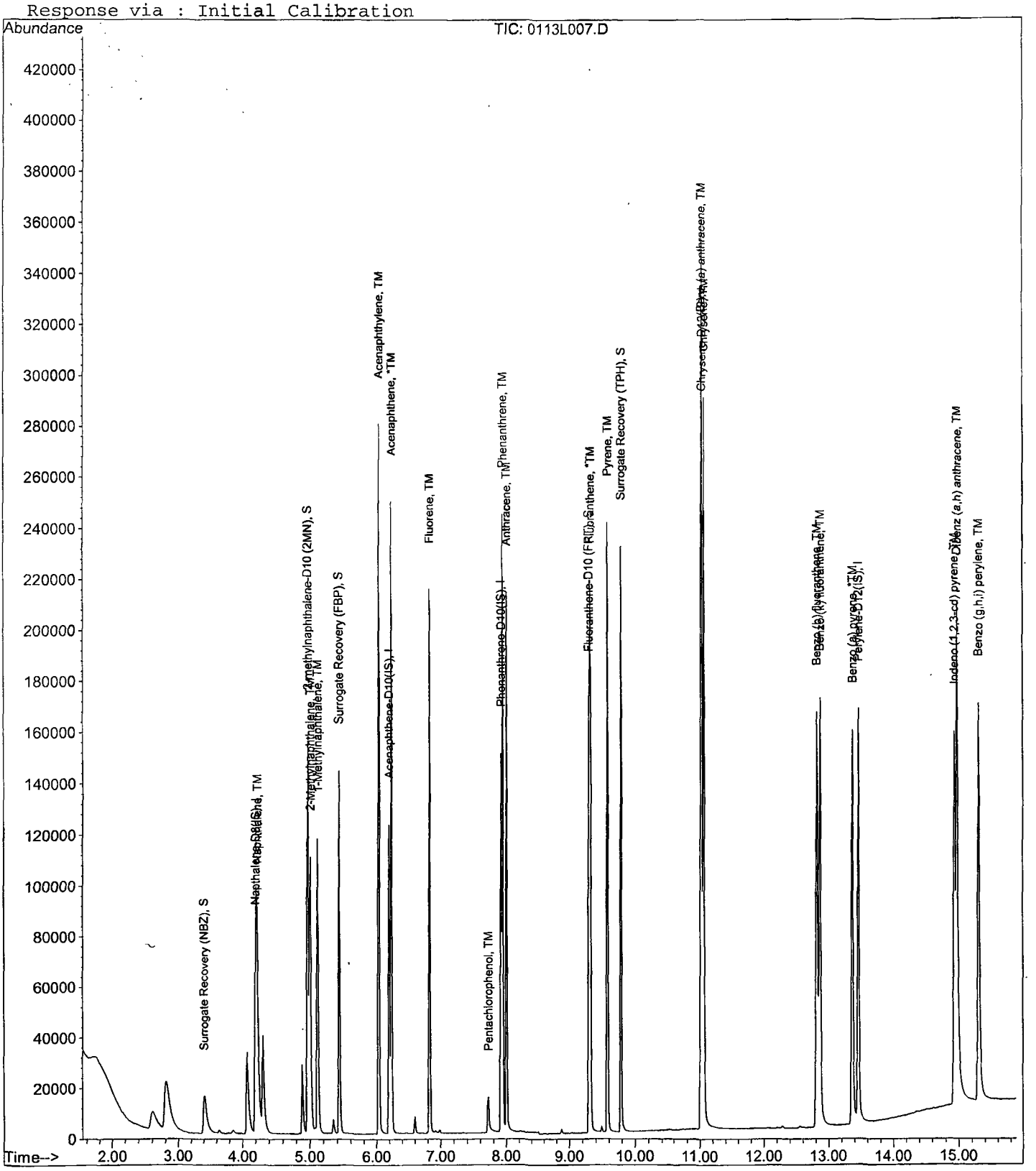
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L200113P\0113L007.D Vial: 7
Acq On : 13 Jan 20 16:48 Operator: MA
Sample : 2.5 SIM PCP 09/10/19 Inst : Linus
Misc : Multiplr: 1.00

Quant Time: Jan 14 9:41 2020 Quant Results File: L0113PCP.RES

Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 09:45:39 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L200113P\0113L008.D Vial: 8
Acq On : 13 Jan 20 17:10 Operator: MA
Sample : 25 SIM PCP 09/10/19 Inst : Linus
Misc : Multiplr: 1.00

Quant Time: Jan 14 9:41 2020 Quant Results File: L0113PCP.RES

Quant Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 09:17:12 2020
Response via : Initial Calibration
DataAcq Meth : SIM_2

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Napthalene-D8(IS)	4.20	136	132250	2.50000 ppb		0.00
7) Acenaphthene-D10(IS)	6.19	164	70869	2.50000 ppb		0.00
13) Phenanthrene-D10(IS)	7.92	188	152595	2.50000 ppb		0.00
18) Chrysene-D12(IS)	11.04	240	190630	2.50000 ppb		0.00
24) Perylene-D12(IS)	13.47	264	230401	2.50000 ppb		0.00
System Monitoring Compounds						
2) Surrogate Recovery (NBZ)	3.41	82	363625	21.88716 ppb		0.00
Spiked Amount 5.000			Recovery	= 437.740%		
4) 2-methylnaphthalene-D10 (2	4.97	152	1648284	24.67072 ppb		0.00
Spiked Amount 5.000			Recovery	= 493.420%		
8) Surrogate Recovery (FBP)	5.43	172	1153649	23.47403 ppb		0.00
Spiked Amount 5.000			Recovery	= 469.480%		
16) Fluoranthene-D10 (FRT)	9.30	212	2124681	22.81258 ppb		0.00
Spiked Amount 5.000			Recovery	= 456.260%		
20) Surrogate Recovery (TPH)	9.79	244	1822110	25.91102 ppb		0.00
Spiked Amount 5.000			Recovery	= 518.220%		
Target Compounds						Qvalue
3) Naphthalene	4.23	128	1355207	23.26571 ppb		98
5) 2-Methylnaphthalene	5.01	141	772195	23.93665 ppb		91
6) 1-Methylnaphthalene	5.12	141	812530	24.11179 ppb		90
9) Acenaphthylene	6.04	152	3030272	23.37628 ppb		98
10) Acenaphthene	6.24	154	903060	23.66671 ppb		84
11) Fluorene	6.83	166	1127127	23.64397 ppb		91
12) Pentachlorophenol	7.73	266	260871	24.52292 ppb		93
14) Phenanthrene	7.95	178	1624188	22.55066 ppb		95
15) Anthracene	8.01	178	1534860	22.79928 ppb		95
17) Fluoranthene	9.33	202	2181426	20.91091 ppb		93
19) Pyrene	9.59	202	2293914	22.97600 ppb		90
21) Benz (a) anthracene	11.03	228	2339377	23.05972 ppb		96
22) Chrysene	11.08	228	2173997	23.19610 ppb		98
23) Indeno (1,2,3-cd) pyrene	14.97	276	2847468	23.54920 ppb	#	67
25) Benzo (b) fluoranthene	12.84	252	2533452	22.73766 ppb	#	92
26) Benzo (k) fluoranthene	12.89	252	2477702	23.40698 ppb	#	90
27) Benzo (a) pyrene	13.38	252	2350924	22.94932 ppb		95
28) Dibenz (a,h) anthracene	15.00	278	2429243	23.00330 ppb	#	85
29) Benzo (g,h,i) perylene	15.34	276	2415655	23.14810 ppb	#	79

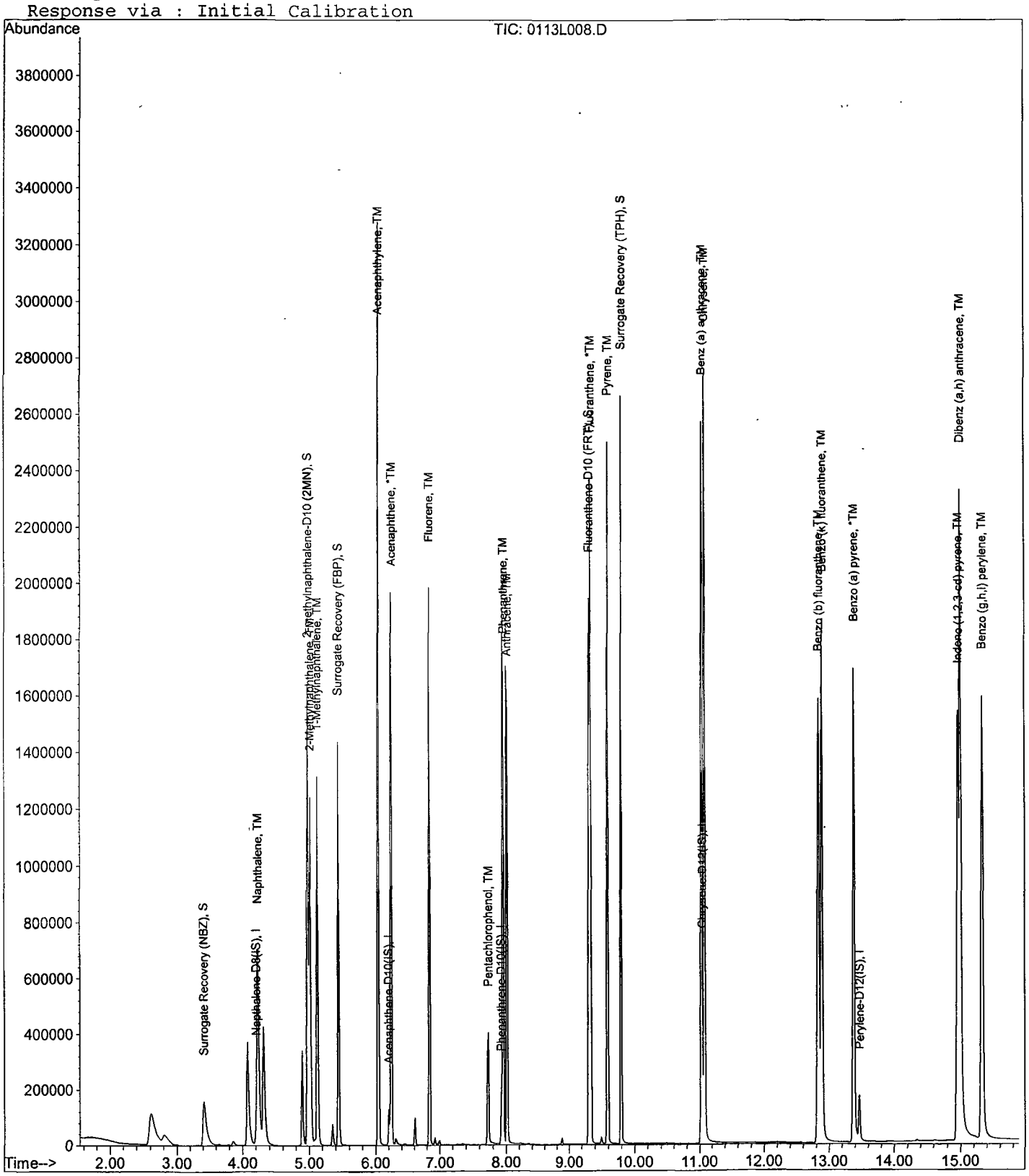
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L200113P\0113L008.D Vial: 8
Acq On : 13 Jan 20 17:10 Operator: MA
Sample : 25 SIM PCP 09/10/19 Inst : Linus
Misc : Multiplr: 1.00

Quant Time: Jan 14 9:41 2020 Quant Results File: L0113PCP.RES

Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 09:45:39 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L200113P\0113L009.D Vial: 9
Acq On : 13 Jan 20 17:32 Operator: MA
Sample : 50 SIM PCP 09/10/19 Inst : Linus
Misc : Multiplr: 1.00

Quant Time: Jan 14 9:42 2020 Quant Results File: L0113PCP.RES

Quant Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 09:17:12 2020
Response via : Initial Calibration
DataAcq Meth : SIM_2

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Napthalene-D8(IS)	4.20	136	139719	2.50000	ppb		0.00
7) Acenaphthene-D10(IS)	6.19	164	70415	2.50000	ppb		0.00
13) Phenanthrene-D10(IS)	7.92	188	146169	2.50000	ppb		0.00
18) Chrysene-D12(IS)	11.05	240	184151	2.50000	ppb		0.01
24) Perylene-D12(IS)	13.47	264	224065	2.50000	ppb		0.00
System Monitoring Compounds							
2) Surrogate Recovery (NBZ)	3.41	82	861548	49.08574	ppb		0.00
Spiked Amount 5.000			Recovery = 981.720%				
4) 2-methylnaphthalene-D10 (2	4.97	152	3248750	46.02633	ppb		0.00
Spiked Amount 5.000			Recovery = 920.520%				
8) Surrogate Recovery (FBP)	5.43	172	2220973	45.48291	ppb		0.00
Spiked Amount 5.000			Recovery = 909.660%				
16) Fluoranthene-D10 (FRT)	9.32	212	3941442	44.17950	ppb		0.01
Spiked Amount 5.000			Recovery = 883.600%				
20) Surrogate Recovery (TPH)	9.79	244	3347885	49.52931	ppb		0.00
Spiked Amount 5.000			Recovery = 990.580%				
Target Compounds							Qvalue
3) Naphthalene	4.23	128	2773429	45.06796	ppb		98
5) 2-Methylnaphthalene	5.01	141	1484555	43.55849	ppb		92
6) 1-Methylnaphthalene	5.12	141	1547336	43.46252	ppb		91
9) Acenaphthylene	6.04	152	5470157	42.47024	ppb		97
10) Acenaphthene	6.24	154	1675761	44.20023	ppb		91
11) Fluorene	6.84	166	2184846	46.12745	ppb		88
12) Pentachlorophenol	7.73	266	540481	50.42270	ppb		95
14) Phenanthrene	7.95	178	2873879	41.65590	ppb		97
15) Anthracene	8.01	178	2748934	42.62866	ppb		97
17) Fluoranthene	9.34	202	3961424	39.64320	ppb	#	90
19) Pyrene	9.60	202	4352710	45.13092	ppb	#	81
21) Benz (a) anthracene	11.03	228	4282462	43.69830	ppb		97
22) Chrysene	11.09	228	4174742	46.11081	ppb		96
23) Indeno (1,2,3-cd) pyrene	14.98	276	5539626	47.42584	ppb	#	79
25) Benzo (b) fluoranthene	12.85	252	4784839	44.15813	ppb	#	93
26) Benzo (k) fluoranthene	12.91	252	4726666	45.91573	ppb	#	87
27) Benzo (a) pyrene	13.40	252	4415736	44.32459	ppb	#	90
28) Dibenz (a,h) anthracene	15.02	278	4746500	46.21713	ppb	#	83
29) Benzo (g,h,i) perylene	15.36	276	4719226	46.50093	ppb	#	83

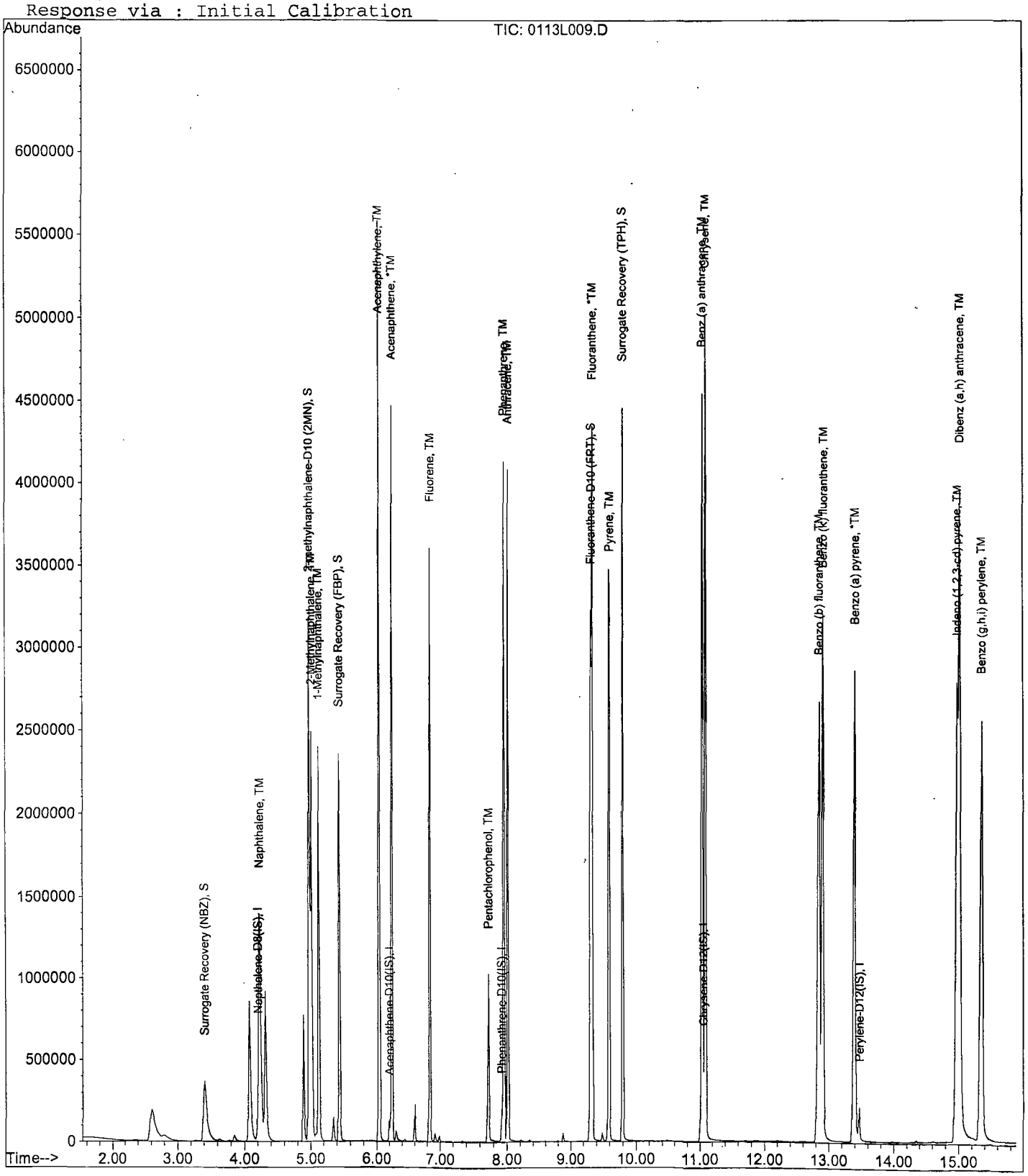
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L200113P\0113L009.D Vial: 9
Acq On : 13 Jan 20 17:32 Operator: MA
Sample : 50 SIM PCP 09/10/19 Inst : Linus
Misc : Multiplr: 1.00

Quant Time: Jan 14 9:42 2020 Quant Results File: L0113PCP.RES

Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 09:45:39 2020
Response via : Initial Calibration



PAH by GCMS SIM
EPA 8270 SIM

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 01/13/20
Instrument: Linus
Initial Cal. Date: 01/13/20
Data File: 0113L010.D

		Compound	MEAN	CCRF	%D		%Drift
1	TM	Naphthalene	1.066	0.9911	7.0	TM	
2	TM	2-Methylnaphthalene	0.5873	0.5561	5.3	TM	
3	TM	1-Methylnaphthalene	0.6164	0.5575	9.6	TM	
4	TM	Acenaphthylene	4.406	4.080	7.4	TM	
5	*TM	Acenaphthene	1.296	1.185	8.6	*TM	
6	TM	Fluorene	1.622	1.497	7.7	TM	
7	TML	Pentachlorophenol	0.2573	0.2626	2.1	TML	19
8	TM	Phenanthrene	1.137	1.087	4.4	TM	
9	TM	Anthracene	1.063	1.088	2.4	TM	
10	*TM	Fluoranthene	1.638	1.535	6.3	*TM	
11	TM	Pyrene	1.264	1.213	4.0	TM	
12	TM	Benz (a) anthracene	1.285	1.212	5.7	TM	
13	TM	Chrysene	1.236	1.091	12	TM	
14	TM	Indeno (1,2,3-cd) pyrene	1.531	1.495	2.3	TM	
15	TM	Benzo (b) fluoranthene	1.167	1.050	10	TM	
16	TML	Benzo (k) fluoranthene	1.168	1.077	7.8	TML	0.39
17	*TM	Benzo (a) pyrene	1.073	1.019	5.1	*TM	
18	TM	Dibenz (a,h) anthracene	1.107	1.031	6.8	TM	
19	TM	Benzo (g,h,i) perylene	1.094	1.020	6.8	TM	
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			6.4		

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L200113P\0113L010.D Vial: 10
Acq On : 13 Jan 20 17:54 Operator: MA
Sample : SS SIM PCP 01/07/20 Inst : Linus
Misc : Multiplr: 1.00

Quant Time: Jan 14 10:11 2020 Quant Results File: L0113PCP.RES

Quant Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 10:07:16 2020
Response via : Initial Calibration
DataAcq Meth : SIM_2

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Napthalene-D8(IS)	4.20	136	137049	2.50000	ppb		0.00
7) Acenaphthene-D10(IS)	6.19	164	73342	2.50000	ppb		0.00
13) Phenanthrene-D10(IS)	7.92	188	143388	2.50000	ppb		0.00
18) Chrysene-D12(IS)	11.03	240	185022	2.50000	ppb		-0.01
24) Perylene-D12(IS)	13.46	264	223282	2.50000	ppb		-0.01
System Monitoring Compounds							
2) Surrogate Recovery (NBZ)	0.00	82	0d	0.00000	ppb		
Spiked Amount 5.000			Recovery	=	0.000%		
4) 2-methylnaphthalene-D10 (2	0.00	152	0d	0.00000	ppb		
Spiked Amount 5.000			Recovery	=	0.000%		
8) Surrogate Recovery (FBP)	0.00	172	0d	0.00000	ppb		
Spiked Amount 5.000			Recovery	=	0.000%		
16) Fluoranthene-D10 (FRT)	0.00	212	0d	0.00000	ppb		
Spiked Amount 5.000			Recovery	=	0.000%		
20) Surrogate Recovery (TPH)	0.00	244	0d	0.00000	ppb		
Spiked Amount 5.000			Recovery	=	0.000%		
Target Compounds							Qvalue
3) Naphthalene	4.21	128	271657	4.64994	ppb		100
5) 2-Methylnaphthalene	5.01	141	152425	4.73419	ppb		92
6) 1-Methylnaphthalene	5.12	141	152810	4.52231	ppb		91
9) Acenaphthylene	6.04	152	598474	4.63048	ppb		98
10) Acenaphthene	6.23	154	173773	4.56904	ppb		97
11) Fluorene	6.83	166	219524	4.61475	ppb		91
12) Pentachlorophenol	7.71	266	38516m	4.06536	ppb		99
14) Phenanthrene	7.94	178	311611	4.78047	ppb		96
15) Anthracene	8.00	178	311899	5.11783	ppb		97
17) Fluoranthene	9.32	202	440235	4.68695	ppb	#	90
19) Pyrene	9.58	202	448976	4.80127	ppb		91
21) Benz (a) anthracene	11.02	228	448345	4.71418	ppb		96
22) Chrysene	11.07	228	403762	4.41339	ppb	#	98
23) Indeno (1,2,3-cd) pyrene	14.93	276	553182	4.88371	ppb	#	75
25) Benzo (b) fluoranthene	12.82	252	468839	4.49960	ppb	#	92
26) Benzo (k) fluoranthene	12.87	252	480847	5.01949	ppb	#	89
27) Benzo (a) pyrene	13.36	252	454826	4.74588	ppb		97
28) Dibenz (a,h) anthracene	14.98	278	460460	4.65759	ppb	#	84
29) Benzo (g,h,i) perylene	15.30	276	455427	4.66225	ppb	#	79

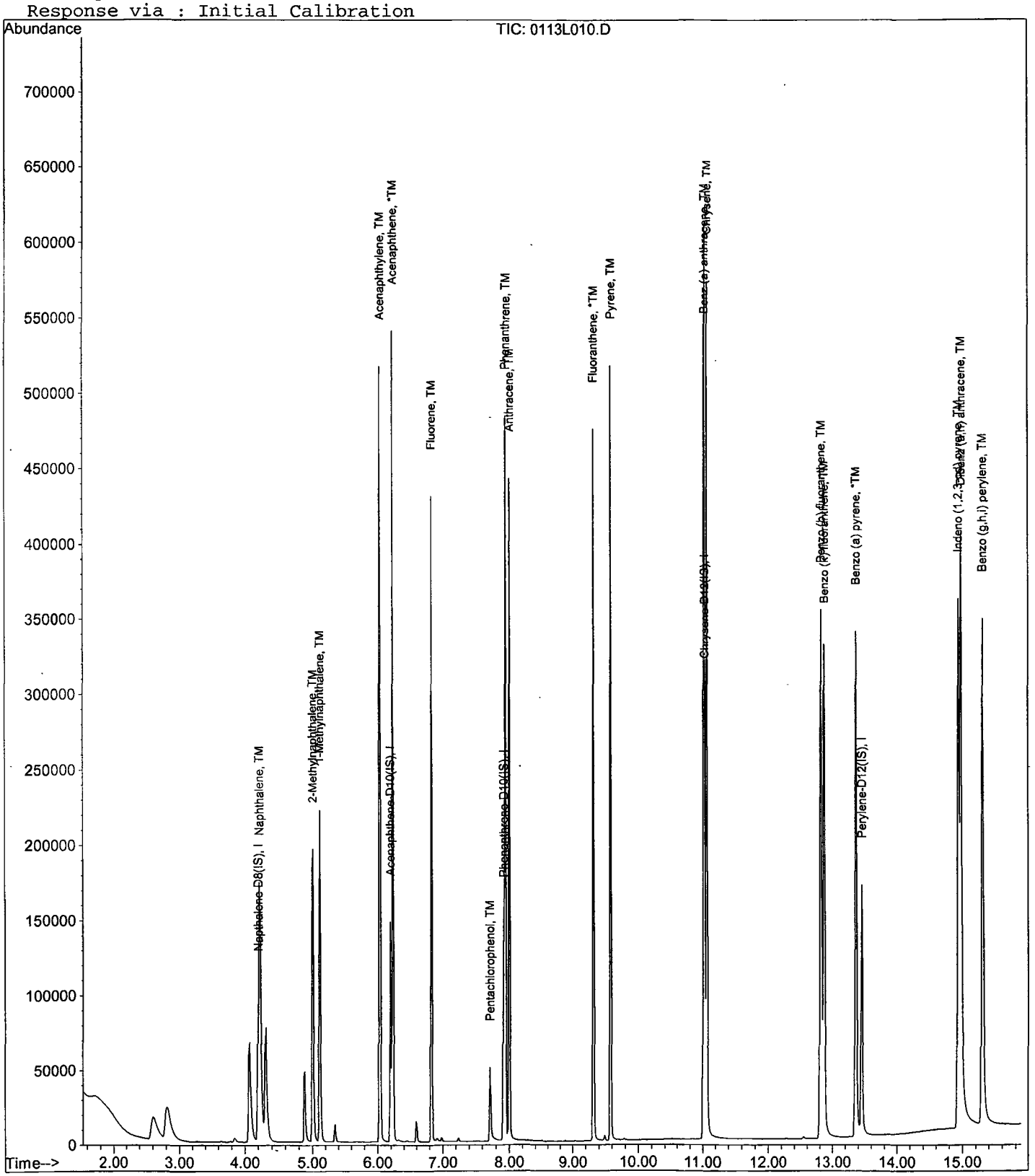
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L200113P\0113L010.D Vial: 10
Acq On : 13 Jan 20 17:54 Operator: MA
Sample : SS SIM PCP 01/07/20 Inst : Linus
Misc : Multiplr: 1.00

Quant Time: Jan 14 10:11 2020 Quant Results File: L0113PCP.RES

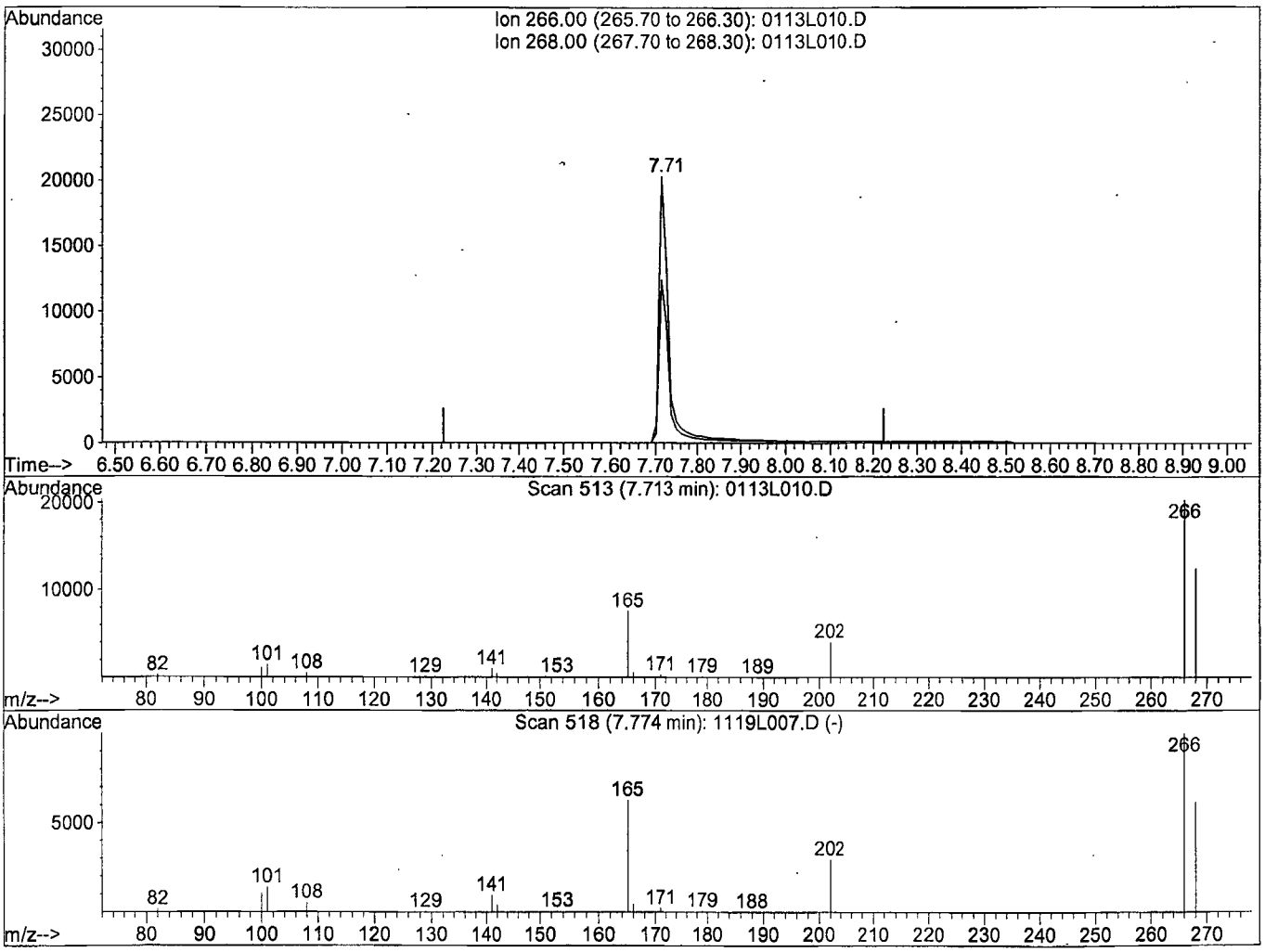
Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 10:07:16 2020
Response via : Initial Calibration



Quantitation Report

Data File : M:\LINUS\DATA\L200113P\0113L010.D Vial: 10
Acq On : 13 Jan 20 17:54 Operator: MA
Sample : SS SIM PCP 01/07/20 Inst : Linus
Misc : Multiplr: 1.00
Quant Time: Jan 14 10:10 2020 Quant Results File: temp.res

Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 10:07:16 2020
Response via : Multiple Level Calibration



TIC: 0113L010.D

(12) Pentachlorophenol (TM)

7.71min 3.7692ppb

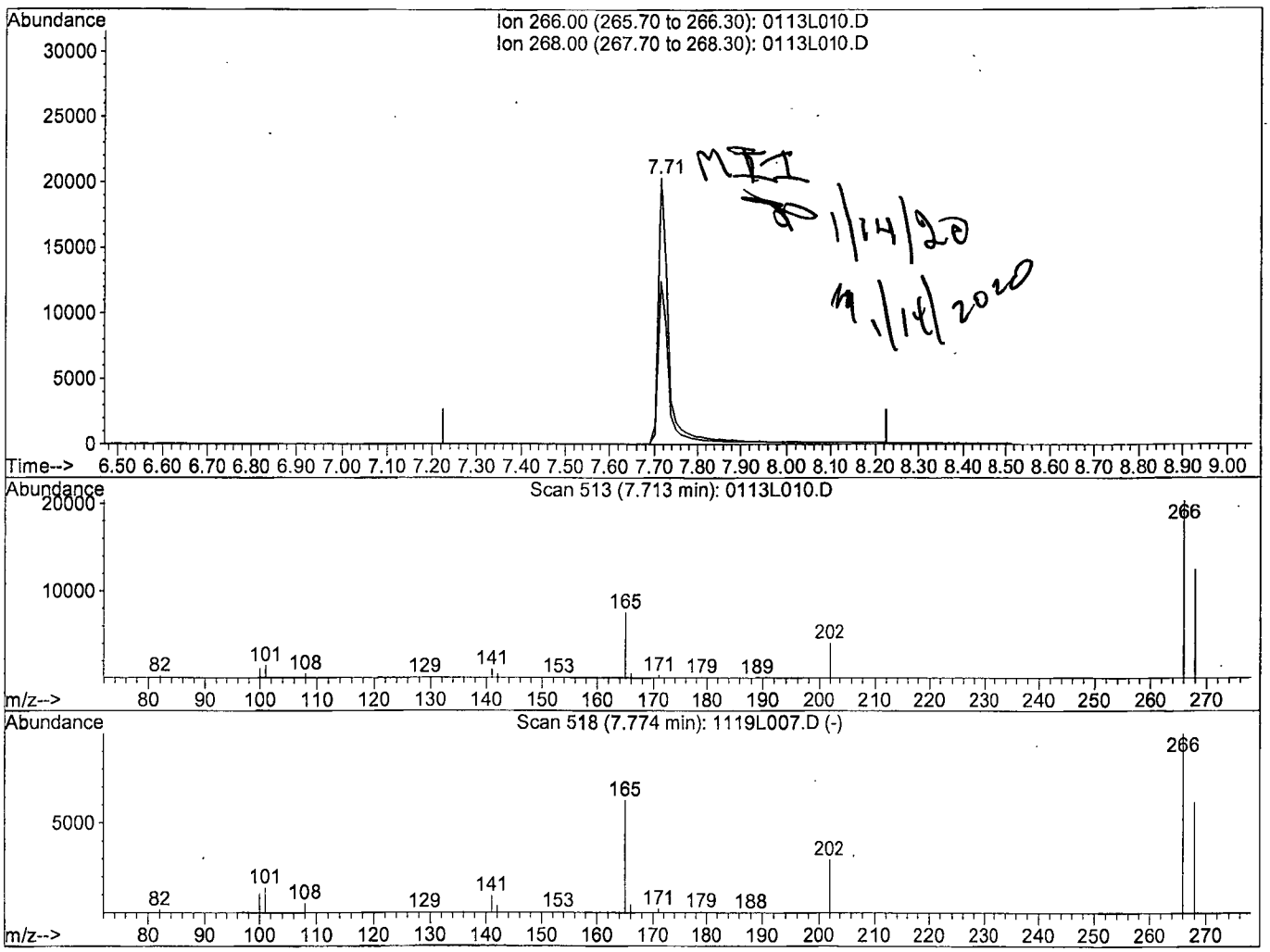
response 35161

Ion	Exp%	Act%
266.00	100	100
268.00	61.50	61.05
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report

Data File : M:\LINUS\DATA\L200113P\0113L010.D Vial: 10
Acq On : 13 Jan 20 17:54 Operator: MA
Sample : SS SIM PCP 01/07/20 Inst : Linus
Misc : Multiplr: 1.00
Quant Time: Jan 14 10:11 2020 Quant Results File: temp.res

Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 10:07:16 2020
Response via : Multiple Level Calibration



TIC: 0113L010.D

(12) Pentachlorophenol (TM)

7.71min 4.0654ppb m

response 38516

Ion	Exp%	Act%
266.00	100	100
268.00	61.50	61.19
0.00	0.00	0.00
0.00	0.00	0.00

PAH by GCMS SIM
EPA 8270 SIM

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 01/27/20
Instrument: Linus
Initial Cal. Date: 01/13/20
Data File: 0113L162.D

		Compound	MEAN	CCRF	%D		%Drift	
1	I	Napthalene-D8(IS)	ISTD			I		
2	S	Surrogate Recovery (NBZ)	0.3053	0.3309	8.4	S		
3	TM	Naphthalene	1.066	1.187	11	TM		
4	S	2-methylnaphthalene-D10 (2MN)	1.224	1.375	12	S		
5	TM	2-Methylnaphthalene	0.5873	0.6567	12	TM		
6	TM	1-Methylnaphthalene	0.6164	0.6793	10	TM		
7	I	Acenaphthene-D10(IS)	ISTD			I		
8	S	Surrogate Recovery (FBP)	1.672	1.696	1.4	S		
9	TM	Acenaphthylene	4.406	4.448	0.96	TM		
10	*TM	Acenaphthene	1.296	1.298	0.12	*TM		
11	TM	Fluorene	1.622	1.662	2.5	TM		
12	TML	Pentachlorophenol	0.2573	0.2371	7.9	TML	25	*NT
13	I	Phenanthrene-D10(IS)	ISTD			I		
14	TM	Phenanthrene	1.137	1.229	8.2	TM		
15	TM	Anthracene	1.063	1.137	7.0	TM		
16	S	Fluoranthene-D10 (FRT)	1.470	1.514	3.0	S		
17	*TM	Fluoranthene	1.638	1.696	3.6	*TM		
18	I	Chrysene-D12(IS)	ISTD			I		
19	TM	Pyrene	1.264	1.362	7.8	TM		
20	S	Surrogate Recovery (TPH)	1.053	1.056	0.27	S		
21	TM	Benz (a) anthracene	1.285	1.292	0.52	TM		
22	TM	Chrysene	1.236	1.306	5.6	TM		
23	TM	Indeno (1,2,3-cd) pyrene	1.531	1.720	12	TM		
24	I	Perylene-D12(IS)	ISTD			I		
25	TM	Benzo (b) fluoranthene	1.167	1.185	1.5	TM		
26	TML	Benzo (k) fluoranthene	1.168	1.289	10	TML	21	*NT
27	*TM	Benzo (a) pyrene	1.073	1.137	6.0	*TM		
28	TM	Dibenz (a,h) anthracene	1.107	1.243	12	TM		
29	TM	Benzo (g,h,i) perylene	1.094	1.242	14	TM		
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								
		Average			6.6			

Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L200113P\0113L162.D Vial: 62
Acq On : 27 Jan 20 14:51 Operator: MA
Sample : 5ug/mL SIM PCP 01/16/20 (1) Inst : Linus
Misc : Multiplr: 1.00

Quant Time: Jan 27 15:11 2020 Quant Results File: L0113PCP.RES

Quant Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 10:14:53 2020
Response via : Initial Calibration
DataAcq Meth : SIM_2

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Napthalene-D8(IS)	4.19	136	119953	2.50000 ppb		-0.01
7) Acenaphthene-D10(IS)	6.18	164	66859	2.50000 ppb		-0.01
13) Phenanthrene-D10(IS)	7.91	188	130657	2.50000 ppb		-0.01
18) Chrysene-D12(IS)	11.01	240	166604	2.50000 ppb		-0.03
24) Perylene-D12(IS)	13.43	264	195500	2.50000 ppb		-0.03
System Monitoring Compounds						
2) Surrogate Recovery (NBZ)	3.41	82	79392	5.41998 ppb		0.00
Spiked Amount 5.000			Recovery	= 108.400%		
4) 2-methylnaphthalene-D10 (2	4.96	152	329814	5.61679 ppb		-0.01
Spiked Amount 5.000			Recovery	= 112.340%		
8) Surrogate Recovery (FBP)	5.42	172	226814	5.07126 ppb		-0.01
Spiked Amount 5.000			Recovery	= 101.420%		
16) Fluoranthene-D10 (FRT)	9.28	212	395575	5.14803 ppb		-0.02
Spiked Amount 5.000			Recovery	= 102.960%		
20) Surrogate Recovery (TPH)	9.77	244	351938	5.01330 ppb		-0.02
Spiked Amount 5.000			Recovery	= 100.260%		
Target Compounds						Qvalue
3) Naphthalene	4.21	128	284763	5.56897 ppb		100
5) 2-Methylnaphthalene	5.00	141	157545	5.59061 ppb		100
6) 1-Methylnaphthalene	5.11	141	162975	5.51054 ppb		100
9) Acenaphthylene	6.02	152	594780	5.04812 ppb		100
10) Acenaphthene	6.22	154	173568	5.00617 ppb		94
11) Fluorene	6.82	166	222273	5.12561 ppb		96
12) Pentachlorophenol	7.71	266	31700	3.73507 ppb		100
14) Phenanthrene	7.93	178	321262	5.40875 ppb		98
15) Anthracene	7.99	178	296983	5.34790 ppb		98
17) Fluoranthene	9.30	202	443285	5.17927 ppb		99
19) Pyrene	9.57	202	453699	5.38814 ppb		98
21) Benz (a) anthracene	11.00	228	430403	5.02582 ppb		98
22) Chrysene	11.04	228	435132	5.28209 ppb	#	97
23) Indeno (1,2,3-cd) pyrene	14.92	276	573143	5.61930 ppb	#	85
25) Benzo (b) fluoranthene	12.79	252	463141	5.07657 ppb		98
26) Benzo (k) fluoranthene	12.84	252	504190	6.02582 ppb	#	98
27) Benzo (a) pyrene	13.34	252	444669	5.29926 ppb	#	97
28) Dibenz (a,h) anthracene	14.96	278	486094	5.61560 ppb		100
29) Benzo (g,h,i) perylene	15.28	276	485491	5.67629 ppb	#	93

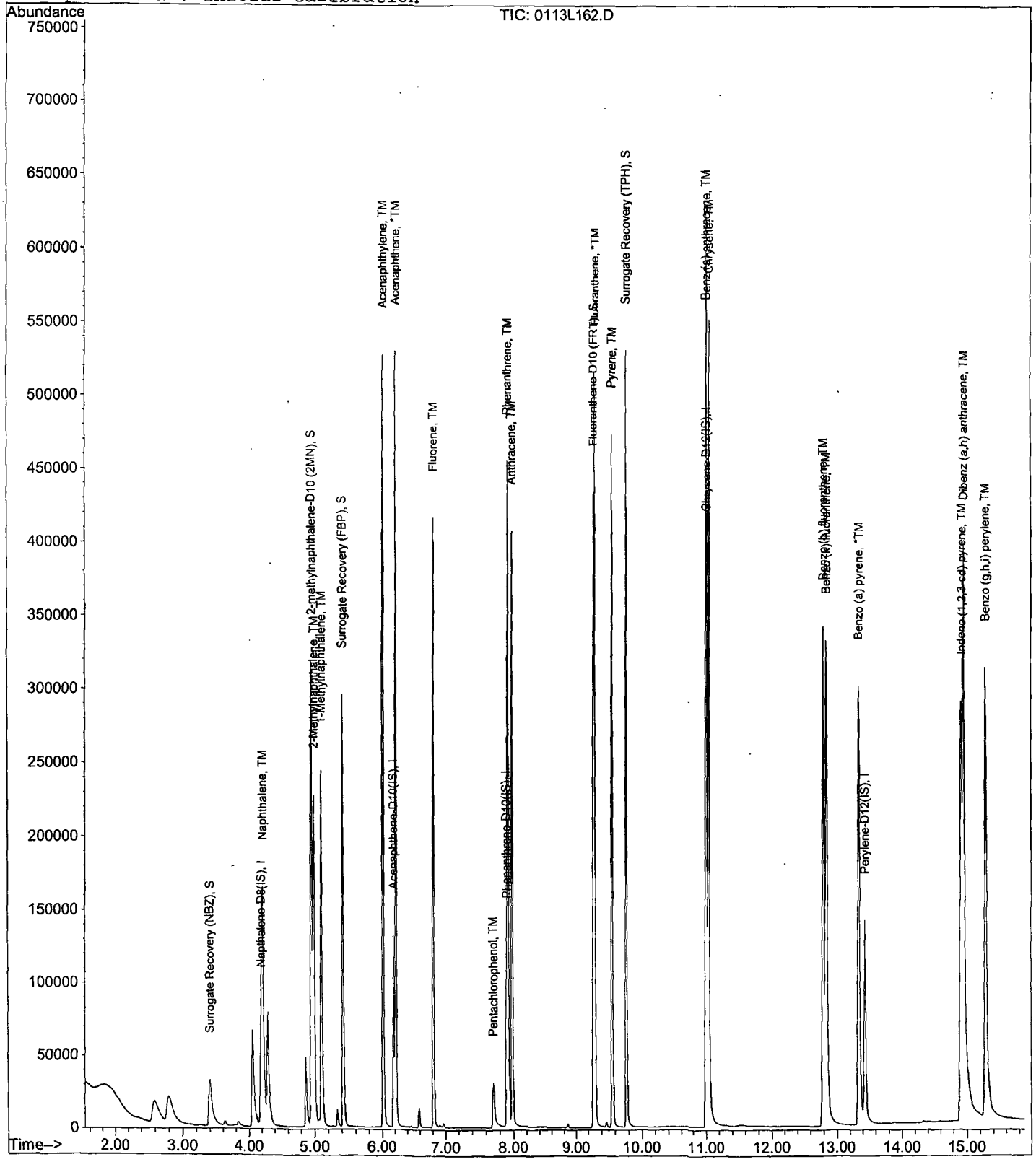
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L200113P\0113L162.D Vial: 62
Acq On : 27 Jan 20 14:51 Operator: MA
Sample : 5ug/mL SIM PCP 01/16/20 (1) Inst : Linus
Misc : Multiplr: 1.00

Quant Time: Jan 27 15:11 2020 Quant Results File: L0113PCP.RES

Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 10:14:53 2020
Response via : Initial Calibration



PAH by GCMS SIM
EPA 8270 SIM

Form 7

Continuing Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Date Analyzed: 01/27/20
Matrix: Instrument: Linus
Initial Cal. Date: 01/13/20
Data File: 0113L182.D

		Compound	MEAN	CCRF	%D		%Drift	
1	I	Napthalene-D8(IS)	ISTD			I		
2	TM	Naphthalene	1.066	1.029	3.5	TM		
3	S	2-methylnaphthalene-D10 (2MN)	1.224	1.177	3.8	S		
4	TM	2-Methylnaphthalene	0.5873	0.5769	1.8	TM		
5	TM	1-Methylnaphthalene	0.6164	0.6009	2.5	TM		
6	I	Acenaphthene-D10(IS)	ISTD			I		
7	TM	Acenaphthylene	4.406	3.983	9.6	TM		
8	*TM	Acenaphthene	1.296	1.148	11	*TM		
9	TM	Fluorene	1.622	1.444	11	TM		
10	TML	Pentachlorophenol	0.2573	0.0008	100	TML	73	*NT
11	I	Phenanthrene-D10(IS)	ISTD			I		
12	TM	Phenanthrene	1.137	1.122	1.3	TM		
13	TM	Anthracene	1.063	1.032	2.8	TM		
14	S	Fluoranthene-D10 (FRT)	1.470	1.353	8.0	S		
15	*TM	Fluoranthene	1.638	1.552	5.2	*TM		
16	I	Chrysene-D12(IS)	ISTD			I		
17	TM	Pyrene	1.264	1.234	2.3	TM		
18	TM	Benz (a) anthracene	1.285	1.169	9.0	TM		
19	TM	Chrysene	1.236	1.205	2.5	TM		
20	TM	Indeno (1,2,3-cd) pyrene	1.531	1.506	1.6	TM		
21	I	Perylene-D12(IS)	ISTD			I		
22	TM	Benzo (b) fluoranthene	1.167	1.059	9.2	TM		
23	TML	Benzo (k) fluoranthene	1.168	1.151	1.5	TML	5.9	
24	*TM	Benzo (a) pyrene	1.073	1.016	5.3	*TM		
25	TM	Dibenz (a,h) anthracene	1.107	1.104	0.31	TM		
26	TM	Benzo (g,h,i) perylene	1.094	1.102	0.75	TM		
27								
28								
29								
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								
		Average			9.2			

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L200113P\0113L182.D Vial: 82
Acq On : 27 Jan 20 22:20 Operator: MA
Sample : 2.5ug/mL SIMLL SPK 01/21/20 ((CCV) Inst : Linus
Misc : Multiplr: 1.00

Quant Time: Jan 28 8:16 2020 Quant Results File: L0113PCP.RES

Quant Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 10:14:53 2020
Response via : Initial Calibration
DataAcq Meth : SIM_2

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Napthalene-D8(IS)	4.18	136	117517	2.50000 ppb		-0.02
7) Acenaphthene-D10(IS)	6.18	164	64097	2.50000 ppb		-0.01
13) Phenanthrene-D10(IS)	7.91	188	121027	2.50000 ppb		-0.01
18) Chrysene-D12(IS)	11.01	240	153354	2.50000 ppb		-0.03
24) Perylene-D12(IS)	13.43	264	178647	2.50000 ppb		-0.03
System Monitoring Compounds						
2) Surrogate Recovery (NBZ)	0.00	82	0d	0.00000 ppb		
Spiked Amount 5.000			Recovery	= 0.000%		
4) 2-methylnaphthalene-D10 (2	4.95	152	138281	2.40377 ppb		-0.02
Spiked Amount 5.000			Recovery	= 48.080%		
8) Surrogate Recovery (FBP)	0.00	172	0d	0.00000 ppb		
Spiked Amount 5.000			Recovery	= 0.000%		
16) Fluoranthene-D10 (FRT)	9.28	212	163737	2.30043 ppb		-0.02
Spiked Amount 5.000			Recovery	= 46.000%		
20) Surrogate Recovery (TPH)	0.00	244	0d	0.00000 ppb		
Spiked Amount 5.000			Recovery	= 0.000%		
Target Compounds						Qvalue
3) Naphthalene	4.20	128	120906	2.41351 ppb		100
5) 2-Methylnaphthalene	4.99	141	67794	2.45559 ppb		95
6) 1-Methylnaphthalene	5.09	141	70617	2.43721 ppb		94
9) Acenaphthylene	6.02	152	255306	2.26025 ppb		100
10) Acenaphthene	6.22	154	73595	2.21415 ppb		96
11) Fluorene	6.82	166	92554	2.22626 ppb		97
12) Pentachlorophenol	7.71	266	51	0.67102 ppb		78
14) Phenanthrene	7.93	178	135742	2.46719 ppb		98
15) Anthracene	7.99	178	124954	2.42914 ppb		98
17) Fluoranthene	9.30	202	187845	2.36939 ppb		100
19) Pyrene	9.57	202	189269	2.44197 ppb		99
21) Benz (a) anthracene	11.00	228	179235	2.27376 ppb		98
22) Chrysene	11.04	228	184770	2.43673 ppb	#	97
23) Indeno (1,2,3-cd) pyrene	14.91	276	230915	2.45959 ppb	#	97
25) Benzo (b) fluoranthene	12.79	252	189254	2.27014 ppb		98
26) Benzo (k) fluoranthene	12.84	252	205600	2.64776 ppb		98
27) Benzo (a) pyrene	13.34	252	181536	2.36751 ppb	#	97
28) Dibenz (a,h) anthracene	14.96	278	197139	2.49230 ppb		99
29) Benzo (g,h,i) perylene	15.28	276	196858	2.51876 ppb	#	94

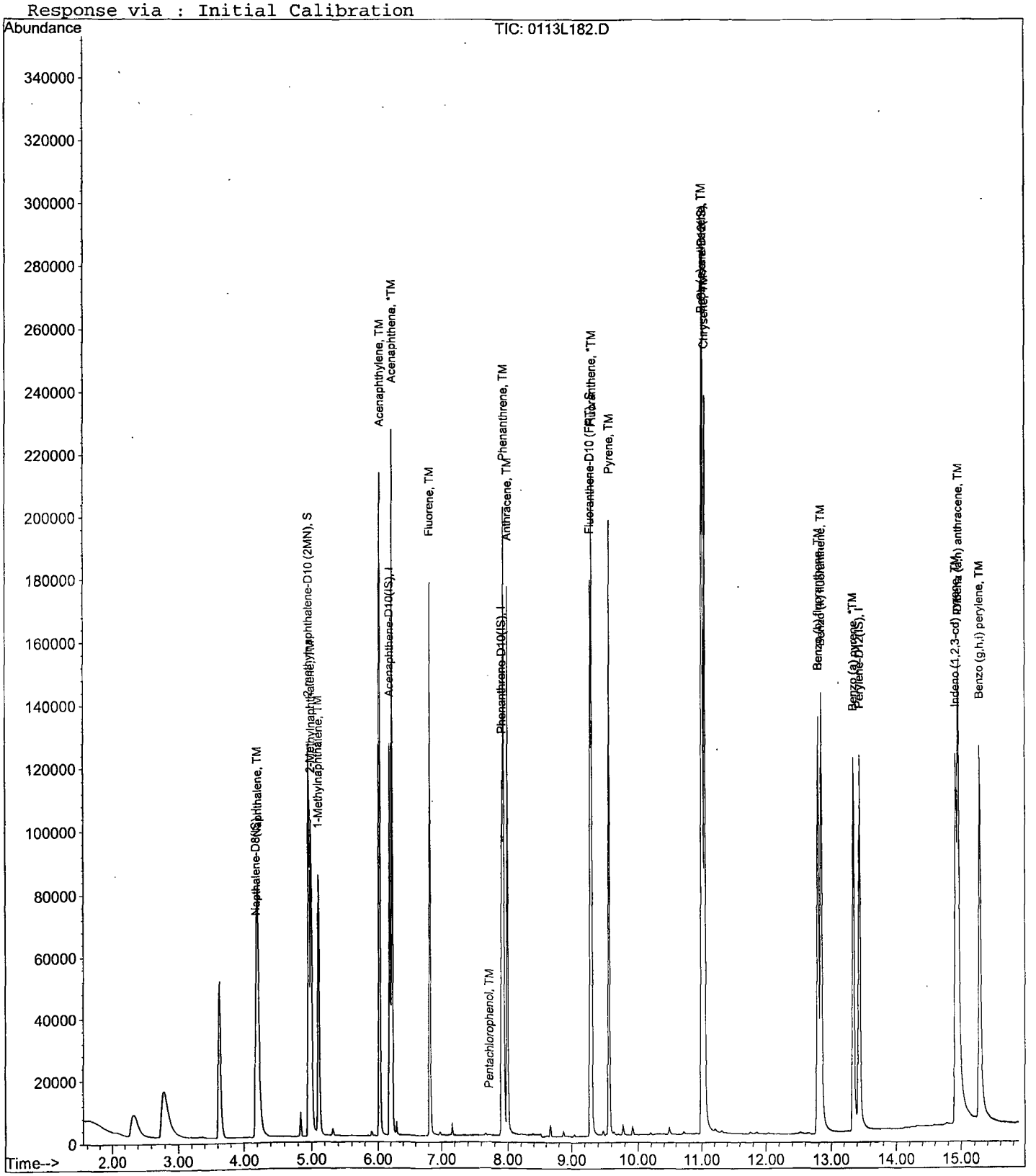
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L200113P\0113L182.D Vial: 82
Acq On : 27 Jan 20 22:20 Operator: MA
Sample : 2.5ug/mL SIMLL SPK 01/21/20 ((CCV) Inst : Linus
Misc : Multiplr: 1.00

Quant Time: Jan 28 8:16 2020 Quant Results File: L0113PCP.RES

Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 10:14:53 2020
Response via : Initial Calibration



ORGANICS
Raw Data

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L200113P\0113L175.D Vial: 75
Acq On : 27 Jan 20 19:47 Operator: MA
Sample : BA06313W13 1/800 Inst : Linus
Misc : Multiplr: 1.25

Quant Time: Jan 28 8:36 2020 Quant Results File: L0113PCP.RES

Quant Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 10:14:53 2020
Response via : Initial Calibration
DataAcq Meth : SIM_2

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	4.19	136	99302	2.50000 ppb	-0.01
7) Acenaphthene-D10(IS)	6.18	164	54920	2.50000 ppb	-0.01
13) Phenanthrene-D10(IS)	7.91	188	104388	2.50000 ppb	-0.01
18) Chrysene-D12(IS)	11.01	240	135697	2.50000 ppb	-0.03
24) Perylene-D12(IS)	13.43	264	159278	2.50000 ppb	-0.03
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	0.00	82	0d	0.00000 ppb	
Spiked Amount 6.250			Recovery	= 0.000%	
4) 2-methylnaphthalene-D10 (2	4.96	152	222542	5.72261 ppb	-0.01
Spiked Amount 6.250			Recovery	= 91.568%	
8) Surrogate Recovery (FBP)	0.00	172	0d	0.00000 ppb	
Spiked Amount 6.250			Recovery	= 0.000%	
16) Fluoranthene-D10 (FRT)	9.28	212	284213	5.78693 ppb	-0.02
Spiked Amount 6.250			Recovery	= 92.592%	
20) Surrogate Recovery (TPH)	0.00	244	0d	0.00000 ppb	
Spiked Amount 6.250			Recovery	= 0.000%	

Target Compounds Qvalue

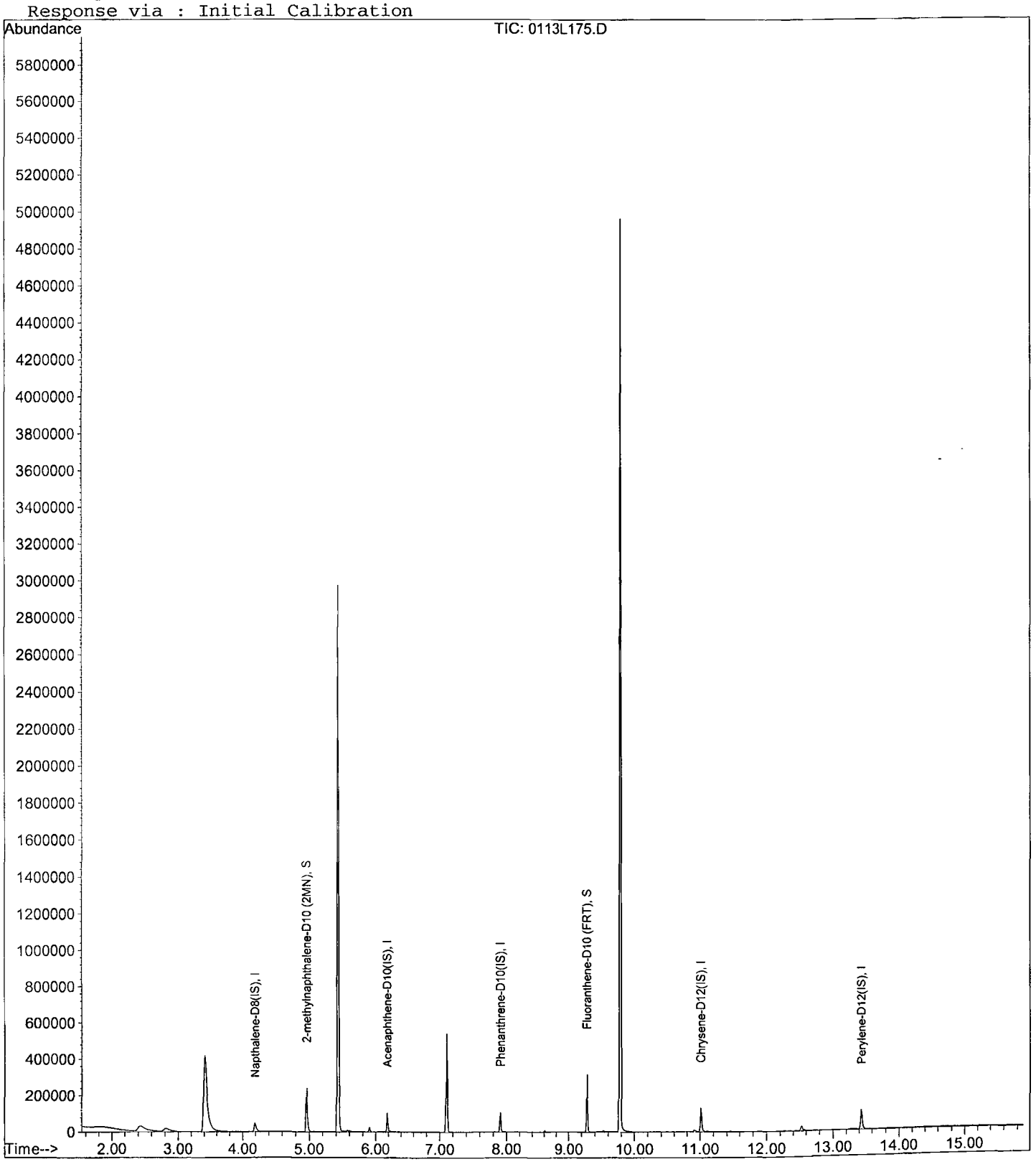
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L200113P\0113L175.D Vial: 75
Acq On : 27 Jan 20 19:47 Operator: MA
Sample : BA06313W13 1/800 Inst : Linus
Misc : Multiplr: 1.25

Quant Time: Jan 28 8:36 2020 Quant Results File: L0113PCP.RES

Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 10:14:53 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L200113P\0113L176.D Vial: 76
Acq On : 27 Jan 20 20:08 Operator: MA
Sample : BA06315W13 1/800 Inst : Linus
Misc : Multiplr: 1.25

Quant Time: Jan 28 8:37 2020 Quant Results File: L0113PCP.RES

Quant Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 10:14:53 2020
Response via : Initial Calibration
DataAcq Meth : SIM_2

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	4.19	136	107973	2.50000 ppb	-0.01
7) Acenaphthene-D10(IS)	6.18	164	59486	2.50000 ppb	-0.01
13) Phenanthrene-D10(IS)	7.91	188	112897	2.50000 ppb	-0.01
18) Chrysene-D12(IS)	11.01	240	146164	2.50000 ppb	-0.03
24) Perylene-D12(IS)	13.43	264	174217	2.50000 ppb	-0.03
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	0.00	82	0d	0.00000 ppb	
Spiked Amount 6.250			Recovery	= 0.000%	
4) 2-methylnaphthalene-D10 (2	4.96	152	244063	5.77201 ppb	-0.01
Spiked Amount 6.250			Recovery	= 92.352%	
8) Surrogate Recovery (FBP)	0.00	172	0d	0.00000 ppb	
Spiked Amount 6.250			Recovery	= 0.000%	
16) Fluoranthene-D10 (FRT)	9.28	212	314140	5.91420 ppb	-0.02
Spiked Amount 6.250			Recovery	= 94.624%	
20) Surrogate Recovery (TPH)	0.00	244	0d	0.00000 ppb	
Spiked Amount 6.250			Recovery	= 0.000%	

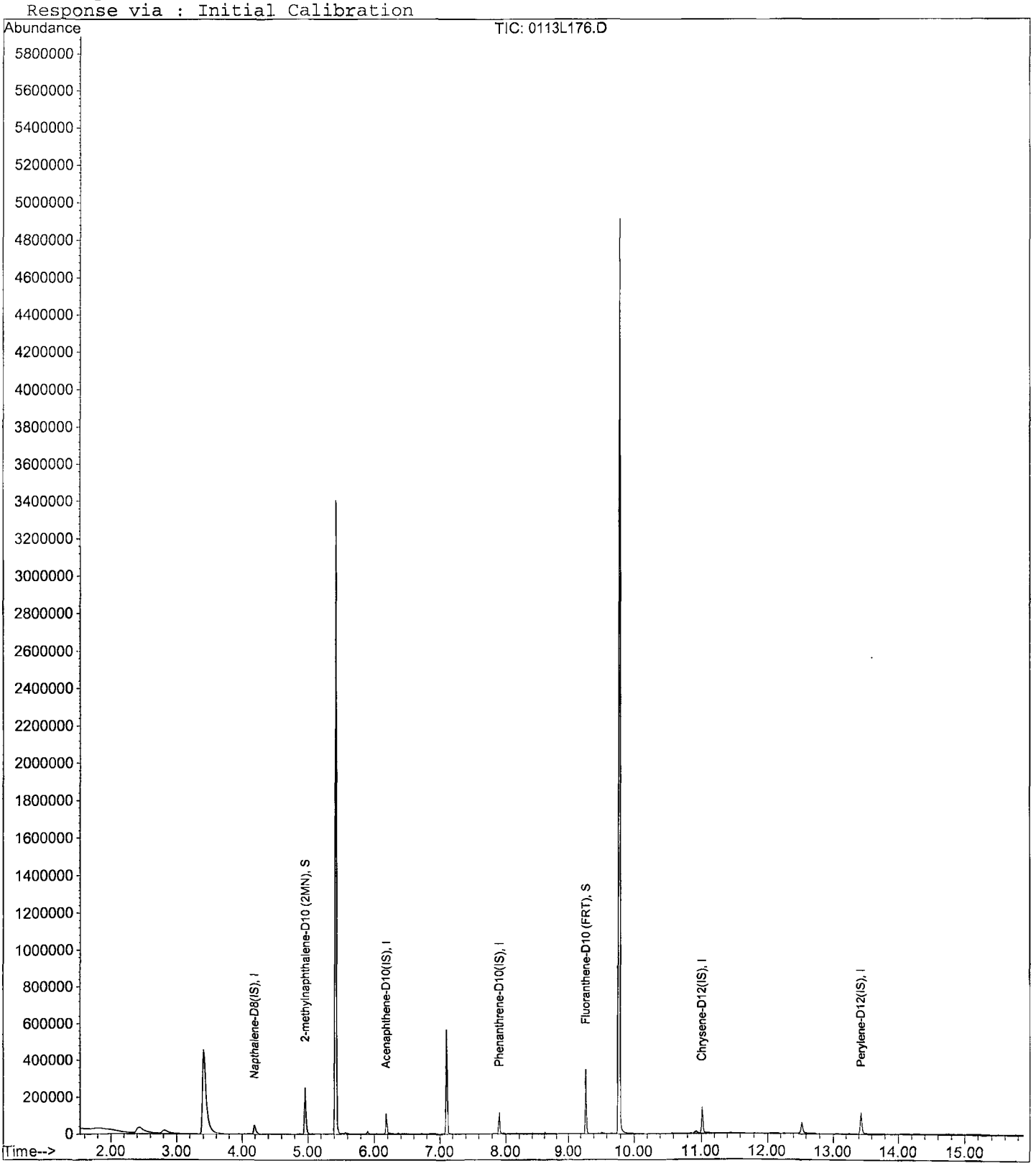
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Data File : M:\LINUS\DATA\L200113P\0113L176.D Vial: 76
Acq On : 27 Jan 20 20:08 Operator: MA
Sample : BA06315W13 1/800 Inst : Linus
Misc : Multiplr: 1.25

Quant Time: Jan 28 8:37 2020 Quant Results File: L0113PCP.RES

Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 10:14:53 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L200113P\0113L177.D Vial: 77
Acq On : 27 Jan 20 20:30 Operator: MA
Sample : BA06317W14 1/800 Inst : Linus
Misc : Multiplr: 1.25

Quant Time: Jan 28 8:38 2020 Quant Results File: L0113PCP.RES

Quant Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 10:14:53 2020
Response via : Initial Calibration
DataAcq Meth : SIM_2

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	4.19	136	113779	2.50000 ppb	-0.01
7) Acenaphthene-D10(IS)	6.18	164	64352	2.50000 ppb	-0.01
13) Phenanthrene-D10(IS)	7.91	188	120296	2.50000 ppb	-0.01
18) Chrysene-D12(IS)	11.01	240	154132	2.50000 ppb	-0.03
24) Perylene-D12(IS)	13.43	264	165186	2.50000 ppb	-0.03
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	0.00	82	0d	0.00000 ppb	
Spiked Amount 6.250			Recovery	= 0.000%	
4) 2-methylnaphthalene-D10 (2	4.96	152	245275	5.50467 ppb	-0.01
Spiked Amount 6.250			Recovery	= 88.080%	
8) Surrogate Recovery (FBP)	0.00	172	0d	0.00000 ppb	
Spiked Amount 6.250			Recovery	= 0.000%	
16) Fluoranthene-D10 (FRT)	9.28	212	321224	5.67560 ppb	-0.02
Spiked Amount 6.250			Recovery	= 90.816%	
20) Surrogate Recovery (TPH)	0.00	244	0d	0.00000 ppb	
Spiked Amount 6.250			Recovery	= 0.000%	

Target Compounds Qvalue

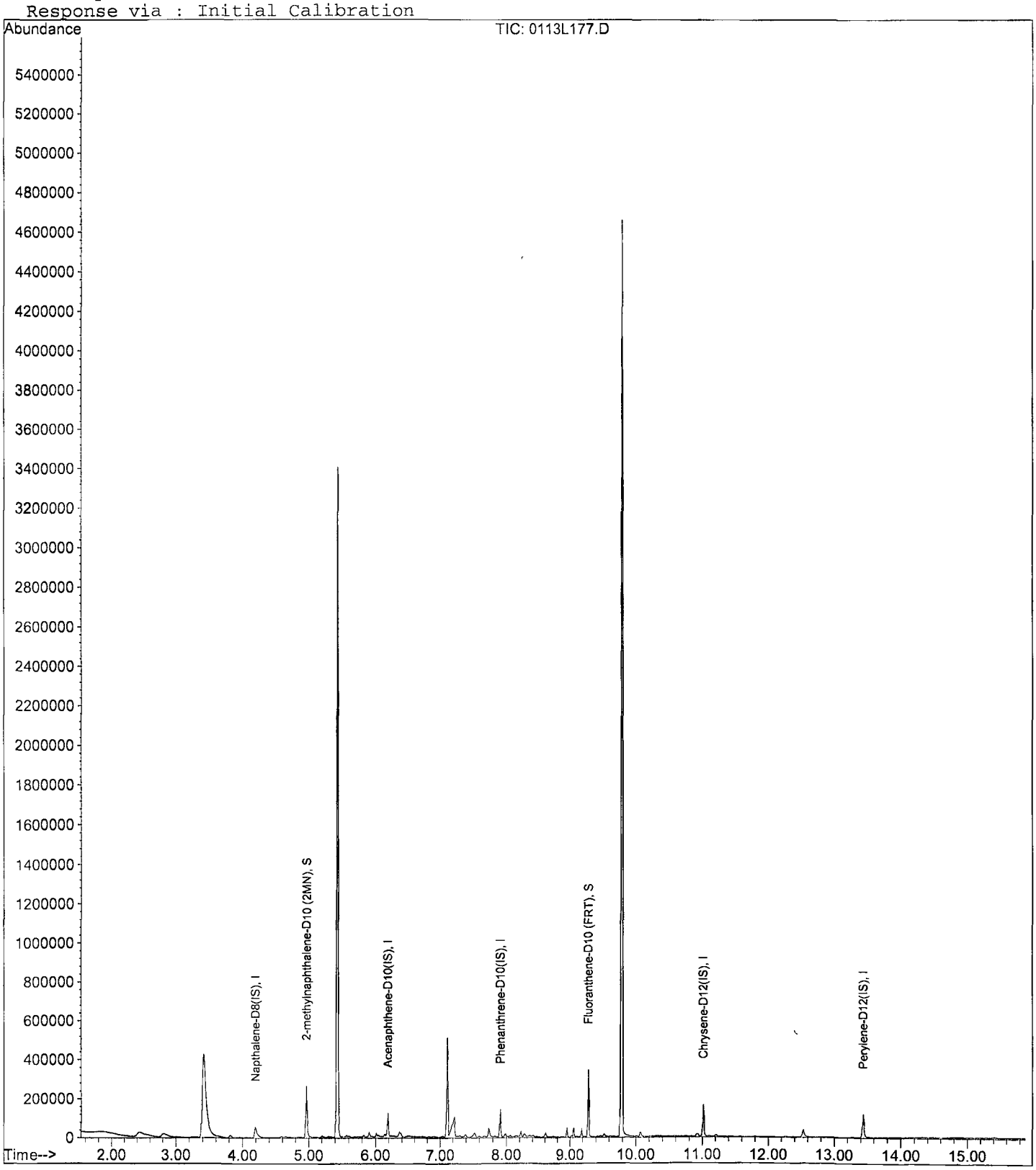
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L200113P\0113L177.D Vial: 77
Acq On : 27 Jan 20 20:30 Operator: MA
Sample : BA06317W14 1/800 Inst : Linus
Misc : Multiplr: 1.25

Quant Time: Jan 28 8:38 2020 Quant Results File: L0113PCP.RES

Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 10:14:53 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L200113P\0113L178.D Vial: 78
Acq On : 27 Jan 20 20:52 Operator: MA
Sample : BA06319W16 1/800 Inst : Linus
Misc : Multiplr: 1.25

Quant Time: Jan 28 8:38 2020 Quant Results File: L0113PCP.RES

Quant Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 10:14:53 2020
Response via : Initial Calibration
DataAcq Meth : SIM_2

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	4.19	136	108289	2.50000 ppb	-0.01
7) Acenaphthene-D10(IS)	6.18	164	59915	2.50000 ppb	-0.01
13) Phenanthrene-D10(IS)	7.91	188	112697	2.50000 ppb	-0.01
18) Chrysene-D12(IS)	11.01	240	145710	2.50000 ppb	-0.03
24) Perylene-D12(IS)	13.43	264	173452	2.50000 ppb	-0.03
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	0.00	82	0d	0.00000 ppb	
Spiked Amount 6.250			Recovery	= 0.000%	
4) 2-methylnaphthalene-D10 (2	4.96	152	222341	5.24295 ppb	-0.01
Spiked Amount 6.250			Recovery	= 83.888%	
8) Surrogate Recovery (FBP)	0.00	172	0d	0.00000 ppb	
Spiked Amount 6.250			Recovery	= 0.000%	
16) Fluoranthene-D10 (FRT)	9.28	212	293896	5.54289 ppb	-0.02
Spiked Amount 6.250			Recovery	= 88.688%	
20) Surrogate Recovery (TPH)	0.00	244	0d	0.00000 ppb	
Spiked Amount 6.250			Recovery	= 0.000%	

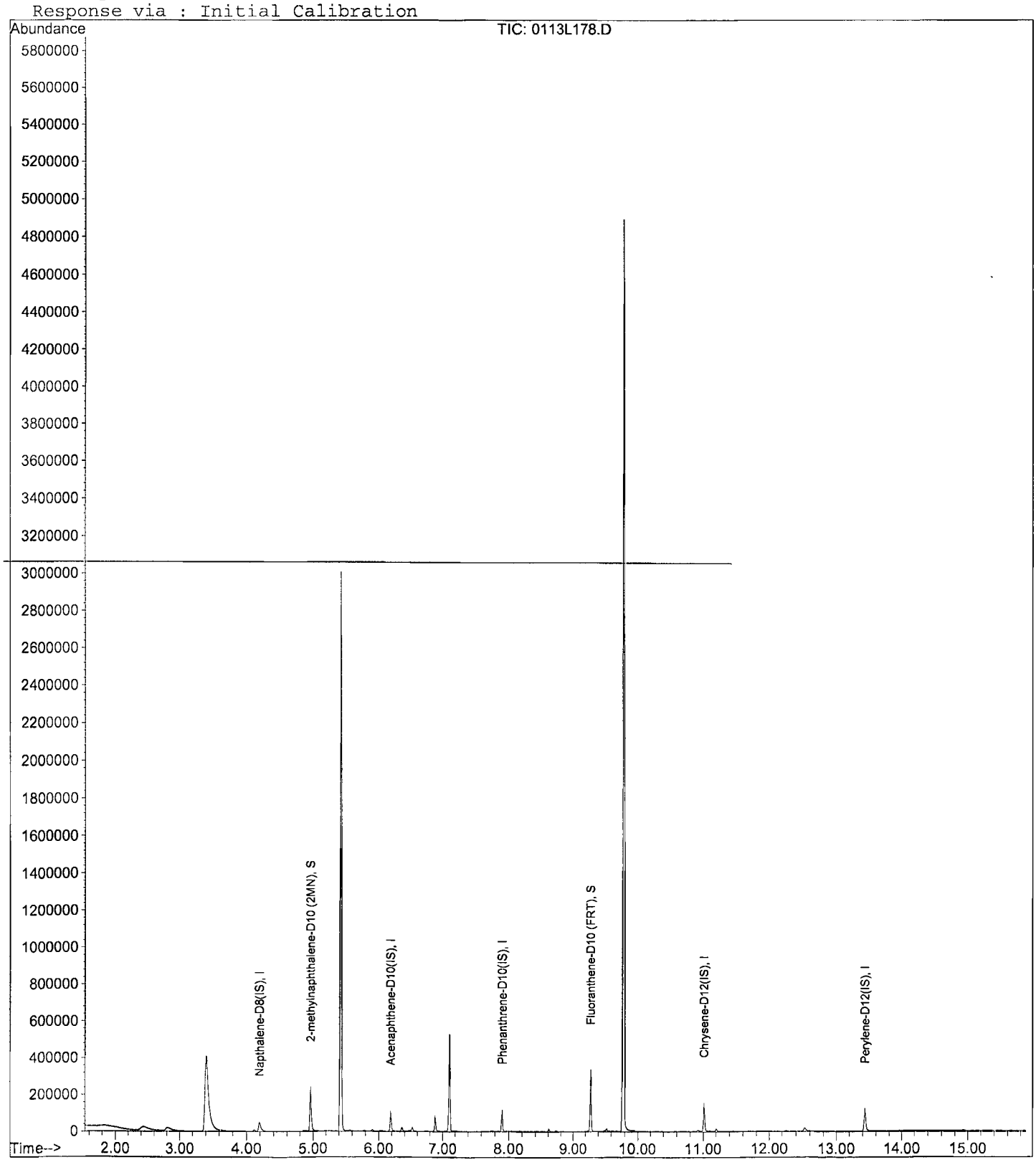
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Data File : M:\LINUS\DATA\L200113P\0113L178.D Vial: 78
Acq On : 27 Jan 20 20:52 Operator: MA
Sample : BA06319W16 1/800 Inst : Linus
Misc : Multiplr: 1.25

Quant Time: Jan 28 8:38 2020 Quant Results File: L0113PCP.RES

Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 10:14:53 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L200113P\0113L163.D Vial: 63
Acq On : 27 Jan 20 15:24 Operator: MA
Sample : 200124A BLK 1/800 Inst : Linus
Misc : Multiplr: 1.25

Quant Time: Jan 27 16:05 2020 Quant Results File: L0113PCP.RES

Quant Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 10:14:53 2020
Response via : Initial Calibration
DataAcq Meth : SIM_2

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	4.19	136	115033	2.50000 ppb	-0.01
7) Acenaphthene-D10(IS)	6.18	164	64382	2.50000 ppb	-0.01
13) Phenanthrene-D10(IS)	7.91	188	120314	2.50000 ppb	-0.01
18) Chrysene-D12(IS)	11.01	240	155799	2.50000 ppb	-0.03
24) Perylene-D12(IS)	13.45	264	181226	2.50000 ppb	-0.02
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	3.41	82	1088142	96.82887 ppb	0.00
Spiked Amount 6.250			Recovery	= 1549.264%	
4) 2-methylnaphthalene-D10 (2	4.96	152	247271	5.48897 ppb	-0.01
Spiked Amount 6.250			Recovery	= 87.824%	
8) Surrogate Recovery (FBP)	5.43	172	2727873	79.17269 ppb	0.00
Spiked Amount 6.250			Recovery	= 1266.768%	
16) Fluoranthene-D10 (FRT)	9.28	212	320794	5.66716 ppb	-0.02
Spiked Amount 6.250			Recovery	= 90.672%	
20) Surrogate Recovery (TPH)	9.79	244	4717362	89.82298 ppb	0.00
Spiked Amount 6.250			Recovery	= 1437.168%	

Target Compounds Qvalue

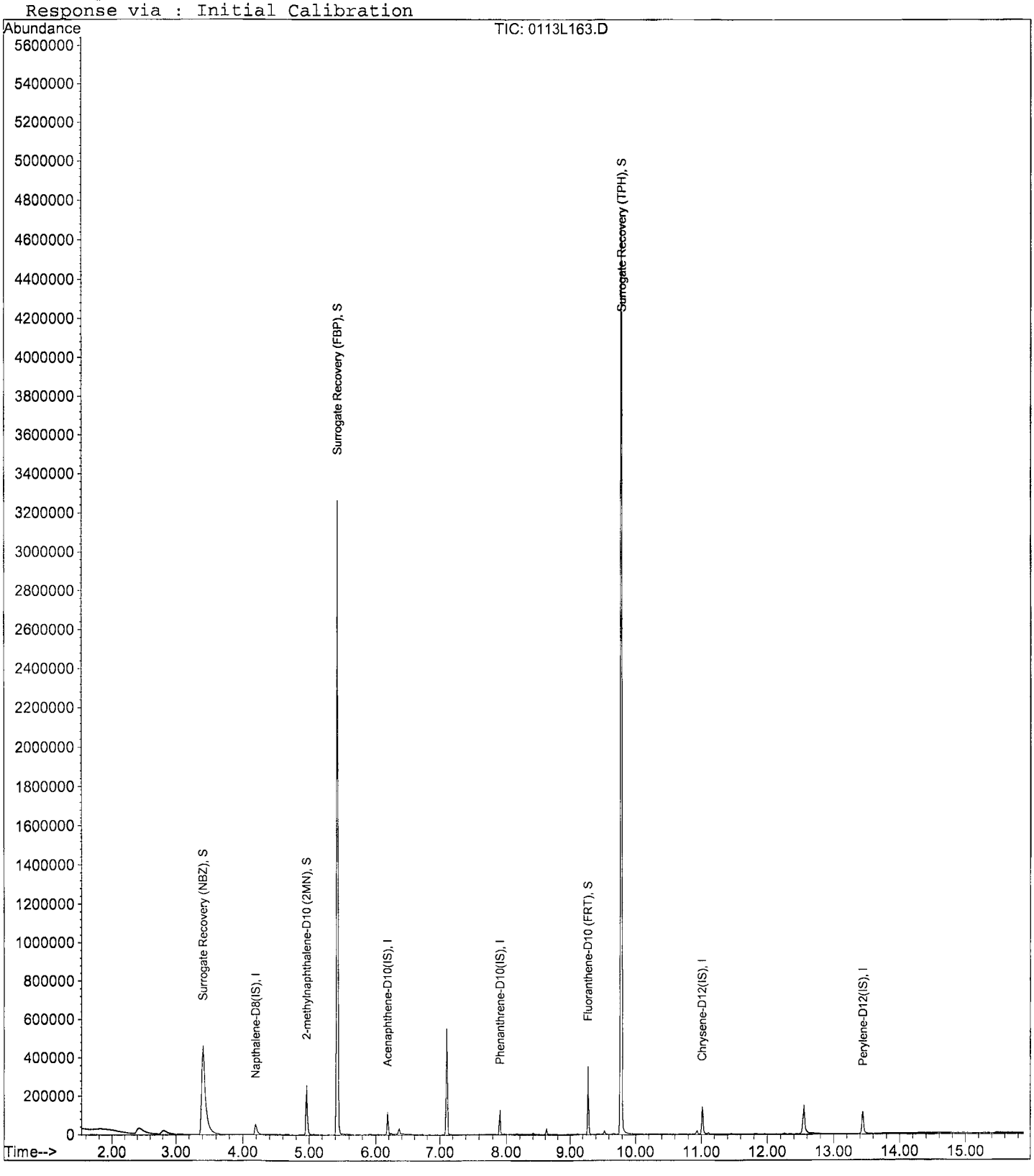
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L200113P\0113L163.D Vial: 63
Acq On : 27 Jan 20 15:24 Operator: MA
Sample : 200124A BLK 1/800 Inst : Linus
Misc : Multiplr: 1.25

Quant Time: Jan 27 16:05 2020 Quant Results File: L0113PCP.RES

Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 10:14:53 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L200113P\0113L164.D Vial: 64
Acq On : 27 Jan 20 15:46 Operator: MA
Sample : 200124A LCS-2 1/800 Inst : Linus
Misc : Multiplr: 1.25

Quant Time: Jan 27 16:05 2020 Quant Results File: L0113PCP.RES

Quant Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 10:14:53 2020
Response via : Initial Calibration
DataAcq Meth : SIM_2

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Napthalene-D8(IS)	4.19	136	114861	2.50000 ppb		-0.01
7) Acenaphthene-D10(IS)	6.18	164	61848	2.50000 ppb		-0.01
13) Phenanthrene-D10(IS)	7.91	188	120769	2.50000 ppb		-0.01
18) Chrysene-D12(IS)	11.01	240	153309	2.50000 ppb		-0.03
24) Perylene-D12(IS)	13.43	264	175981	2.50000 ppb		-0.03
System Monitoring Compounds						
2) Surrogate Recovery (NBZ)	0.00	82	0	0.00000 ppb		
Spiked Amount 6.250			Recovery	= 0.000%		
4) 2-methylnaphthalene-D10 (2	4.96	152	244428	5.43399 ppb		-0.01
Spiked Amount 6.250			Recovery	= 86.944%		
8) Surrogate Recovery (FBP)	5.42	172	171	0.00517 ppb		-0.01
Spiked Amount 6.250			Recovery	= 0.080%		
16) Fluoranthene-D10 (FRT)	9.28	212	300745	5.29295 ppb		-0.02
Spiked Amount 6.250			Recovery	= 84.688%		
20) Surrogate Recovery (TPH)	9.77	244	1864	0.03607 ppb		-0.02
Spiked Amount 6.250			Recovery	= 0.576%		
Target Compounds						Qvalue
3) Naphthalene	4.21	128	206026	5.25971 ppb		100
5) 2-Methylnaphthalene	5.00	141	114693	5.31300 ppb		100
6) 1-Methylnaphthalene	5.11	141	120804	5.33216 ppb		99
9) Acenaphthylene	6.02	152	434552	4.98378 ppb		100
10) Acenaphthene	6.22	154	127113	4.95416 ppb		97
11) Fluorene	6.82	166	166104	5.17587 ppb		97
12) Pentachlorophenol	7.71	266	176	0.85536 ppb		97
14) Phenanthrene	7.93	178	240183	5.46849 ppb		98
15) Anthracene	7.99	178	209073	5.09140 ppb		98
17) Fluoranthene	9.30	202	332658	5.25619 ppb		100
19) Pyrene	9.57	202	339077	5.47012 ppb		100
21) Benz (a) anthracene	11.00	228	324181	5.14218 ppb		98
22) Chrysene	11.04	228	327971	5.40815 ppb	#	97
23) Indeno (1,2,3-cd) pyrene	14.92	276	422044	5.62089 ppb	#	86
25) Benzo (b) fluoranthene	12.79	252	339647	5.16983 ppb		99
26) Benzo (k) fluoranthene	12.85	252	377208	6.24455 ppb		99
27) Benzo (a) pyrene	13.35	252	313604	5.18980 ppb		99
28) Dibenz (a,h) anthracene	14.96	278	360759	5.78741 ppb		99
29) Benzo (g,h,i) perylene	15.29	276	362916	5.89224 ppb		99

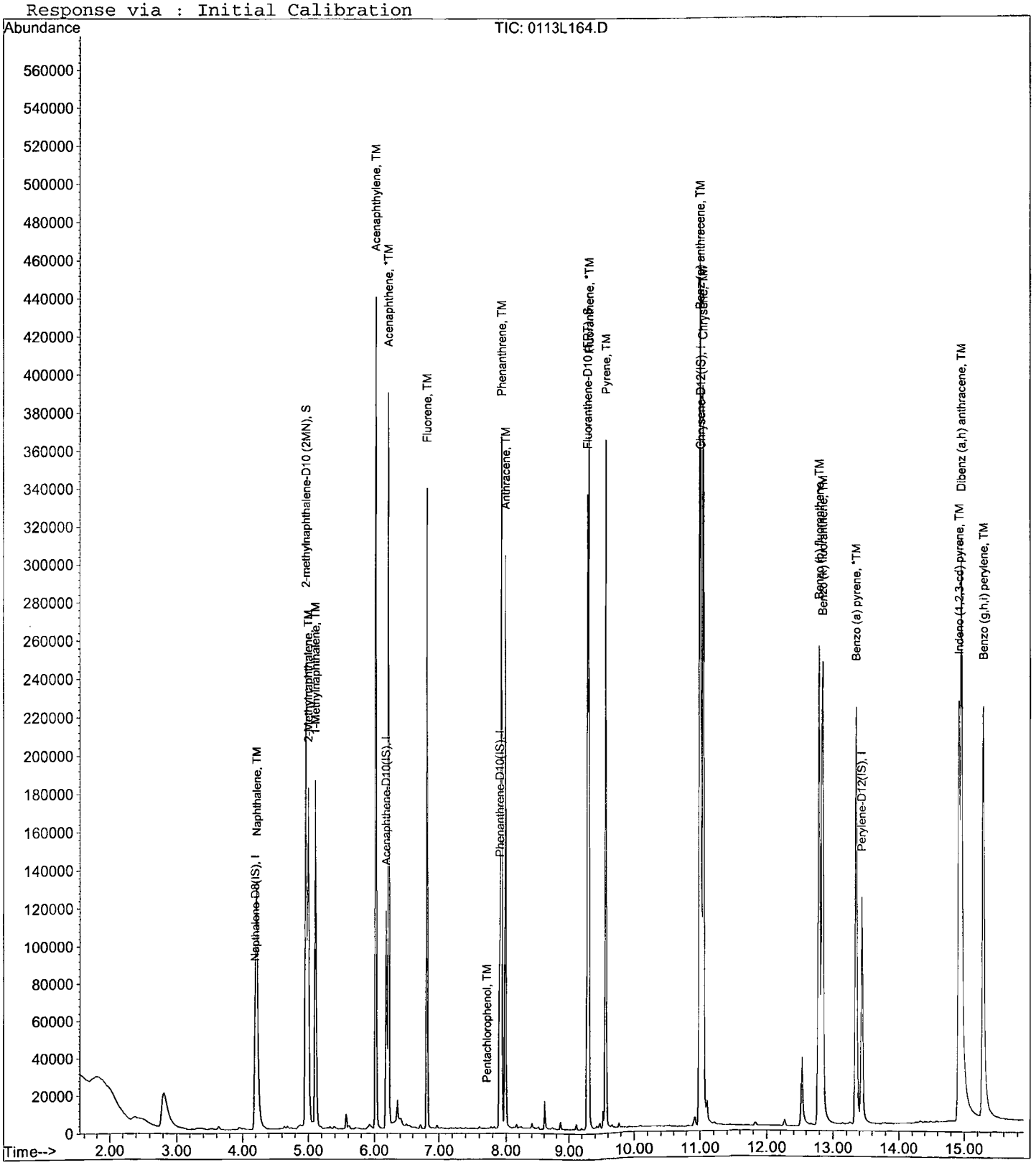
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L200113P\0113L164.D Vial: 64
Acq On : 27 Jan 20 15:46 Operator: MA
Sample : 200124A LCS-2 1/800 Inst : Linus
Misc : Multiplr: 1.25

Quant Time: Jan 27 16:05 2020 Quant Results File: L0113PCP.RES

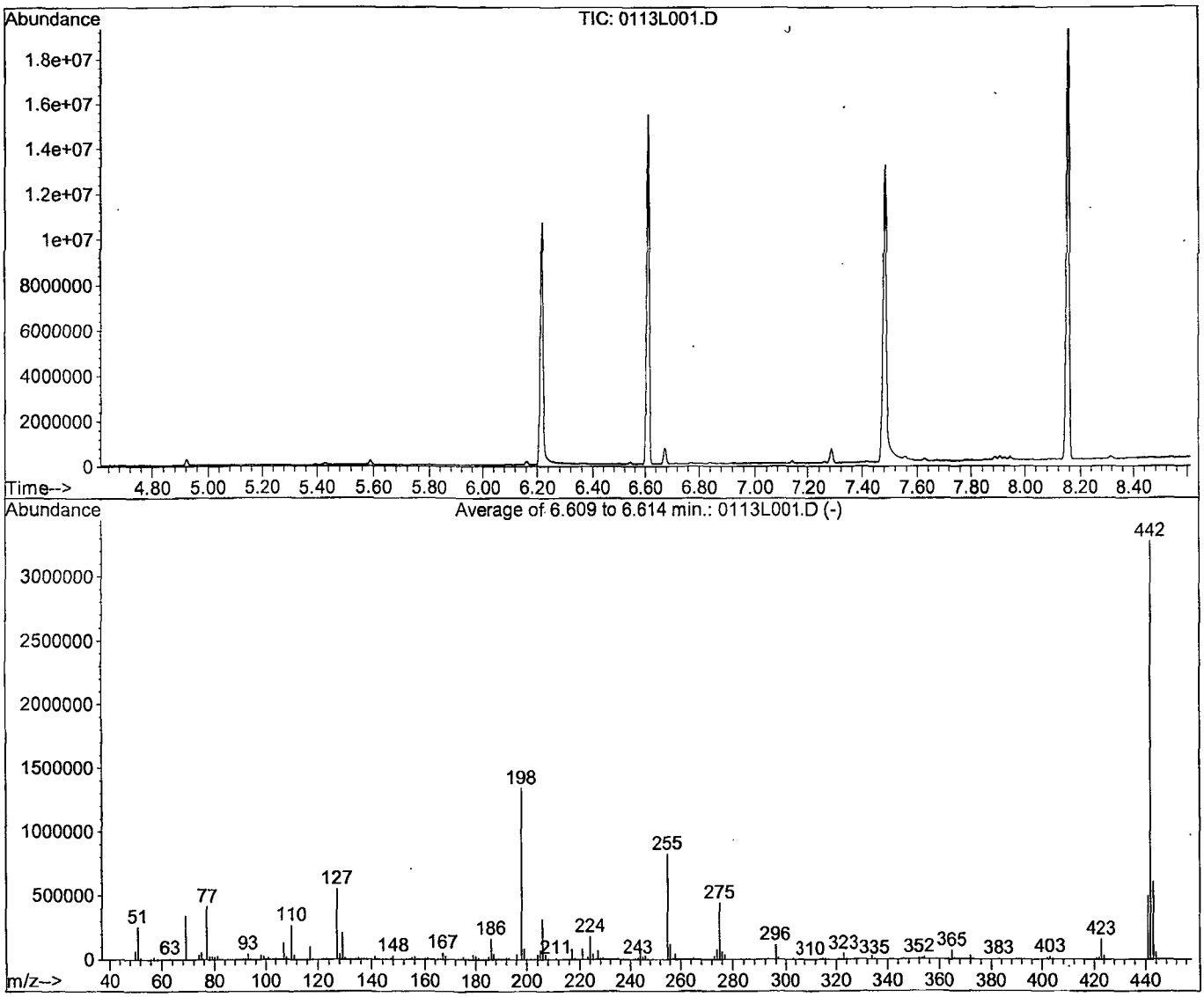
Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 10:14:53 2020
Response via : Initial Calibration



DFTPP

Data File : M:\LINUS\DATA\L200113P\0113L001.D Vial: 86
Acq On : 13 Jan 20 13:07 Operator: MA
Sample : SV Tune 10/01/19 Inst : Linus
Misc : Multiplr: 1.00

Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270



Spectrum Information: Average of 6.609 to 6.614 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	19.0	255177	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.3	1117	PASS
127	198	10	80	41.1	551011	PASS
197	198	0.00	2	0.0	0	PASS
198	198	100	100	100.0	1340245	PASS
199	198	5	9	6.5	87608	PASS
275	198	10	60	33.0	442112	PASS
365	198	1	100	5.1	68096	PASS
441	442	0.01	24	15.2	497451	PASS
442	198	50	500	244.5	3276971	PASS
443	442	15	24	18.6	609451	PASS

Data File Name:	**0113L001.D**
Data File Path:	**M:\LINUS\DATA\L200113P**
Operator:	**MA**
Date Acquired:	**13 Jan 2020 13:07**
Method File:	**DFTPP2.M**
Sample Name:	**SV Tune 10/01/19**
Vial Number:	**86**
Instrument Name:	**Linus**

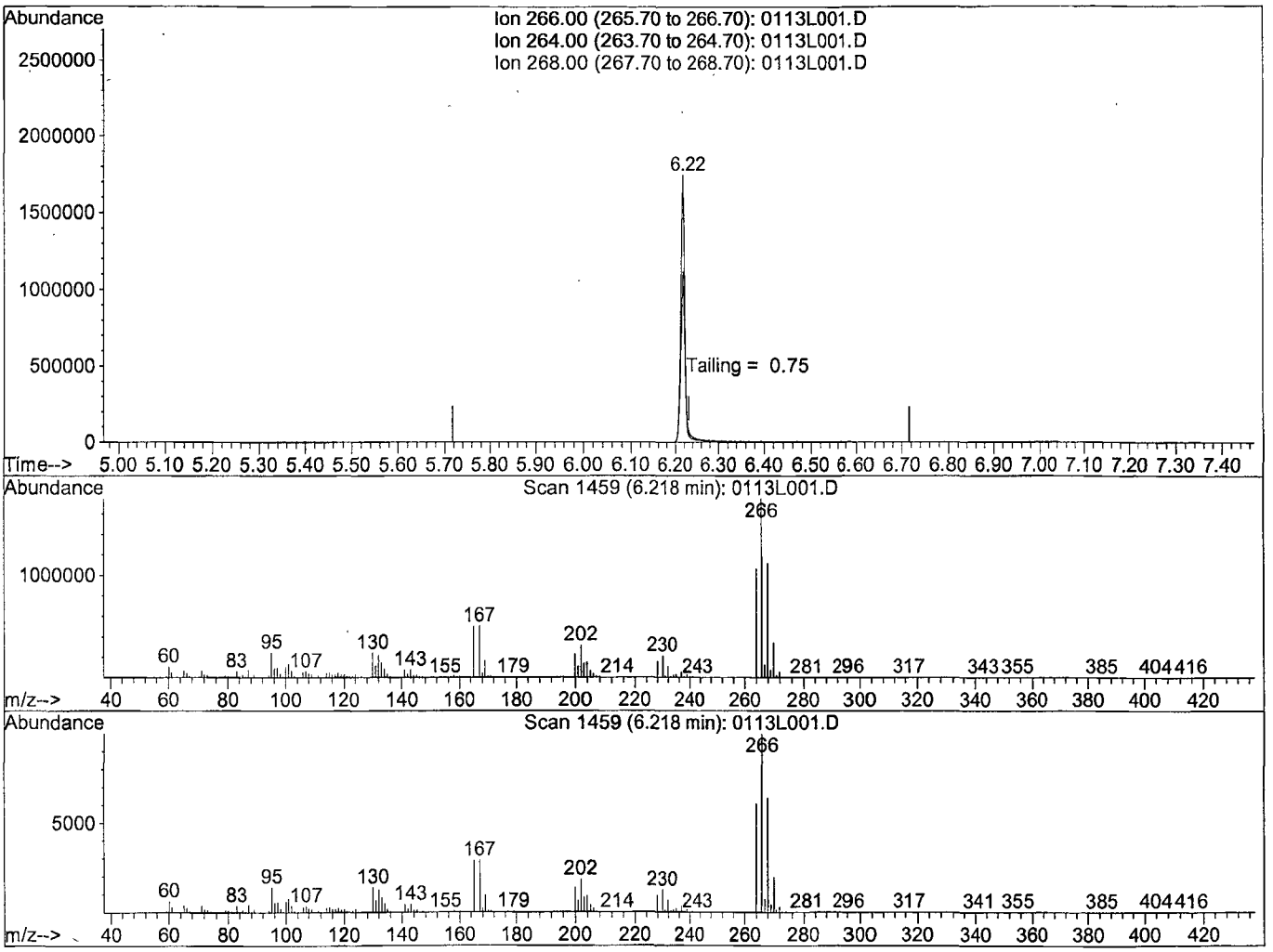
#	Name	Ret Time	Target Response
1)	DDT	8.16	137090000
2)	DDD	7.91	1495930
3)	DDE	7.63	676631

Breakdown **1.56**

Quantitation Report

Data File : M:\LINUS\DATA\L200113P\0113L001.D Vial: 86
Acq On : 13 Jan 20 13:07 Operator: MA
Sample : SV Tune 10/01/19 Inst : Linus
Misc : Multiplr: 1.00
Quant Time: Jan 14 10:19 2020 Quant Results File: temp.res

Method : M:\LINUS\DATA\L200113P\DFTPP2.M (Chemstation Integrator)
Title :
Last Update : Tue Jan 14 10:19:04 2020
Response via : Single Level Calibration



TIC: 0113L001.D

(5) Pentachlorophenol

6.22min 0.0000

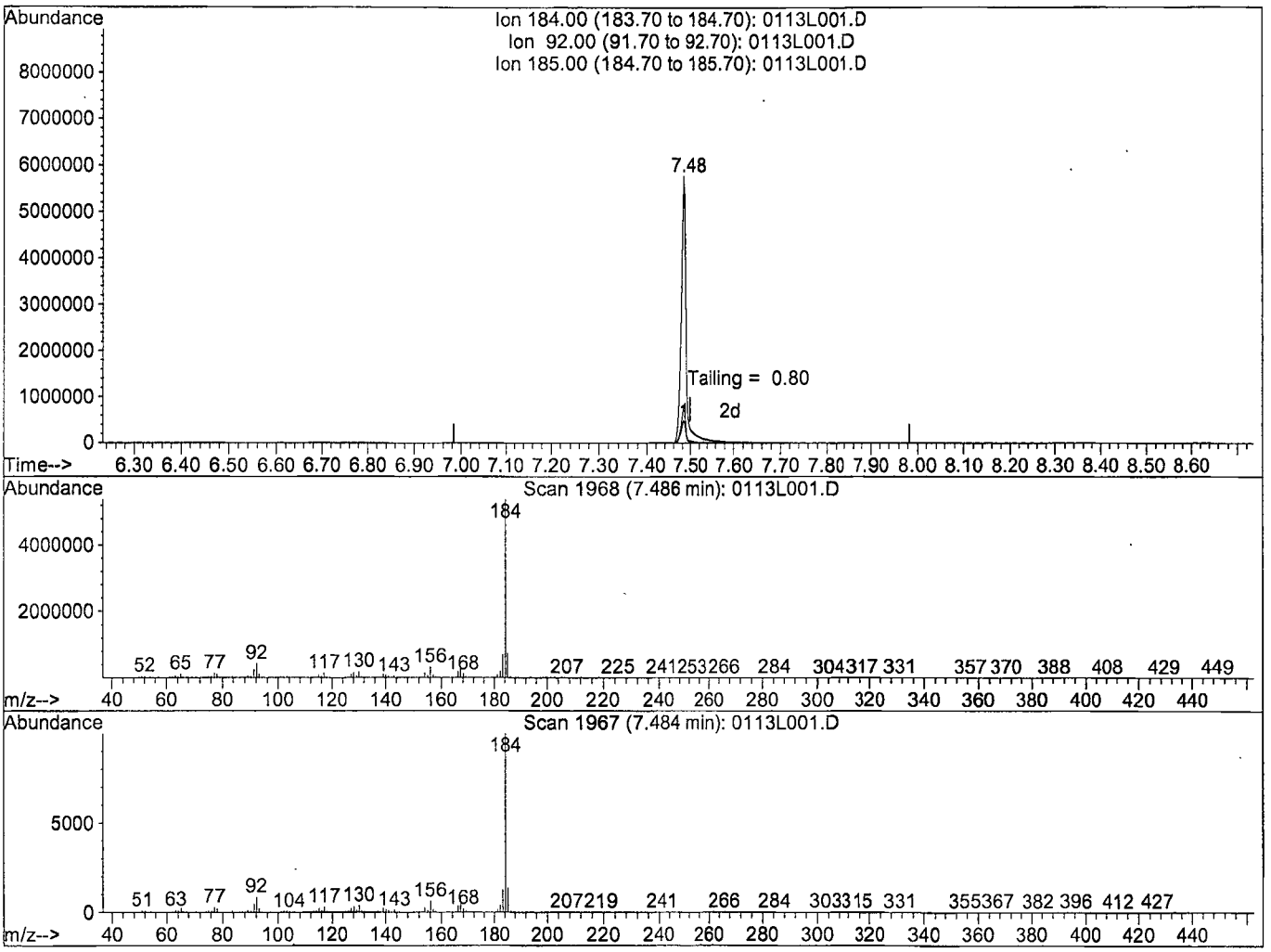
response 11875602

Ion	Exp%	Act%
266.00	100	100
264.00	61.10	61.52
268.00	64.00	64.03
0.00	0.00	0.00

Quantitation Report

Data File : M:\LINUS\DATA\L200113P\0113L001.D Vial: 86
Acq On : 13 Jan 20 13:07 Operator: MA
Sample : SV Tune 10/01/19 Inst : Linus
Misc : Multiplr: 1.00
Quant Time: Jan 14 10:19 2020 Quant Results File: temp.res

Method : M:\LINUS\DATA\L200113P\DFTPP2.M (Chemstation Integrator)
Title :
Last Update : Tue Jan 14 10:19:04 2020
Response via : Single Level Calibration



TIC: 0113L001.D

(6) Benzidine

7.49min 0.0000

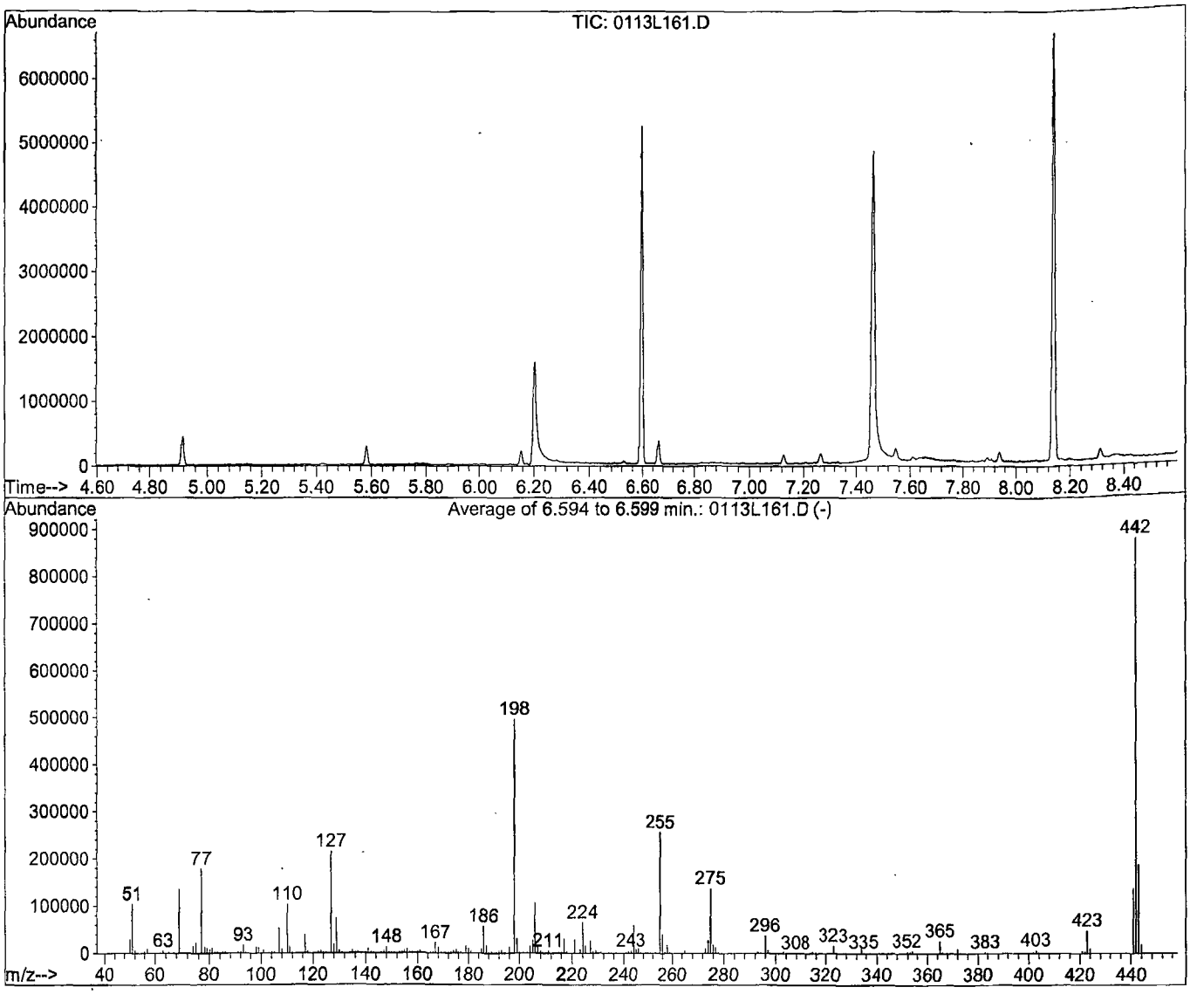
response 49346083

Ion	Exp%	Act%
184.00	100	100
92.00	8.60	8.86
185.00	13.60	13.35
0.00	0.00	0.00

DFTPP

Data File : M:\LINUS\DATA\L200113P\0113L161.D Vial: 61
Acq On : 27 Jan 20 14:35 Operator: MA
Sample : SV TUNE 10/01/19 Inst : Linus
Misc : Multiplr: 1.00

Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270



Spectrum Information: Average of 6.594 to 6.599 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	20.9	103743	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.5	711	PASS
127	198	10	80	43.3	215147	PASS
197	198	0.00	2	0.0	0	PASS
198	198	100	100	100.0	496811	PASS
199	198	5	9	6.3	31128	PASS
275	198	10	60	27.5	136752	PASS
365	198	1	100	5.3	26264	PASS
441	442	0.01	24	15.7	137731	PASS
442	198	50	500	176.6	877483	PASS
443	442	15	24	21.3	187264	PASS

Data File Name:	**0113L161.D**
Data File Path:	**M:\LINUS\DATA\L200113P**
Operator:	**MA**
Date Acquired:	**27 Jan 2020 14:35**
Method File:	**DFTPP2.M**
Sample Name:	**SV TUNE 10/01/19**
Vial Number:	**61**
Instrument Name:	**Linus**

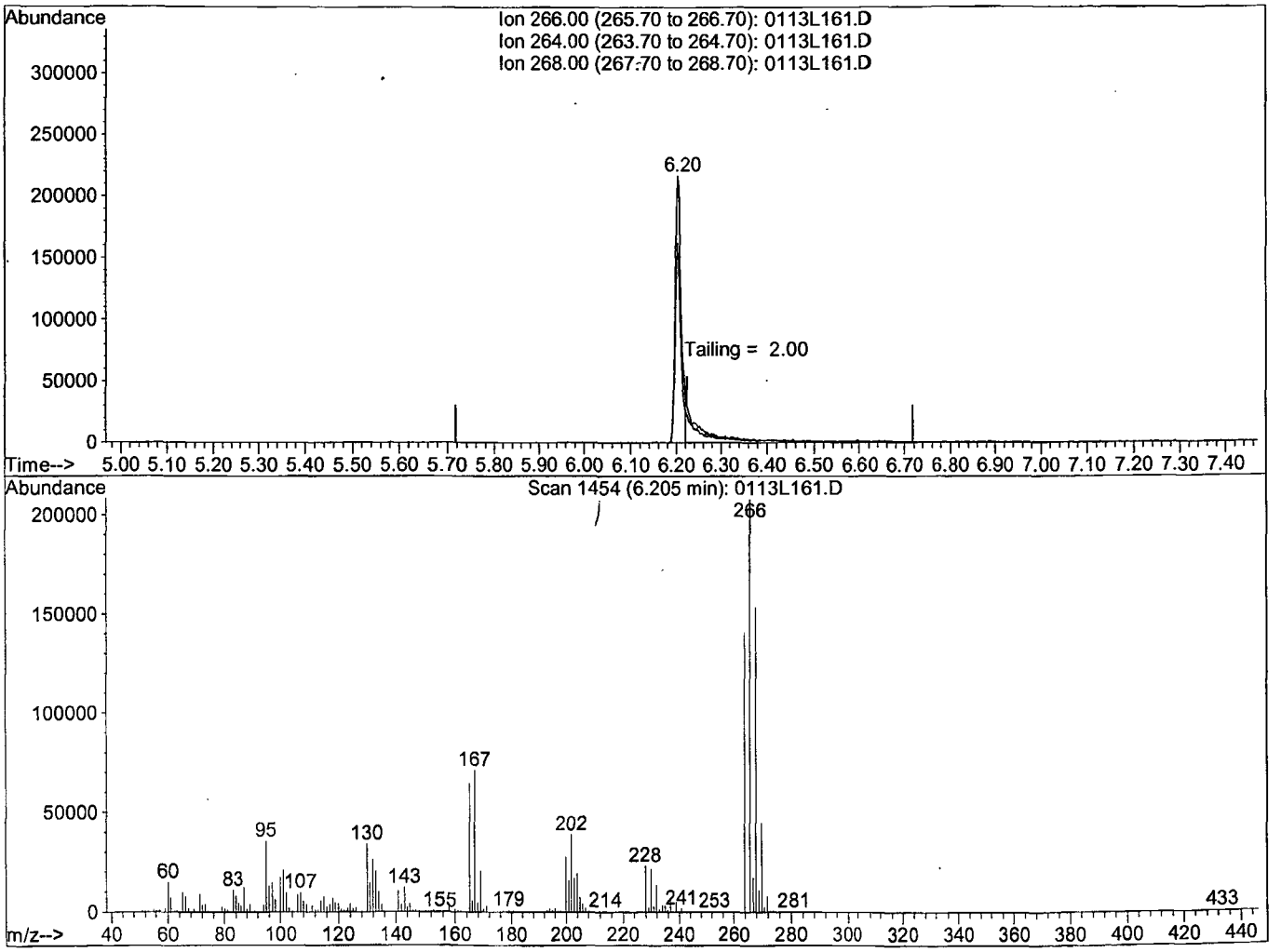
#	Name	Ret Time	Target Response
1)	DDT	8.16	43167500
2)	DDD	7.91	269680
3)	DDE	7.63	239806

Breakdown **1.17**

Quantitation Report

Data File : M:\LINUS\DATA\L200113P\0113L161.D Vial: 61
Acq On : 27 Jan 20 14:35 Operator: MA
Sample : SV TUNE 10/01/19 Inst : Linus
Misc : Multiplr: 1.00
Quant Time: Jan 27 14:57 2020 Quant Results File: temp.res

Method : M:\LINUS\DATA\L200113P\DFTPP2.M (Chemstation Integrator)
Title :
Last Update : Tue Jan 14 10:19:04 2020
Response via : Single Level Calibration



TIC: 0113L161.D

(5) Pentachlorophenol

6.20min 0.0000

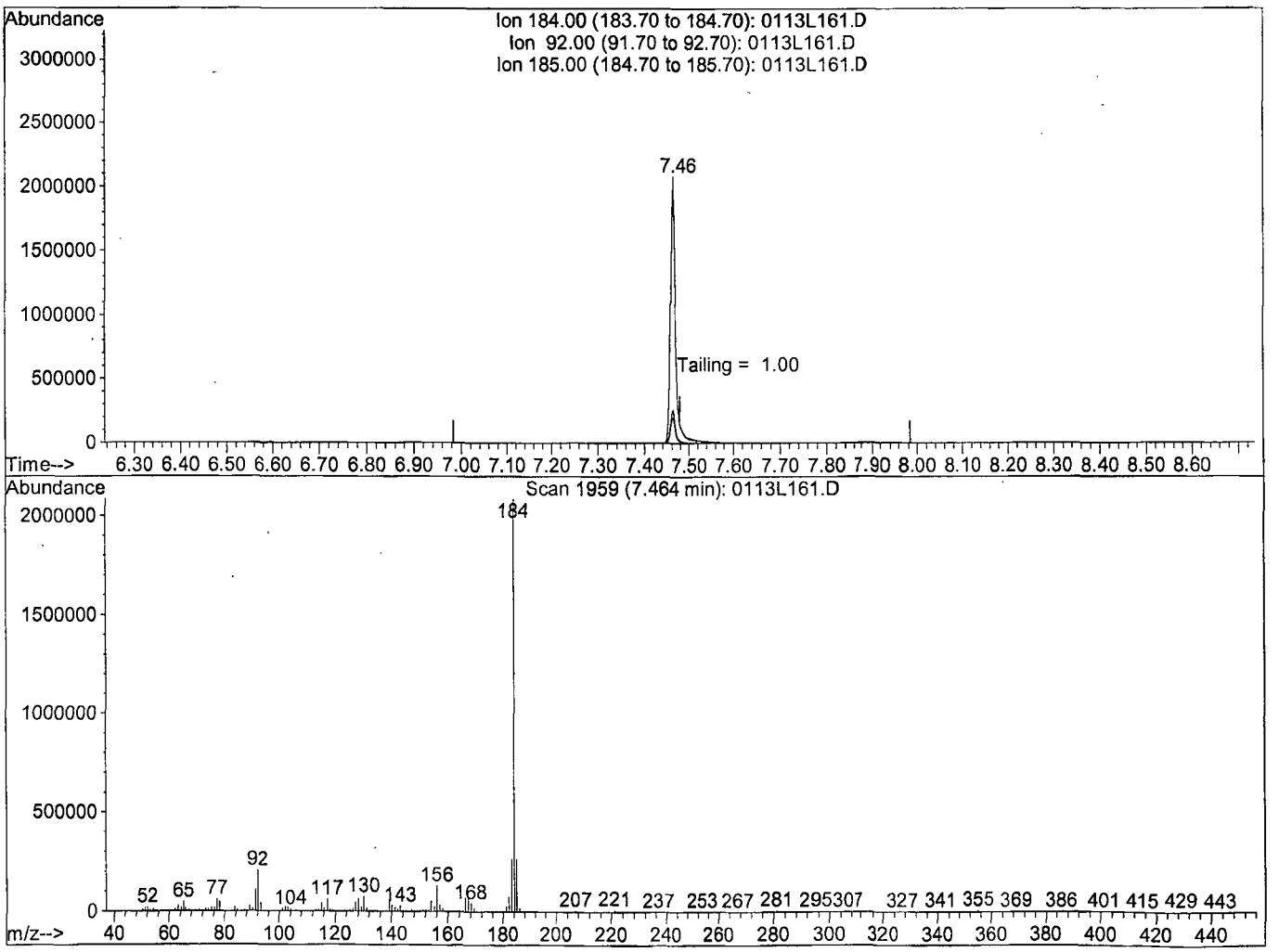
response 1915817

Ion	Exp%	Act%
266.00	100	100
264.00	61.10	77.13
268.00	64.00	84.59#
0.00	0.00	0.00

Quantitation Report

Data File : M:\LINUS\DATA\L200113P\0113L161.D Vial: 61
Acq On : 27 Jan 20 14:35 Operator: MA
Sample : SV TUNE 10/01/19 Inst : Linus
Misc : Multiplr: 1.00
Quant Time: Jan 27 14:57 2020 Quant Results File: temp.res

Method : M:\LINUS\DATA\L200113P\DFTPP2.M (Chemstation Integrator)
Title :
Last Update : Tue Jan 14 10:19:04 2020
Response via : Single Level Calibration



TIC: 0113L161.D

(6) Benzidine

7.46min 0.0000

response 16234112

Ion	Exp%	Act%
184.00	100	100
92.00	8.60	9.84
185.00	13.60	13.61
0.00	0.00	0.00

Name of Final Standard	Semivolatile (SV) Tuning Solution	Prep'd By (Initials)	JP
Prep Date	10/01/19		
Exp Date	11/30/20		

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from contianer Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
Semivolatile GC/MS Tuning Standard	Ultra Scientific	GCM-150-1	1,000 ug/mL	CR3789A-41241	11/30/20	1,250 uL	25 mL	MC #58240	50 ug/mL

Name of Final Standard	SIM PCP Continuing Calibration	Prep'd By (Initials)	JP
Prep Date	01/16/20		
Exp Date	01/24/20		

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from container Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
PAH SIMPCP	APPL	PAH SIMPCP	100 ug/mL	09/10/19	09/10/20	10 uL	200uL	MC DW717.180uL	5.0 ug/mL
SIM 2S SURROGATE	APPL	SIM 2S SURROGATE	100 ug/mL	05/17/19	01/24/20	10 uL	*	*	*
SV Internal Standard	APPL	SV Internal Standard	2000 ug/mL	07/10/19	07/10/20	4 uL	*	*	*

Name of Final Standard	SIM 2S Surrogate	Prep'd By (Initials)	GA
Prep Date	05/17/19		
Exp Date	05/17/20		

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from contianer Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
SIM Surrogate Mix	Restek	33913	2000 ug/mL	A0137718 - 39318	04/30/24	250 uL	5 mL	Acetone #030817A	100 ug/mL
8270 B/N surrog mix	Restek	31086	5000 ug/mL	A0141697 - 40112	08/31/24	100 uL	*	*	*

Name of Final Standard	8270 SIM PAH Internal Standard	Prep'd By (Initials)	GA
Prep Date	07/10/19		
Exp Date	07/10/20		

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from contianer Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
SV Internal Standard	Restek	31206	2000 ug/mL	A0144261-40464	11/30/24	350 uL	5,600 uL	MC 56258 5,250 uL	125 ug/mL

Name of Final Standard	PAH SIM PCP STD	Prep'd By (Initials)	GA
Prep Date	09/07/18		
Exp Date	11/08/19		

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from contianer Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
110780-01	O2SI	110780-01	200 ug/mL	327601-38573	11/08/19	1000 uL	2 mL	MC 56258	100
10018	Absolute	10018	2000 ug/mL	062718-39449	06/27/23	100 uL	*	*	*

Name of Final Standard PAH SIM PCP STD

Prep'd By (Initials) MA

Prep Date 09/10/19
Exp Date 09/10/20

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from contianer Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
PAH SIM	Phenova	ALO-130490	200 ug/mL	**CL13121-41226**	**12/31/22**	1000 uL	2 mL	**MC 58341**	100
10018	Absolute	10018	2000 ug/mL	**051719-41155**	**05/17/24**	100 uL	*	*	*

Name of Final Standard 8270 PAH SIM PCP Second Source

Prep'd By (Initials) MA

Prep Date 09/10/19
Exp Date 11/08/19

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from container Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
PAH SIMPCP SS Stock	O2SI	PAH SIMPCP SS Stock	100 ug/mL	**09/07/18**	**11/08/19**	10 uL	200uL	**MC 56341** 195uL	5 ug/mL
SV Internal Standard	APPL	SV Internal Standard	2000 ug/mL	**07/10/19**	**07/10/20**	4 uL	*	*	*

Name of Final Standard SIM PCP Curve **Prep'd By (Initials)** MA

Prep Date 09/10/19
Exp Date 01/24/20

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from container Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
0.5 ug/mL SIM PCP	APPL	0.5 ug/mL SIM PCP	0.5 ug/mL	09/10/19	01/24/20	20 uL	100uL	MC 58341 80uL	0.1 ug/mL
SV Internal Standard	APPL	SV Internal Standard	2000 ug/mL	07/10/19	07/10/20	2 uL	*	*	*
2.5 ug/mL SIM PCP	APPL	2.5 ug/mL SIM PCP	2.5 ug/mL	09/10/19	01/24/20	10 uL	100uL	MC 58341 90uL	0.25 ug/mL
SV Internal Standard	APPL	SV Internal Standard	2000 ug/mL	07/10/19	07/10/20	2 uL	*	*	*
2.5 ug/mL SIM PCP	APPL	2.5 ug/mL SIM PCP	2.5 ug/mL	09/10/19	01/24/20	20 uL	100uL	MC 58341 80uL	0.5 ug/mL
SV Internal Standard	APPL	SV Internal Standard	2000 ug/mL	07/10/19	07/10/20	2 uL	*	*	*
PAH SIMPCP	APPL	PAH SIMPCP	100 ug/mL	09/10/19	09/10/20	5 uL	200uL	MC 58341 190 uL	2.5 ug/mL
SIM 2S SURROGATE	APPL	SIM 2S SURROGATE	100 ug/mL	05/17/19	01/24/20	5 uL	*	*	*
SV Internal Standard	APPL	SV Internal Standard	2000	07/10/19	07/10/20	4 uL	*	*	*
PAH SIMPCP	APPL	PAH SIMPCP	100 ug/mL	09/10/19	09/10/20	10 uL	200uL	MC 58341 180 uL	5.0 ug/mL
SIM 2S SURROGATE	APPL	SIM 2S SURROGATE	100 ug/mL	05/17/19	01/24/20	10 uL	*	*	*
SV Internal Standard	APPL	SV Internal Standard	2000 ug/mL	07/10/19	07/10/20	4 uL	*	*	*
PAH SIMPCP	APPL	PAH SIMPCP	100 ug/mL	09/10/19	09/10/20	25 uL	100 uL	MC 58341 50 uL	25 ug/mL
SIM 2S SURROGATE	APPL	SIM 2S SURROGATE	100 ug/mL	05/17/19	01/24/20	25 uL	*	*	*
SV Internal Standard	APPL	SV Internal Standard	2000 ug/mL	07/10/19	07/10/20	2 uL	*	*	*
PAH SIMPCP	APPL	PAH SIMPCP	100 ug/mL	09/10/19	09/10/20	50 uL	100uL	na	50 ug/mL
SIM 2S SURROGATE	APPL	SIM 2S SURROGATE	100 ug/mL	05/17/19	01/24/20	50 uL	*	*	*
SV Internal Standard	APPL	SV Internal Standard	2000 ug/mL	07/10/19	07/10/20	2 uL	*	*	*

Organic Extraction Worksheet

Method	Continuous Liquid/Liquid SVOC 3520C	Extraction Set	200124A	Extraction Method	LIQ003	Units	mL

Spiked ID 1	8270T Spike		Surrogate ID 1	8270 Surrogate	
Spiked ID 2	Sim Spike		Surrogate ID 2	SIM Surrogate	
Spiked ID 3			Surrogate ID 3		
Spiked ID 4			Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	YES	
Spiked ID 7			Ext. Start Time:	01/24/20 15:30	
Spiked ID 8			Ext. End Time:	01/25/20 9:30	
			GC Requires Extract By:		

pH1	2		Water Bath Temp 1 °C	75/74.2 E-WB5 °
pH2	14		Water Bath Temp 2 °C	75/74.9 E-WB6
pH3			Water Bath Temp 3 °C	

Spiked By: DL **Date** 01/24/20 **Witnessed By:** KY,DS **Date** 01/24/20

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	200124A Blk				1,0.050	1,2	800	1	2/1	01/24/20 13:30	
						equip	E-HP51				
2	200124A LCS-1		1	1	1	1	800	1	2/1	01/24/20 13:30	
						equip	E-HP50				
3	200124A LCS-2		0.125	2	0.050	2	800	1	2/1	01/24/20 13:30	
						equip	E-HP49				
4	BA06272 MS-1	BA06272W30	1	1	1	1	800	1	2/1	01/24/20 13:30	91282
						equip	E-HP47				
5	BA06272 MSD-1	BA06272W31	1	1	1	1	800	1	2/1	01/24/20 13:30	91282
						equip	E-HP25				
6	BA06272 MS-2	BA06272W34	0.125	2	0.050	2	800	1	2/1	01/24/20 13:30	91282
						equip	E-HP26				
7	BA06272 MSD-2	BA06272W28	0.125	2	0.050	2	800	1	2/1	01/24/20 13:30	91282
						equip	E-HP27				
8	BA06272	BA06272W29			1,0.050	1,2	800	1	2/1	01/24/20 13:30	91282
						equip	E-HP48				
9	BA06273	BA06273W11			1,0.050	1,2	800	1	2/1	01/24/20 13:30	91282
						equip	E-HP28				
10	BA06275	BA06275W13			1,0.050	1,2	800	1	2/1	01/24/20 13:30	91282
						equip	E-HP29				
11	BA06276	BA06276W15			1,0.050	1,2	800	1	2/1	01/24/20 13:30	91282
						equip	E-HP30				
12	BA06279	BA06279W14			1,0.050	1,2	800	1	2/1	01/24/20 13:30	91282
						equip	E-HP17				
13	BA06281	BA06281W13			1,0.050	1,2	800	1	2/1	01/24/20 13:30	91282
						equip	E-HP16				
14	BA06282	BA06282W13			1,0.050	1,2	800	1	2/1	01/24/20 13:30	91282
						equip	E-HP15				
15	BA06284	BA06284W19			1,0.050	1,2	800	1	2/1	01/24/20 13:30	91282
						equip	E-HP14				
16	BA06313	BA06313W13			1,0.050	1,2	800	1	2/1	01/24/20 13:30	91288
						equip	E-HP13				

Solvent and Lot#	
PH Strips	HC863463
Dichloromethane (DCM)	59239
1+1 H2SO4	12-17-19
10N NaOH	11-20-19
Filter Paper	400121
Acidified Na2SO4	1041-26-20
B. Na2SO4	2019020631

Extraction COC Transfer	
Extraction lab employee Initials	
GC analyst's initials	JP
Date	
Time	
Refrigerator	GC-C

	Technician's Initials
Scanned By	DL
Sample Preparation	DL
Extraction	DL
Concentration	DL, ERR

Modified	01/27/20 2:47:05 PM

Reviewed By: **Date**

Organic Extraction Worksheet

Method	Continuous Liquid/Liquid SVOC 3520C	Extraction Set	200124A	Extraction Method	LIQ003	Units	mL

Spiked ID 1	8270T Spike		Surrogate ID 1	8270 Surrogate	
Spiked ID 2	Sim Spike		Surrogate ID 2	SIM Surrogate	
Spiked ID 3			Surrogate ID 3		
Spiked ID 4			Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	YES	
Spiked ID 7			Ext. Start Time:	01/24/20 15:30	
Spiked ID 8			Ext. End Time:	01/25/20 9:30	
			GC Requires Extract By:		

pH1	2		Water Bath Temp 1 °C	75/74.2 E-WB5 °
pH2	14		Water Bath Temp 2 °C	75/74.9 E-WB6
pH3			Water Bath Temp 3 °C	

Spiked By: DL **Date** 01/24/20 **Witnessed By:** KY,DS **Date** 01/24/20

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
17	BA06315	BA06315W13			1,0.050	1,2	800	1	2/1	01/24/20 13:30	91288
						equip	E-HP12				
18	BA06317	BA06317W14			1,0.050	1,2	800	1	2/1	01/24/20 13:30	91288
						equip	E-HP11				
19	BA06319	BA06319W16			1,0.050	1,2	800	1	2/1	01/24/20 13:30	91288
						equip	E-HP10				
20	BA06361	BA06361W18			1,0.050	1,2	800	1	2/1	01/24/20 15:15	91299
						equip	E-HP9				
21	BA06362	BA06362W14			1,0.050	1,2	800	1	2/1	01/24/20 15:15	91299
						equip	E-HP6				
22	BA06364	BA06364W16			1,0.050	1,2	800	1	2/1	01/24/20 15:15	91299
						equip	E-HP4				

Solvent and Lot#	
PH Strips	HC863463
Dichloromethane (DCM)	59239
1+1 H2SO4	12-17-19
10N NaOH	11-20-19
Filter Paper	400121
Acidified Na2SO4	1041-26-20
B. Na2SO4	2019020631

Extraction COC Transfer	
Extraction lab employee Initials	
GC analyst's initials	JP
Date	
Time	
Refrigerator	GC-C

	Technician's Initials
Scanned By	DL
Sample Preparation	DL
Extraction	DL
Concentration	DL, ERR

Modified	01/27/20 2:47:05 PM

Reviewed By: **Date**

Injection Log

Directory: M:\LINUS\DATA\L200113P\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	86	0113L001.D	1	SV Tune 10/01/19		13 Jan 20 13:07
2	88	0113L003.D	1	5.0 SIM PCP 09/10/19 (0)		13 Jan 20 14:59
3	4	0113L004.D	1	0.1 SIM PCP 09/10/19		13 Jan 20 15:43
4	5	0113L005.D	1	0.25 SIM PCP 09/10/19		13 Jan 20 16:05
5	6	0113L006.D	1	0.5 SIM PCP 09/10/19		13 Jan 20 16:26
6	7	0113L007.D	1	2.5 SIM PCP 09/10/19		13 Jan 20 16:48
7	8	0113L008.D	1	25 SIM PCP 09/10/19		13 Jan 20 17:10
8	9	0113L009.D	1	50 SIM PCP 09/10/19		13 Jan 20 17:32
9	10	0113L010.D	1	SS SIM PCP 01/07/20		13 Jan 20 17:54
10	61	0113L161.D	1	SV TUNE 10/01/19		27 Jan 20 14:35
11	62	0113L162.D	1	5ug/mL SIM PCP 01/16/20 (1)		27 Jan 20 14:51
12	63	0113L163.D	1.25	200124A BLK 1/800		27 Jan 20 15:24
13	64	0113L164.D	1.25	200124A LCS-2 1/800		27 Jan 20 15:46
14	75	0113L175.D	1.25	BA06313W13 1/800		27 Jan 20 19:47
15	76	0113L176.D	1.25	BA06315W13 1/800		27 Jan 20 20:08
16	77	0113L177.D	1.25	BA06317W14 1/800		27 Jan 20 20:30
17	78	0113L178.D	1.25	BA06319W16 1/800		27 Jan 20 20:52
18	82	0113L182.D	1	2.5ug/mL SIMLL SPK 01/21/20 ((CCV)		27 Jan 20 22:20

ORGANICS
Calibration Data

Semi-Volatile Analysis by GC-MS
EPA 8270

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Initial Cal. Date: 12/19/19
Matrix: Instrument: Yoda
Initials:

			1219Y004.D	1219Y005 D	1219Y006.D	1219Y007.D	1219Y008 D	1219Y003 D	1219Y009 D	1219Y010.D	1219Y011.D							
		Compound	4	5	10	20	40	50	60	80	91		Avg	%RSD	Type	r^2	Q	MRF
1	I	1,4-dichlorobenzene-D4(IS)	ISTD															
2		1,4-Dioxane	0.5052	0.5856	0.6410	0.5627	0.5805	0.5963	0.6744	0.6671	0.6074		0.60	8.8				
3	TM	n-Nitrosodimethylamine	1.092	1.156	1.069	0.9475	1.038	1.123	1.210	1.250	1.165		1.1	8.3	TM			
4	TM	Pyridine	2.280	2.408	2.771	2.400	2.420	2.500	2.834	2.907	2.763		2.6	8.9	TM			
5	S	2-Fluorophenol (S)	1.525	1.320	1.432	1.300	1.319	1.484	1.561	1.672	1.583		1.5	9.1	S			
6	S	Phenol-D6 (S)	1.895	1.660	1.756	1.615	1.647	1.920	2.000	2.210	2.108		1.9	11	S			
7	*TM	Phenol	1.874	1.910	2.112	1.928	2.040	2.339	2.470	2.610	2.555		2.2	13	*TM			0.800
8	TM	Aniline	1.334	1.308	1.389	1.427	1.419	1.463	1.661	1.551	1.396		1.4	7.6	TM			
9	TM	Bis (2-chloroethyl) ether	0.9219	0.9198	1.036	0.9251	0.9557	1.056	1.119	1.151	1.107		1.0	9.1	TM			0.700
10	TM	2-Chlorophenol	1.386	1.438	1.555	1.396	1.440	1.608	1.703	1.757	1.686		1.6	9.2	TM			0.800
11	TM	1,3-DCB	1.540	1.631	1.750	1.502	1.582	1.715	1.840	1.921	1.849		1.7	8.7	TM			
12	*TM	1,4-DCB	1.544	1.652	1.762	1.558	1.630	1.757	1.903	1.978	1.905		1.7	9.1	*TM			
13	TM	Benzyl alcohol	0.7777	0.8093	0.9119	0.8082	0.8456	0.9912	1.002	1.065	1.018		0.91	12	TM			
14	TM	1,2-DCB	1.448	1.499	1.651	1.429	1.487	1.659	1.774	1.842	1.807		1.6	10.0	TM			
15	TM	2-Methylphenol	1.219	1.234	1.309	1.185	1.252	1.417	1.495	1.568	1.511		1.4	11	TM			0.700
16	TM	Bis (2-chloroisopropyl) ether	1.212	1.245	1.332	1.184	1.244	1.395	1.475	1.549	1.485		1.3	10.0	TM			
17	TM	Acetophenone	2.010	2.013	2.231	2.067	2.158	2.442	2.558	2.698	2.600		2.3	12	TM			0.010
18	TM	3&4-Methylphenol	1.542	1.554	1.716	1.541	1.629	1.904	1.973	2.123	2.050		1.8	13	TM			0.600
19	**TM	n-Nitrosodi-n-propylamine	1.263	1.297	1.414	1.295	1.361	1.591	1.666	1.776	1.701		1.5	13	**TM			0.500
20	TM	Hexachloroethane	0.6270	0.6828	0.7293	0.6605	0.6729	0.7406	0.7887	0.8348	0.8027		0.73	9.8	TM			0.300
21	I	Napthalene-D8(IS)	ISTD															
22	S	Nitrobenzene-D5(S)	0.5318	0.4774	0.4864	0.4745	0.4719	0.4933	0.5032	0.5240	0.5147		0.50	4.5	S			
23	TM	Nitrobenzene	0.4642	0.5003	0.5125	0.4754	0.5054	0.5308	0.5427	0.5516	0.5571		0.52	6.4	TM			0.200
24	TM	Isophorone	0.7546	0.7674	0.8060	0.7539	0.7961	0.8472	0.8485	0.8787	0.8684		0.81	6.0	TM			0.400
25	*TM	2-Nitrophenol	0.1803	0.1912	0.2042	0.1970	0.2076	0.2181	0.2244	0.2306	0.2309		0.21	8.6	*TM			0.100
26	TM	2,4-Dimethylphenol	0.3048	0.3153	0.3305	0.3095	0.3230	0.3472	0.3501	0.3640	0.3704		0.33	7.1	TM			0.200
27	TML	Benzoic acid	0.0946	0.1138	0.1879	0.2336	0.2825	0.2721	0.2855	0.3030	0.3030		0.23	35	TML	0.998		
28	TM	Bis (2-chloroethoxy) methane	0.3781	0.3943	0.4143	0.3907	0.4119	0.4361	0.4454	0.4624	0.4662		0.42	7.6	TM			0.300
29	*TM	2,4-Dichlorophenol	0.2893	0.2989	0.3168	0.3008	0.3208	0.3413	0.3480	0.3629	0.3610		0.33	8.5	*TM			0.200
30	TM	1,2,4-Trichlorobenzene	0.3149	0.3503	0.3569	0.3288	0.3583	0.3733	0.3895	0.4028	0.4041		0.36	8.6	TM			
31	TM	3,4-Dimethylphenol	0.5088	0.4953	0.5614	0.5223	0.5395	0.5890	0.5844	0.6060	0.6089		0.56	7.6	TM			
32	TM	Naphthalene	0.9866	1.025	1.068	1.000	1.055	1.118	1.145	1.187	1.210		1.1	7.4	TM			0.700
33	TM	4-Chloroaniline	0.4130	0.4102	0.4466	0.4160	0.4341	0.4535	0.4589	0.4596	0.4467		0.44	4.6	TM			0.010
34	TM	2,6-Dichlorophenol	0.2696	0.2967	0.3074	0.2937	0.3088	0.3382	0.3396	0.3625	0.3634		0.32	10	TM			
35	TM	Hexachloropropene	0.2671	0.2881	0.2978	0.2893	0.3112	0.3320	0.3401	0.3527	0.3589		0.32	10	TM			

Semi-Volatile Analysis by GC-MS
EPA 8270

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Initial Cal. Date: 12/19/19
Matrix: Instrument: Yoda Initials:

		Compound	4	5	10	20	40	50	60	80	91		Avg	%RSD	Type		Q	
36	*TM	Hexachlorobutadiene	0.2198	0.2305	0.2457	0.2253	0.2401	0.2518	0.2615	0.2734	0.2764		0.25	8.3	*TM			0.010
37	TM	Caprolactum	0.1360	0.1418	0.1459	0.1372	0.1421	0.1515	0.1509	0.1569	0.1569		0.15	5.4	TM			0.010
38	*TM	4-Chloro-3-methylphenol	0.3433	0.3492	0.3767	0.3527	0.3826	0.4117	0.4148	0.4325	0.4262		0.39	8.9	*TM			0.200
39	TM	2-Methylnaphthalene	0.6528	0.6825	0.7189	0.6672	0.7074	0.7659	0.7721	0.8038	0.8214		0.73	8.3	TM			0.400
40	TM	1-Methylnaphthalene	0.6774	0.7258	0.7430	0.6772	0.7340	0.7929	0.8094	0.8459	0.8492		0.76	8.6	TM			
41	I	Acenaphthene-D10(IS)	ISTD															
42	**TML	Hexachlorocyclopentadiene	0.1728	0.2331	0.2484	0.3602	0.4060	0.4718	0.4812	0.5045	0.4482		0.37	33	**TML	0.991		0.050
43	TM	1,2,4,5-Tetrachlorobenzene	0.5593	0.5899	0.5937	0.5643	0.6173	0.6743	0.6677	0.7241	0.7440		0.64	11	TM			0.010
44	*TM	2,4,6-Trichlorophenol	0.3671	0.3707	0.4007	0.3830	0.4055	0.4458	0.4421	0.4627	0.4769		0.42	9.8	*TM			0.200
45	TM	2,4,5-Trichlorophenol	0.4207	0.4236	0.4252	0.4143	0.4421	0.4723	0.4724	0.4964	0.5050		0.45	7.7	TM			0.200
46	S	2-Fluorobiphenyl(S)	1.577	1.423	1.350	1.366	1.373	1.489	1.494	1.591	1.634		1.5	7.2	S			
47	TM	1,1'-Biphenyl	1.395	1.444	1.455	1.418	1.494	1.625	1.612	1.736	1.784		1.6	9.2	TM			0.010
48	TM	2-Chloronaphthalene	1.127	1.156	1.195	1.149	1.201	1.307	1.296	1.382	1.417		1.2	8.5	TM			0.800
49	TM	2-Nitroaniline	0.4167	0.4376	0.4565	0.4486	0.4606	0.5021	0.4976	0.5202	0.5237		0.47	8.1	TM			0.010
50	TM	Dimethyl phthalate	1.422	1.455	1.461	1.410	1.474	1.591	1.590	1.671	1.690		1.5	7.0	TM			0.010
51	TM	2,6-DNT	0.2885	0.2872	0.3086	0.3140	0.3290	0.3597	0.3549	0.3784	0.3815		0.33	11	TM			0.200
52	TM	Acenaphthylene	1.710	1.793	1.808	1.775	1.875	2.023	2.023	2.114	2.167		1.9	8.5	TM			0.900
53	TM	3-Nitroaniline	0.3591	0.3544	0.3786	0.3695	0.3887	0.4218	0.4188	0.4298	0.4424		0.40	8.3	TM			0.010
54	*TM	Acenaphthene	1.085	1.127	1.137	1.078	1.162	1.275	1.255	1.332	1.363		1.2	8.9	*TM			0.900
55	**TML	2,4-Dinitrophenol	0.0287	0.0331	0.0777	0.1240	0.1723	0.1832	0.1984	0.2141	0.2201		0.14	55	**TML	0.993		0.010
56	**TM	4-Nitrophenol	0.0290	0.0284	0.0307	0.0282	0.0302	0.0332	0.0320	0.0336	0.0352		0.03	7.9	**TM			0.010
57	TM	Dibenzofuran	1.623	1.671	1.677	1.629	1.734	1.930	1.924	2.084	2.153		1.8	11	TM			0.800
58	TM	2,4-DNT	0.3958	0.4169	0.4457	0.4462	0.4784	0.5343	0.5256	0.5800	0.5904		0.49	14	TM			0.200
59	TM	2,3,4,6-Tetrachlorophenol	0.2835	0.3006	0.3178	0.3136	0.3386	0.3682	0.3763	0.3904	0.3993		0.34	12	TM			0.010
60	TM	Diethyl phthalate	1.467	1.516	1.534	1.474	1.545	1.655	1.632	1.704	1.733		1.6	6.3	TM			0.010
61	TM	4-Chlorophenyl phenyl ether		0.7633	0.7429	0.7444	0.8104	0.9246	0.9212	1.040	1.072		0.88	15	TM			0.400
62	TM	Fluorene	1.306	1.349	1.363	1.361	1.475	1.673	1.668	1.846	1.932		1.6	15	TM			0.900
63	TM	4-Nitroaniline	0.3151	0.3031	0.3294	0.3142	0.3263	0.3501	0.3462	0.3402	0.3445		0.33	5.0	TM			0.010
64	S	2,4,6-Tribromophenol(S)	0.2342	0.2311	0.2068	0.2116	0.2324	0.2576	0.2590	0.2918	0.3127		0.25	14	S			
65	I	Phenanthrene-D10(IS)	ISTD															
66	TM	4,6-Dinitro-2-methylphenol			0.1237	0.1331	0.1507	0.1615	0.1663	0.1780	0.1783		0.16	14	TM			0.010
67	TM	Diphenyl amine		0.5674	0.5878	0.5670	0.6272	0.6767	0.6917	0.7384	0.7531		0.65	11	TM			
68	*TM	n-Nitrosodiphenylamine		0.5674	0.5878	0.5670	0.6272	0.6767	0.6917	0.7384	0.7531		0.65	11	*TM			0.010
69	TM	1,2-Diphenylhydrazine	0.8725	0.8825	0.9231	0.8661	0.9237	0.9667	0.9904	1.038	1.013		0.94	6.7	TM			
70	TM	4-Bromophenyl phenyl ether	0.2168	0.2117	0.2303	0.2234	0.2447	0.2591	0.2603	0.2775	0.2827		0.25	11	TM			0.100

Semi-Volatile Analysis by GC-MS
EPA 8270

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Initial Cal. Date: 12/19/19
Matrix: Instrument: Yoda Initials:

		Compound	4	5	10	20	40	50	60	80	91		Avg	%RSD	Type		Q	
71	TM	Hexachlorobenzene	0.2189	0.2230	0.2350	0.2209	0.2419	0.2639	0.2678	0.2781	0.2827		0.25	10	TM			0.100
72	TM	Atrazine		0.2202	0.2285	0.2039	0.2199	0.2039	0.2312	0.2400	0.2413		0.22	6.5	TM			0.010
73	*TM	Pentachlorophenol				0.1167	0.1380	0.1587	0.1560	0.1693	0.1761		0.15	14	*TM			0.050
74	TM	Phenanthrene	1.008	1.029	1.058	1.008	1.079	1.131	1.159	1.215	1.247		1.1	8.0	TM			0.700
75	TM	Anthracene	1.024	1.060	1.108	1.058	1.130	1.203	1.210	1.282	1.310		1.2	8.9	TM			0.700
76	TM	Carbazol	0.9547	0.9719	1.001	0.9555	1.020	1.099	1.107	1.168	1.177		1.1	8.5	TM			0.010
77	TM	Di-n-butylphthalate	1.254	1.280	1.325	1.308	1.422	1.524	1.557	1.600	1.659		1.4	11	TM			0.010
78		2-Nitrodiphenylamine	0.2581	0.2591	0.2987	0.3023	0.3376	0.3611	0.3621	0.3733	0.3885		0.33	15				
79	*TM	Fluoranthene	1.136	1.164	1.219	1.161	1.277	1.377	1.374	1.473	1.455		1.3	10	*TM			0.600
80	I	Chrysene-D12(IS)	ISTD															
81	TM	Benzidine	0.4294	0.4321	0.4090	0.3966	0.3741						0.41	5.9	TM			
82	TM	Pyrene	1.234	1.320	1.294	1.198	1.211	1.149	1.140	1.104	1.141		1.2	6.1	TM			0.600
83	S	Terphenyl-D14(S)	1.144	1.050	0.9741	0.9361	0.9110	0.8552	0.8740	0.8455	0.9945		0.95	10	S			
84	TM	Butyl benzylphthalate	0.6241	0.6476	0.6440	0.6034	0.6057	0.5784	0.5714	0.5550	0.5770		0.60	5.5	TM			0.010
85	TM	3,3'-Dichlorobenzidine	0.4406	0.4474	0.4653	0.4210	0.4166	0.4318	0.3803	0.3533	0.3523		0.41	9.9	TM			0.010
86	TM	Benz (a) anthracene	1.378	1.384	1.377	1.254	1.272	1.281	1.262	1.262	1.284		1.3	4.3	TM			0.800
87	TM	Bis (2-ethylhexyl) phthalate	0.9872	1.026	1.020	0.9806	0.9843	1.006	0.9951	1.003	1.032		1.0	1.9	TM			0.010
88	TM	Chrysene	1.126	1.256	1.202	1.146	1.157	1.110	1.070	1.065	1.090		1.1	5.5	TM			0.700
89	*TM	Di-n-octylphthalate	1.492	1.569	1.601	1.470	1.479	1.480	1.436	1.394	1.414		1.5	4.6	*TM			0.010
90	I	Perylene-D12(IS)	ISTD															
91	TM	Benzo (b) fluoranthene	1.200	1.183	1.189	1.231	1.306	1.417	1.414	1.408	1.411		1.3	8.2	TM			0.700
92	TM	Benzo (k) fluoranthene	1.036	1.129	1.146	1.047	1.126	1.214	1.174	1.322	1.406		1.2	10	TM			0.700
93	*TM	Benzo (a) pyrene	1.048	1.092	1.101	1.069	1.126	1.226	1.213	1.267	1.293		1.2	7.8	*TM			0.700
94	TM	Indeno (1,2,3-cd) pyrene	1.218	1.270	1.279	1.250	1.330	1.445	1.416	1.464	1.494		1.4	7.7	TM			0.500
95	TM	Dibenz (a,h) anthracene	1.044	1.127	1.135	1.106	1.175	1.293	1.267	1.331	1.359		1.2	9.2	TM			0.400
96	TM	Benzo (g,h,i) perylene	0.9656	1.022	1.029	1.003	1.043	1.124	1.098	1.126	1.148		1.1	6.0	TM			0.500
97																		
98																		
99																		
100																		
101																		
102																		
103																		
104																		
105																		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y003.D Vial: 3
Acq On : 19 Dec 19 9:06 Operator: MA,SS
Sample : 50ug/ml 8270 11/21/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.38	152	196599	40.00000 ppb	0.00
21) Napthalene-D8(IS)	6.83	136	821661	40.00000 ppb	0.00
41) Acenaphthene-D10(IS)	8.84	164	498864	40.00000 ppb	0.00
65) Phenanthrene-D10(IS)	10.57	188	965840	40.00000 ppb	0.00
80) Chrysene-D12(IS)	13.67	240	1196016	40.00000 ppb	0.00
90) Perylene-D12(IS)	15.49	264	1033039	40.00000 ppb	0.00
System Monitoring Compounds					
5) 2-Fluorophenol (S)	3.82	112	729337	101.21407 ppb	0.00
Spiked Amount 200.000			Recovery =	50.607%	
6) Phenol-D6 (S)	5.00	99	943605	102.78046 ppb	0.00
Spiked Amount 200.000			Recovery =	51.390%	
22) Nitrobenzene-D5(S)	6.01	82	506628	49.57999 ppb	0.00
Spiked Amount 100.000			Recovery =	49.580%	
46) 2-Fluorobiphenyl(S)	8.06	172	928304	50.38731 ppb	0.00
Spiked Amount 100.000			Recovery =	50.387%	
64) 2,4,6-Tribromophenol(S)	9.77	330	321251	103.61865 ppb	0.00
Spiked Amount 200.000			Recovery =	51.810%	
83) Terphenyl-D14(S)	12.43	244	1278597	44.83129 ppb	0.00
Spiked Amount 100.000			Recovery =	44.831%	
Target Compounds					Qvalue
3) n-Nitrosodimethylamine	1.91	42	275394	50.17040 ppb	100
4) Pyridine	1.92	79	614275	48.30945 ppb	100
7) Phenol	5.02	94	574851	53.05712 ppb	100
8) Aniline	5.01	93	359488	50.84319 ppb	100
9) Bis (2-chloroethyl) ether	5.08	63	259464	51.69417 ppb	100
10) 2-Chlorophenol	5.15	128	395131	51.79401 ppb	100
11) 1,3-DCB	5.31	146	421373	50.33398 ppb	100
12) 1,4-DCB	5.40	146	431772	50.39583 ppb	100
13) Benzyl alcohol	5.54	108	243593	54.20799 ppb	100
14) 1,2-DCB	5.57	146	407782	51.15484 ppb	100
15) 2-Methylphenol	5.68	107	348274	52.31608 ppb	100
16) Bis (2-chloroisopropyl) et	5.69	45	342864	51.79894 ppb	100
17) Acetophenone	5.84	105	600018	52.87990 ppb	100
18) 3&4-Methylphenol	5.86	107	935580	106.86276 ppb	100
19) n-Nitrosodi-n-propylamine	5.85	70	391093	53.58916 ppb	100
20) Hexachloroethane	5.95	117	182011	50.96658 ppb	100
23) Nitrobenzene	6.04	77	545143	51.47563 ppb	100
24) Isophorone	6.31	82	870177	52.07890 ppb	100
25) 2-Nitrophenol	6.39	139	223955	52.07765 ppb	100
26) 2,4-Dimethylphenol	6.44	122	356638	51.82729 ppb	100
27) Benzoic acid	6.60	105	279476	47.48334 ppb	100
28) Bis (2-chloroethoxy) metha	6.54	93	447865	51.64725 ppb	100
29) 2,4-Dichlorophenol	6.68	162	350537	52.24411 ppb	100
30) 1,2,4-Trichlorobenzene	6.76	180	383401	51.23105 ppb	100
31) 3,4-Dimethylphenol	6.79	107	604918	52.84249 ppb	100
32) Naphthalene	6.84	128	1148204	51.36025 ppb	100
33) 4-Chloroaniline	6.91	127	465735	51.81136 ppb	100
34) 2,6-Dichlorophenol	6.92	162	347372	52.84673 ppb	100
35) Hexachloropropene	6.95	213	340941	52.64986 ppb	100
36) Hexachlorobutadiene	6.98	225	258626	50.94087 ppb	100
37) Caprolactum	7.34	55	155640	51.68587 ppb	100
38) 4-Chloro-3-methylphenol	7.48	107	422799	53.08472 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y003.D Vial: 3
Acq On : 19 Dec 19 9:06 Operator: MA,SS
Sample : 50ug/ml 8270 11/21/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
39)	2-Methylnaphthalene	7.63	142	786668	52.28541	ppb	100
40)	1-Methylnaphthalene	7.75	142	814338	52.04963	ppb	100
42)	Hexachlorocyclopentadiene	7.82	237	294208	51.41653	ppb	100
43)	1,2,4,5-Tetrachlorobenzene	7.84	216	420454	52.91044	ppb	100
44)	2,4,6-Trichlorophenol	7.97	196	277989	53.43197	ppb	100
45)	2,4,5-Trichlorophenol	8.02	196	294494	52.19170	ppb	100
47)	1,1'-Biphenyl	8.17	154	1013613	52.38680	ppb	100
48)	2-Chloronaphthalene	8.20	162	814737	52.35985	ppb	100
49)	2-Nitroaniline	8.32	65	313105	52.99430	ppb	100
50)	Dimethyl phthalate	8.53	163	992101	52.01547	ppb	100
51)	2,6-DNT	8.61	165	224309	53.92342	ppb	100
52)	Acenaphthylene	8.68	152	1261631	52.66138	ppb	100
53)	3-Nitroaniline	8.32	138	263026	53.26882	ppb	100
54)	Acenaphthene	8.89	154	794988	53.04993	ppb	100
55)	2,4-Dinitrophenol	8.92	184	114232	46.68381	ppb	100
56)	4-Nitrophenol	8.60	65	20732	53.32779	ppb	100
57)	Dibenzofuran	9.08	168	1203351	52.86739	ppb	100
58)	2,4-DNT	9.07	165	333192	54.48047	ppb	100
59)	2,3,4,6-Tetrachlorophenol	9.24	232	229610	53.65092	ppb	100
60)	Diethyl phthalate	9.35	149	1031999	52.22569	ppb	100
61)	4-Chlorophenyl phenyl ethe	9.48	204	576562	52.69605	ppb	100
62)	Fluorene	9.48	166	1043084	53.86740	ppb	100
63)	4-Nitroaniline	8.80	138	218292	53.05517	ppb	100
66)	4,6-Dinitro-2-methylphenol	9.56	198	195000	51.78616	ppb	100
67)	Diphenyl amine	9.63	169	1633943	103.92069	ppb	100
68)	n-Nitrosodiphenylamine	9.63	169	1633943	103.92069	ppb	100
69)	1,2-Diphenylhydrazine	9.67	77	1167037	51.32296	ppb	100
70)	4-Bromophenyl phenyl ether	10.05	248	312755	52.83109	ppb	100
71)	Hexachlorobenzene	10.13	284	318617	53.20114	ppb	100
72)	Atrazine	10.25	200	123091	22.79679	ppb	100
73)	Pentachlorophenol	10.36	266	191605	52.04610	ppb	100
74)	Phenanthrene	10.60	178	1365637	51.23790	ppb	100
75)	Anthracene	10.67	178	1452175	52.12221	ppb	100
76)	Carbazol	10.85	167	1327202	52.32019	ppb	100
77)	Di-n-butylphthalate	11.25	149	1840279	53.05379	ppb	100
78)	2-Nitrodiphenylamine	11.43	167	218003	27.62865	ppb	100
79)	Fluoranthene	11.99	202	1662853	53.26539	ppb	100
81)	Benzidine	12.14	184	328745	26.93277	ppb	100
82)	Pyrene	12.25	202	1717114	47.89582	ppb	100
84)	Butyl benzylphthalate	13.00	149	864776	48.14287	ppb	100
85)	3,3'-Dichlorobenzidine	13.62	252	645596	52.39866	ppb	100
86)	Benz (a) anthracene	13.66	228	1915683	49.05514	ppb	100
87)	Bis (2-ethylhexyl) phthala	13.67	149	1504164	50.11549	ppb	100
88)	Chrysene	13.69	228	1660091	48.87974	ppb	100
89)	Di-n-octylphthalate	14.42	149	2213014	49.95022	ppb	100
91)	Benzo (b) fluoranthene	14.96	252	1830066	54.23818	ppb	100
92)	Benzo (k) fluoranthene	14.99	252	1567732	51.53429	ppb	100
93)	Benzo (a) pyrene	15.42	252	1583146	52.86784	ppb	100
94)	Indeno (1,2,3-cd) pyrene	17.36	276	1864158	53.40274	ppb	100
95)	Dibenz (a,h) anthracene	17.40	278	1668227	53.64701	ppb	100
96)	Benzo (g,h,i) perylene	17.93	276	1451452	52.91619	ppb	100

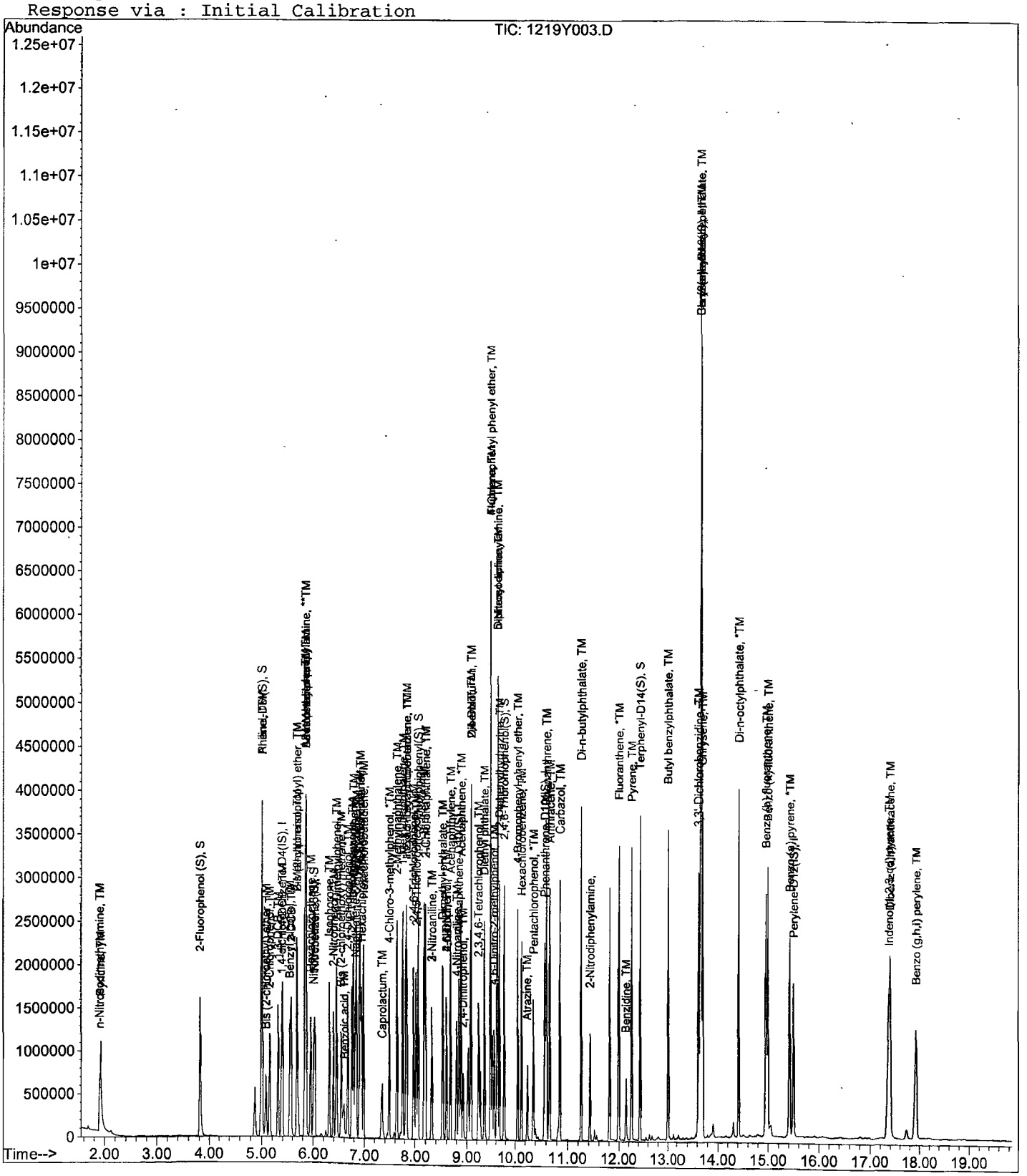
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y191219\1219Y003.D Vial: 3
Acq On : 19 Dec 19 9:06 Operator: MA,SS
Sample : 50ug/ml 8270 11/21/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y004.D Vial: 4
Acq On : 19 Dec 19 9:33 Operator: MA,SS
Sample : 4ug/ml 8270 11/21/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.38	152	172988	40.00000 ppb	0.00
21) Napthalene-D8(IS)	6.82	136	714555	40.00000 ppb	0.00
41) Acenaphthene-D10(IS)	8.84	164	436036	40.00000 ppb	0.00
65) Phenanthrene-D10(IS)	10.57	188	836785	40.00000 ppb	0.00
80) Chrysene-D12(IS)	13.66	240	796002	40.00000 ppb	0.00
90) Perylene-D12(IS)	15.49	264	872764	40.00000 ppb	0.00
System Monitoring Compounds					
5) 2-Fluorophenol (S)	3.81	112	52772	8.32303 ppb	0.00
Spiked Amount 200.000			Recovery =	4.162%	
6) Phenol-D6 (S)	4.99	99	65554	8.11493 ppb	0.00
Spiked Amount 200.000			Recovery =	4.058%	
22) Nitrobenzene-D5(S)	6.00	82	37998	4.27597 ppb	0.00
Spiked Amount 100.000			Recovery =	4.276%	
46) 2-Fluorobiphenyl(S)	8.05	172	68746	4.26912 ppb	0.00
Spiked Amount 100.000			Recovery =	4.269%	
64) 2,4,6-Tribromophenol(S)	9.76	330	20427	7.53803 ppb	0.00
Spiked Amount 200.000			Recovery =	3.769%	
83) Terphenyl-D14(S)	12.42	244	91079	4.79831 ppb	0.00
Spiked Amount 100.000			Recovery =	4.798%	

Target Compounds Qvalue

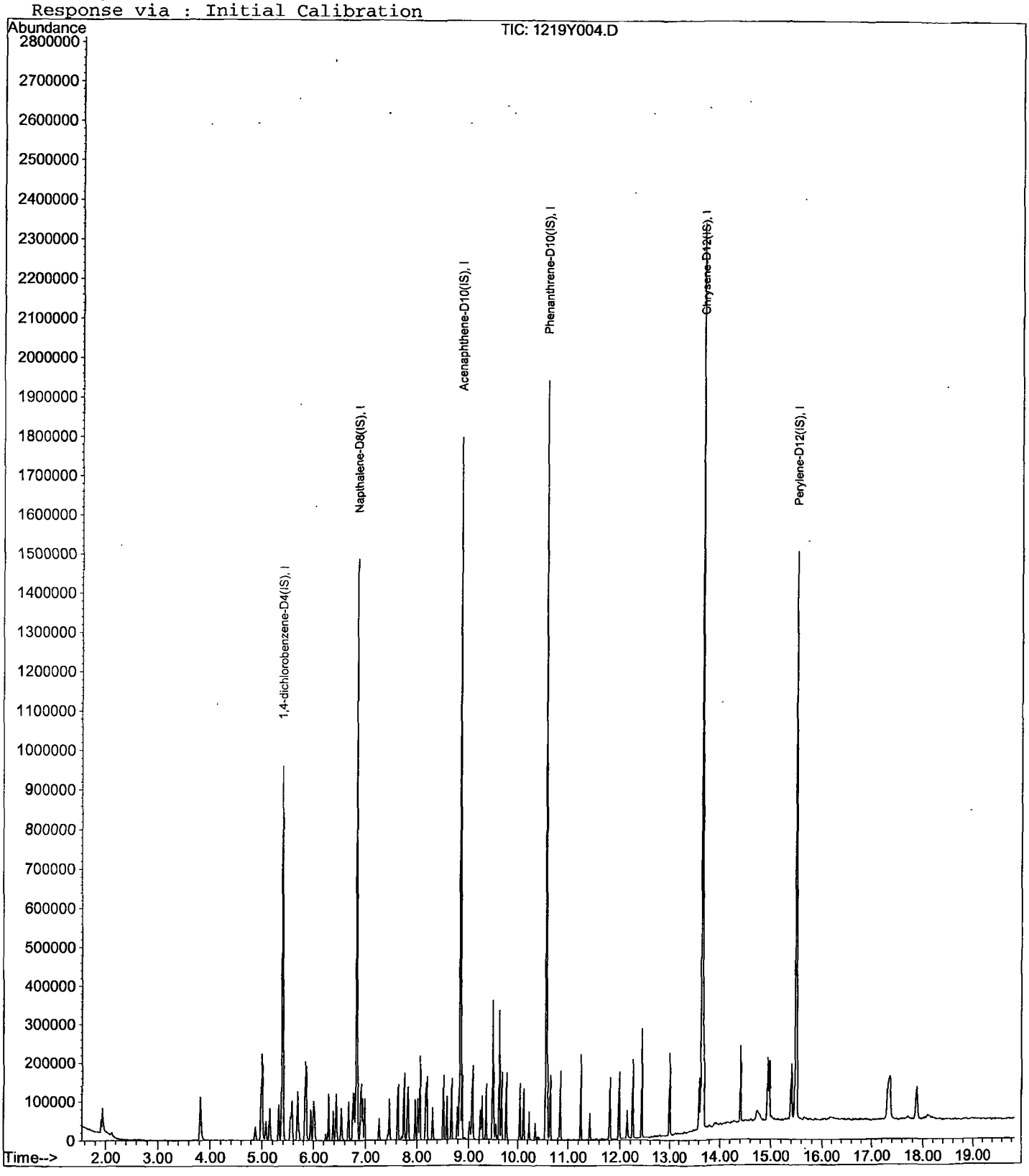
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y191219\1219Y004.D Vial: 4
Acq On : 19 Dec 19 9:33 Operator: MA,SS
Sample : 4ug/ml 8270 11/21/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y005.D Vial: 5
Acq On : 19 Dec 19 10:01 Operator: MA,SS
Sample : 5ug/ml 8270 11/21/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.38	152	171722	40.00000 ppb	0.00
21) Napthalene-D8(IS)	6.82	136	688709	40.00000 ppb	0.00
41) Acenaphthene-D10(IS)	8.84	164	415788	40.00000 ppb	0.00
65) Phenanthrene-D10(IS)	10.57	188	806286	40.00000 ppb	0.00
80) Chrysene-D12(IS)	13.66	240	749085	40.00000 ppb	0.00
90) Perylene-D12(IS)	15.48	264	827486	40.00000 ppb	0.00
System Monitoring Compounds					
5) 2-Fluorophenol (S)	3.82	112	56647	9.00005 ppb	0.00
Spiked Amount 200.000			Recovery =	4.500%	
6) Phenol-D6 (S)	4.99	99	71276	8.88831 ppb	0.00
Spiked Amount 200.000			Recovery =	4.444%	
22) Nitrobenzene-D5(S)	6.00	82	41101	4.79873 ppb	0.00
Spiked Amount 100.000			Recovery =	4.799%	
46) 2-Fluorobiphenyl(S)	8.05	172	73943	4.81547 ppb	0.00
Spiked Amount 100.000			Recovery =	4.815%	
64) 2,4,6-Tribromophenol(S)	9.76	330	24023	9.29674 ppb	0.00
Spiked Amount 200.000			Recovery =	4.649%	
83) Terphenyl-D14(S)	12.43	244	98299	5.50304 ppb	0.00
Spiked Amount 100.000			Recovery =	5.503%	

Target Compounds Qvalue

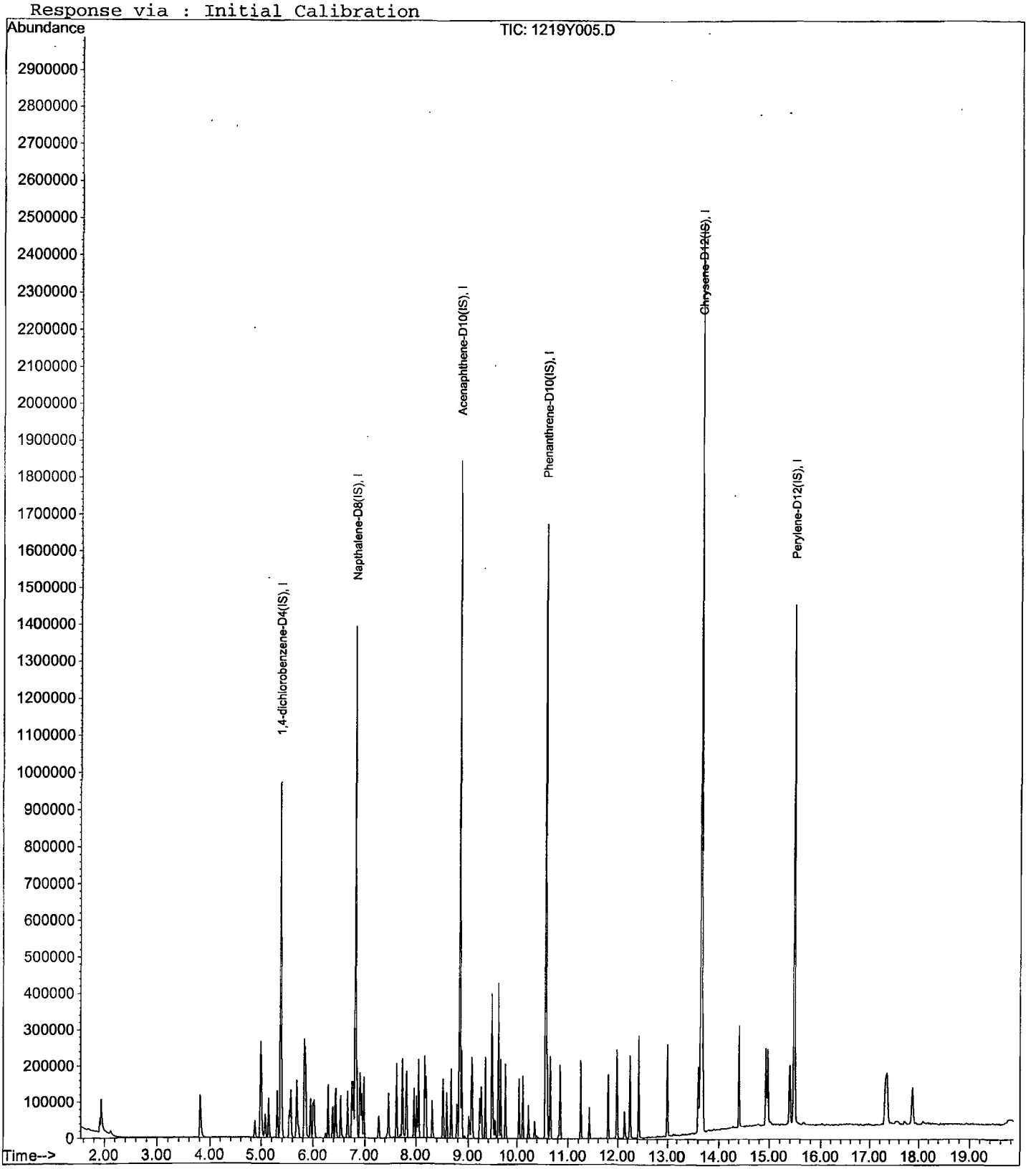
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y191219\1219Y005.D Vial: 5
Acq On : 19 Dec 19 10:01 Operator: MA,SS
Sample : 5ug/ml 8270 11/21/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y006.D Vial: 6
Acq On : 19 Dec 19 10:28 Operator: MA,SS
Sample : 10ug/ml 8270 11/21/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.38	152	160128	40.00000 ppb	0.00
21) Napthalene-D8(IS)	6.82	136	678749	40.00000 ppb	0.00
41) Acenaphthene-D10(IS)	8.84	164	424690	40.00000 ppb	0.00
65) Phenanthrene-D10(IS)	10.57	188	801834	40.00000 ppb	0.00
80) Chrysene-D12(IS)	13.66	240	780754	40.00000 ppb	0.00
90) Perylene-D12(IS)	15.49	264	843433	40.00000 ppb	0.00
System Monitoring Compounds					
5) 2-Fluorophenol (S)	3.81	112	114683	19.54005 ppb	0.00
Spiked Amount 200.000			Recovery =	9.770%	
6) Phenol-D6 (S)	4.99	99	140612	18.80428 ppb	0.00
Spiked Amount 200.000			Recovery =	9.402%	
22) Nitrobenzene-D5(S)	6.00	82	82528	9.77692 ppb	0.00
Spiked Amount 100.000			Recovery =	9.777%	
46) 2-Fluorobiphenyl(S)	8.05	172	143294	9.13627 ppb	0.00
Spiked Amount 100.000			Recovery =	9.136%	
64) 2,4,6-Tribromophenol(S)	9.76	330	43913	16.63783 ppb	0.00
Spiked Amount 200.000			Recovery =	8.319%	
83) Terphenyl-D14(S)	12.42	244	190140	10.21278 ppb	0.00
Spiked Amount 100.000			Recovery =	10.213%	
Target Compounds					Qvalue
18) 3&4-Methylphenol	5.85	107	137362	19.26310 ppb	99
67) Diphenyl amine	9.61	169	235673	18.05492 ppb	99
68) n-Nitrosodiphenylamine	9.61	169	235673	18.05492 ppb	99

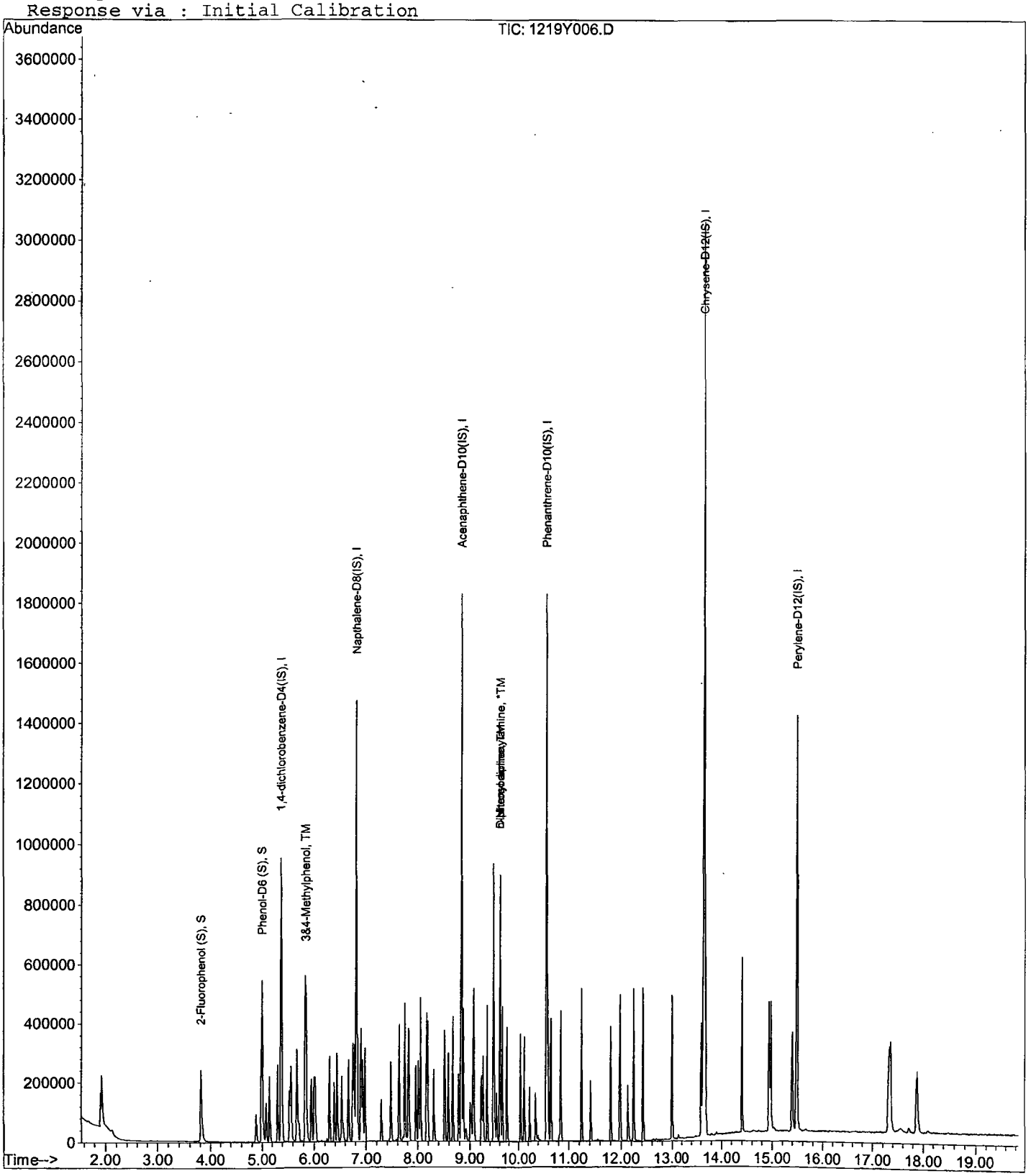
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y191219\1219Y006.D Vial: 6
Acq On : 19 Dec 19 10:28 Operator: MA,SS
Sample : 10ug/ml 8270 11/21/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y007.D Vial: 7
Acq On : 19 Dec 19 10:56 Operator: MA,SS
Sample : 20ug/ml 8270 11/21/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.38	152	194747	40.00000 ppb		0.00
21) Napthalene-D8(IS)	6.82	136	781182	40.00000 ppb		0.00
41) Acenaphthene-D10(IS)	8.84	164	473595	40.00000 ppb		0.00
65) Phenanthrene-D10(IS)	10.57	188	902012	40.00000 ppb		0.00
80) Chrysene-D12(IS)	13.66	240	912227	40.00000 ppb		0.00
90) Perylene-D12(IS)	15.49	264	942777	40.00000 ppb		0.00
System Monitoring Compounds						
5) 2-Fluorophenol (S)	3.82	112	253075	35.45459 ppb		0.00
Spiked Amount 200.000			Recovery = 17.728%			
6) Phenol-D6 (S)	4.99	99	314450	34.57661 ppb		-0.01
Spiked Amount 200.000			Recovery = 17.289%			
22) Nitrobenzene-D5(S)	6.01	82	185338	19.07753 ppb		0.00
Spiked Amount 100.000			Recovery = 19.078%			
46) 2-Fluorobiphenyl(S)	8.06	172	323480	18.49496 ppb		0.00
Spiked Amount 100.000			Recovery = 18.495%			
64) 2,4,6-Tribromophenol(S)	9.77	330	100215	34.04876 ppb		0.00
Spiked Amount 200.000			Recovery = 17.025%			
83) Terphenyl-D14(S)	12.43	244	426966	19.62795 ppb		0.00
Spiked Amount 100.000			Recovery = 19.628%			
Target Compounds						Qvalue
4) Pyridine	1.92	79	233730	18.55642 ppb		98
7) Phenol	5.00	94	187775	17.49592 ppb	#	74
8) Aniline	5.00	93	138944	19.83804 ppb	#	95
9) Bis (2-chloroethyl) ether	5.08	63	90085	18.11872 ppb		96
10) 2-Chlorophenol	5.14	128	135911	17.98472 ppb		92
11) 1,3-DCB	5.31	146	146244	17.63531 ppb		97
12) 1,4-DCB	5.39	146	151686	17.87295 ppb		97
13) Benzyl alcohol	5.54	108	78697	17.67939 ppb		99
14) 1,2-DCB	5.57	146	139110	17.61682 ppb		99
15) 2-Methylphenol	5.68	107	115359	17.49348 ppb		97
16) Bis (2-chloroisopropyl) et	5.69	45	115311	17.58653 ppb	#	78
17) Acetophenone	5.83	105	201308	17.91010 ppb		98
18) 3&4-Methylphenol	5.85	107	300091	34.60262 ppb		97
19) n-Nitrosodi-n-propylamine	5.84	70	126055	17.43683 ppb		98
20) Hexachloroethane	5.95	117	64312	18.17985 ppb		94
23) Nitrobenzene	6.03	77	185983	18.47162 ppb		95
24) Isophorone	6.29	82	294453	18.53577 ppb		99
25) 2-Nitrophenol	6.39	139	76958	18.82282 ppb		95
26) 2,4-Dimethylphenol	6.44	122	120904	18.48043 ppb		97
27) Benzoic acid	6.55	105	91223	18.97597 ppb		98
28) Bis (2-chloroethoxy) metha	6.54	93	152615	18.51133 ppb		98
29) 2,4-Dichlorophenol	6.67	162	117474	18.41559 ppb		95
30) 1,2,4-Trichlorobenzene	6.76	180	128436	18.05125 ppb		99
31) 3,4-Dimethylphenol	6.78	107	204008	18.74452 ppb		98
32) Naphthalene	6.84	128	390776	18.38554 ppb		99
33) 4-Chloroaniline	6.91	127	162474	19.01124 ppb		96
34) 2,6-Dichlorophenol	6.92	162	114733	18.35913 ppb		98
35) Hexachloropropene	6.94	213	112998	18.35394 ppb		99
36) Hexachlorobutadiene	6.98	225	87981	18.22735 ppb		99
37) Caprolactum	7.31	55	53587	18.71761 ppb		97
38) 4-Chloro-3-methylphenol	7.47	107	137771	18.19424 ppb		96
39) 2-Methylnaphthalene	7.63	142	260607	18.21862 ppb		100

(#) = qualifier out of range (m) = manual integration

Data File : M:\YODA\DATA\Y191219\1219Y007.D Vial: 7
Acq On : 19 Dec 19 10:56 Operator: MA,SS
Sample : 20ug/ml 8270 11/21/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
40)	1-Methylnaphthalene	7.74	142	264522	17.78341	ppb		98
42)	Hexachlorocyclopentadiene	7.82	237	85296	18.35365	ppb		100
43)	1,2,4,5-Tetrachlorobenzene	7.83	216	133618	17.71181	ppb		96
44)	2,4,6-Trichlorophenol	7.97	196	90696	18.36271	ppb		100
45)	2,4,5-Trichlorophenol	8.02	196	98112	18.31564	ppb		96
47)	1,1'-Biphenyl	8.17	154	335661	18.27366	ppb		98
48)	2-Chloronaphthalene	8.20	162	272066	18.41748	ppb		97
49)	2-Nitroaniline	8.31	65	106234	18.93990	ppb		92
50)	Dimethyl phthalate	8.52	163	333975	18.44445	ppb		99
51)	2,6-DNT	8.60	165	74351	18.82750	ppb		86
52)	Acenaphthylene	8.68	152	420370	18.48275	ppb		100
53)	3-Nitroaniline	8.32	138	87497	18.66563	ppb		95
54)	Acenaphthene	8.87	154	255265	17.94281	ppb		98
55)	2,4-Dinitrophenol	8.92	184	29356	17.54041	ppb		89
56)	4-Nitrophenol	8.60	65	6688	18.12107	ppb		98
57)	Dibenzofuran	9.08	168	385855	17.85643	ppb		100
58)	2,4-DNT	9.07	165	105670	18.20007	ppb		87
59)	2,3,4,6-Tetrachlorophenol	9.23	232	74261	18.27773	ppb	#	91
60)	Diethyl phthalate	9.35	149	348940	18.60076	ppb		97
62)	Fluorene	9.48	166	322306	17.53276	ppb		98
63)	4-Nitroaniline	8.79	138	74412	19.05057	ppb		97
66)	4,6-Dinitro-2-methylphenol	9.54	198	60050	17.07595	ppb		84
67)	Diphenyl amine	9.62	169	511426	34.82898	ppb		100
68)	n-Nitrosodiphenylamine	9.62	169	511426	34.82898	ppb		100
69)	1,2-Diphenylhydrazine	9.66	77	390616	18.39374	ppb		94
70)	4-Bromophenyl phenyl ether	10.04	248	100768	18.22640	ppb		94
71)	Hexachlorobenzene	10.13	284	99643	17.81524	ppb		93
74)	Phenanthrene	10.60	178	454835	18.27270	ppb		99
75)	Anthracene	10.66	178	477063	18.33464	ppb		99
76)	Carbazol	10.85	167	430950	18.19081	ppb		98
77)	Di-n-butylphthalate	11.25	149	590040	18.21407	ppb		99
79)	Fluoranthene	11.98	202	523700	17.96250	ppb		98
81)	Benzidine	12.14	184	180875	19.42829	ppb		98
82)	Pyrene	12.25	202	546244	19.97649	ppb		99
84)	Butyl benzylphthalate	13.00	149	275238	20.08958	ppb		92
85)	3,3'-Dichlorobenzidine	13.61	252	192045	20.43603	ppb		98
86)	Benz (a) anthracene	13.65	228	571831	19.19829	ppb		99
87)	Bis (2-ethylhexyl) phthala	13.66	149	447267	19.53789	ppb		98
88)	Chrysene	13.69	228	522873	20.18493	ppb		100
89)	Di-n-octylphthalate	14.41	149	670387	19.83868	ppb	#	92
91)	Benzo (b) fluoranthene	14.94	252	580450	18.84998	ppb		99
92)	Benzo (k) fluoranthene	14.98	252	493722	17.78340	ppb		99
93)	Benzo (a) pyrene	15.40	252	504143	18.44727	ppb		98
94)	Indeno (1,2,3-cd) pyrene	17.33	276	588328	18.46750	ppb		99
95)	Dibenz (a,h) anthracene	17.37	278	521335	18.37025	ppb		99
96)	Benzo (g,h,i) perylene	17.90	276	472757	18.88564	ppb		99

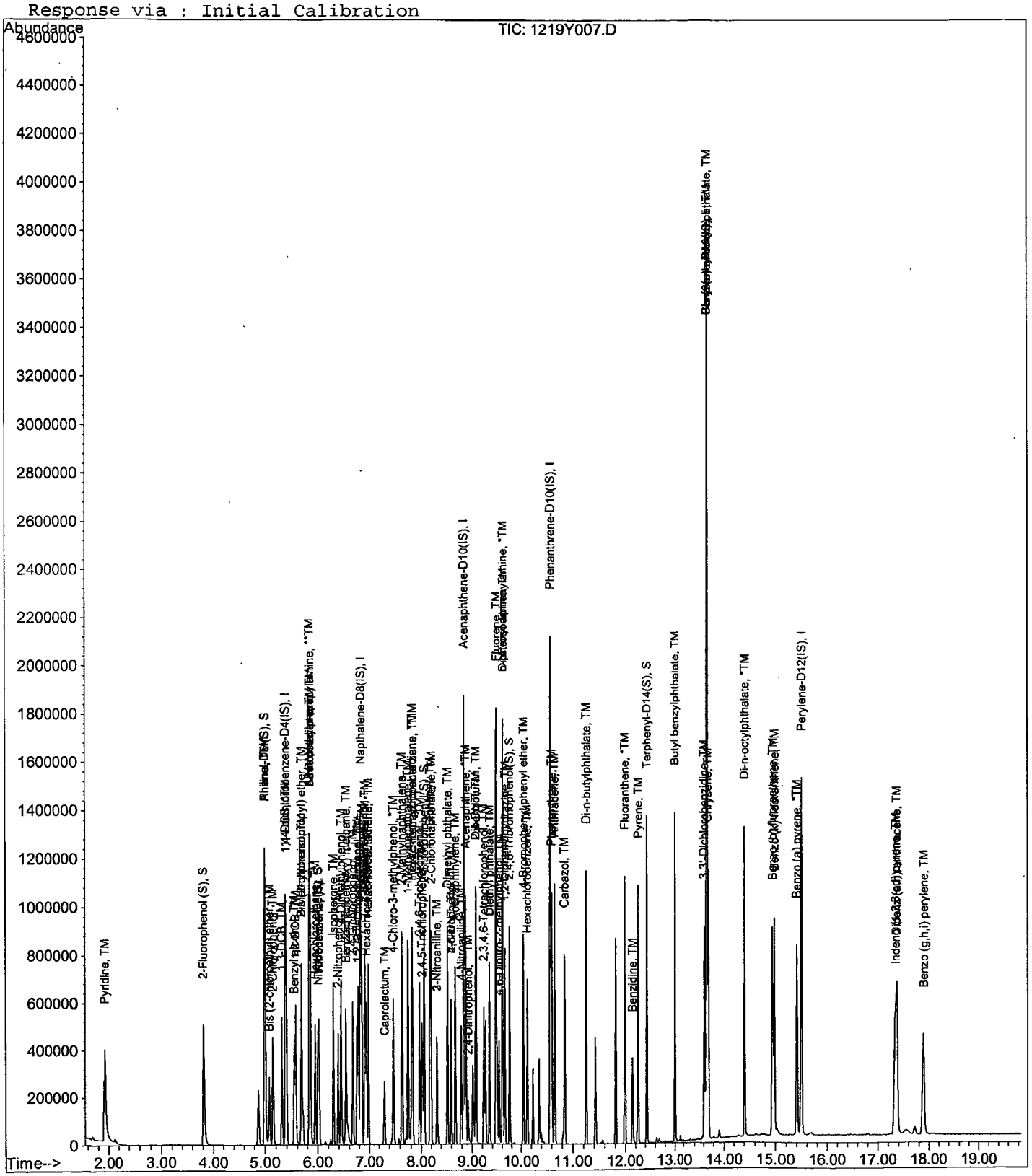
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y191219\1219Y007.D Vial: 7
Acq On : 19 Dec 19 10:56 Operator: MA,SS
Sample : 20ug/ml 8270 11/21/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y008.D Vial: 8
Acq On : 19 Dec 19 11:24 Operator: MA,SS
Sample : 40ug/ml 8270 11/21/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.38	152	182216	40.00000 ppb		0.00
21) Napthalene-D8(IS)	6.82	136	710542	40.00000 ppb		0.00
41) Acenaphthene-D10(IS)	8.84	164	434485	40.00000 ppb		0.00
65) Phenanthrene-D10(IS)	10.58	188	813606	40.00000 ppb		0.00
80) Chrysene-D12(IS)	13.66	240	894163	40.00000 ppb		0.00
90) Perylene-D12(IS)	15.49	264	870632	40.00000 ppb		0.00
System Monitoring Compounds						
5) 2-Fluorophenol (S)	3.82	112	480507	71.94609 ppb		0.00
Spiked Amount 200.000			Recovery =	35.973%		
6) Phenol-D6 (S)	5.00	99	600312	70.54921 ppb		0.00
Spiked Amount 200.000			Recovery =	35.275%		
22) Nitrobenzene-D5(S)	6.01	82	335277	37.94232 ppb		0.00
Spiked Amount 100.000			Recovery =	37.942%		
46) 2-Fluorobiphenyl(S)	8.06	172	596646	37.18391 ppb		0.00
Spiked Amount 100.000			Recovery =	37.184%		
64) 2,4,6-Tribromophenol(S)	9.77	330	201973	74.79872 ppb		0.00
Spiked Amount 200.000			Recovery =	37.400%		
83) Terphenyl-D14(S)	12.43	244	814625	38.20548 ppb		0.00
Spiked Amount 100.000			Recovery =	38.205%		
Target Compounds						Qvalue
3) n-Nitrosodimethylamine	1.91	42	188163	36.98470 ppb		96
4) Pyridine	1.93	79	440907	37.41201 ppb		99
7) Phenol	5.01	94	371632	37.00806 ppb		79
8) Aniline	5.01	93	258560	39.45523 ppb	#	91
9) Bis (2-chloroethyl) ether	5.08	63	174139	37.43306 ppb		97
10) 2-Chlorophenol	5.15	128	262410	37.11194 ppb		94
11) 1,3-DCB	5.31	146	288290	37.15515 ppb		99
12) 1,4-DCB	5.40	146	297071	37.41064 ppb		98
13) Benzyl alcohol	5.55	108	154077	36.99399 ppb		97
14) 1,2-DCB	5.57	146	270886	36.66402 ppb		100
15) 2-Methylphenol	5.69	107	228108	36.97000 ppb		98
16) Bis (2-chloroisopropyl) et	5.69	45	226589	36.93453 ppb	#	78
17) Acetophenone	5.83	105	393243	37.39230 ppb		98
18) 3&4-Methylphenol	5.85	107	593695	73.16504 ppb		97
19) n-Nitrosodi-n-propylamine	5.84	70	248031	36.66888 ppb		97
20) Hexachloroethane	5.95	117	122615	37.04471 ppb		94
23) Nitrobenzene	6.03	77	359196	39.22163 ppb		95
24) Isophorone	6.30	82	565650	39.14758 ppb		98
25) 2-Nitrophenol	6.39	139	147502	39.66353 ppb		93
26) 2,4-Dimethylphenol	6.45	122	229476	38.56303 ppb		98
27) Benzoic acid	6.58	105	202255	40.40161 ppb		99
28) Bis (2-chloroethoxy) metha	6.54	93	292655	39.02644 ppb		98
29) 2,4-Dichlorophenol	6.67	162	227943	39.28553 ppb		96
30) 1,2,4-Trichlorobenzene	6.75	180	254586	39.33847 ppb		96
31) 3,4-Dimethylphenol	6.78	107	383358	38.72525 ppb		98
32) Naphthalene	6.85	128	749802	38.78445 ppb		100
33) 4-Chloroaniline	6.91	127	308474	39.68328 ppb		97
34) 2,6-Dichlorophenol	6.92	162	219445	38.60574 ppb		97
35) Hexachloropropene	6.95	213	221138	39.48974 ppb		99
36) Hexachlorobutadiene	6.99	225	170617	38.86148 ppb		100
37) Caprolactum	7.32	55	100984	38.77985 ppb		95
38) 4-Chloro-3-methylphenol	7.48	107	271819	39.46556 ppb		95

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y008.D Vial: 8
Acq On : 19 Dec 19 11:24 Operator: MA,SS
Sample : 40ug/ml 8270 11/21/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	2-Methylnaphthalene	7.63	142	502608	38.62970	ppb		99
40)	1-Methylnaphthalene	7.75	142	521546	38.54859	ppb		98
42)	Hexachlorocyclopentadiene	7.82	237	176384	36.58253	ppb		99
43)	1,2,4,5-Tetrachlorobenzene	7.83	216	268214	38.75357	ppb		97
44)	2,4,6-Trichlorophenol	7.97	196	176195	38.88432	ppb		99
45)	2,4,5-Trichlorophenol	8.02	196	192075	39.08438	ppb		94
47)	1,1'-Biphenyl	8.17	154	649127	38.52004	ppb		98
48)	2-Chloronaphthalene	8.20	162	521946	38.51358	ppb		97
49)	2-Nitroaniline	8.31	65	200138	38.89341	ppb		95
50)	Dimethyl phthalate	8.53	163	640502	38.55712	ppb		99
51)	2,6-DNT	8.60	165	142948	39.45629	ppb		86
52)	Acenaphthylene	8.67	152	814666	39.04333	ppb		99
53)	3-Nitroaniline	8.32	138	168892	39.27271	ppb		93
54)	Acenaphthene	8.88	154	504832	38.67929	ppb		99
55)	2,4-Dinitrophenol	8.92	184	74846	36.78536	ppb		86
56)	4-Nitrophenol	8.60	65	13109	38.71590	ppb		95
57)	Dibenzofuran	9.08	168	753264	37.99707	ppb		98
58)	2,4-DNT	9.07	165	207839	39.01941	ppb		89
59)	2,3,4,6-Tetrachlorophenol	9.23	232	147125	39.47119	ppb		94
60)	Diethyl phthalate	9.35	149	671228	39.00159	ppb		98
61)	4-Chlorophenyl phenyl ethe	9.47	204	352091	36.94829	ppb		88
62)	Fluorene	9.48	166	641030	38.00953	ppb		98
63)	4-Nitroaniline	8.79	138	141770	39.56230	ppb		88
66)	4,6-Dinitro-2-methylphenol	9.56	198	122593	38.64878	ppb		99
67)	Diphenyl amine	9.62	169	1020591	77.05626	ppb		100
68)	n-Nitrosodiphenylamine	9.62	169	1020591	77.05626	ppb		100
69)	1,2-Diphenylhydrazine	9.66	77	751770	39.24670	ppb		94
70)	4-Bromophenyl phenyl ether	10.05	248	199129	39.93106	ppb		88
71)	Hexachlorobenzene	10.12	284	196806	39.01049	ppb	#	84
72)	Atrazine	10.24	200	89439	19.66371	ppb		99
73)	Pentachlorophenol	10.35	266	112272	36.20294	ppb		96
74)	Phenanthrene	10.60	178	877664	39.09087	ppb		99
75)	Anthracene	10.66	178	919645	39.18457	ppb		99
76)	Carbazol	10.85	167	830000	38.84199	ppb		98
77)	Di-n-butylphthalate	11.25	149	1156611	39.58322	ppb		98
78)	2-Nitrodiphenylamine	11.42	167	137354	20.66472	ppb		92
79)	Fluoranthene	11.99	202	1038608	39.49426	ppb		98
81)	Benzidine	12.14	184	334522	36.65784	ppb		99
82)	Pyrene	12.26	202	1083004	40.40627	ppb		100
84)	Butyl benzylphthalate	13.00	149	541594	40.32946	ppb		87
85)	3,3'-Dichlorobenzidine	13.61	252	372475	40.43680	ppb		100
86)	Benz (a) anthracene	13.65	228	1137597	38.96454	ppb		99
87)	Bis (2-ethylhexyl) phthala	13.66	149	880088	39.22141	ppb		97
88)	Chrysene	13.69	228	1034971	40.76106	ppb		99
89)	Di-n-octylphthalate	14.41	149	1322580	39.92965	ppb		97
91)	Benzo (b) fluoranthene	14.95	252	1137431	39.99867	ppb		98
92)	Benzo (k) fluoranthene	14.99	252	981428	38.27939	ppb		98
93)	Benzo (a) pyrene	15.40	252	980057	38.83327	ppb		98
94)	Indeno (1,2,3-cd) pyrene	17.34	276	1157206	39.33449	ppb		99
95)	Dibenz (a,h) anthracene	17.37	278	1022289	39.00732	ppb		98
96)	Benzo (g,h,i) perylene	17.91	276	908299	39.29134	ppb		98

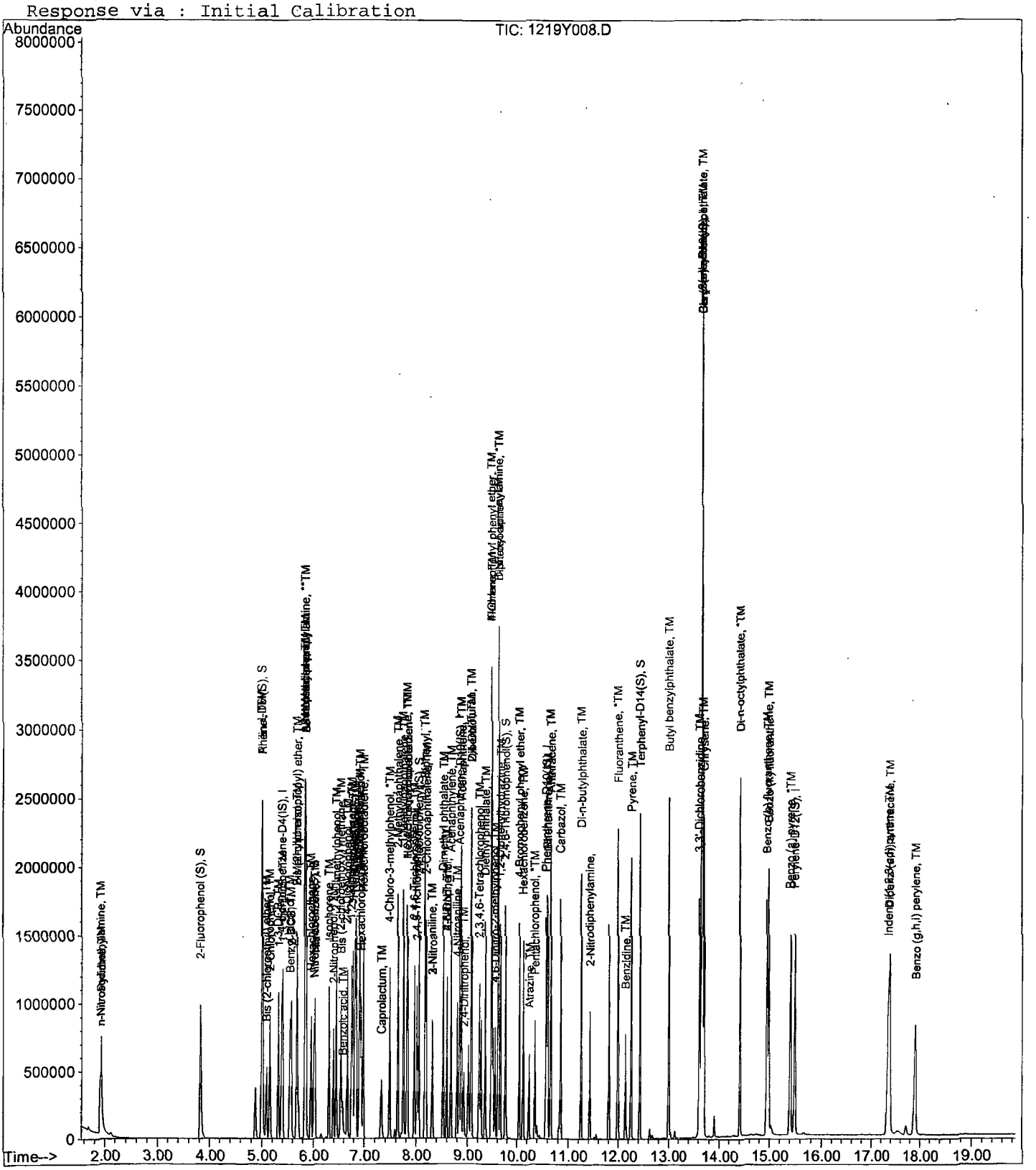
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y191219\1219Y008.D Vial: 8
Acq On : 19 Dec 19 11:24 Operator: MA,SS
Sample : 40ug/ml 8270 11/21/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y009.D Vial: 9
Acq On : 19 Dec 19 11:51 Operator: MA,SS
Sample : 60ug/ml 8270 11/21/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.38	152	160953	40.00000 ppb	0.00
21) Napthalene-D8(IS)	6.82	136	685348	40.00000 ppb	0.00
41) Acenaphthene-D10(IS)	8.84	164	424996	40.00000 ppb	0.00
65) Phenanthrene-D10(IS)	10.57	188	796514	40.00000 ppb	0.00
80) Chrysene-D12(IS)	13.67	240	1005038	40.00000 ppb	0.00
90) Perylene-D12(IS)	15.49	264	865168	40.00000 ppb	0.00
System Monitoring Compounds					
5) 2-Fluorophenol (S)	3.82	112	753971	127.80550 ppb	0.00
Spiked Amount 200.000			Recovery =	63.903%	
6) Phenol-D6 (S)	5.00	99	965746	128.48885 ppb	0.00
Spiked Amount 200.000			Recovery =	64.245%	
22) Nitrobenzene-D5(S)	6.01	82	517338	60.69782 ppb	0.00
Spiked Amount 100.000			Recovery =	60.698%	
46) 2-Fluorobiphenyl(S)	8.06	172	952099	60.66112 ppb	0.00
Spiked Amount 100.000			Recovery =	60.661%	
64) 2,4,6-Tribromophenol(S)	9.77	330	330216	125.02270 ppb	0.00
Spiked Amount 200.000			Recovery =	62.512%	
83) Terphenyl-D14(S)	12.43	244	1317552	54.97558 ppb	0.00
Spiked Amount 100.000			Recovery =	54.976%	
Target Compounds					Qvalue
3) n-Nitrosodimethylamine	1.91	42	292234	65.02884 ppb	100
4) Pyridine	1.92	79	684285	65.73377 ppb	98
7) Phenol	5.02	94	596449	67.24251 ppb	95
8) Aniline	5.01	93	400896	69.25679 ppb	95
9) Bis (2-chloroethyl) ether	5.09	63	270061	65.72167 ppb	94
10) 2-Chlorophenol	5.15	128	411267	65.84829 ppb	99
11) 1,3-DCB	5.31	146	444136	64.80266 ppb	98
12) 1,4-DCB	5.40	146	459470	65.50576 ppb	96
13) Benzyl alcohol	5.54	108	241965	65.77083 ppb	97
14) 1,2-DCB	5.57	146	428400	65.64329 ppb	99
15) 2-Methylphenol	5.68	107	361008	66.23892 ppb	99
16) Bis (2-chloroisopropyl) et	5.69	45	356163	65.72491 ppb	99
17) Acetophenone	5.84	105	617676	66.49198 ppb	99
18) 3&4-Methylphenol	5.86	107	952694	132.91717 ppb	99
19) n-Nitrosodi-n-propylamine	5.85	70	402101	67.29988 ppb	98
20) Hexachloroethane	5.95	117	190409	65.12647 ppb	97
23) Nitrobenzene	6.04	77	557986	63.16784 ppb	99
24) Isophorone	6.31	82	872286	62.58851 ppb	99
25) 2-Nitrophenol	6.39	139	230690	64.31331 ppb	99
26) 2,4-Dimethylphenol	6.44	122	359953	62.71309 ppb	100
27) Benzoic acid	6.60	105	293487	58.72692 ppb	99
28) Bis (2-chloroethoxy) metha	6.55	93	457869	63.30278 ppb	97
29) 2,4-Dichlorophenol	6.68	162	357701	63.91535 ppb	100
30) 1,2,4-Trichlorobenzene	6.76	180	400374	64.13977 ppb	98
31) 3,4-Dimethylphenol	6.79	107	600730	62.91404 ppb	100
32) Naphthalene	6.84	128	1176746	63.10625 ppb	99
33) 4-Chloroaniline	6.91	127	471729	62.91587 ppb	98
34) 2,6-Dichlorophenol	6.92	162	349158	63.68349 ppb	98
35) Hexachloropropene	6.95	213	349669	64.73761 ppb	100
36) Hexachlorobutadiene	6.98	225	268805	63.47650 ppb	100
37) Caprolactum	7.34	55	155158	61.77408 ppb	97
38) 4-Chloro-3-methylphenol	7.48	107	426464	64.19474 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y009.D Vial: 9
Acq On : 19 Dec 19 11:51 Operator: MA,SS
Sample : 60ug/ml 8270 11/21/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	2-Methylnaphthalene	7.63	142	793770	63.25069	ppb		99
40)	1-Methylnaphthalene	7.75	142	832076	63.76134	ppb		100
42)	Hexachlorocyclopentadiene	7.82	237	306752	62.07183	ppb		99
43)	1,2,4,5-Tetrachlorobenzene	7.84	216	425660	62.87574	ppb		99
44)	2,4,6-Trichlorophenol	7.97	196	281816	63.58234	ppb		98
45)	2,4,5-Trichlorophenol	8.02	196	301154	62.64854	ppb		97
47)	1,1'-Biphenyl	8.18	154	1027471	62.33279	ppb		97
48)	2-Chloronaphthalene	8.20	162	825988	62.30917	ppb		99
49)	2-Nitroaniline	8.32	65	317213	63.02131	ppb		100
50)	Dimethyl phthalate	8.53	163	1013833	62.39365	ppb		99
51)	2,6-DNT	8.61	165	226254	63.84462	ppb		99
52)	Acenaphthylene	8.68	152	1289574	63.18347	ppb		100
53)	3-Nitroaniline	8.32	138	266968	63.46450	ppb		100
54)	Acenaphthene	8.89	154	800171	62.67644	ppb		100
55)	2,4-Dinitrophenol	8.93	184	126506	58.66929	ppb	#	78
56)	4-Nitrophenol	8.60	65	20413	61.63346	ppb		97
57)	Dibenzofuran	9.08	168	1226638	63.25710	ppb		99
58)	2,4-DNT	9.07	165	335087	64.31335	ppb		96
59)	2,3,4,6-Tetrachlorophenol	9.24	232	239911	65.80120	ppb		99
60)	Diethyl phthalate	9.35	149	1040635	61.81596	ppb		99
61)	4-Chlorophenyl phenyl ethe	9.48	204	587260	63.00279	ppb		99
62)	Fluorene	9.48	166	1063405	64.46185	ppb		99
63)	4-Nitroaniline	8.80	138	220693	62.96160	ppb		95
66)	4,6-Dinitro-2-methylphenol	9.56	198	198681	63.98043	ppb		99
67)	Diphenyl amine	9.63	169	1652863	127.47170	ppb		100
68)	n-Nitrosodiphenylamine	9.63	169	1652863	127.47170	ppb		100
69)	1,2-Diphenylhydrazine	9.67	77	1183313	63.10133	ppb		99
70)	4-Bromophenyl phenyl ether	10.05	248	310984	63.69937	ppb		97
71)	Hexachlorobenzene	10.13	284	320014	64.79369	ppb		100
72)	Atrazine	10.24	200	138142	31.02308	ppb		96
73)	Pentachlorophenol	10.36	266	186384	61.39058	ppb		99
74)	Phenanthrene	10.60	178	1384259	62.97746	ppb		99
75)	Anthracene	10.66	178	1445744	62.92265	ppb		99
76)	Carbazol	10.85	167	1323037	63.24352	ppb		99
77)	Di-n-butylphthalate	11.25	149	1860030	65.02262	ppb		99
78)	2-Nitrodiphenylamine	11.42	167	216308	33.24157	ppb		91
79)	Fluoranthene	11.99	202	1641246	63.74949	ppb		99
81)	Benzidine	12.14	184	513732	50.08562	ppb		99
82)	Pyrene	12.25	202	1718860	57.05497	ppb		100
84)	Butyl benzylphthalate	13.00	149	861484	57.07291	ppb		96
85)	3,3'-Dichlorobenzidine	13.62	252	573326	55.37523	ppb		98
86)	Benz (a) anthracene	13.65	228	1901953	57.95823	ppb		100
87)	Bis (2-ethylhexyl) phthala	13.67	149	1500100	59.47733	ppb		99
88)	Chrysene	13.69	228	1612879	56.51364	ppb		100
89)	Di-n-octylphthalate	14.41	149	2164466	58.13779	ppb	#	89
91)	Benzo (b) fluoranthene	14.96	252	1834489	64.91869	ppb		99
92)	Benzo (k) fluoranthene	14.99	252	1524121	59.82190	ppb		99
93)	Benzo (a) pyrene	15.41	252	1574220	62.77002	ppb		98
94)	Indeno (1,2,3-cd) pyrene	17.36	276	1835591	62.78747	ppb		99
95)	Dibenz (a,h) anthracene	17.39	278	1644729	63.15402	ppb		99
96)	Benzo (g,h,i) perylene	17.92	276	1423801	61.97998	ppb		98

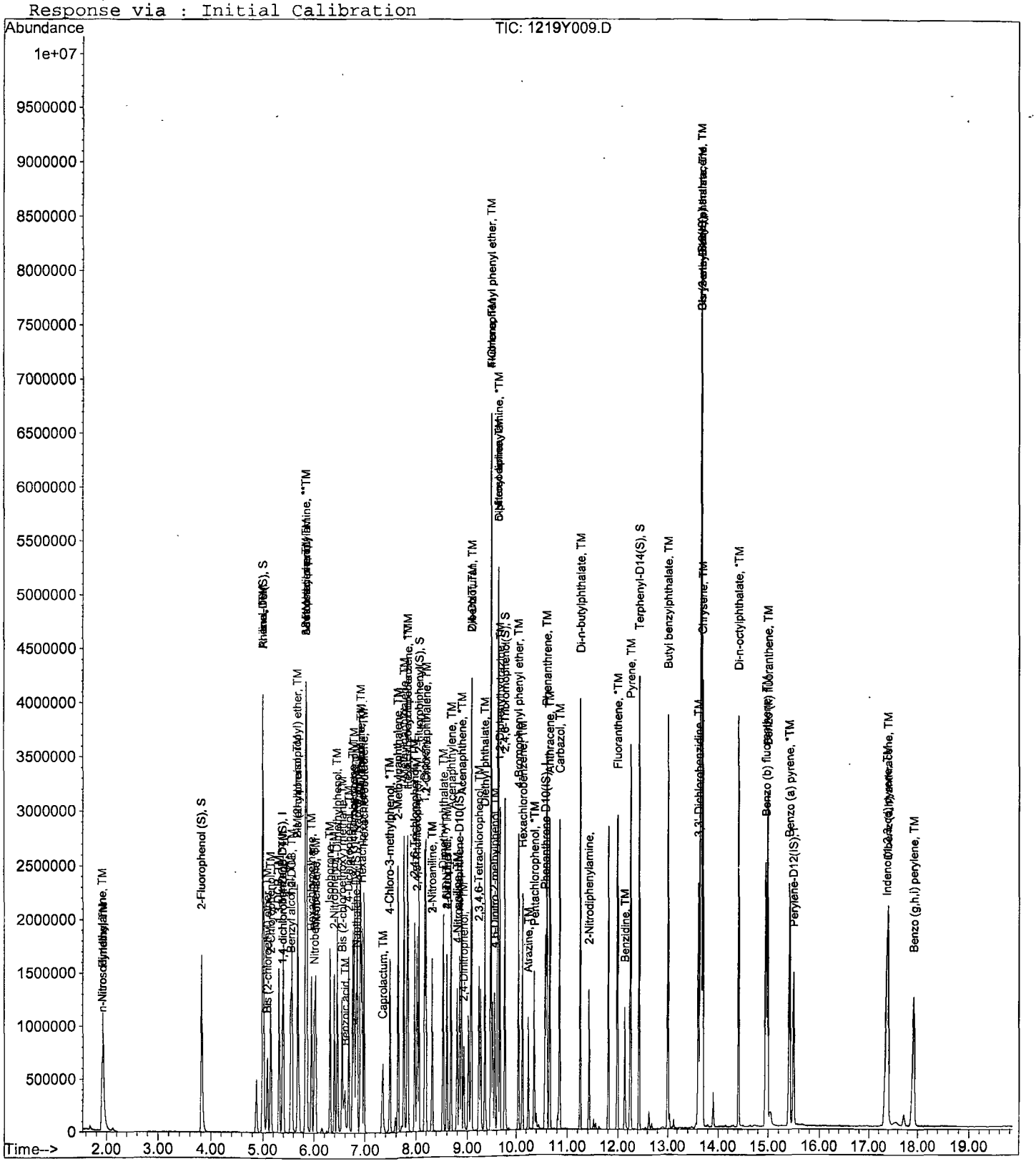
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y191219\1219Y009.D Vial: 9
Acq On : 19 Dec 19 11:51 Operator: MA,SS
Sample : 60ug/ml 8270 11/21/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y010.D Vial: 10
Acq On : 19 Dec 19 12:19 Operator: MA,SS
Sample : 80ug/ml 8270 11/21/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.38	152	160754	40.00000 ppb	0.00
21) Napthalene-D8(IS)	6.83	136	692959	40.00000 ppb	0.00
41) Acenaphthene-D10(IS)	8.84	164	424996	40.00000 ppb	0.00
65) Phenanthrene-D10(IS)	10.58	188	805372	40.00000 ppb	0.00
80) Chrysene-D12(IS)	13.67	240	1113628	40.00000 ppb	0.00
90) Perylene-D12(IS)	15.49	264	871956	40.00000 ppb	0.00
System Monitoring Compounds					
5) 2-Fluorophenol (S)	3.82	112	1075001	182.44881 ppb	0.00
Spiked Amount 200.000			Recovery =	91.225%	
6) Phenol-D6 (S)	5.01	99	1420883	189.27713 ppb	0.01
Spiked Amount 200.000			Recovery =	94.638%	
22) Nitrobenzene-D5(S)	6.02	82	726169	84.26361 ppb	0.01
Spiked Amount 100.000			Recovery =	84.264%	
46) 2-Fluorobiphenyl(S)	8.06	172	1352303	86.15933 ppb	0.00
Spiked Amount 100.000			Recovery =	86.159%	
64) 2,4,6-Tribromophenol(S)	9.78	330	496073	187.81763 ppb	0.01
Spiked Amount 200.000			Recovery =	93.909%	
83) Terphenyl-D14(S)	12.43	244	1883191	70.91511 ppb	0.00
Spiked Amount 100.000			Recovery =	70.915%	
Target Compounds					Qvalue
3) n-Nitrosodimethylamine	1.91	42	401885	89.53944 ppb	99
4) Pyridine	1.93	79	934760	89.90605 ppb	98
7) Phenol	5.02	94	839274	94.73526 ppb	88
8) Aniline	5.01	93	498688	86.25749 ppb	85
9) Bis (2-chloroethyl) ether	5.09	63	369777	90.09981 ppb	97
10) 2-Chlorophenol	5.16	128	564852	90.55087 ppb	97
11) 1,3-DCB	5.31	146	617727	90.24242 ppb	99
12) 1,4-DCB	5.41	146	635798	90.75672 ppb	96
13) Benzyl alcohol	5.55	108	342328	93.16664 ppb	96
14) 1,2-DCB	5.57	146	592153	90.84732 ppb	100
15) 2-Methylphenol	5.69	107	504104	92.60913 ppb	99
16) Bis (2-chloroisopropyl) et	5.69	45	497984	92.00976 ppb	91
17) Acetophenone	5.85	105	867366	93.48636 ppb	88
18) 3&4-Methylphenol	5.87	107	1364847	190.65532 ppb	96
19) n-Nitrosodi-n-propylamine	5.85	70	570874	95.66579 ppb	96
20) Hexachloroethane	5.95	117	268399	91.91539 ppb	98
23) Nitrobenzene	6.04	77	764484	85.59428 ppb	97
24) Isophorone	6.32	82	1217808	86.42078 ppb	99
25) 2-Nitrophenol	6.39	139	319613	88.12521 ppb	99
26) 2,4-Dimethylphenol	6.45	122	504451	86.92306 ppb	97
27) Benzoic acid	6.62	105	419869	81.40378 ppb	98
28) Bis (2-chloroethoxy) metha	6.55	93	640818	87.62335 ppb	98
29) 2,4-Dichlorophenol	6.68	162	502883	88.87008 ppb	99
30) 1,2,4-Trichlorobenzene	6.76	180	558246	88.44856 ppb	99
31) 3,4-Dimethylphenol	6.79	107	839926	86.99873 ppb	99
32) Naphthalene	6.84	128	1644894	87.24311 ppb	100
33) 4-Chloroaniline	6.92	127	636919	84.01473 ppb	94
34) 2,6-Dichlorophenol	6.93	162	502385	90.62439 ppb	94
35) Hexachloropropene	6.95	213	488764	89.49574 ppb	100
36) Hexachlorobutadiene	6.98	225	378957	88.50528 ppb	99
37) Caprolactum	7.36	55	217497	85.64244 ppb	97
38) 4-Chloro-3-methylphenol	7.49	107	599365	89.23025 ppb	95

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y010.D Vial: 10
Acq On : 19 Dec 19 12:19 Operator: MA,SS
Sample : 80ug/ml 8270 11/21/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	2-Methylnaphthalene	7.63	142	1113998	87.79274	ppb		100
40)	1-Methylnaphthalene	7.75	142	1172330	88.84806	ppb		99
42)	Hexachlorocyclopentadiene	7.82	237	428800	85.24955	ppb		98
43)	1,2,4,5-Tetrachlorobenzene	7.84	216	615504	90.91826	ppb		100
44)	2,4,6-Trichlorophenol	7.97	196	393255	88.72482	ppb		100
45)	2,4,5-Trichlorophenol	8.02	196	421934	87.77419	ppb		97
47)	1,1'-Biphenyl	8.18	154	1475278	89.49955	ppb		97
48)	2-Chloronaphthalene	8.20	162	1174670	88.61232	ppb		99
49)	2-Nitroaniline	8.32	65	442197	87.85212	ppb		97
50)	Dimethyl phthalate	8.53	163	1419958	87.38754	ppb		100
51)	2,6-DNT	8.61	165	321665	90.76781	ppb		90
52)	Acenaphthylene	8.68	152	1796603	88.02567	ppb		100
53)	3-Nitroaniline	8.32	138	365367	86.85624	ppb		96
54)	Acenaphthene	8.89	154	1132422	88.70127	ppb		100
55)	2,4-Dinitrophenol	8.93	184	181951	81.43622	ppb		87
56)	4-Nitrophenol	8.61	65	28530	86.14131	ppb		100
57)	Dibenzofuran	9.08	168	1771319	91.34602	ppb		99
58)	2,4-DNT	9.08	165	492992	94.62011	ppb		89
59)	2,3,4,6-Tetrachlorophenol	9.24	232	331804	91.00501	ppb		99
60)	Diethyl phthalate	9.36	149	1448375	86.03660	ppb		97
61)	4-Chlorophenyl phenyl ethe	9.48	204	883654	94.80072	ppb		99
62)	Fluorene	9.48	166	1569501	95.14055	ppb		100
63)	4-Nitroaniline	8.80	138	289183	82.50114	ppb		92
66)	4,6-Dinitro-2-methylphenol	9.56	198	286670	91.29983	ppb	#	77
67)	Diphenyl amine	9.63	169	2378602	181.42435	ppb		100
68)	n-Nitrosodiphenylamine	9.63	169	2378602	181.42435	ppb		100
69)	1,2-Diphenylhydrazine	9.67	77	1671934	88.17691	ppb		99
70)	4-Bromophenyl phenyl ether	10.05	248	446909	90.53429	ppb		96
71)	Hexachlorobenzene	10.13	284	447867	89.68291	ppb		96
72)	Atrazine	10.25	200	193291	42.93067	ppb		99
73)	Pentachlorophenol	10.36	266	272701	88.83349	ppb		100
74)	Phenanthrene	10.60	178	1957324	88.06988	ppb		100
75)	Anthracene	10.67	178	2064260	88.85398	ppb		100
76)	Carbazol	10.85	167	1880718	88.91287	ppb		99
77)	Di-n-butylphthalate	11.25	149	2576769	89.08752	ppb		99
78)	2-Nitrodiphenylamine	11.43	167	300682	45.69969	ppb		97
79)	Fluoranthene	12.00	202	2372919	91.15549	ppb		99
81)	Benzidine	12.14	184	645213	56.77039	ppb		100
82)	Pyrene	12.26	202	2459441	73.67696	ppb		100
84)	Butyl benzylphthalate	13.00	149	1236168	73.90991	ppb		99
85)	3,3'-Dichlorobenzidine	13.62	252	786783	68.58216	ppb		100
86)	Benz (a) anthracene	13.66	228	2811632	77.32433	ppb		100
87)	Bis (2-ethylhexyl) phthala	13.67	149	2233399	79.91714	ppb		98
88)	Chrysene	13.69	228	2371032	74.97755	ppb		100
89)	Di-n-octylphthalate	14.42	149	3105415	75.27828	ppb		100
91)	Benzo (b) fluoranthene	14.96	252	2455809	86.22935	ppb		99
92)	Benzo (k) fluoranthene	14.99	252	2306290	89.81741	ppb		99
93)	Benzo (a) pyrene	15.42	252	2209159	87.40166	ppb		99
94)	Indeno (1,2,3-cd) pyrene	17.37	276	2551188	86.58555	ppb		98
95)	Dibenz (a,h) anthracene	17.41	278	2321142	88.43297	ppb		99
96)	Benzo (g,h,i) perylene	17.94	276	1961989	84.74315	ppb		99

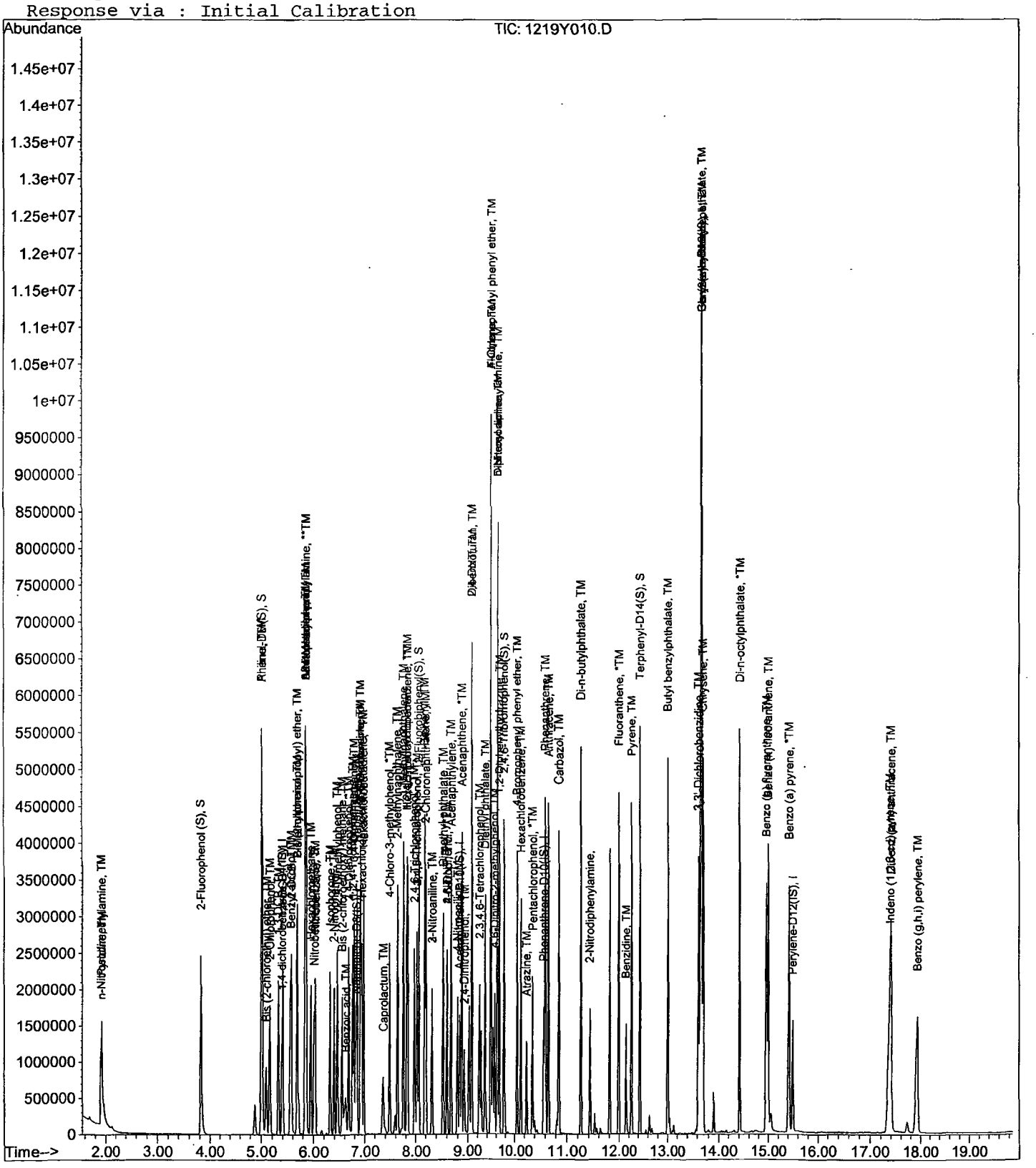
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y191219\1219Y010.D Vial: 10
Acq On : 19 Dec 19 12:19 Operator: MA,SS
Sample : 80ug/ml 8270 11/21/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y011.D Vial: 11
Acq On : 19 Dec 19 12:46 Operator: MA,SS
Sample : 100ug/ml 8270 11/21/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.39	152	167721	40.00000 ppb	0.00
21) Napthalene-D8(IS)	6.82	136	690825	40.00000 ppb	0.00
41) Acenaphthene-D10(IS)	8.85	164	415501	40.00000 ppb	0.00
65) Phenanthrene-D10(IS)	10.57	188	801375	40.00000 ppb	0.00
80) Chrysene-D12(IS)	13.66	240	1091847	40.00000 ppb	0.00
90) Perylene-D12(IS)	15.49	264	847047	40.00000 ppb	0.00
System Monitoring Compounds					
5) 2-Fluorophenol (S)	3.83	112	1327145	215.88621 ppb	0.00
Spiked Amount 200.000				Recovery = 107.943%	
6) Phenol-D6 (S)	5.00	99	1768177	225.75631 ppb	0.00
Spiked Amount 200.000				Recovery = 112.878%	
22) Nitrobenzene-D5(S)	6.02	82	888862	103.46088 ppb	0.00
Spiked Amount 100.000				Recovery = 103.461%	
46) 2-Fluorobiphenyl(S)	8.06	172	1696969	110.58977 ppb	0.00
Spiked Amount 100.000				Recovery = 110.590%	
64) 2,4,6-Tribromophenol(S)	9.78	330	649730	251.61496 ppb	0.00
Spiked Amount 200.000				Recovery = 125.808%	
83) Terphenyl-D14(S)	12.44	244	2470353	94.88156 ppb	0.00
Spiked Amount 100.000				Recovery = 94.882%	
Target Compounds					Qvalue
3) n-Nitrosodimethylamine	1.90	42	444670	94.95651 ppb	93
4) Pyridine	1.92	79	1054326	97.19369 ppb	99
7) Phenol	5.02	94	975068	105.49142 ppb	96
8) Aniline	5.01	93	532480	88.27659 ppb	97
9) Bis (2-chloroethyl) ether	5.09	63	422559	98.68376 ppb	98
10) 2-Chlorophenol	5.15	128	643242	98.83407 ppb	96
11) 1,3-DCB	5.32	146	705388	98.76806 ppb	98
12) 1,4-DCB	5.40	146	726887	99.44911 ppb	97
13) Benzyl alcohol	5.55	108	388291	101.28607 ppb	99
14) 1,2-DCB	5.57	146	689593	101.40173 ppb	99
15) 2-Methylphenol	5.69	107	576392	101.49063 ppb	99
16) Bis (2-chloroisopropyl) et	5.69	45	566462	100.31448 ppb	80
17) Acetophenone	5.85	105	992228	102.50184 ppb	98
18) 3&4-Methylphenol	5.87	107	1564530	209.47066 ppb	100
19) n-Nitrosodi-n-propylamine	5.86	70	649091	104.25487 ppb	100
20) Hexachloroethane	5.95	117	306272	100.52845 ppb	93
23) Nitrobenzene	6.04	77	875644	98.34300 ppb	93
24) Isophorone	6.31	82	1364800	97.15113 ppb	100
25) 2-Nitrophenol	6.40	139	362836	100.35190 ppb	90
26) 2,4-Dimethylphenol	6.45	122	582120	100.61623 ppb	97
27) Benzoic acid	6.63	105	476161	92.04260 ppb	97
28) Bis (2-chloroethoxy) metha	6.55	93	732731	100.50073 ppb	100
29) 2,4-Dichlorophenol	6.68	162	567413	100.58365 ppb	96
30) 1,2,4-Trichlorobenzene	6.76	180	635162	100.94600 ppb	98
31) 3,4-Dimethylphenol	6.80	107	956954	99.42657 ppb	97
32) Naphthalene	6.85	128	1900914	101.13354 ppb	100
33) 4-Chloroaniline	6.92	127	702041	92.89091 ppb	97
34) 2,6-Dichlorophenol	6.93	162	571198	103.35574 ppb	96
35) Hexachloropropene	6.94	213	564125	103.61389 ppb	100
36) Hexachlorobutadiene	6.99	225	434421	101.77230 ppb	99
37) Caprolactum	7.36	55	246611	97.40644 ppb	95
38) 4-Chloro-3-methylphenol	7.48	107	669864	100.03382 ppb	91

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y011.D Vial: 11
Acq On : 19 Dec 19 12:46 Operator: MA,SS
Sample : 100ug/ml 8270 11/21/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
39)	2-Methylnaphthalene	7.64	142	1291010	102.05711 ppb		99
40)	1-Methylnaphthalene	7.75	142	1334685	101.46501 ppb		100
42)	Hexachlorocyclopentadiene	7.82	237	423680	86.11588 ppb		100
43)	1,2,4,5-Tetrachlorobenzene	7.84	216	703291	106.25957 ppb		98
44)	2,4,6-Trichlorophenol	7.97	196	450783	104.02822 ppb		99
45)	2,4,5-Trichlorophenol	8.03	196	477360	101.57366 ppb		94
47)	1,1'-Biphenyl	8.18	154	1686770	104.66841 ppb		98
48)	2-Chloronaphthalene	8.21	162	1339298	103.33995 ppb		97
49)	2-Nitroaniline	8.33	65	495048	100.59966 ppb		91
50)	Dimethyl phthalate	8.53	163	1597157	100.53896 ppb		99
51)	2,6-DNT	8.61	165	360589	104.07665 ppb	#	75
52)	Acenaphthylene	8.68	152	2048709	102.67159 ppb		99
53)	3-Nitroaniline	8.33	138	418230	101.69501 ppb		96
54)	Acenaphthene	8.88	154	1288641	103.24434 ppb		99
55)	2,4-Dinitrophenol	8.93	184	208042	94.10192 ppb		96
56)	4-Nitrophenol	8.61	65	33255	102.70213 ppb		98
57)	Dibenzofuran	9.09	168	2035181	107.35164 ppb		93
58)	2,4-DNT	9.08	165	558092	109.56255 ppb		97
59)	2,3,4,6-Tetrachlorophenol	9.24	232	377431	105.88489 ppb		96
60)	Diethyl phthalate	9.36	149	1638573	99.55906 ppb		99
61)	4-Chlorophenyl phenyl ethe	9.48	204	1013272	111.19063 ppb		94
62)	Fluorene	9.49	166	1826006	113.21893 ppb		99
63)	4-Nitroaniline	8.80	138	325641	95.02525 ppb		82
66)	4,6-Dinitro-2-methylphenol	9.57	198	325138	104.06776 ppb		97
67)	Diphenyl amine	9.63	169	2746000	210.49174 ppb		100
68)	n-Nitrosodiphenylamine	9.63	169	2746000	210.49174 ppb		100
69)	1,2-Diphenylhydrazine	9.66	77	1846029	97.84419 ppb		96
70)	4-Bromophenyl phenyl ether	10.05	248	515407	104.93130 ppb		83
71)	Hexachlorobenzene	10.13	284	515422	103.72521 ppb		89
72)	Atrazine	10.25	200	217511	48.55098 ppb		96
73)	Pentachlorophenol	10.36	266	321253	105.17146 ppb		98
74)	Phenanthrene	10.60	178	2272938	102.78104 ppb		100
75)	Anthracene	10.67	178	2388824	103.33737 ppb		100
76)	Carbazol	10.86	167	2146142	101.96712 ppb		98
77)	Di-n-butylphthalate	11.26	149	3023885	105.06726 ppb		98
78)	2-Nitrodiphenylamine	11.43	167	350286	53.50438 ppb		97
79)	Fluoranthene	11.99	202	2652267	102.39480 ppb		98
81)	Benzidine	12.14	184	709638	63.68453 ppb		99
82)	Pyrene	12.26	202	2834840	86.61682 ppb		99
84)	Butyl benzylphthalate	13.01	149	1433320	87.40709 ppb	#	79
85)	3,3'-Dichlorobenzidine	13.62	252	875135	77.80538 ppb		99
86)	Benz (a) anthracene	13.66	228	3190283	89.48810 ppb		100
87)	Bis (2-ethylhexyl) phthala	13.66	149	2564215	93.58504 ppb		99
88)	Chrysene	13.70	228	2706844	87.30426 ppb		100
89)	Di-n-octylphthalate	14.42	149	3511144	86.81146 ppb		97
91)	Benzo (b) fluoranthene	14.95	252	2718531	98.26115 ppb		98
92)	Benzo (k) fluoranthene	15.00	252	2709650	108.62927 ppb		99
93)	Benzo (a) pyrene	15.42	252	2492274	101.50223 ppb		98
94)	Indeno (1,2,3-cd) pyrene	17.37	276	2878800	100.57766 ppb		100
95)	Dibenz (a,h) anthracene	17.40	278	2618904	102.71152 ppb		99
96)	Benzo (g,h,i) perylene	17.94	276	2213051	98.39806 ppb		100

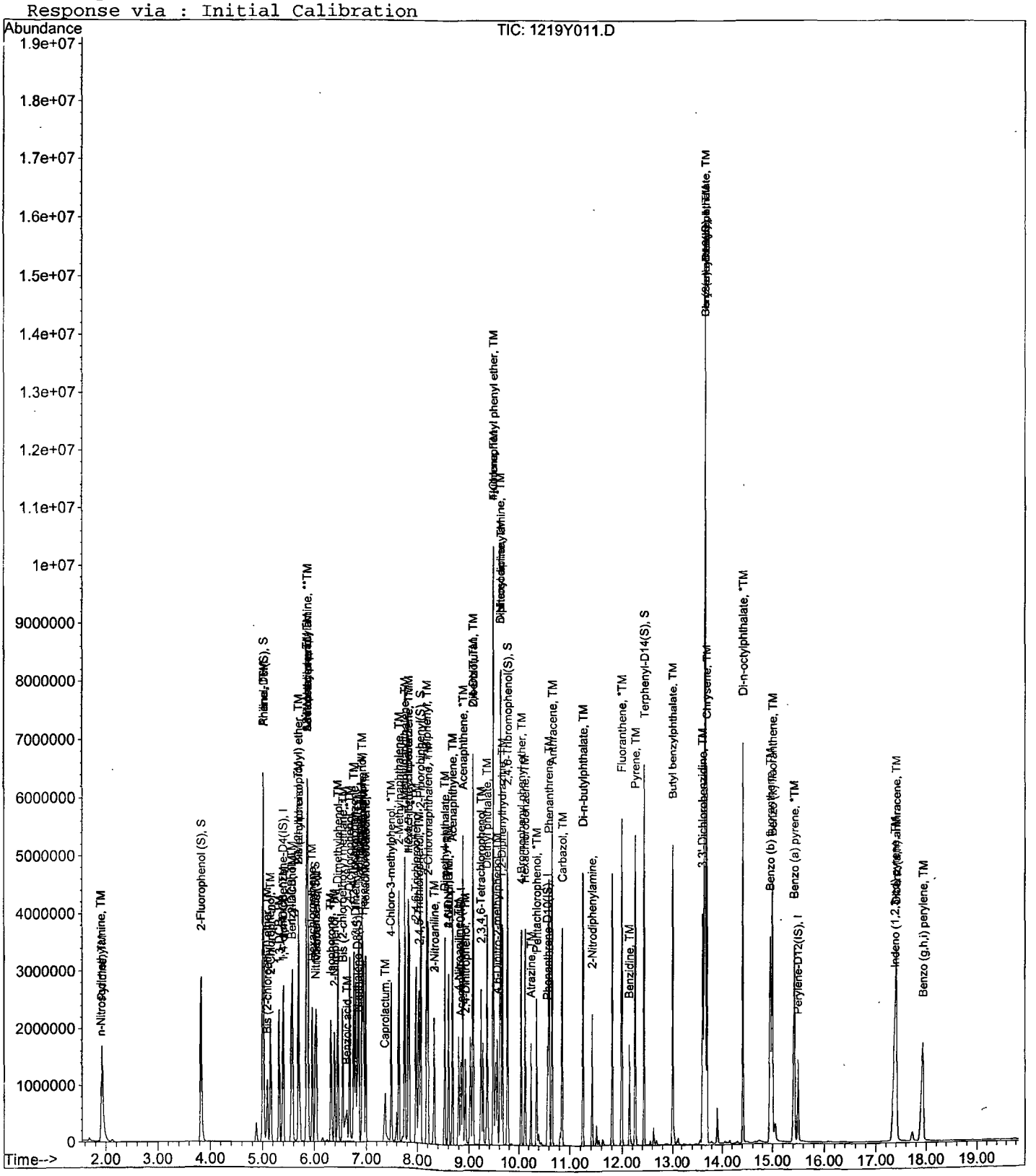
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y191219\1219Y011.D Vial: 11
Acq On : 19 Dec 19 12:46 Operator: MA,SS
Sample : 100ug/ml 8270 11/21/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration



Semi-Volatile Analysis by GC-MS
EPA 8270

Form 7

Second Source Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Date Analyzed: 12/19/19
Matrix: Instrument: Yoda
Initial Cal. Date: 12/19/19
Data File: 1219Y012.D

		Compound	MEAN	CCRF	%D		%Drift
1		1,4-Dioxane	0.6022	0.6376	5.9		
2	TM	n-Nitrosodimethylamine	1.117	1.180	5.6	TM	
3	TM	Pyridine	2.587	2.639	2.0	TM	
4	*TM	Phenol	2.204	2.243	1.7	*TM	
5	TM	Aniline	1.439	1.657	15	TM	
6	TM	Bis (2-chloroethyl) ether	1.021	1.080	5.7	TM	
7	TM	2-Chlorophenol	1.552	1.607	3.6	TM	
8	TM	1,3-DCB	1.703	1.753	2.9	TM	
9	*TM	1,4-DCB	1.743	1.793	2.8	*TM	
10	TM	Benzyl alcohol	0.9143	0.9743	6.6	TM	
11	TM	1,2-DCB	1.622	1.674	3.2	TM	
12	TM	2-Methylphenol	1.354	1.404	3.7	TM	
13	TM	Bis (2-chloroisopropyl) ether	1.347	1.393	3.4	TM	
14	TM	Acetophenone	2.309	2.421	4.9	TM	
15	TM	3&4-Methylphenol	1.781	1.810	1.6	TM	
16	**TM	n-Nitrosodi-n-propylamine	1.485	1.540	3.7	**TM	
17	TM	Hexachloroethane	0.7266	0.7587	4.4	TM	
18	TM	Nitrobenzene	0.5156	0.5309	3.0	TM	
19	TM	Isophorone	0.8134	0.8514	4.7	TM	
20	*TM	2-Nitrophenol	0.2094	0.2223	6.2	*TM	
21	TM	2,4-Dimethylphenol	0.3350	0.3505	4.6	TM	
22	TML	Benzoic acid	0.2307	0.3085	34	TML	6.6
23	TM	Bis (2-chloroethoxy) methane	0.4222	0.4476	6.0	TM	
24	*TM	2,4-Dichlorophenol	0.3266	0.3400	4.1	*TM	
25	TM	1,2,4-Trichlorobenzene	0.3643	0.3811	4.6	TM	
26	TM	3,4-Dimethylphenol	0.5573	0.5842	4.8	TM	
27	TM	Naphthalene	1.088	1.154	6.0	TM	
28	TM	4-Chloroaniline	0.4376	0.4640	6.0	TM	
29	TM	2,6-Dichlorophenol	0.3200	0.3394	6.1	TM	
30	TM	Hexachloropropene	0.3152	0.3339	5.9	TM	
31	*TM	Hexachlorobutadiene	0.2472	0.2560	3.6	*TM	
32	TM	Caprolactum	0.1466	0.1538	4.9	TM	
33	*TM	4-Chloro-3-methylphenol	0.3877	0.4161	7.3	*TM	
34	TM	2-Methylnaphthalene	0.7325	0.7990	9.1	TM	
35	TM	1-Methylnaphthalene	0.7616	0.7886	3.5	TM	
36	**TML	Hexachlorocyclopentadiene	0.3696	0.4521	22	**TML	1.1
37	TM	1,2,4,5-Tetrachlorobenzene	0.6372	0.6766	6.2	TM	
38	*TM	2,4,6-Trichlorophenol	0.4172	0.4464	7.0	*TM	
39	TM	2,4,5-Trichlorophenol	0.4524	0.4860	7.4	TM	
40	TM	1,1'-Biphenyl	1.551	1.646	6.1	TM	
		Average			6.2		

Semi-Volatile Analysis by GC-MS
EPA 8270

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 12/19/19
Instrument: Yoda
Cal. Date: 12/19/19
Data File: 1219Y012.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	2-Chloronaphthalene	1.248	1.287	3.1	TM	
42	TM	2-Nitroaniline	0.4737	0.5330	13	TM	
43	TM	Dimethyl phthalate	1.529	1.612	5.4	TM	
44	TM	2,6-DNT	0.3335	0.3594	7.8	TM	
45	TM	Acenaphthylene	1.921	2.039	6.2	TM	
46	TM	3-Nitroaniline	0.3959	0.4440	12	TM	
47	*TM	Acenaphthene	1.202	1.272	5.8	*TM	
48	**TML	2,4-Dinitrophenol	0.1391	0.1930	39	**TML	2.4
49	**TM	4-Nitrophenol	0.0312	0.0331	6.3	**TM	
50	TM	Dibenzofuran	1.825	1.991	9.1	TM	
51	TM	2,4-DNT	0.4904	0.5209	6.2	TM	
52	TM	2,3,4,6-Tetrachlorophenol	0.3432	0.3772	9.9	TM	
53	TM	Diethyl phthalate	1.584	1.664	5.0	TM	
54	TM	4-Chlorophenyl phenyl ether	0.8773	0.8972	2.3	TM	
55	TM	Fluorene	1.553	1.642	5.8	TM	
56	TM	4-Nitroaniline	0.3299	0.3692	12	TM	
57	TM	4,6-Dinitro-2-methylphenol	0.1559	0.1668	7.0	TM	
58	TM	Diphenyl amine	0.6512	0.7094	8.9	TM	
59	*TM	n-Nitrosodiphenylamine	0.6512	0.7094	8.9	*TM	
60	TM	1,2-Diphenylhydrazine	0.9417	0.9917	5.3	TM	
61	TM	4-Bromophenyl phenyl ether	0.2452	0.2643	7.8	TM	
62	TM	Hexachlorobenzene	0.2480	0.2730	10	TM	
63	TM	Atrazine	0.2236	0.2354	5.3	TM	
64	*TM	Pentachlorophenol	0.1525	0.1514	0.68	*TM	
65	TM	Phenanthrene	1.104	1.206	9.2	TM	
66	TM	Anthracene	1.154	1.246	8.0	TM	
67	TM	Carbazol	1.051	1.136	8.1	TM	
68	TM	Di-n-butylphthalate	1.437	1.529	6.5	TM	
69		2-Nitrodiphenylamine	0.3268	0.3682	13		
70	*TM	Fluoranthene	1.293	1.392	7.7	*TM	
71	TM	Benzidine	0.4082	0.3716	9.0	TM	
72	TM	Pyrene	1.199	1.267	5.7	TM	
73	TM	Butyl benzylphthalate	0.6008	0.6332	5.4	TM	
74	TM	3,3'-Dichlorobenzidine	0.4121	0.4458	8.2	TM	
75	TM	Benz (a) anthracene	1.306	1.401	7.3	TM	
76	TM	Bis (2-ethylhexyl) phthalate	1.004	1.044	4.0	TM	
77	TM	Chrysene	1.136	1.200	5.6	TM	
78	*TM	Di-n-octylphthalate	1.482	1.554	4.8	*TM	
79	TM	Benzo (b) fluoranthene	1.306	1.367	4.6	TM	
80	TM	Benzo (k) fluoranthene	1.178	1.349	14	TM	
		Average			8.1		

Semi-Volatile Analysis by GC-MS
EPA 8270

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 12/19/19
Instrument: Yoda
Cal. Date: 12/19/19
Data File: 1219Y012.D

		Compound	MEAN	CCRF	%D		%Drift
81	*TM	Benzo (a) pyrene	1.160	1.260	8.7	*TM	
82	TM	Indeno (1,2,3-cd) pyrene	1.352	1.394	3.1	TM	
83	TM	Dibenz (a,h) anthracene	1.204	1.302	8.1	TM	
84	TM	Benzo (g,h,i) perylene	1.062	1.208	14	TM	
85							
86							
87							
88							
89							
90							
91							
92							
93							
94							
95							
96							
97							
98							
99							
100							
101							
102							
103							
104							
105							
106							
107							
108							
109							
110							
111							
112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			8.5		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y012.D Vial: 12
Acq On : 19 Dec 19 13:14 Operator: MA,SS
Sample : SS 8270 11/22/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.38	152	154648	40.00000 ppb		0.00
21) Napthalene-D8(IS)	6.82	136	627218	40.00000 ppb		0.00
41) Acenaphthene-D10(IS)	8.84	164	380731	40.00000 ppb		0.00
65) Phenanthrene-D10(IS)	10.57	188	716758	40.00000 ppb		0.00
80) Chrysene-D12(IS)	13.66	240	829696	40.00000 ppb		0.00
90) Perylene-D12(IS)	15.48	264	760670	40.00000 ppb		-0.01
System Monitoring Compounds						
5) 2-Fluorophenol (S)	0.00	112	0	0.00000 ppb		
Spiked Amount 200.000			Recovery	= 0.000%		
6) Phenol-D6 (S)	0.00	99	0	0.00000 ppb		
Spiked Amount 200.000			Recovery	= 0.000%		
22) Nitrobenzene-D5(S)	5.95	82	52711	6.75760 ppb		-0.06
Spiked Amount 100.000			Recovery	= 6.758%		
46) 2-Fluorobiphenyl(S)	8.02	172	554	0.03940 ppb		-0.04
Spiked Amount 100.000			Recovery	= 0.039%		
64) 2,4,6-Tribromophenol(S)	0.00	330	0	0.00000 ppb		
Spiked Amount 200.000			Recovery	= 0.000%		
83) Terphenyl-D14(S)	12.43	244	297	0.01501 ppb		0.00
Spiked Amount 100.000			Recovery	= 0.015%		
Target Compounds						Qvalue
3) n-Nitrosodimethylamine	1.90	42	228024	52.80932 ppb		98
4) Pyridine	1.92	79	510199	51.00889 ppb		99
7) Phenol	5.00	94	433587	50.87467 ppb		79
8) Aniline	5.00	93	320384	57.60447 ppb	#	92
9) Bis (2-chloroethyl) ether	5.08	63	208721	52.86493 ppb		99
10) 2-Chlorophenol	5.15	128	310728	51.77926 ppb		99
11) 1,3-DCB	5.31	146	338803	51.44923 ppb		98
12) 1,4-DCB	5.39	146	346514	51.41595 ppb		99
13) Benzyl alcohol	5.54	108	188349	53.28425 ppb		98
14) 1,2-DCB	5.57	146	323570	51.60169 ppb		98
15) 2-Methylphenol	5.68	107	271451	51.83733 ppb		99
16) Bis (2-chloroisopropyl) et	5.69	45	269286	51.71896 ppb		86
17) Acetophenone	5.84	105	467976	52.43085 ppb		97
18) 3&4-Methylphenol	5.86	107	699849	101.62178 ppb		99
19) n-Nitrosodi-n-propylamine	5.84	70	297756	51.86739 ppb		93
20) Hexachloroethane	5.95	117	146655	52.20615 ppb		96
23) Nitrobenzene	6.03	77	416218	51.48566 ppb		93
24) Isophorone	6.30	82	667515	52.33466 ppb		98
25) 2-Nitrophenol	6.39	139	174251	53.08111 ppb		98
26) 2,4-Dimethylphenol	6.44	122	274826	52.31942 ppb		99
27) Benzoic acid	6.58	105	241867	53.28837 ppb		98
28) Bis (2-chloroethoxy) metha	6.54	93	350898	53.00967 ppb		98
29) 2,4-Dichlorophenol	6.68	162	266533	52.03896 ppb		99
30) 1,2,4-Trichlorobenzene	6.76	180	298756	52.29628 ppb		100
31) 3,4-Dimethylphenol	6.79	107	458062	52.41857 ppb		99
32) Naphthalene	6.84	128	904563	53.00552 ppb		100
33) 4-Chloroaniline	6.91	127	363799	53.01781 ppb		98
34) 2,6-Dichlorophenol	6.92	162	266063	53.02515 ppb		98
35) Hexachloropropene	6.94	213	261770	52.95562 ppb		98
36) Hexachlorobutadiene	6.98	225	200685	51.78252 ppb		99
37) Caprolactum	7.32	55	120598	52.46442 ppb		93
38) 4-Chloro-3-methylphenol	7.47	107	326264	53.66349 ppb		90

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y012.D Vial: 12
Acq On : 19 Dec 19 13:14 Operator: MA,SS
Sample : SS 8270 11/22/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
39)	2-Methylnaphthalene	7.63	142	626418	54.54154	ppb	99
40)	1-Methylnaphthalene	7.75	142	618310	51.77181	ppb	99
42)	Hexachlorocyclopentadiene	7.82	237	215168	49.43015	ppb	99
43)	1,2,4,5-Tetrachlorobenzene	7.84	216	321980	53.09037	ppb	99
44)	2,4,6-Trichlorophenol	7.97	196	212425	53.49868	ppb	99
45)	2,4,5-Trichlorophenol	8.02	196	231296	53.71023	ppb	96
47)	1,1'-Biphenyl	8.17	154	783426	53.05320	ppb	99
48)	2-Chloronaphthalene	8.20	162	612398	51.56780	ppb	99
49)	2-Nitroaniline	8.32	65	253652	56.25244	ppb	98
50)	Dimethyl phthalate	8.52	163	767054	52.69465	ppb	98
51)	2,6-DNT	8.60	165	171054	53.88004	ppb #	66
52)	Acenaphthylene	8.68	152	970447	53.07569	ppb	100
53)	3-Nitroaniline	8.32	138	211306	56.07253	ppb	99
54)	Acenaphthene	8.87	154	605219	52.91767	ppb	99
55)	2,4-Dinitrophenol	8.92	184	91847	48.82234	ppb	96
56)	4-Nitrophenol	8.60	65	15775	53.16743	ppb	98
57)	Dibenzofuran	9.08	168	947587	54.54797	ppb	100
58)	2,4-DNT	9.07	165	247899	53.11106	ppb	94
59)	2,3,4,6-Tetrachlorophenol	9.24	232	179532	54.96575	ppb	98
60)	Diethyl phthalate	9.35	149	791693	52.49593	ppb	99
61)	4-Chlorophenyl phenyl ethe	9.48	204	426980	51.13326	ppb	98
62)	Fluorene	9.48	166	781637	52.89027	ppb	99
63)	4-Nitroaniline	8.80	138	175684	55.94819	ppb	89
66)	4,6-Dinitro-2-methylphenol	9.55	198	149456	53.48414	ppb	90
67)	Diphenyl amine	9.62	169	1271157	108.94241	ppb	99
68)	n-Nitrosodiphenylamine	9.62	169	1271157	108.94241	ppb	99
69)	1,2-Diphenylhydrazine	9.66	77	888538	52.65453	ppb	98
70)	4-Bromophenyl phenyl ether	10.04	248	236821	53.90613	ppb	97
71)	Hexachlorobenzene	10.13	284	244573	55.02919	ppb	97
72)	Atrazine	10.24	200	105442	26.31441	ppb	97
73)	Pentachlorophenol	10.36	266	135671	49.65935	ppb	99
74)	Phenanthrene	10.60	178	1080229	54.61406	ppb	99
75)	Anthracene	10.66	178	1116406	53.99563	ppb	100
76)	Carbazol	10.85	167	1017680	54.06002	ppb	99
77)	Di-n-butylphthalate	11.25	149	1370271	53.23188	ppb	99
78)	2-Nitrodiphenylamine	11.42	167	164948	28.16935	ppb	89
79)	Fluoranthene	11.99	202	1247416	53.84374	ppb	99
81)	Benzidine	12.14	184	385367	45.51080	ppb	99
82)	Pyrene	12.25	202	1314061	52.83625	ppb	99
84)	Butyl benzylphthalate	13.00	149	656686	52.69920	ppb	91
85)	3,3'-Dichlorobenzidine	13.62	252	462307	54.08886	ppb #	99
86)	Benz (a) anthracene	13.65	228	1453439	53.65073	ppb	99
87)	Bis (2-ethylhexyl) phthala	13.66	149	1082924	52.01071	ppb #	98
88)	Chrysene	13.69	228	1244504	52.82157	ppb	100
89)	Di-n-octylphthalate	14.41	149	1611191	52.42256	ppb #	91
91)	Benzo (b) fluoranthene	14.94	252	1300001	52.32418	ppb	99
92)	Benzo (k) fluoranthene	14.99	252	1282239	57.24188	ppb	98
93)	Benzo (a) pyrene	15.41	252	1198281	54.34376	ppb	99
94)	Indeno (1,2,3-cd) pyrene	17.35	276	1325649	51.57388	ppb	99
95)	Dibenz (a,h) anthracene	17.38	278	1237782	54.05738	ppb	100
96)	Benzo (g,h,i) perylene	17.91	276	1148610	56.86944	ppb	99

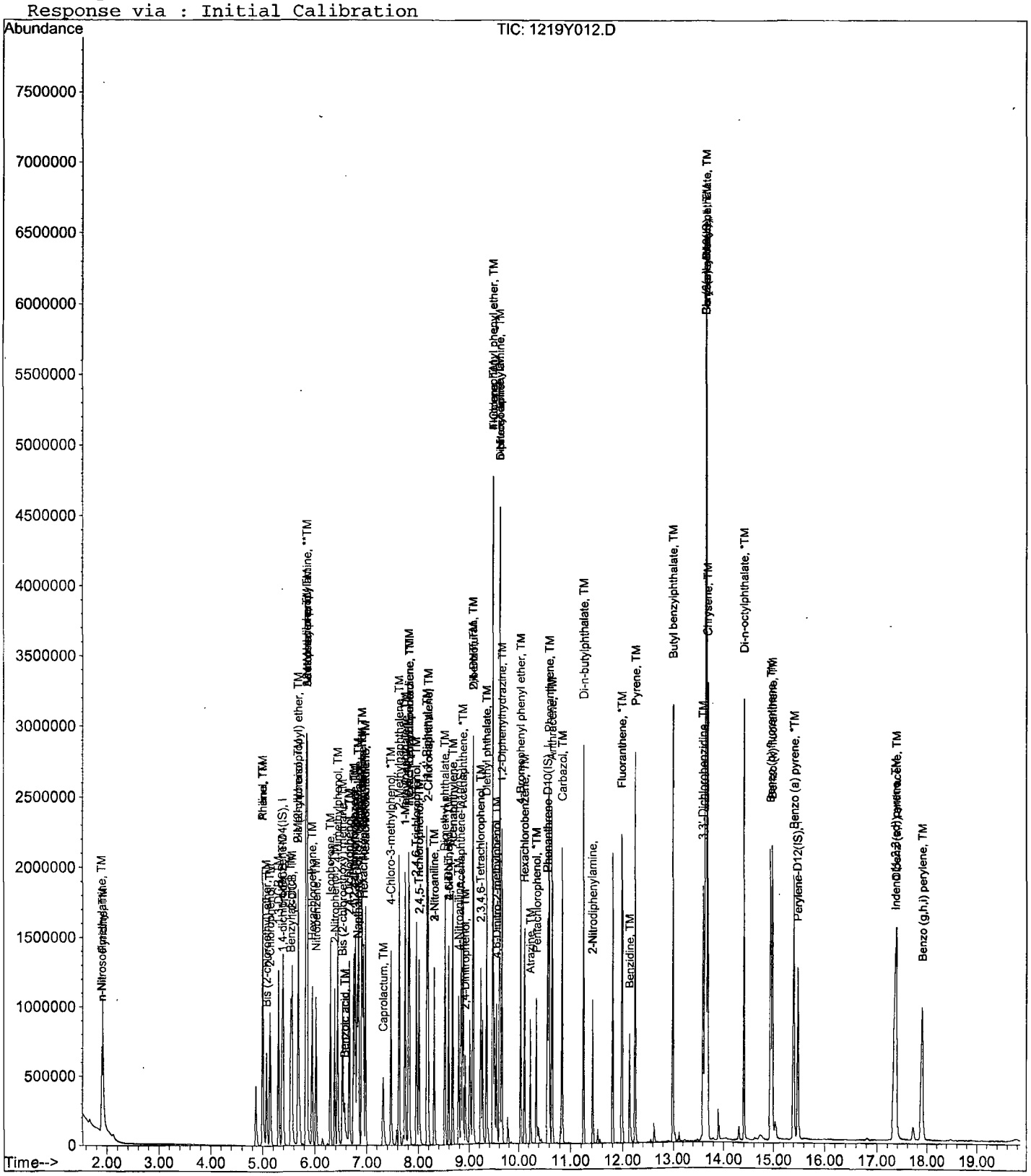
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y191219\1219Y012.D Vial: 12
Acq On : 19 Dec 19 13:14 Operator: MA,SS
Sample : SS 8270 11/22/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration



Semi-Volatile Analysis by GC-MS
EPA 8270

Form 7

Continuing Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Date Analyzed: 01/27/20
Matrix: Instrument: Yoda
Initial Cal. Date: 12/19/19
Data File: 1219Y247.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	1,4-dichlorobenzene-D4(IS)	ISTD			I	
2		1,4-Dioxane	0.6022	0.6056	0.56		
3	TM	n-Nitrosodimethylamine	1.117	1.277	14	TM	
4	TM	Pyridine	2.587	2.841	9.8	TM	
5	S	2-Fluorophenol (S)	1.466	1.463	0.19	S	
6	S	Phenol-D6 (S)	1.868	2.088	12	S	
7	*TM	Phenol	2.204	2.526	15	*TM	
8	TM	Aniline	1.439	1.422	1.1	TM	
9	TM	Bis (2-chloroethyl) ether	1.021	1.130	11	TM	
10	TM	2-Chlorophenol	1.552	1.636	5.4	TM	
11	TM	1,3-DCB	1.703	1.734	1.8	TM	
12	*TM	1,4-DCB	1.743	1.801	3.3	*TM	
13	TM	Benzyl alcohol	0.9143	1.048	15	TM	
14	TM	1,2-DCB	1.622	1.726	6.4	TM	
15	TM	2-Methylphenol	1.354	1.550	14	TM	
16	TM	Bis (2-chloroisopropyl) ether	1.347	1.566	16	TM	
17	TM	Acetophenone	2.309	2.676	16	TM	
18	TM	3&4-Methylphenol	1.781	2.120	19	TM	
19	**TM	n-Nitrosodi-n-propylamine	1.485	1.784	20	**TM	
20	TM	Hexachloroethane	0.7266	0.7589	4.4	TM	
21	I	Napthalene-D8(IS)	ISTD			I	
22	S	Nitrobenzene-D5(S)	0.4975	0.4923	1.0	S	
23	TM	Nitrobenzene	0.5156	0.5422	5.2	TM	
24	TM	Isophorone	0.8134	0.8885	9.2	TM	
25	*TM	2-Nitrophenol	0.2094	0.2182	4.2	*TM	
26	TM	2,4-Dimethylphenol	0.3350	0.3701	10	TM	
27	TML	Benzoic acid	0.2307	0.3311	44	TML	14
28	TM	Bis (2-chloroethoxy) methane	0.4222	0.4531	7.3	TM	
29	*TM	2,4-Dichlorophenol	0.3266	0.3630	11	*TM	
30	TM	1,2,4-Trichlorobenzene	0.3643	0.3884	6.6	TM	
31	TM	3,4-Dimethylphenol	0.5573	0.6146	10	TM	
32	TM	Naphthalene	1.088	1.167	7.2	TM	
33	TM	4-Chloroaniline	0.4376	0.4744	8.4	TM	
34	TM	2,6-Dichlorophenol	0.3200	0.3625	13	TM	
35	TM	Hexachloropropene	0.3152	0.3443	9.2	TM	
36	*TM	Hexachlorobutadiene	0.2472	0.2752	11	*TM	
37	TM	Caprolactum	0.1466	0.1645	12	TM	
38	*TM	4-Chloro-3-methylphenol	0.3877	0.4290	11	*TM	
39	TM	2-Methylnaphthalene	0.7325	0.8178	12	TM	
40	TM	1-Methylnaphthalene	0.7616	0.8464	11	TM	
		Average			10.2		

Semi-Volatile Analysis by GC-MS
EPA 8270

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 01/27/20
Instrument: Yoda
Cal. Date: 12/19/19
Data File: 1219Y247.D

		Compound	MEAN	CCRF	%D	%Drift		
41	I	Acenaphthene-D10(IS)	ISTD			I		
42	**TML	Hexachlorocyclopentadiene	0.3696	0.3327	10.0	**TML	25	*NT
43	TM	1,2,4,5-Tetrachlorobenzene	0.6372	0.6926	8.7	TM		
44	*TM	2,4,6-Trichlorophenol	0.4172	0.4588	10.0	*TM		
45	TM	2,4,5-Trichlorophenol	0.4524	0.4738	4.7	TM		
46	S	2-Fluorobiphenyl(S)	1.477	1.521	3.0	S		
47	TM	1,1'-Biphenyl	1.551	1.725	11	TM		
48	TM	2-Chloronaphthalene	1.248	1.331	6.7	TM		
49	TM	2-Nitroaniline	0.4737	0.5140	8.5	TM		
50	TM	Dimethyl phthalate	1.529	1.641	7.3	TM		
51	TM	2,6-DNT	0.3335	0.3681	10	TM		
52	TM	Acenaphthylene	1.921	2.062	7.4	TM		
53	TM	3-Nitroaniline	0.3959	0.4216	6.5	TM		
54	*TM	Acenaphthene	1.202	1.299	8.1	*TM		
55	**TML	2,4-Dinitrophenol	0.1391	0.2032	46	**TML	2.1	
56	**TM	4-Nitrophenol	0.0312	0.0336	7.8	**TM		
57	TM	Dibenzofuran	1.825	2.112	16	TM		
58	TM	2,4-DNT	0.4904	0.5768	18	TM		
59	TM	2,3,4,6-Tetrachlorophenol	0.3432	0.3841	12	TM		
60	TM	Diethyl phthalate	1.584	1.708	7.8	TM		
61	TM	4-Chlorophenyl phenyl ether	0.8773	1.056	20	TM		
62	TM	Fluorene	1.553	1.884	21	TM		*NT
63	TM	4-Nitroaniline	0.3299	0.3404	3.2	TM		
64	S	2,4,6-Tribromophenol(S)	0.2486	0.2816	13	S		
65	I	Phenanthrene-D10(IS)	ISTD			I		
66	TM	4,6-Dinitro-2-methylphenol	0.1559	0.1597	2.4	TM		
67	TM	Diphenyl amine	0.6512	0.7232	11	TM		
68	*TM	n-Nitrosodiphenylamine	0.6512	0.7232	11	*TM		
69	TM	1,2-Diphenylhydrazine	0.9417	0.9921	5.4	TM		
70	TM	4-Bromophenyl phenyl ether	0.2452	0.2675	9.1	TM		
71	TM	Hexachlorobenzene	0.2480	0.2746	11	TM		
72	TM	Atrazine	0.2236	0.1459	35	TM		*NT
73	*TM	Pentachlorophenol	0.1525	0.1652	8.3	*TM		
74	TM	Phenanthrene	1.104	1.188	7.6	TM		
75	TM	Anthracene	1.154	1.237	7.2	TM		
76	TM	Carbazol	1.051	1.136	8.2	TM		
77	TM	Di-n-butylphthalate	1.437	1.578	9.9	TM		
78		2-Nitrodiphenylamine	0.3268	0.3754	15			
79	*TM	Fluoranthene	1.293	1.427	10	*TM		
80	I	Chrysene-D12(IS)	ISTD			I		
		Average			11.3			

Semi-Volatile Analysis by GC-MS
EPA 8270

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 01/27/20
Instrument: Yoda
Cal. Date: 12/19/19
Data File: 1219Y247.D

		Compound	MEAN	CCRF	%D	%Drift		
81	TM	Benzidine	0.4082	0.1638	60	TM		*NT
82	TM	Pyrene	1.199	1.085	9.5	TM		
83	S	Terphenyl-D14(S)	0.9538	0.8132	15	S		
84	TM	Butyl benzylphthalate	0.6008	0.5343	11	TM		
85	TM	3,3'-Dichlorobenzidine	0.4121	0.4253	3.2	TM		
86	TM	Benz (a) anthracene	1.306	1.353	3.6	TM		
87	TM	Bis (2-ethylhexyl) phthalate	1.004	1.041	3.7	TM		
88	TM	Chrysene	1.136	1.024	9.9	TM		
89	*TM	Di-n-octylphthalate	1.482	1.306	12	*TM		
90	I	Perylene-D12(IS)	ISTD			I		
91	TM	Benzo (b) fluoranthene	1.306	1.430	9.4	TM		
92	TM	Benzo (k) fluoranthene	1.178	1.289	9.4	TM		
93	*TM	Benzo (a) pyrene	1.160	1.246	7.5	*TM		
94	TM	Indeno (1,2,3-cd) pyrene	1.352	1.418	4.9	TM		
95	TM	Dibenz (a,h) anthracene	1.204	1.293	7.4	TM		
96	TM	Benzo (g,h,i) perylene	1.062	1.085	2.1	TM		
97								
98								
99								
100								
101								
102								
103								
104								
105								
106								
107								
108								
109								
110								
111								
112								
113								
114								
115								
116								
117								
118								
119								
120								
		Average			11.2			

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y247.D Vial: 47
Acq On : 27 Jan 20 17:04 Operator: MA,SS
Sample : 50ug/ml 8270 01/06/20 (1) Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 27 17:08 2020 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.38	152	248048	40.00000 ppb		0.00
21) Napthalene-D8(IS)	6.81	136	1087911	40.00000 ppb		-0.01
41) Acenaphthene-D10(IS)	8.84	164	692449	40.00000 ppb		0.00
65) Phenanthrene-D10(IS)	10.56	188	1380976	40.00000 ppb		-0.01
80) Chrysene-D12(IS)	13.66	240	1896333	40.00000 ppb		0.00
90) Perylene-D12(IS)	15.49	264	1449984	40.00000 ppb		0.00
System Monitoring Compounds						
5) 2-Fluorophenol (S)	3.81	112	907440	99.81048 ppb		-0.01
Spiked Amount 200.000			Recovery =	49.905%		
6) Phenol-D6 (S)	5.00	99	1294566	111.76095 ppb		0.00
Spiked Amount 200.000			Recovery =	55.881%		
22) Nitrobenzene-D5(S)	6.01	82	669450	49.48057 ppb		0.00
Spiked Amount 100.000			Recovery =	49.481%		
46) 2-Fluorobiphenyl(S)	8.06	172	1316739	51.49025 ppb		0.00
Spiked Amount 100.000			Recovery =	51.490%		
64) 2,4,6-Tribromophenol(S)	9.77	330	487418	113.26335 ppb		0.00
Spiked Amount 200.000			Recovery =	56.632%		
83) Terphenyl-D14(S)	12.43	244	1927610	42.62743 ppb		0.00
Spiked Amount 100.000			Recovery =	42.627%		
Target Compounds						Qvalue
2) 1,4-Dioxane	1.68	58	18778	5.02816		82
3) n-Nitrosodimethylamine	1.91	42	395978	57.17546 ppb		99
4) Pyridine	1.92	79	880943	54.91142 ppb		98
7) Phenol	5.01	94	783104	57.28664 ppb		98
8) Aniline	5.01	93	441024	49.43747 ppb		98
9) Bis (2-chloroethyl) ether	5.08	63	350293	55.31482 ppb		99
10) 2-Chlorophenol	5.14	128	507351	52.70994 ppb		92
11) 1,3-DCB	5.31	146	537503	50.88867 ppb		98
12) 1,4-DCB	5.39	146	558540	51.67018 ppb		98
13) Benzyl alcohol	5.54	108	324800	57.28753 ppb		95
14) 1,2-DCB	5.56	146	535100	53.20338 ppb		99
15) 2-Methylphenol	5.68	107	480708	57.23228 ppb		98
16) Bis (2-chloroisopropyl) et	5.68	45	485607	58.14729 ppb	#	74
17) Acetophenone	5.84	105	829818	57.96352 ppb		96
18) 3&4-Methylphenol	5.86	107	1314698	119.01920 ppb		100
19) n-Nitrosodi-n-propylamine	5.85	70	553058	60.06385 ppb		99
20) Hexachloroethane	5.94	117	235293	52.22067 ppb		91
23) Nitrobenzene	6.04	77	737375	52.58707 ppb		98
24) Isophorone	6.30	82	1208203	54.61267 ppb		99
25) 2-Nitrophenol	6.39	139	296686	52.10591 ppb		97
26) 2,4-Dimethylphenol	6.44	122	503359	55.24692 ppb		99
27) Benzoic acid	6.63	105	450305	56.90009 ppb		95
28) Bis (2-chloroethoxy) metha	6.54	93	616192	53.66800 ppb		99
29) 2,4-Dichlorophenol	6.67	162	493630	55.56538 ppb		95
30) 1,2,4-Trichlorobenzene	6.75	180	528226	53.30882 ppb		97
31) 3,4-Dimethylphenol	6.79	107	835770	55.14077 ppb		98
32) Naphthalene	6.84	128	1586460	53.59651 ppb		100
33) 4-Chloroaniline	6.91	127	645174	54.20786 ppb		98
34) 2,6-Dichlorophenol	6.92	162	493004	56.64650 ppb		98
35) Hexachloropropene	6.94	213	468163	54.60274 ppb		99
36) Hexachlorobutadiene	6.98	225	374282	55.67912 ppb		99
37) Caprolactum	7.35	55	223686	56.10334 ppb		95

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y247.D Vial: 47
Acq On : 27 Jan 20 17:04 Operator: MA,SS
Sample : 50ug/ml 8270 01/06/20 (1) Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 27 17:08 2020 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
38)	4-Chloro-3-methylphenol	7.48	107	583330	55.31580	ppb		98
39)	2-Methylnaphthalene	7.63	142	1112174	55.82916	ppb		100
40)	1-Methylnaphthalene	7.74	142	1151006	55.56353	ppb		99
42)	Hexachlorocyclopentadiene	7.81	237	288000	37.38592	ppb		98
43)	1,2,4,5-Tetrachlorobenzene	7.83	216	599463	54.34751	ppb		98
44)	2,4,6-Trichlorophenol	7.97	196	397144	54.99408	ppb		100
45)	2,4,5-Trichlorophenol	8.02	196	410063	52.35642	ppb		94
47)	1,1'-Biphenyl	8.17	154	1493250	55.60023	ppb		98
48)	2-Chloronaphthalene	8.20	162	1152268	53.34931	ppb		98
49)	2-Nitroaniline	8.32	65	444893	54.24867	ppb		99
50)	Dimethyl phthalate	8.52	163	1420572	53.65798	ppb		99
51)	2,6-DNT	8.61	165	318621	55.18226	ppb		96
52)	Acenaphthylene	8.67	152	1784986	53.67711	ppb		99
53)	3-Nitroaniline	8.32	138	364885	53.23837	ppb		97
54)	Acenaphthene	8.88	154	1124636	54.06679	ppb		99
55)	2,4-Dinitrophenol	8.93	184	175859	51.04357	ppb		88
56)	4-Nitrophenol	8.60	65	29084	53.89654	ppb		97
57)	Dibenzofuran	9.08	168	1828226	57.86551	ppb		97
58)	2,4-DNT	9.08	165	499240	58.80984	ppb		83
59)	2,3,4,6-Tetrachlorophenol	9.23	232	332476	55.96816	ppb	#	90
60)	Diethyl phthalate	9.35	149	1478014	53.88623	ppb		99
61)	4-Chlorophenyl phenyl ethe	9.47	204	914330	60.20456	ppb		89
62)	Fluorene	9.48	166	1630633	60.66767	ppb		99
63)	4-Nitroaniline	8.80	138	294629	51.58931	ppb		94
66)	4,6-Dinitro-2-methylphenol	9.56	198	275673	51.20264	ppb	#	72
67)	Diphenyl amine	9.63	169	2496808	111.06298	ppb		99
68)	n-Nitrosodiphenylamine	9.63	169	2496808	111.06298	ppb		99
69)	1,2-Diphenylhydrazine	9.66	77	1712647	52.67615	ppb		93
70)	4-Bromophenyl phenyl ether	10.04	248	461693	54.54534	ppb		89
71)	Hexachlorobenzene	10.13	284	474051	55.36000	ppb		94
72)	Atrazine	10.24	200	125890	16.30639	ppb		97
73)	Pentachlorophenol	10.36	266	285155	54.17281	ppb		99
74)	Phenanthrene	10.60	178	2050972	53.81890	ppb		99
75)	Anthracene	10.66	178	2135402	53.60466	ppb		100
76)	Carbazol	10.85	167	1961784	54.08820	ppb		99
77)	Di-n-butylphthalate	11.25	149	2724190	54.92742	ppb		98
78)	2-Nitrodiphenylamine	11.42	167	324022	28.72042	ppb		94
79)	Fluoranthene	11.98	202	2462762	55.17378	ppb		98
81)	Benzidine	12.13	184	388255	20.06141	ppb		99
82)	Pyrene	12.25	202	2572063	45.24832	ppb		99
84)	Butyl benzylphthalate	13.00	149	1266438	44.46667	ppb		82
85)	3,3'-Dichlorobenzidine	13.62	252	1008185	51.60859	ppb		99
86)	Benz (a) anthracene	13.66	228	3206063	51.77919	ppb		100
87)	Bis (2-ethylhexyl) phthala	13.66	149	2467933	51.86000	ppb		100
88)	Chrysene	13.69	228	2426728	45.06511	ppb		99
89)	Di-n-octylphthalate	14.41	149	3094606	44.05356	ppb		97
91)	Benzo (b) fluoranthene	14.95	252	2591620	54.72215	ppb		98
92)	Benzo (k) fluoranthene	14.99	252	2336000	54.70800	ppb		99
93)	Benzo (a) pyrene	15.42	252	2258180	53.72577	ppb		99
94)	Indeno (1,2,3-cd) pyrene	17.37	276	2570402	52.46085	ppb		99
95)	Dibenz (a,h) anthracene	17.40	278	2342769	53.67516	ppb		99
96)	Benzo (g,h,i) perylene	17.93	276	1965863	51.06139	ppb		99

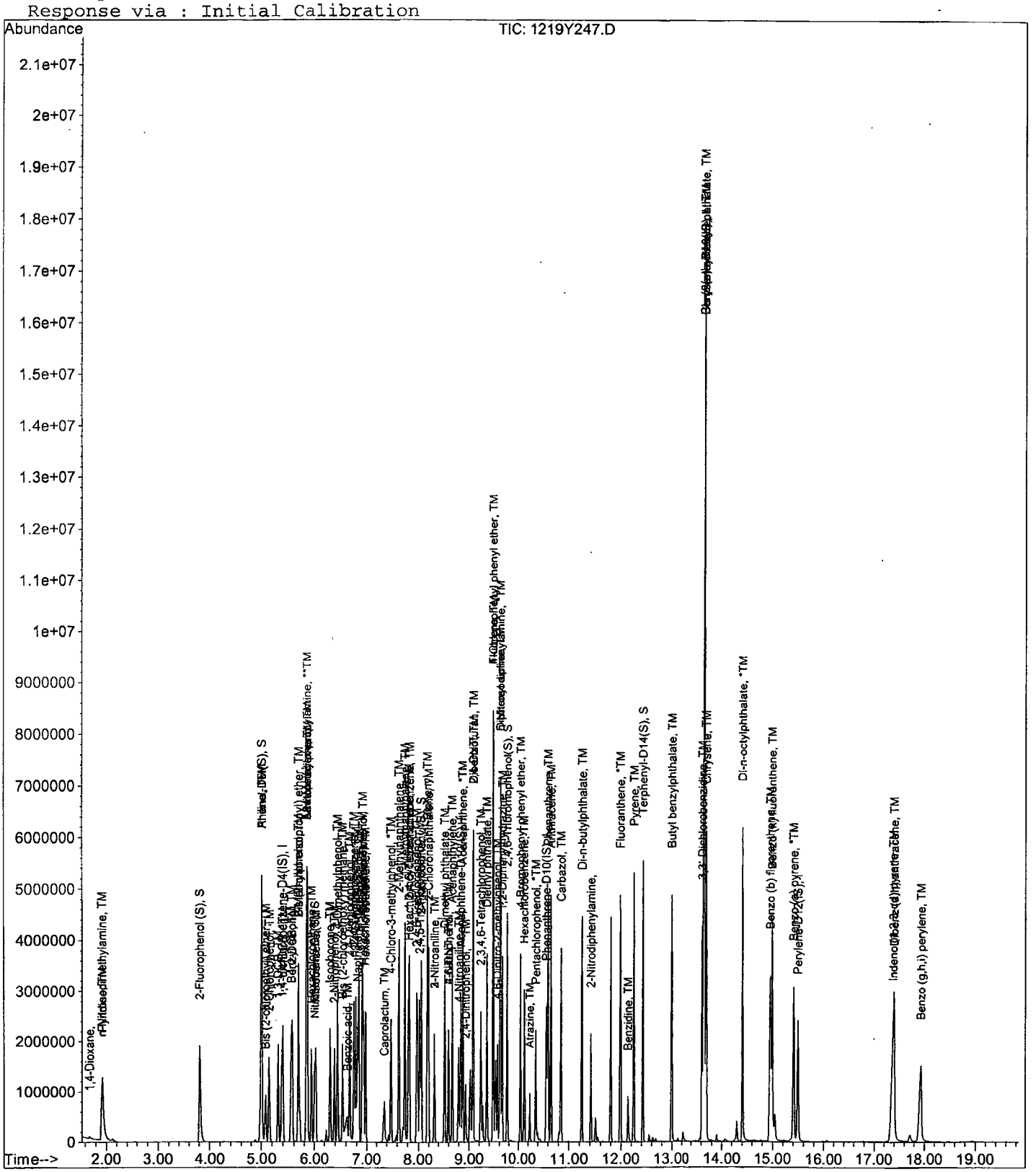
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y191219\1219Y247.D Vial: 47
Acq On : 27 Jan 20 17:04 Operator: MA,SS
Sample : 50ug/ml 8270 01/06/20 (1) Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 27 17:08 2020 Quant Results File: Y1219.RES

Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration



Semi-Volatile Analysis by GC-MS
EPA 8270

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 01/28/20
Instrument: Yoda
Initial Cal. Date: 12/19/19
Data File: 1219Y267.D

		Compound	MEAN	CCRF	%D	%Drift	
1	I	1,4-dichlorobenzene-D4(IS)	ISTD			I	
2		1,4-Dioxane	0.6022	0.7249	20		
3	TM	n-Nitrosodimethylamine	1.117	1.347	21	TM	*
4	TM	Pyridine	2.587	3.013	16	TM	
5	S	2-Fluorophenol (S)	1.466	1.473	0.45	S	
6	S	Phenol-D6 (S)	1.868	1.927	3.1	S	
7	*TM	Phenol	2.204	2.381	8.0	*TM	
8	TM	Aniline	1.439	1.191	17	TM	
9	TM	Bis (2-chloroethyl) ether	1.021	1.129	11	TM	
10	TM	2-Chlorophenol	1.552	1.653	6.5	TM	
11	TM	1,3-DCB	1.703	1.766	3.7	TM	
12	*TM	1,4-DCB	1.743	1.826	4.8	*TM	
13	TM	Benzyl alcohol	0.9143	1.003	9.7	TM	
14	TM	1,2-DCB	1.622	1.720	6.1	TM	
15	TM	2-Methylphenol	1.354	1.457	7.6	TM	
16	TM	Bis (2-chloroisopropyl) ether	1.347	1.509	12	TM	
17	TM	Acetophenone	2.309	2.548	10	TM	
18	TM	3&4-Methylphenol	1.781	1.971	11	TM	
19	**TM	n-Nitrosodi-n-propylamine	1.485	1.653	11	**TM	
20	TM	Hexachloroethane	0.7266	0.7831	7.8	TM	
21	I	Napthalene-D8(IS)	ISTD			I	
22	S	Nitrobenzene-D5(S)	0.4975	0.5029	1.1	S	
23	TM	Nitrobenzene	0.5156	0.5542	7.5	TM	
24	TM	Isophorone	0.8134	0.8824	8.5	TM	
25	*TM	2-Nitrophenol	0.2094	0.2245	7.2	*TM	
26	TM	2,4-Dimethylphenol	0.3350	0.3654	9.1	TM	
27	TML	Benzoic acid	0.2307	0.3195	39	TML	10
28	TM	Bis (2-chloroethoxy) methane	0.4222	0.4509	6.8	TM	
29	*TM	2,4-Dichlorophenol	0.3266	0.3495	7.0	*TM	
30	TM	1,2,4-Trichlorobenzene	0.3643	0.3889	6.8	TM	
31	TM	3,4-Dimethylphenol	0.5573	0.6031	8.2	TM	
32	TM	Naphthalene	1.088	1.168	7.3	TM	
33	TM	4-Chloroaniline	0.4376	0.4177	4.6	TM	
34	TM	2,6-Dichlorophenol	0.3200	0.3471	8.5	TM	
35	TM	Hexachloropropene	0.3152	0.3442	9.2	TM	
36	*TM	Hexachlorobutadiene	0.2472	0.2688	8.7	*TM	
37	TM	Caprolactum	0.1466	0.1651	13	TM	
38	*TM	4-Chloro-3-methylphenol	0.3877	0.4217	8.8	*TM	
39	TM	2-Methylnaphthalene	0.7325	0.7955	8.6	TM	
40	TM	1-Methylnaphthalene	0.7616	0.8273	8.6	TM	
		Average			9.6		

Semi-Volatile Analysis by GC-MS
EPA 8270

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 01/28/20
Instrument: Yoda
Cal. Date: 12/19/19
Data File: 1219Y267.D

		Compound	MEAN	CCRF	%D		%Drift	
41	I	Acenaphthene-D10(IS)	ISTD			I		
42	**TML	Hexachlorocyclopentadiene	0.3696	0.3801	2.9	**TML	16	
43	TM	1,2,4,5-Tetrachlorobenzene	0.6372	0.6833	7.2	TM		
44	*TM	2,4,6-Trichlorophenol	0.4172	0.4556	9.2	*TM		
45	TM	2,4,5-Trichlorophenol	0.4524	0.4686	3.6	TM		
46	S	2-Fluorobiphenyl(S)	1.477	1.492	1.0	S		
47	TM	1,1'-Biphenyl	1.551	1.685	8.6	TM		
48	TM	2-Chloronaphthalene	1.248	1.343	7.6	TM		
49	TM	2-Nitroaniline	0.4737	0.5234	10	TM		
50	TM	Dimethyl phthalate	1.529	1.654	8.1	TM		
51	TM	2,6-DNT	0.3335	0.3623	8.6	TM		
52	TM	Acenaphthylene	1.921	2.048	6.6	TM		
53	TM	3-Nitroaniline	0.3959	0.4304	8.7	TM		
54	*TM	Acenaphthene	1.202	1.281	6.6	*TM		
55	**TML	2,4-Dinitrophenol	0.1391	0.2113	52	**TML	5.6	
56	**TM	4-Nitrophenol	0.0312	0.0351	13	**TM		
57	TM	Dibenzofuran	1.825	2.042	12	TM		
58	TM	2,4-DNT	0.4904	0.5607	14	TM		
59	TM	2,3,4,6-Tetrachlorophenol	0.3432	0.3705	8.0	TM		
60	TM	Diethyl phthalate	1.584	1.718	8.4	TM		
61	TM	4-Chlorophenyl phenyl ether	0.8773	0.9798	12	TM		
62	TM	Fluorene	1.553	1.754	13	TM		
63	TM	4-Nitroaniline	0.3299	0.3375	2.3	TM		
64	S	2,4,6-Tribromophenol(S)	0.2486	0.2569	3.3	S		
65	I	Phenanthrene-D10(IS)	ISTD			I		
66	TM	4,6-Dinitro-2-methylphenol	0.1559	0.1643	5.4	TM		
67	TM	Diphenyl amine	0.6512	0.7085	8.8	TM		
68	*TM	n-Nitrosodiphenylamine	0.6512	0.7085	8.8	*TM		
69	TM	1,2-Diphenylhydrazine	0.9417	1.018	8.1	TM		
70	TM	4-Bromophenyl phenyl ether	0.2452	0.2660	8.5	TM		
71	TM	Hexachlorobenzene	0.2480	0.2713	9.4	TM		
72	TM	Atrazine	0.2236	0.0917	59	TM		*
73	*TM	Pentachlorophenol	0.1525	0.1550	1.6	*TM		
74	TM	Phenanthrene	1.104	1.172	6.2	TM		
75	TM	Anthracene	1.154	1.244	7.8	TM		
76	TM	Carbazol	1.051	1.129	7.5	TM		
77	TM	Di-n-butylphthalate	1.437	1.557	8.4	TM		
78		2-Nitrodiphenylamine	0.3268	0.3770	15			
79	*TM	Fluoranthene	1.293	1.404	8.6	*TM		
80	I	Chrysene-D12(IS)	ISTD			I		
		Average			10.5			

Semi-Volatile Analysis by GC-MS
EPA 8270

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 01/28/20
Instrument: Yoda
Cal. Date: 12/19/19
Data File: 1219Y267.D

		Compound	MEAN	CCRF	%D		%Drift	
81	TM	Benzidine	0.4082	0.0727	82	TM		*
82	TM	Pyrene	1.199	1.196	0.22	TM		
83	S	Terphenyl-D14(S)	0.9538	0.8773	8.0	S		
84	TM	Butyl benzylphthalate	0.6008	0.5962	0.75	TM		
85	TM	3,3'-Dichlorobenzidine	0.4121	0.4434	7.6	TM		
86	TM	Benz (a) anthracene	1.306	1.378	5.5	TM		
87	TM	Bis (2-ethylhexyl) phthalate	1.004	1.110	11	TM		
88	TM	Chrysene	1.136	1.139	0.26	TM		
89	*TM	Di-n-octylphthalate	1.482	1.474	0.50	*TM		
90	I	Perylene-D12(IS)	ISTD			I		
91	TM	Benzo (b) fluoranthene	1.306	1.382	5.8	TM		
92	TM	Benzo (k) fluoranthene	1.178	1.409	20	TM		
93	*TM	Benzo (a) pyrene	1.160	1.294	12	*TM		
94	TM	Indeno (1,2,3-cd) pyrene	1.352	1.454	7.6	TM		
95	TM	Dibenz (a,h) anthracene	1.204	1.302	8.1	TM		
96	TM	Benzo (g,h,i) perylene	1.062	1.121	5.6	TM		
97								
98								
99								
100								
101								
102								
103								
104								
105								
106								
107								
108								
109								
110								
111								
112								
113								
114								
115								
116								
117								
118								
119								
120								
		Average			11.7			

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y267.D Vial: 67
Acq On : 28 Jan 20 2:19 Operator: MA,SS
Sample : 50ug/ml 8270 01/03/20 (1) Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 28 7:16 2020 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.38	152	196253	40.00000 ppb		0.00
21) Napthalene-D8(IS)	6.82	136	822183	40.00000 ppb		0.00
41) Acenaphthene-D10(IS)	8.84	164	507672	40.00000 ppb		0.00
65) Phenanthrene-D10(IS)	10.56	188	970577	40.00000 ppb		0.00
80) Chrysene-D12(IS)	13.66	240	1183007	40.00000 ppb		0.00
90) Perylene-D12(IS)	15.49	264	975908	40.00000 ppb		0.00
System Monitoring Compounds						
5) 2-Fluorophenol (S)	3.81	112	722540	100.44760 ppb		0.00
Spiked Amount 200.000			Recovery =	50.224%		
6) Phenol-D6 (S)	5.00	99	945222	103.13810 ppb		0.00
Spiked Amount 200.000			Recovery =	51.569%		
22) Nitrobenzene-D5(S)	6.01	82	516889	50.55204 ppb		0.00
Spiked Amount 100.000			Recovery =	50.552%		
46) 2-Fluorobiphenyl(S)	8.05	172	946847	50.50213 ppb		0.00
Spiked Amount 100.000			Recovery =	50.502%		
64) 2,4,6-Tribromophenol(S)	9.77	330	326025	103.33402 ppb		0.00
Spiked Amount 200.000			Recovery =	51.667%		
83) Terphenyl-D14(S)	12.42	244	1297345	45.98887 ppb		0.00
Spiked Amount 100.000			Recovery =	45.989%		
Target Compounds						Qvalue
2) 1,4-Dioxane	1.68	58	17782	6.01810		99
3) n-Nitrosodimethylamine	1.91	42	330460	60.30828 ppb		98
4) Pyridine	1.92	79	739250	58.24057 ppb		98
7) Phenol	5.01	94	584052	54.00138 ppb		85
8) Aniline	5.00	93	292096	41.38462 ppb	#	87
9) Bis (2-chloroethyl) ether	5.08	63	276890	55.26329 ppb		98
10) 2-Chlorophenol	5.14	128	405462	53.24191 ppb		94
11) 1,3-DCB	5.31	146	433139	51.83068 ppb		99
12) 1,4-DCB	5.40	146	448055	52.38856 ppb		97
13) Benzyl alcohol	5.54	108	246138	54.87091 ppb		99
14) 1,2-DCB	5.56	146	421964	53.02725 ppb		99
15) 2-Methylphenol	5.68	107	357418	53.78431 ppb		98
16) Bis (2-chloroisopropyl) et	5.68	45	370163	56.02179 ppb		83
17) Acetophenone	5.83	105	625174	55.19405 ppb		99
18) 3&4-Methylphenol	5.86	107	966999	110.64619 ppb		97
19) n-Nitrosodi-n-propylamine	5.84	70	405527	55.66493 ppb		95
20) Hexachloroethane	5.94	117	192102	53.88709 ppb		92
23) Nitrobenzene	6.03	77	569529	53.74416 ppb		95
24) Isophorone	6.30	82	906847	54.23909 ppb		98
25) 2-Nitrophenol	6.39	139	230676	53.60647 ppb		91
26) 2,4-Dimethylphenol	6.44	122	375525	54.53734 ppb		98
27) Benzoic acid	6.61	105	328380	55.04729 ppb		97
28) Bis (2-chloroethoxy) metha	6.54	93	463450	53.41056 ppb		99
29) 2,4-Dichlorophenol	6.67	162	359223	53.50468 ppb		97
30) 1,2,4-Trichlorobenzene	6.75	180	399727	53.37866 ppb		98
31) 3,4-Dimethylphenol	6.78	107	619823	54.11014 ppb		99
32) Naphthalene	6.84	128	1200307	53.65678 ppb		99
33) 4-Chloroaniline	6.91	127	429274	47.72488 ppb		95
34) 2,6-Dichlorophenol	6.92	162	356746	54.23837 ppb		94
35) Hexachloropropene	6.94	213	353739	54.59152 ppb		100
36) Hexachlorobutadiene	6.97	225	276217	54.37118 ppb		99
37) Caprolactum	7.34	55	169722	56.32652 ppb		93

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y267.D Vial: 67
Acq On : 28 Jan 20 2:19 Operator: MA,SS
Sample : 50ug/ml 8270 01/03/20 (1) Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 28 7:16 2020 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
38)	4-Chloro-3-methylphenol	7.47	107	433414	54.38294	ppb		92
39)	2-Methylnaphthalene	7.63	142	817541	54.30287	ppb		100
40)	1-Methylnaphthalene	7.74	142	850279	54.31234	ppb		99
42)	Hexachlorocyclopentadiene	7.81	237	241216	42.16605	ppb		99
43)	1,2,4,5-Tetrachlorobenzene	7.83	216	433603	53.61844	ppb		98
44)	2,4,6-Trichlorophenol	7.97	196	289116	54.60654	ppb		99
45)	2,4,5-Trichlorophenol	8.02	196	297392	51.79087	ppb		97
47)	1,1'-Biphenyl	8.17	154	1069501	54.31626	ppb		97
48)	2-Chloronaphthalene	8.20	162	852071	53.80909	ppb		95
49)	2-Nitroaniline	8.32	65	332135	55.23988	ppb		91
50)	Dimethyl phthalate	8.52	163	1049553	54.07294	ppb		99
51)	2,6-DNT	8.60	165	229893	54.30695	ppb	#	74
52)	Acenaphthylene	8.67	152	1299517	53.30167	ppb		100
53)	3-Nitroaniline	8.32	138	273138	54.35700	ppb		96
54)	Acenaphthene	8.88	154	812982	53.30944	ppb		99
55)	2,4-Dinitrophenol	8.92	184	134060	52.80639	ppb		98
56)	4-Nitrophenol	8.60	65	22263	56.27235	ppb		99
57)	Dibenzofuran	9.07	168	1295519	55.92916	ppb		97
58)	2,4-DNT	9.07	165	355804	57.16840	ppb		96
59)	2,3,4,6-Tetrachlorophenol	9.23	232	235086	53.97741	ppb		96
60)	Diethyl phthalate	9.34	149	1090356	54.22158	ppb		99
61)	4-Chlorophenyl phenyl ethe	9.47	204	621795	55.84422	ppb		95
62)	Fluorene	9.47	166	1113038	56.48273	ppb		99
63)	4-Nitroaniline	8.79	138	214167	51.14950	ppb		80
66)	4,6-Dinitro-2-methylphenol	9.55	198	199343	52.68115	ppb	#	68
67)	Diphenyl amine	9.62	169	1719072	108.80138	ppb		99
68)	n-Nitrosodiphenylamine	9.62	169	1719072	108.80138	ppb		99
69)	1,2-Diphenylhydrazine	9.66	77	1235210	54.05590	ppb		97
70)	4-Bromophenyl phenyl ether	10.05	248	322706	54.24598	ppb	#	82
71)	Hexachlorobenzene	10.12	284	329169	54.69481	ppb	#	84
72)	Atrazine	10.23	200	55617	10.25015	ppb		95
73)	Pentachlorophenol	10.36	266	188005	50.81898	ppb		98
74)	Phenanthrene	10.59	178	1422174	53.09871	ppb		99
75)	Anthracene	10.66	178	1509748	53.92417	ppb		100
76)	Carbazol	10.84	167	1370248	53.75349	ppb		98
77)	Di-n-butylphthalate	11.24	149	1889216	54.19878	ppb		99
78)	2-Nitrodiphenylamine	11.42	167	228702	28.84313	ppb		98
79)	Fluoranthene	11.99	202	1702802	54.27884	ppb		99
81)	Benzidine	12.13	184	107440	8.89893	ppb		97
82)	Pyrene	12.25	202	1769079	49.88792	ppb		99
84)	Butyl benzylphthalate	12.99	149	881690	49.62424	ppb		98
85)	3,3'-Dichlorobenzidine	13.61	252	655635	53.79862	ppb		99
86)	Benz (a) anthracene	13.65	228	2038261	52.76796	ppb		99
87)	Bis (2-ethylhexyl) phthala	13.66	149	1641850	55.30443	ppb		99
88)	Chrysene	13.69	228	1683958	50.12772	ppb		100
89)	Di-n-octylphthalate	14.41	149	2180060	49.74751	ppb		99
91)	Benzo (b) fluoranthene	14.95	252	1685568	52.88013	ppb		99
92)	Benzo (k) fluoranthene	14.99	252	1718787	59.80732	ppb		98
93)	Benzo (a) pyrene	15.41	252	1578872	55.81171	ppb		99
94)	Indeno (1,2,3-cd) pyrene	17.36	276	1774120	53.79868	ppb		98
95)	Dibenz (a,h) anthracene	17.39	278	1588216	54.06395	ppb		99
96)	Benzo (g,h,i) perylene	17.92	276	1367661	52.78034	ppb		99

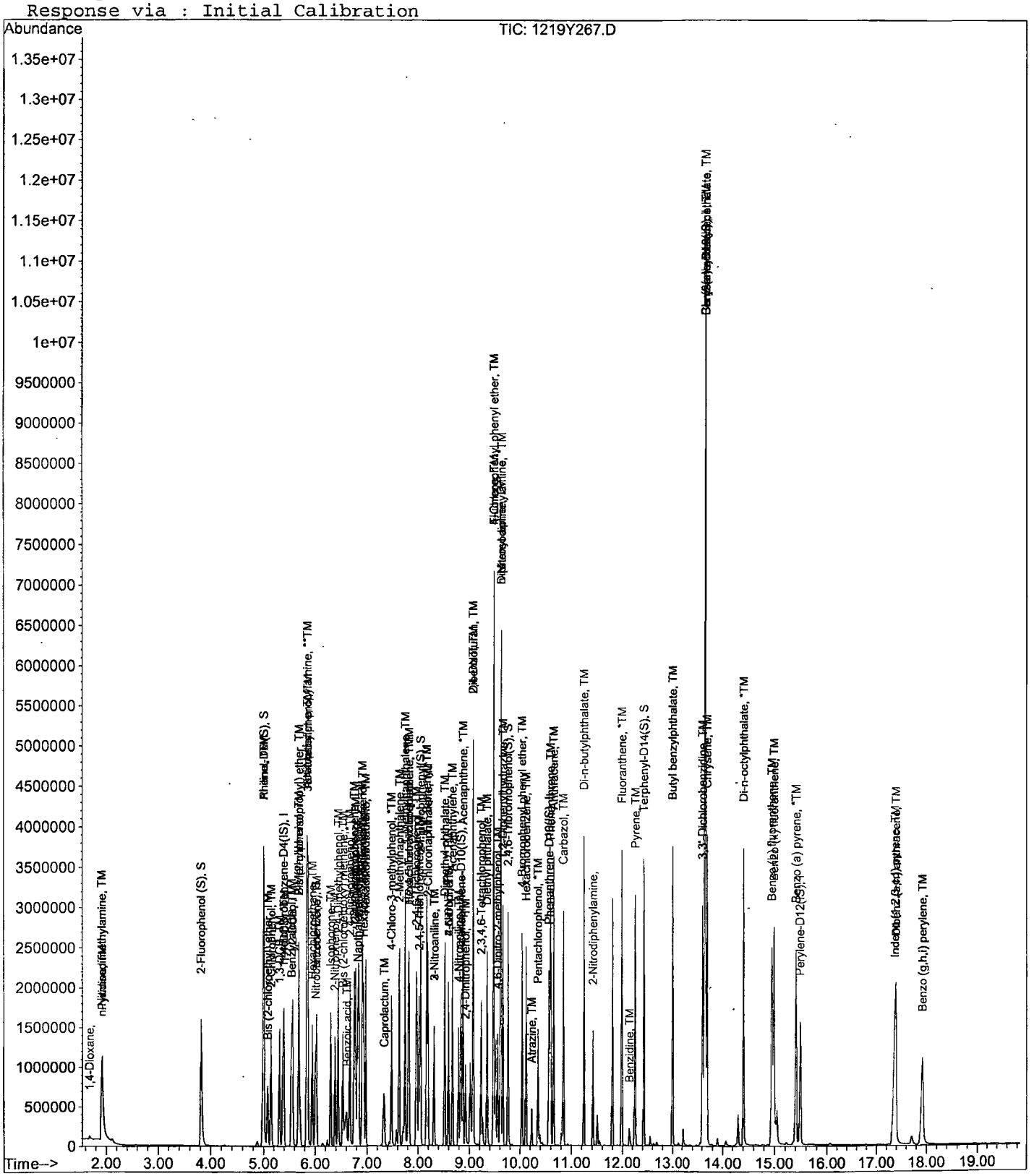
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y191219\1219Y267.D Vial: 67
Acq On : 28 Jan 20 2:19 Operator: MA,SS
Sample : 50ug/ml 8270 01/03/20 (1) Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 28 7:16 2020 Quant Results File: Y1219.RES

Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration



ORGANICS
Raw Data

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y260.D Vial: 60
Acq On : 27 Jan 20 23:04 Operator: MA,SS
Sample : BA06313W13 1/800 Inst : Yoda
Misc : Multiplr: 1.25

Quant Time: Jan 28 7:41 2020 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.37	152	148237	40.00000	ppb	0.00
21) Napthalene-D8(IS)	6.81	136	607864	40.00000	ppb	-0.02
41) Acenaphthene-D10(IS)	8.83	164	447682	40.00000	ppb	0.00
65) Phenanthrene-D10(IS)	10.57	188	908960	40.00000	ppb	0.00
80) Chrysene-D12(IS)	13.65	240	827189	40.00000	ppb	-0.02
90) Perylene-D12(IS)	15.48	264	879386	40.00000	ppb	0.00
System Monitoring Compounds						
5) 2-Fluorophenol (S)	3.81	112	1000020	230.06791	ppb	0.00
Spiked Amount 250.000			Recovery =	92.027%		
6) Phenol-D6 (S)	4.99	99	1344359	242.75616	ppb	0.00
Spiked Amount 250.000			Recovery =	97.102%		
22) Nitrobenzene-D5(S)	6.00	82	764528	126.41740	ppb	0.00
Spiked Amount 125.000			Recovery =	101.134%		
46) 2-Fluorobiphenyl(S)	8.05	172	1412753	106.81193	ppb	0.00
Spiked Amount 125.000			Recovery =	85.450%		
64) 2,4,6-Tribromophenol(S)	9.76	330	542445	243.70908	ppb	0.00
Spiked Amount 250.000			Recovery =	97.484%		
83) Terphenyl-D14(S)	12.43	244	2216174	140.44093	ppb	0.00
Spiked Amount 125.000			Recovery =	112.353%		

Target Compounds Qvalue

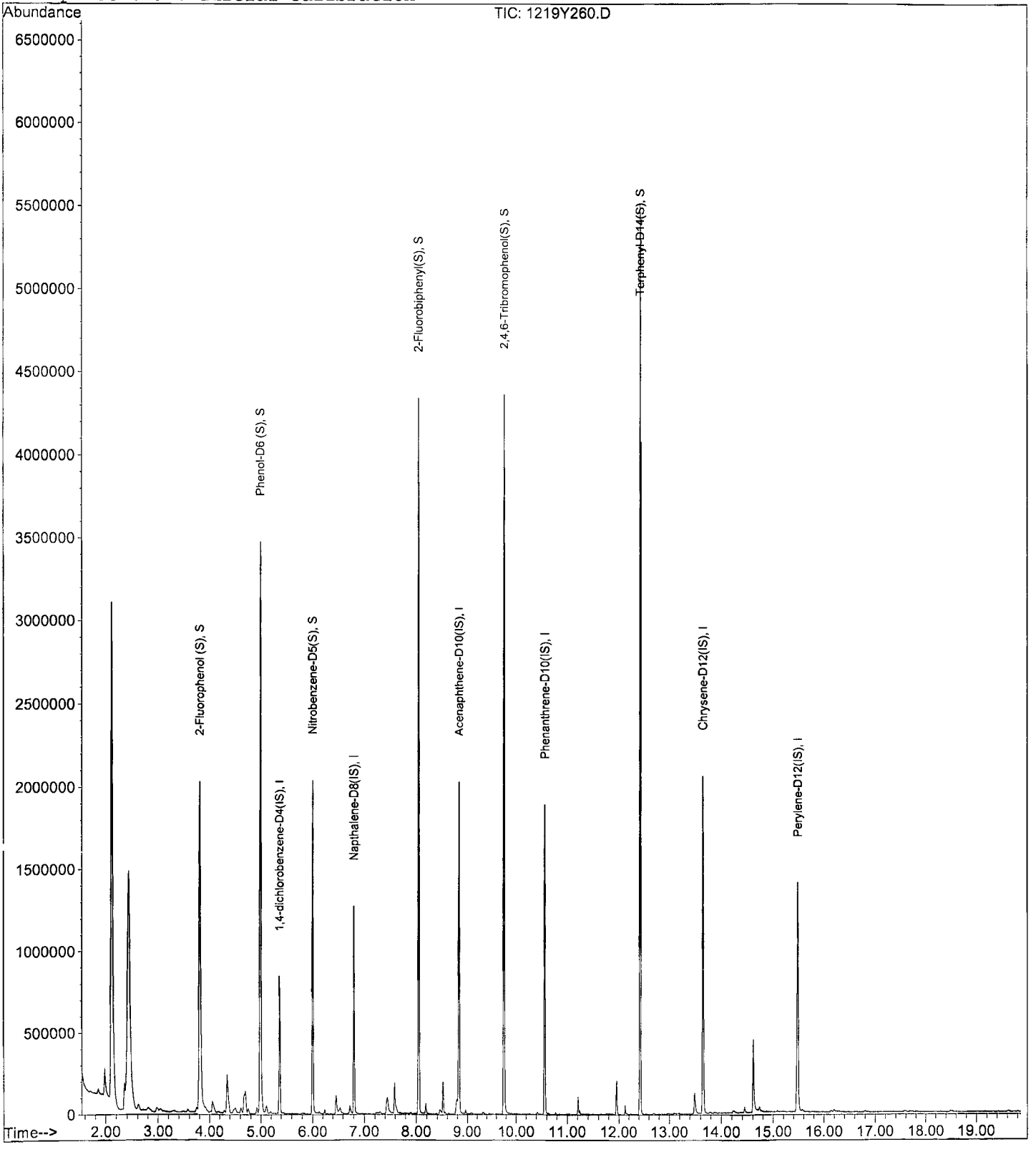
(#) = qualifier out of range (m) = manual integration

Data File : M:\YODA\DATA\Y191219\1219Y260.D
Acq On : 27 Jan 20 23:04
Sample : BA06313W13 1/800
Misc :

Vial: 60
Operator: MA,SS
Inst : Yoda
Multiplr: 1.25

Quant Time: Jan 28 7:41 2020 Quant Results File: Y1219.RES

Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y261.D Vial: 61
Acq On : 27 Jan 20 23:32 Operator: MA,SS
Sample : BA06315W13 1/800 Inst : Yoda
Misc : Multiplr: 1.25

Quant Time: Jan 28 7:42 2020 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.37	152	165793	40.00000 ppb	0.00
21) Napthalene-D8(IS)	6.81	136	661375	40.00000 ppb	-0.02
41) Acenaphthene-D10(IS)	8.83	164	443209	40.00000 ppb	0.00
65) Phenanthrene-D10(IS)	10.56	188	873175	40.00000 ppb	-0.02
80) Chrysene-D12(IS)	13.65	240	821385	40.00000 ppb	-0.02
90) Perylene-D12(IS)	15.49	264	851829	40.00000 ppb	0.00
System Monitoring Compounds					
5) 2-Fluorophenol (S)	3.81	112	995965	204.87165 ppb	0.00
Spiked Amount 250.000			Recovery	= 81.949%	
6) Phenol-D6 (S)	4.99	99	1347846	217.61344 ppb	0.00
Spiked Amount 250.000			Recovery	= 87.045%	
22) Nitrobenzene-D5(S)	6.00	82	768256	116.75570 ppb	0.00
Spiked Amount 125.000			Recovery	= 93.405%	
46) 2-Fluorobiphenyl(S)	8.05	172	1434672	109.56383 ppb	0.00
Spiked Amount 125.000			Recovery	= 87.651%	
64) 2,4,6-Tribromophenol(S)	9.76	330	557157	252.84516 ppb	0.00
Spiked Amount 250.000			Recovery	= 101.138%	
83) Terphenyl-D14(S)	12.42	244	2228042	142.19070 ppb	0.00
Spiked Amount 125.000			Recovery	= 113.753%	

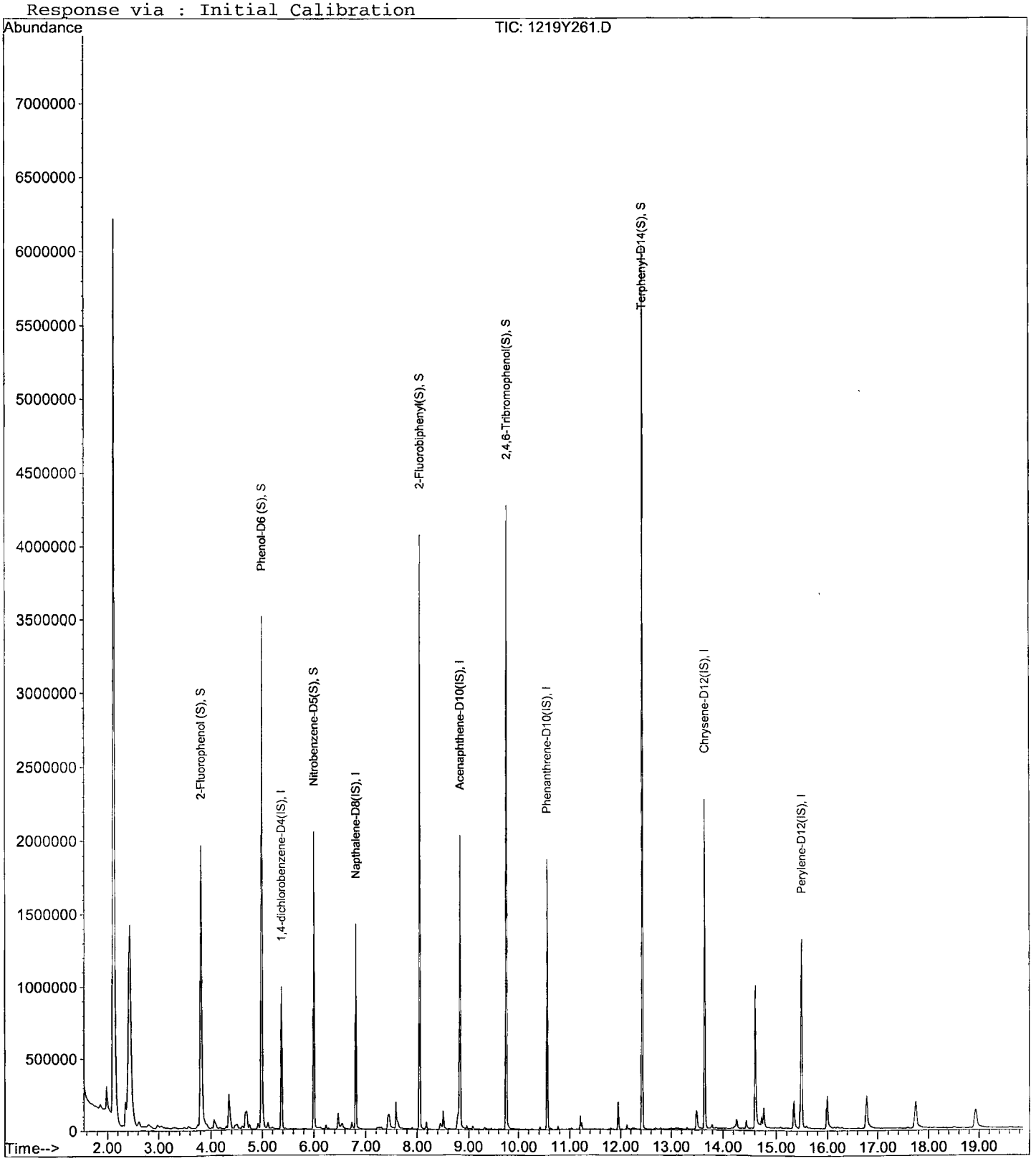
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Data File : M:\YODA\DATA\Y191219\1219Y261.D Vial: 61
Acq On : 27 Jan 20 23:32 Operator: MA,SS
Sample : BA06315W13 1/800 Inst : Yoda
Misc : Multiplr: 1.25

Quant Time: Jan 28 7:42 2020 Quant Results File: Y1219.RES

Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y262.D Vial: 62
Acq On : 28 Jan 20 00:00 Operator: MA,SS
Sample : BA06317W14 1/800 Inst : Yoda
Misc : Multiplr: 1.25

Quant Time: Jan 28 7:42 2020 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.38	152	156804	40.00000 ppb	0.00
21) Napthalene-D8(IS)	6.81	136	618793	40.00000 ppb	-0.02
41) Acenaphthene-D10(IS)	8.83	164	444168	40.00000 ppb	-0.01
65) Phenanthrene-D10(IS)	10.56	188	881669	40.00000 ppb	-0.01
80) Chrysene-D12(IS)	13.65	240	822144	40.00000 ppb	-0.02
90) Perylene-D12(IS)	15.48	264	862581	40.00000 ppb	-0.01
System Monitoring Compounds					
5) 2-Fluorophenol (S)	3.81	112	688582	149.76230 ppb	-0.01
Spiked Amount 250.000			Recovery =	59.905%	
6) Phenol-D6 (S)	4.99	99	1005812	171.70040 ppb	-0.01
Spiked Amount 250.000			Recovery =	68.680%	
22) Nitrobenzene-D5(S)	6.00	82	756356	122.85724 ppb	-0.01
Spiked Amount 125.000			Recovery =	98.286%	
46) 2-Fluorobiphenyl(S)	8.05	172	1434344	109.30227 ppb	-0.01
Spiked Amount 125.000			Recovery =	87.442%	
64) 2,4,6-Tribromophenol(S)	9.76	330	464188	210.19979 ppb	-0.01
Spiked Amount 250.000			Recovery =	84.080%	
83) Terphenyl-D14(S)	12.43	244	2164080	137.98123 ppb	0.00
Spiked Amount 125.000			Recovery =	110.385%	

Target Compounds Qvalue

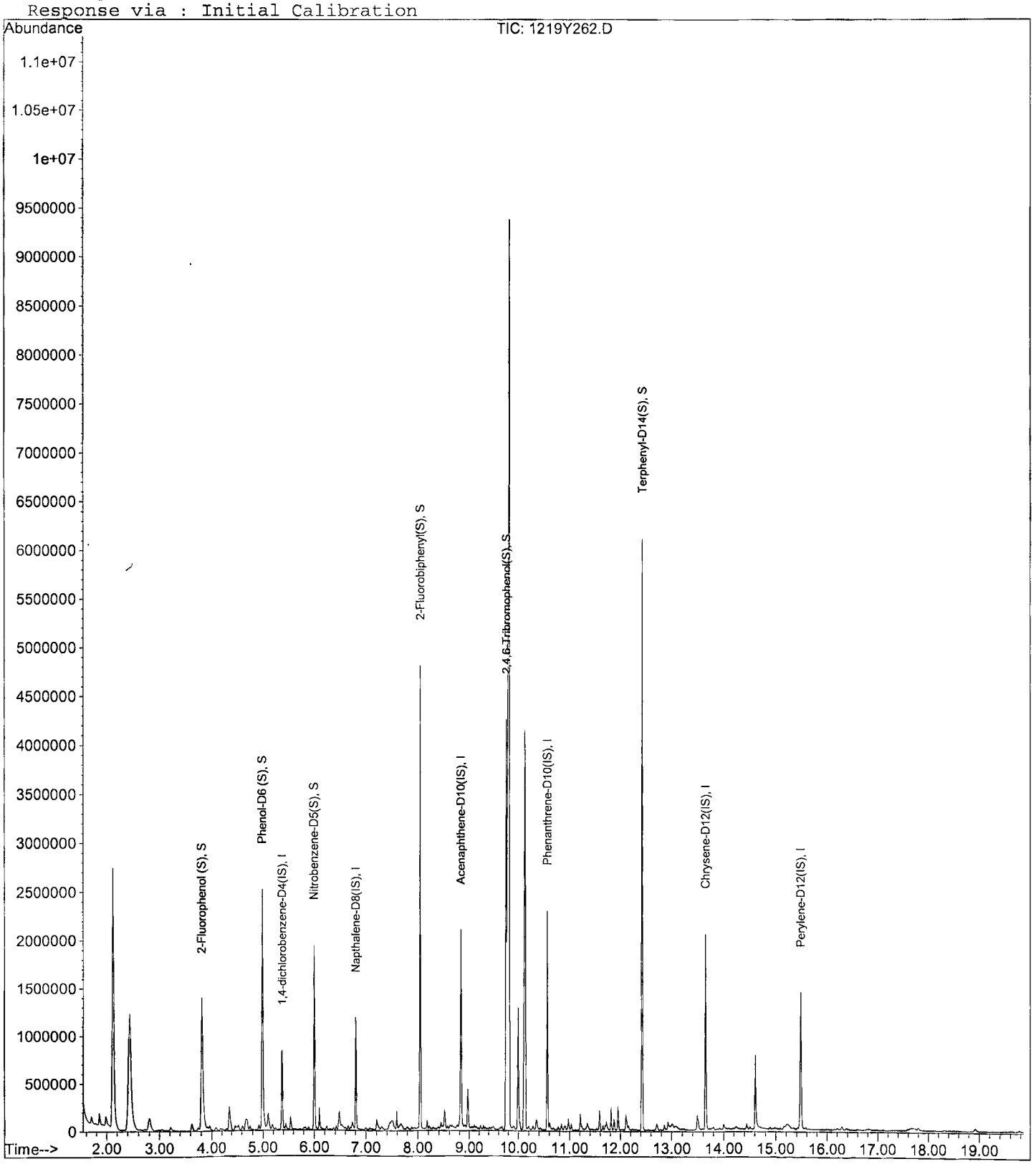
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y191219\1219Y262.D Vial: 62
Acq On : 28 Jan 20 00:00 Operator: MA,SS
Sample : BA06317W14 1/800 Inst : Yoda
Misc : Multiplr: 1.25

Quant Time: Jan 28 7:42 2020 Quant Results File: Y1219.RES

Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration



Matrix Spike Recoveries

EPA 8270D SIM LIQ-LIQ

APPL ID: **200124W-06272 MS - 249501**
Batch ID: #SIM53-200124A
Sample ID: BA06272
Client ID: ERH971

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
1-METHYLNAPHTHALENE	6.25	ND	5.48	5.32	87.7	85.1	41-115	3.0	20
2-METHYLNAPHTHALENE	6.25	ND	5.48	5.34	87.7	85.4	39-114	2.6	20
NAPHTHALENE	6.25	ND	5.41	5.27	86.6	84.3	43-114	2.6	20
SURROGATE: 2-METHYLNAPHTHALEN	6.25	NA	5.56	5.44	89.0	87.0	39-114		
SURROGATE: FLUORANTHENE-D10 (S)	6.25	NA	5.45	5.35	87.2	85.6	58-120		

Comments:

Primary	SPK	DUP
Quant Method :	L0113PCP.M	L0113PCP.M
Extraction Date :	01/24/20	01/24/20
Analysis Date :	01/27/20	01/27/20
Instrument :	Linus	Linus
Run :	0113L165	0113L166
Initials :	JPR	

Printed: 01/28/20 9:30:42 AM
APPL MSD SCII

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y263.D Vial: 63
Acq On : 28 Jan 20 00:28 Operator: MA,SS
Sample : BA06319W16 1/800 Inst : Yoda
Misc : Multiplr: 1.25

Quant Time: Jan 28 7:43 2020 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.38	152	153066	40.00000 ppb	0.00
21) Napthalene-D8(IS)	6.81	136	607505	40.00000 ppb	-0.02
41) Acenaphthene-D10(IS)	8.83	164	445252	40.00000 ppb	0.00
65) Phenanthrene-D10(IS)	10.57	188	895250	40.00000 ppb	0.00
80) Chrysene-D12(IS)	13.65	240	811659	40.00000 ppb	-0.02
90) Perylene-D12(IS)	15.48	264	878142	40.00000 ppb	0.00
System Monitoring Compounds					
5) 2-Fluorophenol (S)	3.81	112	821045	182.93306 ppb	0.00
Spiked Amount 250.000			Recovery	= 73.173%	
6) Phenol-D6 (S)	4.99	99	811502	141.91310 ppb	0.00
Spiked Amount 250.000			Recovery	= 56.765%	
22) Nitrobenzene-D5(S)	6.00	82	701995	116.14595 ppb	0.00
Spiked Amount 125.000			Recovery	= 92.917%	
46) 2-Fluorobiphenyl(S)	8.05	172	1320434	100.37694 ppb	0.00
Spiked Amount 125.000			Recovery	= 80.302%	
64) 2,4,6-Tribromophenol(S)	9.76	330	513828	232.11196 ppb	0.00
Spiked Amount 250.000			Recovery	= 92.845%	
83) Terphenyl-D14(S)	12.43	244	2116388	136.68355 ppb	0.00
Spiked Amount 125.000			Recovery	= 109.347%	

Target Compounds Qvalue

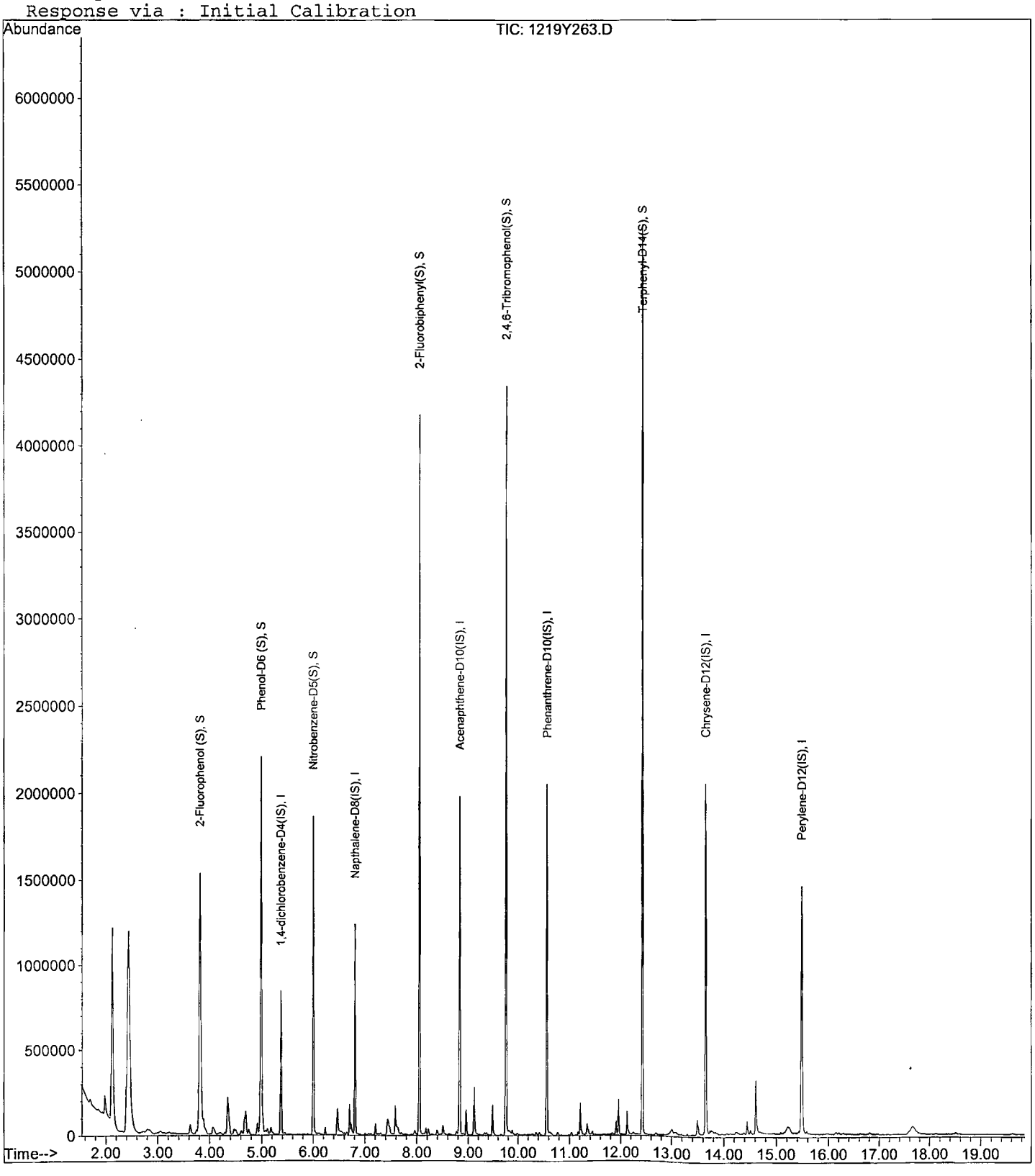
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y191219\1219Y263.D Vial: 63
Acq On : 28 Jan 20 00:28 Operator: MA,SS
Sample : BA06319W16 1/800 Inst : Yoda
Misc : Multiplr: 1.25

Quant Time: Jan 28 7:43 2020 Quant Results File: Y1219.RES

Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y248.D Vial: 48
Acq On : 27 Jan 20 17:32 Operator: MA,SS
Sample : 200124A BLK 1/800 Inst : Yoda
Misc : Multiplr: 1.25

Quant Time: Jan 28 7:35 2020 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.37	152	163293	40.00000 ppb	0.00
21) Napthalene-D8(IS)	6.81	136	655142	40.00000 ppb	-0.02
41) Acenaphthene-D10(IS)	8.83	164	449623	40.00000 ppb	0.00
65) Phenanthrene-D10(IS)	10.57	188	903141	40.00000 ppb	0.00
80) Chrysene-D12(IS)	13.65	240	843006	40.00000 ppb	-0.02
90) Perylene-D12(IS)	15.49	264	881748	40.00000 ppb	0.00
System Monitoring Compounds					
5) 2-Fluorophenol (S)	3.81	112	932049	194.65930 ppb	0.00
Spiked Amount 250.000			Recovery	= 77.864%	
6) Phenol-D6 (S)	4.99	99	1231447	201.86442 ppb	0.00
Spiked Amount 250.000			Recovery	= 80.746%	
22) Nitrobenzene-D5(S)	6.00	82	742563	113.92466 ppb	0.00
Spiked Amount 125.000			Recovery	= 91.140%	
46) 2-Fluorobiphenyl(S)	8.05	172	1376703	103.63701 ppb	0.00
Spiked Amount 125.000			Recovery	= 82.910%	
64) 2,4,6-Tribromophenol(S)	9.76	330	556915	249.13000 ppb	0.00
Spiked Amount 250.000			Recovery	= 99.652%	
83) Terphenyl-D14(S)	12.43	244	2286679	142.19002 ppb	0.00
Spiked Amount 125.000			Recovery	= 113.752%	

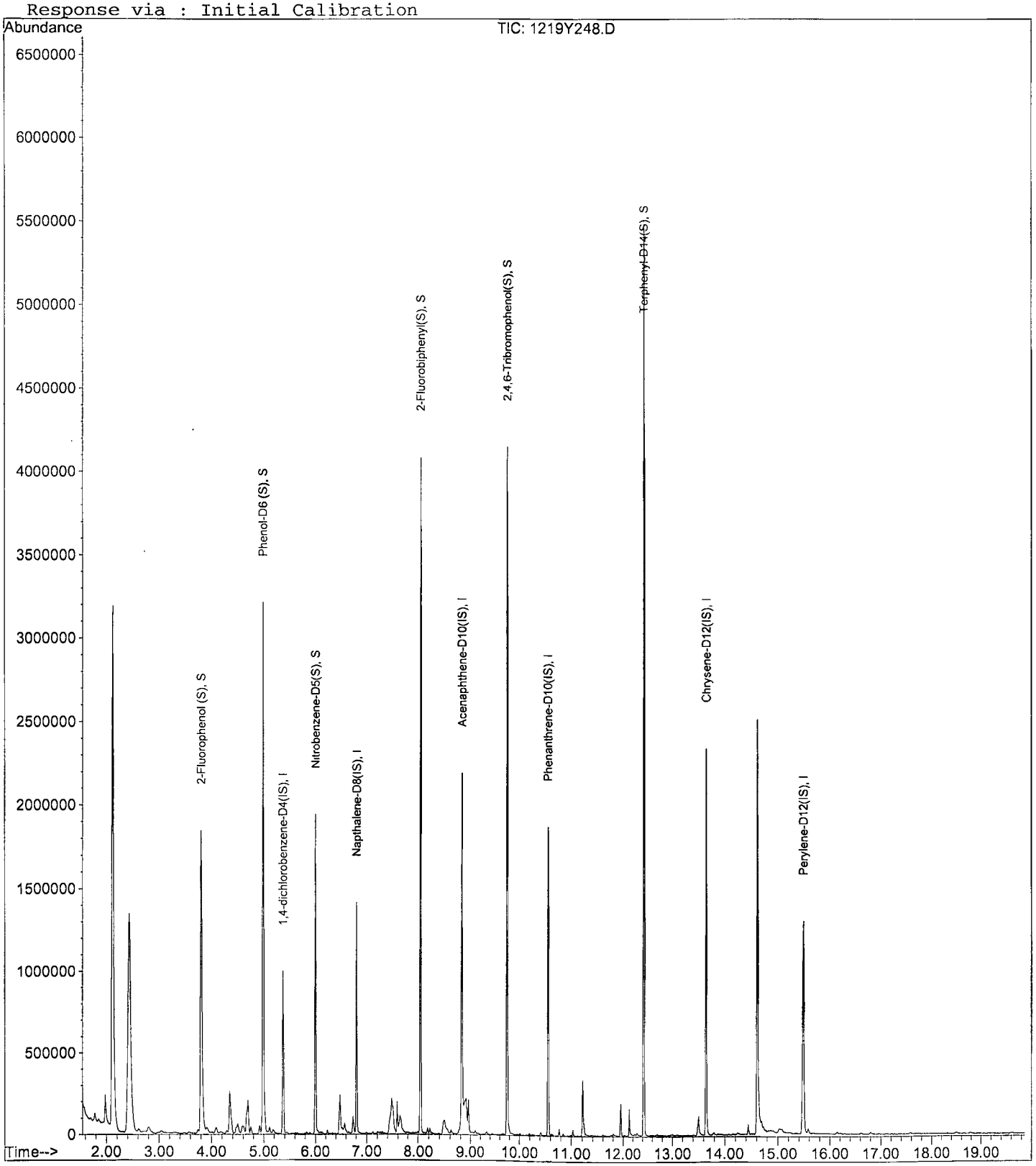
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Data File : M:\YODA\DATA\Y191219\1219Y248.D Vial: 48
Acq On : 27 Jan 20 17:32 Operator: MA,SS
Sample : 200124A BLK 1/800 Inst : Yoda
Misc : Multiplr: 1.25

Quant Time: Jan 28 7:35 2020 Quant Results File: Y1219.RES

Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y249.D
Acq On : 27 Jan 20 18:00
Sample : 200124A LCS-1 1/800
Misc :

Vial: 49
Operator: MA,SS
Inst : Yoda
Multiplr: 1.25

Quant Time: Jan 28 7:23 2020 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.38	152	178391	40.00000 ppb		0.00
21) Napthalene-D8(IS)	6.82	136	698817	40.00000 ppb		0.00
41) Acenaphthene-D10(IS)	8.83	164	425352	40.00000 ppb		0.00
65) Phenanthrene-D10(IS)	10.57	188	819148	40.00000 ppb		0.00
80) Chrysene-D12(IS)	13.66	240	958931	40.00000 ppb		0.00
90) Perylene-D12(IS)	15.48	264	833072	40.00000 ppb		0.00
System Monitoring Compounds						
5) 2-Fluorophenol (S)	3.82	112	1035823	198.02343 ppb		0.00
Spiked Amount 250.000			Recovery	= 79.209%		
6) Phenol-D6 (S)	5.00	99	1418831	212.89691 ppb		0.00
Spiked Amount 250.000			Recovery	= 85.159%		
22) Nitrobenzene-D5(S)	6.01	82	748760	107.69587 ppb		0.00
Spiked Amount 125.000			Recovery	= 86.157%		
46) 2-Fluorobiphenyl(S)	8.05	172	1380981	109.89106 ppb		0.00
Spiked Amount 125.000			Recovery	= 87.913%		
64) 2,4,6-Tribromophenol(S)	9.77	330	535443	253.19224 ppb		0.00
Spiked Amount 250.000			Recovery	= 101.277%		
83) Terphenyl-D14(S)	12.43	244	2203037	120.42843 ppb		0.00
Spiked Amount 125.000			Recovery	= 96.342%		
Target Compounds						Qvalue
2) 1,4-Dioxane	1.68	58	12018	5.59326		86
3) n-Nitrosodimethylamine	1.91	42	245812	61.68996 ppb		98
4) Pyridine	1.92	79	468681	50.77676 ppb		96
7) Phenol	5.01	94	427094	54.30380 ppb		95
8) Aniline	5.00	93	246208	47.96991 ppb	#	69
9) Bis (2-chloroethyl) ether	5.08	63	203313	55.80177 ppb		97
10) 2-Chlorophenol	5.14	128	298354	53.87517 ppb		94
11) 1,3-DCB	5.31	146	291534	47.97359 ppb		98
12) 1,4-DCB	5.40	146	304488	48.95856 ppb		96
13) Benzyl alcohol	5.54	108	181707	55.70428 ppb		100
14) 1,2-DCB	5.56	146	292780	50.59627 ppb		98
15) 2-Methylphenol	5.68	107	261927	54.20169 ppb		95
16) Bis (2-chloroisopropyl) et	5.68	45	273157	56.84990 ppb		86
17) Acetophenone	5.83	105	453780	55.09219 ppb		99
18) 3&4-Methylphenol	5.85	107	690431	108.63859 ppb		97
19) n-Nitrosodi-n-propylamine	5.84	70	284740	53.74818 ppb		95
20) Hexachloroethane	5.94	117	110526	42.63543 ppb		96
23) Nitrobenzene	6.03	77	450292	62.49204 ppb		94
24) Isophorone	6.30	82	681506	59.94640 ppb		99
25) 2-Nitrophenol	6.38	139	167619	57.28660 ppb		87
26) 2,4-Dimethylphenol	6.43	122	251378	53.69049 ppb		97
27) Benzoic acid	6.60	105	274186	67.68553 ppb		96
28) Bis (2-chloroethoxy) metha	6.54	93	341557	57.88985 ppb		98
29) 2,4-Dichlorophenol	6.67	162	268983	58.92065 ppb		99
30) 1,2,4-Trichlorobenzene	6.75	180	264401	51.92570 ppb		98
31) 3,4-Dimethylphenol	6.78	107	454795	58.39043 ppb		100
32) Naphthalene	6.83	128	851244	55.96305 ppb		99
33) 4-Chloroaniline	6.90	127	252347	41.25945 ppb		97
34) 2,6-Dichlorophenol	6.91	162	261057	58.37110 ppb		99
35) Hexachloropropene	6.94	213	143130	32.48538 ppb		98
36) Hexachlorobutadiene	6.97	225	152549	44.16139 ppb		99
37) Caprolactum	7.33	55	125915	61.45643 ppb		96

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y249.D Vial: 49
Acq On : 27 Jan 20 18:00 Operator: MA,SS
Sample : 200124A LCS-1 1/800 Inst : Yoda
Misc : Multiplr: 1.25

Quant Time: Jan 28 7:23 2020 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
38)	4-Chloro-3-methylphenol	7.47	107	325396	60.04640	ppb		95
39)	2-Methylnaphthalene	7.62	142	568395	55.52372	ppb		100
40)	1-Methylnaphthalene	7.74	142	597319	56.11235	ppb		99
42)	Hexachlorocyclopentadiene	7.81	237	74232	22.37868	ppb		98
43)	1,2,4,5-Tetrachlorobenzene	7.83	216	286842	52.91872	ppb		98
44)	2,4,6-Trichlorophenol	7.97	196	213024	60.02688	ppb		100
45)	2,4,5-Trichlorophenol	8.02	196	222119	57.71044	ppb		94
47)	1,1'-Biphenyl	8.17	154	751841	56.96648	ppb		97
48)	2-Chloronaphthalene	8.19	162	592108	55.78604	ppb		98
49)	2-Nitroaniline	8.31	65	243528	60.42710	ppb		93
50)	Dimethyl phthalate	8.52	163	775738	59.62597	ppb		99
51)	2,6-DNT	8.60	165	170826	60.20442	ppb		88
52)	Acenaphthylene	8.67	152	913700	55.91228	ppb		100
53)	3-Nitroaniline	8.31	138	195451	58.03045	ppb		93
54)	Acenaphthene	8.88	154	590272	57.74576	ppb		100
55)	2,4-Dinitrophenol	8.92	184	106563	63.05455	ppb		90
56)	4-Nitrophenol	8.59	65	17371	65.50598	ppb		99
57)	Dibenzofuran	9.07	168	904434	58.25271	ppb		100
58)	2,4-DNT	9.07	165	253799	60.83869	ppb		93
59)	2,3,4,6-Tetrachlorophenol	9.23	232	179994	61.65781	ppb		98
60)	Diethyl phthalate	9.34	149	819808	60.82201	ppb		99
61)	4-Chlorophenyl phenyl ethe	9.47	204	428348	57.39479	ppb		99
62)	Fluorene	9.47	166	772695	58.50036	ppb		99
63)	4-Nitroaniline	8.79	138	149725	53.34920	ppb		90
66)	4,6-Dinitro-2-methylphenol	9.55	198	148955	58.30247	ppb		90
67)	Diphenyl amine	9.62	169	1170903	109.75868	ppb		99
68)	n-Nitrosodiphenylamine	9.62	169	1170903	109.75868	ppb		99
69)	1,2-Diphenylhydrazine	9.66	77	923820	59.87800	ppb		100
70)	4-Bromophenyl phenyl ether	10.04	248	231800	57.71007	ppb		98
71)	Hexachlorobenzene	10.12	284	233397	57.43810	ppb		94
72)	Atrazine	10.23	200	99054	27.03786	ppb		93
73)	Pentachlorophenol	10.35	266	143304	57.37101	ppb		99
74)	Phenanthrene	10.59	178	1038196	57.41008	ppb		99
75)	Anthracene	10.66	178	1076183	56.93021	ppb		100
76)	Carbazol	10.84	167	1010388	58.70476	ppb		99
77)	Di-n-butylphthalate	11.24	149	1415622	60.14962	ppb		100
78)	2-Nitrodiphenylamine	11.42	167	169676	31.69352	ppb		99
79)	Fluoranthene	11.99	202	1236497	58.37638	ppb		99
81)	Benzidine	12.13	184	67040	8.56280	ppb		94
82)	Pyrene	12.24	202	1282926	55.79043	ppb		100
84)	Butyl benzylphthalate	12.99	149	645013	55.98303	ppb		99
85)	3,3'-Dichlorobenzidine	13.61	252	347775	44.00655	ppb		99
86)	Benz (a) anthracene	13.65	228	1404830	56.08468	ppb		99
87)	Bis (2-ethylhexyl) phthala	13.66	149	1188196	61.71980	ppb		98
88)	Chrysene	13.68	228	1217256	55.87770	ppb		99
89)	Di-n-octylphthalate	14.40	149	1555452	54.73555	ppb	#	90
91)	Benzo (b) fluoranthene	14.95	252	1281761	58.88296	ppb		99
92)	Benzo (k) fluoranthene	14.98	252	1191972	60.73440	ppb		99
93)	Benzo (a) pyrene	15.41	252	1115970	57.76533	ppb		100
94)	Indeno (1,2,3-cd) pyrene	17.35	276	1319770	58.60346	ppb		99
95)	Dibenz (a,h) anthracene	17.38	278	1191619	59.39802	ppb		99
96)	Benzo (g,h,i) perylene	17.91	276	1014528	57.33161	ppb		99

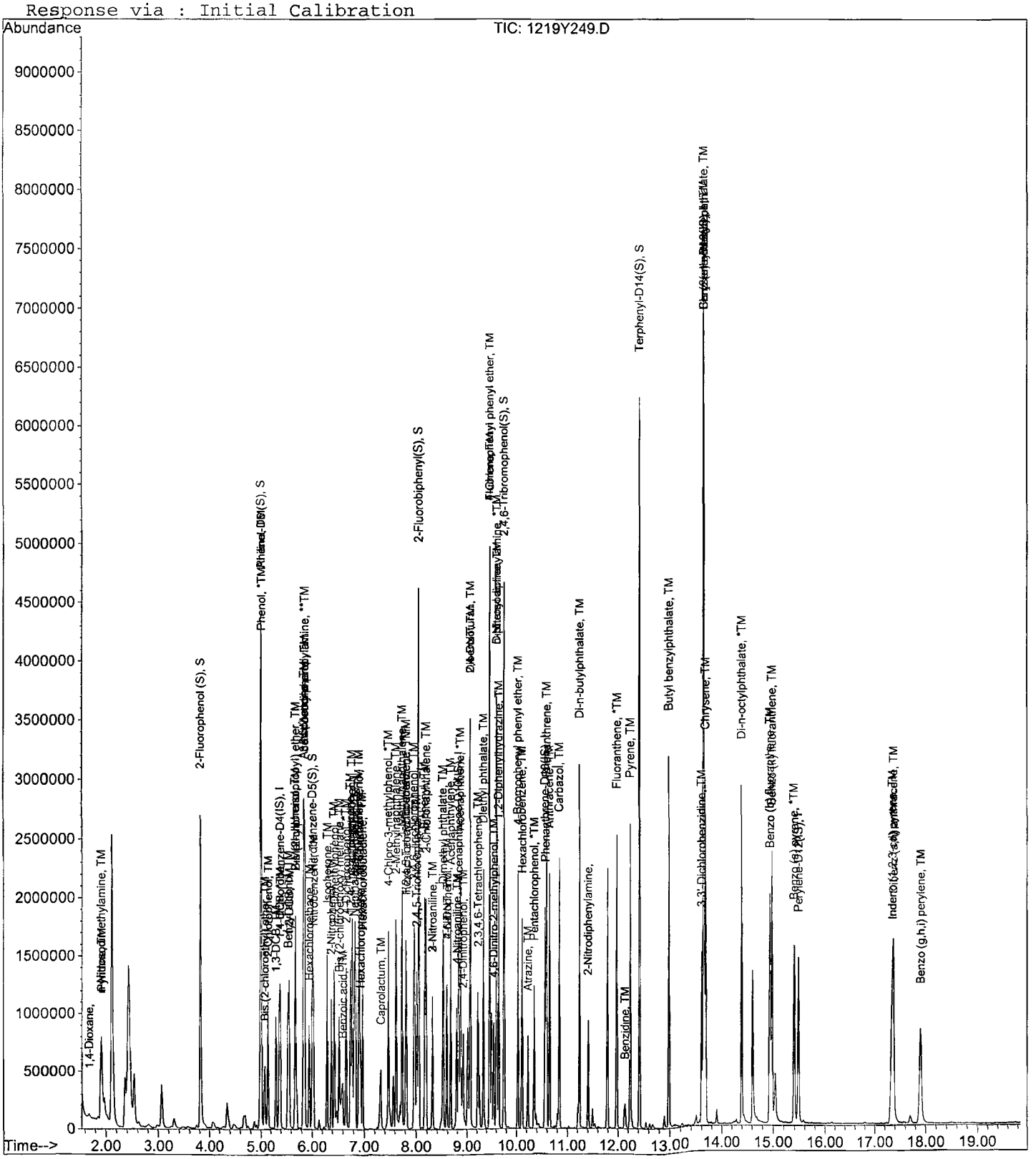
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y191219\1219Y249.D Vial: 49
Acq On : 27 Jan 20 18:00 Operator: MA,SS
Sample : 200124A LCS-1 1/800 Inst : Yoda
Misc : Multiplr: 1.25

Quant Time: Jan 28 7:23 2020 Quant Results File: Y1219.RES

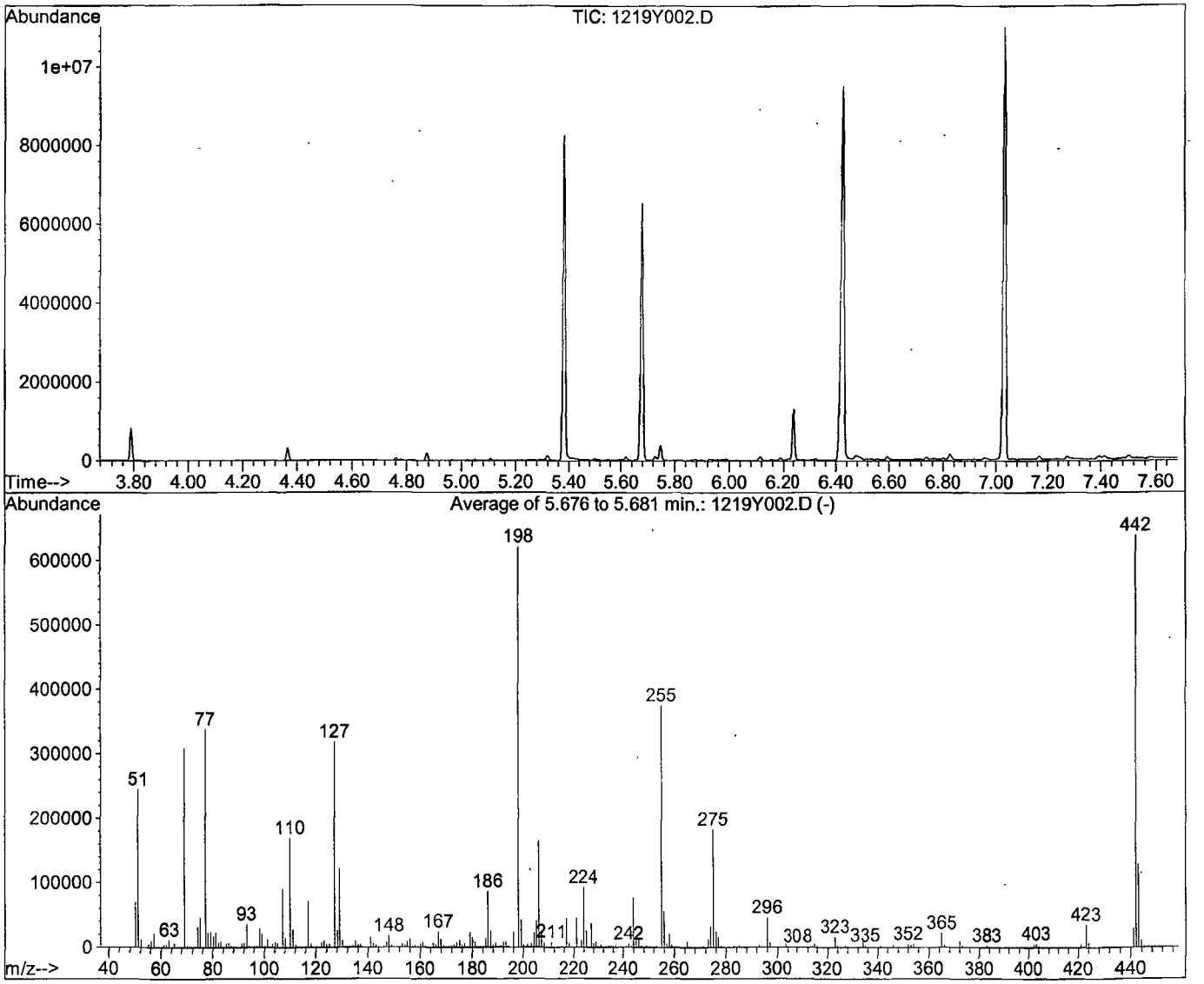
Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration


Abundance
TIC: 1219Y249.D
Time-->
2-Fluorophenol (S), S
2-Fluorobiphenyl(S), S
Terphenyl-D14(S), S
2,4,6-Tribromophenol(S), S
Phenol-D5(S), S
Benzo (g,h,i) perylene, TM
Indeno (1,2,3-cd) pyrene, TM
Benzo (b) fluoranthene, TM
Benzo (k) fluoranthene, TM
Perylene-D12(S), S
Di-n-octylphthalate, *TM
Chrysene, TM
Benzo (a) anthracene, TM
3,3'-Dichlorobenzidine, TM
Butyl benzylphthalate, TM
Di-n-butylphthalate, TM
Fluoranthene, *TM
Pyrene, TM
Benzidine, TM
2-Nitrodiphenylamine,
Carbazol, TM
Phenanthrene-D10(S), S
Anthracene, TM
Pentachlorophenol, *TM
Atrazine, TM
Hexachlorobenzene, TM
4-Bromophenyl phenyl ether, TM
4,6-Dinitro-2-methylphenol, TM
2,3,4,6-Tetrachlorophenol, TM
Dimethoate, TM
Acenaphthylene, TM
4-Nitrophenol, *TM
2,4-Dinitrophenol, *TM
2-Nitroaniline, TM
Dimethyl phthalate, TM
2,6-Dinitrotoluene, TM
Diethylphthalate, TM
4-Chlorophenyl phenyl ether, TM
Fluorene, TM
4-Nitroaniline, TM
2-Methyl-4,6-dinitrophenol, TM
N-Nitrosodiphenylamine, TM
Azobenzene, TM
Hexachlorophene, TM
Caprolactum, TM
4-Chloro-3-methylphenol, *TM
2-Methylnaphthalene, TM
Hexachlorocyclopentadiene, TM
2,4,5-Trichlorophenol, TM
2-Chloronaphthalene, TM
2-Nitroaniline, TM
Dimethyl phthalate, TM
Acenaphthylene

DFTPP

Data File : M:\YODA\DATA\Y191219\1219Y002.D Vial: 2
Acq On : 19 Dec 19 8:50 Operator: MA,SS
Sample : SV TUNE 10/01/19 Inst : Yoda
Misc : Multiplr: 1.00

Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C



Spectrum Information: Average of 5.676 to 5.681 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	39.5	245061	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	1.0	3141	PASS
127	198	10	80	51.3	318211	PASS
197	198	0.00	2	0.0	0	PASS
198	198	100	100	100.0	620800	PASS
199	198	5	9	6.7	41381	PASS
275	198	10	60	29.4	182251	PASS
365	198	1	100	3.5	21877	PASS
441	442	0.01	24	4.6	29075	PASS
442	198	50	500	102.9	638805	PASS
443	442	15	24	20.0	127973	PASS

1219Y002.D Y1219.M Fri Dec 20 12:42:23 2019

Data File Name:	**1219Y002.D**
Data File Path:	**M:\YODA\DATA\Y191219**
Operator:	**MA,SS**
Date Acquired:	**19 Dec 2019 08:50**
Method File:	**DFTPP2.M**
Sample Name:	**SV TUNE 10/01/19**
Vial Number:	**2**
Instrument Name:	**Yoda**

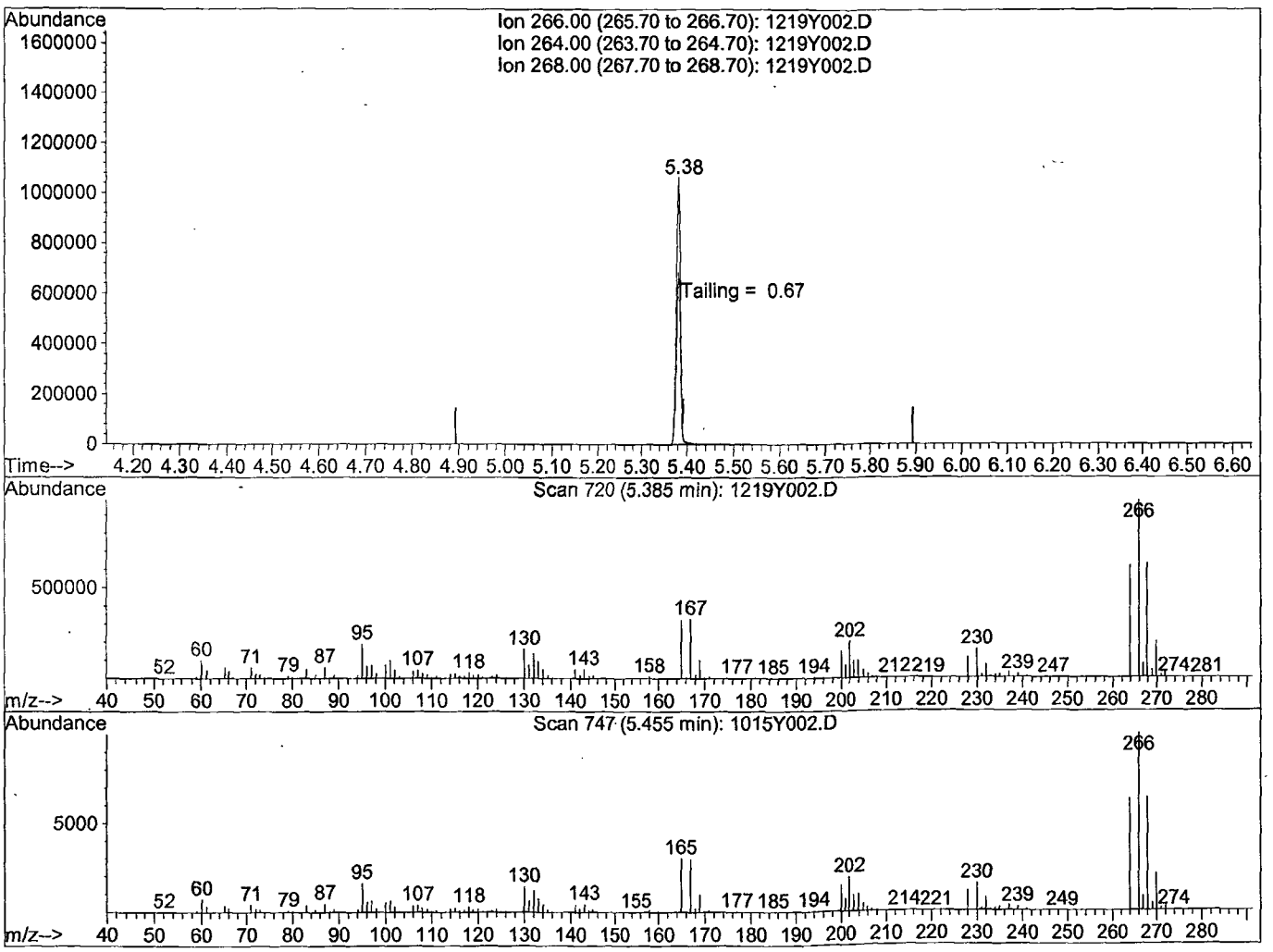
#	Name	Ret Time	Target Response
1)	DDT	7.02	83598600
2)	DDD	6.79	322054
3)	DDE	6.59	610218

Breakdown **1.10**

Quantitation Report

Data File : M:\YODA\DATA\Y191219\1219Y002.D Vial: 2
Acq On : 19 Dec 19 8:50 Operator: MA,SS
Sample : SV TUNE 10/01/19 Inst : Yoda
Misc : Multiplr: 1.00
Quant Time: Dec 19 16:49 2019 Quant Results File: temp.res

Method : M:\YODA\DATA\Y191219\DFTPP2.M (Chemstation Integrator)
Title :
Last Update : Tue Dec 10 08:34:10 2019
Response via : Single Level Calibration



TIC: 1219Y002.D

(5) Pentachlorophenol

5.38min 0.0000

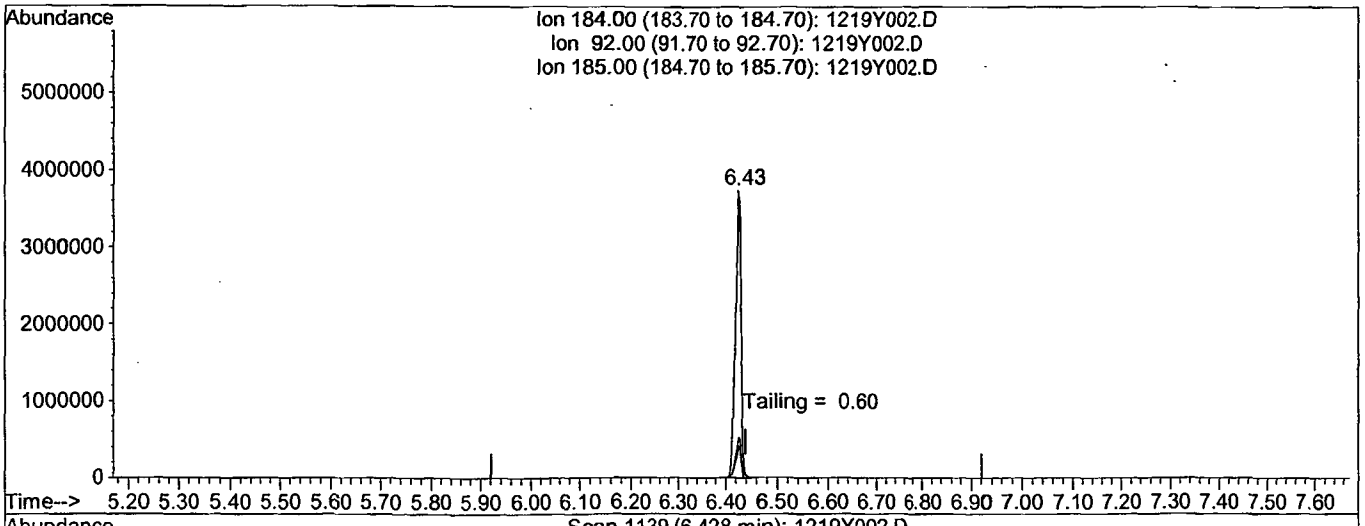
response 6507700

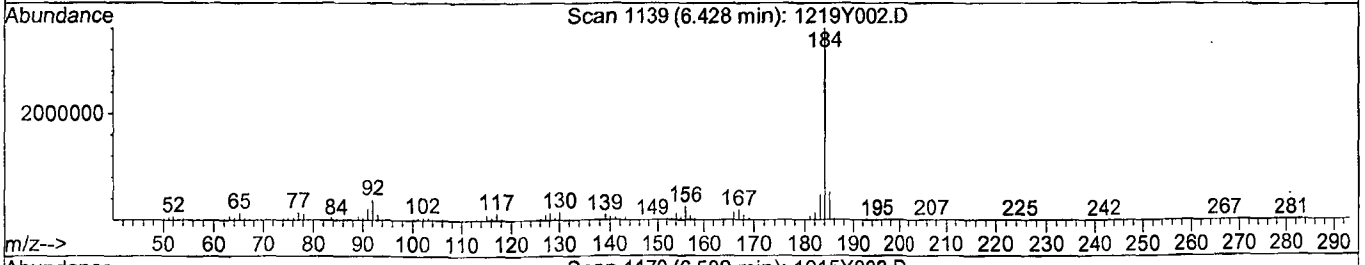
Ion	Exp%	Act%
266.00	100	100
264.00	65.60	64.20
268.00	64.10	63.98
0.00	0.00	0.00

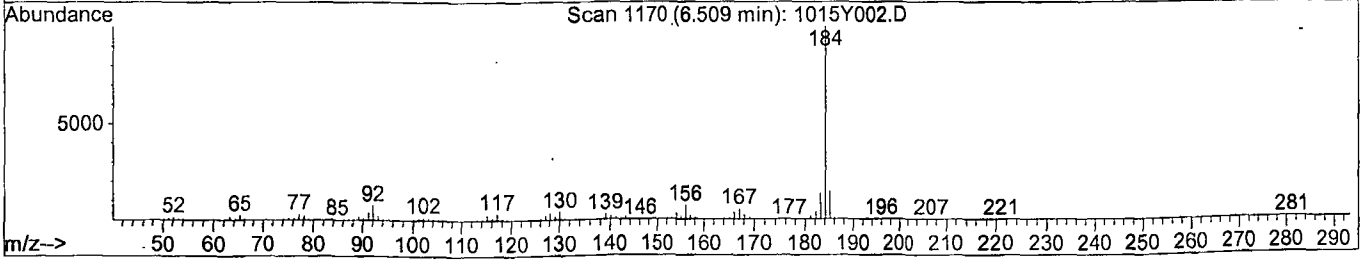
Quantitation Report

Data File : M:\YODA\DATA\Y191219\1219Y002.D Vial: 2
Acq On : 19 Dec 19 8:50 Operator: MA,SS
Sample : SV TUNE 10/01/19 Inst : Yoda
Misc : Multiplr: 1.00
Quant Time: Dec 19 16:49 2019 Quant Results File: temp.res

Method : M:\YODA\DATA\Y191219\DFTPP2.M (Chemstation Integrator)
Title :
Last Update : Tue Dec 10 08:34:10 2019
Response via : Single Level Calibration







TIC: 1219Y002.D

(6) Benzidine

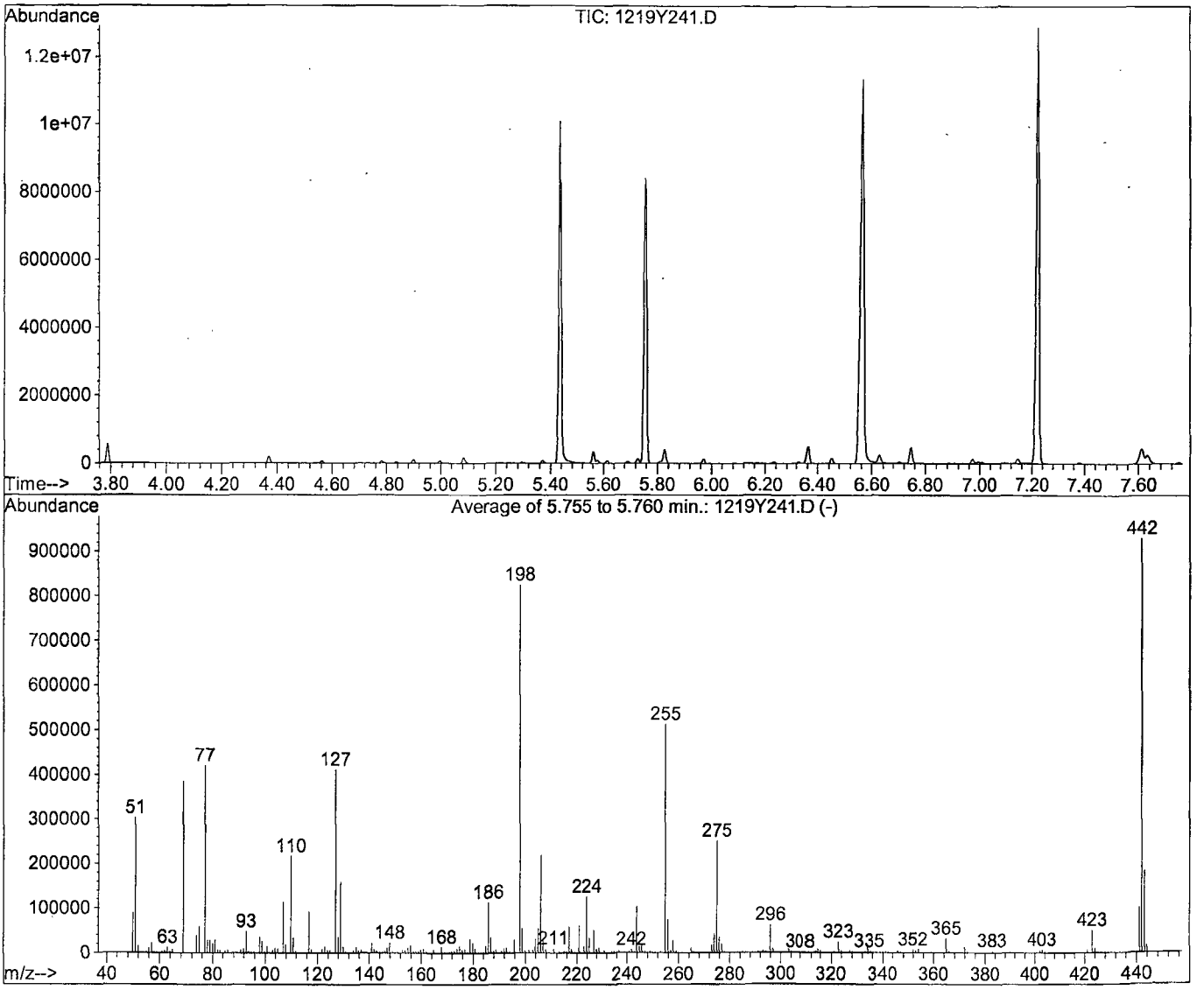
6.43min 0.0000

response 29741628

Ion	Exp%	Act%
184.00	100	100
92.00	10.30	10.56
185.00	14.50	14.29
0.00	0.00	0.00

Data File : M:\YODA\DATA\Y191219\1219Y241.D Vial: 41
Acq On : 27 Jan 20 14:51 Operator: MA,SS
Sample : SV TUNE 10/01/19 Inst : Yoda
Misc : Multiplr: 1.00

Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C



Spectrum Information: Average of 5.755 to 5.760 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	36.7	302523	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.2	955	PASS
127	198	10	80	49.8	410475	PASS
197	198	0.00	2	0.0	0	PASS
198	198	100	100	100.0	825003	PASS
199	198	5	9	6.7	55147	PASS
275	198	10	60	30.4	250560	PASS
365	198	1	100	3.8	31659	PASS
441	442	0.01	24	11.0	102165	PASS
442	198	50	500	112.9	931072	PASS
443	442	15	24	19.7	183552	PASS

Data File Name:	**1219Y241.D**
Data File Path:	**M:\YODA\DATA\Y191219**
Operator:	**MA,SS**
Date Acquired:	**27 Jan 2020 14:51**
Method File:	**DFTPP2.M**
Sample Name:	**SV TUNE 10/01/19**
Vial Number:	**41**
Instrument Name:	**Yoda**

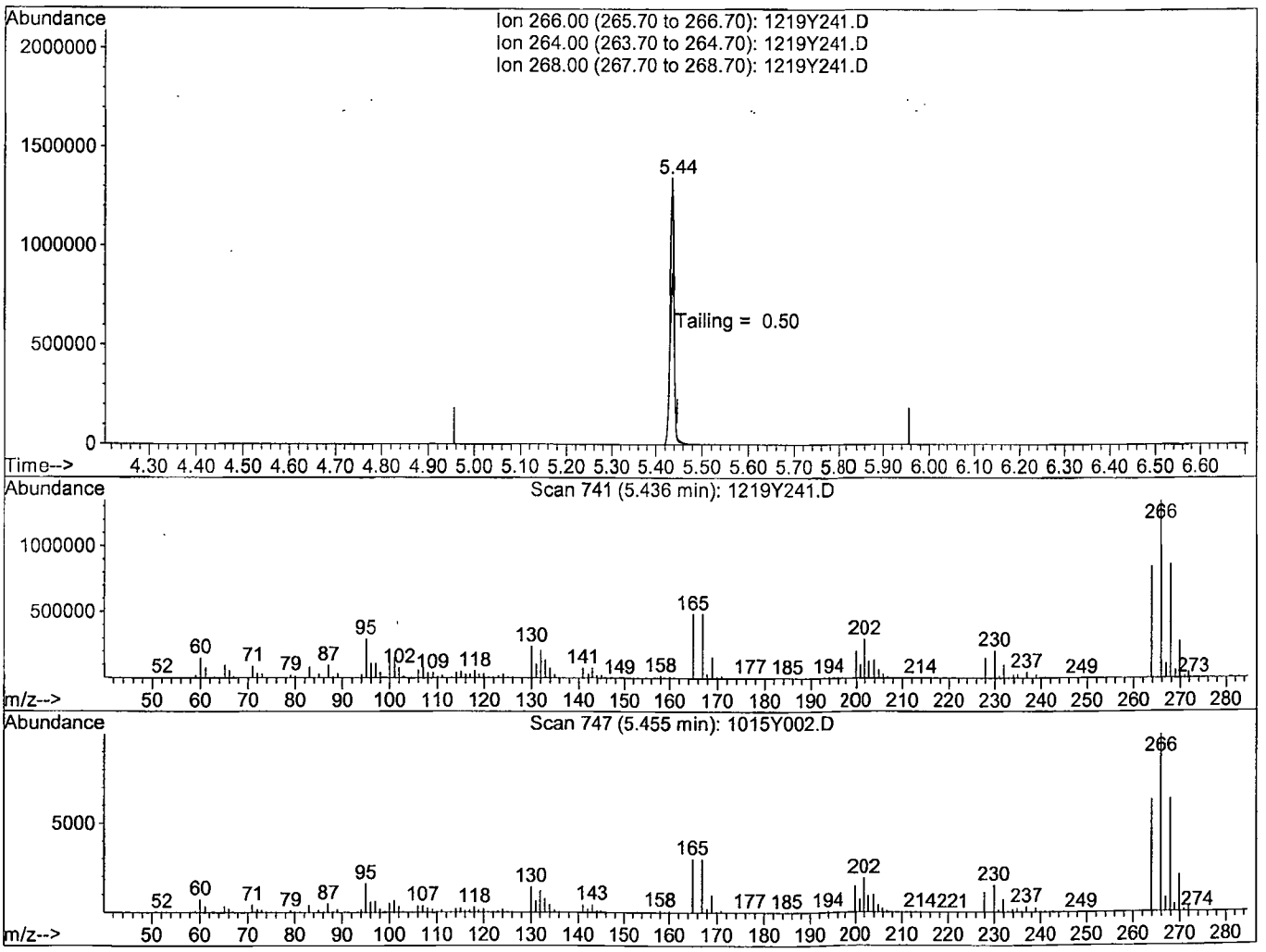
#	Name	Ret Time	Target Response
1)	DDT	7.28	101837000
2)	DDD	7.02	424830
3)	DDE	6.79	0

Breakdown **0.42**

Quantitation Report

Data File : M:\YODA\DATA\Y191219\1219Y241.D Vial: 41
Acq On : 27 Jan 20 14:51 Operator: MA,SS
Sample : SV TUNE 10/01/19 Inst : Yoda
Misc : Multiplr: 1.00
Quant Time: Jan 28 7:46 2020 Quant Results File: temp.res

Method : M:\YODA\DATA\Y191219\DFTPP2.M (Chemstation Integrator)
Title :
Last Update : Mon Jan 27 08:38:00 2020
Response via : Single Level Calibration



TIC: 1219Y241.D

(5) Pentachlorophenol

5.44min 0.0000

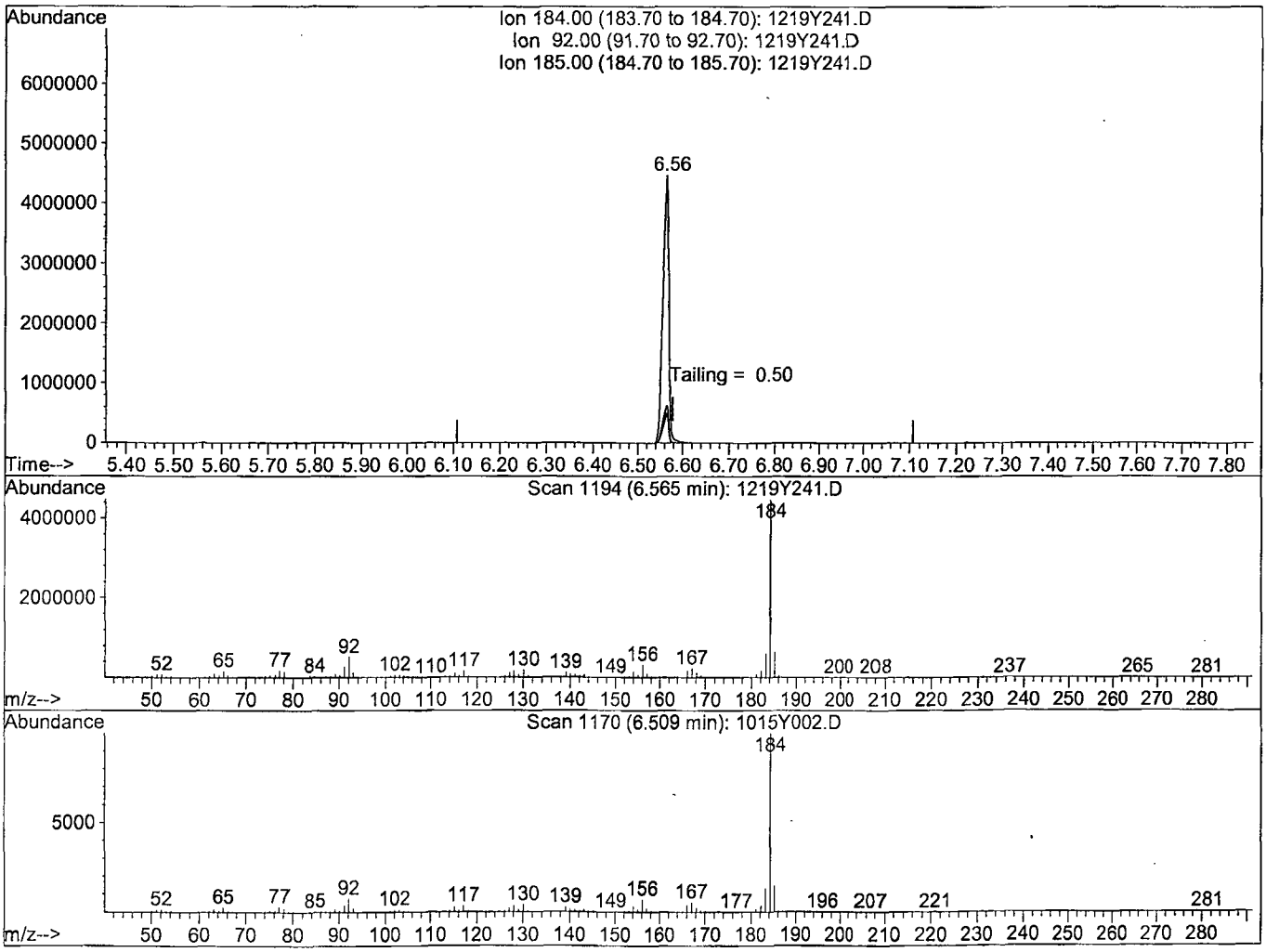
response 8550834

Ion	Exp%	Act%
266.00	100	100
264.00	63.10	63.21
268.00	63.80	63.54
0.00	0.00	0.00

Quantitation Report

Data File : M:\YODA\DATA\Y191219\1219Y241.D Vial: 41
Acq On : 27 Jan 20 14:51 Operator: MA,SS
Sample : SV TUNE 10/01/19 Inst : Yoda
Misc : Multiplr: 1.00
Quant Time: Jan 28 7:46 2020 Quant Results File: temp.res

Method : M:\YODA\DATA\Y191219\DFTPP2.M (Chemstation Integrator)
Title :
Last Update : Mon Jan 27 08:38:00 2020
Response via : Single Level Calibration



TIC: 1219Y241.D

(6) Benzidine

6.57min 0.0000

response 39172468

Ion	Exp%	Act%
184.00	100	100
92.00	7.50	10.22#
185.00	14.30	14.30
0.00	0.00	0.00

Name of Final Standard	8270 Full Scan Stock Spike	Prep'd By (Initials)	JP
Prep Date	011/21/2019		
Exp Date	011/21/2020		

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from contianer Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
10001	Absolute	10001	2000	081419 - 49302	08/14/22	1.0 mL	11 mL	NA	181.82 ug/mL
10002	Absolute	10002	2000	090919-49211	09/09/22	1.0 mL	*	*	181.82 ug/mL
10004	Absolute	10004	2000	071618-99221	07/16/23	1.0 mL	*	*	181.82 ug/mL
10005	Absolute	10005	2000	032018-40234	03/20/23	1.0 mL	*	*	181.82 ug/mL
10006	Absolute	10006	2000	030119-49242	03/01/22	1.0 mL	*	*	181.82 ug/mL
10007	Absolute	10007	2000	080116-40254	08/01/21	1.0 mL	*	*	181.82 ug/mL
10018	Absolute	10018	2000	051719-49262	05/17/24	1.0 mL	*	*	181.82 ug/mL
70023	Absolute	70023	1000	012819-49268	01/28/24	1.0 mL	*	*	90.91ug/mL
82705	Absolute	82705	2000	090919-49293	09/09/22	1.0 mL	*	*	181.82 ug/mL
94552	Absolute	94552	various	053119-49284	05/31/21	1.0 mL	*	*	various
72304	Absolute	70023	1000	090519-49455 - 41159	09/05/24	1.0 mL	*	*	90.91ug/mL

Name of Final Standard	8270 Internal Standard Ampules (2)	Prep'd By (Initials)	JP
Prep Date	11/20/19		
Exp Date	11/20/20		

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from contianer Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
Semivolatile Internal Standard	Restek	31206	2000 ug/mL	**A0151843-49411 A0151843-49412**	**07/31/25**	2 mL	2 mL	NA	2000ug/mL

Name of Final Standard	**8270 SS STOCK**	**Prep'd By (Initials)**	**JP**
Prep Date	**11/20/19**		
Exp Date	**11/20/20**		

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from contianer Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
10001	Absolute	10001	2000 ug/mL	051019-40534	05/10/21	1.0 mL	20 mL	**Methanol Lot 208858**	100 ug/mL
10002	Absolute	10002	2000 ug/mL	020217-39199	02/02/20	1.0 mL	*	*	100 ug/mL
10004	Absolute	10004	2000 ug/mL	051018-39196	05/10/21	1.0 mL	*	*	100 ug/mL
10005	Absolute	10005	2000 ug/mL	031618-39207	03/16/23	1.0 mL	*	*	100 ug/mL
10006	Absolute	10006	2000 ug/mL	011718-39208	01/17/21	1.0 mL	*	*	100 ug/mL
10007	Absolute	10007	2000 ug/mL	060118-39213	06/01/23	1.0 mL	*	*	100 ug/mL
10018	Absolute	10018	2000 ug/mL	062718-40535	06/27/23	1.0 mL	*	*	100 ug/mL
70023	Absolute	70023	1000 ug/mL	051618-39214	05/16/23	1.0 mL	*	*	50 ug/mL
82705	Absolute	82705	2000 ug/mL	090617-40540	09/06/20	1.0 mL	*	*	100 ug/mL
94552	Absolute	94552	various	013118-40542	01/31/20	1.0 mL	*	*	various
72304	Absolute	72304	1000 ug/mL	110719-49477	11/07/24	1.0 mL	*	*	50 ug/mL

Name of Final Standard	**8270 Full Scan Second Source**	**Prep'd By (Initials)**	**JP**
Prep Date	**11/22/19**		
Exp Date	**11/22/20**		

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from container Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
8270 SS Stock	APPL	8270 SS Stock	100:50 ug/mL	**11/20/19**	**11/20/20**	100 uL	200uL	**MC DW717 150uL**	50:25 ug/mL
SV Internal Standard	APPL	SV Internal Standard	2000 ug/mL	**11/20/19**	**11/20/19**	4 uL	*	*	*

Name of Final Standard	8270 Full Scan Standard Curve	Prep'd By (Initials)	JP
Prep Date	011/21/2019		
Exp Date	011/21/2020		

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from container Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
8270 Stock	APPL	8270 Stock	182:91 ug/mL	011/21/2019	011/21/2020	4.4 uL	200uL	MC DW717 150uL	4 ug/mL
8270 Surrogate	APPL	8270 Surrogate	200:400 ug/mL	07/10/19	06/24/20	4 uL	*	*	*
SV Internal Standard	APPL	SV Internal Standard	2000 ug/mL	011/20/2019	07/31/25	4 uL	*	*	*
8270 Stock	APPL	8270 Stock	182:91 ug/mL	011/21/2019	011/21/2020	11 uL	400uL	MC DW717 150uL	5 ug/mL
8270 Surrogate	APPL	8270 Surrogate	200:400 ug/mL	07/10/19	06/24/20	10 uL	*	*	*
SV Internal Standard	APPL	SV Internal Standard	2000 ug/mL	011/20/2019	07/31/25	8 uL	*	*	*
8270 Stock	APPL	8270 Stock	182:91 ug/mL	011/21/2019	011/21/2020	11 uL	200uL	MC DW717 150uL	10 ug/mL
8270 Surrogate	APPL	8270 Surrogate	200:400 ug/mL	07/10/19	06/24/20	10 uL	*	*	*
SV Internal Standard	APPL	SV Internal Standard	2000 ug/mL	011/20/2019	07/31/25	4 uL	*	*	*
8270 Stock	APPL	8270 Stock	182:91 ug/mL	011/21/2019	011/21/2020	11 uL	100uL	MC DW717 150uL	20 ug/mL
8270 Surrogate	APPL	8270 Surrogate	200:400 ug/mL	07/10/19	06/24/20	10 uL	*	*	*
SV Internal Standard	APPL	SV Internal Standard	2000 ug/mL	011/20/2019	07/31/25	2 uL	*	*	*
8270 Stock	APPL	8270 Stock	182:91 ug/mL	011/21/2019	011/21/2020	22 uL	100uL	MC DW717 150uL	40 ug/mL
8270 Surrogate	APPL	8270 Surrogate	200:400 ug/mL	07/10/19	06/24/20	20 uL	*	*	*
SV Internal Standard	APPL	SV Internal Standard	2000 ug/mL	011/20/2019	07/31/25	2 uL	*	*	*
8270 Stock	APPL	8270 Stock	182:91 ug/mL	011/21/2019	011/21/2020	55 uL	200 uL	MC DW717 150uL	50 ug/mL
8270 Surrogate	APPL	8270 Surrogate	200:400 ug/mL	07/10/19	06/24/20	50 uL	*	*	*
SV Internal Standard	APPL	SV Internal Standard	2000 ug/mL	011/20/2019	07/31/25	4 uL	*	*	*
8270 Stock	APPL	8270 Stock	182:91 ug/mL	011/21/2019	011/21/2020	33 uL	100uL	MC DW717 150uL	60 ug/mL
8270 Surrogate	APPL	8270 Surrogate	200:400 ug/mL	07/10/19	06/24/20	30 uL	*	*	*
SV Internal Standard	APPL	SV Internal Standard	2000 ug/mL	011/20/2019	07/31/25	2 uL	*	*	*
8270 Stock	APPL	8270 Stock	182:91 ug/mL	011/21/2019	011/21/2020	44 uL	100uL	MC DW717 150uL	80 ug/mL
8270 Surrogate	APPL	8270 Surrogate	200:400 ug/mL	07/10/19	06/24/20	40 uL	*	*	*
SV Internal Standard	APPL	SV Internal Standard	2000 ug/mL	011/20/2019	07/31/25	2 uL	*	*	*
8270 Stock	APPL	8270 Stock	182:91 ug/mL	011/21/2019	011/21/2020	50 uL	100uL	na	91 ug/mL
8270 Surrogate	APPL	8270 Surrogate	200:400 ug/mL	07/10/19	06/24/20	50 uL	*	*	*
SV Internal Standard	APPL	SV Internal Standard	2000 ug/mL	011/20/2019	07/31/25	2 uL	*	*	*

Name of Final Standard	Semivolatile (SV) Tuning Solution	Prep'd By (Initials)	JP
Prep Date	10/01/19		
Exp Date	11/30/20		

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from contianer Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot#: (or APPL Prep Date)	Final Standard Conc (range)
Semivolatile GC/MS Tuning Standard	Ultra Scientific	GCM-150-1	1,000 ug/mL	CR3789-38879	11/30/20	1,250 uL	25 mL	MC #58240	50 ug/mL

Name of Final Standard	**8270 Full Scan Spike**
Prep Date	**12/04/19**
Exp Date	**12/04/20**

Prep'd By (Initials) **JP**

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from contianer Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
10001	Absolute	10001	2000	081419 - 49299	08/14/22	1.0 mL	40 mL	**Methanol Lot# 208858**	50 ug/mL
10002	Absolute	10002	2000	090919-49208	09/09/22	1.0 mL	*	*	50 ug/mL
10004	Absolute	10004	2000	071618-49218	07/16/23	1.0 mL	*	*	50 ug/mL
10005	Absolute	10005	2000	032018-49228	03/20/23	1.0 mL	*	*	50 ug/mL
10006	Absolute	10006	2000	030119-49239	03/01/22	1.0 mL	*	*	50 ug/mL
10007	Absolute	10007	2000	080116-40249	08/01/21	1.0 mL	*	*	50 ug/mL
10018	Absolute	10018	2000	051719-49259	05/17/24	1.0 mL	*	*	50 ug/mL
70023	Absolute	70023	1000	012819-49275	01/28/24	1.0 mL	*	*	25 ug/mL
82705	Absolute	82705	2000	090919-49290	09/09/22	1.0 mL	*	*	50 ug/mL
94552	Absolute	94552	various	053119-49286	05/31/21	1.0 mL	*	*	various

Name of Final Standard	8270 Full Scan Standard Curve	Prep'd By (Initials)	JP
Prep Date	01/16/20		
Exp Date	06/24/20		

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from container Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
8270 Stock	APPL	8270 Stock	182.91 ug/mL	011/21/2019	011/21/2020	55 uL	200 uL	MC DW717 150uL	50 ug/mL
8270 Surrogate	APPL	8270 Surrogate	200.400 ug/mL	07/10/19	06/24/20	50 uL	"	"	"
SV Internal Standard	APPL	SV Internal Standard	2000 ug/mL	011/20/2019	07/31/25	4 uL	"	"	"

Organic Extraction Worksheet

Method	Continuous Liquid/Liquid SVOC 3520C	Extraction Set	200124A	Extraction Method	LIQ003	Units	mL

Spiked ID 1	8270T Spike		Surrogate ID 1	8270 Surrogate	
Spiked ID 2	Sim Spike		Surrogate ID 2	SIM Surrogate	
Spiked ID 3			Surrogate ID 3		
Spiked ID 4			Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	YES	
Spiked ID 7			Ext. Start Time:	01/24/20 15:30	
Spiked ID 8			Ext. End Time:	01/25/20 9:30	
			GC Requires Extract By:		

pH1	2		Water Bath Temp 1 °C	75/74.2 E-WB5 °
pH2	14		Water Bath Temp 2 °C	75/74.9 E-WB6
pH3			Water Bath Temp 3 °C	

Spiked By: DL **Date** 01/24/20 **Witnessed By:** KY,DS **Date** 01/24/20

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	200124A Blk				1,0.050	1,2	800	1	2/1	01/24/20 13:30	
						equip	E-HP51				
2	200124A LCS-1		1	1	1	1	800	1	2/1	01/24/20 13:30	
						equip	E-HP50				
3	200124A LCS-2		0.125	2	0.050	2	800	1	2/1	01/24/20 13:30	
						equip	E-HP49				
4	BA06272 MS-1	BA06272W30	1	1	1	1	800	1	2/1	01/24/20 13:30	91282
						equip	E-HP47				
5	BA06272 MSD-1	BA06272W31	1	1	1	1	800	1	2/1	01/24/20 13:30	91282
						equip	E-HP25				
6	BA06272 MS-2	BA06272W34	0.125	2	0.050	2	800	1	2/1	01/24/20 13:30	91282
						equip	E-HP26				
7	BA06272 MSD-2	BA06272W28	0.125	2	0.050	2	800	1	2/1	01/24/20 13:30	91282
						equip	E-HP27				
8	BA06272	BA06272W29			1,0.050	1,2	800	1	2/1	01/24/20 13:30	91282
						equip	E-HP48				
9	BA06273	BA06273W11			1,0.050	1,2	800	1	2/1	01/24/20 13:30	91282
						equip	E-HP28				
10	BA06275	BA06275W13			1,0.050	1,2	800	1	2/1	01/24/20 13:30	91282
						equip	E-HP29				
11	BA06276	BA06276W15			1,0.050	1,2	800	1	2/1	01/24/20 13:30	91282
						equip	E-HP30				
12	BA06279	BA06279W14			1,0.050	1,2	800	1	2/1	01/24/20 13:30	91282
						equip	E-HP17				
13	BA06281	BA06281W13			1,0.050	1,2	800	1	2/1	01/24/20 13:30	91282
						equip	E-HP16				
14	BA06282	BA06282W13			1,0.050	1,2	800	1	2/1	01/24/20 13:30	91282
						equip	E-HP15				
15	BA06284	BA06284W19			1,0.050	1,2	800	1	2/1	01/24/20 13:30	91282
						equip	E-HP14				
16	BA06313	BA06313W13			1,0.050	1,2	800	1	2/1	01/24/20 13:30	91288
						equip	E-HP13				

Solvent and Lot#	
PH Strips	HC863463
Dichloromethane (DCM)	59239
1+1 H2SO4	12-17-19
10N NaOH	11-20-19
Filter Paper	400121
Acidified Na2SO4	1041-26-20
B. Na2SO4	2019020631

Extraction COC Transfer	
Extraction lab employee Initials	
GC analyst's initials	JP
Date	1/27/20
Time	1408
Refrigerator	GC-C

	Technician's Initials
Scanned By	DL
Sample Preparation	DL
Extraction	DL
Concentration	DL, ERR

Modified	01/27/20 2:47:05 PM

Reviewed By: **Date**

Organic Extraction Worksheet

Method	Continuous Liquid/Liquid SVOC 3520C	Extraction Set	200124A	Extraction Method	LIQ003	Units	mL

Spiked ID 1	8270T Spike		Surrogate ID 1	8270 Surrogate	
Spiked ID 2	Sim Spike		Surrogate ID 2	SIM Surrogate	
Spiked ID 3			Surrogate ID 3		
Spiked ID 4			Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	YES	
Spiked ID 7			Ext. Start Time:	01/24/20 15:30	
Spiked ID 8			Ext. End Time:	01/25/20 9:30	
			GC Requires Extract By:		

pH1	2		Water Bath Temp 1 °C	75/74.2 E-WB5 °
pH2	14		Water Bath Temp 2 °C	75/74.9 E-WB6
pH3			Water Bath Temp 3 °C	

Spiked By: DL **Date** 01/24/20 **Witnessed By:** KY,DS **Date** 01/24/20

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
17	BA06315	BA06315W13			1,0.050	1,2	800	1	2/1	01/24/20 13:30	91288
						equip	E-HP12				
18	BA06317	BA06317W14			1,0.050	1,2	800	1	2/1	01/24/20 13:30	91288
						equip	E-HP11				
19	BA06319	BA06319W16			1,0.050	1,2	800	1	2/1	01/24/20 13:30	91288
						equip	E-HP10				
20	BA06361	BA06361W18			1,0.050	1,2	800	1	2/1	01/24/20 15:15	91299
						equip	E-HP9				
21	BA06362	BA06362W14			1,0.050	1,2	800	1	2/1	01/24/20 15:15	91299
						equip	E-HP6				
22	BA06364	BA06364W16			1,0.050	1,2	800	1	2/1	01/24/20 15:15	91299
						equip	E-HP4				

Solvent and Lot#	
PH Strips	HC863463
Dichloromethane (DCM)	59239
1+1 H2SO4	12-17-19
10N NaOH	11-20-19
Filter Paper	400121
Acidified Na2SO4	1041-26-20
B. Na2SO4	2019020631

Extraction COC Transfer	
Extraction lab employee Initials	
GC analyst's initials	JP
Date	
Time	
Refrigerator	GC-C

	Technician's Initials
Scanned By	DL
Sample Preparation	DL
Extraction	DL
Concentration	DL, ERR

Modified	01/27/20 2:47:05 PM

Reviewed By: **Date**

Injection Log

Directory: M:\YODA\DATA\Y191219\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	2	1219Y002.D	1	SV TUNE 10/01/19		19 Dec 19 8:50
2	3	1219Y003.D	1	50ug/ml 8270 11/21/19		19 Dec 19 9:06
3	4	1219Y004.D	1	4ug/ml 8270 11/21/19		19 Dec 19 9:33
4	5	1219Y005.D	1	5ug/ml 8270 11/21/19		19 Dec 19 10:01
5	6	1219Y006.D	1	10ug/ml 8270 11/21/19		19 Dec 19 10:28
6	7	1219Y007.D	1	20ug/ml 8270 11/21/19		19 Dec 19 10:56
7	8	1219Y008.D	1	40ug/ml 8270 11/21/19		19 Dec 19 11:24
8	9	1219Y009.D	1	60ug/ml 8270 11/21/19		19 Dec 19 11:51
9	10	1219Y010.D	1	80ug/ml 8270 11/21/19		19 Dec 19 12:19
10	11	1219Y011.D	1	100ug/ml 8270 11/21/19		19 Dec 19 12:46
11	12	1219Y012.D	1	SS 8270 11/22/19		19 Dec 19 13:14
12	41	1219Y241.D	1	SV TUNE 10/01/19		27 Jan 20 14:51
13	47	1219Y247.D	1	50ug/ml 8270 01/06/20 (1)		27 Jan 20 17:04
14	48	1219Y248.D	1.25	200124A BLK 1/800		27 Jan 20 17:32
15	49	1219Y249.D	1.25	200124A LCS-1 1/800		27 Jan 20 18:00
16	60	1219Y260.D	1.25	BA06313W13 1/800		27 Jan 20 23:04
17	61	1219Y261.D	1.25	BA06315W13 1/800		27 Jan 20 23:32
18	62	1219Y262.D	1.25	BA06317W14 1/800		28 Jan 20 00:00
19	63	1219Y263.D	1.25	BA06319W16 1/800		28 Jan 20 00:28
20	67	1219Y267.D	1	50ug/ml 8270 01/03/20 (1)		28 Jan 20 2:19

ORGANICS
Calibration Data

2MEE
EPA 8270

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Initial Cal. Date: 01/22/20
Matrix: Instrument: Yoda

Initials:

		Compound	1	2	3	4	5	6	7	8			Avg	%RSD	Type	r^2	Q	MRF
			0122Y003.D	0122Y004 D	0122Y005.D	0122Y006 D	0122Y007 D	0122Y008.D	0122Y009.D	0122Y010.D								
1	I	1,4-dichlorobenzene-D4(IS)																
2	TM	2-(2-Methoxyethoxy)ethanol	0.1821	0.2585	0.2387	0.2203	0.2137	0.2203	0.2856	0.2603			0.23	14	TM			
3	I	Napthalene-D8(IS)																
4	I	Acenaphthene-D10(IS)																
5	I	Phenanthrene-D10(IS)																
6	I	Chrysene-D12(IS)																
7	I	Perylene-D12(IS)																
8																		
9																		
10																		
11																		
12																		
13																		
14																		
15																		
16																		
17																		
18																		
19																		
20																		
21																		
22																		
23																		
24																		
25																		
26																		
27																		
28																		
29																		
30																		
31																		
32																		
33																		
34																		
35																		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y200122M\0122Y003.D Vial: 3
Acq On : 22 Jan 20 15:46 Operator: MA,SS
Sample : 50ug/ml MEE 01/22/20 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 23 10:02 2020 Quant Results File: YMEE0122.RES

Quant Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 10:01:29 2020
Response via : Initial Calibration
DataAcq Meth : GED

Internal Standards	R.T.	QIon	Response	Conc.	Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.15	152	171017	40.00000	ppb	0.00
3) Napthalene-D8(IS)	6.56	136	665562	40.00000	ppb	0.00
4) Acenaphthene-D10(IS)	8.59	164	409494	40.00000	ppb	0.00
5) Phenanthrene-D10(IS)	10.31	188	788135	40.00000	ppb	0.00
6) Chrysene-D12(IS)	13.39	240	679346	40.00000	ppb	0.00
7) Perylene-D12(IS)	15.12	264	699262	40.00000	ppb	0.00

System Monitoring Compounds

Target Compounds						Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.33	45	38926	38.75395	ppb	99

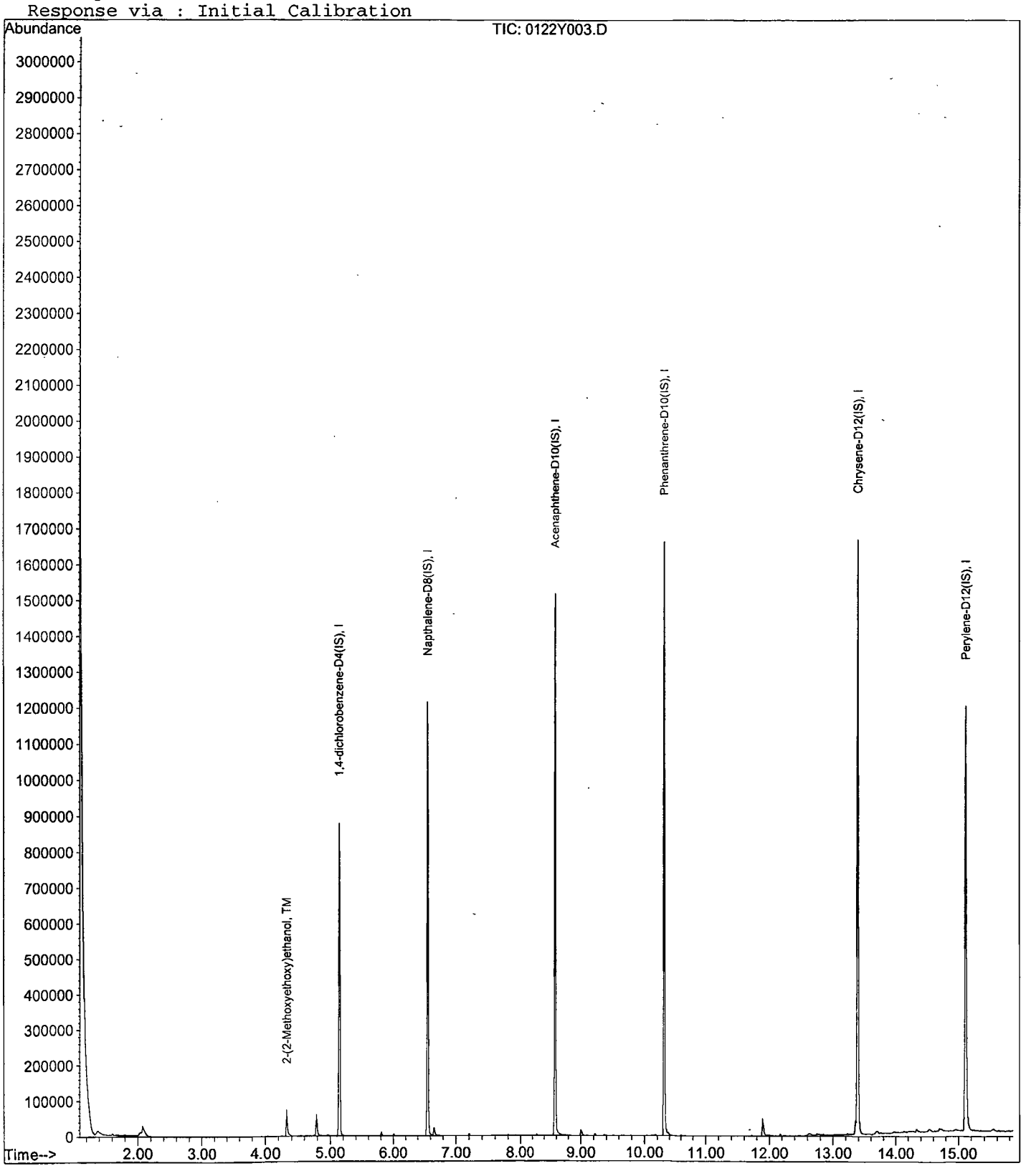
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y200122M\0122Y003.D Vial: 3
Acq On : 22 Jan 20 15:46 Operator: MA,SS
Sample : 50ug/ml MEE 01/22/20 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 23 10:02 2020 Quant Results File: YMEE0122.RES

Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 10:01:29 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y200122M\0122Y004.D Vial: 4
Acq On : 22 Jan 20 16:10 Operator: MA,SS
Sample : 100ug/ml MEE 01/22/20 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 23 10:02 2020 Quant Results File: YMEE0122.RES

Quant Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 10:01:29 2020
Response via : Initial Calibration
DataAcq Meth : GED

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.15	152	158778	40.00000	ppb	0.00
3) Napthalene-D8(IS)	6.57	136	642353	40.00000	ppb	0.00
4) Acenaphthene-D10(IS)	8.58	164	393654	40.00000	ppb	0.00
5) Phenanthrene-D10(IS)	10.31	188	759584	40.00000	ppb	0.00
6) Chrysene-D12(IS)	13.39	240	664524	40.00000	ppb	0.00
7) Perylene-D12(IS)	15.12	264	676233	40.00000	ppb	0.00

System Monitoring Compounds

Target Compounds						Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.32	45	102613	110.03417	ppb	98

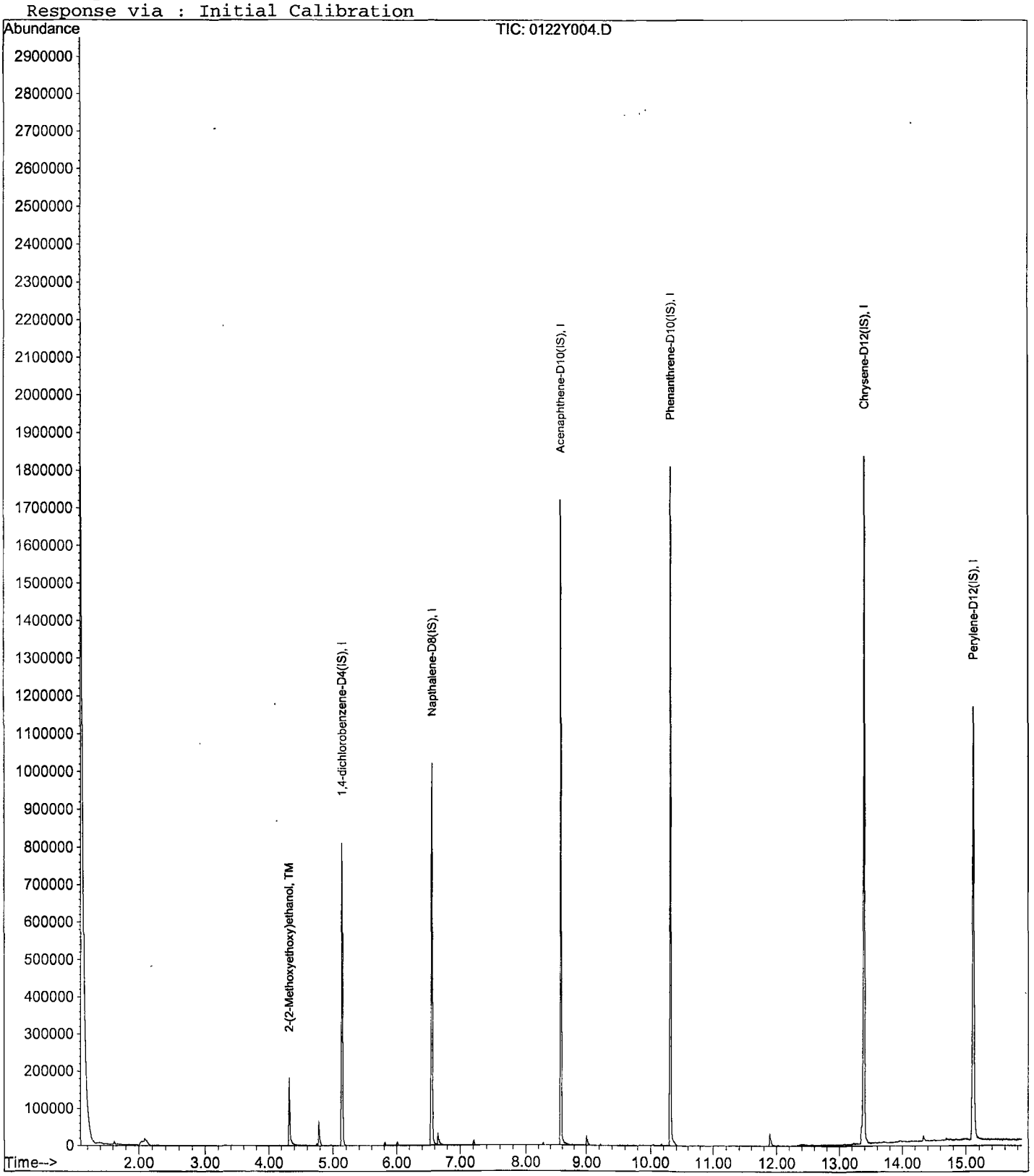
(#) = qualifier out of range (m) = manual integration
0122Y004.D YMEE0122.M Thu Jan 23 10:03:48 2020 Page 1

Quantitation Report

Data File : M:\YODA\DATA\Y200122M\0122Y004.D Vial: 4
Acq On : 22 Jan 20 16:10 Operator: MA,SS
Sample : 100ug/ml MEE 01/22/20 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 23 10:02 2020 Quant Results File: YMEE0122.RES

Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 10:01:29 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y200122M\0122Y005.D Vial: 5
Acq On : 22 Jan 20 16:33 Operator: MA,SS
Sample : 200ug/ml MEE 01/22/20 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 23 10:02 2020 Quant Results File: YMEE0122.RES

Quant Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 10:01:29 2020
Response via : Initial Calibration
DataAcq Meth : GED

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.15	152	155385	40.00000	ppb	0.00
3) Napthalene-D8(IS)	6.57	136	636024	40.00000	ppb	0.00
4) Acenaphthene-D10(IS)	8.58	164	388934	40.00000	ppb	0.00
5) Phenanthrene-D10(IS)	10.31	188	754620	40.00000	ppb	0.00
6) Chrysene-D12(IS)	13.39	240	621602	40.00000	ppb	0.00
7) Perylene-D12(IS)	15.12	264	626915	40.00000	ppb	0.00

System Monitoring Compounds

Target Compounds						Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.33	45	185455	203.20994	ppb	100

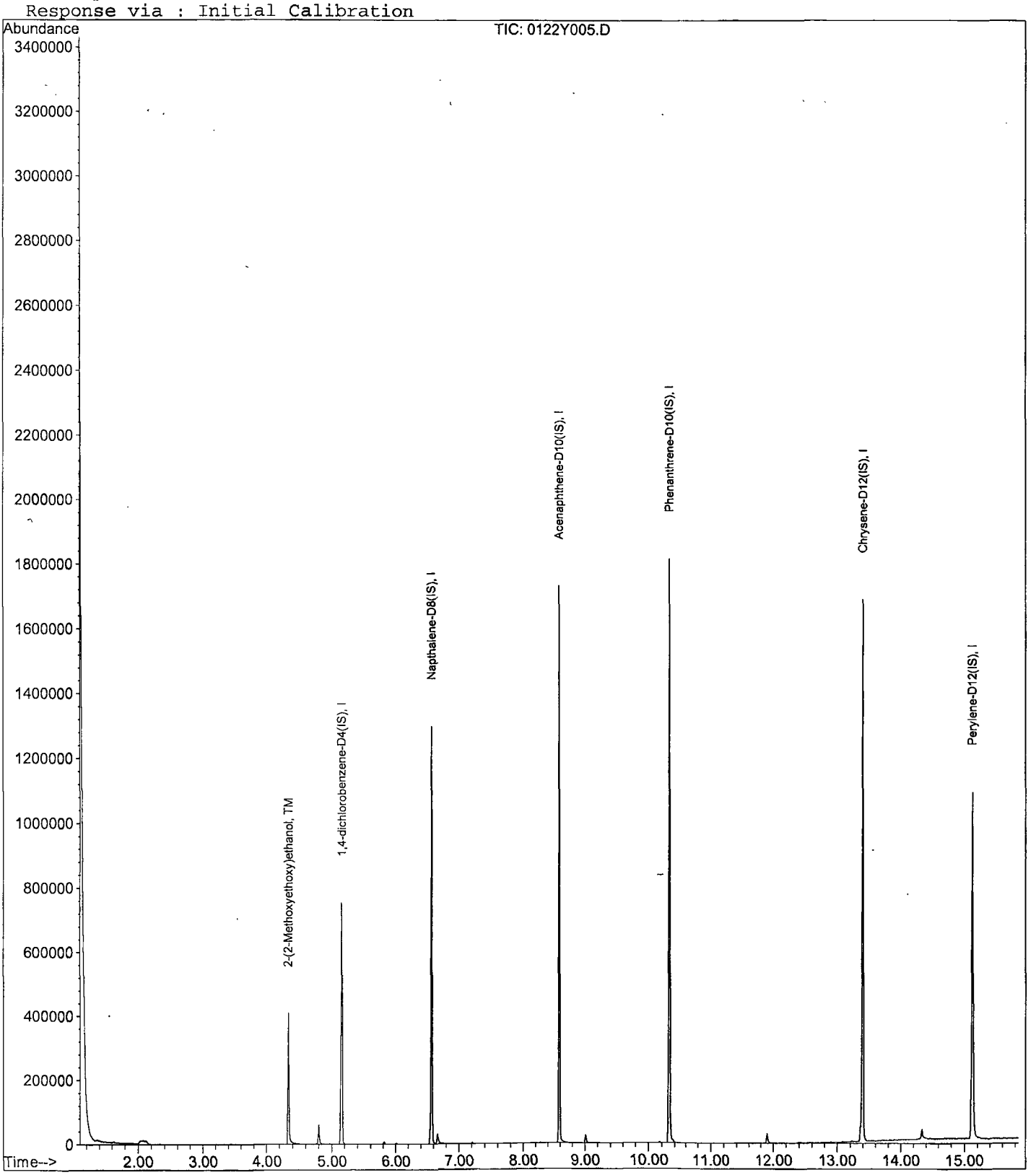
(#) = qualifier out of range (m) = manual integration
0122Y005.D YMEE0122.M Thu Jan 23 10:03:50 2020

Quantitation Report

Data File : M:\YODA\DATA\Y200122M\0122Y005.D Vial: 5
Acq On : 22 Jan 20 16:33 Operator: MA,SS
Sample : 200ug/ml MEE 01/22/20 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 23 10:02 2020 Quant Results File: YMEE0122.RES

Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 10:01:29 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y200122M\0122Y006.D Vial: 6
Acq On : 22 Jan 20 16:57 Operator: MA,SS
Sample : 400ug/ml MEE 01/22/20 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 23 10:02 2020 Quant Results File: YMEE0122.RES

Quant Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 10:01:29 2020
Response via : Initial Calibration
DataAcq Meth : GED

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.15	152	156027	40.00000	ppb	0.00
3) Napthalene-D8(IS)	6.57	136	648446	40.00000	ppb	0.00
4) Acenaphthene-D10(IS)	8.58	164	399790	40.00000	ppb	0.00
5) Phenanthrene-D10(IS)	10.31	188	767514	40.00000	ppb	0.00
6) Chrysene-D12(IS)	13.39	240	672840	40.00000	ppb	0.00
7) Perylene-D12(IS)	15.12	264	695421	40.00000	ppb	0.00

System Monitoring Compounds

Target Compounds						Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.34	45	343734	375.09237	ppb	98

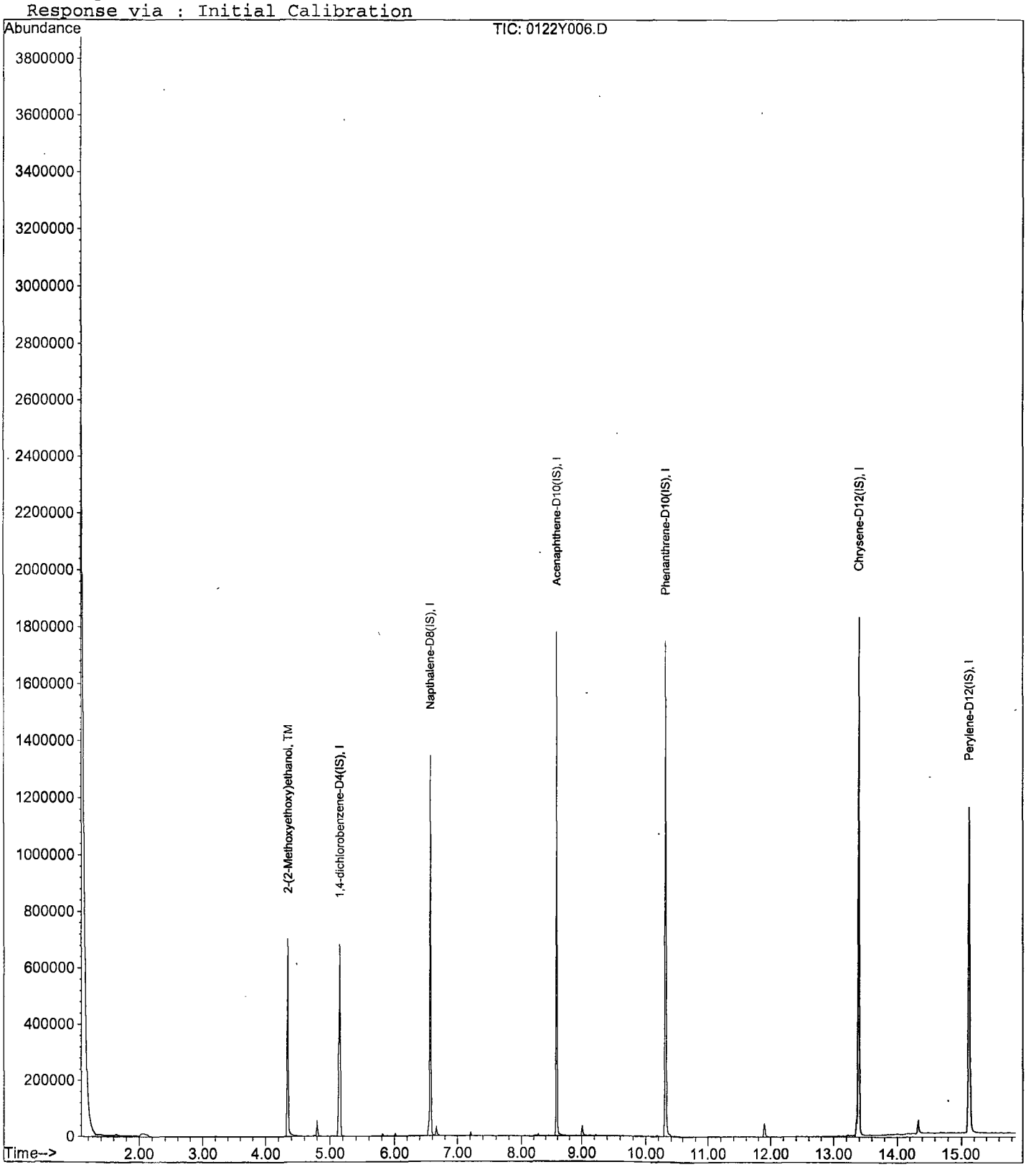
(#) = qualifier out of range (m) = manual integration
0122Y006.D YMEE0122.M Thu Jan 23 10:03:52 2020 Page 1

Quantitation Report

Data File : M:\YODA\DATA\Y200122M\0122Y006.D Vial: 6
Acq On : 22 Jan 20 16:57 Operator: MA,SS
Sample : 400ug/ml MEE 01/22/20 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 23 10:02 2020 Quant Results File: YMEE0122.RES

Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 10:01:29 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y200122M\0122Y007.D Vial: 7
Acq On : 22 Jan 20 17:21 Operator: MA,SS
Sample : 500ug/ml MEE 01/22/20 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 23 10:02 2020 Quant Results File: YMEE0122.RES

Quant Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 10:01:29 2020
Response via : Initial Calibration
DataAcq Meth : GED

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.15	152	160036	40.00000	ppb	0.00
3) Napthalene-D8(IS)	6.57	136	657892	40.00000	ppb	0.00
4) Acenaphthene-D10(IS)	8.59	164	410790	40.00000	ppb	0.00
5) Phenanthrene-D10(IS)	10.31	188	788159	40.00000	ppb	0.00
6) Chrysene-D12(IS)	13.39	240	699023	40.00000	ppb	0.00
7) Perylene-D12(IS)	15.12	264	751183	40.00000	ppb	0.00

System Monitoring Compounds

Target Compounds						Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.34	45	427461	454.77262	ppb	100

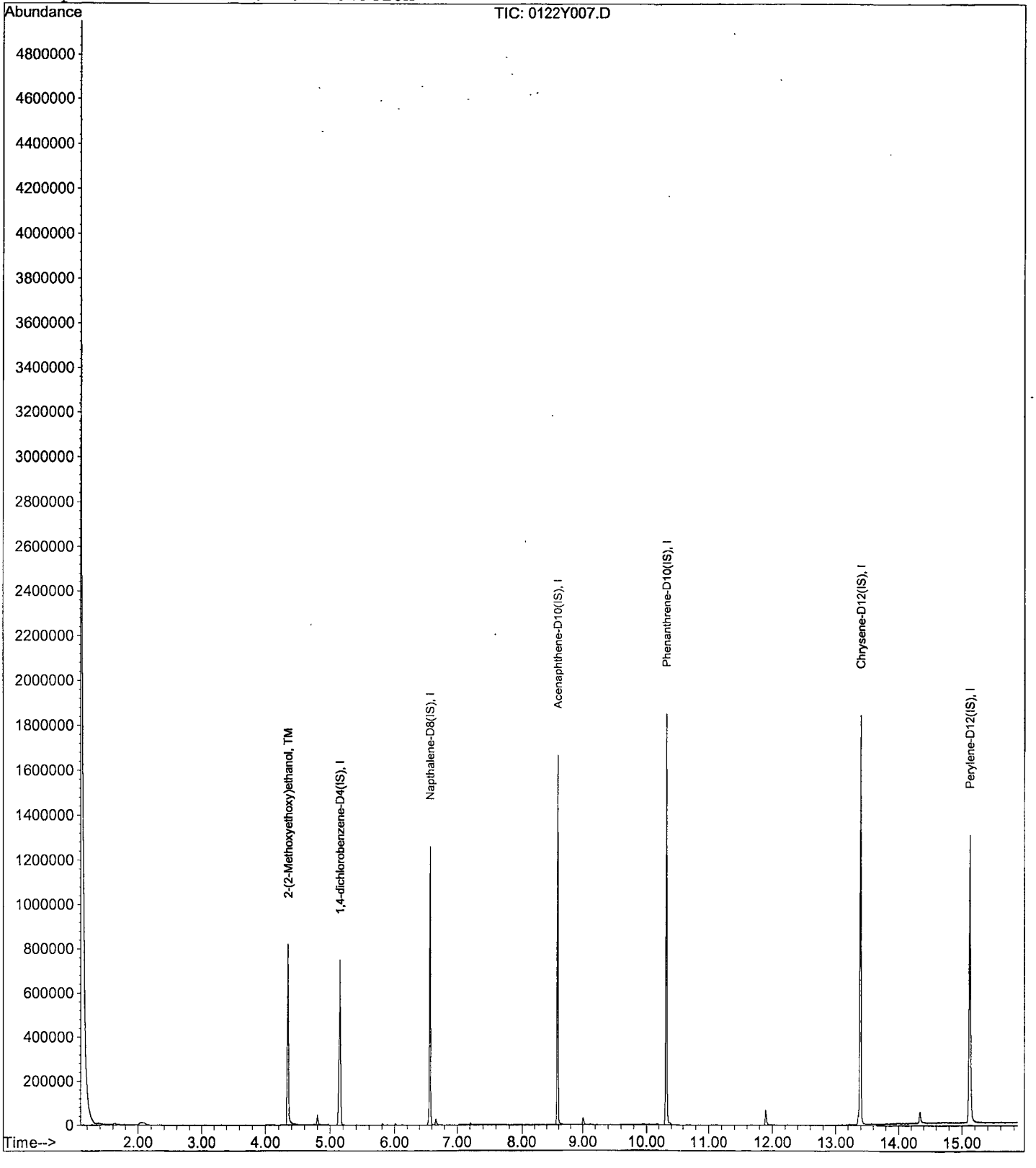
(#) = qualifier out of range (m) = manual integration
0122Y007.D YMEE0122.M Thu Jan 23 10:03:55 2020 Page 1

Quantitation Report

Data File : M:\YODA\DATA\Y200122M\0122Y007.D Vial: 7
Acq On : 22 Jan 20 17:21 Operator: MA,SS
Sample : 500ug/ml MEE 01/22/20 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 23 10:02 2020 Quant Results File: YMEE0122.RES

Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 10:01:29 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y200122M\0122Y008.D Vial: 8
Acq On : 22 Jan 20 17:45 Operator: MA,SS
Sample : 600ug/ml MEE 01/22/20 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 23 10:02 2020 Quant Results File: YMEE0122.RES

Quant Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 10:01:29 2020
Response via : Initial Calibration
DataAcq Meth : GED

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.15	152	156507	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.57	136	664381	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.59	164	408801	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	10.31	188	788845	40.00000 ppb	0.00
6) Chrysene-D12(IS)	13.39	240	676569	40.00000 ppb	0.00
7) Perylene-D12(IS)	15.12	264	692003	40.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.35	45	517114	562.55893 ppb	99

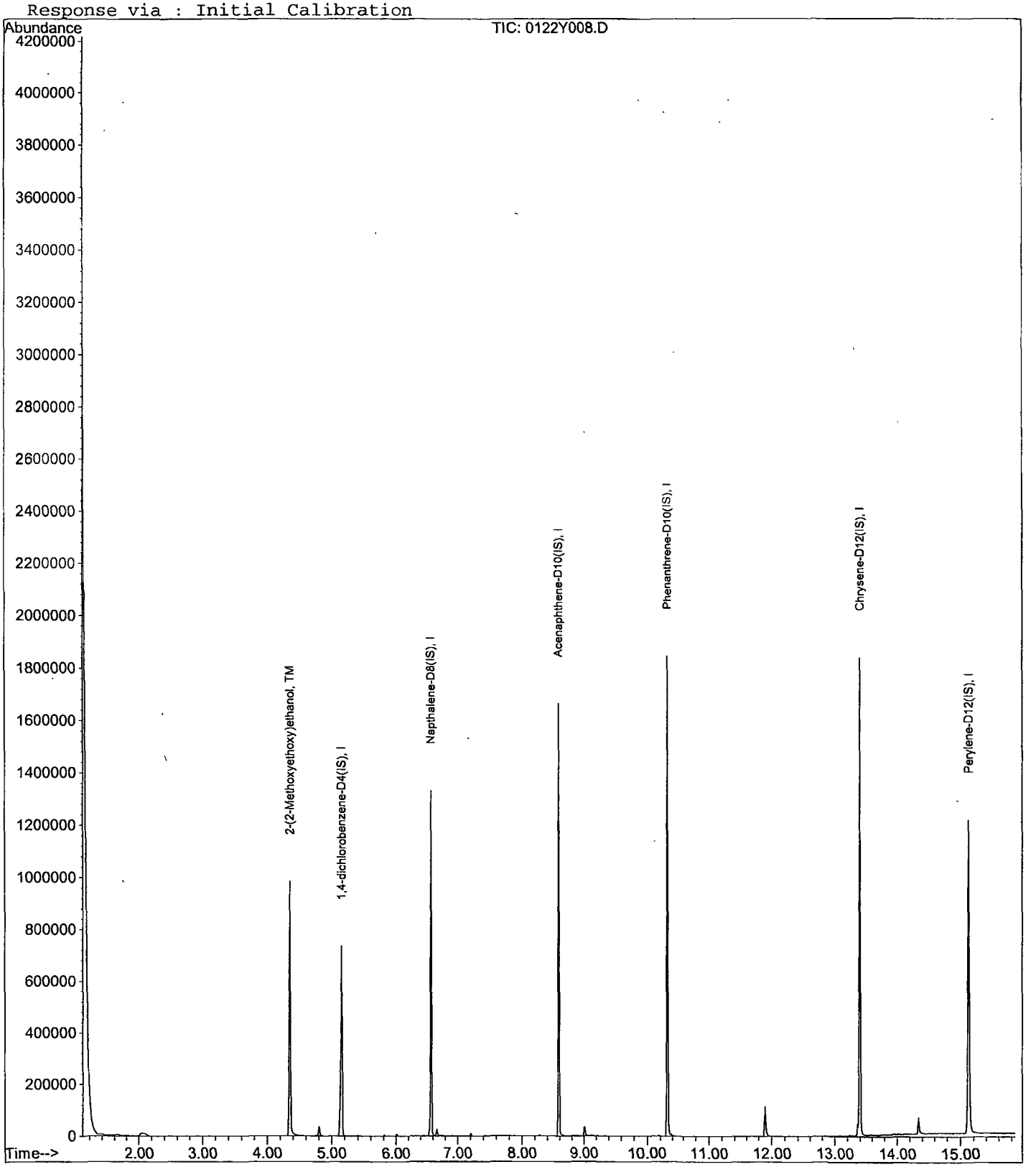
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y200122M\0122Y008.D Vial: 8
Acq On : 22 Jan 20 17:45 Operator: MA,SS
Sample : 600ug/ml MEE 01/22/20 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 23 10:02 2020 Quant Results File: YMEE0122.RES

Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 10:01:29 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y200122M\0122Y009.D Vial: 9
Acq On : 22 Jan 20 18:08 Operator: MA,SS
Sample : 800ug/ml MEE 01/22/20 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 23 10:02 2020 Quant Results File: YMEE0122.RES

Quant Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 10:01:29 2020
Response via : Initial Calibration
DataAcq Meth : GED

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.15	152	125205	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.57	136	550099	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.58	164	372511	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	10.31	188	750924	40.00000 ppb	0.00
6) Chrysene-D12(IS)	13.39	240	643830	40.00000 ppb	0.00
7) Perylene-D12(IS)	15.12	264	637032	40.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.36	45	715213	972.58871 ppb	98

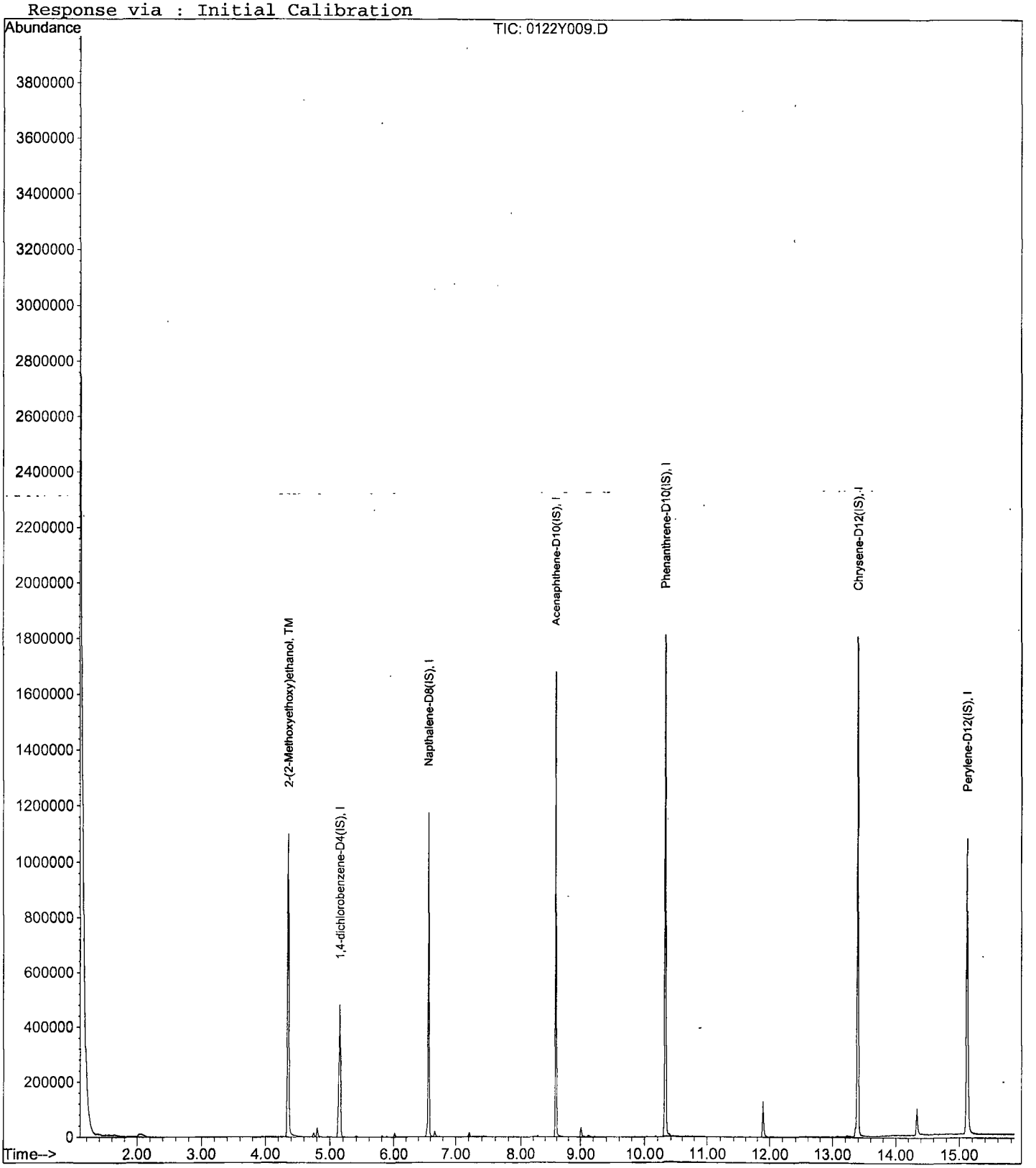
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y200122M\0122Y009.D Vial: 9
Acq On : 22 Jan 20 18:08 Operator: MA,SS
Sample : 800ug/ml MEE 01/22/20 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 23 10:02 2020 Quant Results File: YMEE0122.RES

Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 10:01:29 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y200122M\0122Y010.D Vial: 10
Acq On : 22 Jan 20 18:32 Operator: MA,SS
Sample : 1000ug/ml MEE 01/22/20 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 23 10:02 2020 Quant Results File: YMEE0122.RES

Quant Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 10:01:29 2020
Response via : Initial Calibration
DataAcq Meth : GED

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.15	152	145736	40.00000	ppb	0.00
3) Napthalene-D8(IS)	6.57	136	643934	40.00000	ppb	0.00
4) Acenaphthene-D10(IS)	8.58	164	429609	40.00000	ppb	0.00
5) Phenanthrene-D10(IS)	10.31	188	848518	40.00000	ppb	0.00
6) Chrysene-D12(IS)	13.39	240	708250	40.00000	ppb	0.00
7) Perylene-D12(IS)	15.12	264	727830	40.00000	ppb	0.00

System Monitoring Compounds

Target Compounds						Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.36	45	948330	1107.91933	ppb	99

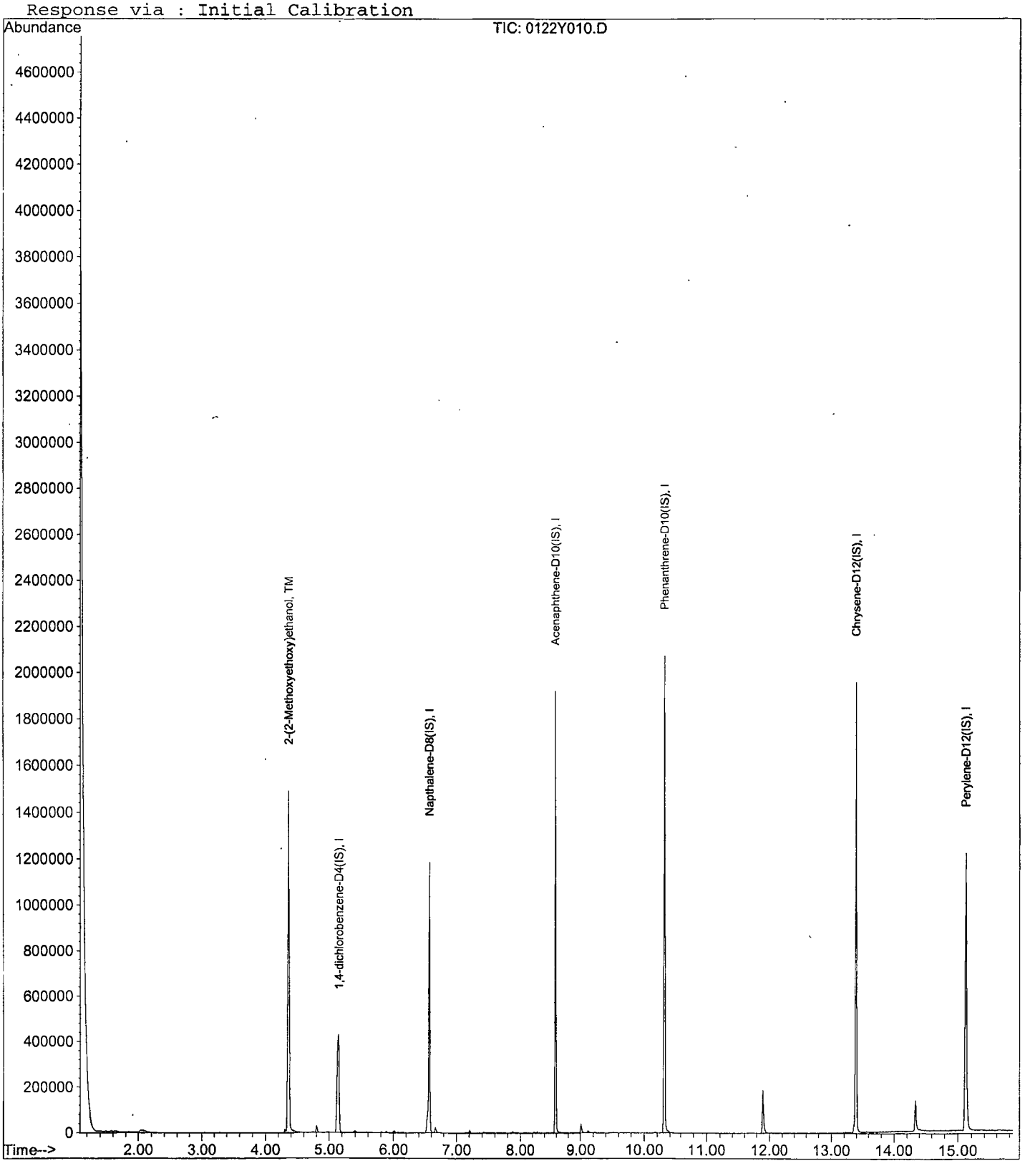
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y200122M\0122Y010.D Vial: 10
Acq On : 22 Jan 20 18:32 Operator: MA,SS
Sample : 1000ug/ml MEE 01/22/20 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 23 10:02 2020 Quant Results File: YMEE0122.RES

Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 10:01:29 2020
Response via : Initial Calibration



2MEE
EPA 8270

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 01/22/20
Instrument: Yoda
Initial Cal. Date: 01/22/20
Data File: 0122Y011.D

		Compound	MEAN	CCRF	%D	%Drift	
1	TM	2-(2-Methoxyethoxy)ethanol	0.2349	0.2425	3.2	TM	
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			3.2		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y200122M\0122Y011.D Vial: 11
Acq On : 22 Jan 20 18:55 Operator: MA,SS
Sample : SS MEE 01/22/20 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 23 9:55 2020 Quant Results File: YMEE0122.RES

Quant Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 09:54:44 2020
Response via : Initial Calibration
DataAcq Meth : GED

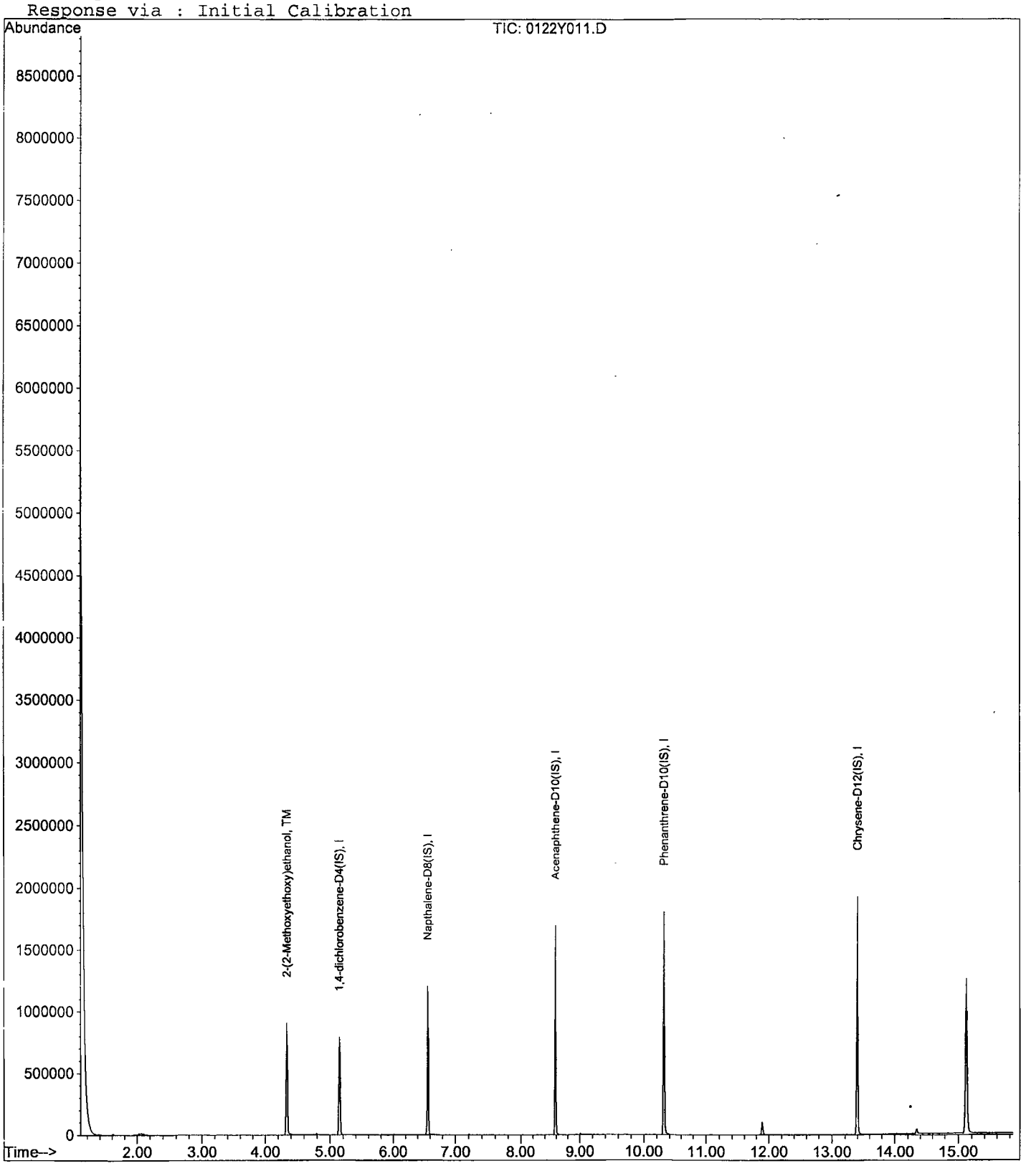
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.15	152	173956	40.00000	ppb	0.00
3) Napthalene-D8(IS)	6.57	136	686273	40.00000	ppb	0.00
4) Acenaphthene-D10(IS)	8.59	164	422630	40.00000	ppb	0.00
5) Phenanthrene-D10(IS)	10.31	188	806716	40.00000	ppb	0.00
6) Chrysene-D12(IS)	13.39	240	723146	40.00000	ppb	0.00
7) Perylene-D12(IS)	0.00	264	0	0.00000	ppb	-14.73
System Monitoring Compounds						
Target Compounds						Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.33	45	527290	516.09021	ppb	93

(#) = qualifier out of range (m) = manual integration

Data File : M:\YODA\DATA\Y200122M\0122Y011.D Vial: 11
Acq On : 22 Jan 20 18:55 Operator: MA,SS
Sample : SS MEE 01/22/20 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 23 9:55 2020 Quant Results File: YMEE0122.RES

Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 09:54:44 2020
Response via : Initial Calibration



2MEE
EPA 8270

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 01/29/20
Instrument: Yoda
Initial Cal. Date: 01/22/20
Data File: 0122Y018.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	1,4-dichlorobenzene-D4(IS)	ISTD			I	
2	TM	2-(2-Methoxyethoxy)ethanol	0.2349	0.1947	17	TM	
3	I	Napthalene-D8(IS)	ISTD			I	
4	I	Acenaphthene-D10(IS)	ISTD			I	
5	I	Phenanthrene-D10(IS)	ISTD			I	
6	I	Chrysene-D12(IS)	ISTD			I	
7	I	Perylene-D12(IS)	ISTD			I	
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			17.0		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y200122M\0122Y018.D Vial: 18
Acq On : 29 Jan 20 15:01 Operator: MA,SS
Sample : 500ug/ml MEE 01/29/20 (1) Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 29 15:02 2020 Quant Results File: YMEE0122.RES

Quant Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 16:28:09 2020
Response via : Initial Calibration
DataAcq Meth : GED

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.15	152	173907	40.00000	ppb	0.00
3) Napthalene-D8(IS)	6.57	136	698618	40.00000	ppb	0.00
4) Acenaphthene-D10(IS)	8.58	164	436389	40.00000	ppb	0.00
5) Phenanthrene-D10(IS)	10.31	188	837531	40.00000	ppb	0.00
6) Chrysene-D12(IS)	13.39	240	754740	40.00000	ppb	0.00
7) Perylene-D12(IS)	15.12	264	834233	40.00000	ppb	0.00

System Monitoring Compounds

Target Compounds						Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.33	45	423311	414.43649	ppb	97

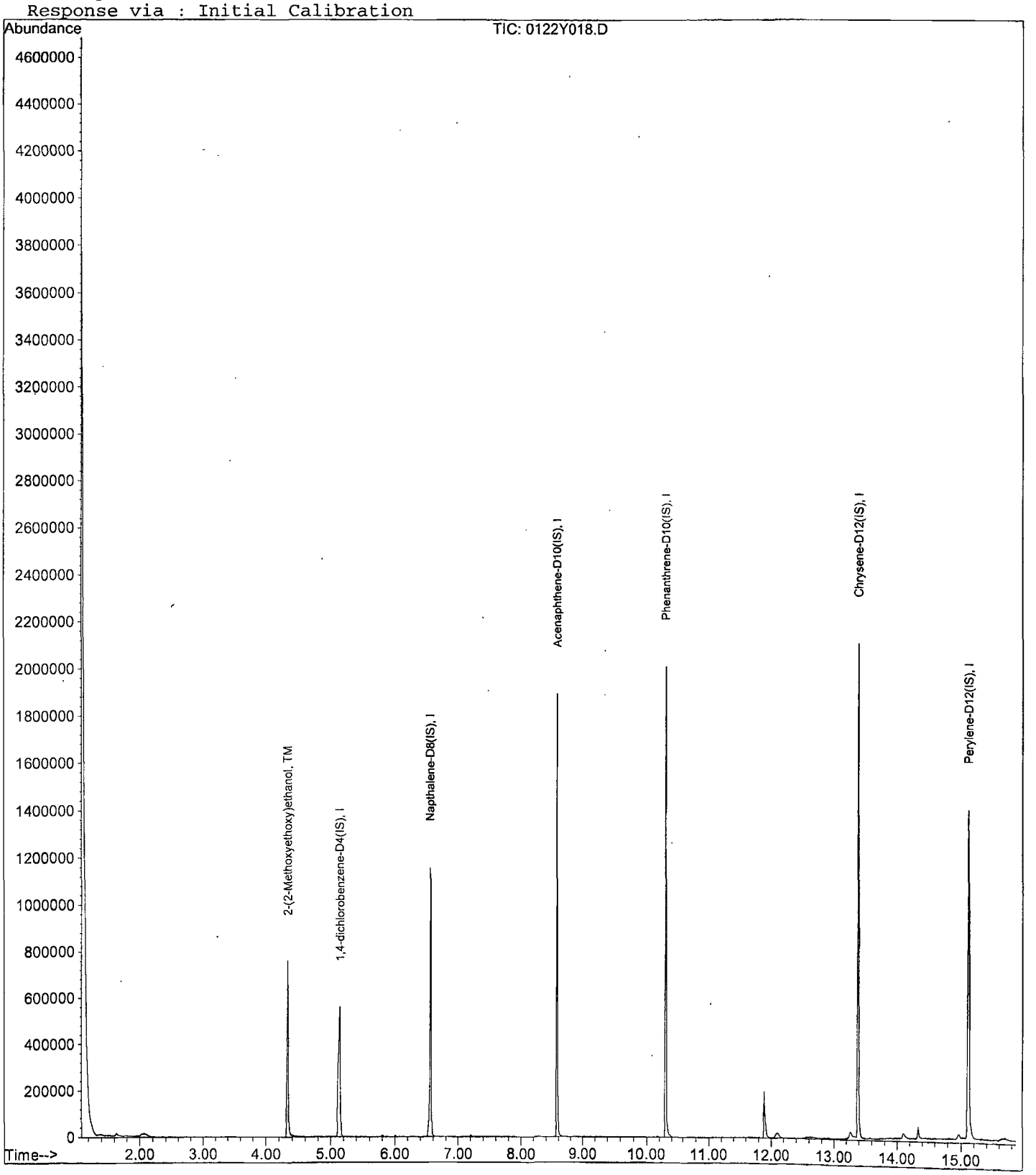
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y200122M\0122Y018.D Vial: 18
Acq On : 29 Jan 20 15:01 Operator: MA,SS
Sample : 500ug/ml MEE 01/29/20 (1) Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 29 15:02 2020 Quant Results File: YMEE0122.RES

Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 16:28:09 2020
Response via : Initial Calibration



2MEE
EPA 8270

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 01/30/20
Instrument: Yoda
Initial Cal. Date: 01/22/20
Data File: 0122Y040.D

		Compound	MEAN	CCRF	%D	%Drift	
1	I	1,4-dichlorobenzene-D4(IS)	ISTD			I	
2	TM	2-(2-Methoxyethoxy)ethanol	0.2349	0.2263	3.7	TM	
3	I	Napthalene-D8(IS)	ISTD			I	
4	I	Acenaphthene-D10(IS)	ISTD			I	
5	I	Phenanthrene-D10(IS)	ISTD			I	
6	I	Chrysene-D12(IS)	ISTD			I	
7	I	Perylene-D12(IS)	ISTD			I	
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			3.7		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y200122M\0122Y040.D Vial: 40
Acq On : 30 Jan 20 00:07 Operator: MA,SS
Sample : 500ug/ml MEE 01/29/20 (2) Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 30 7:51 2020 Quant Results File: YMEE0122.RES

Quant Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 16:28:09 2020
Response via : Initial Calibration
DataAcq Meth : GED

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.15	152	154425	40.00000	ppb	0.00
3) Napthalene-D8(IS)	6.57	136	634344	40.00000	ppb	0.00
4) Acenaphthene-D10(IS)	8.58	164	403367	40.00000	ppb	0.00
5) Phenanthrene-D10(IS)	10.31	188	773403	40.00000	ppb	0.00
6) Chrysene-D12(IS)	13.39	240	688581	40.00000	ppb	0.00
7) Perylene-D12(IS)	15.12	264	728249	40.00000	ppb	0.00

System Monitoring Compounds

Target Compounds						Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.34	45	436925	481.73121	ppb	97

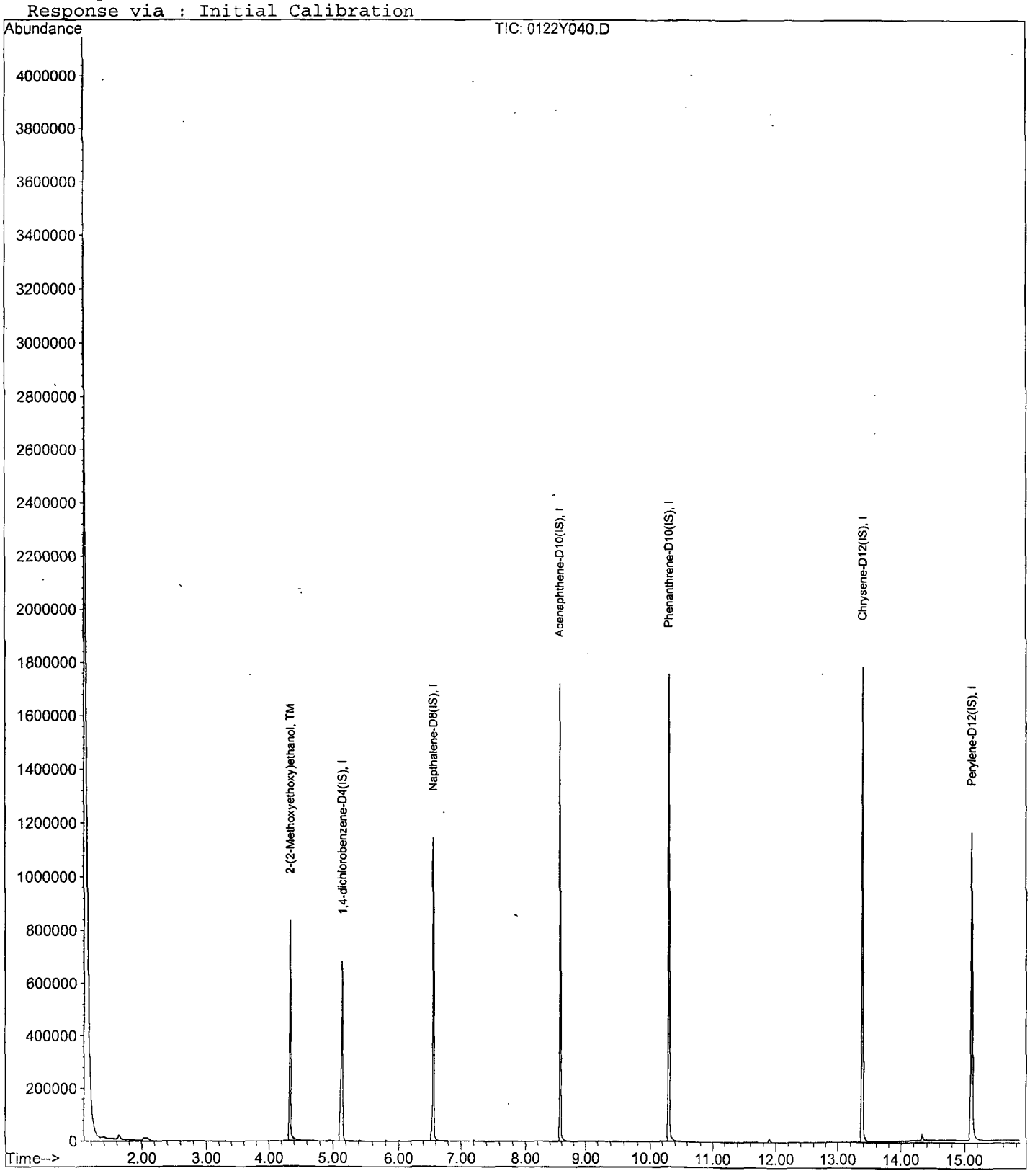
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y200122M\0122Y040.D Vial: 40
Acq On : 30 Jan 20 00:07 Operator: MA,SS
Sample : 500ug/ml MEE 01/29/20 (2) Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 30 7:51 2020 Quant Results File: YMEE0122.RES

Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 16:28:09 2020
Response via : Initial Calibration



ORGANICS
Raw Data

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y200122M\0122Y032.D Vial: 32
Acq On : 29 Jan 20 20:59 Operator: MA,SS
Sample : BA06313W10 2/500 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 30 7:51 2020 Quant Results File: YMEE0122.RES

Quant Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 16:28:09 2020
Response via : Initial Calibration
DataAcq Meth : GED

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.15	152	126834	40.00000	ppb	0.00
3) Napthalene-D8(IS)	6.56	136	537068	40.00000	ppb	0.00
4) Acenaphthene-D10(IS)	8.58	164	390402	40.00000	ppb	0.00
5) Phenanthrene-D10(IS)	10.31	188	768693	40.00000	ppb	0.00
6) Chrysene-D12(IS)	13.38	240	645980	40.00000	ppb	0.00
7) Perylene-D12(IS)	15.12	264	653147	40.00000	ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

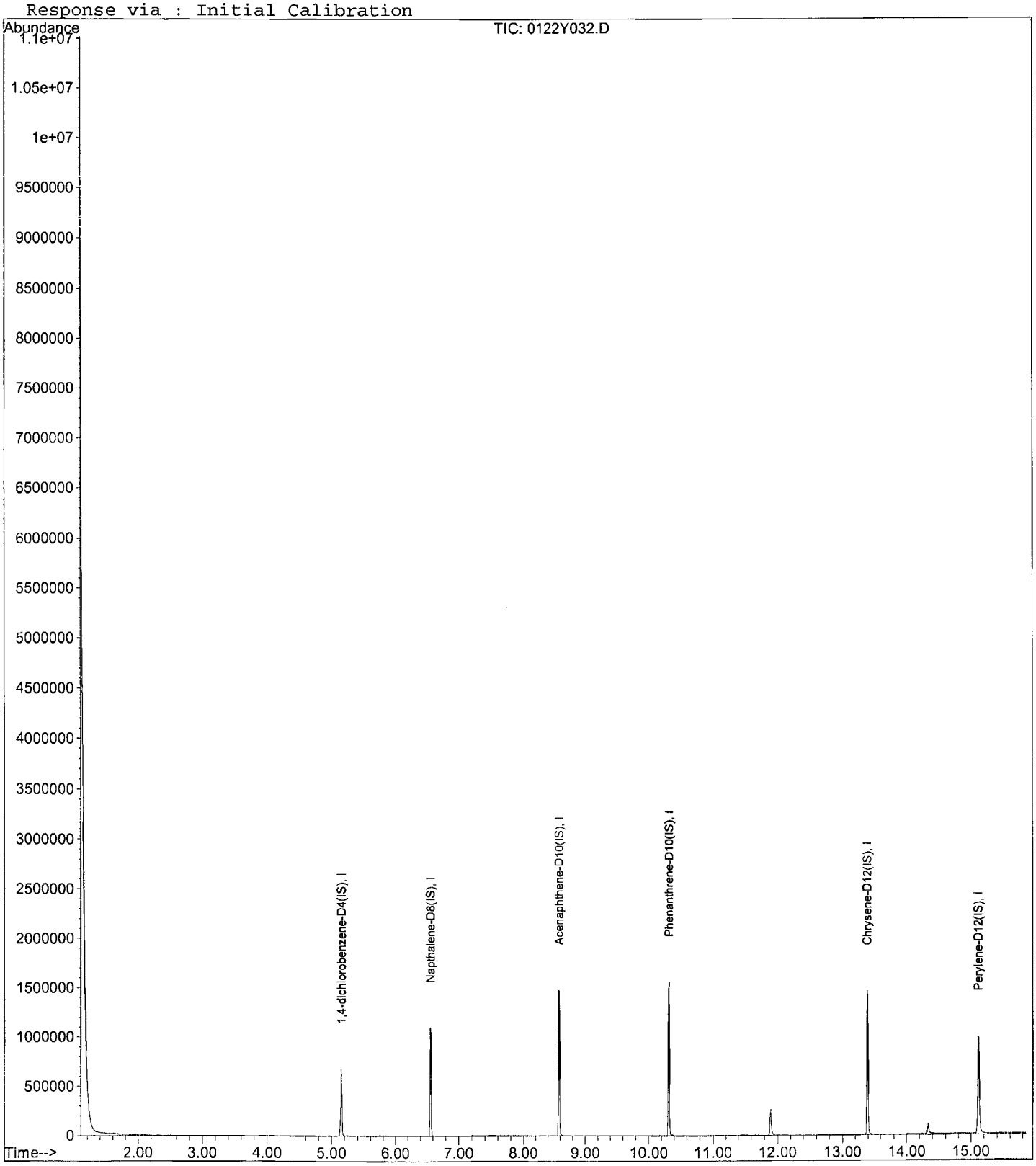
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y200122M\0122Y032.D Vial: 32
Acq On : 29 Jan 20 20:59 Operator: MA,SS
Sample : BA06313W10 2/500 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 30 7:51 2020 Quant Results File: YMEE0122.RES

Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 16:28:09 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y200122M\0122Y033.D Vial: 33
Acq On : 29 Jan 20 21:22 Operator: MA,SS
Sample : BA06315W12 2/500 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 30 7:51 2020 Quant Results File: YMEE0122.RES

Quant Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 16:28:09 2020
Response via : Initial Calibration
DataAcq Meth : GED

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.15	152	136050	40.00000	ppb	0.00
3) Napthalene-D8(IS)	6.56	136	550635	40.00000	ppb	0.00
4) Acenaphthene-D10(IS)	8.58	164	403350	40.00000	ppb	0.00
5) Phenanthrene-D10(IS)	10.30	188	802861	40.00000	ppb	0.00
6) Chrysene-D12(IS)	13.39	240	717874	40.00000	ppb	0.00
7) Perylene-D12(IS)	15.12	264	722415	40.00000	ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

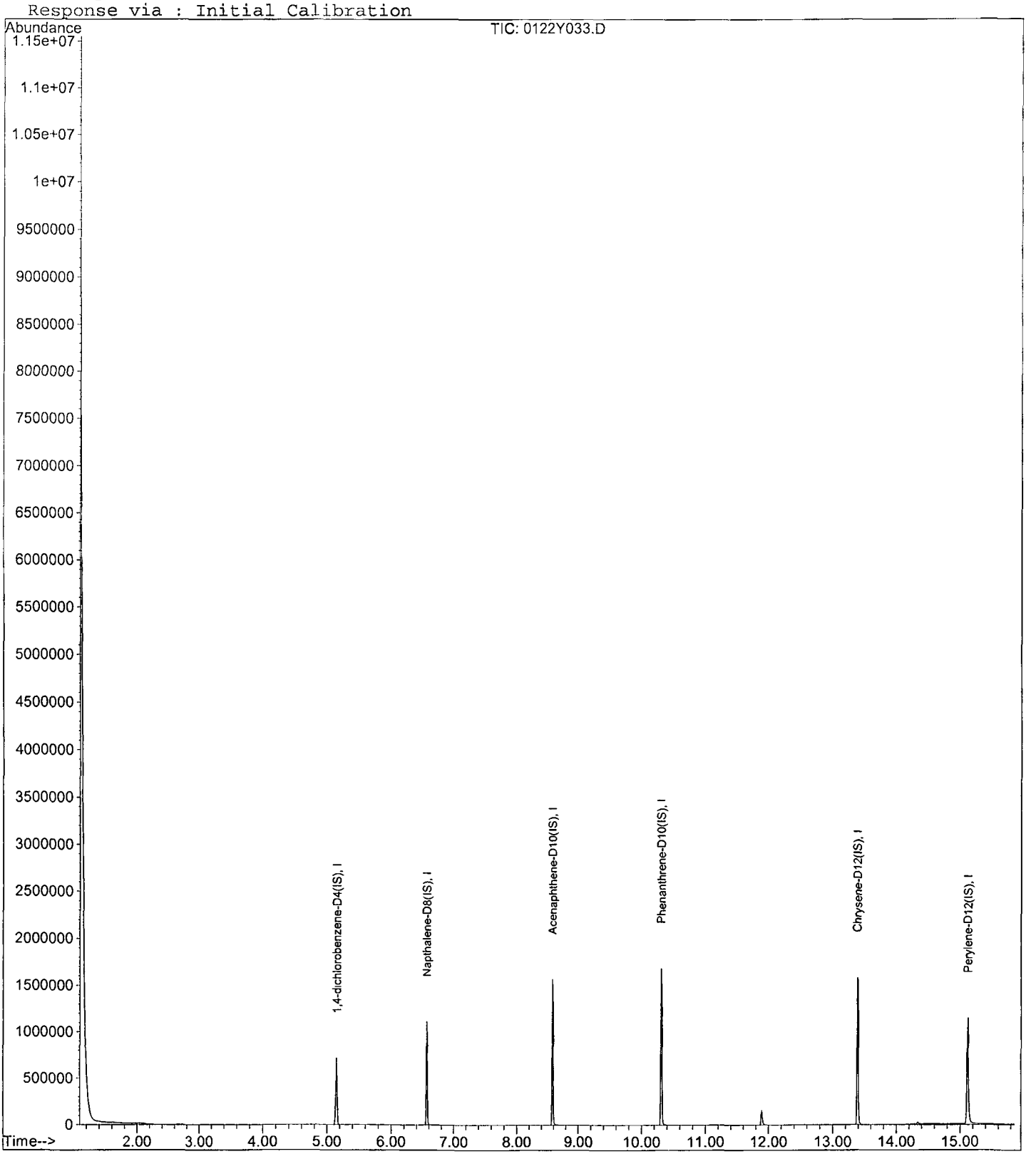
(#) = qualifier out of range (m) = manual integration
0122Y033.D YMEE0122.M Thu Jan 30 08:35:08 2020 Page 1

Quantitation Report

Data File : M:\YODA\DATA\Y200122M\0122Y033.D Vial: 33
Acq On : 29 Jan 20 21:22 Operator: MA,SS
Sample : BA06315W12 2/500 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 30 7:51 2020 Quant Results File: YMEE0122.RES

Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 16:28:09 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y200122M\0122Y034.D Vial: 34
Acq On : 29 Jan 20 21:46 Operator: MA,SS
Sample : BA06317W11 2/500 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 30 7:51 2020 Quant Results File: YMEE0122.RES

Quant Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 16:28:09 2020
Response via : Initial Calibration
DataAcq Meth : GED

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.16	152	122035	40.00000	ppb	0.00
3) Napthalene-D8(IS)	6.57	136	539336	40.00000	ppb	0.00
4) Acenaphthene-D10(IS)	8.58	164	389901	40.00000	ppb	0.00
5) Phenanthrene-D10(IS)	10.31	188	759830	40.00000	ppb	0.00
6) Chrysene-D12(IS)	13.39	240	568927	40.00000	ppb	0.00
7) Perylene-D12(IS)	15.12	264	548802	40.00000	ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

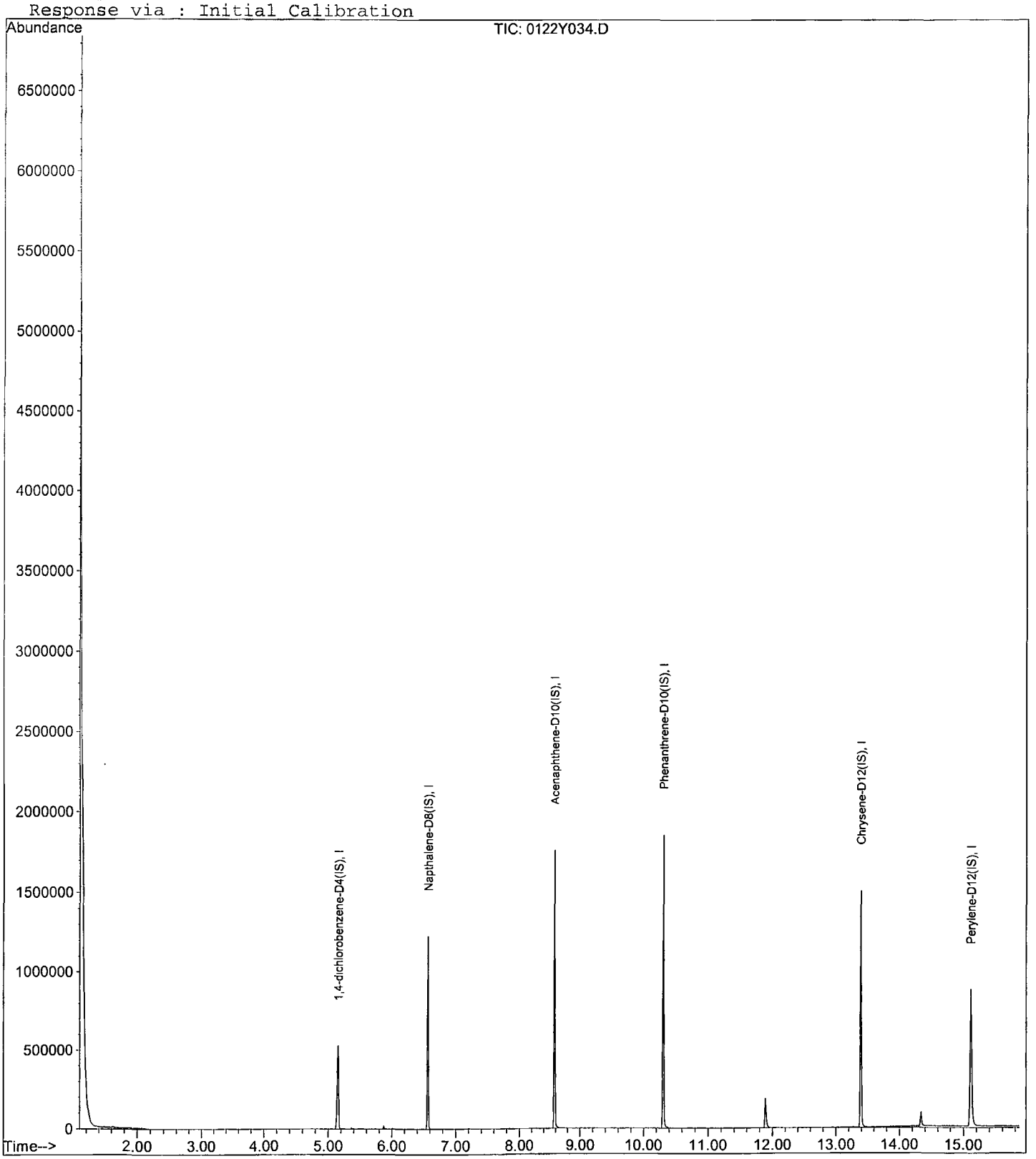
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y200122M\0122Y034.D Vial: 34
Acq On : 29 Jan 20 21:46 Operator: MA,SS
Sample : BA06317W11 2/500 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 30 7:51 2020 Quant Results File: YMEE0122.RES

Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 16:28:09 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y200122M\0122Y035.D Vial: 35
Acq On : 29 Jan 20 22:09 Operator: MA,SS
Sample : BA06319W13 2/500 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 30 7:51 2020 Quant Results File: YMEE0122.RES

Quant Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 16:28:09 2020
Response via : Initial Calibration
DataAcq Meth : GED

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.15	152	122236	40.00000	ppb	0.00
3) Napthalene-D8(IS)	6.57	136	499150	40.00000	ppb	0.00
4) Acenaphthene-D10(IS)	8.58	164	397644	40.00000	ppb	0.00
5) Phenanthrene-D10(IS)	10.31	188	786594	40.00000	ppb	0.00
6) Chrysene-D12(IS)	13.39	240	662785	40.00000	ppb	0.00
7) Perylene-D12(IS)	15.12	264	651464	40.00000	ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

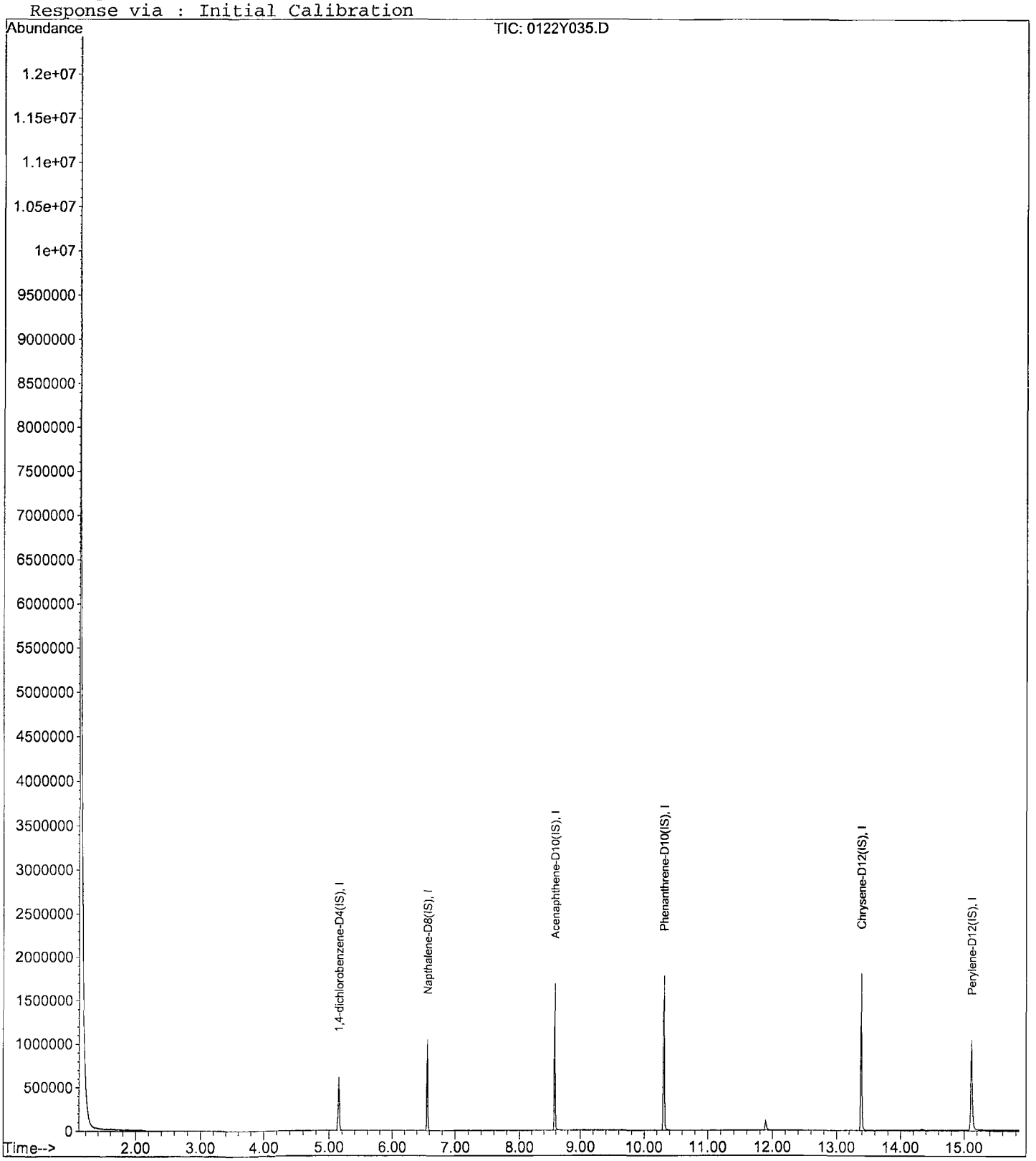
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y200122M\0122Y035.D Vial: 35
Acq On : 29 Jan 20 22:09 Operator: MA,SS
Sample : BA06319W13 2/500 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 30 7:51 2020 Quant Results File: YMEE0122.RES

Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 16:28:09 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y200122M\0122Y020.D Vial: 20
Acq On : 29 Jan 20 16:17 Operator: MA,SS
Sample : 200128A BLK 2/500 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 30 7:50 2020 Quant Results File: YMEE0122.RES

Quant Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 16:28:09 2020
Response via : Initial Calibration
DataAcq Meth : GED

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.15	152	101798	40.00000	ppb	0.00
3) Napthalene-D8(IS)	6.57	136	401287	40.00000	ppb	0.00
4) Acenaphthene-D10(IS)	8.58	164	316737	40.00000	ppb	0.00
5) Phenanthrene-D10(IS)	10.31	188	591937	40.00000	ppb	0.00
6) Chrysene-D12(IS)	13.39	240	498560	40.00000	ppb	0.00
7) Perylene-D12(IS)	15.12	264	485910	40.00000	ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

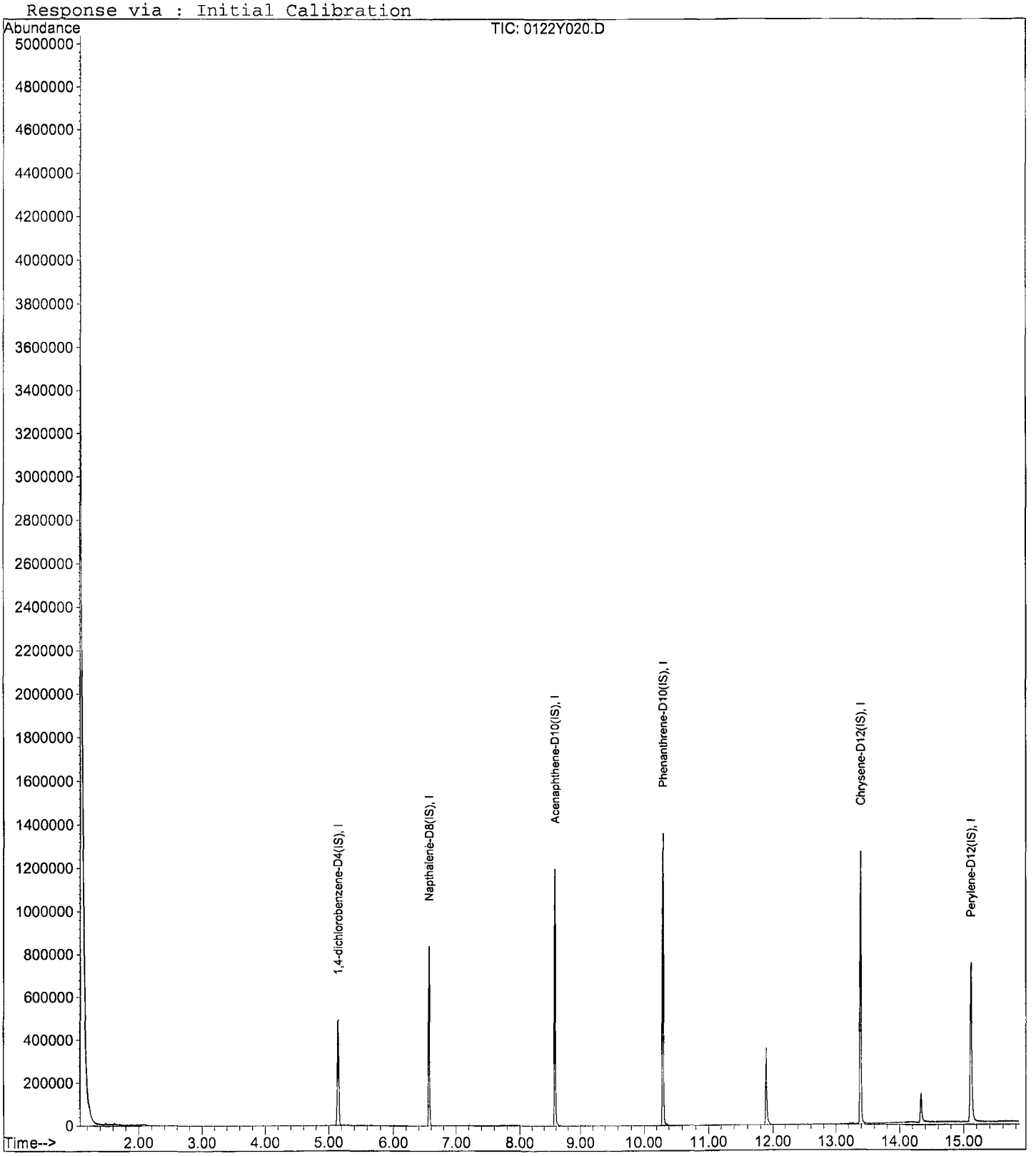
(#) = qualifier out of range (m) = manual integration
0122Y020.D YMEE0122.M Thu Jan 30 11:28:21 2020 Page 1

Quantitation Report

Data File : M:\YODA\DATA\Y200122M\0122Y020.D Vial: 20
Acq On : 29 Jan 20 16:17 Operator: MA,SS
Sample : 200128A BLK 2/500 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 30 7:50 2020 Quant Results File: YMEE0122.RES

Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 16:28:09 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y200122M\0122Y022.D Vial: 22
Acq On : 29 Jan 20 17:04 Operator: MA,SS
Sample : 200128A LCS-1 2/500 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 30 7:51 2020 Quant Results File: YMEE0122.RES

Quant Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 16:28:09 2020
Response via : Initial Calibration
DataAcq Meth : GED

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.16	152	109093	40.00000	ppb	0.00
3) Napthalene-D8(IS)	6.57	136	438122	40.00000	ppb	0.00
4) Acenaphthene-D10(IS)	8.58	164	353433	40.00000	ppb	0.00
5) Phenanthrene-D10(IS)	10.31	188	670592	40.00000	ppb	0.00
6) Chrysene-D12(IS)	13.39	240	532090	40.00000	ppb	0.00
7) Perylene-D12(IS)	15.12	264	726611	40.00000	ppb	0.00

System Monitoring Compounds

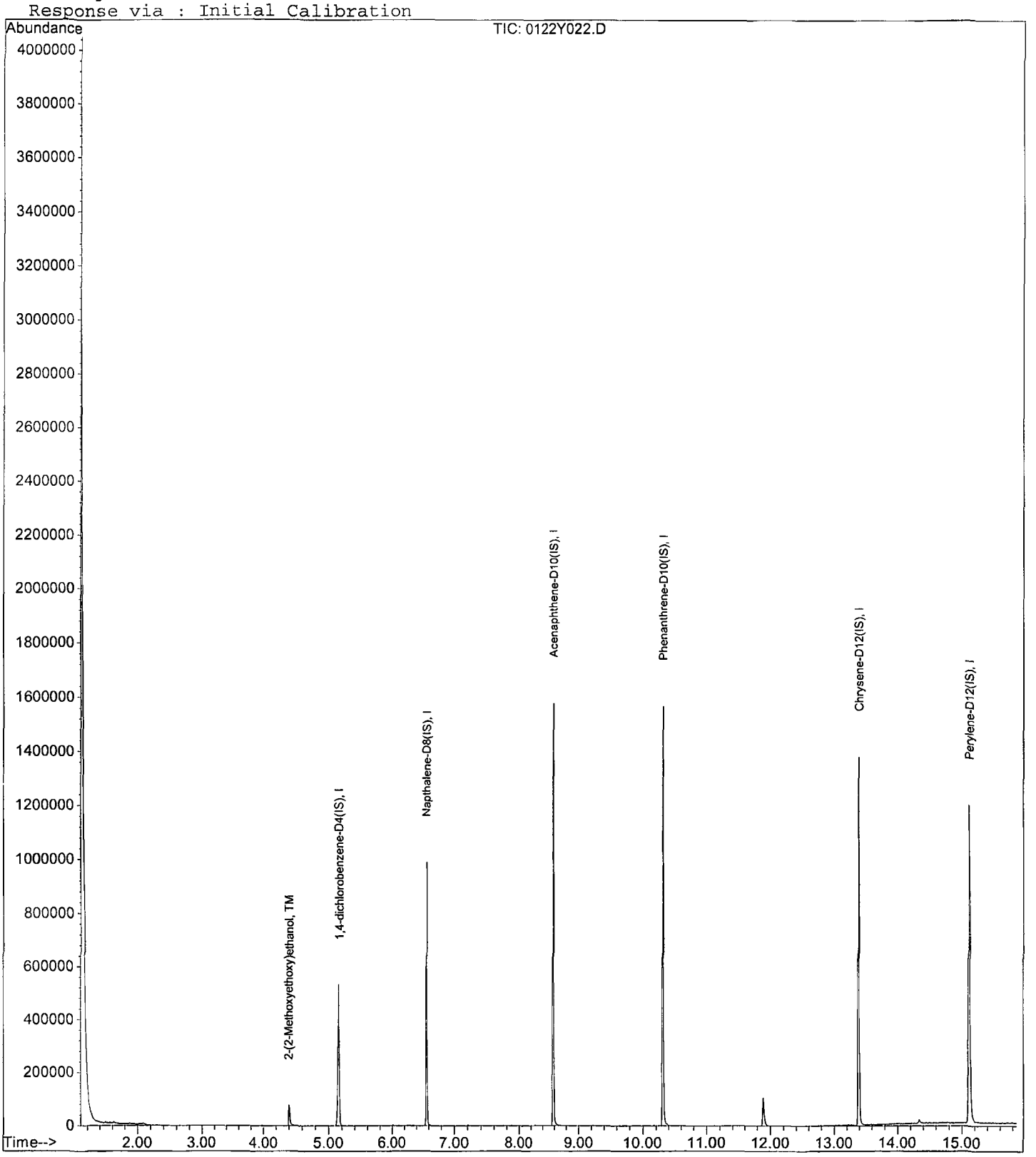
Target Compounds						Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.40	45	48461	75.63294	ppb	93

(#) = qualifier out of range (m) = manual integration
0122Y022.D YMEE0122.M Thu Jan 30 11:28:26 2020 Page 1

Data File : M:\YODA\DATA\Y200122M\0122Y022.D Vial: 22
Acq On : 29 Jan 20 17:04 Operator: MA,SS
Sample : 200128A LCS-1 2/500 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 30 7:51 2020 Quant Results File: YMEE0122.RES

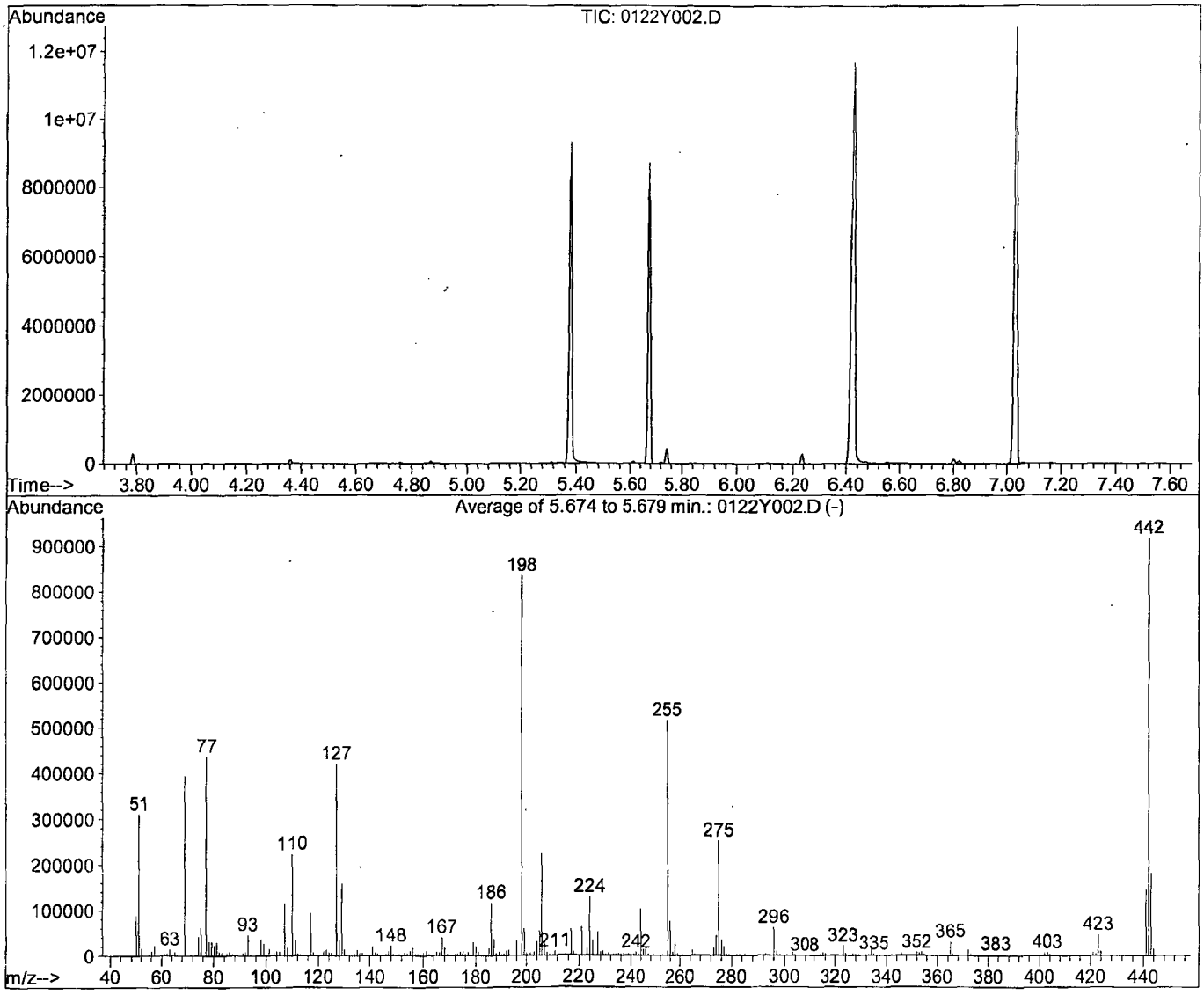
Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 16:28:09 2020
Response via : Initial Calibration



Data File : M:\YODA\DATA\Y200122M\0122Y002.D
Acq On : 22 Jan 20 15:31
Sample : SV Tune 10/11/18
Misc :

Vial: 2
Operator: MA,SS
Inst : Yoda
Multiplr: 1.00

Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C



Spectrum Information: Average of 5.674 to 5.679 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	37.2	310756	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.2	963	PASS
127	198	10	80	50.4	420821	PASS
197	198	0.00	2	0.0	0	PASS
198	198	100	100	100.0	835008	PASS
199	198	5	9	7.1	58973	PASS
275	198	10	60	30.1	251435	PASS
365	198	1	100	3.7	30675	PASS
441	442	0.01	24	15.9	145797	PASS
442	198	50	500	109.9	917909	PASS
443	442	15	24	19.8	181739	PASS

Data File Name:	**0122Y002.D**
Data File Path:	**M:\YODA\DATA\Y200122M**
Operator:	**MA,SS**
Date Acquired:	**22 Jan 2020 15:31**
Method File:	**DFTPP2.M**
Sample Name:	**SV Tune 10/11/18**
Vial Number:	**2**
Instrument Name:	**Yoda**

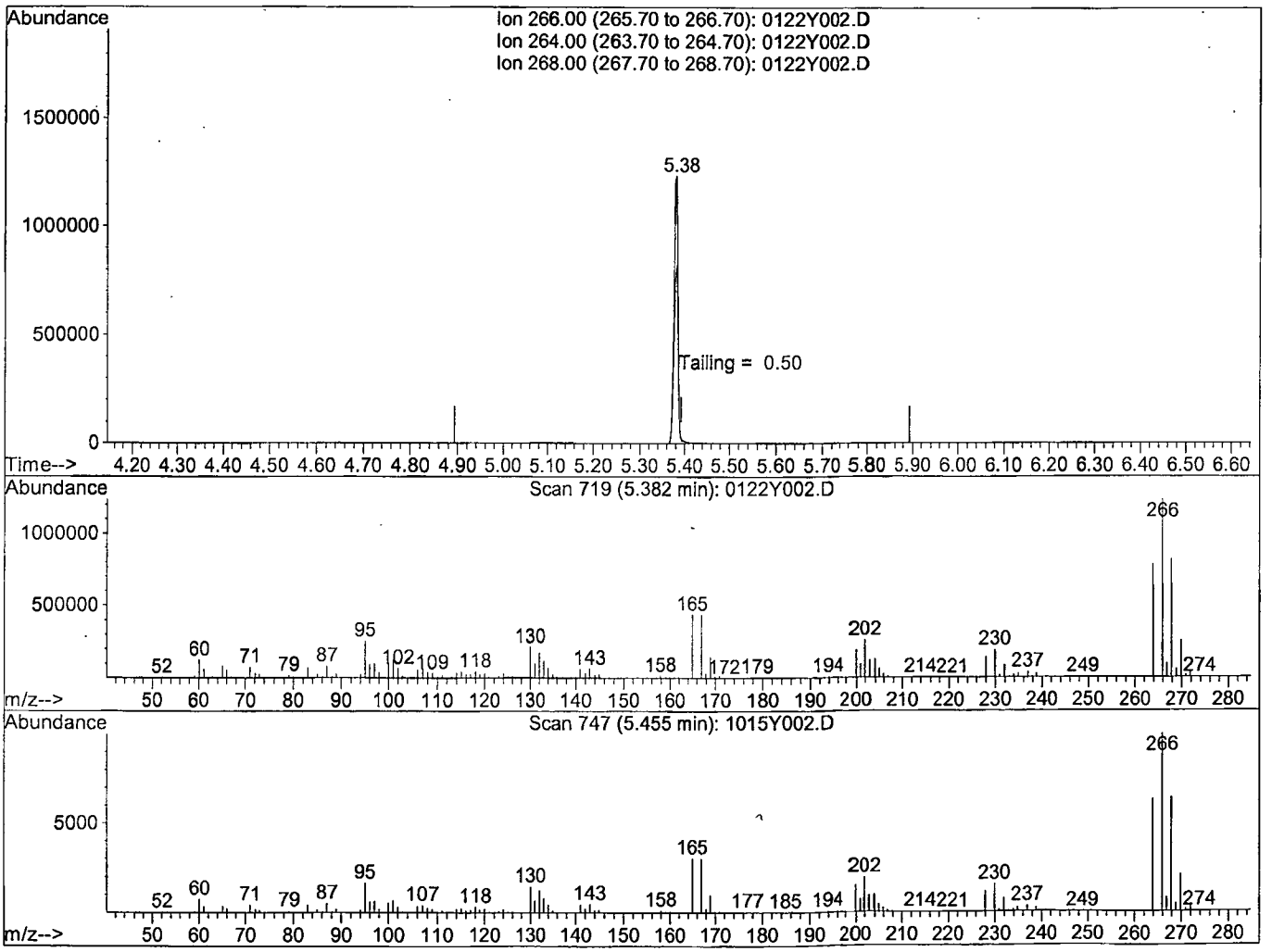
#	Name	Ret Time	Target Response
1)	DDT	7.02	96603900
2)	DDD	6.79	987534
3)	DDE	6.59	119819

Breakdown **1.13**

Quantitation Report

Data File : M:\YODA\DATA\Y200122M\0122Y002.D Vial: 2
Acq On : 22 Jan 20 15:31 Operator: MA,SS
Sample : SV Tune 10/11/18 Inst : Yoda
Misc : Multiplr: 1.00
Quant Time: Jan 23 9:58 2020 Quant Results File: temp.res

Method : M:\YODA\DATA\Y191219\DFTPP2.M (Chemstation Integrator)
Title :
Last Update : Tue Dec 10 08:34:10 2019
Response via : Single Level Calibration



TIC: 0122Y002.D

(5) Pentachlorophenol

5.38min 0.0000

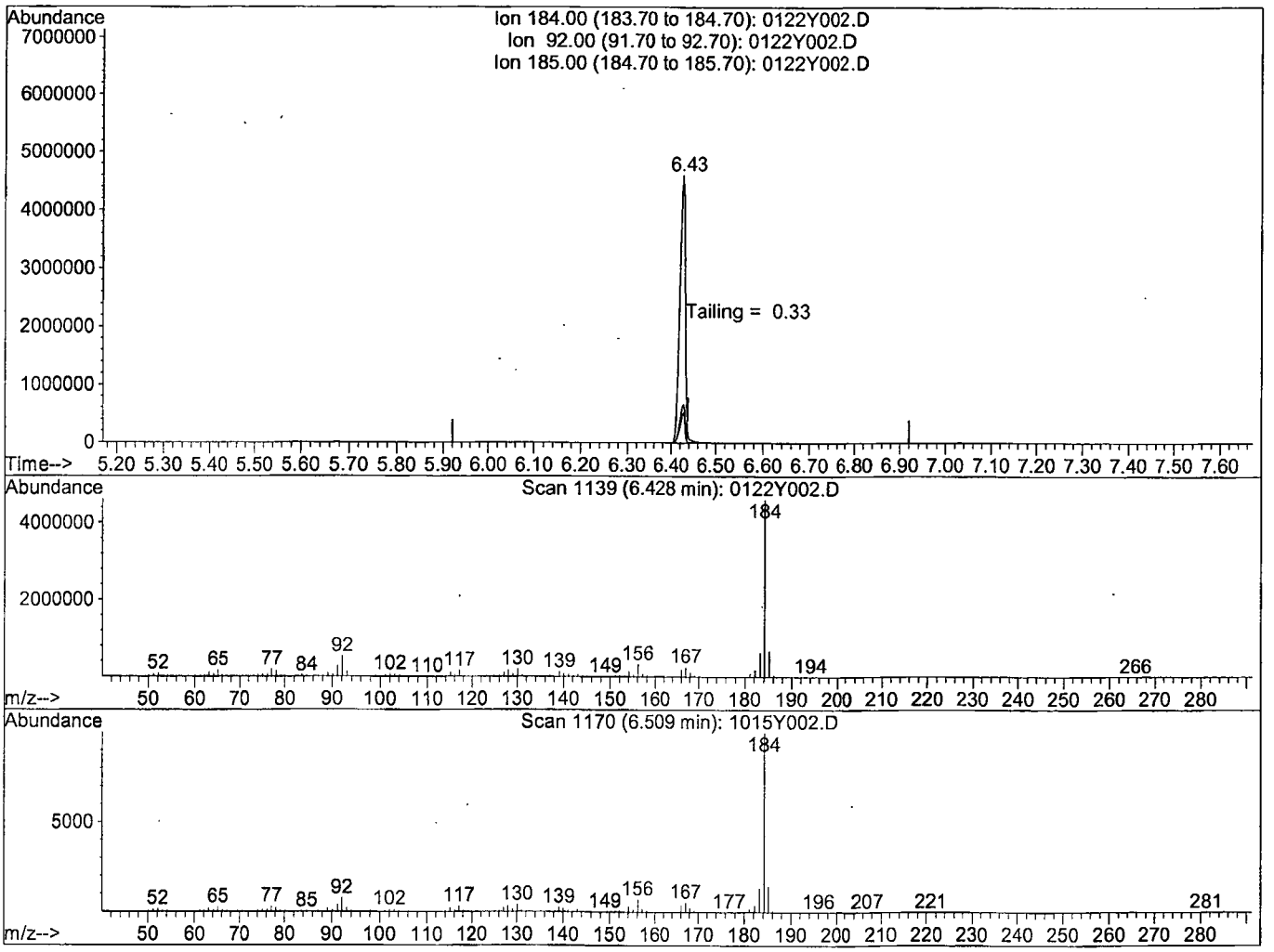
response 7823618

Ion	Exp%	Act%
266.00	100	100
264.00	65.60	63.49
268.00	64.10	65.10
0.00	0.00	0.00

Quantitation Report

Data File : M:\YODA\DATA\Y200122M\0122Y002.D Vial: 2
Acq On : 22 Jan 20 15:31 Operator: MA,SS
Sample : SV Tune 10/11/18 Inst : Yoda
Misc : Multiplr: 1.00
Quant Time: Jan 23 9:58 2020 Quant Results File: temp.res

Method : M:\YODA\DATA\Y191219\DFTPP2.M (Chemstation Integrator)
Title :
Last Update : Tue Dec 10 08:34:10 2019
Response via : Single Level Calibration



TIC: 0122Y002.D

(6) Benzidine

6.43min 0.0000

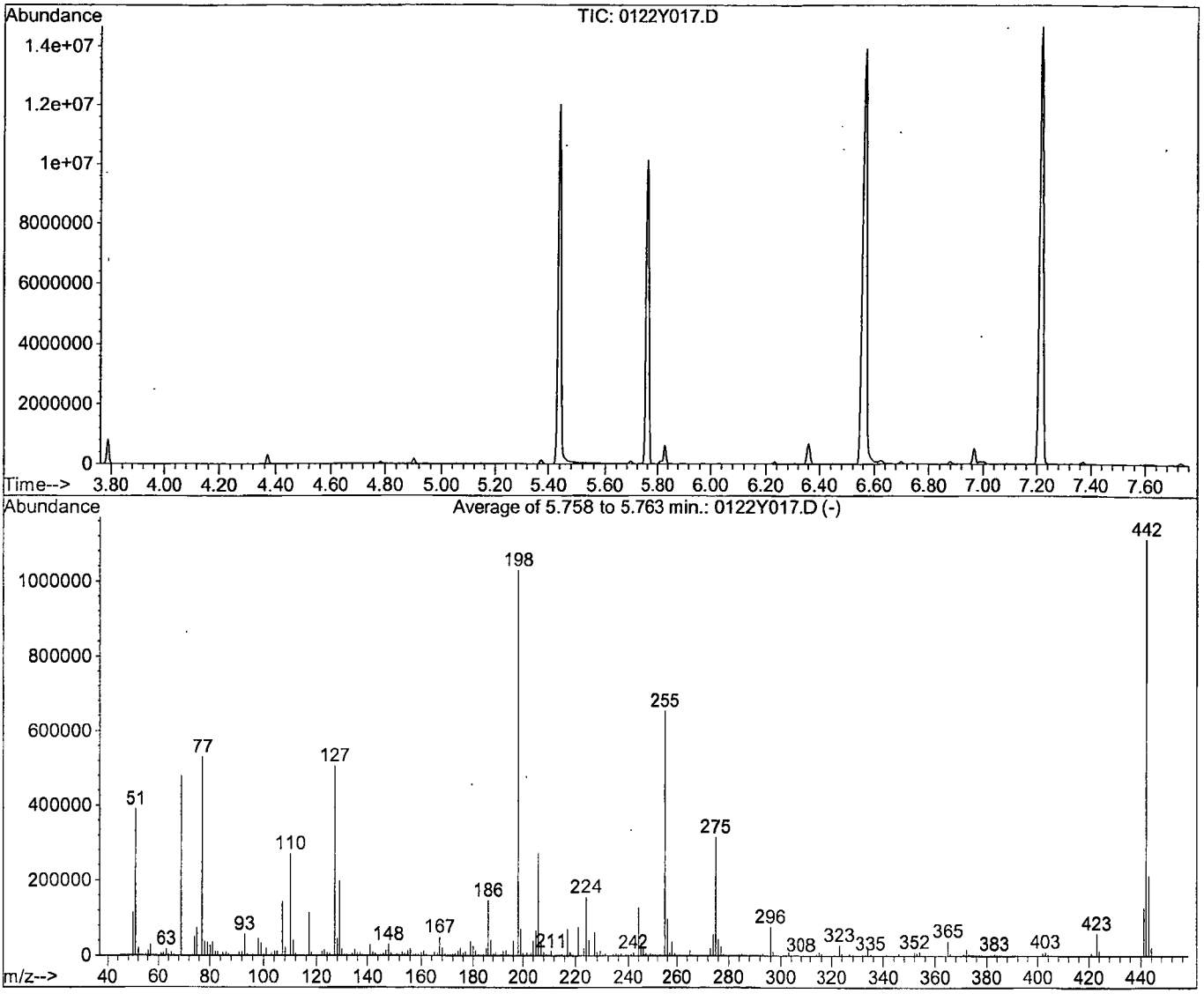
response 41313552

Ion	Exp%	Act%
184.00	100	100
92.00	10.30	10.42
185.00	14.50	14.34
0.00	0.00	0.00

Data File : M:\YODA\DATA\Y200122M\0122Y017.D
Acq On : 29 Jan 20 14:46
Sample : SV TUNE 10/01/19
Misc : soil

Vial: 17
Operator: MA,SS
Inst : Yoda
Multiplr: 1.00

Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C



Spectrum Information: Average of 5.758 to 5.763 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	37.9	390059	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.0	0	PASS
127	198	10	80	49.1	504917	PASS
197	198	0.00	2	0.0	0	PASS
198	198	100	100	100.0	1028117	PASS
199	198	5	9	6.8	70373	PASS
275	198	10	60	30.6	314453	PASS
365	198	1	100	3.8	38696	PASS
441	442	0.01	24	11.4	126528	PASS
442	198	50	500	108.4	1114155	PASS
443	442	15	24	19.2	214037	PASS

Data File Name:	**0122Y017.D**
Data File Path:	**M:\YODA\DATA\Y200122M**
Operator:	**MA,SS**
Date Acquired:	**29 Jan 2020 14:46**
Method File:	**DFTPP2.M**
Sample Name:	**SV TUNE 10/01/19**
Vial Number:	**17**
Instrument Name:	**Yoda**

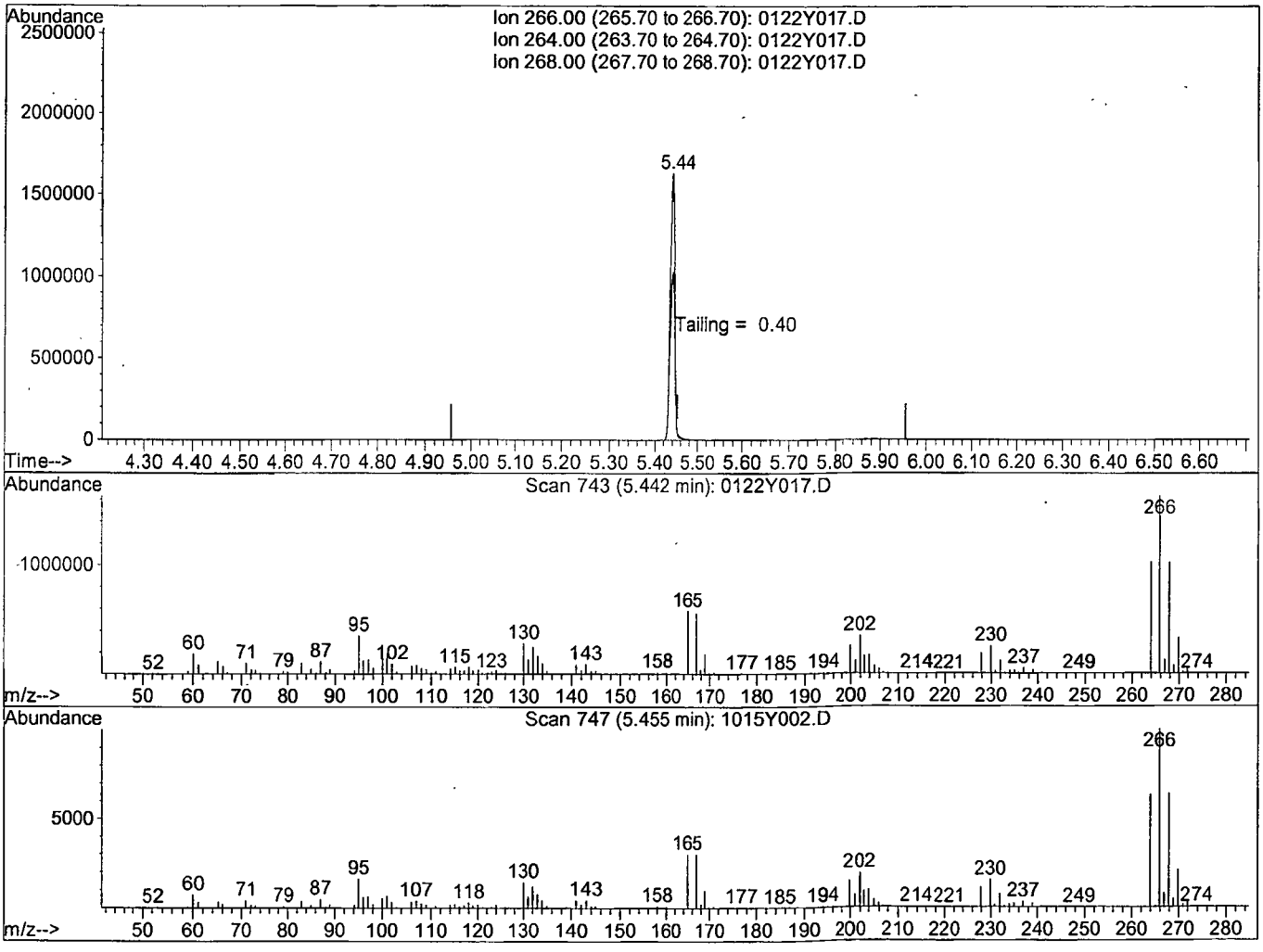
#	Name	Ret Time	Target Response
1)	DDT	7.28	135494000
2)	DDD	7.02	652428
3)	DDE	6.79	0

Breakdown **0.48**

Quantitation Report

Data File : M:\YODA\DATA\Y200122M\0122Y017.D Vial: 17
Acq On : 29 Jan 20 14:46 Operator: MA,SS
Sample : SV TUNE 10/01/19 Inst : Yoda
Misc : soil Multiplr: 1.00
Quant Time: Jan 30 10:28 2020 Quant Results File: temp.res

Method : M:\YODA\DATA\Y191219\DFTPP2.M (Chemstation Integrator)
Title :
Last Update : Mon Jan 27 08:38:00 2020
Response via : Single Level Calibration



TIC: 0122Y017.D

(5) Pentachlorophenol

5.44min 0.0000

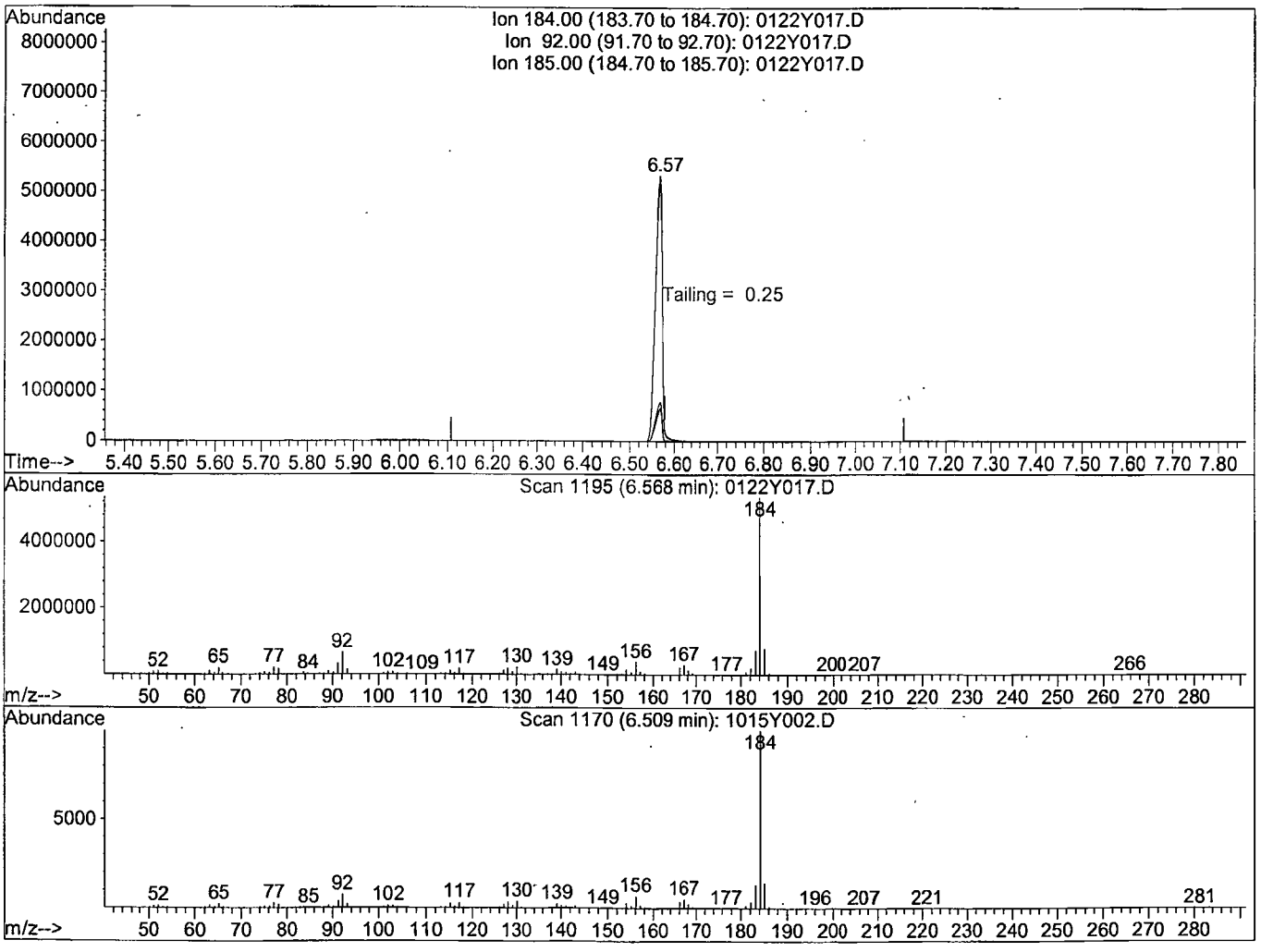
response 12220310

Ion	Exp%	Act%
266.00	100	100
264.00	63.10	63.62
268.00	63.80	63.58
0.00	0.00	0.00

Quantitation Report

Data File : M:\YODA\DATA\Y200122M\0122Y017.D Vial: 17
Acq On : 29 Jan 20 14:46 Operator: MA,SS
Sample : SV TUNE 10/01/19 Inst : Yoda
Misc : soil Multiplr: 1.00
Quant Time: Jan 30 10:28 2020 Quant Results File: temp.res

Method : M:\YODA\DATA\Y191219\DFTPP2.M (Chemstation Integrator)
Title :
Last Update : Mon Jan 27 08:38:00 2020
Response via : Single Level Calibration



TIC: 0122Y017.D

(6) Benzidine

6.57min 0.0000

response 56275709

Ion	Exp%	Act%
184.00	100	100
92.00	7.50	11.03#
185.00	14.30	14.33
0.00	0.00	0.00

Name of Final Standard: MEE Curve
Prep Date: 01/22/20
Exp Date: 11/05/20
Prep'd By (Initials): JP

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from container Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
MEE M STD Stock	APPL		2000 ug/mL	11/05/19	11/05/20	5 uL	200uL	Methanol 195uL Lot# 235140	50 ug/mL
SV Internal Standard	APPL	8270 Internal Standard	2000 ug/mL	11/20/19	11/20/20	4 uL	"	"	"
MEE M STD Stock	APPL		2000 ug/mL	11/05/19	11/05/20	5 uL	100uL	Methanol 95uL Lot# 235140	100 ug/mL
SV Internal Standard	APPL	8271 Internal Standard	2000 ug/mL	11/20/19	11/20/20	2 uL	"	"	"
MEE M STD Stock	APPL		2000 ug/mL	11/05/19	11/05/20	10 uL	100uL	Methanol 90uL Lot# 235140	200 ug/mL
SV Internal Standard	APPL	8272 Internal Standard	2000 ug/mL	11/20/19	11/20/20	2 uL	"	"	"
MEE M STD Stock	APPL		2000 ug/mL	11/05/19	11/05/20	20 uL	100uL	Methanol 80 uL Lot# 235140	400 ug/mL
SV Internal Standard	APPL	8273 Internal Standard	2000 ug/mL	11/20/19	11/20/20	2 uL	"	"	"
MEE M STD Stock	APPL		2000 ug/mL	11/05/19	11/05/20	50 uL	200 uL	Methanol 150 uL Lot# 235140	500 ug/mL
SV Internal Standard	APPL	8274 Internal Standard	2000 ug/mL	11/20/19	11/20/20	4 uL	"	"	"
MEE M STD Stock	APPL		2000 ug/mL	11/05/19	11/05/20	30 uL	100uL	Methanol 70 uL Lot# 235140	600 ug/mL
SV Internal Standard	APPL	8275 Internal Standard	2000 ug/mL	11/20/19	11/20/20	2 uL	"	"	"
MEE M STD Stock	APPL		2000 ug/mL	11/05/19	11/05/20	40 uL	100uL	Methanol 60 uL Lot# 235140	800 ug/mL
SV Internal Standard	APPL	8276 Internal Standard	2000 ug/mL	11/20/19	11/20/20	2 uL	"	"	"
MEE M STD Stock	APPL		2000 ug/mL	11/05/19	11/05/20	50 uL	100uL	Methanol 50uL Lot# 235140	1000 ug/mL
SV Internal Standard	APPL	8277 Internal Standard	2000 ug/mL	11/20/19	11/20/20	2 uL	"	"	"

Name of Final Standard: MEE Second Source
Prep Date: 01/22/20
Exp Date: 10/28/20
Prep'd By (Initials): JP

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from container Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
MEE SS	APPL		2000 ug/mL	10/28/19	10/28/20	50 uL	200uL	Methanol 150uL Lot# 235140	500 ug/mL
SV Internal Standard	APPL	8277 Internal Standard	2000 ug/mL	11/20/19	11/20/20	4 uL	"	"	"

_MWE2MEE

Organic Extraction Worksheet

Method	Solid Phase Extraction of 2MEE in Water	Extraction Set	191106A	Extraction Method	MWE2MEE	Units	mL

Spiked ID 1	Diethylene Glycol 1-31-19 EXP 1-31-20		Surrogate ID 1		
Spiked ID 2	2MEE SS 10320ug/mL 10/28/19 exp 10/28/20		Surrogate ID 2		
Spiked ID 3	Diethylene Glycol 11-5-19 exp 11-5-20		Surrogate ID 3		
Spiked ID 4			Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	no	
Spiked ID 7			Ext. Start Time:	11/06/19 6:25	
Spiked ID 8			Ext. End Time:	11/06/19 13:30	
			GC Requires Extract By:		

M STD AND SS PREPARATION MA 1/21/20

pH1			Water Bath Temp 1 °C		
pH2			Water Bath Temp 2 °C		
pH3			Water Bath Temp 3 °C		

Spiked By: DL **Date** 11/06/19 **Witnessed By:** CFM **Date** 11/06/19

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	191106A Blk				NA	NA equip	500	2	7Y	11/06/19 6:25	
2	191106A LCS-1		0.040	1	NA	NA equip	500	2	7Y	11/06/19 6:25	
3	191106A LCSD-1		0.040	1	NA	NA equip	500	2	7Y	11/06/19 6:25	
4	BA02214	BA02214W18			NA	NA equip	500	2	7Y	11/06/19 6:25	90611
5	BA02216	BA02216W10			NA	NA equip	500	2	7Y	11/06/19 6:25	90611
6	BA02301	BA02301W22			NA	NA equip	500	2	7Y	11/06/19 6:25	90625
7	M STD		1	3	na	na equip	500	2	7Y	11/06/19 6:25	
8	SS		0.097	2	NA	NA equip	500	2	7Y	11/06/19 6:25	

Solvent and Lot#	
ENVI-Carb Plus 400MG/1ML	11694501
Reverible Tube Lot:	11694501
PH Strip	HC863463
Di Water	11/6/19
Dichloromethane	59130
Methanol	59129

Extraction COC Transfer	
Extraction lab employee Initials	SS
GC analyst's initials	MA
Date	
Time	
Refrigerator	Hobart

	Technician's Initials
Scanned By	DL
Sample Preparation	DL
Extraction	DL
Concentration	DL

Modified	11/06/19 6:07:34 AM

Reviewed By: **Date**

Name of Final Standard	Diethylene Glycol
Prep Date	**11/05/19**
Exp Date	**11/05/20**

Prep'd By (Initials) **MA**

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from contianer Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
Diethylene glycol methyl ether	AccuStandard	S-72273	2000 ug/mL	**218101558-39890**	**12/01/20**	1.0 mL	2 mL	**Methanol #208858**	1000 ug/mL

Given to Extraction to do **MEE M STD Stock** (used for ICAL) Final concentration 2000ug/L

Name of Final Standard 2MEE Second Source Stock

Prep'd By (Initials) JP

Prep Date 10/28/19

Exp Date 10/28/20

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from contianer Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
Methoxyethanol-Neat	Chem Service	N-12404-1G	Neat 99.5%	**7079100 - 39417**	**07/31/22**	0.1022g	10 mL	**MC #56258**	10220 ug/mL

Given to Extraction to do **MEE SS** (used for ICAL SS)

0.097ml were spiked in 500ml of water and extracted on 04/29/19 . Final concentration is 2000ug/L

Name of Final Standard MEE Curve

Prep Date 01/29/20

Exp Date 11/05/20

Prep'd By (Initials) JP

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from container Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
MEE M STD Stock	APPL		2000 ug/mL	**11/05/19**	**11/05/20**	50 uL	200 uL	**Methanol 150 uL**	500 ug/mL
SV Internal Standard	APPL	Internal Standard	2000 ug/mL	**11/20/19**	**11/20/20**	4 uL	*	*	*

Organic Extraction Worksheet

Method	Solid Phase Extraction of 2MEE in Water	Extraction Set	200128A	Extraction Method	MWE2MEE	Units	mL

Spiked ID 1	Diethylene Glycol 1-31-19 EXP 1-31-20		Surrogate ID 1		
Spiked ID 2			Surrogate ID 2		
Spiked ID 3			Surrogate ID 3		
Spiked ID 4			Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	YES	
Spiked ID 7			Ext. Start Time:	01/28/20 13:20	
Spiked ID 8			Ext. End Time:	01/29/20 13:30	
			GC Requires Extract By:		

pH1			Water Bath Temp 1 °C	
pH2			Water Bath Temp 2 °C	
pH3			Water Bath Temp 3 °C	

Spiked By: DL **Date** 01/28/20 **Witnessed By:** KY **Date** 01/28/20

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	200128A Blk				NA	NA equip	500	2	7	01/28/20 13:20	
2	200128A LCS-1		0.040	1	NA	NA equip	500	2	7	01/28/20 13:20	
3	BA06272 MS-1	BA06272W19	0.040	1	NA	NA equip	500	2	7	01/28/20 13:20	91282
4	BA06272 MSD-1	BA06272W20	0.040	1	NA	NA equip	500	2	7	01/28/20 13:20	91282
5	BA06272	BA06272W21			NA	NA equip	500	2	7	01/28/20 13:20	91282
6	BA06273	BA06273W06			NA	NA equip	500	2	7	01/28/20 13:20	91282
7	BA06276	BA06276W11			NA	NA equip	500	2	7	01/28/20 13:20	91282
8	BA06281	BA06281W08			NA	NA equip	500	2	7	01/28/20 13:20	91282
9	BA06282	BA06282W09			NA	NA equip	500	2	7	01/28/20 13:20	91282
10	BA06313	BA06313W10			NA	NA equip	500	2	7	01/28/20 13:20	91288
11	BA06315	BA06315W12			NA	NA equip	500	2	7	01/28/20 13:20	91288
12	BA06317	BA06317W11			NA	NA equip	500	2	7	01/28/20 13:20	91288
13	BA06319	BA06319W13			NA	NA equip	500	2	7	01/28/20 13:20	91288

Solvent and Lot#	
ENVI-Carb Plus 400MG/1ML	*
Reverible Tube Lot:	11694501
PH Strip	HC 863463
Di Water	1-28-20
Dichloromethane	59239
Methanol	59129

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	JP
Date	1/29/20
Time	1530
Refrigerator	Hobart

	Technician's Initials
Scanned By	DL
Sample Preparation	DL
Extraction	DL
Concentration	DL

Modified	01/29/20 9:04:49 AM

Reviewed By: KY **Date** 01/30/20

Injection Log

Directory: M:\YODA\DATA\Y200122M\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	2	0122Y002.D	1	SV Tune 10/11/18		22 Jan 20 15:31
2	3	0122Y003.D	1	50ug/ml MEE 01/22/20	soil	22 Jan 20 15:46
3	4	0122Y004.D	1	100ug/ml MEE 01/22/20	soil	22 Jan 20 16:10
4	5	0122Y005.D	1	200ug/ml MEE 01/22/20	soil	22 Jan 20 16:33
5	6	0122Y006.D	1	400ug/ml MEE 01/22/20	soil	22 Jan 20 16:57
6	7	0122Y007.D	1	500ug/ml MEE 01/22/20	soil	22 Jan 20 17:21
7	8	0122Y008.D	1	600ug/ml MEE 01/22/20	soil	22 Jan 20 17:45
8	9	0122Y009.D	1	800ug/ml MEE 01/22/20	soil	22 Jan 20 18:08
9	10	0122Y010.D	1	1000ug/ml MEE 01/22/20	soil	22 Jan 20 18:32
10	11	0122Y011.D	1	SS MEE 01/22/20	soil	22 Jan 20 18:55
11	17	0122Y017.D	1	SV TUNE 10/01/19	soil	29 Jan 20 14:46
12	18	0122Y018.D	1	500ug/ml MEE 01/29/20 (1)	soil	29 Jan 20 15:01
13	20	0122Y020.D	1	200128A BLK 2/500	soil	29 Jan 20 16:17
14	22	0122Y022.D	1	200128A LCS-1 2/500	soil	29 Jan 20 17:04
15	32	0122Y032.D	1	BA06313W10 2/500	soil	29 Jan 20 20:59
16	33	0122Y033.D	1	BA06315W12 2/500	soil	29 Jan 20 21:22
17	34	0122Y034.D	1	BA06317W11 2/500	soil	29 Jan 20 21:46
18	35	0122Y035.D	1	BA06319W13 2/500	soil	29 Jan 20 22:09
19	40	0122Y040.D	1	500ug/ml MEE 01/29/20 (2)	soil	30 Jan 20 00:07

ORGANICS
Calibration Data

VOLATILE ORGANIC ANALYSIS
VOLATILE ORGANIC COMPOUNDS

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Initial Cal. Date: 01/21/20
Matrix: Instrument: Thor Initials: DP

0121T02.D 0121T03.D 0121T04.D 0121T05.D 0121T06.D 0121T07.D 0121T08.D 0121T09.D 0121T10.D

		Compound	1	2	3	4	5	6	7	8	9		Avg	%RSD	Type	r^2	Q	MRF
1	I	Fluorobenzene (IS)																
2	TM	Chlorotrifluoroethene		0.0353	0.0341	0.0368	0.0372	0.0355	0.0354	0.0343	0.0344		0.04	3.2	TM			
3	TM	Dichlorodifluoromethane		0.0776	0.0750	0.0837	0.0752	0.0700	0.0735	0.0695	0.0686		0.07	6.8	TM			
4	TM	Freon 114		0.0921	0.0850	0.0763	0.0749	0.0763	0.0745	0.0702	0.0725		0.08	9.3	TM			
5	TM**L	Chloromethane		0.1799	0.1345	0.1224	0.1059	0.1009	0.1025	0.0958	0.0893		0.12	25	TM**L	0.999		
6	TM*	Vinyl chloride		0.0969	0.0969	0.0930	0.0893	0.0820	0.0861	0.0795	0.0796		0.09	8.3	TM*			
7	TM	2-Chloro-1,1,1-trifluoroethane		0.1141	0.1070	0.1116	0.1132	0.1055	0.1084	0.1077	0.1088		0.11	2.8	TM			
8	TML	Bromomethane		0.1223	0.1131	0.1100	0.0916	0.0786	0.0701				0.10	21	TML	0.995		
9	TML	Chloroethane		0.0800	0.0978	0.0574	0.0597	0.0569	0.0583				0.07	25	TML	0.999		
10	TM	Dichlorofluoromethane		0.1779	0.1709	0.1788	0.1742	0.1657	0.1653	0.1597	0.1619		0.17	4.3	TM			
11	TM	Trichlorofluoromethane		0.1296	0.1305	0.1284	0.1217	0.1203	0.1262	0.1197	0.1220		0.12	3.5	TM			
12	TM	Diethyl ether													TM			
13	TM	1,2 Dichlorotrifluoroethane													TM			
14	TM	Acrolein		0.0102	0.0107	0.0112	0.0108	0.0104	0.0103	0.0101	0.0089		0.01	6.7	TM			
15	TML	Acetone			0.0338	0.0334	0.0213	0.0190	0.0165	0.0155	0.0139		0.02	38	TML	0.999		
16	TM	Freon-113		0.0755	0.0690	0.0726	0.0681	0.0673	0.0664	0.0627	0.0667		0.07	5.7	TM			
17	TM*	1,1-DCE		0.1197	0.1086	0.1195	0.1166	0.1048	0.1094	0.1039	0.1080		0.11	5.7	TM*			
18	TM	2-Propanol		0.0054	0.0059	0.0054	0.0043	0.0055	0.0058	0.0061	0.0064		0.01	11	TM			
19	TM	Acetonitrile		0.0031	0.0029	0.0034	0.0030	0.0033	0.0030	0.0032	0.0022		0.00	12	TM			
20	TM	t-Butanol	0.0025	0.0035	0.0040	0.0040	0.0042	0.0039	0.0039	0.0039	0.0038		0.00	13	TM			
21	TM	Methyl Acetate		0.0893	0.0899	0.0862	0.0781	0.0705	0.0701	0.0714	0.0764		0.08	11	TM			
22	TMQ	Iodomethane		0.0253	0.0226	0.0173	0.0190	0.0270	0.0503	0.0756	0.0913		0.04	69	TMQ	0.998		
23	TM	Acrylonitrile		0.0263	0.0293	0.0304	0.0323	0.0298	0.0308	0.0312	0.0313		0.03	6.1	TM			
24	TM	Methylene chloride		0.1404	0.1279	0.1260	0.1234	0.1174	0.1183	0.1158	0.1150		0.12	6.9	TM			
25	TM	Carbon disulfide		0.2367	0.2265	0.2189	0.2171	0.2033	0.2132	0.2050	0.2144		0.22	5.0	TM			
26	TM	Methyl t-butyl ether (MtBE)		0.2649	0.2704	0.2849	0.2756	0.2678	0.2717	0.2692	0.2782		0.27	2.4	TM			
27	TM	Trans-1,2-DCE		0.1388	0.1122	0.1203	0.1138	0.1123	0.1137	0.1096	0.1128		0.12	8.1	TM			
28	TM	Hexane													TM			
29	TM	Diisopropyl Ether		0.2572	0.2697	0.2579	0.2771	0.2613	0.2727	0.2690	0.2748		0.27	2.9	TM			
30	TM**	2,2-Dichloro-1,1,1-trifluoroethane													TM**			
31	TM**	1,1-DCA		0.1815	0.1538	0.1588	0.1653	0.1522	0.1552	0.1502	0.1535		0.16	6.5	TM**			
32	TM	Vinyl Acetate		0.0479	0.0525	0.0535	0.0531	0.0535	0.0581	0.0571	0.0548		0.05	5.8	TM			
33	TM	Ethyl tert Butyl Ether		0.2578	0.2689	0.2693	0.2790	0.2652	0.2810	0.2795	0.2899		0.27	3.8	TM			
34	TML	MEK (2-Butanone)		0.0873	0.0584	0.0564	0.0460	0.0403	0.0437	0.0428	0.0445		0.05	30	TML	1.000		
35	TM	Cis-1,2-DCE		0.1648	0.1388	0.1525	0.1500	0.1430	0.1496	0.1450	0.1466		0.15	5.2	TM			

VOLATILE ORGANIC ANALYSIS
VOLATILE ORGANIC COMPOUNDS

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Initial Cal. Date: 01/21/20
Matrix: Instrument: Thor Initials: DP

		Compound	1	2	3	4	5	6	7	8	9		Avg	%RSD	Type		Q	MRF
36	TM	2,2-Dichloropropane		0.1404	0.1311	0.1347	0.1340	0.1264	0.1298	0.1271	0.1306		0.13	3.5	TM			
37	TM	2-Methylpentane													TM			
38	TM	3-Methylpentane													TM			
39	TM*	Chloroform		0.1974	0.1945	0.1826	0.1908	0.1788	0.1837	0.1808	0.1834		0.19	3.6	TM*			
40	TM	Bromochloromethane		0.0842	0.0839	0.0893	0.0794	0.0785	0.0818	0.0790	0.0781		0.08	4.7	TM			
41	SL	Dibromofluoromethane(S)	0.5252	0.5004	0.3888	0.3868	0.3352	0.3273	0.3026	0.2933	0.2836		0.37	24	SL	1.000		
42	TM	1,1,1-TCA		0.1420	0.1572	0.1476	0.1499	0.1437	0.1498	0.1420	0.1496		0.15	3.5	TM			
43	TM	Cyclohexane		0.1111	0.0992	0.0982	0.0939	0.0943	0.1023	0.1013	0.1096		0.10	6.3	TM			
44	TM	1,1-Dichloropropene		0.1048	0.1103	0.1021	0.1085	0.1045	0.1098	0.1079	0.1133		0.11	3.4	TM			
45	TM	2,2,4-Trimethylpentane		0.2278	0.1932	0.1952	0.1748	0.1804	0.1930	0.1907	0.2090		0.20	8.5	TM			
46	SL	1,2-DCA-D4(S)	0.5752	0.5304	0.4255	0.4208	0.3577	0.3513	0.3221	0.3107	0.2985		0.40	25	SL	0.999		
47	TM	Carbon Tetrachloride		0.1311	0.1234	0.1245	0.1238	0.1252	0.1260	0.1223	0.1275		0.13	2.2	TM			
48	TM	Tert Amyl Methyl Ether		0.2490	0.2460	0.2587	0.2675	0.2663	0.2794	0.2844	0.2944		0.27	6.4	TM			
49	TM	Methylcyclopentane													TM			
50	TM	1,2-DCA		0.1744	0.1528	0.1561	0.1595	0.1517	0.1469	0.1455	0.1461		0.15	6.2	TM			
51	TM	Benzene		0.4068	0.3780	0.3748	0.3880	0.3704	0.3808	0.3719	0.3830		0.38	3.1	TM			
52	TM	TCE		0.1226	0.1099	0.1045	0.1173	0.1094	0.1114	0.1093	0.1144		0.11	5.0	TM			
53	TM	2-Pentanone		0.0623	0.0655	0.0675	0.0694	0.0693	0.0746	0.0804	0.0770		0.07	8.6	TM			
54	TM*	1,2-Dichloropropane		0.1031	0.0949	0.1002	0.0986	0.0953	0.0975	0.0966	0.1011		0.10	2.9	TM*			
55	TM	Bromodichloromethane		0.1291	0.1403	0.1380	0.1412	0.1396	0.1452	0.1455	0.1535		0.14	4.9	TM			
56	TM	Methyl Cyclohexane		0.1196	0.0993	0.1093	0.1024	0.1061	0.1116	0.1100	0.1190		0.11	6.6	TM			
57	TM	Dibromomethane		0.0812	0.0960	0.1003	0.0903	0.0874	0.0917	0.0910	0.0929		0.09	6.2	TM			
58	TM	MIBK (methyl isobutyl ketone)		0.0776	0.0879	0.0873	0.1006	0.0805	0.0852	0.0965	0.1051		0.09	11	TM			
59	TM	1-Bromo-2-chloroethane		0.0698	0.0663	0.0747	0.0733	0.0698	0.0727	0.0708	0.0765		0.07	4.5	TM			
60	TMQ	2-Chloroethyl vinyl ether		0.0016	0.0023	0.0029	0.0030	0.0032	0.0046	0.0047	0.0063		0.00	43	TMQ	0.998		
61	TM	Cis-1,3-Dichloropropene		0.1273	0.1537	0.1476	0.1489	0.1499	0.1596	0.1633	0.1781		0.15	9.5	TM			
62	TM*	Toluene		0.4638	0.4399	0.4325	0.4475	0.4237	0.4471	0.4570	0.4593		0.45	3.1	TM*			
63	TM	Trans-1,3-Dichloropropene		0.1372	0.1333	0.1316	0.1369	0.1365	0.1475	0.1553	0.1688		0.14	9.0	TM			
64	TM	1,1,2-TCA		0.0878	0.1012	0.0933	0.1038	0.0984	0.1030	0.1086	0.1112		0.10	7.6	TM			
65	TML	2-Hexanone		0.0518	0.0525	0.0262	0.0524	0.0543	0.0569	0.0631	0.0716		0.05	24	TML	0.997		
66	I	Chlorobenzene-D5 (IS)																
67	SL	Toluene-D8(S)	2.491	2.257	1.779	1.756	1.567	1.532	1.424	1.346	1.252		1.7	24	SL	0.997		
68	TM	1,2-EDB		0.1251	0.1284	0.1309	0.1335	0.1322	0.1349	0.1330	0.1405		0.13	3.5	TM			
69	TM	Tetrachloroethene		0.1722	0.1473	0.1430	0.1555	0.1530	0.1531	0.1417	0.1427		0.15	6.7	TM			
70	TML	1-Chlorohexane		0.2054	0.1527	0.0972	0.1151	0.1090	0.1204	0.1216	0.1361		0.13	26	TML	0.998		

VOLATILE ORGANIC ANALYSIS
VOLATILE ORGANIC COMPOUNDS

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Initial Cal. Date: 01/21/20
Matrix: Instrument: Thor Initials: DP

		Compound	1	2	3	4	5	6	7	8	9		Avg	%RSD	Type		Q	MRF
71	TM	1,1,1,2-Tetrachloroethane		0.1482	0.1450	0.1379	0.1484	0.1443	0.1501	0.1503	0.1592		0.15	4.1	TM			
72	TM	m&p-Xylene		0.4466	0.4176	0.3935	0.4407	0.4258	0.4622	0.4685	0.4843		0.44	6.7	TM			
73	TM	o-Xylene		0.4432	0.4247	0.4307	0.4685	0.4654	0.4946	0.5089	0.5309		0.47	8.1	TM			
74	TML	Styrene		0.2907	0.2822	0.3020	0.3308	0.3367	0.3814	0.4058	0.4396		0.35	17	TML	0.999		
75	SL	4-Bromofluorobenzene(S)	0.8390	0.7724	0.6130	0.6072	0.5490	0.5504	0.5329	0.5301	0.5292		0.61	19	SL	1.000		
76	TM	1,3-Dichloropropane		0.1897	0.2059	0.2089	0.2140	0.2035	0.2079	0.1998	0.2071		0.20	3.6	TM			
77	TM	Dibromochloromethane		0.1370	0.1403	0.1529	0.1543	0.1534	0.1585	0.1603	0.1722		0.15	7.3	TM			
78	TM**	Chlorobenzene		0.4407	0.3698	0.3811	0.3945	0.3795	0.3892	0.3852	0.3892		0.39	5.5	TM**			
79	TM*	Ethylbenzene		0.6021	0.5718	0.5519	0.5755	0.5651	0.6025	0.5984	0.6180		0.59	3.9	TM*			
80	TM**	Bromoform		0.0967	0.1159	0.1124	0.1142	0.1170	0.1271	0.1295	0.1412		0.12	11	TM**			
81	I	1,4-Dichlorobenzene-D (IS)																
82	TM	Isopropylbenzene		0.9545	0.9039	0.9160	1.020	1.019	1.045	1.039	1.034		0.99	5.8	TM			
83	TM**	1,1,2,2-Tetrachloroethane		0.3170	0.3050	0.3329	0.3179	0.3253	0.3126	0.3115	0.3040		0.32	3.1	TM**			
84	TM	1,2,3-Trichloropropane		0.1027	0.1053	0.1081	0.1132	0.1095	0.1072	0.1048	0.1015		0.11	3.5	TM			
85	TM	t-1,4-Dichloro-2-Butene		0.0389	0.0507	0.0536	0.0526	0.0572	0.0595	0.0623	0.0640		0.05	15	TM			
86	TM	Bromobenzene		0.5123	0.5593	0.5196	0.5639	0.5535	0.5448	0.5431	0.5325		0.54	3.4	TM			
87	TM	n-Propylbenzene		1.035	1.038	1.004	1.098	1.053	1.113	1.122	1.163		1.1	5.0	TM			
88	TM	4-Ethyltoluene		0.9894	0.8936	0.8366	0.9212	0.9108	0.9310	0.9550	0.9963		0.93	5.6	TM			
89	TM	2-Chlorotoluene		0.8896	0.8076	0.7922	0.8136	0.8164	0.8431	0.8339	0.8309		0.83	3.6	TM			
90	TM	1,3,5-Trimethylbenzene		0.8224	0.8137	0.7898	0.8962	0.8954	0.9107	0.9159	0.9022		0.87	5.8	TM			
91	TM	4-Chlorotoluene		0.8316	0.8125	0.7939	0.8430	0.8172	0.8463	0.8592	0.8632		0.83	2.9	TM			
92	TM	Tert-Butylbenzene		0.9213	0.8200	0.8213	0.8520	0.8263	0.8909	0.8889	0.9020		0.87	4.7	TM			
93	TM	1,2,4-Trimethylbenzene		1.032	0.8639	0.8516	0.9060	0.9154	0.9308	0.9443	0.9282		0.92	6.0	TM			
94	TM	Sec-Butylbenzene		0.9656	0.8514	0.8666	0.9507	0.9354	0.9818	1.017	1.070		0.95	7.6	TM			
95	TM	p-Isopropyltoluene		0.8067	0.7790	0.8153	0.8581	0.8582	0.8703	0.8814	0.9278		0.85	5.6	TM			
96	TM	Benzyl Chloride		0.3280	0.2928	0.2888	0.2693	0.2884	0.2948	0.2961	0.3222		0.30	6.4	TM			
97	TM	1,3-DCB		0.5697	0.5388	0.5678	0.5876	0.5586	0.5731	0.5668	0.5744		0.57	2.5	TM			
98	TM	1,4-DCB		0.6658	0.6060	0.5875	0.5942	0.5776	0.5746	0.5713	0.5773		0.59	5.2	TM			
99	TM	n-Butylbenzene		0.7198	0.6823	0.6456	0.7087	0.7309	0.7261	0.7306	0.7194		0.71	4.2	TM			
100	TM	1,2-DCB		0.6166	0.6092	0.5695	0.6002	0.5776	0.5667	0.5732	0.5768		0.59	3.3	TM			
101	TML	Hexachloroethane		0.1023	0.1543	0.1623	0.1586	0.1747	0.1770	0.1723	0.1786		0.16	16	TML	1.000		
102	TML	1,2-Dibromo-3-chloropropane		0.0337	0.0447	0.0569	0.0670	0.0668	0.0701	0.0718	0.0756		0.06	24	TML	1.000		
103	TM	1,2,4-Trichlorobenzene		0.3928	0.3234	0.3491	0.3492	0.3455	0.3534	0.3667	0.3904		0.36	6.5	TM			
104	TM	Hexachlorobutadiene		0.1333	0.1784	0.1912	0.2077	0.2054	0.1910	0.1819	0.1902		0.18	13	TM			
105	TML	Naphthalene		0.0627	0.0417	0.0322	0.0404	0.0398	0.0415	0.0462	0.0541		0.04	21	TML	0.996		

VOLATILE ORGANIC ANALYSIS
VOLATILE ORGANIC COMPOUNDS

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Initial Cal. Date: 01/21/20
Matrix: Instrument: Thor Initials: DP

		Compound	1	2	3	4	5	6	7	8	9		Avg	%RSD	Type		Q	MRF
106	TM	1,2,3-Trichlorobenzene		0.3134	0.3132	0.2937	0.3161	0.3243	0.3387	0.3440	0.3638		0.33	6.7	TM			
107																		
108																		
109																		
110																		
111																		
112																		
113																		
114																		
115																		
116																		
117																		
118																		
119																		
120																		
121																		
122																		
123																		
124																		
125																		
126																		
127																		
128																		
129																		
130																		
131																		
132																		
133																		
134																		
135																		
136																		
137																		
138																		
139																		
140																		

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0121T02.D Vial: 2
Acq On : 21 Jan 20 7:41 Operator:
Sample : 0.3ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 21 15:54 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene (IS)	6.51	96	1021866	25.00	ppb		0.00
66) Chlorobenzene-D5 (IS)	9.96	117	789770	25.00	ppb		0.00
81) 1,4-Dichlorobenzene-D (IS)	12.52	152	406901	25.00	ppb		0.00
System Monitoring Compounds							
41) Dibromofluoromethane(S)	5.66	111	107330	4.97	ppb		0.00
Spiked Amount 25.000			Recovery = 19.880%				
46) 1,2-DCA-D4(S)	6.07	65	117550	4.90	ppb		0.00
Spiked Amount 25.000			Recovery = 19.588%				
67) Toluene-D8(S)	8.37	98	393419	4.58	ppb		0.00
Spiked Amount 25.000			Recovery = 18.324%				
75) 4-Bromofluorobenzene(S)	11.25	95	132516	6.09	ppb		0.00
Spiked Amount 25.000			Recovery = 24.348%				
Target Compounds							Qvalue
2) Chlorotrifluoroethene	1.15	116	4088	2.83	ppb		96
3) Dichlorodifluoromethane	1.17	85	1209	0.40	ppb		94
4) Freon 114	1.28	85	955	0.30	ppb	#	82
5) Chloromethane	1.32	50	2655	-0.57	ppb	#	85
6) Vinyl chloride	1.42	62	1460	0.41	ppb		95
7) 2-Chloro-1,1,1-trifluoroet	1.51	118	13533	3.02	ppb		98
8) Bromomethane	1.69	96	1645	-0.44	ppb		81
9) Chloroethane	1.77	64	160	-0.18	ppb	#	44
10) Dichlorofluoromethane	1.98	67	2520	0.36	ppb		96
11) Trichlorofluoromethane	2.04	101	1721	0.34	ppb	#	60
14) Acrolein	2.44	56	2370	5.61	ppb		84
15) Acetone	2.61	43	1448	-0.72	ppb		100
16) Freon-113	2.59	101	1041	0.37	ppb	#	82
17) 1,1-DCE	2.55	61	1474	0.32	ppb		97
18) 2-Propanol	2.84	45	959	4.19	ppb		99
19) Acetonitrile	2.94	40	658	5.32	ppb	#	17
20) t-Butanol	3.35	59	1029	6.71	ppb		93
21) Methyl Acetate	3.03	43	1289	0.40	ppb	#	51
22) Iodomethane	2.70	142	469	2.58	ppb	#	36
23) Acrylonitrile	3.45	52	164	0.13	ppb	#	40
24) Methylene chloride	3.13	49	1921	0.38	ppb		94
25) Carbon disulfide	2.77	76	3361	0.38	ppb		99
26) Methyl t-butyl ether (MtBE	3.54	73	3616	0.32	ppb	#	78
27) Trans-1,2-DCE	3.50	61	1449	0.30	ppb	#	90
29) Diisopropyl Ether	4.35	45	3348	0.31	ppb		96
31) 1,1-DCA	4.13	63	2245	0.35	ppb	#	85
32) Vinyl Acetate	4.30	43	768	0.35	ppb	#	72
33) Ethyl tert Butyl Ether	4.88	59	3700	0.33	ppb		87
34) MEK (2-Butanone)	5.07	43	1297	0.77	ppb	#	83
35) Cis-1,2-DCE	5.00	61	2149	0.35	ppb	#	76
36) 2,2-Dichloropropane	4.99	77	1740	0.32	ppb	#	79
39) Chloroform	5.45	83	2671	0.35	ppb		95
40) Bromochloromethane	5.30	49	993	0.30	ppb		92
42) 1,1,1-TCA	5.67	97	1948	0.32	ppb		91
43) Cyclohexane	5.76	56	1380	0.33	ppb	#	91
44) 1,1-Dichloropropene	5.90	75	1478	0.34	ppb	#	89
45) 2,2,4-Trimethylpentane	6.32	57	2941	0.37	ppb		88
47) Carbon Tetrachloride	5.90	117	1751	0.34	ppb	#	79
48) Tert Amyl Methyl Ether	6.36	73	3191	0.29	ppb		98

(#) = qualifier out of range (m) = manual integration

Data File : M:\THOR\DATA\T200121\0121T02.D Vial: 2
Acq On : 21 Jan 20 7:41 Operator:
Sample : 0.3ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 21 15:54 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

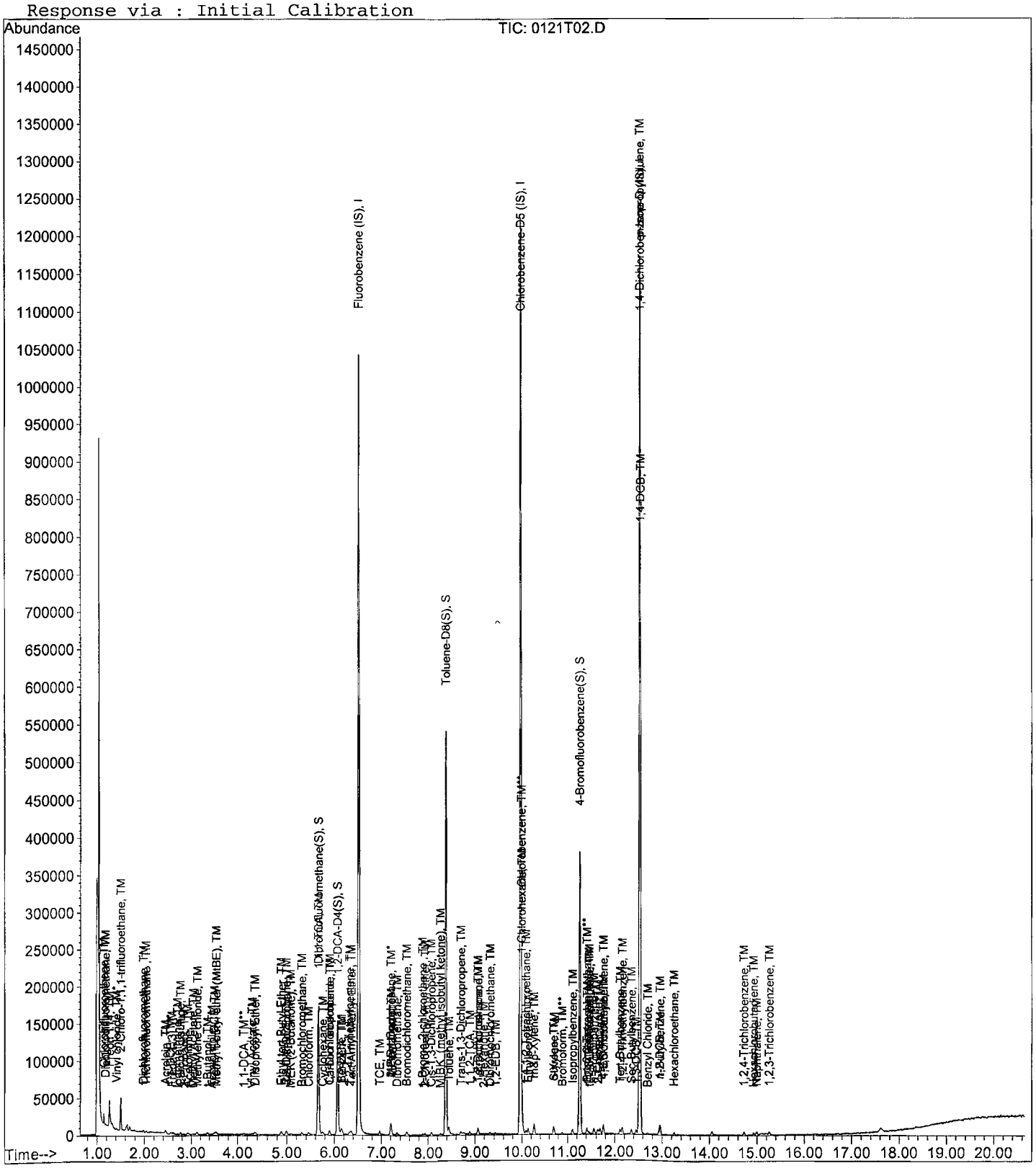
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
50)	1,2-DCA	6.17	62	2475	0.39	ppb	#	76
51)	Benzene	6.15	78	4974	0.32	ppb		95
52)	TCE	6.96	130	1300	0.28	ppb	#	50
53)	2-Pentanone	7.20	43	12791	4.42	ppb		95
54)	1,2-Dichloropropane	7.20	63	1170	0.29	ppb	#	84
55)	Bromodichloromethane	7.54	83	2057	0.36	ppb	#	71
56)	Methyl Cyclohexane	7.20	83	1599	0.36	ppb	#	76
57)	Dibromomethane	7.33	174	1021	0.27	ppb		90
58)	MIBK (methyl isobutyl ket	8.26	43	1047	0.28	ppb	#	78
59)	1-Bromo-2-chloroethane	7.88	63	965	0.33	ppb	#	73
60)	2-Chloroethyl vinyl ether	7.92	106	328	10.39	ppb	#	87
61)	Cis-1,3-Dichloropropene	8.06	75	1891	0.30	ppb	#	77
62)	Toluene	8.45	91	5738	0.31	ppb		100
63)	Trans-1,3-Dichloropropene	8.69	75	1836	0.31	ppb	#	52
64)	1,1,2-TCA	8.89	97	1552	0.38	ppb	#	78
65)	2-Hexanone	9.19	43	610	2.25	ppb	#	34
68)	1,2-EDB	9.43	107	1302	0.31	ppb	#	95
69)	Tetrachloroethene	9.06	166	1319	0.28	ppb		93
70)	1-Chlorohexane	10.00	91	1174	1.39	ppb		97
71)	1,1,1,2-Tetrachloroethane	10.08	131	1318	0.28	ppb		96
72)	m&p-Xylene	10.26	91	10358	0.74	ppb		95
73)	o-Xylene	10.69	91	5071	0.34	ppb		96
74)	Styrene	10.71	104	3100	1.60	ppb	#	65
76)	1,3-Dichloropropane	9.07	76	1890	0.29	ppb	#	74
77)	Dibromochloromethane	9.32	129	1257	0.26	ppb	#	72
78)	Chlorobenzene	9.99	112	3951	0.32	ppb	#	87
79)	Ethylbenzene	10.13	91	5659	0.31	ppb	#	76
80)	Bromoform	10.88	173	1115	0.30	ppb	#	77
82)	Isopropylbenzene	11.11	105	5022	0.31	ppb		93
83)	1,1,2,2-Tetrachloroethane	11.41	83	1585	0.31	ppb		93
84)	1,2,3-Trichloropropane	11.45	110	359	0.21	ppb	#	54
85)	t-1,4-Dichloro-2-Butene	11.47	53	81	0.09	ppb	#	18
86)	Bromobenzene	11.41	77	2828	0.32	ppb		91
87)	n-Propylbenzene	11.55	91	6046	0.34	ppb		94
88)	4-Ethyltoluene	11.68	105	6287	0.42	ppb		97
89)	2-Chlorotoluene	11.64	91	4809	0.36	ppb		95
90)	1,3,5-Trimethylbenzene	11.75	105	4906	0.35	ppb		88
91)	4-Chlorotoluene	11.75	91	4408	0.32	ppb		100
92)	Tert-Butylbenzene	12.11	119	4724	0.34	ppb		94
93)	1,2,4-Trimethylbenzene	12.16	105	6226	0.42	ppb		87
94)	Sec-Butylbenzene	12.35	105	4723	0.30	ppb		96
95)	p-Isopropyltoluene	12.51	119	4716	0.34	ppb		99
96)	Benzyl Chloride	12.69	91	1984	0.41	ppb	#	85
97)	1,3-DCB	12.46	146	3144	0.34	ppb		91
98)	1,4-DCB	12.55	146	3610	0.37	ppb	#	79
99)	n-Butylbenzene	12.96	91	4035	0.35	ppb	#	83
100)	1,2-DCB	12.95	146	3070	0.32	ppb	#	79
101)	Hexachloroethane	13.25	201	663	0.59	ppb	#	19
103)	1,2,4-Trichlorobenzene	14.72	180	1930	0.33	ppb		87
104)	Hexachlorobutadiene	14.94	225	1159	0.39	ppb	#	45
105)	Naphthalene	15.00	127	387	2.32	ppb	#	37
106)	1,2,3-Trichlorobenzene	15.26	180	2116	0.40	ppb		90

(#) = qualifier out of range (m) = manual integration

Data File : M:\THOR\DATA\T200121\0121T02.D Vial: 2
Acq On : 21 Jan 20 7:41 Operator:
Sample : 0.3ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 21 15:54 2020 Quant Results File: T0121W.RES

Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0121T03.D Vial: 3
Acq On : 21 Jan 20 8:09 Operator:
Sample : 0.5ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 21 15:54 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene (IS)	6.51	96	1004691	25.00	ppb		0.00
66) Chlorobenzene-D5 (IS)	9.96	117	790347	25.00	ppb		0.00
81) 1,4-Dichlorobenzene-D (IS)	12.52	152	406984	25.00	ppb		0.00
System Monitoring Compounds							
41) Dibromofluoromethane(S)	5.66	111	100543	4.51	ppb		0.00
Spiked Amount 25.000			Recovery = 18.056%				
46) 1,2-DCA-D4(S)	6.07	65	106574	4.11	ppb		0.00
Spiked Amount 25.000			Recovery = 16.448%				
67) Toluene-D8(S)	8.37	98	356692	3.61	ppb		0.00
Spiked Amount 25.000			Recovery = 14.444%				
75) 4-Bromofluorobenzene(S)	11.25	95	122029	5.44	ppb		0.00
Spiked Amount 25.000			Recovery = 21.748%				
Target Compounds							Qvalue
2) Chlorotrifluoroethene	1.14	116	7084	4.98	ppb		97
3) Dichlorodifluoromethane	1.17	85	1559	0.52	ppb	#	62
4) Freon 114	1.28	85	1851	0.59	ppb	#	73
5) Chloromethane	1.32	50	3615	-0.29	ppb		96
6) Vinyl chloride	1.42	62	1948	0.55	ppb		96
7) 2-Chloro-1,1,1-trifluoroet	1.51	118	22917	5.21	ppb		95
8) Bromomethane	1.69	96	2457	-0.13	ppb		92
9) Chloroethane	1.79	64	1607	0.45	ppb	#	40
10) Dichlorofluoromethane	1.98	67	3575	0.53	ppb		98
11) Trichlorofluoromethane	2.04	101	2605	0.52	ppb	#	78
14) Acrolein	2.44	56	10279	24.76	ppb		96
15) Acetone	2.62	43	1352	-0.86	ppb	#	89
16) Freon-113	2.59	101	1517	0.55	ppb	#	87
17) 1,1-DCE	2.55	61	2405	0.54	ppb		97
18) 2-Propanol	2.83	45	1090	4.85	ppb	#	77
19) Acetonitrile	2.92	40	3052	25.11	ppb		97
20) t-Butanol	3.35	59	3545	23.53	ppb		94
21) Methyl Acetate	3.04	43	1795	0.57	ppb	#	85
22) Iodomethane	2.70	142	508	2.60	ppb	#	36
23) Acrylonitrile	3.45	52	528	0.44	ppb	#	94
24) Methylene chloride	3.13	49	2822	0.57	ppb		90
25) Carbon disulfide	2.77	76	4757	0.55	ppb	#	84
26) Methyl t-butyl ether (MtBE	3.54	73	5322	0.49	ppb		94
27) Trans-1,2-DCE	3.50	61	2790	0.59	ppb	#	86
29) Diisopropyl Ether	4.35	45	5168	0.48	ppb		92
31) 1,1-DCA	4.12	63	3647	0.57	ppb	#	89
32) Vinyl Acetate	4.29	43	963	0.45	ppb	#	72
33) Ethyl tert Butyl Ether	4.89	59	5180	0.47	ppb		94
34) MEK (2-Butanone)	5.06	43	1755	1.04	ppb	#	78
35) Cis-1,2-DCE	5.00	61	3311	0.55	ppb		93
36) 2,2-Dichloropropane	5.00	77	2822	0.53	ppb		93
39) Chloroform	5.46	83	3966	0.53	ppb		96
40) Bromochloromethane	5.31	49	1692	0.51	ppb	#	77
42) 1,1,1-TCA	5.68	97	2854	0.48	ppb		91
43) Cyclohexane	5.76	56	2233	0.55	ppb		96
44) 1,1-Dichloropropene	5.89	75	2105	0.49	ppb	#	90
45) 2,2,4-Trimethylpentane	6.32	57	4578	0.58	ppb		99
47) Carbon Tetrachloride	5.90	117	2635	0.52	ppb		85
48) Tert Amyl Methyl Ether	6.36	73	5004	0.46	ppb		92

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0121T03.D Vial: 3
Acq On : 21 Jan 20 8:09 Operator:
Sample : 0.5ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 21 15:54 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

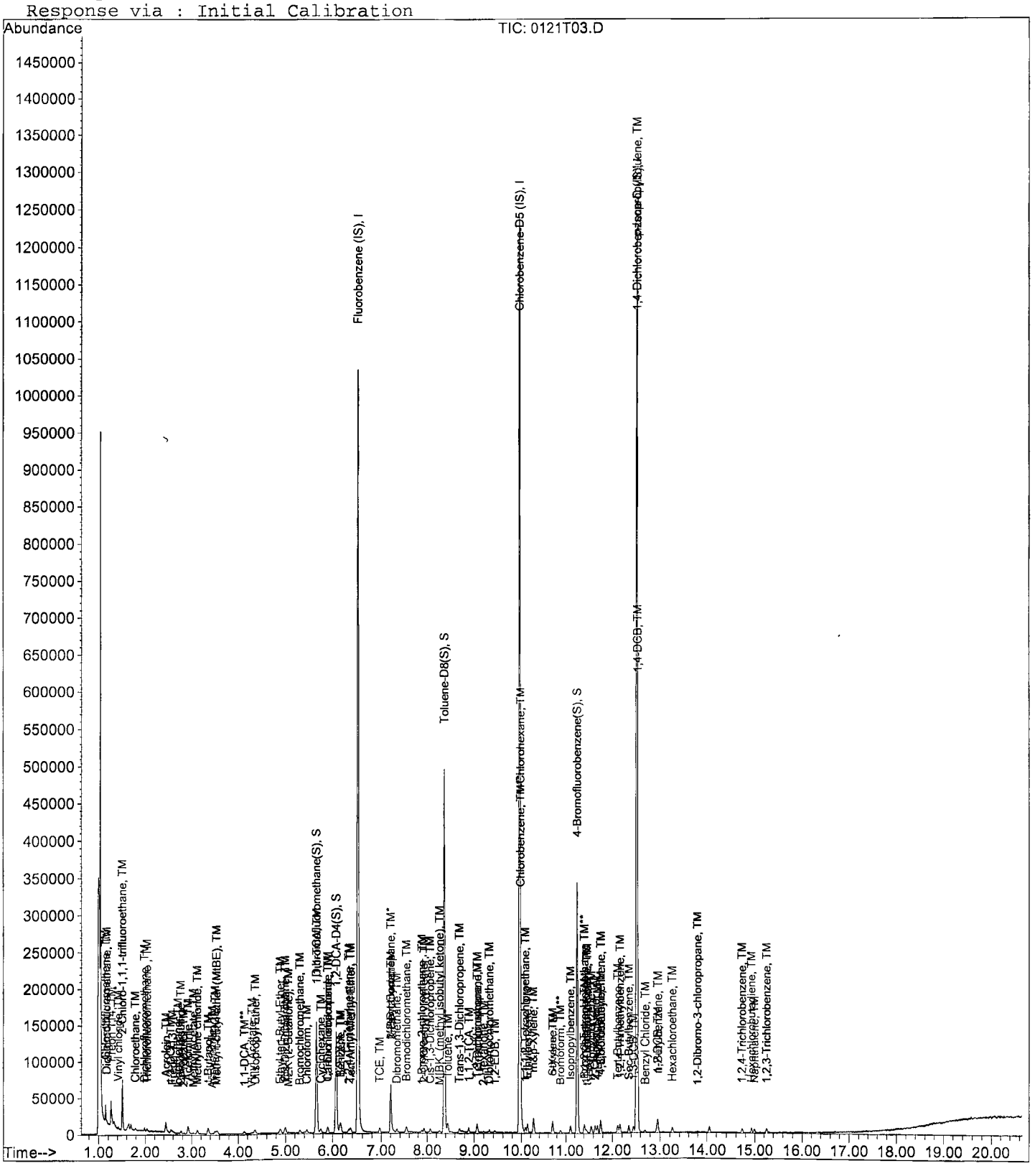
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
50)	1,2-DCA	6.17	62	3504	0.57	ppb		96
51)	Benzene	6.15	78	8175	0.53	ppb	#	90
52)	TCE	6.96	130	2464	0.55	ppb		92
53)	2-Pentanone	7.20	43	62617	22.02	ppb		96
54)	1,2-Dichloropropane	7.20	63	2071	0.52	ppb	#	84
55)	Bromodichloromethane	7.55	83	2595	0.46	ppb		98
56)	Methyl Cyclohexane	7.20	83	2403	0.55	ppb		93
57)	Dibromomethane	7.33	174	1631	0.44	ppb	#	81
58)	MIBK (methyl isobutyl ket	8.26	43	1559	0.43	ppb		91
59)	1-Bromo-2-chloroethane	7.88	63	1403	0.49	ppb	#	80
60)	2-Chloroethyl vinyl ether	7.93	106	630	12.34	ppb	#	87
61)	Cis-1,3-Dichloropropene	8.06	75	2558	0.41	ppb	#	85
62)	Toluene	8.44	91	9320	0.52	ppb		89
63)	Trans-1,3-Dichloropropene	8.70	75	2756	0.48	ppb	#	60
64)	1,1,2-TCA	8.89	97	1765	0.44	ppb		95
65)	2-Hexanone	9.19	43	1041	2.40	ppb	#	96
68)	1,2-EDB	9.43	107	1977	0.47	ppb	#	85
69)	Tetrachloroethene	9.06	166	2722	0.57	ppb		98
70)	1-Chlorohexane	9.99	91	3246	1.87	ppb		90
71)	1,1,1,2-Tetrachloroethane	10.09	131	2343	0.50	ppb		93
72)	m&p-Xylene	10.26	91	14120	1.01	ppb		89
73)	o-Xylene	10.69	91	7005	0.47	ppb		96
74)	Styrene	10.70	104	4595	1.70	ppb		99
76)	1,3-Dichloropropane	9.07	76	2999	0.46	ppb		91
77)	Dibromochloromethane	9.31	129	2165	0.45	ppb		99
78)	Chlorobenzene	9.99	112	6966	0.56	ppb		95
79)	Ethylbenzene	10.13	91	9517	0.51	ppb		100
80)	Bromoform	10.88	173	1529	0.41	ppb		95
82)	Isopropylbenzene	11.11	105	7769	0.48	ppb		98
83)	1,1,2,2-Tetrachloroethane	11.41	83	2580	0.50	ppb	#	96
84)	1,2,3-Trichloropropane	11.44	110	836	0.48	ppb		95
85)	t-1,4-Dichloro-2-Butene	11.48	53	317	0.35	ppb	#	57
86)	Bromobenzene	11.41	77	4170	0.47	ppb		93
87)	n-Propylbenzene	11.56	91	8424	0.48	ppb		94
88)	4-Ethyltoluene	11.68	105	8053	0.53	ppb		93
89)	2-Chlorotoluene	11.63	91	7241	0.54	ppb		96
90)	1,3,5-Trimethylbenzene	11.75	105	6694	0.47	ppb		88
91)	4-Chlorotoluene	11.76	91	6769	0.50	ppb		99
92)	Tert-Butylbenzene	12.11	119	7499	0.53	ppb		99
93)	1,2,4-Trimethylbenzene	12.16	105	8403	0.56	ppb		91
94)	Sec-Butylbenzene	12.35	105	7860	0.51	ppb		97
95)	p-Isopropyltoluene	12.51	119	6566	0.47	ppb		91
96)	Benzyl Chloride	12.70	91	2670	0.55	ppb	#	91
97)	1,3-DCB	12.46	146	4637	0.50	ppb	#	87
98)	1,4-DCB	12.55	146	5419	0.56	ppb	#	92
99)	n-Butylbenzene	12.96	91	5859	0.51	ppb		100
100)	1,2-DCB	12.95	146	5019	0.53	ppb		94
101)	Hexachloroethane	13.25	201	833	0.65	ppb	#	75
102)	1,2-Dibromo-3-chloropropan	13.80	157	274	1.06	ppb	#	80
103)	1,2,4-Trichlorobenzene	14.73	180	3197	0.55	ppb		85
104)	Hexachlorobutadiene	14.93	225	1085	0.36	ppb		89
105)	Naphthalene	14.99	127	510	2.46	ppb	#	26
106)	1,2,3-Trichlorobenzene	15.26	180	2551	0.48	ppb		90

(#) = qualifier out of range (m) = manual integration

Data File : M:\THOR\DATA\T200121\0121T03.D Vial: 3
Acq On : 21 Jan 20 8:09 Operator:
Sample : 0.5ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 21 15:54 2020 Quant Results File: T0121W.RES

Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0121T04.D Vial: 4
Acq On : 21 Jan 20 8:37 Operator:
Sample : 1ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 21 15:54 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene (IS)	6.51	96	1003430	25.00	ppb		0.00
66) Chlorobenzene-D5 (IS)	9.96	117	793951	25.00	ppb		0.00
81) 1,4-Dichlorobenzene-D (IS)	12.52	152	414015	25.00	ppb		0.00
System Monitoring Compounds							
41) Dibromofluoromethane(S)	5.66	111	156037	9.61	ppb		0.00
Spiked Amount 25.000			Recovery = 38.440%				
46) 1,2-DCA-D4(S)	6.07	65	170767	9.73	ppb		0.00
Spiked Amount 25.000			Recovery = 38.916%				
67) Toluene-D8(S)	8.37	98	565068	9.00	ppb		0.00
Spiked Amount 25.000			Recovery = 36.020%				
75) 4-Bromofluorobenzene(S)	11.25	95	194688	9.84	ppb		0.00
Spiked Amount 25.000			Recovery = 39.372%				
Target Compounds							Qvalue
2) Chlorotrifluoroethene	1.14	116	13689	9.64	ppb		95
3) Dichlorodifluoromethane	1.17	85	3012	1.01	ppb		99
4) Freon 114	1.28	85	3413	1.09	ppb		82
5) Chloromethane	1.32	50	5400	0.21	ppb		92
6) Vinyl chloride	1.42	62	3891	1.10	ppb		94
7) 2-Chloro-1,1,1-trifluoroet	1.51	118	42956	9.77	ppb		98
8) Bromomethane	1.69	96	4541	0.63	ppb		90
9) Chloroethane	1.78	64	3072	1.09	ppb		93
10) Dichlorofluoromethane	1.98	67	6858	1.01	ppb		96
11) Trichlorofluoromethane	2.03	101	5236	1.05	ppb		89
14) Acrolein	2.44	56	21518	51.91	ppb		96
15) Acetone	2.61	43	1358	-0.84	ppb		97
16) Freon-113	2.58	101	2768	1.01	ppb	#	86
17) 1,1-DCE	2.55	61	4360	0.98	ppb		99
18) 2-Propanol	2.83	45	2349	10.45	ppb		95
19) Acetonitrile	2.92	40	5870	48.36	ppb		86
20) t-Butanol	3.36	59	8044	53.45	ppb	#	88
21) Methyl Acetate	3.03	43	3610	1.14	ppb		97
22) Iodomethane	2.70	142	907	2.75	ppb	#	83
23) Acrylonitrile	3.45	52	1176	0.97	ppb		97
24) Methylene chloride	3.13	49	5134	1.04	ppb		94
25) Carbon disulfide	2.77	76	9093	1.04	ppb	#	78
26) Methyl t-butyl ether (MtBE	3.55	73	10854	0.99	ppb		94
27) Trans-1,2-DCE	3.50	61	4505	0.96	ppb		87
29) Diisopropyl Ether	4.36	45	10824	1.01	ppb		95
31) 1,1-DCA	4.13	63	6173	0.97	ppb		95
32) Vinyl Acetate	4.29	43	2108	0.98	ppb	#	92
33) Ethyl tert Butyl Ether	4.89	59	10792	0.98	ppb		95
34) MEK (2-Butanone)	5.06	43	2342	1.37	ppb		94
35) Cis-1,2-DCE	4.99	61	5572	0.93	ppb	#	93
36) 2,2-Dichloropropane	4.99	77	5262	1.00	ppb	#	85
39) Chloroform	5.46	83	7806	1.04	ppb		86
40) Bromochloromethane	5.31	49	3369	1.03	ppb	#	78
42) 1,1,1-TCA	5.68	97	6311	1.06	ppb		97
43) Cyclohexane	5.75	56	3981	0.98	ppb		97
44) 1,1-Dichloropropene	5.90	75	4428	1.02	ppb		93
45) 2,2,4-Trimethylpentane	6.32	57	7754	0.99	ppb		97
47) Carbon Tetrachloride	5.90	117	4953	0.98	ppb		99
48) Tert Amyl Methyl Ether	6.37	73	9875	0.92	ppb		91

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0121T04.D Vial: 4
Acq On : 21 Jan 20 8:37 Operator:
Sample : 1ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 21 15:54 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

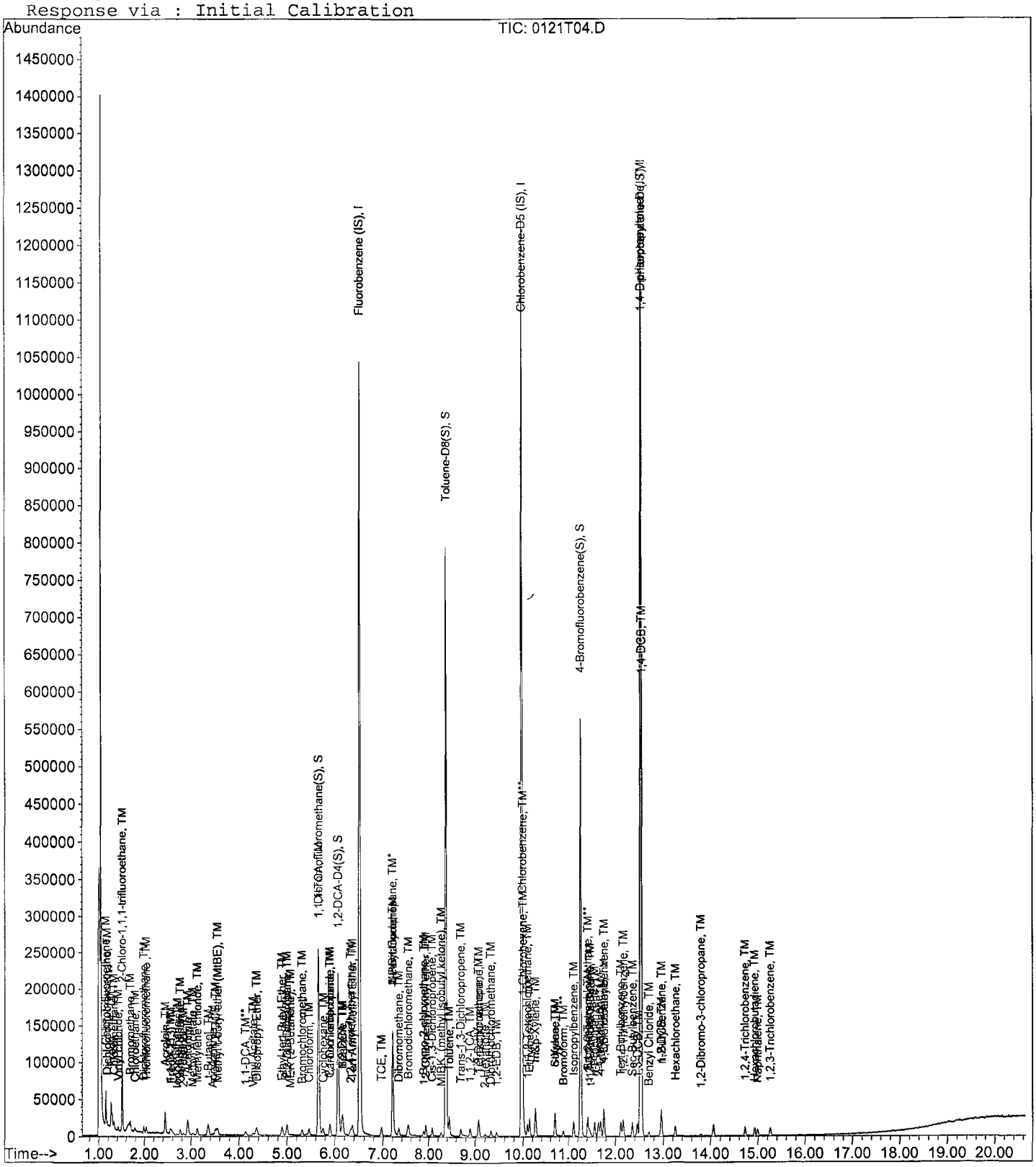
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
50)	1,2-DCA	6.17	62	6133	0.99	ppb	#	94
51)	Benzene	6.15	78	15171	0.99	ppb		98
52)	TCE	6.97	130	4412	0.98	ppb		98
53)	2-Pentanone	7.20	43	131509	46.31	ppb		99
54)	1,2-Dichloropropane	7.21	63	3810	0.96	ppb	#	84
55)	Bromodichloromethane	7.55	83	5632	0.99	ppb		87
56)	Methyl Cyclohexane	7.20	83	3984	0.91	ppb	#	48
57)	Dibromomethane	7.33	174	3855	1.05	ppb		96
58)	MIBK (methyl isobutyl ket	8.27	43	3528	0.98	ppb	#	86
59)	1-Bromo-2-chloroethane	7.88	63	2662	0.92	ppb	#	86
60)	2-Chloroethyl vinyl ether	7.93	106	1855	19.87	ppb	#	87
61)	Cis-1,3-Dichloropropene	8.07	75	6169	1.00	ppb		91
62)	Toluene	8.45	91	17655	0.99	ppb		100
63)	Trans-1,3-Dichloropropene	8.69	75	5350	0.93	ppb	#	79
64)	1,1,2-TCA	8.89	97	4063	1.00	ppb		96
65)	2-Hexanone	9.19	43	2108	2.77	ppb	#	93
68)	1,2-EDB	9.43	107	4077	0.97	ppb	#	85
69)	Tetrachloroethene	9.06	166	4678	0.97	ppb		93
70)	1-Chlorohexane	10.00	91	4849	2.24	ppb		89
71)	1,1,1,2-Tetrachloroethane	10.08	131	4604	0.98	ppb		87
72)	m&p-Xylene	10.26	91	26523	1.89	ppb		94
73)	o-Xylene	10.69	91	13489	0.90	ppb		97
74)	Styrene	10.70	104	8961	2.01	ppb		98
76)	1,3-Dichloropropane	9.07	76	6540	1.01	ppb	#	86
77)	Dibromochloromethane	9.32	129	4457	0.91	ppb		94
78)	Chlorobenzene	9.99	112	11743	0.95	ppb	#	88
79)	Ethylbenzene	10.13	91	18158	0.98	ppb		94
80)	Bromoform	10.88	173	3680	0.97	ppb		88
82)	Isopropylbenzene	11.11	105	14969	0.91	ppb	#	89
83)	1,1,2,2-Tetrachloroethane	11.41	83	5051	0.97	ppb	#	89
84)	1,2,3-Trichloropropane	11.45	110	1743	0.99	ppb		91
85)	t-1,4-Dichloro-2-Butene	11.47	53	839	0.92	ppb	#	79
86)	Bromobenzene	11.41	77	9263	1.03	ppb		94
87)	n-Propylbenzene	11.56	91	17193	0.96	ppb		100
88)	4-Ethyltoluene	11.68	105	14799	0.96	ppb		98
89)	2-Chlorotoluene	11.64	91	13375	0.97	ppb		95
90)	1,3,5-Trimethylbenzene	11.75	105	13475	0.94	ppb	#	81
91)	4-Chlorotoluene	11.76	91	13455	0.97	ppb	#	86
92)	Tert-Butylbenzene	12.11	119	13579	0.95	ppb		95
93)	1,2,4-Trimethylbenzene	12.16	105	14306	0.94	ppb		93
94)	Sec-Butylbenzene	12.35	105	14100	0.89	ppb		99
95)	p-Isopropyltoluene	12.51	119	12900	0.92	ppb		98
96)	Benzyl Chloride	12.69	91	4849	0.98	ppb	#	88
97)	1,3-DCB	12.45	146	8923	0.95	ppb		97
98)	1,4-DCB	12.55	146	10036	1.02	ppb		93
99)	n-Butylbenzene	12.96	91	11300	0.96	ppb		86
100)	1,2-DCB	12.95	146	10089	1.04	ppb		93
101)	Hexachloroethane	13.25	201	2556	1.22	ppb		94
102)	1,2-Dibromo-3-chloropropan	13.79	157	741	1.43	ppb	#	76
103)	1,2,4-Trichlorobenzene	14.73	180	5355	0.90	ppb		86
104)	Hexachlorobutadiene	14.94	225	2954	0.96	ppb		96
105)	Naphthalene	14.99	127	691	2.65	ppb		65
106)	1,2,3-Trichlorobenzene	15.26	180	5187	0.96	ppb		92

(#) = qualifier out of range (m) = manual integration

Data File : M:\THOR\DATA\T200121\0121T04.D Vial: 4
Acq On : 21 Jan 20 8:37 Operator:
Sample : 1ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 21 15:54 2020 Quant Results File: T0121W.RES

Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0121T05.D Vial: 5
Acq On : 21 Jan 20 9:05 Operator:
Sample : 2ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 21 15:54 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene (IS)	6.51	96	1013704	25.00	ppb		0.00
66) Chlorobenzene-D5 (IS)	9.96	117	798540	25.00	ppb		0.00
81) 1,4-Dichlorobenzene-D (IS)	12.52	152	418905	25.00	ppb		0.00
System Monitoring Compounds							
41) Dibromofluoromethane(S)	5.66	111	156838	9.54	ppb		0.00
Spiked Amount 25.000			Recovery = 38.152%				
46) 1,2-DCA-D4(S)	6.07	65	170607	9.56	ppb		0.00
Spiked Amount 25.000			Recovery = 38.256%				
67) Toluene-D8(S)	8.37	98	560877	8.81	ppb		0.00
Spiked Amount 25.000			Recovery = 35.244%				
75) 4-Bromofluorobenzene(S)	11.25	95	193951	9.73	ppb		0.00
Spiked Amount 25.000			Recovery = 38.920%				
Target Compounds							Qvalue
2) Chlorotrifluoroethene	1.14	116	29833	20.80	ppb		98
3) Dichlorodifluoromethane	1.17	85	6790	2.26	ppb		95
4) Freon 114	1.28	85	6190	1.96	ppb		93
5) Chloromethane	1.32	50	9928	1.45	ppb		99
6) Vinyl chloride	1.41	62	7542	2.12	ppb		98
7) 2-Chloro-1,1,1-trifluoroet	1.51	118	90485	20.38	ppb		99
8) Bromomethane	1.68	96	8924	2.20	ppb		99
9) Chloroethane	1.78	64	4707	1.78	ppb		99
10) Dichlorofluoromethane	1.98	67	14497	2.11	ppb		93
11) Trichlorofluoromethane	2.03	101	10411	2.06	ppb		97
14) Acrolein	2.44	56	34035	81.27	ppb		99
15) Acetone	2.62	43	2707	1.58	ppb		93
16) Freon-113	2.58	101	5884	2.12	ppb	#	91
17) 1,1-DCE	2.55	61	9688	2.15	ppb		98
18) 2-Propanol	2.84	45	4413	19.44	ppb		90
19) Acetonitrile	2.92	40	10422	84.99	ppb		98
20) t-Butanol	3.36	59	12040	79.19	ppb		97
21) Methyl Acetate	3.03	43	6990	2.18	ppb		99
22) Iodomethane	2.71	142	1406	2.95	ppb	#	87
23) Acrylonitrile	3.45	52	2467	2.02	ppb	#	68
24) Methylene chloride	3.12	49	10215	2.05	ppb		95
25) Carbon disulfide	2.77	76	17752	2.02	ppb		96
26) Methyl t-butyl ether (MtBE	3.55	73	23104	2.09	ppb		92
27) Trans-1,2-DCE	3.50	61	9756	2.06	ppb		96
29) Diisopropyl Ether	4.36	45	20914	1.93	ppb		92
31) 1,1-DCA	4.14	63	12878	2.00	ppb	#	89
32) Vinyl Acetate	4.29	43	4342	1.99	ppb	#	93
33) Ethyl tert Butyl Ether	4.89	59	21839	1.97	ppb		99
34) MEK (2-Butanone)	5.06	43	4577	2.60	ppb		99
35) Cis-1,2-DCE	4.99	61	12371	2.05	ppb	#	87
36) 2,2-Dichloropropane	4.99	77	10920	2.04	ppb		91
39) Chloroform	5.46	83	14805	1.96	ppb		99
40) Bromochloromethane	5.31	49	7238	2.18	ppb	#	84
42) 1,1,1-TCA	5.67	97	11966	2.00	ppb		97
43) Cyclohexane	5.75	56	7967	1.94	ppb		96
44) 1,1-Dichloropropene	5.90	75	8278	1.90	ppb		95
45) 2,2,4-Trimethylpentane	6.32	57	15832	2.00	ppb		96
47) Carbon Tetrachloride	5.89	117	10100	1.99	ppb		94
48) Tert Amyl Methyl Ether	6.36	73	20978	1.93	ppb		98

(#) = qualifier out of range (m) = manual integration

Data File : M:\THOR\DATA\T200121\0121T05.D Vial: 5
Acq On : 21 Jan 20 9:05 Operator:
Sample : 2ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 21 15:54 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

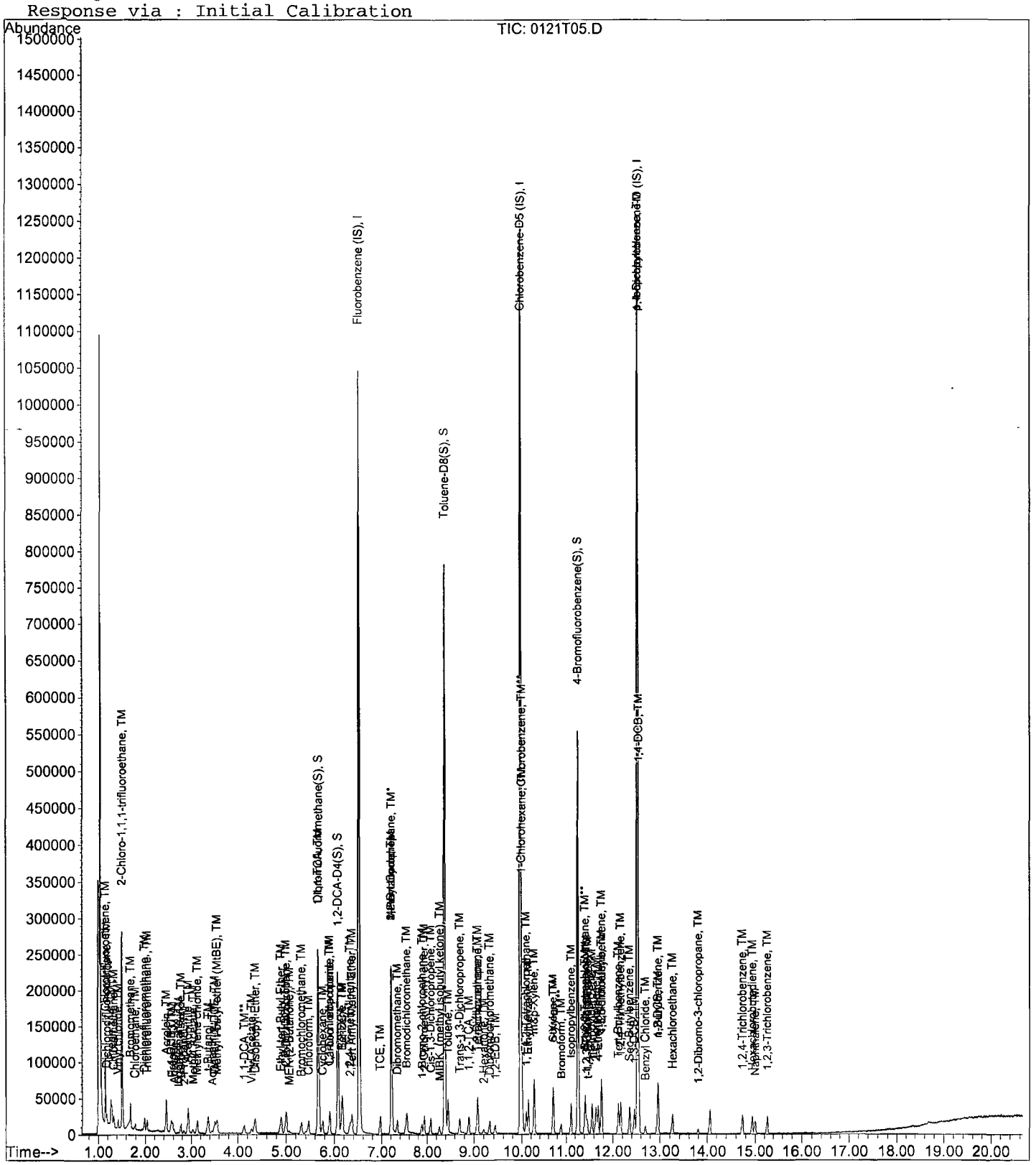
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
50)	1,2-DCA	6.16	62	12661	2.03	ppb		97
51)	Benzene	6.15	78	30396	1.96	ppb		98
52)	TCE	6.97	130	8472	1.86	ppb		88
53)	2-Pentanone	7.20	43	205159	71.51	ppb		100
54)	1,2-Dichloropropane	7.20	63	8122	2.04	ppb	#	95
55)	Bromodichloromethane	7.54	83	11188	1.95	ppb		93
56)	Methyl Cyclohexane	7.20	83	8862	1.99	ppb		83
57)	Dibromomethane	7.33	174	8131	2.20	ppb	#	90
58)	MIBK (methyl isobutyl ket	8.26	43	7082	1.94	ppb		94
59)	1-Bromo-2-chloroethane	7.88	63	6054	2.08	ppb		99
60)	2-Chloroethyl vinyl ether	7.93	106	3484	29.09	ppb	#	87
61)	Cis-1,3-Dichloropropene	8.07	75	11966	1.92	ppb		98
62)	Toluene	8.45	91	35076	1.94	ppb		97
63)	Trans-1,3-Dichloropropene	8.70	75	10674	1.84	ppb	#	88
64)	1,1,2-TCA	8.89	97	7569	1.85	ppb		95
65)	2-Hexanone	9.20	43	4251	3.50	ppb	#	94
68)	1,2-EDB	9.43	107	8363	1.98	ppb		97
69)	Tetrachloroethene	9.06	166	9135	1.89	ppb	#	86
70)	1-Chlorohexane	9.99	91	6208	2.55	ppb		96
71)	1,1,1,2-Tetrachloroethane	10.08	131	8808	1.86	ppb		95
72)	m&p-Xylene	10.26	91	50272	3.56	ppb		97
73)	o-Xylene	10.69	91	27516	1.83	ppb		94
74)	Styrene	10.71	104	19291	2.74	ppb		97
76)	1,3-Dichloropropane	9.07	76	13348	2.04	ppb		98
77)	Dibromochloromethane	9.32	129	9766	1.99	ppb		86
78)	Chlorobenzene	9.99	112	24343	1.95	ppb		95
79)	Ethylbenzene	10.13	91	35254	1.88	ppb		100
80)	Bromoform	10.88	173	7180	1.89	ppb		94
82)	Isopropylbenzene	11.11	105	30699	1.85	ppb		92
83)	1,1,2,2-Tetrachloroethane	11.41	83	11157	2.11	ppb		93
84)	1,2,3-Trichloropropane	11.45	110	3621	2.03	ppb	#	83
85)	t-1,4-Dichloro-2-Butene	11.48	53	1795	1.95	ppb		90
86)	Bromobenzene	11.41	77	17413	1.92	ppb		98
87)	n-Propylbenzene	11.56	91	33648	1.86	ppb		99
88)	4-Ethyltoluene	11.68	105	28035	1.80	ppb		90
89)	2-Chlorotoluene	11.64	91	26550	1.91	ppb		95
90)	1,3,5-Trimethylbenzene	11.75	105	26468	1.82	ppb		98
91)	4-Chlorotoluene	11.76	91	26605	1.91	ppb		98
92)	Tert-Butylbenzene	12.11	119	27523	1.90	ppb		93
93)	1,2,4-Trimethylbenzene	12.16	105	28540	1.85	ppb		98
94)	Sec-Butylbenzene	12.35	105	29041	1.82	ppb		93
95)	p-Isopropyltoluene	12.51	119	27324	1.92	ppb		97
96)	Benzyl Chloride	12.69	91	9680	1.94	ppb	#	90
97)	1,3-DCB	12.45	146	19029	2.00	ppb		98
98)	1,4-DCB	12.55	146	19690	1.98	ppb		97
99)	n-Butylbenzene	12.96	91	21634	1.82	ppb		96
100)	1,2-DCB	12.96	146	19085	1.94	ppb		97
101)	Hexachloroethane	13.25	201	5439	2.18	ppb		94
102)	1,2-Dibromo-3-chloropropan	13.80	157	1907	2.34	ppb		95
103)	1,2,4-Trichlorobenzene	14.73	180	11698	1.95	ppb		96
104)	Hexachlorobutadiene	14.93	225	6406	2.07	ppb		89
105)	Naphthalene	15.00	127	1079	3.07	ppb		93
106)	1,2,3-Trichlorobenzene	15.26	180	9842	1.80	ppb	#	77

(#) = qualifier out of range (m) = manual integration

Data File : M:\THOR\DATA\T200121\0121T05.D Vial: 5
Acq On : 21 Jan 20 9:05 Operator:
Sample : 2ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 21 15:54 2020 Quant Results File: T0121W.RES

Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0121T06.D Vial: 6
Acq On : 21 Jan 20 9:34 Operator:
Sample : 5ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 21 15:54 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene (IS)	6.51	96	1014454	25.00	ppb		0.00
66) Chlorobenzene-D5 (IS)	9.96	117	790523	25.00	ppb		0.00
81) 1,4-Dichlorobenzene-D (IS)	12.52	152	420669	25.00	ppb		0.00
System Monitoring Compounds							
41) Dibromofluoromethane(S)	5.66	111	340025	26.13	ppb		0.00
Spiked Amount 25.000			Recovery = 104.524%				
46) 1,2-DCA-D4(S)	6.07	65	362839	26.16	ppb		0.00
Spiked Amount 25.000			Recovery = 104.624%				
67) Toluene-D8(S)	8.37	98	1238785	26.72	ppb		0.00
Spiked Amount 25.000			Recovery = 106.888%				
75) 4-Bromofluorobenzene(S)	11.25	95	433975	24.58	ppb		0.00
Spiked Amount 25.000			Recovery = 98.316%				
Target Compounds							Qvalue
2) Chlorotrifluoroethene	1.14	116	60396	42.08	ppb		98
3) Dichlorodifluoromethane	1.17	85	15263	5.07	ppb		93
4) Freon 114	1.28	85	15191	4.82	ppb		96
5) Chloromethane	1.32	50	21489	4.65	ppb		97
6) Vinyl chloride	1.41	62	18112	5.08	ppb		98
7) 2-Chloro-1,1,1-trifluoroet	1.50	118	183686	41.33	ppb		98
8) Bromomethane	1.68	96	18576	5.70	ppb		99
9) Chloroethane	1.78	64	12100	4.96	ppb		96
10) Dichlorofluoromethane	1.98	67	35339	5.14	ppb		96
11) Trichlorofluoromethane	2.03	101	24701	4.88	ppb		90
14) Acrolein	2.44	56	43745	104.38	ppb		93
15) Acetone	2.62	43	4316	4.50	ppb		99
16) Freon-113	2.58	101	13822	4.97	ppb	#	84
17) 1,1-DCE	2.55	61	23661	5.24	ppb		95
18) 2-Propanol	2.84	45	8822	38.84	ppb	#	85
19) Acetonitrile	2.92	40	12366	100.76	ppb	#	85
20) t-Butanol	3.36	59	17176	112.89	ppb		98
21) Methyl Acetate	3.04	43	15841	4.94	ppb		91
22) Iodomethane	2.70	142	3858	3.90	ppb		94
23) Acrylonitrile	3.45	52	6554	5.35	ppb		94
24) Methylene chloride	3.12	49	25046	5.02	ppb		94
25) Carbon disulfide	2.77	76	44057	5.01	ppb		100
26) Methyl t-butyl ether (MtBE	3.55	73	55927	5.05	ppb		96
27) Trans-1,2-DCE	3.50	61	23096	4.88	ppb		98
29) Diisopropyl Ether	4.35	45	56221	5.18	ppb		99
31) 1,1-DCA	4.13	63	33537	5.20	ppb		98
32) Vinyl Acetate	4.29	43	10767	4.93	ppb		95
33) Ethyl tert Butyl Ether	4.89	59	56602	5.09	ppb		96
34) MEK (2-Butanone)	5.05	43	9359	5.26	ppb	#	86
35) Cis-1,2-DCE	5.00	61	30437	5.04	ppb		98
36) 2,2-Dichloropropane	4.99	77	27182	5.08	ppb		96
39) Chloroform	5.46	83	38702	5.11	ppb		97
40) Bromochloromethane	5.31	49	16112	4.86	ppb		96
42) 1,1,1-TCA	5.67	97	30414	5.07	ppb		96
43) Cyclohexane	5.75	56	19044	4.64	ppb		96
44) 1,1-Dichloropropene	5.90	75	22019	5.04	ppb		97
45) 2,2,4-Trimethylpentane	6.32	57	35465	4.47	ppb		98
47) Carbon Tetrachloride	5.89	117	25112	4.93	ppb		98
48) Tert Amyl Methyl Ether	6.37	73	54283	4.99	ppb		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0121T06.D Vial: 6
Acq On : 21 Jan 20 9:34 Operator:
Sample : 5ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 21 15:54 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
50)	1,2-DCA	6.17	62	32354	5.17	ppb		98
51)	Benzene	6.15	78	78727	5.08	ppb		98
52)	TCE	6.96	130	23789	5.22	ppb		98
53)	2-Pentanone	7.20	43	281616	98.09	ppb		100
54)	1,2-Dichloropropane	7.21	63	20001	5.01	ppb	#	97
55)	Bromodichloromethane	7.54	83	28643	4.99	ppb		92
56)	Methyl Cyclohexane	7.20	83	20774	4.67	ppb		91
57)	Dibromomethane	7.33	174	18331	4.94	ppb		98
58)	MIBK (methyl isobutyl ket	8.26	43	16333	4.47	ppb		92
59)	1-Bromo-2-chloroethane	7.88	63	14869	5.11	ppb		96
60)	2-Chloroethyl vinyl ether	7.93	106	4947	37.00	ppb	#	87
61)	Cis-1,3-Dichloropropene	8.07	75	30202	4.85	ppb		99
62)	Toluene	8.45	91	90788	5.01	ppb		98
63)	Trans-1,3-Dichloropropene	8.70	75	27773	4.77	ppb		97
64)	1,1,2-TCA	8.89	97	21067	5.14	ppb		95
65)	2-Hexanone	9.20	43	10614	5.68	ppb		96
68)	1,2-EDB	9.43	107	21113	5.05	ppb	#	100
69)	Tetrachloroethene	9.06	166	24593	5.15	ppb		95
70)	1-Chlorohexane	10.00	91	18198	5.36	ppb		95
71)	1,1,1,2-Tetrachloroethane	10.09	131	23466	5.02	ppb		100
72)	m&p-Xylene	10.26	91	139357	9.96	ppb		100
73)	o-Xylene	10.69	91	74068	4.97	ppb		95
74)	Styrene	10.70	104	52294	5.12	ppb		95
76)	1,3-Dichloropropane	9.07	76	33830	5.23	ppb		95
77)	Dibromochloromethane	9.31	129	24402	5.02	ppb		97
78)	Chlorobenzene	9.99	112	62373	5.04	ppb		99
79)	Ethylbenzene	10.13	91	90992	4.91	ppb		98
80)	Bromoform	10.88	173	18051	4.79	ppb		97
82)	Isopropylbenzene	11.11	105	85826	5.14	ppb		99
83)	1,1,2,2-Tetrachloroethane	11.41	83	26750	5.03	ppb		97
84)	1,2,3-Trichloropropane	11.45	110	9523	5.31	ppb		88
85)	t-1,4-Dichloro-2-Butene	11.48	53	4427	4.80	ppb	#	83
86)	Bromobenzene	11.41	77	47446	5.21	ppb		98
87)	n-Propylbenzene	11.56	91	92370	5.09	ppb		99
88)	4-Ethyltoluene	11.68	105	77503	4.96	ppb		100
89)	2-Chlorotoluene	11.64	91	68450	4.91	ppb		99
90)	1,3,5-Trimethylbenzene	11.75	105	75398	5.16	ppb		96
91)	4-Chlorotoluene	11.76	91	70926	5.06	ppb		99
92)	Tert-Butylbenzene	12.11	119	71681	4.92	ppb		96
93)	1,2,4-Trimethylbenzene	12.16	105	76228	4.92	ppb		96
94)	Sec-Butylbenzene	12.35	105	79982	4.98	ppb		99
95)	p-Isopropyltoluene	12.51	119	72192	5.05	ppb		98
96)	Benzyl Chloride	12.69	91	22653	4.52	ppb		93
97)	1,3-DCB	12.45	146	49438	5.18	ppb		98
98)	1,4-DCB	12.55	146	49991	5.00	ppb		94
99)	n-Butylbenzene	12.96	91	59629	5.01	ppb		95
100)	1,2-DCB	12.95	146	50493	5.12	ppb		99
101)	Hexachloroethane	13.25	201	13340	4.80	ppb	#	85
102)	1,2-Dibromo-3-chloropropan	13.79	157	5635	5.26	ppb		99
103)	1,2,4-Trichlorobenzene	14.73	180	29378	4.87	ppb		94
104)	Hexachlorobutadiene	14.93	225	17473	5.62	ppb		98
105)	Naphthalene	14.99	127	3400	5.62	ppb		79
106)	1,2,3-Trichlorobenzene	15.26	180	26596	4.85	ppb		96

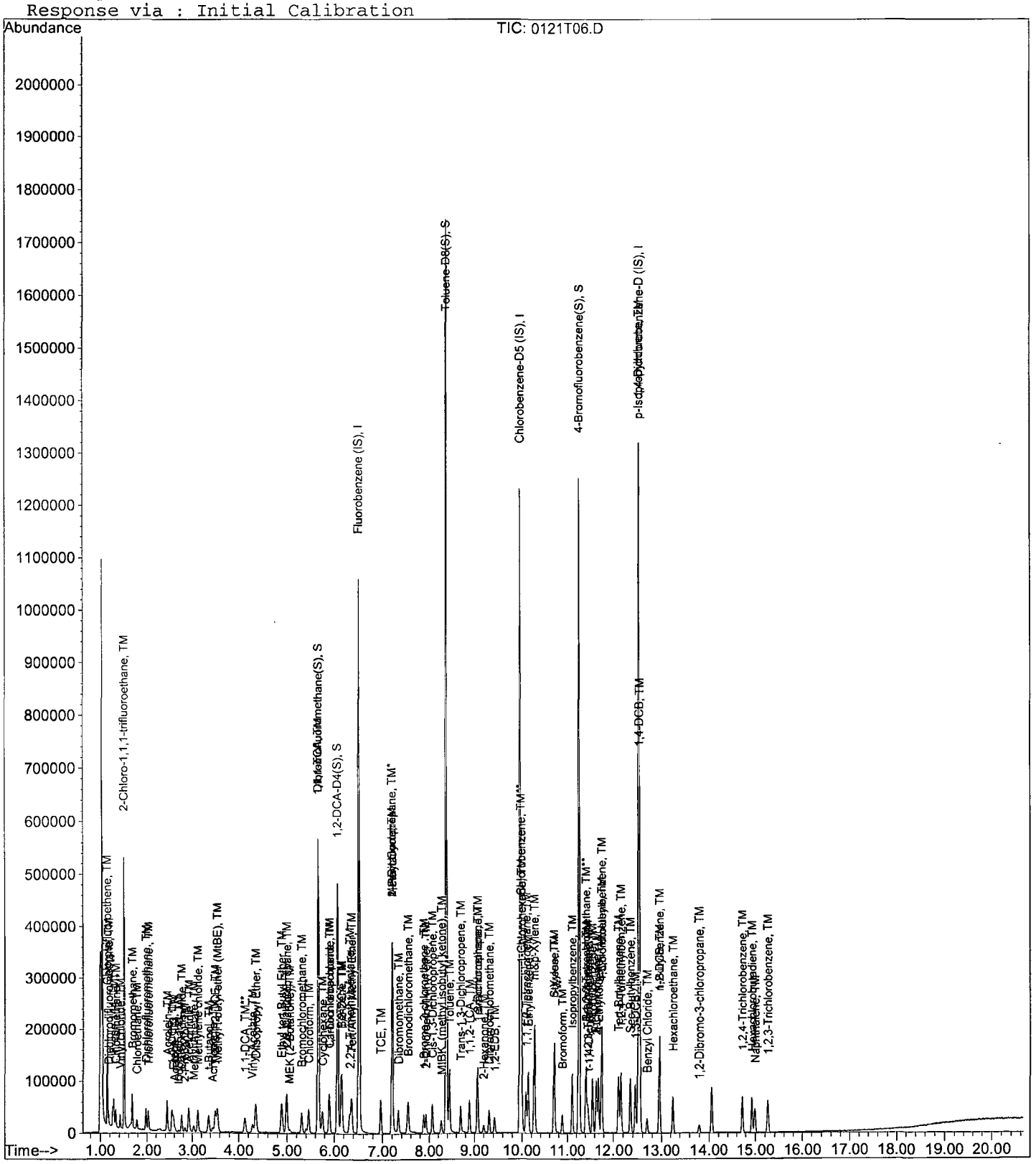
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0121T06.D Vial: 6
Acq On : 21 Jan 20 9:34 Operator:
Sample : 5ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 21 15:54 2020 Quant Results File: T0121W.RES

Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0121T07.D Vial: 7
Acq On : 21 Jan 20 10:02 Operator:
Sample : 10ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 21 15:54 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	1052818	25.00	ppb	0.00
66) Chlorobenzene-D5 (IS)	9.96	117	824642	25.00	ppb	0.00
81) 1,4-Dichlorobenzene-D (IS)	12.52	152	433370	25.00	ppb	0.00
System Monitoring Compounds						
41) Dibromofluoromethane(S)	5.66	111	344638	25.41	ppb	0.00
Spiked Amount 25.000			Recovery =	101.644%		
46) 1,2-DCA-D4(S)	6.07	65	369870	25.60	ppb	0.00
Spiked Amount 25.000			Recovery =	102.396%		
67) Toluene-D8(S)	8.37	98	1263271	25.99	ppb	0.00
Spiked Amount 25.000			Recovery =	103.976%		
75) 4-Bromofluorobenzene(S)	11.25	95	453846	24.65	ppb	0.00
Spiked Amount 25.000			Recovery =	98.584%		
Target Compounds						Qvalue
2) Chlorotrifluoroethene	1.14	116	149494	100.37	ppb	99
3) Dichlorodifluoromethane	1.17	85	29464	9.44	ppb	100
4) Freon 114	1.28	85	32142	9.82	ppb	100
5) Chloromethane	1.32	50	42471	10.03	ppb	100
6) Vinyl chloride	1.41	62	34547	9.33	ppb	100
7) 2-Chloro-1,1,1-trifluoroet	1.51	118	444296	96.33	ppb	99
8) Bromomethane	1.68	96	33096	10.52	ppb	100
9) Chloroethane	1.78	64	24034	9.73	ppb	100
10) Dichlorofluoromethane	1.98	67	69789	9.79	ppb	100
11) Trichlorofluoromethane	2.02	101	50679	9.64	ppb	100
14) Acrolein	2.44	56	55000	126.45	ppb	99
15) Acetone	2.62	43	7999	10.65	ppb	100
16) Freon-113	2.58	101	28359	9.83	ppb	100
17) 1,1-DCE	2.55	61	44121	9.41	ppb	100
18) 2-Propanol	2.85	45	22969	97.43	ppb	100
19) Acetonitrile	2.93	40	17273	135.62	ppb	100
20) t-Butanol	3.37	59	20352	128.89	ppb	100
21) Methyl Acetate	3.03	43	29735	8.94	ppb	100
22) Iodomethane	2.70	142	11387	6.62	ppb	100
23) Acrylonitrile	3.45	52	12568	9.89	ppb	100
24) Methylene chloride	3.12	49	49458	9.55	ppb	100
25) Carbon disulfide	2.77	76	85603	9.37	ppb	100
26) Methyl t-butyl ether (MtBE	3.55	73	112777	9.82	ppb	100
27) Trans-1,2-DCE	3.50	61	47290	9.62	ppb	100
29) Diisopropyl Ether	4.35	45	110040	9.77	ppb	100
31) 1,1-DCA	4.13	63	64088	9.58	ppb	100
32) Vinyl Acetate	4.29	43	22544	9.95	ppb	100
33) Ethyl tert Butyl Ether	4.89	59	111572	9.68	ppb	100
34) MEK (2-Butanone)	5.05	43	16993	9.17	ppb	100
35) Cis-1,2-DCE	4.99	61	60205	9.61	ppb	100
36) 2,2-Dichloropropane	4.99	77	53233	9.59	ppb	100
39) Chloroform	5.46	83	75327	9.59	ppb	100
40) Bromochloromethane	5.31	49	33049	9.60	ppb	100
42) 1,1,1-TCA	5.68	97	60516	9.73	ppb	100
43) Cyclohexane	5.75	56	39719	9.32	ppb	100
44) 1,1-Dichloropropene	5.90	75	44001	9.71	ppb	100
45) 2,2,4-Trimethylpentane	6.32	57	75960	9.23	ppb	100
47) Carbon Tetrachloride	5.89	117	52741	9.98	ppb	100
48) Tert Amyl Methyl Ether	6.36	73	112129	9.93	ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0121T07.D Vial: 7
Acq On : 21 Jan 20 10:02 Operator:
Sample : 10ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 21 15:54 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
50)	1,2-DCA	6.17	62	63870	9.84	ppb	100
51)	Benzene	6.15	78	155971	9.70	ppb	100
52)	TCE	6.96	130	46083	9.74	ppb	100
53)	2-Pentanone	7.20	43	364684	122.39	ppb	100
54)	1,2-Dichloropropane	7.21	63	40119	9.68	ppb	100
55)	Bromodichloromethane	7.54	83	58783	9.86	ppb	100
56)	Methyl Cyclohexane	7.20	83	44677	9.67	ppb	100
57)	Dibromomethane	7.33	174	36805	9.57	ppb	100
58)	MIBK (methyl isobutyl ket	8.27	43	33880	8.93	ppb	100
59)	1-Bromo-2-chloroethane	7.88	63	29376	9.72	ppb	100
60)	2-Chloroethyl vinyl ether	7.93	106	6766	45.11	ppb	100
61)	Cis-1,3-Dichloropropene	8.07	75	63116	9.76	ppb	100
62)	Toluene	8.45	91	178422	9.49	ppb	100
63)	Trans-1,3-Dichloropropene	8.69	75	57485	9.52	ppb	100
64)	1,1,2-TCA	8.89	97	41433	9.75	ppb	100
65)	2-Hexanone	9.19	43	22847	9.58	ppb	100
68)	1,2-EDB	9.43	107	43603	9.99	ppb	100
69)	Tetrachloroethene	9.06	166	50478	10.13	ppb	100
70)	1-Chlorohexane	10.00	91	35945	9.15	ppb	100
71)	1,1,1,2-Tetrachloroethane	10.09	131	47600	9.76	ppb	100
72)	m&p-Xylene	10.26	91	280924	19.25	ppb	100
73)	o-Xylene	10.69	91	153530	9.88	ppb	100
74)	Styrene	10.70	104	111070	9.01	ppb	100
76)	1,3-Dichloropropane	9.07	76	67135	9.95	ppb	100
77)	Dibromochloromethane	9.31	129	50596	9.98	ppb	100
78)	Chlorobenzene	9.99	112	125190	9.70	ppb	100
79)	Ethylbenzene	10.13	91	186393	9.65	ppb	100
80)	Bromoform	10.88	173	38587	9.81	ppb	100
82)	Isopropylbenzene	11.11	105	176689	10.28	ppb	100
83)	1,1,2,2-Tetrachloroethane	11.41	83	56387	10.30	ppb	100
84)	1,2,3-Trichloropropane	11.45	110	18977	10.28	ppb	100
85)	t-1,4-Dichloro-2-Butene	11.47	53	9916	10.43	ppb	100
86)	Bromobenzene	11.41	77	95946	10.23	ppb	100
87)	n-Propylbenzene	11.56	91	182470	9.76	ppb	100
88)	4-Ethyltoluene	11.68	105	157879	9.80	ppb	100
89)	2-Chlorotoluene	11.64	91	141518	9.85	ppb	100
90)	1,3,5-Trimethylbenzene	11.75	105	155217	10.31	ppb	100
91)	4-Chlorotoluene	11.76	91	141667	9.81	ppb	100
92)	Tert-Butylbenzene	12.11	119	143244	9.55	ppb	100
93)	1,2,4-Trimethylbenzene	12.16	105	158685	9.93	ppb	100
94)	Sec-Butylbenzene	12.35	105	162153	9.80	ppb	100
95)	p-Isopropyltoluene	12.51	119	148773	10.10	ppb	100
96)	Benzyl Chloride	12.69	91	49997	9.69	ppb	100
97)	1,3-DCB	12.45	146	96840	9.85	ppb	100
98)	1,4-DCB	12.55	146	100121	9.72	ppb	100
99)	n-Butylbenzene	12.96	91	126693	10.32	ppb	100
100)	1,2-DCB	12.95	146	100128	9.85	ppb	100
101)	Hexachloroethane	13.25	201	30284	10.14	ppb	100
102)	1,2-Dibromo-3-chloropropan	13.79	157	11577	9.66	ppb	100
103)	1,2,4-Trichlorobenzene	14.73	180	59894	9.63	ppb	100
104)	Hexachlorobutadiene	14.93	225	35598	11.11	ppb	100
105)	Naphthalene	14.99	127	6896	9.24	ppb	100
106)	1,2,3-Trichlorobenzene	15.26	180	56216	9.95	ppb	100

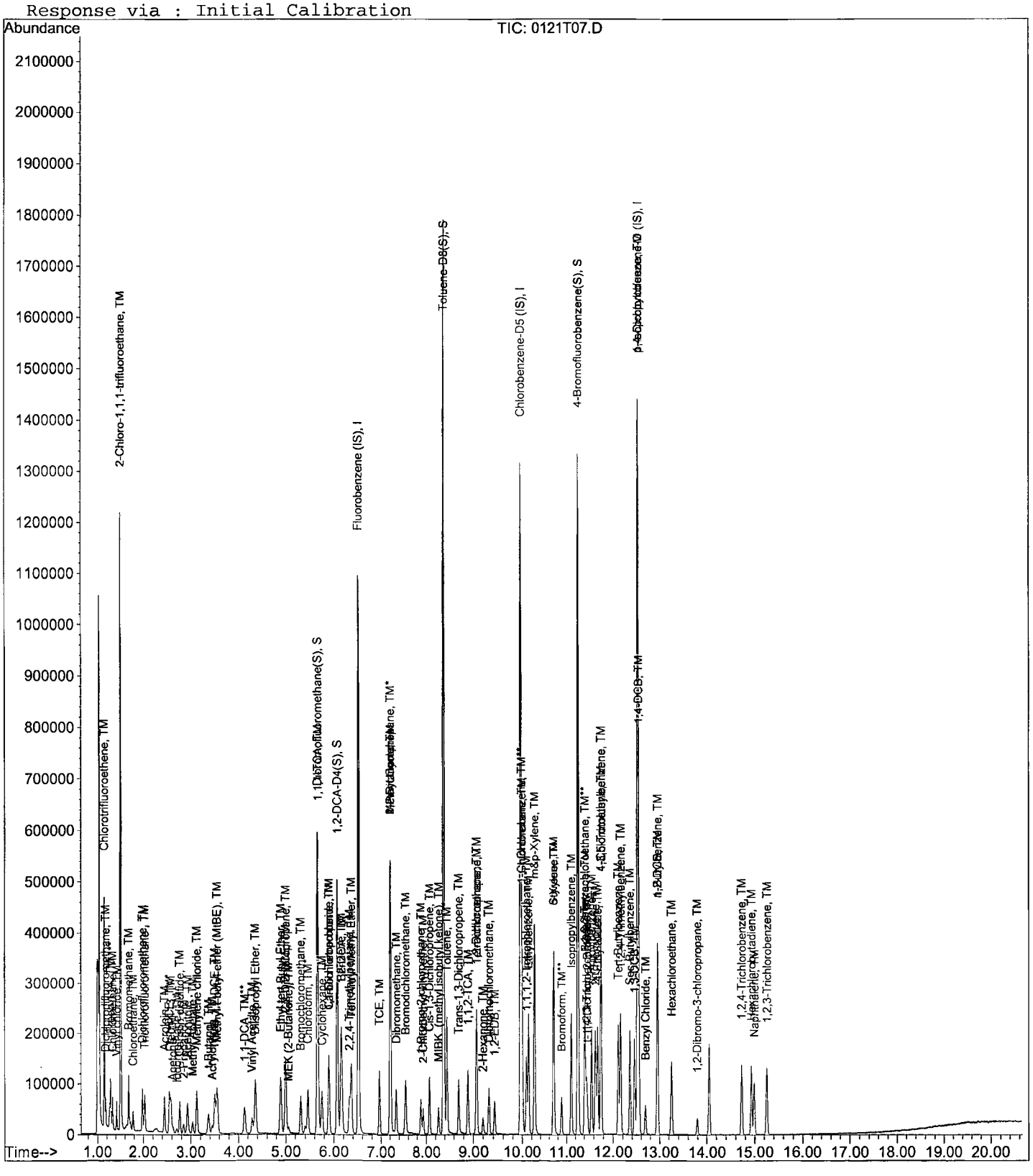
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0121T07.D Vial: 7
Acq On : 21 Jan 20 10:02 Operator:
Sample : 10ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 21 15:54 2020 Quant Results File: T0121W.RES

Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0121T08.D Vial: 8
Acq On : 21 Jan 20 10:30 Operator:
Sample : 20ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 21 15:54 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	1076126	25.00	ppb	0.00
66) Chlorobenzene-D5 (IS)	9.96	117	852719	25.00	ppb	0.00
81) 1,4-Dichlorobenzene-D (IS)	12.52	152	475060	25.00	ppb	0.00
System Monitoring Compounds						
41) Dibromofluoromethane(S)	5.66	111	651247	50.96	ppb	0.00
Spiked Amount 25.000			Recovery =	203.828%		
46) 1,2-DCA-D4(S)	6.07	65	693335	51.27	ppb	0.00
Spiked Amount 25.000			Recovery =	205.076%		
67) Toluene-D8(S)	8.37	98	2429130	53.27	ppb	0.00
Spiked Amount 25.000			Recovery =	213.084%		
75) 4-Bromofluorobenzene(S)	11.25	95	908776	49.65	ppb	0.00
Spiked Amount 25.000			Recovery =	198.596%		
Target Compounds						Qvalue
2) Chlorotrifluoroethene	1.14	116	182883	120.13	ppb	98
3) Dichlorodifluoromethane	1.17	85	63294	19.83	ppb	93
4) Freon 114	1.28	85	64179	19.18	ppb	95
5) Chloromethane	1.32	50	88283	21.73	ppb	99
6) Vinyl chloride	1.41	62	74149	19.59	ppb	98
7) 2-Chloro-1,1,1-trifluoroet	1.50	118	559758	118.73	ppb	99
8) Bromomethane	1.68	96	60376	19.58	ppb	98
9) Chloroethane	1.77	64	50228	20.16	ppb	98
10) Dichlorofluoromethane	1.97	67	142244	19.52	ppb	98
11) Trichlorofluoromethane	2.02	101	108479	20.19	ppb	89
14) Acrolein	2.44	56	66647	149.91	ppb	95
15) Acetone	2.62	43	14223	21.00	ppb	96
16) Freon-113	2.57	101	57134	19.37	ppb	94
17) 1,1-DCE	2.54	61	94146	19.65	ppb	94
18) 2-Propanol	2.86	45	30008	124.53	ppb	98
19) Acetonitrile	2.93	40	19665	151.06	ppb	90
20) t-Butanol	3.38	59	25072	155.35	ppb	93
21) Methyl Acetate	3.03	43	60365	17.75	ppb	99
22) Iodomethane	2.69	142	43300	17.31	ppb	92
23) Acrylonitrile	3.45	52	26638	20.50	ppb	92
24) Methylene chloride	3.12	49	101887	19.24	ppb	97
25) Carbon disulfide	2.76	76	183575	19.66	ppb	99
26) Methyl t-butyl ether (MtBE	3.55	73	234023	19.93	ppb	95
27) Trans-1,2-DCE	3.50	61	97878	19.49	ppb	97
29) Diisopropyl Ether	4.36	45	234774	20.39	ppb	100
31) 1,1-DCA	4.13	63	133620	19.55	ppb	98
32) Vinyl Acetate	4.29	43	50017	21.59	ppb	98
33) Ethyl tert Butyl Ether	4.89	59	241760	20.51	ppb	99
34) MEK (2-Butanone)	5.05	43	37592	19.78	ppb	92
35) Cis-1,2-DCE	4.99	61	128798	20.11	ppb	98
36) 2,2-Dichloropropane	4.99	77	111773	19.71	ppb	100
39) Chloroform	5.45	83	158222	19.71	ppb	94
40) Bromochloromethane	5.31	49	70429	20.01	ppb	95
42) 1,1,1-TCA	5.67	97	128997	20.28	ppb	97
43) Cyclohexane	5.75	56	88102	20.22	ppb	98
44) 1,1-Dichloropropene	5.90	75	94568	20.41	ppb	96
45) 2,2,4-Trimethylpentane	6.32	57	166188	19.75	ppb	96
47) Carbon Tetrachloride	5.89	117	108438	20.08	ppb	100
48) Tert Amyl Methyl Ether	6.36	73	240559	20.83	ppb	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0121T08.D Vial: 8
Acq On : 21 Jan 20 10:30 Operator:
Sample : 20ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 21 15:54 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

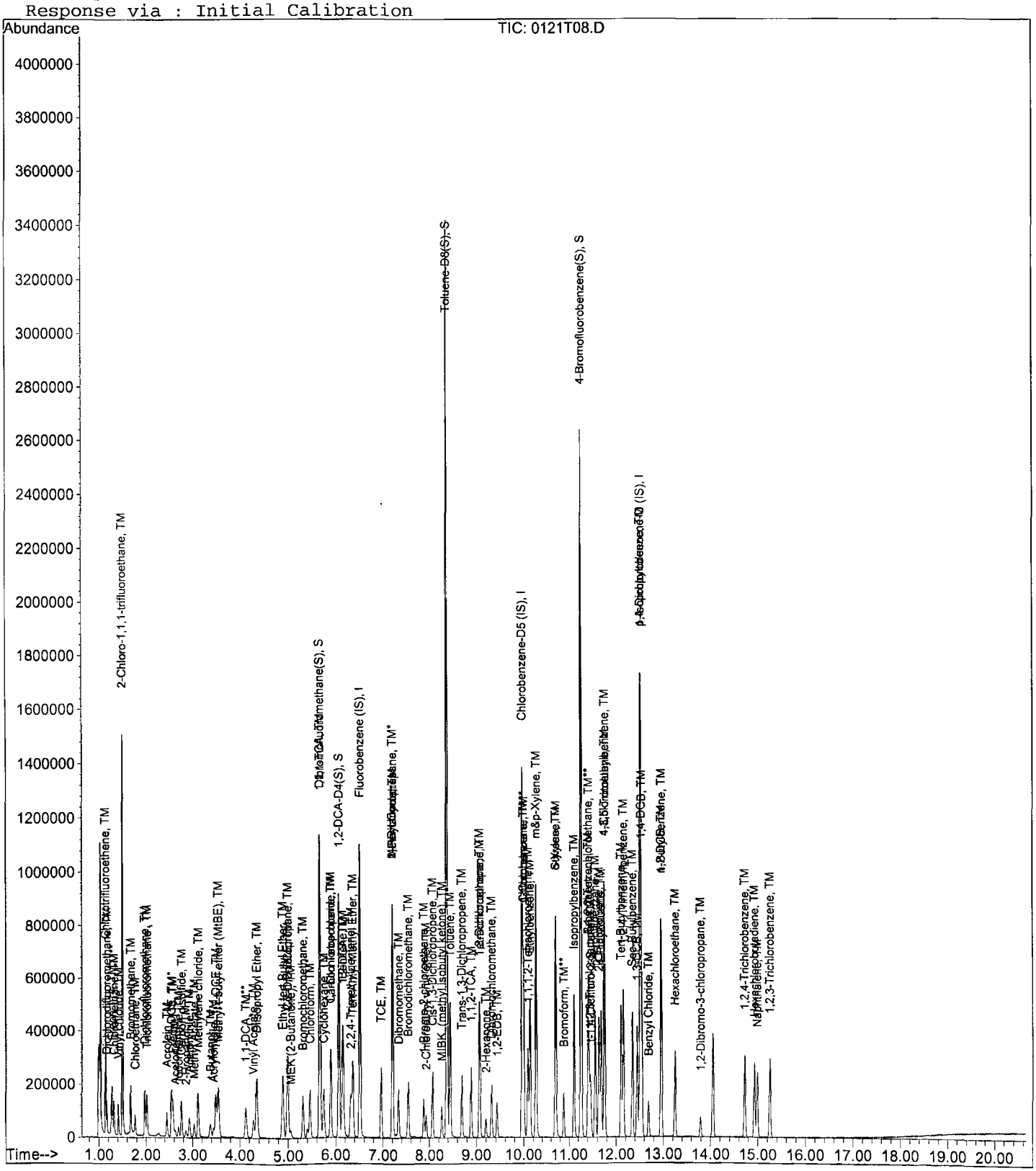
	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
50)	1,2-DCA	6.17	62	126506	19.07 ppb	98
51)	Benzene	6.15	78	327958	19.96 ppb	98
52)	TCE	6.96	130	95870	19.82 ppb	91
53)	2-Pentanone	7.20	43	481940	158.24 ppb	99
54)	1,2-Dichloropropane	7.21	63	83971	19.83 ppb	98
55)	Bromodichloromethane	7.54	83	124991	20.52 ppb	98
56)	Methyl Cyclohexane	7.20	83	96070	20.35 ppb	95
57)	Dibromomethane	7.33	174	78959	20.08 ppb	97
58)	MIBK (methyl isobutyl ket	8.27	43	73353	18.92 ppb	96
59)	1-Bromo-2-chloroethane	7.88	63	62592	20.27 ppb	95
60)	2-Chloroethyl vinyl ether	7.93	106	11858	67.12 ppb	100
61)	Cis-1,3-Dichloropropene	8.07	75	137375	20.79 ppb	97
62)	Toluene	8.45	91	384888	20.03 ppb	100
63)	Trans-1,3-Dichloropropene	8.69	75	127017	20.58 ppb	98
64)	1,1,2-TCA	8.89	97	88633	20.40 ppb	96
65)	2-Hexanone	9.19	43	48967	17.86 ppb	96
68)	1,2-EDB	9.43	107	92053	20.40 ppb	98
69)	Tetrachloroethene	9.06	166	104453	20.27 ppb	98
70)	1-Chlorohexane	10.00	91	82121	18.87 ppb	97
71)	1,1,1,2-Tetrachloroethane	10.09	131	102397	20.29 ppb	97
72)	m&p-Xylene	10.26	91	630657	41.79 ppb	97
73)	o-Xylene	10.69	91	337410	21.01 ppb	98
74)	Styrene	10.70	104	260171	18.67 ppb	99
76)	1,3-Dichloropropane	9.07	76	141824	20.32 ppb	96
77)	Dibromochloromethane	9.31	129	108154	20.64 ppb	97
78)	Chlorobenzene	9.99	112	265501	19.90 ppb	99
79)	Ethylbenzene	10.13	91	411004	20.58 ppb	99
80)	Bromoform	10.88	173	86728	21.32 ppb	100
82)	Isopropylbenzene	11.11	105	397064	21.07 ppb	99
83)	1,1,2,2-Tetrachloroethane	11.41	83	118793	19.80 ppb	97
84)	1,2,3-Trichloropropane	11.45	110	40723	20.12 ppb	88
85)	t-1,4-Dichloro-2-Butene	11.47	53	22606	21.69 ppb	88
86)	Bromobenzene	11.41	77	207057	20.14 ppb	99
87)	n-Propylbenzene	11.56	91	423024	20.65 ppb	99
88)	4-Ethyltoluene	11.68	105	353833	20.04 ppb	99
89)	2-Chlorotoluene	11.64	91	320436	20.36 ppb	99
90)	1,3,5-Trimethylbenzene	11.75	105	346099	20.98 ppb	100
91)	4-Chlorotoluene	11.76	91	321646	20.31 ppb	98
92)	Tert-Butylbenzene	12.11	119	338600	20.59 ppb	98
93)	1,2,4-Trimethylbenzene	12.16	105	353744	20.20 ppb	99
94)	Sec-Butylbenzene	12.35	105	373121	20.57 ppb	100
95)	p-Isopropyltoluene	12.51	119	330744	20.49 ppb	99
96)	Benzyl Chloride	12.69	91	112049	19.82 ppb	98
97)	1,3-DCB	12.45	146	217787	20.21 ppb	99
98)	1,4-DCB	12.55	146	218387	19.34 ppb	99
99)	n-Butylbenzene	12.96	91	275951	20.51 ppb	98
100)	1,2-DCB	12.95	146	215390	19.34 ppb	97
101)	Hexachloroethane	13.25	201	67271	20.19 ppb	95
102)	1,2-Dibromo-3-chloropropan	13.79	157	26651	19.36 ppb	97
103)	1,2,4-Trichlorobenzene	14.73	180	134324	19.70 ppb	99
104)	Hexachlorobutadiene	14.93	225	72572	20.66 ppb	91
105)	Naphthalene	14.99	127	15758	17.23 ppb	92
106)	1,2,3-Trichlorobenzene	15.26	180	128721	20.79 ppb	98

(#) = qualifier out of range (m) = manual integration

Data File : M:\THOR\DATA\T200121\0121T08.D Vial: 8
Acq On : 21 Jan 20 10:30 Operator:
Sample : 20ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 21 15:54 2020 Quant Results File: T0121W.RES

Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0121T09.D Vial: 9
Acq On : 21 Jan 20 10:59 Operator:
Sample : 40ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 21 15:54 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	1054648	25.00	ppb	0.00
66) Chlorobenzene-D5 (IS)	9.96	117	894422	25.00	ppb	0.00
81) 1,4-Dichlorobenzene-D (IS)	12.52	152	515905	25.00	ppb	0.00
System Monitoring Compounds						
41) Dibromofluoromethane(S)	5.66	111	618615	49.24	ppb	0.00
Spiked Amount 25.000			Recovery =	196.980%		
46) 1,2-DCA-D4(S)	6.07	65	655265	49.26	ppb	0.00
Spiked Amount 25.000			Recovery =	197.024%		
67) Toluene-D8(S)	8.37	98	2407625	50.02	ppb	0.00
Spiked Amount 25.000			Recovery =	200.084%		
75) 4-Bromofluorobenzene(S)	11.26	95	948175	49.37	ppb	0.00
Spiked Amount 25.000			Recovery =	197.500%		
Target Compounds						Qvalue
2) Chlorotrifluoroethene	1.14	116	202699	135.86	ppb	98
3) Dichlorodifluoromethane	1.17	85	117291	37.50	ppb	95
4) Freon 114	1.28	85	118373	36.10	ppb	97
5) Chloromethane	1.32	50	161623	41.72	ppb	99
6) Vinyl chloride	1.42	62	134164	36.17	ppb	96
7) 2-Chloro-1,1,1-trifluoroet	1.50	118	635844	137.62	ppb	99
8) Bromomethane	1.68	96	88824	29.91	ppb	97
9) Chloroethane	1.77	64	57199	23.46	ppb	97
10) Dichlorofluoromethane	1.97	67	269362	37.72	ppb	98
11) Trichlorofluoromethane	2.01	101	201905	38.35	ppb	93
14) Acrolein	2.44	56	74737	171.53	ppb	95
15) Acetone	2.63	43	26111	42.24	ppb	94
16) Freon-113	2.57	101	105771	36.59	ppb	96
17) 1,1-DCE	2.54	61	175251	37.32	ppb	97
18) 2-Propanol	2.87	45	35948	152.22	ppb	96
19) Acetonitrile	2.93	40	23716	185.88	ppb	93
20) t-Butanol	3.40	59	28968	183.14	ppb	97
21) Methyl Acetate	3.03	43	120496	36.16	ppb	97
22) Iodomethane	2.69	142	127591	42.48	ppb	92
23) Acrylonitrile	3.45	52	52835	41.49	ppb	89
24) Methylene chloride	3.12	49	195429	37.65	ppb	97
25) Carbon disulfide	2.76	76	345888	37.80	ppb	97
26) Methyl t-butyl ether (MtBE	3.55	73	454331	39.47	ppb	96
27) Trans-1,2-DCE	3.50	61	184858	37.55	ppb	97
29) Diisopropyl Ether	4.36	45	453966	40.23	ppb	99
31) 1,1-DCA	4.13	63	253490	37.84	ppb	98
32) Vinyl Acetate	4.29	43	96304	42.41	ppb	97
33) Ethyl tert Butyl Ether	4.89	59	471334	40.80	ppb	98
34) MEK (2-Butanone)	5.05	43	72222	38.73	ppb	91
35) Cis-1,2-DCE	4.99	61	244673	38.98	ppb	99
36) 2,2-Dichloropropane	4.99	77	214464	38.58	ppb	99
39) Chloroform	5.46	83	305203	38.79	ppb	95
40) Bromochloromethane	5.31	49	133369	38.66	ppb	94
42) 1,1,1-TCA	5.68	97	239600	38.44	ppb	97
43) Cyclohexane	5.75	56	170868	40.01	ppb	99
44) 1,1-Dichloropropene	5.90	75	182143	40.11	ppb	96
45) 2,2,4-Trimethylpentane	6.32	57	321757	39.01	ppb	98
47) Carbon Tetrachloride	5.89	117	206419	38.99	ppb	98
48) Tert Amyl Methyl Ether	6.36	73	479954	42.42	ppb	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0121T09.D Vial: 9
Acq On : 21 Jan 20 10:59 Operator:
Sample : 40ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 21 15:54 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

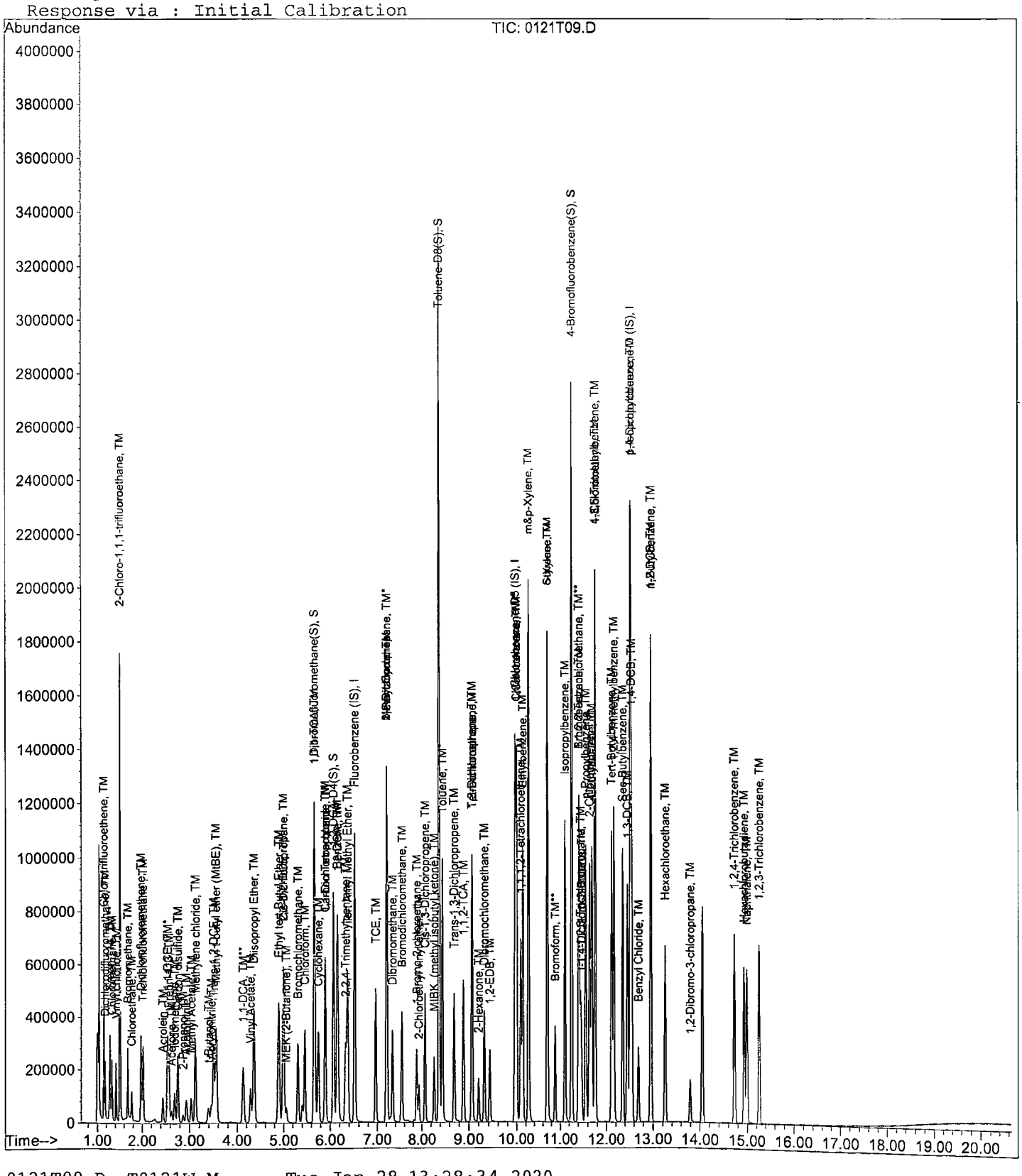
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
50)	1,2-DCA	6.16	62	245527	37.76	ppb	98
51)	Benzene	6.15	78	627743	38.98	ppb	98
52)	TCE	6.96	130	184547	38.94	ppb	96
53)	2-Pentanone	7.21	43	593462	198.82	ppb	99
54)	1,2-Dichloropropane	7.21	63	162975	39.27	ppb	99
55)	Bromodichloromethane	7.54	83	245468	41.11	ppb	97
56)	Methyl Cyclohexane	7.20	83	185698	40.14	ppb	96
57)	Dibromomethane	7.33	174	153486	39.83	ppb	95
58)	MIBK (methyl isobutyl ket	8.27	43	162798	42.84	ppb	97
59)	1-Bromo-2-chloroethane	7.88	63	119448	39.47	ppb	95
60)	2-Chloroethyl vinyl ether	7.93	106	19756	99.27	ppb	99
61)	Cis-1,3-Dichloropropene	8.07	75	275552	42.54	ppb	97
62)	Toluene	8.45	91	771076	40.95	ppb	99
63)	Trans-1,3-Dichloropropene	8.69	75	261977	43.31	ppb	97
64)	1,1,2-TCA	8.89	97	183228	43.04	ppb	96
65)	2-Hexanone	9.20	43	106475	37.13	ppb	99
68)	1,2-EDB	9.43	107	190276	40.19	ppb	99
69)	Tetrachloroethene	9.06	166	202797	37.52	ppb	97
70)	1-Chlorohexane	10.00	91	174011	36.99	ppb	98
71)	1,1,1,2-Tetrachloroethane	10.09	131	215047	40.63	ppb	97
72)	m&p-Xylene	10.26	91	1340898	84.72	ppb	97
73)	o-Xylene	10.69	91	728284	43.23	ppb	98
74)	Styrene	10.70	104	580797	38.19	ppb	98
76)	1,3-Dichloropropane	9.07	76	285992	39.07	ppb	99
77)	Dibromochloromethane	9.32	129	229456	41.75	ppb	95
78)	Chlorobenzene	9.99	112	551214	39.39	ppb	99
79)	Ethylbenzene	10.13	91	856351	40.87	ppb	99
80)	Bromoform	10.88	173	185295	43.43	ppb	99
82)	Isopropylbenzene	11.11	105	857693	41.92	ppb	98
83)	1,1,2,2-Tetrachloroethane	11.41	83	257156	39.46	ppb	98
84)	1,2,3-Trichloropropane	11.45	110	86535	39.37	ppb	95
85)	t-1,4-Dichloro-2-Butene	11.47	53	51455	45.45	ppb	93
86)	Bromobenzene	11.41	77	448280	40.14	ppb	97
87)	n-Propylbenzene	11.56	91	926311	41.63	ppb	100
88)	4-Ethyltoluene	11.68	105	788291	41.11	ppb	98
89)	2-Chlorotoluene	11.64	91	688336	40.26	ppb	100
90)	1,3,5-Trimethylbenzene	11.75	105	756063	42.20	ppb	100
91)	4-Chlorotoluene	11.76	91	709213	41.24	ppb	99
92)	Tert-Butylbenzene	12.11	119	733765	41.09	ppb	99
93)	1,2,4-Trimethylbenzene	12.16	105	779496	40.99	ppb	99
94)	Sec-Butylbenzene	12.35	105	839271	42.60	ppb	98
95)	p-Isopropyltoluene	12.51	119	727526	41.50	ppb	99
96)	Benzyl Chloride	12.69	91	244403	39.80	ppb	99
97)	1,3-DCB	12.45	146	467874	39.98	ppb	99
98)	1,4-DCB	12.55	146	471615	38.46	ppb	98
99)	n-Butylbenzene	12.96	91	603110	41.28	ppb	99
100)	1,2-DCB	12.95	146	473147	39.11	ppb	100
101)	Hexachloroethane	13.25	201	142211	38.96	ppb	92
102)	1,2-Dibromo-3-chloropropan	13.79	157	59275	38.77	ppb	98
103)	1,2,4-Trichlorobenzene	14.73	180	302706	40.88	ppb	99
104)	Hexachlorobutadiene	14.93	225	150112	39.35	ppb	93
105)	Naphthalene	14.99	127	38160	36.11	ppb	95
106)	1,2,3-Trichlorobenzene	15.26	180	283936	42.22	ppb	100

(#) = qualifier out of range (m) = manual integration

Data File : M:\THOR\DATA\T200121\0121T09.D Vial: 9
Acq On : 21 Jan 20 10:59 Operator:
Sample : 40ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 21 15:54 2020 Quant Results File: T0121W.RES

Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0121T10.D Vial: 10
Acq On : 21 Jan 20 11:27 Operator:
Sample : 100ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 21 15:54 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene (IS)	6.51	96	1065218	25.00	ppb		0.00
66) Chlorobenzene-D5 (IS)	9.96	117	916624	25.00	ppb		0.00
81) 1,4-Dichlorobenzene-D (IS)	12.52	152	565783	25.00	ppb		0.00
System Monitoring Compounds							
41) Dibromofluoromethane(S)	5.66	111	1208474	99.62	ppb		0.00
Spiked Amount 25.000			Recovery = 398.500%				
46) 1,2-DCA-D4(S)	6.07	65	1271687	99.42	ppb		0.00
Spiked Amount 25.000			Recovery = 397.676%				
67) Toluene-D8(S)	8.37	98	4589751	97.98	ppb		0.00
Spiked Amount 25.000			Recovery = 391.936%				
75) 4-Bromofluorobenzene(S)	11.26	95	1940451	100.65	ppb		0.00
Spiked Amount 25.000			Recovery = 402.584%				
Target Compounds							Qvalue
2) Chlorotrifluoroethene	1.14	116	234471	155.59	ppb		100
3) Dichlorodifluoromethane	1.17	85	292201	92.49	ppb		96
4) Freon 114	1.28	85	308794	93.23	ppb		100
5) Chloromethane	1.32	50	380597	99.00	ppb		99
6) Vinyl chloride	1.41	62	339058	90.50	ppb		97
7) 2-Chloro-1,1,1-trifluoroet	1.51	118	741931	158.99	ppb		100
8) Bromomethane	1.68	96	184128	62.47	ppb		98
9) Chloroethane	1.76	64	124932	51.03	ppb		97
10) Dichlorofluoromethane	1.96	67	689483	95.58	ppb		97
11) Trichlorofluoromethane	2.00	101	519736	97.73	ppb		91
14) Acrolein	2.45	56	84981	193.10	ppb		92
15) Acetone	2.64	43	59169	98.91	ppb		97
16) Freon-113	2.56	101	284026	97.27	ppb		96
17) 1,1-DCE	2.53	61	459847	96.96	ppb		96
18) 2-Propanol	2.90	45	43404	181.97	ppb		90
19) Acetonitrile	2.95	40	21166	164.25	ppb	#	90
20) t-Butanol	3.42	59	36848	230.65	ppb		97
21) Methyl Acetate	3.04	43	326003	96.87	ppb		97
22) Iodomethane	2.69	142	388993	99.80	ppb		93
23) Acrylonitrile	3.46	52	133527	103.81	ppb		94
24) Methylene chloride	3.12	49	489786	93.43	ppb		98
25) Carbon disulfide	2.75	76	913407	98.83	ppb		97
26) Methyl t-butyl ether (MtBE	3.56	73	1185788	102.00	ppb		96
27) Trans-1,2-DCE	3.50	61	480666	96.67	ppb		97
29) Diisopropyl Ether	4.36	45	1171036	102.76	ppb		97
31) 1,1-DCA	4.13	63	653831	96.63	ppb		98
32) Vinyl Acetate	4.29	43	233600	101.86	ppb		98
33) Ethyl tert Butyl Ether	4.90	59	1234540	105.81	ppb		100
34) MEK (2-Butanone)	5.06	43	189778	100.68	ppb		92
35) Cis-1,2-DCE	4.99	61	624609	98.52	ppb		98
36) 2,2-Dichloropropane	4.99	77	556329	99.10	ppb		99
39) Chloroform	5.46	83	781573	98.36	ppb		98
40) Bromochloromethane	5.31	49	332624	95.46	ppb		93
42) 1,1,1-TCA	5.67	97	637624	101.29	ppb		98
43) Cyclohexane	5.75	56	466966	108.25	ppb		99
44) 1,1-Dichloropropene	5.90	75	483037	105.30	ppb		96
45) 2,2,4-Trimethylpentane	6.32	57	890440	106.89	ppb		96
47) Carbon Tetrachloride	5.89	117	543183	101.59	ppb		95
48) Tert Amyl Methyl Ether	6.37	73	1254546	109.77	ppb		96

(#) = qualifier out of range (m) = manual integration

Data File : M:\THOR\DATA\T200121\0121T10.D Vial: 10
Acq On : 21 Jan 20 11:27 Operator:
Sample : 100ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 21 15:54 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

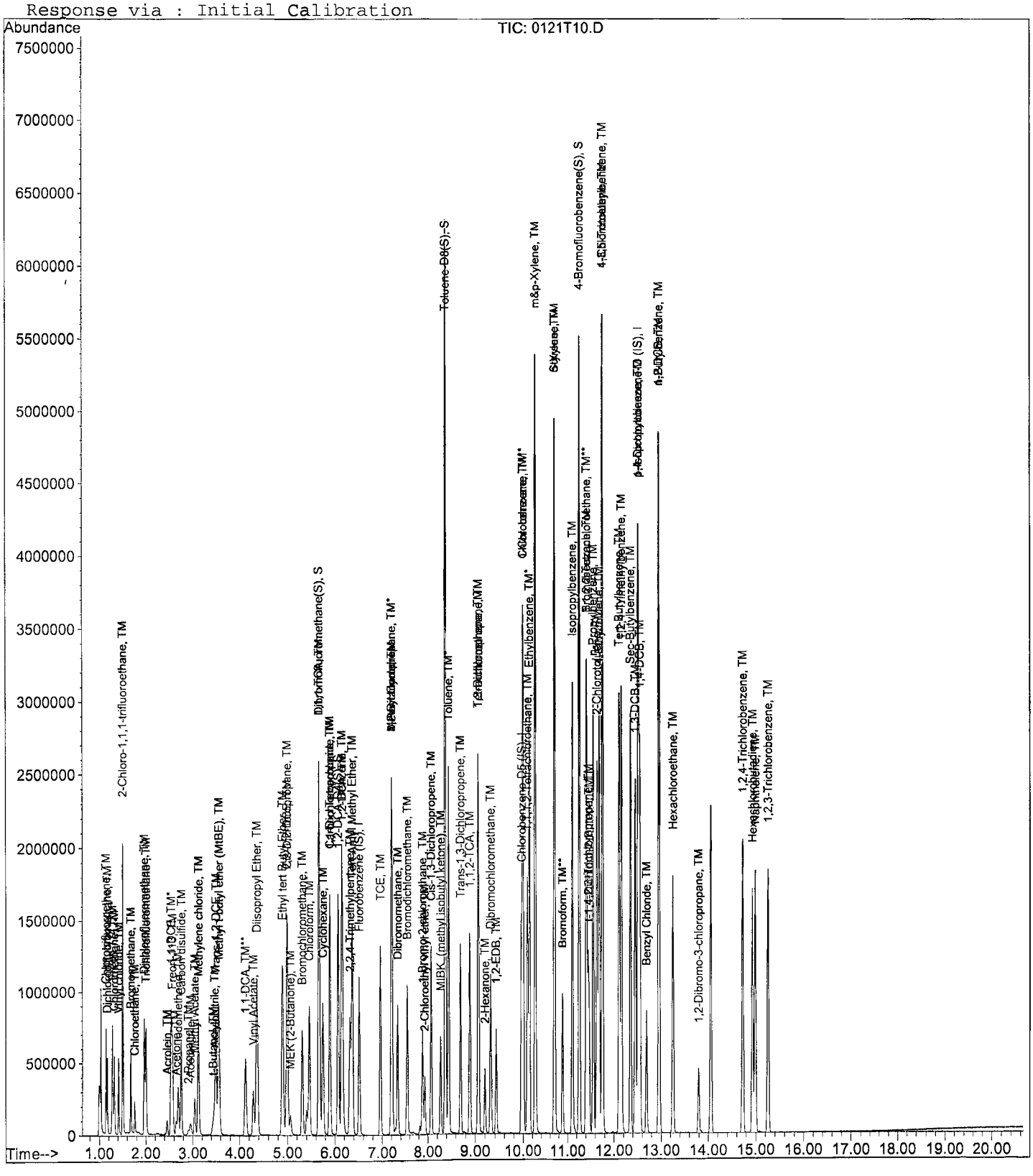
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
50)	1,2-DCA	6.17	62	622637	94.81	ppb	97
51)	Benzene	6.15	78	1632509	100.37	ppb	98
52)	TCE	6.96	130	487497	101.84	ppb	94
53)	2-Pentanone	7.21	43	738342	244.91	ppb	100
54)	1,2-Dichloropropane	7.21	63	431033	102.82	ppb	99
55)	Bromodichloromethane	7.54	83	653917	108.43	ppb	99
56)	Methyl Cyclohexane	7.20	83	506976	108.50	ppb	91
57)	Dibromomethane	7.33	174	396027	101.74	ppb	94
58)	MIBK (methyl isobutyl ket	8.27	43	447646	116.63	ppb	97
59)	1-Bromo-2-chloroethane	7.88	63	326080	106.69	ppb	97
60)	2-Chloroethyl vinyl ether	7.93	106	53926	199.98	ppb	99
61)	Cis-1,3-Dichloropropene	8.07	75	758982	116.02	ppb	95
62)	Toluene	8.45	91	1957086	102.91	ppb	99
63)	Trans-1,3-Dichloropropene	8.70	75	719391	117.75	ppb	95
64)	1,1,2-TCA	8.89	97	473840	110.19	ppb	95
65)	2-Hexanone	9.20	43	304972	101.54	ppb	98
68)	1,2-EDB	9.43	107	515312	106.22	ppb	99
69)	Tetrachloroethene	9.06	166	523299	94.47	ppb	98
70)	1-Chlorohexane	10.00	91	498897	101.47	ppb	96
71)	1,1,1,2-Tetrachloroethane	10.09	131	583829	107.64	ppb	98
72)	m&p-Xylene	10.26	91	3551060	218.92	ppb	98
73)	o-Xylene	10.69	91	1946656	112.75	ppb	97
74)	Styrene	10.71	104	1611706	101.05	ppb	98
76)	1,3-Dichloropropane	9.07	76	759219	101.20	ppb	100
77)	Dibromochloromethane	9.32	129	631371	112.09	ppb	100
78)	Chlorobenzene	9.99	112	1427057	99.51	ppb	99
79)	Ethylbenzene	10.13	91	2265790	105.52	ppb	100
80)	Bromoform	10.88	173	517736	118.42	ppb	99
82)	Isopropylbenzene	11.11	105	2341115	104.33	ppb	99
83)	1,1,2,2-Tetrachloroethane	11.41	83	687956	96.27	ppb	98
84)	1,2,3-Trichloropropane	11.45	110	229718	95.29	ppb	94
85)	t-1,4-Dichloro-2-Butene	11.47	53	144930	116.74	ppb	87
86)	Bromobenzene	11.41	77	1205224	98.41	ppb	98
87)	n-Propylbenzene	11.56	91	2632990	107.89	ppb	99
88)	4-Ethyltoluene	11.68	105	2254712	107.22	ppb	98
89)	2-Chlorotoluene	11.64	91	1880411	100.30	ppb	98
90)	1,3,5-Trimethylbenzene	11.75	105	2041787	103.91	ppb	100
91)	4-Chlorotoluene	11.76	91	1953454	103.58	ppb	100
92)	Tert-Butylbenzene	12.11	119	2041371	104.24	ppb	100
93)	1,2,4-Trimethylbenzene	12.16	105	2100620	100.72	ppb	100
94)	Sec-Butylbenzene	12.35	105	2421016	112.05	ppb	100
95)	p-Isopropyltoluene	12.51	119	2099825	109.21	ppb	100
96)	Benzyl Chloride	12.69	91	729222	108.29	ppb	99
97)	1,3-DCB	12.45	146	1299940	101.29	ppb	99
98)	1,4-DCB	12.55	146	1306402	97.13	ppb	99
99)	n-Butylbenzene	12.96	91	1627991	101.61	ppb	99
100)	1,2-DCB	12.95	146	1305325	98.39	ppb	98
101)	Hexachloroethane	13.25	201	404099	100.37	ppb	87
102)	1,2-Dibromo-3-chloropropan	13.79	157	170994	100.63	ppb	98
103)	1,2,4-Trichlorobenzene	14.73	180	883580	108.81	ppb	100
104)	Hexachlorobutadiene	14.93	225	430491	102.90	ppb	93
105)	Naphthalene	14.99	127	122528	102.11	ppb	96
106)	1,2,3-Trichlorobenzene	15.26	180	823407	111.64	ppb	98

(#) = qualifier out of range (m) = manual integration

Data File : M:\THOR\DATA\T200121\0121T10.D Vial: 10
Acq On : 21 Jan 20 11:27 Operator:
Sample : 100ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 21 15:54 2020 Quant Results File: T0121W.RES

Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS
VOLATILE ORGANIC COMPOUNDS

Form 7

Second Source Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Date Analyzed: 01/21/20
Matrix: Instrument: Thor
Initial Cal. Date: 01/21/20
Data File: 0121T13.D

		Compound	MEAN	CCRF	%D	%Drift		
1	TM	Chlorotrifluoroethene	0.0354	0.0404	14	TM		
2	TM	Dichlorodifluoromethane	0.0741	0.0945	28	TM		* NT
3	TM	Freon 114	0.0777	0.0838	7.8	TM		
4	TM**L	Chloromethane	0.1164	0.1171	0.59	TM**L	18	
5	TM*	Vinyl chloride	0.0879	0.1010	15	TM*		
6	TM	2-Chloro-1,1,1-trifluoroethane	0.1095	0.1152	5.2	TM		
7	TML	Bromomethane	0.0976	0.0859	12	TML	16	
8	TML	Chloroethane	0.0684	0.0826	21	TML	42	* NT
9	TM	Dichlorofluoromethane	0.1693	0.1728	2.1	TM		
10	TM	Trichlorofluoromethane	0.1248	0.1346	7.8	TM		
11	TM	Diethyl ether	0.0000	0.0007	0.00	TM		
12	TM	1,2 Dichlorotrifluoroethane	0.0000	0.0003	0.00	TM		
13	TM	Acrolein	0.0103	0.0089	14	TM		
14	TML	Acetone	0.0219	0.0220	0.30	TML	28	* NT
15	TM	Freon-113	0.0685	0.0714	4.2	TM		
16	TM*	1,1-DCE	0.1113	0.1019	8.5	TM*		
17	TM	2-Propanol	0.0056	0.0058	2.8	TM		
18	TM	Acetonitrile	0.0030	0.0032	6.5	TM		
19	TM	t-Butanol	0.0037	0.0038	1.4	TM		
20	TM	Methyl Acetate	0.0790	0.0773	2.1	TM		
21	TMQ	Iodomethane	0.0411	0.0399	2.8	TMQ	14	
22	TM	Acrylonitrile	0.0302	0.0325	7.6	TM		
23	TM	Methylene chloride	0.1230	0.1180	4.1	TM		
24	TM	Carbon disulfide	0.2169	0.2386	10.0	TM		
25	TM	Methyl t-butyl ether (MtBE)	0.2728	0.2779	1.8	TM		
26	TM	Trans-1,2-DCE	0.1167	0.1089	6.7	TM		
27	TM	Hexane	0.0000	0.0004	0.00	TM		
28	TM	Diisopropyl Ether	0.2675	0.2723	1.8	TM		
29	TM**	2,2-Dichloro-1,1,1-trifluoroethane	0.0000	0.0001	0.00	TM**		
30	TM**	1,1-DCA	0.1588	0.1544	2.8	TM**		
31	TM	Vinyl Acetate	0.0538	0.0311	42	TM		* NT
32	TM	Ethyl tert Butyl Ether	0.2738	0.2731	0.25	TM		
33	TML	MEK (2-Butanone)	0.0524	0.0481	8.2	TML	9.2	
34	TM	Cis-1,2-DCE	0.1488	0.1377	7.4	TM		
35	TM	2,2-Dichloropropane	0.1318	0.1189	9.8	TM		
36	TM	2-Methylpentane	0.0000	0.0000	0.00	TM		
37	TM	3-Methylpentane	0.0000	0.0579	0.00	TM		
38	TM*	Chloroform	0.1865	0.1718	7.9	TM*		
39	TM	Bromochloromethane	0.0818	0.0745	8.9	TM		
40	TM	1,1,1-TCA	0.1477	0.1414	4.3	TM		
		Average			7.0			

VOLATILE ORGANIC ANALYSIS
VOLATILE ORGANIC COMPOUNDS

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 01/21/20
Instrument: Thor
Cal. Date: 01/21/20
Data File: 0121T13.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	Cyclohexane	0.1012	0.1063	5.0	TM	
42	TM	1,1-Dichloropropene	0.1077	0.1001	7.0	TM	
43	TM	2,2,4-Trimethylpentane	0.1955	0.1929	1.3	TM	
44	TM	Carbon Tetrachloride	0.1255	0.1168	6.9	TM	
45	TM	Tert Amyl Methyl Ether	0.2682	0.2721	1.4	TM	
46	TM	Methylcyclopentane	0.0000	0.0178	0.00	TM	
47	TM	1,2-DCA	0.1541	0.1409	8.6	TM	
48	TM	Benzene	0.3817	0.3591	5.9	TM	
49	TM	TCE	0.1123	0.1052	6.4	TM	
50	TM	2-Pentanone	0.0708	0.0744	5.1	TM	
51	TM*	1,2-Dichloropropane	0.0984	0.0903	8.3	TM*	
52	TM	Bromodichloromethane	0.1415	0.1322	6.6	TM	
53	TM	Methyl Cyclohexane	0.1097	0.1159	5.7	TM	
54	TM	Dibromomethane	0.0914	0.0844	7.6	TM	
55	TM	MIBK (methyl isobutyl ketone)	0.0901	0.0968	7.5	TM	
56	TM	1-Bromo-2-chloroethane	0.0717	0.0711	0.86	TM	
57	TMQ	2-Chloroethyl vinyl ether	0.0036	0.0037	3.1	TMQ	0.25
58	TM	Cis-1,3-Dichloropropene	0.1535	0.1402	8.7	TM	
59	TM*	Toluene	0.4463	0.4118	7.7	TM*	
60	TM	Trans-1,3-Dichloropropene	0.1434	0.1288	10	TM	
61	TM	1,1,2-TCA	0.1009	0.0913	9.5	TM	
62	TML	2-Hexanone	0.0536	0.0614	15	TML	5.8
63	TM	1,2-EDB	0.1323	0.1249	5.6	TM	
64	TM	Tetrachloroethene	0.1511	0.1489	1.5	TM	
65	TML	1-Chlorohexane	0.1322	0.1238	6.3	TML	2.4
66	TM	1,1,1,2-Tetrachloroethane	0.1479	0.1414	4.4	TM	
67	TM	m&p-Xylene	0.4424	0.4149	6.2	TM	
68	TM	o-Xylene	0.4709	0.4532	3.8	TM	
69	TML	Styrene	0.3461	0.3328	3.8	TML	11
70	TM	1,3-Dichloropropane	0.2046	0.1939	5.2	TM	
71	TM	Dibromochloromethane	0.1536	0.1412	8.1	TM	
72	TM**	Chlorobenzene	0.3911	0.3631	7.2	TM**	
73	TM*	Ethylbenzene	0.5856	0.5463	6.7	TM*	
74	TM**	Bromoform	0.1192	0.1127	5.5	TM**	
75	TM	Isopropylbenzene	0.9915	0.9395	5.2	TM	
76	TM**	1,1,2,2-Tetrachloroethane	0.3158	0.2957	6.4	TM**	
77	TM	1,2,3-Trichloropropane	0.1065	0.1070	0.46	TM	
78	TM	t-1,4-Dichloro-2-Butene	0.0549	0.0604	10	TM	
79	TM	Bromobenzene	0.5411	0.5060	6.5	TM	
80	TM	n-Propylbenzene	1.078	0.9937	7.8	TM	
		Average			6.0		

VOLATILE ORGANIC ANALYSIS
VOLATILE ORGANIC COMPOUNDS

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 01/21/20
Instrument: Thor
Cal. Date: 01/21/20
Data File: 0121T13.D

		Compound	MEAN	CCRF	%D		%Drift
81	TM	4-Ethyltoluene	0.9292	0.9320	0.30	TM	
82	TM	2-Chlorotoluene	0.8284	0.7905	4.6	TM	
83	TM	1,3,5-Trimethylbenzene	0.8683	0.8205	5.5	TM	
84	TM	4-Chlorotoluene	0.8334	0.7722	7.3	TM	
85	TM	Tert-Butylbenzene	0.8653	0.7832	9.5	TM	
86	TM	1,2,4-Trimethylbenzene	0.9216	0.8590	6.8	TM	
87	TM	Sec-Butylbenzene	0.9547	0.8770	8.1	TM	
88	TM	p-Isopropyltoluene	0.8496	0.8146	4.1	TM	
89	TM	Benzyl Chloride	0.2976	0.2866	3.7	TM	
90	TM	1,3-DCB	0.5671	0.5458	3.8	TM	
91	TM	1,4-DCB	0.5943	0.5412	8.9	TM	
92	TM	n-Butylbenzene	0.7079	0.7011	0.96	TM	
93	TM	1,2-DCB	0.5862	0.5406	7.8	TM	
94	TML	Hexachloroethane	0.1600	0.1689	5.6	TML	1.8
95	TML	1,2-Dibromo-3-chloropropane	0.0608	0.0633	4.0	TML	8.1
96	TM	1,2,4-Trichlorobenzene	0.3588	0.3475	3.1	TM	
97	TM	Hexachlorobutadiene	0.1849	0.1792	3.1	TM	
98	TML	Naphthalene	0.0448	0.0439	2.1	TML	0.03
99	TM	1,2,3-Trichlorobenzene	0.3259	0.3290	0.96	TM	
100							
101							
102							
103							
104							
105							
106							
107							
108							
109							
110							
111							
112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			4.7		

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0121T13.D Vial: 13
Acq On : 21 Jan 20 12:52 Operator:
Sample : (SS) 10ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 21 15:37 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene (IS)	6.51	96	1067609	25.00	ppb		0.00
66) Chlorobenzene-D5 (IS)	9.96	117	828210	25.00	ppb		0.00
81) 1,4-Dichlorobenzene-D (IS)	12.52	152	445896	25.00	ppb		0.00
System Monitoring Compounds							
41) Dibromofluoromethane(S)	5.66	111	344605	24.99	ppb		0.00
Spiked Amount 25.000			Recovery = 99.964%				
46) 1,2-DCA-D4(S)	6.07	65	368110	25.03	ppb		0.00
Spiked Amount 25.000			Recovery = 100.112%				
67) Toluene-D8(S)	8.37	98	1259404	25.76	ppb		0.00
Spiked Amount 25.000			Recovery = 103.044%				
75) 4-Bromofluorobenzene(S)	11.26	95	453005	24.48	ppb		0.00
Spiked Amount 25.000			Recovery = 97.928%				
Target Compounds							Qvalue
2) Chlorotrifluoroethene	1.14	116	172422	114.16	ppb		98
3) Dichlorodifluoromethane	1.17	85	40376	12.75	ppb		95
4) Freon 114	1.28	85	35797	10.78	ppb		95
5) Chloromethane	1.32	50	50005	11.85	ppb		98
6) Vinyl chloride	1.41	62	43111	11.48	ppb		100
7) 2-Chloro-1,1,1-trifluoroet	1.50	118	492101	105.22	ppb		99
8) Bromomethane	1.68	96	36688	11.59	ppb		99
9) Chloroethane	1.77	64	35257	14.19	ppb		95
10) Dichlorofluoromethane	1.98	67	73785	10.21	ppb		94
11) Trichlorofluoromethane	2.03	101	57463	10.78	ppb		91
14) Acrolein	2.44	56	47354	107.36	ppb		87
15) Acetone	2.62	43	9384	12.85	ppb		100
16) Freon-113	2.58	101	30498	10.42	ppb		96
17) 1,1-DCE	2.55	61	43509	9.15	ppb		91
18) 2-Propanol	2.85	45	24577	102.81	ppb		98
19) Acetonitrile	2.92	40	17189	133.09	ppb		92
20) t-Butanol	3.37	59	20304	126.81	ppb		96
21) Methyl Acetate	3.03	43	33024	9.79	ppb		92
22) Iodomethane	2.70	142	17037	8.57	ppb		89
23) Acrylonitrile	3.45	52	13867	10.76	ppb		87
24) Methylene chloride	3.12	49	50402	9.59	ppb		98
25) Carbon disulfide	2.76	76	101875	11.00	ppb		98
26) Methyl t-butyl ether (MtBE	3.55	73	118665	10.18	ppb		97
27) Trans-1,2-DCE	3.50	61	46499	9.33	ppb		98
29) Diisopropyl Ether	4.35	45	116305	10.18	ppb		100
31) 1,1-DCA	4.13	63	65919	9.72	ppb		97
32) Vinyl Acetate	4.29	43	13274	5.78	ppb		97
33) Ethyl tert Butyl Ether	4.89	59	116639	9.97	ppb		99
34) MEK (2-Butanone)	5.05	43	20539	10.92	ppb	#	86
35) Cis-1,2-DCE	5.00	61	58814	9.26	ppb		99
36) 2,2-Dichloropropane	4.99	77	50755	9.02	ppb		94
39) Chloroform	5.46	83	73371	9.21	ppb		95
40) Bromochloromethane	5.31	49	31819	9.11	ppb		96
42) 1,1,1-TCA	5.68	97	60402	9.57	ppb		98
43) Cyclohexane	5.75	56	45379	10.50	ppb		96
44) 1,1-Dichloropropene	5.90	75	42763	9.30	ppb		98
45) 2,2,4-Trimethylpentane	6.32	57	82394	9.87	ppb		100
47) Carbon Tetrachloride	5.89	117	49883	9.31	ppb		94
48) Tert Amyl Methyl Ether	6.36	73	116183	10.14	ppb		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0121T13.D Vial: 13
Acq On : 21 Jan 20 12:52 Operator:
Sample : (SS) 10ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 21 15:37 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
50)	1,2-DCA	6.17	62	60151	9.14	ppb		98
51)	Benzene	6.15	78	153346	9.41	ppb		96
52)	TCE	6.96	130	44922	9.36	ppb		96
53)	2-Pentanone	7.20	43	396934	131.37	ppb		99
54)	1,2-Dichloropropane	7.21	63	38545	9.17	ppb		98
55)	Bromodichloromethane	7.54	83	56455	9.34	ppb		98
56)	Methyl Cyclohexane	7.20	83	49488	10.57	ppb		95
57)	Dibromomethane	7.33	174	36058	9.24	ppb		97
58)	MIBK (methyl isobutyl ket	8.27	43	41344	10.75	ppb		93
59)	1-Bromo-2-chloroethane	7.88	63	30368	9.91	ppb		91
60)	2-Chloroethyl vinyl ether	7.93	106	7872	49.88	ppb	#	97
61)	Cis-1,3-Dichloropropene	8.07	75	59891	9.13	ppb		94
62)	Toluene	8.45	91	175841	9.23	ppb		100
63)	Trans-1,3-Dichloropropene	8.70	75	55017	8.99	ppb		95
64)	1,1,2-TCA	8.89	97	38988	9.05	ppb		95
65)	2-Hexanone	9.20	43	26237	10.58	ppb		95
68)	1,2-EDB	9.43	107	41386	9.44	ppb		99
69)	Tetrachloroethene	9.06	166	49322	9.85	ppb		98
70)	1-Chlorohexane	10.00	91	41005	10.24	ppb		97
71)	1,1,1,2-Tetrachloroethane	10.09	131	46854	9.56	ppb		96
72)	m&p-Xylene	10.26	91	274917	18.76	ppb		98
73)	o-Xylene	10.69	91	150137	9.62	ppb		95
74)	Styrene	10.70	104	110257	8.92	ppb		99
76)	1,3-Dichloropropane	9.07	76	64251	9.48	ppb		99
77)	Dibromochloromethane	9.31	129	46781	9.19	ppb		97
78)	Chlorobenzene	9.99	112	120304	9.28	ppb		100
79)	Ethylbenzene	10.13	91	180995	9.33	ppb		99
80)	Bromoform	10.88	173	37319	9.45	ppb		92
82)	Isopropylbenzene	11.11	105	167569	9.48	ppb		100
83)	1,1,2,2-Tetrachloroethane	11.41	83	52732	9.36	ppb		98
84)	1,2,3-Trichloropropane	11.45	110	19087	10.05	ppb		95
85)	t-1,4-Dichloro-2-Butene	11.47	53	10780	11.02	ppb		96
86)	Bromobenzene	11.41	77	90254	9.35	ppb		98
87)	n-Propylbenzene	11.56	91	177237	9.22	ppb		100
88)	4-Ethyltoluene	11.68	105	166224	10.03	ppb		95
89)	2-Chlorotoluene	11.64	91	140984	9.54	ppb		99
90)	1,3,5-Trimethylbenzene	11.75	105	146347	9.45	ppb		97
91)	4-Chlorotoluene	11.76	91	137727	9.27	ppb		97
92)	Tert-Butylbenzene	12.11	119	139691	9.05	ppb		100
93)	1,2,4-Trimethylbenzene	12.16	105	153203	9.32	ppb		96
94)	Sec-Butylbenzene	12.35	105	156423	9.19	ppb		100
95)	p-Isopropyltoluene	12.51	119	145296	9.59	ppb		99
96)	Benzyl Chloride	12.69	91	51120	9.63	ppb		98
97)	1,3-DCB	12.45	146	97349	9.62	ppb		97
98)	1,4-DCB	12.55	146	96531	9.11	ppb		97
99)	n-Butylbenzene	12.96	91	125046	9.90	ppb		100
100)	1,2-DCB	12.95	146	96418	9.22	ppb		99
101)	Hexachloroethane	13.25	201	30127	9.82	ppb		96
102)	1,2-Dibromo-3-chloropropan	13.79	157	11285	9.19	ppb		96
103)	1,2,4-Trichlorobenzene	14.73	180	61981	9.69	ppb		98
104)	Hexachlorobutadiene	14.93	225	31956	9.69	ppb		94
105)	Naphthalene	14.99	127	7826	10.00	ppb		87
106)	1,2,3-Trichlorobenzene	15.26	180	58683	10.10	ppb		98

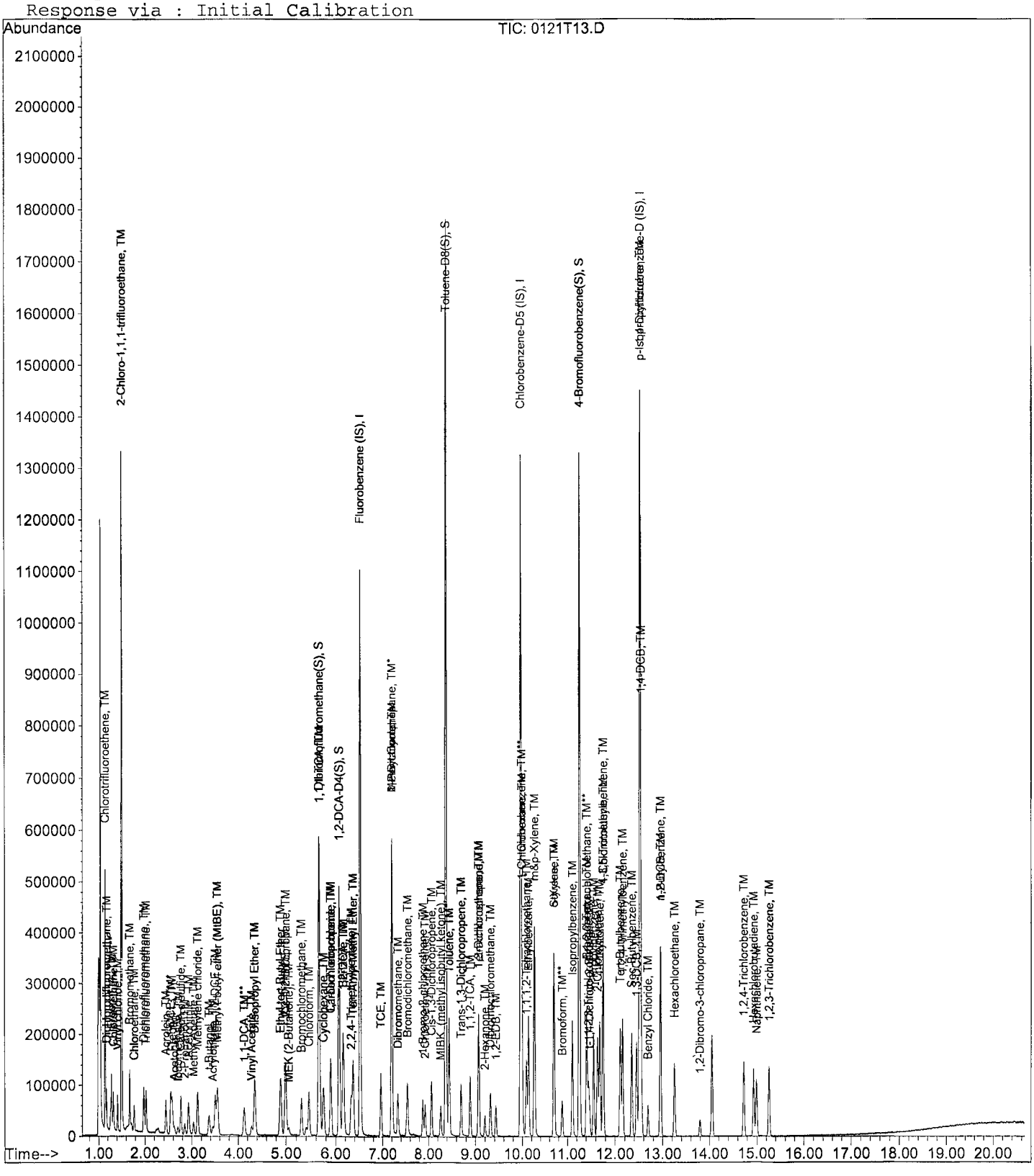
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0121T13.D Vial: 13
Acq On : 21 Jan 20 12:52 Operator:
Sample : (SS) 10ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 21 15:37 2020 Quant Results File: T0121W.RES

Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS
VOLATILE ORGANIC COMPOUNDS

Form 7

Continuing Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Date Analyzed: 01/24/20
Matrix: Instrument: Thor
Initial Cal. Date: 01/21/20
Data File: 0124t05.D

		Compound	MEAN	CCRF	%D		%Drift	
1	I	Fluorobenzene (IS)	ISTD			I		
2	TM	Dichlorodifluoromethane	0.0741	0.0606	18	TM		
3	TM	Freon 114	0.0777	0.0681	12	TM		
4	TM**L	Chloromethane	0.1164	0.0935	20	TM**L	8.0	
5	TM*	Vinyl chloride	0.0879	0.0743	15	TM*		
6	TML	Bromomethane	0.0976	0.0619	37	TML	19	
7	TML	Chloroethane	0.0684	0.0528	23	TML	10	
8	TM	Dichlorofluoromethane	0.1693	0.1614	4.6	TM		
9	TM	Trichlorofluoromethane	0.1248	0.1206	3.4	TM		
10	TM	1,2 Dichlorotrifluoroethane	0.0000	0.0005	0.00	TM		
11	TM	Acrolein	0.0103	0.0093	10	TM		
12	TML	Acetone	0.0219	0.0203	7.5	TML	16	
13	TM	Freon-113	0.0685	0.0691	0.76	TM		
14	TM*	1,1-DCE	0.1113	0.1019	8.5	TM*		
15	TM	2-Propanol	0.0056	0.0000	99	TM		* NT
16	TM	Acetonitrile	0.0030	0.0031	0.91	TM		
17	TM	t-Butanol	0.0037	0.0042	11	TM		
18	TM	Methyl Acetate	0.0790	0.0757	4.1	TM		
19	TMQ	Iodomethane	0.0411	0.0319	22	TMQ	26	* NT
20	TM	Acrylonitrile	0.0302	0.0327	8.4	TM		
21	TM	Methylene chloride	0.1230	0.1222	0.68	TM		
22	TM	Carbon disulfide	0.2169	0.1794	17	TM		
23	TM	Methyl t-butyl ether (MtBE)	0.2728	0.2612	4.3	TM		
24	TM	Trans-1,2-DCE	0.1167	0.1057	9.5	TM		
25	TM	Hexane	0.0000	0.0001	0.00	TM		
26	TM	Diisopropyl Ether	0.2675	0.2694	0.72	TM		
27	TM**	1,1-DCA	0.1588	0.1559	1.8	TM**		
28	TM	Vinyl Acetate	0.0538	0.0647	20	TM		
29	TM	Ethyl tert Butyl Ether	0.2738	0.2691	1.7	TM		
30	TML	MEK (2-Butanone)	0.0524	0.0448	14	TML	1.8	
31	TM	Cis-1,2-DCE	0.1488	0.1472	1.1	TM		
32	TM	2,2-Dichloropropane	0.1318	0.1353	2.7	TM		
33	TM	2-Methylpentane	0.0000	0.0001	0.00	TM		
34	TM	3-Methylpentane	0.0000	0.0571	0.00	TM		
35	TM*	Chloroform	0.1865	0.1832	1.7	TM*		
36	TM	Bromochloromethane	0.0818	0.0833	1.9	TM		
37	SL	Dibromofluoromethane(S)	0.3715	0.3104	16	SL	4.6	
38	TM	1,1,1-TCA	0.1477	0.1472	0.40	TM		
39	TM	Cyclohexane	0.1012	0.0939	7.3	TM		
40	TM	1,1-Dichloropropene	0.1077	0.1057	1.8	TM		
		Average			10.5			

VOLATILE ORGANIC ANALYSIS
VOLATILE ORGANIC COMPOUNDS

Form 7

Continuing Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Date Analyzed: 01/24/20
Matrix: 0 Instrument: Thor
Cal. Date: 01/21/20
Data File: 0124t05.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	2,2,4-Trimethylpentane	0.1955	0.1987	1.6	TM	
42	SL	1,2-DCA-D4(S)	0.3991	0.3360	16	SL	3.0
43	TM	Carbon Tetrachloride	0.1255	0.1253	0.15	TM	
44	TM	Tert Amyl Methyl Ether	0.2682	0.2658	0.92	TM	
45	TM	Methylcyclopentane	0.0000	0.0177	0.00	TM	
46	TM	1,2-DCA	0.1541	0.1500	2.7	TM	
47	TM	Benzene	0.3817	0.3747	1.8	TM	
48	TM	TCE	0.1123	0.1097	2.4	TM	
49	TM	2-Pentanone	0.0708	0.0736	4.0	TM	
50	TM*	1,2-Dichloropropane	0.0984	0.1004	2.0	TM*	
51	TM	Bromodichloromethane	0.1415	0.1450	2.4	TM	
52	TM	Methyl Cyclohexane	0.1097	0.1056	3.7	TM	
53	TM	Dibromomethane	0.0914	0.0898	1.8	TM	
54	TM	MIBK (methyl isobutyl ketone)	0.0901	0.0886	1.6	TM	
55	TM	1-Bromo-2-chloroethane	0.0717	0.0768	7.1	TM	
56	TMQ	2-Chloroethyl vinyl ether	0.0036	0.0028	21	TMQ	18
57	TM	Cis-1,3-Dichloropropene	0.1535	0.1601	4.2	TM	
58	TM*	Toluene	0.4463	0.4417	1.0	TM*	
59	TM	Trans-1,3-Dichloropropene	0.1434	0.1493	4.1	TM	
60	TM	1,1,2-TCA	0.1009	0.1021	1.1	TM	
61	TML	2-Hexanone	0.0536	0.0555	3.5	TML	2.5
62	I	Chlorobenzene-D5 (IS)	ISTD			I	
63	SL	Toluene-D8(S)	1.712	1.505	12	SL	1.7
64	TM	1,2-EDB	0.1323	0.1383	4.5	TM	
65	TM	Tetrachloroethene	0.1511	0.1585	4.9	TM	
66	TML	1-Chlorohexane	0.1322	0.1180	11	TML	1.8
67	TM	1,1,1,2-Tetrachloroethane	0.1479	0.1561	5.5	TM	
68	TM	m&p-Xylene	0.4424	0.4515	2.1	TM	
69	TM	o-Xylene	0.4709	0.4839	2.8	TM	
70	TML	Styrene	0.3461	0.3524	1.8	TML	6.3
71	SL	4-Bromofluorobenzene(S)	0.6137	0.5311	13	SL	5.1
72	TM	1,3-Dichloropropane	0.2046	0.2206	7.8	TM	
73	TM	Dibromochloromethane	0.1536	0.1654	7.6	TM	
74	TM**	Chlorobenzene	0.3911	0.3959	1.2	TM**	
75	TM*	Ethylbenzene	0.5856	0.5919	1.1	TM*	
76	TM**	Bromoform	0.1192	0.1238	3.8	TM**	
77	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
78	TM	Isopropylbenzene	0.9915	1.055	6.4	TM	
79	TM**	1,1,2,2-Tetrachloroethane	0.3158	0.3601	14	TM**	
80	TM	1,2,3-Trichloropropane	0.1065	0.1164	9.3	TM	
		Average			5.0		

VOLATILE ORGANIC ANALYSIS
VOLATILE ORGANIC COMPOUNDS

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 01/24/20
Instrument: Thor
Cal. Date: 01/21/20
Data File: 0124t05.D

		Compound	MEAN	CCRF	%D		%Drift
81	TM	t-1,4-Dichloro-2-Butene	0.0549	0.0647	18	TM	
82	TM	Bromobenzene	0.5411	0.5733	6.0	TM	
83	TM	n-Propylbenzene	1.078	1.124	4.2	TM	
84	TM	4-Ethyltoluene	0.9292	0.9554	2.8	TM	
85	TM	2-Chlorotoluene	0.8284	0.8747	5.6	TM	
86	TM	1,3,5-Trimethylbenzene	0.8683	0.9266	6.7	TM	
87	TM	4-Chlorotoluene	0.8334	0.8860	6.3	TM	
88	TM	Tert-Butylbenzene	0.8653	0.8810	1.8	TM	
89	TM	1,2,4-Trimethylbenzene	0.9216	0.9567	3.8	TM	
90	TM	Sec-Butylbenzene	0.9547	1.006	5.4	TM	
91	TM	p-Isopropyltoluene	0.8496	0.9125	7.4	TM	
92	TM	Benzyl Chloride	0.2976	0.3176	6.7	TM	
93	TM	1,3-DCB	0.5671	0.6087	7.3	TM	
94	TM	1,4-DCB	0.5943	0.6021	1.3	TM	
95	TM	n-Butylbenzene	0.7079	0.7960	12	TM	
96	TM	1,2-DCB	0.5862	0.6073	3.6	TM	
97	TML	Hexachloroethane	0.1600	0.1750	9.4	TML	1.6
98	TML	1,2-Dibromo-3-chloropropane	0.0608	0.0742	22	TML	6.4
99	TM	1,2,4-Trichlorobenzene	0.3588	0.4017	12	TM	
100	TM	Hexachlorobutadiene	0.1849	0.2133	15	TM	
101	TML	Naphthalene	0.0448	0.0519	16	TML	15
102	TM	1,2,3-Trichlorobenzene	0.3259	0.3853	18	TM	
103							
104							
105							
106							
107							
108							
109							
110							
111							
112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			8.7		

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0124t05.D Vial: 5
Acq On : 24 Jan 20 12:26 Operator:
Sample : 200124A CCV/LCS 10ug/L Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 13:05 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene (IS)	6.51	96	1041843	25.00	ppb		0.00
66) Chlorobenzene-D5 (IS)	9.96	117	814650	25.00	ppb		0.00
81) 1,4-Dichlorobenzene-D (IS)	12.52	152	427679	25.00	ppb		0.00
System Monitoring Compounds							
41) Dibromofluoromethane(S)	5.66	111	323395	23.85	ppb		0.00
Spiked Amount 25.000			Recovery = 95.412%				
46) 1,2-DCA-D4(S)	6.07	65	350095	24.26	ppb		0.00
Spiked Amount 25.000			Recovery = 97.040%				
67) Toluene-D8(S)	8.37	98	1225811	25.43	ppb		0.00
Spiked Amount 25.000			Recovery = 101.724%				
75) 4-Bromofluorobenzene(S)	11.25	95	432679	23.71	ppb		0.00
Spiked Amount 25.000			Recovery = 94.852%				
Target Compounds							Qvalue
3) Dichlorodifluoromethane	1.17	85	25256	8.17	ppb		96
4) Freon 114	1.28	85	28362	8.76	ppb		98
5) Chloromethane	1.32	50	38961	9.20	ppb		93
6) Vinyl chloride	1.41	62	30969	8.45	ppb		100
8) Bromomethane	1.68	96	25816	8.07	ppb		100
9) Chloroethane	1.78	64	21993	8.98	ppb		92
10) Dichlorofluoromethane	1.98	67	67282	9.54	ppb		100
11) Trichlorofluoromethane	2.03	101	50256	9.66	ppb		95
14) Acrolein	2.44	56	48350	112.33	ppb		98
15) Acetone	2.62	43	8445	11.59	ppb		96
16) Freon-113	2.58	101	28777	10.08	ppb		90
17) 1,1-DCE	2.55	61	42459	9.15	ppb		95
18) 2-Propanol	2.85	45	165	0.71	ppb	#	1
19) Acetonitrile	2.92	40	15898	126.14	ppb		82
20) t-Butanol	3.36	59	21648	138.54	ppb		98
21) Methyl Acetate	3.03	43	31551	9.59	ppb		94
22) Iodomethane	2.70	142	13314	7.37	ppb		89
23) Acrylonitrile	3.44	52	13635	10.84	ppb		89
24) Methylene chloride	3.12	49	50927	9.93	ppb		95
25) Carbon disulfide	2.77	76	74762	8.27	ppb		99
26) Methyl t-butyl ether (MtBE	3.55	73	108833	9.57	ppb		95
27) Trans-1,2-DCE	3.50	61	44031	9.05	ppb		95
29) Diisopropyl Ether	4.35	45	112265	10.07	ppb		98
31) 1,1-DCA	4.13	63	64959	9.82	ppb		97
32) Vinyl Acetate	4.29	43	26968	12.02	ppb		97
33) Ethyl tert Butyl Ether	4.89	59	112123	9.83	ppb		100
34) MEK (2-Butanone)	5.05	43	18678	10.18	ppb		98
35) Cis-1,2-DCE	4.99	61	61343	9.89	ppb		98
36) 2,2-Dichloropropane	4.99	77	56400	10.27	ppb		97
39) Chloroform	5.46	83	76364	9.83	ppb		95
40) Bromochloromethane	5.31	49	34709	10.19	ppb		88
42) 1,1,1-TCA	5.68	97	61324	9.96	ppb		99
43) Cyclohexane	5.75	56	39126	9.27	ppb		98
44) 1,1-Dichloropropene	5.90	75	44044	9.82	ppb		98
45) 2,2,4-Trimethylpentane	6.32	57	82809	10.16	ppb		100
47) Carbon Tetrachloride	5.90	117	52212	9.98	ppb		96
48) Tert Amyl Methyl Ether	6.36	73	110753	9.91	ppb		96
50) 1,2-DCA	6.17	62	62528	9.73	ppb		97
51) Benzene	6.15	78	156142	9.82	ppb		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0124t05.D Vial: 5
Acq On : 24 Jan 20 12:26 Operator:
Sample : 200124A CCV/LCS 10ug/L Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 13:05 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

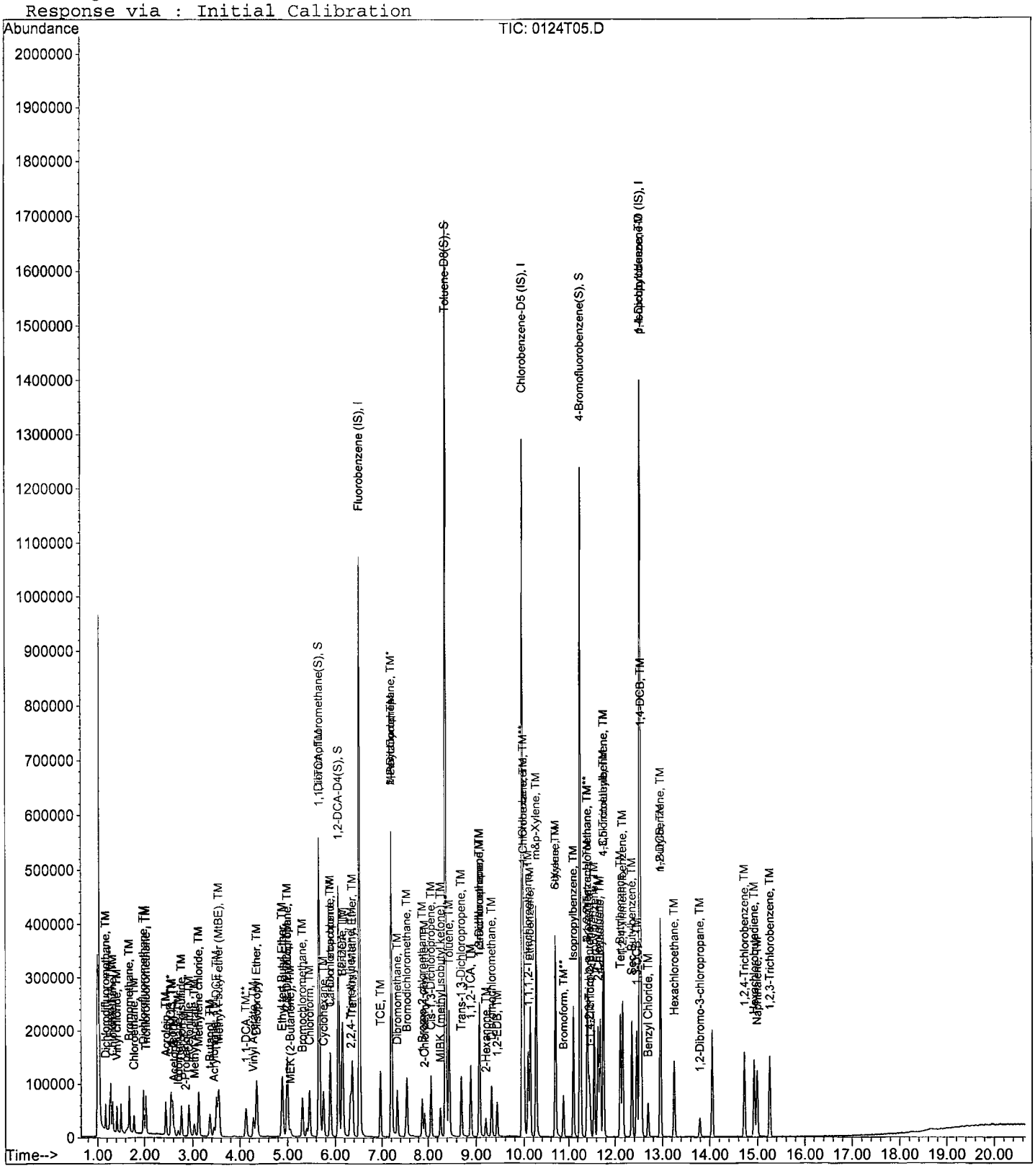
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
52)	TCE	6.96	130	45700	9.76	ppb	96
53)	2-Pentanone	7.20	43	383196	129.96	ppb	100
54)	1,2-Dichloropropane	7.21	63	41835	10.20	ppb	99
55)	Bromodichloromethane	7.54	83	60412	10.24	ppb	99
56)	Methyl Cyclohexane	7.20	83	44000	9.63	ppb	97
57)	Dibromomethane	7.33	174	37403	9.82	ppb	89
58)	MIBK (methyl isobutyl ket	8.26	43	36928	9.84	ppb	94
59)	1-Bromo-2-chloroethane	7.88	63	32016	10.71	ppb	97
60)	2-Chloroethyl vinyl ether	7.93	106	5886	41.10	ppb	99
61)	Cis-1,3-Dichloropropene	8.07	75	66700	10.42	ppb	95
62)	Toluene	8.45	91	184084	9.90	ppb	97
63)	Trans-1,3-Dichloropropene	8.69	75	62229	10.41	ppb	95
64)	1,1,2-TCA	8.89	97	42541	10.11	ppb	90
65)	2-Hexanone	9.20	43	23115	9.75	ppb	92
68)	1,2-EDB	9.43	107	45072	10.45	ppb	99
69)	Tetrachloroethene	9.06	166	51655	10.49	ppb	99
70)	1-Chlorohexane	10.00	91	38454	9.82	ppb	97
71)	1,1,1,2-Tetrachloroethane	10.09	131	50877	10.55	ppb	95
72)	m&p-Xylene	10.26	91	294249	20.41	ppb	98
73)	o-Xylene	10.69	91	157688	10.28	ppb	98
74)	Styrene	10.70	104	114845	9.37	ppb	99
76)	1,3-Dichloropropane	9.07	76	71876	10.78	ppb	97
77)	Dibromochloromethane	9.31	129	53887	10.76	ppb	99
78)	Chlorobenzene	9.99	112	129003	10.12	ppb	99
79)	Ethylbenzene	10.13	91	192878	10.11	ppb	99
80)	Bromoform	10.88	173	40340	10.38	ppb	95
82)	Isopropylbenzene	11.11	105	180440	10.64	ppb	97
83)	1,1,2,2-Tetrachloroethane	11.40	83	61598	11.40	ppb	96
84)	1,2,3-Trichloropropane	11.45	110	19909	10.93	ppb	94
85)	t-1,4-Dichloro-2-Butene	11.47	53	11075	11.80	ppb	97
86)	Bromobenzene	11.41	77	98082	10.60	ppb	99
87)	n-Propylbenzene	11.56	91	192305	10.42	ppb	96
88)	4-Ethyltoluene	11.68	105	163447	10.28	ppb	98
89)	2-Chlorotoluene	11.64	91	149630	10.56	ppb	99
90)	1,3,5-Trimethylbenzene	11.75	105	158507	10.67	ppb	99
91)	4-Chlorotoluene	11.76	91	151561	10.63	ppb	100
92)	Tert-Butylbenzene	12.11	119	150717	10.18	ppb	100
93)	1,2,4-Trimethylbenzene	12.16	105	163666	10.38	ppb	99
94)	Sec-Butylbenzene	12.35	105	172179	10.54	ppb	99
95)	p-Isopropyltoluene	12.51	119	156101	10.74	ppb	100
96)	Benzyl Chloride	12.69	91	54330	10.67	ppb	99
97)	1,3-DCB	12.45	146	104126	10.73	ppb	99
98)	1,4-DCB	12.55	146	103010	10.13	ppb	98
99)	n-Butylbenzene	12.96	91	136177	11.24	ppb	100
100)	1,2-DCB	12.95	146	103894	10.36	ppb	98
101)	Hexachloroethane	13.25	201	29943	10.16	ppb	94
102)	1,2-Dibromo-3-chloropropan	13.79	157	12693	10.64	ppb	99
103)	1,2,4-Trichlorobenzene	14.72	180	68721	11.20	ppb	96
104)	Hexachlorobutadiene	14.93	225	36493	11.54	ppb	98
105)	Naphthalene	14.99	127	8884	11.49	ppb	80
106)	1,2,3-Trichlorobenzene	15.26	180	65914	11.82	ppb	95

(#) = qualifier out of range (m) = manual integration

Data File : M:\THOR\DATA\T200121\0124t05.D Vial: 5
Acq On : 24 Jan 20 12:26 Operator:
Sample : 200124A CCV/LCS 10ug/L Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 13:05 2020 Quant Results File: T0121W.RES

Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS
VOLATILE ORGANIC COMPOUNDS

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Date Analyzed: 01/24/20
Matrix: Instrument: Thor
Initial Cal. Date: 01/21/20
Data File: 0124t28.D

		Compound	MEAN	CCRF	%D		%Drift	
1	I	Fluorobenzene (IS)	ISTD			I		
2	TM	Dichlorodifluoromethane	0.0741	0.0582	22	TM		
3	TM	Freon 114	0.0777	0.0576	26	TM		
4	TM**L	Chloromethane	0.1164	0.0906	22	TM**L	11	
5	TM*	Vinyl chloride	0.0879	0.0747	15	TM*		
6	TM	2-Chloro-1,1,1-trifluoroethane	0.1095	0.0000	100	TM		* NT
7	TML	Bromomethane	0.0976	0.0713	27	TML	5.5	
8	TML	Chloroethane	0.0684	0.0550	20	TML	6.3	
9	TM	Dichlorofluoromethane	0.1693	0.1631	3.6	TM		
10	TM	Trichlorofluoromethane	0.1248	0.1134	9.2	TM		
11	TM	Diethyl ether	0.0000	0.0001	0.00	TM		
12	TM	1,2 Dichlorotrifluoroethane	0.0000	0.0001	0.00	TM		
13	TM	Acrolein	0.0103	0.0083	20	TM		
14	TML	Acetone	0.0219	0.0181	17	TML	0.22	
15	TM	Freon-113	0.0685	0.0632	7.8	TM		
16	TM*	1,1-DCE	0.1113	0.1003	9.9	TM*		
17	TM	2-Propanol	0.0056	0.0001	99	TM		* NT
18	TM	Acetonitrile	0.0030	0.0032	7.4	TM		
19	TM	t-Butanol	0.0037	0.0037	1.5	TM		
20	TM	Methyl Acetate	0.0790	0.0714	9.7	TM		
21	TMQ	Iodomethane	0.0411	0.0193	53	TMQ	46	
22	TM	Acrylonitrile	0.0302	0.0292	3.4	TM		
23	TM	Methylene chloride	0.1230	0.1186	3.6	TM		
24	TM	Carbon disulfide	0.2169	0.1774	18	TM		
25	TM	Methyl t-butyl ether (MtBE)	0.2728	0.2559	6.2	TM		
26	TM	Trans-1,2-DCE	0.1167	0.1056	9.5	TM		
27	TM	Hexane	0.0000	0.0005	0.00	TM		
28	TM	Diisopropyl Ether	0.2675	0.2527	5.5	TM		
29	TM**	1,1-DCA	0.1588	0.1514	4.7	TM**		
30	TM	Vinyl Acetate	0.0538	0.0320	40	TM		
31	TM	Ethyl tert Butyl Ether	0.2738	0.2533	7.5	TM		
32	TML	MEK (2-Butanone)	0.0524	0.0411	22	TML	6.6	
33	TM	Cis-1,2-DCE	0.1488	0.1375	7.6	TM		
34	TM	2,2-Dichloropropane	0.1318	0.1015	23	TM		
35	TM	2-Methylpentane	0.0000	0.0001	0.00	TM		
36	TM	3-Methylpentane	0.0000	0.0550	0.00	TM		
37	TM*	Chloroform	0.1865	0.1772	5.0	TM*		
38	TM	Bromochloromethane	0.0818	0.0795	2.8	TM		
39	SL	Dibromofluoromethane(S)	0.3715	0.3253	12	SL	0.89	
40	TM	1,1,1-TCA	0.1477	0.1426	3.5	TM		
		Average			16.5			

VOLATILE ORGANIC ANALYSIS
VOLATILE ORGANIC COMPOUNDS

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 01/24/20
Instrument: Thor
Cal. Date: 01/21/20
Data File: 0124t28.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	Cyclohexane	0.1012	0.0874	14	TM	
42	TM	1,1-Dichloropropene	0.1077	0.1008	6.4	TM	
43	TM	2,2,4-Trimethylpentane	0.1955	0.1542	21	TM	
44	SL	1,2-DCA-D4(S)	0.3991	0.3424	14	SL	0.71
45	TM	Carbon Tetrachloride	0.1255	0.1217	3.0	TM	
46	TM	Tert Amyl Methyl Ether	0.2682	0.2540	5.3	TM	
47	TM	Methylcyclopentane	0.0000	0.0178	0.00	TM	
48	TM	1,2-DCA	0.1541	0.1437	6.8	TM	
49	TM	Benzene	0.3817	0.3655	4.3	TM	
50	TM	TCE	0.1123	0.1140	1.5	TM	
51	TM	2-Pentanone	0.0708	0.0699	1.2	TM	
52	TM*	1,2-Dichloropropane	0.0984	0.0993	0.93	TM*	
53	TM	Bromodichloromethane	0.1415	0.1435	1.4	TM	
54	TM	Methyl Cyclohexane	0.1097	0.0962	12	TM	
55	TM	Dibromomethane	0.0914	0.0883	3.4	TM	
56	TM	MIBK (methyl isobutyl ketone)	0.0901	0.0852	5.4	TM	
57	TM	1-Bromo-2-chloroethane	0.0717	0.0719	0.30	TM	
58	TMQ	2-Chloroethyl vinyl ether	0.0036	0.0022	38	TMQ	31
59	TM	Cis-1,3-Dichloropropene	0.1535	0.1428	7.0	TM	
60	TM*	Toluene	0.4463	0.4321	3.2	TM*	
61	TM	Trans-1,3-Dichloropropene	0.1434	0.1299	9.4	TM	
62	TM	1,1,2-TCA	0.1009	0.1057	4.8	TM	
63	TML	2-Hexanone	0.0536	0.0528	1.5	TML	6.2
64	I	Chlorobenzene-D5 (IS)	ISTD			I	
65	SL	Toluene-D8(S)	1.712	1.509	12	SL	2.0
66	TM	1,2-EDB	0.1323	0.1309	1.1	TM	
67	TM	Tetrachloroethene	0.1511	0.1418	6.1	TM	
68	TML	1-Chlorohexane	0.1322	0.1083	18	TML	9.0
69	TM	1,1,1,2-Tetrachloroethane	0.1479	0.1447	2.2	TM	
70	TM	m&p-Xylene	0.4424	0.4215	4.7	TM	
71	TM	o-Xylene	0.4709	0.4499	4.5	TM	
72	TML	Styrene	0.3461	0.3351	3.2	TML	10
73	SL	4-Bromofluorobenzene(S)	0.6137	0.5501	10	SL	1.5
74	TM	1,3-Dichloropropane	0.2046	0.2077	1.5	TM	
75	TM	Dibromochloromethane	0.1536	0.1538	0.14	TM	
76	TM**	Chlorobenzene	0.3911	0.3778	3.4	TM**	
77	TM*	Ethylbenzene	0.5856	0.5615	4.1	TM*	
78	TM**	Bromoform	0.1192	0.1207	1.2	TM**	
79	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
80	TM	Isopropylbenzene	0.9915	0.9434	4.9	TM	
		Average			6.4		

VOLATILE ORGANIC ANALYSIS
VOLATILE ORGANIC COMPOUNDS

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 01/24/20
Instrument: Thor
Cal. Date: 01/21/20
Data File: 0124t28.D

		Compound	MEAN	CCRF	%D		%Drift
81	TM**	1,1,2,2-Tetrachloroethane	0.3158	0.2905	8.0	TM**	
82	TM	1,2,3-Trichloropropane	0.1065	0.1044	2.0	TM	
83	TM	t-1,4-Dichloro-2-Butene	0.0549	0.0514	6.3	TM	
84	TM	Bromobenzene	0.5411	0.5360	0.94	TM	
85	TM	n-Propylbenzene	1.078	1.029	4.5	TM	
86	TM	4-Ethyltoluene	0.9292	0.8725	6.1	TM	
87	TM	2-Chlorotoluene	0.8284	0.7761	6.3	TM	
88	TM	1,3,5-Trimethylbenzene	0.8683	0.8523	1.8	TM	
89	TM	4-Chlorotoluene	0.8334	0.8065	3.2	TM	
90	TM	Tert-Butylbenzene	0.8653	0.8123	6.1	TM	
91	TM	1,2,4-Trimethylbenzene	0.9216	0.8420	8.6	TM	
92	TM	Sec-Butylbenzene	0.9547	0.9142	4.2	TM	
93	TM	p-Isopropyltoluene	0.8496	0.8030	5.5	TM	
94	TM	Benzyl Chloride	0.2976	0.1986	33	TM	
95	TM	1,3-DCB	0.5671	0.5395	4.9	TM	
96	TM	1,4-DCB	0.5943	0.5496	7.5	TM	
97	TM	n-Butylbenzene	0.7079	0.6403	9.6	TM	
98	TM	1,2-DCB	0.5862	0.5591	4.6	TM	
99	TML	Hexachloroethane	0.1600	0.1652	3.3	TML	3.9
100	TML	1,2-Dibromo-3-chloropropane	0.0608	0.0696	15	TML	0.35
101	TM	1,2,4-Trichlorobenzene	0.3588	0.3190	11	TM	
102	TM	Hexachlorobutadiene	0.1849	0.1826	1.2	TM	
103	TML	Naphthalene	0.0448	0.0383	15	TML	10
104	TM	1,2,3-Trichlorobenzene	0.3259	0.2987	8.3	TM	
105							
106							
107							
108							
109							
110							
111							
112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			7.4		

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0124t28.D Vial: 28
Acq On : 24 Jan 20 23:18 Operator:
Sample : Ending CCV 10ug/L 1/24/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 6:36 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene (IS)	6.51	96	986309	25.00	ppb		0.00
66) Chlorobenzene-D5 (IS)	9.96	117	781288	25.00	ppb		0.00
81) 1,4-Dichlorobenzene-D (IS)	12.52	152	431779	25.00	ppb		0.00
System Monitoring Compounds							
41) Dibromofluoromethane(S)	5.66	111	320836	25.22	ppb		0.00
Spiked Amount 25.000			Recovery = 100.888%				
46) 1,2-DCA-D4(S)	6.07	65	337755	24.82	ppb		0.00
Spiked Amount 25.000			Recovery = 99.288%				
67) Toluene-D8(S)	8.37	98	1178614	25.51	ppb		0.00
Spiked Amount 25.000			Recovery = 102.044%				
75) 4-Bromofluorobenzene(S)	11.25	95	429780	24.63	ppb		0.00
Spiked Amount 25.000			Recovery = 98.532%				
Target Compounds							Qvalue
3) Dichlorodifluoromethane	1.17	85	22944	7.84	ppb		93
4) Freon 114	1.28	85	22722	7.41	ppb		97
5) Chloromethane	1.32	50	35761	8.88	ppb		99
6) Vinyl chloride	1.41	62	29465	8.49	ppb		99
7) 2-Chloro-1,1,1-trifluoroet	1.58	118	19	0.00	ppb	#	30
8) Bromomethane	1.68	96	28136	9.45	ppb		95
9) Chloroethane	1.78	64	21695	9.37	ppb		95
10) Dichlorofluoromethane	1.98	67	64359	9.64	ppb		99
11) Trichlorofluoromethane	2.03	101	44721	9.08	ppb		90
14) Acrolein	2.44	56	40933	100.45	ppb		89
15) Acetone	2.62	43	7156	10.02	ppb		89
16) Freon-113	2.58	101	24931	9.22	ppb		96
17) 1,1-DCE	2.55	61	39555	9.01	ppb		95
18) 2-Propanol	2.84	45	306	1.39	ppb	#	47
19) Acetonitrile	2.92	40	16011	134.19	ppb		94
20) t-Butanol	3.36	59	18208	123.09	ppb		99
21) Methyl Acetate	3.03	43	28152	9.03	ppb		99
22) Iodomethane	2.70	142	7627	5.43	ppb	#	87
23) Acrylonitrile	3.45	52	11509	9.66	ppb		96
24) Methylene chloride	3.12	49	46784	9.64	ppb		97
25) Carbon disulfide	2.77	76	69982	8.18	ppb		96
26) Methyl t-butyl ether (MtBE	3.55	73	100946	9.38	ppb		93
27) Trans-1,2-DCE	3.50	61	41652	9.05	ppb		98
29) Diisopropyl Ether	4.35	45	99684	9.45	ppb		98
31) 1,1-DCA	4.13	63	59716	9.53	ppb		95
32) Vinyl Acetate	4.29	43	12639	5.95	ppb		98
33) Ethyl tert Butyl Ether	4.89	59	99951	9.25	ppb		96
34) MEK (2-Butanone)	5.05	43	16229	9.34	ppb		91
35) Cis-1,2-DCE	4.99	61	54260	9.24	ppb		97
36) 2,2-Dichloropropane	4.99	77	40059	7.71	ppb		94
39) Chloroform	5.46	83	69916	9.50	ppb		96
40) Bromochloromethane	5.31	49	31355	9.72	ppb		95
42) 1,1,1-TCA	5.68	97	56243	9.65	ppb		99
43) Cyclohexane	5.75	56	34463	8.63	ppb		96
44) 1,1-Dichloropropene	5.90	75	39762	9.36	ppb		96
45) 2,2,4-Trimethylpentane	6.32	57	60831	7.89	ppb		99
47) Carbon Tetrachloride	5.89	117	48018	9.70	ppb		97
48) Tert Amyl Methyl Ether	6.36	73	100204	9.47	ppb		95
50) 1,2-DCA	6.17	62	56694	9.32	ppb		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0124t28.D Vial: 28
Acq On : 24 Jan 20 23:18 Operator:
Sample : Ending CCV 10ug/L 1/24/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 6:36 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
51)	Benzene	6.15	78	144191	9.57	ppb		99
52)	TCE	6.96	130	44983	10.15	ppb		96
53)	2-Pentanone	7.20	43	344714	123.49	ppb		99
54)	1,2-Dichloropropane	7.21	63	39176	10.09	ppb		99
55)	Bromodichloromethane	7.54	83	56605	10.14	ppb		99
56)	Methyl Cyclohexane	7.20	83	37956	8.77	ppb		99
57)	Dibromomethane	7.33	174	34823	9.66	ppb		100
58)	MIBK (methyl isobutyl ket	8.26	43	33620	9.46	ppb		93
59)	1-Bromo-2-chloroethane	7.88	63	28384	10.03	ppb		93
60)	2-Chloroethyl vinyl ether	7.93	106	4344	34.45	ppb	#	87
61)	Cis-1,3-Dichloropropene	8.07	75	56331	9.30	ppb		98
62)	Toluene	8.45	91	170488	9.68	ppb		99
63)	Trans-1,3-Dichloropropene	8.69	75	51261	9.06	ppb		98
64)	1,1,2-TCA	8.89	97	41719	10.48	ppb		99
65)	2-Hexanone	9.20	43	20830	9.38	ppb		98
68)	1,2-EDB	9.43	107	40894	9.89	ppb		100
69)	Tetrachloroethene	9.06	166	44313	9.39	ppb		95
70)	1-Chlorohexane	10.00	91	33838	9.10	ppb		92
71)	1,1,1,2-Tetrachloroethane	10.09	131	45207	9.78	ppb		95
72)	m&p-Xylene	10.27	91	263440	19.05	ppb		98
73)	o-Xylene	10.69	91	140589	9.55	ppb		97
74)	Styrene	10.70	104	104721	8.97	ppb		99
76)	1,3-Dichloropropane	9.07	76	64911	10.15	ppb		95
77)	Dibromochloromethane	9.31	129	48076	10.01	ppb		99
78)	Chlorobenzene	9.99	112	118056	9.66	ppb		98
79)	Ethylbenzene	10.13	91	175477	9.59	ppb		100
80)	Bromoform	10.88	173	37714	10.12	ppb		97
82)	Isopropylbenzene	11.11	105	162929	9.51	ppb		99
83)	1,1,2,2-Tetrachloroethane	11.41	83	50169	9.20	ppb		93
84)	1,2,3-Trichloropropane	11.45	110	18026	9.80	ppb		93
85)	t-1,4-Dichloro-2-Butene	11.47	53	8875	9.37	ppb		96
86)	Bromobenzene	11.41	77	92579	9.91	ppb		99
87)	n-Propylbenzene	11.56	91	177764	9.55	ppb		99
88)	4-Ethyltoluene	11.68	105	150690	9.39	ppb		99
89)	2-Chlorotoluene	11.64	91	134047	9.37	ppb		100
90)	1,3,5-Trimethylbenzene	11.75	105	147200	9.82	ppb		98
91)	4-Chlorotoluene	11.76	91	139296	9.68	ppb		100
92)	Tert-Butylbenzene	12.11	119	140292	9.39	ppb		99
93)	1,2,4-Trimethylbenzene	12.16	105	145418	9.14	ppb		99
94)	Sec-Butylbenzene	12.35	105	157899	9.58	ppb		99
95)	p-Isopropyltoluene	12.51	119	138692	9.45	ppb		100
96)	Benzyl Chloride	12.69	91	34292	6.67	ppb		98
97)	1,3-DCB	12.45	146	93183	9.51	ppb		100
98)	1,4-DCB	12.55	146	94920	9.25	ppb		100
99)	n-Butylbenzene	12.96	91	110587	9.04	ppb		100
100)	1,2-DCB	12.95	146	96560	9.54	ppb		96
101)	Hexachloroethane	13.25	201	28538	9.61	ppb		93
102)	1,2-Dibromo-3-chloropropan	13.79	157	12029	10.03	ppb		95
103)	1,2,4-Trichlorobenzene	14.73	180	55098	8.89	ppb		100
104)	Hexachlorobutadiene	14.93	225	31529	9.88	ppb		95
105)	Naphthalene	14.99	127	6617	8.97	ppb		85
106)	1,2,3-Trichlorobenzene	15.26	180	51590	9.17	ppb		99

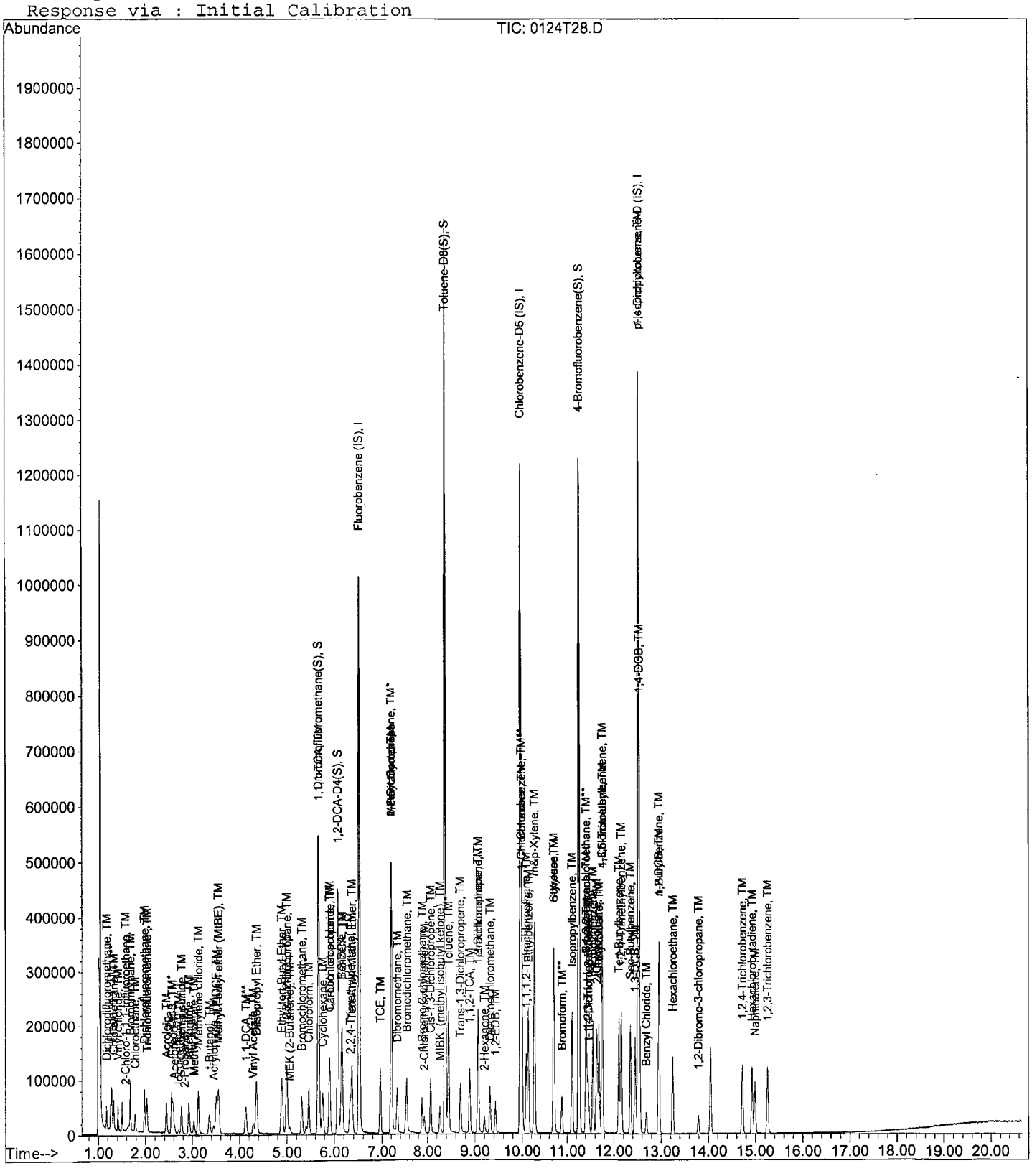
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0124t28.D Vial: 28
Acq On : 24 Jan 20 23:18 Operator:
Sample : Ending CCV 10ug/L 1/24/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 6:36 2020 Quant Results File: T0121W.RES

Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration



ORGANICS
Raw Data

Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T200121\0124T13.D Vial: 13
Acq On : 24 Jan 20 16:13 Operator:
Sample : BA06312W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 9:00 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	972438	25.00	ppb	0.00
66) Chlorobenzene-D5 (IS)	9.96	117	766143	25.00	ppb	0.00
81) 1,4-Dichlorobenzene-D (IS)	12.52	152	397465	25.00	ppb	0.00
System Monitoring Compounds						
41) Dibromofluoromethane(S)	5.66	111	317280	25.31	ppb	0.00
Spiked Amount 25.000			Recovery = 101.248%			
46) 1,2-DCA-D4(S)	6.07	65	340192	25.47	ppb	0.00
Spiked Amount 25.000			Recovery = 101.876%			
67) Toluene-D8(S)	8.37	98	1137833	25.03	ppb	0.00
Spiked Amount 25.000			Recovery = 100.104%			
75) 4-Bromofluorobenzene(S)	11.25	95	392462	22.80	ppb	0.00
Spiked Amount 25.000			Recovery = 91.192%			

Target Compounds Qvalue

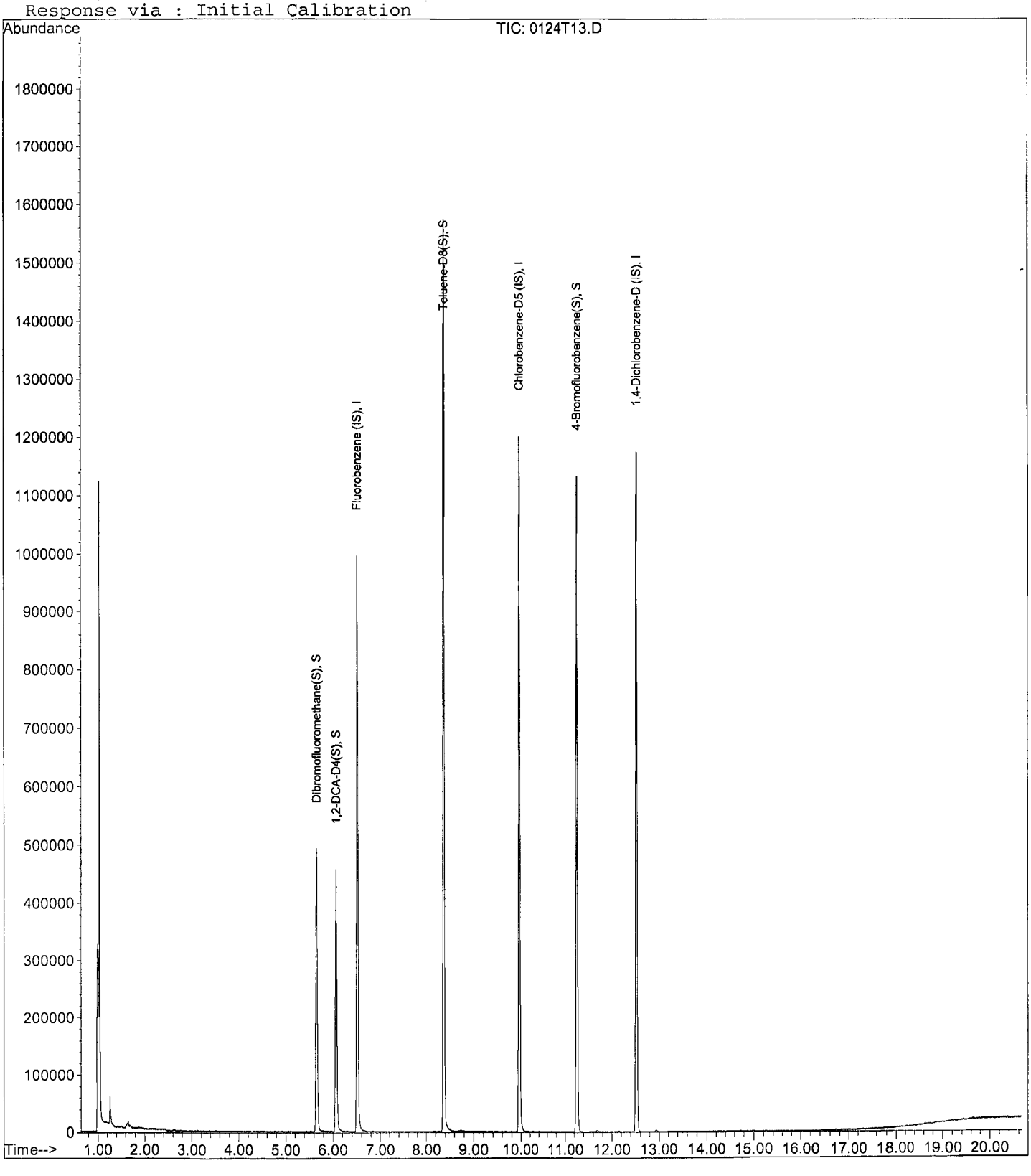
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0124T13.D Vial: 13
Acq On : 24 Jan 20 16:13 Operator:
Sample : BA06312W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 9:00 2020 Quant Results File: T0121W.RES

Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T200121\0124T14.D Vial: 14
Acq On : 24 Jan 20 16:41 Operator:
Sample : BA06314W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 9:01 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	974799	25.00	ppb	0.00
66) Chlorobenzene-D5 (IS)	9.96	117	774467	25.00	ppb	0.00
81) 1,4-Dichlorobenzene-D (IS)	12.52	152	394973	25.00	ppb	0.00
System Monitoring Compounds						
41) Dibromofluoromethane(S)	5.66	111	315559	25.08	ppb	0.00
Spiked Amount 25.000			Recovery =	100.308%		
46) 1,2-DCA-D4(S)	6.07	65	338306	25.23	ppb	0.00
Spiked Amount 25.000			Recovery =	100.904%		
67) Toluene-D8(S)	8.37	98	1131223	24.52	ppb	0.00
Spiked Amount 25.000			Recovery =	98.072%		
75) 4-Bromofluorobenzene(S)	11.26	95	392419	22.53	ppb	0.00
Spiked Amount 25.000			Recovery =	90.112%		

Target Compounds Qvalue

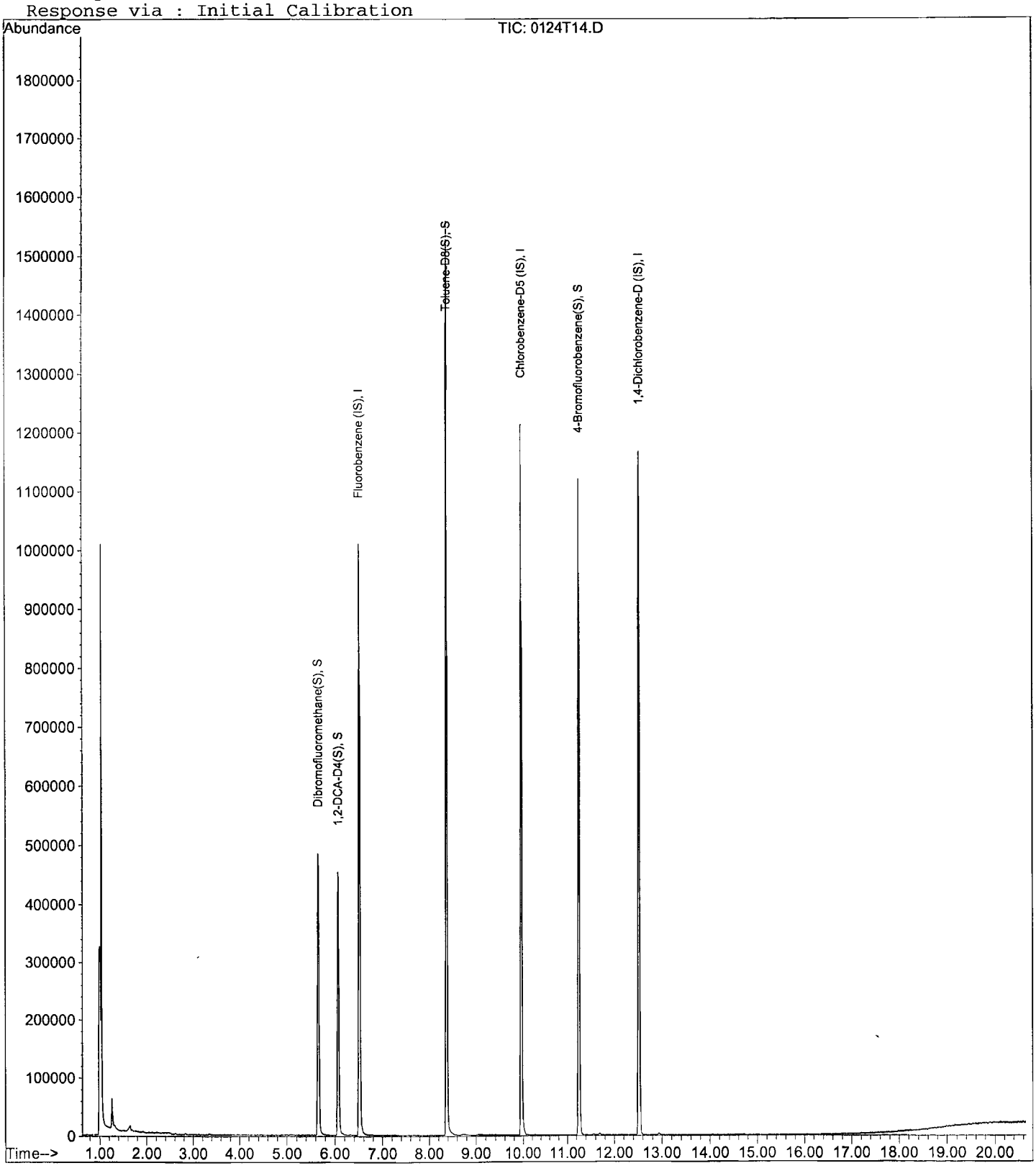
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0124T14.D Vial: 14
Acq On : 24 Jan 20 16:41 Operator:
Sample : BA06314W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 9:01 2020 Quant Results File: T0121W.RES

Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T200121\0124T15.D Vial: 15
Acq On : 24 Jan 20 17:09 Operator:
Sample : BA06316W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 9:02 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	956826	25.00	ppb	0.00
66) Chlorobenzene-D5 (IS)	9.96	117	758204	25.00	ppb	0.00
81) 1,4-Dichlorobenzene-D (IS)	12.52	152	392025	25.00	ppb	0.00
System Monitoring Compounds						
41) Dibromofluoromethane(S)	5.66	111	313594	25.45	ppb	0.00
Spiked Amount 25.000			Recovery = 101.788%			
46) 1,2-DCA-D4(S)	6.07	65	338160	25.78	ppb	0.00
Spiked Amount 25.000			Recovery = 103.136%			
67) Toluene-D8(S)	8.37	98	1123405	24.95	ppb	0.00
Spiked Amount 25.000			Recovery = 99.816%			
75) 4-Bromofluorobenzene(S)	11.26	95	387692	22.75	ppb	0.00
Spiked Amount 25.000			Recovery = 91.012%			

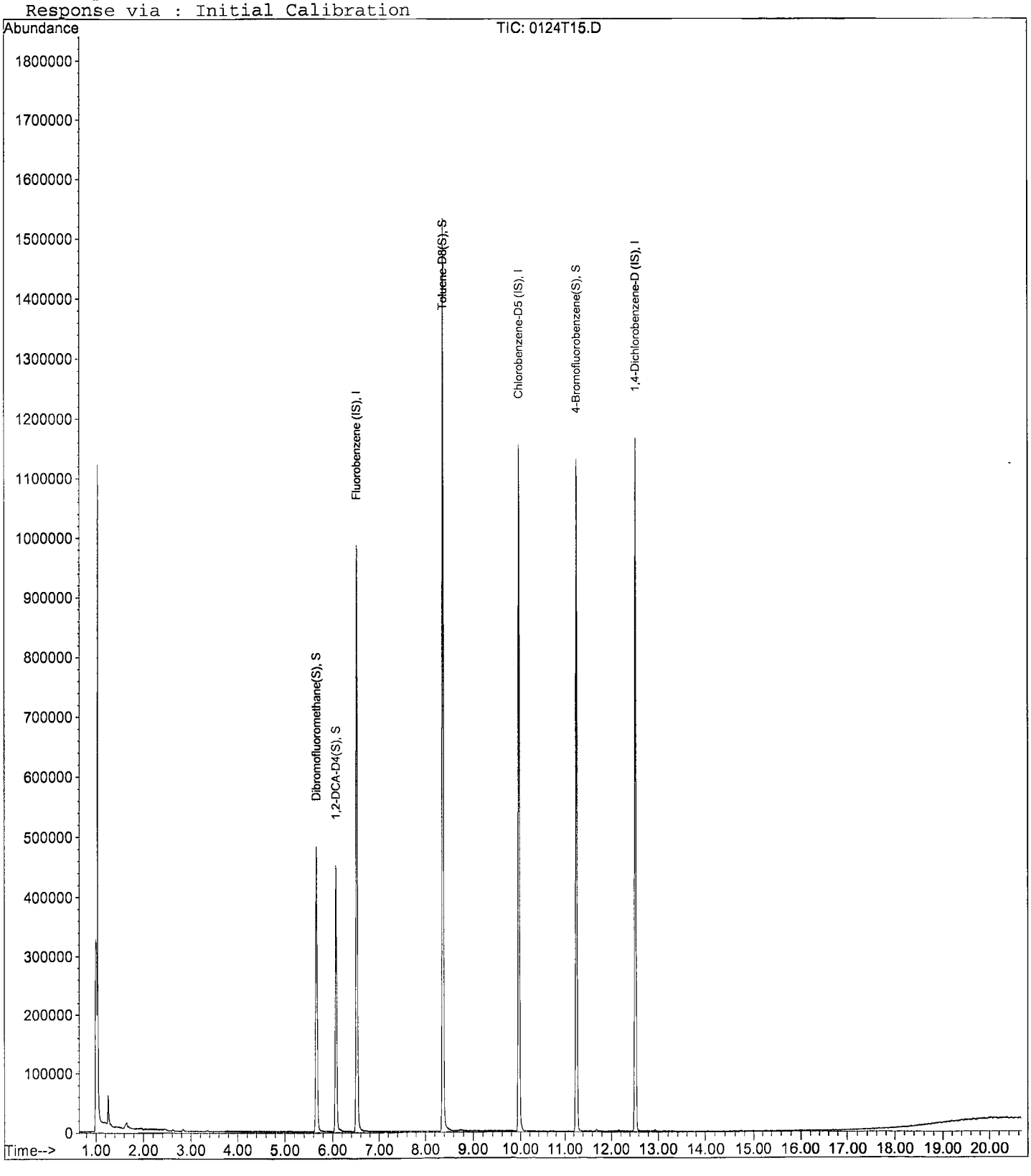
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Data File : M:\THOR\DATA\T200121\0124T15.D Vial: 15
Acq On : 24 Jan 20 17:09 Operator:
Sample : BA06316W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 9:02 2020 Quant Results File: T0121W.RES

Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T200121\0124T16.D Vial: 16
Acq On : 24 Jan 20 17:38 Operator:
Sample : BA06318W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 9:05 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	961992	25.00	ppb	0.00
66) Chlorobenzene-D5 (IS)	9.96	117	769376	25.00	ppb	0.00
81) 1,4-Dichlorobenzene-D (IS)	12.52	152	399218	25.00	ppb	0.00
System Monitoring Compounds						
41) Dibromofluoromethane(S)	5.66	111	312699	25.20	ppb	0.00
Spiked Amount 25.000			Recovery = 100.800%			
46) 1,2-DCA-D4(S)	6.07	65	334309	25.27	ppb	0.00
Spiked Amount 25.000			Recovery = 101.064%			
67) Toluene-D8(S)	8.37	98	1118990	24.39	ppb	0.00
Spiked Amount 25.000			Recovery = 97.556%			
75) 4-Bromofluorobenzene(S)	11.26	95	382513	22.07	ppb	0.00
Spiked Amount 25.000			Recovery = 88.264%			

Target Compounds Qvalue

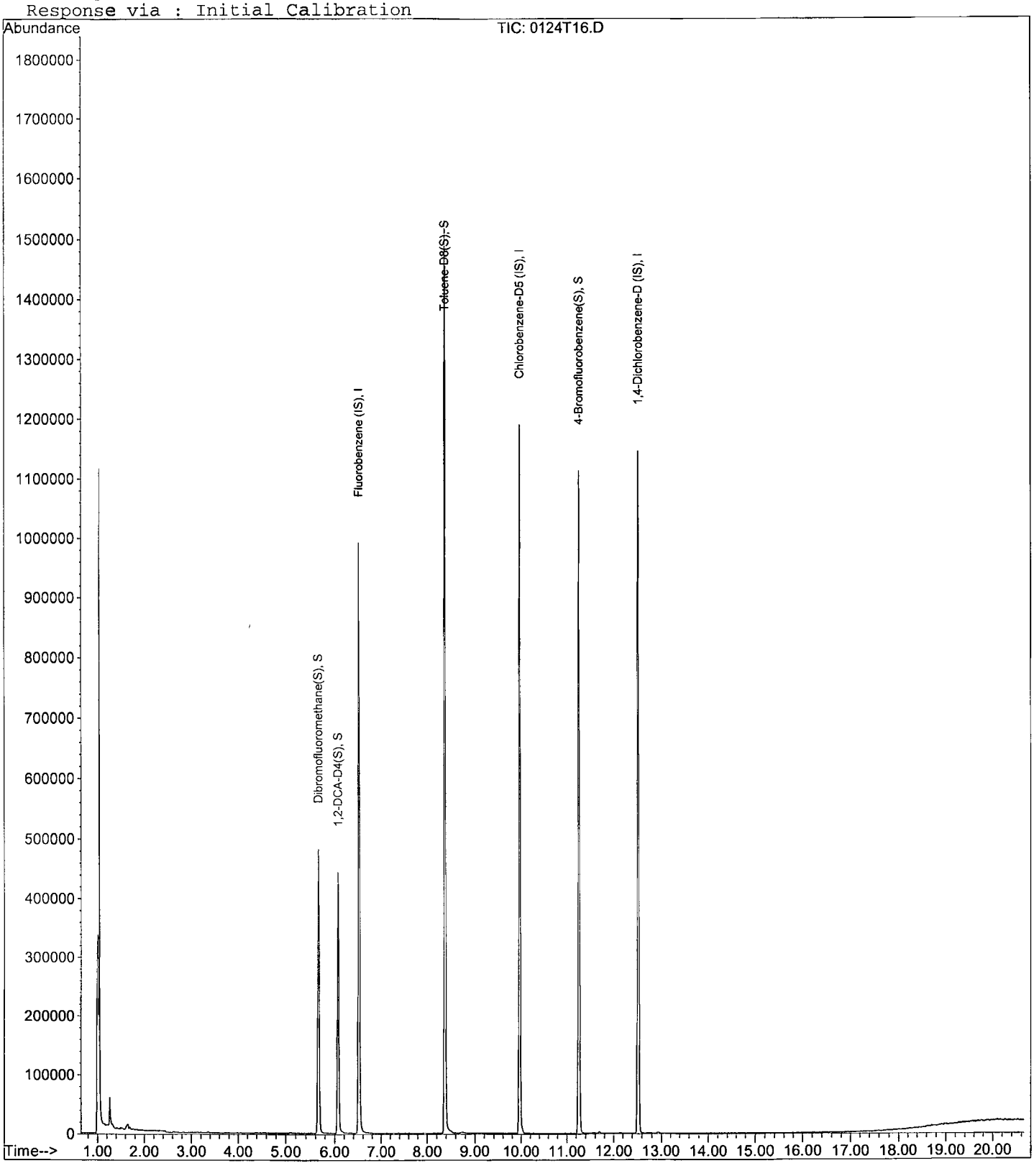
(#) = qualifier out of range (m) = manual integration
0124T16.D T0121W.M Tue Jan 28 13:26:03 2020 Page 1

Quantitation Report

Data File : M:\THOR\DATA\T200121\0124T16.D Vial: 16
Acq On : 24 Jan 20 17:38 Operator:
Sample : BA06318W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 9:05 2020 Quant Results File: T0121W.RES

Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T200121\0124T17.D Vial: 17
Acq On : 24 Jan 20 18:06 Operator:
Sample : BA06313W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 9:06 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	969536	25.00	ppb	0.00
66) Chlorobenzene-D5 (IS)	9.96	117	763754	25.00	ppb	0.00
81) 1,4-Dichlorobenzene-D (IS)	12.52	152	393092	25.00	ppb	0.00
System Monitoring Compounds						
41) Dibromofluoromethane(S)	5.66	111	306357	24.37	ppb	0.00
Spiked Amount 25.000			Recovery = 97.464%			
46) 1,2-DCA-D4(S)	6.07	65	327781	24.44	ppb	0.00
Spiked Amount 25.000			Recovery = 97.760%			
67) Toluene-D8(S)	8.37	98	1102571	24.17	ppb	0.00
Spiked Amount 25.000			Recovery = 96.664%			
75) 4-Bromofluorobenzene(S)	11.25	95	373568	21.68	ppb	0.00
Spiked Amount 25.000			Recovery = 86.700%			

Target Compounds Qvalue

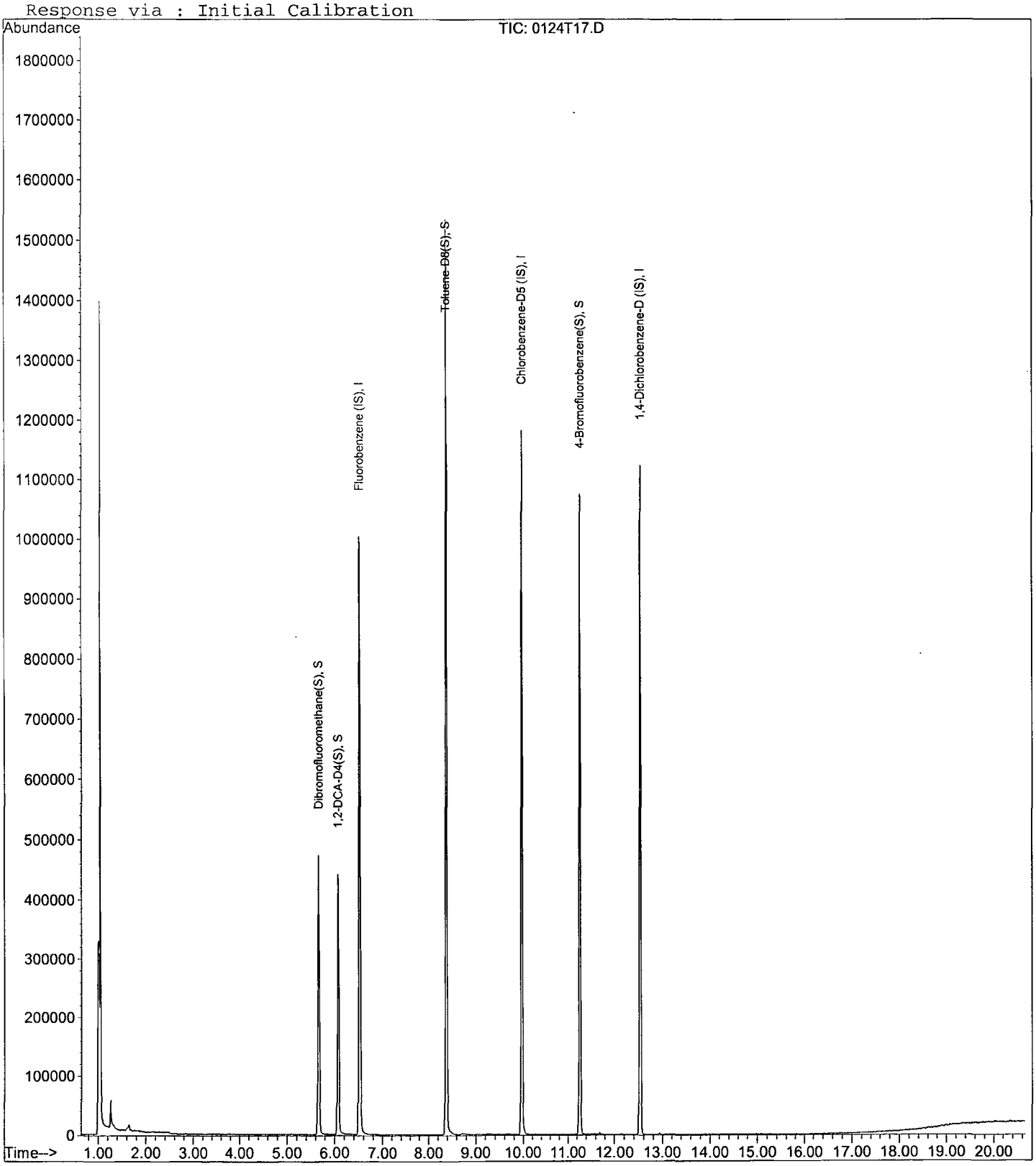
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0124T17.D Vial: 17
Acq On : 24 Jan 20 18:06 Operator:
Sample : BA06313W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 9:06 2020 Quant Results File: T0121W.RES

Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T200121\0124T18.D Vial: 18
Acq On : 24 Jan 20 18:34 Operator:
Sample : BA06315W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 9:07 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	959728	25.00	ppb	0.00
66) Chlorobenzene-D5 (IS)	9.96	117	754198	25.00	ppb	0.00
81) 1,4-Dichlorobenzene-D (IS)	12.52	152	390433	25.00	ppb	0.00
System Monitoring Compounds						
41) Dibromofluoromethane(S)	5.66	111	309867	25.00	ppb	0.00
Spiked Amount 25.000			Recovery =	99.996%		
46) 1,2-DCA-D4(S)	6.07	65	334259	25.33	ppb	0.00
Spiked Amount 25.000			Recovery =	101.336%		
67) Toluene-D8(S)	8.37	98	1124300	25.14	ppb	0.00
Spiked Amount 25.000			Recovery =	100.564%		
75) 4-Bromofluorobenzene(S)	11.26	95	381899	22.51	ppb	0.00
Spiked Amount 25.000			Recovery =	90.048%		

Target Compounds Qvalue

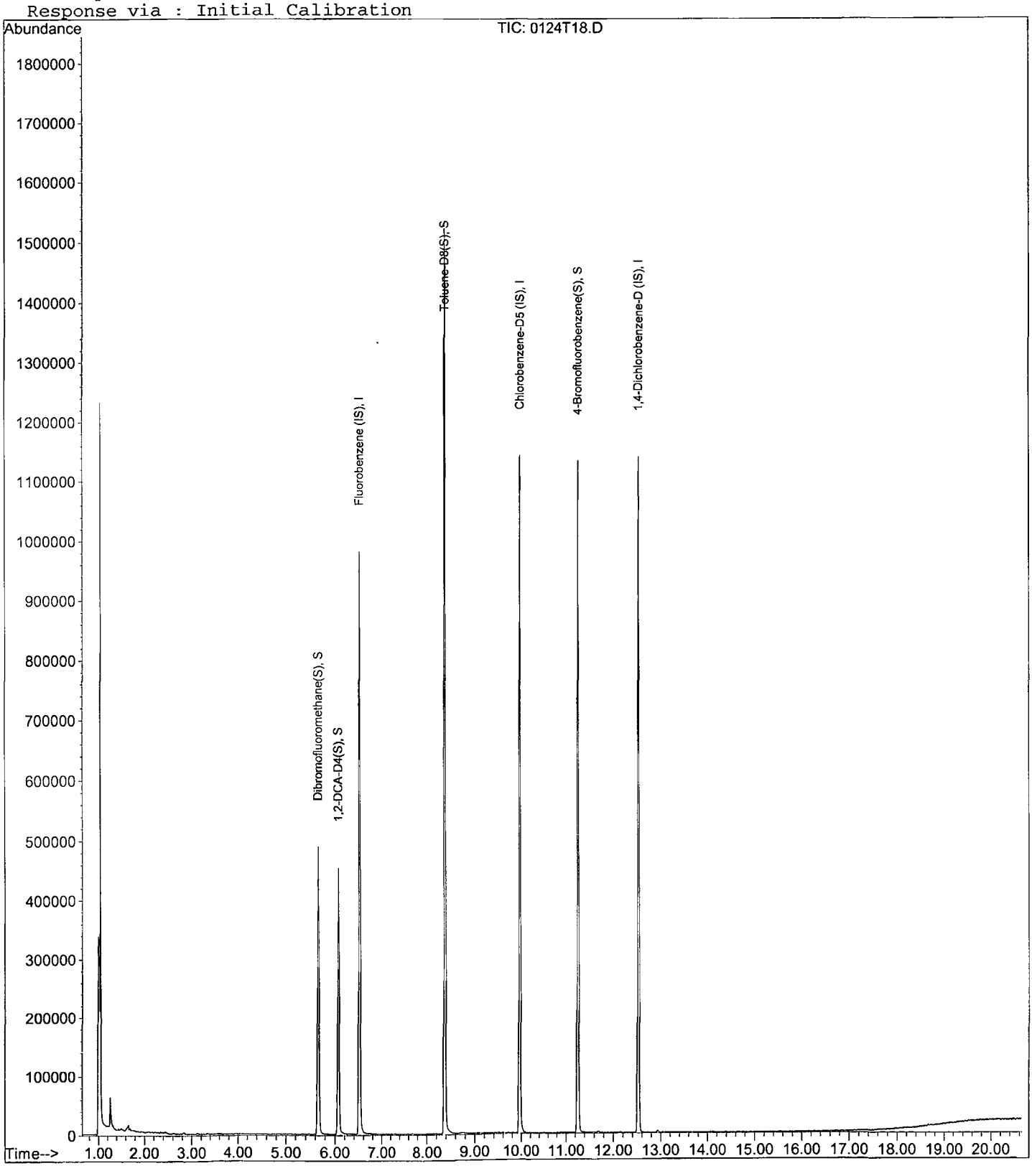
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0124T18.D Vial: 18
Acq On : 24 Jan 20 18:34 Operator:
Sample : BA06315W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 9:07 2020 Quant Results File: T0121W.RES

Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T200121\0124T19.D Vial: 19
Acq On : 24 Jan 20 19:03 Operator:
Sample : BA06317W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 9:08 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	938910	25.00	ppb	0.00
66) Chlorobenzene-D5 (IS)	9.96	117	751611	25.00	ppb	0.00
81) 1,4-Dichlorobenzene-D (IS)	12.52	152	383539	25.00	ppb	0.00
System Monitoring Compounds						
41) Dibromofluoromethane(S)	5.66	111	307249	25.40	ppb	0.00
Spiked Amount 25.000			Recovery = 101.604%			
46) 1,2-DCA-D4(S)	6.07	65	326176	25.26	ppb	0.00
Spiked Amount 25.000			Recovery = 101.024%			
67) Toluene-D8(S)	8.37	98	1084494	24.15	ppb	0.00
Spiked Amount 25.000			Recovery = 96.604%			
75) 4-Bromofluorobenzene(S)	11.26	95	375042	22.15	ppb	0.00
Spiked Amount 25.000			Recovery = 88.616%			

Target Compounds Qvalue

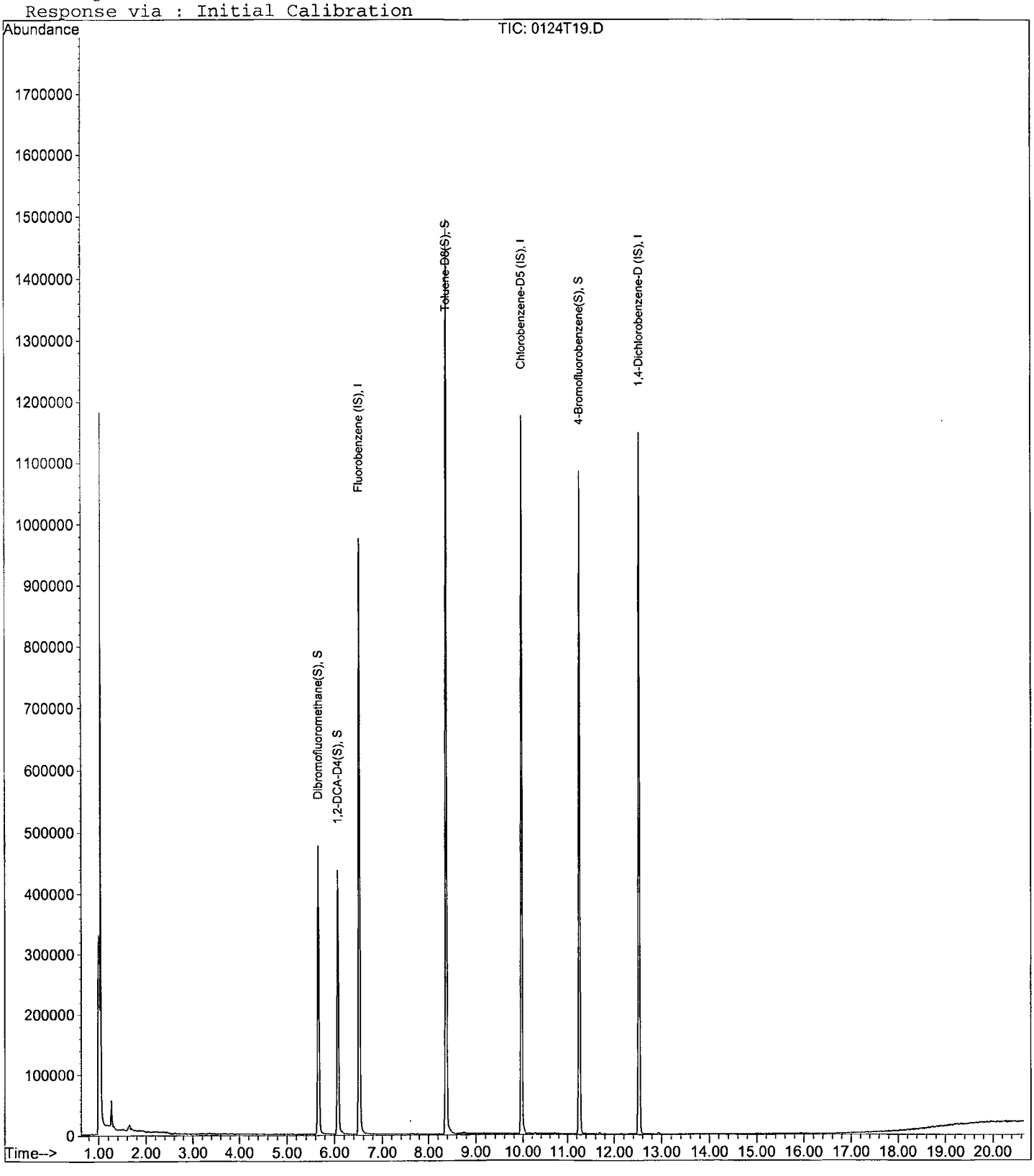
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0124T19.D Vial: 19
Acq On : 24 Jan 20 19:03 Operator:
Sample : BA06317W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 9:08 2020 Quant Results File: T0121W.RES

Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T200121\0124T20.D Vial: 20
Acq On : 24 Jan 20 19:31 Operator:
Sample : BA06319W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 9:09 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	922763	25.00	ppb	0.00
66) Chlorobenzene-D5 (IS)	9.96	117	743647	25.00	ppb	0.00
81) 1,4-Dichlorobenzene-D (IS)	12.52	152	382215	25.00	ppb	0.00
System Monitoring Compounds						
41) Dibromofluoromethane(S)	5.66	111	300674	25.27	ppb	0.00
Spiked Amount 25.000			Recovery = 101.088%			
46) 1,2-DCA-D4(S)	6.07	65	326293	25.80	ppb	0.00
Spiked Amount 25.000			Recovery = 103.200%			
67) Toluene-D8(S)	8.37	98	1072243	24.13	ppb	0.00
Spiked Amount 25.000			Recovery = 96.516%			
75) 4-Bromofluorobenzene(S)	11.26	95	369517	22.05	ppb	0.00
Spiked Amount 25.000			Recovery = 88.212%			

Target Compounds Qvalue

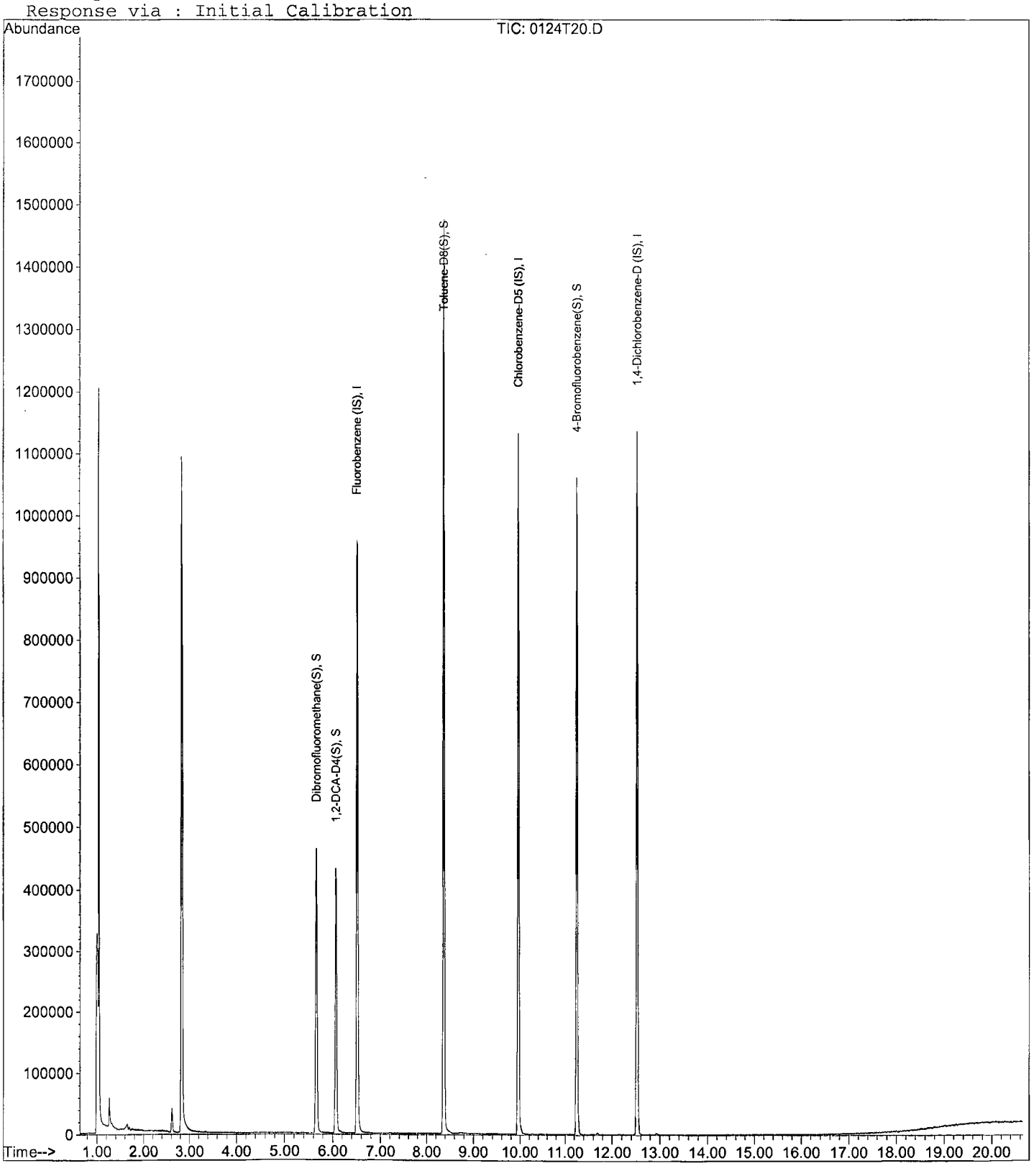
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0124T20.D Vial: 20
Acq On : 24 Jan 20 19:31 Operator:
Sample : BA06319W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 9:09 2020 Quant Results File: T0121W.RES

Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T200121\0124T11.D Vial: 11
Acq On : 24 Jan 20 15:16 Operator:
Sample : 200124A BLK Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 6:32 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	973223	25.00	ppb	0.00
66) Chlorobenzene-D5 (IS)	9.96	117	769874	25.00	ppb	0.00
81) 1,4-Dichlorobenzene-D (IS)	12.52	152	399215	25.00	ppb	0.00
System Monitoring Compounds						
41) Dibromofluoromethane(S)	5.66	111	317651	25.32	ppb	0.00
Spiked Amount 25.000			Recovery = 101.292%			
46) 1,2-DCA-D4(S)	6.07	65	342816	25.68	ppb	0.00
Spiked Amount 25.000			Recovery = 102.724%			
67) Toluene-D8(S)	8.37	98	1146290	25.10	ppb	0.00
Spiked Amount 25.000			Recovery = 100.416%			
75) 4-Bromofluorobenzene(S)	11.26	95	392135	22.66	ppb	0.00
Spiked Amount 25.000			Recovery = 90.628%			

Target Compounds Qvalue

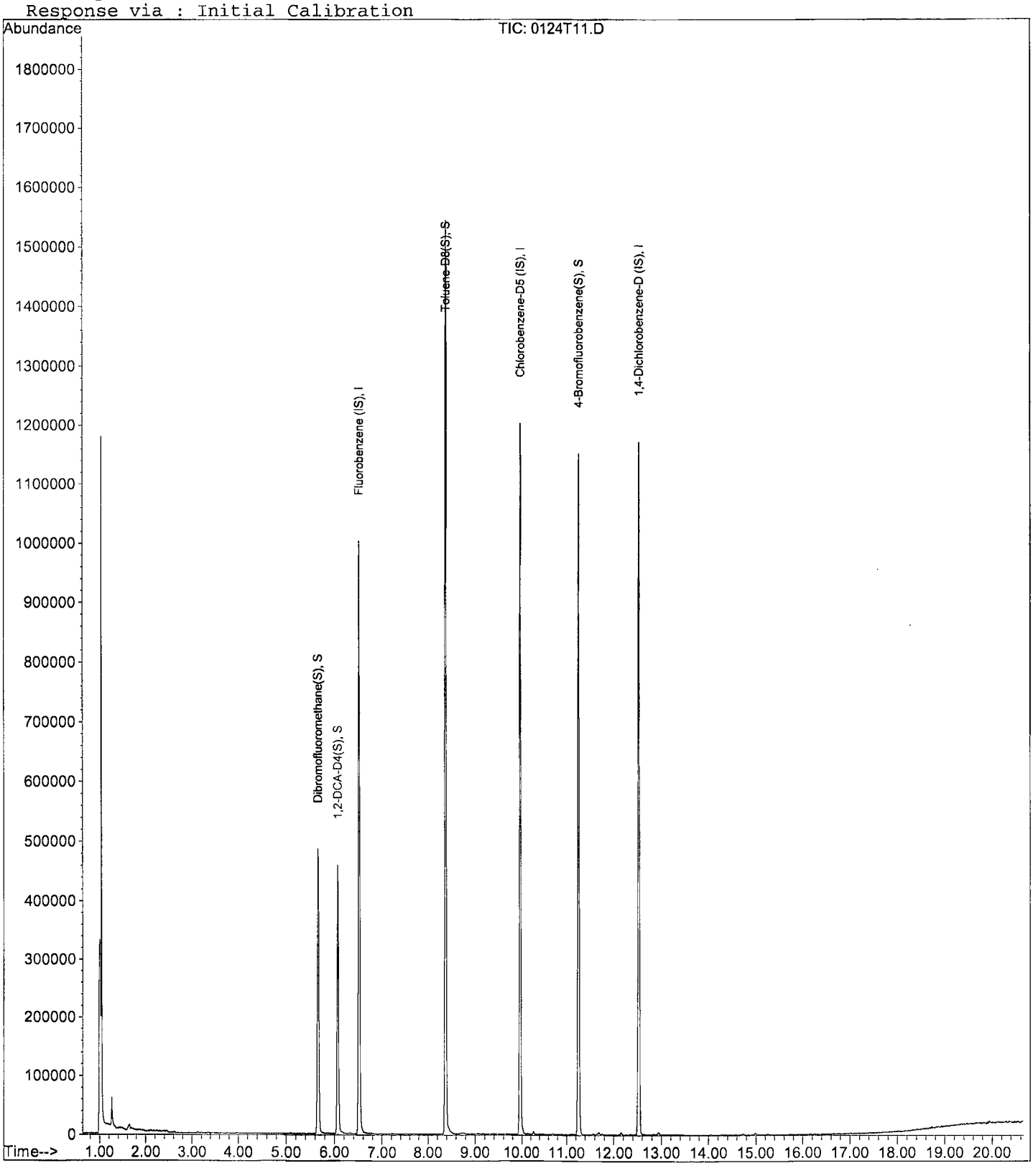
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0124T11.D Vial: 11
Acq On : 24 Jan 20 15:16 Operator:
Sample : 200124A BLK Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 6:32 2020 Quant Results File: T0121W.RES

Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0124T05.D Vial: 5
Acq On : 24 Jan 20 12:26 Operator:
Sample : 200124A CCV/LCS 10ug/L Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 13:05 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene (IS)	6.51	96	1041843	25.00	ppb		0.00
66) Chlorobenzene-D5 (IS)	9.96	117	814650	25.00	ppb		0.00
81) 1,4-Dichlorobenzene-D (IS)	12.52	152	427679	25.00	ppb		0.00
System Monitoring Compounds							
41) Dibromofluoromethane(S)	5.66	111	323395	23.85	ppb		0.00
Spiked Amount 25.000			Recovery = 95.412%				
46) 1,2-DCA-D4(S)	6.07	65	350095	24.26	ppb		0.00
Spiked Amount 25.000			Recovery = 97.040%				
67) Toluene-D8(S)	8.37	98	1225811	25.43	ppb		0.00
Spiked Amount 25.000			Recovery = 101.724%				
75) 4-Bromofluorobenzene(S)	11.25	95	432679	23.71	ppb		0.00
Spiked Amount 25.000			Recovery = 94.852%				
Target Compounds							Qvalue
3) Dichlorodifluoromethane	1.17	85	25256	8.17	ppb		96
4) Freon 114	1.28	85	28362	8.76	ppb		98
5) Chloromethane	1.32	50	38961	9.20	ppb		93
6) Vinyl chloride	1.41	62	30969	8.45	ppb		100
8) Bromomethane	1.68	96	25816	8.07	ppb		100
9) Chloroethane	1.78	64	21993	8.98	ppb		92
10) Dichlorofluoromethane	1.98	67	67282	9.54	ppb		100
11) Trichlorofluoromethane	2.03	101	50256	9.66	ppb		95
14) Acrolein	2.44	56	48350	112.33	ppb		98
15) Acetone	2.62	43	8445	11.59	ppb		96
16) Freon-113	2.58	101	28777	10.08	ppb		90
17) 1,1-DCE	2.55	61	42459	9.15	ppb		95
18) 2-Propanol	2.85	45	165	0.71	ppb	#	1
19) Acetonitrile	2.92	40	15898	126.14	ppb		82
20) t-Butanol	3.36	59	21648	138.54	ppb		98
21) Methyl Acetate	3.03	43	31551	9.59	ppb		94
22) Iodomethane	2.70	142	13314	7.37	ppb		89
23) Acrylonitrile	3.44	52	13635	10.84	ppb		89
24) Methylene chloride	3.12	49	50927	9.93	ppb		95
25) Carbon disulfide	2.77	76	74762	8.27	ppb		99
26) Methyl t-butyl ether (MtBE	3.55	73	108833	9.57	ppb		95
27) Trans-1,2-DCE	3.50	61	44031	9.05	ppb		95
29) Diisopropyl Ether	4.35	45	112265	10.07	ppb		98
31) 1,1-DCA	4.13	63	64959	9.82	ppb		97
32) Vinyl Acetate	4.29	43	26968	12.02	ppb		97
33) Ethyl tert Butyl Ether	4.89	59	112123	9.83	ppb		100
34) MEK (2-Butanone)	5.05	43	18678	10.18	ppb		98
35) Cis-1,2-DCE	4.99	61	61343	9.89	ppb		98
36) 2,2-Dichloropropane	4.99	77	56400	10.27	ppb		97
39) Chloroform	5.46	83	76364	9.83	ppb		95
40) Bromochloromethane	5.31	49	34709	10.19	ppb		88
42) 1,1,1-TCA	5.68	97	61324	9.96	ppb		99
43) Cyclohexane	5.75	56	39126	9.27	ppb		98
44) 1,1-Dichloropropene	5.90	75	44044	9.82	ppb		98
45) 2,2,4-Trimethylpentane	6.32	57	82809	10.16	ppb		100
47) Carbon Tetrachloride	5.90	117	52212	9.98	ppb		96
48) Tert Amyl Methyl Ether	6.36	73	110753	9.91	ppb		96
50) 1,2-DCA	6.17	62	62528	9.73	ppb		97
51) Benzene	6.15	78	156142	9.82	ppb		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0124T05.D Vial: 5
Acq On : 24 Jan 20 12:26 Operator:
Sample : 200124A CCV/LCS 10ug/L Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 13:05 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
52)	TCE	6.96	130	45700	9.76	ppb	96
53)	2-Pentanone	7.20	43	383196	129.96	ppb	100
54)	1,2-Dichloropropane	7.21	63	41835	10.20	ppb	99
55)	Bromodichloromethane	7.54	83	60412	10.24	ppb	99
56)	Methyl Cyclohexane	7.20	83	44000	9.63	ppb	97
57)	Dibromomethane	7.33	174	37403	9.82	ppb	89
58)	MIBK (methyl isobutyl ket	8.26	43	36928	9.84	ppb	94
59)	1-Bromo-2-chloroethane	7.88	63	32016	10.71	ppb	97
60)	2-Chloroethyl vinyl ether	7.93	106	5886	41.10	ppb	99
61)	Cis-1,3-Dichloropropene	8.07	75	66700	10.42	ppb	95
62)	Toluene	8.45	91	184084	9.90	ppb	97
63)	Trans-1,3-Dichloropropene	8.69	75	62229	10.41	ppb	95
64)	1,1,2-TCA	8.89	97	42541	10.11	ppb	90
65)	2-Hexanone	9.20	43	23115	9.75	ppb	92
68)	1,2-EDB	9.43	107	45072	10.45	ppb	99
69)	Tetrachloroethene	9.06	166	51655	10.49	ppb	99
70)	1-Chlorohexane	10.00	91	38454	9.82	ppb	97
71)	1,1,1,2-Tetrachloroethane	10.09	131	50877	10.55	ppb	95
72)	m&p-Xylene	10.26	91	294249	20.41	ppb	98
73)	o-Xylene	10.69	91	157688	10.28	ppb	98
74)	Styrene	10.70	104	114845	9.37	ppb	99
76)	1,3-Dichloropropane	9.07	76	71876	10.78	ppb	97
77)	Dibromochloromethane	9.31	129	53887	10.76	ppb	99
78)	Chlorobenzene	9.99	112	129003	10.12	ppb	99
79)	Ethylbenzene	10.13	91	192878	10.11	ppb	99
80)	Bromoform	10.88	173	40340	10.38	ppb	95
82)	Isopropylbenzene	11.11	105	180440	10.64	ppb	97
83)	1,1,2,2-Tetrachloroethane	11.40	83	61598	11.40	ppb	96
84)	1,2,3-Trichloropropane	11.45	110	19909	10.93	ppb	94
85)	t-1,4-Dichloro-2-Butene	11.47	53	11075	11.80	ppb	97
86)	Bromobenzene	11.41	77	98082	10.60	ppb	99
87)	n-Propylbenzene	11.56	91	192305	10.42	ppb	96
88)	4-Ethyltoluene	11.68	105	163447	10.28	ppb	98
89)	2-Chlorotoluene	11.64	91	149630	10.56	ppb	99
90)	1,3,5-Trimethylbenzene	11.75	105	158507	10.67	ppb	99
91)	4-Chlorotoluene	11.76	91	151561	10.63	ppb	100
92)	Tert-Butylbenzene	12.11	119	150717	10.18	ppb	100
93)	1,2,4-Trimethylbenzene	12.16	105	163666	10.38	ppb	99
94)	Sec-Butylbenzene	12.35	105	172179	10.54	ppb	99
95)	p-Isopropyltoluene	12.51	119	156101	10.74	ppb	100
96)	Benzyl Chloride	12.69	91	54330	10.67	ppb	99
97)	1,3-DCB	12.45	146	104126	10.73	ppb	99
98)	1,4-DCB	12.55	146	103010	10.13	ppb	98
99)	n-Butylbenzene	12.96	91	136177	11.24	ppb	100
100)	1,2-DCB	12.95	146	103894	10.36	ppb	98
101)	Hexachloroethane	13.25	201	29943	10.16	ppb	94
102)	1,2-Dibromo-3-chloropropan	13.79	157	12693	10.64	ppb	99
103)	1,2,4-Trichlorobenzene	14.72	180	68721	11.20	ppb	96
104)	Hexachlorobutadiene	14.93	225	36493	11.54	ppb	98
105)	Naphthalene	14.99	127	8884	11.49	ppb	80
106)	1,2,3-Trichlorobenzene	15.26	180	65914	11.82	ppb	95

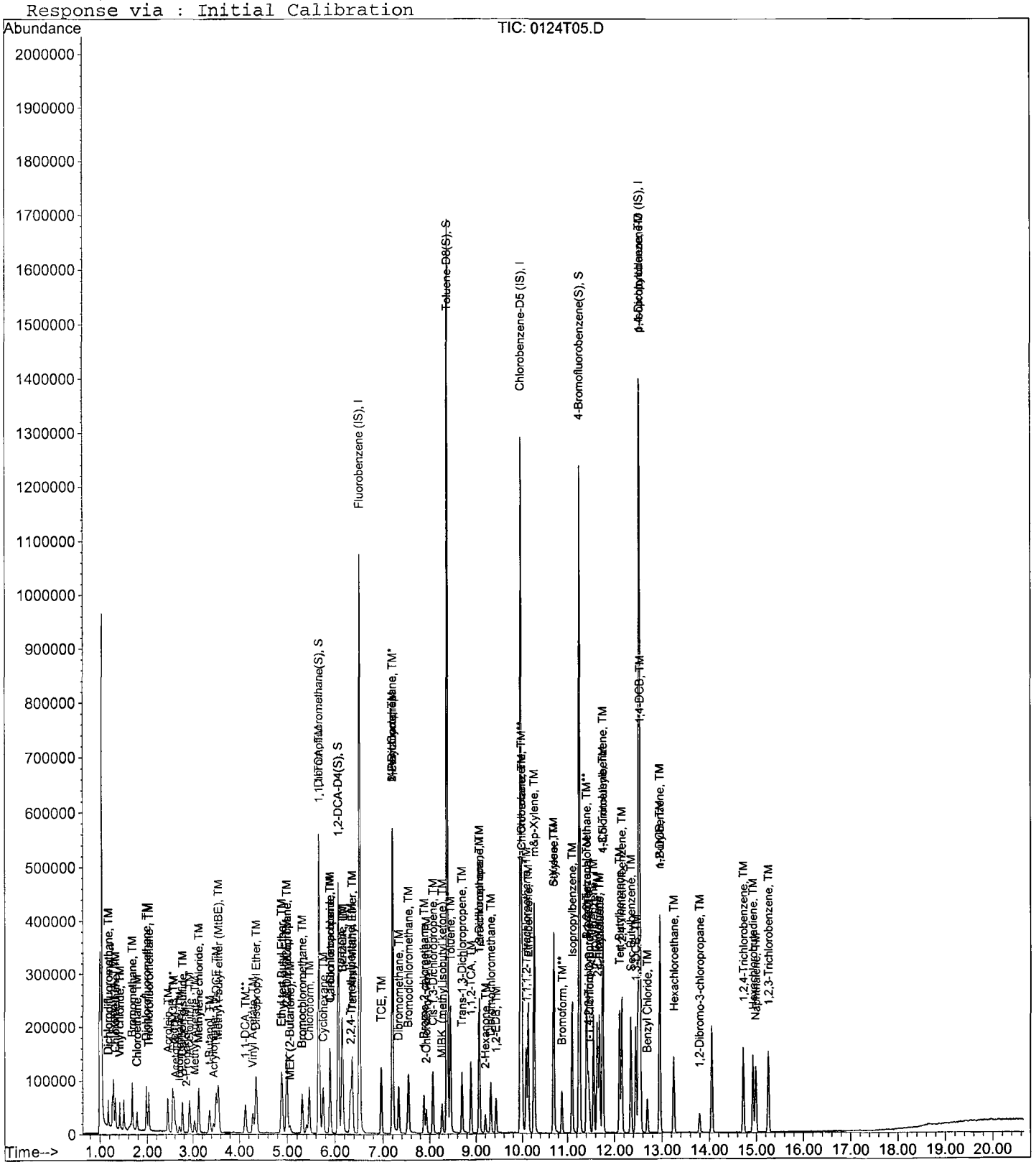
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0124T05.D Vial: 5
Acq On : 24 Jan 20 12:26 Operator:
Sample : 200124A CCV/LCS 10ug/L Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 13:05 2020 Quant Results File: T0121W.RES

Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0124T06.D Vial: 6
Acq On : 24 Jan 20 12:54 Operator:
Sample : 200124A LCSD 10ug/L Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 14:13 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene (IS)	6.51	96	1034061	25.00	ppb		0.00
66) Chlorobenzene-D5 (IS)	9.96	117	800231	25.00	ppb		0.00
81) 1,4-Dichlorobenzene-D (IS)	12.52	152	420713	25.00	ppb		0.00
System Monitoring Compounds							
41) Dibromofluoromethane(S)	5.66	111	316047	23.41	ppb		0.00
Spiked Amount 25.000			Recovery = 93.660%				
46) 1,2-DCA-D4(S)	6.07	65	342310	23.82	ppb		0.00
Spiked Amount 25.000			Recovery = 95.288%				
67) Toluene-D8(S)	8.37	98	1192742	25.14	ppb		0.00
Spiked Amount 25.000			Recovery = 100.548%				
75) 4-Bromofluorobenzene(S)	11.26	95	428136	23.90	ppb		0.00
Spiked Amount 25.000			Recovery = 95.608%				
Target Compounds							Qvalue
3) Dichlorodifluoromethane	1.17	85	25656	8.37	ppb		94
4) Freon 114	1.28	85	25001	7.78	ppb		100
5) Chloromethane	1.32	50	37146	8.79	ppb		100
6) Vinyl chloride	1.41	62	31377	8.63	ppb		97
8) Bromomethane	1.68	96	25328	7.97	ppb		96
9) Chloroethane	1.78	64	21588	8.88	ppb		98
10) Dichlorofluoromethane	1.98	67	61269	8.75	ppb		98
11) Trichlorofluoromethane	2.03	101	47400	9.18	ppb		91
14) Acrolein	2.44	56	47102	110.25	ppb		99
15) Acetone	2.62	43	7609	10.21	ppb		92
16) Freon-113	2.58	101	25775	9.09	ppb		90
17) 1,1-DCE	2.55	61	38439	8.35	ppb		94
18) 2-Propanol	2.83	45	127	0.55	ppb	#	47
19) Acetonitrile	2.92	40	16551	132.31	ppb		88
20) t-Butanol	3.36	59	20416	131.64	ppb		97
21) Methyl Acetate	3.03	43	28577	8.75	ppb		97
22) Iodomethane	2.70	142	14155	7.71	ppb		96
23) Acrylonitrile	3.45	52	12404	9.93	ppb		90
24) Methylene chloride	3.12	49	46192	9.08	ppb		94
25) Carbon disulfide	2.77	76	69231	7.72	ppb		98
26) Methyl t-butyl ether (MtBE	3.55	73	99080	8.78	ppb		97
27) Trans-1,2-DCE	3.50	61	41126	8.52	ppb		95
29) Diisopropyl Ether	4.36	45	99020	8.95	ppb		99
31) 1,1-DCA	4.13	63	57853	8.81	ppb		98
32) Vinyl Acetate	4.29	43	24352	10.94	ppb		100
33) Ethyl tert Butyl Ether	4.89	59	97805	8.64	ppb		99
34) MEK (2-Butanone)	5.05	43	17054	9.37	ppb		91
35) Cis-1,2-DCE	4.99	61	54855	8.91	ppb		92
36) 2,2-Dichloropropane	4.99	77	51537	9.46	ppb		99
39) Chloroform	5.46	83	67258	8.72	ppb		95
40) Bromochloromethane	5.31	49	29720	8.79	ppb		90
42) 1,1,1-TCA	5.68	97	55401	9.07	ppb		96
43) Cyclohexane	5.75	56	33891	8.09	ppb		97
44) 1,1-Dichloropropene	5.90	75	39000	8.76	ppb		96
45) 2,2,4-Trimethylpentane	6.32	57	69689	8.62	ppb		98
47) Carbon Tetrachloride	5.89	117	47000	9.06	ppb		94
48) Tert Amyl Methyl Ether	6.36	73	97953	8.83	ppb		94
50) 1,2-DCA	6.17	62	54500	8.55	ppb		97
51) Benzene	6.15	78	141520	8.96	ppb		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0124T06.D Vial: 6
Acq On : 24 Jan 20 12:54 Operator:
Sample : 200124A LCSD 10ug/L Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 14:13 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
52)	TCE	6.96	130	41332	8.89	ppb		99
53)	2-Pentanone	7.20	43	377216	128.89	ppb		98
54)	1,2-Dichloropropane	7.21	63	39065	9.60	ppb	#	96
55)	Bromodichloromethane	7.54	83	53617	9.16	ppb		98
56)	Methyl Cyclohexane	7.20	83	40104	8.84	ppb		97
57)	Dibromomethane	7.33	174	33998	9.00	ppb		95
58)	MIBK (methyl isobutyl ket	8.27	43	34230	9.19	ppb		91
59)	1-Bromo-2-chloroethane	7.88	63	27360	9.22	ppb		98
60)	2-Chloroethyl vinyl ether	7.93	106	5817	40.97	ppb		100
61)	Cis-1,3-Dichloropropene	8.07	75	59425	9.36	ppb		98
62)	Toluene	8.45	91	168117	9.11	ppb		99
63)	Trans-1,3-Dichloropropene	8.69	75	53850	9.08	ppb		95
64)	1,1,2-TCA	8.89	97	37975	9.10	ppb		93
65)	2-Hexanone	9.19	43	21653	9.32	ppb		98
68)	1,2-EDB	9.43	107	40373	9.53	ppb		97
69)	Tetrachloroethene	9.06	166	45485	9.41	ppb		97
70)	1-Chlorohexane	10.00	91	35037	9.19	ppb		96
71)	1,1,1,2-Tetrachloroethane	10.09	131	44418	9.38	ppb		97
72)	m&p-Xylene	10.27	91	258481	18.25	ppb		97
73)	o-Xylene	10.69	91	138458	9.19	ppb		98
74)	Styrene	10.71	104	103932	8.74	ppb		98
76)	1,3-Dichloropropane	9.07	76	60348	9.21	ppb		100
77)	Dibromochloromethane	9.31	129	46531	9.46	ppb		96
78)	Chlorobenzene	9.99	112	116892	9.34	ppb		98
79)	Ethylbenzene	10.13	91	172788	9.22	ppb		100
80)	Bromoform	10.88	173	35924	9.41	ppb		97
82)	Isopropylbenzene	11.11	105	162615	9.75	ppb		96
83)	1,1,2,2-Tetrachloroethane	11.40	83	54674	10.29	ppb		98
84)	1,2,3-Trichloropropane	11.45	110	19258	10.74	ppb		88
85)	t-1,4-Dichloro-2-Butene	11.47	53	9718	10.53	ppb		91
86)	Bromobenzene	11.41	77	89010	9.77	ppb		97
87)	n-Propylbenzene	11.56	91	173872	9.58	ppb		99
88)	4-Ethyltoluene	11.68	105	144557	9.24	ppb		97
89)	2-Chlorotoluene	11.64	91	134061	9.62	ppb		95
90)	1,3,5-Trimethylbenzene	11.75	105	141889	9.71	ppb		98
91)	4-Chlorotoluene	11.76	91	134433	9.59	ppb		97
92)	Tert-Butylbenzene	12.11	119	133643	9.18	ppb		99
93)	1,2,4-Trimethylbenzene	12.16	105	145474	9.38	ppb		99
94)	Sec-Butylbenzene	12.35	105	152574	9.50	ppb		97
95)	p-Isopropyltoluene	12.51	119	140171	9.80	ppb		100
96)	Benzyl Chloride	12.69	91	52125	10.41	ppb	#	96
97)	1,3-DCB	12.45	146	92437	9.69	ppb		97
98)	1,4-DCB	12.55	146	95375	9.54	ppb		98
99)	n-Butylbenzene	12.96	91	120740	10.13	ppb		100
100)	1,2-DCB	12.95	146	95868	9.72	ppb		99
101)	Hexachloroethane	13.25	201	27786	9.61	ppb		91
102)	1,2-Dibromo-3-chloropropan	13.79	157	11022	9.49	ppb		93
103)	1,2,4-Trichlorobenzene	14.73	180	60300	9.99	ppb		97
104)	Hexachlorobutadiene	14.93	225	31761	10.21	ppb		89
105)	Naphthalene	14.99	127	7185	9.78	ppb		91
106)	1,2,3-Trichlorobenzene	15.26	180	57849	10.55	ppb		97

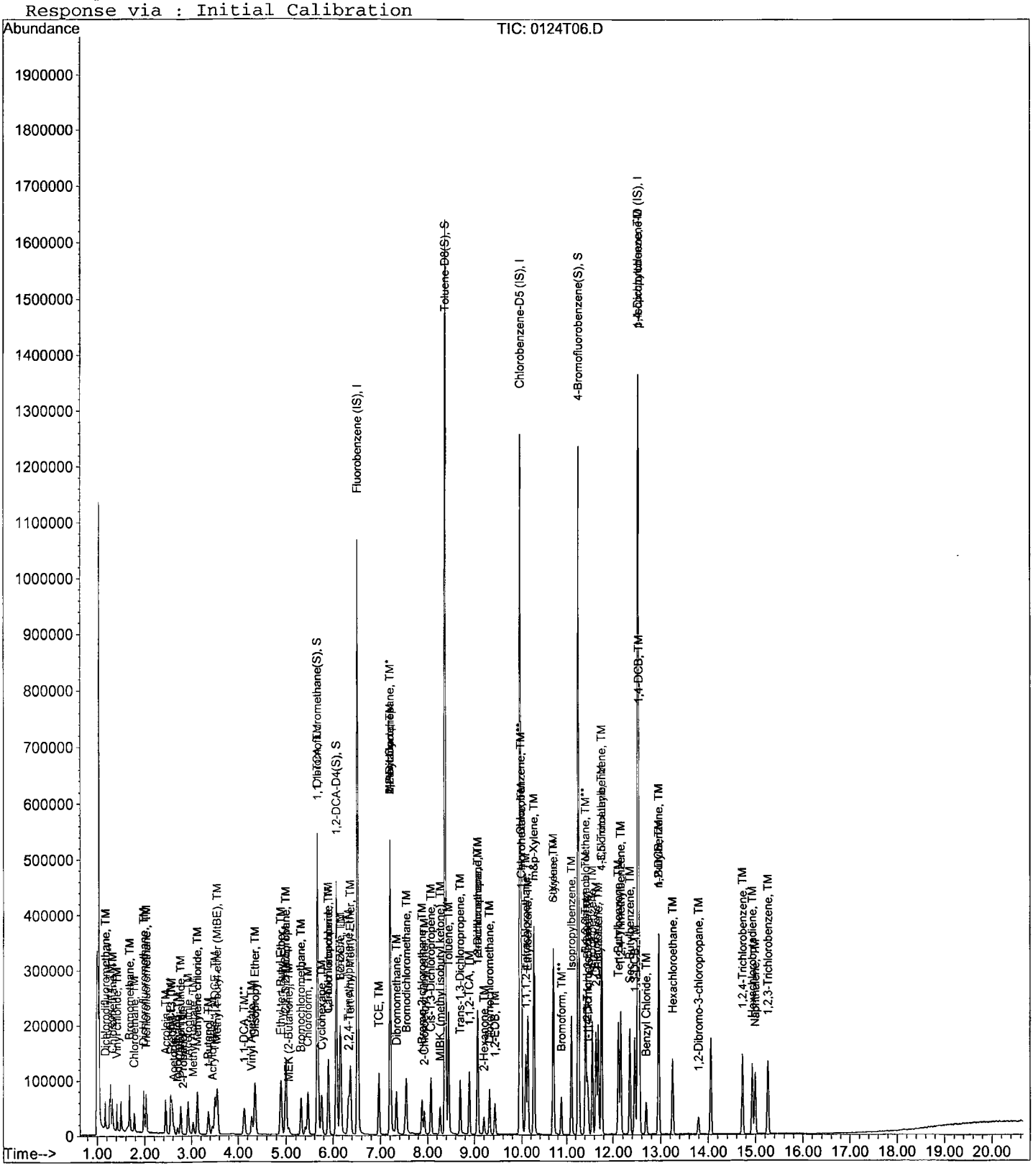
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0124T06.D Vial: 6
Acq On : 24 Jan 20 12:54 Operator:
Sample : 200124A LCSD 10ug/L Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

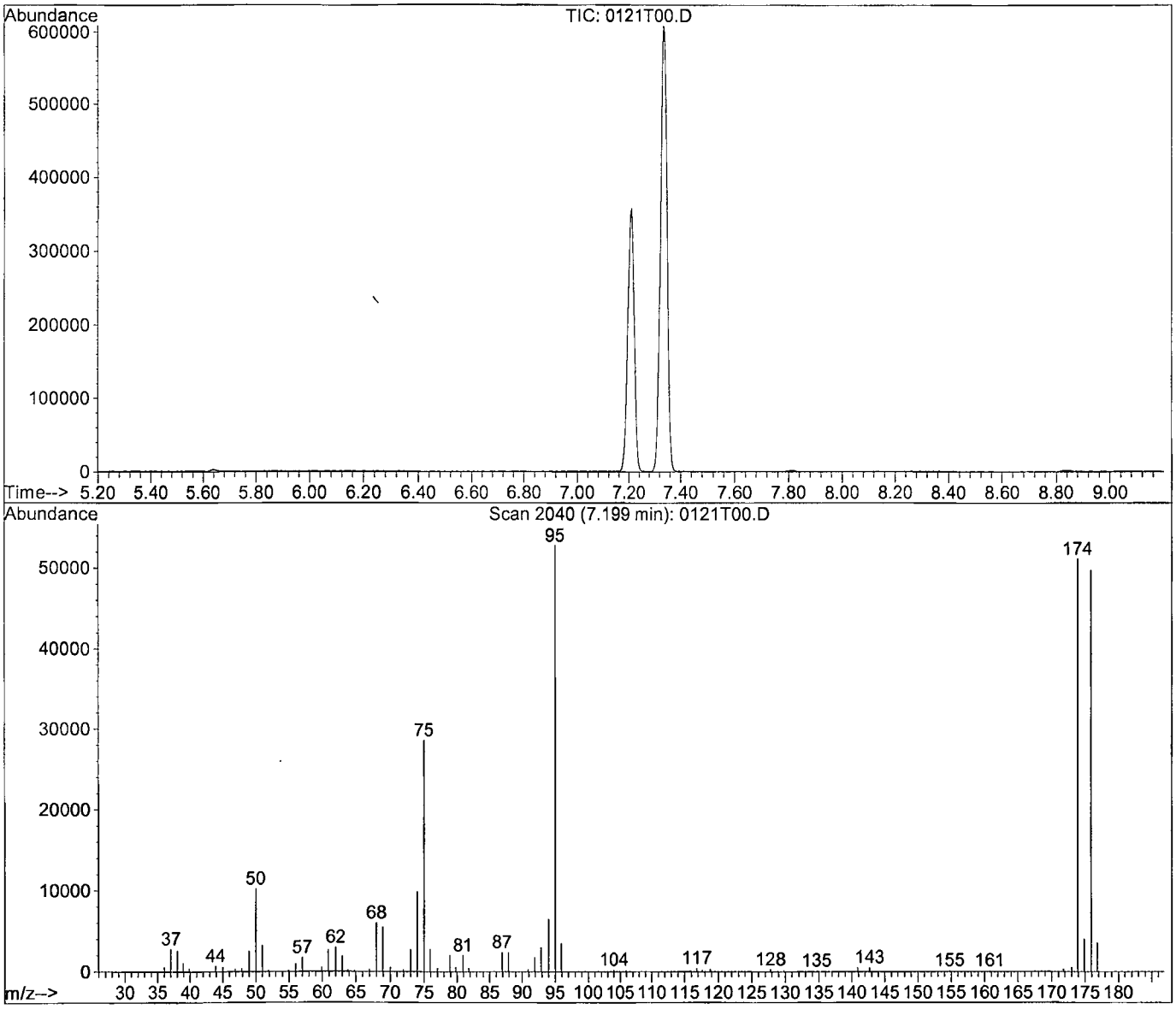
Quant Time: Jan 24 14:13 2020 Quant Results File: T0121W.RES

Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration



Data File : M:\THOR\DATA\T200121\0121T00.D Vial: 1
Acq On : 21 Jan 20 6:29 Operator:
Sample : 25ug/L BFB STD 12/29/19 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B

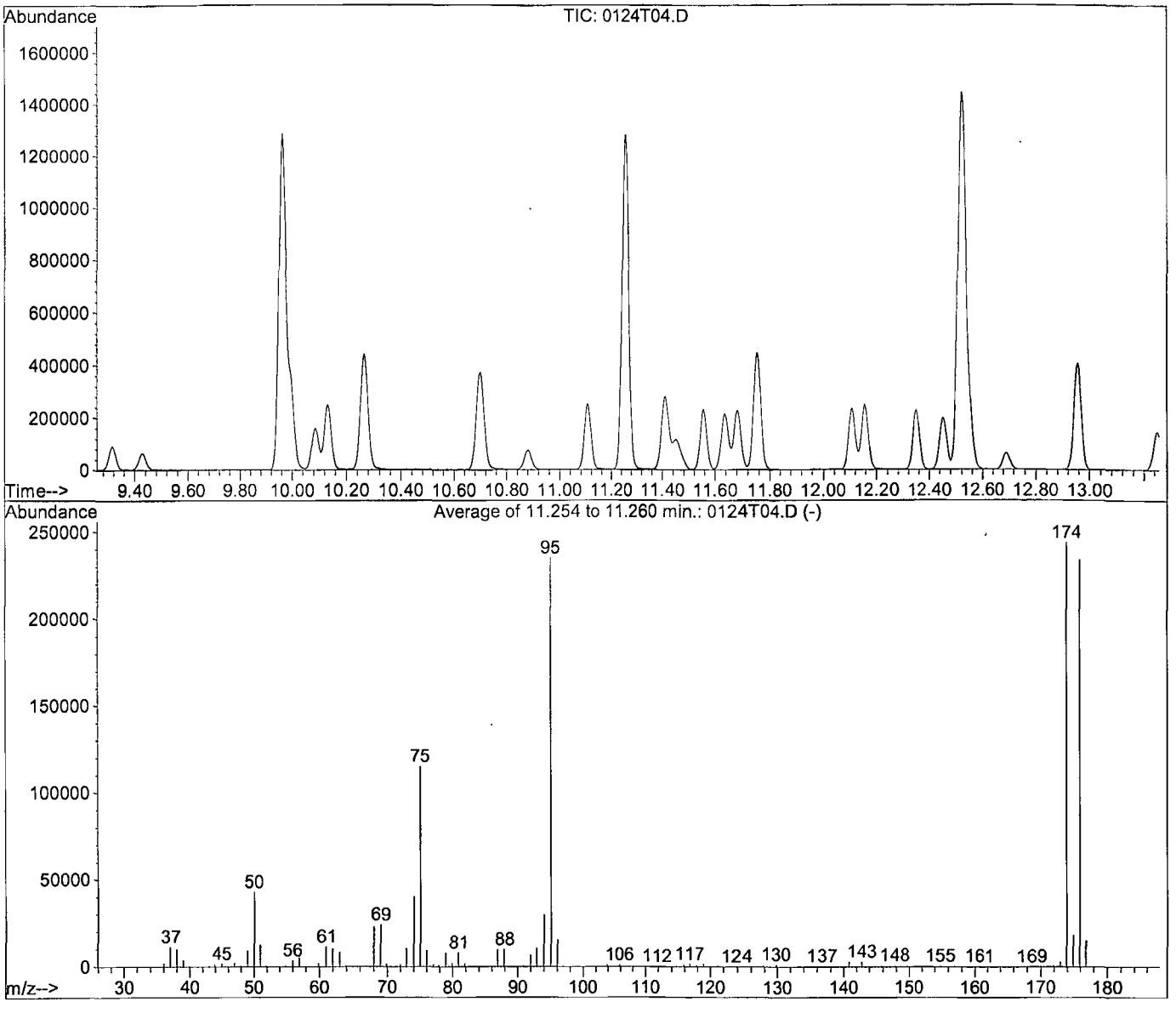


Spectrum Information: Scan 2040

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	19.4	10240	PASS
75	95	30	60	54.2	28568	PASS
95	95	100	100	100.0	52752	PASS
96	95	5	9	6.5	3454	PASS
173	174	0.00	2	1.1	544	PASS
174	95	50	200	96.9	51112	PASS
175	174	5	9	7.8	3990	PASS
176	174	95	101	97.3	49728	PASS
177	176	5	9	7.1	3512	PASS

Data File : M:\THOR\DATA\T200121\0124t04.D Vial: 4
Acq On : 24 Jan 20 11:58 Operator:
Sample : 25ug/L BFB STD 12/29/19 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B



AutoFind: Scans 3301, 3302, 3303; Background Corrected with Scan 3284

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	18.2	42840	PASS
75	95	30	60	48.9	115040	PASS
95	95	100	100	100.0	235051	PASS
96	95	5	9	6.6	15563	PASS
173	174	0.00	2	1.1	2778	PASS
174	95	50	200	103.7	243797	PASS
175	174	5	9	7.5	18165	PASS
176	174	95	101	95.9	233899	PASS
177	176	5	9	6.5	15091	PASS

0124t04.D T0121W.M Tue Jan 28 13:21:25 2020

Injection Log

Directory: M:\THOR\DATA\T200121\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	1	0121T00.D	1	25ug/L BFB STD 12/29/19	IS&S 12/26/19,12/26/19	21 Jan 20 6:29
2	2	0121T02.D	1	0.3ug/L VOC STD 1/21/20	IS&S 12/26/19,12/26/19	21 Jan 20 7:41
3	3	0121T03.D	1	0.5ug/L VOC STD 1/21/20	IS&S 12/26/19,12/26/19	21 Jan 20 8:09
4	4	0121T04.D	1	1ug/L VOC STD 1/21/20	IS&S 12/26/19,12/26/19	21 Jan 20 8:37
5	5	0121T05.D	1	2ug/L VOC STD 1/21/20	IS&S 12/26/19,12/26/19	21 Jan 20 9:05
6	6	0121T06.D	1	5ug/L VOC STD 1/21/20	IS&S 12/26/19,12/26/19	21 Jan 20 9:34
7	7	0121T07.D	1	10ug/L VOC STD 1/21/20	IS&S 12/26/19,12/26/19	21 Jan 20 10:02
8	8	0121T08.D	1	20ug/L VOC STD 1/21/20	IS&S 12/26/19,12/26/19	21 Jan 20 10:30
9	9	0121T09.D	1	40ug/L VOC STD 1/21/20	IS&S 12/26/19,12/26/19	21 Jan 20 10:59
10	10	0121T10.D	1	100ug/L VOC STD 1/21/20	IS&S 12/26/19,12/26/19	21 Jan 20 11:27
11	13	0121T13.D	1	(SS) 10ug/L VOC STD 1/21/20	IS&S 12/26/19,12/26/19	21 Jan 20 12:52
12	4	0124T04.D	1	25ug/L BFB STD 12/29/19	IS&S 12/26/19,12/26/19	24 Jan 20 11:58
13	5	0124T05.D	1	200124A CCV/LCS 10ug/L	IS&S 12/26/19,12/26/19	24 Jan 20 12:26
14	6	0124T06.D	1	200124A LCSD 10ug/L	IS&S 12/26/19,12/26/19	24 Jan 20 12:54
15	11	0124T11.D	1	200124A BLK	IS&S 12/26/19,12/26/19	24 Jan 20 15:16
16	13	0124T13.D	1	BA06312W01	IS&S 12/26/19,12/26/19	24 Jan 20 16:13
17	14	0124T14.D	1	BA06314W01	IS&S 12/26/19,12/26/19	24 Jan 20 16:41
18	15	0124T15.D	1	BA06316W01	IS&S 12/26/19,12/26/19	24 Jan 20 17:09
19	16	0124T16.D	1	BA06318W01	IS&S 12/26/19,12/26/19	24 Jan 20 17:38
20	17	0124T17.D	1	BA06313W01	IS&S 12/26/19,12/26/19	24 Jan 20 18:06
21	18	0124T18.D	1	BA06315W01	IS&S 12/26/19,12/26/19	24 Jan 20 18:34
22	19	0124T19.D	1	BA06317W01	IS&S 12/26/19,12/26/19	24 Jan 20 19:03
23	20	0124T20.D	1	BA06319W01	IS&S 12/26/19,12/26/19	24 Jan 20 19:31
24	28	0124T28.D	1	Ending CCV 10ug/L 1/24/20	IS&S 12/26/19,12/26/19	24 Jan 20 23:18

ORGANICS
Calibration Data

VOLATILE ORGANIC ANALYSIS
VOLATILE ORGANIC COMPOUNDS

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Initial Cal. Date: 01/16/20
Matrix: water Instrument: Thor
Initials: DG

			0116T20.D	0116T21.D	0116T22.D	0116T23.D	0116T24.D	0116T25.D	0116T26.D									
		Compound	1	2	3	4	5	6	7				Avg	%RSD	Type	r^2	Q	MRF
1	I	Fluorobenzene (IS)																
2	TMHBL	Gasoline C6-C10	14.6	6.167	3.214	1.315	0.8187	0.7104	0.6355				3.9	130	TMHBL	1.000		
3	I	Chlorobenzene-D5 (IS)																
4	I	1,4-Dichlorobenzene-D (IS)																
5																		
6																		
7																		
8																		
9																		
10																		
11																		
12																		
13																		
14																		
15																		
16																		
17																		
18																		
19																		
20																		
21																		
22																		
23																		
24																		
25																		
26																		
27																		
28																		
29																		
30																		
31																		
32																		
33																		
34																		
35																		

Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T200116\0116T20.D Vial: 14
Acq On : 16 Jan 20 22:12 Operator:
Sample : 20ug/L GAS STD 1/16/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 17 10:02 2020 Quant Results File: TGAS0116.RES

Quant Method : M:\THOR\DATA\T200116\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 09:40:47 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	TIC	1065212	25.000 ppb	0.00
3) Chlorobenzene-D5 (IS)	9.96	TIC	1248213	25.000 ppb	0.00
4) 1,4-Dichlorobenzene-D (IS)	12.52	TIC	1244038	25.000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	8.37	TIC	12439089m	13.048 ppb	100

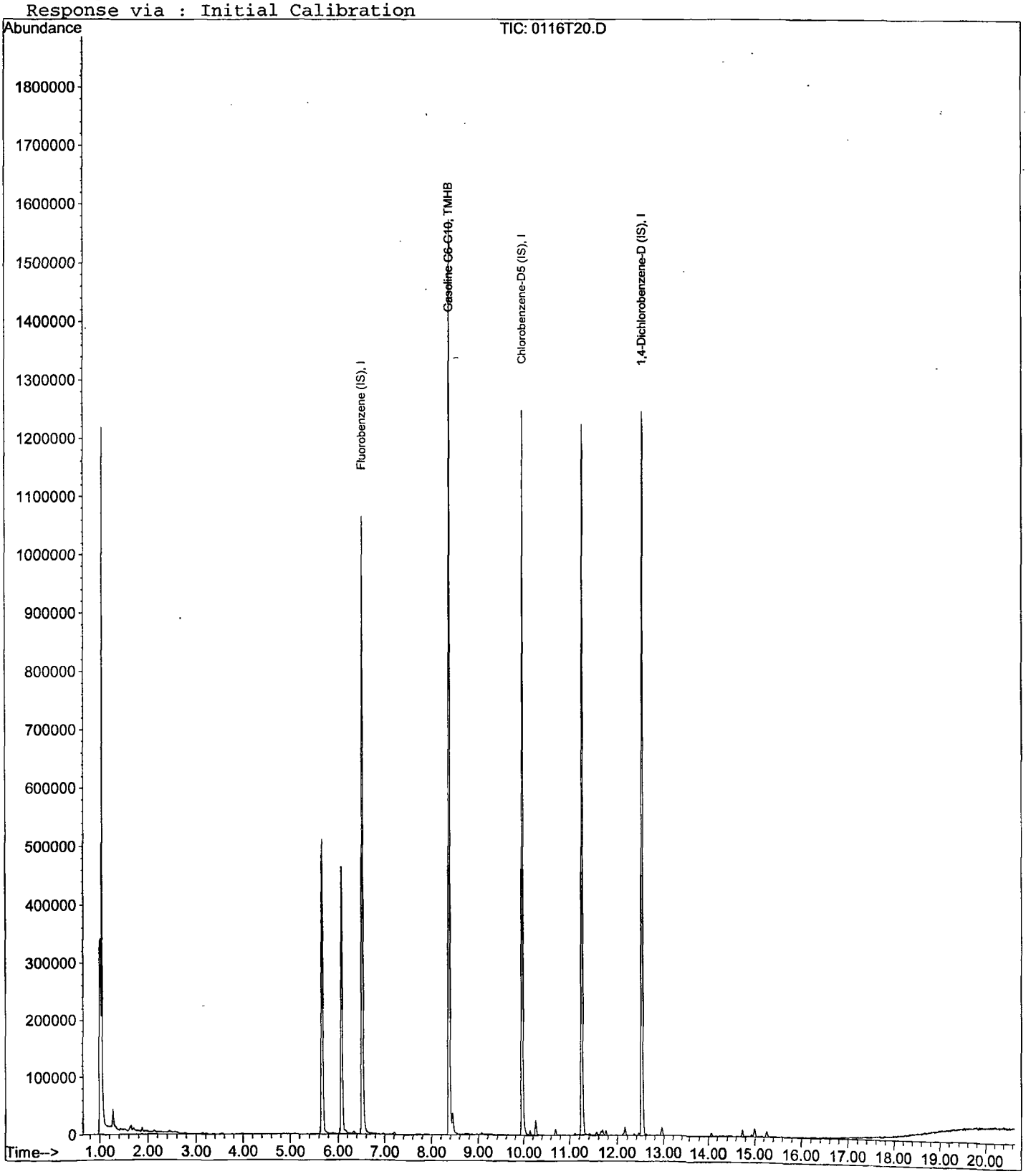
(#) = qualifier out of range (m) = manual integration
0116T20.D TGAS0116.M Fri Jan 17 10:09:47 2020 Page 1

Quantitation Report

Data File : M:\THOR\DATA\T200116\0116T20.D Vial: 14
Acq On : 16 Jan 20 22:12 Operator:
Sample : 20ug/L GAS STD 1/16/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 17 10:02 2020 Quant Results File: TGAS0116.RES

Method : M:\THOR\DATA\T200116\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T200116\0116T21.D Vial: 15
Acq On : 16 Jan 20 22:40 Operator:
Sample : 50ug/L GAS STD 1/16/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 17 10:03 2020 Quant Results File: TGAS0116.RES

Quant Method : M:\THOR\DATA\T200116\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 09:40:47 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	TIC	1030969	25.000	ppb	0.00
3) Chlorobenzene-D5 (IS)	9.96	TIC	1239650	25.000	ppb	0.00
4) 1,4-Dichlorobenzene-D (IS)	12.52	TIC	1263422	25.000	ppb	0.00

System Monitoring Compounds

Target Compounds						Qvalue
2) Gasoline C6-C10	8.37	TIC	12715661m	60.359	ppb	100

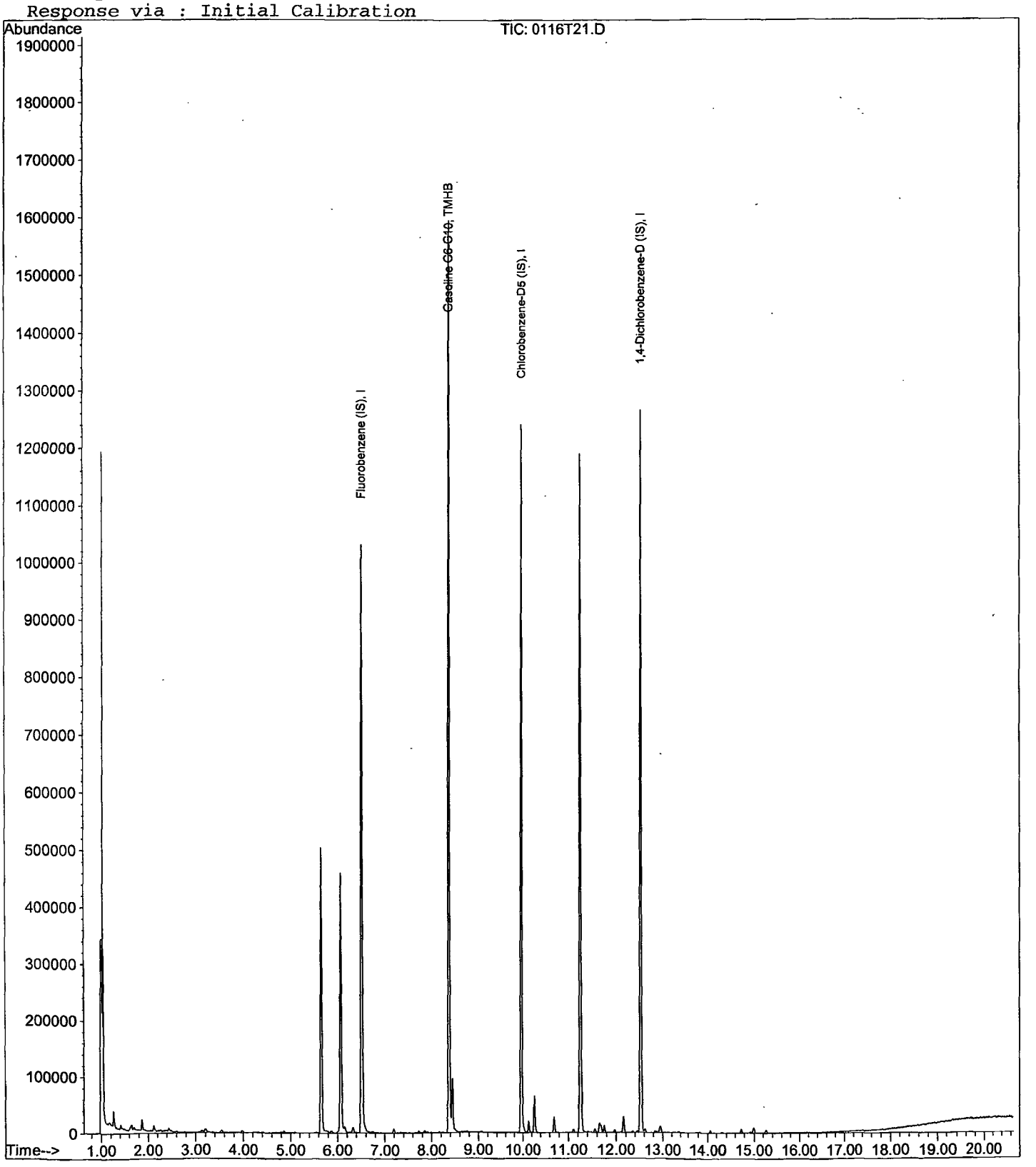
(#) = qualifier out of range (m) = manual integration
0116T21.D TGAS0116.M Fri Jan 17 10:09:49 2020 Page 1

Quantitation Report

Data File : M:\THOR\DATA\T200116\0116T21.D Vial: 15
Acq On : 16 Jan 20 22:40 Operator:
Sample : 50ug/L GAS STD 1/16/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 17 10:03 2020 Quant Results File: TGAS0116.RES

Method : M:\THOR\DATA\T200116\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T200116\0116T22.D Vial: 16
Acq On : 16 Jan 20 23:08 Operator:
Sample : 100ug/L GAS STD 1/16/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 17 10:03 2020 Quant Results File: TGAS0116.RES

Quant Method : M:\THOR\DATA\T200116\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 09:40:47 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	TIC	1047091	25.000	ppb	0.00
3) Chlorobenzene-D5 (IS)	9.96	TIC	1238298	25.000	ppb	0.00
4) 1,4-Dichlorobenzene-D (IS)	12.52	TIC	1235111	25.000	ppb	0.00
System Monitoring Compounds						
Target Compounds						Qvalue
2) Gasoline C6-C10	8.37	TIC	13461175m	98.004	ppb	100

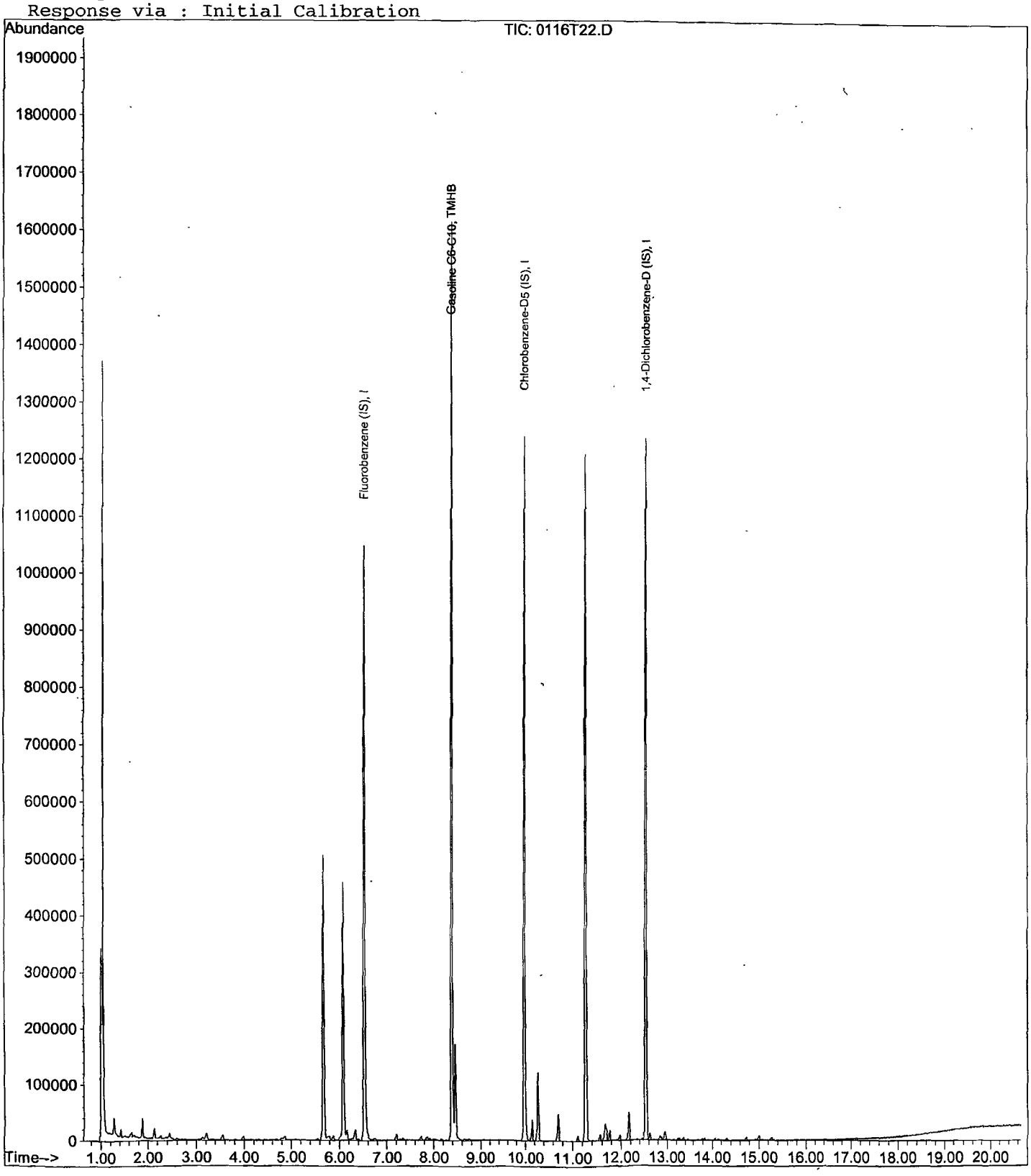
(#) = qualifier out of range (m) = manual integration
0116T22.D TGAS0116.M Fri Jan 17 10:09:52 2020 Page 1

Quantitation Report

Data File : M:\THOR\DATA\T200116\0116T22.D Vial: 16
Acq On : 16 Jan 20 23:08 Operator:
Sample : 100ug/L GAS STD 1/16/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 17 10:03 2020 Quant Results File: TGAS0116.RES

Method : M:\THOR\DATA\T200116\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T200116\0116T23.D Vial: 17
Acq On : 16 Jan 20 23:37 Operator:
Sample : 300ug/L GAS STD 1/16/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 17 10:04 2020 Quant Results File: TGAS0116.RES

Quant Method : M:\THOR\DATA\T200116\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 09:40:47 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	TIC	1050438	25.000 ppb	0.00
3) Chlorobenzene-D5 (IS)	9.96	TIC	1265632	25.000 ppb	0.00
4) 1,4-Dichlorobenzene-D (IS)	12.52	TIC	1261017	25.000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	8.37	TIC	16572917m	308.652 ppb	100

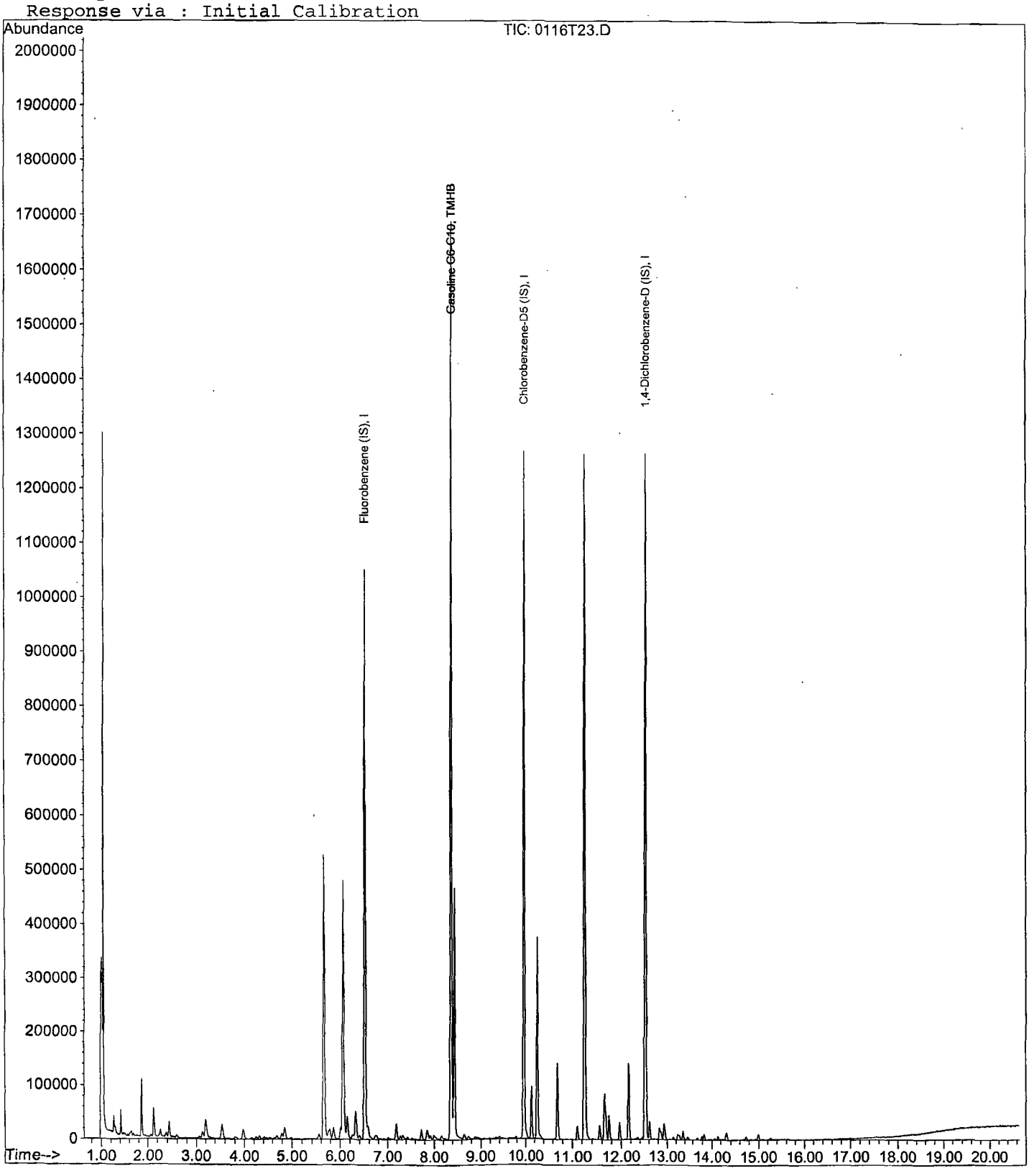
(#) = qualifier out of range (m) = manual integration
0116T23.D TGAS0116.M Fri Jan 17 10:09:54 2020 Page 1

Quantitation Report

Data File : M:\THOR\DATA\T200116\0116T23.D Vial: 17
Acq On : 16 Jan 20 23:37 Operator:
Sample : 300ug/L GAS STD 1/16/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 17 10:04 2020 Quant Results File: TGAS0116.RES

Method : M:\THOR\DATA\T200116\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T200116\0116T24.D Vial: 18
Acq On : 17 Jan 20 00:05 Operator:
Sample : 600ug/L GAS STD 1/16/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 17 10:05 2020 Quant Results File: TGAS0116.RES

Quant Method : M:\THOR\DATA\T200116\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 09:40:47 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	TIC	1044608	25.000 ppb	0.00
3) Chlorobenzene-D5 (IS)	9.96	TIC	1228227	25.000 ppb	0.00
4) 1,4-Dichlorobenzene-D (IS)	12.52	TIC	1245746	25.000 ppb	0.00
System Monitoring Compounds					
Target Compounds					Qvalue
2) Gasoline C6-C10	8.37	TIC	20524559m	587.771 ppb	100

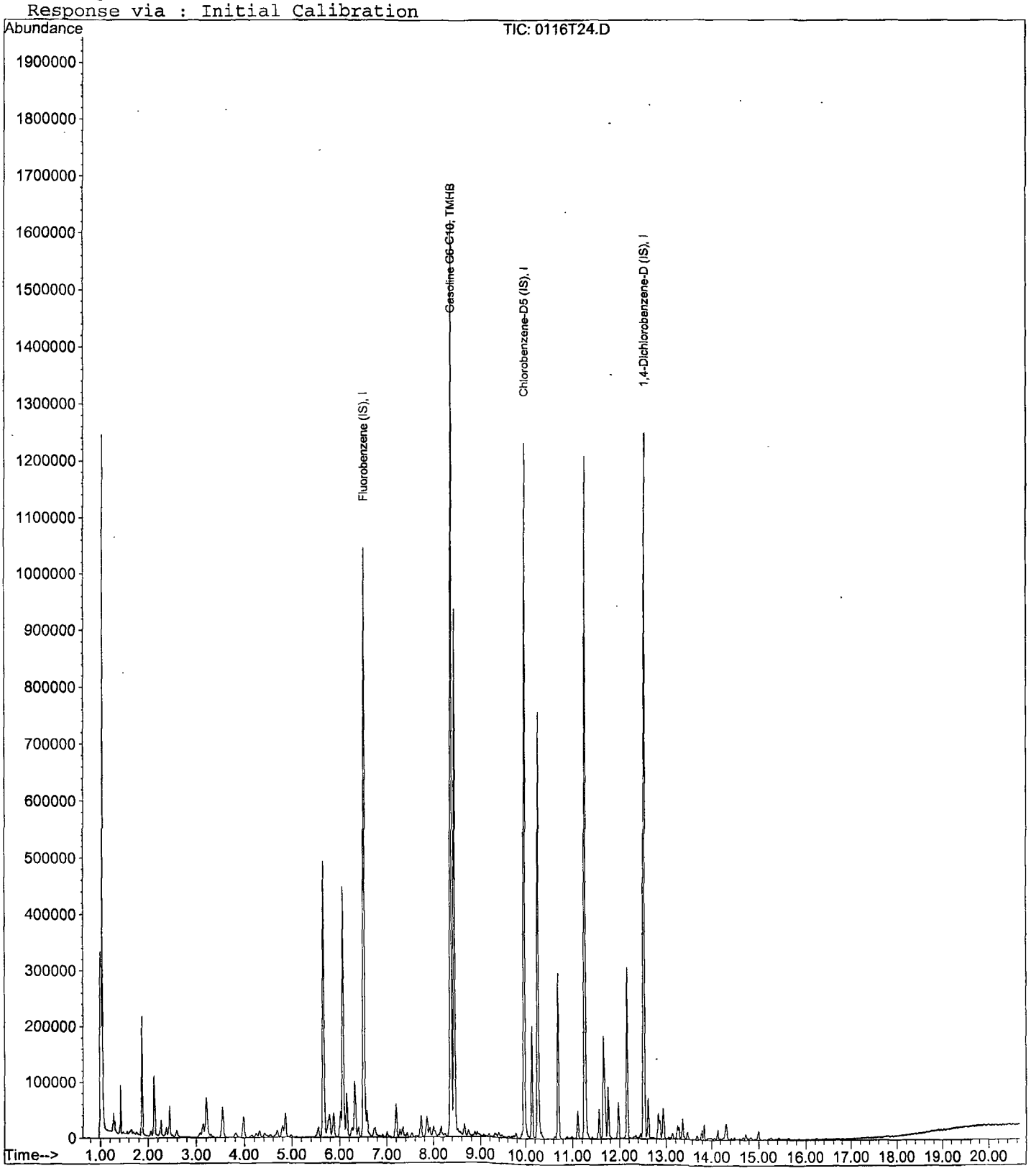
(#) = qualifier out of range (m) = manual integration
0116T24.D TGAS0116.M Fri Jan 17 10:09:56 2020

Quantitation Report

Data File : M:\THOR\DATA\T200116\0116T24.D Vial: 18
Acq On : 17 Jan 20 00:05 Operator:
Sample : 600ug/L GAS STD 1/16/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 17 10:05 2020 Quant Results File: TGAS0116.RES

Method : M:\THOR\DATA\T200116\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T200116\0116T25.D Vial: 19
Acq On : 17 Jan 20 00:33 Operator:
Sample : 800ug/L GAS STD 1/16/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 17 10:05 2020 Quant Results File: TGAS0116.RES

Quant Method : M:\THOR\DATA\T200116\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 09:40:47 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	TIC	1064412	25.000	ppb	0.00
3) Chlorobenzene-D5 (IS)	9.96	TIC	1289326	25.000	ppb	0.00
4) 1,4-Dichlorobenzene-D (IS)	12.52	TIC	1307330	25.000	ppb	0.00
System Monitoring Compounds						
Target Compounds						Qvalue
2) Gasoline C6-C10	8.37	TIC	24197442m	810.222	ppb	100

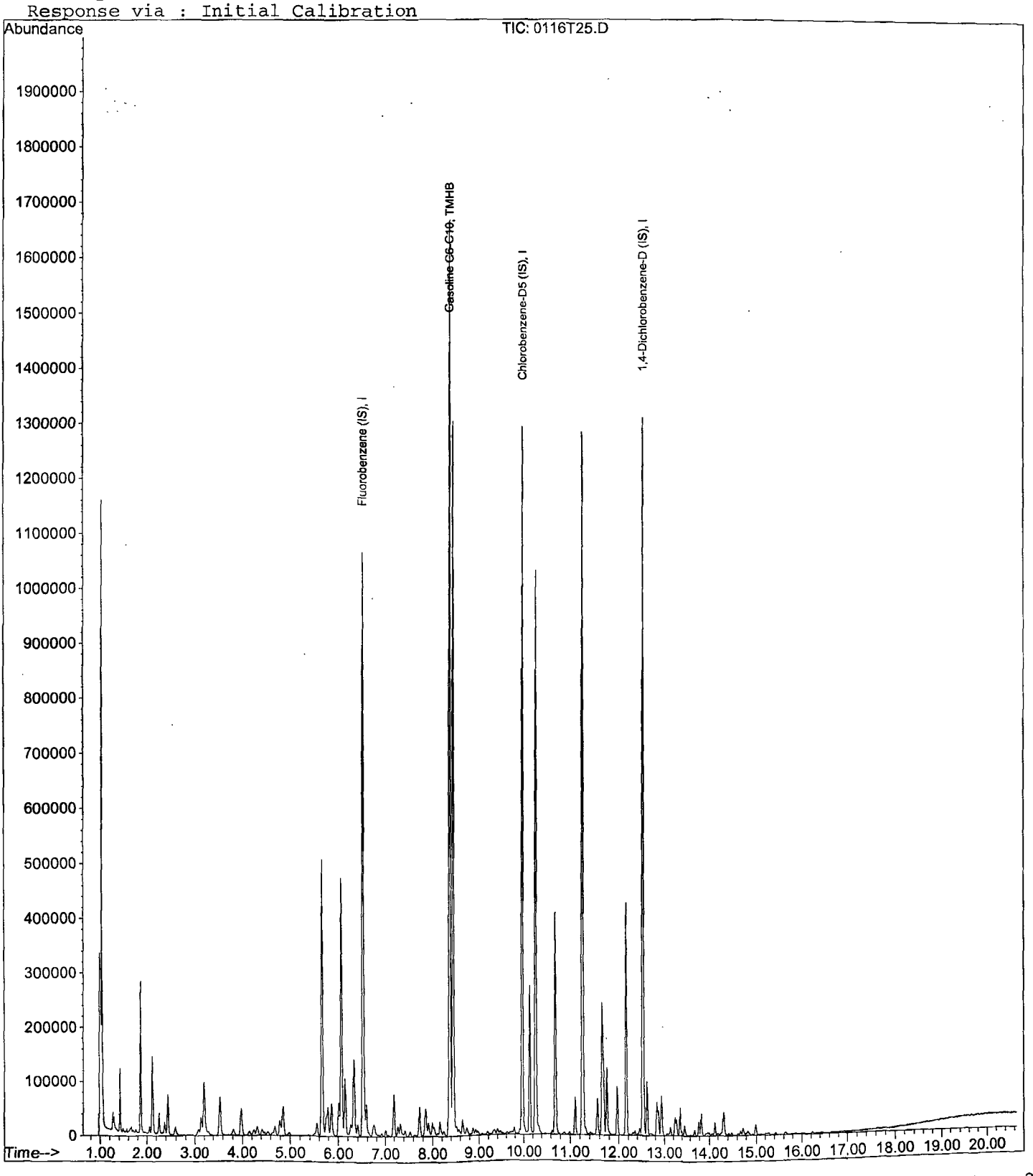
(#) = qualifier out of range (m) = manual integration
0116T25.D TGAS0116.M Fri Jan 17 10:09:58 2020 Page 1

Quantitation Report

Data File : M:\THOR\DATA\T200116\0116T25.D Vial: 19
Acq On : 17 Jan 20 00:33 Operator:
Sample : 800ug/L GAS STD 1/16/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 17 10:05 2020 Quant Results File: TGAS0116.RES

Method : M:\THOR\DATA\T200116\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T200116\0116T26.D Vial: 20
Acq On : 17 Jan 20 1:02 Operator:
Sample : 1000ug/L GAS STD 1/16/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 17 10:06 2020 Quant Results File: TGAS0116.RES

Quant Method : M:\THOR\DATA\T200116\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 09:40:47 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	TIC	1067613	25.000	ppb	0.00
3) Chlorobenzene-D5 (IS)	9.96	TIC	1245143	25.000	ppb	0.00
4) 1,4-Dichlorobenzene-D (IS)	12.52	TIC	1309319	25.000	ppb	0.00

System Monitoring Compounds

Target Compounds						Qvalue
2) Gasoline C6-C10	8.37	TIC	27138242m	1003.927	ppb	100

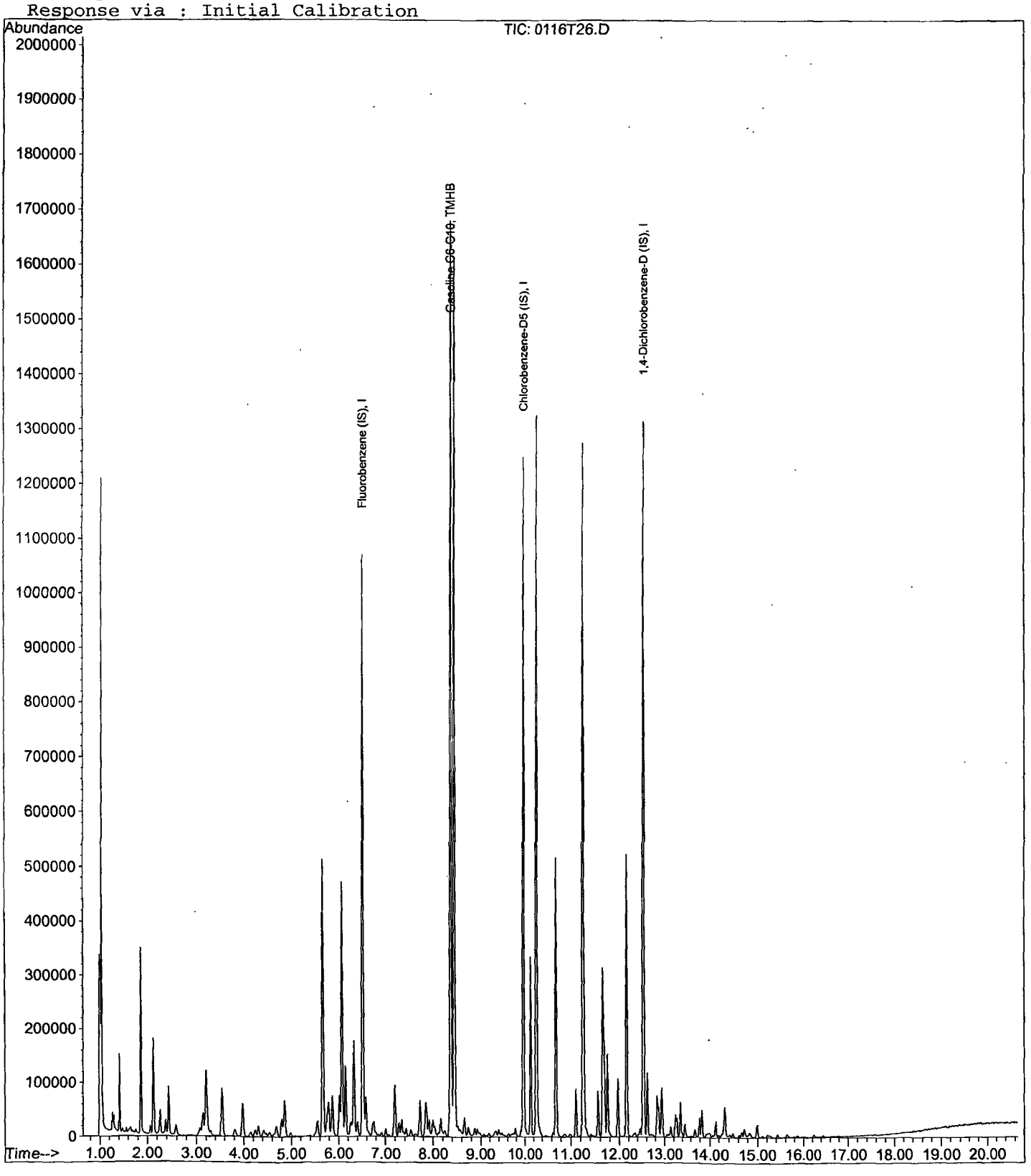
(#) = qualifier out of range (m) = manual integration
0116T26.D TGAS0116.M Fri Jan 17 10:10:01 2020 Page 1

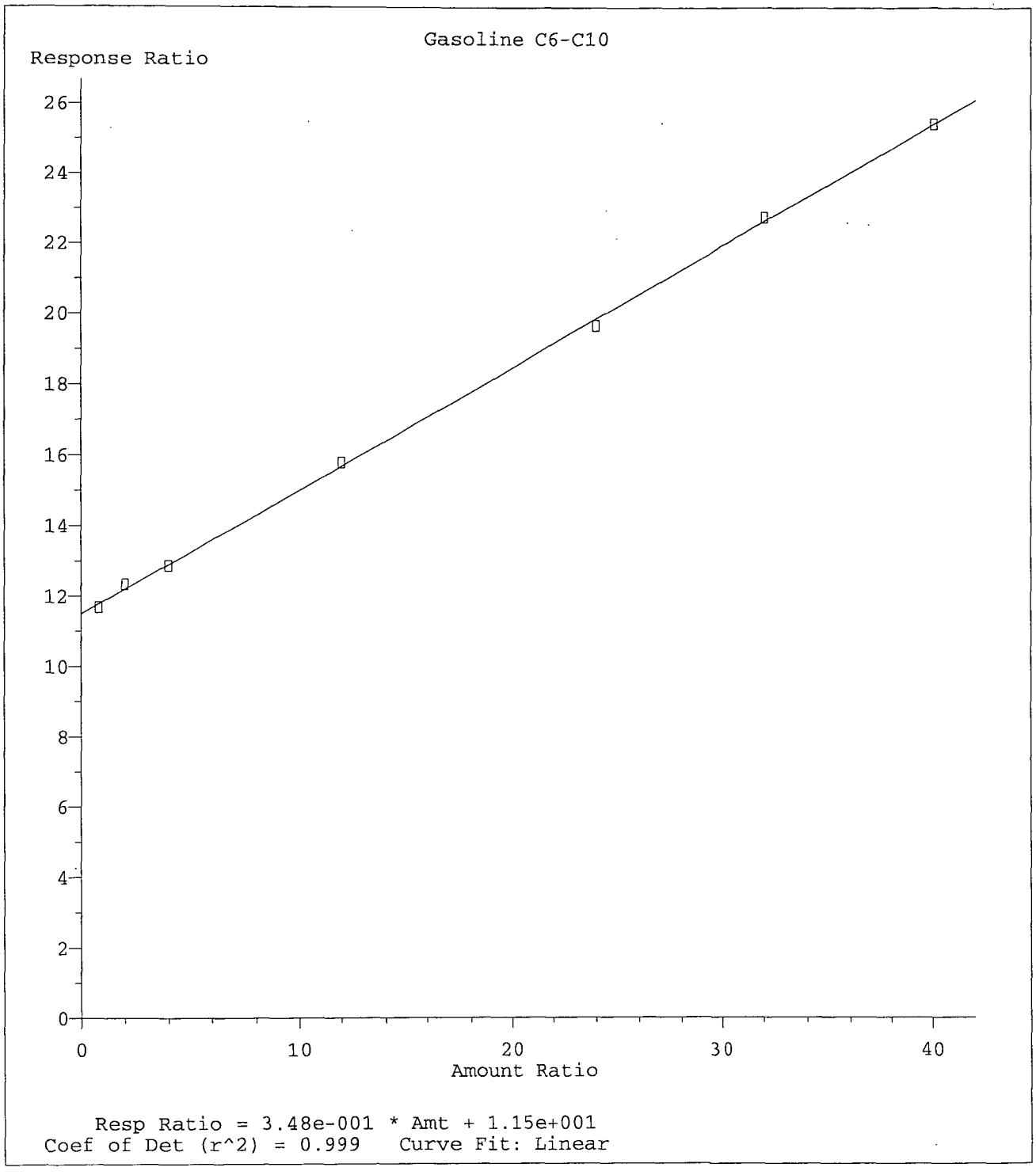
Quantitation Report

Data File : M:\THOR\DATA\T200116\0116T26.D Vial: 20
Acq On : 17 Jan 20 1:02 Operator:
Sample : 1000ug/L GAS STD 1/16/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 17 10:06 2020 Quant Results File: TGAS0116.RES

Method : M:\THOR\DATA\T200116\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration





Method Name: M:\THOR\DATA\T200116\TGAS0116.M
Calibration Table Last Updated: Fri Jan 17 10:06:37 2020

VOLATILE ORGANIC ANALYSIS
VOLATILE ORGANIC COMPOUNDS

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: water

SDG No:
Date Analyzed: 01/17/20
Instrument: Thor
Initial Cal. Date: 01/16/20
Data File: 0116T28.D

		Compound	MEAN	CCRF	%D		%Drift
1	TMHB	Gasoline C6-C10	3.922	1.312	67	TMHBL	1.6
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			67.0		

Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T200116\0116T28.D Vial: 22
Acq On : 17 Jan 20 1:58 Operator:
Sample : (SS) 300ug/L GAS STD 1/16/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 17 10:08 2020 Quant Results File: TGAS0116.RES

Quant Method : M:\THOR\DATA\T200116\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	TIC	1044816	25.000	ppb	0.00
3) Chlorobenzene-D5 (IS)	9.96	TIC	1228554	25.000	ppb	0.00
4) 1,4-Dichlorobenzene-D (IS)	12.52	TIC	1250181	25.000	ppb	0.00
System Monitoring Compounds						
Target Compounds						Qvalue
2) Gasoline C6-C10	8.37	TIC	16447897m	304.733	ppb	100

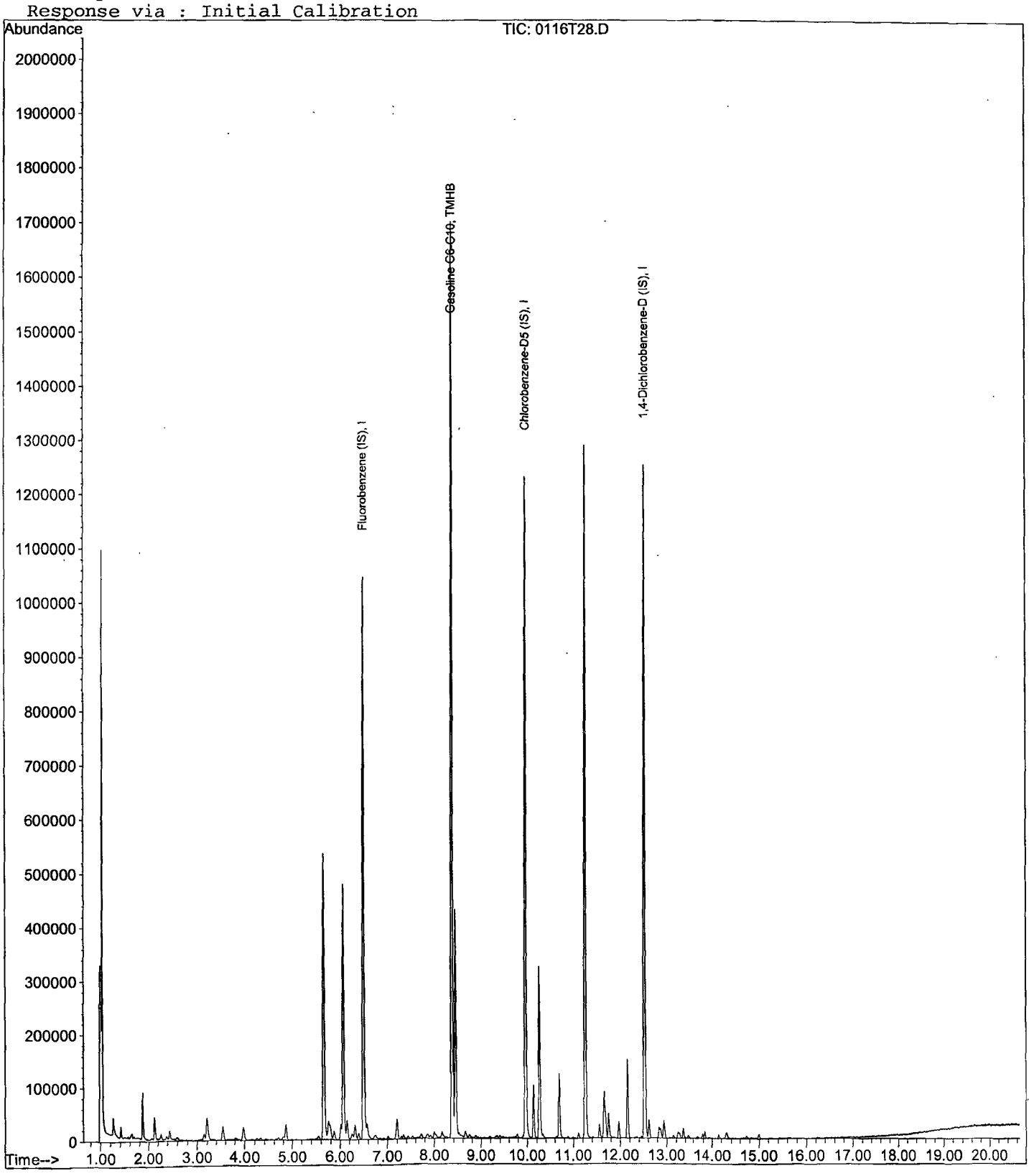
(#) = qualifier out of range (m) = manual integration
0116T28.D TGAS0116.M Fri Jan 17 10:10:03 2020 Page 1

Quantitation Report

Data File : M:\THOR\DATA\T200116\0116T28.D Vial: 22
Acq On : 17 Jan 20 1:58 Operator:
Sample : (SS) 300ug/L GAS STD 1/16/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 17 10:08 2020 Quant Results File: TGAS0116.RES

Method : M:\THOR\DATA\T200116\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS
VOLATILE ORGANIC COMPOUNDS

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Initial Cal. Date: 01/21/20
Matrix: water Instrument: Thor Initials: DG

			0121T02.D	0121T03.D	0121T04.D	0121T05.D	0121T06.D	0121T07.D	0121T08.D	0121T09.D	0121T10.D							
		Compound	1	2	3	4	5	6	7	8	9		Avg	%RSD	Type	r^2	Q	MRF
1	I	Fluorobenzene (IS)																
2	SL	Dibromofluoromethane(S)	0.5252	0.5004	0.3888	0.3868	0.3352	0.3273	0.3026	0.2933	0.2836		0.37	24	SL	1.000		
3	SL	1,2-DCA-D4(S)	0.5752	0.5304	0.4255	0.4208	0.3577	0.3513	0.3221	0.3107	0.2985		0.40	25	SL	0.999		
4	I	Chlorobenzene-D5 (IS)																
5	SL	Toluene-D8(S)	2.491	2.257	1.779	1.756	1.567	1.532	1.424	1.346	1.252		1.7	24	SL	0.997		
6	SL	4-Bromofluorobenzene(S)	0.8390	0.7724	0.6130	0.6072	0.5490	0.5504	0.5329	0.5301	0.5292		0.61	19	SL	1.000		
7	I	1,4-Dichlorobenzene-D (IS)																
8																		
9																		
10																		
11																		
12																		
13																		
14																		
15																		
16																		
17																		
18																		
19																		
20																		
21																		
22																		
23																		
24																		
25																		
26																		
27																		
28																		
29																		
30																		
31																		
32																		
33																		
34																		
35																		

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0121T02.D Vial: 2
Acq On : 21 Jan 20 7:41 Operator:
Sample : 0.3ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 23 15:07 2020 Quant Results File: TSUR121W.RES

Quant Method : M:\THOR\DATA\T200121\TSUR121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	1021866	25.000	ppb	0.00
4) Chlorobenzene-D5 (IS)	9.96	117	789770	25.000	ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.52	152	406901	25.000	ppb	0.00
System Monitoring Compounds						
2) Dibromofluoromethane(S)	5.66	111	107330	4.970	ppb	0.00
Spiked Amount 25.000			Recovery =	19.880%		
3) 1,2-DCA-D4(S)	6.07	65	117550	4.897	ppb	0.00
Spiked Amount 25.000			Recovery =	19.588%		
5) Toluene-D8(S)	8.37	98	393419	4.581	ppb	0.00
Spiked Amount 25.000			Recovery =	18.324%		
6) 4-Bromofluorobenzene(S)	11.25	95	132516	6.087	ppb	0.00
Spiked Amount 25.000			Recovery =	24.348%		
Target Compounds						Qvalue

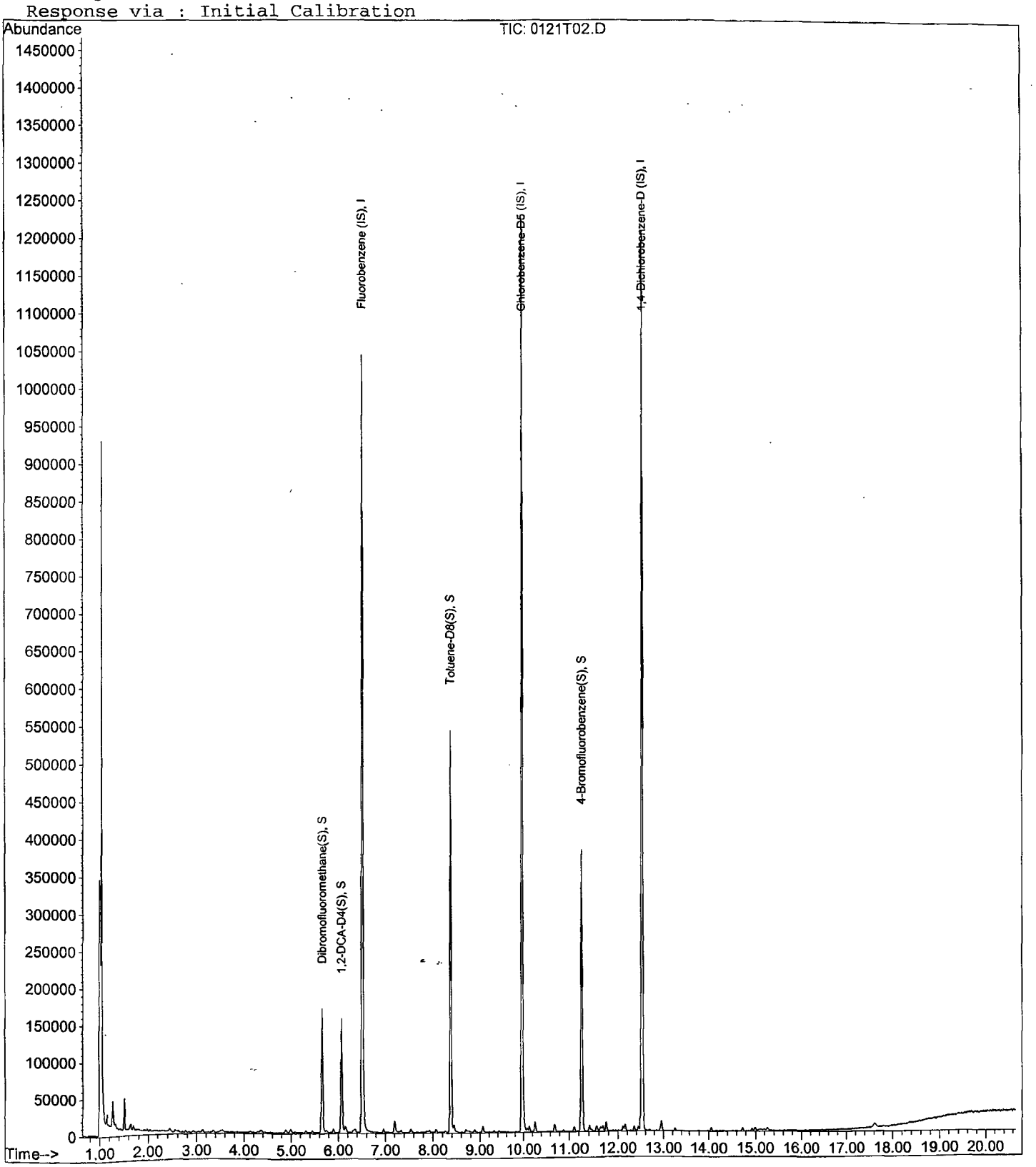
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0121T02.D Vial: 2
Acq On : 21 Jan 20 7:41 Operator:
Sample : 0.3ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 23 15:07 2020 Quant Results File: TSUR121W.RES

Method : M:\THOR\DATA\T200121\TSUR121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0121T03.D Vial: 3
Acq On : 21 Jan 20 8:09 Operator:
Sample : 0.5ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 23 15:07 2020 Quant Results File: TSUR121W.RES

Quant Method : M:\THOR\DATA\T200121\TSUR121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	1004691	25.000	ppb	0.00
4) Chlorobenzene-D5 (IS)	9.96	117	790347	25.000	ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.52	152	406984	25.000	ppb	0.00
System Monitoring Compounds						
2) Dibromofluoromethane(S)	5.66	111	100543	4.514	ppb	0.00
Spiked Amount 25.000			Recovery =	18.056%		
3) 1,2-DCA-D4(S)	6.07	65	106574	4.112	ppb	0.00
Spiked Amount 25.000			Recovery =	16.448%		
5) Toluene-D8(S)	8.37	98	356692	3.611	ppb	0.00
Spiked Amount 25.000			Recovery =	14.444%		
6) 4-Bromofluorobenzene(S)	11.25	95	122029	5.437	ppb	0.00
Spiked Amount 25.000			Recovery =	21.748%		
Target Compounds						Qvalue

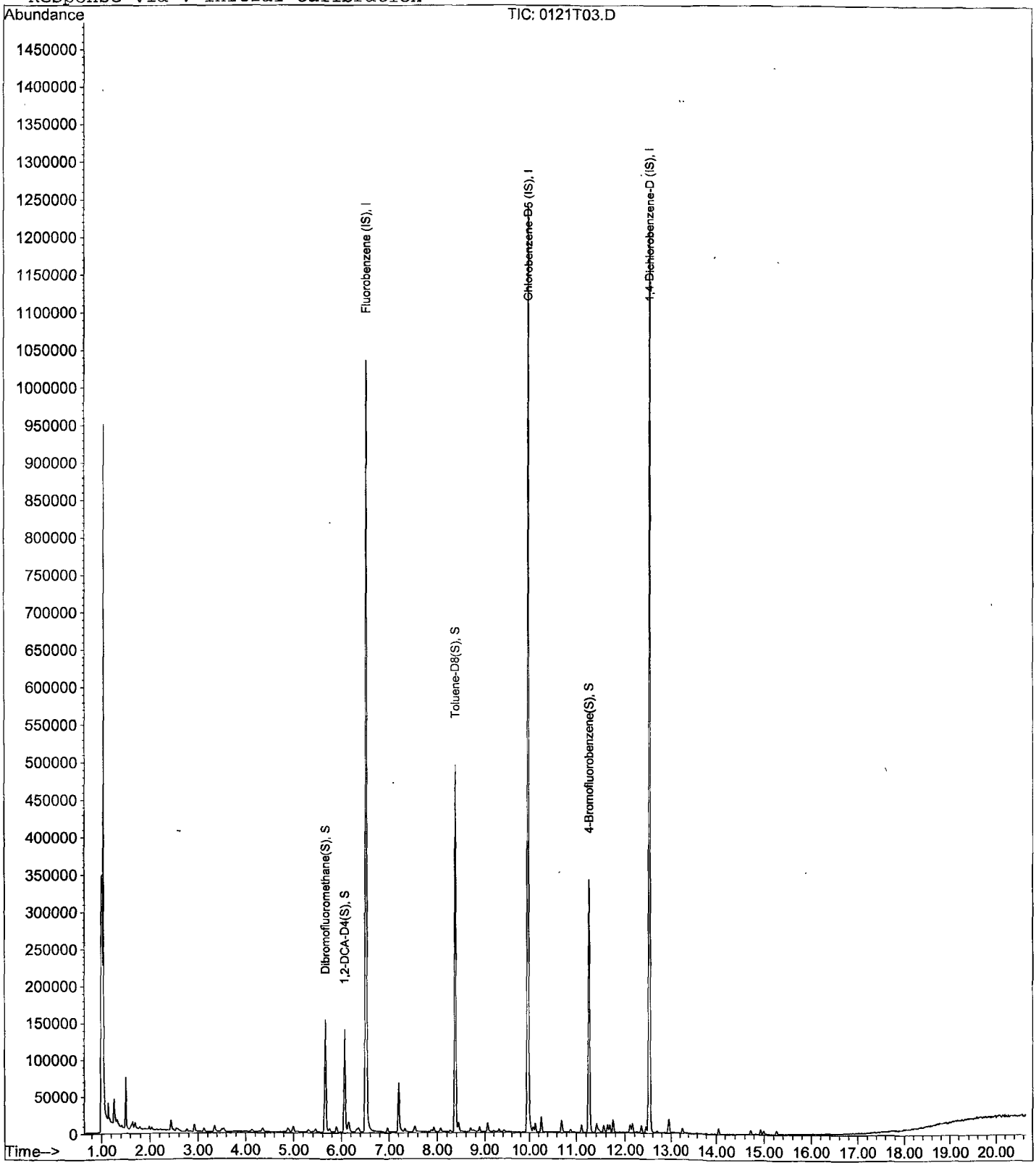
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0121T03.D Vial: 3
Acq On : 21 Jan 20 8:09 Operator:
Sample : 0.5ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 23 15:07 2020 Quant Results File: TSUR121W.RES

Method : M:\THOR\DATA\T200121\TSUR121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0121T04.D Vial: 4
Acq On : 21 Jan 20 8:37 Operator:
Sample : 1ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 23 15:07 2020 Quant Results File: TSUR121W.RES

Quant Method : M:\THOR\DATA\T200121\TSUR121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	1003430	25.000	ppb	0.00
4) Chlorobenzene-D5 (IS)	9.96	117	793951	25.000	ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.52	152	414015	25.000	ppb	0.00
System Monitoring Compounds						
2) Dibromofluoromethane(S)	5.66	111	156037	9.610	ppb	0.00
Spiked Amount 25.000			Recovery =	38.440%		
3) 1,2-DCA-D4(S)	6.07	65	170767	9.729	ppb	0.00
Spiked Amount 25.000			Recovery =	38.916%		
5) Toluene-D8(S)	8.37	98	565068	9.005	ppb	0.00
Spiked Amount 25.000			Recovery =	36.020%		
6) 4-Bromofluorobenzene(S)	11.25	95	194688	9.843	ppb	0.00
Spiked Amount 25.000			Recovery =	39.372%		

Target Compounds Qvalue

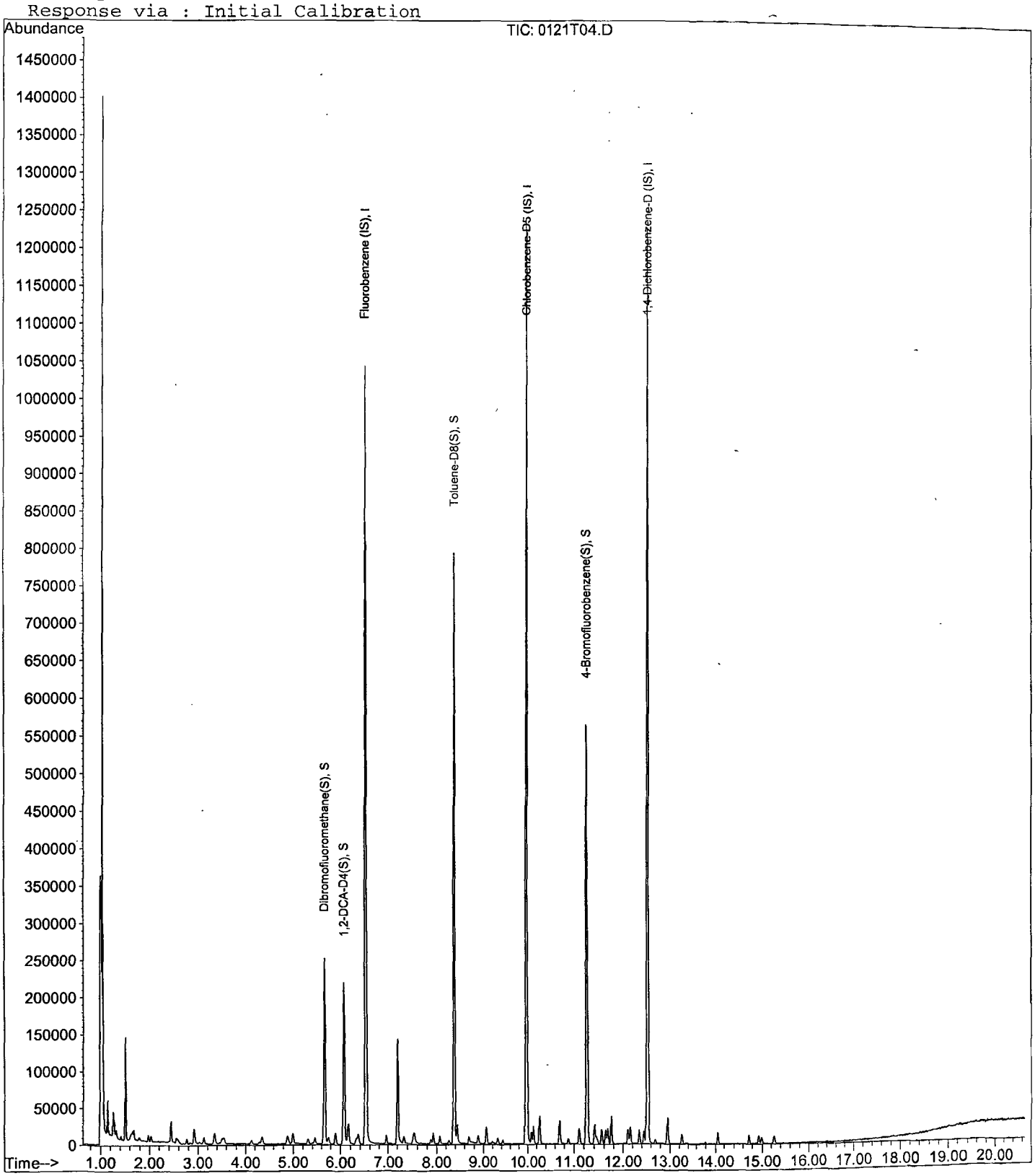
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0121T04.D Vial: 4
Acq On : 21 Jan 20 8:37 Operator:
Sample : 1ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 23 15:07 2020 Quant Results File: TSUR121W.RES

Method : M:\THOR\DATA\T200121\TSUR121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0121T05.D Vial: 5
Acq On : 21 Jan 20 9:05 Operator:
Sample : 2ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 23 15:07 2020 Quant Results File: TSUR121W.RES

Quant Method : M:\THOR\DATA\T200121\TSUR121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	1013704	25.000	ppb	0.00
4) Chlorobenzene-D5 (IS)	9.96	117	798540	25.000	ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.52	152	418905	25.000	ppb	0.00
System Monitoring Compounds						
2) Dibromofluoromethane(S)	5.66	111	156838	9.538	ppb	0.00
Spiked Amount 25.000			Recovery =	38.152%		
3) 1,2-DCA-D4(S)	6.07	65	170607	9.564	ppb	0.00
Spiked Amount 25.000			Recovery =	38.256%		
5) Toluene-D8(S)	8.37	98	560877	8.811	ppb	0.00
Spiked Amount 25.000			Recovery =	35.244%		
6) 4-Bromofluorobenzene(S)	11.25	95	193951	9.730	ppb	0.00
Spiked Amount 25.000			Recovery =	38.920%		

Target Compounds Qvalue

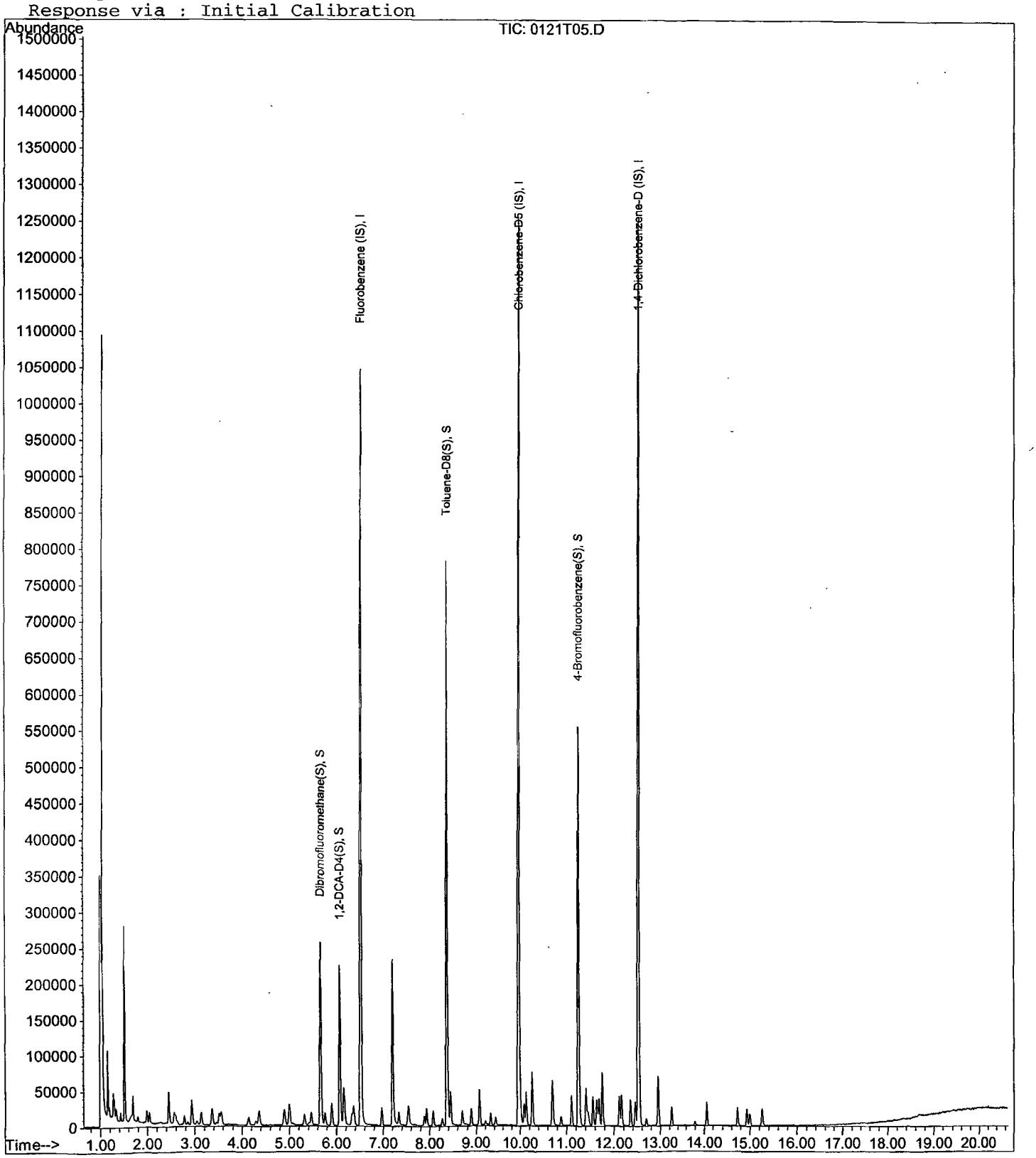
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0121T05.D Vial: 5
Acq On : 21 Jan 20 9:05 Operator:
Sample : 2ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 23 15:07 2020 Quant Results File: TSUR121W.RES

Method : M:\THOR\DATA\T200121\TSUR121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0121T06.D Vial: 6
Acq On : 21 Jan 20 9:34 Operator:
Sample : 5ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 23 15:07 2020 Quant Results File: TSUR121W.RES

Quant Method : M:\THOR\DATA\T200121\TSUR121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	1014454	25.000	ppb	0.00
4) Chlorobenzene-D5 (IS)	9.96	117	790523	25.000	ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.52	152	420669	25.000	ppb	0.00
System Monitoring Compounds						
2) Dibromofluoromethane(S)	5.66	111	340025	26.131	ppb	0.00
Spiked Amount 25.000			Recovery = 104.524%			
3) 1,2-DCA-D4(S)	6.07	65	362839	26.156	ppb	0.00
Spiked Amount 25.000			Recovery = 104.624%			
5) Toluene-D8(S)	8.37	98	1238785	26.722	ppb	0.00
Spiked Amount 25.000			Recovery = 106.888%			
6) 4-Bromofluorobenzene(S)	11.25	95	433975	24.579	ppb	0.00
Spiked Amount 25.000			Recovery = 98.316%			

Target Compounds Qvalue

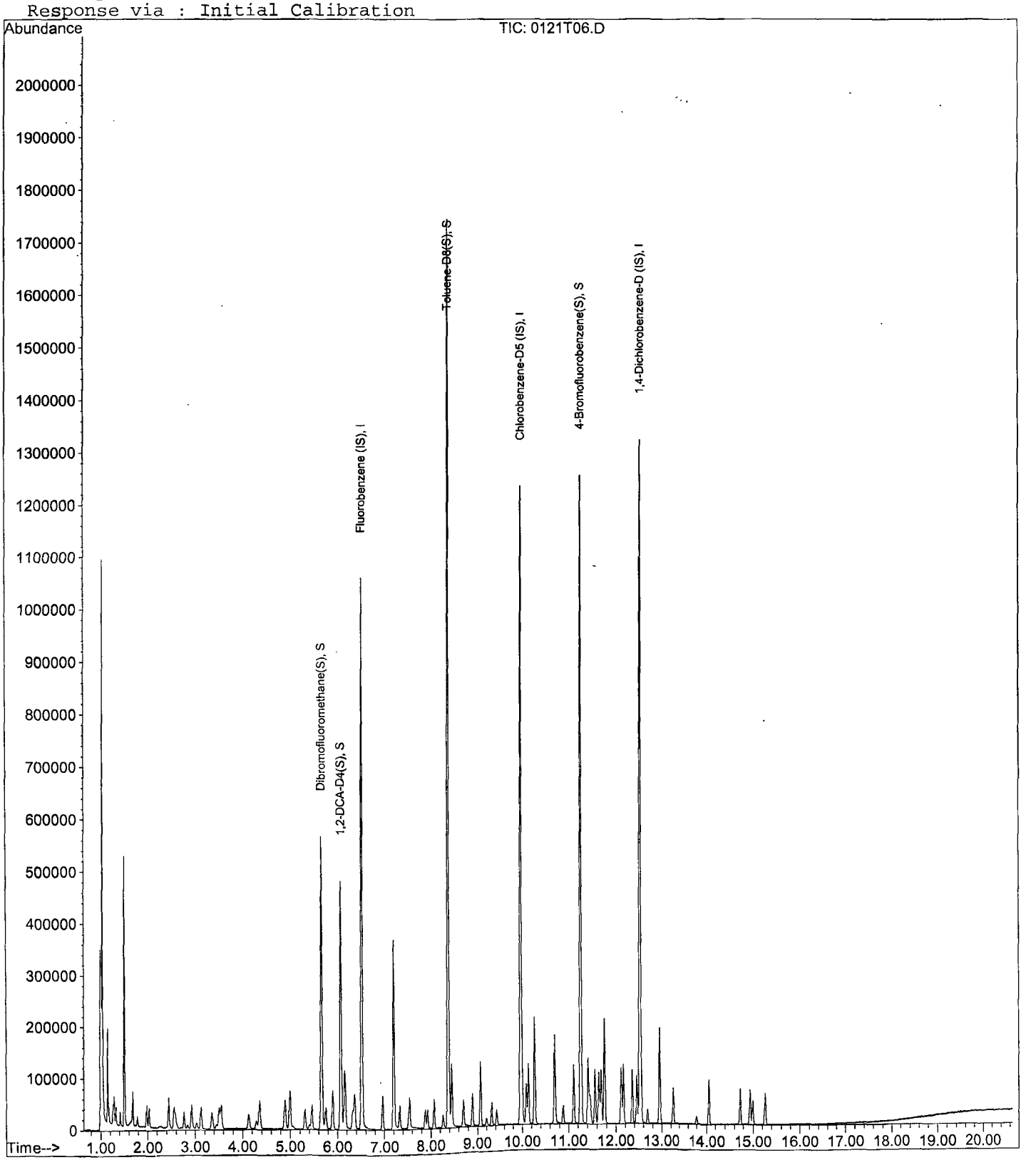
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0121T06.D Vial: 6
Acq On : 21 Jan 20 9:34 Operator:
Sample : 5ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 23 15:07 2020 Quant Results File: TSUR121W.RES

Method : M:\THOR\DATA\T200121\TSUR121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0121T07.D Vial: 7
Acq On : 21 Jan 20 10:02 Operator:
Sample : 10ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 23 15:07 2020 Quant Results File: TSUR121W.RES

Quant Method : M:\THOR\DATA\T200121\TSUR121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	1052818	25.000	ppb	0.00
4) Chlorobenzene-D5 (IS)	9.96	117	824642	25.000	ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.52	152	433370	25.000	ppb	0.00
System Monitoring Compounds						
2) Dibromofluoromethane(S)	5.66	111	344638	25.411	ppb	0.00
Spiked Amount 25.000			Recovery = 101.644%			
3) 1,2-DCA-D4(S)	6.07	65	369870	25.599	ppb	0.00
Spiked Amount 25.000			Recovery = 102.396%			
5) Toluene-D8(S)	8.37	98	1263271	25.994	ppb	0.00
Spiked Amount 25.000			Recovery = 103.976%			
6) 4-Bromofluorobenzene(S)	11.25	95	453846	24.646	ppb	0.00
Spiked Amount 25.000			Recovery = 98.584%			

Target Compounds Qvalue

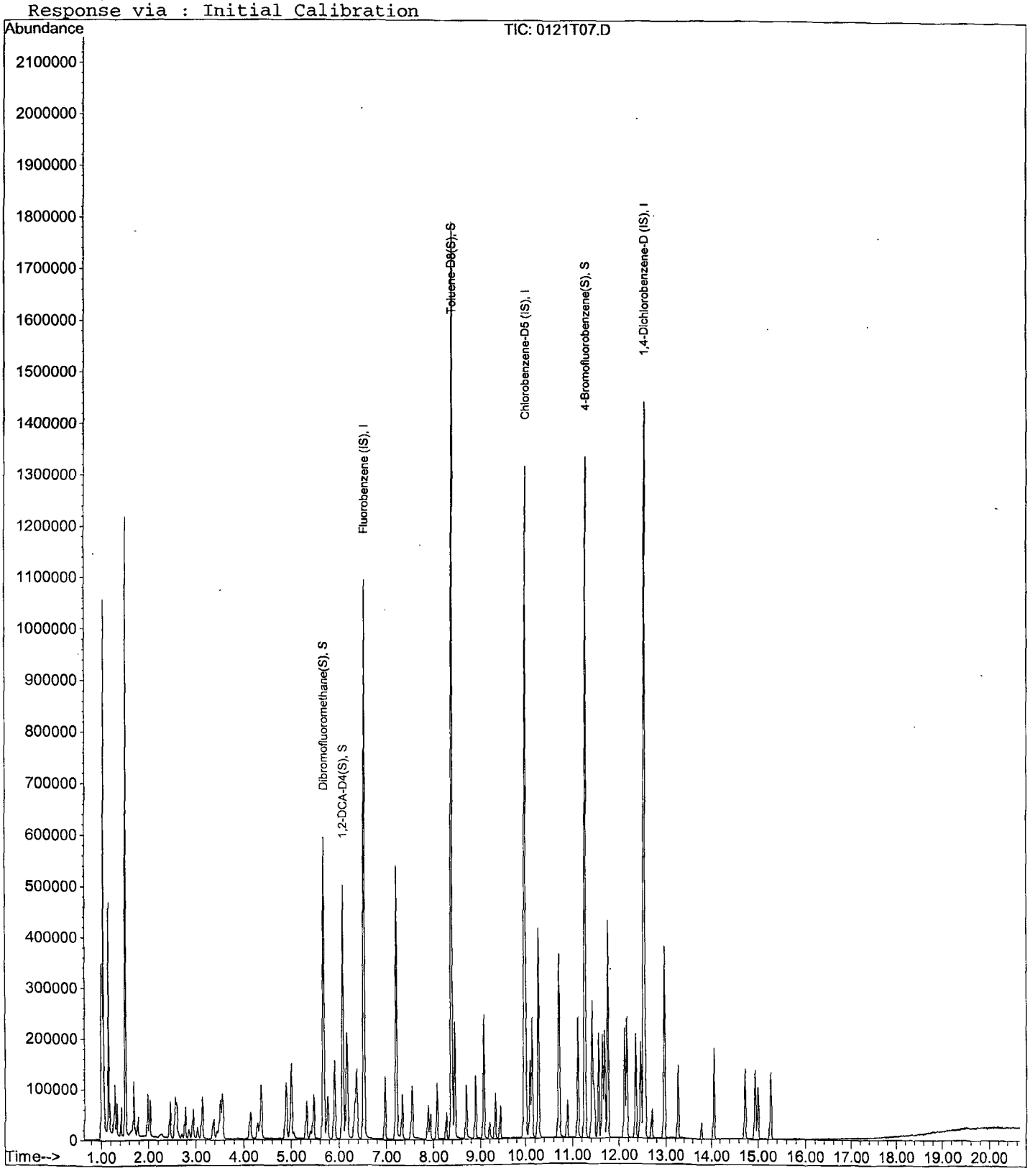
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0121T07.D Vial: 7
Acq On : 21 Jan 20 10:02 Operator:
Sample : 10ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 23 15:07 2020 Quant Results File: TSUR121W.RES

Method : M:\THOR\DATA\T200121\TSUR121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0121T08.D Vial: 8
Acq On : 21 Jan 20 10:30 Operator:
Sample : 20ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 23 15:07 2020 Quant Results File: TSUR121W.RES

Quant Method : M:\THOR\DATA\T200121\TSUR121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	1076126	25.000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.96	117	852719	25.000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.52	152	475060	25.000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	5.66	111	651247	50.957 ppb	0.00
Spiked Amount 25.000			Recovery = 203.828%		
3) 1,2-DCA-D4(S)	6.07	65	693335	51.269 ppb	0.00
Spiked Amount 25.000			Recovery = 205.076%		
5) Toluene-D8(S)	8.37	98	2429130	53.271 ppb	0.00
Spiked Amount 25.000			Recovery = 213.084%		
6) 4-Bromofluorobenzene(S)	11.25	95	908776	49.649 ppb	0.00
Spiked Amount 25.000			Recovery = 198.596%		

Target Compounds Qvalue

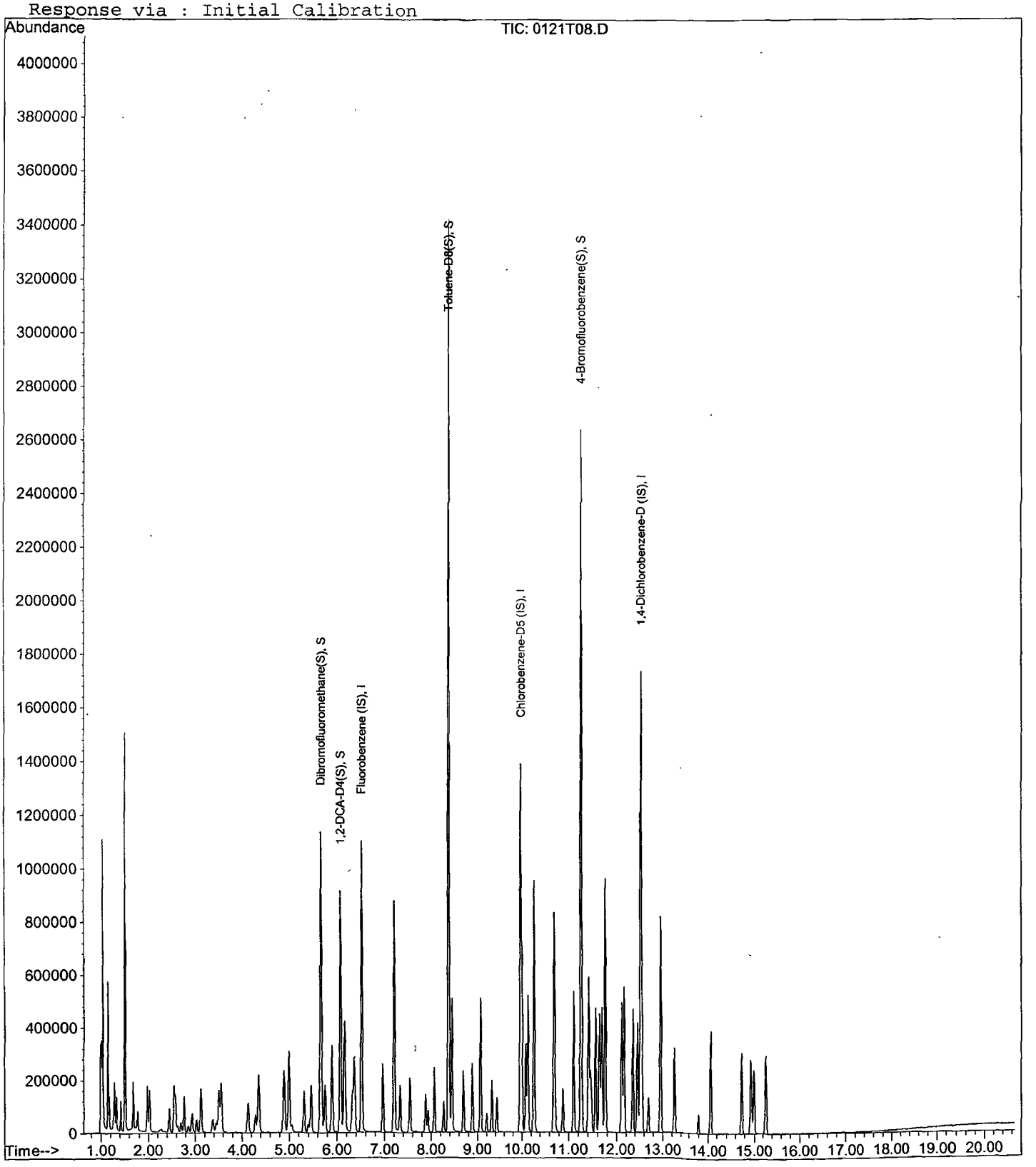
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0121T08.D Vial: 8
Acq On : 21 Jan 20 10:30 Operator:
Sample : 20ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 23 15:07 2020 Quant Results File: TSUR121W.RES

Method : M:\THOR\DATA\T200121\TSUR121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0121T09.D Vial: 9
Acq On : 21 Jan 20 10:59 Operator:
Sample : 40ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 23 15:07 2020 Quant Results File: TSUR121W.RES

Quant Method : M:\THOR\DATA\T200121\TSUR121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	1054648	25.000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.96	117	894422	25.000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.52	152	515905	25.000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	5.66	111	618615	49.245 ppb	0.00
Spiked Amount 25.000			Recovery = 196.980%		
3) 1,2-DCA-D4(S)	6.07	65	655265	49.256 ppb	0.00
Spiked Amount 25.000			Recovery = 197.024%		
5) Toluene-D8(S)	8.37	98	2407625	50.021 ppb	0.00
Spiked Amount 25.000			Recovery = 200.084%		
6) 4-Bromofluorobenzene(S)	11.26	95	948175	49.375 ppb	0.00
Spiked Amount 25.000			Recovery = 197.500%		

Target Compounds Qvalue

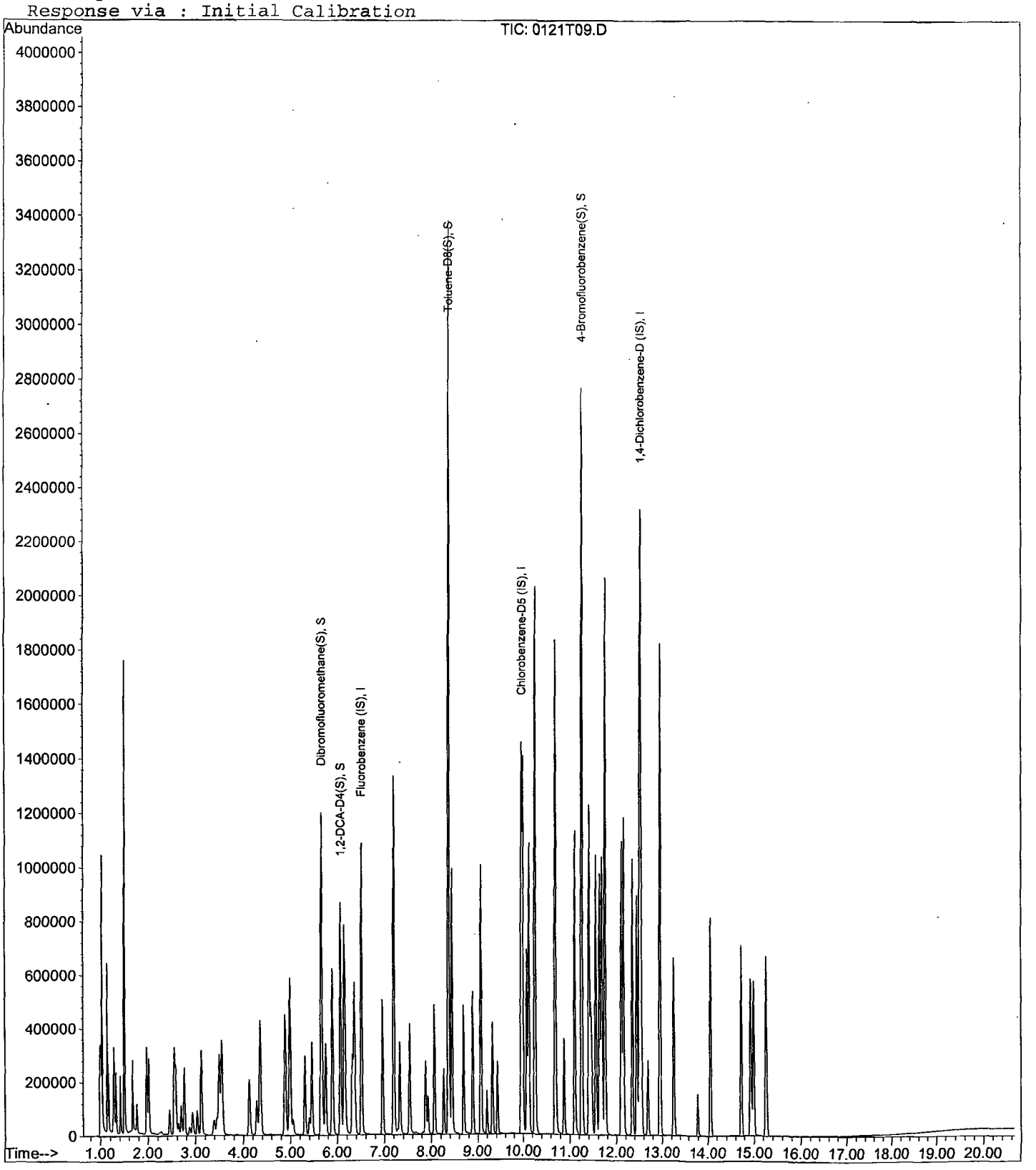
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0121T09.D Vial: 9
Acq On : 21 Jan 20 10:59 Operator:
Sample : 40ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 23 15:07 2020 Quant Results File: TSUR121W.RES

Method : M:\THOR\DATA\T200121\TSUR121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0121T10.D Vial: 10
Acq On : 21 Jan 20 11:27 Operator:
Sample : 100ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 23 15:07 2020 Quant Results File: TSUR121W.RES

Quant Method : M:\THOR\DATA\T200121\TSUR121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	1065218	25.000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.96	117	916624	25.000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.52	152	565783	25.000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	5.66	111	1208474	99.625 ppb	0.00
Spiked Amount 25.000			Recovery = 398.500%		
3) 1,2-DCA-D4(S)	6.07	65	1271687	99.419 ppb	0.00
Spiked Amount 25.000			Recovery = 397.676%		
5) Toluene-D8(S)	8.37	98	4589751	97.984 ppb	0.00
Spiked Amount 25.000			Recovery = 391.936%		
6) 4-Bromofluorobenzene(S)	11.26	95	1940451	100.646 ppb	0.00
Spiked Amount 25.000			Recovery = 402.584%		

Target Compounds Qvalue

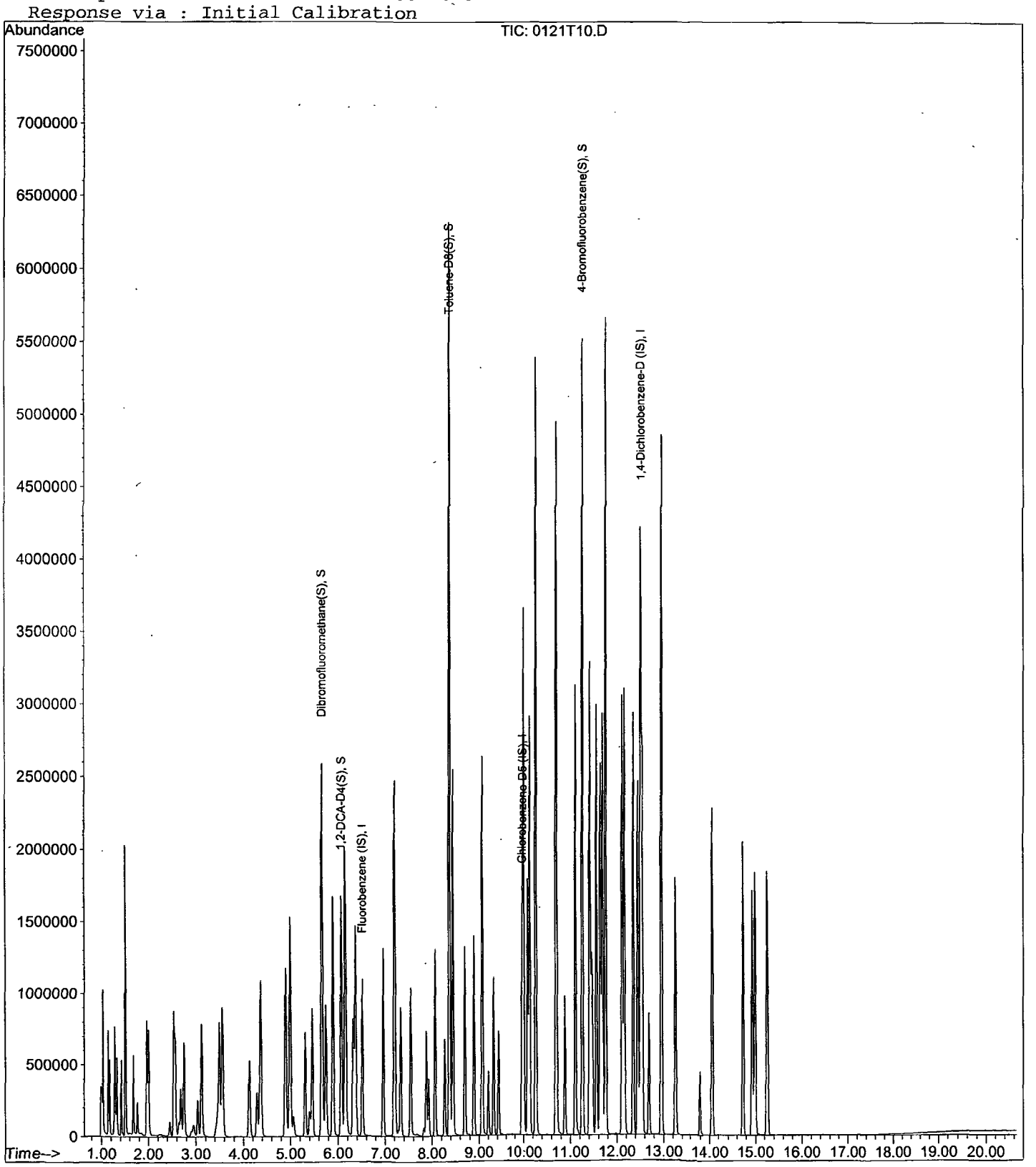
(#) = qualifier out of range (m) = manual integration

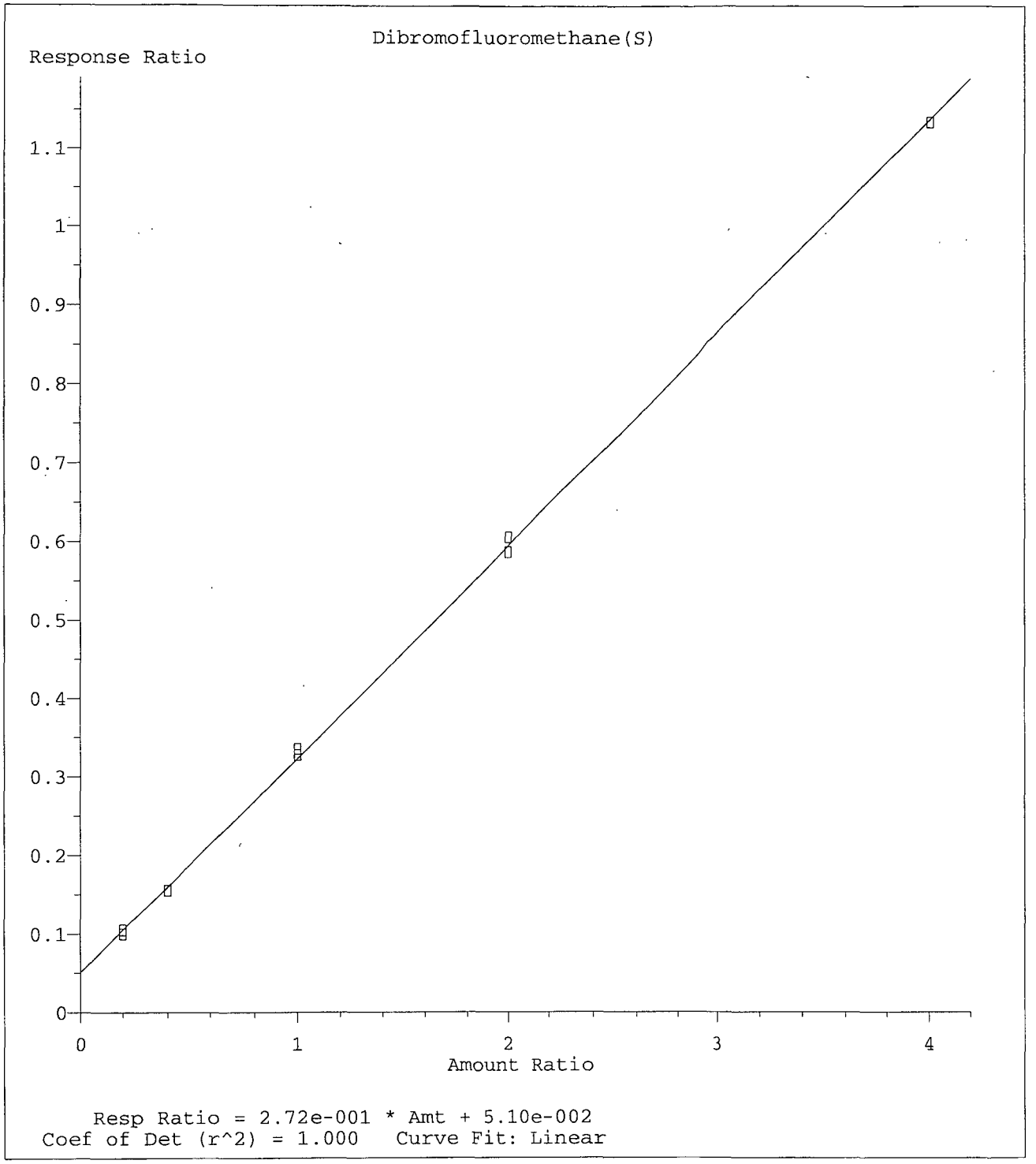
Quantitation Report

Data File : M:\THOR\DATA\T200121\0121T10.D Vial: 10
Acq On : 21 Jan 20 11:27 Operator:
Sample : 100ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

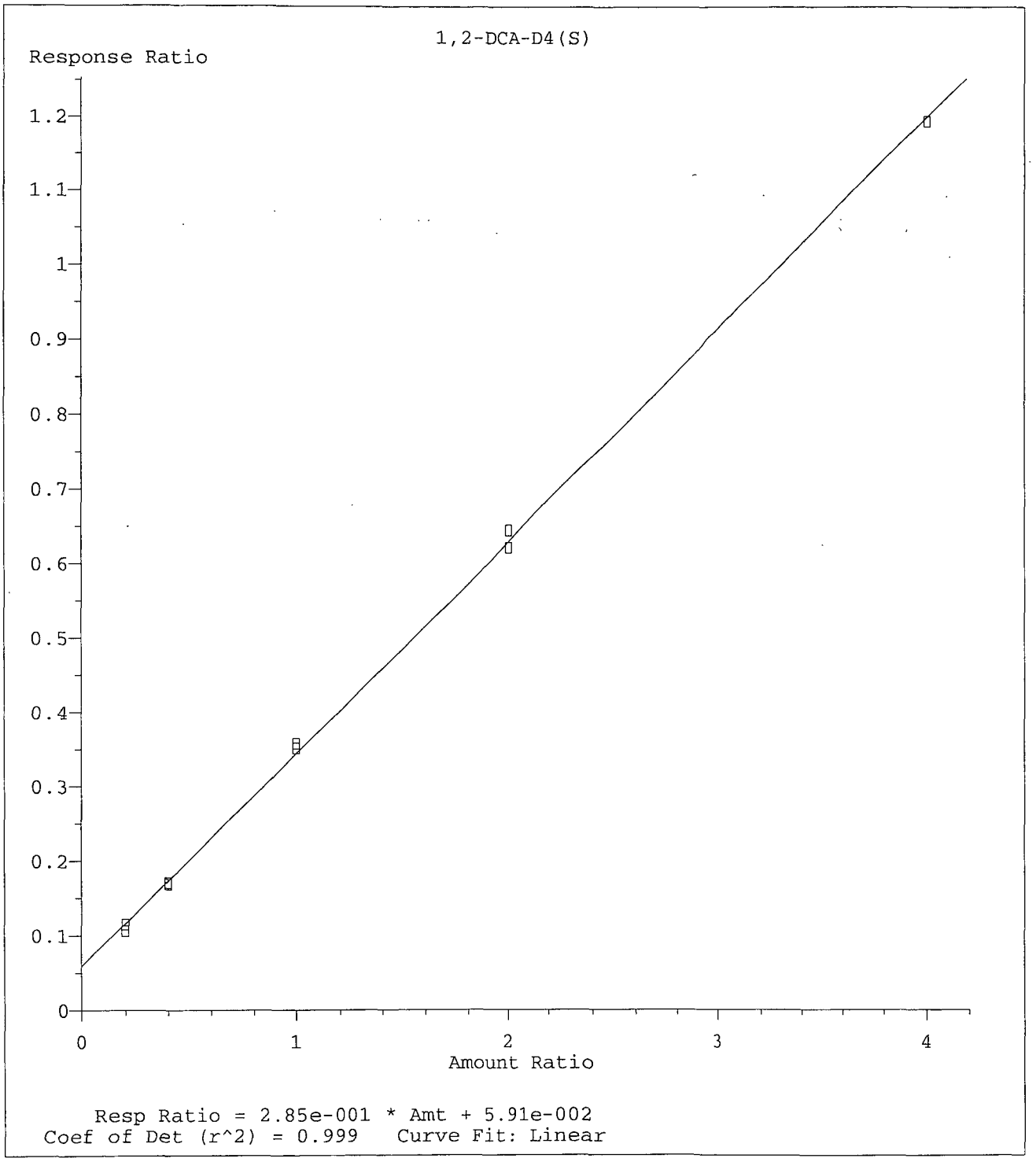
Quant Time: Jan 23 15:07 2020 Quant Results File: TSUR121W.RES

Method : M:\THOR\DATA\T200121\TSUR121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration

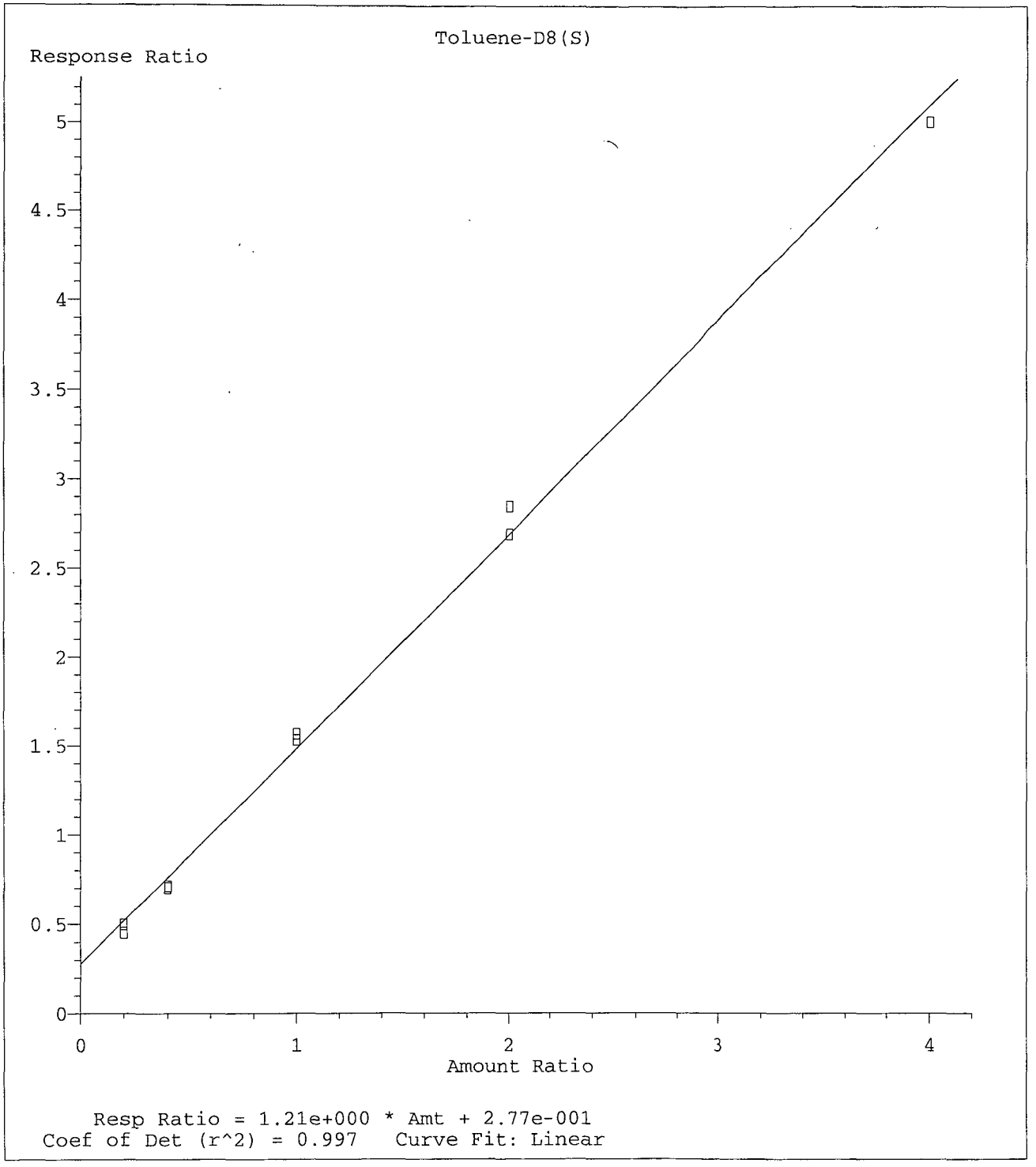




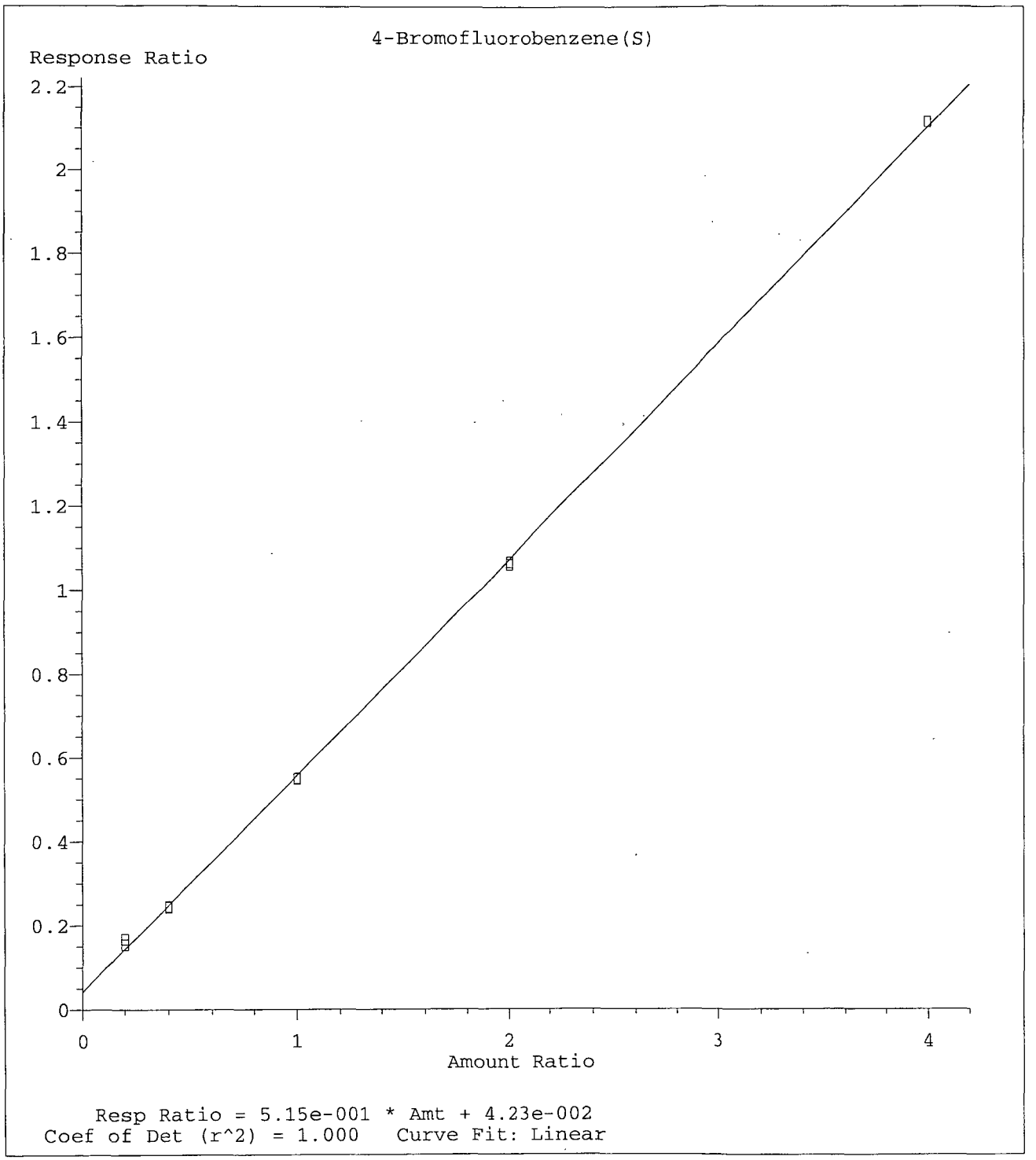
Method Name: M:\THOR\DATA\T200121\TSUR121W.M
Calibration Table Last Updated: Tue Jan 21 15:36:55 2020



Method Name: M:\THOR\DATA\T200121\TSUR121W.M
Calibration Table Last Updated: Tue Jan 21 15:36:55 2020



Method Name: M:\THOR\DATA\T200121\TSUR121W.M
Calibration Table Last Updated: Tue Jan 21 15:36:55 2020



Method Name: M:\THOR\DATA\T200121\TSUR121W.M
Calibration Table Last Updated: Tue Jan 21 15:36:55 2020

VOLATILE ORGANIC ANALYSIS
VOLATILE ORGANIC COMPOUNDS

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 01/24/20
Instrument: Thor
Initial Cal. Date: 01/16/20
Data File: 0124T08.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Fluorobenzene (IS)	ISTD			I	
2	TMHB	Gasoline C6-C10	3.922	1.307	67	TMHBL	0.24
3	I	Chlorobenzene-D5 (IS)	ISTD			I	
4	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			67.0		

VOLATILE ORGANIC ANALYSIS
VOLATILE ORGANIC COMPOUNDS

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 01/24/20
Instrument: Thor
Initial Cal. Date: 01/21/20
Data File: 0124T08.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Fluorobenzene (IS)	ISTD			I	
2	SL	Dibromofluoromethane(S)	0.3715	0.3141	15	SL	3.2
3	SL	1,2-DCA-D4(S)	0.3991	0.3380	15	SL	2.3
4	I	Chlorobenzene-D5 (IS)	ISTD			I	
5	SL	Toluene-D8(S)	1.712	1.471	14	SL	1.1
6	SL	4-Bromofluorobenzene(S)	0.6137	0.5136	16	SL	8.6
7	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			15.0		

Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T200121\0124T08.D Vial: 8
Acq On : 24 Jan 20 13:51 Operator:
Sample : 200124A CCV 300ug/L Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 14:14 2020 Quant Results File: TGAS0116.RES

Quant Method : M:\THOR\DATA\T200121\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	TIC	1041832	25.00000	ppb	0.00
3) Chlorobenzene-D5 (IS)	9.96	TIC	1223770	25.00000	ppb	0.00
4) 1,4-Dichlorobenzene-D (IS)	12.52	TIC	1234281	25.00000	ppb	0.00

System Monitoring Compounds

Target Compounds						Qvalue
2) Gasoline C6-C10	8.37	TIC	16342751m	300.71789	ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0124T08.D Vial: 8
Acq On : 24 Jan 20 13:51 Operator:
Sample : 200124A CCV 300ug/L Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 7:28 2020 Quant Results File: TSUR121W.RES

Quant Method : M:\THOR\DATA\T200121\TSUR121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	1006742	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.96	117	795197	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.52	152	414924	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	5.66	111	316228	24.19375 ppb	0.00
Spiked Amount 25.000			Recovery =	96.776%	
3) 1,2-DCA-D4(S)	6.07	65	340288	24.43337 ppb	0.00
Spiked Amount 25.000			Recovery =	97.732%	
5) Toluene-D8(S)	8.37	98	1169402	24.72418 ppb	0.00
Spiked Amount 25.000			Recovery =	98.896%	
6) 4-Bromofluorobenzene(S)	11.25	95	408395	22.86181 ppb	0.00
Spiked Amount 25.000			Recovery =	91.448%	

Target Compounds Qvalue

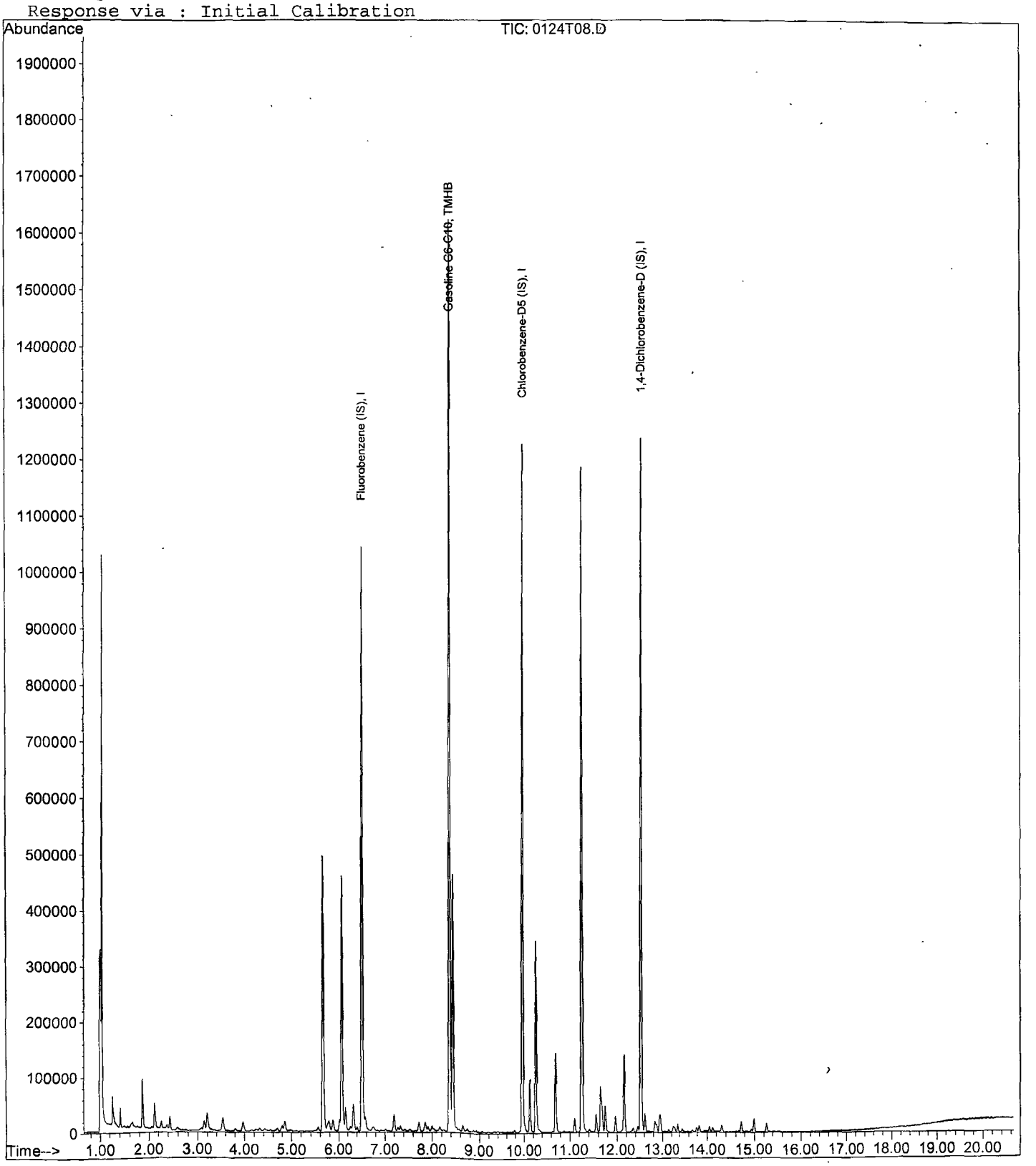
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0124T08.D Vial: 8
Acq On : 24 Jan 20 13:51 Operator:
Sample : 200124A CCV 300ug/L Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 14:14 2020 Quant Results File: TGAS0116.RES

Method : M:\THOR\DATA\T200121\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS
VOLATILE ORGANIC COMPOUNDS

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 01/24/20
Instrument: Thor
Initial Cal. Date: 01/16/20
Data File: 0124T29.D

		Compound	MEAN	CCRF	%D	%Drift	
1	I	Fluorobenzene (IS)	ISTD			I	
2	TMHB	Gasoline C6-C10	3.922	1.303	67	TMHBL	0.85
3	I	Chlorobenzene-D5 (IS)	ISTD			I	
4	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			67.0		

VOLATILE ORGANIC ANALYSIS
VOLATILE ORGANIC COMPOUNDS

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 01/24/20
Instrument: Thor
Initial Cal. Date: 01/21/20
Data File: 0124T29.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Fluorobenzene (IS)	ISTD			I	
2	SL	Dibromofluoromethane(S)	0.3715	0.3260	12	SL	1.1
3	SL	1,2-DCA-D4(S)	0.3991	0.3534	11	SL	3.1
4	I	Chlorobenzene-D5 (IS)	ISTD			I	
5	SL	Toluene-D8(S)	1.712	1.501	12	SL	1.4
6	SL	4-Bromofluorobenzene(S)	0.6137	0.5314	13	SL	5.1
7	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			12.0		

Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T200121\0124T29.D Vial: 29
Acq On : 24 Jan 20 23:46 Operator:
Sample : Ending CCV 300ug/L 1/24/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 7:18 2020 Quant Results File: TGAS0116.RES

Quant Method : M:\THOR\DATA\T200121\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	TIC	978323	25.00000	ppb	0.00
3) Chlorobenzene-D5 (IS)	9.96	TIC	1185546	25.00000	ppb	0.00
4) 1,4-Dichlorobenzene-D (IS)	12.52	TIC	1178311	25.00000	ppb	0.00

System Monitoring Compounds

Target Compounds						Qvalue
2) Gasoline C6-C10	8.37	TIC	15301932m	297.44135	ppb	100

(#) = qualifier out of range (m) = manual integration
0124T29.D TGAS0116.M Mon Jan 27 07:19:48 2020 Page 1

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0124T29.D Vial: 29
Acq On : 24 Jan 20 23:46 Operator:
Sample : Ending CCV 300ug/L 1/24/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 7:28 2020 Quant Results File: TSUR121W.RES

Quant Method : M:\THOR\DATA\T200121\TSUR121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	965901	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.96	117	761972	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.52	152	401183	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	5.66	111	314837	25.28253 ppb	0.00
Spiked Amount 25.000			Recovery = 101.132%		
3) 1,2-DCA-D4(S)	6.07	65	341310	25.77832 ppb	0.00
Spiked Amount 25.000			Recovery = 103.112%		
5) Toluene-D8(S)	8.37	98	1143549	25.34963 ppb	0.00
Spiked Amount 25.000			Recovery = 101.400%		
6) 4-Bromofluorobenzene(S)	11.26	95	404914	23.72657 ppb	0.00
Spiked Amount 25.000			Recovery = 94.908%		

Target Compounds Qvalue

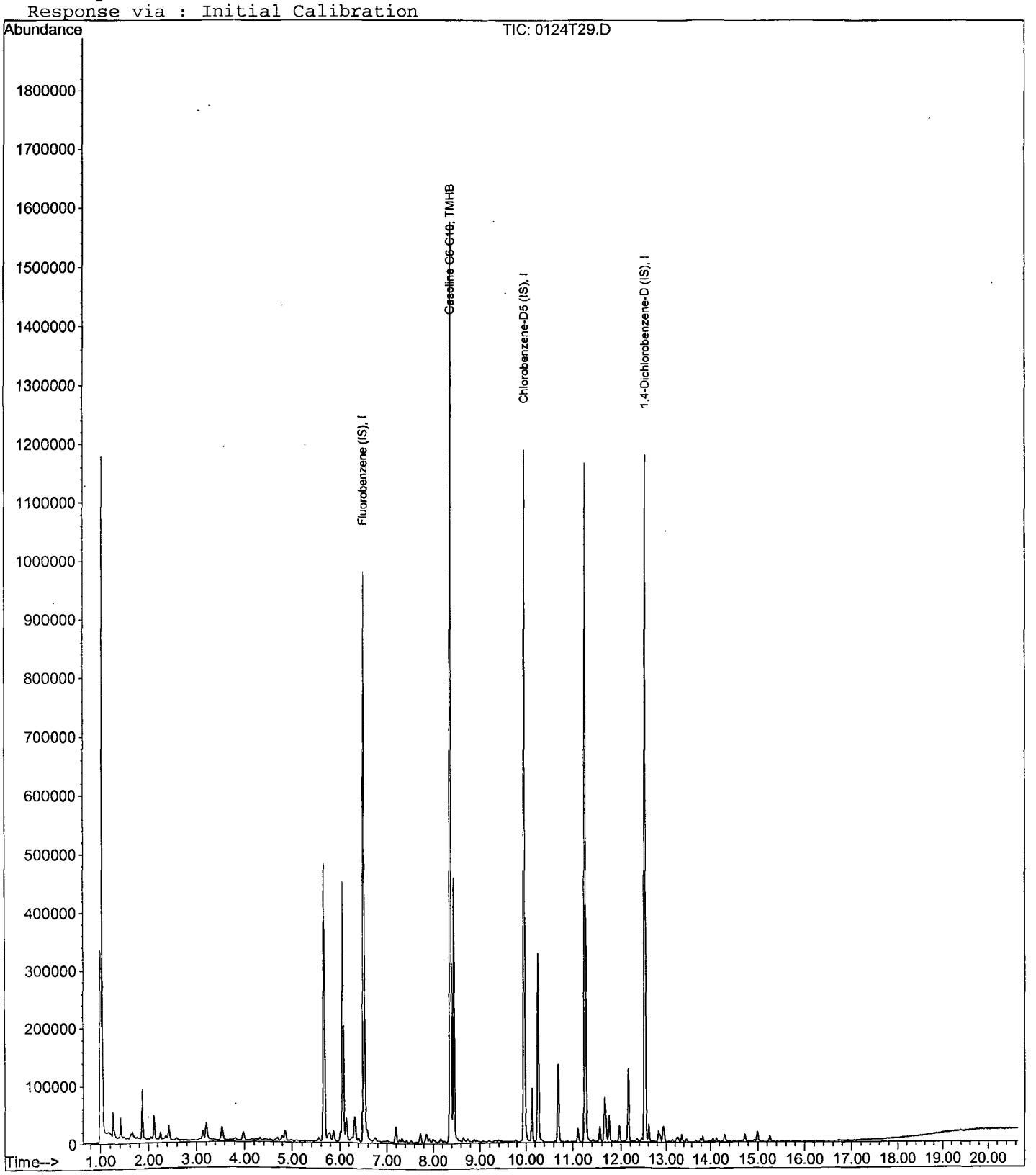
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0124T29.D Vial: 29
Acq On : 24 Jan 20 23:46 Operator:
Sample : Ending CCV 300ug/L 1/24/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 7:18 2020 Quant Results File: TGAS0116.RES

Method : M:\THOR\DATA\T200121\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration



ORGANICS
Raw Data

Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T200121\0124T13.D Vial: 13
Acq On : 24 Jan 20 16:13 Operator:
Sample : BA06312W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 7:09 2020 Quant Results File: TGAS0116.RES

Quant Method : M:\THOR\DATA\T200121\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	TIC	994178	25.00000 ppb	0.00
3) Chlorobenzene-D5 (IS)	9.96	TIC	1199948	25.00000 ppb	0.00
4) 1,4-Dichlorobenzene-D (IS)	12.52	TIC	1172984	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0124T13.D Vial: 13
Acq On : 24 Jan 20 16:13 Operator:
Sample : BA06312W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 7:28 2020 Quant Results File: TSUR121W.RES

Quant Method : M:\THOR\DATA\T200121\TSUR121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	972438	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.96	117	766143	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.52	152	397465	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	5.66	111	317280	25.31206 ppb	0.00
Spiked Amount 25.000			Recovery = 101.248%		
3) 1,2-DCA-D4(S)	6.07	65	340192	25.46946 ppb	0.00
Spiked Amount 25.000			Recovery = 101.876%		
5) Toluene-D8(S)	8.37	98	1137833	25.02584 ppb	0.00
Spiked Amount 25.000			Recovery = 100.104%		
6) 4-Bromofluorobenzene(S)	11.25	95	392462	22.79776 ppb	0.00
Spiked Amount 25.000			Recovery = 91.192%		

Target Compounds Qvalue

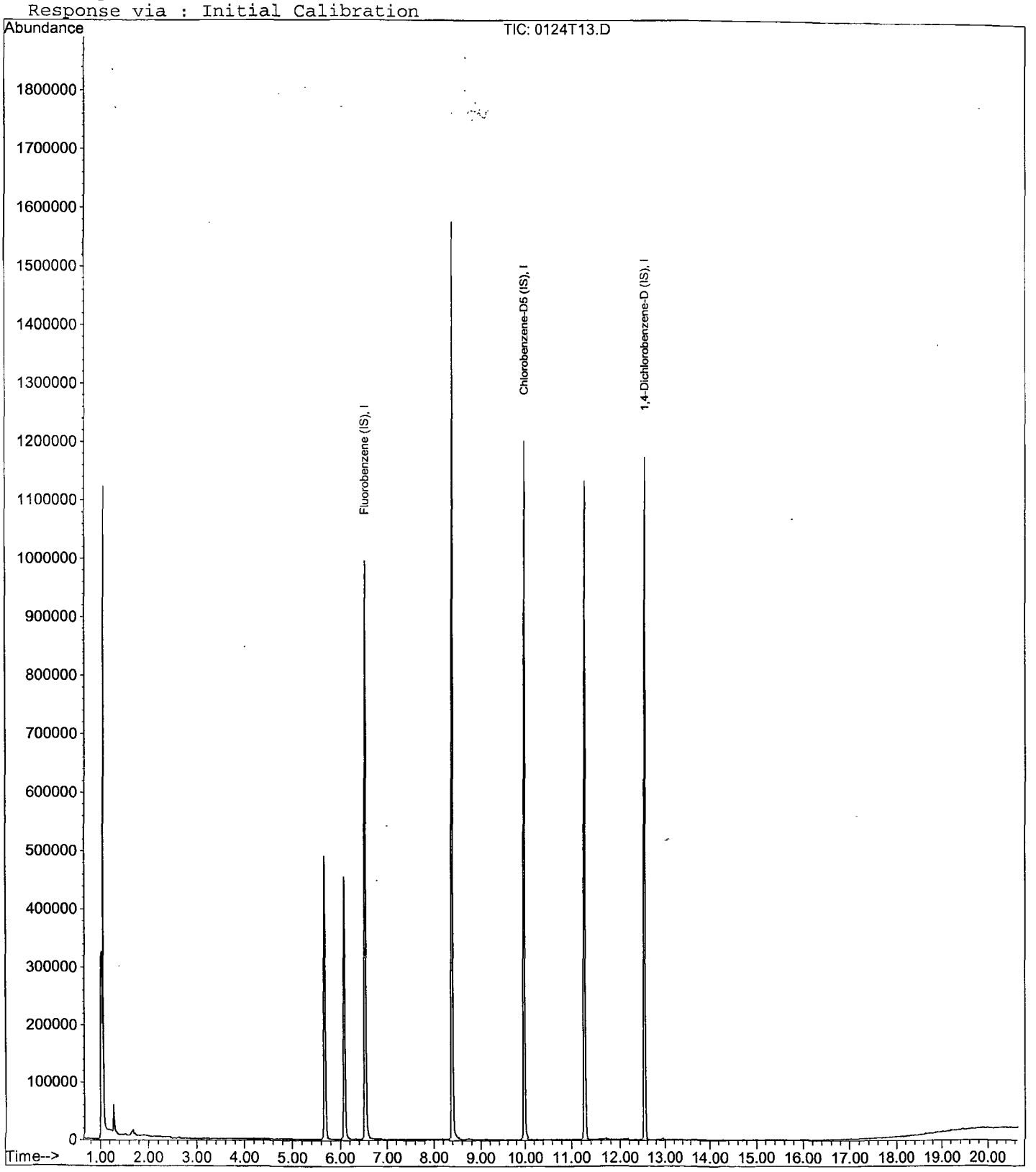
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0124T13.D Vial: 13
Acq On : 24 Jan 20 16:13 Operator:
Sample : BA06312W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 *Multiplr: 1.00*

Quant Time: Jan 27 7:09 2020 Quant Results File: TGAS0116.RES

Method : M:\THOR\DATA\T200121\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T200121\0124T17.D Vial: 17
Acq On : 24 Jan 20 18:06 Operator:
Sample : BA06313W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 7:12 2020 Quant Results File: TGAS0116.RES

Quant Method : M:\THOR\DATA\T200121\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	TIC	1002013	25.00000	ppb	0.00
3) Chlorobenzene-D5 (IS)	9.96	TIC	1181050	25.00000	ppb	0.00
4) 1,4-Dichlorobenzene-D (IS)	12.52	TIC	1121622	25.00000	ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0124T17.D Vial: 17
Acq On : 24 Jan 20 18:06 Operator:
Sample : BA06313W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 7:28 2020 Quant Results File: TSUR121W.RES

Quant Method : M:\THOR\DATA\T200121\TSUR121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	969536	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.96	117	763754	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.52	152	393092	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	5.66	111	306357	24.36596 ppb	0.00
Spiked Amount 25.000			Recovery =	97.464%	
3) 1,2-DCA-D4(S)	6.07	65	327781	24.43960 ppb	0.00
Spiked Amount 25.000			Recovery =	97.760%	
5) Toluene-D8(S)	8.37	98	1102571	24.16570 ppb	0.00
Spiked Amount 25.000			Recovery =	96.664%	
6) 4-Bromofluorobenzene(S)	11.25	95	373568	21.67537 ppb	0.00
Spiked Amount 25.000			Recovery =	86.700%	

Target Compounds Qvalue

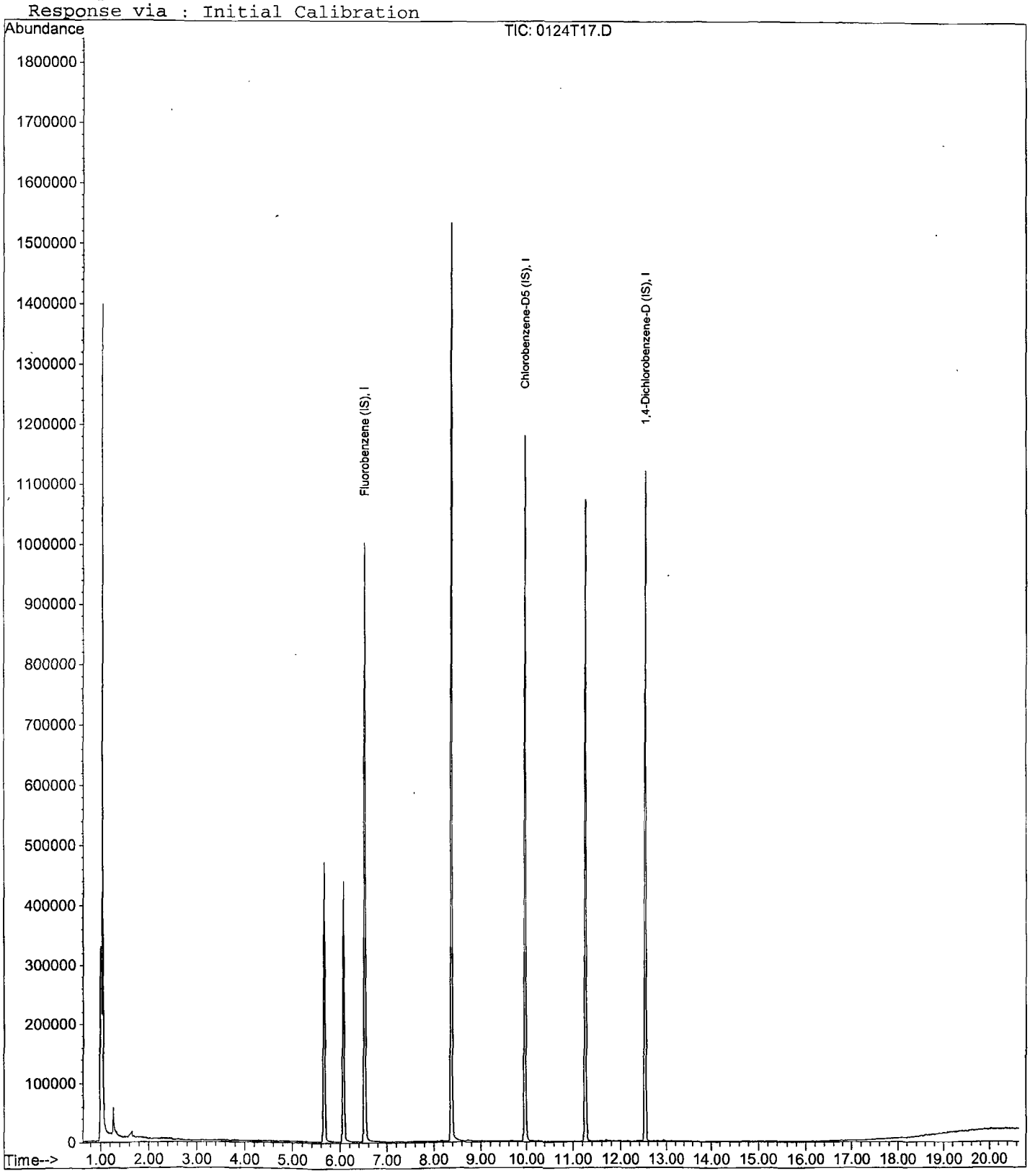
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0124T17.D Vial: 17
Acq On : 24 Jan 20 18:06 Operator:
Sample : BA06313W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 7:12 2020 Quant Results File: TGAS0116.RES

Method : M:\THOR\DATA\T200121\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T200121\0124T14.D Vial: 14
Acq On : 24 Jan 20 16:41 Operator:
Sample : BA06314W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 7:10 2020 Quant Results File: TGAS0116.RES

Quant Method : M:\THOR\DATA\T200121\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	TIC	1008683	25.00000	ppb	0.00
3) Chlorobenzene-D5 (IS)	9.96	TIC	1212719	25.00000	ppb	0.00
4) 1,4-Dichlorobenzene-D (IS)	12.52	TIC	1167538	25.00000	ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0124T14.D Vial: 14
Acq On : 24 Jan 20 16:41 Operator:
Sample : BA06314W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 7:28 2020 Quant Results File: TSUR121W.RES

Quant Method : M:\THOR\DATA\T200121\TSUR121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	974799	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.96	117	774467	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.52	152	394973	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	5.66	111	315559	25.07706 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.308%	
3) 1,2-DCA-D4(S)	6.07	65	338306	25.22570 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.904%	
5) Toluene-D8(S)	8.37	98	1131223	24.51839 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.072%	
6) 4-Bromofluorobenzene(S)	11.26	95	392419	22.52797 ppb	0.00
Spiked Amount 25.000			Recovery	= 90.112%	

Target Compounds Qvalue

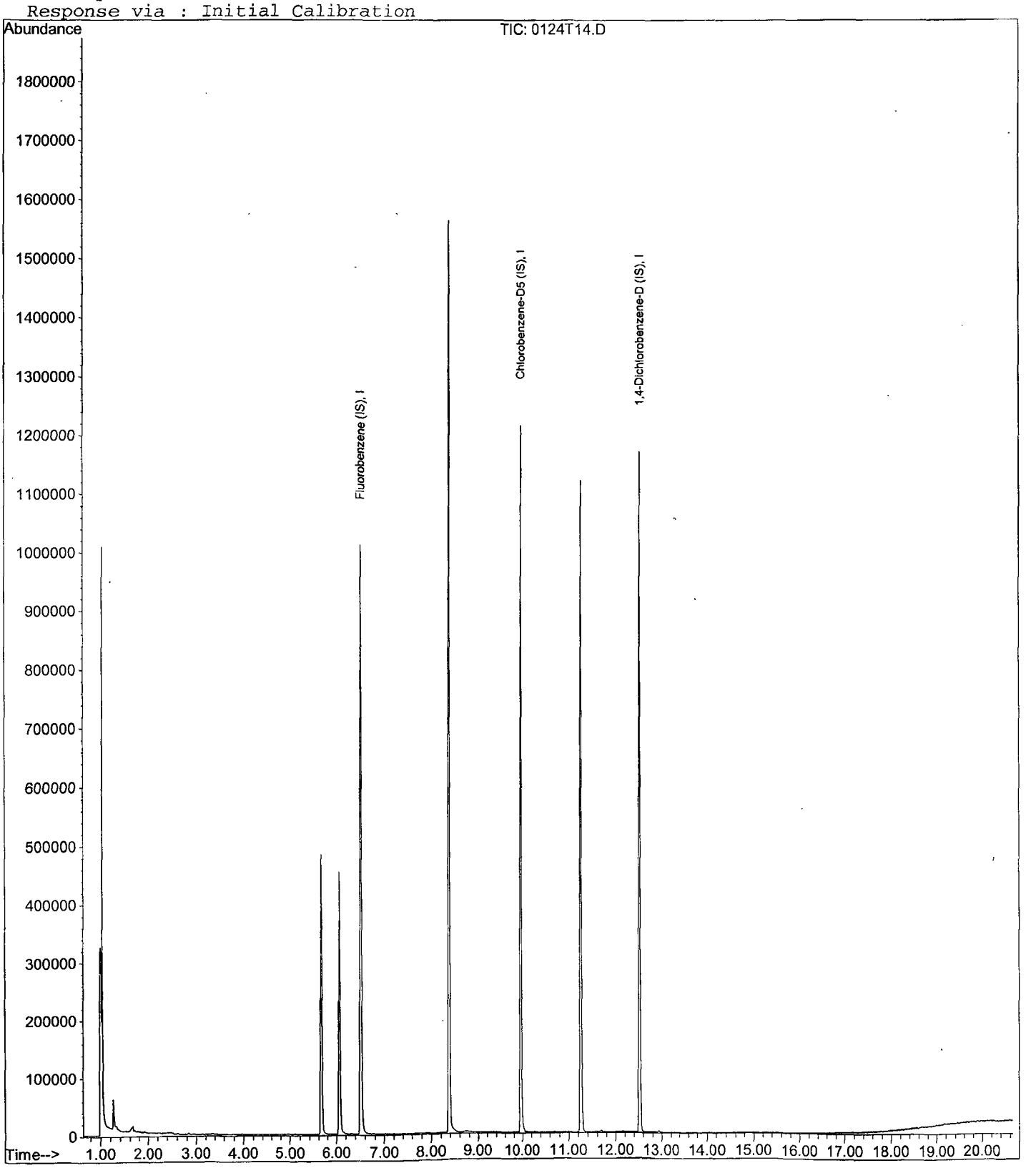
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0124T14.D Vial: 14
Acq On : 24 Jan 20 16:41 Operator:
Sample : BA06314W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 7:10 2020 Quant Results File: TGAS0116.RES

Method : M:\THOR\DATA\T200121\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T200121\0124T18.D Vial: 18
Acq On : 24 Jan 20 18:34 Operator:
Sample : BA06315W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 7:13 2020 Quant Results File: TGAS0116.RES

Quant Method : M:\THOR\DATA\T200121\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	TIC	979537	25.00000	ppb	0.00
3) Chlorobenzene-D5 (IS)	9.96	TIC	1140037	25.00000	ppb	0.00
4) 1,4-Dichlorobenzene-D (IS)	12.52	TIC	1137272	25.00000	ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0124T18.D Vial: 18
Acq On : 24 Jan 20 18:34 Operator:
Sample : BA06315W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 7:28 2020 Quant Results File: TSUR121W.RES

Quant Method : M:\THOR\DATA\T200121\TSUR121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	959728	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.96	117	754198	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.52	152	390433	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	5.66	111	309867	24.99915 ppb	0.00
Spiked Amount 25.000			Recovery =	99.996%	
3) 1,2-DCA-D4(S)	6.07	65	334259	25.33374 ppb	0.00
Spiked Amount 25.000			Recovery =	101.336%	
5) Toluene-D8(S)	8.37	98	1124300	25.14139 ppb	0.00
Spiked Amount 25.000			Recovery =	100.564%	
6) 4-Bromofluorobenzene(S)	11.26	95	381899	22.51190 ppb	0.00
Spiked Amount 25.000			Recovery =	90.048%	

Target Compounds Qvalue

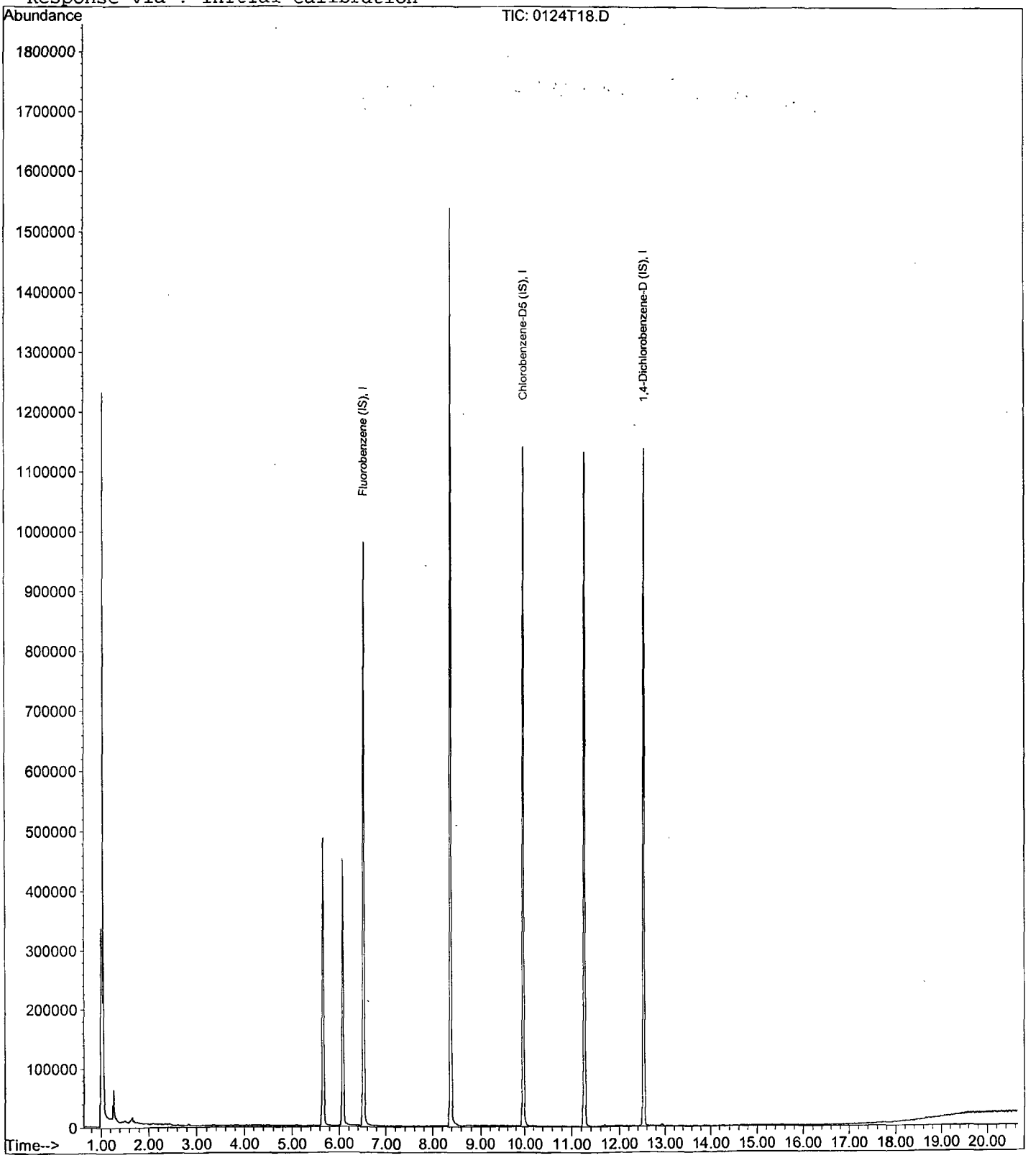
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0124T18.D Vial: 18
Acq On : 24 Jan 20 18:34 Operator:
Sample : BA06315W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 7:13 2020 Quant Results File: TGAS0116.RES

Method : M:\THOR\DATA\T200121\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T200121\0124T15.D Vial: 15
Acq On : 24 Jan 20 17:09 Operator:
Sample : BA06316W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 7:10 2020 Quant Results File: TGAS0116.RES

Quant Method : M:\THOR\DATA\T200121\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	TIC	985174	25.00000 ppb	0.00
3) Chlorobenzene-D5 (IS)	9.96	TIC	1154083	25.00000 ppb	0.00
4) 1,4-Dichlorobenzene-D (IS)	12.52	TIC	1165435	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0124T15.D Vial: 15
Acq On : 24 Jan 20 17:09 Operator:
Sample : BA06316W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 7:28 2020 Quant Results File: TSUR121W.RES

Quant Method : M:\THOR\DATA\T200121\TSUR121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	956826	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.96	117	758204	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.52	152	392025	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	5.66	111	313594	25.44734 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.788%	
3) 1,2-DCA-D4(S)	6.07	65	338160	25.78351 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.136%	
5) Toluene-D8(S)	8.37	98	1123405	24.95378 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.816%	
6) 4-Bromofluorobenzene(S)	11.26	95	387692	22.75277 ppb	0.00
Spiked Amount 25.000			Recovery	= 91.012%	

Target Compounds Qvalue

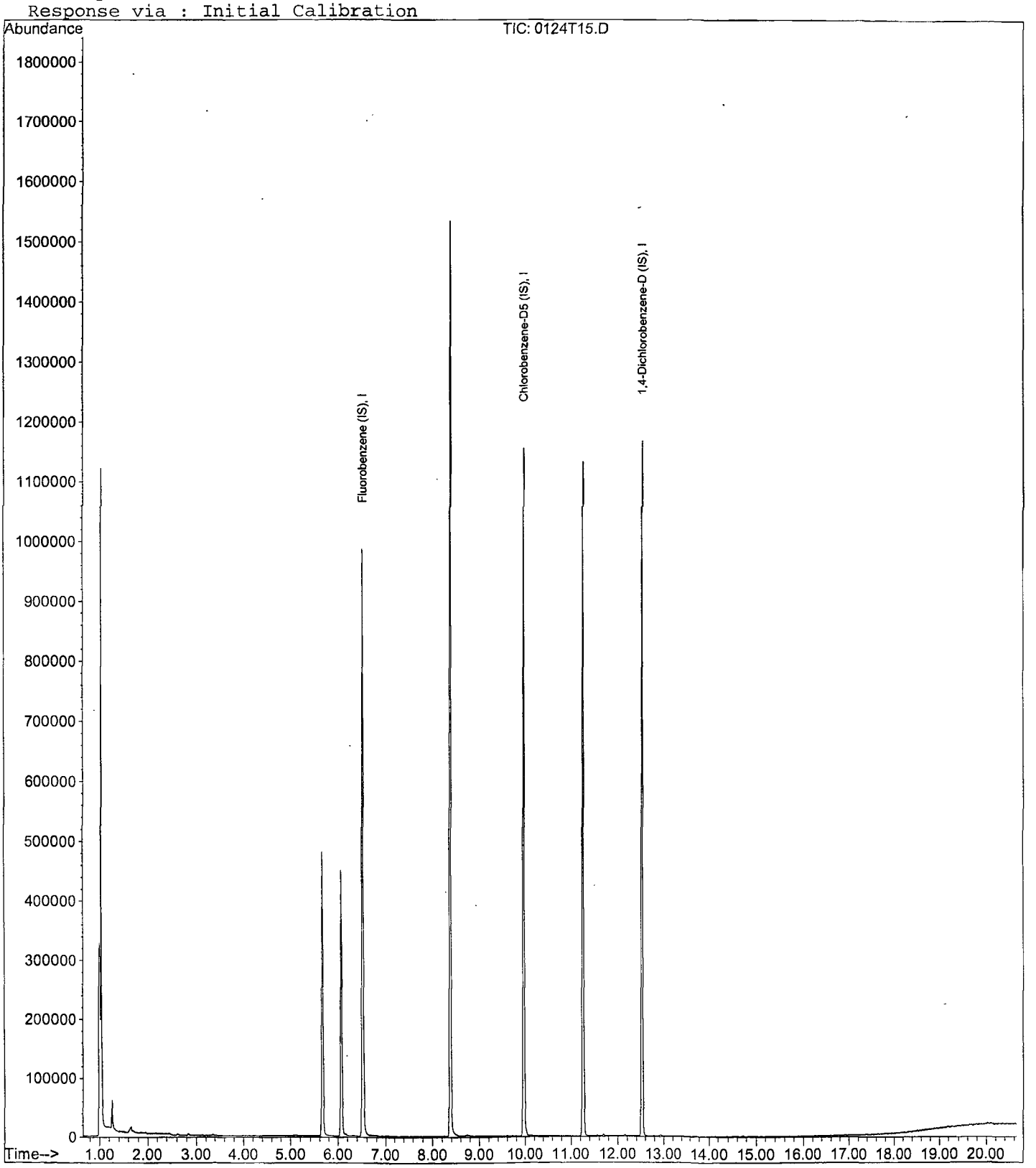
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0124T15.D Vial: 15
Acq On : 24 Jan 20 17:09 Operator:
Sample : BA06316W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 7:10 2020 Quant Results File: TGAS0116.RES

Method : M:\THOR\DATA\T200121\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T200121\0124T19.D Vial: 19
Acq On : 24 Jan 20 19:03 Operator:
Sample : BA06317W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 7:13 2020 Quant Results File: TGAS0116.RES

Quant Method : M:\THOR\DATA\T200121\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	TIC	974199	25.00000 ppb	0.00
3) Chlorobenzene-D5 (IS)	9.96	TIC	1175315	25.00000 ppb	0.00
4) 1,4-Dichlorobenzene-D (IS)	12.52	TIC	1146643	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
0124T19.D TGAS0116.M Mon Jan 27 07:19:41 2020

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0124T19.D Vial: 19
Acq On : 24 Jan 20 19:03 Operator:
Sample : BA06317W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 7:28 2020 Quant Results File: TSUR121W.RES

Quant Method : M:\THOR\DATA\T200121\TSUR121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	938910	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.96	117	751611	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.52	152	383539	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	5.66	111	307249	25.40100 ppb	0.00
Spiked Amount 25.000			Recovery = 101.604%		
3) 1,2-DCA-D4(S)	6.07	65	326176	25.25606 ppb	0.00
Spiked Amount 25.000			Recovery = 101.024%		
5) Toluene-D8(S)	8.37	98	1084494	24.15062 ppb	0.00
Spiked Amount 25.000			Recovery = 96.604%		
6) 4-Bromofluorobenzene(S)	11.26	95	375042	22.15387 ppb	0.00
Spiked Amount 25.000			Recovery = 88.616%		

Target Compounds Qvalue

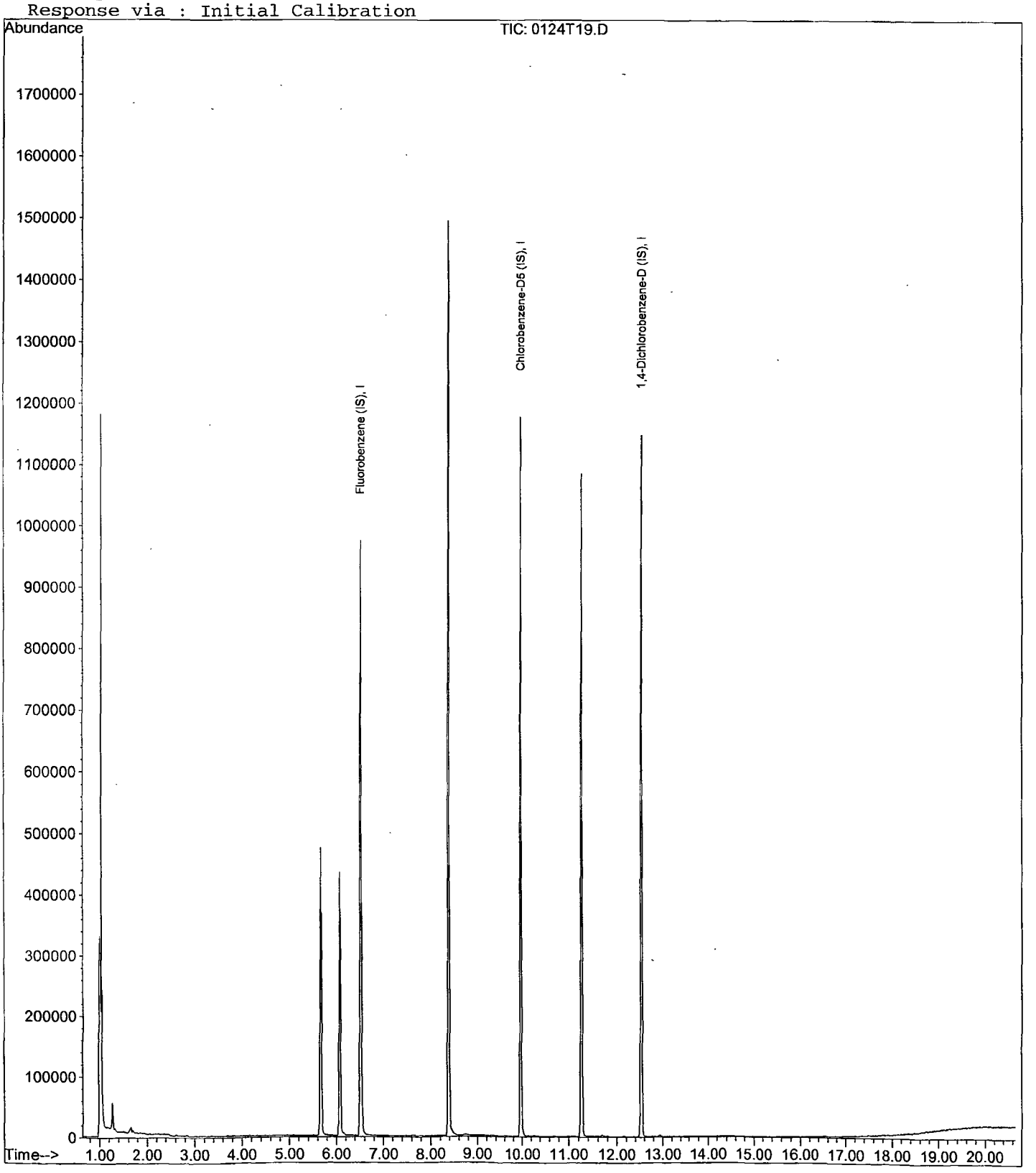
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0124T19.D Vial: 19
Acq On : 24 Jan 20 19:03 Operator:
Sample : BA06317W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 7:13 2020 Quant Results File: TGAS0116.RES

Method : M:\THOR\DATA\T200121\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T200121\0124T16.D Vial: 16
Acq On : 24 Jan 20 17:38 Operator:
Sample : BA06318W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 7:11 2020 Quant Results File: TGAS0116.RES

Quant Method : M:\THOR\DATA\T200121\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	TIC	990095	25.00000 ppb	0.00
3) Chlorobenzene-D5 (IS)	9.96	TIC	1188932	25.00000 ppb	0.00
4) 1,4-Dichlorobenzene-D (IS)	12.52	TIC	1144567	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0124T16.D Vial: 16
Acq On : 24 Jan 20 17:38 Operator:
Sample : BA06318W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 7:28 2020 Quant Results File: TSUR121W.RES

Quant Method : M:\THOR\DATA\T200121\TSUR121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	961992	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.96	117	769376	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.52	152	399218	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	5.66	111	312699	25.19997 ppb	0.00
Spiked Amount 25.000			Recovery = 100.800%		
3) 1,2-DCA-D4(S)	6.07	65	334309	25.26647 ppb	0.00
Spiked Amount 25.000			Recovery = 101.064%		
5) Toluene-D8(S)	8.37	98	1118990	24.38924 ppb	0.00
Spiked Amount 25.000			Recovery = 97.556%		
6) 4-Bromofluorobenzene(S)	11.26	95	382513	22.06601 ppb	0.00
Spiked Amount 25.000			Recovery = 88.264%		

Target Compounds Qvalue

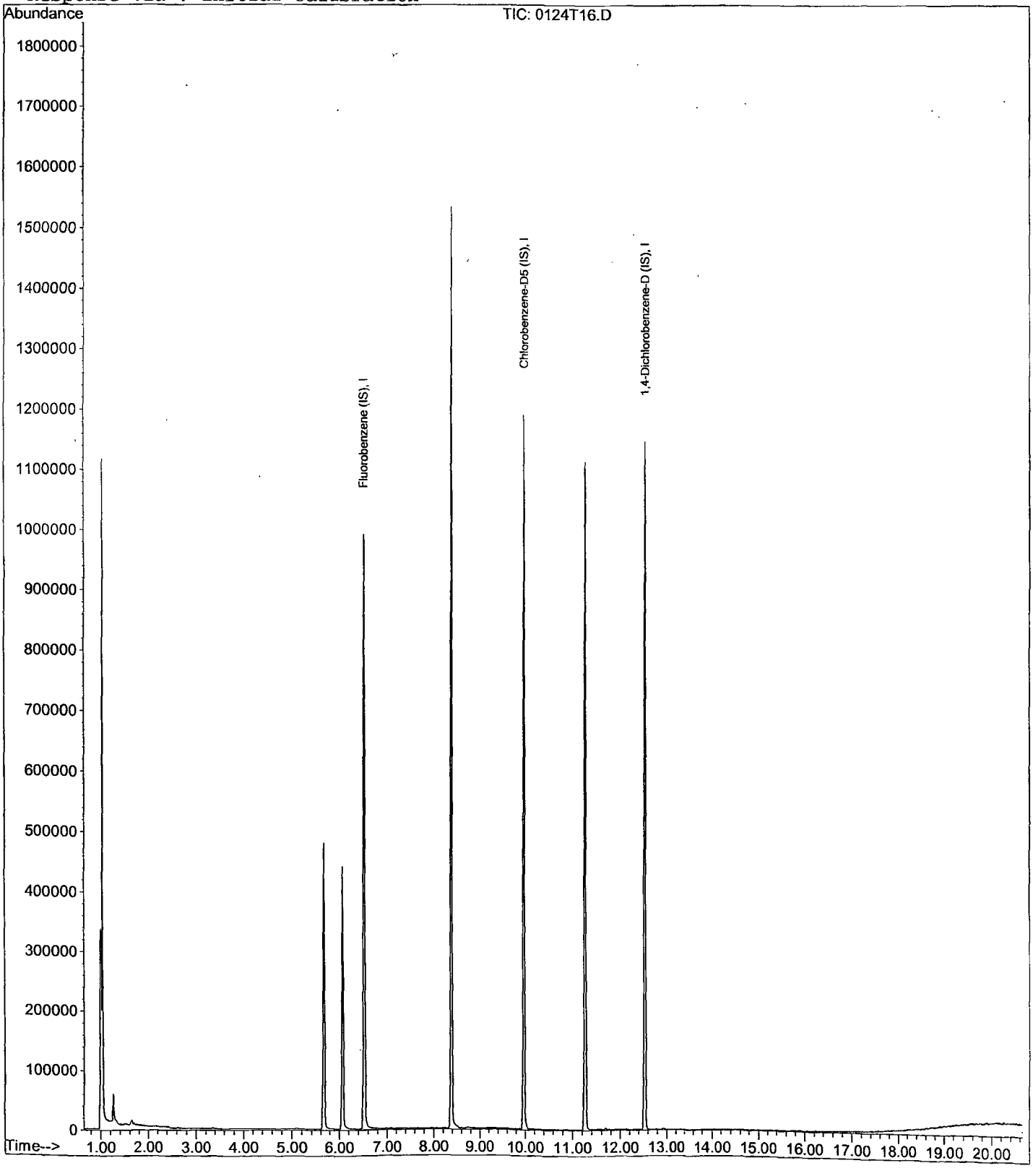
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0124T16.D Vial: 16
Acq On : 24 Jan 20 17:38 Operator:
Sample : BA06318W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 7:11 2020 Quant Results File: TGAS0116.RES

Method : M:\THOR\DATA\T200121\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T200121\0124T20.D Vial: 20
Acq On : 24 Jan 20 19:31 Operator:
Sample : BA06319W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 7:15 2020 Quant Results File: TGAS0116.RES

Quant Method : M:\THOR\DATA\T200121\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	TIC	957251	25.00000 ppb	0.00
3) Chlorobenzene-D5 (IS)	9.96	TIC	1131525	25.00000 ppb	0.00
4) 1,4-Dichlorobenzene-D (IS)	12.52	TIC	1134918	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0124T20.D Vial: 20
Acq On : 24 Jan 20 19:31 Operator:
Sample : BA06319W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 7:28 2020 Quant Results File: TSUR121W.RES

Quant Method : M:\THOR\DATA\T200121\TSUR121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	922763	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.96	117	743647	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.52	152	382215	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	5.66	111	300674	25.27236 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.088%	
3) 1,2-DCA-D4(S)	6.07	65	326293	25.79980 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.200%	
5) Toluene-D8(S)	8.37	98	1072243	24.12946 ppb	0.00
Spiked Amount 25.000			Recovery	= 96.516%	
6) 4-Bromofluorobenzene(S)	11.26	95	369517	22.05268 ppb	0.00
Spiked Amount 25.000			Recovery	= 88.212%	

Target Compounds Qvalue

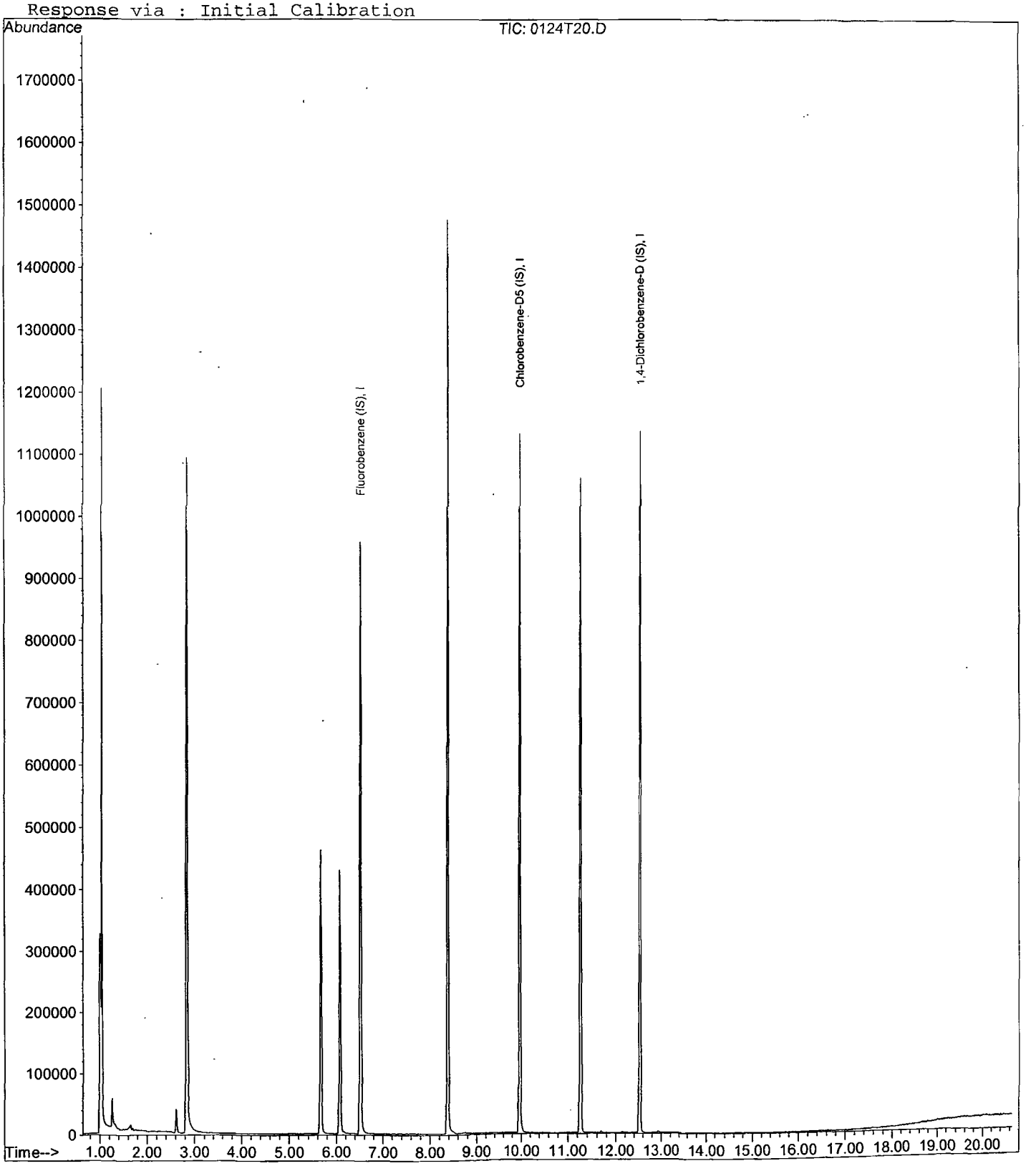
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0124T20.D Vial: 20
Acq On : 24 Jan 20 19:31 Operator:
Sample : BA06319W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 7:15 2020 Quant Results File: TGAS0116.RES

Method : M:\THOR\DATA\T200121\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T200121\0124T11.D Vial: 11
Acq On : 24 Jan 20 15:16 Operator:
Sample : 200124A BLK Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 7:01 2020 Quant Results File: TGAS0116.RES

Quant Method : M:\THOR\DATA\T200121\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	TIC	1002167	25.00000	ppb	0.00
3) Chlorobenzene-D5 (IS)	9.96	TIC	1202757	25.00000	ppb	0.00
4) 1,4-Dichlorobenzene-D (IS)	12.52	TIC	1171488	25.00000	ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0124T11.D Vial: 11
Acq On : 24 Jan 20 15:16 Operator:
Sample : 200124A BLK Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 7:28 2020 Quant Results File: TSUR121W.RES

Quant Method : M:\THOR\DATA\T200121\TSUR121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	973223	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.96	117	769874	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.52	152	399215	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	5.66	111	317651	25.32291 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.292%	
3) 1,2-DCA-D4(S)	6.07	65	342816	25.68097 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.724%	
5) Toluene-D8(S)	8.37	98	1146290	25.10429 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.416%	
6) 4-Bromofluorobenzene(S)	11.26	95	392135	22.65672 ppb	0.00
Spiked Amount 25.000			Recovery	= 90.628%	

Target Compounds Qvalue

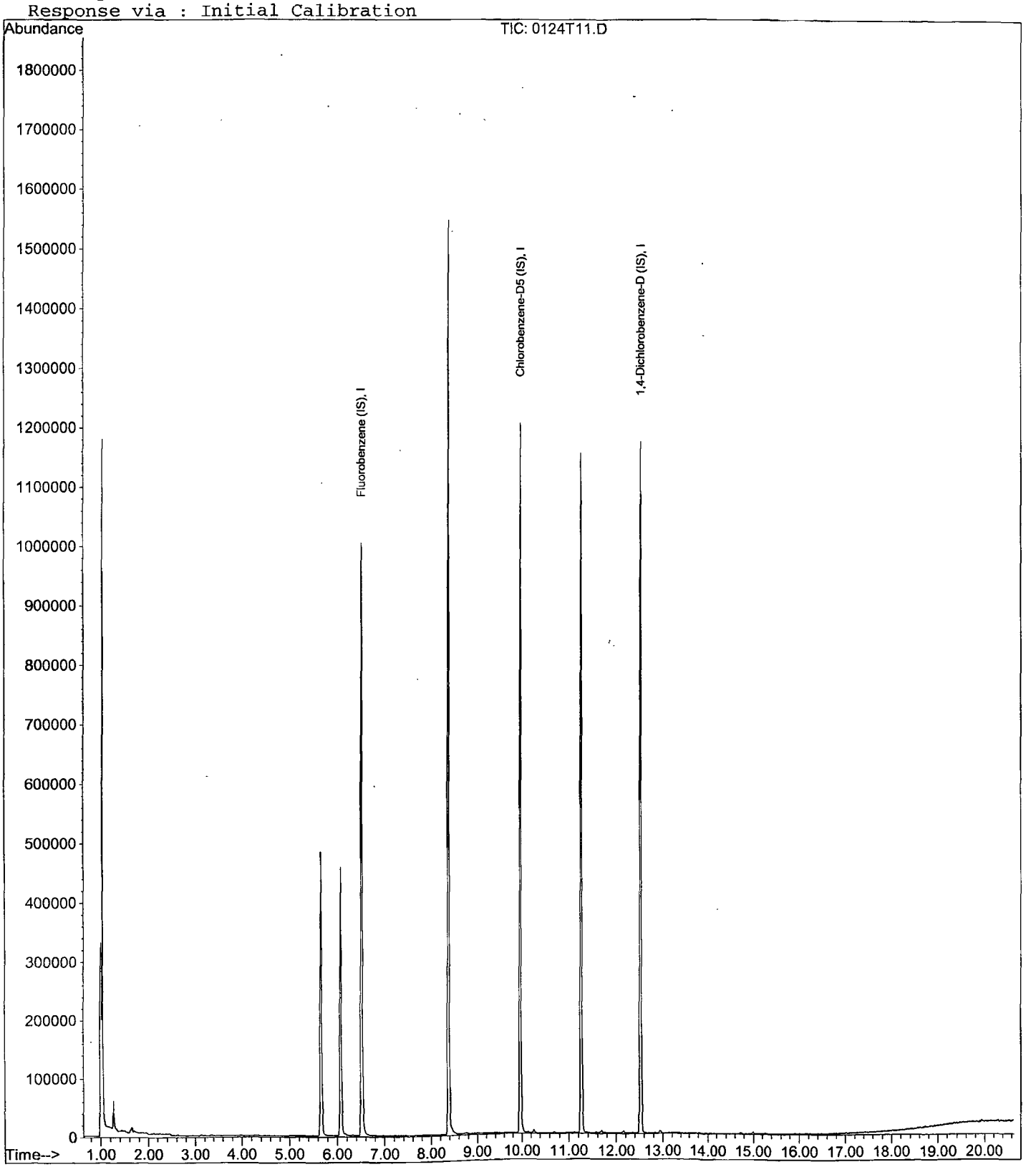
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0124T11.D Vial: 11
Acq On : 24 Jan 20 15:16 Operator:
Sample : 200124A BLK Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 7:01 2020 Quant Results File: TGAS0116.RES

Method : M:\THOR\DATA\T200121\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T200121\0124T09.D Vial: 9
Acq On : 24 Jan 20 14:19 Operator:
Sample : 200124A LCS 300ug/L Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 14:53 2020 Quant Results File: TGAS0116.RES

Quant Method : M:\THOR\DATA\T200121\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	TIC	1027812	25.00000	ppb	0.00
3) Chlorobenzene-D5 (IS)	9.96	TIC	1227138	25.00000	ppb	0.00
4) 1,4-Dichlorobenzene-D (IS)	12.52	TIC	1211018	25.00000	ppb	0.00

System Monitoring Compounds

Target Compounds						Qvalue
2) Gasoline C6-C10	8.37	TIC	16084358m	298.02685	ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0124T09.D Vial: 9
Acq On : 24 Jan 20 14:19 Operator:
Sample : 200124A LCS 300ug/L Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 7:28 2020 Quant Results File: TSUR121W.RES

Quant Method : M:\THOR\DATA\T200121\TSUR121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	988656	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.96	117	786255	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.52	152	408316	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	5.66	111	310819	24.21905 ppb	0.00
Spiked Amount 25.000			Recovery =	96.876%	
3) 1,2-DCA-D4(S)	6.07	65	333086	24.33688 ppb	0.00
Spiked Amount 25.000			Recovery =	97.348%	
5) Toluene-D8(S)	8.37	98	1144653	24.41859 ppb	0.00
Spiked Amount 25.000			Recovery =	97.676%	
6) 4-Bromofluorobenzene(S)	11.26	95	402415	22.77619 ppb	0.00
Spiked Amount 25.000			Recovery =	91.104%	

Target Compounds Qvalue

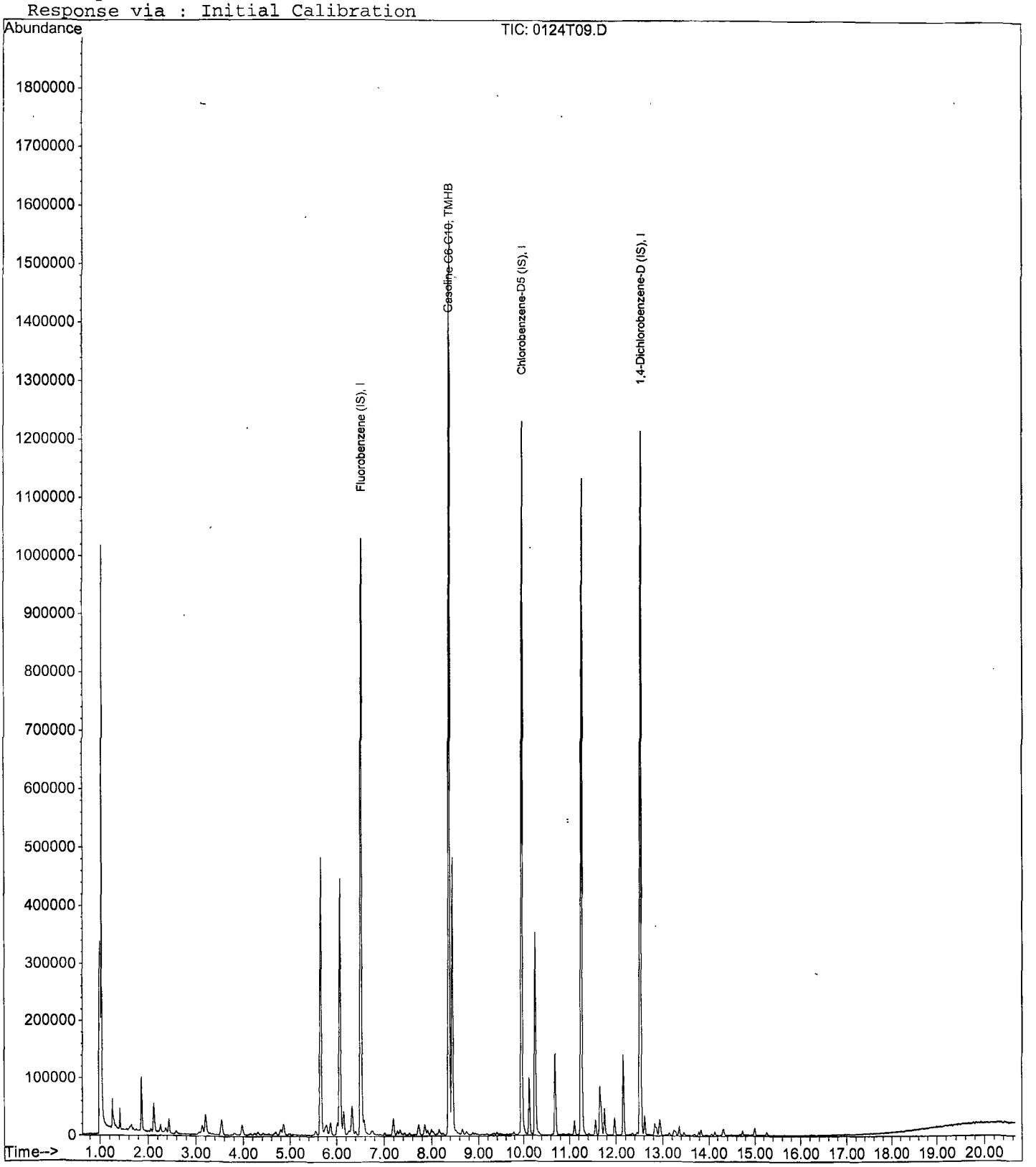
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0124T09.D Vial: 9
Acq On : 24 Jan 20 14:19 Operator:
Sample : 200124A LCS 300ug/L Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 14:53 2020 Quant Results File: TGAS0116.RES

Method : M:\THOR\DATA\T200121\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T200121\0124T10.D Vial: 10
Acq On : 24 Jan 20 14:48 Operator:
Sample : 200124A LCSD 300ug/L Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 15:11 2020 Quant Results File: TGAS0116.RES

Quant Method : M:\THOR\DATA\T200121\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	TIC	991864	25.00000	ppb	0.00
3) Chlorobenzene-D5 (IS)	9.96	TIC	1185758	25.00000	ppb	0.00
4) 1,4-Dichlorobenzene-D (IS)	12.52	TIC	1201770	25.00000	ppb	0.00

System Monitoring Compounds

Target Compounds						Qvalue
2) Gasoline C6-C10	8.37	TIC	15630981m	305.94132	ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0124T10.D Vial: 10
Acq On : 24 Jan 20 14:48 Operator:
Sample : 200124A LCSD 300ug/L Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 7:28 2020 Quant Results File: TSUR121W.RES

Quant Method : M:\THOR\DATA\T200121\TSUR121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	974720	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.96	117	766809	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.52	152	407491	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	5.66	111	314272	24.95807 ppb	0.00
Spiked Amount 25.000			Recovery = 99.832%		
3) 1,2-DCA-D4(S)	6.07	65	341145	25.48336 ppb	0.00
Spiked Amount 25.000			Recovery = 101.932%		
5) Toluene-D8(S)	8.37	98	1146471	25.23246 ppb	0.00
Spiked Amount 25.000			Recovery = 100.928%		
6) 4-Bromofluorobenzene(S)	11.26	95	407988	23.75843 ppb	0.00
Spiked Amount 25.000			Recovery = 95.032%		

Target Compounds Qvalue

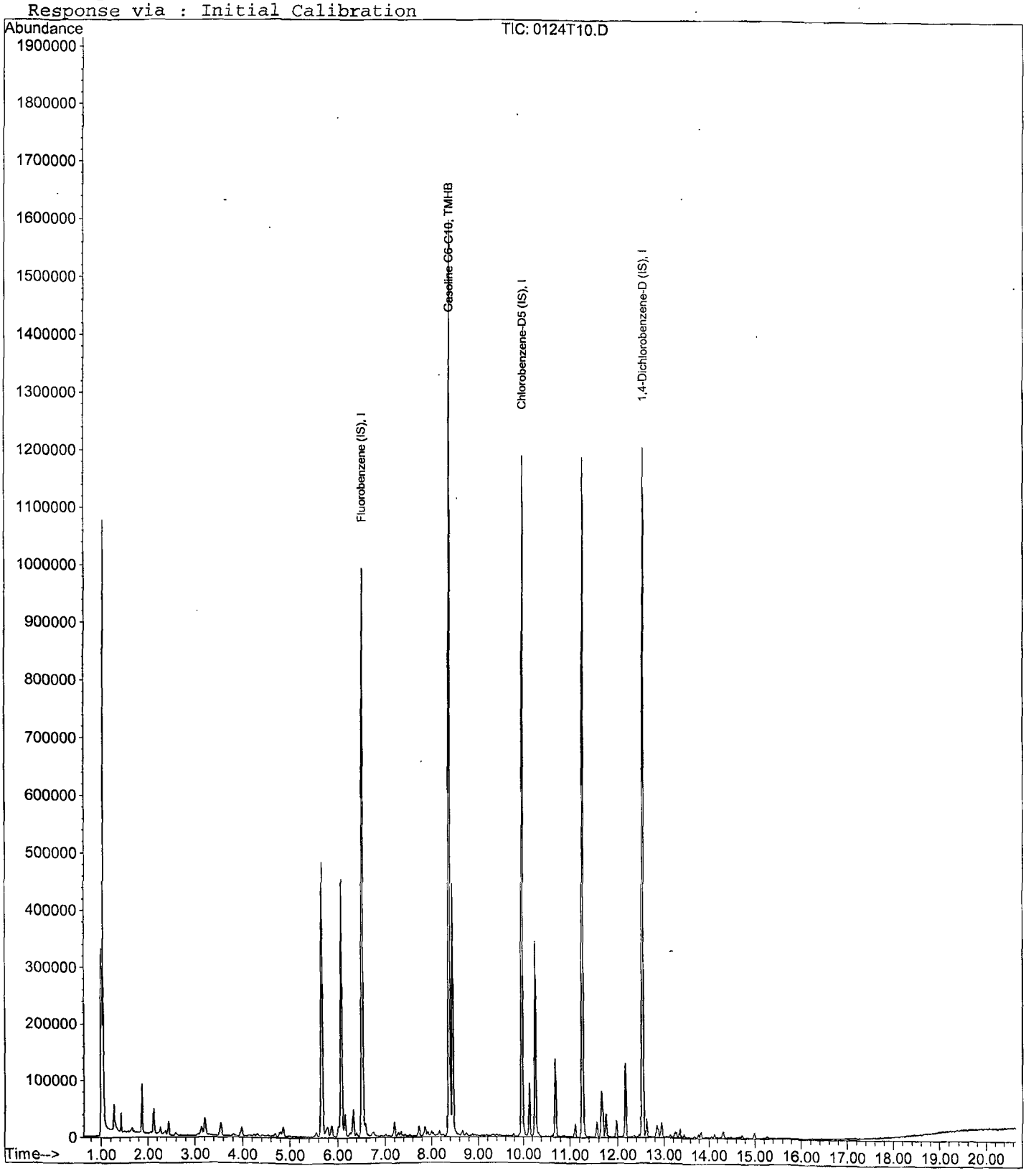
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0124T10.D Vial: 10
Acq On : 24 Jan 20 14:48 Operator:
Sample : 200124A LCSD 300ug/L Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 24 15:11 2020 Quant Results File: TGAS0116.RES

Method : M:\THOR\DATA\T200121\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration



Thor Gas Standard Prep

Gas Primary Working Standard

Prepared: 01/06/20
Expires: 01/05/21
Methanol Lot No. 58019-00962

Prepared By (Initials): DG

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	Supplier P/N#	Conc. (ug/mL)	Lot Number - QA Number	Exp. Date (1 yr)	Exp. Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/mL)
50,000ug/mL Gas STD	Restek	30205	50,000	A0132443-39859	01/06/21	12/31/24	80uL	2mL	Methanol	2,000

Gas Second Source (SS) Working Standard

Prepared: 01/06/20
Expires: 07/16/20
Methanol Lot No. 58019-00962

Prepared By (Initials): DG

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	Supplier P/N#	Conc. (ug/mL)	Lot Number - QA Number	Exp. Date (1 yr)	Exp. Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/mL)
Gasoline (5,000ppm)	O2SI	020246-06	5,000	CL11750-40999	07/16/20	02/28/27	800uL	2mL	Methanol	2,000

Thor Gas Calibration Curve

Prepared: 01/16/20
Expires: 03/16/20

Prepared By (Initials): CH

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	APPL Mix Name	Conc. (ug/mL)	Reference To APPL Prep Date	Exp Date	Exp. Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/L)
VOA Gasses Standards	Phenova	20ug/L	2,000	Prepared 01/06/20	01/05/21	N/A	1uL	100mL	P&T Water	20
VOA Gasses Standards	Phenova	50ug/L	2,000	Prepared 01/06/20	01/05/21	N/A	2.5uL	100mL	P&T Water	50
VOA Gasses Standards	Phenova	100ug/L	2,000	Prepared 01/06/20	01/05/21	N/A	5uL	100mL	P&T Water	100
VOA Gasses Standards	Phenova	300ug/L	2,000	Prepared 01/06/20	01/05/21	N/A	15uL	100mL	P&T Water	300
VOA Gasses Standards	Phenova	600ug/L	2,000	Prepared 01/06/20	01/05/21	N/A	30uL	100mL	P&T Water	600
VOA Gasses Standards	Phenova	800ug/L	2,000	Prepared 01/06/20	01/05/21	N/A	40uL	100mL	P&T Water	800
VOA Gasses Standards	Phenova	1,000ug/L	2,000	Prepared 01/06/20	01/05/21	N/A	50uL	100mL	P&T Water	1,000

Thor Gas Second Source

Prepared: 01/16/20
Expires: 03/16/20

Prepared By (Initials): CH

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	APPL Mix Name	Conc. (ug/mL)	Reference To APPL Prep Date	Exp. Date	Exp. Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/L)
50,000ug/mL Gas STD	Phenova	SS 300ug/L	2,000	Prepared 01/06/20	07/16/20	N/A	15uL	100mL	P&T Water	300

Thor Gas Continuing Calibrations/Lab Control Spikes

Prepared: 01/16/20
Expires: 01/17/20

Prepared By (Initials): CH

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	Supplier P/N#	Conc. (ug/mL)	Lot Number - QA Number	Exp. Date (1 yr)	Exp. Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/mL)
VOA Gasses Standards	Phenova	300ug/L	2,000	Prepared 01/06/20	01/05/21	N/A	15uL	100mL	P&T Water	300

Injection Log

Directory: M:\THOR\DATA\T200116\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	14	0116T20.D	1	20ug/L GAS STD 1/16/20	IS&S 12/26/19,12/26/19	16 Jan 20 22:12
2	15	0116T21.D	1	50ug/L GAS STD 1/16/20	IS&S 12/26/19,12/26/19	16 Jan 20 22:40
3	16	0116T22.D	1	100ug/L GAS STD 1/16/20	IS&S 12/26/19,12/26/19	16 Jan 20 23:08
4	17	0116T23.D	1	300ug/L GAS STD 1/16/20	IS&S 12/26/19,12/26/19	16 Jan 20 23:37
5	18	0116T24.D	1	600ug/L GAS STD 1/16/20	IS&S 12/26/19,12/26/19	17 Jan 20 00:05
6	19	0116T25.D	1	800ug/L GAS STD 1/16/20	IS&S 12/26/19,12/26/19	17 Jan 20 00:33
7	20	0116T26.D	1	1000ug/L GAS STD 1/16/20	IS&S 12/26/19,12/26/19	17 Jan 20 1:02
8	22	0116T28.D	1	(SS) 300ug/L GAS STD 1/16/20	IS&S 12/26/19,12/26/19	17 Jan 20 1:58
9	2	0121T02.D	1	0.3ug/L VOC STD 1/21/20	IS&S 12/26/19,12/26/19	21 Jan 20 7:41
10	3	0121T03.D	1	0.5ug/L VOC STD 1/21/20	IS&S 12/26/19,12/26/19	21 Jan 20 8:09
11	4	0121T04.D	1	1ug/L VOC STD 1/21/20	IS&S 12/26/19,12/26/19	21 Jan 20 8:37
12	5	0121T05.D	1	2ug/L VOC STD 1/21/20	IS&S 12/26/19,12/26/19	21 Jan 20 9:05
13	6	0121T06.D	1	5ug/L VOC STD 1/21/20	IS&S 12/26/19,12/26/19	21 Jan 20 9:34
14	7	0121T07.D	1	10ug/L VOC STD 1/21/20	IS&S 12/26/19,12/26/19	21 Jan 20 10:02
15	8	0121T08.D	1	20ug/L VOC STD 1/21/20	IS&S 12/26/19,12/26/19	21 Jan 20 10:30
16	9	0121T09.D	1	40ug/L VOC STD 1/21/20	IS&S 12/26/19,12/26/19	21 Jan 20 10:59
17	10	0121T10.D	1	100ug/L VOC STD 1/21/20	IS&S 12/26/19,12/26/19	21 Jan 20 11:27
18	8	0124T08.D	1	200124A CCV 300ug/L	IS&S 12/26/19,12/26/19	24 Jan 20 13:51
19	9	0124T09.D	1	200124A LCS 300ug/L	IS&S 12/26/19,12/26/19	24 Jan 20 14:19
20	10	0124T10.D	1	200124A LCSD 300ug/L	IS&S 12/26/19,12/26/19	24 Jan 20 14:48
21	11	0124T11.D	1	200124A BLK	IS&S 12/26/19,12/26/19	24 Jan 20 15:16
22	13	0124T13.D	1	BA06312W01	IS&S 12/26/19,12/26/19	24 Jan 20 16:13
23	14	0124T14.D	1	BA06314W01	IS&S 12/26/19,12/26/19	24 Jan 20 16:41
24	15	0124T15.D	1	BA06316W01	IS&S 12/26/19,12/26/19	24 Jan 20 17:09
25	16	0124T16.D	1	BA06318W01	IS&S 12/26/19,12/26/19	24 Jan 20 17:38
26	17	0124T17.D	1	BA06313W01	IS&S 12/26/19,12/26/19	24 Jan 20 18:06
27	18	0124T18.D	1	BA06315W01	IS&S 12/26/19,12/26/19	24 Jan 20 18:34
28	19	0124T19.D	1	BA06317W01	IS&S 12/26/19,12/26/19	24 Jan 20 19:03
29	20	0124T20.D	1	BA06319W01	IS&S 12/26/19,12/26/19	24 Jan 20 19:31
30	29	0124T29.D	1	Ending CCV 300ug/L 1/24/20	IS&S 12/26/19,12/26/19	24 Jan 20 23:46

ORGANICS
Calibration Data

RSK 175
RSK 175

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Initial Cal. Date: 10/02/19
Matrix: Instrument: 7890 Initials:

			1002R02.D	1002R03.D	1002R04.D	1002R05.D	1002R06.D	1002R07.D	1002R08.D									
		Compound	1	2	3	4	5	6	7				Avg	%RSD	Type	r^2	Q
1	ATM	Methane	63820	40452	36215	45202	48427	44031	45774				46274	19	ATM		
2	ATM	Ethane	42546	31037	26553	34655	37738	32771	32974				34039	15	ATM		
3	ATM	Ethene	32900	24299	20841	27689	29847	25551	26297				26775	15	ATM		
4																	
5																	
6																	
7																	
8																	
9																	
10																	
11																	
12																	
13																	
14																	
15																	
16																	
17																	
18																	
19																	
20																	
21																	
22																	
23																	
24																	
25																	
26																	
27																	
28																	
29																	
30																	
31																	
32																	
33																	
34																	
35																	

1.377886

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\191002RS\1002R02.D Vial: 2
Acq On : 2 Oct 19 17:45 Operator: GA
Sample : RSK STD 1 10/2/19 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Oct 2 18:11 2019 Quant Results File: RSK1002.RES

Method : G:\ROCKY\DATA\190929RS\RSK1002.M (Chemstation Integrator)
Title : RSK 175
Last Update : Wed Oct 02 18:14:49 2019
Response via : Multiple Level Calibration

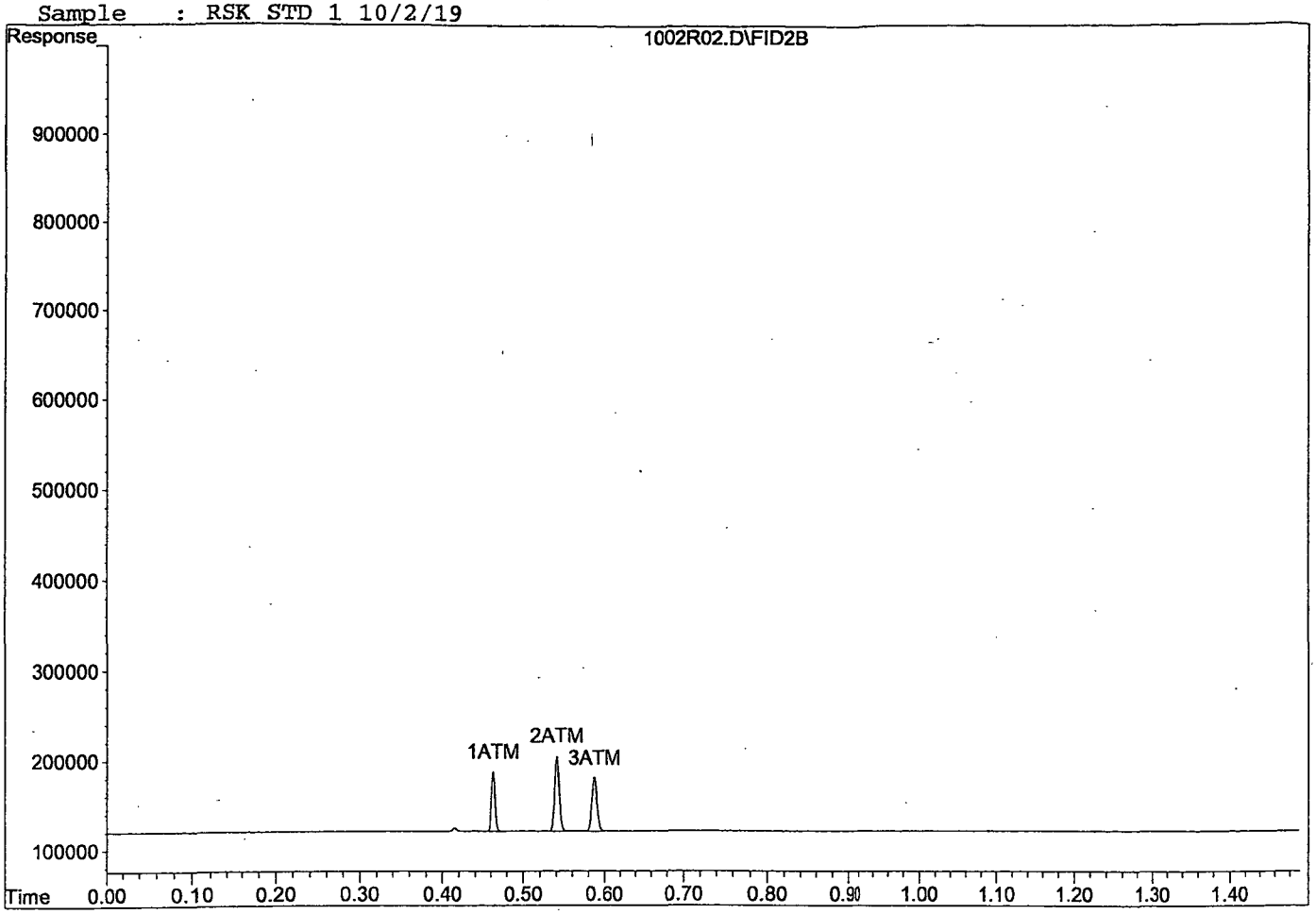
Volume Inj. : 0.500 mL
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.46	66373	8.306 ppb
2) ATM Ethane	0.54	83177	6.216 ppb
3) ATM Ethene	0.59	60042	5.640 ppb

Target Compounds

Quantitation Report

Data File: G:\ROCKY\DATA\191002RS\1002R02.D
Sample : RSK STD 1 10/2/19



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\191002RS\1002R03.D Vial: 3
Acq On : 2 Oct 19 17:50 Operator: GA
Sample : RSK STD 2 10/2/19 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Oct 2 18:11 2019 Quant Results File: RSK1002.RES

Method : G:\ROCKY\DATA\190929RS\RSK1002.M (Chemstation Integrator)
Title : RSK 175
Last Update : Wed Oct 02 18:14:49 2019
Response via : Multiple Level Calibration

Volume Inj. : 0.500 mL
Signal Phase : CARBOPACK
Signal Info :

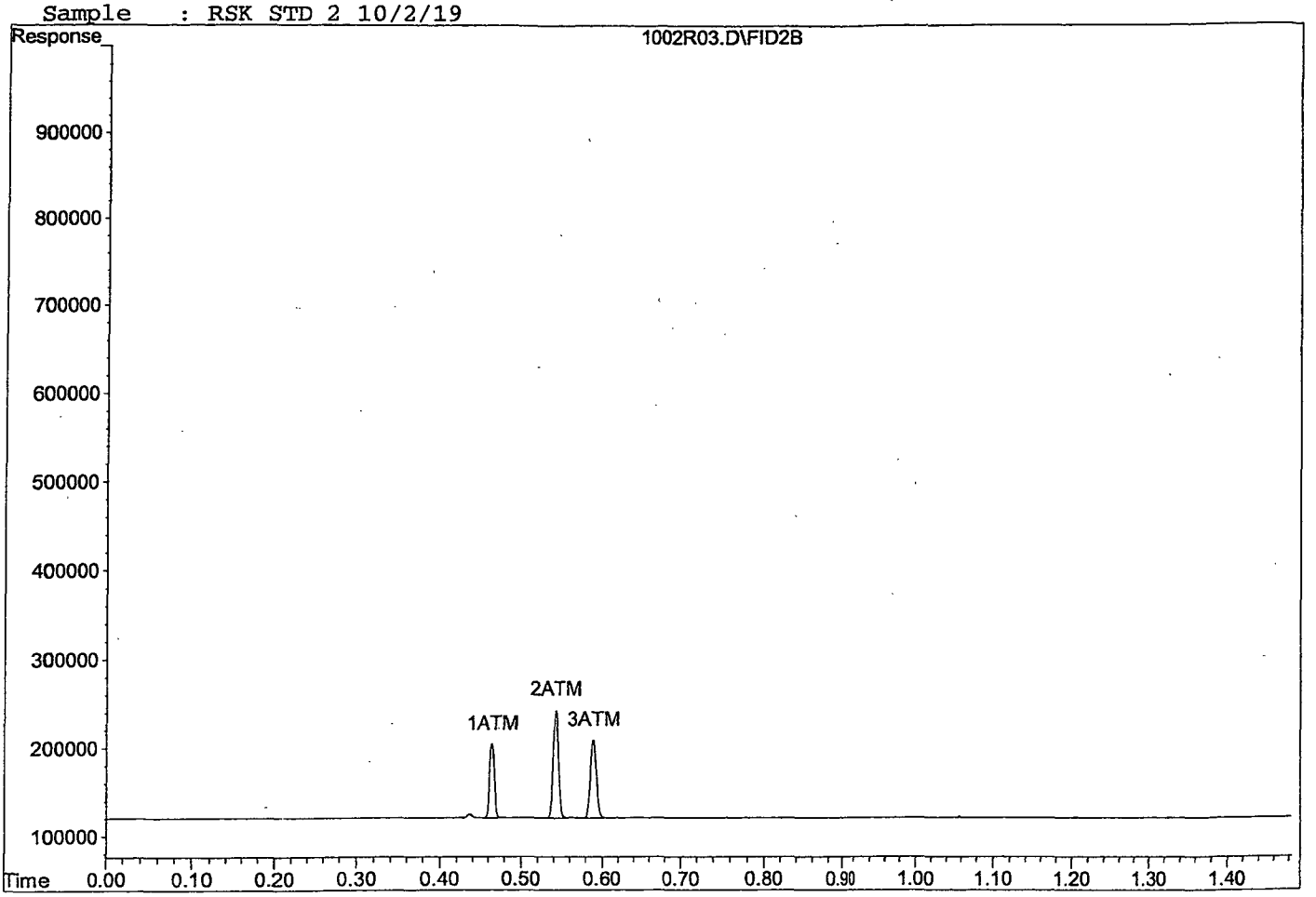
Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.46	84140	9.332 ppb
2) ATM Ethane	0.54	121200	9.058 ppb
3) ATM Ethene	0.59	88693	8.332 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\191002RS\1002R03.D
Sample : RSK STD 2 10/2/19



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\191002RS\1002R04.D Vial: 4
Acq On : 2 Oct 19 17:52 Operator: GA
Sample : RSK STD 3 10/2/19 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Oct 2 18:11 2019 Quant Results File: RSK1002.RES

Method : G:\ROCKY\DATA\190929RS\RSK1002.M (Chemstation Integrator)
Title : RSK 175
Last Update : Wed Oct 02 18:14:49 2019
Response via : Multiple Level Calibration

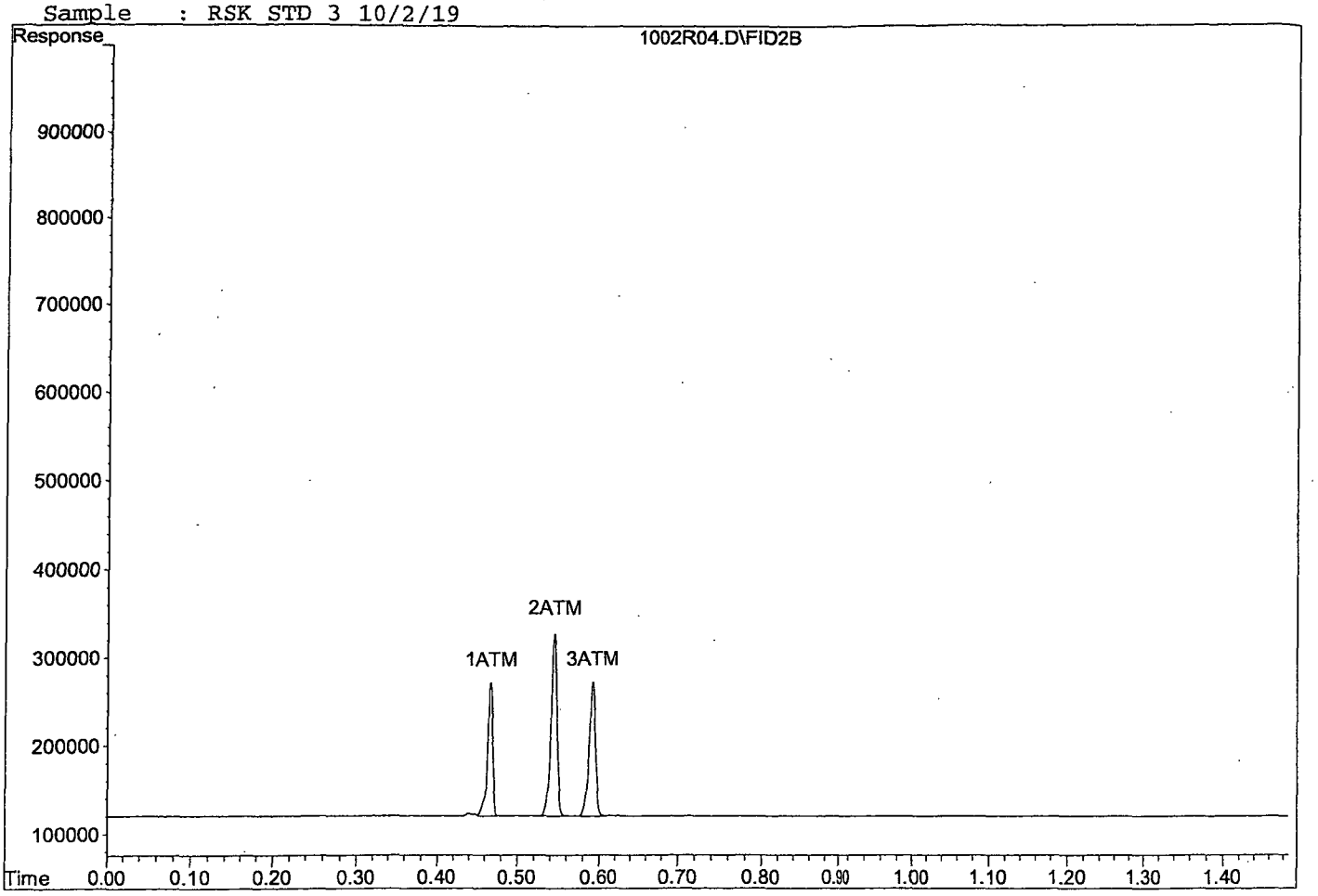
Volume Inj. : 0.500 mL
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.47	151018	13.195 ppb
2) ATM Ethane	0.55	207113	15.479 ppb
3) ATM Ethene	0.59	152138	14.292 ppb

Target Compounds

Quantitation Report

Data File: G:\ROCKY\DATA\191002RS\1002R04.D
Sample : RSK STD 3 10/2/19



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\191002RS\1002R05.D Vial: 5
Acq On : 2 Oct 19 17:57 Operator: GA
Sample : RSK STD 4 10/2/19 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Oct 2 18:11 2019 Quant Results File: RSK1002.RES

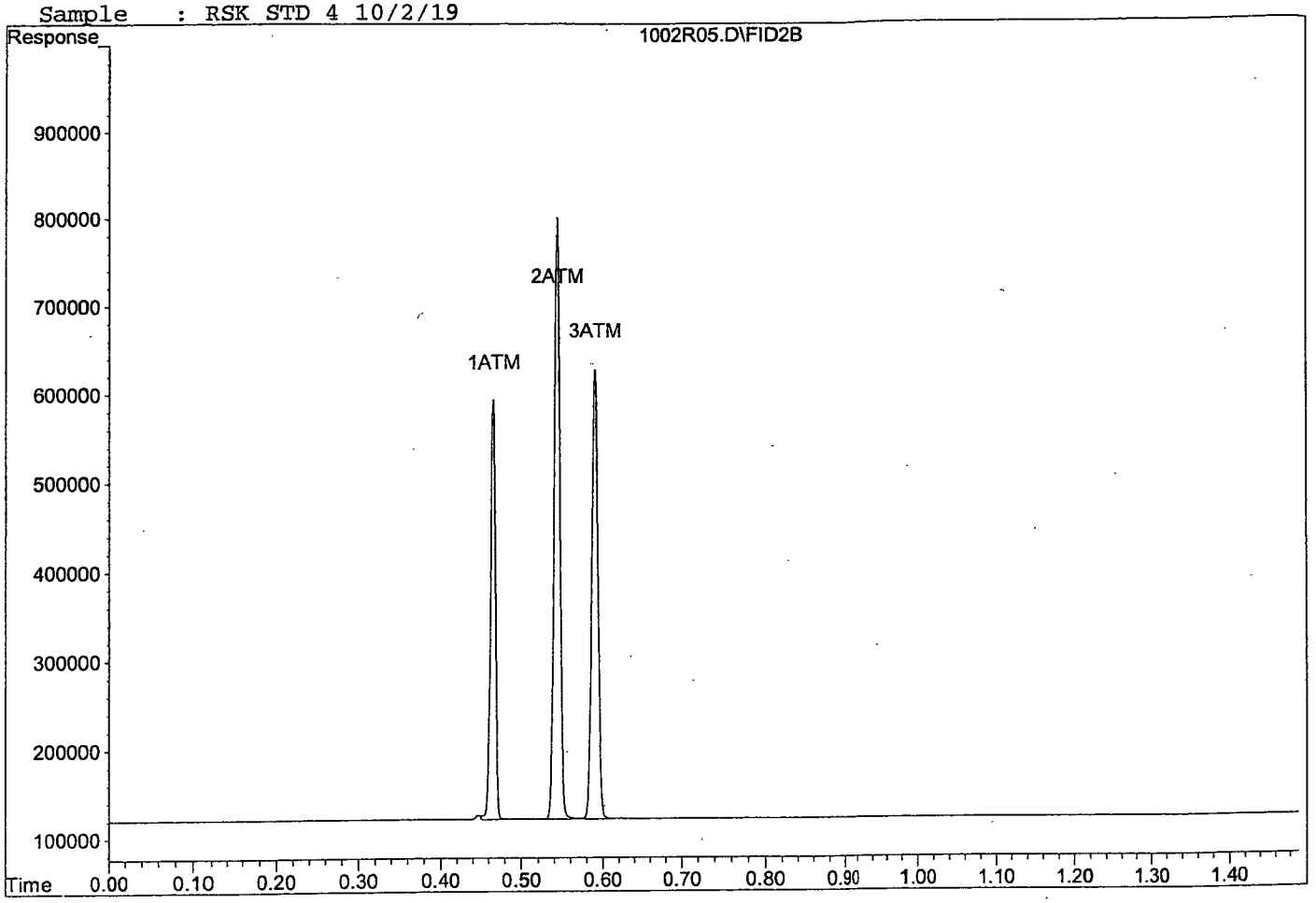
Method : G:\ROCKY\DATA\190929RS\RSK1002.M (Chemstation Integrator)
Title : RSK 175
Last Update : Wed Oct 02 18:14:49 2019
Response via : Multiple Level Calibration

Volume Inj. : 0.500 mL
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.47	471234	31.689 ppb
2) ATM Ethane	0.54	677330	50.623 ppb
3) ATM Ethene	0.59	504779	47.419 ppb

Target Compounds

Data File: G:\ROCKY\DATA\191002RS\1002R05.D
Sample : RSK STD 4 10/2/19



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\191002RS\1002R06.D Vial: 6
Acq On : 2 Oct 19 17:59 Operator: GA
Sample : RSK STD 5 10/2/19 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Oct 2 18:11 2019 Quant Results File: RSK1002.RES

Method : G:\ROCKY\DATA\190929RS\RSK1002.M (Chemstation Integrator)
Title : RSK 175
Last Update : Wed Oct 02 18:14:49 2019
Response via : Multiple Level Calibration

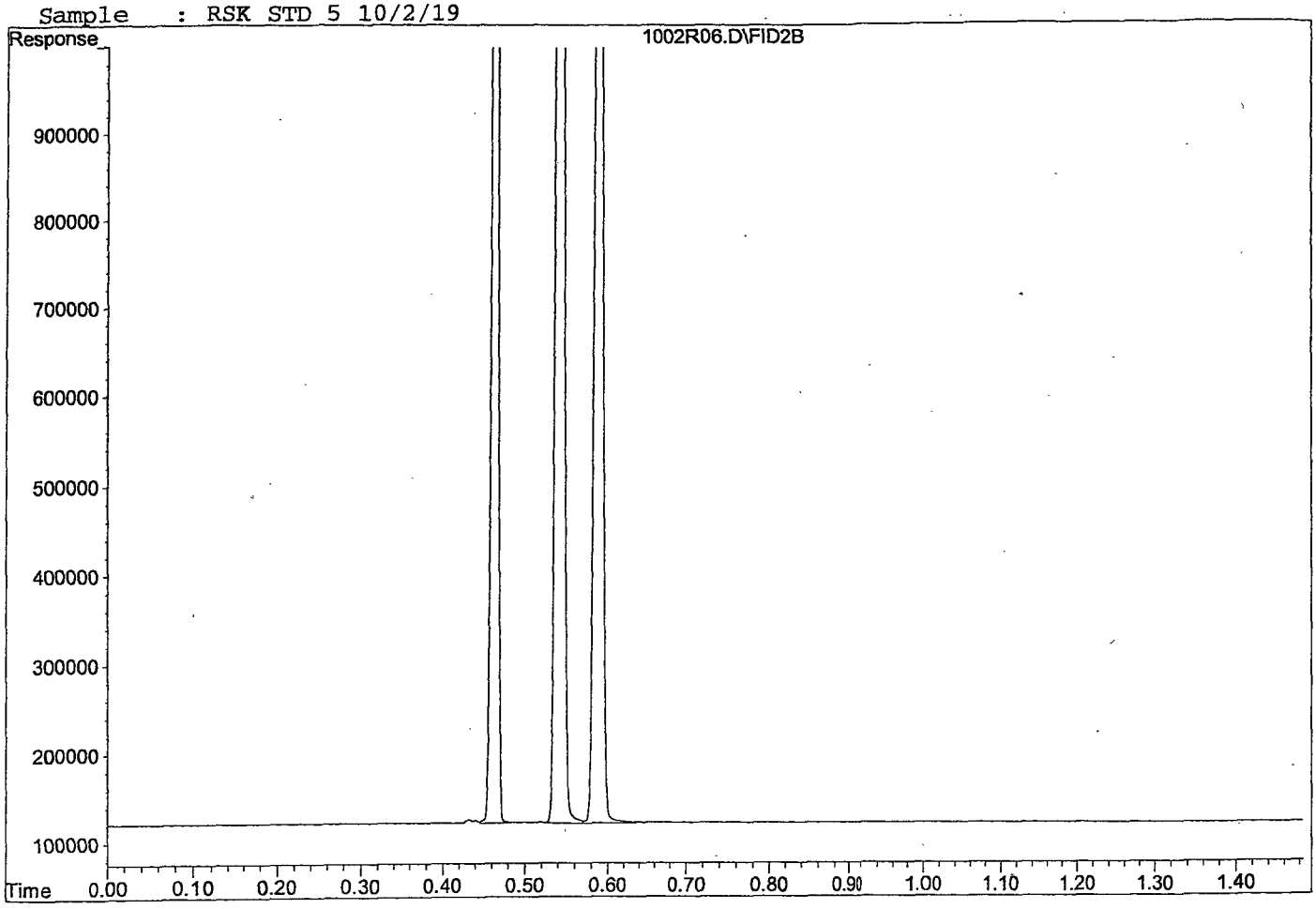
Volume Inj. : 0.500 mL
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.46	2019402	121.105 ppb
2) ATM Ethane	0.54	2950189	220.492 ppb
3) ATM Ethene	0.59	2176445	204.454 ppb

Target Compounds

Quantitation Report

Data File: G:\ROCKY\DATA\191002RS\1002R06.D
Sample : RSK STD 5 10/2/19



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\191002RS\1002R07.D Vial: 7
Acq On : 2 Oct 19 18:05 Operator: GA
Sample : RSK STD 6 10/2/19 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Oct 2 18:11 2019 Quant Results File: RSK1002.RES

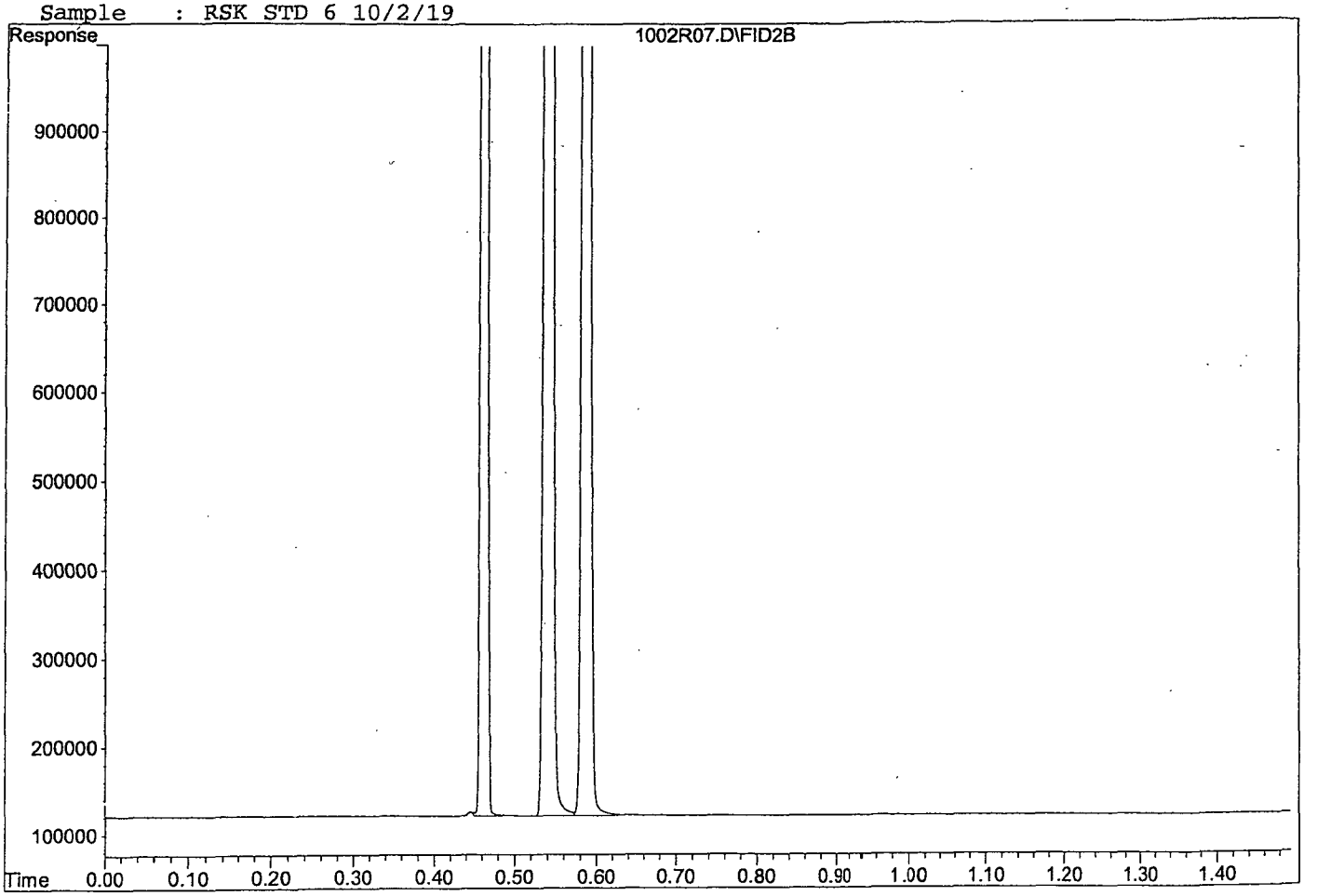
Method : G:\ROCKY\DATA\190929RS\RSK1002.M (Chemstation Integrator)
Title : RSK 175
Last Update : Wed Oct 02 18:14:49 2019
Response via : Multiple Level Calibration

Volume Inj. : 0.500 mL
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.46	4590194	269.583 ppb
2) ATM Ethane	0.54	6405030	478.702 ppb
3) ATM Ethene	0.59	4657966	437.567 ppb

Target Compounds

Data File: G:\ROCKY\DATA\191002RS\1002R07.D
Sample : RSK STD 6 10/2/19



Page 682 of 804

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\191002RS\1002R08.D Vial: 8
Acq On : 2 Oct 19 18:07 Operator: GA
Sample : RSK STD 7 10/2/19 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Oct 2 18:11 2019 Quant Results File: RSK1002.RES

Method : G:\ROCKY\DATA\190929RS\RSK1002.M (Chemstation Integrator)
Title : RSK 175
Last Update : Wed Oct 02 18:14:49 2019
Response via : Multiple Level Calibration

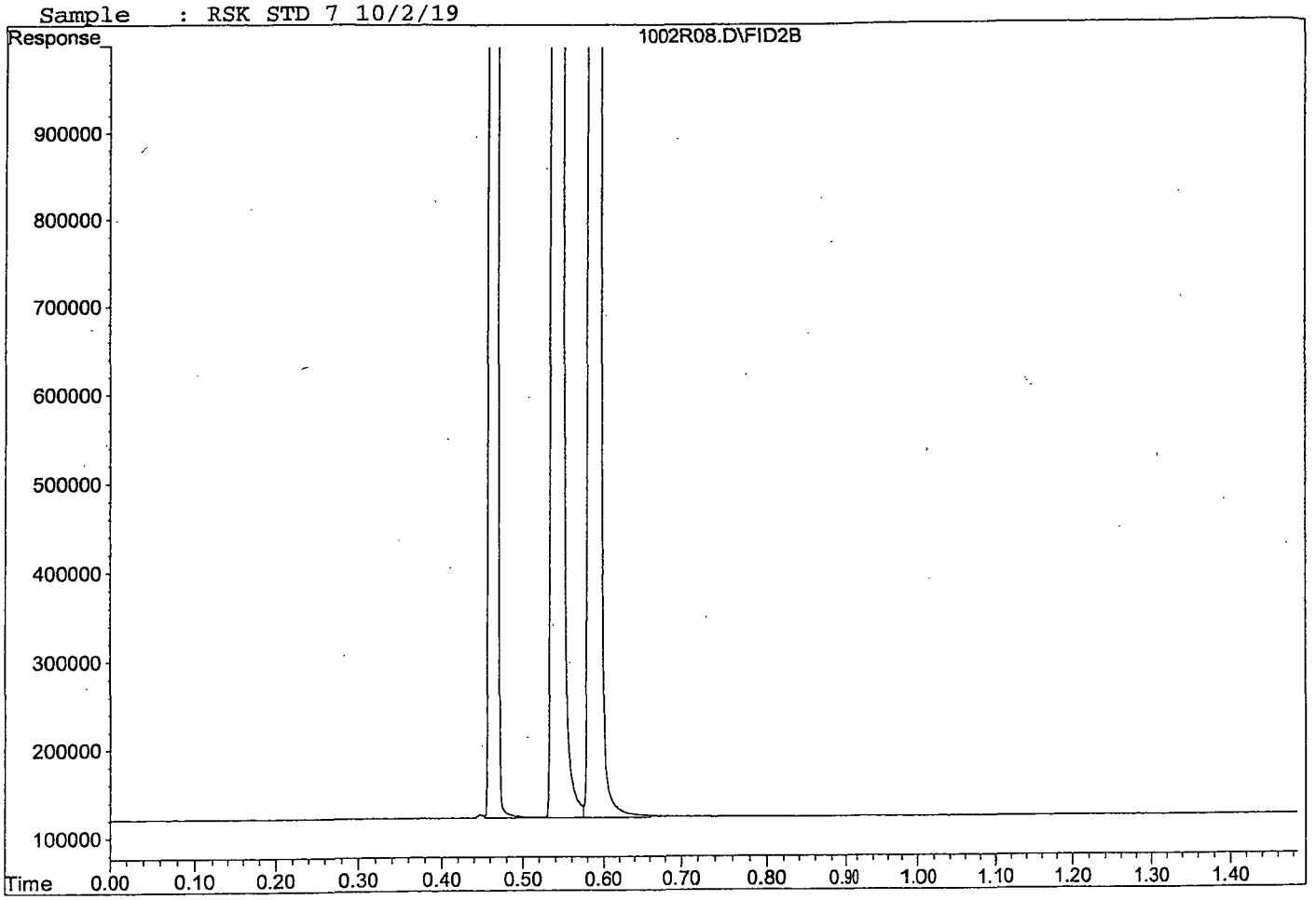
Volume Inj. : 0.500 mL
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.46	19087907	1106.909 ppb
2) ATM Ethane	0.54	25777712	1926.584 ppb
3) ATM Ethene	0.59	19176068	1801.389 ppb

Target Compounds

Quantitation Report

Data File: G:\ROCKY\DATA\191002RS\1002R08.D
Sample : RSK STD 7 10/2/19



Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 2 Oct 19 18:24
Instrument: 7890
Initial Cal. Date: 10/02/19
Data File: 1002R10.D

		Compound	MEAN	CCRF	%D		%Drift
1	ATM	Methane	46275	50203	8.5	ATM	
2	ATM	Ethane	34039	37011	8.7	ATM	
3	ATM	Ethene	26775	28699	7.2	ATM	
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			8.1		

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\191002RS\1002R10.D Vial: 10
Acq On : 2 Oct 19 18:24 Operator: GA
Sample : SS RSK STD 5 10/2/19 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Oct 2 18:27 2019 Quant Results File: RSK1002.RES

Method : G:\ROCKY\DATA\190929RS\RSK1002.M (Chemstation Integrator)
Title : RSK 175
Last Update : Wed Oct 02 18:14:49 2019
Response via : Multiple Level Calibration

Volume Inj. : 0.500 mL
Signal Phase : CARBOPACK
Signal Info :

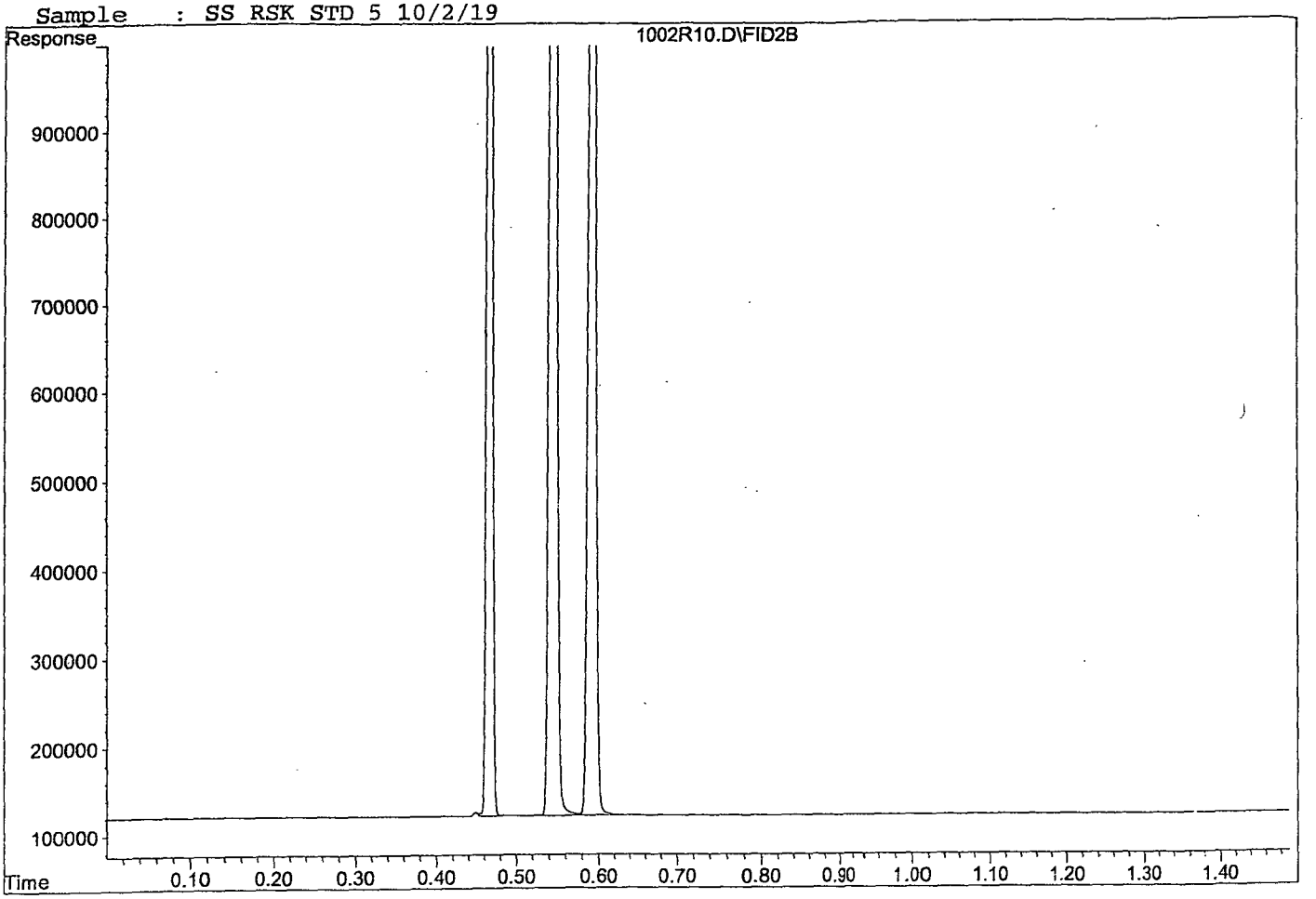
Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.47	2093456	90.480 ppb
2) ATM Ethane	0.54	2893356	170.002 ppb
3) ATM Ethene	0.59	2092707	156.318 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\191002RS\1002R10.D
Sample : SS RSK STD 5 10/2/19



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 01/27/20
Instrument: 7890
Initial Cal. Date: 10/02/19
Data File: 0127R04.D

		Compound	MEAN	CCRF	%D		%Drift
1	ATM	Methane	46275	38632	17	ATM	
2	ATM	Ethane	34039	29977	12	ATM	
3	ATM	Ethene	26775	25677	4.1	ATM	
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			11.0		

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\191002RS\0127R04.D Vial: 4
Acq On : 27 Jan 20 14:54 Operator: GA
Sample : 200127A LCS/CCV RSK STD 5 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Jan 27 15:03 2020 Quant Results File: RSK1002.RES

Method : G:\ROCKY\DATA\190929RS\RSK1002.M (Chemstation Integrator)
Title : RSK 175
Last Update : Fri Jan 24 14:31:23 2020
Response via : Multiple Level Calibration

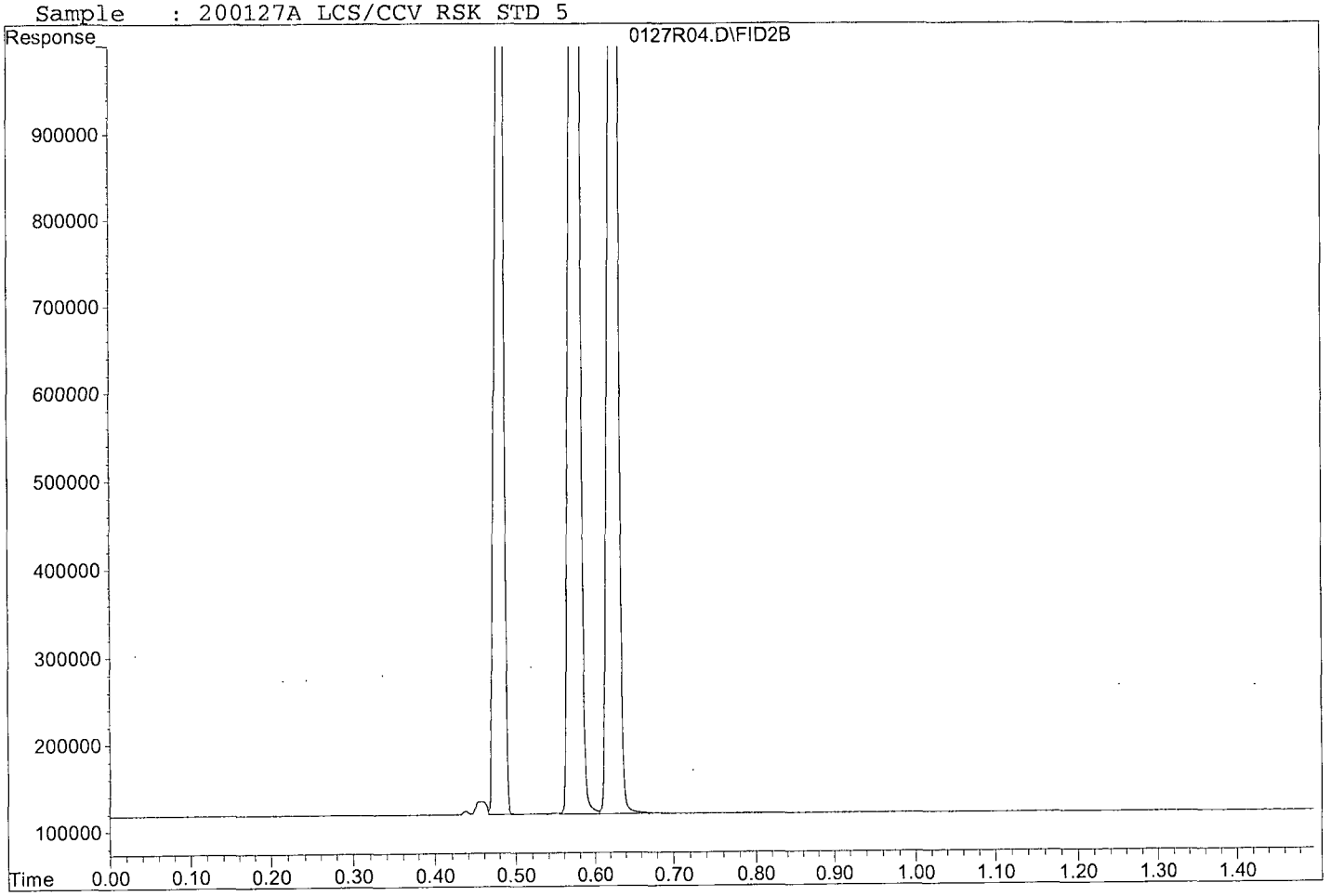
Volume Inj. : 0.500 mL
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
1) ATM Methane	0.48	1610953	69.626	ppb
2) ATM Ethane	0.58	2343416	137.690	ppb
3) ATM Ethene	0.63	1872357	139.859	ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\191002RS\0127R04.D
Sample : 200127A LCS/CCV RSK STD 5



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 01/27/20
Instrument: 7890
Initial Cal. Date: 10/02/19
Data File: 0127R16.D

		Compound	MEAN	CCRF	%D		%Drift
1	ATM	Methane	46275	48070	3.9	ATM	
2	ATM	Ethane	34039	37221	9.3	ATM	
3	ATM	Ethene	26775	31727	18	ATM	
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			10.4		

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\191002RS\0127R16.D Vial: 16
Acq On : 27 Jan 20 15:53 Operator: GA
Sample : ENDING CCV RSK STD 5 01/27/20 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Jan 27 15:56 2020 Quant Results File: RSK1002.RES

Method : G:\ROCKY\DATA\190929RS\RSK1002.M (Chemstation Integrator)
Title : RSK 175
Last Update : Fri Jan 24 14:31:23 2020
Response via : Multiple Level Calibration

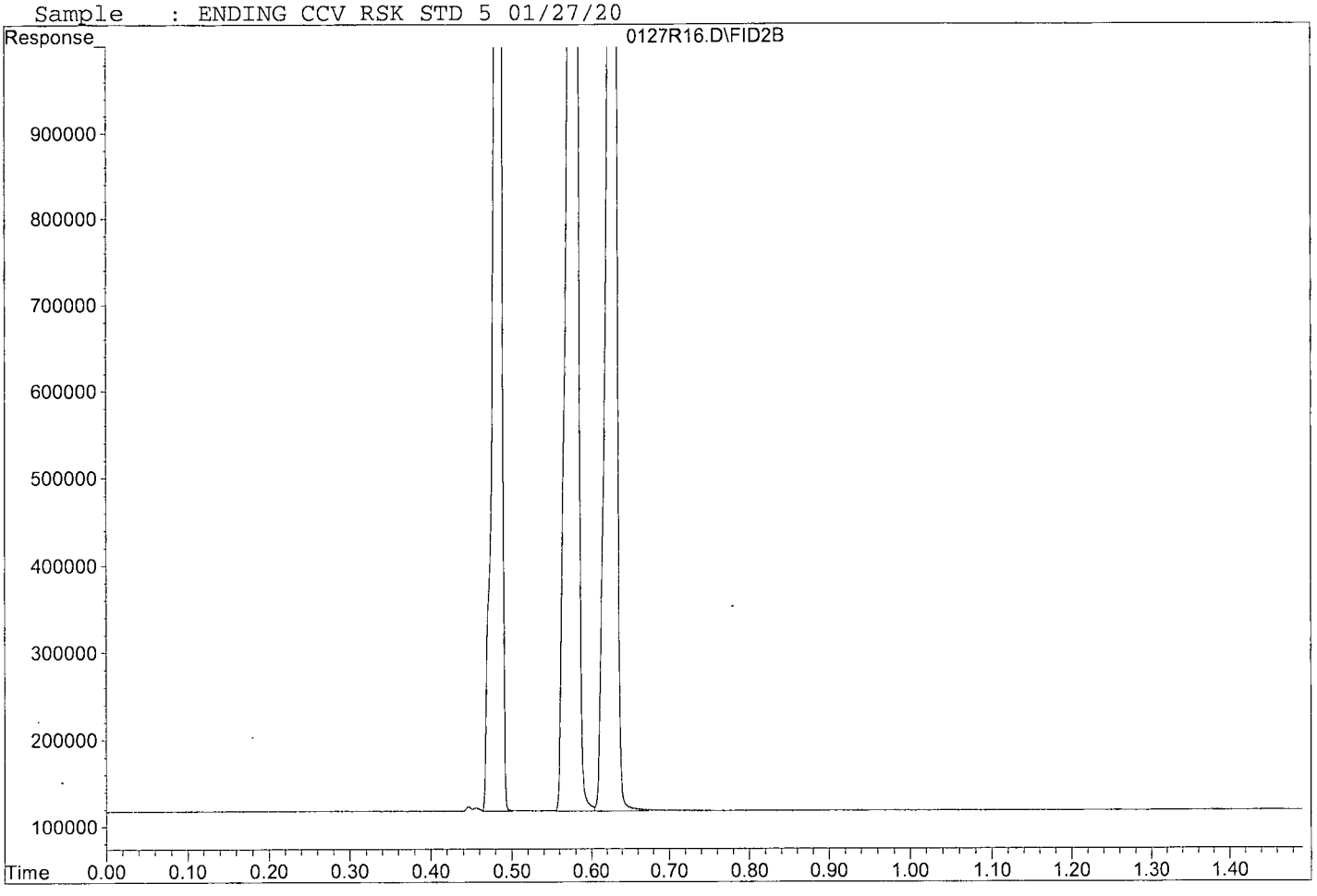
Volume Inj. : 0.500 mL
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
1) ATM Methane	0.48	2004504	86.635	ppb
2) ATM Ethane	0.58	2909759	170.966	ppb
3) ATM Ethene	0.63	2313536	172.813	ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\191002RS\0127R16.D
Sample : ENDING CCV RSK STD 5 01/27/20



ORGANICS
Calibration Data

Quantitation Report (QT Reviewed)

Data File : G:\ROCKY\DATA\191002RS\0127R09.D Vial: 9
Acq On : 27 Jan 20 15:18 Operator: GA
Sample : BA06312W02 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Jan 27 15:22 2020 Quant Results File: RSK1002.RES

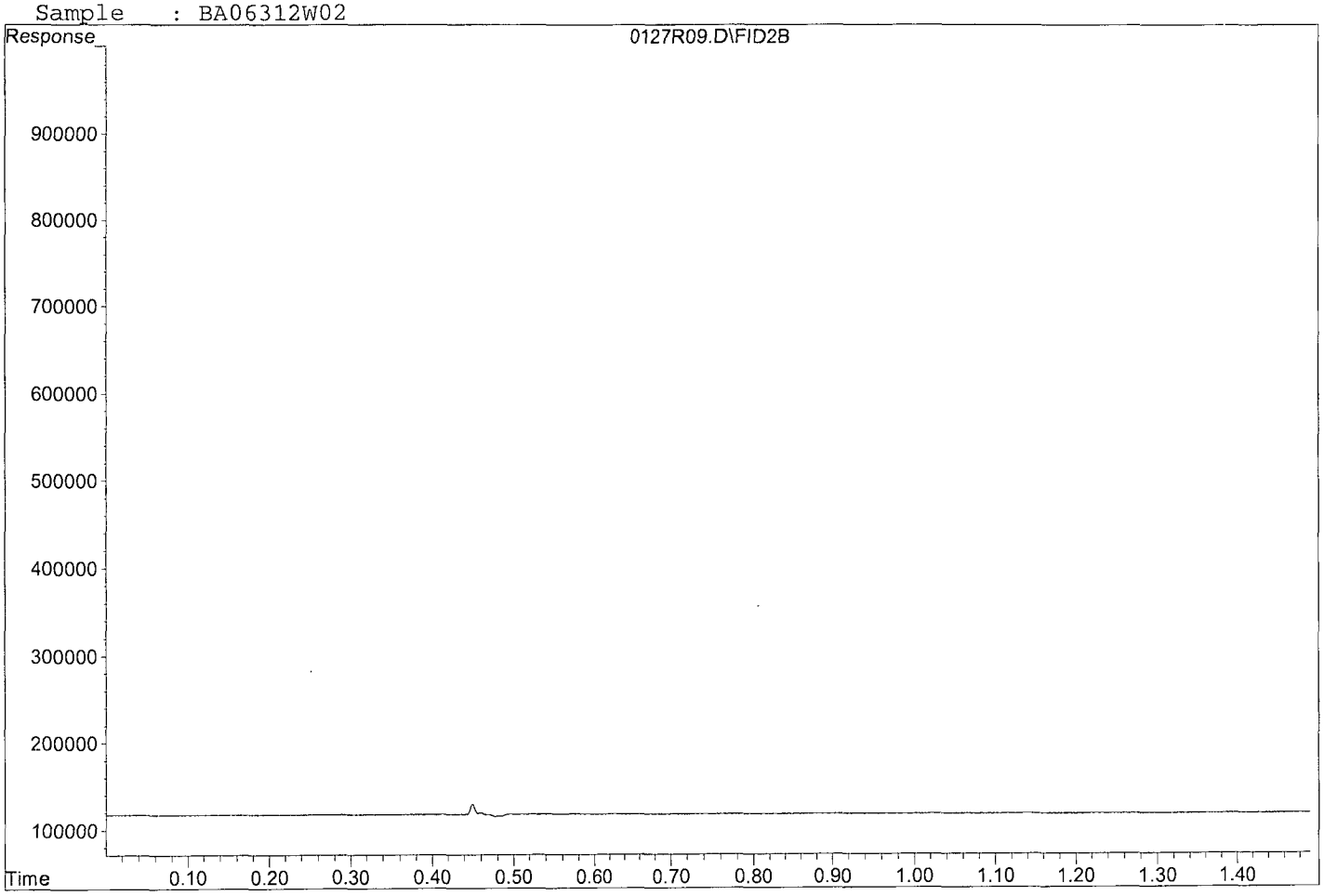
Method : G:\ROCKY\DATA\190929RS\RSK1002.M (Chemstation Integrator)
Title : RSK 175
Last Update : Fri Jan 24 14:31:23 2020
Response via : Multiple Level Calibration

Volume Inj. : 0.500 mL
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units	
Target Compounds					
Target Compounds					
1) ATM Methane	0.00	0	N.D.	ppb	d
2) ATM Ethane	0.00	0	N.D.	ppb	d
3) ATM Ethene	0.00	0	N.D.	ppb	d

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\191002RS\0127R09.D
Sample : BA06312W02



Quantitation Report (QT Reviewed)

Data File : G:\ROCKY\DATA\191002RS\0127R10.D Vial: 10
Acq On : 27 Jan 20 15:22 Operator: GA
Sample : BA06313W02 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Jan 27 15:26 2020 Quant Results File: RSK1002.RES

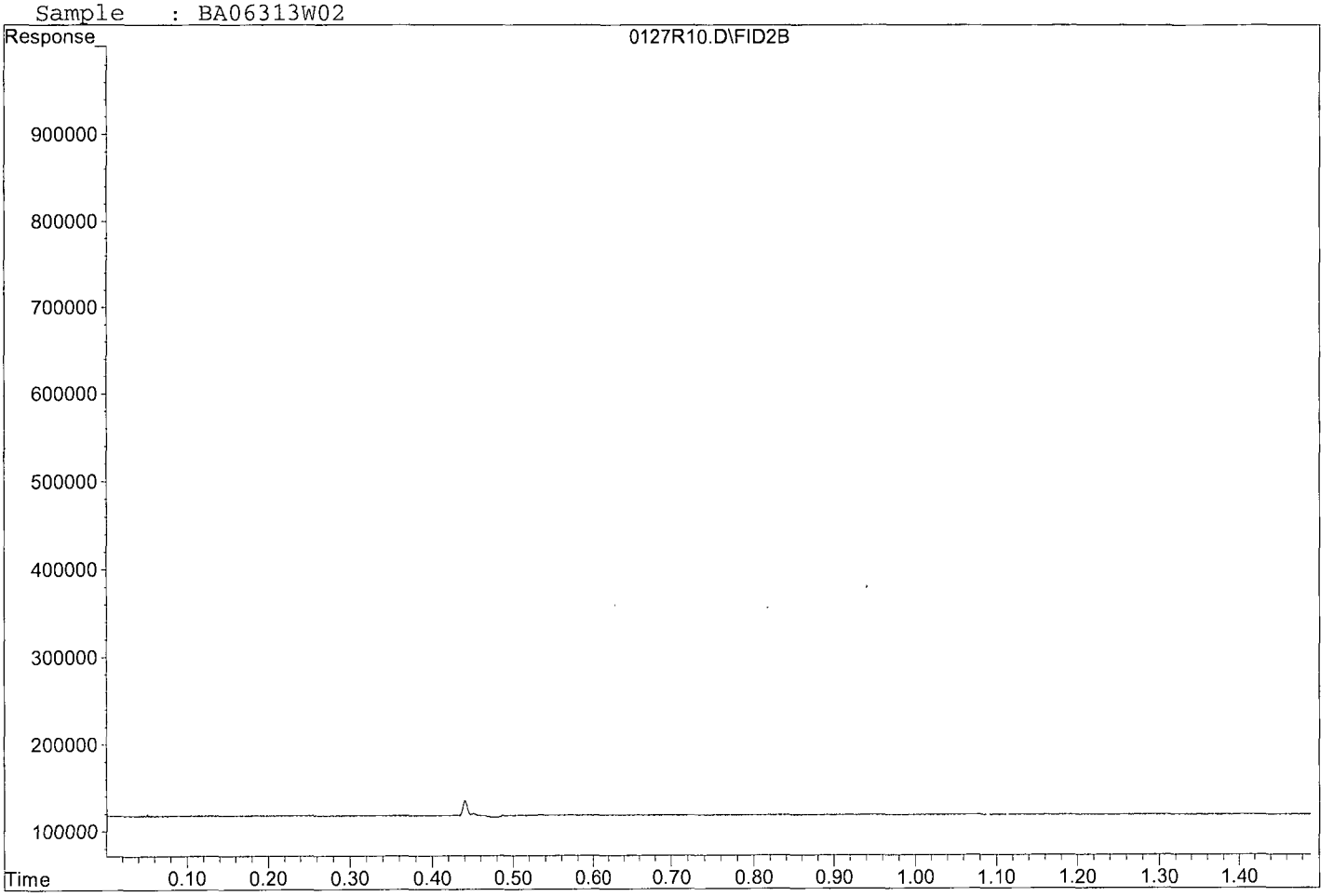
Method : G:\ROCKY\DATA\190929RS\RSK1002.M (Chemstation Integrator)
Title : RSK 175
Last Update : Fri Jan 24 14:31:23 2020
Response via : Multiple Level Calibration

Volume Inj. : 0.500 mL
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units	
Target Compounds					
Target Compounds					
1) ATM Methane	0.00	0	N.D.	ppb	d
2) ATM Ethane	0.00	0	N.D.	ppb	d
3) ATM Ethene	0.00	0	N.D.	ppb	d

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\191002RS\0127R10.D
Sample : BA06313W02



Quantitation Report (QT Reviewed)

Data File : G:\ROCKY\DATA\191002RS\0127R11.D Vial: 11
Acq On : 27 Jan 20 15:27 Operator: GA
Sample : BA06314W02 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Jan 27 15:29 2020 Quant Results File: RSK1002.RES

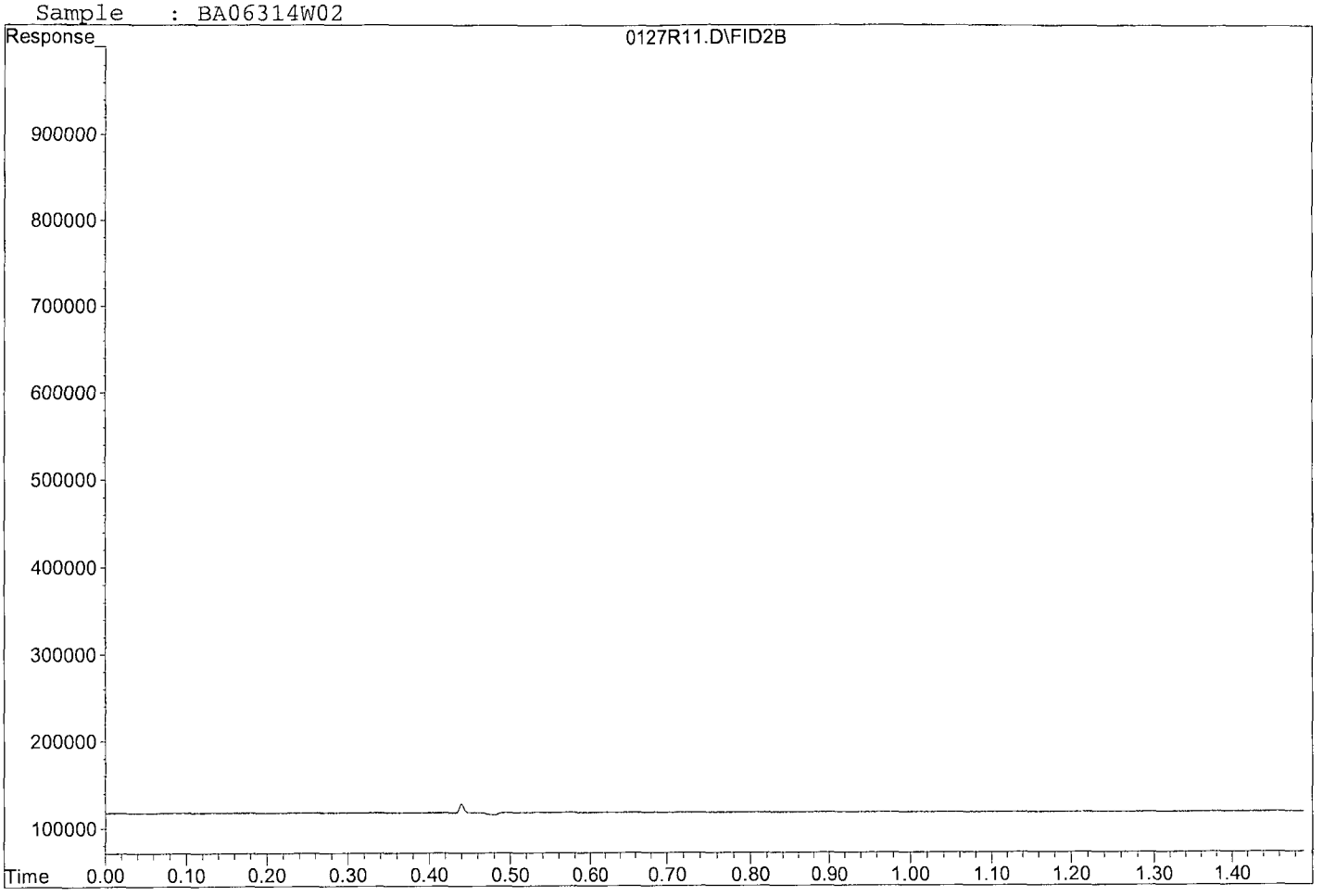
Method : G:\ROCKY\DATA\190929RS\RSK1002.M (Chemstation Integrator)
Title : RSK 175
Last Update : Fri Jan 24 14:31:23 2020
Response via : Multiple Level Calibration

Volume Inj. : 0.500 mL
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units	
Target Compounds					
Target Compounds					
1) ATM Methane	0.00	0	N.D.	ppb	d
2) ATM Ethane	0.00	0	N.D.	ppb	d
3) ATM Ethene	0.00	0	N.D.	ppb	d

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\191002RS\0127R11.D
Sample : BA06314W02



Quantitation Report (QT Reviewed)

Data File : G:\ROCKY\DATA\191002RS\0127R08.D Vial: 8
Acq On : 27 Jan 20 15:14 Operator: GA
Sample : BA06315W02 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Jan 27 15:17 2020 Quant Results File: RSK1002.RES

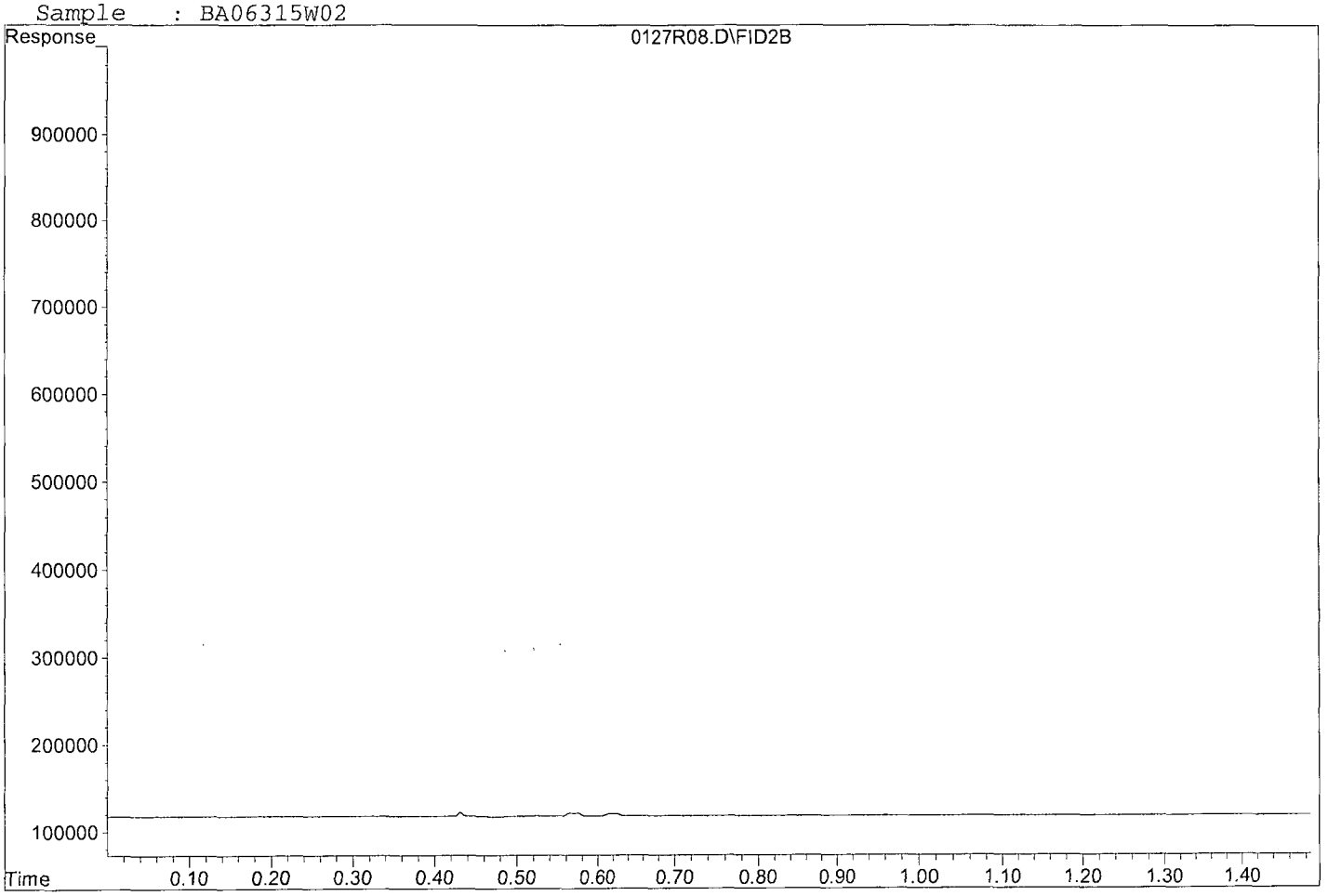
Method : G:\ROCKY\DATA\190929RS\RSK1002.M (Chemstation Integrator)
Title : RSK 175
Last Update : Fri Jan 24 14:31:23 2020
Response via : Multiple Level Calibration

Volume Inj. : 0.500 mL
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units	
Target Compounds					
Target Compounds					
1) ATM Methane	0.00	0	N.D.	ppb	d
2) ATM Ethane	0.00	0	N.D.	ppb	d
3) ATM Ethene	0.00	0	N.D.	ppb	d

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\191002RS\0127R08.D
Sample : BA06315W02



Quantitation Report (QT Reviewed)

Data File : G:\ROCKY\DATA\191002RS\0127R12.D Vial: 12
Acq On : 27 Jan 20 15:30 Operator: GA
Sample : BA06316W02 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Jan 27 15:33 2020 Quant Results File: RSK1002.RES

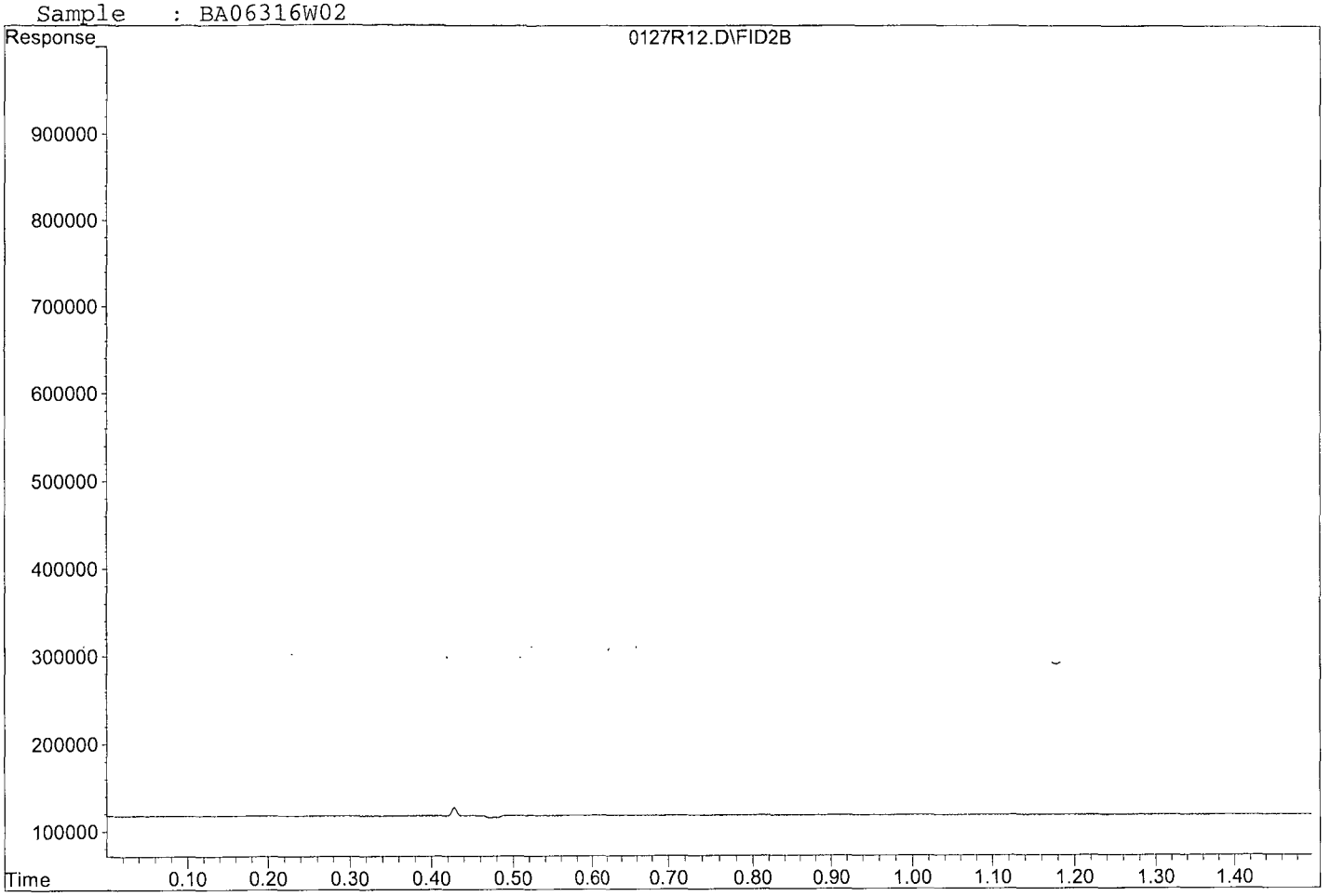
Method : G:\ROCKY\DATA\190929RS\RSK1002.M (Chemstation Integrator)
Title : RSK 175
Last Update : Fri Jan 24 14:31:23 2020
Response via : Multiple Level Calibration

Volume Inj. : 0.500 mL
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units	
Target Compounds					
Target Compounds					
1) ATM Methane	0.00	0	N.D.	ppb	d
2) ATM Ethane	0.00	0	N.D.	ppb	d
3) ATM Ethene	0.00	0	N.D.	ppb	d

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\191002RS\0127R12.D
Sample : BA06316W02



Quantitation Report (QT Reviewed)

Data File : G:\ROCKY\DATA\191002RS\0127R13.D Vial: 13
Acq On : 27 Jan 20 15:34 Operator: GA
Sample : BA06317W02 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Jan 27 15:38 2020 Quant Results File: RSK1002.RES

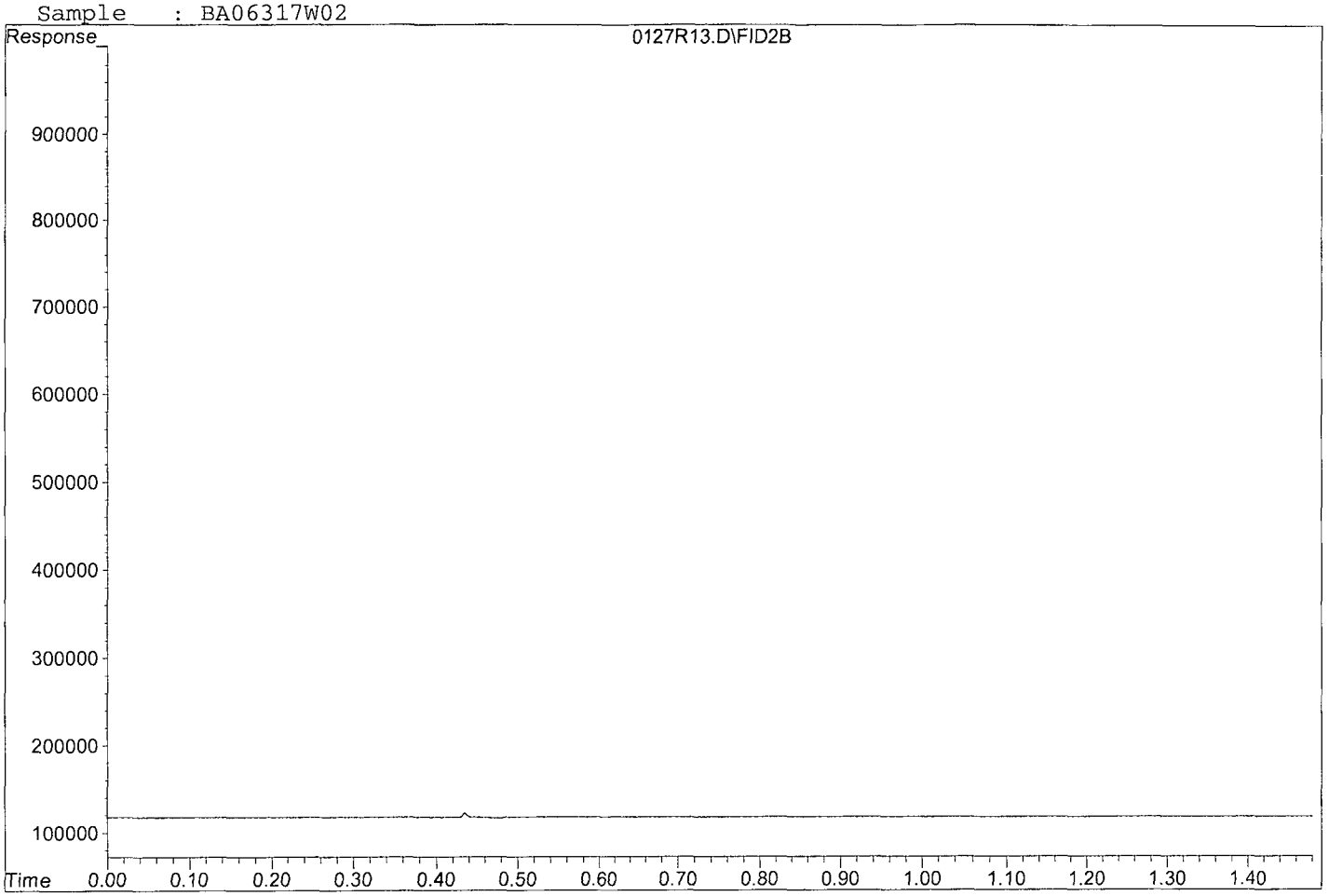
Method : G:\ROCKY\DATA\190929RS\RSK1002.M (Chemstation Integrator)
Title : RSK 175
Last Update : Fri Jan 24 14:31:23 2020
Response via : Multiple Level Calibration

Volume Inj. : 0.500 mL
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units	
Target Compounds					
Target Compounds					
1) ATM Methane	0.00	0	N.D.	ppb	d
2) ATM Ethane	0.00	0	N.D.	ppb	d
3) ATM Ethene	0.00	0	N.D.	ppb	d

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\191002RS\0127R13.D
Sample : BA06317W02



Quantitation Report (QT Reviewed)

Data File : G:\ROCKY\DATA\191002RS\0127R14.D Vial: 14
Acq On : 27 Jan 20 15:38 Operator: GA
Sample : BA06318W02 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Jan 27 15:43 2020 Quant Results File: RSK1002.RES

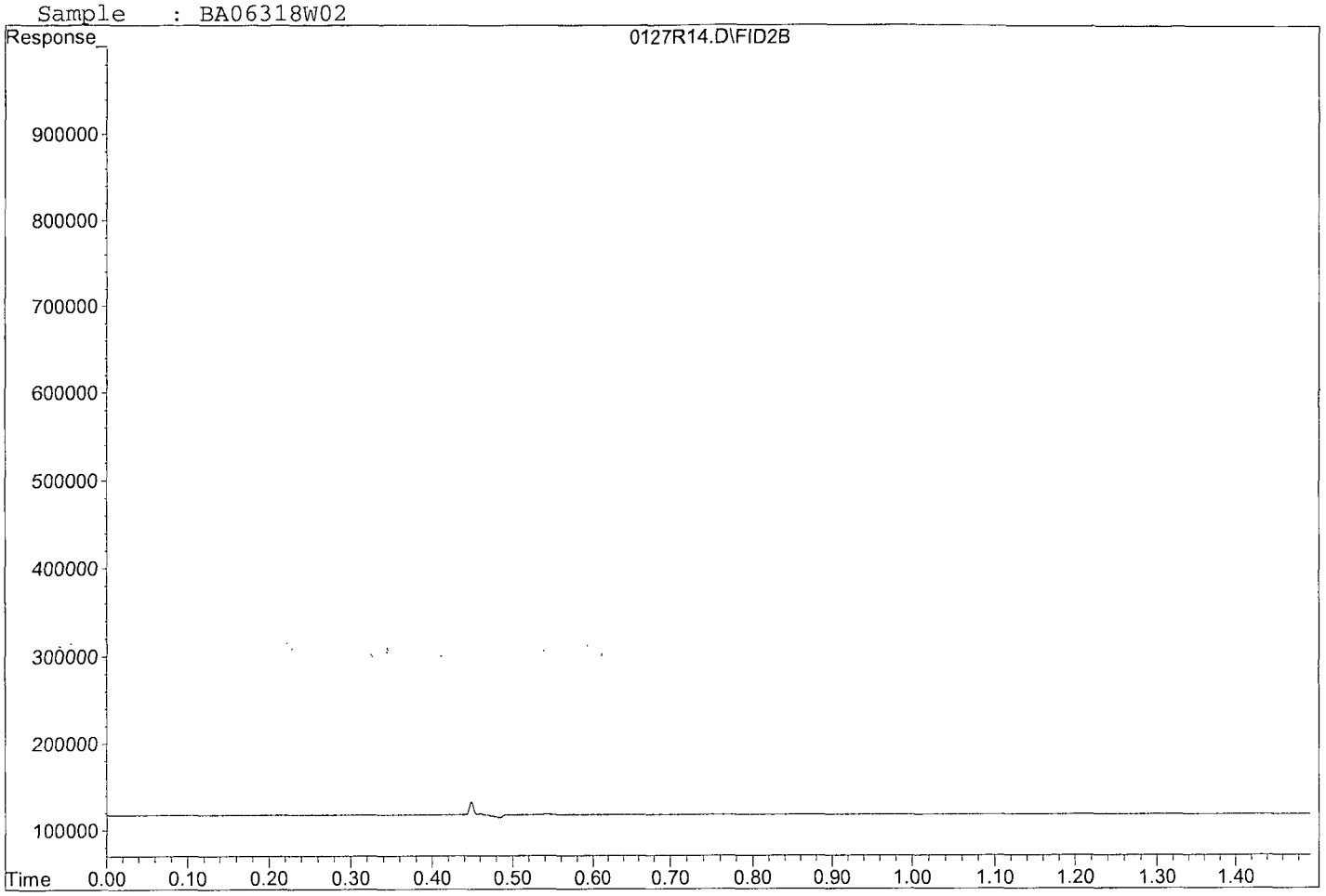
Method : G:\ROCKY\DATA\190929RS\RSK1002.M (Chemstation Integrator)
Title : RSK 175
Last Update : Fri Jan 24 14:31:23 2020
Response via : Multiple Level Calibration

Volume Inj. : 0.500 mL
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units	
Target Compounds					
Target Compounds					
1) ATM Methane	0.00	0	N.D.	ppb	d
2) ATM Ethane	0.00	0	N.D.	ppb	d
3) ATM Ethene	0.00	0	N.D.	ppb	d

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\191002RS\0127R14.D
Sample : BA06318W02



Quantitation Report (QT Reviewed)

Data File : G:\ROCKY\DATA\191002RS\0127R15.D Vial: 15
Acq On : 27 Jan 20 15:44 Operator: GA
Sample : BA06319W02 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Jan 27 15:52 2020 Quant Results File: RSK1002.RES

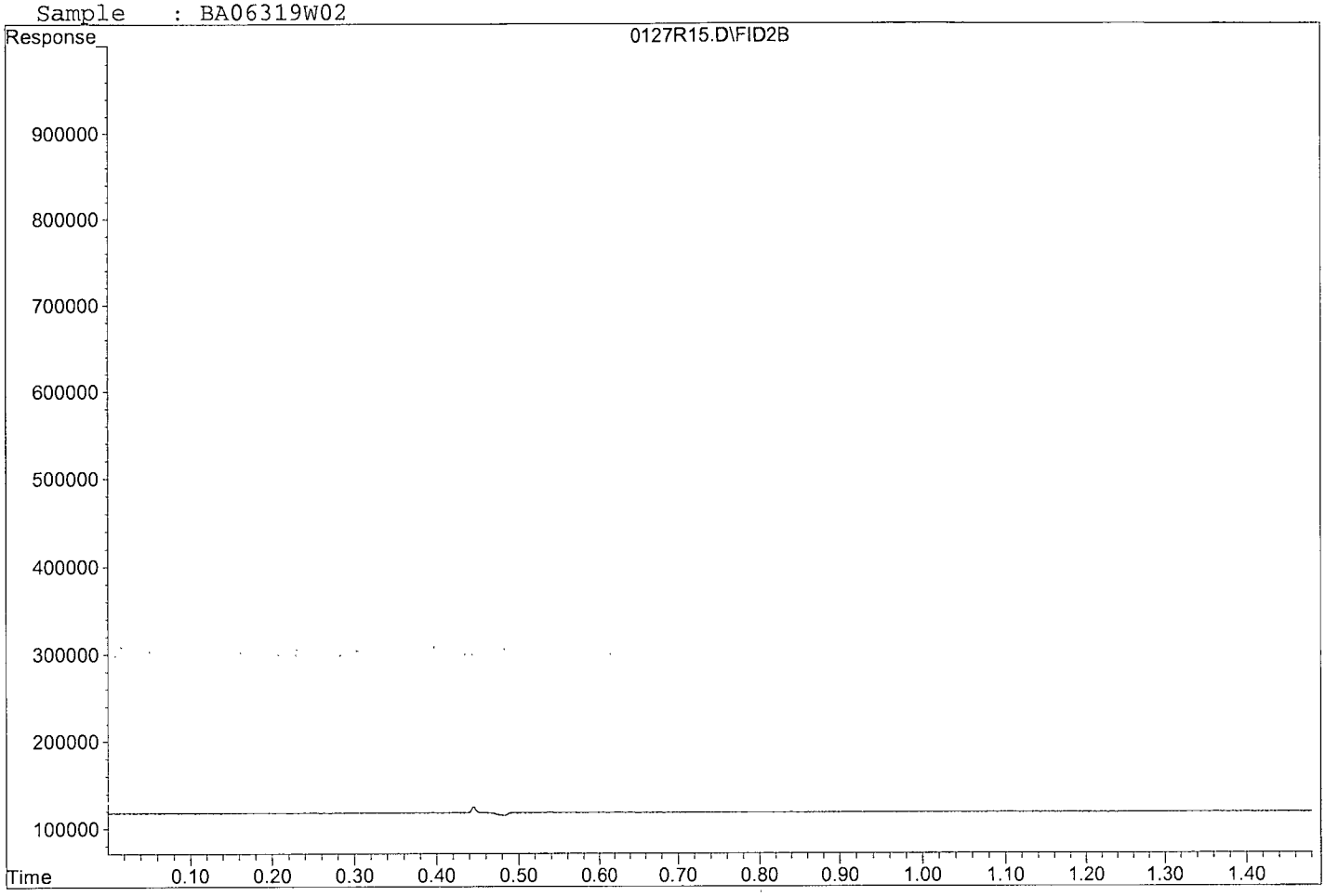
Method : G:\ROCKY\DATA\190929RS\RSK1002.M (Chemstation Integrator)
Title : RSK 175
Last Update : Fri Jan 24 14:31:23 2020
Response via : Multiple Level Calibration

Volume Inj. : 0.500 mL
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units	
Target Compounds					
Target Compounds					
1) ATM Methane	0.00	0	N.D.	ppb	d
2) ATM Ethane	0.00	0	N.D.	ppb	d
3) ATM Ethene	0.00	0	N.D.	ppb	d

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\191002RS\0127R15.D
Sample : BA06319W02



Quantitation Report (QT Reviewed)

Data File : G:\ROCKY\DATA\191002RS\0127R07.D Vial: 7
Acq On : 27 Jan 20 15:11 Operator: GA
Sample : 200127A BLK Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Jan 27 15:13 2020 Quant Results File: RSK1002.RES

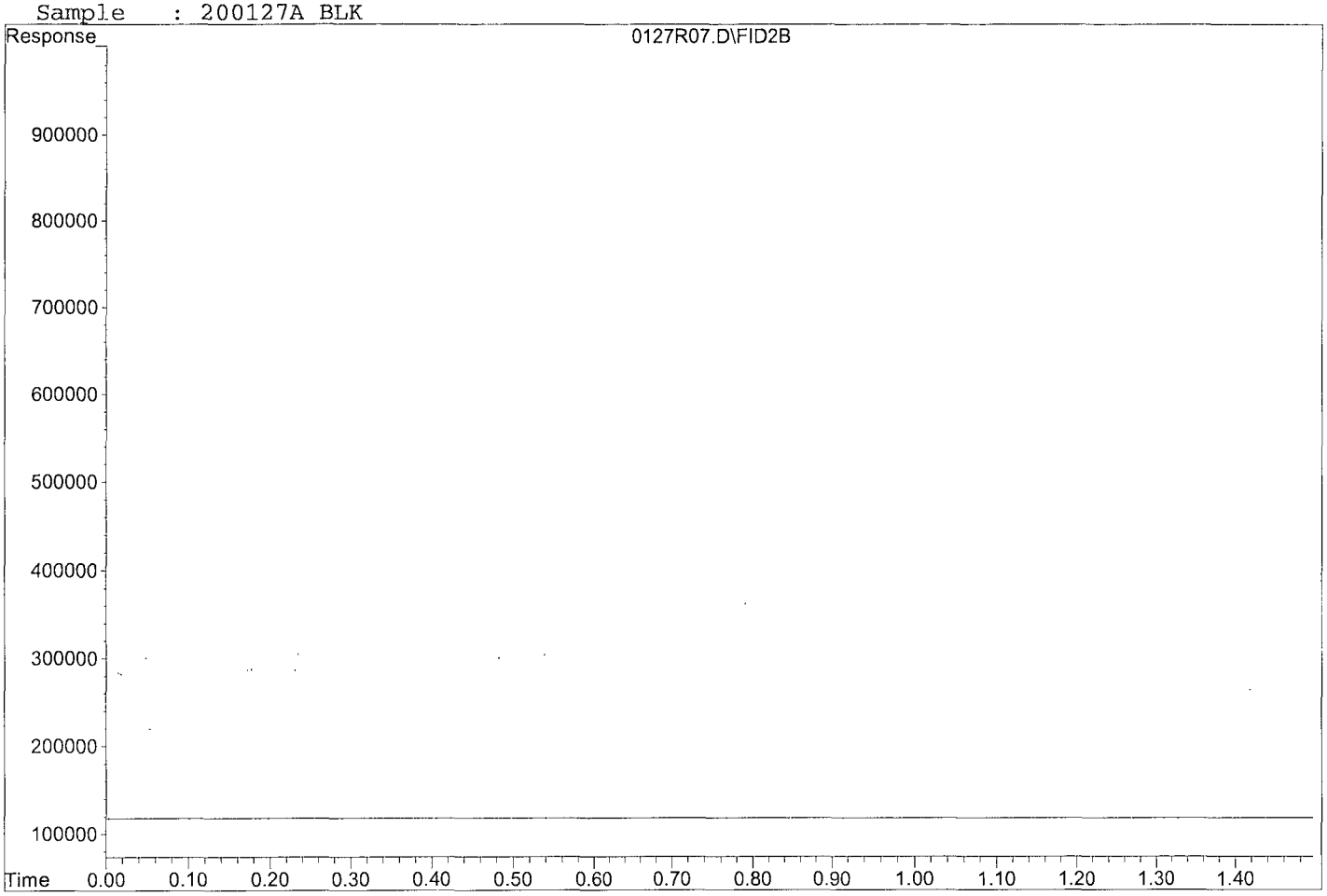
Method : G:\ROCKY\DATA\190929RS\RSK1002.M (Chemstation Integrator)
Title : RSK 175
Last Update : Fri Jan 24 14:31:23 2020
Response via : Multiple Level Calibration

Volume Inj. : 0.500 mL
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units	
Target Compounds					
Target Compounds					
1) ATM Methane	0.00	0	N.D.	ppb	d
2) ATM Ethane	0.00	0	N.D.	ppb	d
3) ATM Ethene	0.00	0	N.D.	ppb	d

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\191002RS\0127R07.D
Sample : 200127A BLK



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\191002RS\0127R04.D Vial: 4
Acq On : 27 Jan 20 14:54 Operator: GA
Sample : 200127A LCS/CCV RSK STD 5 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Jan 27 15:03 2020 Quant Results File: RSK1002.RES

Method : G:\ROCKY\DATA\190929RS\RSK1002.M (Chemstation Integrator)
Title : RSK 175
Last Update : Fri Jan 24 14:31:23 2020
Response via : Multiple Level Calibration

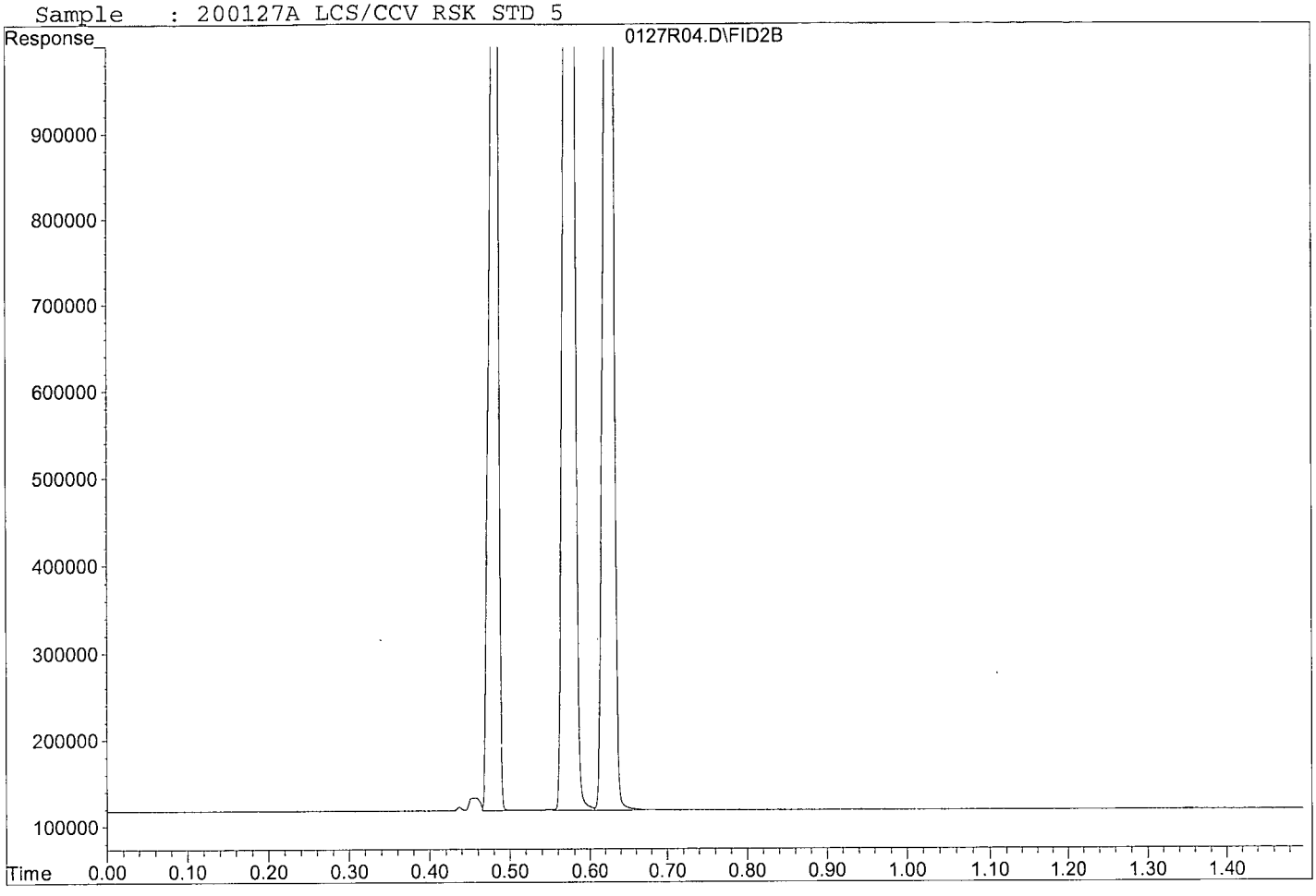
Volume Inj. : 0.500 mL
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.48	1610953	69.626 ppb
2) ATM Ethane	0.58	2343416	137.690 ppb
3) ATM Ethene	0.63	1872357	139.859 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\191002RS\0127R04.D
Sample : 200127A LCS/CCV RSK STD 5



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\191002RS\0127R06.D Vial: 6
Acq On : 27 Jan 20 15:08 Operator: GA
Sample : 200127A LCSD Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Jan 27 15:10 2020 Quant Results File: RSK1002.RES

Method : G:\ROCKY\DATA\190929RS\RSK1002.M (Chemstation Integrator)
Title : RSK 175
Last Update : Fri Jan 24 14:31:23 2020
Response via : Multiple Level Calibration

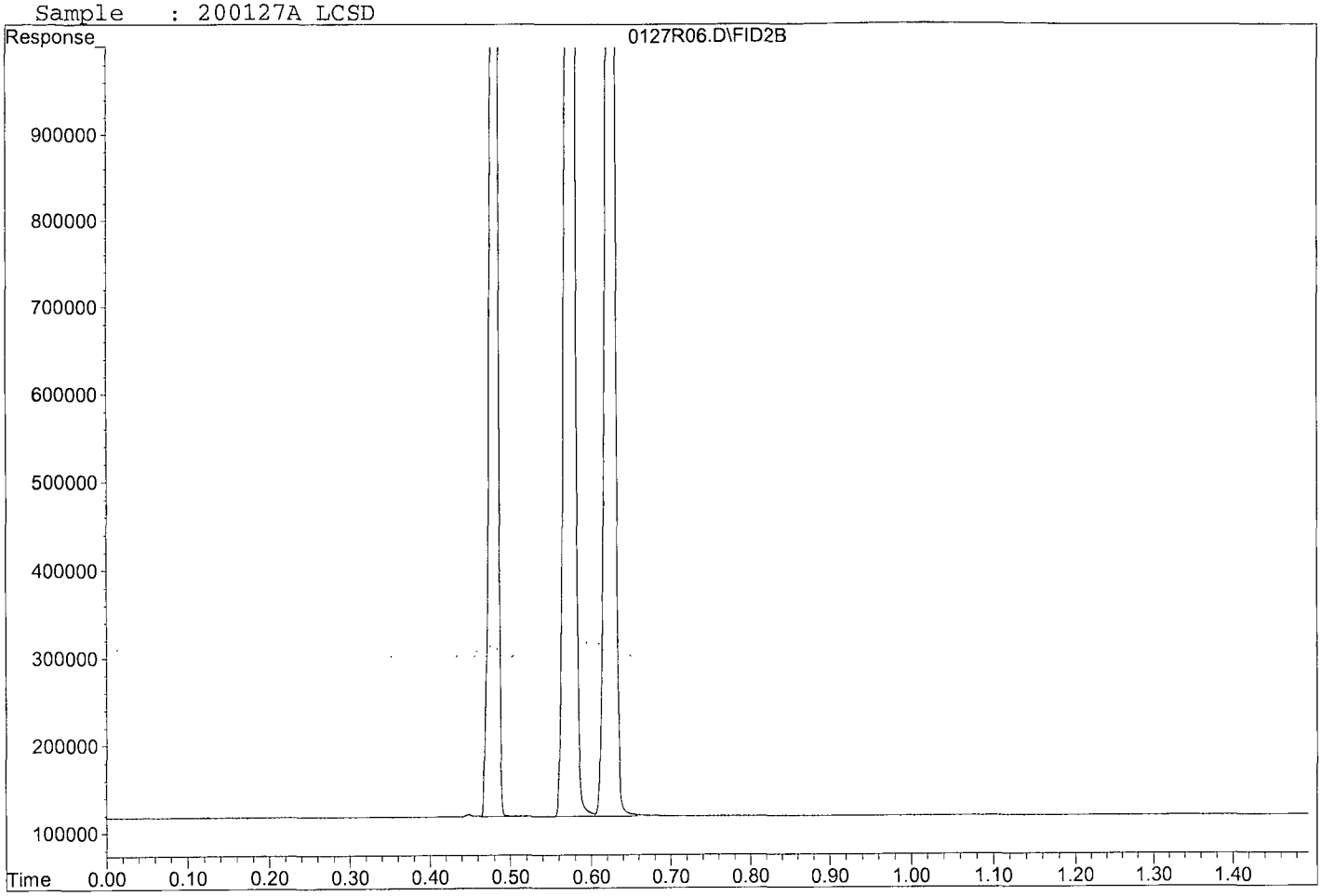
Volume Inj. : 0.500 mL
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.48	1816782	78.522 ppb
2) ATM Ethane	0.58	2653635	155.917 ppb
3) ATM Ethene	0.63	2106680	157.362 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\191002RS\0127R06.D
Sample : 200127A LCSD



Primary Stock Source

10,000ppmV **Manufacture Expiration:** 09/21/21

RSK Gas Mix (Scott Specialty Gas) CAT#X04NI97CP140001 LOT#160-401558175-1

1% Gas Concentration Moles = 10,000ppmV Methane, Ethane, Ethene

RSK Calibration Curve (prepared in 1.0 L Tedlar Bags at room temp) **01/02/19** **10/02/19**

Analyte	Conc Std 1 (1/2 = LOD) (ug/L)	Conc Std 2 (LOQ Chk) (ug/L)	Conc Std 3 (ug/L)	Conc Std 4 (ug/L)	Conc Std 5 (ug/L)	Conc Std 6 (ug/L)	Conc Std 7 (ug/L)
Methane (MW 16.04)	2.08	4.16	8.34	20.85	83.40	208.5	834.0
Ethane (MW 30.07)	3.91	7.81	15.6	39.09	156.35	390.9	1563.5
Ethene (MW 28.05)	3.65	7.30	14.6	36.46	145.84	364.6	1458.4
Stock Source	160-401558175-1	160-401558175-1	160-401558175-1	160-401558175-1	160-401558175-1	160-401558175-1	160-401558175-1
Stock Conc (ppmv)	10,000 ppmV	10,000 ppmV	10,000 ppmV	10,000 ppmV	10,000 ppmV	10,000 ppmV	10,000 ppmV
Stock Aliquot (mL)	0.010	0.020	0.040	0.100	0.400	1.00	4.00
Final Volume P&T Water	32 mL	32 mL	32 mL	32 mL	32 mL	32 mL	32 mL

Second Source Stock Standard 10,000ppmV **Manufacturer Exp date 9-21-2021**

RSK Gas Mix (Scott Specialty Gas) Cat.# 23452, Lot # 160-401303032-1-39774

1% Gas Concentration Moles = 10,000ppmV Methane, Ethane, Ethene

Second Source **Expires 10/03/19** **GA 10/02/19**

2.0mL of SS from tank into 980 mL Nitrogen

final conc: 13.3ug/L Methane, 25.0 ug/L Ethane, and 23.3 ug/L Ethene

CCV/LCS/LCSD **GA 01/27/20**

Spike 0.400mL of 10,000ppmV into 32mL DI water, with 8mL Nitrogen headspace

final conc: 83.40ug/L Methane, 156.35ug/L Ethane, and 145.84ug/L Ethene

Injection Log

Directory: G:\ROCKY\DATA\191002RS\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	2	1002R02.D	1	RSK STD 1 10/2/19		2 Oct 19 17:45
2	3	1002R03.D	1	RSK STD 2 10/2/19		2 Oct 19 17:50
3	4	1002R04.D	1	RSK STD 3 10/2/19		2 Oct 19 17:52
4	5	1002R05.D	1	RSK STD 4 10/2/19		2 Oct 19 17:57
5	6	1002R06.D	1	RSK STD 5 10/2/19		2 Oct 19 17:59
6	7	1002R07.D	1	RSK STD 6 10/2/19		2 Oct 19 18:05
7	8	1002R08.D	1	RSK STD 7 10/2/19		2 Oct 19 18:07
8	10	1002R10.D	1	SS RSK STD 5 10/2/19		2 Oct 19 18:24
9	4	0127R04.D	1	200127A LCS/CCV RSK STD 5		27 Jan 20 14:54
10	6	0127R06.D	1	200127A LCSD		27 Jan 20 15:08
11	7	0127R07.D	1	200127A BLK		27 Jan 20 15:11
12	8	0127R08.D	1	BA06315W02		27 Jan 20 15:14
13	9	0127R09.D	1	BA06312W02		27 Jan 20 15:18
14	10	0127R10.D	1	BA06313W02		27 Jan 20 15:22
15	11	0127R11.D	1	BA06314W02		27 Jan 20 15:27
16	12	0127R12.D	1	BA06316W02		27 Jan 20 15:30
17	13	0127R13.D	1	BA06317W02		27 Jan 20 15:34
18	14	0127R14.D	1	BA06318W02		27 Jan 20 15:38
19	15	0127R15.D	1	BA06319W02		27 Jan 20 15:44
20	16	0127R16.D	1	ENDING CCV RSK STD 5 01/27/20		27 Jan 20 15:53

INORGANIC ANALYSIS
Calibration Data

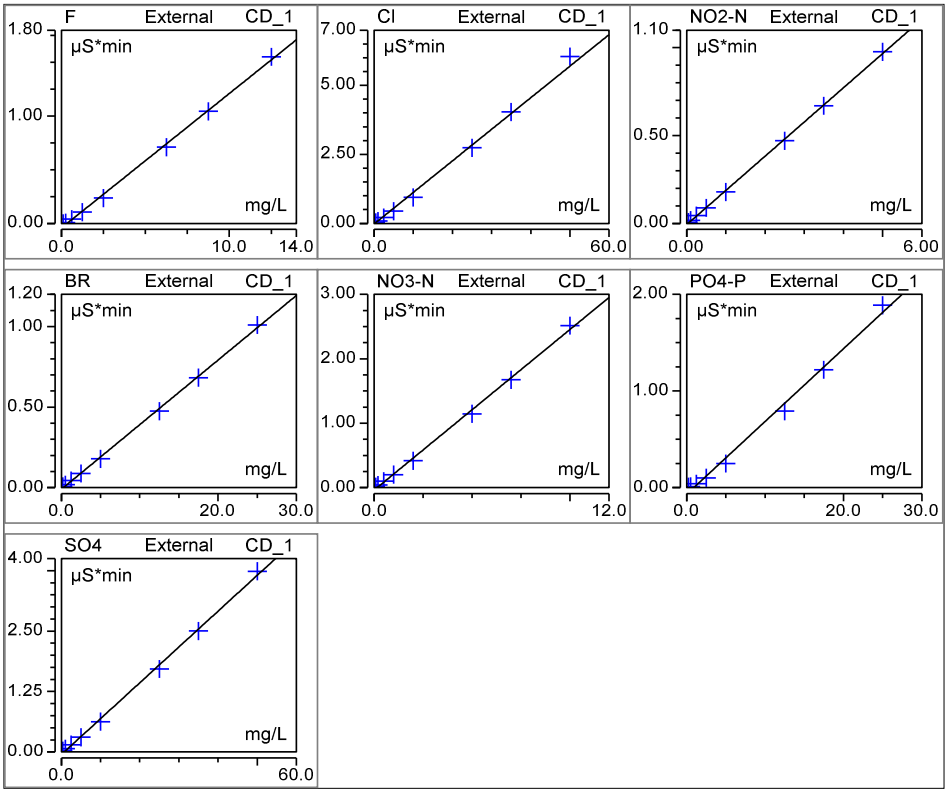
Calibration Batch Report

Sequence:	**200123**	*Injection Volume:*	**25.00**
Instrument Method:	**Anions IM**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**23-Jan-2020 / 10:05**	*Run Time:*	**4**

Calibration Summary

Peak Name	Eval.Type	Cal.Type	Points	Offset (C0)	Slope (C1)	Curve (C2)	Coeff.Det. %
F	Area	Lin, WithOffset	8.000	-0.043	0.125	0.000	99.8151
Cl	Area	Lin, WithOffset, 1/A	8.000	-0.026	0.114	0.000	99.3170
NO2-N	Area	Lin, WithOffset	8.000	-0.007	0.195	0.000	99.9600
BR	Area	Lin, WithOffset	8.000	-0.010	0.040	0.000	99.9025
NO3-N	Area	Lin, WithOffset	8.000	-0.039	0.249	0.000	99.7842
PO4-P	Area	Lin, WithOffset	8.000	-0.067	0.075	0.000	99.3357
SO4	Area	Lin, WithOffset	8.000	-0.055	0.074	0.000	99.8178

Injection Name	Amount mg/L CD_1 F	Amount mg/L CD_1 Cl	Amount mg/L CD_1 NO2-N	Amount mg/L CD_1 BR	Amount mg/L CD_1 NO3-N	Amount mg/L CD_1 PO4-P	Amount mg/L CD_1 SO4
Cal1 2020.01.23	0.344	0.5905	0.0731	0.4355	0.2275	1.0115	1.0944
Cal2 2020.01.23	0.401	0.9793	0.1286	0.7025	0.3207	1.0572	1.6085
Cal3 2020.01.23	0.662	2.1040	0.2643	1.3636	0.5635	1.4406	2.7606
Cal4 2020.01.23	1.180	4.0815	0.4919	2.4561	0.9713	2.2414	4.8296
Cal5 2020.01.23	2.225	8.4551	0.9557	4.7175	1.8294	4.2093	9.1850
Cal6 2020.01.23	6.012	24.1541	2.4520	12.0914	4.7525	11.4061	23.8810
Cal7 2020.01.23	8.674	35.4740	3.4742	17.2662	6.8706	17.1001	34.4402
Cal8 2020.01.23	12.727	53.0615	5.0502	25.4172	10.2446	25.9837	51.1007

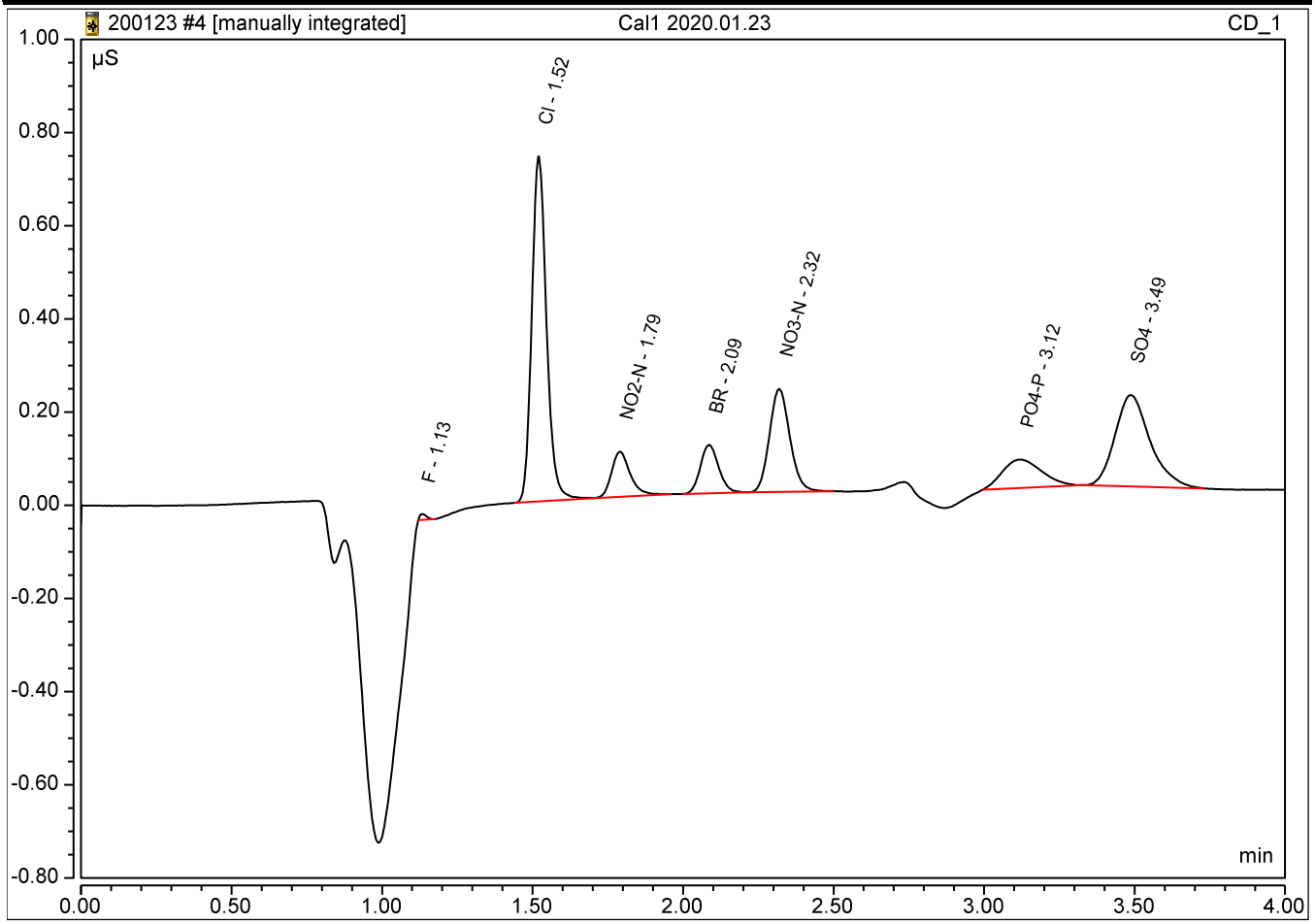


Logged on User: BW
Instrument: Charlie System_1
Sequence: 200123

Peak Integration Report

Sample Name:	**Cal1 2020.01.23**	*Inj. Vol.:*	**25uL**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.23**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**23-Jan-2020 / 09:21**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.13	**F**	BMB*	0.000	0.013	0.34	0.1	344.1%
2	1.52	**Cl**	BMB	0.042	0.741	0.59	0.4	147.6%
3	1.79	**NO2-N**	BMB	0.007	0.097	0.07	0.04	182.7%
4	2.09	**BR**	BMB	0.007	0.104	0.44	0.2	217.7%
5	2.32	**NO3-N**	BMB	0.017	0.221	0.23	0.08	284.4%
6	3.12	**PO4-P**	BMB*	0.009	0.061	1.01	0.2	505.8%
7	3.49	**SO4**	BMB	0.027	0.197	1.09	0.4	273.6%



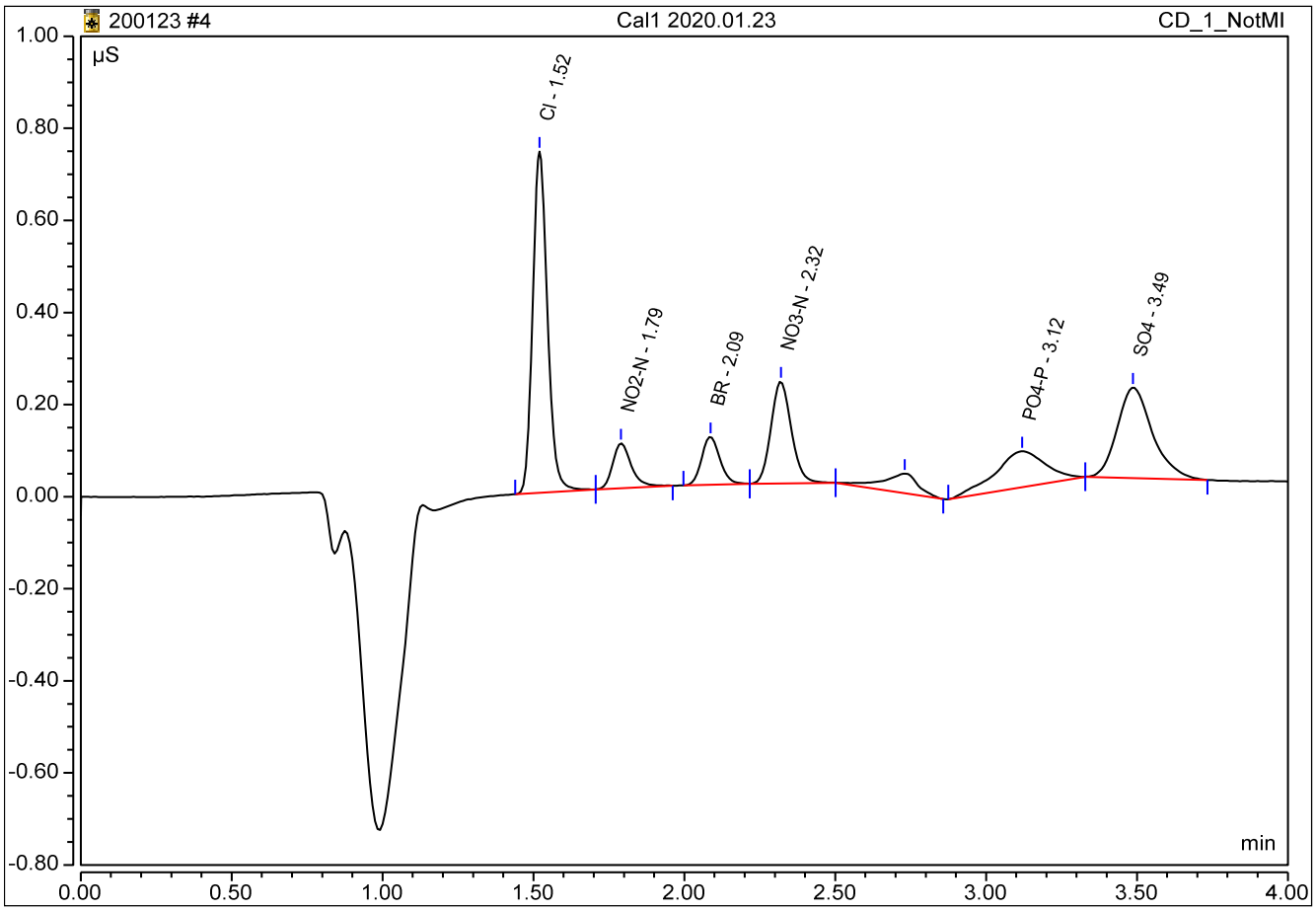
MI6 CD 200124

Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Not Manipulated Peak Integration Report

Sample Name:	**Cal1 2020.01.23**	*Inj. Vol.:*	**25uL**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**Anion APM 2020.01.23**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**23-Jan-2020 / 09:21**	*Run Time:*	**4.00**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Ammount mg/L
1	n.a.	**F**	BMB*	n.a.	n.a.	n.a.
2	1.52	**Cl**	BMB	0.042	0.741	0.5905
3	1.79	**NO2-N**	BMB	0.007	0.097	0.0731
4	2.09	**BR**	BMB	0.007	0.104	0.4355
5	2.32	**NO3-N**	BMB	0.017	0.221	0.2275
6	3.12	**PO4-P**	BMB*	0.015	0.078	0.9600
7	3.49	**SO4**	BMB	0.027	0.197	1.0944

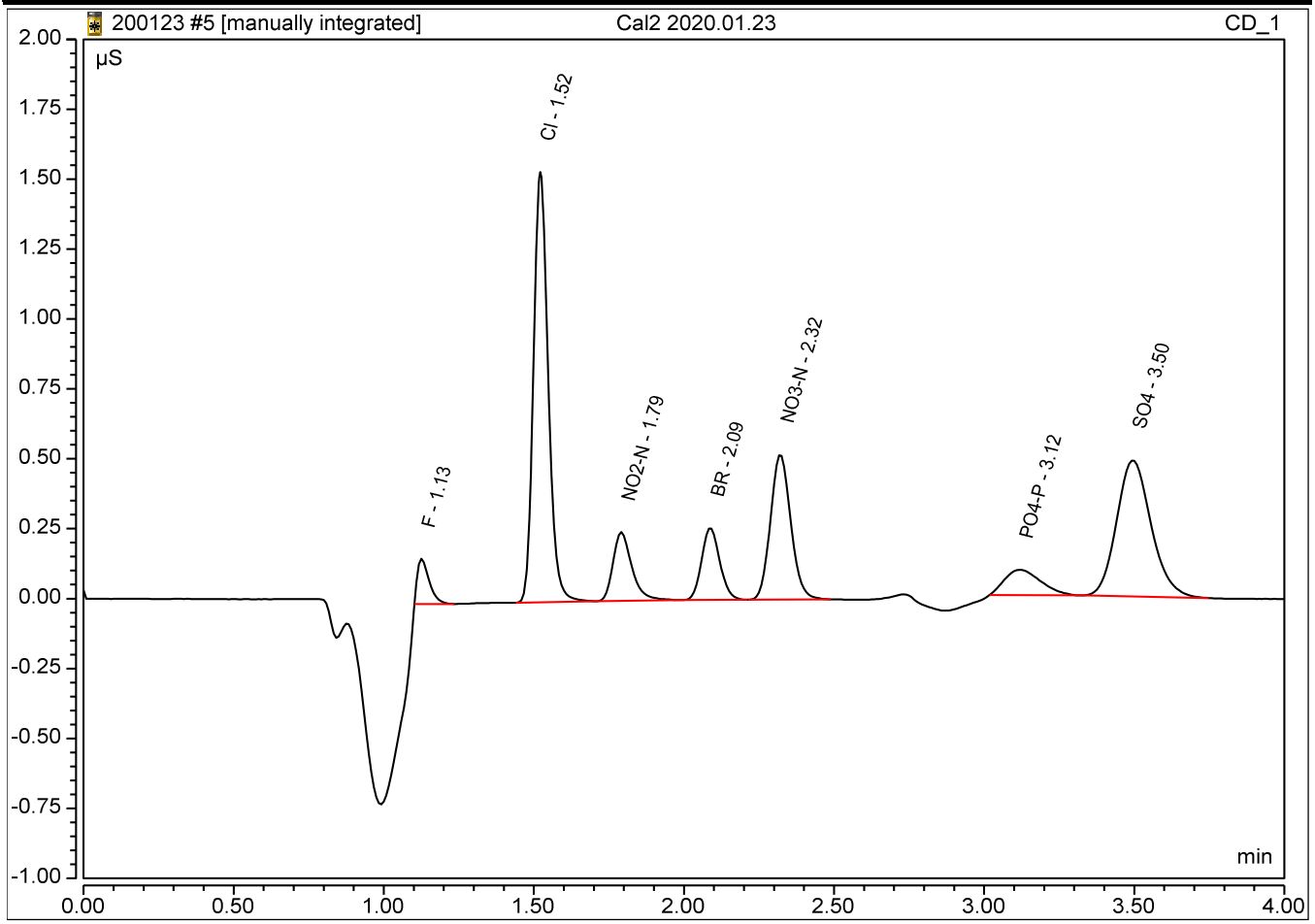


Logged on User: BW
Instrument: Charlie System_1
Sequence: 200123

Peak Integration Report

Sample Name:	**Cal2 2020.01.23**	*Inj. Vol.:*	**25uL**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.23**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**23-Jan-2020 / 09:27**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.13	**F**	BMB*	0.007	0.162	0.40	0.25	160.4%
2	1.52	**Cl**	BMB	0.086	1.538	0.98	1	97.9%
3	1.79	**NO2-N**	BMB	0.018	0.246	0.13	0.1	128.6%
4	2.09	**BR**	BMB	0.018	0.258	0.70	0.5	140.5%
5	2.32	**NO3-N**	BMB	0.041	0.520	0.32	0.2	160.3%
6	3.12	**PO4-P**	BMB*	0.013	0.091	1.06	0.5	211.4%
7	3.50	**SO4**	BMB	0.065	0.487	1.61	1	160.8%



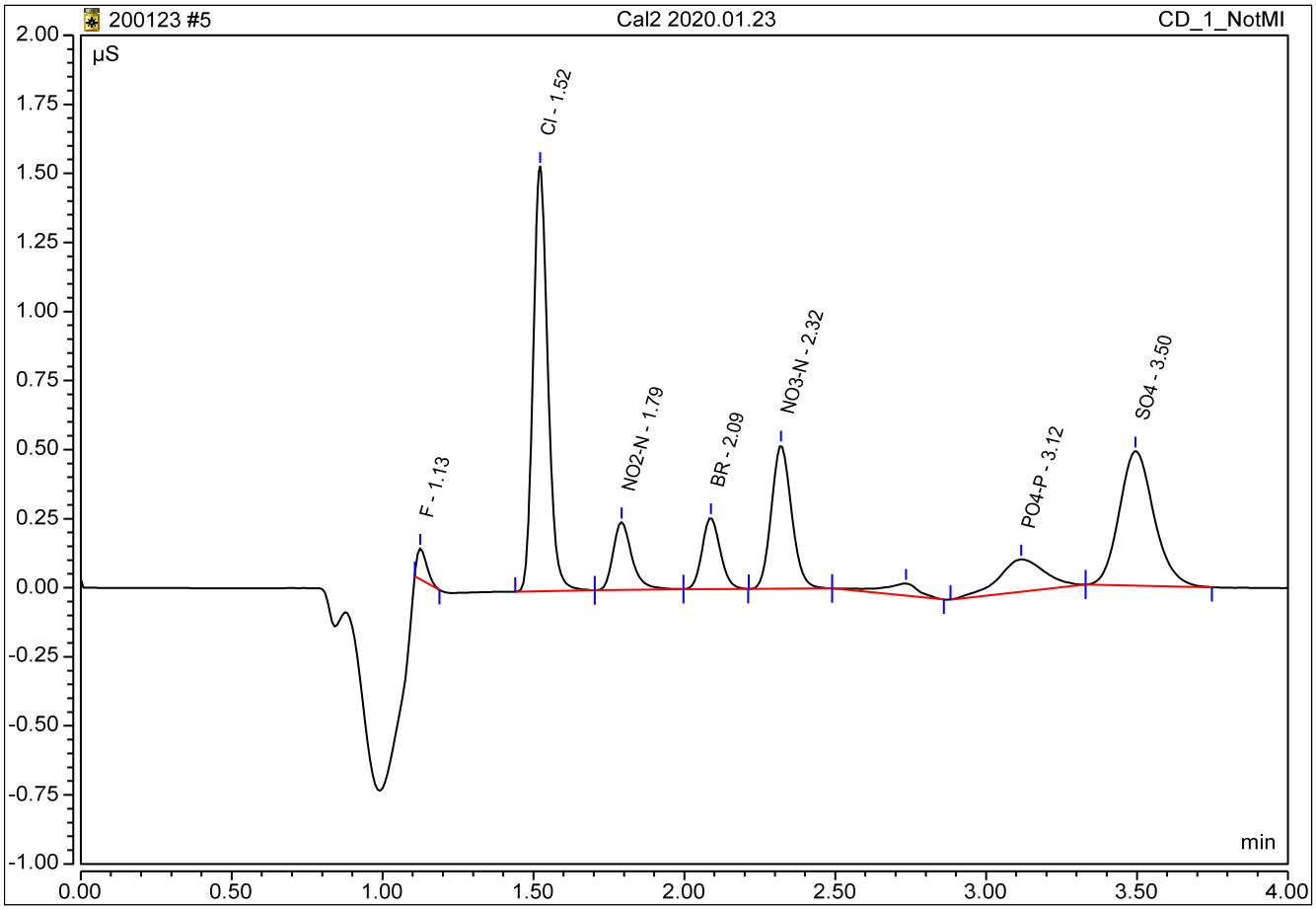
MI6 CD 200124

Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Not Manipulated Peak Integration Report

Sample Name:	**Cal2 2020.01.23**	*Inj. Vol.:*	**25uL**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**Anion APM 2020.01.23**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**23-Jan-2020 / 09:27**	*Run Time:*	**4.00**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Ammount mg/L
1	1.13	**F**	BMB*	0.004	0.112	0.4514
2	1.52	**Cl**	BMB	0.086	1.538	0.9793
3	1.79	**NO2-N**	BMB	0.018	0.246	0.1286
4	2.09	**BR**	BMB	0.018	0.258	0.7025
5	2.32	**NO3-N**	BMB	0.041	0.520	0.3207
6	3.12	**PO4-P**	BMB*	0.021	0.117	1.0358
7	3.50	**SO4**	BMB	0.065	0.487	1.6085

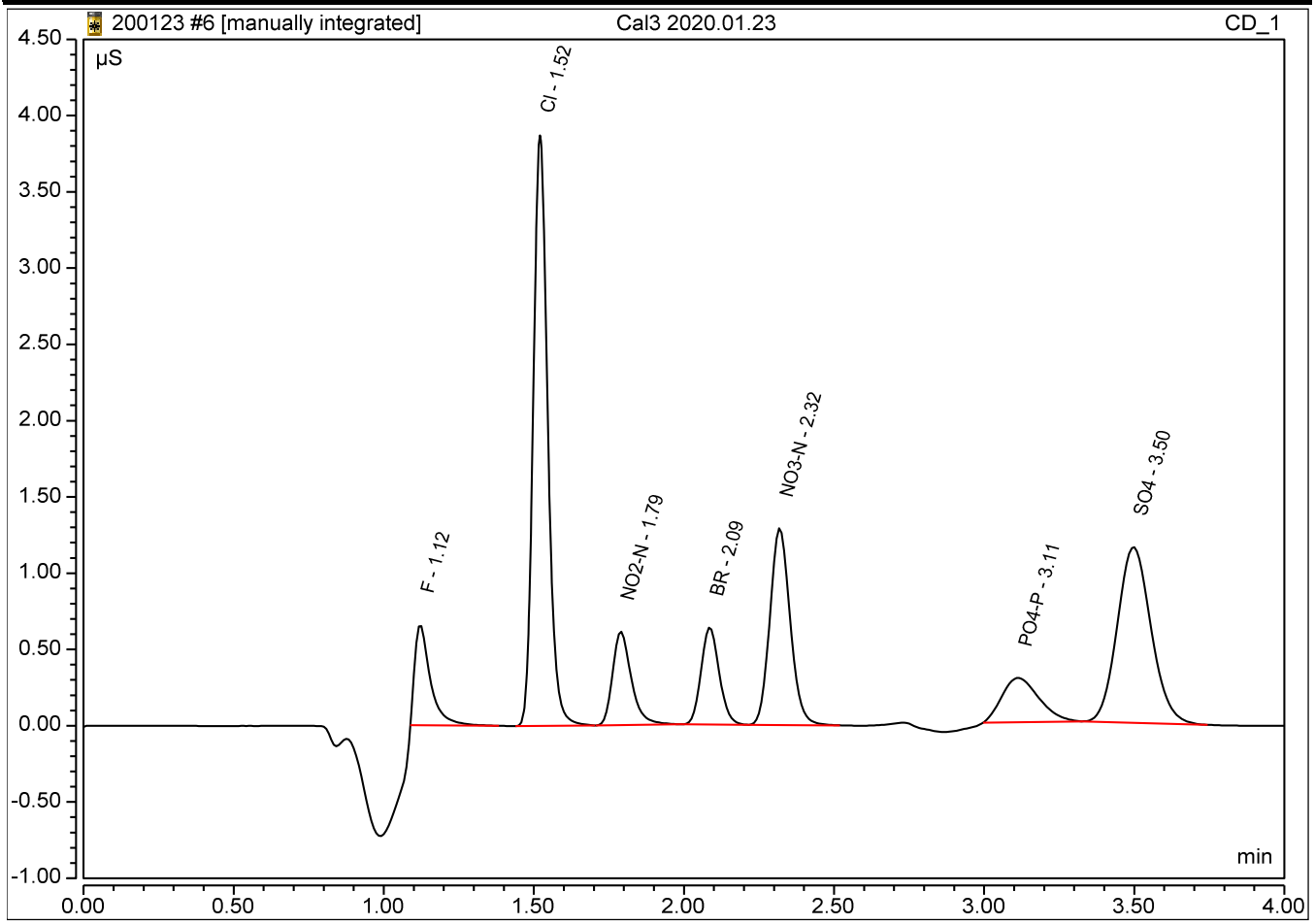


Logged on User: BW
Instrument: Charlie System_1
Sequence: 200123

Peak Integration Report

Sample Name:	**Cal3 2020.01.23**	*Inj. Vol.:*	**25uL**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.23**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**23-Jan-2020 / 09:34**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.12	**F**	BMB	0.040	0.661	0.66	0.625	106.0%
2	1.52	**Cl**	BMB	0.215	3.871	2.10	2.5	84.2%
3	1.79	**NO2-N**	BMB	0.044	0.613	0.26	0.25	105.7%
4	2.09	**BR**	BMB	0.045	0.638	1.36	1.25	109.1%
5	2.32	**NO3-N**	BMB	0.101	1.291	0.56	0.5	112.7%
6	3.11	**PO4-P**	BMB*	0.042	0.291	1.44	1.25	115.2%
7	3.50	**SO4**	BMB	0.150	1.152	2.76	2.5	110.4%



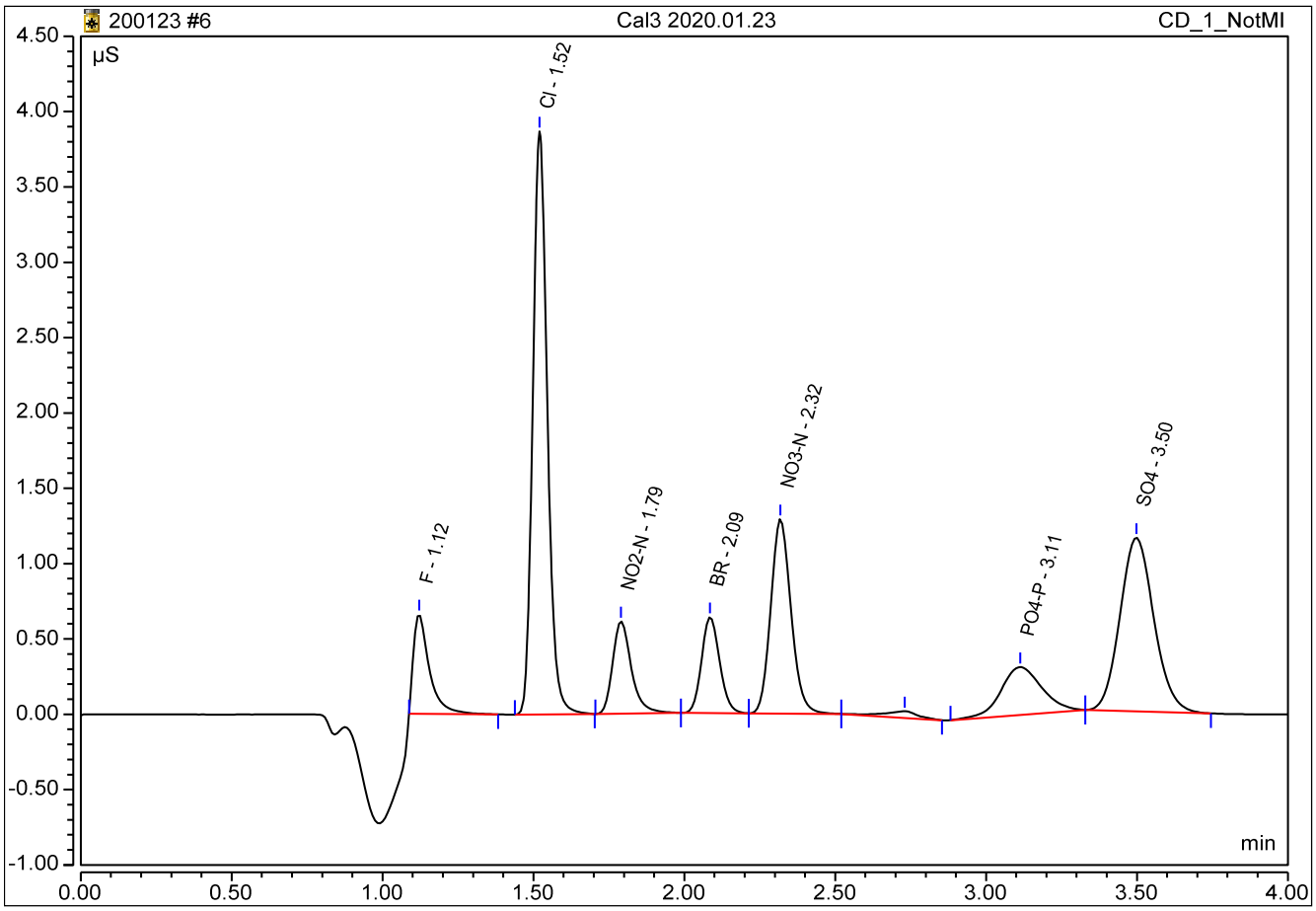
MI6 CD 200124

Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Not Manipulated Peak Integration Report

Sample Name:	**Cal3 2020.01.23**	*Inj. Vol.:*	**25uL**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**Anion APM 2020.01.23**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**23-Jan-2020 / 09:34**	*Run Time:*	**4.00**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Ammount mg/L
1	1.12	**F**	BMB	0.040	0.661	0.7358
2	1.52	**Cl**	BMB	0.215	3.871	2.1040
3	1.79	**NO2-N**	BMB	0.044	0.613	0.2643
4	2.09	**BR**	BMB	0.045	0.638	1.3636
5	2.32	**NO3-N**	BMB	0.101	1.291	0.5635
6	3.11	**PO4-P**	BMB*	0.050	0.318	1.4267
7	3.50	**SO4**	BMB	0.150	1.152	2.7606

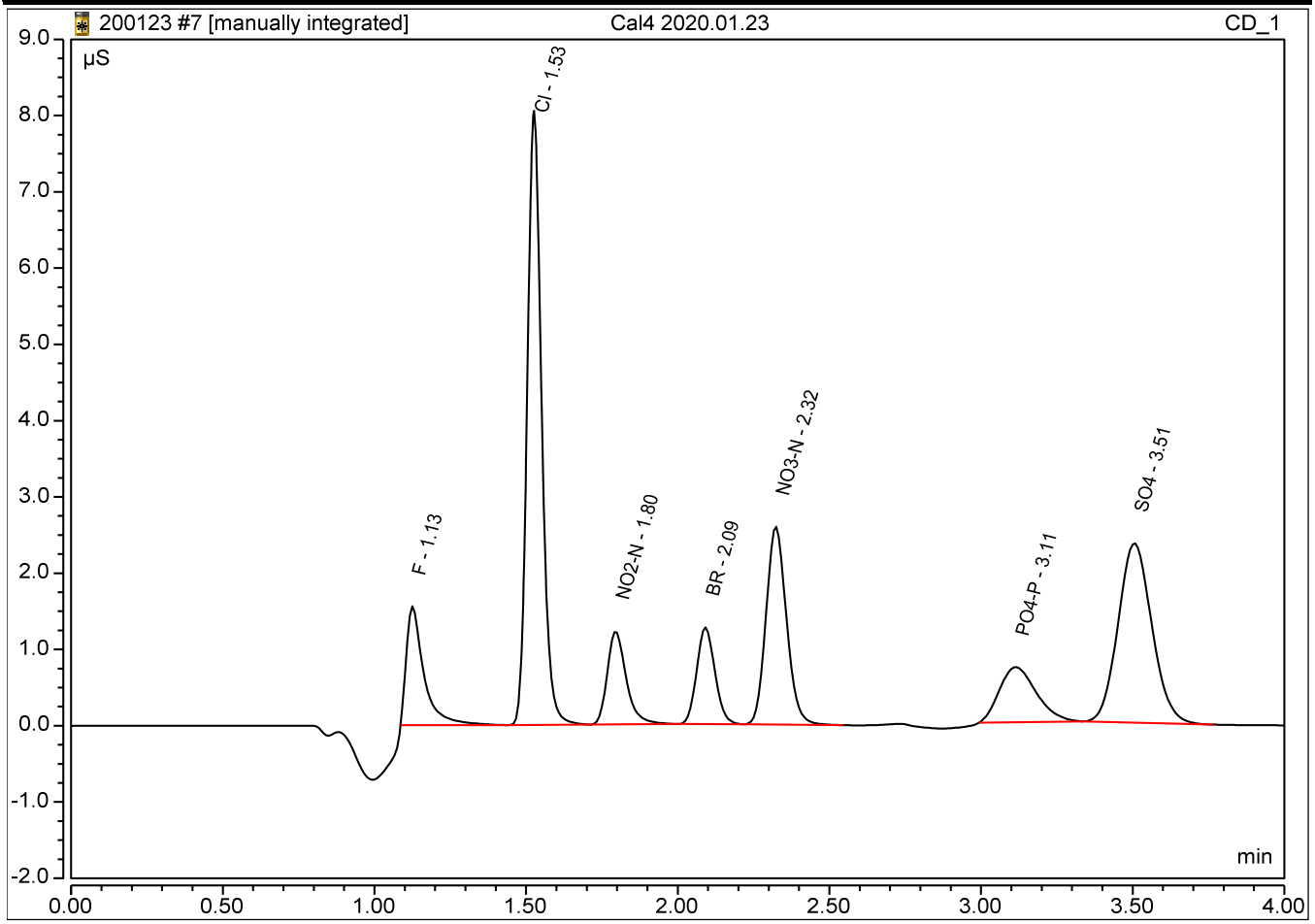


Logged on User: BW
Instrument: Charlie System_1
Sequence: 200123

Peak Integration Report

Sample Name:	**Cal4 2020.01.23**	*Inj. Vol.:*	**25uL**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.23**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**23-Jan-2020 / 09:40**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.13	**F**	BMB	0.105	1.559	1.18	1.25	94.4%
2	1.53	**Cl**	BMB	0.441	8.051	4.08	5	81.6%
3	1.80	**NO2-N**	BMB	0.089	1.224	0.49	0.5	98.4%
4	2.09	**BR**	BMB	0.088	1.270	2.46	2.5	98.2%
5	2.32	**NO3-N**	BMB	0.203	2.599	0.97	1	97.1%
6	3.11	**PO4-P**	BMB*	0.102	0.722	2.24	2.5	89.7%
7	3.51	**SO4**	BMB	0.304	2.353	4.83	5	96.6%



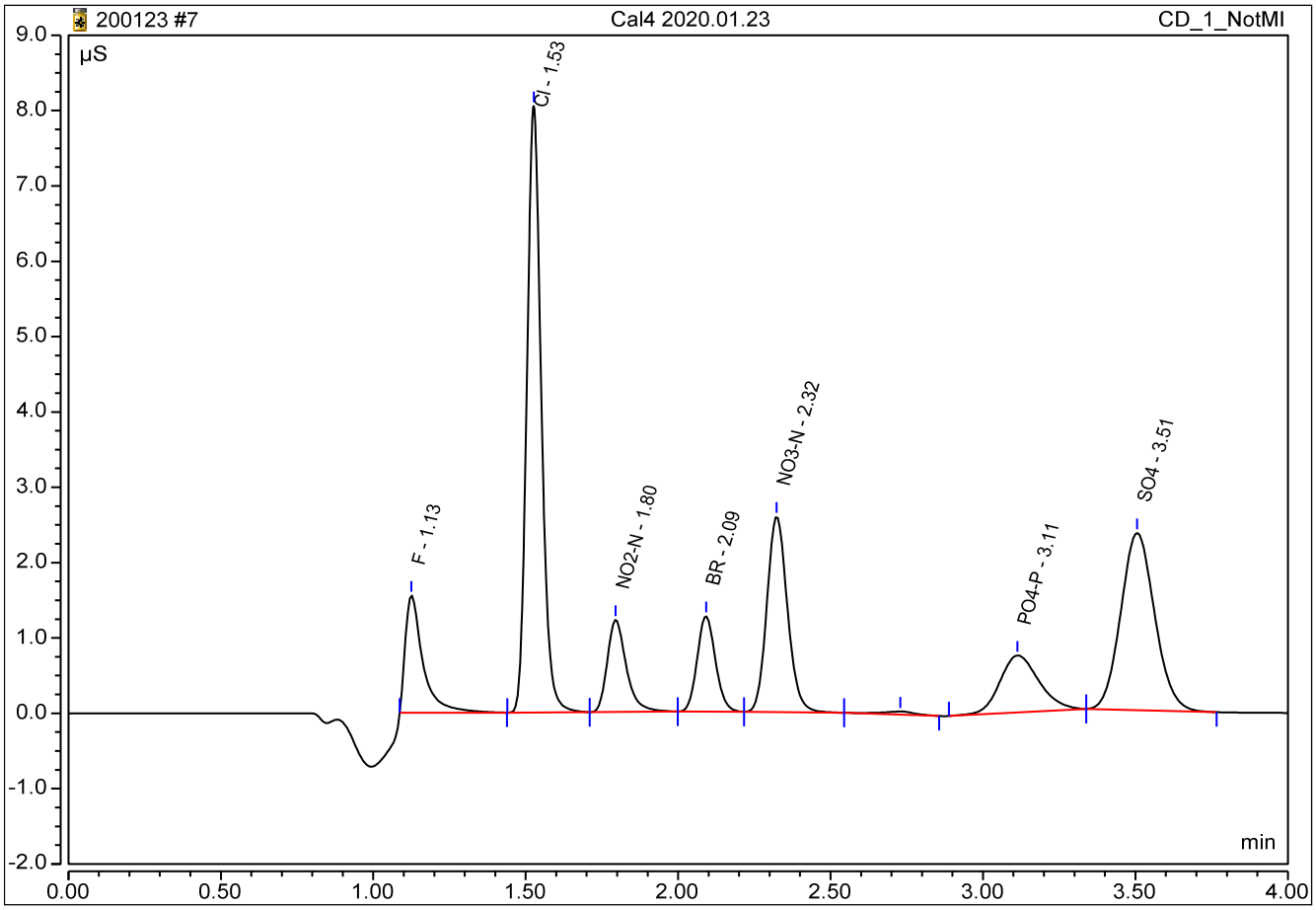
MI6 CD 200124

Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Not Manipulated Peak Integration Report

Sample Name:	**Cal4 2020.01.23**	*Inj. Vol.:*	**25uL**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**Anion APM 2020.01.23**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**23-Jan-2020 / 09:40**	*Run Time:*	**4.00**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Ammount mg/L
1	1.13	**F**	BMB	0.105	1.559	1.2485
2	1.53	**Cl**	BMB	0.441	8.051	4.0815
3	1.80	**NO2-N**	BMB	0.089	1.224	0.4919
4	2.09	**BR**	BMB	0.088	1.270	2.4561
5	2.32	**NO3-N**	BMB	0.203	2.599	0.9713
6	3.11	**PO4-P**	BMB*	0.112	0.757	2.2587
7	3.51	**SO4**	BMB	0.304	2.353	4.8296

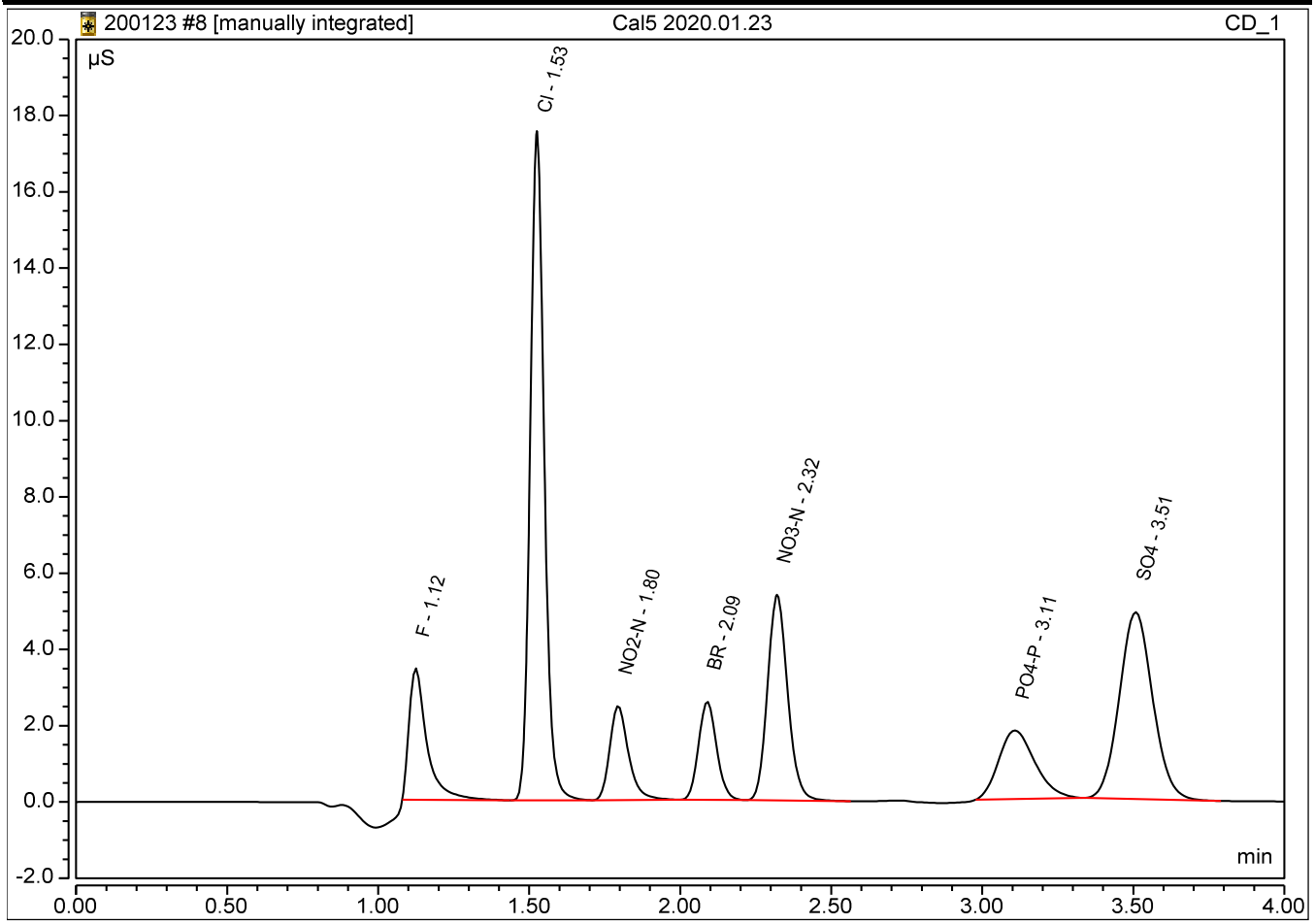


Logged on User: BW
Instrument: Charlie System_1
Sequence: 200123

Peak Integration Report

Sample Name:	**Cal5 2020.01.23**	*Inj. Vol.:*	**25uL**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.23**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**23-Jan-2020 / 09:46**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.12	**F**	BMB	0.236	3.454	2.22	2.5	89.0%
2	1.53	**Cl**	BMB	0.942	17.551	8.46	10	84.6%
3	1.80	**NO2-N**	BMB	0.179	2.474	0.96	1	95.6%
4	2.09	**BR**	BMB	0.179	2.585	4.72	5	94.3%
5	2.32	**NO3-N**	BMB	0.417	5.394	1.83	2	91.5%
6	3.11	**PO4-P**	BMB*	0.250	1.799	4.21	5	84.2%
7	3.51	**SO4**	BMB	0.627	4.905	9.18	10	91.8%



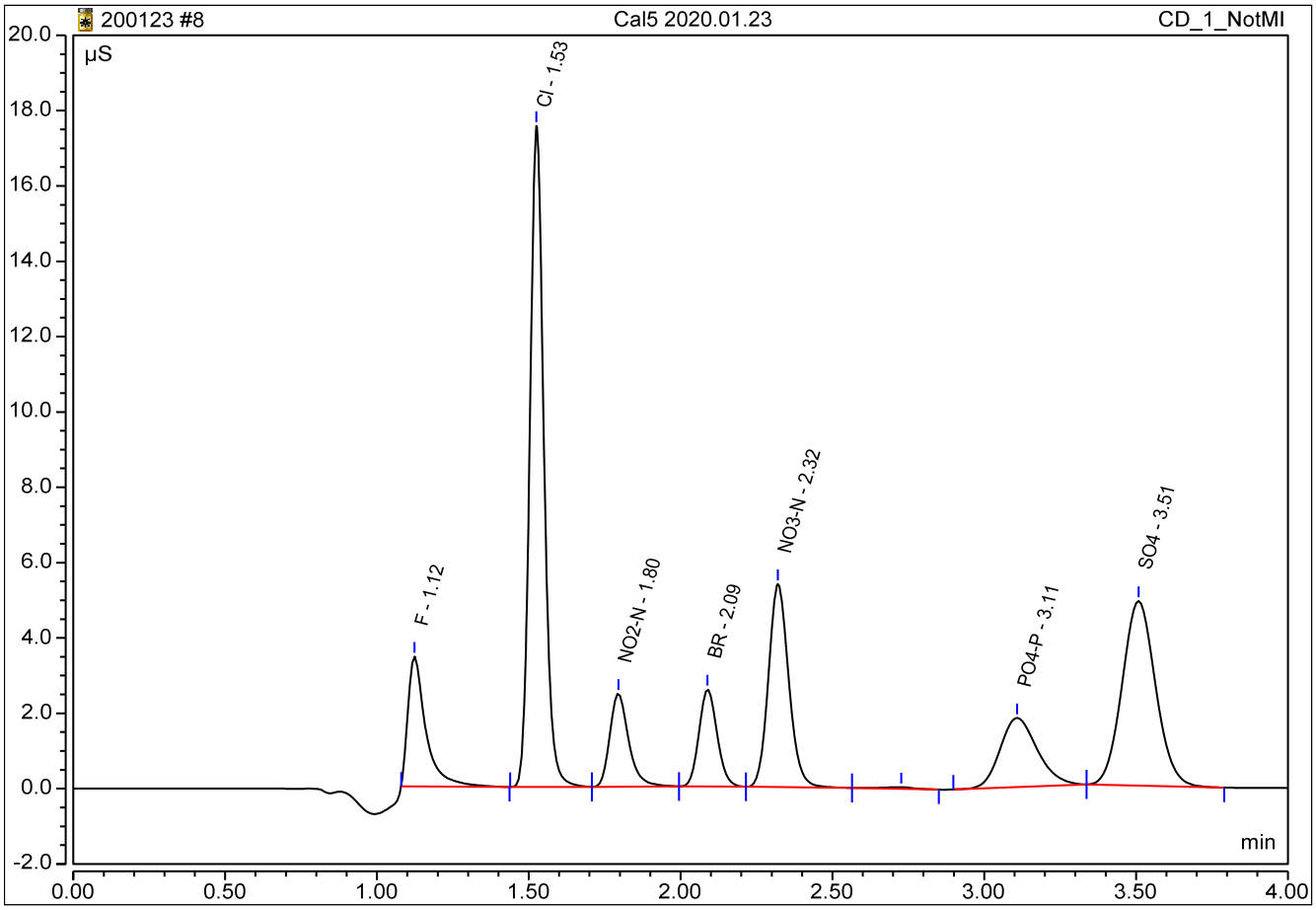
MI6 CD 200124

Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Not Manipulated Peak Integration Report

Sample Name:	**Cal5 2020.01.23**	*Inj. Vol.:*	**25uL**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**Anion APM 2020.01.23**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**23-Jan-2020 / 09:46**	*Run Time:*	**4.00**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Ammount mg/L
1	1.12	**F**	BMB	0.236	3.454	2.2842
2	1.53	**Cl**	BMB	0.942	17.551	8.4551
3	1.80	**NO2-N**	BMB	0.179	2.474	0.9557
4	2.09	**BR**	BMB	0.179	2.585	4.7175
5	2.32	**NO3-N**	BMB	0.417	5.394	1.8294
6	3.11	**PO4-P**	BMB*	0.261	1.836	4.2444
7	3.51	**SO4**	BMB	0.627	4.905	9.1850

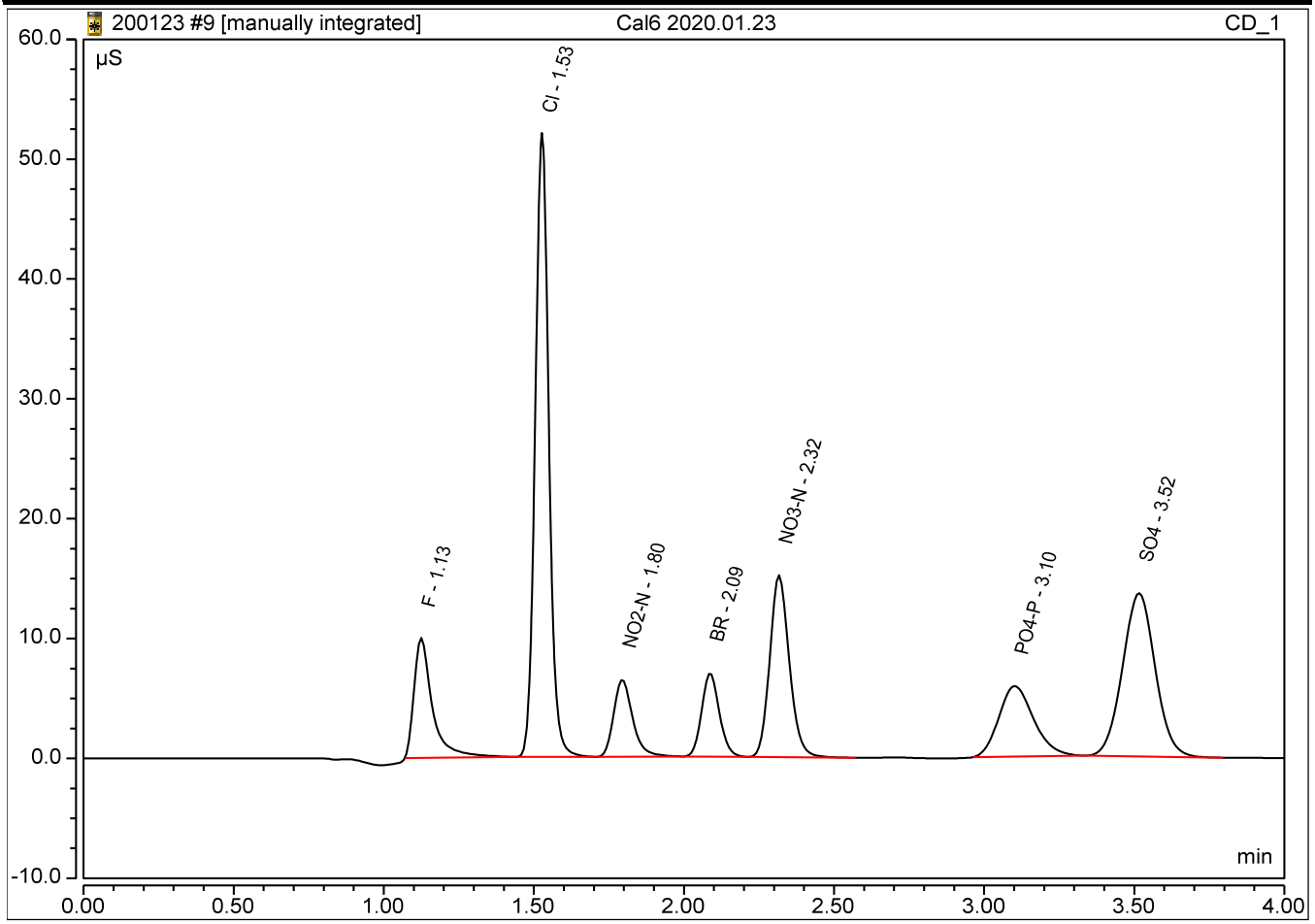


Logged on User: BW
Instrument: Charlie System_1
Sequence: 200123

Peak Integration Report

Sample Name:	**Cal6 2020.01.23**	*Inj. Vol.:*	**25uL**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.23**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**23-Jan-2020 / 09:53**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.13	**F**	BMB	0.710	10.009	6.01	6.25	96.2%
2	1.53	**Cl**	BMB	2.738	52.056	24.15	25	96.6%
3	1.80	**NO2-N**	BMB	0.470	6.441	2.45	2.5	98.1%
4	2.09	**BR**	BMB	0.475	6.974	12.09	12.5	96.7%
5	2.32	**NO3-N**	BMB	1.146	15.172	4.75	5	95.0%
6	3.10	**PO4-P**	BMB*	0.791	5.888	11.41	12.5	91.2%
7	3.52	**SO4**	BMB	1.718	13.635	23.88	25	95.5%



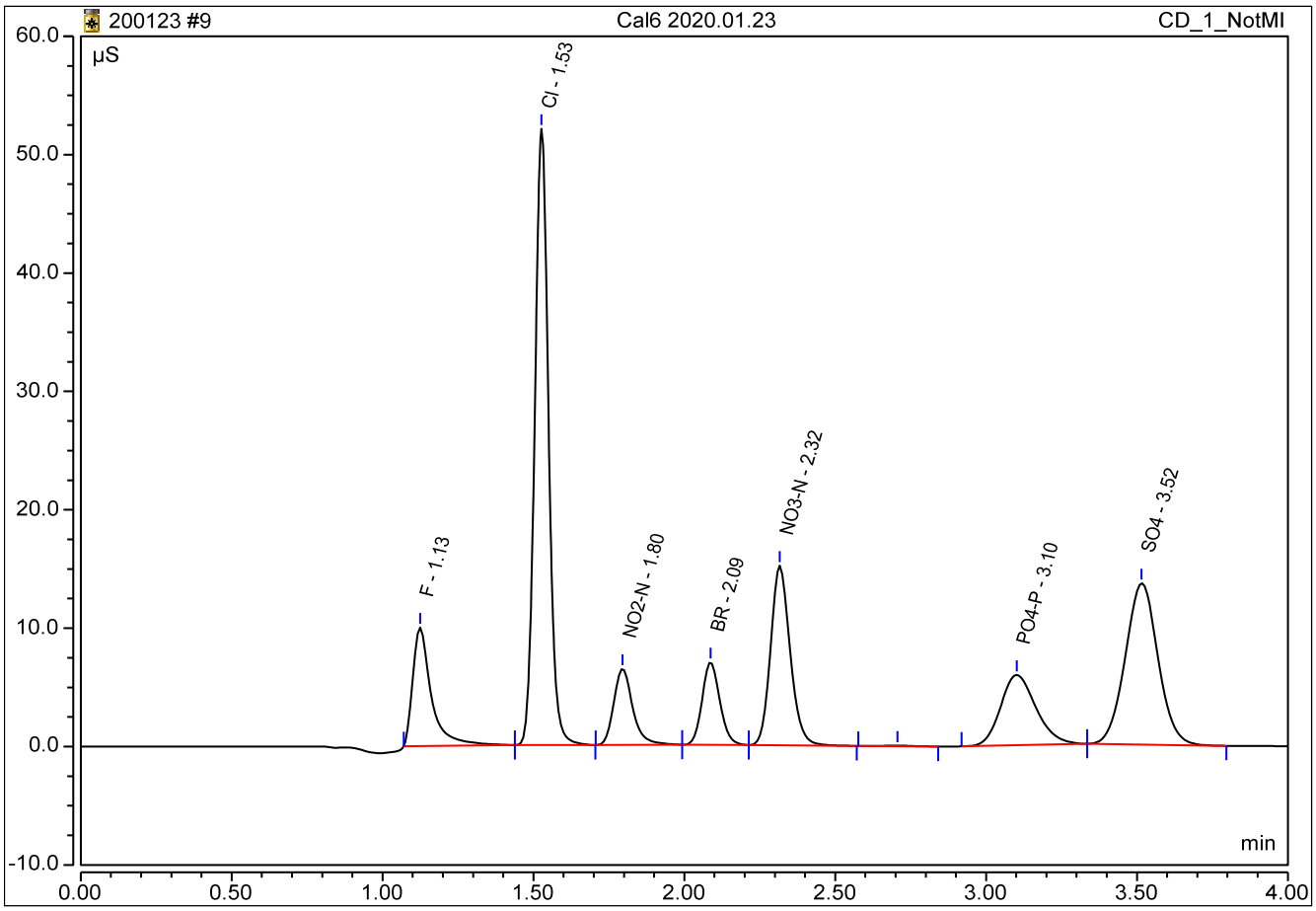
MI6 CD 200124

Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Not Manipulated Peak Integration Report

Sample Name:	**Cal6 2020.01.23**	*Inj. Vol.:*	**25uL**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**Anion APM 2020.01.23**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**23-Jan-2020 / 09:53**	*Run Time:*	**4.00**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Ammount mg/L
1	1.13	**F**	BMB	0.710	10.009	6.0375
2	1.53	**Cl**	BMB	2.738	52.056	24.1541
3	1.80	**NO2-N**	BMB	0.470	6.441	2.4520
4	2.09	**BR**	BMB	0.475	6.974	12.0914
5	2.32	**NO3-N**	BMB	1.146	15.172	4.7525
6	3.10	**PO4-P**	BMB*	0.806	5.937	11.5266
7	3.52	**SO4**	BMB	1.718	13.635	23.8810

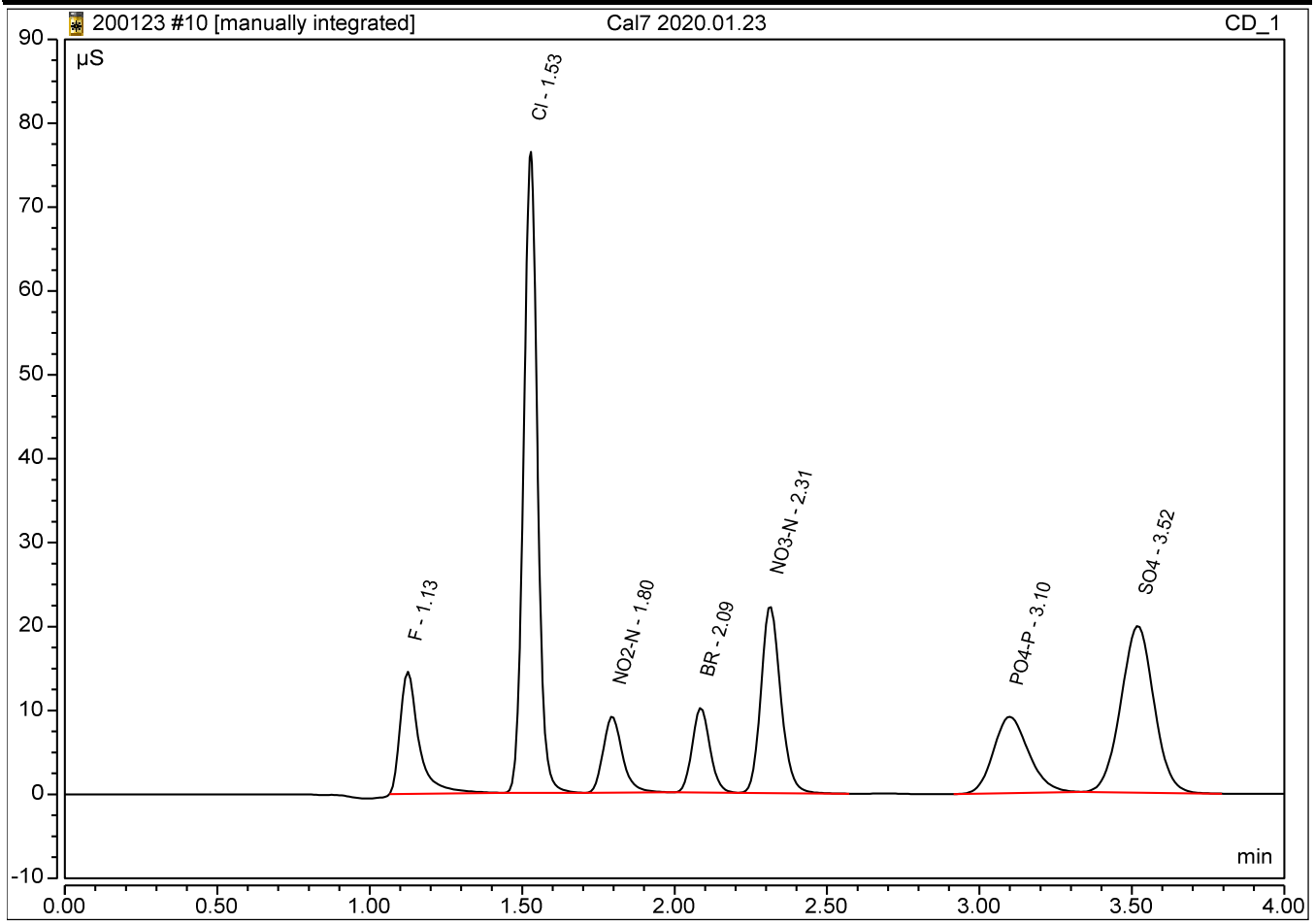


Logged on User: BW
Instrument: Charlie System_1
Sequence: 200123

Peak Integration Report

Sample Name:	**Cal7 2020.01.23**	*Inj. Vol.:*	**25uL**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.23**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**23-Jan-2020 / 09:59**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.13	**F**	BMB	1.044	14.555	8.67	8.75	99.1%
2	1.53	**Cl**	BMB	4.034	76.395	35.47	35	101.4%
3	1.80	**NO2-N**	BMB	0.669	9.099	3.47	3.5	99.3%
4	2.09	**BR**	BMB	0.683	10.105	17.27	17.5	98.7%
5	2.31	**NO3-N**	BMB	1.674	22.344	6.87	7	98.2%
6	3.10	**PO4-P**	BMB	1.219	9.106	17.10	17.5	97.7%
7	3.52	**SO4**	BMB	2.502	19.860	34.44	35	98.4%



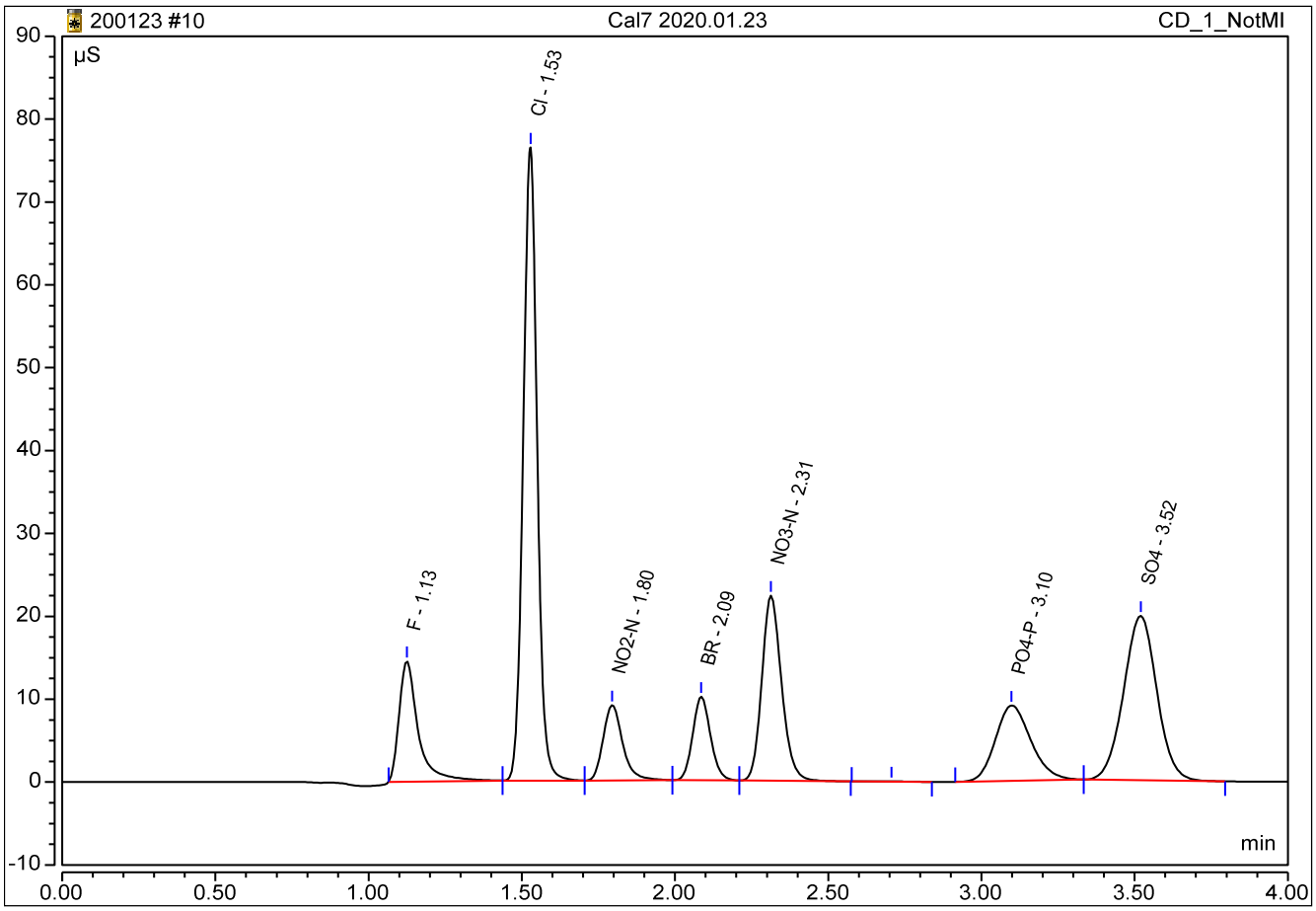
MI6 CD 200124

Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Not Manipulated Peak Integration Report

Sample Name:	**Cal7 2020.01.23**	*Inj. Vol.:*	**25uL**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**Anion APM 2020.01.23**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**23-Jan-2020 / 09:59**	*Run Time:*	**4.00**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Ammount mg/L
1	1.13	**F**	BMB	1.044	14.555	8.6754
2	1.53	**Cl**	BMB	4.034	76.395	35.4740
3	1.80	**NO2-N**	BMB	0.669	9.099	3.4742
4	2.09	**BR**	BMB	0.683	10.105	17.2662
5	2.31	**NO3-N**	BMB	1.674	22.344	6.8706
6	3.10	**PO4-P**	BMB	1.219	9.106	17.0385
7	3.52	**SO4**	BMB	2.502	19.860	34.4402

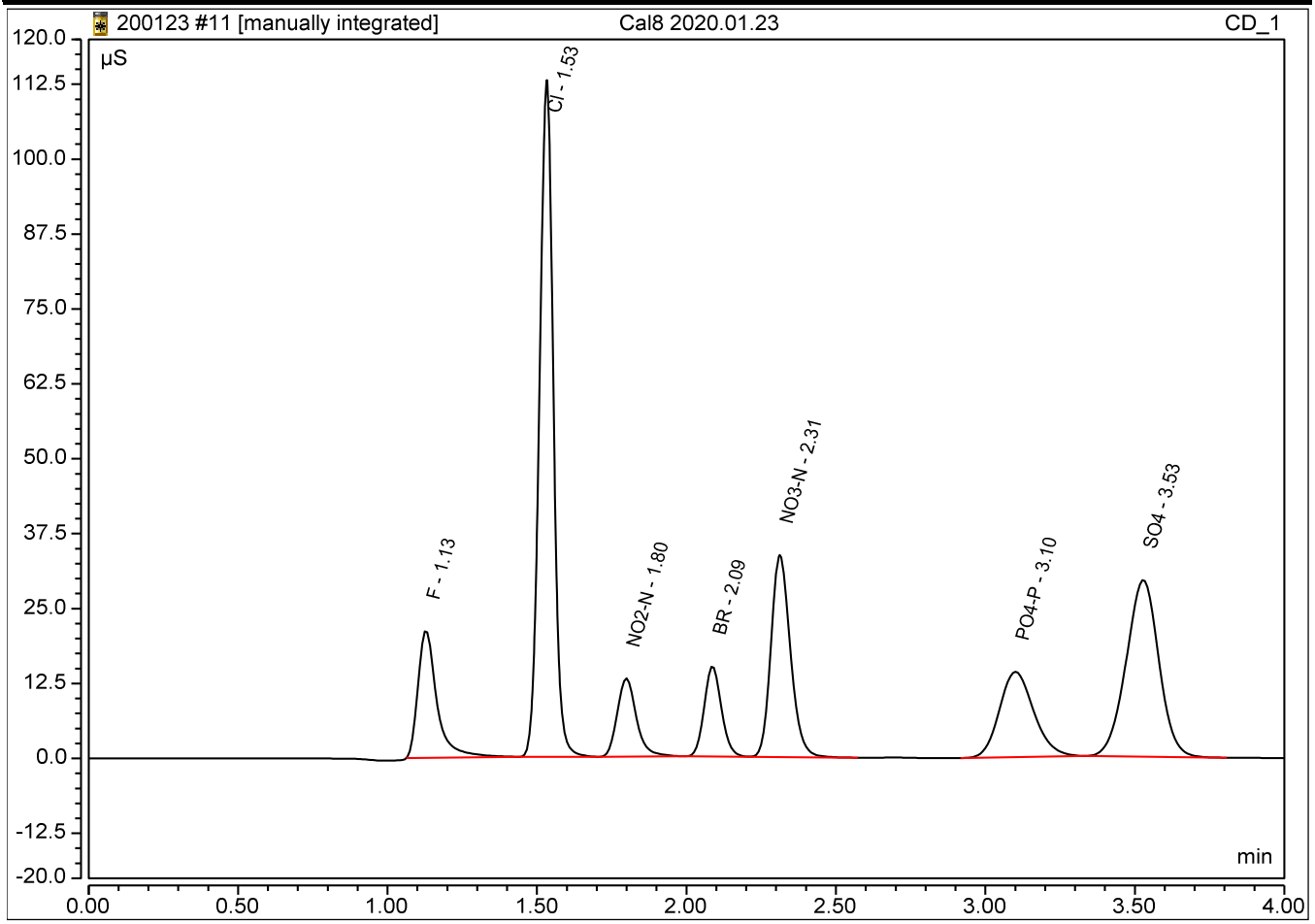


Logged on User: BW
Instrument: Charlie System_1
Sequence: 200123

Peak Integration Report

Sample Name:	**Cal8 2020.01.23**	*Inj. Vol.:*	**25uL**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.23**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**23-Jan-2020 / 10:05**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.13	**F**	BMB	1.551	21.328	12.73	12.5	101.8%
2	1.53	**Cl**	BMB	6.046	112.940	53.06	50	106.1%
3	1.80	**NO2-N**	BMB	0.976	13.076	5.05	5	101.0%
4	2.09	**BR**	BMB	1.010	15.106	25.42	25	101.7%
5	2.31	**NO3-N**	BMB	2.516	33.718	10.24	10	102.4%
6	3.10	**PO4-P**	BMB	1.887	14.252	25.98	25	103.9%
7	3.53	**SO4**	BMB	3.738	29.498	51.10	50	102.2%



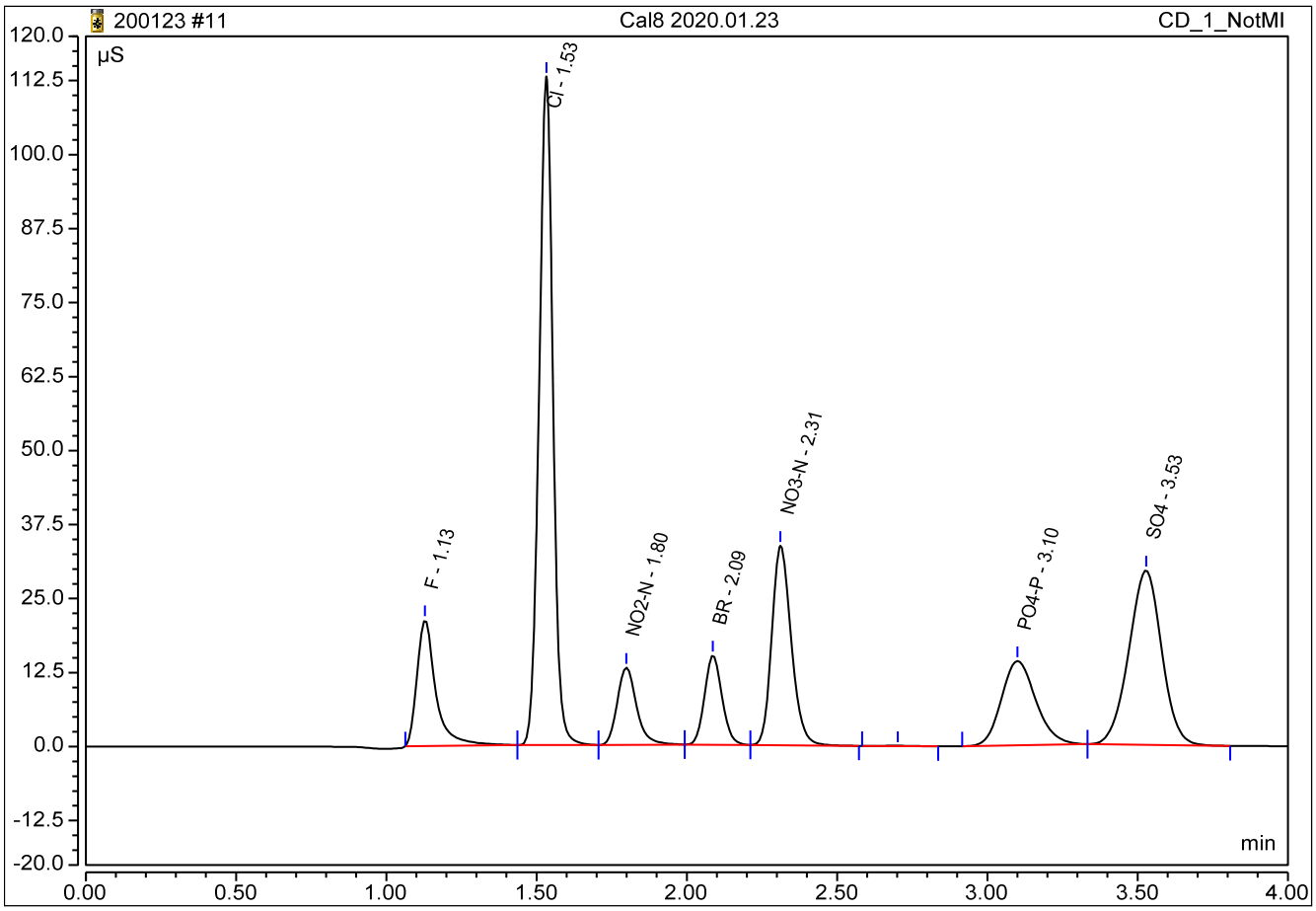
MI6 CD 200124

Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Not Manipulated Peak Integration Report

Sample Name:	**Cal8 2020.01.23**	*Inj. Vol.:*	**25uL**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**Anion APM 2020.01.23**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**23-Jan-2020 / 10:05**	*Run Time:*	**4.00**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Ammount mg/L
1	1.13	**F**	BMB	1.551	21.328	12.6922
2	1.53	**Cl**	BMB	6.046	112.940	53.0615
3	1.80	**NO2-N**	BMB	0.976	13.076	5.0502
4	2.09	**BR**	BMB	1.010	15.106	25.4172
5	2.31	**NO3-N**	BMB	2.516	33.718	10.2446
6	3.10	**PO4-P**	BMB	1.887	14.252	25.9594
7	3.53	**SO4**	BMB	3.738	29.498	51.1007

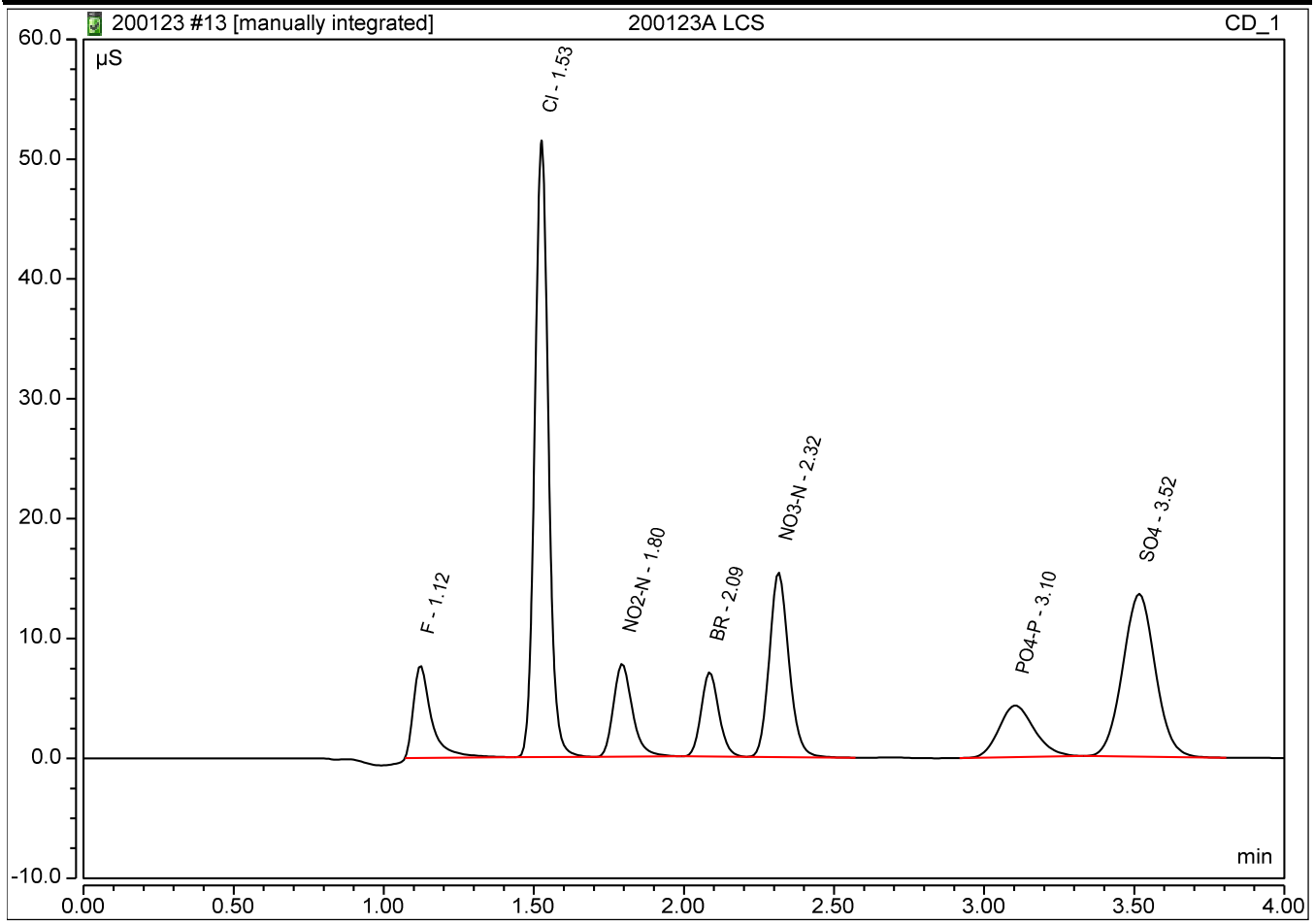


Logged on User: BW
Instrument: Charlie System_1
Sequence: 200123

Peak Integration Report

Sample Name:	**200123A LCS**	*Inj. Vol.:*	**25uL**
Injection Type:	**Check Standard**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.23**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**23-Jan-2020 / 10:18**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.12	**F**	BMB	0.543	7.731	4.68	5	93.6%
2	1.53	**Cl**	BMB	2.711	51.459	23.92	25	95.7%
3	1.80	**NO2-N**	BMB	0.569	7.763	2.96	3.04	97.4%
4	2.09	**BR**	BMB	0.480	7.036	12.21	12.5	97.7%
5	2.32	**NO3-N**	BMB	1.165	15.415	4.83	5	96.6%
6	3.10	**PO4-P**	BMB	0.591	4.309	8.74	10	87.4%
7	3.52	**SO4**	BMB	1.712	13.589	23.81	25	95.2%



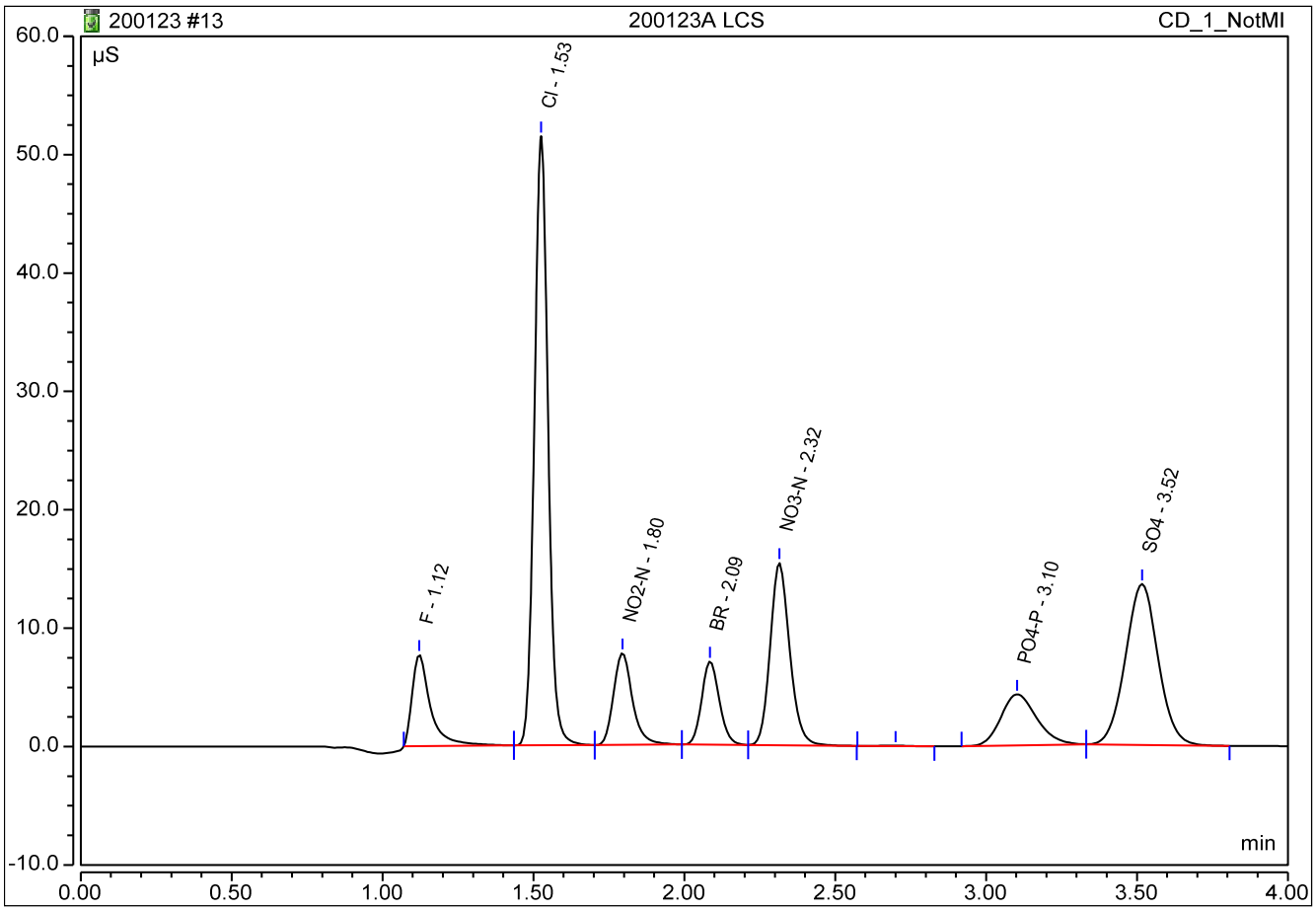
MI6 CD 200124

Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Not Manipulated Peak Integration Report

Sample Name:	**200123A LCS**	*Inj. Vol.:*	**25uL**
Injection Type:	**Check Standard**	*Dilution Factor:*	**1.0000**
Program:	**Anion APM 2020.01.23**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**23-Jan-2020 / 10:18**	*Run Time:*	**4.00**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Ammount mg/L
1	1.12	**F**	BMB	0.543	7.731	4.7171
2	1.53	**Cl**	BMB	2.711	51.459	23.9175
3	1.80	**NO2-N**	BMB	0.569	7.763	2.9603
4	2.09	**BR**	BMB	0.480	7.036	12.2080
5	2.32	**NO3-N**	BMB	1.165	15.415	4.8290
6	3.10	**PO4-P**	BMB	0.591	4.309	8.6477
7	3.52	**SO4**	BMB	1.712	13.589	23.8070

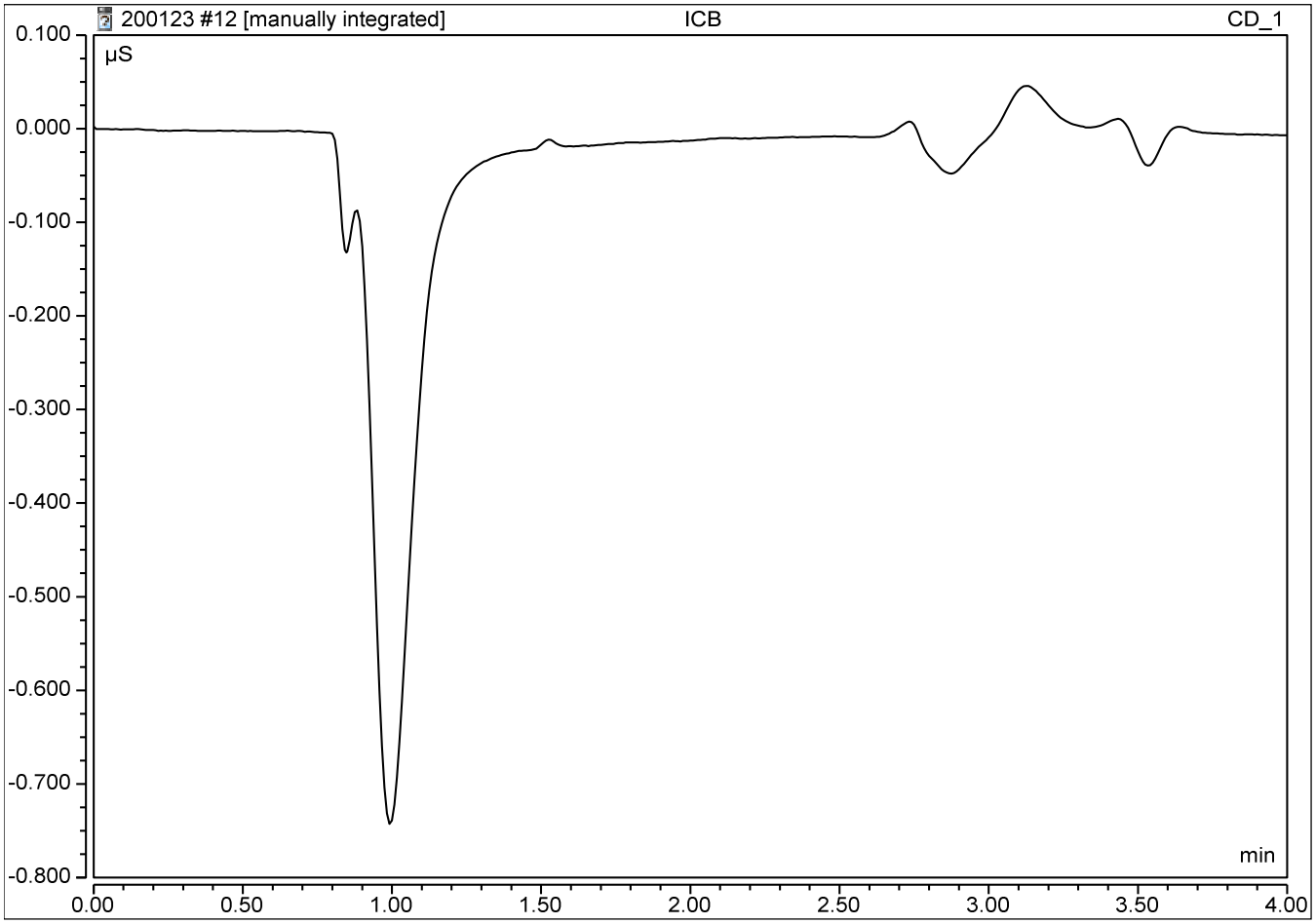


Logged on User: BW
Instrument: Charlie System_1
Sequence: 200123

Peak Integration Report

Sample Name:	**ICB**	*Inj. Vol.:*	**25uL**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.23**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**23-Jan-2020 / 10:12**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery

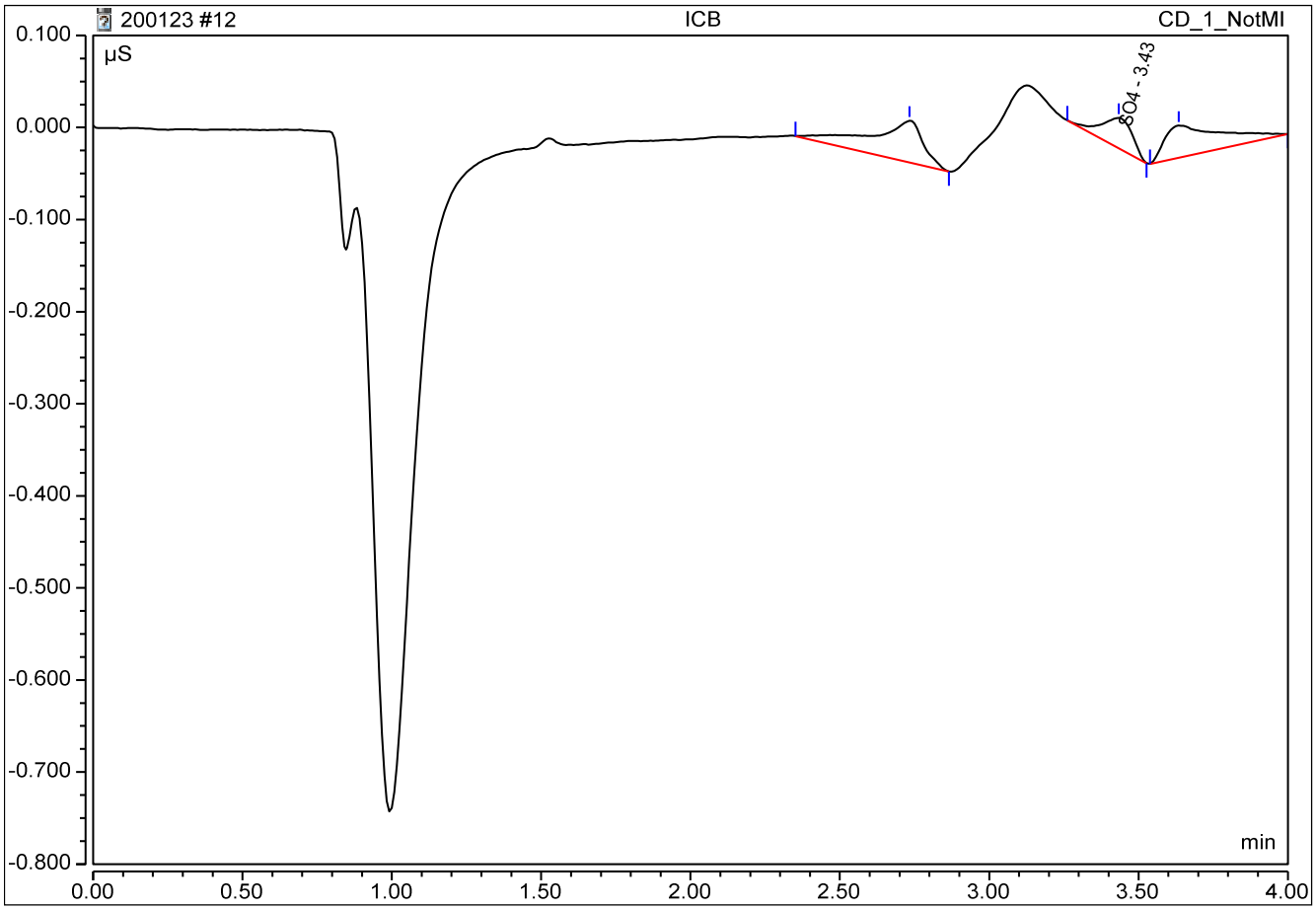


MI6 CD 200124

Not Manipulated Peak Integration Report

Sample Name:	**ICB**	*Inj. Vol.:*	**25uL**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Anion APM 2020.01.23**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**23-Jan-2020 / 10:12**	*Run Time:*	**4.00**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Ammount mg/L



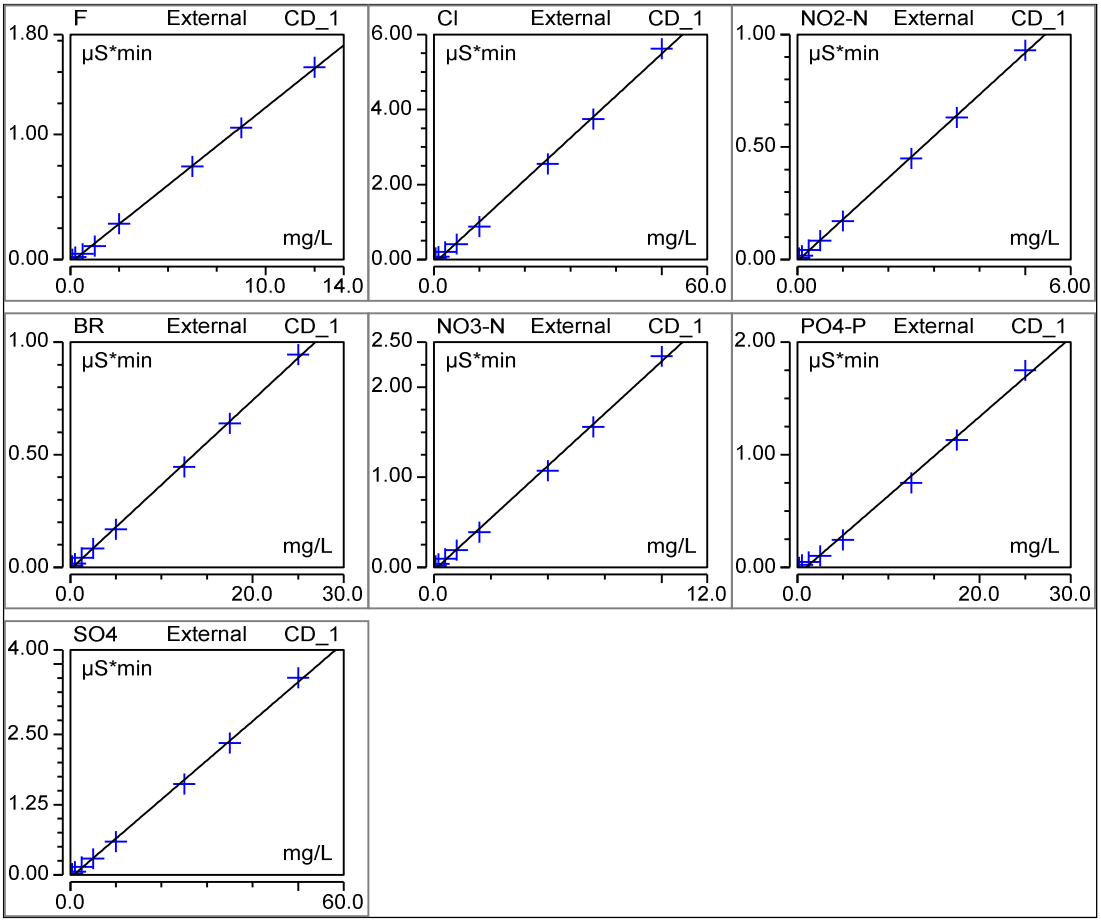
Calibration Batch Report

Sequence:	**200124 Soils & Calibration**	*Injection Volume:*	**25.00**
Instrument Method:	**Anions IM**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**24-Jan-2020 / 11:24**	*Run Time:*	**4**

Calibration Summary

Peak Name	Eval.Type	Cal.Type	Points	Offset (C0)	Slope (C1)	Curve (C2)	Coeff.Det. %
F	Area	Lin, WithOffset	8.000	-0.025	0.124	0.000	99.9488
Cl	Area	Lin, WithOffset	8.000	-0.113	0.112	0.000	99.7405
NO2-N	Area	Lin, WithOffset	8.000	-0.007	0.185	0.000	99.9513
BR	Area	Lin, WithOffset	8.000	-0.009	0.038	0.000	99.9109
NO3-N	Area	Lin, WithOffset	8.000	-0.035	0.232	0.000	99.7977
PO4-P	Area	Lin, WithOffset	7.000	-0.068	0.070	0.000	99.4792
SO4	Area	Lin, WithOffset	8.000	-0.048	0.070	0.000	99.8299

Injection Name	Amount mg/L CD_1 F	Amount mg/L CD_1 Cl	Amount mg/L CD_1 NO2-N	Amount mg/L CD_1 BR	Amount mg/L CD_1 NO3-N	Amount mg/L CD_1 PO4-P	Amount mg/L CD_1 SO4
Cal1 2020.01.24	0.228	1.3600	0.0722	0.4229	0.2234	n.a.	1.0723
Cal2 2020.01.24	0.362	1.7181	0.1262	0.6872	0.3116	1.2621	1.5442
Cal3 2020.01.24	0.586	2.8243	0.2660	1.3612	0.5638	1.6564	2.7826
Cal4 2020.01.24	1.070	4.7051	0.4917	2.4619	0.9732	2.3867	4.8512
Cal5 2020.01.24	2.511	8.8539	0.9620	4.7332	1.8368	4.4319	9.2057
Cal6 2020.01.24	6.197	23.7634	2.4619	12.1193	4.7654	11.6172	23.9660
Cal7 2020.01.24	8.687	34.4548	3.4470	17.2598	6.8658	17.0500	34.3918
Cal8 2020.01.24	12.585	51.2204	5.0630	25.4046	10.2400	25.8458	51.0861

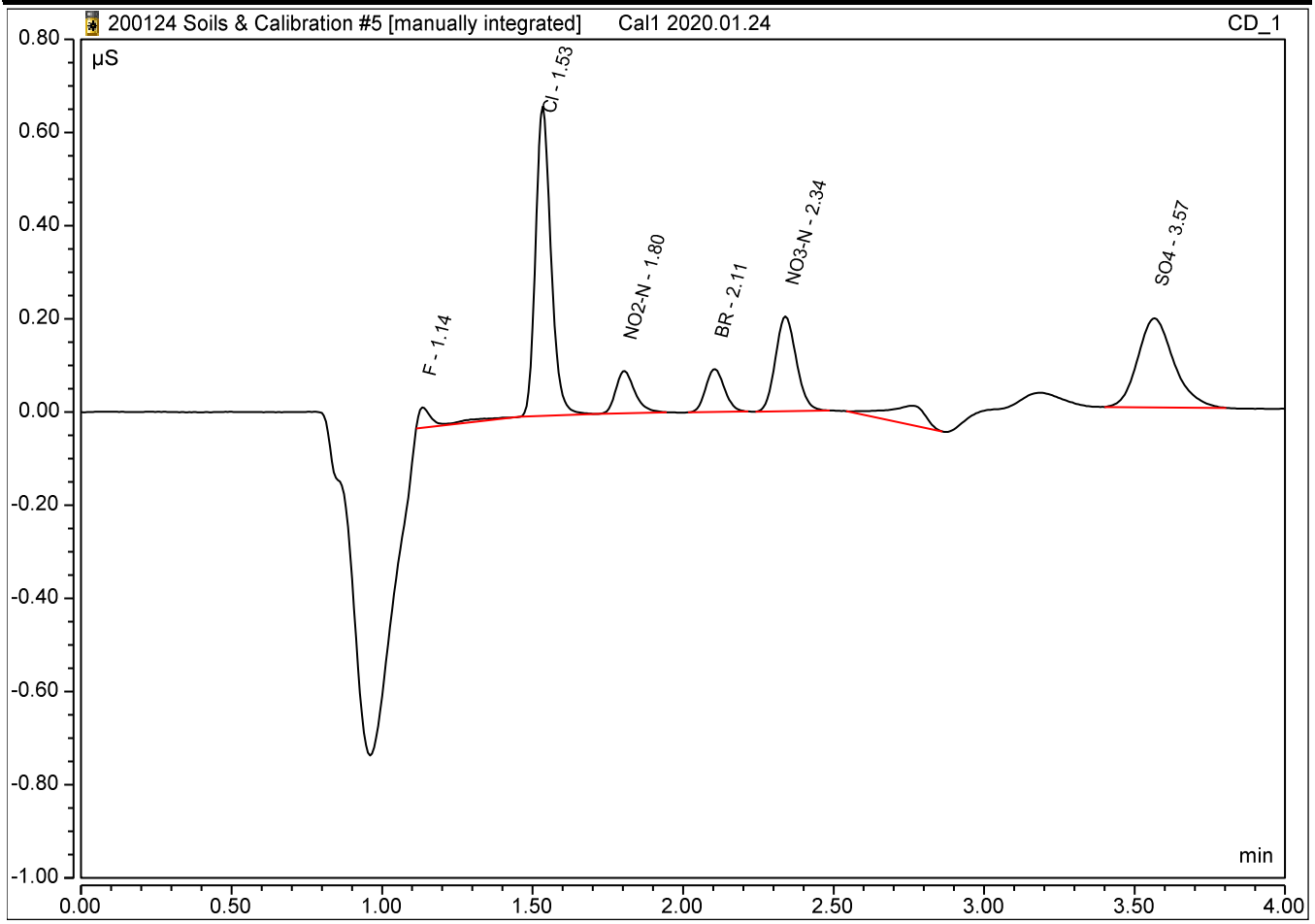


Logged on User: BW
Instrument: Charlie System_1
Sequence: 200124 Soils Calibration

Peak Integration Report

Sample Name:	**Cal1 2020.01.24**	*Inj. Vol.:*	**25uL**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**24-Jan-2020 / 10:39**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.14	**F**	BMB*	0.003	0.044	0.23	0.1	227.6%
2	1.53	**Cl**	BMB	0.039	0.664	1.36	0.4	340.0%
3	1.80	**NO2-N**	BMB	0.007	0.091	0.07	0.04	180.4%
4	2.11	**BR**	BMB	0.007	0.093	0.42	0.2	211.4%
5	2.34	**NO3-N**	BMB	0.016	0.204	0.22	0.08	279.3%
7	3.57	**SO4**	BMB	0.027	0.191	1.07	0.4	268.1%

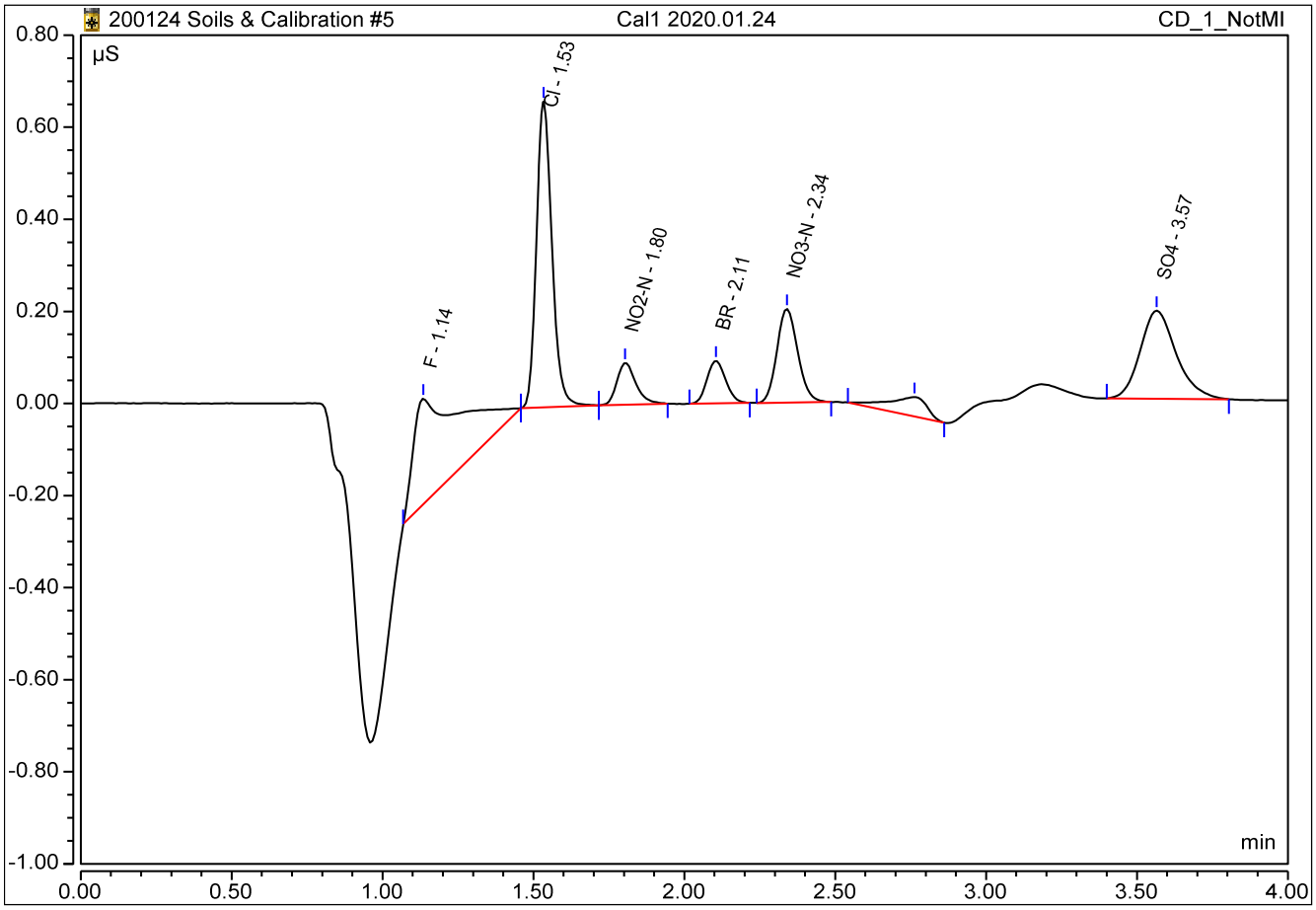


F, PO4 mi1 CD, 2020.01.24 HH

Not Manipulated Peak Integration Report

Sample Name:	**Cal1 2020.01.24**	*Inj. Vol.:*	**25uL**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**24-Jan-2020 / 10:39**	*Run Time:*	**4.00**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Ammount mg/L
1	1.14	**F**	BMB*	0.041	0.229	0.1940
2	1.53	**Cl**	BMB	0.039	0.664	1.3600
3	1.80	**NO2-N**	BMB	0.007	0.091	0.0722
4	2.11	**BR**	BMB	0.007	0.093	0.4229
5	2.34	**NO3-N**	BMB	0.016	0.204	0.2234
7	3.57	**SO4**	BMB	0.027	0.191	1.0723

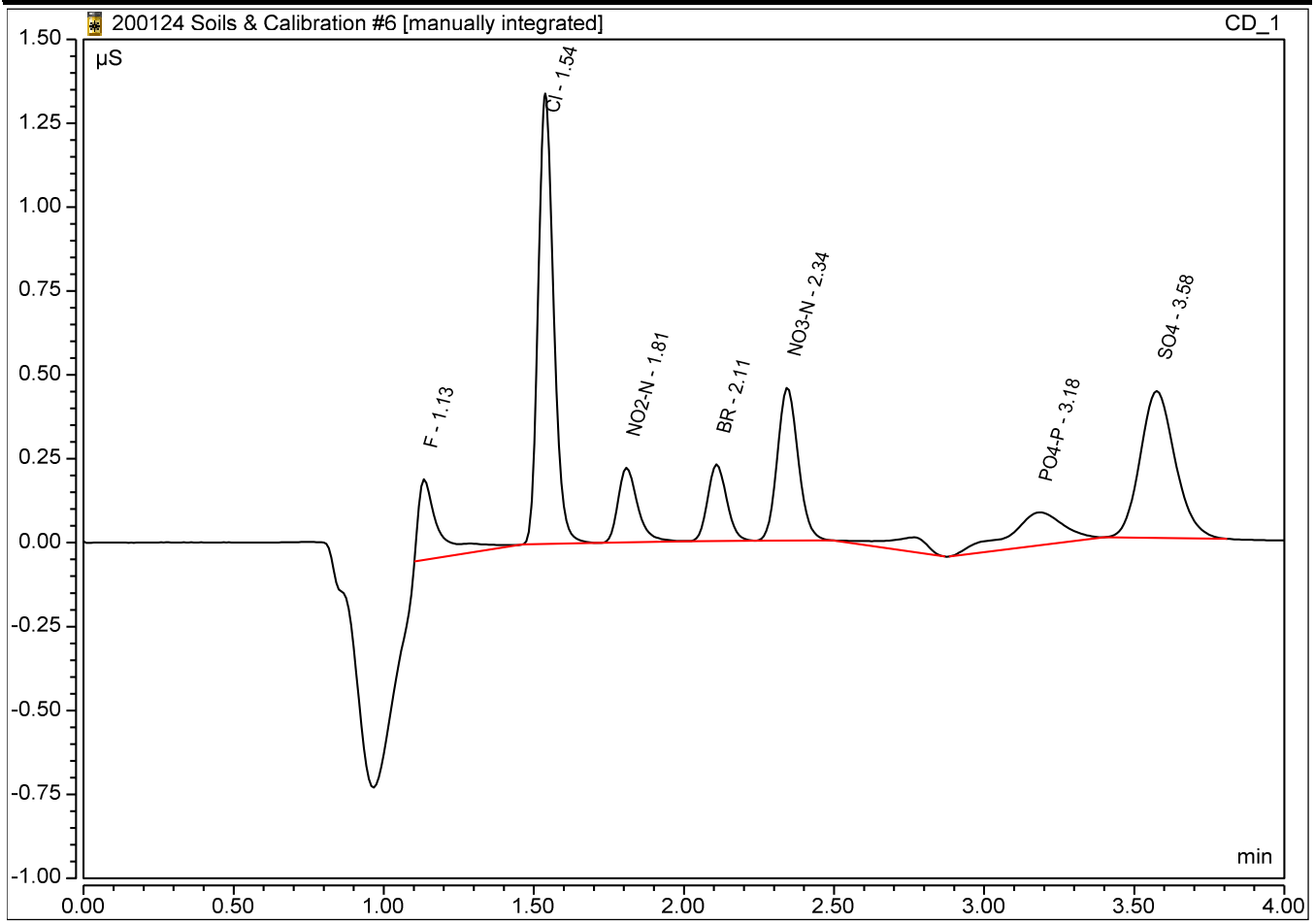


Logged on User: BW
Instrument: Charlie System_1
Sequence: 200124 Soils Calibration

Peak Integration Report

Sample Name:	**Cal2 2020.01.24**	*Inj. Vol.:*	**25uL**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**24-Jan-2020 / 10:46**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.13	**F**	BMB*	0.019	0.241	0.36	0.25	144.6%
2	1.54	**Cl**	BMB	0.080	1.343	1.72	1	171.8%
3	1.81	**NO2-N**	BMB	0.017	0.222	0.13	0.1	126.2%
4	2.11	**BR**	BMB	0.017	0.228	0.69	0.5	137.4%
5	2.34	**NO3-N**	BMB	0.037	0.456	0.31	0.2	155.8%
7	3.18	**PO4-P**	BMB	0.021	0.098	1.26	0.5	252.4%
8	3.58	**SO4**	BMB	0.059	0.438	1.54	1	154.4%

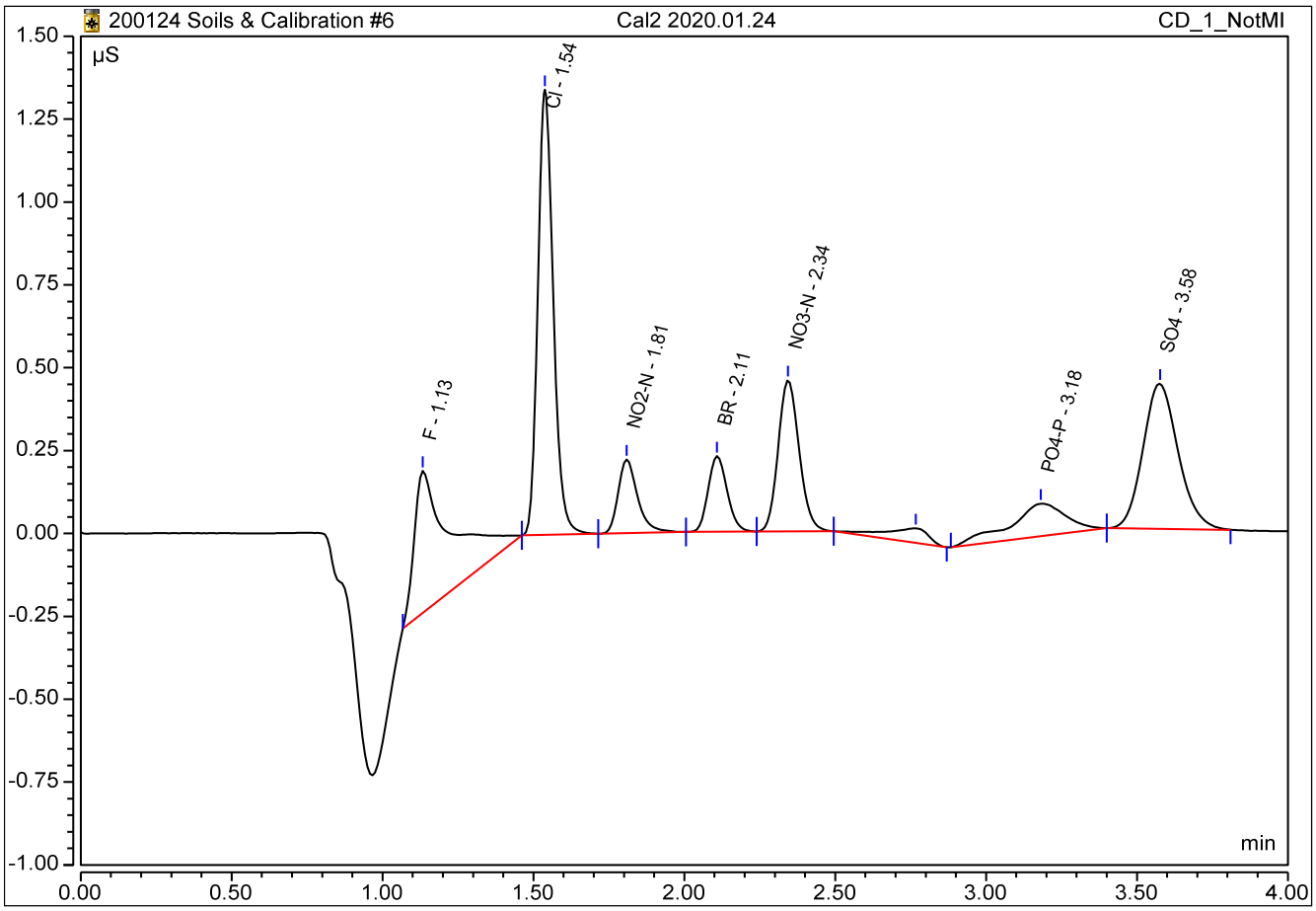


F, PO4 mi1 CD, 2020.01.24 HH

Not Manipulated Peak Integration Report

Sample Name:	**Cal2 2020.01.24**	*Inj. Vol.:*	**25uL**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**24-Jan-2020 / 10:46**	*Run Time:*	**4.00**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Ammount mg/L
1	1.13	**F**	BMB*	0.059	0.428	0.3466
2	1.54	**Cl**	BMB	0.080	1.343	1.7181
3	1.81	**NO2-N**	BMB	0.017	0.222	0.1262
4	2.11	**BR**	BMB	0.017	0.228	0.6872
5	2.34	**NO3-N**	BMB	0.037	0.456	0.3116
7	3.18	**PO4-P**	BMB	0.021	0.098	1.2621
8	3.58	**SO4**	BMB	0.059	0.438	1.5442

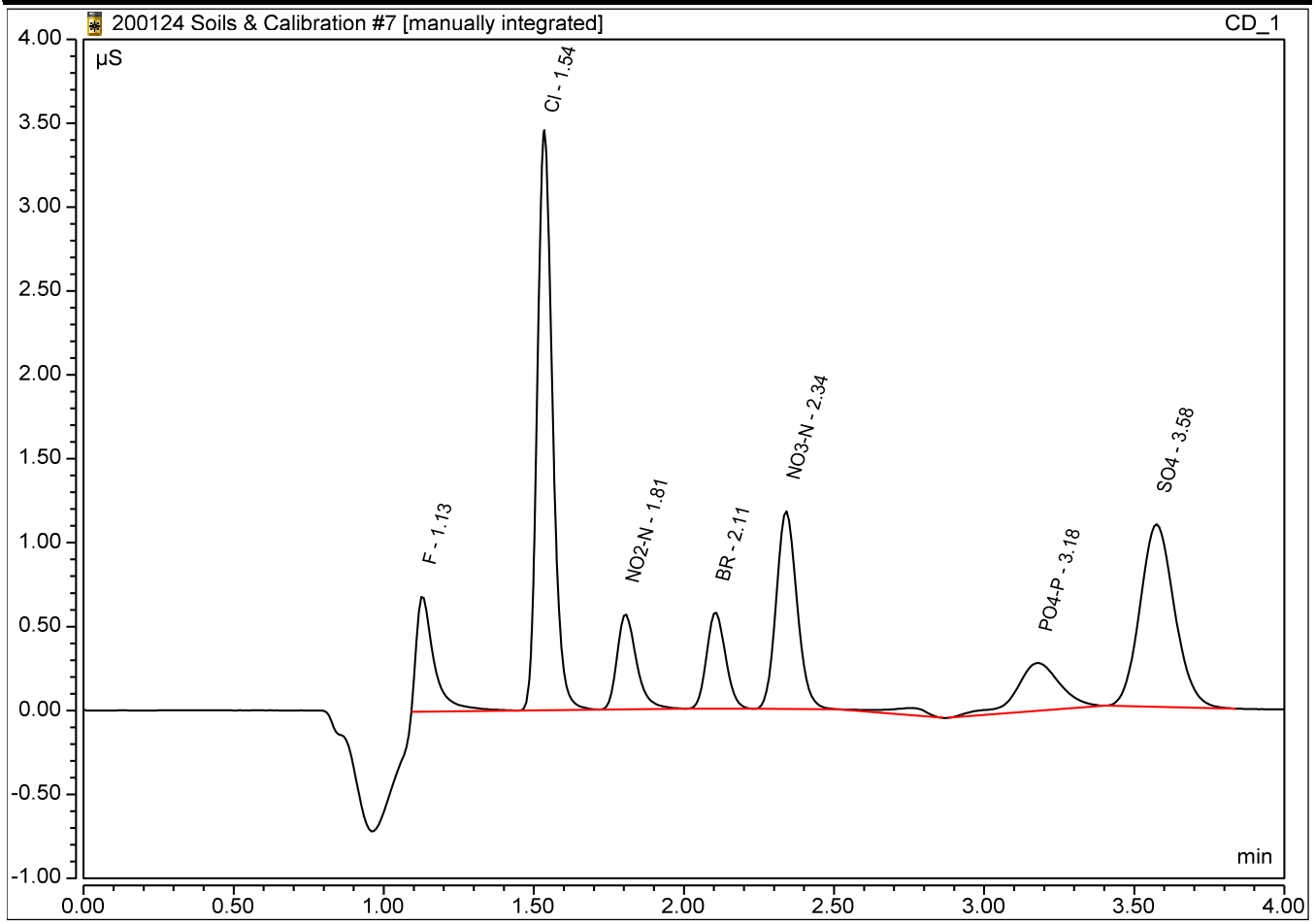


Logged on User: BW
Instrument: Charlie System_1
Sequence: 200124 Soils Calibration

Peak Integration Report

Sample Name:	**Cal3 2020.01.24**	*Inj. Vol.:*	**25uL**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**24-Jan-2020 / 10:52**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.13	**F**	BMB*	0.047	0.692	0.59	0.625	93.8%
2	1.54	**Cl**	BMB	0.203	3.456	2.82	2.5	113.0%
3	1.81	**NO2-N**	BMB	0.043	0.567	0.27	0.25	106.4%
4	2.11	**BR**	BMB	0.042	0.577	1.36	1.25	108.9%
5	2.34	**NO3-N**	BMB	0.095	1.180	0.56	0.5	112.8%
7	3.18	**PO4-P**	BMB	0.049	0.286	1.66	1.25	132.5%
8	3.58	**SO4**	BMB	0.145	1.089	2.78	2.5	111.3%



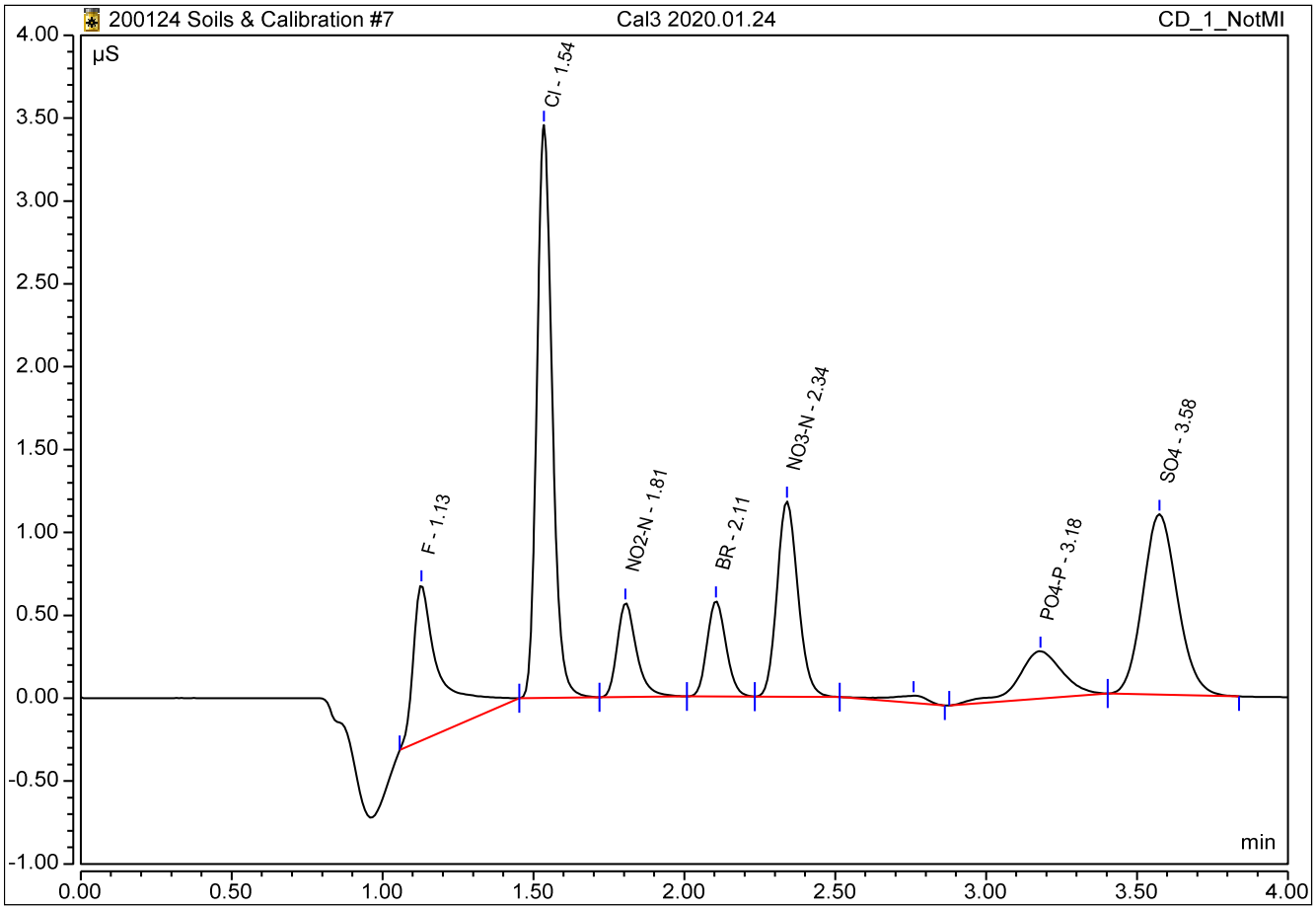
F, PO4 mi1 CD, 2020.01.24 HH

Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Not Manipulated Peak Integration Report

Sample Name:	**Cal3 2020.01.24**	*Inj. Vol.:*	**25uL**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**24-Jan-2020 / 10:52**	*Run Time:*	**4.00**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Ammount mg/L
1	1.13	**F**	BMB*	0.101	0.940	0.6915
2	1.54	**Cl**	BMB	0.203	3.456	2.8243
3	1.81	**NO2-N**	BMB	0.043	0.567	0.2660
4	2.11	**BR**	BMB	0.042	0.577	1.3612
5	2.34	**NO3-N**	BMB	0.095	1.180	0.5638
7	3.18	**PO4-P**	BMB	0.049	0.286	1.6564
8	3.58	**SO4**	BMB	0.145	1.089	2.7826

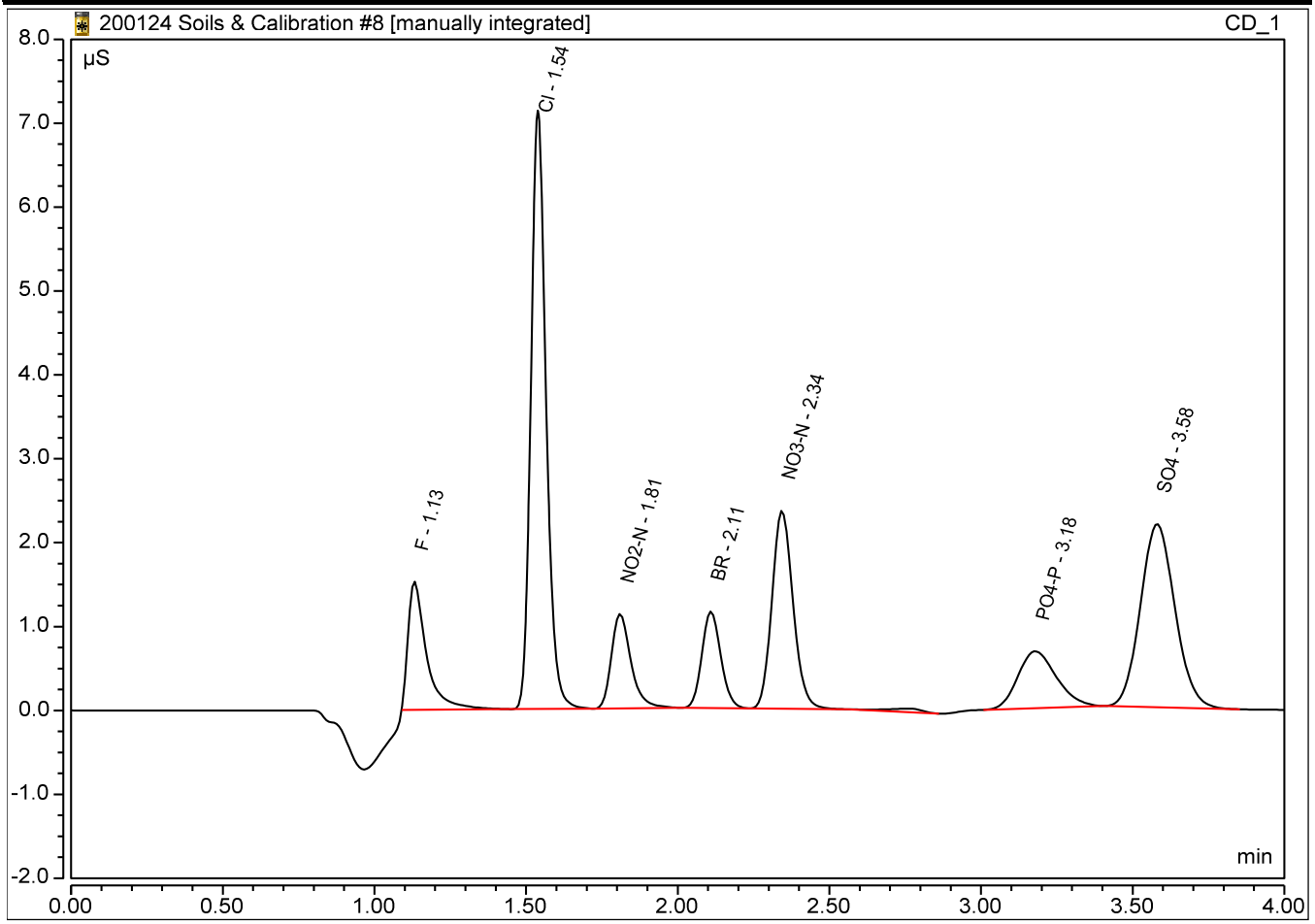


Logged on User: BW
Instrument: Charlie System_1
Sequence: 200124 Soils Calibration

Peak Integration Report

Sample Name:	**Cal4 2020.01.24**	*Inj. Vol.:*	**25uL**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**24-Jan-2020 / 10:58**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.13	**F**	BMB*	0.107	1.531	1.07	1.25	85.6%
2	1.54	**Cl**	BMB	0.414	7.133	4.71	5	94.1%
3	1.81	**NO2-N**	BMB	0.084	1.126	0.49	0.5	98.3%
4	2.11	**BR**	BMB	0.083	1.149	2.46	2.5	98.5%
5	2.34	**NO3-N**	BMB	0.191	2.361	0.97	1	97.3%
7	3.18	**PO4-P**	BMB	0.100	0.678	2.39	2.5	95.5%
8	3.58	**SO4**	BMB	0.289	2.186	4.85	5	97.0%



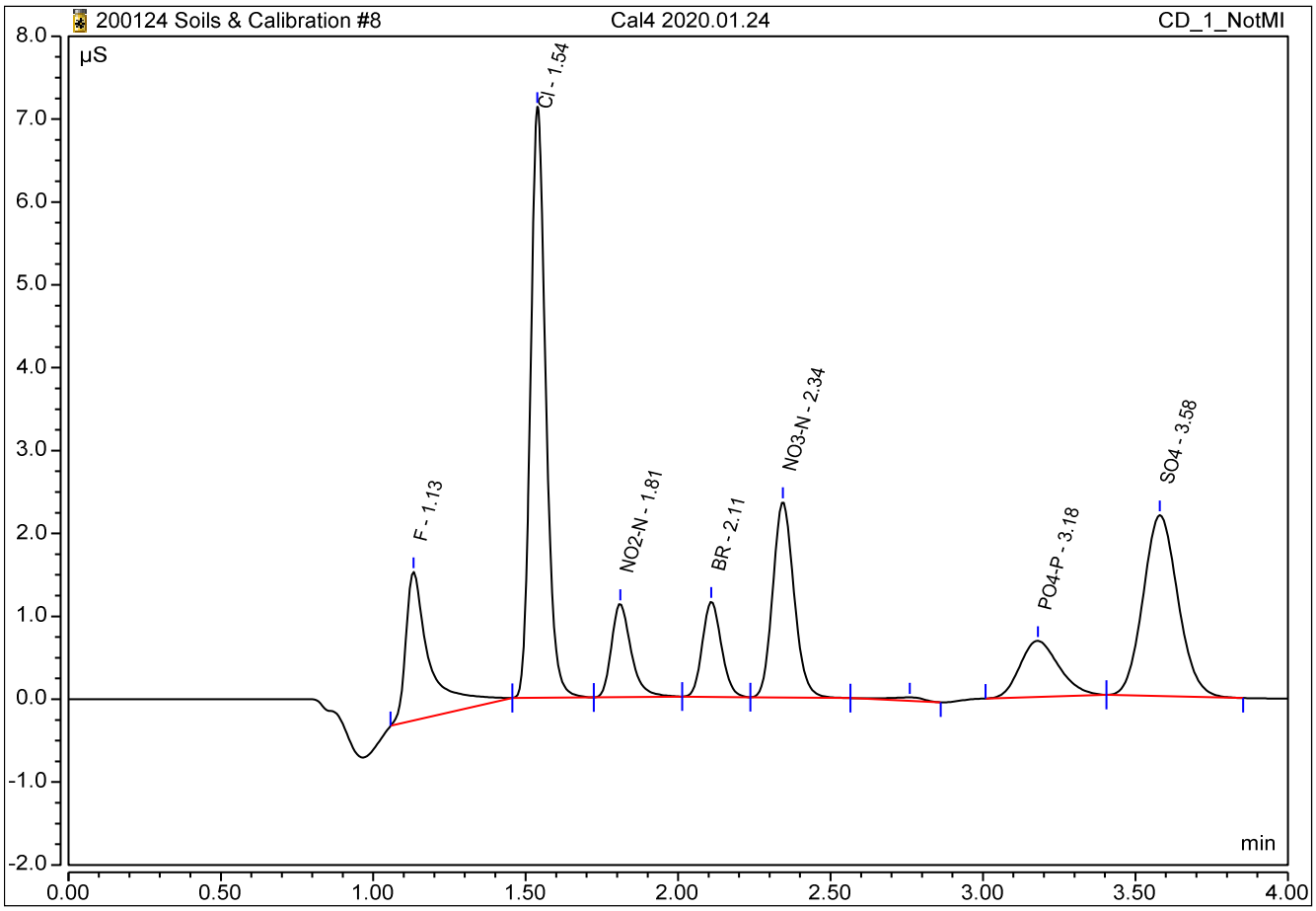
F, PO4 mi1 CD, 2020.01.24 HH

Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Not Manipulated Peak Integration Report

Sample Name:	**Cal4 2020.01.24**	*Inj. Vol.:*	**25uL**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**24-Jan-2020 / 10:58**	*Run Time:*	**4.00**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Ammount mg/L
1	1.13	**F**	BMB*	0.165	1.796	1.2337
2	1.54	**Cl**	BMB	0.414	7.133	4.7051
3	1.81	**NO2-N**	BMB	0.084	1.126	0.4917
4	2.11	**BR**	BMB	0.083	1.149	2.4619
5	2.34	**NO3-N**	BMB	0.191	2.361	0.9732
7	3.18	**PO4-P**	BMB	0.100	0.678	2.3867
8	3.58	**SO4**	BMB	0.289	2.186	4.8512

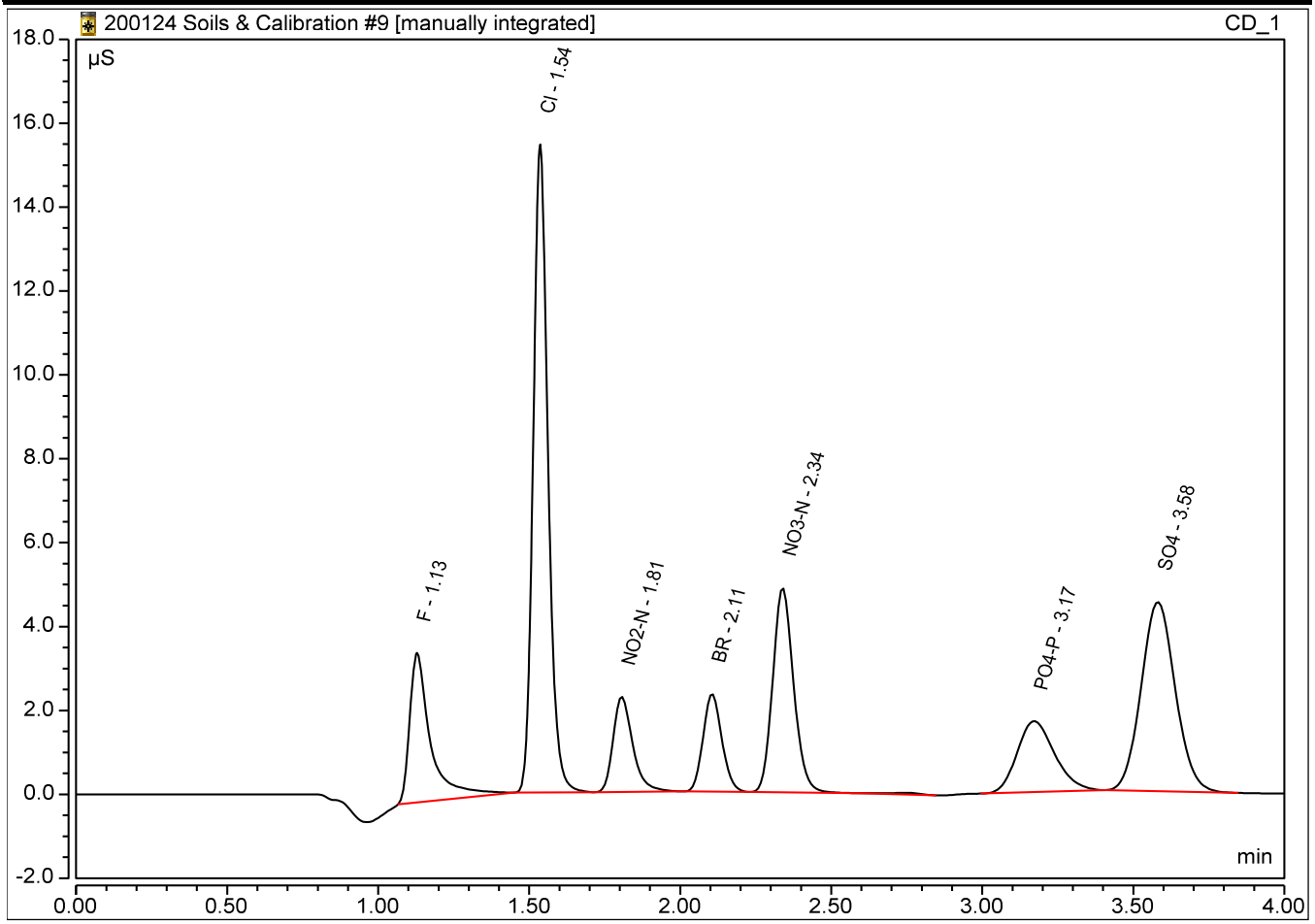


Logged on User: BW
Instrument: Charlie System_1
Sequence: 200124 Soils Calibration

Peak Integration Report

Sample Name:	**Cal5 2020.01.24**	*Inj. Vol.:*	**25uL**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**24-Jan-2020 / 11:05**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.13	**F**	BMB*	0.286	3.571	2.51	2.5	100.4%
2	1.54	**Cl**	BMB	0.878	15.449	8.85	10	88.5%
3	1.81	**NO2-N**	BMB	0.171	2.277	0.96	1	96.2%
4	2.11	**BR**	BMB	0.169	2.336	4.73	5	94.7%
5	2.34	**NO3-N**	BMB	0.391	4.883	1.84	2	91.8%
7	3.17	**PO4-P**	BMB	0.244	1.692	4.43	5	88.6%
8	3.58	**SO4**	BMB	0.592	4.514	9.21	10	92.1%

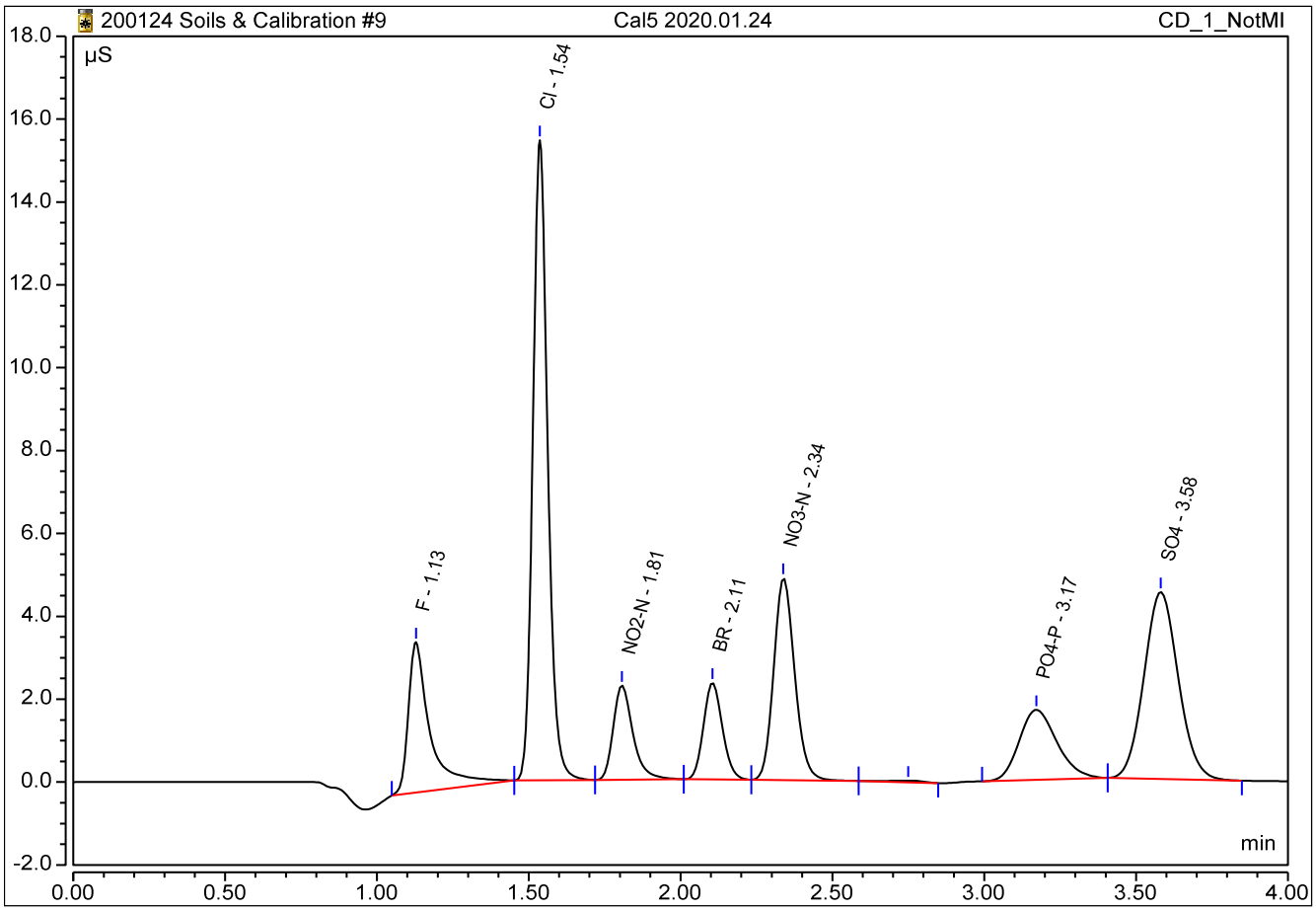


F, PO4 mi1 CD, 2020.01.24 HH

Not Manipulated Peak Integration Report

Sample Name:	**Cal5 2020.01.24**	*Inj. Vol.:*	**25uL**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**24-Jan-2020 / 11:05**	*Run Time:*	**4.00**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Ammount mg/L
1	1.13	**F**	BMB*	0.300	3.629	2.3591
2	1.54	**Cl**	BMB	0.878	15.449	8.8539
3	1.81	**NO2-N**	BMB	0.171	2.277	0.9620
4	2.11	**BR**	BMB	0.169	2.336	4.7332
5	2.34	**NO3-N**	BMB	0.391	4.883	1.8368
7	3.17	**PO4-P**	BMB	0.244	1.692	4.4319
8	3.58	**SO4**	BMB	0.592	4.514	9.2057

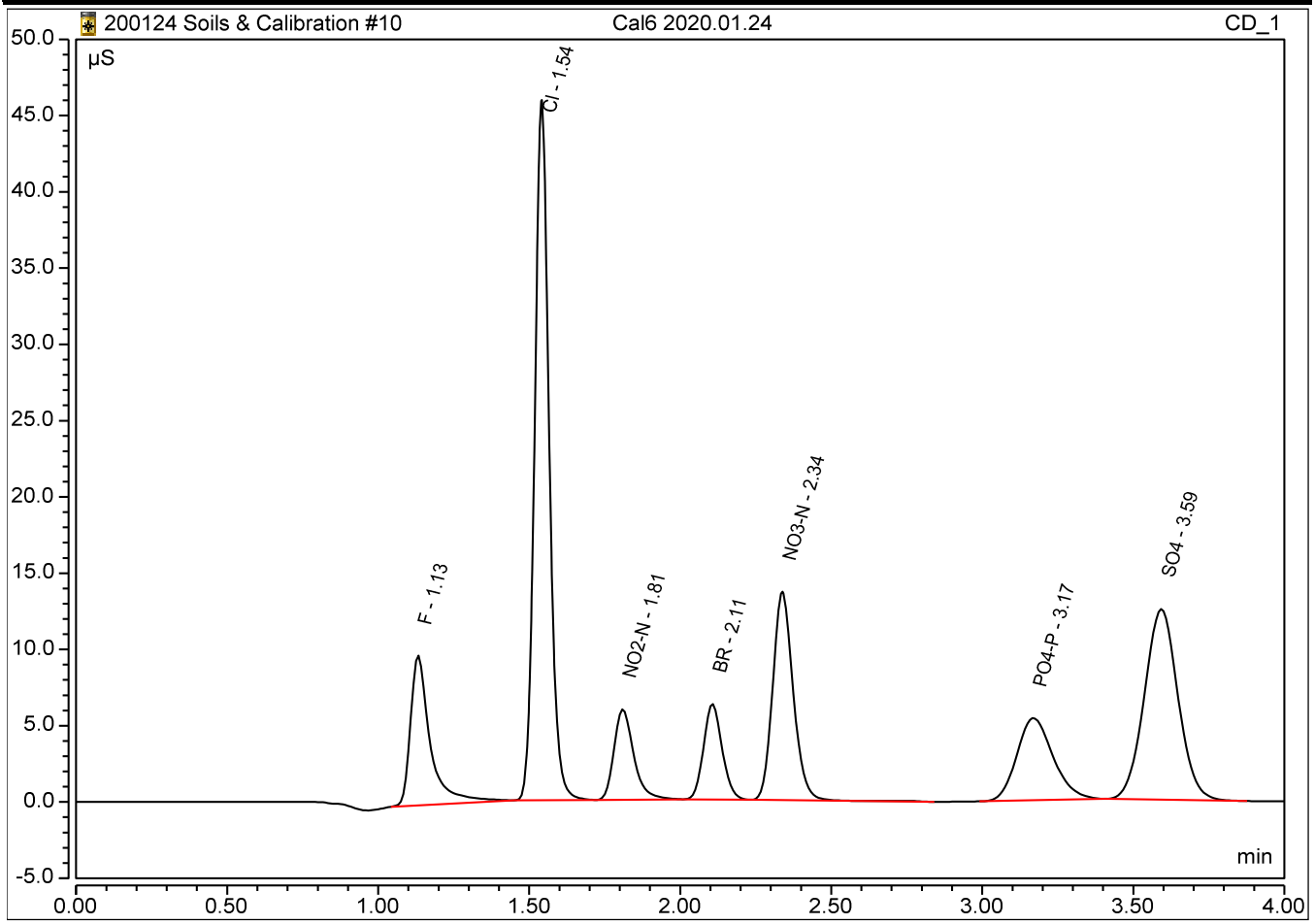


Logged on User: BW
Instrument: Charlie System_1
Sequence: 200124 Soils Calibration

Peak Integration Report

Sample Name:	**Cal6 2020.01.24**	*Inj. Vol.:*	**25uL**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**24-Jan-2020 / 11:11**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.13	**F**	BMB	0.744	9.837	6.20	6.25	99.2%
2	1.54	**Cl**	BMB	2.547	45.898	23.76	25	95.1%
3	1.81	**NO2-N**	BMB	0.449	5.934	2.46	2.5	98.5%
4	2.11	**BR**	BMB	0.446	6.270	12.12	12.5	97.0%
5	2.34	**NO3-N**	BMB	1.071	13.663	4.77	5	95.3%
7	3.17	**PO4-P**	BMB	0.749	5.390	11.62	12.5	92.9%
8	3.59	**SO4**	BMB	1.619	12.507	23.97	25	95.9%



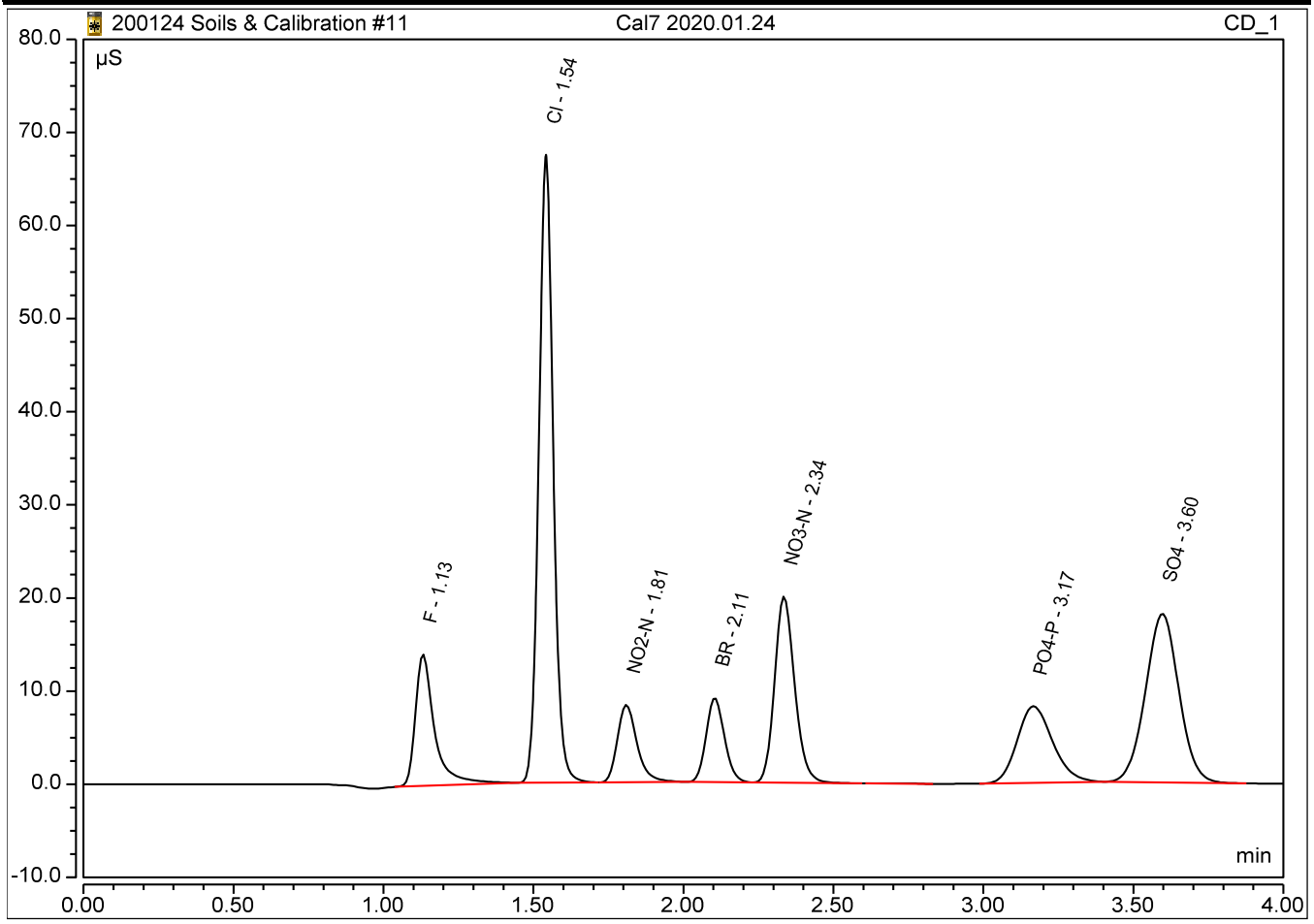
Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Logged on User: BW
Instrument: Charlie System_1
Sequence: 200124 Soils Calibration

Peak Integration Report

Sample Name:	**Cal7 2020.01.24**	*Inj. Vol.:*	**25uL**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**24-Jan-2020 / 11:18**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.13	**F**	BMB	1.053	14.161	8.69	8.75	99.3%
2	1.54	**Cl**	BMB	3.744	67.416	34.45	35	98.4%
3	1.81	**NO2-N**	BMB	0.631	8.309	3.45	3.5	98.5%
4	2.11	**BR**	BMB	0.639	9.051	17.26	17.5	98.6%
5	2.34	**NO3-N**	BMB	1.559	20.012	6.87	7	98.1%
7	3.17	**PO4-P**	BMB	1.131	8.229	17.05	17.5	97.4%
8	3.60	**SO4**	BMB	2.344	18.127	34.39	35	98.3%



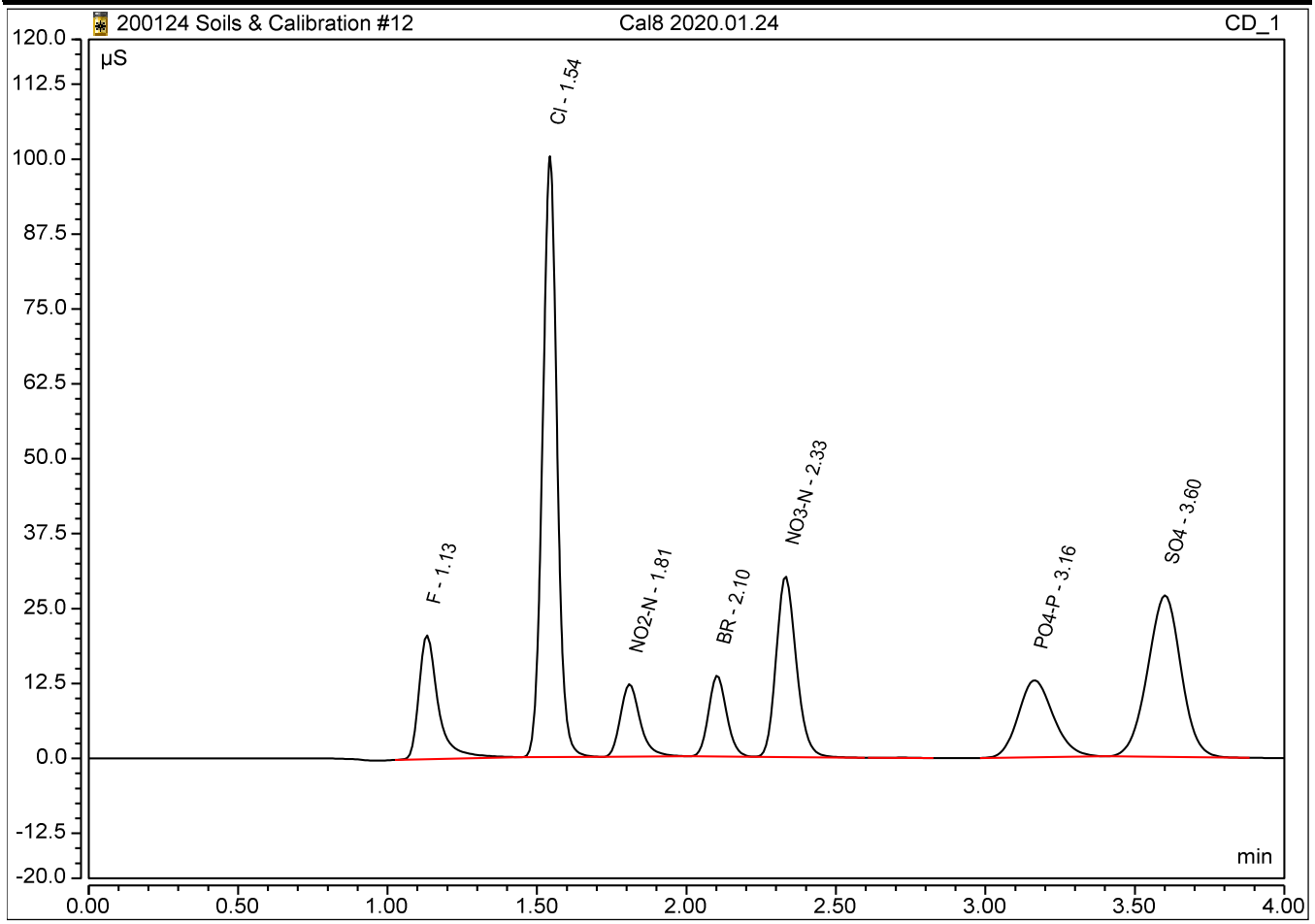
Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Logged on User: BW
Instrument: Charlie System_1
Sequence: 200124 Soils Calibration

Peak Integration Report

Sample Name:	**Cal8 2020.01.24**	*Inj. Vol.:*	**25uL**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**24-Jan-2020 / 11:24**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.13	**F**	BMB	1.537	20.700	12.59	12.5	100.7%
2	1.54	**Cl**	BMB	5.621	100.270	51.22	50	102.4%
3	1.81	**NO2-N**	BMB	0.930	12.106	5.06	5	101.3%
4	2.10	**BR**	BMB	0.945	13.502	25.40	25	101.6%
5	2.33	**NO3-N**	BMB	2.343	30.202	10.24	10	102.4%
7	3.16	**PO4-P**	BMB	1.749	12.851	25.85	25	103.4%
8	3.60	**SO4**	BMB	3.505	26.950	51.09	50	102.2%



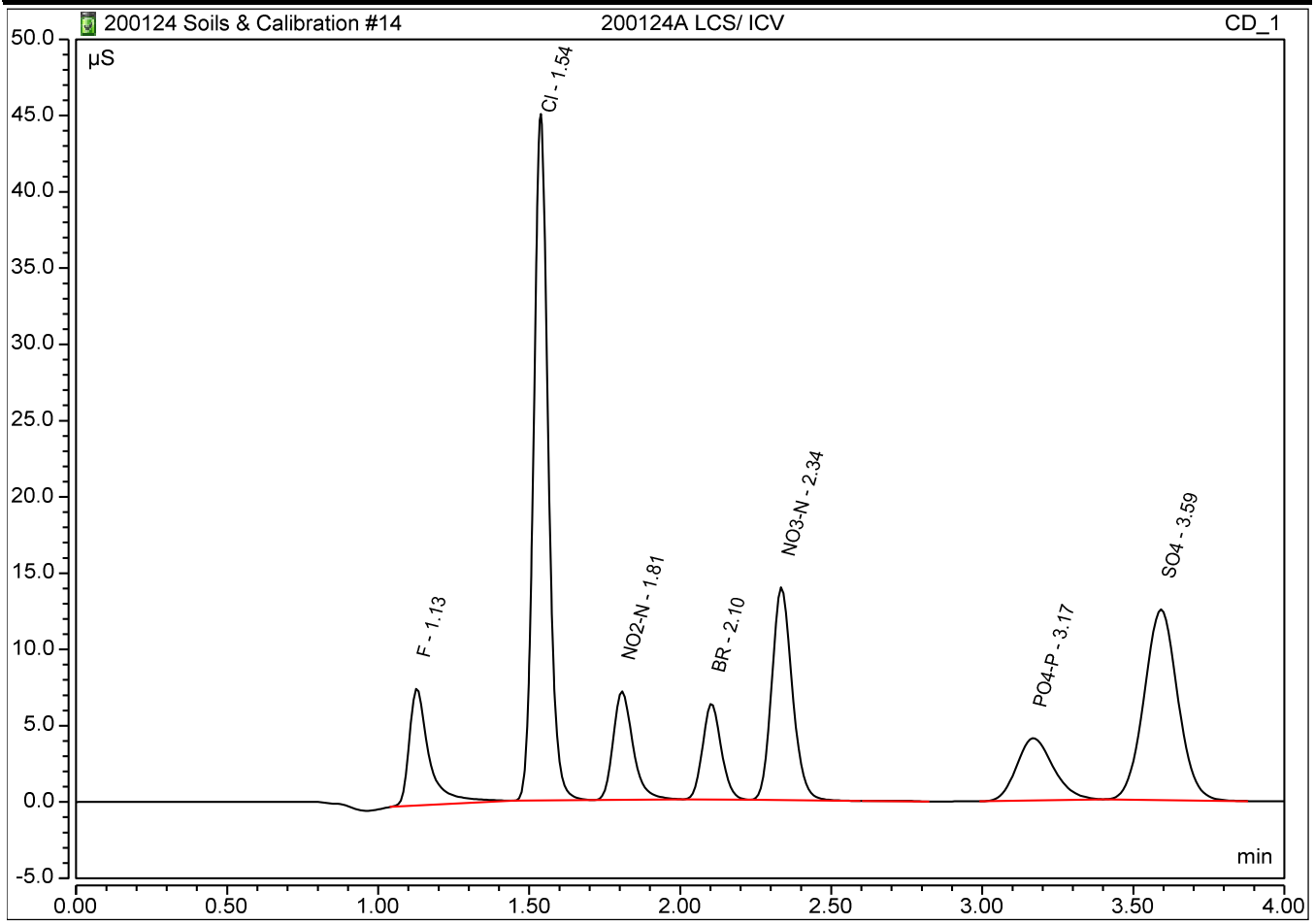
Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Logged on User: BW
Instrument: Charlie System_1
Sequence: 200124 Soils Calibration

Peak Integration Report

Sample Name:	**200124A LCS/ ICV**	*Inj. Vol.:*	**25uL**
Injection Type:	**Check Standard**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**24-Jan-2020 / 11:37**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.13	**F**	BMB	0.593	7.697	4.98	5	99.7%
2	1.54	**Cl**	BMB	2.516	45.013	23.48	25	93.9%
3	1.81	**NO2-N**	BMB	0.541	7.120	2.96	3.04	97.4%
4	2.10	**BR**	BMB	0.450	6.297	12.22	12.5	97.7%
5	2.34	**NO3-N**	BMB	1.099	13.953	4.89	5	97.7%
7	3.17	**PO4-P**	BMB	0.573	4.076	9.11	10	91.1%
8	3.59	**SO4**	BMB	1.618	12.498	23.96	25	95.9%



Algorithm Check
y = Peak Area
x = mg/L S04

y = 0.0695 x + -0.0480
y = 1.6184 therefor x = 23.97 CD 2020.01.24

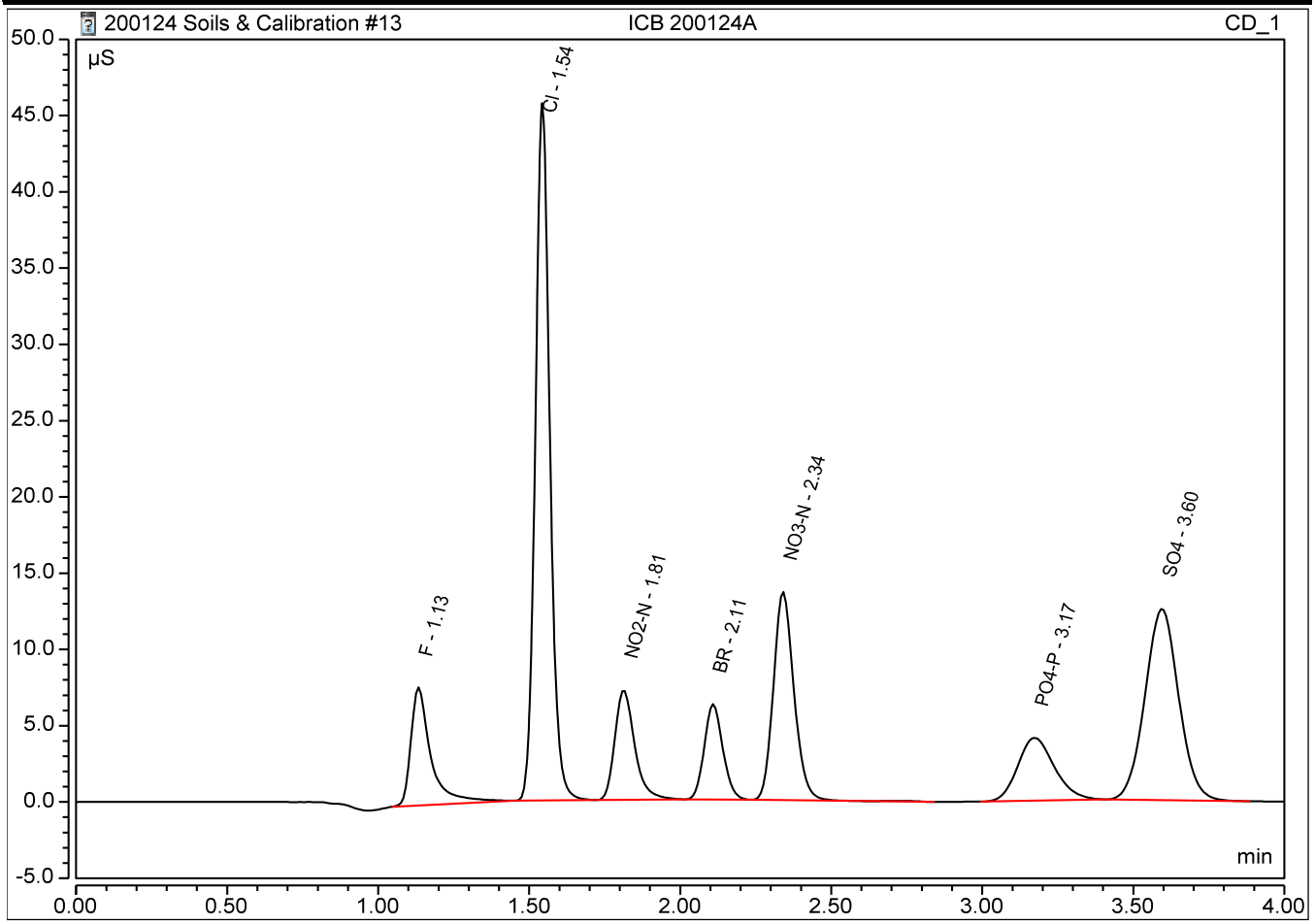
Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Logged on User: BW
Instrument: Charlie System_1
Sequence: 200124 Soils Calibration

Peak Integration Report

Sample Name:	**ICB 200124A**	*Inj. Vol.:*	**25uL**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**24-Jan-2020 / 11:30**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.13	**F**	BMB	0.595	7.739	5.00		
2	1.54	**Cl**	BMB	2.547	45.712	23.76		
3	1.81	**NO2-N**	BMB	0.548	7.202	3.00		
4	2.11	**BR**	BMB	0.446	6.258	12.13		
5	2.34	**NO3-N**	BMB	1.077	13.675	4.79		
7	3.17	**PO4-P**	BMB	0.579	4.119	9.19		
8	3.60	**SO4**	BMB	1.626	12.547	24.08		



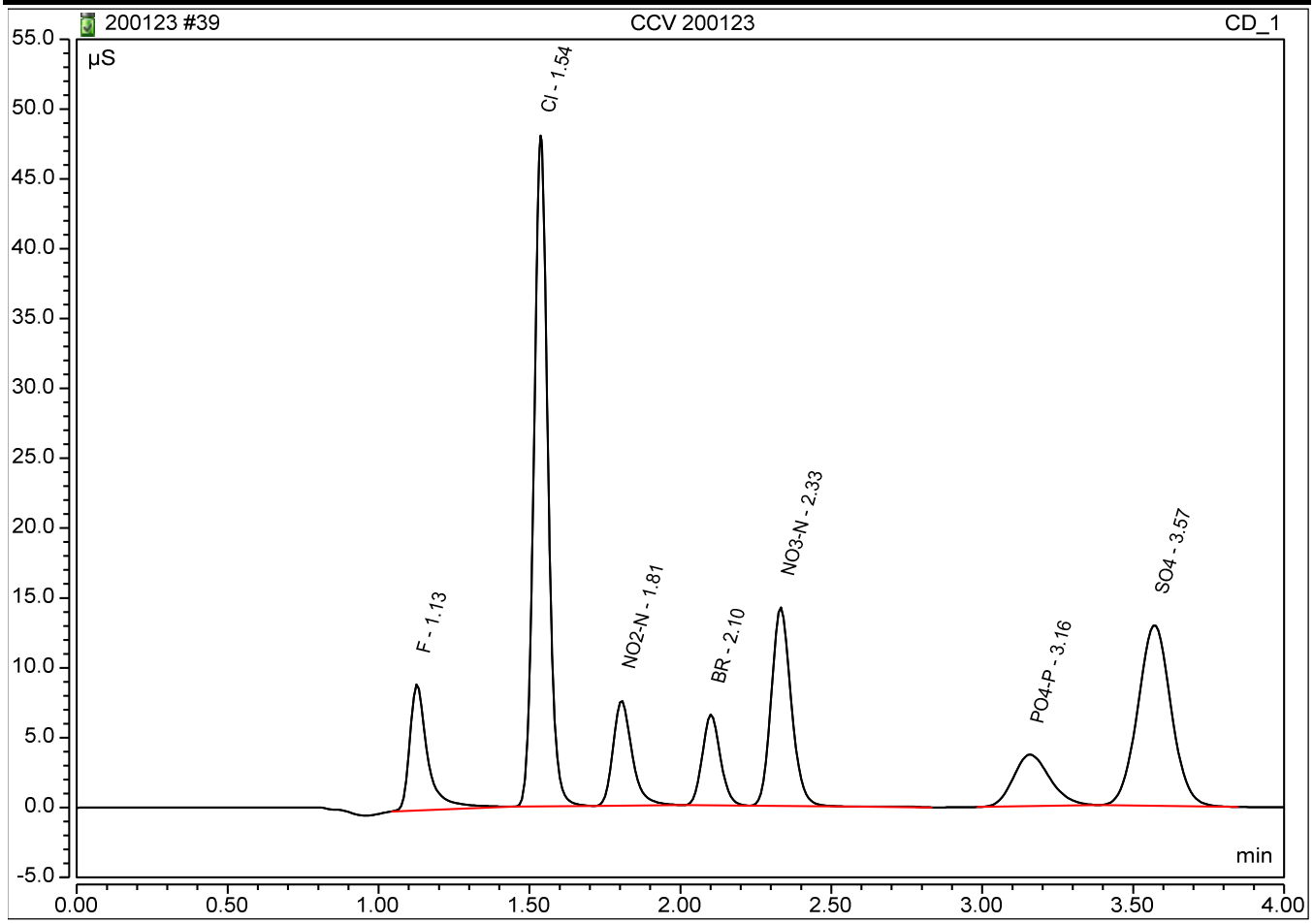
Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Logged on User: BW
Instrument: Charlie System_1
Sequence: 200123

Peak Integration Report

Sample Name:	**CCV 200123**	*Inj. Vol.:*	**25uL**
Injection Type:	**Check Standard**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.23**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**23-Jan-2020 / 20:32**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.13	**F**	BMB	0.630	9.052	5.37	5	107.4%
2	1.54	**Cl**	BMB	2.577	48.044	22.74	25	91.0%
3	1.81	**NO2-N**	BMB	0.553	7.532	2.88	3.04	94.6%
4	2.10	**BR**	BMB	0.451	6.503	11.50	12.5	92.0%
5	2.33	**NO3-N**	BMB	1.092	14.231	4.54	5	90.7%
7	3.16	**PO4-P**	BMB	0.519	3.693	7.80	10	78.0%
8	3.57	**SO4**	BMB	1.657	12.941	23.06	25	92.3%



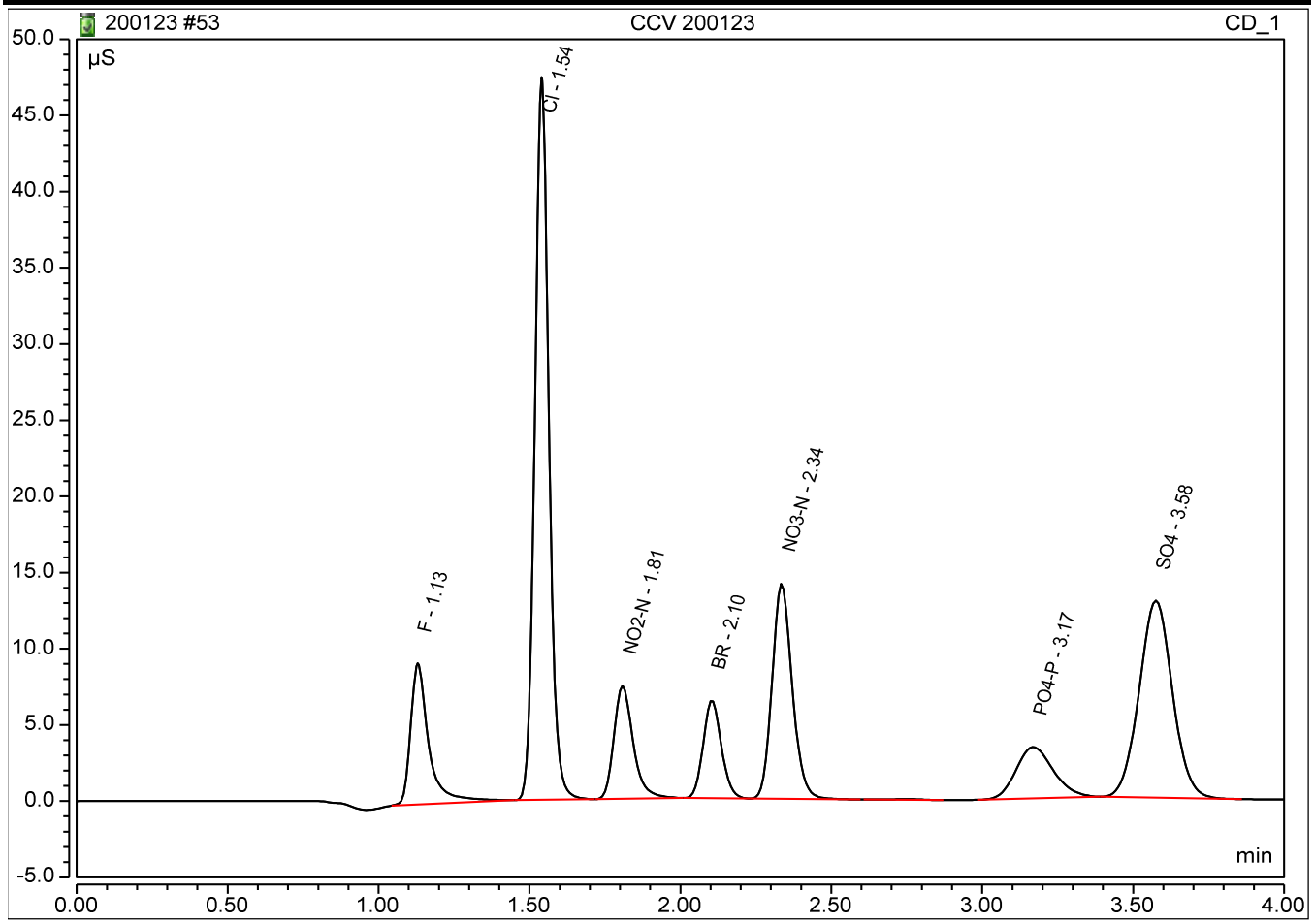
Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Logged on User: BW
Instrument: Charlie System_1
Sequence: 200123

Peak Integration Report

Sample Name:	**CCV 200123**	*Inj. Vol.:*	**25uL**
Injection Type:	**Check Standard**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.23**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**23-Jan-2020 / 22:01**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.13	**F**	BMB	0.646	9.261	5.50	5	110.1%
2	1.54	**Cl**	BMB	2.567	47.420	22.66	25	90.6%
3	1.81	**NO2-N**	BMB	0.550	7.435	2.86	3.04	94.1%
4	2.10	**BR**	BMB	0.450	6.439	11.46	12.5	91.7%
5	2.34	**NO3-N**	BMB	1.090	14.120	4.53	5	90.5%
7	3.17	**PO4-P**	BMB	0.486	3.373	7.35	10	73.5%
8	3.58	**SO4**	BMB	1.656	12.932	23.05	25	92.2%



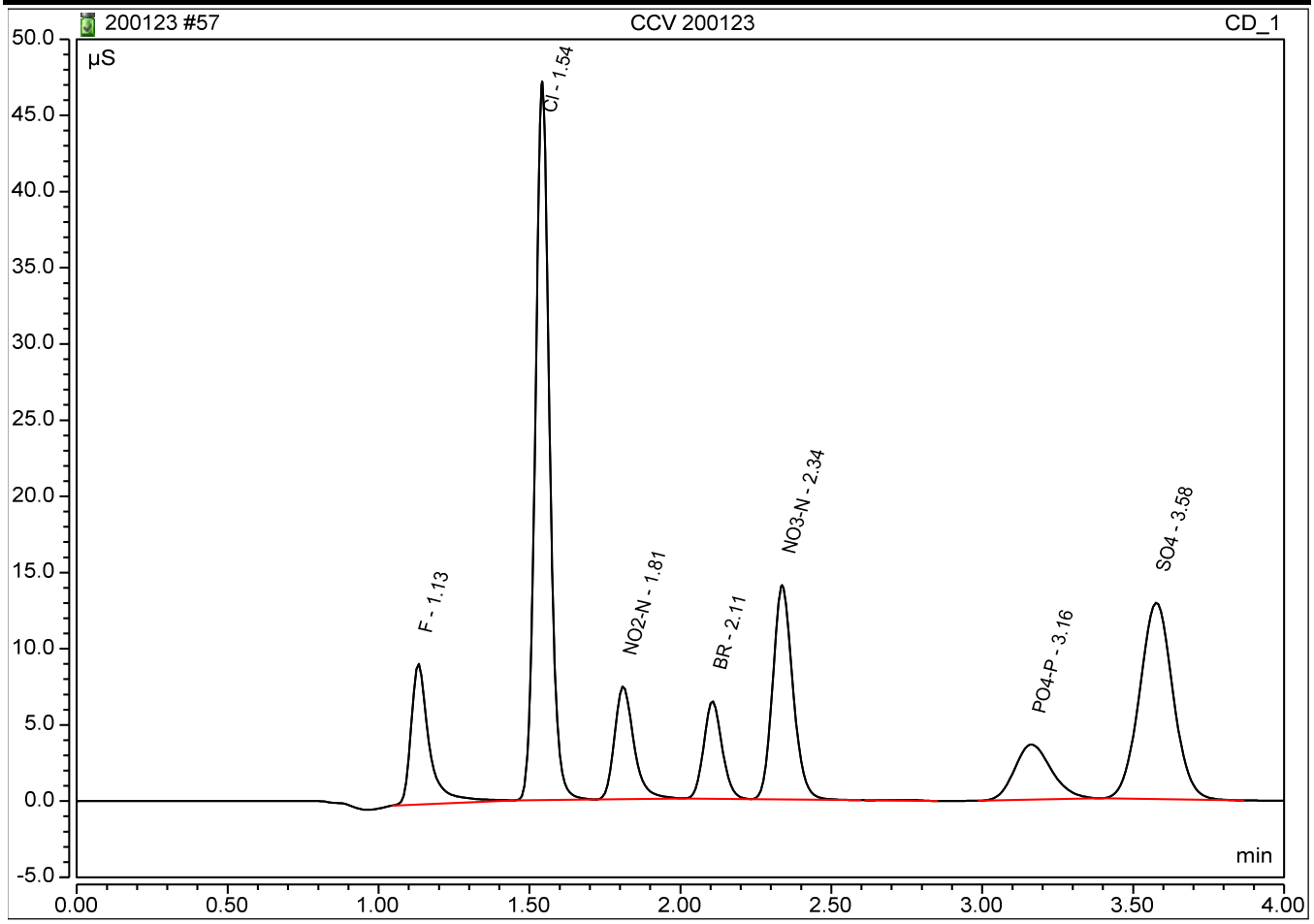
Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Logged on User: BW
Instrument: Charlie System_1
Sequence: 200123

Peak Integration Report

Sample Name:	**CCV 200123**	*Inj. Vol.:*	**25uL**
Injection Type:	**Check Standard**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.23**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**23-Jan-2020 / 22:27**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.13	**F**	BMB	0.647	9.250	5.51	5	110.2%
2	1.54	**Cl**	BMB	2.569	47.157	22.68	25	90.7%
3	1.81	**NO2-N**	BMB	0.551	7.407	2.87	3.04	94.3%
4	2.11	**BR**	BMB	0.450	6.409	11.46	12.5	91.7%
5	2.34	**NO3-N**	BMB	1.090	14.056	4.53	5	90.5%
7	3.16	**PO4-P**	BMB	0.513	3.623	7.71	10	77.1%
8	3.58	**SO4**	BMB	1.657	12.893	23.06	25	92.3%



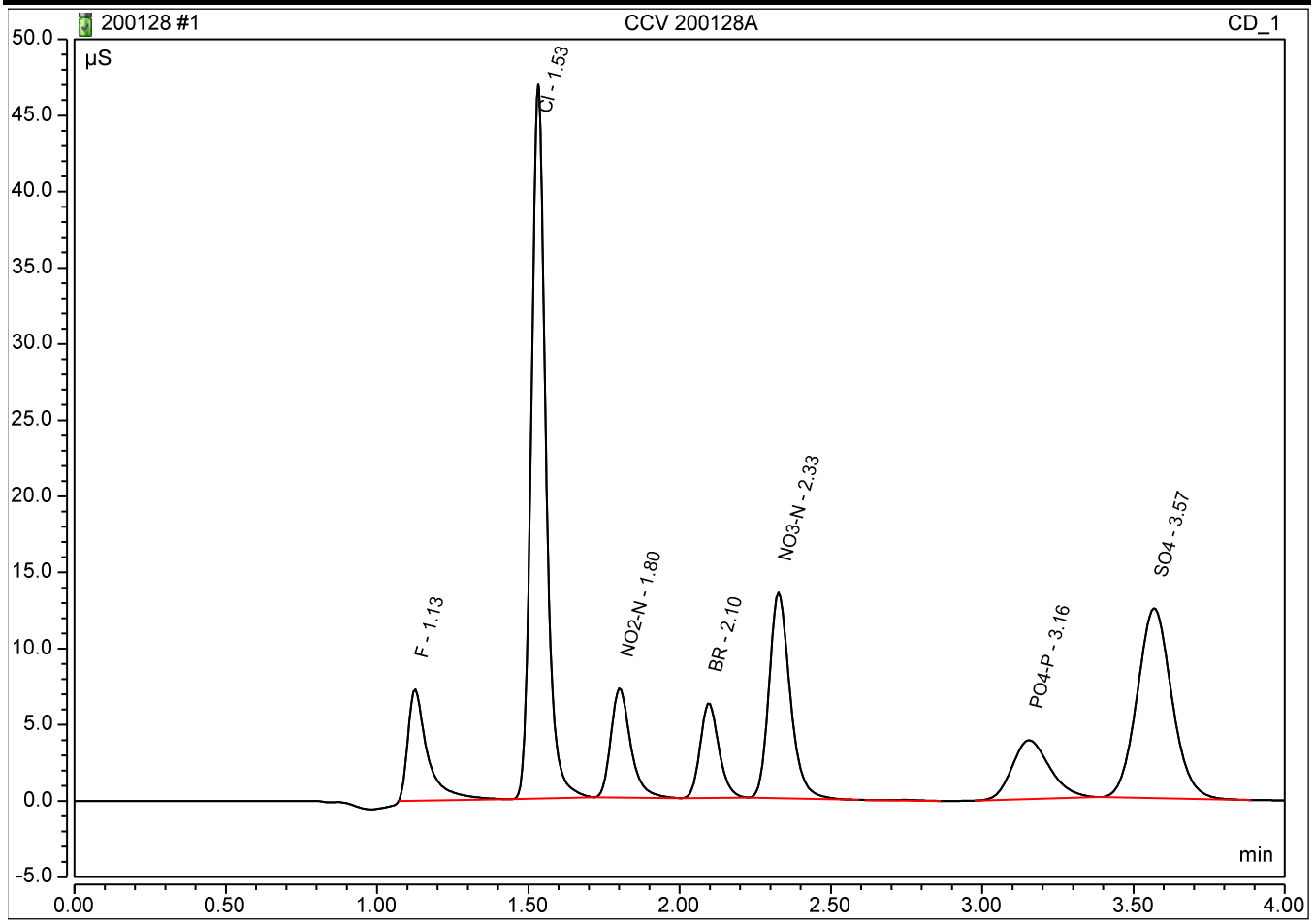
Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Logged on User: BW
Instrument: Charlie System_1
Sequence: 200128

Peak Integration Report

Sample Name:	**CCV 200128A**	*Inj. Vol.:*	**25uL**
Injection Type:	**Check Standard**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**28-Jan-2020 / 07:37**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.13	**F**	BMB	0.554	7.332	4.67	5	93.4%
2	1.53	**Cl**	BMB	2.617	46.875	24.38	25	97.5%
3	1.80	**NO2-N**	BMB	0.542	7.166	2.97	3.04	97.6%
4	2.10	**BR**	BMB	0.446	6.220	12.13	12.5	97.0%
5	2.33	**NO3-N**	BMB	1.088	13.501	4.84	5	96.7%
7	3.16	**PO4-P**	BMB	0.556	3.859	8.87	10	88.7%
8	3.57	**SO4**	BMB	1.657	12.473	24.52	25	98.1%



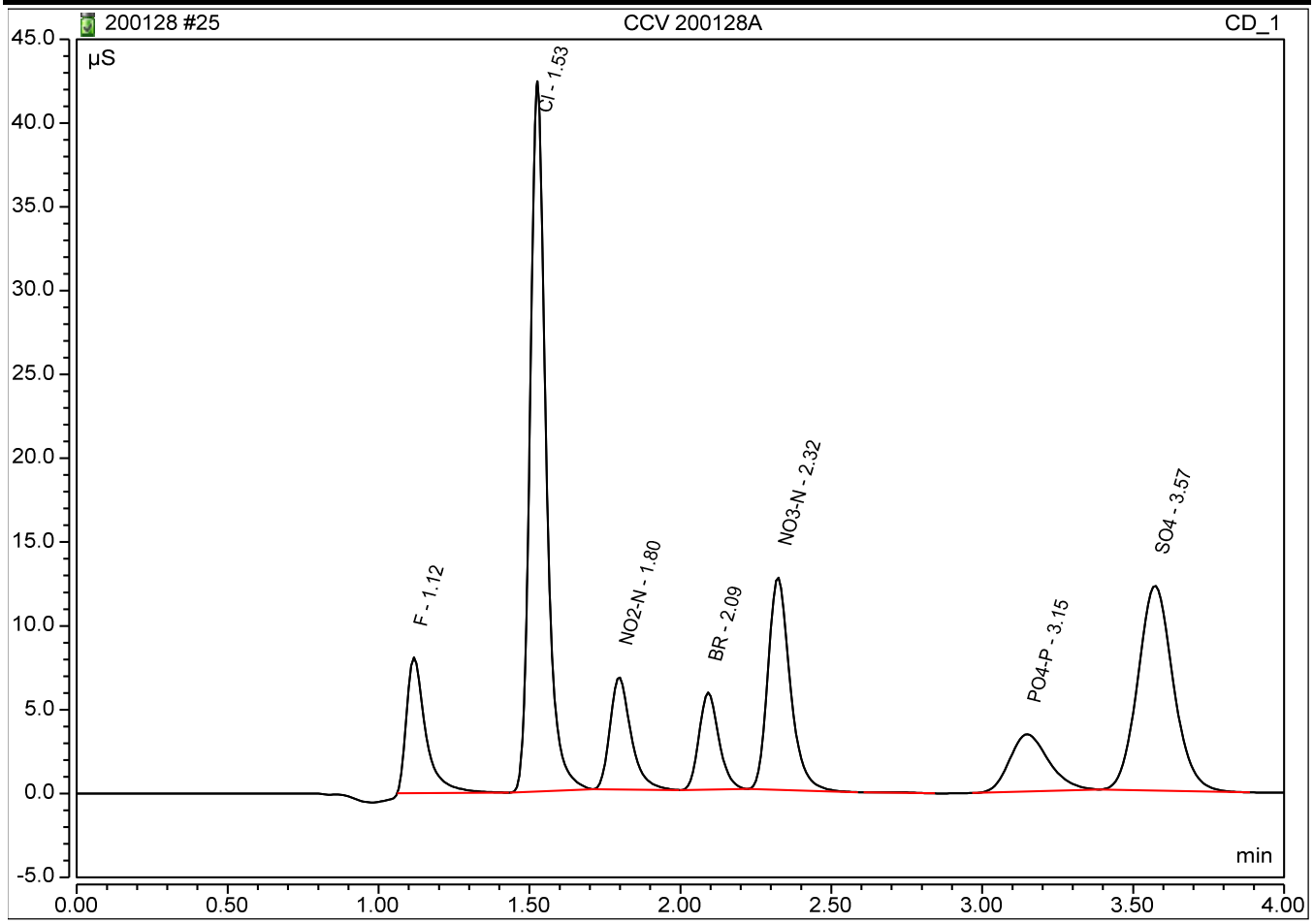
Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Logged on User: BW
Instrument: Charlie System_1
Sequence: 200128

Peak Integration Report

Sample Name:	**CCV 200128A**	*Inj. Vol.:*	**25uL**
Injection Type:	**Check Standard**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**28-Jan-2020 / 17:40**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.12	**F**	BMB	0.599	8.102	5.03	5	100.6%
2	1.53	**Cl**	BMB	2.592	42.366	24.16	25	96.7%
3	1.80	**NO2-N**	BMB	0.543	6.700	2.97	3.04	97.7%
4	2.09	**BR**	BMB	0.440	5.792	11.95	12.5	95.6%
5	2.32	**NO3-N**	BMB	1.081	12.700	4.81	5	96.2%
7	3.15	**PO4-P**	BMB	0.511	3.415	8.23	10	82.3%
8	3.57	**SO4**	BMB	1.667	12.217	24.66	25	98.6%



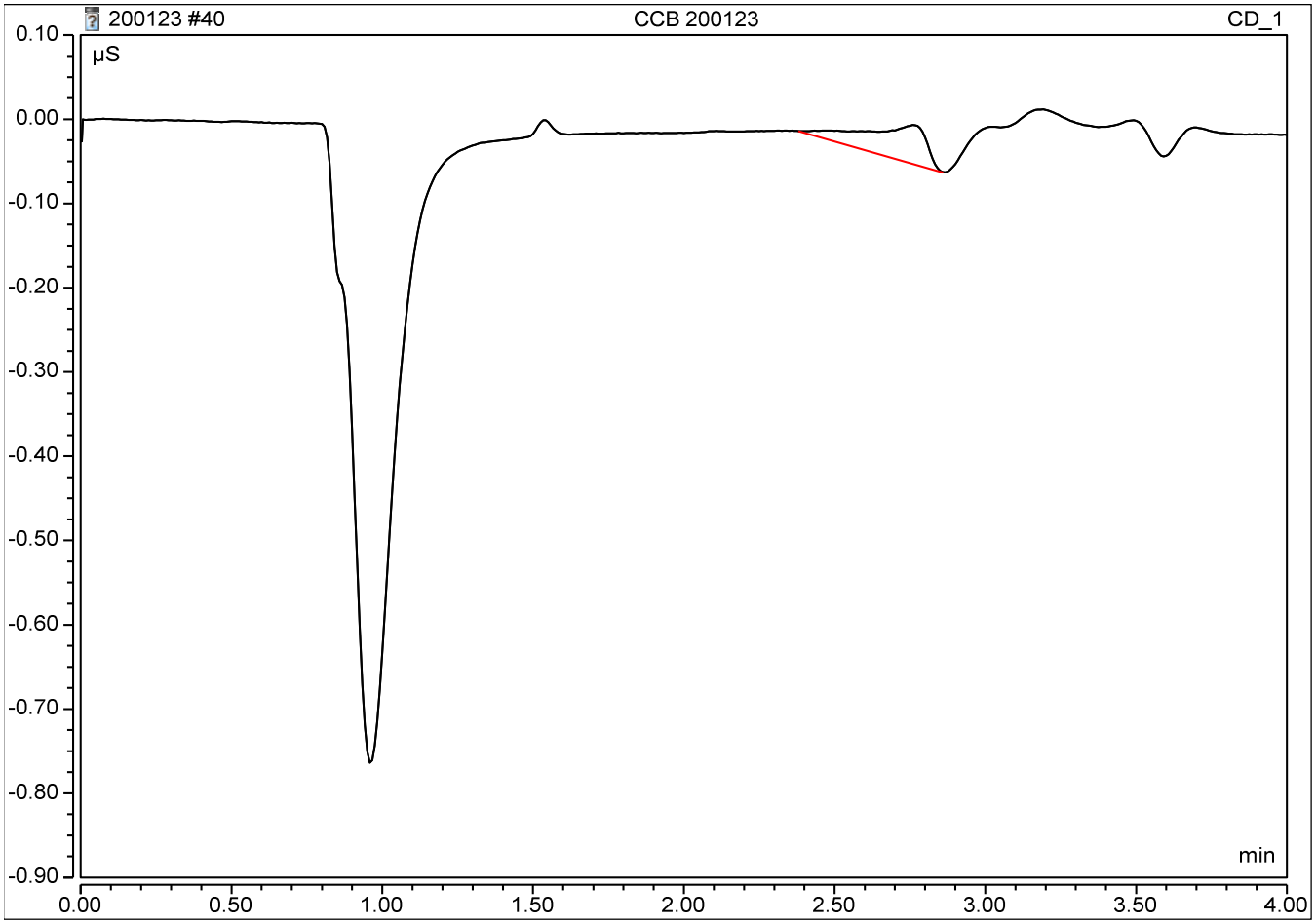
Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Logged on User: BW
Instrument: Charlie System_1
Sequence: 200123

Peak Integration Report

Sample Name:	**CCB 200123**	*Inj. Vol.:*	**25uL**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.23**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**23-Jan-2020 / 20:38**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery

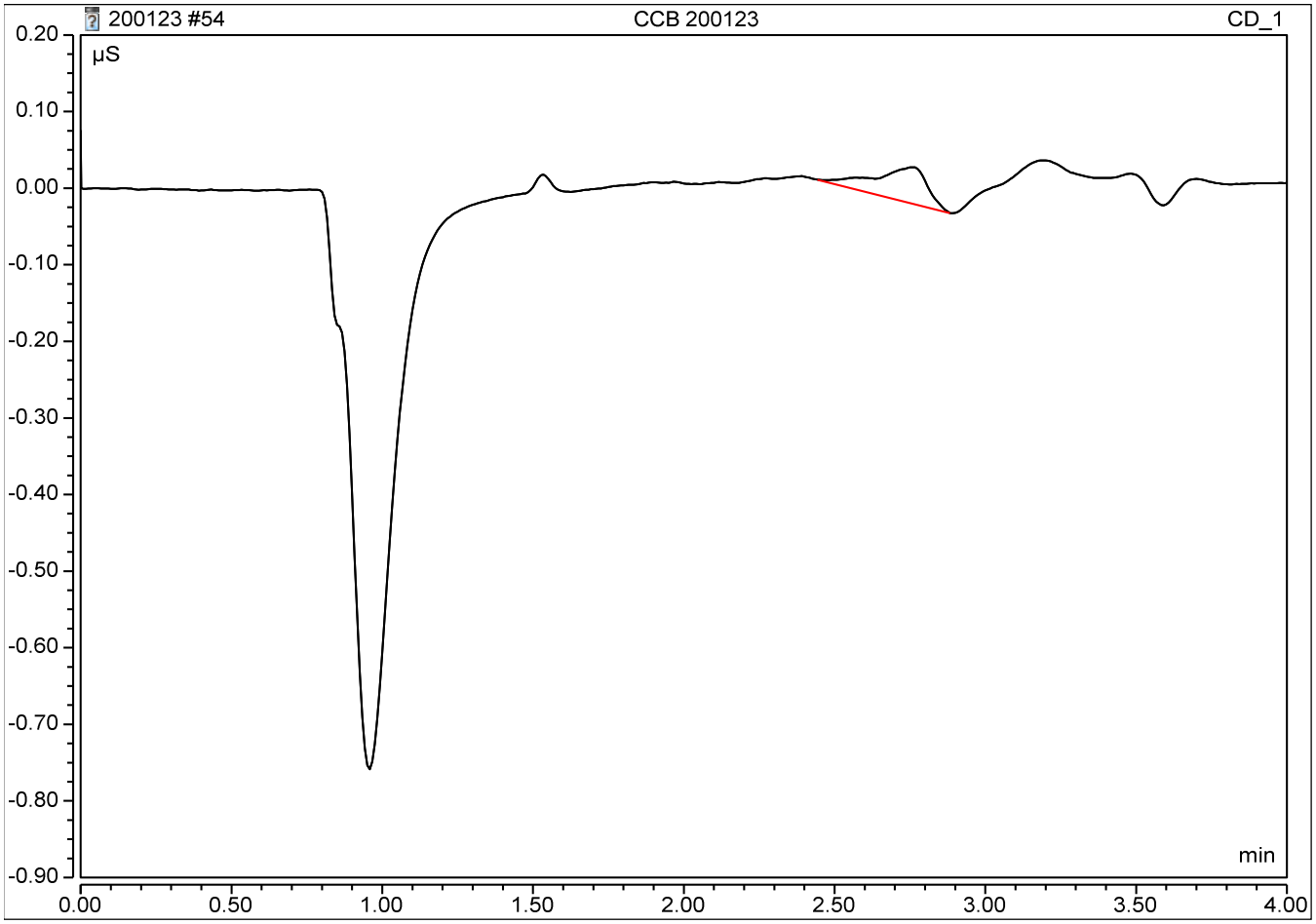


Logged on User: BW
Instrument: Charlie System_1
Sequence: 200123

Peak Integration Report

Sample Name:	**CCB 200123**	*Inj. Vol.:*	**25uL**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.23**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**23-Jan-2020 / 22:08**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery

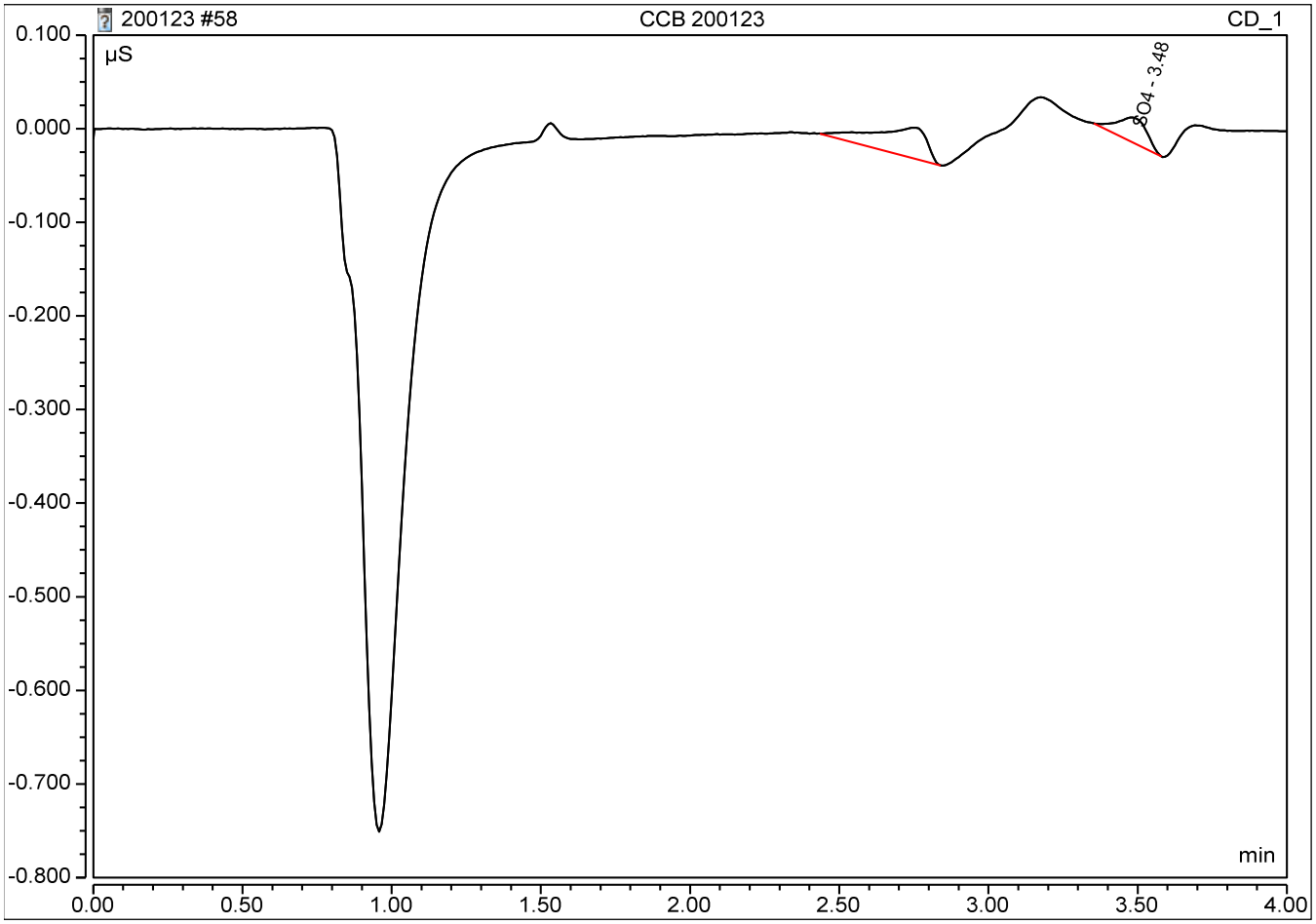


Logged on User: BW
Instrument: Charlie System_1
Sequence: 200123

Peak Integration Report

Sample Name:	**CCB 200123**	*Inj. Vol.:*	**25uL**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.23**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**23-Jan-2020 / 22:33**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
2	3.48	**SO4**	BMB	0.003	0.027	0.78		



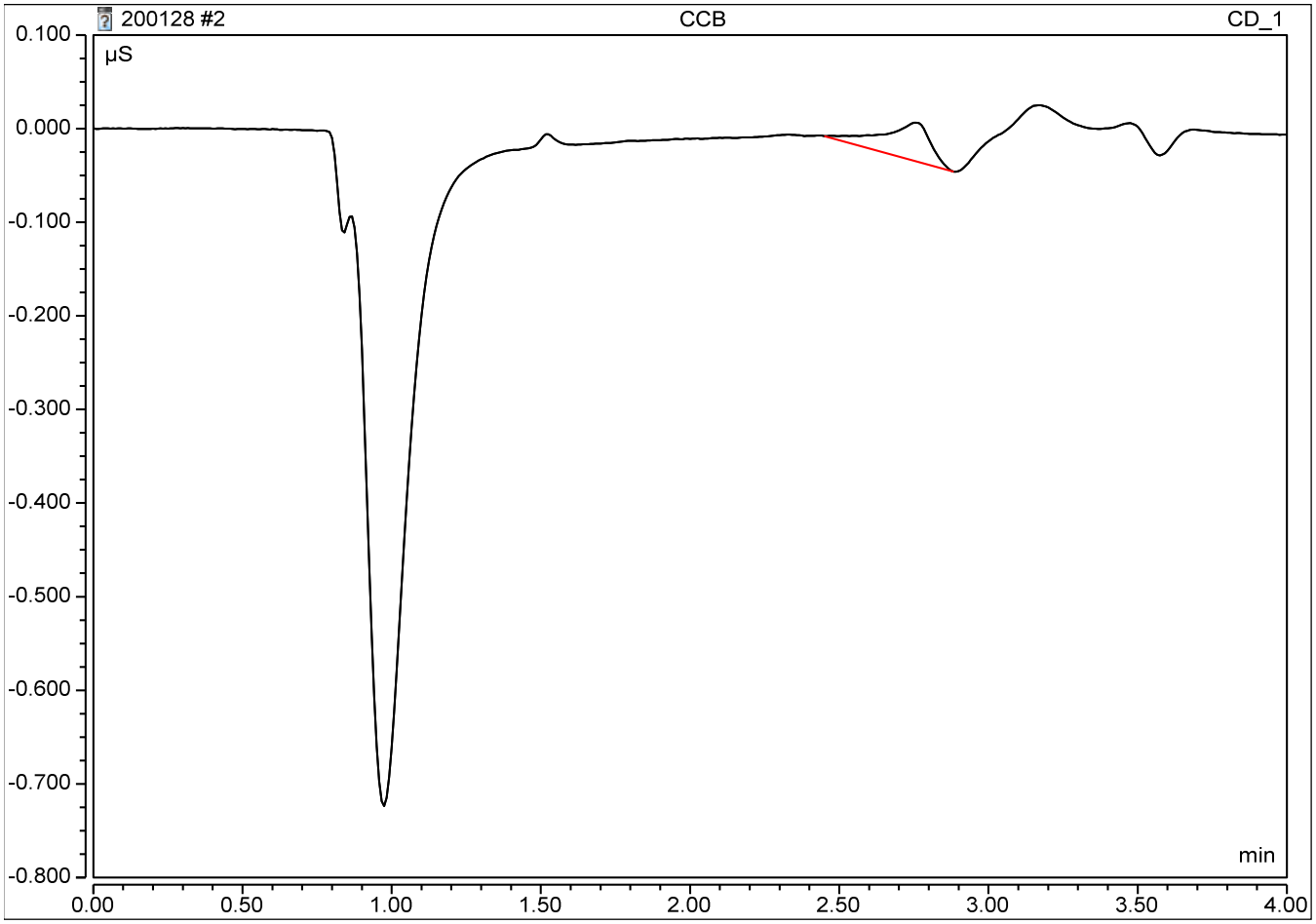
Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Logged on User: BW
Instrument: Charlie System_1
Sequence: 200128

Peak Integration Report

Sample Name:	**CCB**	*Inj. Vol.:*	**25uL**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**28-Jan-2020 / 07:43**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery



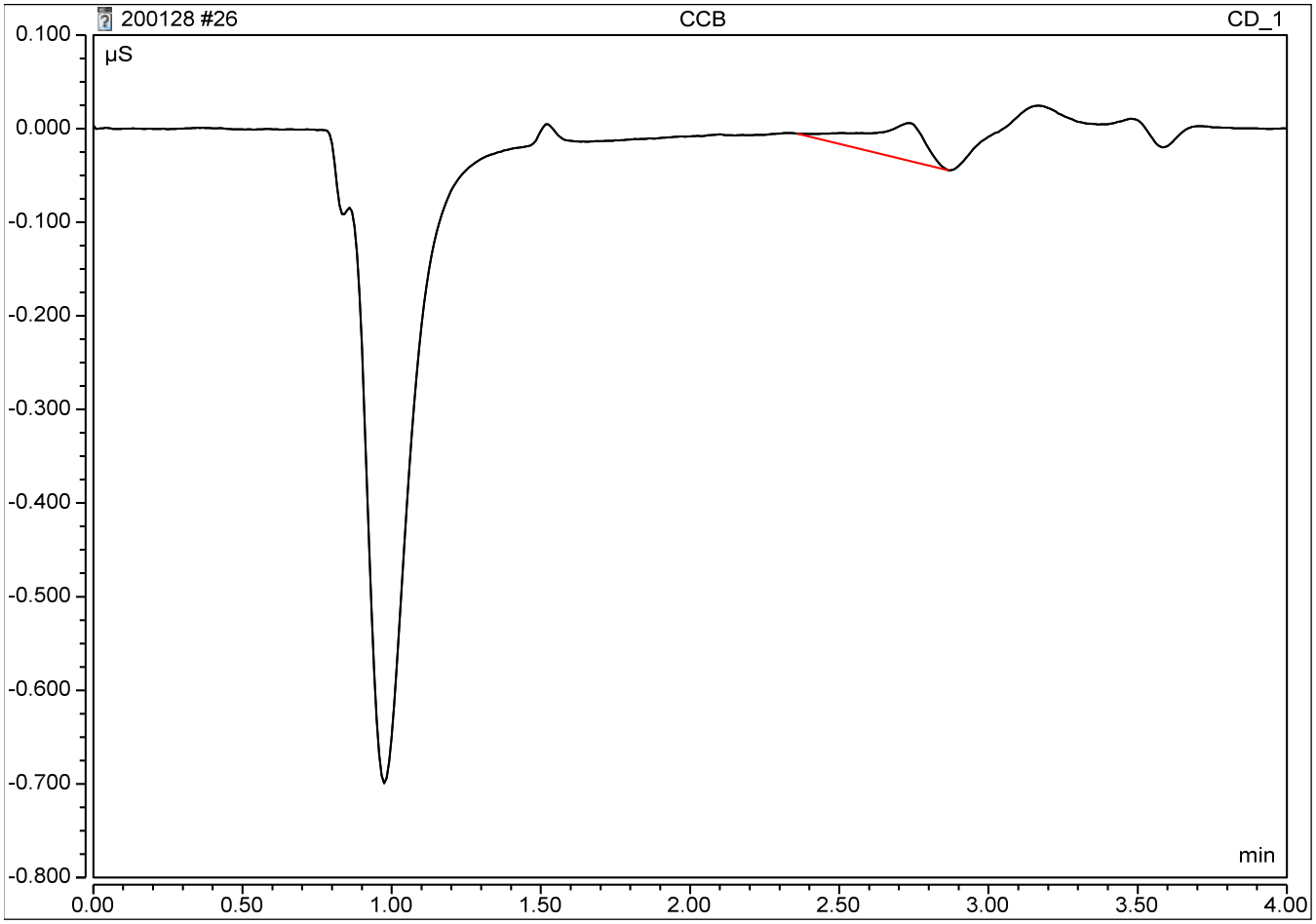
Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Logged on User: BW
Instrument: Charlie System_1
Sequence: 200128

Peak Integration Report

Sample Name:	**CCB**	*Inj. Vol.:*	**25uL**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**28-Jan-2020 / 17:46**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery

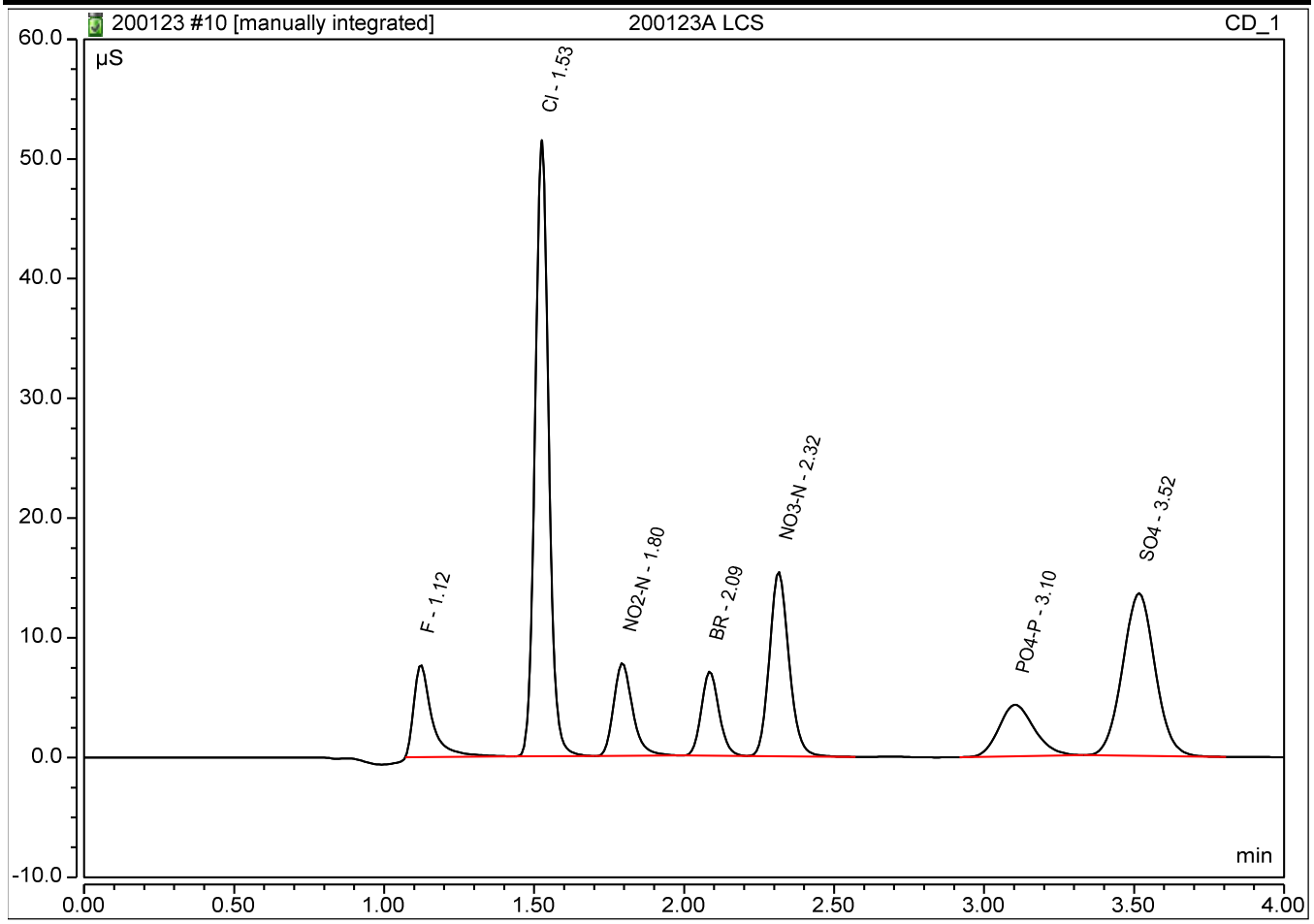


Logged on User: BW
Instrument: Charlie System_1
Sequence: 200123

Peak Integration Report

Sample Name:	**200123A LCS**	*Inj. Vol.:*	**25uL**
Injection Type:	**Check Standard**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.23**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**23-Jan-2020 / 10:18**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.12	**F**	BMB	0.543	7.731	4.68	5	93.6%
2	1.53	**Cl**	BMB	2.711	51.459	23.92	25	95.7%
3	1.80	**NO2-N**	BMB	0.569	7.763	2.96	3.04	97.4%
4	2.09	**BR**	BMB	0.480	7.036	12.21	12.5	97.7%
5	2.32	**NO3-N**	BMB	1.165	15.415	4.83	5	96.6%
6	3.10	**PO4-P**	BMB	0.591	4.309	8.74	10	87.4%
7	3.52	**SO4**	BMB	1.712	13.589	23.81	25	95.2%



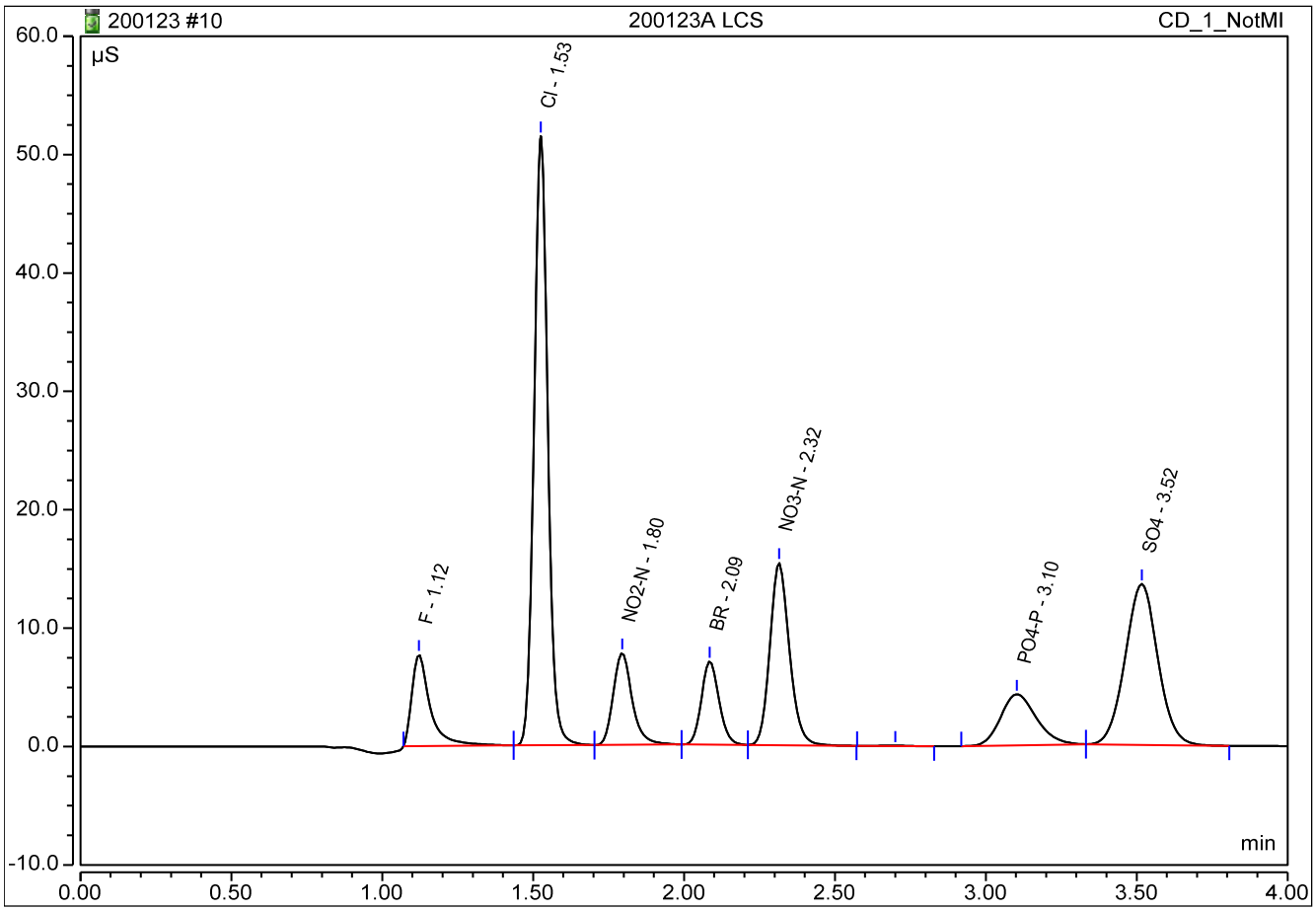
MI6 CD 200124

Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Not Manipulated Peak Integration Report

Sample Name:	**200123A LCS**	*Inj. Vol.:*	**25uL**
Injection Type:	**Check Standard**	*Dilution Factor:*	**1.0000**
Program:	**Anion APM 2020.01.23**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**23-Jan-2020 / 10:18**	*Run Time:*	**4.00**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Ammount mg/L
1	1.12	**F**	BMB	0.543	7.731	4.7171
2	1.53	**Cl**	BMB	2.711	51.459	23.9175
3	1.80	**NO2-N**	BMB	0.569	7.763	2.9603
4	2.09	**BR**	BMB	0.480	7.036	12.2080
5	2.32	**NO3-N**	BMB	1.165	15.415	4.8290
6	3.10	**PO4-P**	BMB	0.591	4.309	8.6477
7	3.52	**SO4**	BMB	1.712	13.589	23.8070

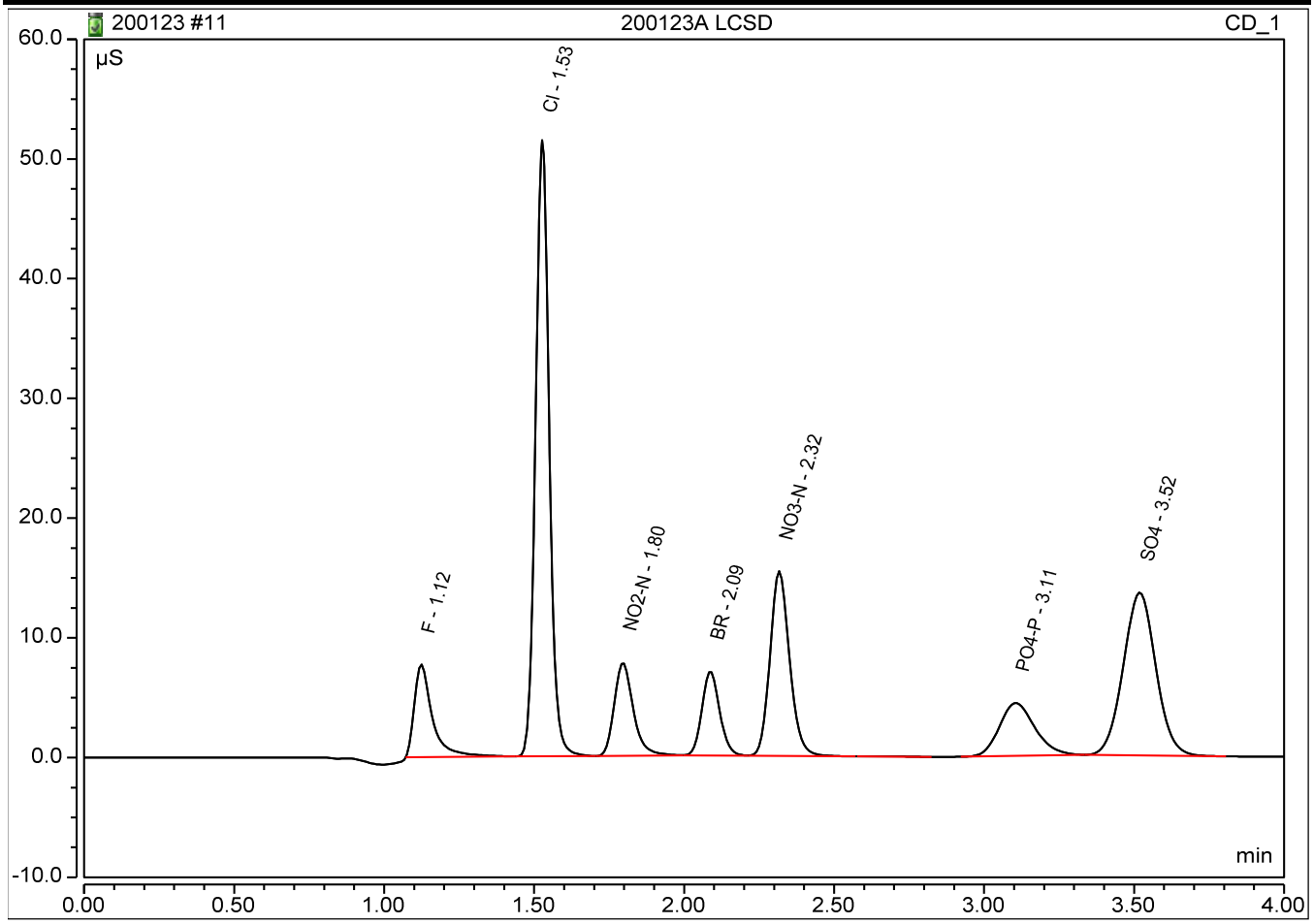


Logged on User: BW
Instrument: Charlie System_1
Sequence: 200123

Peak Integration Report

Sample Name:	**200123A LCSD**	*Inj. Vol.:*	**25uL**
Injection Type:	**Check Standard**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.23**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**23-Jan-2020 / 10:25**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.12	**F**	BMB	0.545	7.753	4.69	5	93.9%
2	1.53	**Cl**	BMB	2.711	51.449	23.91	25	95.7%
3	1.80	**NO2-N**	BMB	0.571	7.772	2.97	3.04	97.6%
4	2.09	**BR**	BMB	0.480	7.033	12.21	12.5	97.7%
5	2.32	**NO3-N**	BMB	1.166	15.419	4.83	5	96.6%
7	3.11	**PO4-P**	BMB	0.605	4.414	8.94	10	89.4%
8	3.52	**SO4**	BMB	1.715	13.605	23.84	25	95.4%



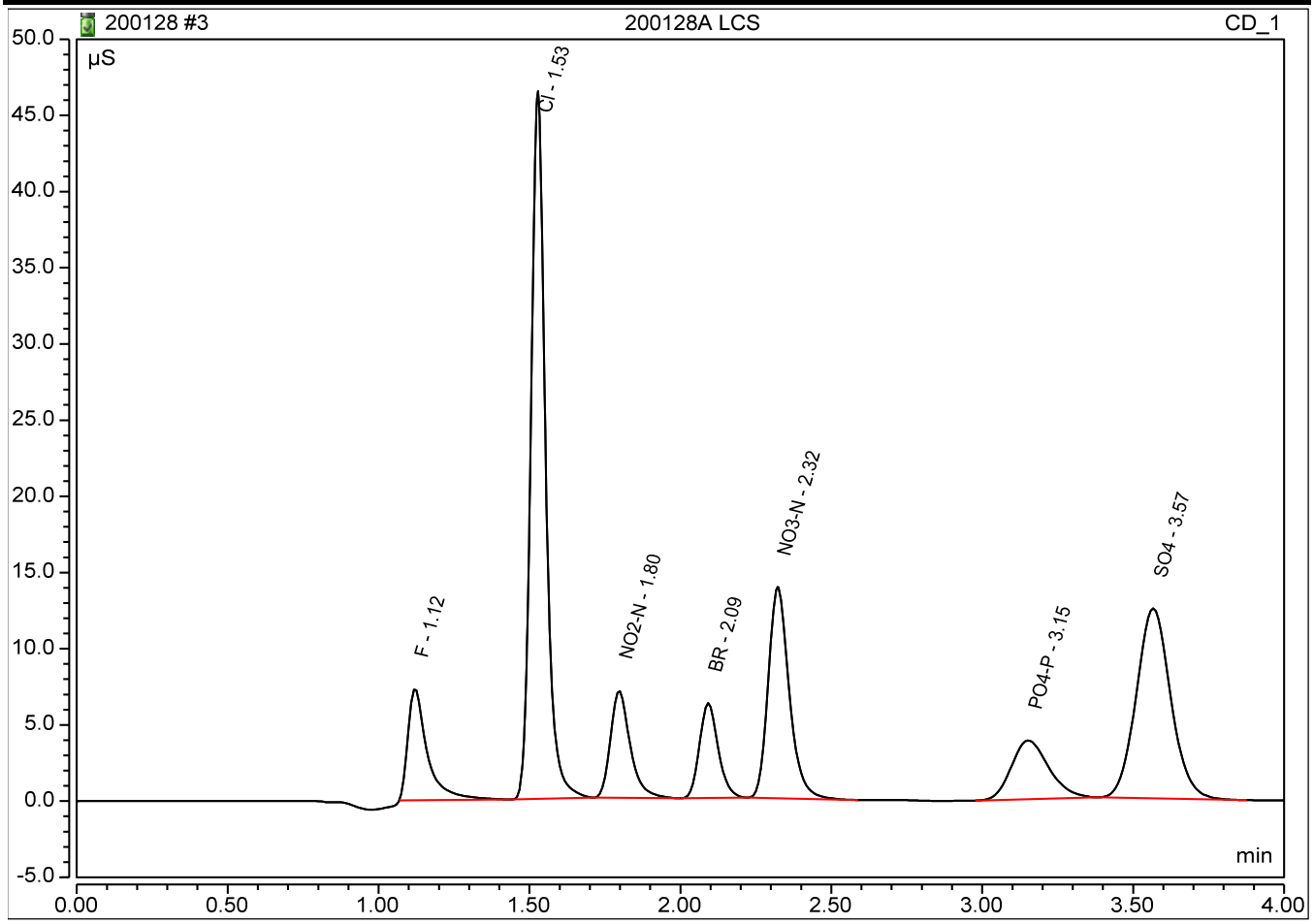
Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Logged on User: BW
Instrument: Charlie System_1
Sequence: 200128

Peak Integration Report

Sample Name:	**200128A LCS**	*Inj. Vol.:*	**25uL**
Injection Type:	**Check Standard**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**28-Jan-2020 / 07:49**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.12	**F**	BMB	0.546	7.356	4.60	5	92.0%
2	1.53	**Cl**	BMB	2.600	46.444	24.23	25	96.9%
3	1.80	**NO2-N**	BMB	0.535	7.036	2.93	3.04	96.3%
4	2.09	**BR**	BMB	0.448	6.240	12.17	12.5	97.4%
5	2.32	**NO3-N**	BMB	1.120	13.883	4.97	5	99.5%
6	3.15	**PO4-P**	BMB	0.555	3.858	8.86	10	88.6%
7	3.57	**SO4**	BMB	1.654	12.469	24.48	25	97.9%



Algorithm Check
y = Peak Area
x = mg/L S04

y = 0.0695 x + -0.0480
y = 1.6544 therefor x = 24.892 CD 200128

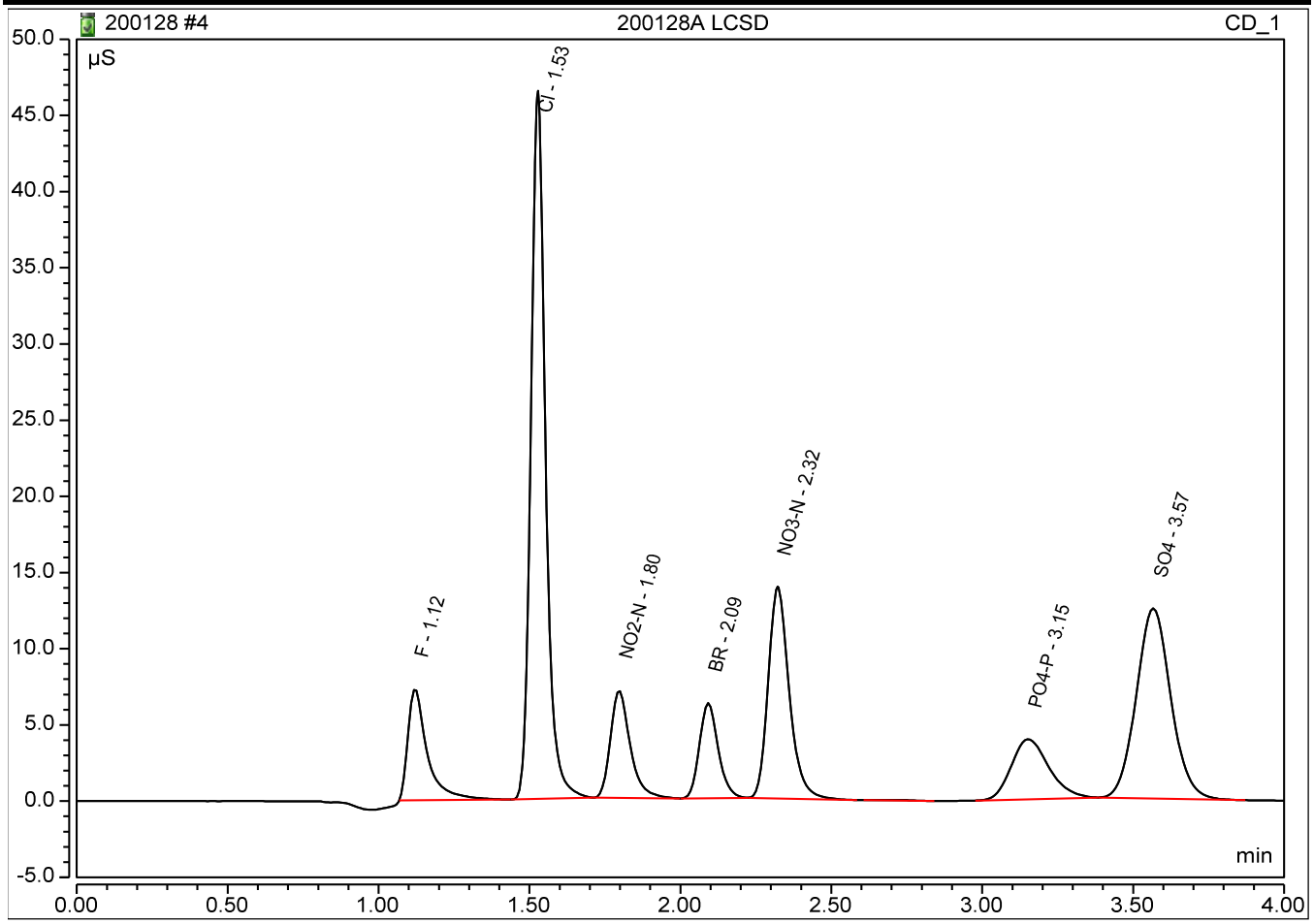
Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Logged on User: BW
Instrument: Charlie System_1
Sequence: 200128

Peak Integration Report

Sample Name:	**200128A LCSD**	*Inj. Vol.:*	**25uL**
Injection Type:	**Check Standard**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**28-Jan-2020 / 07:56**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.12	**F**	BMB	0.543	7.341	4.58	5	91.6%
2	1.53	**Cl**	BMB	2.602	46.475	24.25	25	97.0%
3	1.80	**NO2-N**	BMB	0.536	7.050	2.93	3.04	96.5%
4	2.09	**BR**	BMB	0.449	6.242	12.19	12.5	97.5%
5	2.32	**NO3-N**	BMB	1.121	13.895	4.98	5	99.6%
7	3.15	**PO4-P**	BMB	0.568	3.947	9.04	10	90.4%
8	3.57	**SO4**	BMB	1.655	12.471	24.48	25	97.9%



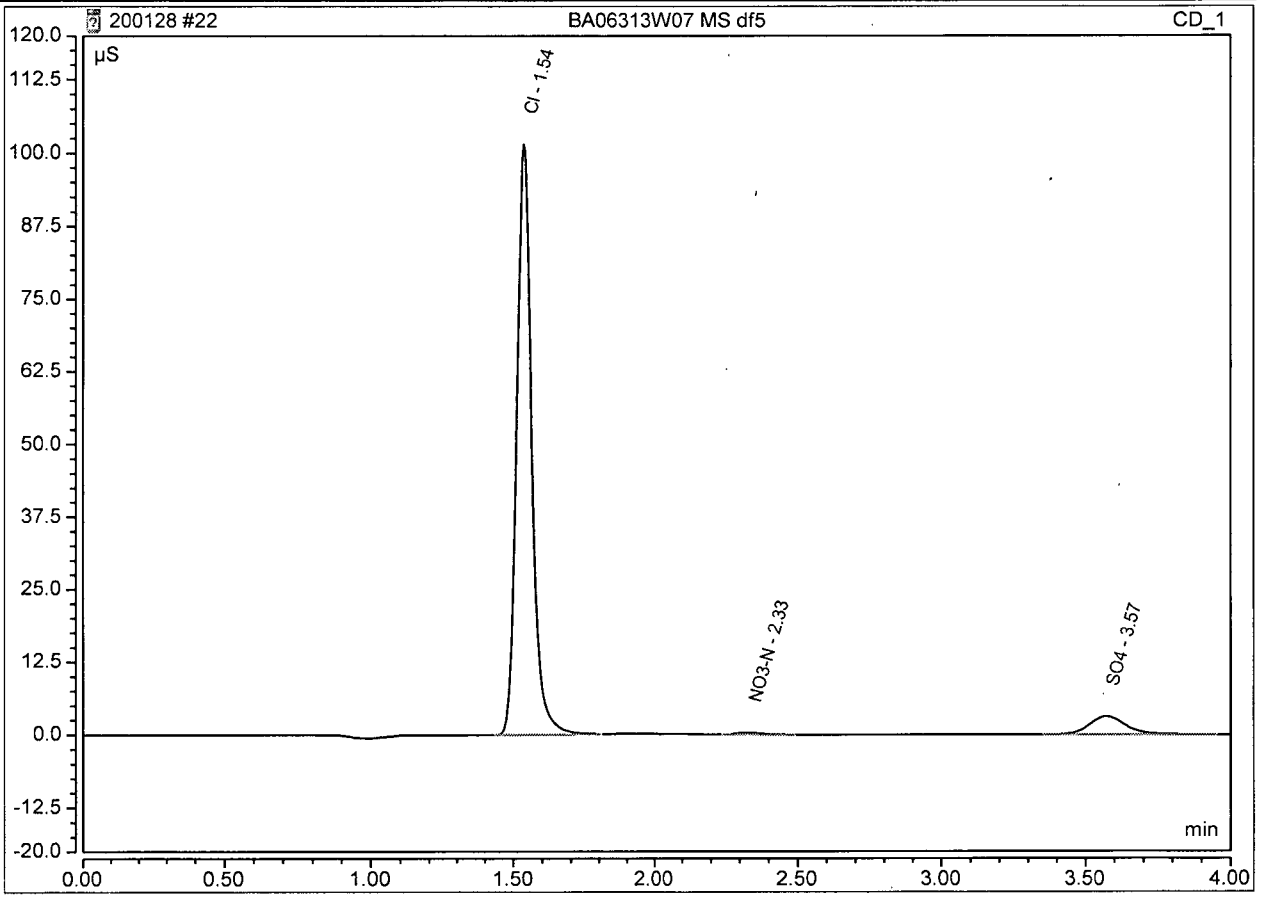
Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Logged on User: BW
Instrument: Charlie System_1
Sequence: 200128

Peak Integration Report

Sample Name:	**BA06313W07 MS df5**	*Inj. Vol.:*	**25uL**
Injection Type:	**Unknown**	*Dilution Factor:*	**5.00**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**28-Jan-2020 / 17:21**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.54	**Cl**	BMB	6.097	101.455	277.36		
2	2.33	**NO3-N**	BMB	0.028	0.331	1.37		
3	3.57	**SO4**	BMB	0.440	3.123	35.08		



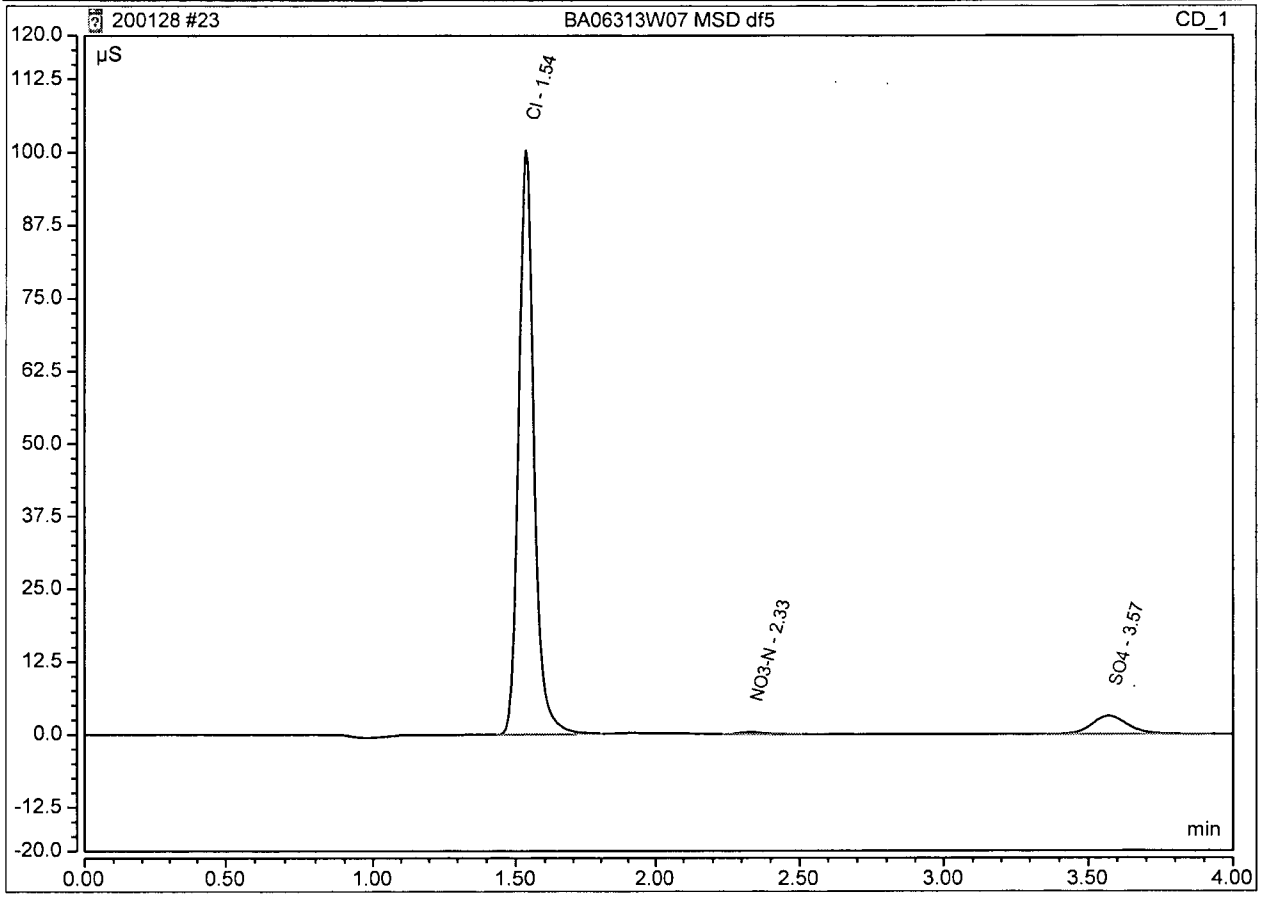
Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Logged on User: BW
Instrument: Charlie System_1
Sequence: 200128

Peak Integration Report

Sample Name:	**BA06313W07 MSD df5**	*Inj. Vol.:*	**25uL**
Injection Type:	**Unknown**	*Dilution Factor:*	**5.00**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**28-Jan-2020 / 17:27**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.54	**Cl**	BMB	6.052	100.346	275.35		
2	2.33	**NO3-N**	BMB	0.028	0.324	1.36		
3	3.57	**SO4**	BMB	0.437	3.098	34.88		



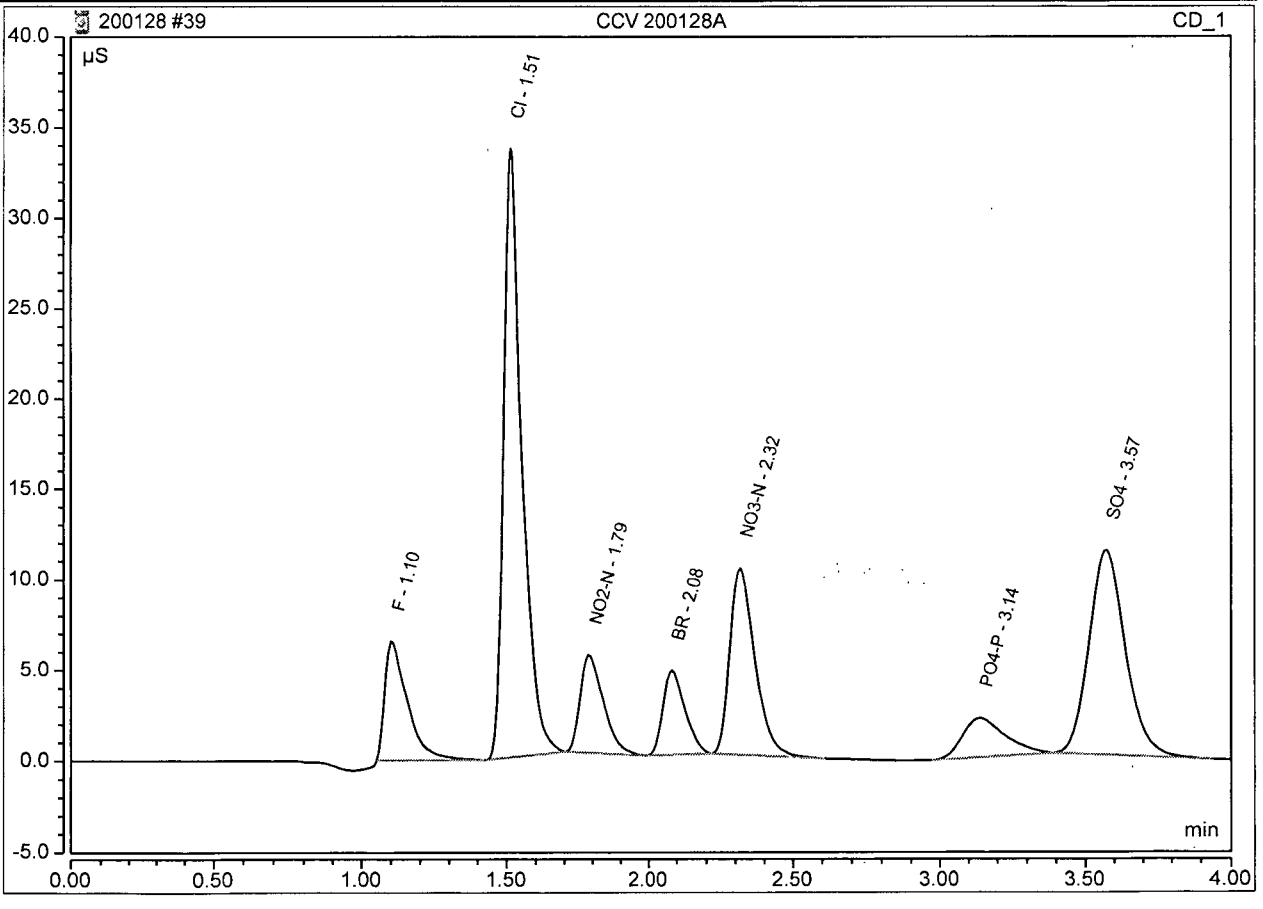
Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Logged on User: BW
Instrument: Charlie System_1
Sequence: 200128

Peak Integration Report

Sample Name:	**CCV 200128A**	*Inj. Vol.:*	**25uL**
Injection Type:	**Check Standard**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**28-Jan-2020 / 19:10**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.10	**F**	BMB	0.582	6.563	4.90	5	97.9%
2	1.51	**Cl**	BMB	2.457	33.632	22.96	25	91.8%
3	1.79	**NO2-N**	BMB	0.511	5.406	2.80	3.04	92.1%
4	2.08	**BR**	BMB	0.409	4.630	11.13	12.5	89.1%
5	2.32	**NO3-N**	BMB	1.030	10.281	4.59	5	91.8%
6	3.14	**PO4-P**	BMB	0.367	2.162	6.19	10	61.9%
7	3.57	**SO4**	BMB	1.641	11.288	24.30	25	97.2%



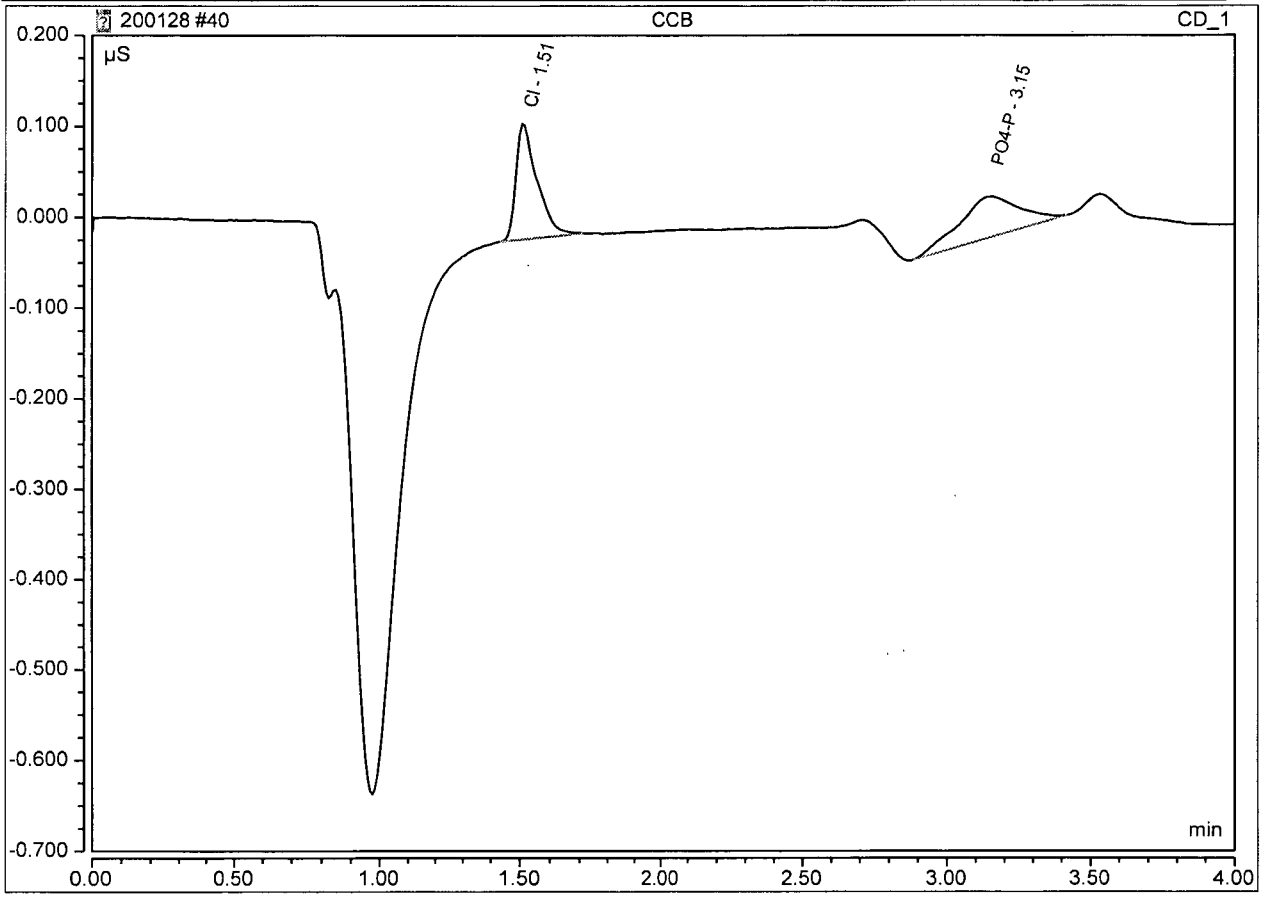
Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Logged on User: BW
Instrument: Charlie System_1
Sequence: 200128

Peak Integration Report

Sample Name:	**CCB**	*Inj. Vol.:*	**25uL**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**28-Jan-2020 / 19:16**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.51	**Cl**	BMB	0.011	0.128	1.10		
2	3.15	**PO4-P**	BMB	0.011	0.045	1.12		



Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

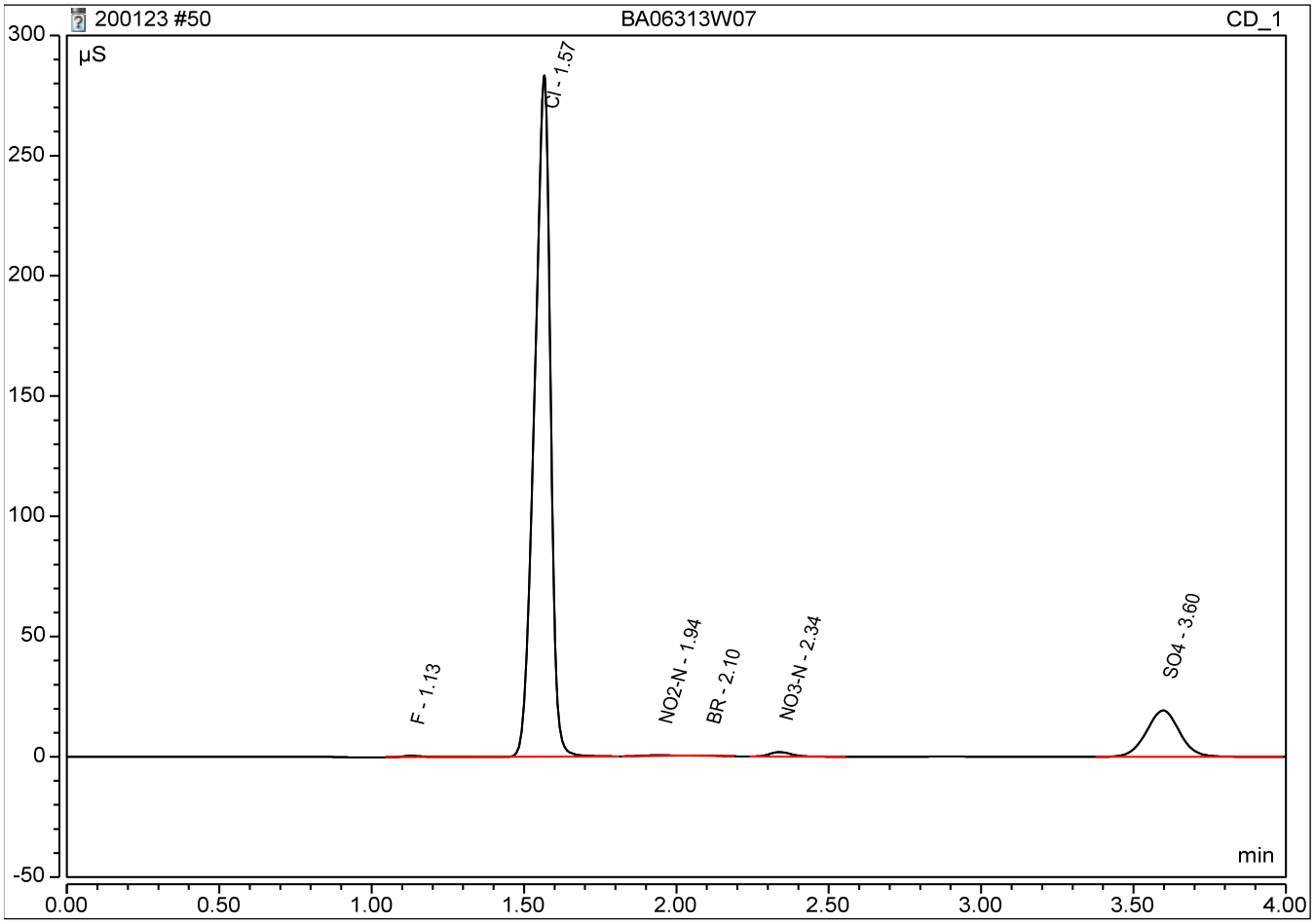
INORGANIC ANALYSIS
Raw Data

Logged on User: BW
Instrument: Charlie System_1
Sequence: 200123

Peak Integration Report

Sample Name:	**BA06313W07**	*Inj. Vol.:*	**25uL**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.23**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**23-Jan-2020 / 21:42**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.13	**F**	BMB	0.053	0.631	0.77		
2	1.57	**Cl**	BMB	17.047	283.281	149.20		
3	1.94	**NO2-N**	BMB	0.031	0.261	0.20		
4	2.10	**BR**	BMB	0.013	0.202	0.59		
5	2.34	**NO3-N**	BMB	0.151	1.876	0.76		
6	3.60	**SO4**	BMB	2.428	19.273	33.45		



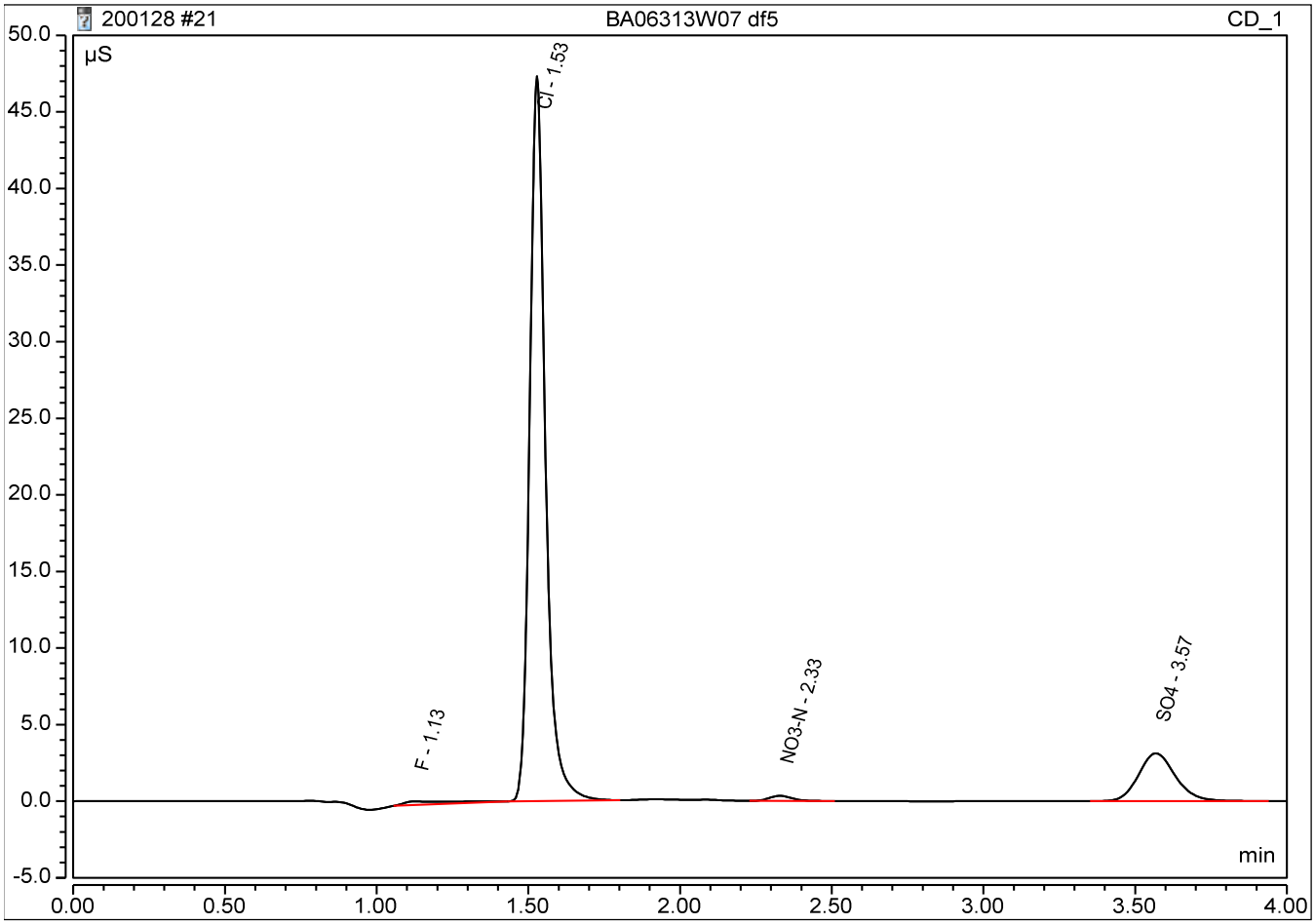
Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Logged on User: BW
Instrument: Charlie System_1
Sequence: 200128

Peak Integration Report

Sample Name:	**BA06313W07 df5**	*Inj. Vol.:*	**25uL**
Injection Type:	**Unknown**	*Dilution Factor:*	**5.00**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**28-Jan-2020 / 17:14**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.13	**F**	BMB	0.043	0.237	2.74		
2	1.53	**Cl**	BMB	2.837	47.317	131.76		
3	2.33	**NO3-N**	BMB	0.029	0.340	1.39		
4	3.57	**SO4**	BMB	0.440	3.121	35.09		



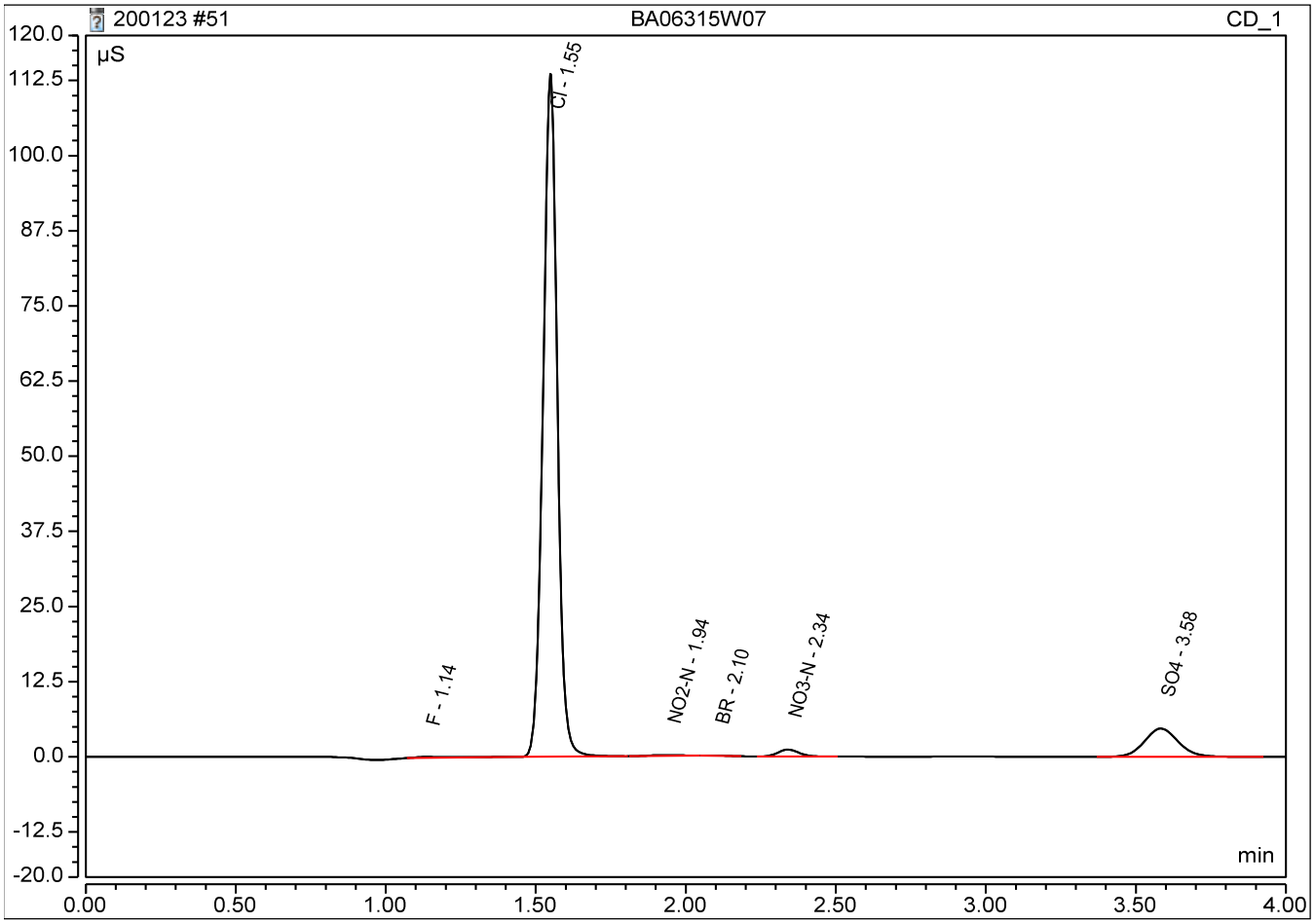
Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Logged on User: BW
Instrument: Charlie System_1
Sequence: 200123

Peak Integration Report

Sample Name:	**BA06315W07**	*Inj. Vol.:*	**25uL**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.23**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**23-Jan-2020 / 21:49**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.14	**F**	BMB	0.027	0.182	0.56		
2	1.55	**Cl**	BMB	6.249	113.577	54.83		
3	1.94	**NO2-N**	BMB	0.017	0.129	0.12		
4	2.10	**BR**	BMB	0.005	0.074	0.37		
5	2.34	**NO3-N**	BMB	0.092	1.165	0.53		
6	3.58	**SO4**	BMB	0.613	4.700	9.00		



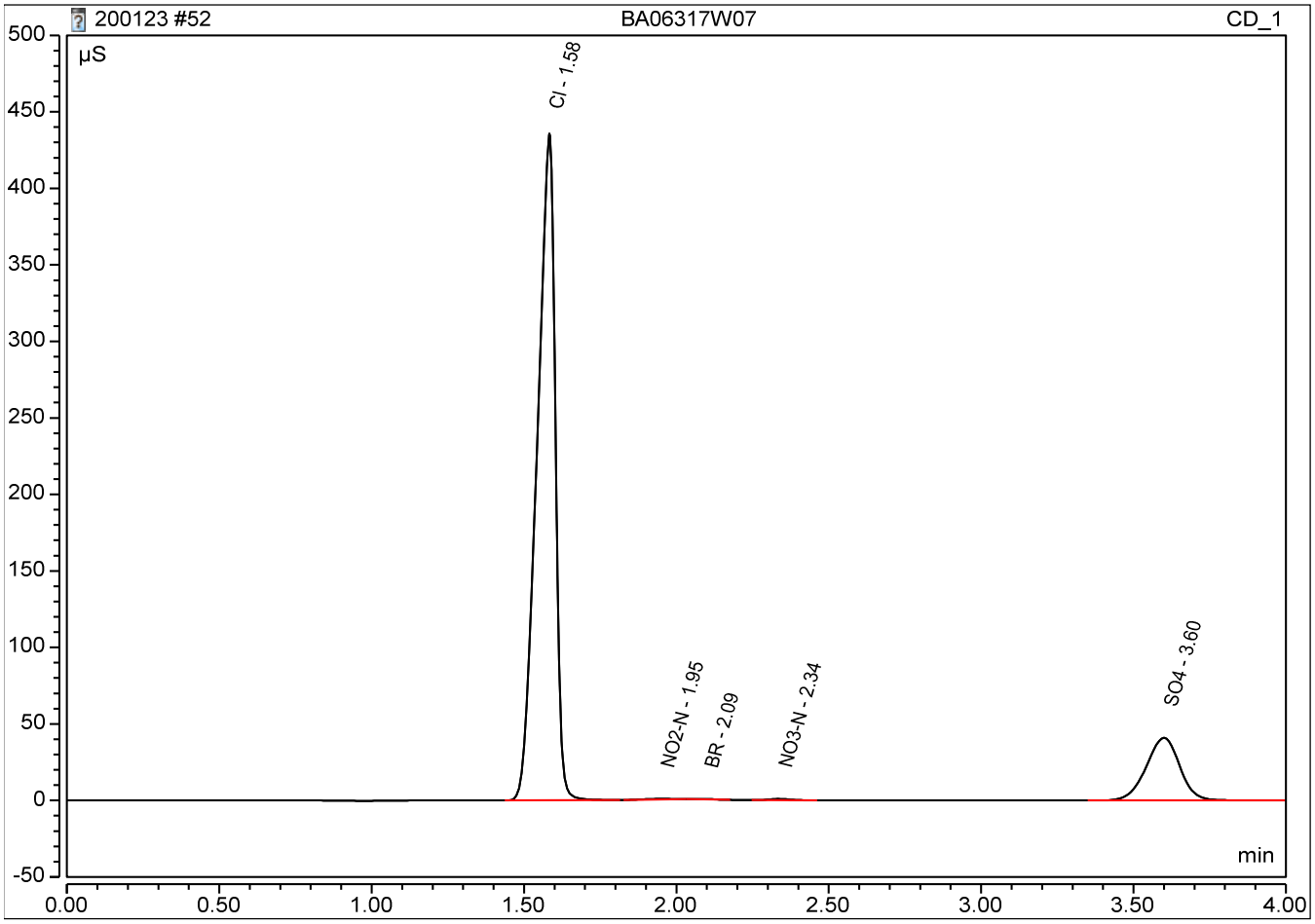
Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Logged on User: BW
Instrument: Charlie System_1
Sequence: 200123

Peak Integration Report

Sample Name:	**BA06317W07**	*Inj. Vol.:*	**25uL**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.23**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**23-Jan-2020 / 21:55**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.58	**Cl**	BMB	29.921	435.689	261.70		
2	1.95	**NO2-N**	BMB	0.047	0.402	0.28		
3	2.09	**BR**	BMB	0.016	0.246	0.65		
4	2.34	**NO3-N**	BMB	0.064	0.831	0.41		
5	3.60	**SO4**	BMB	5.219	40.981	71.05		



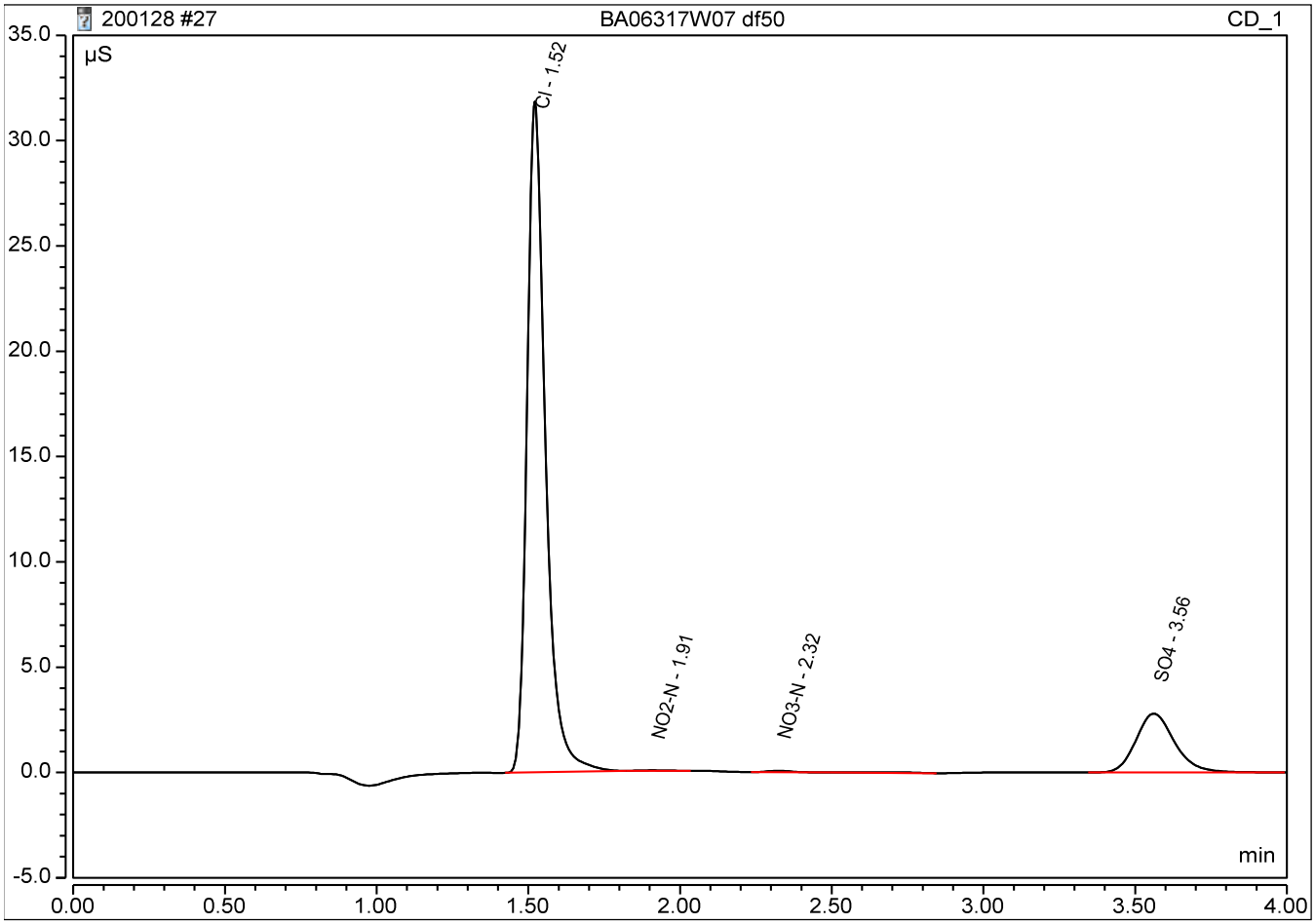
Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Logged on User: BW
Instrument: Charlie System_1
Sequence: 200128

Peak Integration Report

Sample Name:	**BA06317W07 df50**	*Inj. Vol.:*	**25uL**
Injection Type:	**Unknown**	*Dilution Factor:*	**50.00**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**28-Jan-2020 / 17:53**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.52	**Cl**	BMB	2.244	31.855	1052.68		
2	1.91	**NO2-N**	BMB	0.003	0.024	2.59		
3	2.32	**NO3-N**	BMB	0.006	0.067	8.93		
5	3.56	**SO4**	BMB	0.413	2.796	331.15		



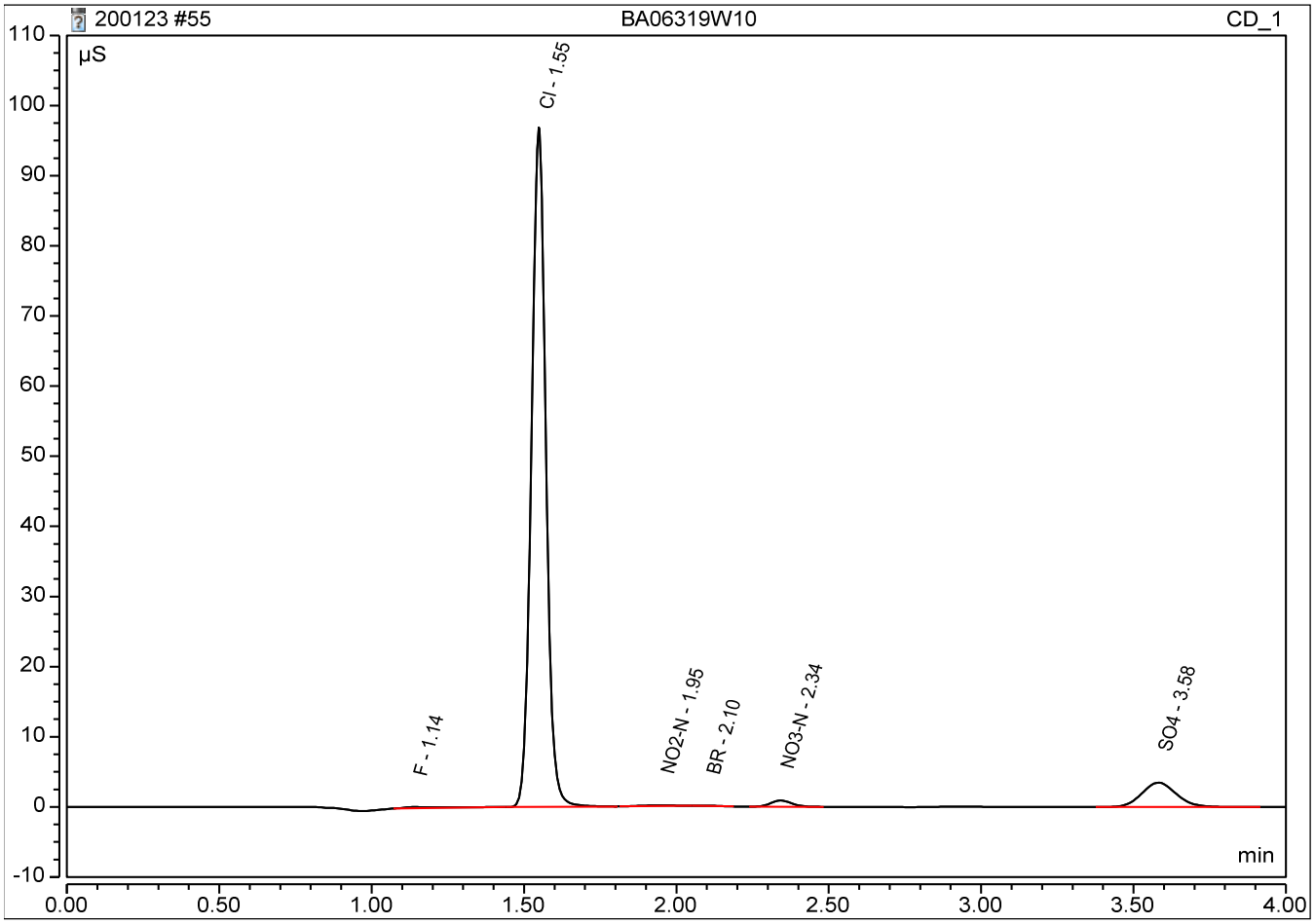
Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Logged on User: BW
Instrument: Charlie System_1
Sequence: 200123

Peak Integration Report

Sample Name:	**BA06319W10**	*Inj. Vol.:*	**25uL**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.23**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**23-Jan-2020 / 22:14**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.14	**F**	BMB	0.027	0.178	0.56		
2	1.55	**Cl**	BMB	5.304	96.860	46.58		
3	1.95	**NO2-N**	BMB	0.014	0.102	0.11		
4	2.10	**BR**	BMB	0.004	0.067	0.36		
5	2.34	**NO3-N**	BMB	0.070	0.891	0.44		
6	3.58	**SO4**	BMB	0.457	3.478	6.90		



Anion Chromatography Working Standard

Prep Date: 01/24/20

Exp Date: 01/25/20

Prep'd By (Initials): CD

Initial Standard Information						Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	Supplier Part No.	Conc. (ug/mL)	Lot Number - QA Number	Exp. Date	Aliquot from Stock	Final Volume	Solvent	Final Standard Conc (µg/mL)
Ion Chromatography Standard Fluoride 1000 µg/mL in H2O	o2si	O2SI-062002-01-01	1000	687393-38-40744	10/30/20	312.5 µL	25 mL	Millipore Water	12.5
Ion Chromatography Standard Nitrite 1000 µg/mL in H2O	Inorganic Ventures	ICN021	1000	N2-NOX672889-40759	05/01/20	411 µL	25 mL	Millipore Water	5 as NO2-N
Ion Chromatography Standard Chloride 5000 µg/mL in H2O	o2si	062001-08-03	5000	10084781-1-39578	02/21/20	250 µL	25 mL	Millipore Water	50
Ortho-Phosphate as P Standard	Ultra Scientific	ICC-005A	1000	G34-CP-3323-39057	08/31/23	625 µL	25 mL	Millipore Water	25
Ion Chromatography Standard Nitrate as N 1000 µg/mL in H2O	o2si	062003-01-03	1000	880117-4-39577	02/21/20	250 µL	25 mL	Millipore Water	10
Bromide Standard	Ultra Scientific	ICC-001	1000	CR-5372-39521	12/31/21	625 µL	25 mL	Millipore Water	25
Sulfate Standard	Agilent	ICC-006	1000	CS-0688-41050	03/31/22	1250 µL	25 mL	Millipore Water	50

Anion Chromatography Calibration Curve

Prep Date: 01/24/20

Exp Date: 01/25/20

Prep'd By (Initials): CD

Initial Standard Information						Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	APPL Mix Name	Conc. Range (ug/mL)	Reference To APPL Prep Date	Exp. Date	Aliquot from Stock	Final Volume	Solvent	Final Standard Conc. Range (µg/mL)
Anion Chromatography Working Standard	Varies	ICal1	5.0-50.0	Prepared 01/24/20	01/25/20	200 µL	25000 µL	Millipore Water	0.04-0.40
Anion Chromatography Working Standard	Varies	ICal2	5.0-50.0	Prepared 01/24/20	01/25/20	20 µL	1000 µL	Millipore Water	0.1-1.0
Anion Chromatography Working Standard	Varies	ICal3	5.0-50.0	Prepared 01/24/20	01/25/20	50 µL	1000 µL	Millipore Water	0.25-2.5
Anion Chromatography Working Standard	Varies	ICal4	5.0-50.0	Prepared 01/24/20	01/25/20	100 µL	1000 µL	Millipore Water	0.5-5.0
Anion Chromatography Working Standard	Varies	ICal5	5.0-50.0	Prepared 01/24/20	01/25/20	200 µL	1000 µL	Millipore Water	1.0-10.0
Anion Chromatography Working Standard	Varies	ICal6	5.0-50.0	Prepared 01/24/20	01/25/20	500 µL	1000 µL	Millipore Water	2.5-25.0
Anion Chromatography Working Standard	Varies	ICal7	5.0-50.0	Prepared 01/24/20	01/25/20	700 µL	1000 µL	Millipore Water	3.5-35.0
Anion Chromatography Working Standard	Varies	ICal8	5.0-50.0	Prepared 01/24/20	01/25/20	1000 µL	1000 µL	Millipore Water	5.0-50.0

Anion Chromatography LCS/ICV

Prep Date: See injection Log

Exp Date: 24 hours after prep

Prep'd By (Initials): CD

Initial Standard Information						Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	Supplier Part No.	Conc. Range (ug/mL)	Lot Number - QA Number	Exp. Date	Aliquot from Stock	Final Volume	Solvent	Final Standard Conc (µg/mL)
Flouride	Inorganic Ventures	ICF1	993-999	K-F652018-39801**	04/23/20	125 µL	25 mL	Millipore Water	5
Nitrite	Inorganic Ventures	ICNO21	993-1001	M2-NOX660562-40468	08/25/21	250 µL	25 mL	Millipore Water	10
Chloride	Inorganic Ventures	ICCL1	995-1001	N2CL664868-39905	03/07/22	625 µL	25 mL	Millipore Water	25
O-Phosphate as P	Inorganic Ventures	ICPPO41	1001-1009	M2-POX655826-39803**	04/23/20	250 µL	25 mL	Millipore Water	10
Nitrate as N	Inorganic Ventures	ICNNO31	997-1005	P2-NOX675324-49391	02/14/23	125 µL	25 mL	Millipore Water	5
Ion Chromatography Standard Bromide, 1000 µg/mL in H2O	CPI International	4400-IC8M	995-1005	161681-8-39539	02/06/20	312.5 µL	25 mL	Millipore Water	12.5
Sulfate	Inorganic Ventures	ICSO41	998-1006	N2-SOX664928-39507**	05/27/20	625 µL	25 mL	Millipore Water	25

Anion Chromatography CCV

Prep Date: See injection Log

Exp Date: 24 hours after prep

**Recertified with CCV Standards listed below on 191021; extended exp. date by 6 mo.

Prep'd By (Initials): CD

Initial Standard Information						Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	Supplier Part No.	Conc. (ug/mL)	Lot Number - QA Number	Exp. Date	Aliquot from Stock	Final Volume	Solvent	Final Standard Conc (µg/mL)
Ion Chromatography Standard Fluoride 1000 µg/mL in H2O	o2si	O2SI-062002-01-01	1000	687393-38-40744	10/30/20	125 µL	25 mL	Millipore Water	5
Ion Chromatography Standard Nitrite 1000 µg/mL in H2O	Inorganic Ventures	ICN021	1000	N2-NOX672889-40759	05/01/20	250 µL	25 mL	Millipore Water	10
Ion Chromatography Standard Chloride 5000 µg/mL in H2O	o2si	062001-08-03	5000	10084781-1-39578	02/21/20	125 µL	25 mL	Millipore Water	25
Ortho-Phosphate as P Standard	Ultra Scientific	ICC-005A	1000	G34-CP-3323-39057	08/31/23	250 µL	25 mL	Millipore Water	10
Ion Chromatography Standard Nitrate as N 1000 µg/mL in H2O	o2si	062003-01-03	1000	880117-4-39577	02/21/20	125 µL	25 mL	Millipore Water	5
Bromide Standard	Ultra Scientific	ICC-001	1000	CR-5372-39521	12/31/21	312.5 µL	25 mL	Millipore Water	12.5
Sulfate Standard	Agilent	ICC-006	1000	CS-0688-41050	03/31/22	625 µL	25 mL	Millipore Water	25

Method 300 and 9056 Injection Log

No.	Position	Injection Description	Inject Time		Type	Comment
1	BE1	Cal1 2020.01.23	23/Jan/2020	09:21	Calibration Standard	
2	BE2	Cal2 2020.01.23	23/Jan/2020	09:27	Calibration Standard	
3	BE3	Cal3 2020.01.23	23/Jan/2020	09:34	Calibration Standard	
4	BE4	Cal4 2020.01.23	23/Jan/2020	09:40	Calibration Standard	
5	BE5	Cal5 2020.01.23	23/Jan/2020	09:46	Calibration Standard	
6	BE6	Cal6 2020.01.23	23/Jan/2020	09:53	Calibration Standard	yes
7	BE7	Cal7 2020.01.23	23/Jan/2020	09:59	Calibration Standard	
8	BE8	Cal8 2020.01.23	23/Jan/2020	10:05	Calibration Standard	
9	R1	ICB	23/Jan/2020	10:12	Unknown	
10	R3	200123A LCS	23/Jan/2020	10:18	Check Standard	
11	R3	200123A LCSD	23/Jan/2020	10:25	Check Standard	
12	R2	CCV 200123	23/Jan/2020	15:50	Check Standard	
13	R1	CCB	23/Jan/2020	15:56	Unknown	
14	R2	CCV 200123	23/Jan/2020	17:08	Check Standard	
15	R1	CCB	23/Jan/2020	17:14	Unknown	
16	R2	CCV 200123	23/Jan/2020	18:05	Check Standard	regenerated supressor
17	R1	CCB 200123	23/Jan/2020	18:11	Unknown	
18	RA1	BA06263W07	23/Jan/2020	18:18	Unknown	
19	RA2	BA06264W22	23/Jan/2020	18:24	Unknown	
20	RA3	BA06264W22 MS	23/Jan/2020	18:30	Unknown	
21	RA4	BA06264W22 MSD	23/Jan/2020	18:37	Unknown	
22	RA5	BA06265W08	23/Jan/2020	18:43	Unknown	
23	RA6	BA06290W06 df2	23/Jan/2020	18:49	Unknown	df2 high EC
24	RA7	BA06291W06 df2	23/Jan/2020	18:56	Unknown	df2 high EC
25	RA8	BA06292W06 df2	23/Jan/2020	19:02	Unknown	df2 high EC
26	RB1	BA06293W06 df2	23/Jan/2020	19:09	Unknown	df2 high EC
27	RB2	BA06272W11	23/Jan/2020	19:15	Unknown	
28	RB3	BA06272W11 MS	23/Jan/2020	19:21	Unknown	
29	RB4	BA06272W11 MSD	23/Jan/2020	19:28	Unknown	
30	RB5	BA06275W07	23/Jan/2020	19:34	Unknown	
31	RB6	BA06276W07	23/Jan/2020	19:41	Unknown	
32	R2	CCV 200123	23/Jan/2020	19:47	Check Standard	
33	R1	CCB 200123	23/Jan/2020	19:53	Unknown	
34	RB7	BA06279W07	23/Jan/2020	20:00	Unknown	
35	RB8	BA06284W10	23/Jan/2020	20:06	Unknown	
36	RC1	BA05744W01	23/Jan/2020	20:13	Unknown	
37	RC2	BA05745W01	23/Jan/2020	20:19	Unknown	
38	RC3	BA05746W01	23/Jan/2020	20:25	Unknown	
39	R2	CCV 200123	23/Jan/2020	20:32	Check Standard	
40	R1	CCB 200123	23/Jan/2020	20:38	Unknown	
41	GA1	BA06299W18 df10	23/Jan/2020	20:45	Unknown	df10 high EC
42	GA2	BA06299W18 MS df10	23/Jan/2020	20:51	Unknown	df10 high EC
43	GA3	BA06299W18 MSD df10	23/Jan/2020	20:57	Unknown	df10 high EC
44	GA4	BA06300W06 df10	23/Jan/2020	21:04	Unknown	df10 high EC
45	GA5	BA06301W06 df10	23/Jan/2020	21:10	Unknown	df10 high EC
46	GA6	BA06302W06 df10	23/Jan/2020	21:17	Unknown	df10 high EC
47	GA7	BA06303W06 df2	23/Jan/2020	21:23	Unknown	df2 high EC
48	GA8	BA06304W06 df2	23/Jan/2020	21:29	Unknown	df2 high EC
49	GB1	BA06305W06	23/Jan/2020	21:36	Unknown	
50	GB2	BA06313W07	23/Jan/2020	21:42	Unknown	
51	GB3	BA06315W07	23/Jan/2020	21:49	Unknown	
52	GB4	BA06317W07	23/Jan/2020	21:55	Unknown	
53	R2	CCV 200123	23/Jan/2020	22:01	Check Standard	
54	R1	CCB 200123	23/Jan/2020	22:08	Unknown	
55	GB5	BA06319W10	23/Jan/2020	22:14	Unknown	
56	GB6	BA06324W04	23/Jan/2020	22:21	Unknown	
57	R2	CCV 200123	23/Jan/2020	22:27	Check Standard	
58	R1	CCB 200123	23/Jan/2020	22:33	Unknown	
59	R3	STOP	23/Jan/2020	22:37	Unknown	

Method 300 and 9056 Injection Log

No.	Position	Injection Description	Inject Time		Type	Comment
1	R2	CCV 200128A	28/Jan/2020	07:37	Check Standard	
2	R1	CCB	28/Jan/2020	07:43	Unknown	
3	R3	200128A LCS	28/Jan/2020	07:49	Check Standard	
4	R3	200128A LCSD	28/Jan/2020	07:56	Check Standard	
5	GB1	BA06423W01 df5	28/Jan/2020	15:32	Unknown	
6	GB2	BA06430W06 df5	28/Jan/2020	15:38	Unknown	
7	GB7	BA06423W01 df10	28/Jan/2020	15:45	Unknown	
8	GB3	BA06431W06 df10	28/Jan/2020	15:51	Unknown	
9	GB4	BA06432W06 df5	28/Jan/2020	15:58	Unknown	
10	GB8	BA06423W01 df50	28/Jan/2020	16:04	Unknown	
11	GC1	BA06430W06 df10	28/Jan/2020	16:10	Unknown	
12	GC2	BA06431W06 df50	28/Jan/2020	16:17	Unknown	
13	GC3	BA06432W06 df20	28/Jan/2020	16:23	Unknown	
14	GB5	BA06433W06 df5	28/Jan/2020	16:30	Unknown	
15	GB6	BA06427W10	28/Jan/2020	16:36	Unknown	
16	GA1	BA05744W01 df2	28/Jan/2020	16:42	Unknown	
17	GA2	BA05746W01	28/Jan/2020	16:49	Unknown	
18	GC4	BA05744W01 df5	28/Jan/2020	16:55	Unknown	
19	GC5	BA06433W06 df10	28/Jan/2020	17:02	Unknown	
20	GC6	BA05746W01	28/Jan/2020	17:08	Unknown	
21	GA3	BA06313W07 df5	28/Jan/2020	17:14	Unknown	
22	GA4	BA06313W07 MS df5	28/Jan/2020	17:21	Unknown	
23	GA5	BA06313W07 MSD df5	28/Jan/2020	17:27	Unknown	
24	GA6	BA06315W07 df2	28/Jan/2020	17:34	Unknown	
25	R2	CCV 200128A	28/Jan/2020	17:40	Check Standard	
26	R1	CCB	28/Jan/2020	17:46	Unknown	
27	GA7	BA06317W07 df50	28/Jan/2020	17:53	Unknown	
28	GC7	BA06427W10 df2	28/Jan/2020	17:59	Unknown	
29	GC8	BA05773W07 df5	28/Jan/2020	18:06	Unknown	
30	GD1	BA05774W07 df5	28/Jan/2020	18:12	Unknown	
31	GD2	BA05775W07 df5	28/Jan/2020	18:18	Unknown	
32	GD3	BA05827W04 df5	28/Jan/2020	18:25	Unknown	
33	GD4	BA05828W07 df5	28/Jan/2020	18:31	Unknown	
34	GD5	BA05829W07 df5	28/Jan/2020	18:38	Unknown	
35	GD6	BA05318W02	28/Jan/2020	18:44	Unknown	
36	GD7	BA05828W07 df10	28/Jan/2020	18:50	Unknown	
37	GD8	BA05829W07 df10	28/Jan/2020	18:57	Unknown	
38	GD6	BA05318W02	28/Jan/2020	19:03	Unknown	
39	R2	CCV 200128A	28/Jan/2020	19:10	Check Standard	
40	R1	CCB	28/Jan/2020	19:16	Unknown	
41	R3	STOP	28/Jan/2020	19:21	Unknown	

INORGANIC ANALYSIS
Calibration Data

A.P.P.L. INC.
2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: AECOM
ARF No: 91288 SDG: 91288
Initial Calibration Source: CPI
Continuing Calibration Source: Environmental Express
Analysis Date: 01/27/20

Analyte	Calibration Verification									M
	True CCV1	Found 14:13	%R(1)	True CCV1	Found 14:41	%R(1)	True CCV1	Found 15:04	%R(1)	
TOXN	3	2.8876	96.3	3	3.0182	101	3	2.7945	93.2	

(1) Control Limits: 90-110

A.P.P.L. INC.
2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: AECOM
ARF No: 91288 SDG: 91288
Initial Calibration Source: CPI
Continuing Calibration Source: Environmental Express
Analysis Date: 01/27/20

Analyte	Calibration Verification									M
	True CCV1	Found 15:09	%R(1)	True	Found	%R(1)	True	Found	%R(1)	
TOXN	3	2.8006	93.4							

(1) Control Limits: 90-110

A.P.P.L. INC.
3
BLANKS

Lab Name: A.P.P.L. INC. Contract: AECOM

ARF No.: 91288 SDG: 91288

Preparation Blank Matrix (soil/water): water

Preparation Blank Concentration Units (ug/L or mg/kg): mg/L

Analyte	Calibration Blanks										M
	CCB 01/27/20 14:16	C	CCB 01/27/20 14:43	C	CCB 01/27/20 15:05	C	CCB 01/27/20 15:10	C		C	
TOXN	.100	U	.100	U	.100	U	.100	U			

INORGANIC ANALYSIS
Raw Data

Ferrous Iron — Rev 2, 04-05-19

Method SM3500Fe | Units mg/L | Instrument: Genisis Spectrometer
Analyte Fe2+ | QCG: 200123A | Wavelength: 510 nm
Analyist fjr | Final Volume: 50mL | Units: mg/L

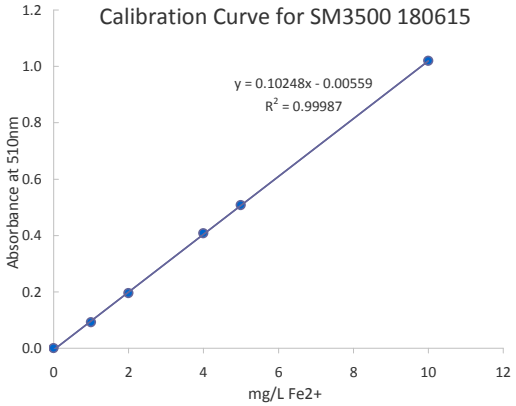
Date	Time	Appl ID	[Fe2+]	Absorbance	% Recovery
06/28/19	12:48	ICB	0.00	0.000	
06/28/19	12:49	Ical 1	1.00	0.092	95.2%
06/28/19	12:50	Ical 2	2.00	0.195	97.9%
06/28/19	12:51	Ical 3	4.00	0.408	100.9%
06/28/19	12:51	Ical 4	5.00	0.507	100.0%
06/28/19	12:52	Ical 5	10.00	1.019	100.0%
06/28/19	13:08	ICV	3.00	0.326	107.9%
06/28/19	12:53	ICB	0.00	0.002	

Slope	0.102479592
Intercept	-0.005591837
Coefficient of Determination	0.999872044

Algortithm Check:	Appl ID	Absorbance	Result
	LCS 200123A	0.294	2.92

Result = (Absorbance-Raw Blk-Intercept)/ Slope

Test:	FJR	01/23/20	2.92



Date	Time	Appl ID	DF	Raw Result	SubSample Amount	Raw BLK	Calc Conc	Result	QC True	% Recovery
01/23/20	14:19	CCV 4.0 200123A	1	0.395	25mL		3.91	3.91	4.00	97.7%
01/23/20	14:19	CCB 200123A	1	0.000	25mL		0.05	0.05		
01/23/20	14:19	LCS 200123A	1	0.294	25mL		2.92	2.92	3.00	97.4%
01/23/20	14:20	LCSD 200123A	1	0.298	25mL		2.96	2.96	3.00	98.7%
01/23/20	14:21	BA06313W09	1	0.001	25mL		0.06	0.06		
01/23/20	14:21	BA06315W09	1	0.002	25mL		0.07	0.07		
01/23/20	14:22	BA06317W09	1	-0.002	25mL		0.04	0.04		
01/23/20	14:25	BA06319W12	1	0.004	25mL		0.09	0.09		
01/23/20	14:25	BA06299W19	1	0.070	25mL		0.74	0.74		
01/23/20	14:26	BA06299W19 MS	1	0.405	25mL		4.01	4.01		
01/23/20	14:26	BA06299W19 MSD	1	0.404	25mL		4.00	4.00		
01/23/20	14:27	BA06300W07	1	0.047	25mL		0.51	0.51		
01/23/20	14:28	BA06301W07	1	0.054	25mL		0.58	0.58		
01/23/20	14:28	BA06302W07	1	0.081	25mL		0.84	0.84		
01/23/20	14:29	BA06303W07	1	0.040	25mL		0.44	0.44		
01/23/20	14:30	BA06304W07	1	0.040	25mL		0.44	0.44		
01/23/20	14:30	BA06305W07	1	-0.001	25mL		0.04	0.04		
01/23/20	14:31	CCV 4.0 200123A	1	0.398	25mL		3.94	3.94	4.00	98.5%
01/23/20	14:31	CCB 200123A	1	-0.003	25mL		0.03	0.03		

Standard Prep

	Ferrous Iron Standards		Prep'd By (Initials)		FJR		
Prep Date	06/28/18						
Exp Date	06/28/19						
Stock Label	Supplier	Batch Number	Exp Date	Aliquot from Stock	Final Volume	Solvent	Ferrous Iron Concentration
Ferrous Ammonium Sulfate	J.T.Baker	0000184592	08/21/20	0.351	250mL	5ml H2SO4 (0000167828) Diluted with water	200ug/L
Ferrous Sulfate	Mallinckrodt	Lot 5056 KDRX	NA	0.250	250mL	5ml H2SO4 (0000167828) Diluted with water	200ug/L
Ferrous Iron CCV/LCS/MS/ICV			Prep'd By (Initials)		FJR		
Prep Date	See Injection Log						
Exp Date	24 Hours						
Initial Standard Information	Supplier	Batch Number	Exp Date	Final Standard Information			
Ferrous Iron CCV	J.T.Baker	0000184592	06/14/19	500uL	25mL	Deionized water	4mg/L
Ferrous Iron ICV/LCS	Mallinckrodt	Lot 5056 KDRX	06/14/19	375uL	25mL	Deionized water	3mg/L
	Ferrous Iron Calibration Curve		Prep'd By (Initials)		FJR		
Prep Date	06/28/18						
Exp Date	06/28/19						
Final Standard Information							
Point Label	Supplier	Batch Number	Exp Date	Aliquot from Stock (mL)	Final Volume	Solvent	Ferrous Iron Concentration
CCB	J.T.Baker	0000184592	06/14/19	0	25mL	Deionized water	0mg/L
Ical 1	J.T.Baker	0000184592	06/14/19	0.125	25mL	Deionized water	1mg/L
Ical 2	J.T.Baker	0000184592	06/14/19	0.25	25mL	Deionized water	2mg/L
Ical 3	J.T.Baker	0000184592	06/14/19	0.5	25mL	Deionized water	4mg/L
Ical 4	J.T.Baker	0000184592	06/14/19	0.625	25mL	Deionized water	5mg/L
Ical 5	J.T.Baker	0000184592	06/14/19	1.25	25mL	Deionized water	10mg/L
ICV	Mallinckrodt	Lot 5056 KDRX	06/14/19	0.375	25mL	Deionized water	3mg/L

Reagent Prep

Reagent	Chemical Lot #	Chemical	Chemical Expiration Date	Amount	Date Prep
Colorizer	0747C107	1,10-phenanthroline	na	1.001	01/03/20
		10% HCL conc	na	enough to dissolve	01/03/20
Buffer	Z28B018	Ammonia Acetate	na	248	01/03/20
	2018071399	Glacial Acetic Acid	06/27/20	700mL	

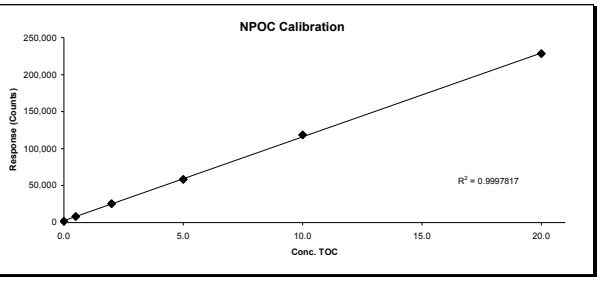
TOTAL ORGANIC CARBON

Method: WetChem | Units mg/L | Instrument: Tic Toc

Analyte: TOC | QCG: 200123A

Analyist: AR | Final Volume: 40mL

Date	Time	Appl ID	[TOC]	Raw	% Recovery
01/15/20	13:42	QC blank	0.00	1639	
01/15/20	14:25	Ical 1	0.50	8021	
01/15/20	15:01	Ical 2	2.00	25461	
01/15/20	15:37	Ical 3	5.00	58252	
01/15/20	16:13	Ical 4	10.00	118315	
01/15/20	16:49	Ical 5	20.00	228427	
01/16/20	15:11	ICB	0.08	906	
01/16/20	14:33	ICV	5.20	59018	104.0%



Date	Time	Appl ID	DF	Raw Result	SubSample Amount	Filter Blank Subtract	Calc Conc	Result	Range (mg/L)	QC True	% Recovery
2020-01-23	09:21 PM	CCV	1	57839	40mL	0.000	5.096	5.10	0.04	5.00	101.9%
2020-01-23	10:01 PM	CCB	1	894	40mL	0.000	0.079	0.08	0.09		
2020-01-23	10:39 PM	200123A LCS	1	54281	40mL	0.000	4.782	4.78	0.07	5.00	95.6%
2020-01-23	11:20 PM	200123A LCSD	1	53712	40mL	0.000	4.732	4.73	0.02	5.00	94.6%
2020-01-24	01:17 AM	BA06252W01	1	59343	40mL	0.000	5.198	5.20	0.65		
2020-01-24	01:56 AM	BA06290W08	1	28760	40mL	0.000	2.504	2.50	0.11		
2020-01-24	02:34 AM	BA06291W08	1	221741	40mL	0.000	19.505	19.51	3.29		
2020-01-24	03:12 AM	BA06292W08	1	33110	40mL	0.000	2.887	2.89	0.13		
2020-01-24	03:50 AM	BA06293W08	1	58109	40mL	0.000	5.09	5.09	0.47		
2020-01-24	04:28 AM	BA06299W23	1	129675	40mL	0.000	11.394	11.39	0.26		
2020-01-24	05:06 AM	BA06299W23 DUP	1	132083	40mL	0.000	11.606	11.61	1.67		
2020-01-24	05:44 AM	BA06299W23 MS	1	167088	40mL	0.000	14.69	14.69	0.73		
2020-01-24	06:23 AM	BA06299W23 MSD	1	144940	40mL	0.000	12.739	12.74	4.99		
2020-01-24	07:01 AM	BA06300W08	1	30917	40mL	0.000	2.694	2.69	0.33		
2020-01-24	07:39 AM	BA06301W08	1	30214	40mL	0.000	2.632	2.63	0.06		
2020-01-24	08:17 AM	CCV	1	56012	40mL	0.000	4.934	4.93	0.15	5.00	98.7%
2020-01-24	08:57 AM	CCB	1	1139	40mL	0.000	0.1	0.10	0.02		
2020-01-24	09:36 AM	BA06302W08	1	35976	40mL	0.000	3.139	3.14	1.08		
2020-01-24	10:14 AM	BA06302W08 DUP	1	29452	40mL	0.000	2.565	2.57	1.44		
2020-01-24	10:52 AM	BA06303W08	1	15525	40mL	0.000	1.338	1.34	0.57		
2020-01-24	11:30 AM	BA06304W08	1	16753	40mL	0.000	1.446	1.45	0.12		
2020-01-24	12:07 PM	BA06305W08	1	7140	40mL	0.000	0.599	0.60	0.03		
2020-01-24	12:44 PM	BA06313W06	1	3726	40mL	0.000	0.298	0.30	0.01		
2020-01-24	01:21 PM	BA06315W06	1	1877	40mL	0.000	0.135	0.14	0.02		
2020-01-24	01:57 PM	BA06317W05	1	17867	40mL	0.000	1.544	1.54	0.35		
2020-01-24	02:35 PM	BA06319W09	1	28388	40mL	0.000	2.471	2.47	0.11		
2020-01-24	03:13 PM	CCV	1	56598	40mL	0.000	4.986	4.99	0.03	5.00	99.7%
2020-01-24	03:53 PM	CCB	1	563	40mL	0.000	0.05	0.05	0.01		

Name of Final Standard TOC Calibration Curve — **Prep'd By (Initials)** AR

Prep Date 01/15/20

Exp Date 01/15/21

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from contianer Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
Total Organic Carbon (TOC) Standard	Agilent	IQC-1 06-5	1000 mg/L	CS-5157-40233	11/30/20	20 uL	40 mL	DI Water	0.5 ppm
Total Organic Carbon (TOC) Standard	Agilent	IQC-1 06-5	1000 mg/L	CS-5157-40233	11/30/20	100 uL	40 mL	DI Water	2 ppm
Total Organic Carbon (TOC) Standard	Agilent	IQC-1 06-5	1000 mg/L	CS-5157-40233	11/30/20	250 uL	40 mL	DI Water	5 ppm
Total Organic Carbon (TOC) Standard	Agilent	IQC-1 06-5	1000 mg/L	CS-5157-40233	11/30/20	500 uL	40 mL	DI Water	10 ppm
Total Organic Carbon (TOC) Standard	Agilent	IQC-1 06-5	1000 mg/L	CS-5157-40233	11/30/20	1000 uL	40 mL	DI Water	20 ppm

Name of Final Standard ICV (TOC) — **Prep'd By (Initials)** HH

Prep Date 10/16/19

Exp Date 06/30/21

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from contianer Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
1000 PPM ICV TOC Intermediate	APPL Inc.	Prep: 2/11/19	1000 mg/L	Prep: 2/11/19	06/30/21	500 uL	40mL	DI Water	10 ppm

Name of Final Standard CCV (TOC) — **Prep'd By (Initials)** AR

Prep Date See Data

Exp Date 1 year

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from contianer Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
Total Organic Carbon (TOC) Standard	Agilent	IQC-1 06-5	1000 mg/L	CS-5157-40233	11/30/20	200 uL	40 mL	DI Water	5 ppm

Name of Final Standard TOC_LCS/LCSD — **Prep'd By (Initials)** AR

Prep Date See Data

Exp Date 1 year

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from contianer Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
Total Organic Carbon (TOC) Standard	ULTRA Scientific	IQC-106-5	1000 mg/L	CR-0328-37639	02/28/19	200 uL	40 mL	DI Water	5 ppm

Name of Final Standard TOC_MS/MSD — **Prep'd By (Initials)** AR

Prep Date See Data

Exp Date 1 year

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from contianer Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
Total Organic Carbon (TOC) Standard	ULTRA Scientific	IQC-106-5	1000 mg/L	CR-0328-37639	02/28/19	200 uL	40 mL	sample	5 ppm

AQ2 Tray Report

Serial Number:	190170
Software Version:	2.1.0
Report Requested By:	Kyle S
Date & Time:	2020-01-27 15:19:49
Tray Number:	4
Tray Name:	200127A TOXN

Nitrite-N

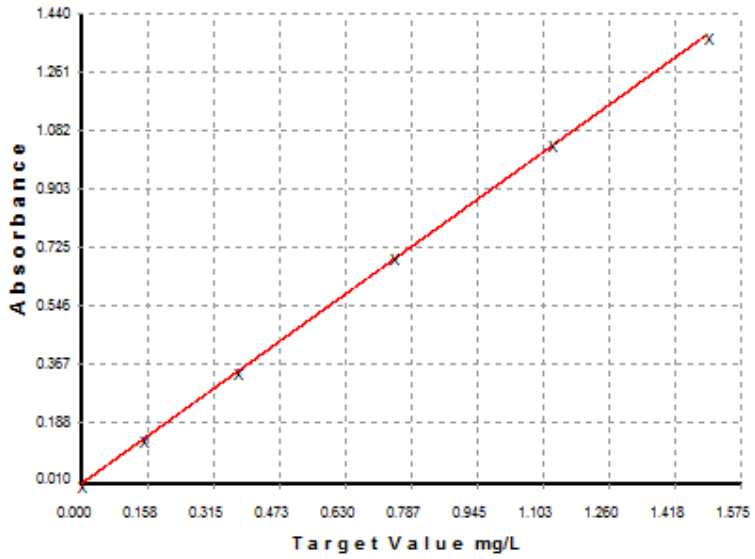
Calibration Chart

Type	Absorbance	Calc mg/L	Target mg/L	% Error
S1	0.0096	-0.0017	0.0000	
S90	0.1445	0.1461	0.1500	-2.59
S91	0.3547	0.3766	0.3750	0.43
S92	0.6982	0.7533	0.7500	0.44
S93	1.0456	1.1343	1.1250	0.83
S94	1.3712	1.4913	1.5000	-0.58
S0	0.0196	0.0092	0.0000	

Polynomial Order:	1
Correlation Coefficient:	0.9999
Carryover(%):	0.7
Calibration equation:	y = bx + a
y =:	Concentration mg/L
x =:	Measured absorbance
a =:	-1.228615E-002
b =:	1.096562E+000
Date & Time:	2020-01-27 12:58:18

Algorithm Check:
y=(1.096562)(0.678177)-1.228615E-002
y=0.7314 ✓

Calibration Graph



Reagents

Name	Batch	Prepared By	Expiry Date
Sulfa-NEDD		Joel	
NO2 Buffer		Joel	

Test Results

Cup Type	ID	Result	Units	QC Pro	Raw Data	Auto Dil.	Man Dil.	User	Time/Date
S1	Standard 1	0.0096			0.009640			KS	2020-01-27 12:50:33
S90	Standard 90	0.1445			0.144456			KS	2020-01-27 12:51:50
S91	Standard 91	0.3547			0.354659			KS	2020-01-27 12:53:08
S92	Standard 92	0.6982			0.698199			KS	2020-01-27 12:54:25
S93	Standard 93	1.0456			1.045629			KS	2020-01-27 12:55:43
S94	Standard 94	1.3712			1.371212			KS	2020-01-27 12:57:01
S0	Standard 0	0.0196			0.019628			KS	2020-01-27 12:58:18
CCV	CCV .75	0.7394	mg/L		0.685528			KS	2020-01-27 12:59:36
CCB	CCB	0.0046	mg/L		0.015439			KS	2020-01-27

							13:00:54
3	U1	ICV NO2	0.7219	mg/L	0.669531	KS	2020-01-27 13:02:13
4	U2	ICV NO3 TOXN	0.0046	mg/L	0.015354	KS	2020-01-27 13:03:31
5	U3	ICB NO2 NO3 TOXN	-0.0008	mg/L	0.010500	KS	2020-01-27 13:04:48
6	U28	200127A Blk NO2 NO3 TOXN pH5.28 Thing 0	-0.0001	mg/L	0.011093	KS	2020-01-27 13:06:07
7	U5	200127A LCS NO2 pH5.28	0.7314	mg/L	0.678177	KS	2020-01-27 13:07:25
8	U6	200127A LCSD NO2 pH5.28	0.7226	mg/L	0.670175	KS	2020-01-27 13:08:43
9	U7	200127A LCS NO3 TOXN pH5.28	0.0049	mg/L	0.015696	KS	2020-01-27 13:09:59
10	U8	200127A LCSD NO3 TOXN pH5.28	-0.0009	mg/L	0.010401	KS	2020-01-27 13:11:13
11	U9	1 ppm NO2	1.0193	mg/L	0.940773	KS	2020-01-27 13:12:28
12	U10	1 ppm NO3	0.0057	mg/L	0.016440	KS	2020-01-27 13:13:42
	CCV	CCV .75	0.7508	mg/L	0.695868	KS	2020-01-27 13:14:56
	CCB	CCB	0.0045	mg/L	0.015311	KS	2020-01-27 13:16:11
13	U11	BA06136W08 MS pH6.95	0.0016	mg/L	0.012693	KS	2020-01-27 13:17:25
14	U12	BA06136W08 MSD pH6.95	0.0012	mg/L	0.012282	KS	2020-01-27 13:18:39
15	U13	BA06136W08 pH6.02	-0.0009	mg/L	0.010387	KS	2020-01-27 13:19:52
16	U14	BA06138W08 pH7.53	-0.0007	mg/L	0.010556	KS	2020-01-27 13:21:08
17	U15	BA06141W08 pH5.89	-0.0009	mg/L	0.010344	KS	2020-01-27 13:22:21
18	U16	BA06143W08 pH7.01	-0.0005	mg/L	0.010768	KS	2020-01-27 13:23:35
19	U17	BA06272W12 pH6.77	-0.0000	mg/L	0.011164	KS	2020-01-27 13:24:49
20	U18	BA06275W08 pH5.92	0.0007	mg/L	0.011871	KS	2020-01-27 13:26:02
21	U19	BA06276W08 pH5.41	-0.0004	mg/L	0.010810	KS	2020-01-27 13:27:15
22	U20	BA06279W08 pH7.30	-0.0009	mg/L	0.010373	KS	2020-01-27 13:28:29
	CCV	CCV .75	0.7501	mg/L	0.695252	KS	2020-01-27 13:29:42
	CCB	CCB	0.0039	mg/L	0.014755	KS	2020-01-27 13:30:56
23	U21	BA06284W11 pH5.33	0.0000	mg/L	0.011234	KS	2020-01-27 13:32:11
24	U22	BA06313W08 pH6.82	-0.0001	mg/L	0.011093	KS	2020-01-27 13:32:49
25	U23	BA06315W08 pH6.47	-0.0002	mg/L	0.011008	KS	2020-01-27 13:34:58
26	U24	BA06317W08 pH6.25	0.0022	mg/L	0.013232	KS	2020-01-27 13:37:12
27	U25	BA06319W11 pH7.63	-0.0006	mg/L	0.010669	KS	2020-01-27 13:39:29
28	U26	BA06361W11 pH6.99	-0.0005	mg/L	0.010782	KS	2020-01-27 13:41:49
29	U27	BA06364W08 pH6.48	0.0001	mg/L	0.011319	KS	2020-01-27 13:44:13
	CCV	CCV .75	0.7493	mg/L	0.694502	KS	2020-01-27 13:46:35
	CCB	CCB	0.0034	mg/L	0.014313	KS	2020-01-27 13:48:48

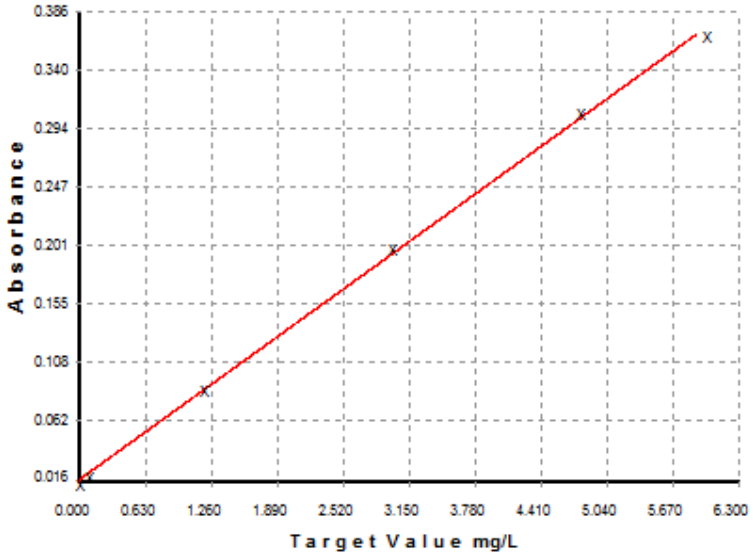
TOXN

Calibration Chart

Type	Absorbance	Calc mg/L	Target mg/L	% Error
S1	0.0158	-0.0336	0.0000	
S90	0.0221	0.0726	0.1000	-27.44
S91	0.0894	1.2059	1.2000	0.49
S92	0.2007	3.0791	3.0000	2.64
S93	0.3077	4.8815	4.8000	1.70
S94	0.3679	5.8945	6.0000	-1.76
S0	0.0162	-0.0273	0.0000	

Polynomial Order:	1
Correlation Coefficient:	0.9996
Carryover(%):	0.1
Calibration equation:	y = bx + a
y =:	Concentration mg/L
x =:	Measured absorbance
a =:	-2.994905E-001
b =:	1.683517E+001
Date & Time:	2020-01-27 14:11:30

Calibration Graph



Reagents

Name	Batch	Prepared By	Expiry Date
NO3 W Buffer		Joel	
Sulfa-NEDD		Joel	

Test Results

Cup	Type	ID	Result	Units	QC Pro	Raw Data	Auto Dil.	Man Dil.	User	Time/Date
	S1	Standard 1	0.0158			0.015796			KS	2020-01-27 13:57:50
	S90	Standard 90	0.0221			0.022100			KS	2020-01-27 14:00:07
	S91	Standard 91	0.0894			0.089419			KS	2020-01-27 14:02:25
	S92	Standard 92	0.2007			0.200684			KS	2020-01-27 14:04:41
	S93	Standard 93	0.3077			0.307750			KS	2020-01-27 14:06:57
	S94	Standard 94	0.3679			0.367922			KS	2020-01-27 14:09:12
	S0	Standard 0	0.0162			0.016168			KS	2020-01-27 14:11:30
	CCV	CCV	2.8876	mg/L		0.189309			KS	2020-01-27 14:13:48
	CCB	CCB	-0.0362	mg/L		0.015639			KS	2020-01-27 14:16:02
4	U2	ICV NO3 TOXN	2.9311	mg/L		0.191895			KS	2020-01-27 14:18:14
5	U3	ICB NO2 NO3 TOXN	-0.0220	mg/L		0.016483			KS	2020-01-27 14:20:29
6	U28	200127A Blk NO2 NO3 TOXN pH5.28 Thing 0	-0.0403ELL	mg/L		0.015396			KS	2020-01-27 14:22:48
9	U7	200127A LCS NO3 TOXN pH5.28	3.0156	mg/L		0.196917			KS	2020-01-27 14:25:05
10	U8	200127A LCSD NO3 TOXN pH5.28	2.8955	mg/L		0.189778			KS	2020-01-27 14:27:23
12	U10	1 ppm NO3	0.9568	mg/L		0.074626			KS	2020-01-27 14:29:41
13	U11	BA06136W08 MS pH6.95	-0.0078	mg/L		0.017328			KS	2020-01-27 14:31:59
14	U12	BA06136W08 MSD pH6.95	-0.0107	mg/L		0.017156			KS	2020-01-27 14:34:17
										2020-01-27

15	U13	BA06136W08 pH6.02	-0.0326	mg/L	0.015853	KS	14:36:35
16	U14	BA06138W08 pH7.53	-0.0213	mg/L	0.016526	KS	2020-01-27 14:38:53
	CCV	CCV	3.0182	mg/L	0.197069	KS	2020-01-27 14:41:12
	CCB	CCB	-0.0396	mg/L	0.015439	KS	2020-01-27 14:43:31
17	U15	BA06141W08 pH5.89	0.6315	mg/L	0.055300	KS	2020-01-27 14:45:50
18	U16	BA06143W08 pH7.01	1.3202	mg/L	0.096208	KS	2020-01-27 14:48:08
19	U17	BA06272W12 pH6.77	0.5599	mg/L	0.051049	KS	2020-01-27 14:50:27
20	U18	BA06275W08 pH5.92	1.5126	mg/L	0.107636	KS	2020-01-27 14:52:45
21	U19	BA06276W08 pH5.41	0.5092	mg/L	0.048038	KS	2020-01-27 14:55:04
22	U20	BA06279W08 pH7.30	1.0737	mg/L	0.081568	KS	2020-01-27 14:57:22
23	U21	BA06284W11 pH5.33	0.3486	mg/L	0.038495	KS	2020-01-27 14:59:41
24	U22	BA06313W08 pH6.82	0.7599	mg/L	0.062924	KS	2020-01-27 15:02:00
25	U23	BA06315W08 pH6.47	0.4512	mg/L	0.044590	KS	2020-01-27 15:02:39
26	U24	BA06317W08 pH6.25	1.7857	mg/L	0.123856	KS	2020-01-27 15:03:44
	CCV	CCV	2.7945	mg/L	0.183784	KS	2020-01-27 15:04:40
	CCB	CCB	-0.0573	mg/L	0.014384	KS	2020-01-27 15:05:38
27	U25	BA06319W11 pH7.63	0.2878	mg/L	0.034883	KS	2020-01-27 15:06:35
28	U26	BA06361W11 pH6.99	0.3337	mg/L	0.037608	KS	2020-01-27 15:07:31
29	U27	BA06364W08 pH6.48	0.1671	mg/L	0.027717	KS	2020-01-27 15:08:28
	CCV	CCV	2.8006	mg/L	0.184142	KS	2020-01-27 15:09:24
	CCB	CCB	-0.0456	mg/L	0.015083	KS	2020-01-27 15:10:21

Nitrate-N

Test Results

Cup	Type	ID	Result	Units	QC Pro	Raw Data	Auto Dil.	Man Dil.	User	Time/Date
4	U2	ICV NO3 TOXN	2.9265	mg/L		0.000000			KS	2020-01-27 14:18:14
4	U2	ICV NO3 TOXN				0.000000			KS	2020-01-27 14:18:14
5	U3	ICB NO2 NO3 TOXN	-0.0212	mg/L		0.000000			KS	2020-01-27 14:20:29
5	U3	ICB NO2 NO3 TOXN				0.000000			KS	2020-01-27 14:20:29
6	U28	200127A Blk NO2 NO3 TOXN pH5.28 Thing 0	-0.0402	mg/L		0.000000			KS	2020-01-27 14:22:48
6	U28	200127A Blk NO2 NO3 TOXN pH5.28 Thing 0				0.000000			KS	2020-01-27 14:22:48
9	U7	200127A LCS NO3 TOXN pH5.28	3.0107	mg/L		0.000000			KS	2020-01-27 14:25:05
9	U7	200127A LCS NO3 TOXN pH5.28				0.000000			KS	2020-01-27 14:25:05
10	U8	200127A LCSD NO3 TOXN pH5.28	2.8963	mg/L		0.000000			KS	2020-01-27 14:27:23
10	U8	200127A LCSD NO3 TOXN pH5.28				0.000000			KS	2020-01-27 14:27:23
12	U10	1 ppm NO3	0.9511	mg/L		0.000000			KS	2020-01-27 14:29:41
12	U10	1 ppm NO3				0.000000			KS	2020-01-27 14:29:41
13	U11	BA06136W08 MS pH6.95	-0.0094	mg/L		0.000000			KS	2020-01-27 14:31:59
13	U11	BA06136W08 MS pH6.95				0.000000			KS	2020-01-27 14:31:59
14	U12	BA06136W08 MSD pH6.95	-0.0119	mg/L		0.000000			KS	2020-01-27 14:34:17
14	U12	BA06136W08 MSD pH6.95				0.000000			KS	2020-01-27 14:34:17
15	U13	BA06136W08 pH6.02	-0.0317	mg/L		0.000000			KS	2020-01-27 14:36:35
15	U13	BA06136W08 pH6.02				0.000000			KS	2020-01-27 14:36:35
16	U14	BA06138W08 pH7.53	-0.0206	mg/L		0.000000			KS	2020-01-27 14:38:53
16	U14	BA06138W08 pH7.53				0.000000			KS	2020-01-27 14:38:53
17	U15	BA06141W08 pH5.89	0.6324	mg/L		0.000000			KS	2020-01-27 14:45:50
17	U15	BA06141W08 pH5.89				0.000000			KS	2020-01-27 14:45:50
18	U16	BA06143W08 pH7.01	1.3207	mg/L		0.000000			KS	2020-01-27 14:48:08
18	U16	BA06143W08 pH7.01				0.000000			KS	2020-01-27 14:48:08
19	U17	BA06272W12 pH6.77	0.5600	mg/L		0.000000			KS	2020-01-27 14:50:27
19	U17	BA06272W12 pH6.77				0.000000			KS	2020-01-27 14:50:27
20	U18	BA06275W08 pH5.92	1.5118	mg/L		0.000000			KS	2020-01-27 14:52:45
20	U18	BA06275W08 pH5.92				0.000000			KS	2020-01-27 14:52:45
21	U19	BA06276W08 pH5.41	0.5097	mg/L		0.000000			KS	2020-01-27 14:55:04
21	U19	BA06276W08 pH5.41				0.000000			KS	2020-01-27 14:55:04
22	U20	BA06279W08 pH7.30	1.0746	mg/L		0.000000			KS	2020-01-27 14:57:22
22	U20	BA06279W08 pH7.30				0.000000			KS	2020-01-27 14:57:22
23	U21	BA06284W11 pH5.33	0.3486	mg/L		0.000000			KS	2020-01-27 14:59:41
23	U21	BA06284W11 pH5.33				0.000000			KS	2020-01-27

							14:59:41
24	U22	BA06313W08 pH6.82	0.7600	mg/L	0.000000	KS	2020-01-27 15:02:00
24	U22	BA06313W08 pH6.82			0.000000	KS	2020-01-27 15:02:00
25	U23	BA06315W08 pH6.47	0.4514	mg/L	0.000000	KS	2020-01-27 15:02:39
25	U23	BA06315W08 pH6.47			0.000000	KS	2020-01-27 15:02:39
26	U24	BA06317W08 pH6.25	1.7834	mg/L	0.000000	KS	2020-01-27 15:03:44
26	U24	BA06317W08 pH6.25			0.000000	KS	2020-01-27 15:03:44
27	U25	BA06319W11 pH7.63	0.2884	mg/L	0.000000	KS	2020-01-27 15:06:35
27	U25	BA06319W11 pH7.63			0.000000	KS	2020-01-27 15:06:35
28	U26	BA06361W11 pH6.99	0.3341	mg/L	0.000000	KS	2020-01-27 15:07:31
28	U26	BA06361W11 pH6.99			0.000000	KS	2020-01-27 15:07:31
29	U27	BA06364W08 pH6.48	0.1670	mg/L	0.000000	KS	2020-01-27 15:08:28
29	U27	BA06364W08 pH6.48			0.000000	KS	2020-01-27 15:08:28

Nitrite

High Point @ 1.5 mg/L
0.2463 mL NO2 Inorganic Ventures lot N2-NOX672889-40759 exp: 05/01/20
50 mL DI Water

CCV @ 0.75 mg/L
0.1232 mL NO2 Inorganic Ventures lot N2-NOX672889-40759 exp: 05/01/20
50 mL DI Water

ICV/LCS @ 0.73 mg/L
0.120 mL NO2 Inorganic Ventures lot M2-NOX660562-40468 exp: 08/25/21
50 mL DI Water

1 mg/L NO2
400 uL of High point and 200 uL of DI made directly into a sample cup

Prep 01/27/20
Exp 02/03/20
KS

Nitrate/TOXN

High Point @ 6 mg/L
0.300 mL NO3 O2Si lot 880117-4-39577 exp: 2/21/20
50 mL DI Water

CCV @ 3.0 mg/L
0.150 mL NO3 O2Si lot 880117-4-39577 exp: 2/21/20
50 mL DI Water

ICV/LCS @ 3.0 mg/L
0.150 mL NO3 Inorganic Ventures lot P2-NOX675324-49391 exp: 02/14/23
50 mL DI Water

1 mg/L NO3
100 uL of High point and 500 uLof DI made directly into a sample cup

MS @ 0.73 mg/L NO2 and 2.5 mg/L NO3
0.120 mL NO2 Inorganic Ventures lot M2-NOX660562-40468 exp: 08/25/21and
0.125 mL NO3 Inorganic Ventures lot P2-NOX675324-49391 exp: 02/14/23
Final volume 50 mL of sample

Prep 01/27/20
Exp 02/03/20
KS

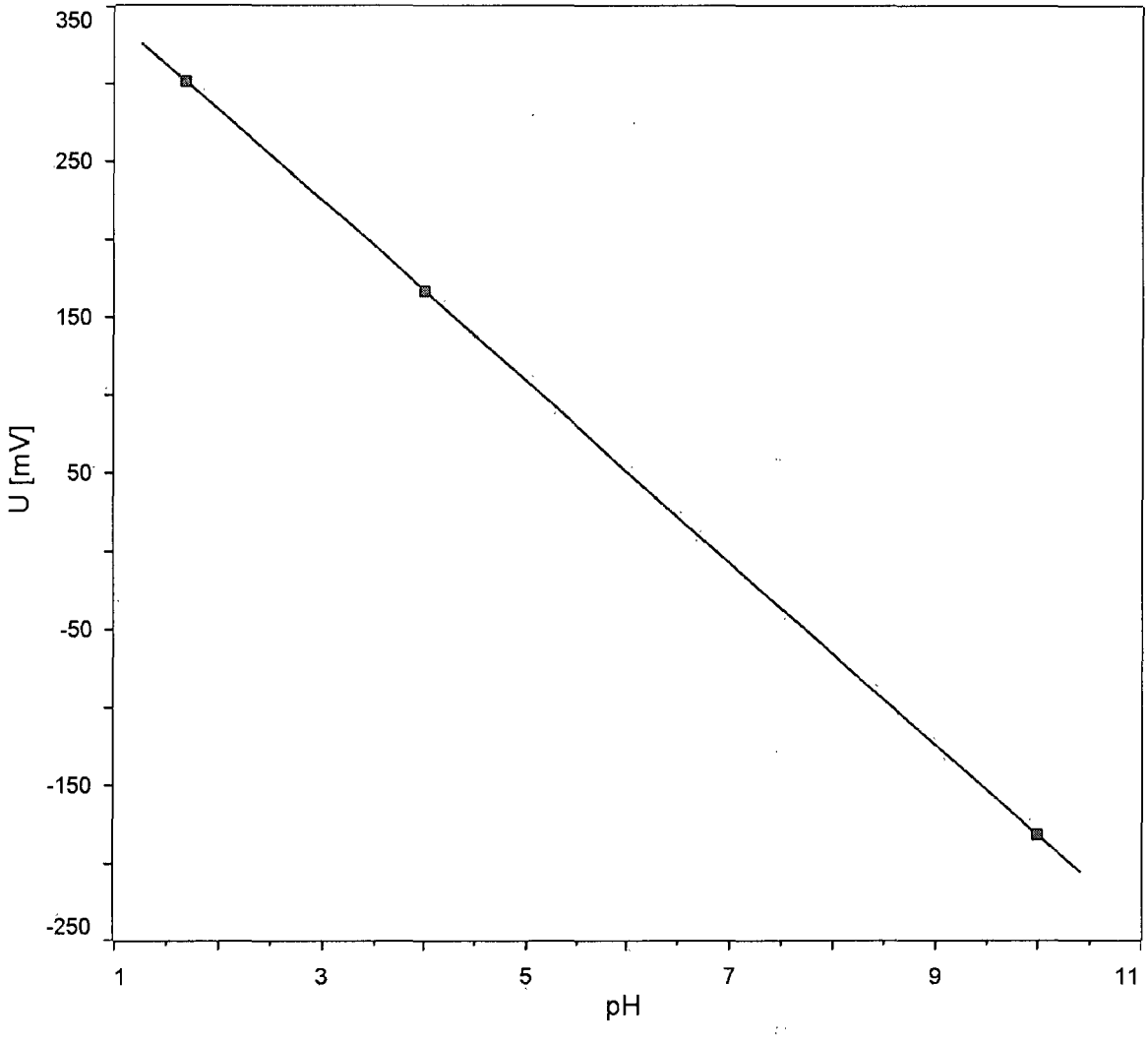
Timao Calibration Curve

2020-01-27 19:21:51

Calculations

Buffer 7	7.04	
Formula	'MEAS pH.EME'	
MEAS pH.EME	7.0382	
Slope	99.40	
Formula	'Calibration loop pH.SLO'	
Calibration loop pH.SLO	99.4	
pH(as)	6.87	
Formula	'Calibration loop pH.ENP'	
Calibration loop pH.ENP	6.871	
Res19	21.4	°C
Formula	'CAL MEAS pH.ETE'	
CAL MEAS pH.ETE	21.3891	

Calibration loop pH.1 - CAL LOOP pH



Metrohm 814/809 Titrando Data

Sample ID	Analysis Date/Time	Method	Titration Volume (to 8.3)	Titration Volume (total)	OH	CO3	HCO3	Total Alk	Unit	Sample Vol	N	Batch	Initials
BA06319W10	2020-01-27 22:19:25 UTC-8	Alkalinity	0.000	1.324	0.00	0.00	54.81	54.81	mg/L	25 mL	0.0207	200127A	AR
BA06317W07	2020-01-27 22:12:51 UTC-8	Alkalinity	0.000	3.546	0.00	0.00	146.80	146.80	mg/L	25 mL	0.0207	200127A	AR
BA06315W07	2020-01-27 22:08:44 UTC-8	Alkalinity	0.000	1.530	0.00	0.00	63.34	63.34	mg/L	25 mL	0.0207	200127A	AR
BA06313W07	2020-01-27 22:03:21 UTC-8	Alkalinity	0.000	2.162	0.00	0.00	89.51	89.51	mg/L	25 mL	0.0207	200127A	AR
200127A LCSD	2020-01-27 20:47:15 UTC-8	Alkalinity	0.026	5.784	0.00	2.15	237.30	239.46	mg/L	25 mL	0.0207	200127A	AR
200127A LCS	2020-01-27 20:39:03 UTC-8	Alkalinity	0.028	5.770	0.00	2.32	236.56	238.88	mg/L	25 mL	0.0207	200127A	AR
200127A BLK	2020-01-27 20:35:37 UTC-8	Alkalinity	0.000	0.048	0.00	0.00	1.99	1.99	mg/L	25 mL	0.0207	200127A	AR

Bold and Blue= Needs to be filled out everytime reagent is prepped
Bold and Green= Needs to be filled out everytime reagent is switched out

Tiamo Alkalinity Standard Prep

Prep Date:
Exp Date:

Prep'd By (Initials): AR

Intial Standard Information							Final Standard Information			
Name of Intial Standard (QAU Label)	Supplier	Unit	Conc	Lot Number - QA Number	Prep/Opened	Exp. Date	Aliquot from Stock	Final Volume	Solvent	Final Standard Conc
Sulfuric Acid (H2SO4)	J.T.Baker	NA	NA	167828	NA	NA	PURCHASED	NA	NA	NA
0.10N Sulfuric Acid (H2SO4)	J.T Baker	Normality	0.1N	167828	05/24/19	05/24/20	3ml	1L	DI	0.10N
0.02N Sulfuric Acid (H2SO4)	J.T.Baker	Normality	0.02N	167828	05/24/19	05/24/20	200mL	1L	DI	0.02N
Inorganic Spike(NaHCO3)	BDH	NA	NA	1575C510	10/18/18	08/14/20	PURCHASED	NA	NA	NA
Inorganic Spike Solution	BDH	Milligrams/Liters	250mg/L	1575C510	07/30/20	07/30/20	3.5g	500mL	DI	250mg/L
Standarizing Solution(NaCO3)	J.T.Baker	Normality	1N	176494	07/25/17	07/25/19	PURCHASED	NA	NA	NA

Tiamo Electroconductivity Standard Prep

Prep Date:
Exp Date:

Prep'd By (Initials): CD

Intial Standard Information							Final Standard Information			
Name of Intial Standard (QAU Label)	Supplier	Units	Conc	Lot Number	Prep/Opened	Exp Date	Aliquot from Stock	Final Volume	Solvent	Final Standard Conc. Range (µg/mL)
EC Spike(KCl)	Mallinckrodt AR	Na	NA	6858 KHMV	NA	NA	PURCHASED	NA	NA	NA
EC Spike Solution	Mallinckrodt AR	Moles/Conductivity	0.01M	6858 KHMV	10/01/19	10/1/20	0.7456g	1L	DI	1412umos
EC Daily LCS Solution	Mallinckrodt AR	Moles/Conductivity	0.0070824M	6858 KHMV	09/10/19	9/10/20	0.5280g	1L	DI	1000umos
Storage Solution EC Probe	APPL	NA	NA	NA	NA	NA	NA	NA	DI	NA

Tiamo pH Buffer Reference Standards

Prep Date: Daily
Exp Date: Daily

Prep'd By (Initials): AR

Intial Standard Information							Final Standard Information			
Name of Intial Standard (QAU Label)	Supplier	Units	pH	Lot Number - QA Number	Opened	Exp Date	Aliquot from Stock	Final Volume	Solvent	Final Standard Conc (µg/mL)
pH 1.68 Buffer	ORION	pH Units	1.68	WX140709	04/22/19	01/01/21	NA	NA	NA	NA
pH 4.00 Buffer	RICCA	pH Units	4	1607191-39782	04/22/19	01/01/21	NA	NA	NA	NA
pH 10.01 Buffer	VWR	pH Units	10.01	0903989-40707	04/22/19	08/27/20	NA	NA	NA	NA
pH 7.00 Buffer	Ricca	pH Units	7	1805M17 - 39765	10/15/18	05/01/20	NA	NA	NA	NA

908 North Temperance Ave. ∇ Clovis, CA 93611 ∇ Phone 559-275-2175 ∇ Fax 559-275-4422

Certification Number: CA1312
NELAP Certification number: CA00046
DoD-ELAP Certificate number: 4064.01

Data Validatable Report

March 4, 2020

AECOM
1001 Bishop Street, Suite 1600
Honolulu, Hawaii 96813

Attn: Margie Pascua

Title: Report of Data: Case 91299

Project: 60571032 CV18F0126 Red Hill Fuel Storage. HI

Contract #: Prime contract # for DoD: NAVY CLEAN N62742-17-F-1800, CV18F0126
Subcontract: 18S-22209-HI27

Dear Ms. Pascua:

Five water samples were received January 24,2020. Revised written results for the requested analyses are being provided on this March 4, 2020. **Revisions:** For the DRO analysis, sample ERH1009 oil flags were changed to better reflect the patterns of the chromatograms. For the GRO analysis, samples ERH1008 and ERH1009 the results were amended to non-detects to the limit of detection, to be consistent with other sample delivery groups. **Revision Two:** Ferrous iron MS/MSD added for sample ERH997.

Results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

If you have any questions or require further information, please contact your APPL Project Manager, Libby Cheeseborough, libby@applinc.com, at your convenience. Thank you for choosing APPL, Inc.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. These test results meet all requirements of NELAC and DoD QSM. Release of the hard copy has been authorized by the Laboratory Manager or her designee, as verified by the following signature.

Paula McCartney, Laboratory Director
APPL, Inc.

PM/lac
Enclosure
cc: File

Data Validation Package
for
60481245 CIV 0053 Red Hill Fuel Storage
APPL SDG 91299
TABLE OF CONTENTS

LABORATORY NAME: *APPL, Inc.*

Case Narrative	4
Sample Management Records	8
Sample Results	17
QC Forms	52
Method 8011 Calibration Data	141
Method 8011 Raw Data	164
Method 8015B Calibration Data	179
Method 8015B Raw Data	228
Method 8270D SIM Calibration Data	259
Method 8270D SIM Raw Data	286
Method 8270D Calibration Data	311
Method 8270D Raw Data	357
APPL SOP 2-MEE Calibration Data	381
APPL SOP 2-MEE Raw Data	408
Method 8260B Calibration Data	436
Method 8260B Raw Data	503
Method 8260B GRO Calibration Data	530
Method 8260B GRO Raw Data	569
Method RSK-175 Calibration Data	603
Method RSK-175 Raw Data	625

Method 300 Calibration Data 645
Method 300 Raw Data 665
Inorganic Analyses Calibration Data 677
Inorganic Analyses Raw Data 682

CASE NARRATIVE

Case Narrative

ARF: 91299

Project: 60571032 CV18F0126 Red Hill Fuel Storage. HI

Sample Receipt Information:

Five water samples were received January 24, at 2.4°C, 1.9°C, and 1.9°C. The sample group was assigned Analytical Request Form (ARF) number 91299.

Sample Preparation and Analysis Information:

For the EPA 8011 analysis, the samples were extracted according to APPL SOP method MWE012.

For the EPA 8015B analysis, the sample was extracted according to EPA method 3510C. The sample extracts were silica gel cleaned according to APPL's SOP CLN004 and placed on hold.

For the EPA 8270D SIM analysis, the samples were extracted according to EPA method 3520C.

For the EPA 8270D Phenol analysis, the samples were extracted according to EPA method 3520C.

For the APPL SOP ANA2MEE analysis, the samples were extracted according to EPA method 3535.

For the EPA 8260B analysis, the samples were purged according to EPA method 5030B.

For the RSK-175 analysis, the samples were allowed to equilibrate for 10 minutes at 40°C and a portion of the headspace was analyzed.

For the EPA 9060A, 300.0, 353.2, SM 2320B, SM 3500FeB analyses, the samples were prepared according to the methods.

Only the portion of the injection log relative to these samples is included. A full sequence log is available upon request. Measurement uncertainty can be reported upon request.

Analytical Exceptions, Deviations and Abnormalities.

EPA 8015B: In the 200126A LCS/LCSD, both RPD exceeded the 30% limit.

The continuing calibration 129042.D for Decanoic Acid increased in sensitivity with a 28% Drift.

Inorganics: The samples were received out of hold time for nitrate analysis, they were analyzed as soon as possible after arrival.

SDG	Received	Client ID	APPL ID	Collected DateTime	Matrix	Method	Method Description
91299	01/24/20	ERH1007	BA06360	01/22/20 7:30:00 AM	WATER	8011	EPA 8011
91299	01/24/20	ERH1007	BA06360	01/22/20 7:30:00 AM	WATER	EPA 8260B	EPA 8260B BTEX & 1,2-DCA WATER
91299	01/24/20	ERH1007	BA06360	01/22/20 7:30:00 AM	WATER	EPA 8260-GAS	EPA 8260 with GAS
91299	01/24/20	ERH1007	BA06360	01/22/20 7:30:00 AM	WATER	EPA 8260B	EPA 8260B GRO WATER
91299	01/24/20	ERH1007	BA06360	01/22/20 7:30:00 AM	WATER	RSK 175	METHANE BY RSK 175
91299	01/24/20	ERH1008	BA06361	01/22/20 8:30:00 AM	WATER	SM 2320B	Wetlab 2320B - Water
91299	01/24/20	ERH1008	BA06361	01/22/20 8:30:00 AM	WATER	EPA 300.0	Wetlab 300.0 - Water
91299	01/24/20	ERH1008	BA06361	01/22/20 8:30:00 AM	WATER	SM3500FeB	Ferrous Iron
91299	01/24/20	ERH1008	BA06361	01/22/20 8:30:00 AM	WATER	EPA 353.2	EPA 353.2 - WATER
91299	01/24/20	ERH1008	BA06361	01/22/20 8:30:00 AM	WATER	8011	EPA 8011
91299	01/24/20	ERH1008	BA06361	01/22/20 8:30:00 AM	WATER	EPA 8260B	EPA 8260B BTEX & 1,2-DCA WATER
91299	01/24/20	ERH1008	BA06361	01/22/20 8:30:00 AM	WATER	EPA 8270D	EPA 8270D WATER
91299	01/24/20	ERH1008	BA06361	01/22/20 8:30:00 AM	WATER	EPA 8270D	EPA 8270D MODIFIED WATER
91299	01/24/20	ERH1008	BA06361	01/22/20 8:30:00 AM	WATER	EPA 8015B-eLL	EPA 8015B TPH LIQ-LIQ
91299	01/24/20	ERH1008	BA06361	01/22/20 8:30:00 AM	WATER	EPA 8260-GAS	EPA 8260 with GAS
91299	01/24/20	ERH1008	BA06361	01/22/20 8:30:00 AM	WATER	EPA 8260B	EPA 8260B GRO WATER
91299	01/24/20	ERH1008	BA06361	01/22/20 8:30:00 AM	WATER	RSK 175	METHANE BY RSK 175
91299	01/24/20	ERH1008	BA06361	01/22/20 8:30:00 AM	WATER	8270D-SIM	EPA 8270D SIM LIQ-LIQ
91299	01/24/20	ERH1008	BA06361	01/22/20 8:30:00 AM	WATER	SW846 9060A	9060A TOC
91299	01/24/20	ERH1009	BA06362	01/22/20 8:35:00 AM	WATER	8011	EPA 8011
91299	01/24/20	ERH1009	BA06362	01/22/20 8:35:00 AM	WATER	EPA 8260B	EPA 8260B BTEX & 1,2-DCA WATER
91299	01/24/20	ERH1009	BA06362	01/22/20 8:35:00 AM	WATER	EPA 8270D	EPA 8270D WATER
91299	01/24/20	ERH1009	BA06362	01/22/20 8:35:00 AM	WATER	EPA 8270D	EPA 8270D MODIFIED WATER
91299	01/24/20	ERH1009	BA06362	01/22/20 8:35:00 AM	WATER	EPA 8015B-eLL	EPA 8015B TPH WATER L-L SGC
91299	01/24/20	ERH1009	BA06362	01/22/20 8:35:00 AM	WATER	EPA 8015B-eLL	EPA 8015B TPH LIQ-LIQ
91299	01/24/20	ERH1009	BA06362	01/22/20 8:35:00 AM	WATER	EPA 8260-GAS	EPA 8260 with GAS
91299	01/24/20	ERH1009	BA06362	01/22/20 8:35:00 AM	WATER	EPA 8260B	EPA 8260B GRO WATER
91299	01/24/20	ERH1009	BA06362	01/22/20 8:35:00 AM	WATER	8270D-SIM	EPA 8270D SIM LIQ-LIQ
91299	01/24/20	ERH996	BA06363	01/23/20 9:30:00 AM	WATER	EPA 8260B	EPA 8260B BTEX WATER
91299	01/24/20	ERH996	BA06363	01/23/20 9:30:00 AM	WATER	EPA 8260-GAS	EPA 8260 with GAS
91299	01/24/20	ERH996	BA06363	01/23/20 9:30:00 AM	WATER	EPA 8260B	EPA 8260B GRO WATER
91299	01/24/20	ERH996	BA06363	01/23/20 9:30:00 AM	WATER	RSK 175	METHANE BY RSK 175
91299	01/24/20	ERH997	BA06364	01/23/20 10:35:00 AM	WATER	SM 2320B	Wetlab 2320B - Water
91299	01/24/20	ERH997	BA06364	01/23/20 10:35:00 AM	WATER	EPA 300.0	Wetlab 300.0 - Water
91299	01/24/20	ERH997	BA06364	01/23/20 10:35:00 AM	WATER	EPA 300.0	Wetlab 300.0 - Water
91299	01/24/20	ERH997	BA06364	01/23/20 10:35:00 AM	WATER	SM3500FeB	Ferrous Iron
91299	01/24/20	ERH997	BA06364	01/23/20 10:35:00 AM	WATER	EPA 353.2	EPA 353.2 - WATER
91299	01/24/20	ERH997	BA06364	01/23/20 10:35:00 AM	WATER	EPA 8260B	EPA 8260B BTEX WATER
91299	01/24/20	ERH997	BA06364	01/23/20 10:35:00 AM	WATER	EPA 8270D	EPA 8270D WATER
91299	01/24/20	ERH997	BA06364	01/23/20 10:35:00 AM	WATER	EPA 8270D	EPA 8270D MODIFIED WATER
91299	01/24/20	ERH997	BA06364	01/23/20 10:35:00 AM	WATER	EPA 8015B-eLL	EPA 8015B TPH LIQ-LIQ
91299	01/24/20	ERH997	BA06364	01/23/20 10:35:00 AM	WATER	EPA 8260-GAS	EPA 8260 with GAS
91299	01/24/20	ERH997	BA06364	01/23/20 10:35:00 AM	WATER	EPA 8260B	EPA 8260B GRO WATER
91299	01/24/20	ERH997	BA06364	01/23/20 10:35:00 AM	WATER	RSK 175	METHANE BY RSK 175
91299	01/24/20	ERH997	BA06364	01/23/20 10:35:00 AM	WATER	8270D-SIM	EPA 8270D SIM LIQ-LIQ
91299	01/24/20	ERH997	BA06364	01/23/20 10:35:00 AM	WATER	SW846 9060A	9060A TOC

APPL Inc.
Abbreviations and Flags

FLAG	DESCRIPTION
#	Recovery or RPD outside control limits
*	Recovery or RPD outside control limits
B	Analyte detected in associated method blank
C1	Reason for correction: wrote incorrect response
C2	Reason for correction: calculated incorrectly
C3	Reason for correction: needs to be rechecked
C4	Reason for correction: data not usable
DO	Diluted out
E	Exceeds linear range
F	Estimated value
G1	Includes a wide range of hydrocarbons which does not match our gasoline standard
G10	Includes a match to hydrocarbon profiles within the range of mineral spirits
G11	Includes a match to hydrocarbon profiles within the range of JP-4
G12	Pattern does not match the gasoline standard; the carbon range for this sample is consistent with JP8
G13	Closely resembles the hydrocarbon profile of aviation gasoline
G14	Analyte concentration may be biased due to carry over
G2	Closely resembles the boiling point hydrocarbon profile consistent with weathered gasoline
G3	Includes higher boiling hydrocarbons
G4	Includes dominant peak(s) not indicative of petroleum hydrocarbons
G5	Is mainly dominant peak(s) not indicative of petroleum hydrocarbons
G6	Contains recognizable contaminant peak(s) which has been removed from quantitation
G7	Is mainly a match to hydrocarbons within the range of gasoline
G8	Closely resembles the boiling point hydrocarbon profile consistent with weathered gasoline
G9	Includes hydrocarbons within the range of kerosene
J	Estimated value
M	Matrix effect
MI1	Manual integration: integration does not follow baseline
MI2	Manual integration: non-target peak interference
MI3	Manual integration: to split a peak that was integrated as one peak by the computer.
MI4	Manual integration: to integrate a split peak
MI5	Manual integration: the whole peak or part of the peak was not integrated
MI6	Manual integration: computer integrated wrong peak
MI7	Manual integration: other – (See case narrative)
MDL	Method detection limit
ND	Not detected
NT	Non-target
Q	Acceptance criteria not met
T1 I	Includes wide range of hydrocarbons not indicative of diesel
T1 M	Is mainly wide range of hydrocarbons not necessarily indicative of diesel
T2 I	Includes lower boiling hydrocarbons, e.g. mineral spirits, kerosene, stoddard solvent, white gas
T2 M	Is mainly lower boiling hydrocarbons, e.g. mineral spirits, kerosene, stoddard solvent, white gas
T3 I	Includes higher boiling hydrocarbons, e.g. asphaltene, waste oil, motor oil, or weathered diesel fuel
T3 M	Is mainly higher boiling hydrocarbons, e.g. asphaltene, waste oil, motor oil, or weathered diesel fuel
T4 I	Includes dominant peak(s) not indicative of hydrocarbons
T4 M	Is mainly dominant peak(s) not indicative of hydrocarbons
T5	Contains recognizable contaminant peak(s) which has been removed from quantitation
T6	Is mainly a match to hydrocarbons within range of diesel fuel
T7	Closely resembles the boiling point hydrocarbon profile consistent with diesel fuel
T8	Includes a match to hydrocarbon profiles within range of diesel and kerosene fuel
T9 I	Includes non-diesel hydrocarbons within boiling point range of diesel fuel
T9 M	Is mainly non-diesel hydrocarbons within boiling point range of diesel fuel
U	Not detected
Y	Percent difference between primary and confirmation column > 40%

SAMPLE RECORDS MANAGEMENT

CHAIN OF CUSTODY,

ARF, CRF, AND

CLIENT COMMUNICATION

APPL - Analysis Request Form 91299

Client: **AECOM**
Address: **1001 Bishop Street, Suite 1600**
Honolulu, HI 96813
Attn: **Margie Pascua**
Phone: **808-356-5373** Fax: **808-523-8950**
Job: **60571032 CV18F0126 Red Hill Fuel Storage**
PO #: **18S-22209-HI27 PO# 102604**
Chain of Custody (Y/N): **Y** # **153,157-8**
RAD Screen (Y/N): **Y** pH (Y/N): **Y**
Turn Around Type: **1 WEEK**

Received by: **RBR**
Date Received: **01/24/20** Time: **11:00**
Delivered by: **FEDEX**
Shuttle Custody Seals (Y/N): **Y** Time Zone: **-10**
Chest Temp(s): **2.4,1.9,1.9°C**
Color: **VFRG/M-PurPink**
Samples Chilled until Placed in Refrig/Freezer: **Y**
Project Manager: **Libby Cheesebor**
QC Report Type: **DVP4DOD/EQUIS/HI**
Due Date: **01/31/20**

Comments:
PM: login and F1s to Margie.Pascua@aecom.com
AN: 7 day TAT for Form 1s; 21 day TAT for PKG STYLE 1; DOD v5.1; DOD Forms: LOD database
Wetlab: NO3, CL, SO4 by EPA 300 and NO3-N & NO2-N by 353.2
8260: BTEX & TPH-G only; 8270 SIM: 1-methylnaphthalene, 2-methylnaphthalene & naphthalene only.
TPH D & O both with and w/o SGC, reverse surrogate for the SGC; analyze SGC if detections
RSK: Methane only; 8011: EDB only; $87DC53W5: report phenol
FR: email ftp info to Margie, Stella, trommelfanger@lab-data.com & jcanlas@lab-data.com
EDD: AECOM EQuIS EDD 2.5.3 Red Hill 87DMEE->3535A to Margie.Pascua@aecom.com & jecklund@lab-data.com

Sample Distribution:
GC: 3-$8011, 3-$87DC53W5, 3-$87DMEEW5, 3-$DOC53W5LIQ, 3-$SIM53LIQ51
Extractions: 3-_LIQ003, 3-_LIQ005, 2-_MWE012, 3-_MWE2MEE
VOA: 3-$86BTOTXDCAW, 5-$GASBL, 5-$GRO68BW, 4-$RSKMETH, 2-$86BTOTXDOD5W
Wetlab: 2-$232W(HCO3,CO3,ALK), 2-$300W, 2-$35FE,2-$35OF, 2-$TOCW53

Charges:

Invoice To:
ACCOUNTS PAYABLE
1001 Bishop Street, Ste 1600
USAPImaging@aecom.com
mary.basano@aecom.com

	Client ID	APPL ID	Sampled	Analyses Requested
1.	ERH1007	BA06360W	01/22/20 07:30	$8011, $86BTOTXDCAW, $GASBL, $GRO68BW, $RSKMETH -- see comments
2.	ERH1008	BA06361W	01/22/20 08:30	$232W(HCO3,CO3,ALK), $300W, $35FE, $35OF, $8011, $86BTOTXDCAW, $87DC53W5, $87DMEEW5, $DOC53W5LIQ, $GASBL, $GRO68BW, $RSKMETH, $SIM53LIQ51, $TOCW53 -- see comments
3.	ERH1009	BA06362W	01/22/20 08:35	$8011, $86BTOTXDCAW, $87DC53W5, $87DMEEW5, $DOC53W5LIQ, $GASBL, $GRO68BW, $SIM53LIQ51 -- see comments

Note: All times, excluding sample collection times, are Pacific Time Zone unless noted otherwise. Collection times are in: -10 UTC
Page 1 Client Code: AECOM-REDHILL *Printed 01/27/20 4:06:15 PM* Computer: APPL-LC **# 91299**

4.	ERH996	BA06363W 01/23/20	09:30	$86BTOTXDOD5W, $GASBL, $GRO68BW, $RSKMETH -- see comments
5.	ERH997	BA06364W 01/23/20	10:35	$232W(HCO3,CO3,ALK), $300W, $35FE, $35OF, $86BTOTXDOD5W, $87DC53W5, $87DMEEW5, $DOC53W5LIQ, $GASBL, $GRO68BW, $RSKMETH, $SIM53LIQ51, $TOCW53 -- see comments

APPL Sample Receipt Form

ARF# **91299**

Sample	Container Type	Count	p
BA06360	[13] VOAs - HCL	4	NA
	[15] VOAs - NP	3	NA
BA06361	[3] PL 250mL	1	NA
	[10] PL 250mL - H2SO4	1	1.7
	[13] VOAs - HCL	4	NA
	[15] VOAs - NP	3	NA
	[17] Amber Liter	4	NA
	[32] Clear VOA - H2SO4	2	NA
	[38] 250mL brn poly, HCl prsvd	1	1.7
	[40] 500mL Amber, unprsrvd	3	NA
BA06362	[13] VOAs - HCL	4	NA
	[15] VOAs - NP	3	NA
	[17] Amber Liter	4	NA
	[40] 500mL Amber, unprsrvd	3	NA
BA06363	[13] VOAs - HCL	4	NA
BA06364	[3] PL 250mL	1	NA
	[10] PL 250mL - H2SO4	1	1.7
	[13] VOAs - HCL	4	NA
	[17] Amber Liter	4	NA
	[32] Clear VOA - H2SO4	2	NA
	[38] 250mL brn poly, HCl prsvd	1	1.7
	[40] 500mL Amber, unprsrvd	3	NA

Sample	Container Type	Count	p

Printed 01/24/20 3:06:30 PM

9/299

APPL, Inc.
908 N Temperance Ave
Clovis, CA 93611
www.applinc.com

Phone: (559) 275-2175
Fax: (559) 275-4422
coc@applinc.com

CHAIN OF CUSTODY RECORD

C.O.C. 158

Report to: PLEASE PRINT	Invoice to: PLEASE PRINT
Company Name: AECOM Phone: 808-356-5373	Company Name: AECOM Phone: 808-529-7249
Address: 1001 Bishop St, Suite 1600 Honolulu, HI 96813 Fax: 808-523-8950	Address: 1001 Bishop St, Suite 1600 Honolulu, HI 96813 Fax: 808-523-8950
Attn: Margie Pascua	Attn: Mary Basano
Email: margie.pascua@aecom.com	Email: mary.basano@aecom.com; usapimaging@aecom.com

Project Name/Number	Sampler (Print)
CV18F0126 / 60571032	BM, BL, TV, CE, SP
Purchase Order Number	**Sampler (Signature)**
102604	MP for BM, BL, TV, CE, SP

Date Shipped: MM/DD/YY
Carrier: FedEx
Waybill No.:
Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Matrix: Sed.	Matrix: Soil	8260C BTEX,TPH-g	8260C DCA 8011 EDB	8015C TPH-d/o	3630/8015C TPH-d/o w/ SGT	8270DSIM PAHs short list	8270D Phenol, PCP, 2MP	8270D 2-(2-methoxy ethoxy)-ethanol	RSK175M Methane	SM3500-Fe Ferrous Iron	353.2 Nitrate-Nitrite N	SM2320B Alkalinity 300.0 Nitrate,Sulfate,Chloride	300.0 Bromide/Fluoride 6010 Total Ca,Mg,Mn,K,Na SM4500 Total & Dissolved Silica	9060A TOC	
ERH1007	Trip Blank	01/22/20	0730	HST	7	X			X	X						X						
ERH1008	RHMW14-03	01/22/20	0830	HST	19	X			X	X	X	X*	X	X	X	X	X	X	X	X		X	
ERH1009	RHMW14-03	01/22/20	0835	HST	7	X			X	X													see other cooler

EB 01/23/20

*Analyze TPH w/SGT only if TPH-d/o detected.

TPH-d/o & PAHs need liquid-liquid extraction.

Shuttle Temperature:	Turnaround Requested: Check one ☐ Standard 2-3 wk ☒ One week ☐ 3 days ☐ 24/48 Hrs. ☐ Other:	Sample Disposal: ☐ Return to client ☒ Disposal by Lab (30-day retention)

Relinquished by sampler: AECOM Estelle BONNY	Date 01/23/20	Time 1045	Received by:	Relinquished by:	Date	Time	Received by:
Relinquished by:	Date	Time	Received by:	Relinquished by:	Date 1-24-20	Time 1100	Received at lab by:

See page 2 for Container Preservative and Sampling Information

APPL, Inc.
908 N Temperance Ave
Clovis, CA 93611
www.applinc.com

Phone: (559) 275-2175
Fax: (559) 275-4422
coc@applinc.com

CHAIN OF CUSTODY RECORD

C.O.C. 157

Report to: PLEASE PRINT	Invoice to: PLEASE PRINT
Company Name: AECOM Phone: 808-356-5373	Company Name: AECOM Phone: 808-529-7249
Address: 1001 Bishop St, Suite 1600 Honolulu, HI 96813 Fax: 808-523-8950	Address: 1001 Bishop St, Suite 1600 Honolulu, HI 96813 Fax: 808-523-8950
Attn: Margie Pascua	Attn: Mary Basano
Email: margie.pascua@aecom.com	Email: mary.basano@aecom.com; usapimaging@aecom.com

Project Name/Number	Sampler (Print)
CV18F0126 / 60571032	BM, BL, TV, CE, SP
Purchase Order Number	**Sampler (Signature)**
102604	MP for BM, BL, TV, CE, SP

Date Shipped: MM/DD/YY
Carrier: FedEx
Waybill No.:
Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Matrix: Sed.	Matrix: Soil	8260C BTEX,TPH-g	8260C DCA 8011 EDB	8015C TPH-d/o	3630/8015C TPH-d/o w/ SGT	8270DSIM PAHs short list	8270D Phenol, Low MW	8270D 2-(2-methoxy ethoxy)-ethanol	RSK175M Methane	SM3500-Fe Ferrous Iron	353.2 Nitrate-Nitrite N	SM2320B Alkalinity 300.0 Nitrate,Sulfate,Chloride	300.0 Bromide/Fluoride 6010 Total Ca,Mg,Mn,K,Na SM4500 Total & Dissolved Silica	9060A TOC	
ERH1009	RHMW4-03	01/22/20	0835	HST	7	X			X	X	X	X*	X	X	X							see other coolers for UOAs

EB 01/18/20

*Analyze TPH w/SGT only if TPH-d/o detected.

TPH-d/o & PAHs need liquid-liquid extraction.

Shuttle Temperature: 2.0/2.4 R9 @ 40.4 1.5/1.9 1.5/1.9

Turnaround Requested: Check one
☐ Standard 2-3 wk ☒ One week ☐ 3 days ☐ 24/48 Hrs. ☐ Other: _____

Sample Disposal:
☐ Return to client ☒ Disposal by Lab (30-day retention)

Relinquished by sampler: AECOM Estelle BONNY	Date 01/23/20	Time 1045	Received by:	Relinquished by:	Date	Time	Received by:
Relinquished by:	Date	Time	Received by:	Relinquished by:	Date 01-24-20	Time 1100	Received at lab by:

See page 2 for Container Preservative and Sampling Information

APPL, Inc.
908 N Temperance Ave
Clovis, CA 93611
www.applinc.com

Phone: (559) 275-2175
Fax: (559) 275-4422
coc@applinc.com

CHAIN OF CUSTODY RECORD

C.O.C. 153

Report to: PLEASE PRINT

Company Name: AECOM Phone: 808-356-5373

Address: 1001 Bishop St, Suite 1600
Honolulu, HI 96813 Fax: 808-523-8950

Attn: Margie Pascua

Email: margie.pascua@aecom.com

Invoice to: PLEASE PRINT

Company Name: AECOM Phone: 808-529-7249

Address: 1001 Bishop St, Suite 1600
Honolulu, HI 96813 Fax: 808-523-8950

Attn: Mary Basano

Email: mary.basano@aecom.com; usapimaging@aecom.com

Project Name/Number: CV18F0126 / 60571032

Purchase Order Number: 102604

Sampler (Print): GM, CS, RS

Sampler (Signature): MP for GM, CS, RS

Date Shipped: MM/DD/YY

Carrier: FedEx

Waybill No.:

Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Sed.	Soil	8260C BTEX,TPH-g	8260C DCA 8011 EDB	8015C TPH-d/o	3630/8015C TPH-d/o w/ SGT	8270DSIM PAHs short list	8270D Phenol, TICS MAX	8270D 2-(2-methoxy ethoxy)-ethanol	RSK175M Methane	SM3500-Fe Ferrous Iron	353.2 Nitrate-Nitrite N	SM2320B Alkalinity 300.0 Nitrate,Sulfate,Chloride	300.0 Bromide/Fluoride 6010 Total Ca,Mg,Mn,K,Na SM4500 Total & Dissolved Silica	9060A TOC	
ERH996	Trip Blank	01/23/20	0930	HST	4	X			X							X					
ERH997	HDMW2253-03	01/23/20	1035	HST	16	X			X		X	X*	X	X	X	X	X	X	X		X	

EB 01/23/20

*Analyze TPH w/SGT only if TPH-d/o detected.

TPH-d/o & PAHs need liquid-liquid extraction.

Shuttle Temperature:

Turnaround Requested: Check one
☐ Standard 2-3 wk ☒ One week ☐ 3 days ☐ 24/48 Hrs. ☐ Other:

Sample Disposal:
☐ Return to client ☒ Disposal by Lab (30-day retention)

Relinquished by sampler: AECOM Estelle BONNY	Date 01/23/20	Time	Received by:	Relinquished by:	Date	Time	Received by:
Relinquished by:	Date	Time	Received by:	Relinquished by:	Date 1.24.20	Time 1100	Received at lab by:

See page 2 for Container Preservative and Sampling Information

Rachel's Copy

41294

APPL, Inc.
908 N Temperance Ave
Clovis, CA 93611
www.applinc.com

Phone: (559) 275-2175
Fax: (559) 275-4422
coc@applinc.com

CHAIN OF CUSTODY RECORD

C.O.C. 158

Report to: PLEASE PRINT	Invoice to: PLEASE PRINT
Company Name: AECOM Phone: 808-356-5373	Company Name: AECOM Phone: 808-529-7249
Address: 1001 Bishop St, Suite 1600 Honolulu, HI 96813 Fax: 808-523-8950	Address: 1001 Bishop St, Suite 1600 Honolulu, HI 96813 Fax: 808-523-8950
Attn: Margie Pascua	Attn: Mary Basano
Email: margie.pascua@aecom.com	Email: mary.basano@aecom.com; usapimaging@aecom.com

Project Name/Number	Sampler (Print)	Purchase Order Number	Sampler (Signature)
CV18F0126 / 60571032	BM, BL, TV, CE, SP	102604	MP for BM, BL, TV, CE, SP

Date Shipped:
Carrier: FedEx
Waybill No.:
Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Sed.	Soil	8260C BTEX,TPH-g	8260C DCA 8011 EDB	8015C TPH-d/o	3630/8015C TPH-d/o w/ SGT	8270DSIM PAHs short list	8270D Phenol PICS W	8270D 2-(2-methoxy ethoxy)-ethanol	RSK175M Methane	SM3500-Fe Ferrous Iron	353.2 Nitrate-Nitrite N	SM2320B Alkalinity 300.0 Nitrate,Sulfate,Chloride	300.0 Bromide/Fluoride 6010 Total Ca,Mg,Mn,K,Na SM4500 Total & Dissolved Silica	9060A TOC	
ERH1007	Trip Blank	01/22/20	0730	HST	7	X			X	X						X						
ERH1008	RHMW14-03	01/22/20	0830	HST	19	X			X	X	X	X*	X	X	X	X	X	X	X		X	
ERH1009	RHMW14-03	01/22/20	0835	HST	14 X	X			X	X	X	X	X	X	X							see other cooler
ERH996	Trip Blank	1/23/20	0930	HST	4	X			X							X						
ERH997	HDMW2253-03	1/23/20	10:35	HST	16	X			X	X	X	X*	X	X	X	X	X	X	X		X	
							EB 01/23/20		X													

*Analyze TPH w/SGT only if TPH-d/o detected.

TPH-d/o & PAHs need liquid-liquid extraction.

Shuttle Temperature:

Turnaround Requested: Check one
☐ Standard 2-3 wk ☒ One week ☐ 3 days ☐ 24/48 Hrs. ☐ Other:

Sample Disposal:
☐ Return to client ☒ Disposal by Lab (30-day retention)

Relinquished by sampler: AECOM	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
Estelle BONNY	01/23/20	1045					
Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received at lab by:
					1-24-20	1100	

See page 2 for Container Preservative and Sampling Information

COOLER RECEIPT FORM **ARF: 91299**

1) Project: 60571032 CV18F0126 Red Hill Fuel Storage Date Received: 01/24/20

2) Coolers: Number of Coolers: 3

3) YES Were custody seals present and intact?
How many? 3 Name/Date on seal? SEE BELOW

4) YES Was there a shipping slip? Carrier name: FEDEX

5) Type of packing in cooler: X bubble wrap __ popcorn __ foam X plastic bags __ other
X wet ice __ dry ice __ no ice __ gel ice

6) YES Were cooler temperatures acceptable?

7) Serial number of certified NIST thermometer use R4@+0.4°C

8) Cooler temp(s): In °C. Thermometer Temp / Corrected Temp
1: 2.0/2.4° 2: 1.5/1.9° 3: 1.5/1.9° 4: ____ 5: ____ 6: ____
7: ____ 8: ____ 9: ____ 10: ____ 11: ____ 12: ____

Chain of custody:

9) YES Was a chain of custody received?

10) YES Were the custody papers complete/signed in the appropriate places?

Sample Labels:

11) YES Were all sample labels complete (sample ID, date/time of sampling, etc.)?

12) YES Did all container labels agree with custody papers?

Sample Containers:

13) YES Were all containers sealed in separate bags?

14) YES Did all containers arrive in good condition:(unbroken, no leakage, no cracked/broken lids)?

15) YES Were correct containers and preservatives used for the tests indicated?

16) YES Was a sufficient amount of sample sent for tests indicated?

17) NO Were bubbles present in volatile samples?
If yes, the following were received with air bubbles:
Larger than a pea: ____
Smaller than a pea: ____

Preservation Hold time:

18) YES Was a sufficient amount of holding time remaining to analyze the samples?

19) YES Was the pH taken of all non-VOA preserved samples and written on the sample container?

20) YES Was the pH of acid preserved non-VOA samples < 2?

21) NA Was the pH of sodium hydroxide preserved samples for Cyanide > 12 and Sulfide >9?

22) YES Were unpreserved VOA Vials received?

23) NO Are unpreserved VOA vials noted in the ADD TEST FIELD on the ARF?
pH strip lot number: HC982588
Lab notified if pH was not adequate: ____

Notes/Deficiencies:

CUSTODY SEAL
AECOM—(808) 521-3051
Initials EB Date 01/23/20

Personnel receiving samples: ZG Second reviewer: PM
Personnel labeling samples: MD
Project manager notified: ~~AA~~ ZG Date/Time of notification 01/24/20
Name of client notified: ____ Date/Time of notification ____

Revision: 22, November 5, 2013

SAMPLE RESULTS

EPA 8011

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

Attn: Margie Pascua

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91299

Sample ID: ERH1007

APPL ID: BA06360

Sample Collection Date: 01/22/20

QCG: #8011-200129A-249595

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8011	EDB	0.019 U	0.02	0.019	0.010	ug/L	01/29/20	01/29/20
8011	SURROGATE: 1,3-DIBROMOPROPANE	104	70-132			%	01/29/20	01/29/20

Quant Method: 8010129A.M
Run #: 1126294
Instrument: Herbie
Sequence: 191126
Dilution Factor: 1
Initials: GAG

Printed: 01/30/20 9:43:23 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8011

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91299

Sample ID: ERH1008

APPL ID: BA06361

Sample Collection Date: 01/22/20

QCG: #8011-200129A-249595

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8011	EDB	0.019 U	0.02	0.019	0.010	ug/L	01/29/20	01/29/20
8011	SURROGATE: 1,3-DIBROMOPROPANE	89.8	70-132			%	01/29/20	01/29/20

Quant Method: 8010129A.M
Run #: 1126295
Instrument: Herbie
Sequence: 191126
Dilution Factor: 1
Initials: GAG

Printed: 01/30/20 9:43:23 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8011

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

Sample ID: ERH1009

Sample Collection Date: 01/22/20

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 91299

APPL ID: BA06362

QCG: #8011-200129A-249595

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8011	EDB	0.019 U	0.02	0.019	0.010	ug/L	01/29/20	01/29/20
8011	SURROGATE: 1,3-DIBROMOPROPANE	105	70-132			%	01/29/20	01/29/20

Quant Method:	8010129A.M
Run #:	1126296
Instrument:	Herbie
Sequence:	191126
Dilution Factor:	1
Initials:	GAG

Printed: 01/30/20 9:43:24 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8015B TPH LIQ-LIQ

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91299

Sample ID: ERH1008

APPL ID: BA06361

Sample Collection Date: 01/22/20

QCG: #DOC53-200126A-249602

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8015B-eL	DIESEL (C10-C24)	25.00 U	40.0	25.00	13.07	ug/L	01/26/20	01/30/20
EPA 8015B-eL	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	01/26/20	01/30/20
EPA 8015B-eL	SURROGATE: OCTACOSANE (S)	122	60-142			%	01/26/20	01/30/20
EPA 8015B-eL	SURROGATE: ORTHO-TERPHENYL (S)	94.5	56-125			%	01/26/20	01/30/20

Quant Method:	DOC0129.M
Run #:	129050
Instrument:	Apollo
Sequence:	200129
Dilution Factor:	1
Initials:	SSE

Printed: 01/30/20 2:03:40 PM

APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8015B TPH LIQ-LIQ

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

Attn: Margie Pascua

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91299

Sample ID: ERH1009

APPL ID: BA06362

Sample Collection Date: 01/22/20

QCG: #DOC53-200126A-249602

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8015B-eL	DIESEL (C10-C24)	25.00 U	40.0	25.00	13.07	ug/L	01/26/20	01/30/20
EPA 8015B-eL	OIL (C24-C40)	220 ++	40.0	40.00	5.54	ug/L	01/26/20	01/30/20
EPA 8015B-eL	SURROGATE: OCTACOSANE (S)	127	60-142			%	01/26/20	01/30/20
EPA 8015B-eL	SURROGATE: ORTHO-TERPHENYL (S)	97.6	56-125			%	01/26/20	01/30/20

++(T4M) The analyst has noted that the chromatogram of this sample does not contain a petroleum hydrocarbon pattern, however the presence of a dominant peak(s) were noted. Amended Results.

Quant Method:	DOC0129.M
Run #:	129051
Instrument:	Apollo
Sequence:	200129
Dilution Factor:	1
Initials:	SSE

Printed: 02/25/20 7:50:55 AM

APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8015B TPH WATER L-L SGC

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91299

Sample ID: ERH1009

APPL ID: BA06362

Sample Collection Date: 01/22/20

QCG: #DOC53-200126A1-249622

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8015B-eL	DIESEL (C10-C24)	25.00 U	40.0	25.00	13.07	ug/L	01/26/20	01/30/20
EPA 8015B-eL	OIL (C24-C40)	74 ++	40.0	40.00	5.54	ug/L	01/26/20	01/30/20
EPA 8015B-eL	SURROGATE: (R) DECANOIC ACID (S)	0.0	0-1			%	01/26/20	01/30/20
EPA 8015B-eL	SURROGATE: OCTACOSANE (S)	84.1	60-142			%	01/26/20	01/30/20
EPA 8015B-eL	SURROGATE: ORTHO-TERPHENYL (S)	87.2	56-125			%	01/26/20	01/30/20

++(T4M) The analyst has noted that the chromatogram of this sample does not contain a petroleum hydrocarbon pattern, however the presence of a dominant peak(s) were noted. Amended Results.

Quant Method: DEC1120.M
Run #: 129039
Instrument: Apollo
Sequence: 200129
Dilution Factor: 1
Initials: SSE

Printed: 02/25/20 7:50:55 AM

APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8015B TPH LIQ-LIQ

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua
Project: 60571032 CV18F0126 Red Hill Fuel Storage
Sample ID: ERH997
Sample Collection Date: 01/23/20

ARF: 91299
APPL ID: BA06364
QCG: #DOC53-200126A-249602

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8015B-eL	DIESEL (C10-C24)	25.00 U	40.0	25.00	13.07	ug/L	01/26/20	01/30/20
EPA 8015B-eL	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	01/26/20	01/30/20
EPA 8015B-eL	SURROGATE: OCTACOSANE (S)	112	60-142			%	01/26/20	01/30/20
EPA 8015B-eL	SURROGATE: ORTHO-TERPHENYL (S)	103	56-125			%	01/26/20	01/30/20

Quant Method: DOC0129.M
Run #: 129052
Instrument: Apollo
Sequence: 200129
Dilution Factor: 1
Initials: SSE

Printed: 01/30/20 2:03:40 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8270D SIM LIQ-LIQ

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91299

Sample ID: ERH1008

APPL ID: BA06361

Sample Collection Date: 01/22/20

QCG: #SIM53-200124A-249501

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8270D-SIM	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.04	ug/L	01/24/20	01/27/20
8270D-SIM	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.04	ug/L	01/24/20	01/27/20
8270D-SIM	NAPHTHALENE	0.10 U	0.2	0.10	0.04	ug/L	01/24/20	01/27/20
8270D-SIM	SURROGATE: 2-METHYLNAPHTHALEN	90.9	39-114			%	01/24/20	01/27/20
8270D-SIM	SURROGATE: FLUORANTHENE-D10 (S	93.2	58-120			%	01/24/20	01/27/20

Quant Method: L0113PCP.M
Run #: 0113L179
Instrument: Linus
Sequence: L200113P
Dilution Factor: 1
Initials: JPR

Printed: 01/28/20 9:30:26 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8270D SIM LIQ-LIQ

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91299

Sample ID: ERH1009

APPL ID: BA06362

Sample Collection Date: 01/22/20

QCG: #SIM53-200124A-249501

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8270D-SIM	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.04	ug/L	01/24/20	01/27/20
8270D-SIM	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.04	ug/L	01/24/20	01/27/20
8270D-SIM	NAPHTHALENE	0.10 U	0.2	0.10	0.04	ug/L	01/24/20	01/27/20
8270D-SIM	SURROGATE: 2-METHYLNAPHTHALEN	85.5	39-114			%	01/24/20	01/27/20
8270D-SIM	SURROGATE: FLUORANTHENE-D10 (S	91.3	58-120			%	01/24/20	01/27/20

Quant Method: L0113PCP.M
Run #: 0113L180
Instrument: Linus
Sequence: L200113P
Dilution Factor: 1
Initials: JPR

Printed: 01/28/20 9:30:26 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8270D SIM LIQ-LIQ

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91299

Sample ID: ERH997

APPL ID: BA06364

Sample Collection Date: 01/23/20

QCG: #SIM53-200124A-249501

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8270D-SIM	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.04	ug/L	01/24/20	01/27/20
8270D-SIM	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.04	ug/L	01/24/20	01/27/20
8270D-SIM	NAPHTHALENE	0.10 U	0.2	0.10	0.04	ug/L	01/24/20	01/27/20
8270D-SIM	SURROGATE: 2-METHYLNAPHTHALEN	90.3	39-114			%	01/24/20	01/27/20
8270D-SIM	SURROGATE: FLUORANTHENE-D10 (S	91.5	58-120			%	01/24/20	01/27/20

Quant Method: L0113PCP.M
Run #: 0113L181
Instrument: Linus
Sequence: L200113P
Dilution Factor: 1
Initials: JPR

Printed: 01/28/20 9:30:26 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8270D WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

Sample ID: ERH1008

Sample Collection Date: 01/22/20

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 91299

APPL ID: BA06361

QCG: #87DC5-200124A-249499

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	01/24/20	01/28/20
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHENO	104	43-140			%	01/24/20	01/28/20
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	88.2	44-119			%	01/24/20	01/28/20
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	90.7	19-119			%	01/24/20	01/28/20
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	100	44-120			%	01/24/20	01/28/20
EPA 8270D	SURROGATE: PHENOL-D6 (S)	96.0	10-115			%	01/24/20	01/28/20
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	118	50-134			%	01/24/20	01/28/20

Quant Method: Y1219.M
Run #: 1219Y264
Instrument: Yoda
Sequence: Y191219
Dilution Factor: 1
Initials: JPR

Printed: 01/28/20 9:22:02 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8270D WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91299

Sample ID: ERH1009

APPL ID: BA06362

Sample Collection Date: 01/22/20

QCG: #87DC5-200124A-249499

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	01/24/20	01/28/20
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHENO	98.6	43-140			%	01/24/20	01/28/20
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	83.3	44-119			%	01/24/20	01/28/20
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	73.0	19-119			%	01/24/20	01/28/20
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	83.9	44-120			%	01/24/20	01/28/20
EPA 8270D	SURROGATE: PHENOL-D6 (S)	76.9	10-115			%	01/24/20	01/28/20
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	118	50-134			%	01/24/20	01/28/20

Quant Method: Y1219.M
Run #: 1219Y265
Instrument: Yoda
Sequence: Y191219
Dilution Factor: 1
Initials: JPR

Printed: 01/28/20 9:22:02 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8270D WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91299

Sample ID: ERH997

APPL ID: BA06364

Sample Collection Date: 01/23/20

QCG: #87DC5-200124A-249499

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	01/24/20	01/28/20
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHENO	97.9	43-140			%	01/24/20	01/28/20
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	86.3	44-119			%	01/24/20	01/28/20
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	91.0	19-119			%	01/24/20	01/28/20
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	104	44-120			%	01/24/20	01/28/20
EPA 8270D	SURROGATE: PHENOL-D6 (S)	97.1	10-115			%	01/24/20	01/28/20
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	114	50-134			%	01/24/20	01/28/20

Quant Method: Y1219.M
Run #: 1219Y266
Instrument: Yoda
Sequence: Y191219
Dilution Factor: 1
Initials: JPR

Printed: 01/28/20 9:22:02 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8270D MODIFIED WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

Sample ID: ERH1008

Sample Collection Date: 01/22/20

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 91299

APPL ID: BA06361

QCG: #87DME-200129A-249593

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	2-(2-METHOXYETHOXY)-ETHANOL	80.0 U	100	80.0	40.0	ug/L	01/29/20	01/29/20

Quant Method: YMEE0122.M
Run #: 0122Y036
Instrument: Yoda
Sequence: Y200122M
Dilution Factor: 1
Initials: JPR

Printed: 01/30/20 8:48:30 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8270D MODIFIED WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

Sample ID: ERH1009

Sample Collection Date: 01/22/20

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 91299

APPL ID: BA06362

QCG: #87DME-200129A-249593

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	2-(2-METHOXYETHOXY)-ETHANOL	80.0 U	100	80.0	40.0	ug/L	01/29/20	01/29/20

Quant Method: YMEE0122.M
Run #: 0122Y037
Instrument: Yoda
Sequence: Y200122M
Dilution Factor: 1
Initials: JPR

Printed: 01/30/20 8:48:30 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8270D MODIFIED WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

Sample ID: ERH997

Sample Collection Date: 01/23/20

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 91299

APPL ID: BA06364

QCG: #87DME-200129A-249593

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	2-(2-METHOXYETHOXY)-ETHANOL	80.0 U	100	80.0	40.0	ug/L	01/29/20	01/29/20

Quant Method:	YMEE0122.M
Run #:	0122Y038
Instrument:	Yoda
Sequence:	Y200122M
Dilution Factor:	1
Initials:	JPR

Printed: 01/30/20 8:48:30 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8260B BTEX & 1,2-DCA WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

Sample ID: ERH1007

Sample Collection Date: 01/22/20

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 91299

APPL ID: BA06360

QCG: #86BTO-200125AT-249475

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	1,2-DICHLOROETHANE	0.30 U	1.0	0.30	0.14	ug/L	01/25/20	01/25/20
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.15	ug/L	01/25/20	01/25/20
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	01/25/20	01/25/20
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.15	ug/L	01/25/20	01/25/20
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.15	ug/L	01/25/20	01/25/20
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE-	99.5	81-118			%	01/25/20	01/25/20
EPA 8260B	SURROGATE: 4-BROMOFLUOROBENZ	92.1	85-114			%	01/25/20	01/25/20
EPA 8260B	SURROGATE: DIBROMOFLUOROMETH	99.7	80-119			%	01/25/20	01/25/20
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	101	89-112			%	01/25/20	01/25/20

Quant Method: T0121W.M
Run #: 0125T12
Instrument: Thor
Sequence: T200121
Dilution Factor: 1
Initials: CMO

Printed: 01/29/20 10:41:10 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8260B BTEX & 1,2-DCA WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

Sample ID: ERH1008

Sample Collection Date: 01/22/20

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 91299

APPL ID: BA06361

QCG: #86BTO-200125AT-249475

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	1,2-DICHLOROETHANE	0.30 U	1.0	0.30	0.14	ug/L	01/25/20	01/25/20
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.15	ug/L	01/25/20	01/25/20
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	01/25/20	01/25/20
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.15	ug/L	01/25/20	01/25/20
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.15	ug/L	01/25/20	01/25/20
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE-	103	81-118			%	01/25/20	01/25/20
EPA 8260B	SURROGATE: 4-BROMOFLUOROBENZ	97.1	85-114			%	01/25/20	01/25/20
EPA 8260B	SURROGATE: DIBROMOFLUOROMETH	95.2	80-119			%	01/25/20	01/25/20
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	98.4	89-112			%	01/25/20	01/25/20

Quant Method: T0121W.M
Run #: 0125T14
Instrument: Thor
Sequence: T200121
Dilution Factor: 1
Initials: CMO

Printed: 01/29/20 10:41:10 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8260B BTEX & 1,2-DCA WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

Sample ID: ERH1009

Sample Collection Date: 01/22/20

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 91299

APPL ID: BA06362

QCG: #86BTO-200125AT-249475

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	1,2-DICHLOROETHANE	0.30 U	1.0	0.30	0.14	ug/L	01/25/20	01/25/20
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.15	ug/L	01/25/20	01/25/20
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	01/25/20	01/25/20
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.15	ug/L	01/25/20	01/25/20
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.15	ug/L	01/25/20	01/25/20
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE-	102	81-118			%	01/25/20	01/25/20
EPA 8260B	SURROGATE: 4-BROMOFLUOROBENZ	92.9	85-114			%	01/25/20	01/25/20
EPA 8260B	SURROGATE: DIBROMOFLUOROMETH	102	80-119			%	01/25/20	01/25/20
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	99.0	89-112			%	01/25/20	01/25/20

Quant Method: T0121W.M
Run #: 0125T15
Instrument: Thor
Sequence: T200121
Dilution Factor: 1
Initials: CMO

Printed: 01/29/20 10:41:10 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91299

Sample ID: ERH996

APPL ID: BA06363

Sample Collection Date: 01/23/20

QCG: #86BTO-200125AT1-249476

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.15	ug/L	01/25/20	01/25/20
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	01/25/20	01/25/20
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.15	ug/L	01/25/20	01/25/20
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.15	ug/L	01/25/20	01/25/20
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE-	102	81-118			%	01/25/20	01/25/20
EPA 8260B	SURROGATE: 4-BROMOFLUOROBENZ	93.1	85-114			%	01/25/20	01/25/20
EPA 8260B	SURROGATE: DIBROMOFLUOROMETH	101	80-119			%	01/25/20	01/25/20
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	102	89-112			%	01/25/20	01/25/20

Quant Method: T0121W.M
Run #: 0125T13
Instrument: Thor
Sequence: T200121
Dilution Factor: 1
Initials: CMO

Printed: 01/29/20 10:42:06 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

Sample ID: ERH997

Sample Collection Date: 01/23/20

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 91299

APPL ID: BA06364

QCG: #86BTO-200125AT1-249476

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.15	ug/L	01/25/20	01/25/20
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	01/25/20	01/25/20
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.15	ug/L	01/25/20	01/25/20
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.15	ug/L	01/25/20	01/25/20
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE-	103	81-118			%	01/25/20	01/25/20
EPA 8260B	SURROGATE: 4-BROMOFLUOROBENZ	93.5	85-114			%	01/25/20	01/25/20
EPA 8260B	SURROGATE: DIBROMOFLUOROMETH	103	80-119			%	01/25/20	01/25/20
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	100	89-112			%	01/25/20	01/25/20

Quant Method: T0121W.M
Run #: 0125T16
Instrument: Thor
Sequence: T200121
Dilution Factor: 1
Initials: CMO

Printed: 01/29/20 10:42:06 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

Attn: Margie Pascua
Project: 60571032 CV18F0126 Red Hill Fuel Storage
Sample ID: ERH1007
Sample Collection Date: 01/22/20

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 91299
APPL ID: BA06360
QCG: #GRO86-200125AT-249725

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	01/25/20	01/25/20
EPA 8260B	SURROGATE: 4-BROMOFLUOROBENZ	92.1	85-114			%	01/25/20	01/25/20

Quant Method: TGAS0116.M
Run #: 0125T12
Instrument: Thor
Sequence: T200121
Dilution Factor: 1
Initials: CMO

Printed: 02/04/20 11:18:21 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91299

Sample ID: ERH1008

APPL ID: BA06361

Sample Collection Date: 01/22/20

QCG: #GRO86-200125AT-249725

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	01/25/20	01/25/20
EPA 8260B	SURROGATE: 4-BROMOFLUOROBENZ	97.1	85-114			%	01/25/20	01/25/20

Quant Method: TGAS0116.M
Run #: 0125T14
Instrument: Thor
Sequence: T200121
Dilution Factor: 1
Initials: DPO

Printed: 02/25/20 1:43:58 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91299

Sample ID: ERH1009

APPL ID: BA06362

Sample Collection Date: 01/22/20

QCG: #GRO86-200125AT-249725

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	01/25/20	01/25/20
EPA 8260B	SURROGATE: 4-BROMOFLUOROBENZ	92.9	85-114			%	01/25/20	01/25/20

Quant Method: TGAS0116.M
Run #: 0125T15
Instrument: Thor
Sequence: T200121
Dilution Factor: 1
Initials: CMO

Printed: 02/25/20 1:43:58 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91299

Sample ID: ERH996

APPL ID: BA06363

Sample Collection Date: 01/23/20

QCG: #GRO86-200125AT-249725

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	01/25/20	01/25/20
EPA 8260B	SURROGATE: 4-BROMOFLUOROBENZ	93.1	85-114			%	01/25/20	01/25/20

Quant Method: TGAS0116.M
Run #: 0125T13
Instrument: Thor
Sequence: T200121
Dilution Factor: 1
Initials: CMO

Printed: 02/04/20 11:18:21 AM

APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

Sample ID: ERH997

Sample Collection Date: 01/23/20

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 91299

APPL ID: BA06364

QCG: #GRO86-200125AT-249725

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	01/25/20	01/25/20
EPA 8260B	SURROGATE: 4-BROMOFLUOROBENZ	93.5	85-114			%	01/25/20	01/25/20

Quant Method: TGAS0116.M
Run #: 0125T16
Instrument: Thor
Sequence: T200121
Dilution Factor: 1
Initials: CMO

Printed: 02/04/20 11:18:21 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

METHANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

Attn: Margie Pascua
Project: 60571032 CV18F0126 Red Hill Fuel Storage
Sample ID: ERH1007
Sample Collection Date: 01/22/20

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 91299
APPL ID: BA06360
QCG: #RSKME-200128A-249549

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	1.00 U	5.0	1.00	0.25	ug/L	01/28/20	01/28/20

Quant Method: RSK1002.M
Run #: 0128R20
Instrument: Rocky
Sequence: 191002
Dilution Factor: 1
Initials: GAG

Printed: 01/29/20 10:53:19 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

METHANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

Attn: Margie Pascua
Project: 60571032 CV18F0126 Red Hill Fuel Storage
Sample ID: ERH1008
Sample Collection Date: 01/22/20

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 91299
APPL ID: BA06361
QCG: #RSKME-200128A-249549

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	1.00 U	5.0	1.00	0.25	ug/L	01/28/20	01/28/20

Quant Method: RSK1002.M
Run #: 0128R21
Instrument: Rocky
Sequence: 191002
Dilution Factor: 1
Initials: GAG

Printed: 01/29/20 10:53:19 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

METHANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua
Project: 60571032 CV18F0126 Red Hill Fuel Storage
Sample ID: ERH996
Sample Collection Date: 01/23/20

ARF: 91299
APPL ID: BA06363
QCG: #RSKME-200128A-249549

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	1.00 U	5.0	1.00	0.25	ug/L	01/28/20	01/28/20

Quant Method: RSK1002.M
Run #: 0128R22
Instrument: Rocky
Sequence: 191002
Dilution Factor: 1
Initials: GAG

Printed: 01/29/20 10:53:19 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

METHANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

Sample ID: ERH997

Sample Collection Date: 01/23/20

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 91299

APPL ID: BA06364

QCG: #RSKME-200128A-249549

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	0.78 J	5.0	1.00	0.25	ug/L	01/28/20	01/28/20

J = Estimated value.

Quant Method:	RSK1002.M
Run #:	0128R23
Instrument:	Rocky
Sequence:	191002
Dilution Factor:	1
Initials:	GAG

Printed: 01/29/20 10:53:19 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Wet Lab Analysis

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

Sample ID: ERH1008

Sample Collection Date: 01/22/20

APPL ID: BA06361

ARF: 91299

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
EPA 300.0	CHLORIDE	44.1	1.0	0.20	0.08	mg/L	1	01/24/20	01/24/20
EPA 300.0	NITRATE	2.2	0.5	0.18	0.04	mg/L	1	01/24/20	01/24/20
EPA 300.0	SULFATE	8.0	1.0	0.20	0.09	mg/L	1	01/24/20	01/24/20

Printed: 02/14/20 2:05:57 PM

APPL-F1-SC-NoMC-REG MDLs

Wet Lab Analysis

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

Sample ID: ERH997

Sample Collection Date: 01/23/20

APPL ID: BA06364

ARF: 91299

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
EPA 300.0	CHLORIDE	81.1	5.0	1.00	0.40	mg/L	5	01/31/20	01/31/20
EPA 300.0	NITRATE	1.4	0.5	0.18	0.04	mg/L	1	01/24/20	01/24/20
EPA 300.0	SULFATE	28.6	1.0	0.20	0.09	mg/L	1	01/24/20	01/24/20

Printed: 02/14/20 2:05:57 PM

APPL-F1-SC-NoMC-REG MDLs

Wet Lab Analysis

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

Sample ID: ERH1008

APPL ID: BA06361

Sample Collection Date: 01/22/20

ARF: 91299

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
EPA 353.2	NITRATE-NITRITE-N	0.33	0.10	0.090	0.028	mg/L	1	01/27/20	01/27/20
SM 2320B	BICARBONATE AS CACO3	56.7	2.0	1.70	0.85	mg/L	1	01/27/20	01/27/20
SM 2320B	CARBONATE AS CACO3	1.70 U	2.0	1.70	0.85	mg/L	1	01/27/20	01/27/20
SM 2320B	TOTAL ALKALINITY AS CACO	56.7	2.0	1.70	0.85	mg/L	1	01/27/20	01/27/20
SM3500FeB	FERROUS IRON	0.32 U	1.0	0.32	0.16	mg/L	1	01/24/20	01/24/20
SW846 9060A	TOTAL ORGANIC CARBON	0.40 J	0.93	0.350	0.130	mg/L	1	01/28/20	01/28/20

J = Estimated value.

Printed: 02/13/20 9:46:15 AM

APPL-F1-SC-NoMC-REG MDLs

Wet Lab Analysis

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

Sample ID: ERH997

Sample Collection Date: 01/23/20

APPL ID: BA06364

ARF: 91299

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
EPA 353.2	NITRATE-NITRITE-N	0.17	0.10	0.090	0.028	mg/L	1	01/27/20	01/27/20
SM 2320B	BICARBONATE AS CACO3	49.1	2.0	1.70	0.85	mg/L	1	01/27/20	01/27/20
SM 2320B	CARBONATE AS CACO3	1.70 U	2.0	1.70	0.85	mg/L	1	01/27/20	01/27/20
SM 2320B	TOTAL ALKALINITY AS CACO	49.1	2.0	1.70	0.85	mg/L	1	01/27/20	01/27/20
SM3500FeB	FERROUS IRON	1.2	1.0	0.32	0.16	mg/L	1	01/24/20	01/24/20
SW846 9060A	TOTAL ORGANIC CARBON	1.3	0.93	0.350	0.130	mg/L	1	01/29/20	01/30/20

Printed: 02/13/20 9:46:15 AM

APPL-F1-SC-NoMC-REG MDLs

QC FORMS

8011

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 91299

Case No: 91299 Date Analyzed: 01/29/20

Matrix: WATER Instrument: Herbie

APPL ID.	Client Sample No.	SURROGATE: 1,3-DIBROMOPROPANE (S)					
		Limits	Result	Qualifier	Limits	Result	Qualifier
200129A-BLK	Blank	70-132	105				
200129A-LCS	Lab Control Spike	70-132	102				
200129A-LCSD	Lab Control SpikeD	70-132	105				
BA06360	ERH1007	70-132	104				
BA06361	ERH1008	70-132	89.8				
BA06362	ERH1009	70-132	105				

Comments: Batch: #8011-200129A

8011

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 91299

Case No: 91299 Date Analyzed: 01/29/20

Matrix: WATER Instrument: Herbie

Blank ID: 200129A-BLK Time Analyzed: 1451

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200129A-BLK	Blank	1126291	01/29/20 1451
200129A-LCS	Lab Control Spike	1126292	01/29/20 1511
200129A-LCSD	Lab Control SpikeD	1126293	01/29/20 1531
BA06360	ERH1007	1126294	01/29/20 1551
BA06361	ERH1008	1126295	01/29/20 1611
BA06362	ERH1009	1126296	01/29/20 1631

Comments: Batch: #8011-200129A

Printed: 01/30/20 9:43:26 AM
Form 4, Blank Summary

Method Blank
EPA 8011

Blank Name/QCG: **200129W-06360 - 249595**
Batch ID: #8011-200129A

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	EDB	0.019 U	0.02	0.019	0.010	ug/L	01/29/20	01/29/20
BLANK	SURROGATE: 1,3-DIBROMOPRO	105	70-132			%	01/29/20	01/29/20

Quant Method:8010129A.M
Run #:1126291
Instrument:Herbie
Sequence:191126
Initials:GAG

GC SC-Blank-REG MDLs-DOD
Printed: 01/30/20 9:43:23 AM

8011

Form 4

LCS Summary

Lab Name: APPL, Inc. SDG No: 91299

Case No: 91299 Date Analyzed: 01/29/20

Matrix: WATER Instrument: Herbie

LCS ID: 200129A-LCS Time Analyzed: 1511

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200129A-BLK	Blank	1126291	01/29/20 1451
200129A-LCS	Lab Control Spike	1126292	01/29/20 1511
200129A-LCSD	Lab Control SpikeD	1126293	01/29/20 1531
BA06360	ERH1007	1126294	01/29/20 1551
BA06361	ERH1008	1126295	01/29/20 1611
BA06362	ERH1009	1126296	01/29/20 1631

Comments: Batch: #8011-200129A

Laboratory Control Spike Recoveries

EPA 8011

APPL ID: **200129W-06360 LCS - 249595**
Batch ID: #8011-200129A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
EDB	0.250	0.256	0.250	102	100	60-140	2.4	25
SURROGATE: 1,3-DIBROMOPROPANE (	0.250	0.255	0.262	102	105	70-132		

Comments: _____

Primary	SPK	DUP
Quant Method :	8010129A.M	8010129A.M
Extraction Date :	01/29/20	01/29/20
Analysis Date :	01/29/20	01/29/20
Instrument :	Herbie	Herbie
Run :	1126292	1126293
Initials :	GAG	

Printed: 01/30/20 9:43:24 AM
APPL Standard LCSD

EPA 8015B-eLL

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 91299

Case No: 91299 Date Analyzed: 01/30/20

Matrix: WATER Instrument: Apollo

APPL ID.	Client Sample No.	SURROGATE: OCTACOSANE (S)			SURROGATE: ORTHO-TERPHENYL (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
200126A-BLK	Blank	60-142	98.6		56-125	91.4	
200126A-LCS	Lab Control Spike	60-142	83.6		56-125	59.5	
200126A-LCSD	Lab Control SpikeD	60-142	125		56-125	79.6	
BA06361	ERH1008	60-142	122		56-125	94.5	
BA06362	ERH1009	60-142	127		56-125	97.6	
BA06364	ERH997	60-142	112		56-125	103	

Comments: Batch: #DOC53-200126A

EPA 8015B-eLL

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 91299

Case No: 91299 Date Analyzed: 01/30/20

Matrix: WATER Instrument: Apollo

APPL ID.	Client Sample No.	SURROGATE: (R) DECANOIC ACID (S)			SURROGATE: OCTACOSANE (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
200126A1-BLK	Blank	0-1	0.0		60-142	75.0	
200126A1-LCS	Lab Control Spike	0-1	0.0		60-142	68.0	
200126A1-LCSD	Lab Control SpikeD	0-1	0.0		60-142	83.5	
BA06362	ERH1009	0-1	0.0		60-142	84.1	

Comments: Batch: #DOC53-200126A1

EPA 8015B-eLL

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 91299

Case No: 91299 Date Analyzed: 01/30/20

Matrix: WATER Instrument: Apollo

APPL ID.	Client Sample No.	SURROGATE: ORTHO-TERPHENYL (S)					
		Limits	Result	Qualifier	Limits	Result	Qualifier
200126A1-BLK	Blank	56-125	75.7				
200126A1-LCS	Lab Control Spike	56-125	57.2				
200126A1-LCSD	Lab Control SpikeD	56-125	68.5				
BA06362	ERH1009	56-125	87.2				

Comments: Batch: #DOC53-200126A1

EPA 8015B-eL

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 91299

Case No: 91299 Date Analyzed: 01/30/20

Matrix: WATER Instrument: Apollo

Blank ID: 200126A-BLK Time Analyzed: 0418

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200126A-BLK	Blank	129047	01/30/20 0418
200126A-LCS	Lab Control Spike	129048	01/30/20 0437
200126A-LCSD	Lab Control SpikeD	129049	01/30/20 0457
BA06361	ERH1008	129050	01/30/20 0517
BA06362	ERH1009	129051	01/30/20 0536
BA06364	ERH997	129052	01/30/20 0556

Comments: Batch: #DOC53-200126A

EPA 8015B-eL

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 91299

Case No: 91299 Date Analyzed: 01/30/20

Matrix: WATER Instrument: Apollo

Blank ID: 200126A1-BLK Time Analyzed: 0024

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200126A1-BLK	Blank	129035	01/30/20 0024
200126A1-LCS	Lab Control Spike	129036	01/30/20 0043
200126A1-LCSD	Lab Control SpikeD	129037	01/30/20 0103
BA06362	ERH1009	129039	01/30/20 0142

Comments: Batch: #DOC53-200126A1

Printed: 01/30/20 2:04:01 PM
Form 4, Blank Summary

Method Blank

EPA 8015B TPH LIQ-LIQ

Blank Name/QCG: **200126W-06361 - 249602**
Batch ID: #DOC53-200126A

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	DIESEL (C10-C24)	25.00 U	40.0	25.00	13.07	ug/L	01/26/20	01/30/20
BLANK	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	01/26/20	01/30/20
BLANK	SURROGATE: OCTACOSANE (S)	98.6	60-142			%	01/26/20	01/30/20
BLANK	SURROGATE: ORTHO-TERPHEN	91.4	56-125			%	01/26/20	01/30/20

Quant Method:DOC0129.M
Run #:129047
Instrument:Apollo
Sequence:200129
Initials:SSE

GC SC-Blank-REG MDLs-DOD
Printed: 01/30/20 2:03:39 PM

Method Blank

EPA 8015B TPH WATER L-L SGC

Blank Name/QCG: **200126W-06362 - 249622**
Batch ID: #DOC53-200126A1

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	DIESEL (C10-C24)	25.00 U	40.0	25.00	13.07	ug/L	01/26/20	01/30/20
BLANK	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	01/26/20	01/30/20
BLANK	SURROGATE: (R) DECANOIC AC	0.0	0-1			%	01/26/20	01/30/20
BLANK	SURROGATE: OCTACOSANE (S)	75.0	60-142			%	01/26/20	01/30/20
BLANK	SURROGATE: ORTHO-TERPHEN	75.7	56-125			%	01/26/20	01/30/20

Quant Method: DEC1120.M
Run #: 129035
Instrument: Apollo
Sequence: 200129
Initials: SSE

GC SC-Blank-REG MDLs-DOD
Printed: 01/30/20 2:03:39 PM

EPA 8015B-eL

Form 4

LCS Summary

Lab Name: APPL, Inc. SDG No: 91299

Case No: 91299 Date Analyzed: 01/30/20

Matrix: WATER Instrument: Apollo

LCS ID: 200126A-LCS Time Analyzed: 0437

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200126A-BLK	Blank	129047	01/30/20 0418
200126A-LCS	Lab Control Spike	129048	01/30/20 0437
200126A-LCSD	Lab Control SpikeD	129049	01/30/20 0457
BA06361	ERH1008	129050	01/30/20 0517
BA06362	ERH1009	129051	01/30/20 0536
BA06364	ERH997	129052	01/30/20 0556

Comments: Batch: #DOC53-200126A

Printed: 01/30/20 2:04:01 PM
Form 4, LCS Summary

Laboratory Control Spike Recoveries

EPA 8015B TPH LIQ-LIQ

APPL ID: **200126W-06361 LCS - 249602**
Batch ID: #DOC53-200126A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
DIESEL (C10-C24)	1250	873	1200	69.8	96.0	36-132	31.5 #	30
OIL (C24-C40)	1250	922	1270	73.8	102	41-113	31.8 #	30
SURROGATE: OCTACOSANE (S)	75.0	62.7	93.4	83.6	125	60-142		
SURROGATE: ORTHO-TERPHENYL (S)	75.0	44.6	59.7	59.5	79.6	56-125		

= Recovery is outside QC limits.

Comments:

Primary	SPK	DUP
Quant Method :	DOC0129.M	DOC0129.M
Extraction Date :	01/26/20	01/26/20
Analysis Date :	01/30/20	01/30/20
Instrument :	Apollo	Apollo
Run :	129048	129049
Initials :	SSE	

Printed: 01/30/20 2:03:46 PM
APPL Standard LCSD

EPA 8015B-eL

Form 4

LCS Summary

Lab Name: APPL, Inc. SDG No: 91299

Case No: 91299 Date Analyzed: 01/30/20

Matrix: WATER Instrument: Apollo

LCS ID: 200126A1-LCS Time Analyzed: 0043

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200126A1-BLK	Blank	129035	01/30/20 0024
200126A1-LCS	Lab Control Spike	129036	01/30/20 0043
200126A1-LCSD	Lab Control SpikeD	129037	01/30/20 0103
BA06362	ERH1009	129039	01/30/20 0142

Comments: Batch: #DOC53-200126A1

Printed: 01/30/20 2:04:01 PM
Form 4, LCS Summary

Laboratory Control Spike Recoveries
EPA 8015B TPH WATER L-L SGC

APPL ID: **200126W-06362 LCS - 249622**
Batch ID: #DOC53-200126A1

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
DIESEL (C10-C24)	1250	713	904	57.0	72.3	36-132	23.6	30
OIL (C24-C40)	1250	856	1030	68.5	82.4	41-113	18.5	30
SURROGATE: (R) DECANOIC ACID (S)	10.00	0	0	0.0	0.0	0-1		
SURROGATE: OCTACOSANE (S)	75.0	51.0	62.6	68.0	83.5	60-142		
SURROGATE: ORTHO-TERPHENYL (S)	75.0	42.9	51.4	57.2	68.5	56-125		

Comments: _____

Primary	SPK	DUP
Quant Method :	DEC1120.M	DEC1120.M
Extraction Date :	01/26/20	01/26/20
Analysis Date :	01/30/20	01/30/20
Instrument :	Apollo	Apollo
Run :	129036	129037
Initials :	SSE	

Printed: 01/30/20 2:03:46 PM
APPL Standard LCSD

8270D-SIM

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 91299

Case No: 91299 Date Analyzed: 01/27/20

Matrix: WATER Instrument: Linus

APPL ID.	Client Sample No.	SURROGATE: 2-METHYLNAPHTHALENE-D10 (S)			SURROGATE: FLUORANTHENE-D10 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
BA06361	ERH1008	39-114	90.9		58-120	93.2	
BA06362	ERH1009	39-114	85.5		58-120	91.3	
BA06364	ERH997	39-114	90.3		58-120	91.5	

Comments: Batch: #SIM53-200124A

8270D-SIM

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 91299

Case No: 91299 Date Analyzed: 01/27/20

Matrix: WATER Instrument: Linus

Blank ID: 200124A-BLK Time Analyzed: 1524

APPL ID.	Client Sample No.	File ID.	Date Analyzed
BA06361	ERH1008	0113L179	01/27/20 2114
BA06362	ERH1009	0113L180	01/27/20 2136
BA06364	ERH997	0113L181	01/27/20 2158

Comments: Batch: #SIM53-200124A

Printed: 01/28/20 8:59:21 AM
Form 4, Blank Summary

Method Blank

EPA 8270D SIM LIQ-LIQ

Blank Name/QCG: **200124W-06272 - 249501**

Batch ID: #SIM53-200124A

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.04	ug/L	01/24/20	01/27/20
BLANK	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.04	ug/L	01/24/20	01/27/20
BLANK	NAPHTHALENE	0.10 U	0.2	0.10	0.04	ug/L	01/24/20	01/27/20
BLANK	SURROGATE: 2-METHYLNAPHT	87.8	39-114			%	01/24/20	01/27/20
BLANK	SURROGATE: FLUORANTHENE-	90.7	58-120			%	01/24/20	01/27/20

Quant Method:L0113PCP.M
Run #:0113L163
Instrument:Linus
Sequence:L200113P
Initials:JPR

GC SC-Blank-REG MDLs-DOD
Printed: 01/28/20 9:30:31 AM

8270D-SIM

Form 4

LCS Summary

Lab Name: APPL, Inc. SDG No: 91299

Case No: 91299 Date Analyzed: 01/27/20

Matrix: WATER Instrument: Linus

LCS ID: 200124A-LCS Time Analyzed: 1546

APPL ID.	Client Sample No.	File ID.	Date Analyzed
BA06361	ERH1008	0113L179	01/27/20 2114
BA06362	ERH1009	0113L180	01/27/20 2136
BA06364	ERH997	0113L181	01/27/20 2158

Comments: Batch: #SIM53-200124A

Laboratory Control Spike Recovery

EPA 8270D SIM LIQ-LIQ

APPL ID: **200124W-06272 LCS - 249501**
Batch ID: #SIM53-200124A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
1-METHYLNAPHTHALENE	6.25	5.33	85.3	41-115
2-METHYLNAPHTHALENE	6.25	5.31	85.0	39-114
NAPHTHALENE	6.25	5.26	84.2	43-114
SURROGATE: 2-METHYLNAPHTHALEN	6.25	5.43	86.9	39-114
SURROGATE: FLUORANTHENE-D10 (S)	6.25	5.29	84.6	58-120

Comments: _____

Primary	SPK
Quant Method :	L0113PCP.M
Extraction Date :	01/24/20
Analysis Date :	01/27/20
Instrument :	Linus
Run :	0113L164
Initials :	JPR

Printed: 01/28/20 9:30:35 AM
APPL Standard LCS

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No:
Matrix: Soil
ID: 0113L001.D

SDG No:
Date Analyzed: 01/13/20
Instrument: Linus
Time Analyzed: 13:07

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		5.0 SIM PCP 09/10/19	0113L003.D	01/13/20 14:59
2		0.1 SIM PCP 09/10/19	0113L004.D	01/13/20 15:43
3		0.25 SIM PCP 09/10/	0113L005.D	01/13/20 16:05
4		0.5 SIM PCP 09/10/19	0113L006.D	01/13/20 16:26
5		2.5 SIM PCP 09/10/19	0113L007.D	01/13/20 16:48
6		25 SIM PCP 09/10/19	0113L008.D	01/13/20 17:10
7		50 SIM PCP 09/10/19	0113L009.D	01/13/20 17:32
8		SS SIM PCP 01/07/20	0113L010.D	01/13/20 17:54
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	9.95 - 80% of mass 198	19.0
68	0 - 2.05% of mass 69	0.0
70	0 - 2% of mass 69	0.3
127	10 - 80% of mass 198	41.1
197	0 - 2% of mass 198	0.0
198	100 - 100% of mass 198	100.0
199	5 - 9% of mass 198	6.5
275	10 - 60% of mass 198	33.0
365	1 - 100% of mass 198	5.1
441	0.01 - 24% of mass 442	15.2
442	50 - 500% of mass 198	244.5
443	15 - 24% of mass 442	18.6

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 91299
Matrix: Water
ID: 0113L161.D

SDG No: 91299
Date Analyzed: 01/27/20
Instrument: Linus
Time Analyzed: 14:35

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		5ug/mL SIM PCP 01/16	0113L162.D	01/27/20 14:51
2	Blank	200124A BLK 1/800	0113L163.D	01/27/20 15:24
3	Lab Control Spike	200124A LCS-2 1/800	0113L164.D	01/27/20 15:46
4	ERH1008	BA06361W18 1/800	0113L179.D	01/27/20 21:14
5	ERH1009	BA06362W14 1/800	0113L180.D	01/27/20 21:36
6	ERH997	BA06364W16 1/800	0113L181.D	01/27/20 21:58
7		2.5ug/mL SIMLL SPK 0	0113L182.D	01/27/20 22:20
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	9.95 - 80% of mass 198	20.9
68	0 - 2.05% of mass 69	0.0
70	0 - 2% of mass 69	0.5
127	10 - 80% of mass 198	43.3
197	0 - 2% of mass 198	0.0
198	100 - 100% of mass 198	100.0
199	5 - 9% of mass 198	6.3
275	10 - 60% of mass 198	27.5
365	1 - 100% of mass 198	5.3
441	0.01 - 24% of mass 442	15.7
442	50 - 500% of mass 198	176.6
443	15 - 24% of mass 442	21.3

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract: _____

Lab Code: _____ SDG No.: _____

Lab File ID (Standard): 0113L162.D Date Analyzed: 01/27/20

Instrument ID: Linus Time Analyzed: 14:51

GC Column: _____ ID: Heated Purge: (Y/N) _____

		Napthalene-D8(IS)		Acenaphthene-D10(IS)		Phenanthrene-D10(IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	119953	4.19	66859	6.18	130657	7.91
	UPPER LIMIT	239906	4.36	133718	6.35	261314	8.08
	LOWER LIMIT	59977	4.02	33430	6.01	65329	7.74
	SAMPLE NO.						
01	200124A BLK 1/800	115033	4.19	64382	6.18	120314	7.91
02	200124A LCS-2 1/800	114861	4.19	61848	6.18	120769	7.91
03	BA06361W18 1/800	108384	4.19	58890	6.18	112031	7.91
04	BA06362W14 1/800	112120	4.19	62048	6.18	114949	7.91
05	BA06364W16 1/800	108468	4.19	59617	6.18	112831	7.91
06	2.5ug/mL SIMLL SPK 01	117517	4.18	64097	6.18	121027	7.91
07							
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.17 minutes of internal standard RT
RT LOWER LIMIT = -0.17 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

EPA 8270D

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 91299

Case No: 91299 Date Analyzed: 01/28/20

Matrix: WATER Instrument: Yoda

APPL ID.	Client Sample No.	SURROGATE: 2,4,6-TRIBROMOPHENOL (S)			SURROGATE: 2-FLUORBIPHENYL (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
BA06361	ERH1008	43-140	104		44-119	88.2	
BA06362	ERH1009	43-140	98.6		44-119	83.3	
BA06364	ERH997	43-140	97.9		44-119	86.3	

Comments: Batch: #87DC5-200124A

EPA 8270D

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 91299

Case No: 91299 Date Analyzed: 01/28/20

Matrix: WATER Instrument: Yoda

APPL ID.	Client Sample No.	SURROGATE: 2-FLUOROPHENOL (S)			SURROGATE: NITROBENZENE-D5 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
BA06361	ERH1008	19-119	90.7		44-120	100	
BA06362	ERH1009	19-119	73.0		44-120	83.9	
BA06364	ERH997	19-119	91.0		44-120	104	

Comments: Batch: #87DC5-200124A

EPA 8270D

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 91299

Case No: 91299 Date Analyzed: 01/28/20

Matrix: WATER Instrument: Yoda

APPL ID.	Client Sample No.	SURROGATE: PHENOL-D6 (S)			SURROGATE: TERPHENYL-D14 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
BA06361	ERH1008	10-115	96.0		50-134	118	
BA06362	ERH1009	10-115	76.9		50-134	118	
BA06364	ERH997	10-115	97.1		50-134	114	

Comments: Batch: #87DC5-200124A

EPA 8270D

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 91299

Case No: 91299 Date Analyzed: 01/27/20

Matrix: WATER Instrument: Yoda

Blank ID: 200124A-BLK Time Analyzed: 1732

APPL ID.	Client Sample No.	File ID.	Date Analyzed
BA06361	ERH1008	1219Y264	01/28/20 0056
BA06362	ERH1009	1219Y265	01/28/20 0123
BA06364	ERH997	1219Y266	01/28/20 0151

Comments: Batch: #87DC5-200124A

Method Blank
EPA 8270D WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **200124W-06272 - 249499**
Batch ID: #87DC5-200124A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	01/24/20	01/27/20
BLANK	SURROGATE: 2,4,6-TRIBROMOP	99.7	43-140			%	01/24/20	01/27/20
BLANK	SURROGATE: 2-FLUORBIPHENY	82.9	44-119			%	01/24/20	01/27/20
BLANK	SURROGATE: 2-FLUOROPHENO	77.9	19-119			%	01/24/20	01/27/20
BLANK	SURROGATE: NITROBENZENE-	91.1	44-120			%	01/24/20	01/27/20
BLANK	SURROGATE: PHENOL-D6 (S)	80.7	10-115			%	01/24/20	01/27/20
BLANK	SURROGATE: TERPHENYL-D14 (	114	50-134			%	01/24/20	01/27/20

Quant Method:Y1219.M
Run #:1219Y248
Instrument:Yoda
Sequence:Y191219
Initials:JPR

GC SC-Blank-REG MDLs-DOD
Printed: 01/28/20 9:22:19 AM

EPA 8270D

Form 4

LCS Summary

Lab Name: APPL, Inc. SDG No: 91299

Case No: 91299 Date Analyzed: 01/27/20

Matrix: WATER Instrument: Yoda

LCS ID: 200124A-LCS Time Analyzed: 1800

APPL ID.	Client Sample No.	File ID.	Date Analyzed
BA06361	ERH1008	1219Y264	01/28/20 0056
BA06362	ERH1009	1219Y265	01/28/20 0123
BA06364	ERH997	1219Y266	01/28/20 0151

Comments: Batch: #87DC5-200124A

Printed: 01/28/20 9:22:24 AM
Form 4, LCS Summary

Laboratory Control Spike Recovery
EPA 8270D WATER

APPL ID: **200124W-06272 LCS - 249499**
Batch ID: #87DC5-200124A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
PHENOL	62.5	54.3	86.9	10-115
SURROGATE: 2,4,6-TRIBROMOPHENOL	250	253	101	43-140
SURROGATE: 2-FLUORBIPHENYL (S)	125	110	88.0	44-119
SURROGATE: 2-FLUOROPHENOL (S)	250	198	79.2	19-119
SURROGATE: NITROBENZENE-D5 (S)	125	108	86.4	44-120
SURROGATE: PHENOL-D6 (S)	250	213	85.2	10-115
SURROGATE: TERPHENYL-D14 (S)	125	120	96.0	50-134

Comments: _____

Primary	SPK
Quant Method :	Y1219.M
Extraction Date :	01/24/20
Analysis Date :	01/27/20
Instrument :	Yoda
Run :	1219Y249
Initials :	JPR

Printed: 01/28/20 9:22:29 AM
APPL Standard LCS

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No:
Matrix: Soil
ID: 1219Y002.D

SDG No:
Date Analyzed: 12/19/19
Instrument: Yoda
Time Analyzed: 8:50

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		50ug/ml 8270 11/21/1	1219Y003.D	12/19/19 9:06
2		4ug/ml 8270 11/21/19	1219Y004.D	12/19/19 9:33
3		5ug/ml 8270 11/21/19	1219Y005.D	12/19/19 10:01
4		10ug/ml 8270 11/21/1	1219Y006.D	12/19/19 10:28
5		20ug/ml 8270 11/21/1	1219Y007.D	12/19/19 10:56
6		40ug/ml 8270 11/21/1	1219Y008.D	12/19/19 11:24
7		60ug/ml 8270 11/21/1	1219Y009.D	12/19/19 11:51
8		80ug/ml 8270 11/21/1	1219Y010.D	12/19/19 12:19
9		100ug/ml 8270 11/21/	1219Y011.D	12/19/19 12:46
10		SS 8270 11/22/19	1219Y012.D	12/19/19 13:14
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	9.95 - 80.04% of mass 198	39.5
68	0 - 2% of mass 69	0.0
70	0 - 2% of mass 69	1.0
127	10 - 80% of mass 198	51.3
197	0 - 2% of mass 198	0.0
198	100 - 100% of mass 198	100.0
199	5 - 9% of mass 198	6.7
275	10 - 60% of mass 198	29.4
365	1 - 100% of mass 198	3.5
441	0.01 - 24% of mass 442	4.6
442	50 - 500% of mass 198	102.9
443	15 - 24% of mass 442	20.0

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 91299
Matrix: Water
ID: 1219Y241.D

SDG No: 91299
Date Analyzed: 01/27/20
Instrument: Yoda
Time Analyzed: 14:51

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		50ug/ml 8270 01/06/2	1219Y247.D	01/27/20 17:04
2	Blank	200124A BLK 1/800	1219Y248.D	01/27/20 17:32
3	Lab Control Spike	200124A LCS-1 1/800	1219Y249.D	01/27/20 18:00
4	ERH1008	BA06361W18 1/800	1219Y264.D	01/28/20 0:56
5	ERH1009	BA06362W14 1/800	1219Y265.D	01/28/20 1:23
6	ERH997	BA06364W16 1/800	1219Y266.D	01/28/20 1:51
7		50ug/ml 8270 01/03/2	1219Y267.D	01/28/20 2:19
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	9.95 - 80.04% of mass 198	36.7
68	0 - 2% of mass 69	0.0
70	0 - 2% of mass 69	0.2
127	10 - 80% of mass 198	49.8
197	0 - 2% of mass 198	0.0
198	100 - 100% of mass 198	100.0
199	5 - 9% of mass 198	6.7
275	10 - 60% of mass 198	30.4
365	1 - 100% of mass 198	3.8
441	0.01 - 24% of mass 442	11.0
442	50 - 500% of mass 198	112.9
443	15 - 24% of mass 442	19.7

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract: _____

Lab Code: _____ SDG No.: _____

Lab File ID (Standard): 1219Y247.D Date Analyzed: 01/27/20

Instrument ID: Yoda Time Analyzed: 17:04

GC Column: _____ ID: Heated Purge: (Y/N) _____

		1,4-dichlorobenzene-D4(IS)		Napthalene-D8(IS)		Acenaphthene-D10(IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	248048	5.38	1087910	6.81	692449	8.84
	UPPER LIMIT	496096	5.55	2175820	6.98	1384898	9.01
	LOWER LIMIT	124024	5.21	543955	6.64	346225	8.67
	SAMPLE NO.						
01	200124A BLK 1/800	163293	5.37	655142	6.81	449623	8.83
02	200124A LCS-1 1/800	178391	5.38	698817	6.82	425352	8.83
03	BA06361W18 1/800	156014	5.37	642780	6.81	461652	8.83
04	BA06362W14 1/800	187515	5.37	732177	6.81	468615	8.83
05	BA06364W16 1/800	154255	5.38	616486	6.81	460893	8.83
06	50ug/ml 8270 01/03/20 (	196253	5.38	822183	6.82	507672	8.84
07							
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.17 minutes of internal standard RT
RT LOWER LIMIT = -0.17 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

EPA 8270D

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 91299

Case No: 91299 Date Analyzed: 01/29/20

Matrix: WATER Instrument: Yoda

Blank ID: 200129A-BLK Time Analyzed: 1640

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200129A-BLK	Blank	0122Y021	01/29/20 1640
200129A-LCS	Lab Control Spike	0122Y023	01/29/20 1727
200129A-LCSD	Lab Control SpikeD	0122Y024	01/29/20 1751
BA06361	ERH1008	0122Y036	01/29/20 2233
BA06362	ERH1009	0122Y037	01/29/20 2257
BA06364	ERH997	0122Y038	01/29/20 2320

Comments: Batch: #87DME-200129A

Printed: 01/30/20 8:48:33 AM
Form 4, Blank Summary

Method Blank

EPA 8270D MODIFIED WATER

Blank Name/QCG: **200129W-06361 - 249593**
Batch ID: #87DME-200129A

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	2-(2-METHOXYETHOXY)-ETHAN	80.0 U	100	80.0	40.0	ug/L	01/29/20	01/29/20

Quant Method:YMEE0122.M
Run #:0122Y021
Instrument:Yoda
Sequence:Y200122M
Initials:JPR

GC SC-Blank-REG MDLs-DOD
Printed: 01/30/20 8:48:35 AM

EPA 8270D

Form 4

LCS Summary

Lab Name: APPL, Inc. SDG No: 91299

Case No: 91299 Date Analyzed: 01/29/20

Matrix: WATER Instrument: Yoda

LCS ID: 200129A-LCS Time Analyzed: 1727

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200129A-BLK	Blank	0122Y021	01/29/20 1640
200129A-LCS	Lab Control Spike	0122Y023	01/29/20 1727
200129A-LCSD	Lab Control SpikeD	0122Y024	01/29/20 1751
BA06361	ERH1008	0122Y036	01/29/20 2233
BA06362	ERH1009	0122Y037	01/29/20 2257
BA06364	ERH997	0122Y038	01/29/20 2320

Comments: Batch: #87DME-200129A

Laboratory Control Spike Recoveries

EPA 8270D MODIFIED WATER

APPL ID: **200129W-06361 LCS - 249593**
Batch ID: #87DME-200129A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
2-(2-METHOXYETHOXY)-ETHANOL	80.0	82.8	65.2	104	81.5	30-130	23.8 #	20

= Recovery is outside QC limits.

Comments:

Primary	SPK	DUP
Quant Method :	YMEE0122.M	YMEE0122.M
Extraction Date :	01/29/20	01/29/20
Analysis Date :	01/29/20	01/29/20
Instrument :	Yoda	Yoda
Run :	0122Y023	0122Y024
Initials :	JPR	

Printed: 01/30/20 8:48:40 AM
APPL Standard LCSD

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No:
Matrix: Soil
ID: 0122Y002.D

SDG No:
Date Analyzed: 01/22/20
Instrument: Yoda
Time Analyzed: 15:31

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		50ug/ml MEE 01/22/20	0122Y003.D	01/22/20 15:46
2		100ug/ml MEE 01/22/2	0122Y004.D	01/22/20 16:10
3		200ug/ml MEE 01/22/2	0122Y005.D	01/22/20 16:33
4		400ug/ml MEE 01/22/2	0122Y006.D	01/22/20 16:57
5		500ug/ml MEE 01/22/2	0122Y007.D	01/22/20 17:21
6		600ug/ml MEE 01/22/2	0122Y008.D	01/22/20 17:45
7		800ug/ml MEE 01/22/2	0122Y009.D	01/22/20 18:08
8		1000ug/ml MEE 01/22/	0122Y010.D	01/22/20 18:32
9		SS MEE 01/22/20	0122Y011.D	01/22/20 18:55
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	9.95 - 80.04% of mass 198	37.2
68	0 - 2.04% of mass 69	0.0
70	0 - 2.04% of mass 69	0.2
127	10 - 80% of mass 198	50.4
197	0 - 2% of mass 198	0.0
198	100 - 100% of mass 198	100.0
199	5 - 9% of mass 198	7.1
275	10 - 60% of mass 198	30.1
365	1 - 100% of mass 198	3.7
441	0.01 - 24% of mass 442	15.9
442	50 - 500% of mass 198	109.9
443	15 - 24% of mass 442	19.8

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 91299
Matrix: Water
ID: 0122Y017.D

SDG No: 91299
Date Analyzed: 01/29/20
Instrument: Yoda
Time Analyzed: 14:46

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		500ug/ml MEE 01/29/2	0122Y018.D	01/29/20 15:01
2	Blank	200129A BLK 2/500	0122Y021.D	01/29/20 16:40
3	Lab Control Spike	200129A LCS-1 2/500	0122Y023.D	01/29/20 17:27
4	Lab Control SpikeD	200129A LCSD-1 2/500	0122Y024.D	01/29/20 17:51
5	ERH1008	BA06361W14 2/500	0122Y036.D	01/29/20 22:33
6	ERH1009	BA06362W10 2/500	0122Y037.D	01/29/20 22:57
7	ERH997	BA06364W12 2/500	0122Y038.D	01/29/20 23:20
8		500ug/ml MEE 01/29/2	0122Y040.D	01/30/20 0:07
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	9.95 - 80.04% of mass 198	37.9
68	0 - 2.04% of mass 69	0.0
70	0 - 2.04% of mass 69	0.0
127	10 - 80% of mass 198	49.1
197	0 - 2% of mass 198	0.0
198	100 - 100% of mass 198	100.0
199	5 - 9% of mass 198	6.8
275	10 - 60% of mass 198	30.6
365	1 - 100% of mass 198	3.8
441	0.01 - 24% of mass 442	11.4
442	50 - 500% of mass 198	108.4
443	15 - 24% of mass 442	19.2

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract: _____

Lab Code: _____ SDG No.: _____

Lab File ID (Standard): 0122Y018.D Date Analyzed: 01/29/20

Instrument ID: Yoda Time Analyzed: 15:01

GC Column: _____ ID: Heated Purge: (Y/N) _____

		1,4-dichlorobenzene-D4(IS)		Napthalene-D8(IS)		Acenaphthene-D10(IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	173907	5.15	698618	6.57	436389	8.58
	UPPER LIMIT	347814	5.32	1397236	6.74	872778	8.75
	LOWER LIMIT	86954	4.98	349309	6.40	218195	8.41
	SAMPLE NO.						
01	200129A BLK 2/500	114624	5.16	454770	6.57	347237	8.58
02	200129A LCS-1 2/500	110200	5.16	427395	6.57	357807	8.58
03	200129A LCSD-1 2/500	119932	5.16	492663	6.56	365113	8.58
04	BA06361W14 2/500	135897	5.16	566323	6.57	403698	8.58
05	BA06362W10 2/500	123185	5.15	544866	6.57	407250	8.58
06	BA06364W12 2/500	126956	5.15	524079	6.57	401311	8.58
07	500ug/ml MEE 01/29/20	154425	5.15	634344	6.57	403367	8.58
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.17 minutes of internal standard RT
RT LOWER LIMIT = -0.17 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract: _____

Lab Code: _____ SDG No.: _____

Lab File ID (Standard): 0122Y018.D Date Analyzed: 01/29/20

Instrument ID: Yoda Time Analyzed: 15:01

GC Column: _____ ID: Heated Purge: (Y/N) _____

		Phenanthrene-D10(IS)		Chrysene-D12(IS)		Perylene-D12(IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	837531	10.31	754740	13.39	834233	15.12
	UPPER LIMIT	1675062	10.48	1509480	13.56	1668466	15.29
	LOWER LIMIT	418766	10.14	377370	13.22	417117	14.95
	SAMPLE NO.						
01	200129A BLK 2/500	644334	10.31	513266	13.39	770377	15.12
02	200129A LCS-1 2/500	684274	10.31	504588	13.39	478387	15.12
03	200129A LCSD-1 2/500	724639	10.30	588074	13.39	586816	15.12
04	BA06361W14 2/500	792884	10.31	617953	13.39	595435	15.12
05	BA06362W10 2/500	777340	10.31	595468	13.39	576181	15.12
06	BA06364W12 2/500	777257	10.31	639977	13.39	692344	15.12
07	500ug/ml MEE 01/29/20	773403	10.31	688581	13.39	728249	15.12
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.17 minutes of internal standard RT
RT LOWER LIMIT = -0.17 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

EPA 8260B

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 91299

Case No: 91299 Date Analyzed: 01/25/20

Matrix: WATER Instrument: Thor

APPL ID.	Client Sample No.	SURROGATE: 1,2-DICHLOROETHANE-D4 (S)			SURROGATE: 4-BROMOFLUOROBENZENE (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
200125AT-LCS	Lab Control Spike	81-118	105		85-114	103	
200125AT-LCSD	Lab Control SpikeD	81-118	101		85-114	103	
200125AT-BLK	Blank	81-118	103		85-114	92.3	
BA06360	ERH1007	81-118	99.5		85-114	92.1	
BA06361	ERH1008	81-118	103		85-114	97.1	
BA06362	ERH1009	81-118	102		85-114	92.9	

Comments: Batch: #86BTO-200125AT

EPA 8260B

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 91299

Case No: 91299 Date Analyzed: 01/25/20

Matrix: WATER Instrument: Thor

APPL ID.	Client Sample No.	SURROGATE: DIBROMOFLUOROMETHANE (S)			SURROGATE: TOLUENE-D8 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
200125AT-LCS	Lab Control Spike	80-119	104		89-112	109	
200125AT-LCSD	Lab Control SpikeD	80-119	101		89-112	107	
200125AT-BLK	Blank	80-119	101		89-112	102	
BA06360	ERH1007	80-119	99.7		89-112	101	
BA06361	ERH1008	80-119	95.2		89-112	98.4	
BA06362	ERH1009	80-119	102		89-112	99.0	

Comments: Batch: #86BTO-200125AT

EPA 8260B

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 91299

Case No: 91299 Date Analyzed: 01/25/20

Matrix: WATER Instrument: Thor

APPL ID.	Client Sample No.	SURROGATE: 1,2-DICHLOROETHANE-D4 (S)			SURROGATE: 4-BROMOFLUOROBENZENE (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
200125AT1-LCS	Lab Control Spike	81-118	105		85-114	103	
200125AT1-LCSD	Lab Control SpikeD	81-118	101		85-114	103	
200125AT1-BLK	Blank	81-118	103		85-114	92.3	
BA06363	ERH996	81-118	102		85-114	93.1	
BA06364	ERH997	81-118	103		85-114	93.5	

Comments: Batch: #86BTO-200125AT

EPA 8260B

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 91299

Case No: 91299 Date Analyzed: 01/25/20

Matrix: WATER Instrument: Thor

APPL ID.	Client Sample No.	SURROGATE: DIBROMOFLUOROMETHANE (S)			SURROGATE: TOLUENE-D8 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
200125AT1-LCS	Lab Control Spike	80-119	104		89-112	109	
200125AT1-LCSD	Lab Control SpikeD	80-119	101		89-112	107	
200125AT1-BLK	Blank	80-119	101		89-112	102	
BA06363	ERH996	80-119	101		89-112	102	
BA06364	ERH997	80-119	103		89-112	100	

Comments: Batch: #86BTO-200125AT

EPA 8260B

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 91299

Case No: 91299 Date Analyzed: 01/25/20

Matrix: WATER Instrument: Thor

Blank ID: 200125AT-BLK Time Analyzed: 2110

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200125AT-LCS	Lab Control Spike	0125T02	01/25/20 1656
200125AT-LCSD	Lab Control SpikeD	0125T03	01/25/20 1724
200125AT-BLK	Blank	0125T11	01/25/20 2110
BA06360	ERH1007	0125T12	01/25/20 2138
BA06361	ERH1008	0125T14	01/25/20 2235
BA06362	ERH1009	0125T15	01/25/20 2303

Comments: Batch: #86BTO-200125AT

Printed: 01/29/20 10:40:57 AM
Form 4, Blank Summary

Method Blank

EPA 8260B BTEX & 1,2-DCA WATER

Blank Name/QCG: **200125W-06360 - 249475**

Batch ID: #86BTO-200125AT

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	1,2-DICHLOROETHANE	0.30 U	1.0	0.30	0.14	ug/L	01/25/20	01/25/20
BLANK	BENZENE	0.30 U	1.0	0.30	0.15	ug/L	01/25/20	01/25/20
BLANK	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	01/25/20	01/25/20
BLANK	TOLUENE	0.30 U	1.0	0.30	0.15	ug/L	01/25/20	01/25/20
BLANK	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.15	ug/L	01/25/20	01/25/20
BLANK	SURROGATE: 1,2-DICHLOROET	103	81-118			%	01/25/20	01/25/20
BLANK	SURROGATE: 4-BROMOFLUORO	92.3	85-114			%	01/25/20	01/25/20
BLANK	SURROGATE: DIBROMOFLUOR	101	80-119			%	01/25/20	01/25/20
BLANK	SURROGATE: TOLUENE-D8 (S)	102	89-112			%	01/25/20	01/25/20

Quant Method:T0121W.M
Run #:0125T11
Instrument:Thor
Sequence:T200121
Initials:CMO

GC SC-Blank-REG MDLs-DOD
Printed: 01/29/20 10:41:13 AM

EPA 8260B

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 91299

Case No: 91299 Date Analyzed: 01/25/20

Matrix: WATER Instrument: Thor

Blank ID: 200125AT1-BLK Time Analyzed: 2110

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200125AT1-LCS	Lab Control Spike	0125T02	01/25/20 1656
200125AT1-LCSD	Lab Control SpikeD	0125T03	01/25/20 1724
200125AT1-BLK	Blank	0125T11	01/25/20 2110
BA06363	ERH996	0125T13	01/25/20 2207
BA06364	ERH997	0125T16	01/25/20 2331

Comments: Batch: #86BTO-200125AT

Method Blank

EPA 8260B BTEX WATER

Blank Name/QCG: **200125W-06363 - 249476**

Batch ID: #86BTO-200125AT1

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	BENZENE	0.30 U	1.0	0.30	0.15	ug/L	01/25/20	01/25/20
BLANK	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	01/25/20	01/25/20
BLANK	TOLUENE	0.30 U	1.0	0.30	0.15	ug/L	01/25/20	01/25/20
BLANK	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.15	ug/L	01/25/20	01/25/20
BLANK	SURROGATE: 1,2-DICHLOROET	103	81-118			%	01/25/20	01/25/20
BLANK	SURROGATE: 4-BROMOFLUORO	92.3	85-114			%	01/25/20	01/25/20
BLANK	SURROGATE: DIBROMOFLUOR	101	80-119			%	01/25/20	01/25/20
BLANK	SURROGATE: TOLUENE-D8 (S)	102	89-112			%	01/25/20	01/25/20

Quant Method:T0121W.M
Run #:0125T11
Instrument:Thor
Sequence:T200121
Initials:CMO

GC SC-Blank-REG MDLs-DOD
Printed: 01/29/20 10:42:09 AM

EPA 8260B

Form 4

LCS Summary

Lab Name: APPL, Inc. SDG No: 91299

Case No: 91299 Date Analyzed: 01/25/20

Matrix: WATER Instrument: Thor

LCS ID: 200125AT-LCS Time Analyzed: 1656

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200125AT-LCS	Lab Control Spike	0125T02	01/25/20 1656
200125AT-LCSD	Lab Control SpikeD	0125T03	01/25/20 1724
200125AT-BLK	Blank	0125T11	01/25/20 2110
BA06360	ERH1007	0125T12	01/25/20 2138
BA06361	ERH1008	0125T14	01/25/20 2235
BA06362	ERH1009	0125T15	01/25/20 2303

Comments: Batch: #86BTO-200125AT

Printed: 01/29/20 10:40:53 AM
Form 4, LCS Summary

Laboratory Control Spike Recoveries
EPA 8260B BTEX & 1,2-DCA WATER

APPL ID: **200125W-06360 LCS - 249475**
Batch ID: #86BTO-200125AT

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
1,2-DICHLOROETHANE	10.00	9.78	9.62	97.8	96.2	73-128	1.6	20
BENZENE	10.00	10.3	9.85	103	98.5	79-120	4.5	20
ETHYLBENZENE	10.00	10.4	9.94	104	99.4	79-121	4.5	20
TOLUENE	10.00	10.1	9.81	101	98.1	80-121	2.9	20
XYLENES (TOTAL)	30.0	31.1	29.9	104	99.7	79-121	3.9	20
SURROGATE: 1,2-DICHLOROETHANE-D	25.0	26.3	25.2	105	101	81-118		
SURROGATE: 4-BROMOFLUOROBENZE	25.0	25.7	25.7	103	103	85-114		
SURROGATE: DIBROMOFLUOROMETH	25.0	26.0	25.2	104	101	80-119		
SURROGATE: TOLUENE-D8 (S)	25.0	27.2	26.7	109	107	89-112		

Comments:

Primary	SPK	DUP
Quant Method :	T0121W.M	T0121W.M
Extraction Date :	01/25/20	01/25/20
Analysis Date :	01/25/20	01/25/20
Instrument :	Thor	Thor
Run :	0125T02	0125T03
Initials :	CMO	

Printed: 01/29/20 10:41:06 AM
APPL Standard LCSD

EPA 8260B

Form 4

LCS Summary

Lab Name: APPL, Inc. SDG No: 91299

Case No: 91299 Date Analyzed: 01/25/20

Matrix: WATER Instrument: Thor

LCS ID: 200125AT1-LCS Time Analyzed: 1656

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200125AT1-LCS	Lab Control Spike	0125T02	01/25/20 1656
200125AT1-LCSD	Lab Control SpikeD	0125T03	01/25/20 1724
200125AT1-BLK	Blank	0125T11	01/25/20 2110
BA06363	ERH996	0125T13	01/25/20 2207
BA06364	ERH997	0125T16	01/25/20 2331

Comments: Batch: #86BTO-200125AT

Printed: 01/29/20 10:41:52 AM
Form 4, LCS Summary

Laboratory Control Spike Recoveries

EPA 8260B BTEX WATER

APPL ID: **200125W-06363 LCS - 249476**
Batch ID: #86BTO-200125AT1

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
BENZENE	10.00	10.3	9.85	103	98.5	79-120	4.5	20
ETHYLBENZENE	10.00	10.4	9.94	104	99.4	79-121	4.5	20
TOLUENE	10.00	10.1	9.81	101	98.1	80-121	2.9	20
XYLENES (TOTAL)	30.0	31.1	29.9	104	99.7	79-121	3.9	20
SURROGATE: 1,2-DICHLOROETHANE-D	25.0	26.3	25.2	105	101	81-118		
SURROGATE: 4-BROMOFLUOROBENZE	25.0	25.7	25.7	103	103	85-114		
SURROGATE: DIBROMOFLUOROMETH	25.0	26.0	25.2	104	101	80-119		
SURROGATE: TOLUENE-D8 (S)	25.0	27.2	26.7	109	107	89-112		

Comments:

Primary	SPK	DUP
Quant Method :	T0121W.M	T0121W.M
Extraction Date :	01/25/20	01/25/20
Analysis Date :	01/25/20	01/25/20
Instrument :	Thor	Thor
Run :	0125T02	0125T03
Initials :	CMO	

Printed: 01/29/20 10:42:03 AM
APPL Standard LCSD

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No:
Matrix: Water
ID: 0121T00.D

SDG No:
Date Analyzed: 01/21/20
Instrument: Thor
Time Analyzed: 6:29

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		0.3ug/L VOC STD 1/21	0121T02.D	01/21/20 7:41
2		0.5ug/L VOC STD 1/21	0121T03.D	01/21/20 8:09
3		1ug/L VOC STD 1/21/2	0121T04.D	01/21/20 8:37
4		2ug/L VOC STD 1/21/2	0121T05.D	01/21/20 9:05
5		5ug/L VOC STD 1/21/2	0121T06.D	01/21/20 9:34
6		10ug/L VOC STD 1/21/	0121T07.D	01/21/20 10:02
7		20ug/L VOC STD 1/21/	0121T08.D	01/21/20 10:30
8		40ug/L VOC STD 1/21/	0121T09.D	01/21/20 10:59
9		100ug/L VOC STD 1/21	0121T10.D	01/21/20 11:27
10		(SS) 10ug/L VOC STD	0121T13.D	01/21/20 12:52
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
50	15 - 40% of mass 95	19.4
75	30 - 60% of mass 95	54.2
95	100 - 100% of mass 95	100.0
96	5 - 9% of mass 95	6.5
173	0 - 2.05% of mass 174	1.1
174	50 - 200% of mass 95	96.9
175	5 - 9% of mass 174	7.8
176	95 - 101% of mass 174	97.3
177	5 - 9% of mass 176	7.1

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 91299
Matrix: Water
ID: 0125T00.D

SDG No: 91299
Date Analyzed: 01/25/20
Instrument: Thor
Time Analyzed: 15:58

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1	Lab Control Spike	200125A CCV/LCS 10ug	0125T02.D	01/25/20 16:56
2	Lab Control SpikeD	200125A LCSD 10ug/L	0125T03.D	01/25/20 17:24
3	Blank	200125A BLK	0125T11.D	01/25/20 21:10
4	ERH1007	BA06360W04	0125T12.D	01/25/20 21:38
5	ERH996	BA06363W01	0125T13.D	01/25/20 22:07
6	ERH1008	BA06361W01	0125T14.D	01/25/20 22:35
7	ERH1009	BA06362W01	0125T15.D	01/25/20 23:03
8	ERH997	BA06364W01	0125T16.D	01/25/20 23:31
9		Ending CCV 10ug/L 1/	0125T27.D	01/26/20 4:42
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
50	15.0 - 40.0% of mass 95	19.6
75	30.0 - 60.0% of mas 95	51.6
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.9
173	Less than 2.0% of mass 174	1.1
174	50.0 - 200.0% of mass 95	102.8
175	5.0 - 9.0% of mass 174	7.8
176	95.0 - 101.0% of mass 174	97.0
177	5.0 - 9.0% of mass 176	6.3

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract:

Lab Code: SDG No.:

Lab File ID (Standard): 0121T07.D Date Analyzed: 01/21/20

Instrument ID: Thor Time Analyzed: 10:02

GC Column: ID: Heated Purge: (Y/N)

		Fluorobenzene (IS)		Chlorobenzene-D5 (IS)		1,4-Dichlorobenzene-D (IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	1052820	6.51	824642	9.96	433370	12.52
	UPPER LIMIT	2105640	6.68	1649284	10.13	866740	12.69
	LOWER LIMIT	526410	6.34	412321	9.79	216685	12.35
	SAMPLE NO.						
01	200125A CCV/LCS 10ug	994327	6.51	782631	9.96	426324	12.52
02	200125A LCSD 10ug/L	1020950	6.51	795263	9.96	436130	12.52
03	200125A BLK	952647	6.51	763715	9.96	388019	12.52
04	BA06360W04	953475	6.51	755679	9.96	385614	12.52
05	BA06363W01	941538	6.51	751959	9.96	382355	12.52
06	BA06361W01	967770	6.51	809787	9.96	423410	12.52
07	BA06362W01	957133	6.51	786709	9.96	403948	12.52
08	BA06364W01	957942	6.51	773321	9.96	396741	12.52
09	Ending CCV 10ug/L 1/25	1062820	6.51	848777	9.96	465093	12.52
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.17 minutes of internal standard RT
RT LOWER LIMIT = -0.17 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

EPA 8260B

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 91299

Case No: 91299 Date Analyzed: 01/25/20

Matrix: WATER Instrument: Thor

APPL ID.	Client Sample No.	SURROGATE: 4-BROMOFLUOROBENZENE (S)					
		Limits	Result	Qualifier	Limits	Result	Qualifier
200125AT-LCS	Lab Control Spike	85-114	92.0				
200125AT-LCSD	Lab Control SpikeD	85-114	94.8				
200125AT-BLK	Blank	85-114	92.3				
BA06360	ERH1007	85-114	92.1				
BA06363	ERH996	85-114	93.1				
BA06362	ERH1009	85-114	92.9				
BA06364	ERH997	85-114	93.5				

Comments: Batch: #GRO86-200125AT

EPA 8260B

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 91299

Case No: 91299 Date Analyzed: 01/25/20

Matrix: WATER Instrument: Thor

APPL ID.	Client Sample No.	SURROGATE: 4-BROMOFLUOROBENZENE (S)					
		Limits	Result	Qualifier	Limits	Result	Qualifier
200125AT-LCS	Lab Control Spike	85-114	92.0				
200125AT-LCSD	Lab Control SpikeD	85-114	94.8				
200125AT-BLK	Blank	85-114	92.3				
BA06360	ERH1007	85-114	92.1				
BA06363	ERH996	85-114	93.1				
BA06361	ERH1008	85-114	97.1				
BA06362	ERH1009	85-114	92.9				
BA06364	ERH997	85-114	93.5				

Comments: Batch: #GRO86-200125AT

EPA 8260B

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 91299

Case No: 91299 Date Analyzed: 01/25/20

Matrix: WATER Instrument: Thor

Blank ID: 200125AT-BLK Time Analyzed: 2110

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200125AT-LCS	Lab Control Spike	0125T07	01/25/20 1917
200125AT-LCSD	Lab Control SpikeD	0125T08	01/25/20 1945
200125AT-BLK	Blank	0125T11	01/25/20 2110
BA06360	ERH1007	0125T12	01/25/20 2138
BA06363	ERH996	0125T13	01/25/20 2207
BA06361	ERH1008	0125T14	01/25/20 2235
BA06362	ERH1009	0125T15	01/25/20 2303
BA06364	ERH997	0125T16	01/25/20 2331

Comments: Batch: #GRO86-200125AT

Printed: 02/25/20 1:44:18 PM

Form 4, Blank Summary

Method Blank
EPA 8260B GRO WATER

Blank Name/QCG: **200125W-06360 - 249725**
Batch ID: #GRO86-200125AT

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	01/25/20	01/25/20
BLANK	SURROGATE: 4-BROMOFLUORO	92.3	85-114			%	01/25/20	01/25/20

Quant Method:TGAS0116.M
Run #:0125T11
Instrument:Thor
Sequence:T200121
Initials:CMO

GC SC-Blank-REG MDLs-DOD
Printed: 02/04/20 11:18:24 AM

EPA 8260B

Form 4

LCS Summary

Lab Name: APPL, Inc. SDG No: 91299

Case No: 91299 Date Analyzed: 01/25/20

Matrix: WATER Instrument: Thor

LCS ID: 200125AT-LCS Time Analyzed: 1917

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200125AT-LCS	Lab Control Spike	0125T07	01/25/20 1917
200125AT-LCSD	Lab Control SpikeD	0125T08	01/25/20 1945
200125AT-BLK	Blank	0125T11	01/25/20 2110
BA06360	ERH1007	0125T12	01/25/20 2138
BA06363	ERH996	0125T13	01/25/20 2207
BA06361	ERH1008	0125T14	01/25/20 2235
BA06362	ERH1009	0125T15	01/25/20 2303
BA06364	ERH997	0125T16	01/25/20 2331

Comments: Batch: #GRO86-200125AT

Laboratory Control Spike Recoveries
EPA 8260B GRO WATER

APPL ID: **200125W-06360 LCS - 249725**
Batch ID: #GRO86-200125AT

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
GASOLINE RANGE ORGANICS	300	280	294	93.3	98.0	78-122	4.9	20
SURROGATE: 4-BROMOFLUOROBENZE	25.0	23.0	23.7	92.0	94.8	85-114		

Comments: _____

Primary	SPK	DUP
Quant Method :	TGAS0116.M	TGAS0116.M
Extraction Date :	01/25/20	01/25/20
Analysis Date :	01/25/20	01/25/20
Instrument :	Thor	Thor
Run :	0125T07	0125T08
Initials :	CMO	

Printed: 02/04/20 11:18:16 AM
APPL Standard LCSD

EPA 8260B

Form 4

LCS Summary

Lab Name: APPL, Inc. SDG No: 91299

Case No: 91299 Date Analyzed: 01/25/20

Matrix: WATER Instrument: Thor

LCS ID: 200125AT-LCS Time Analyzed: 1917

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200125AT-LCS	Lab Control Spike	0125T07	01/25/20 1917
200125AT-LCSD	Lab Control SpikeD	0125T08	01/25/20 1945
200125AT-BLK	Blank	0125T11	01/25/20 2110
BA06360	ERH1007	0125T12	01/25/20 2138
BA06363	ERH996	0125T13	01/25/20 2207
BA06361	ERH1008	0125T14	01/25/20 2235
BA06362	ERH1009	0125T15	01/25/20 2303
BA06364	ERH997	0125T16	01/25/20 2331

Comments: Batch: #GRO86-200125AT

Laboratory Control Spike Recoveries
EPA 8260B GRO WATER

APPL ID: **200130W-06426 LCS - 249614**
Batch ID: #GRO86-200129AL

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
GASOLINE RANGE ORGANICS	300	303	292	101	97.3	78-122	3.7	20
SURROGATE: 4-BROMOFLUOROBENZE	25.0	23.8	23.9	95.2	95.6	85-114		

Comments: _____

Primary	SPK	DUP
Quant Method :	LGAS0128.M	LGAS0128.M
Extraction Date :	01/30/20	01/30/20
Analysis Date :	01/30/20	01/30/20
Instrument :	Loki	Loki
Run :	0129L33	0129L34
Initials :	CMO	

Printed: 02/04/20 11:18:16 AM
APPL Standard LCSD

RSK 175

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 91299

Case No: 91299 Date Analyzed: 01/28/20

Matrix: WATER Instrument: Rocky

Blank ID: 200128A-BLK Time Analyzed: 1500

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200128A-LCS	Lab Control Spike	0128R03	01/28/20 1449
200128A-LCSD	Lab Control SpikeD	0128R04	01/28/20 1454
200128A-BLK	Blank	0128R05	01/28/20 1500
BA06360	ERH1007	0128R20	01/28/20 1629
BA06361	ERH1008	0128R21	01/28/20 1632
BA06363	ERH996	0128R22	01/28/20 1635
BA06364	ERH997	0128R23	01/28/20 1638

Comments: Batch: #RSKME-200128A

Printed: 01/29/20 10:53:20 AM
Form 4, Blank Summary

Method Blank
METHANE

Blank Name/QCG: **200128W-06360 - 249549**
Batch ID: #RSKME-200128A

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	METHANE	1.00 U	5.0	1.00	0.25	ug/L	01/28/20	01/28/20

Quant Method:RSK1002.M
Run #:0128R05
Instrument:Rocky
Sequence:191002
Initials:GAG

GC SC-Blank-REG MDLs-DOD
Printed: 01/29/20 10:53:18 AM

RSK 175

Form 4

LCS Summary

Lab Name: APPL, Inc. SDG No: 91299

Case No: 91299 Date Analyzed: 01/28/20

Matrix: WATER Instrument: Rocky

LCS ID: 200128A-LCS Time Analyzed: 1449

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200128A-LCS	Lab Control Spike	0128R03	01/28/20 1449
200128A-LCSD	Lab Control SpikeD	0128R04	01/28/20 1454
200128A-BLK	Blank	0128R05	01/28/20 1500
BA06360	ERH1007	0128R20	01/28/20 1629
BA06361	ERH1008	0128R21	01/28/20 1632
BA06363	ERH996	0128R22	01/28/20 1635
BA06364	ERH997	0128R23	01/28/20 1638

Comments: Batch: #RSKME-200128A

Laboratory Control Spike Recoveries

METHANE

APPL ID: **200128W-06360 LCS - 249549**
Batch ID: #RSKME-200128A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
METHANE	83.4	67.9	74.9	81.4	89.8	72-125	9.8	30

Comments: _____

Primary	SPK	DUP
Quant Method :	RSK1002.M	RSK1002.M
Extraction Date :	01/28/20	01/28/20
Analysis Date :	01/28/20	01/28/20
Instrument :	Rocky	Rocky
Run :	0128R03	0128R04
Initials :	GAG	

Printed: 01/29/20 10:53:20 AM
APPL Standard LCSD

EPA 300.0

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 91299

Case No: 91299 Date Analyzed: 01/24/20

Matrix: WATER Instrument: Charlie

Blank ID: 200124B-BLK Time Analyzed: 2010

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200124B-BLK	Blank	2	01/24/20 2010
200124B-LCS	Lab Control Spike	3	01/24/20 2017
200124B-LCSD	Lab Control SpikeD	4	01/24/20 2023
BA06361	ERH1008	8	01/24/20 2049
BA06364	ERH997	9	01/24/20 2055

Comments: Batch: #300W-200124B

EPA 300.0

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 91299

Case No: 91299 Date Analyzed: 01/31/20

Matrix: WATER Instrument: Charlie

Blank ID: 200131A-BLK Time Analyzed: 1657

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200131A-BLK	Blank	12	01/31/20 1657
200131A-LCS	Lab Control Spike	13	01/31/20 1703
200131A-LCSD	Lab Control SpikeD	14	01/31/20 1709
BA06364	ERH997	18	01/31/20 1817

Comments: Batch: #300WD-200131A

WETLAB BLANK

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Analyte	Result	LOQ	LOD	DL	Units	Prep Date	Analysis Date	QC Group
EPA 300.0	CHLORIDE	0.20 U	1.0	0.20	0.08	mg/L	01/24/20	01/24/20	#300W-200124B-BA06361
EPA 300.0	NITRATE	0.18 U	0.5	0.18	0.04	mg/L	01/24/20	01/24/20	#300W-200124B-BA06361
EPA 300.0	SULFATE	0.20 U	1.0	0.20	0.09	mg/L	01/24/20	01/24/20	#300W-200124B-BA06361
EPA 300.0	CHLORIDE	0.20 U	1.0	0.20	0.08	mg/L	01/31/20	01/31/20	#300WD-200131A-BA06364

Wetlab SC-Blank-REG MDLs
Printed: 02/14/20 2:05:46 PM

Laboratory Control Spike Recoveries

WETLAB

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Lvl mg/L	SPK Res mg/L	DUP Res mg/L	SPK % Recov	DUP % Recov	RPD	RPD Max	QC Limits	Extract Date-Spk	Analysis Date-Spk	Extract Date-Dup	Analysis Date-Dup	QC Group
EPA 300.0	CHLORIDE	25.0	23.9	23.9	95.6	95.6	0.0	20	90-110	01/24/20	01/24/20	01/24/20	01/24/20	#300W-200124B-BA06361
EPA 300.0	NITRATE	22.1	22.0	22.0	99.5	99.5	0.0	20	90-110	01/24/20	01/24/20	01/24/20	01/24/20	#300W-200124B-BA06361
EPA 300.0	SULFATE	25.0	24.6	24.7	98.4	98.8	0.41	20	90-110	01/24/20	01/24/20	01/24/20	01/24/20	#300W-200124B-BA06361

Comments: _____

Laboratory Control Spike Recoveries

WETLAB

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Lvl mg/L	SPK Res mg/L	DUP Res mg/L	SPK % Recov	DUP % Recov	RPD	RPD Max	QC Limits	Extract Date-Spk	Analysis Date-Spk	Extract Date-Dup	Analysis Date-Dup	QC Group
EPA 300.0	CHLORIDE	25.0	22.5	22.5	90.0	90.0	0.0	20	90-110	01/31/20	01/31/20	01/31/20	01/31/20	#300WD-200131A-BA0636

Comments:

EPA 353.2

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 91299

Case No: 91299 Date Analyzed: 01/27/20

Matrix: WATER Instrument: EVE

Blank ID: 200127A-BLK Time Analyzed: 1422

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200127A-BLK	Blank	12	01/27/20 1422
200127A-LCS	Lab Control Spike	13	01/27/20 1425
200127A-LCSD	Lab Control SpikeD	14	01/27/20 1427
BA06361	ERH1008	35	01/27/20 1507
BA06364	ERH997	36	01/27/20 1508

Comments: Batch: #35OF-200127A

Printed: 02/13/20 9:46:16 AM
Form 4, Blank Summary

SM 2320B

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 91299

Case No: 91299 Date Analyzed: 01/27/20

Matrix: WATER Instrument: Tiamo

Blank ID: 200127A-BLK Time Analyzed: 2035

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200127A-BLK	Blank	1	01/27/20 2035
BA06361	ERH1008	12	01/27/20 2223
BA06364	ERH997	13	01/27/20 2227
200127A-LCS	Lab Control Spike	2	01/27/20 2039
200127A-LCSD	Lab Control SpikeD	3	01/27/20 2047

Comments: Batch: #232W-200127A

Printed: 02/13/20 9:46:16 AM
Form 4, Blank Summary

SM3500FeB

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 91299

Case No: 91299 Date Analyzed: 01/24/20

Matrix: WATER Instrument: Manual Spec

Blank ID: A200124-BLK Time Analyzed: 1526

APPL ID.	Client Sample No.	File ID.	Date Analyzed
A200124-BLK	Blank	23	01/24/20 1526
A200124-LCSD	Lab Control SpikeD	25	01/24/20 1528
A200124-LCS	Lab Control Spike	26	01/24/20 1528
BA06361	ERH1008	27	01/24/20 1529
BA06364	ERH997	28	01/24/20 1529

Comments: Batch: #35FE-A200124

Printed: 02/13/20 9:46:16 AM
Form 4, Blank Summary

SW846 9060A

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 91299

Case No: 91299 Date Analyzed: 01/28/20

Matrix: WATER Instrument: TICTOC

Blank ID: 200128A-BLK Time Analyzed: 1449

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200128A-BLK	Blank	19	01/28/20 1449
200128A-LCS	Lab Control Spike	20	01/28/20 1528
200128A-LCSD	Lab Control SpikeD	21	01/28/20 1609
BA06361	ERH1008	22	01/28/20 1728

Comments: Batch: #TOCW5-200128A

Printed: 02/13/20 9:46:16 AM
Form 4, Blank Summary

SW846 9060A

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 91299

Case No: 91299 Date Analyzed: 01/29/20

Matrix: WATER Instrument: TICTOC

Blank ID: 200129A-BLK Time Analyzed: 2323

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200129A-BLK	Blank	26	01/29/20 2323
200129A-LCS	Lab Control Spike	27	01/30/20 0002
200129A-LCSD	Lab Control SpikeD	28	01/30/20 0042
BA06364	ERH997	29	01/30/20 0201

Comments: Batch: #TOCW5-200129A

Printed: 02/13/20 9:46:16 AM
Form 4, Blank Summary

WETLAB BLANK

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Analyte	Result	LOQ	LOD	DL	Units	Prep Date	Analysis Date	QC Group
SM 2320B	BICARBONATE AS	2.0	2.0	1.70	0.85	mg/L	01/27/20	01/27/20	#232W-200127A-BA06275
SM 2320B	CARBONATE AS C	1.70 U	2.0	1.70	0.85	mg/L	01/27/20	01/27/20	#232W-200127A-BA06275
SM 2320B	TOTAL ALKALINITY	2.0	2.0	1.70	0.85	mg/L	01/27/20	01/27/20	#232W-200127A-BA06275
EPA 353.2	NITRATE-NITRITE-	0.090 U	0.10	0.090	0.028	mg/L	01/27/20	01/27/20	#35OF-200127A-BA06136
SW846 90	TOTAL ORGANIC C	0.350 U	0.93	0.350	0.130	mg/L	01/28/20	01/28/20	#TOCW5-200128A-BA06361
SM3500Fe	FERROUS IRON	0.32 U	1.0	0.32	0.16	mg/L	01/24/20	01/24/20	#35FE-A200124-BA06364
SW846 90	TOTAL ORGANIC C	0.21 J	0.93	0.350	0.130	mg/L	01/29/20	01/29/20	#TOCW5-200129A-BA06364

J = Estimated value.

Wetlab SC-Blank-REG MDLs
Printed: 02/13/20 9:46:14 AM

EPA 353.2

Form 4

LCS Summary

Lab Name: APPL, Inc. SDG No: 91299

Case No: 91299 Date Analyzed: 01/27/20

Matrix: WATER Instrument: EVE

LCS ID: 200127A-LCS Time Analyzed: 1425

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200127A-BLK	Blank	12	01/27/20 1422
200127A-LCS	Lab Control Spike	13	01/27/20 1425
200127A-LCSD	Lab Control SpikeD	14	01/27/20 1427
BA06361	ERH1008	35	01/27/20 1507
BA06364	ERH997	36	01/27/20 1508

Comments: Batch: #35OF-200127A

Printed: 02/13/20 9:46:17 AM
Form 4, LCS Summary

SM 2320B

Form 4

LCS Summary

Lab Name: APPL, Inc. SDG No: 91299

Case No: 91299 Date Analyzed: 01/27/20

Matrix: WATER Instrument: Tiamo

LCS ID: 200127A-LCS Time Analyzed: 2039

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200127A-BLK	Blank	1	01/27/20 2035
BA06361	ERH1008	12	01/27/20 2223
BA06364	ERH997	13	01/27/20 2227
200127A-LCS	Lab Control Spike	2	01/27/20 2039
200127A-LCSD	Lab Control SpikeD	3	01/27/20 2047

Comments: Batch: #232W-200127A

Printed: 02/13/20 9:46:17 AM
Form 4, LCS Summary

SM3500FeB

Form 4

LCS Summary

Lab Name: APPL, Inc. SDG No: 91299

Case No: 91299 Date Analyzed: 01/24/20

Matrix: WATER Instrument: Manual Spec

LCS ID: A200124-LCS Time Analyzed: 1528

APPL ID.	Client Sample No.	File ID.	Date Analyzed
A200124-BLK	Blank	23	01/24/20 1526
A200124-LCSD	Lab Control SpikeD	25	01/24/20 1528
A200124-LCS	Lab Control Spike	26	01/24/20 1528
BA06361	ERH1008	27	01/24/20 1529
BA06364	ERH997	28	01/24/20 1529

Comments: Batch: #35FE-A200124

Printed: 02/13/20 9:46:17 AM
Form 4, LCS Summary

SW846 9060A

Form 4

LCS Summary

Lab Name: APPL, Inc. SDG No: 91299

Case No: 91299 Date Analyzed: 01/28/20

Matrix: WATER Instrument: TICTOC

LCS ID: 200128A-LCS Time Analyzed: 1528

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200128A-BLK	Blank	19	01/28/20 1449
200128A-LCS	Lab Control Spike	20	01/28/20 1528
200128A-LCSD	Lab Control SpikeD	21	01/28/20 1609
BA06361	ERH1008	22	01/28/20 1728

Comments: Batch: #TOCW5-200128A

Printed: 02/13/20 9:46:17 AM
Form 4, LCS Summary

SW846 9060A

Form 4

LCS Summary

Lab Name: APPL, Inc. SDG No: 91299

Case No: 91299 Date Analyzed: 01/30/20

Matrix: WATER Instrument: TICTOC

LCS ID: 200129A-LCS Time Analyzed: 0002

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200129A-BLK	Blank	26	01/29/20 2323
200129A-LCS	Lab Control Spike	27	01/30/20 0002
200129A-LCSD	Lab Control SpikeD	28	01/30/20 0042
BA06364	ERH997	29	01/30/20 0201

Comments: Batch: #TOCW5-200129A

Printed: 02/13/20 9:46:17 AM
Form 4, LCS Summary

Laboratory Control Spike Recoveries

WETLAB

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Lvl mg/L	SPK Res mg/L	DUP Res mg/L	SPK % Recov	DUP % Recov	RPD	RPD Max	QC Limits	Extract Date-Spk	Analysis Date-Spk	Extract Date-Dup	Analysis Date-Dup	QC Group
EPA 353.2	NITRATE-NITRITE-N	3.00	3.02	2.90	101	96.7	4.1	20	90-110	01/27/20	01/27/20	01/27/20	01/27/20	#35OF-200127A-BA06136
SM 2320B	TOTAL ALKALINITY AS CA	238.88	237	237	99.2	99.2	0.0	20	90-110	01/27/20	01/27/20	01/27/20	01/27/20	#232W-200127A-BA06275
SW846 90	TOTAL ORGANIC CARBO	5.00	4.93	4.90	98.6	98.0	0.61	20	80-120	01/28/20	01/28/20	01/28/20	01/28/20	#TOCW5-200128A-BA063

Comments: _____

_____

_____

Laboratory Control Spike Recoveries

WETLAB

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Lvl mg/L	SPK Res mg/L	DUP Res mg/L	SPK % Recov	DUP % Recov	RPD	RPD Max	QC Limits	Extract Date-Spk	Analysis Date-Spk	Extract Date-Dup	Analysis Date-Dup	QC Group
SM3500Fe	FERROUS IRON	3.00	3.01	3.01	100	100	0.0	20	80-120	01/24/20	01/24/20	01/24/20	01/24/20	#35FE-A200124-BA06364
SW846 90	TOTAL ORGANIC CARBO	5.00	5.21	5.18	104	104	0.58	20	80-120	01/29/20	01/30/20	01/29/20	01/30/20	#TOCW5-200129A-BA063

Comments:

Matrix Spike Recoveries

WETLAB

APPL ID: **200124W-06364 MS - 249454**

Sample ID: BA06364

Client ID: ERH997

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Lvl mg/L	Matrix Res mg/L	SPK Res mg/L	DUP Res mg/L	SPK % Recovery	DUP % Recovery	RPD	RPD Max	Recovery Limits	Extract Date-Spk	Analysis Date-Spk	Extract Date-Dup	Analysis Date-Dup	QC Group	QC Sample
SM3500Fe	FERROUS IRON	3.0	1.2	4.15	4.15	98.3	98.3	0.0	20	80-120	01/24/20	01/24/20	01/24/20	01/24/20	249454	BA06364

Comments: _____

ORGANICS
Calibration Data

DBCP/EDB/1,2,3-TCP Analysis by
504 8011

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Initial Cal. Date: 01/29/20
Matrix: Instrument: Herbie
Initials:

1126284.D 1126285 D 1126286 D 1126287 D 1126288 D 1126289 D

		Compound	1	2	3	4	5	6					Avg	%RSD	Type	r^2	Q
1	TM	EDB	804575	856490	751748	757621	748409	747200					777674	5.7	TM		
2	TML	1,2,3-TCP	518350	256290	225032	207972	198375	189568					265931	47	TM	0.999	
3	S	1,3-DIBROMOPROPANE(S)		1073380	887674	835150	830635	798278					885023	12	S		
4	TM	DBCP	2878425	2824855	2692840	2556873	2574733	2530434					2676360	5.5	TM		
5		Signal #2											0	0			
6																	
7																	
8																	
9																	
10																	
11																	
12																	
13																	
14																	
15																	
16																	
17																	
18																	
19																	
20																	
21																	
22																	
23																	
24																	
25																	
26																	
27																	
28																	
29																	
30																	
31																	
32																	
33																	
34																	
35																	

2.028091

DBCP/EDB/1,2,3-TCP Analysis by
504 8011

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Initial Cal. Date: 01/29/20
Matrix: Instrument: Herbie Initials:

1126284.D 1126285.D 1126286.D 1126287.D 1126288.D 1126289.D

		Compound	1	2	3	4	5	6					Avg	%RSD	Type	r^2	Q
36	TM	EDB #2	3562450	3664785	3239826	3202214	3167305	3134711					3328548	6.8	TM		
37	TM	1,2,3-TCP #2	670225	711925	626906	597800	586467	559477					625467	9.1	TM		
38	S	1,3-DIBROMOPROPANE(S) #2	2713750	2834880	2426862	2363717	2335496	2299819					2495754	8.9	S		
39	TM	DBCP #2	10387175	10556855	9898002	10154806	10209693	10395455					10266998	2.3	TM		
40																	
41																	
42																	
43																	
44																	
45																	
46																	
47																	
48																	
49																	
50																	
51																	
52																	
53																	
54																	
55																	
56																	
57																	
58																	
59																	
60																	
61																	
62																	
63																	
64																	
65																	
66																	
67																	
68																	
69																	
70																	

0.772965

Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\191126\1126284.D\ECD1A.CH Vial: 84
Signal #2 : G:\HERBIE\DATA\191126\1126284.D\ECD2B.CH
Acq On : 01-29-20 12:30:48 Operator: GA
Sample : 8011 1 1/29/20 Inst : Herbie
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Jan 30 8:20 2020 Quant Results File: 8010129A.RES

Quant Method : G:\HERBIE\DATA\191126\8010129A.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Tue Jan 28 08:55:06 2020
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	System Monitoring Compounds						
3) S	1,3-DIBROMOPROPA	10.02	11.03	47933	108550	0.028	0.022
Spiked Amount	0.350			Recovery	=	8.00%	6.29%
	Target Compounds						
1) TM	EDB	5.79	7.22	32183	142498	0.021	0.021
2) TM	1,2,3-TCP	9.22	10.44	20734	26809	0.015	0.022 #
4) TM	DBCP	13.34	14.08	115137	415487	0.022	0.021

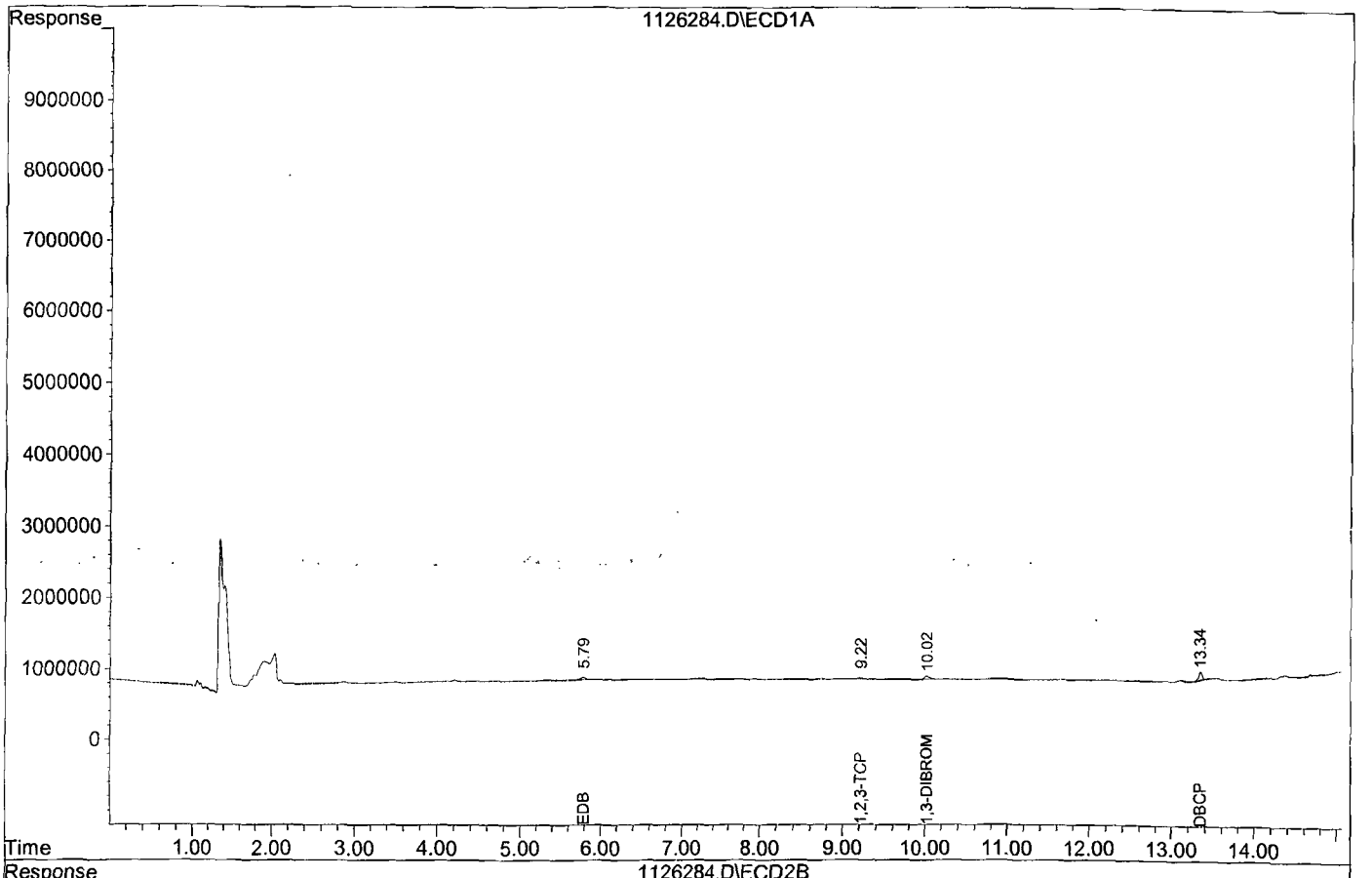
Target Compounds

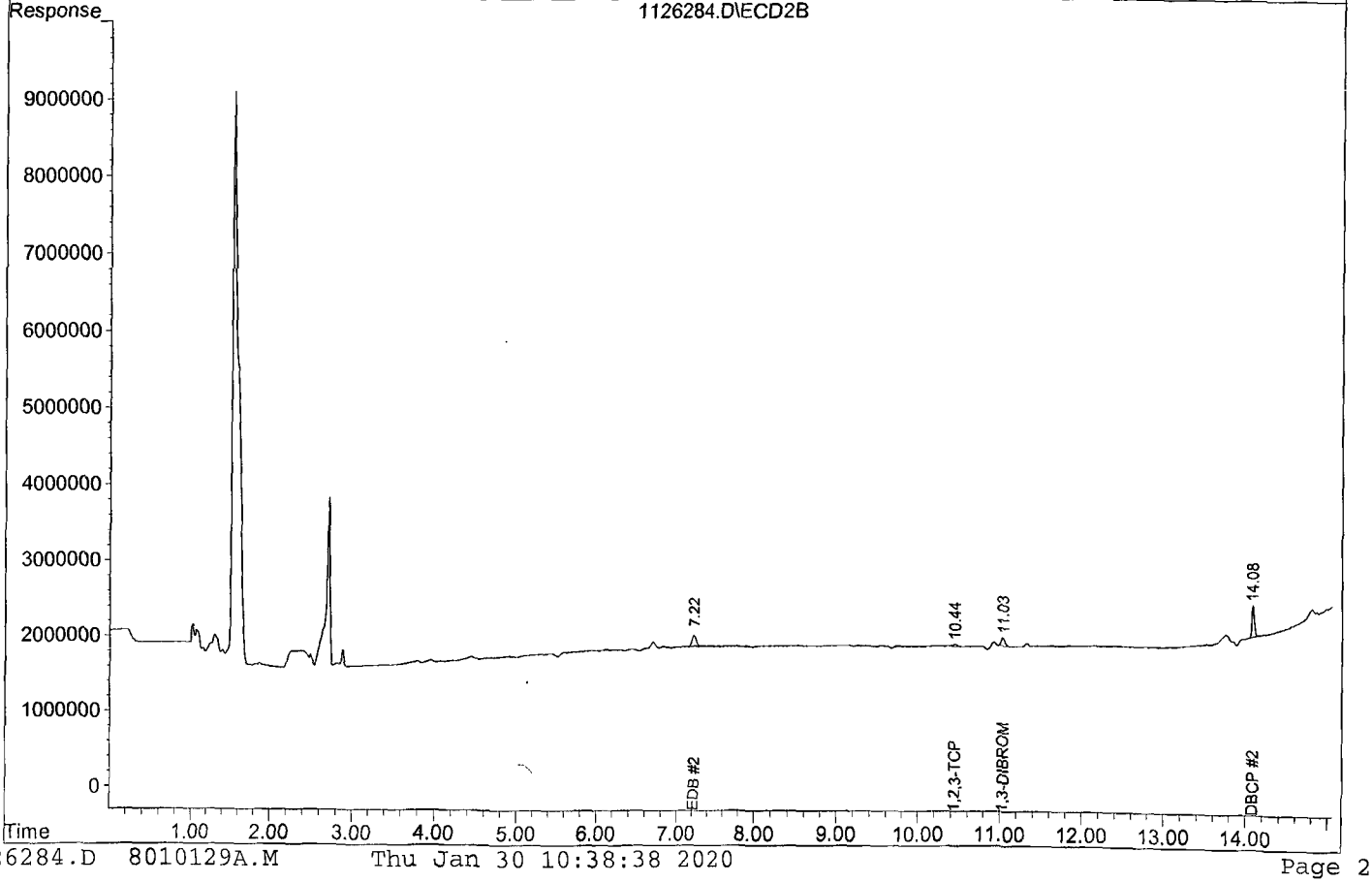
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\191126\1126284.D
Acq On : 01-29-20 12:30:48
Sample : 8011 1 1/29/20
Misc :
Quant Method : G:\HERBIE\DATA\191126\8010129A.M

Vial: 84
Operator: GA
Inst : Herbie
Multiplr: 1.00





Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\191126\1126285.D\ECD1A.CH Vial: 85
Signal #2 : G:\HERBIE\DATA\191126\1126285.D\ECD2B.CH
Acq On : 01-29-20 12:50:48 Operator: GA
Sample : 8011 2 1/29/20 Inst : Herbie
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Jan 30 8:20 2020 Quant Results File: 8010129A.RES

Quant Method : G:\HERBIE\DATA\191126\8010129A.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Tue Jan 28 08:55:06 2020
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

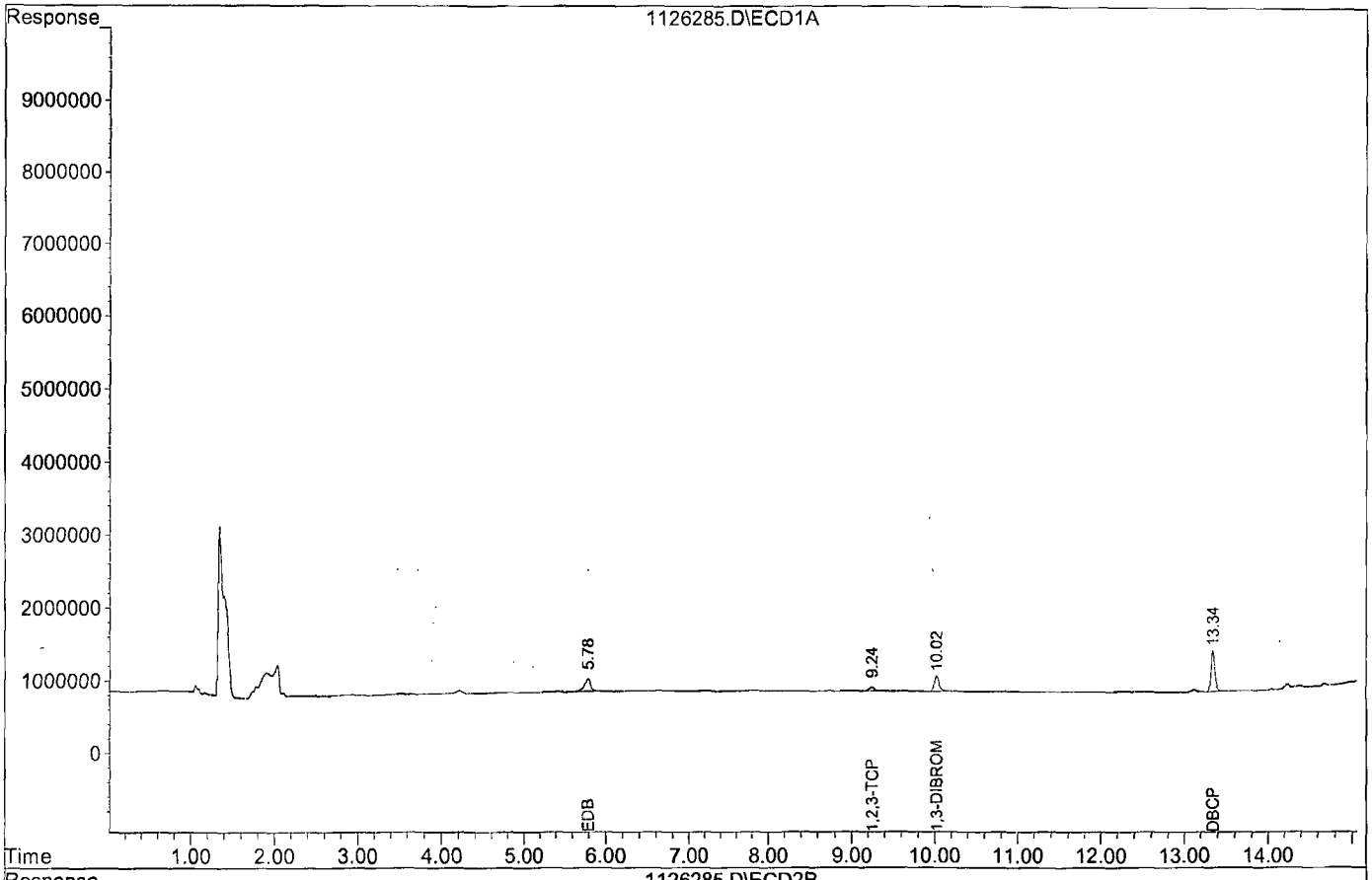
	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	System Monitoring Compounds						
3) S	1,3-DIBROMOPROPA	10.02	11.03	214676	566976	0.126	0.115
Spiked Amount	0.350			Recovery	=	36.00%	32.86%
	Target Compounds						
1) TM	EDB	5.78	7.21	171298	732957	0.111	0.110
2) TM	1,2,3-TCP	9.24	10.44	51258	142385	0.098	0.114
4) TM	DBCP	13.34	14.08	564971	2111371	0.106	0.107
	Target Compounds						

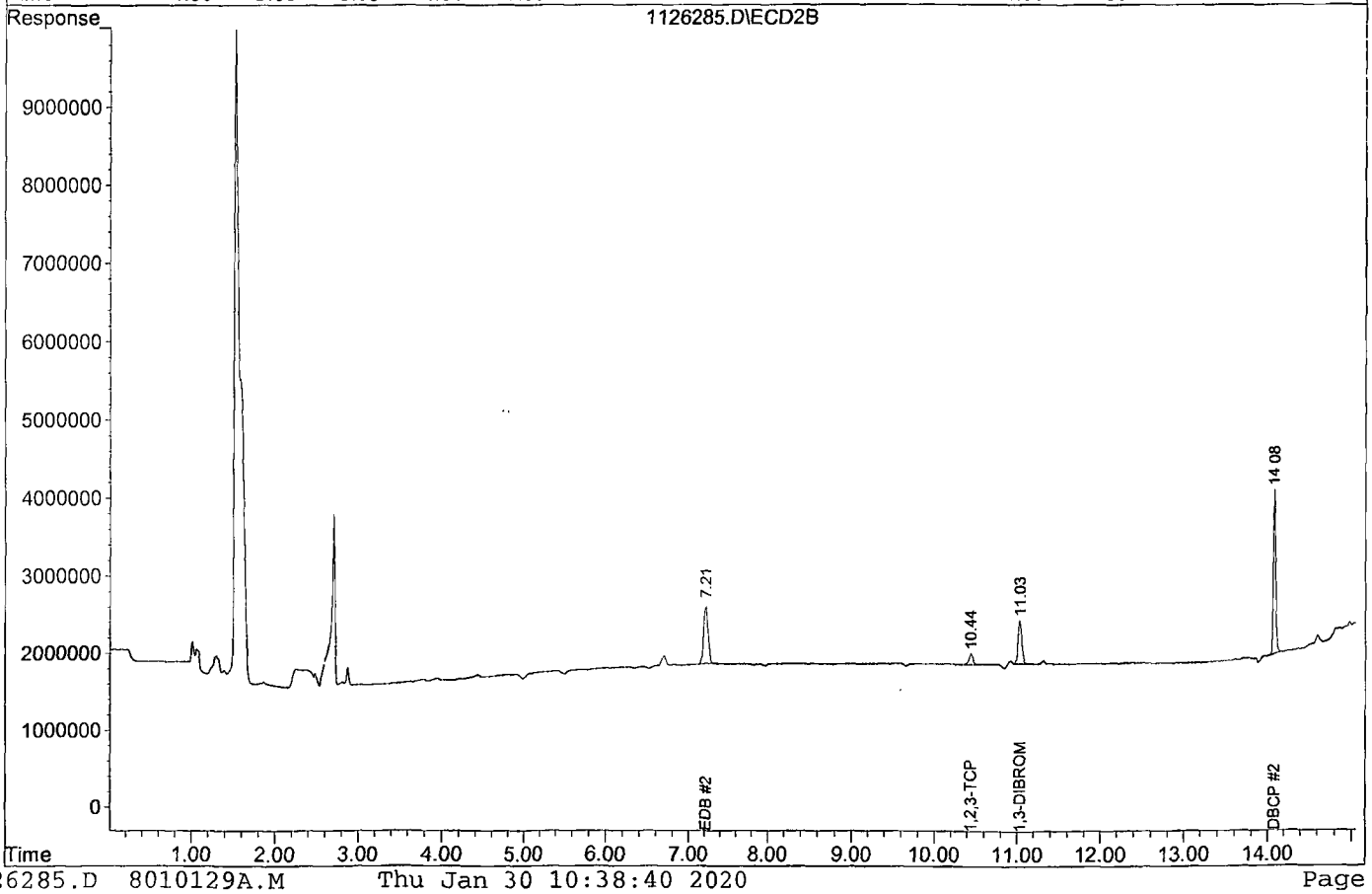
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\191126\1126285.D
Acq On : 01-29-20 12:50:48
Sample : 8011 2 1/29/20
Misc :
Quant Method : G:\HERBIE\DATA\191126\8010129A.M

Vial: 85
Operator: GA
Inst : Herbie
Multiplr: 1.00





Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\191126\1126286.D\ECD1A.CH Vial: 86
Signal #2 : G:\HERBIE\DATA\191126\1126286.D\ECD2B.CH
Acq On : 01-29-20 13:10:56 Operator: GA
Sample : 8011 3 1/29/20 Inst : Herbie
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Jan 30 8:20 2020 Quant Results File: 8010129A.RES

Quant Method : G:\HERBIE\DATA\191126\8010129A.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Tue Jan 28 08:55:06 2020
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	System Monitoring Compounds						
3) S	1,3-DIBROMOPROPA	10.01	11.03	443837	1213431	0.260	0.246
Spiked Amount	0.350			Recovery	=	74.29%	70.29%
	Target Compounds						
1) TM	EDB	5.79	7.21	375874	1619913	0.243	0.242
2) TM	1,2,3-TCP	9.25	10.44	112516	313453	0.263	0.251
4) TM	DBCP	13.34	14.08	1346420	4949001	0.252	0.250

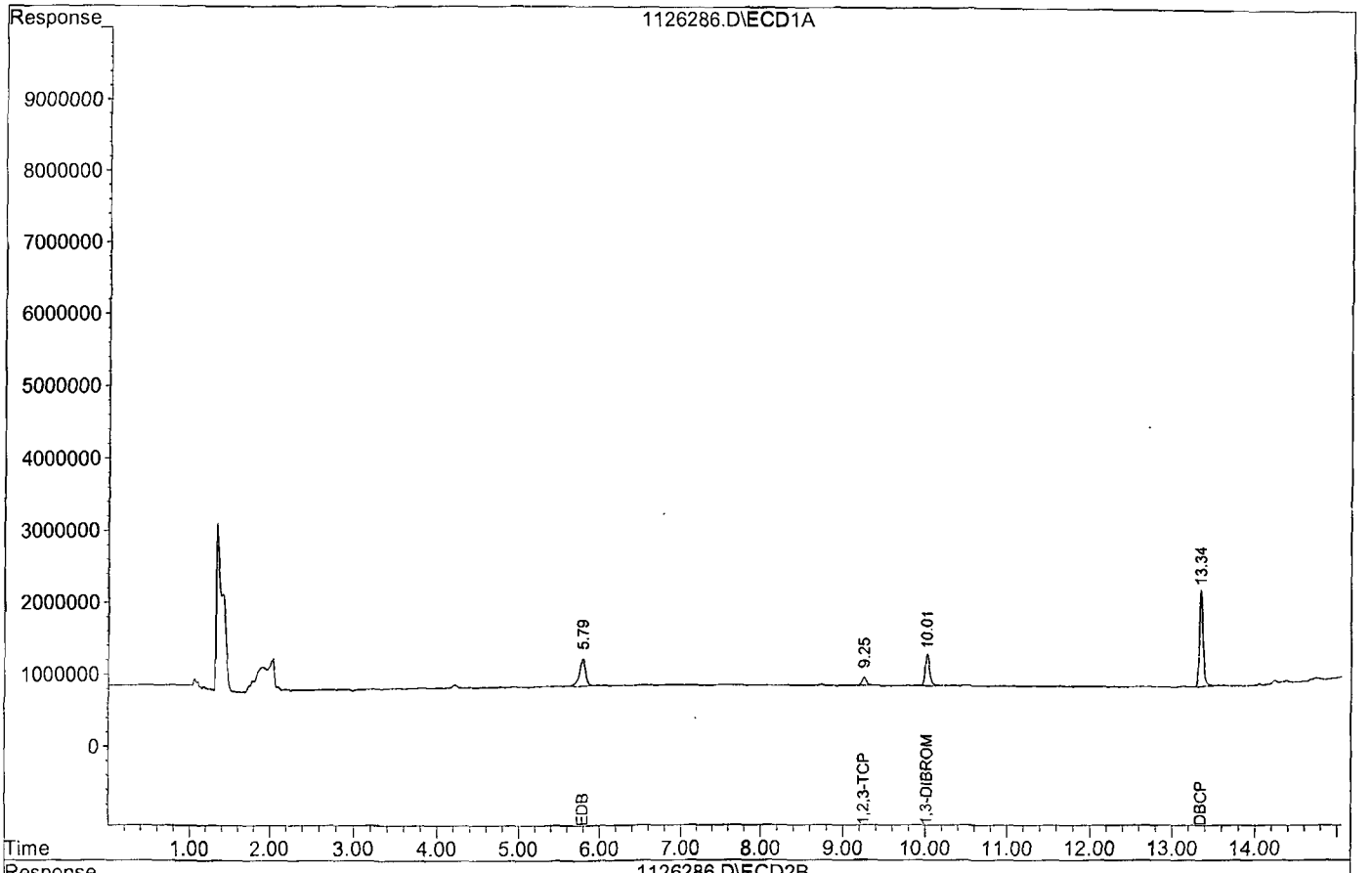
Target Compounds

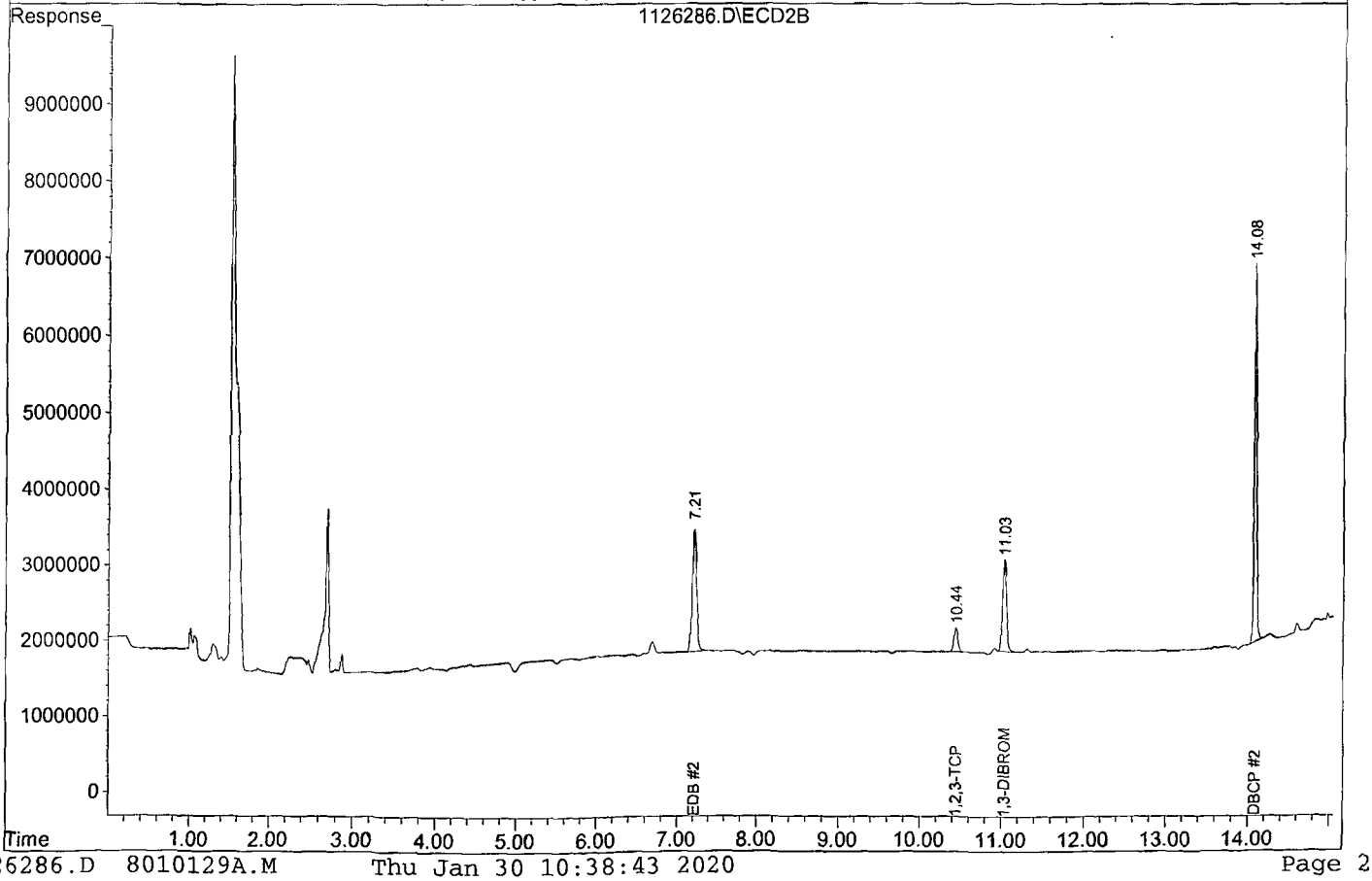
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\191126\1126286.D
Acq On : 01-29-20 13:10:56
Sample : 8011 3 1/29/20
Misc :
Quant Method : G:\HERBIE\DATA\191126\8010129A.M

Vial: 86
Operator: GA
Inst : Herbie
Multiplr: 1.00





Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\191126\1126287.D\ECD1A.CH Vial: 87
Signal #2 : G:\HERBIE\DATA\191126\1126287.D\ECD2B.CH
Acq On : 01-29-20 13:30:56 Operator: GA
Sample : 8011 4 1/29/20 Inst : Herbie
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Jan 30 8:20 2020 Quant Results File: 8010129A.RES

Quant Method : G:\HERBIE\DATA\191126\8010129A.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Tue Jan 28 08:55:06 2020
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

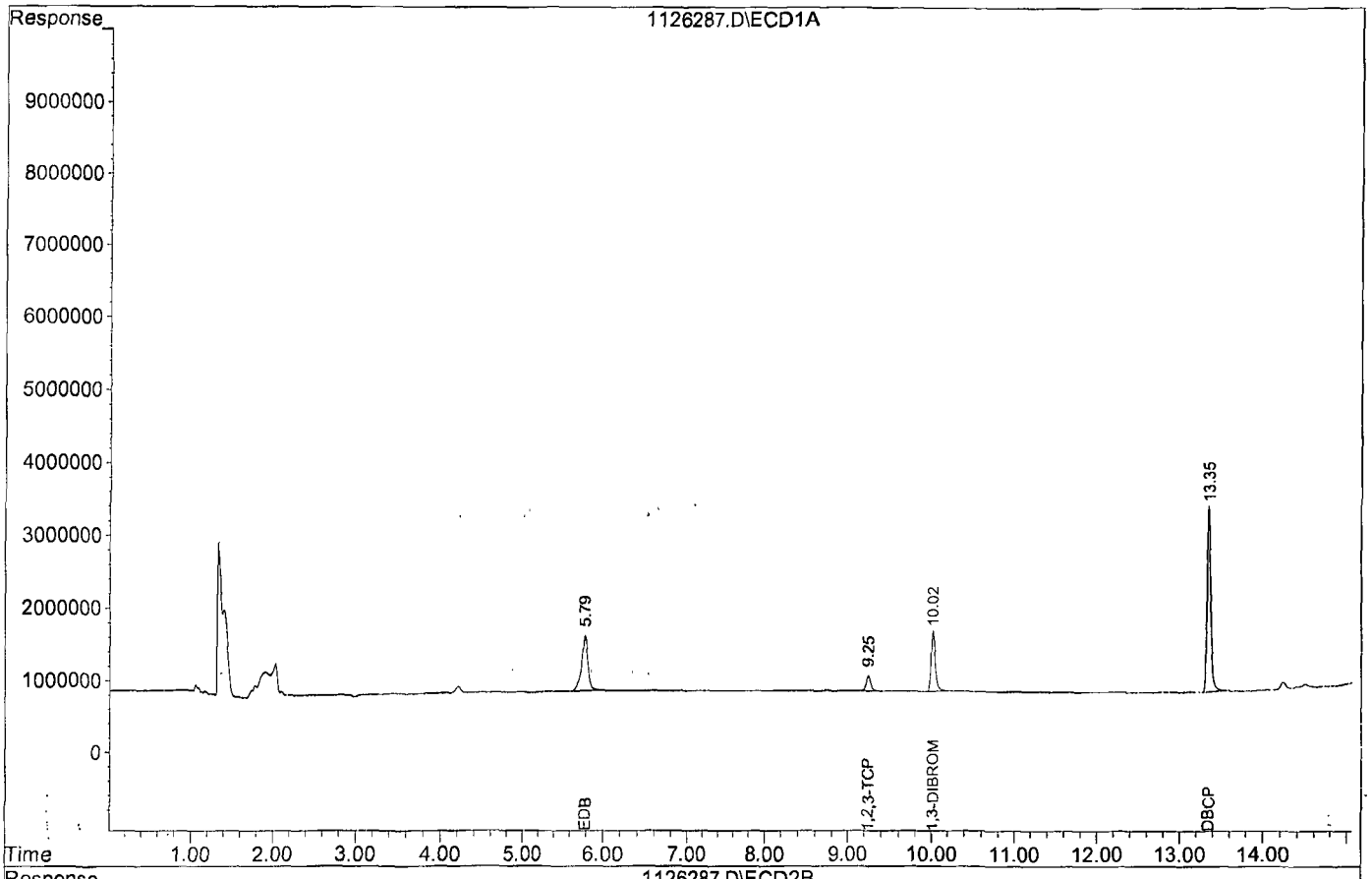
	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	System Monitoring Compounds						
3) S	1,3-DIBROMOPROPA	10.02	11.03	835150	2363717	0.489	0.479
Spiked Amount	0.350			Recovery	=	139.71%	136.86%
	Target Compounds						
1) TM	EDB	5.79	7.21	757621	3202214	0.489	0.479
2) TM	1,2,3-TCP	9.25	10.44	207972	597800	0.520	0.480
4) TM	DBCP	13.35	14.08	2556873	10154806	0.479	0.512
	Target Compounds						

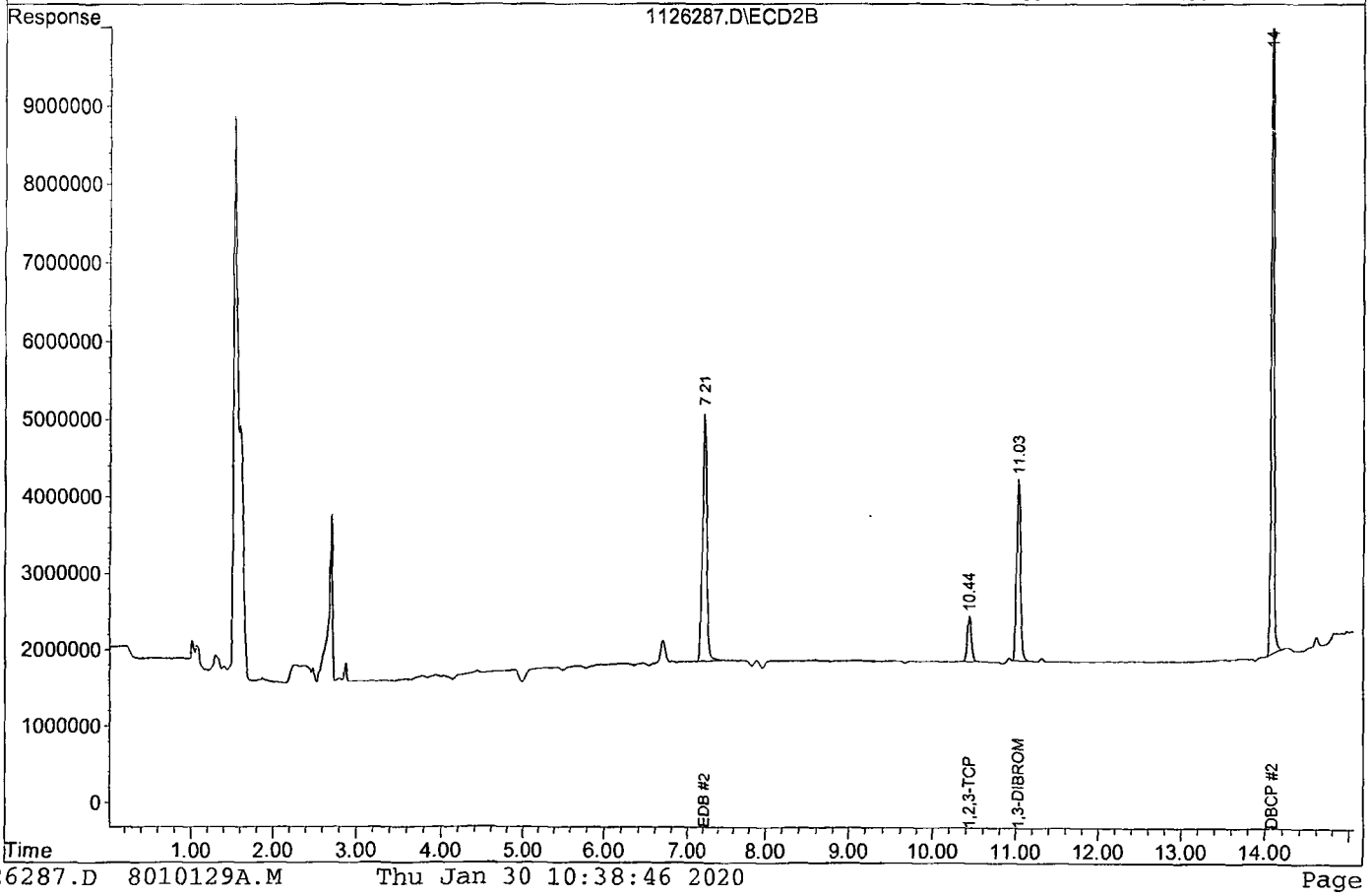
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\191126\1126287.D
Acq On : 01-29-20 13:30:56
Sample : 8011 4 1/29/20
Misc :
Quant Method : G:\HERBIE\DATA\191126\8010129A.M

Vial: 87
Operator: GA
Inst : Herbie
Multiplr: 1.00





Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\191126\1126288.D\ECD1A.CH Vial: 88
Signal #2 : G:\HERBIE\DATA\191126\1126288.D\ECD2B.CH
Acq On : 01-29-20 13:50:58 Operator: GA
Sample : 8011 5 1/29/20 Inst : Herbie
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Jan 30 8:20 2020 Quant Results File: 8010129A.RES

Quant Method : G:\HERBIE\DATA\191126\8010129A.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Tue Jan 28 08:55:06 2020
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	System Monitoring Compounds						
3) S	1,3-DIBROMOPROPA	10.01	11.03	1245953	3503244	0.729	0.710
Spiked Amount	0.350			Recovery	=	208.29%	202.86%
	Target Compounds						
1) TM	EDB	5.78	7.21	1122614	4750957	0.724	0.710
2) TM	1,2,3-TCP	9.25	10.44	297562	879701	0.761	0.706
4) TM	DBCP	13.34	14.08	3862099	15314539	0.724	0.773

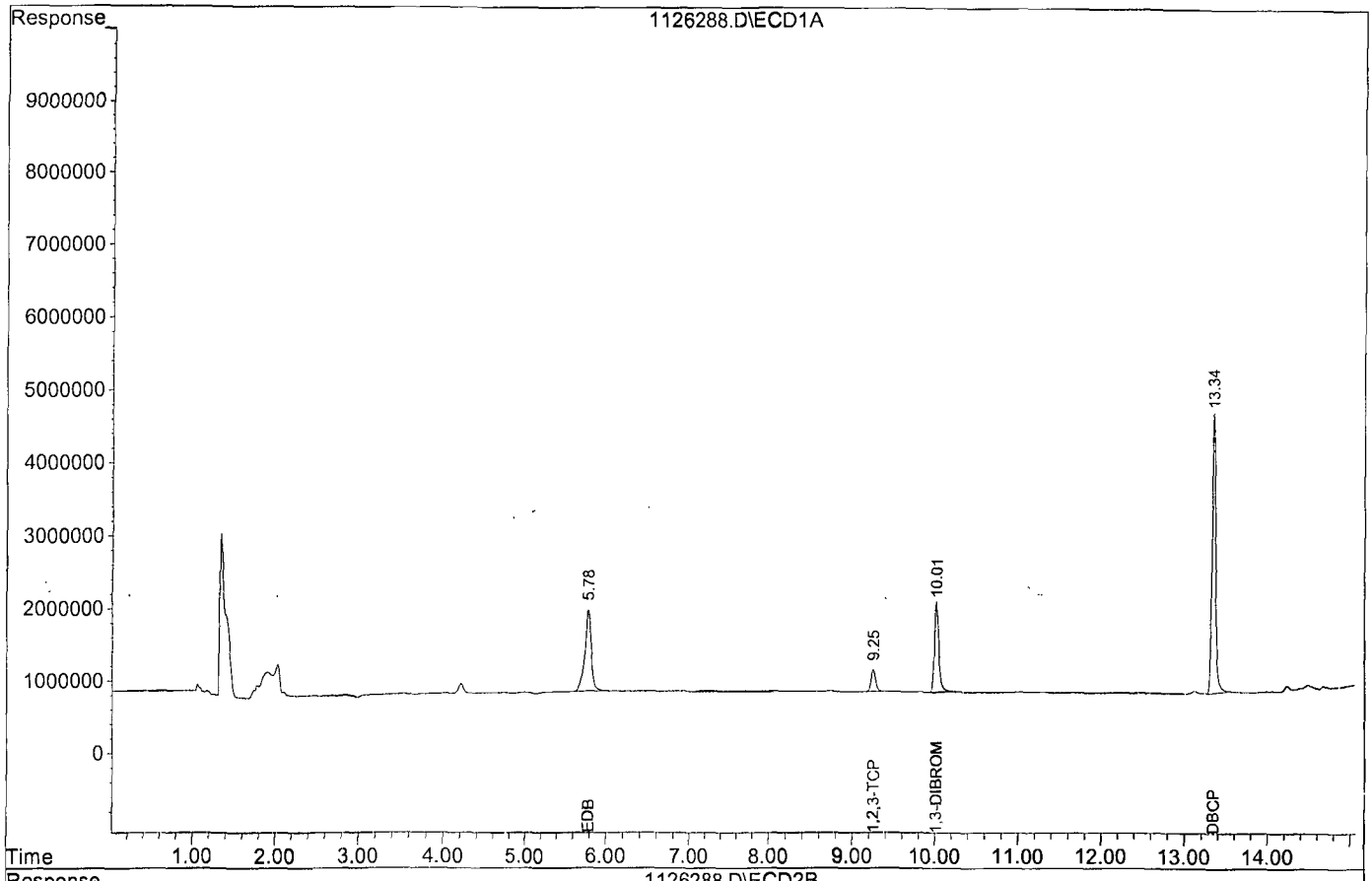
Target Compounds

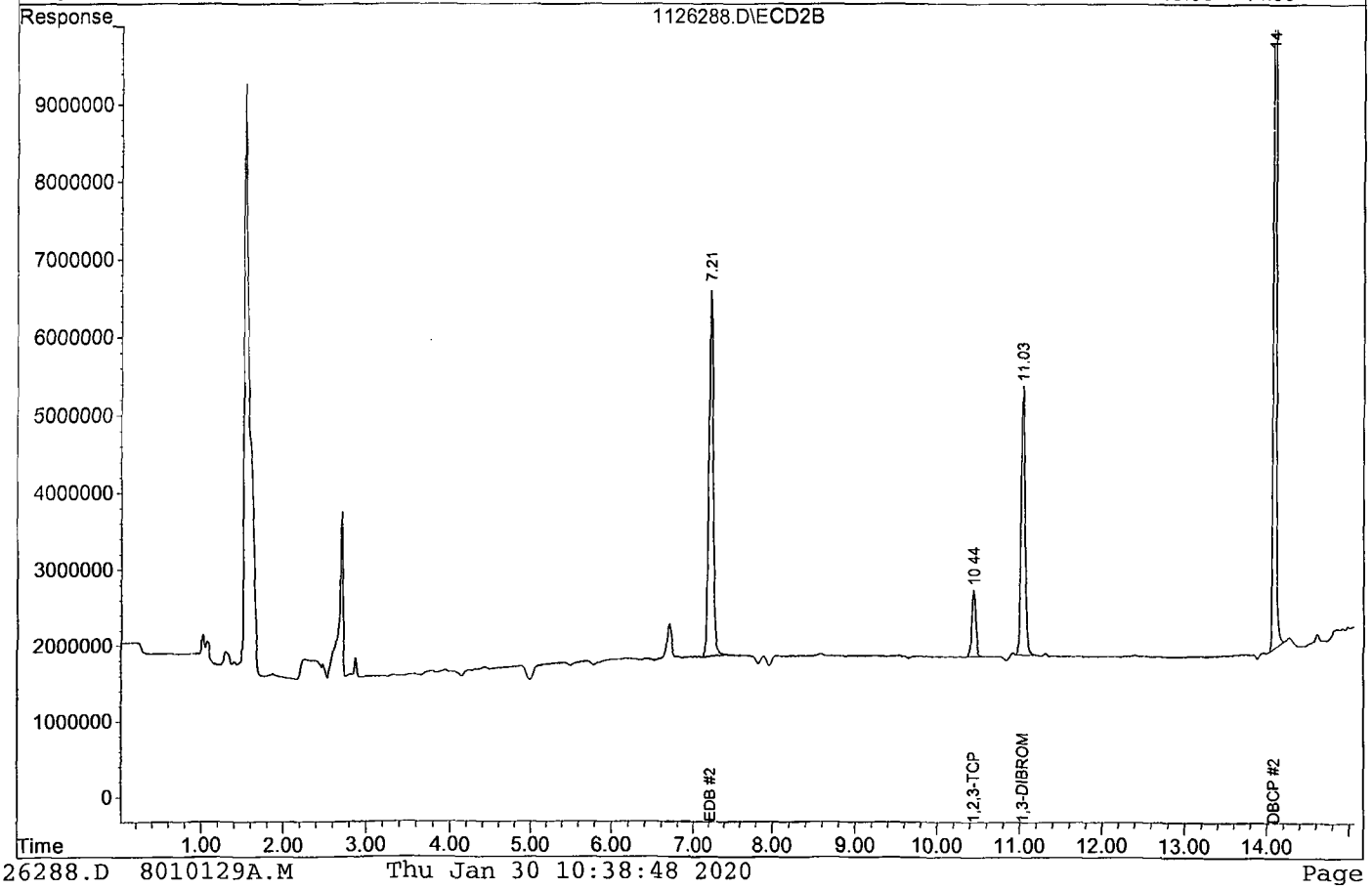
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\191126\1126288.D
Acq On : 01-29-20 13:50:58
Sample : 8011 5 1/29/20
Misc :
Quant Method : G:\HERBIE\DATA\191126\8010129A.M

Vial: 88
Operator: GA
Inst : Herbie
Multiplr: 1.00





Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\191126\1126289.D\ECD1A.CH Vial: 89
Signal #2 : G:\HERBIE\DATA\191126\1126289.D\ECD2B.CH
Acq On : 01-29-20 14:11:06 Operator: GA
Sample : 8011 6 1/29/20 Inst : Herbie
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Jan 30 8:20 2020 Quant Results File: 8010129A.RES

Quant Method : G:\HERBIE\DATA\191126\8010129A.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Tue Jan 28 08:55:06 2020
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

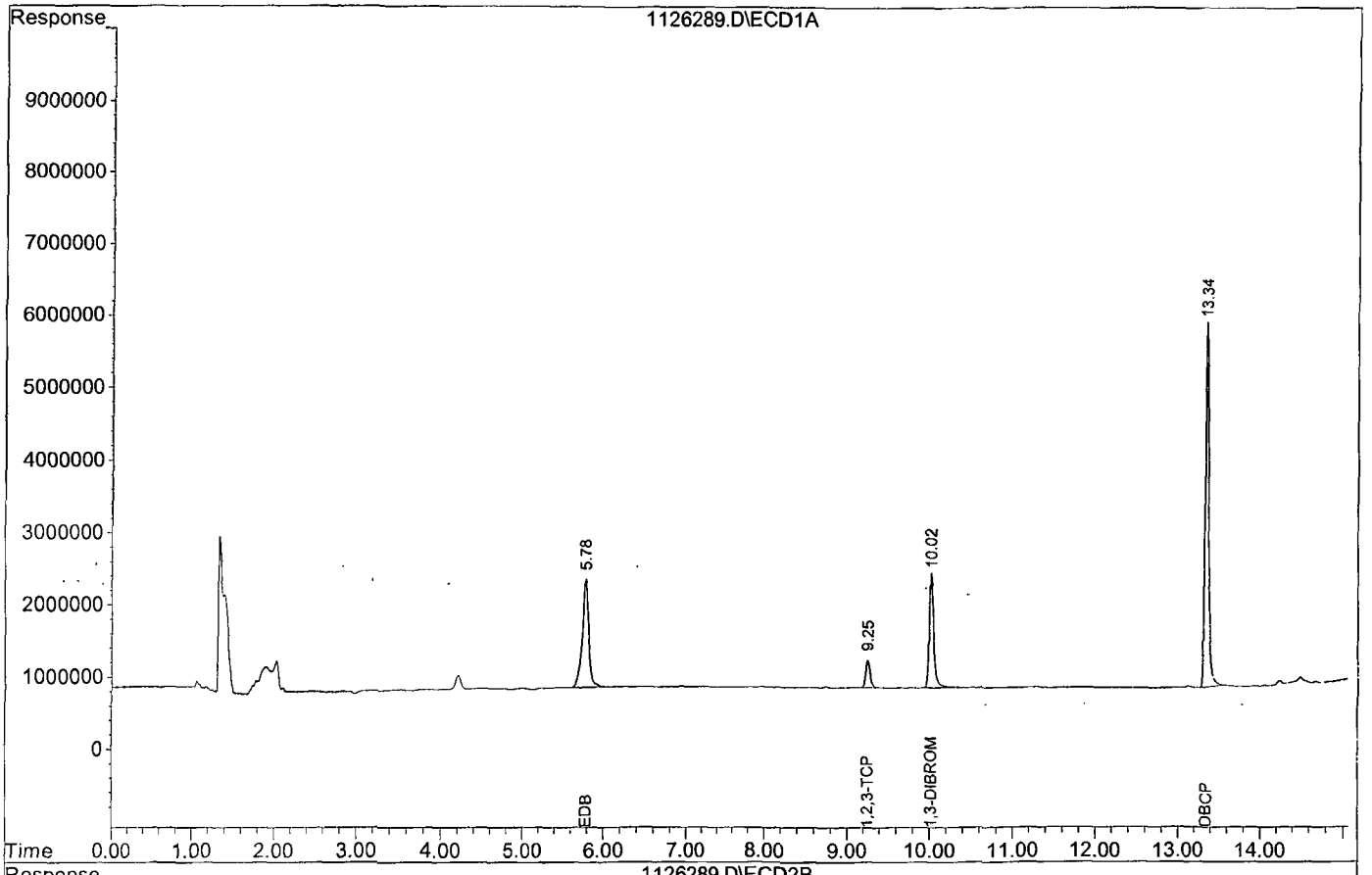
	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	System Monitoring Compounds						
3)	S 1,3-DIBROMOPROPA	10.02	11.03	1596555	4599638	0.935	0.933
	Spiked Amount 0.350			Recovery	=	267.14%	266.57%
	Target Compounds						
1)	TM EDB	5.78	7.21	1494399	6269422	0.964	0.938
2)	TM 1,2,3-TCP	9.25	10.44	379136	1118954	0.980	0.898
4)	TM DBCP	13.34	14.08	5060868	20790909	0.949	1.049
	Target Compounds						

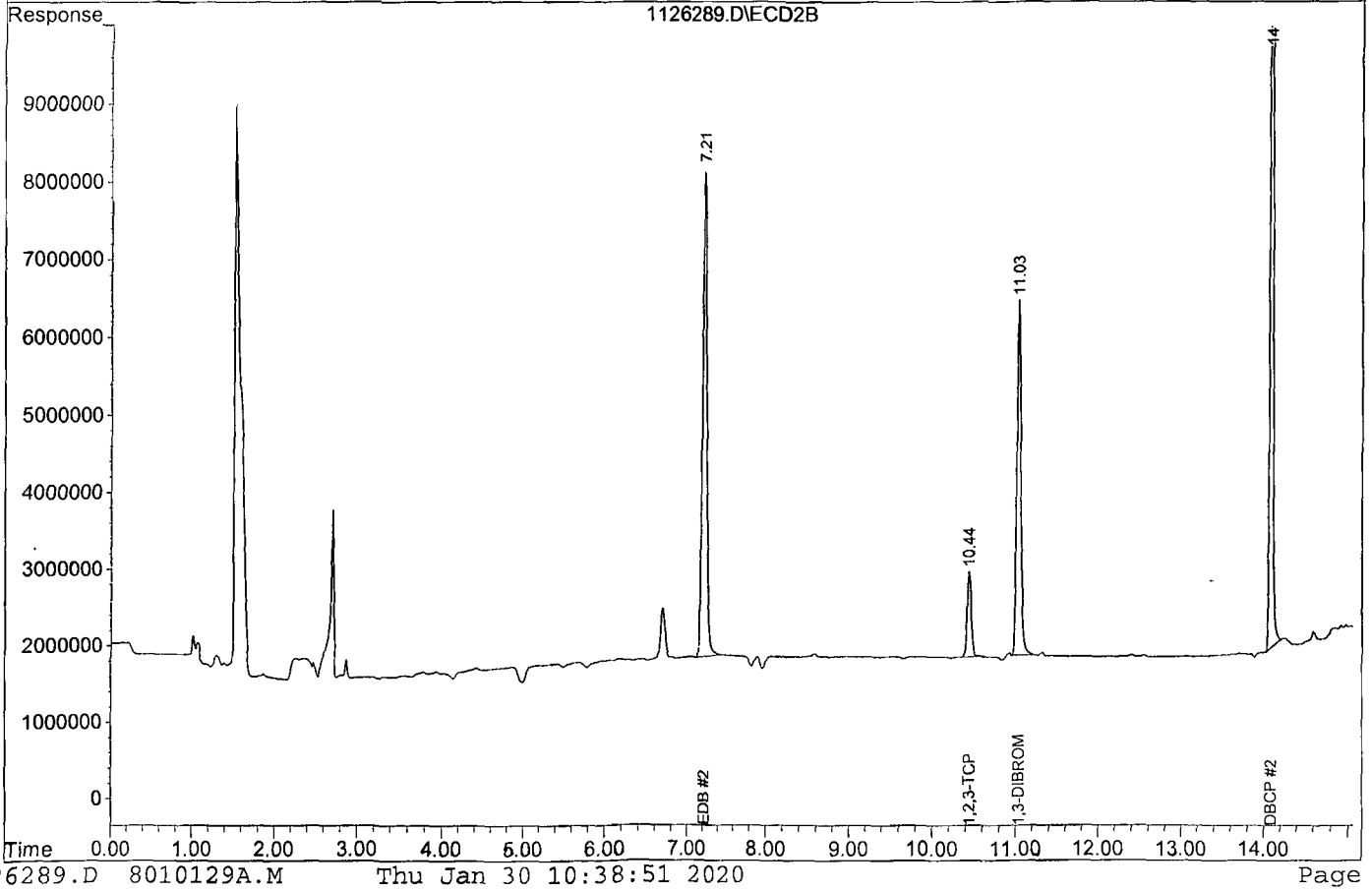
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\191126\1126289.D
Acq On : 01-29-20 14:11:06
Sample : 8011 6 1/29/20
Misc :
Quant Method : G:\HERBIE\DATA\191126\8010129A.M

Vial: 89
Operator: GA
Inst : Herbie
Multiplr: 1.00





DBCP/EDB/1,2,3-TCP Analysis by
504 8011

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 01/29/20
Instrument: Herbie
Initial Cal. Date: 01/29/20
Data File: 1126290.D

		Compound	MEAN	CCRF	%D		%Drift
1	TM	EDB	777674	715430	8.0	TM	
2	TML	1,2,3-TCP	265931	230525	13	TML	16
3	TM	DBCP	2676360	2582640	3.5	TM	
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			8.2		

DBCP/EDB/1,2,3-TCP Analysis by
504 8011

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 01/29/20
Instrument: Herbie
Cal. Date: 01/29/20
Data File: 1126290.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	EDB	3328550	2992940	10	TM	
42	TM	1,2,3-TCP	625467	619845	0.90	TM	
43	TM	DBCP	10267000	9896850	3.6	TM	
44							
45							
46							
47							
48							
49							
50							
51							
52							
53							
54							
55							
56							
57							
58							
59							
60							
61							
62							
63							
64							
65							
66							
67							
68							
69							
70							
71							
72							
73							
74							
75							
76							
77							
78							
79							
80							
		Average			4.8		

Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\191126\1126290.D\ECD1A.CH Vial: 90
Signal #2 : G:\HERBIE\DATA\191126\1126290.D\ECD2B.CH
Acq On : 01-29-20 14:31:07 Operator: GA
Sample : 8011 SS 1/29/20 Inst : Herbie
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Jan 30 8:20 2020 Quant Results File: 8010129A.RES

Quant Method : G:\HERBIE\DATA\191126\8010129A.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Tue Jan 28 08:55:06 2020
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	System Monitoring Compounds						
3) S	1,3-DIBROMOPROPA	10.02	11.03	548293	1551636	0.321	0.315
Spiked Amount	0.350			Recovery	=	91.71%	90.00%
	Target Compounds						
1) TM	EDB	5.78	7.21	143086	598587	0.092	0.090
2) TM	1,2,3-TCP	9.25	10.44	46105	123969	0.084	0.099
4) TM	DBCP	13.34	14.08	516527	1979370	0.097	0.100

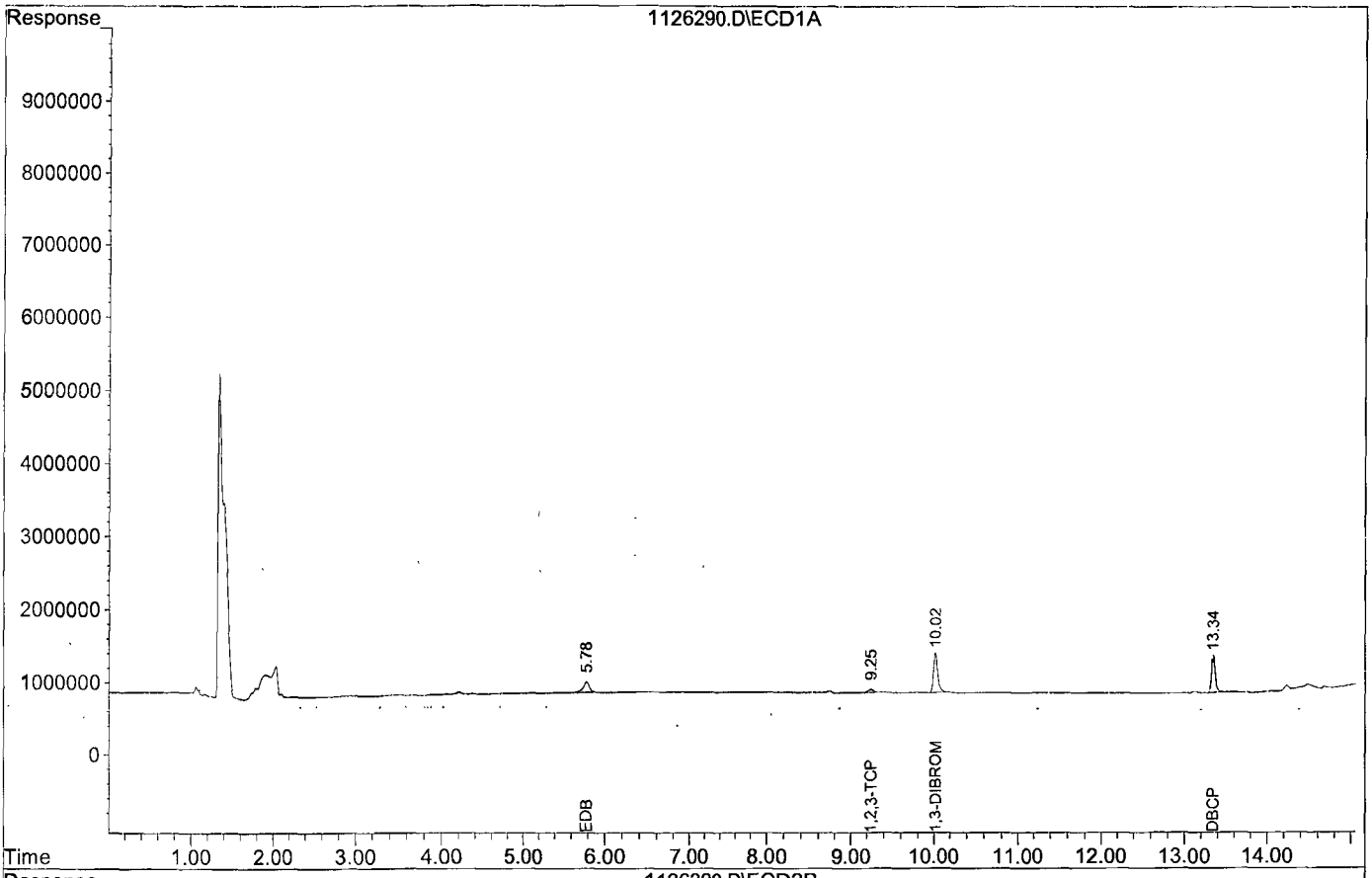
Target Compounds

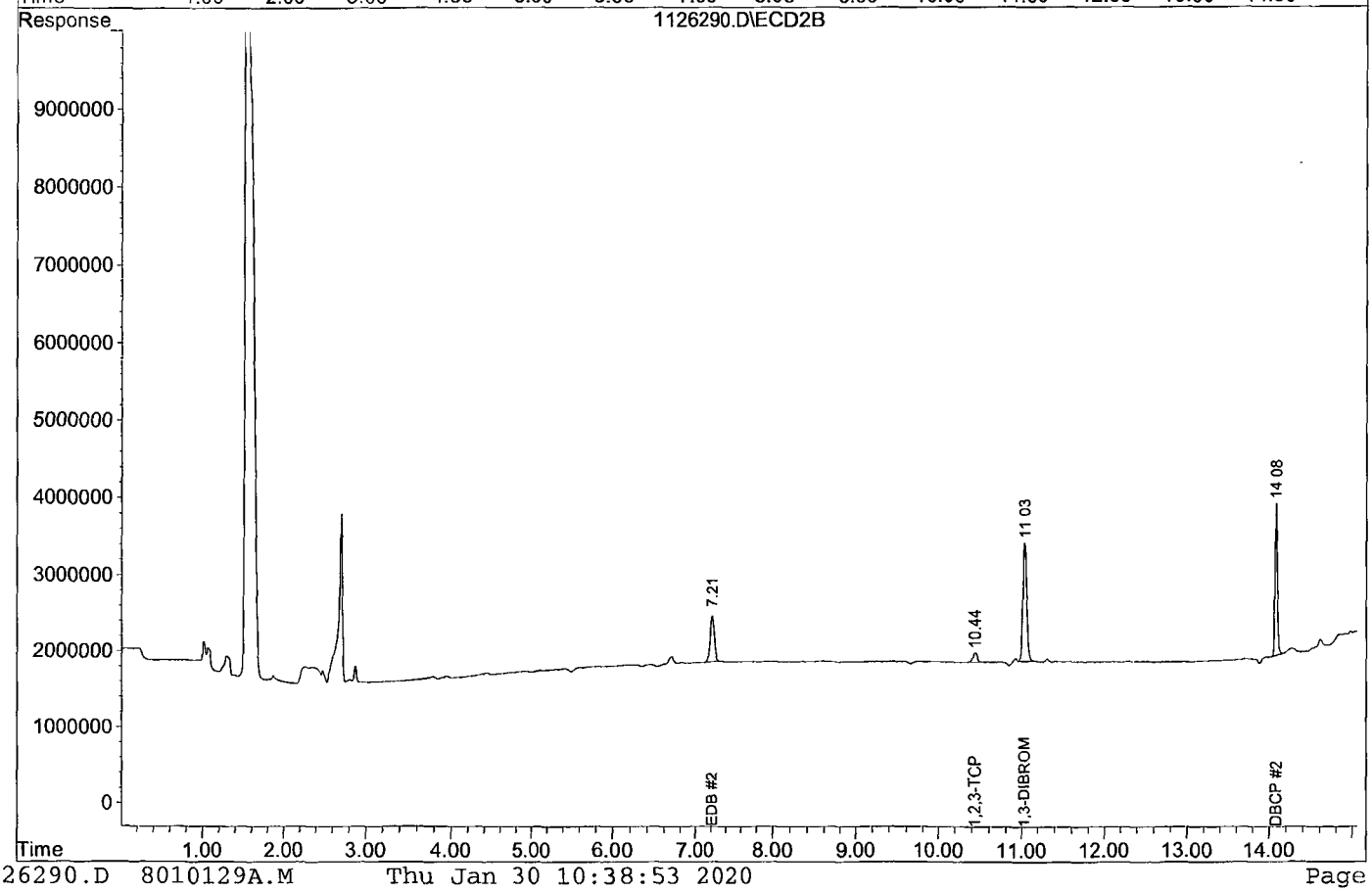
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\191126\1126290.D
Acq On : 01-29-20 14:31:07
Sample : 8011 SS 1/29/20
Misc :
Quant Method : G:\HERBIE\DATA\191126\8010129A.M

Vial: 90
Operator: GA
Inst : Herbie
Multiplr: 1.00





DBCP/EDB/1,2,3-TCP Analysis by
504 8011

Form 7

Continuing Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Date Analyzed: 01/29/20
Matrix: Instrument: Herbie
Initial Cal. Date: 01/29/20
Data File: 1126301.D

		Compound	MEAN	CCRF	%D		%Drift
1	TM	EDB	777674	801414	3.1	TM	
2	TML	1,2,3-TCP	265931	226870	15	TML	4.3
3	S	1,3-DIBROMOPROPANE(S)	885023	904250	2.2	S	
4	TM	DBCP	2676360	2679530	0.12	TM	
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			5.1		

DBCP/EDB/1,2,3-TCP Analysis by
504 8011

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 01/29/20
Instrument: Herbie
Cal. Date: 01/29/20
Data File: 1126301.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	EDB	3328550	3239680	2.7	TM	
42	TM	1,2,3-TCP	625467	628604	0.50	TM	
43	S	1,3-DIBROMOPROPANE(S)	2495750	2461830	1.4	S	
44	TM	DBCP	10267000	9968370	2.9	TM	
45							
46							
47							
48							
49							
50							
51							
52							
53							
54							
55							
56							
57							
58							
59							
60							
61							
62							
63							
64							
65							
66							
67							
68							
69							
70							
71							
72							
73							
74							
75							
76							
77							
78							
79							
80							
		Average			1.9		

Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\191126\1126301.D\ECD1A.CH Vial: 1
Signal #2 : G:\HERBIE\DATA\191126\1126301.D\ECD2B.CH
Acq On : 01-29-20 18:11:26 Operator: GA
Sample : 8011 3 1/29/20 Inst : Herbie
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Jan 30 8:48 2020 Quant Results File: 8010129A.RES

Quant Method : G:\HERBIE\DATA\191126\8010129A.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Thu Jan 30 08:23:56 2020
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	System Monitoring Compounds						
3) S	1,3-DIBROMOPROPA	10.02	11.03	452125	1230916	0.255	0.247
Spiked Amount	0.350			Recovery	=	72.86%	70.57%
	Target Compounds						
1) TM	EDB	5.78	7.21	400707	1619840	0.258	0.243
2) TM	1,2,3-TCP	9.25	10.44	113435	314302	0.261	0.251
4) TM	DBCP	13.34	14.08	1339766	4984186	0.250	0.243

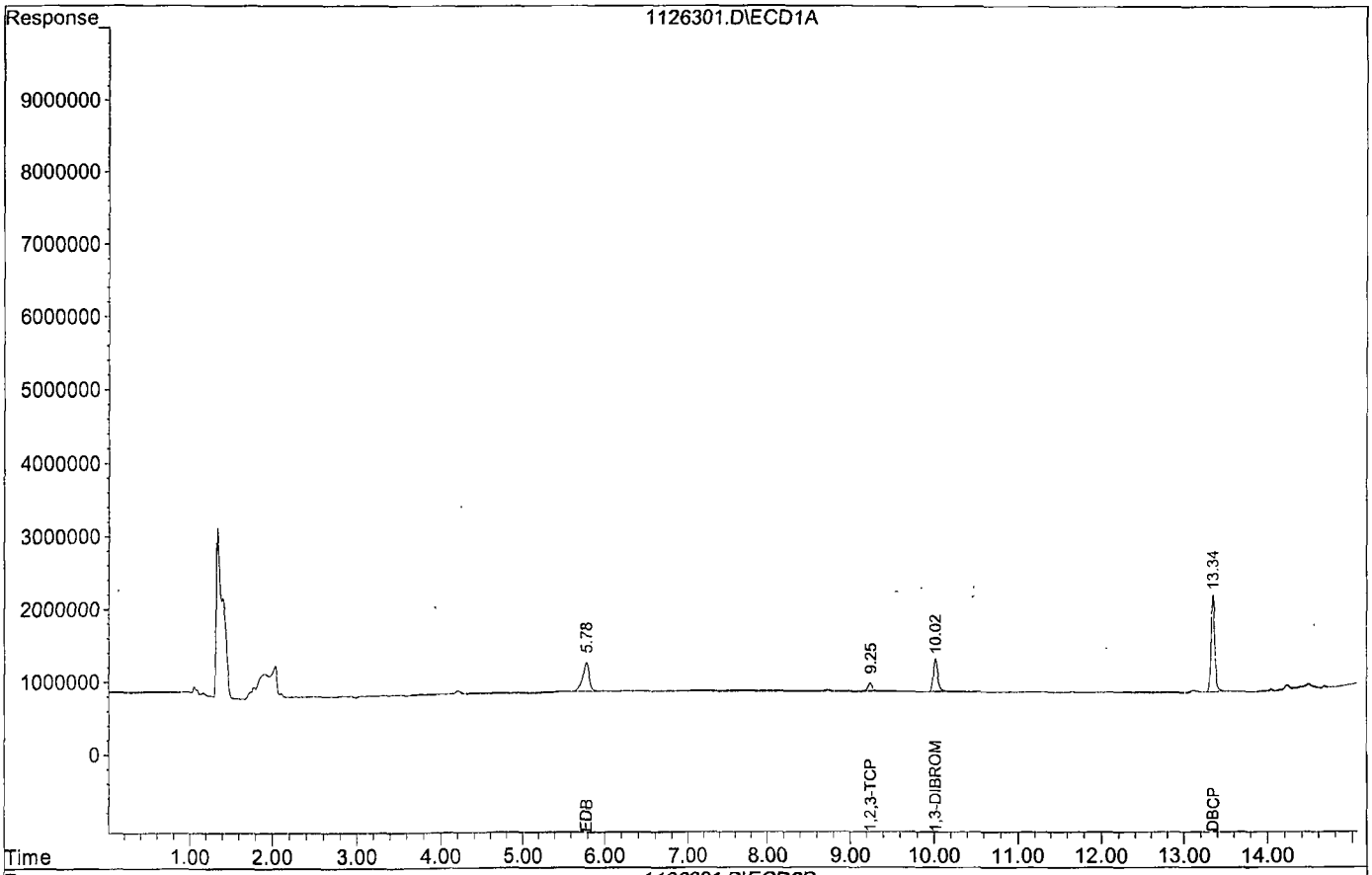
Target Compounds

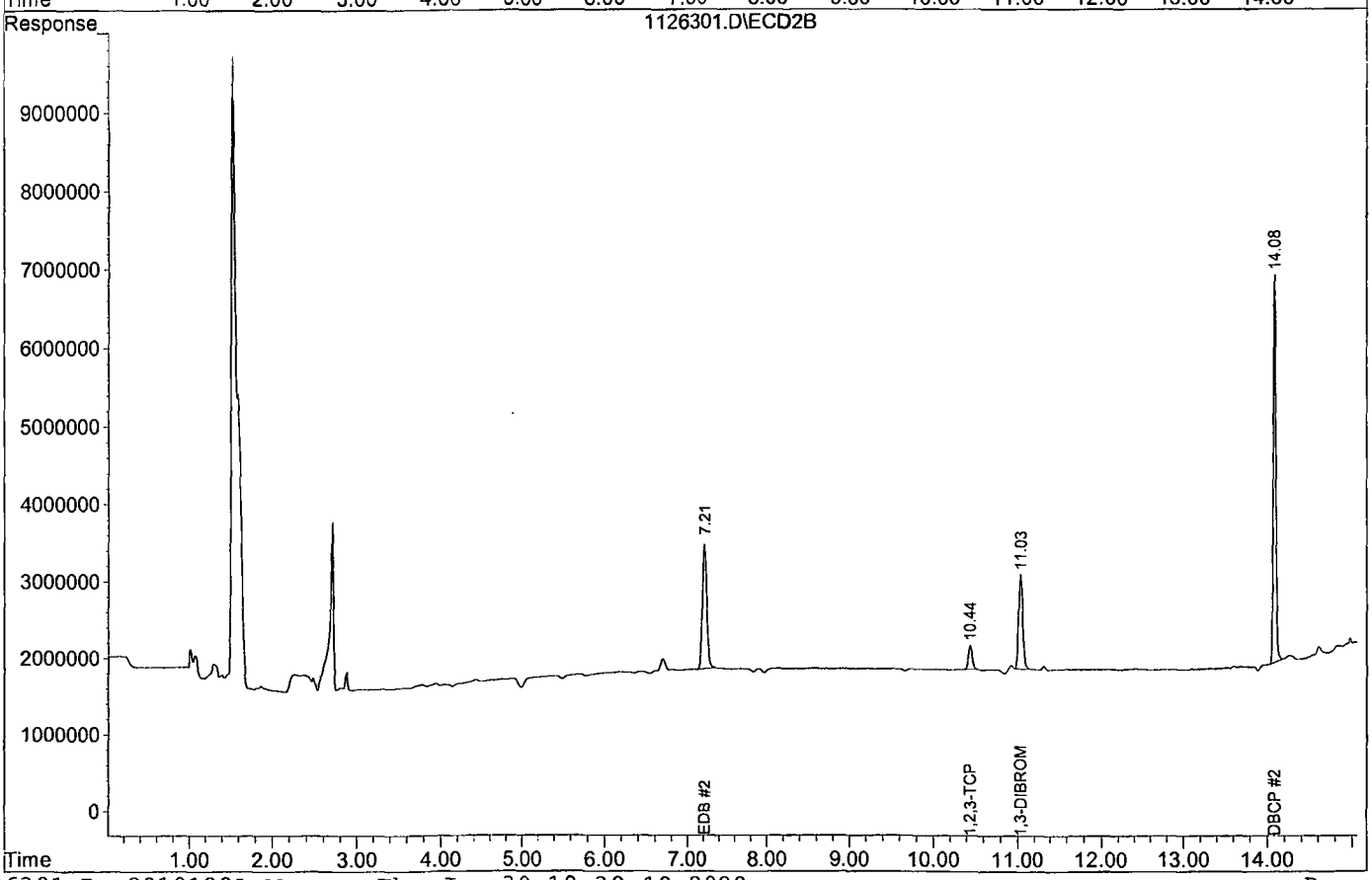
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\191126\1126301.D
Acq On : 01-29-20 18:11:26
Sample : 8011 3 1/29/20
Misc :
Quant Method : G:\HERBIE\DATA\191126\8010129A.M

Vial: 1
Operator: GA
Inst : Herbie
Multiplr: 1.00





ORGANICS
Raw Data

Quantitation Report (QT Reviewed)

Signal #1 : G:\HERBIE\DATA\191126\1126294.D\ECD1A.CH Vial: 94
Signal #2 : G:\HERBIE\DATA\191126\1126294.D\ECD2B.CH
Acq On : 01-29-20 15:51:12 Operator: GA
Sample : BA06360W01 2/35.00g Inst : Herbie
Misc : Multiplr: 0.98
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Jan 30 9:01 2020 Quant Results File: 8010129A.RES

Quant Method : G:\HERBIE\DATA\191126\8010129A.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Thu Jan 30 08:23:56 2020
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

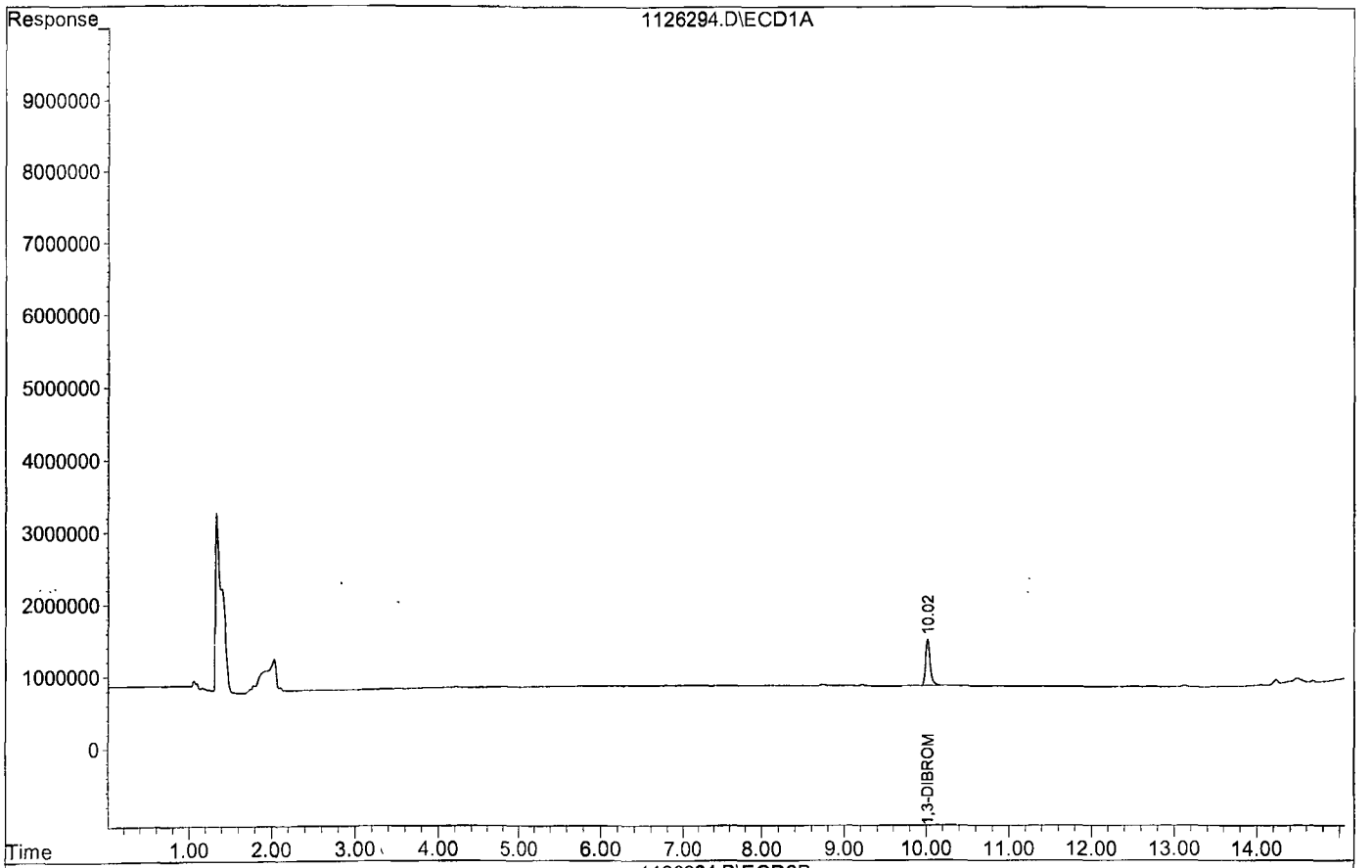
	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	System Monitoring Compounds						
3) S	1,3-DIBROMOPROPA	10.02	11.03	646270	1786663	0.359	0.352
Spiked Amount	0.344			Recovery	=	104.36%	102.32%
	Target Compounds						
	Target Compounds						
1) TM	EDB	0.00	0.00	0	0	N.D. d	N.D. d
2) TM	1,2,3-TCP	0.00	0.00	0	0	N.D. d	N.D. d
4) TM	DBCP	0.00	0.00	0	0	N.D. d	N.D. d

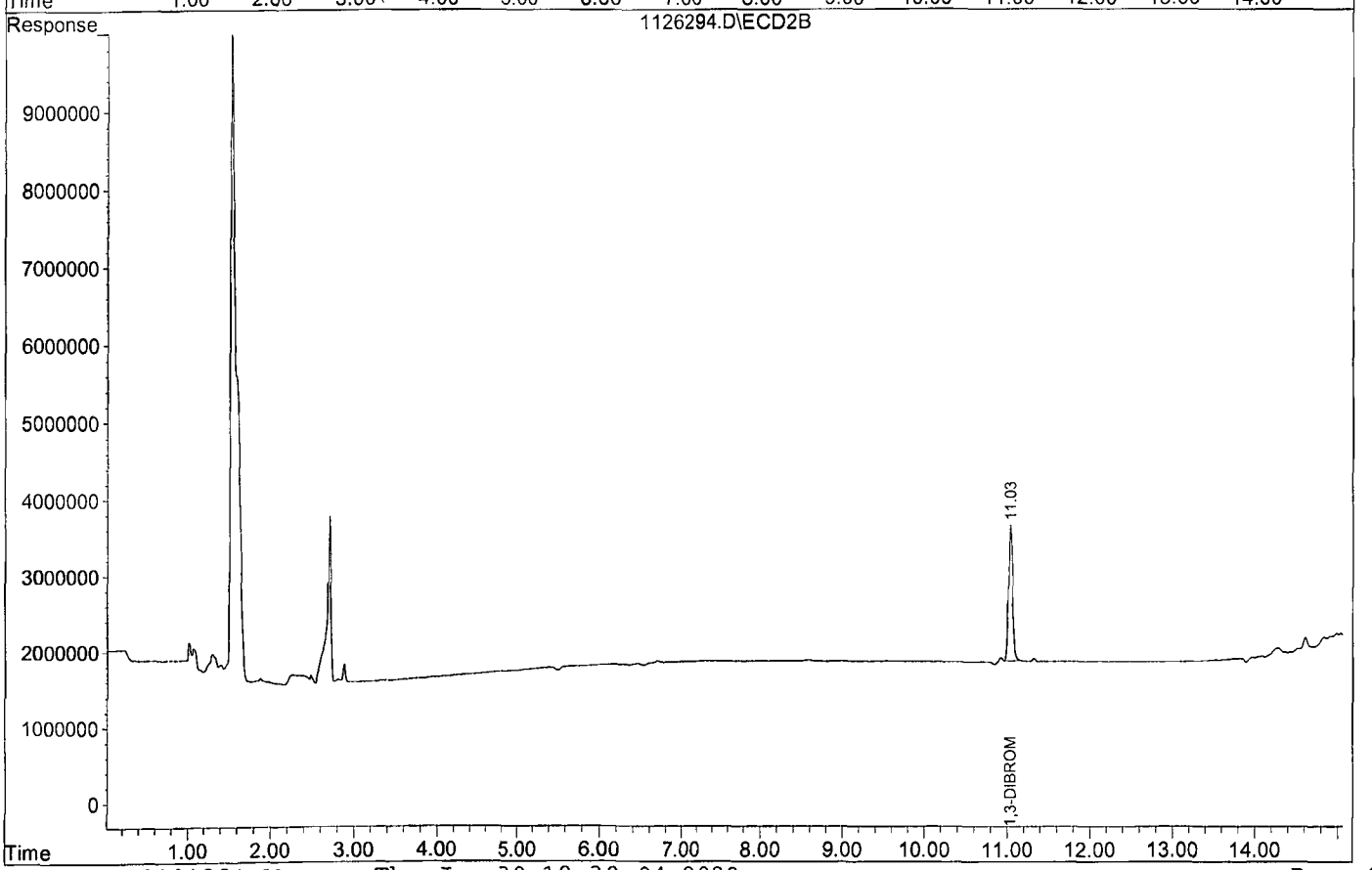
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : G:\HERBIE\DATA\191126\1126294.D
Acq On : 01-29-20 15:51:12
Sample : BA06360W01 2/35.00g
Misc :
Quant Method : G:\HERBIE\DATA\191126\8010129A.M

Vial: 94
Operator: GA
Inst : Herbie
Multiplr: 0.98





Quantitation Report (QT Reviewed)

Signal #1 : G:\HERBIE\DATA\191126\1126295.D\ECD1A.CH Vial: 95
Signal #2 : G:\HERBIE\DATA\191126\1126295.D\ECD2B.CH
Acq On : 01-29-20 16:11:20 Operator: GA
Sample : BA06361W01 2/35.00g Inst : Herbie
Misc : Multiplr: 0.99
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Jan 30 9:01 2020 Quant Results File: 8010129A.RES

Quant Method : G:\HERBIE\DATA\191126\8010129A.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Thu Jan 30 08:23:56 2020
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

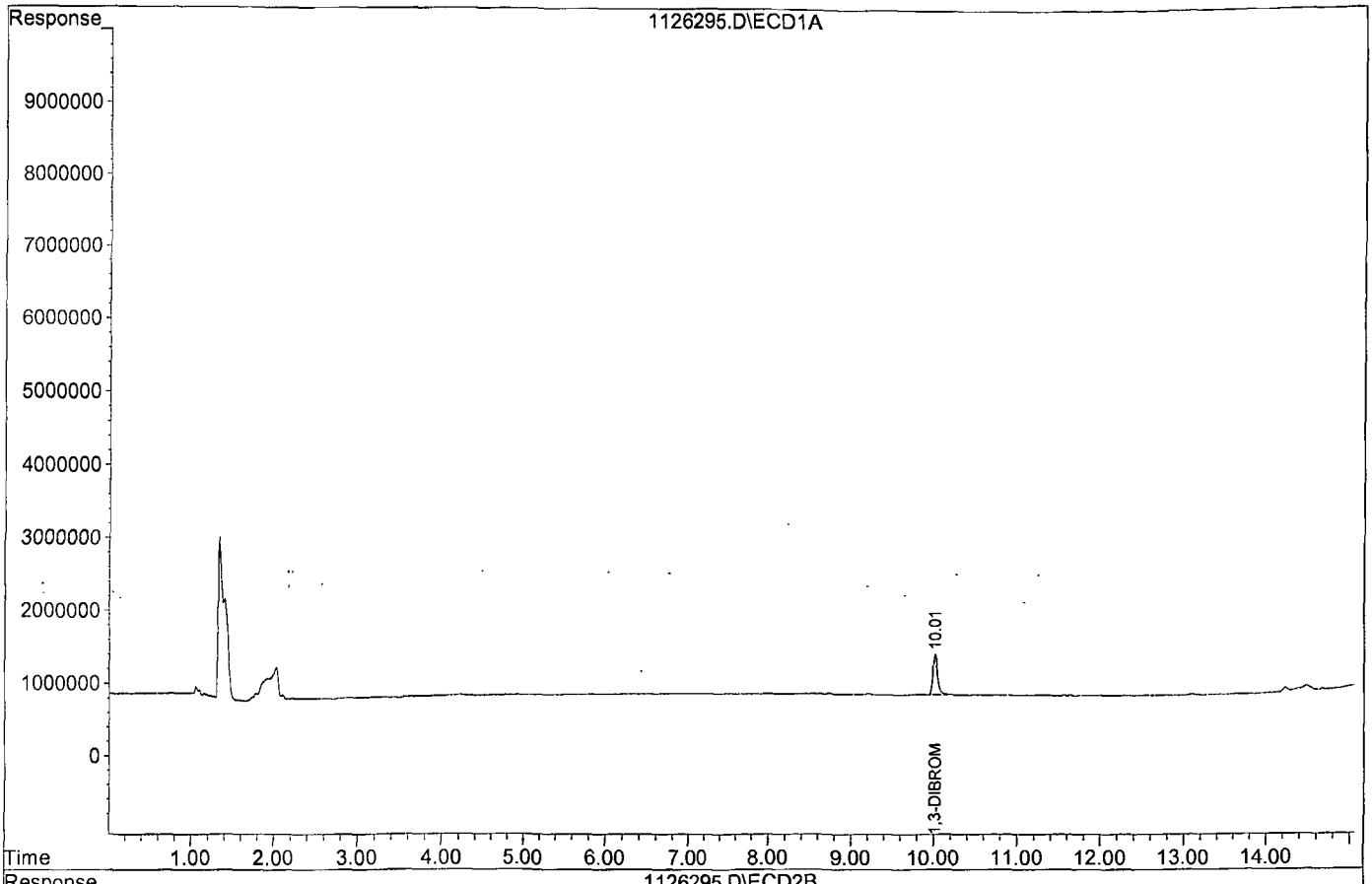
	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	System Monitoring Compounds						
3) S	1,3-DIBROMOPROPA	10.01	11.03	557048	1571806	0.312	0.313
Spiked Amount	0.348			Recovery	=	89.78%	90.07%
	Target Compounds						
	Target Compounds						
1) TM	EDB	0.00	0.00	0	0	N.D. d	N.D. d
2) TM	1,2,3-TCP	0.00	0.00	0	0	N.D. d	N.D. d
4) TM	DBCP	0.00	0.00	0	0	N.D. d	N.D. d

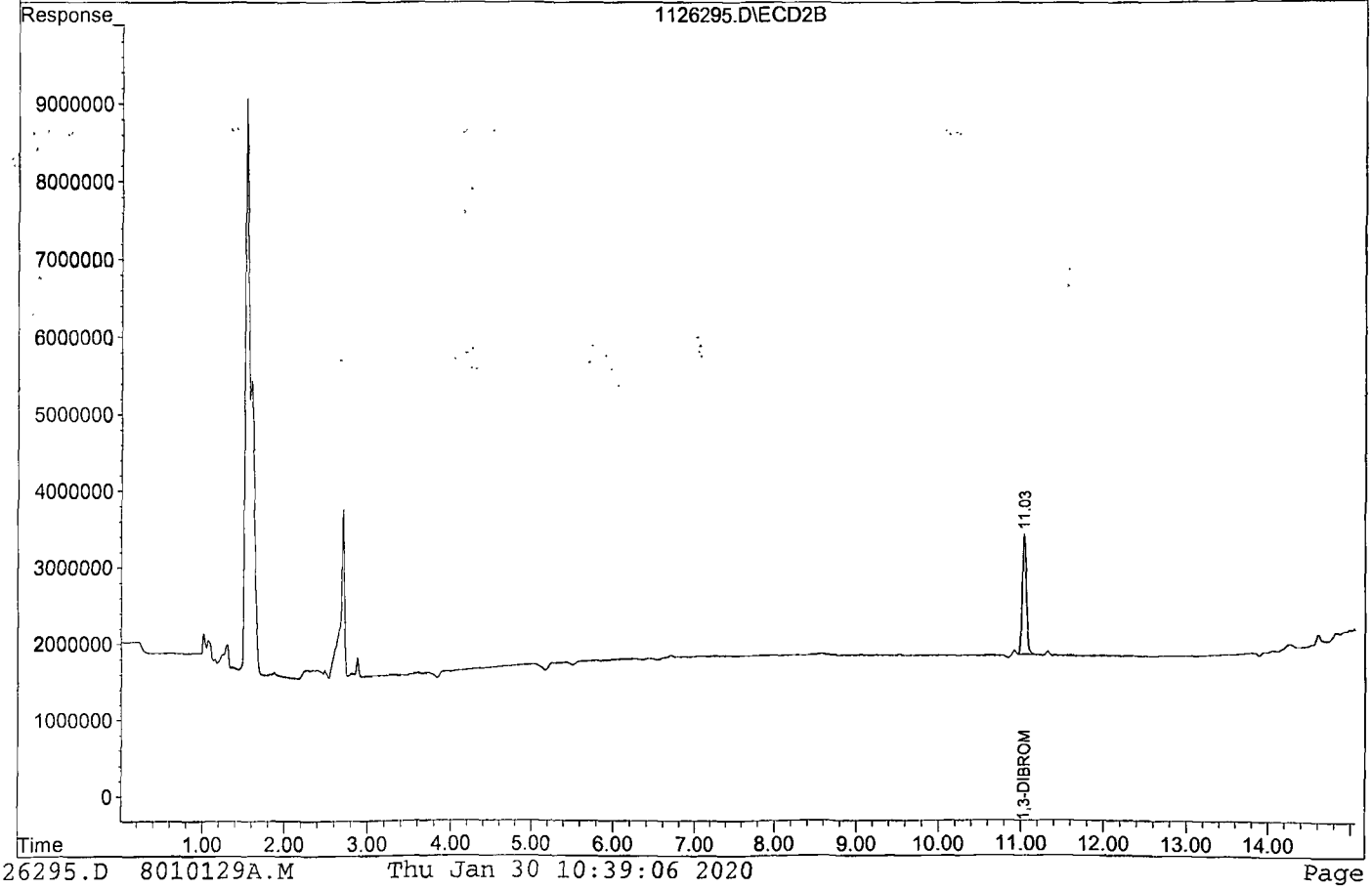
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : G:\HERBIE\DATA\191126\1126295.D
Acq On : 01-29-20 16:11:20
Sample : BA06361W01 2/35.00g
Misc :
Quant Method : G:\HERBIE\DATA\191126\8010129A.M

Vial: 95
Operator: GA
Inst : Herbie
Multiplr: 0.99





Quantitation Report (QT Reviewed)

Signal #1 : G:\HERBIE\DATA\191126\1126296.D\ECD1A.CH Vial: 96
Signal #2 : G:\HERBIE\DATA\191126\1126296.D\ECD2B.CH
Acq On : 01-29-20 16:31:22 Operator: GA
Sample : BA06362W01 2/35.00g Inst : Herbie
Misc : Multiplr: 0.99
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Jan 30 9:02 2020 Quant Results File: 8010129A.RES

Quant Method : G:\HERBIE\DATA\191126\8010129A.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Thu Jan 30 08:23:56 2020
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

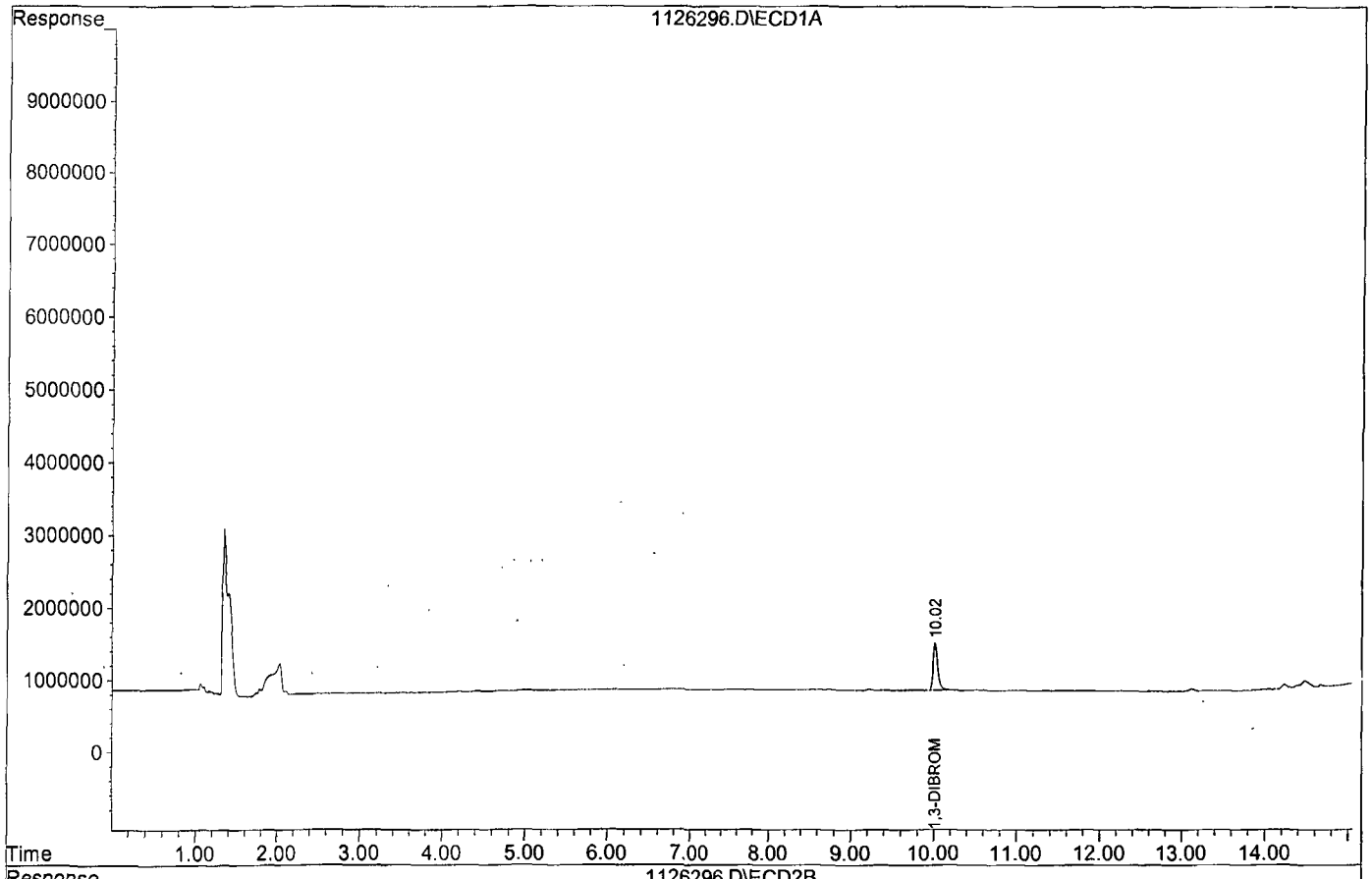
	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	System Monitoring Compounds						
3) S	1,3-DIBROMOPROPA	10.02	11.03	651483	1818885	0.366	0.362
	Spiked Amount 0.348			Recovery =		105.17%	104.02%
	Target Compounds						
	Target Compounds						
1) TM	EDB	0.00	0.00	0	0	N.D. d	N.D. d
2) TM	1,2,3-TCP	0.00	0.00	0	0	N.D. d	N.D. d
4) TM	DBCP	0.00	0.00	0	0	N.D. d	N.D. d

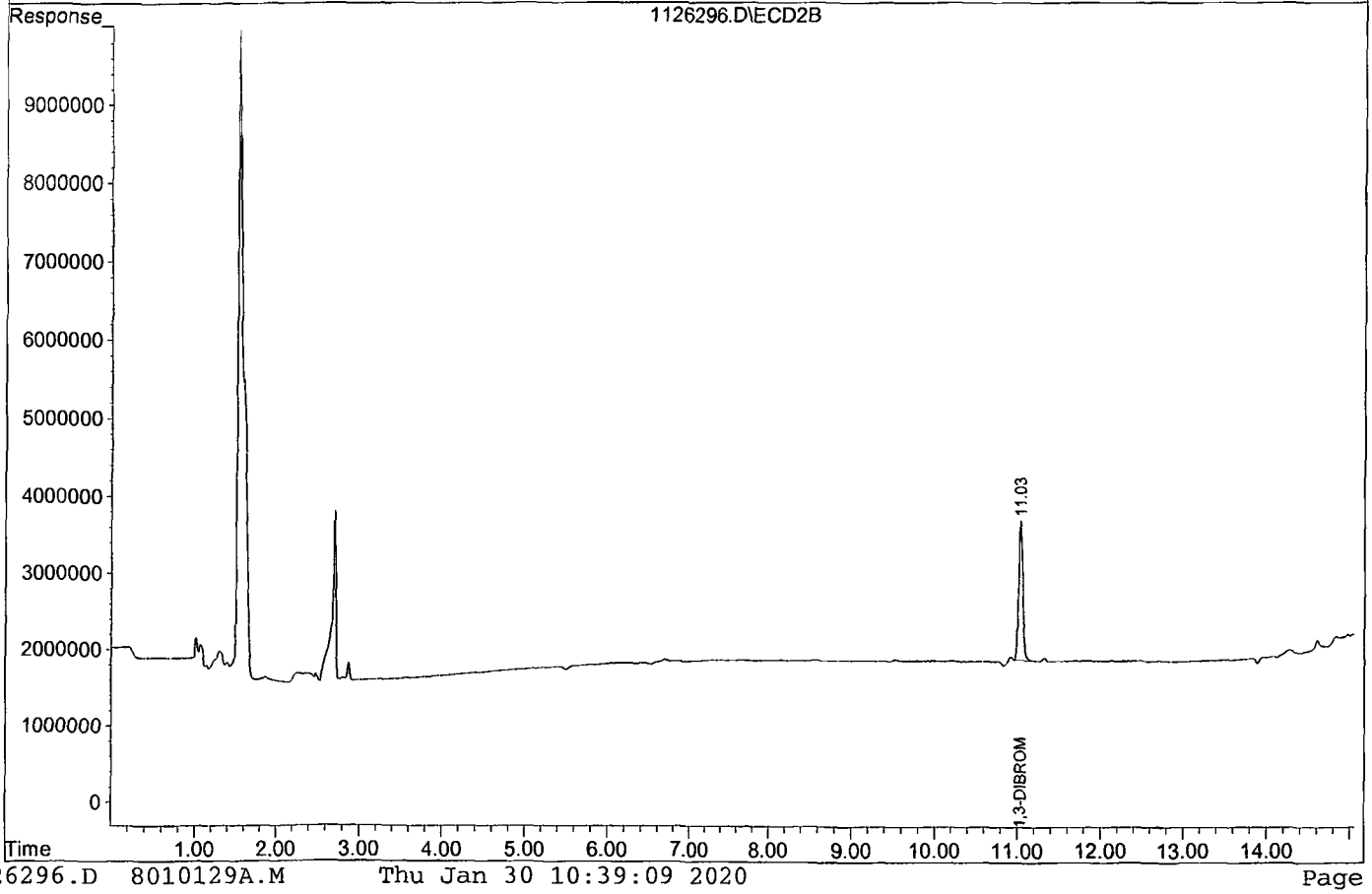
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : G:\HERBIE\DATA\191126\1126296.D
Acq On : 01-29-20 16:31:22
Sample : BA06362W01 2/35.00g
Misc :
Quant Method : G:\HERBIE\DATA\191126\8010129A.M

Vial: 96
Operator: GA
Inst : Herbie
Multiplr: 0.99





Quantitation Report (QT Reviewed)

Signal #1 : G:\HERBIE\DATA\191126\1126291.D\ECD1A.CH Vial: 91
Signal #2 : G:\HERBIE\DATA\191126\1126291.D\ECD2B.CH
Acq On : 01-29-20 14:51:05 Operator: GA
Sample : 200129A BLK 2/35.00g Inst : Herbie
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Jan 30 8:59 2020 Quant Results File: 8010129A.RES

Quant Method : G:\HERBIE\DATA\191126\8010129A.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Thu Jan 30 08:23:56 2020
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

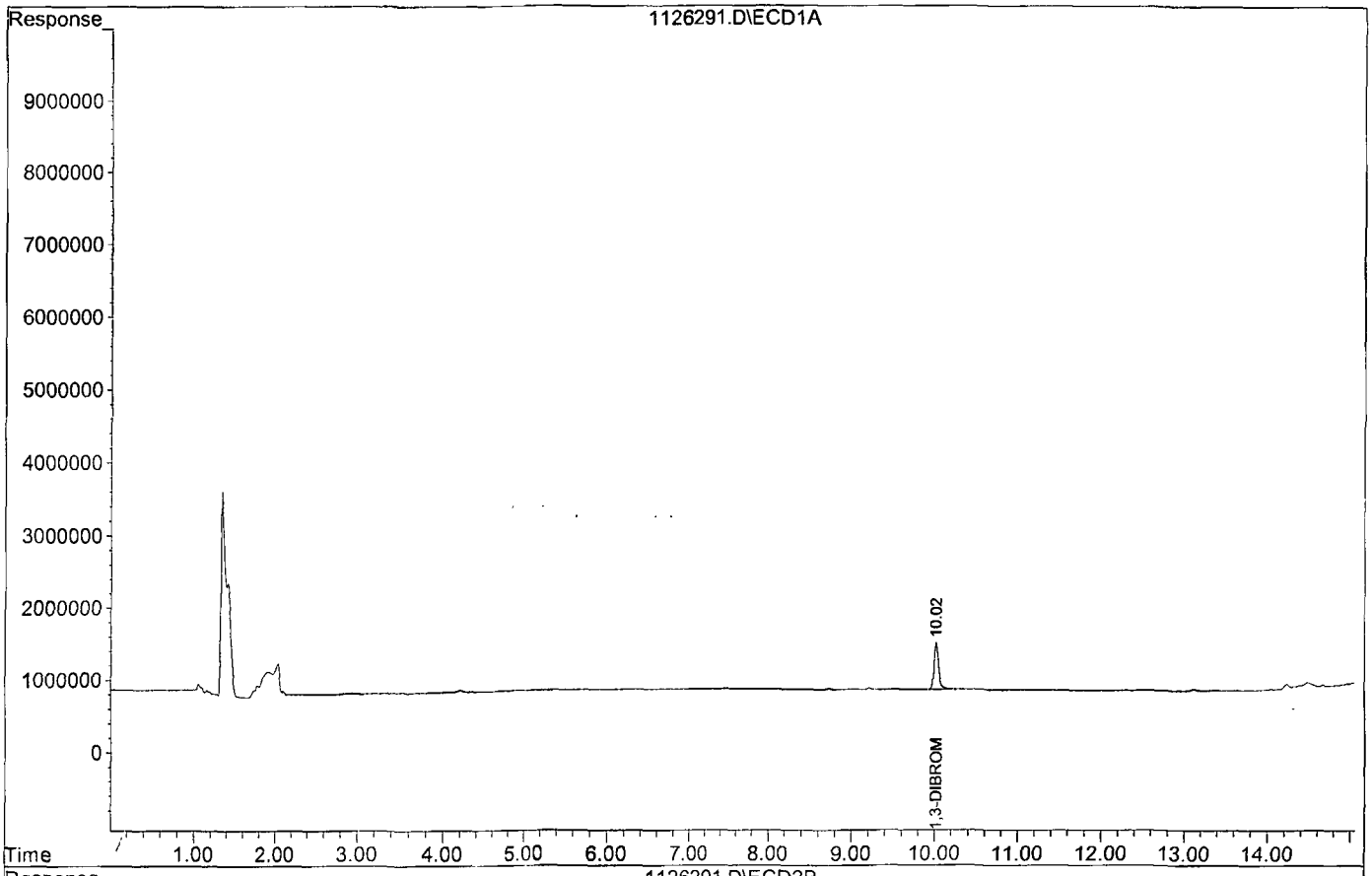
	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	System Monitoring Compounds						
3) S	1,3-DIBROMOPROPA	10.02	11.03	651251	1775691	0.367	0.355
Spiked Amount	0.349			Recovery	=	105.22%	101.78%
	Target Compounds						
	Target Compounds						
1) TM	EDB	0.00	0.00	0	0	N.D. d	N.D. d
2) TM	1,2,3-TCP	0.00	0.00	0	0	N.D. d	N.D. d
4) TM	DBCP	0.00	0.00	0	0	N.D. d	N.D. d

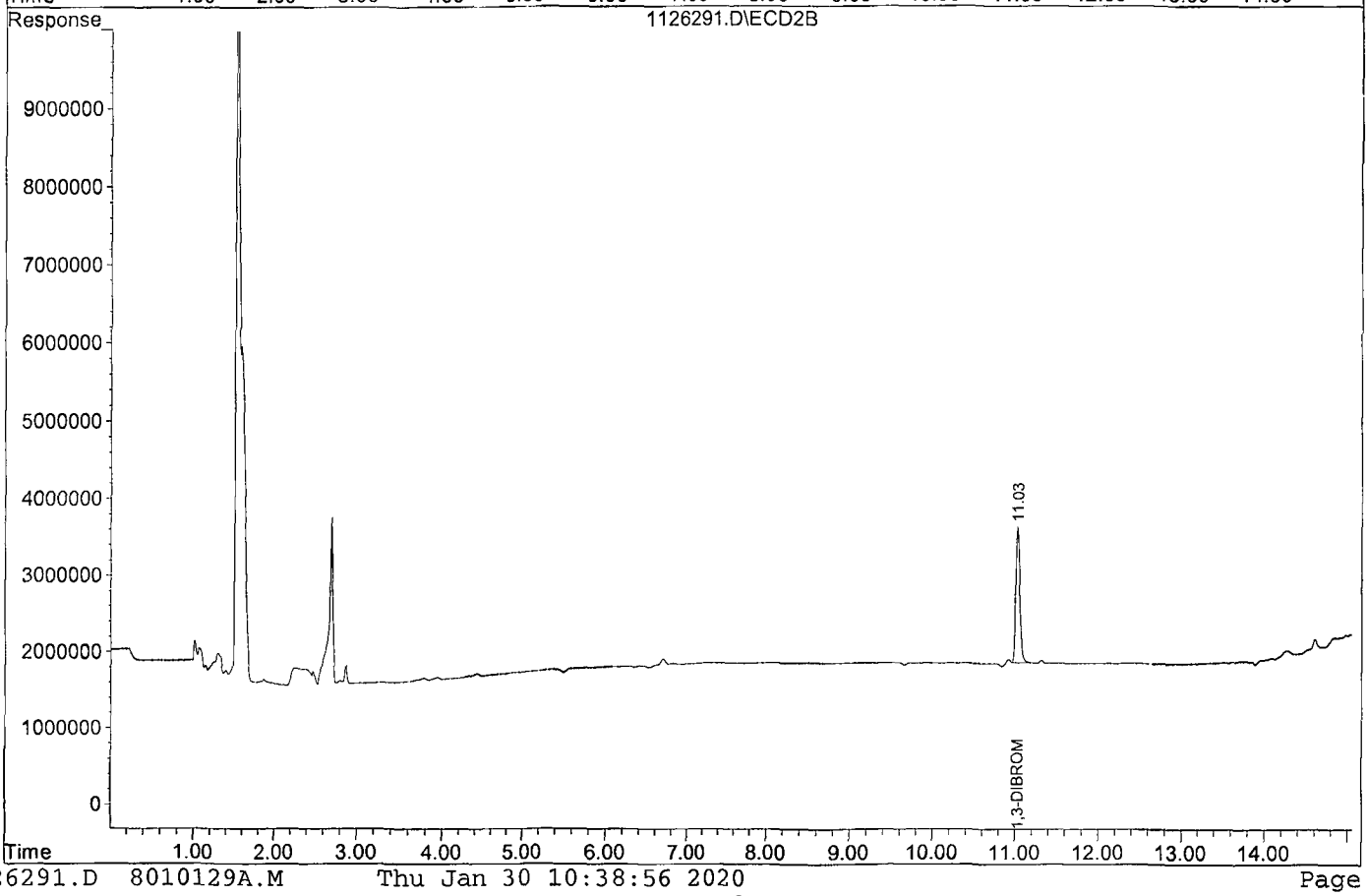
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : G:\HERBIE\DATA\191126\1126291.D
Acq On : 01-29-20 14:51:05
Sample : 200129A BLK 2/35.00g
Misc :
Quant Method : G:\HERBIE\DATA\191126\8010129A.M

Vial: 91
Operator: GA
Inst : Herbie
Multiplr: 1.00





Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\191126\1126292.D\ECD1A.CH Vial: 92
Signal #2 : G:\HERBIE\DATA\191126\1126292.D\ECD2B.CH
Acq On : 01-29-20 15:11:08 Operator: GA
Sample : 200129A LCS-1 2/35.00g Inst : Herbie
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Jan 30 8:55 2020 Quant Results File: 8010129A.RES

Quant Method : G:\HERBIE\DATA\191126\8010129A.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Thu Jan 30 08:23:56 2020
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	System Monitoring Compounds						
3) S	1,3-DIBROMOPROPA	10.02	11.03	452634	1235266	0.255	0.247
Spiked Amount	0.349			Recovery	=	73.09%	70.79%
	Target Compounds						
1) TM	EDB	5.78	7.21	399367	1621786	0.256	0.243
2) TM	1,2,3-TCP	9.25	10.44	114242	318090	0.262	0.253
4) TM	DBCP	13.34	14.08	1355829	5095236	0.253	0.247

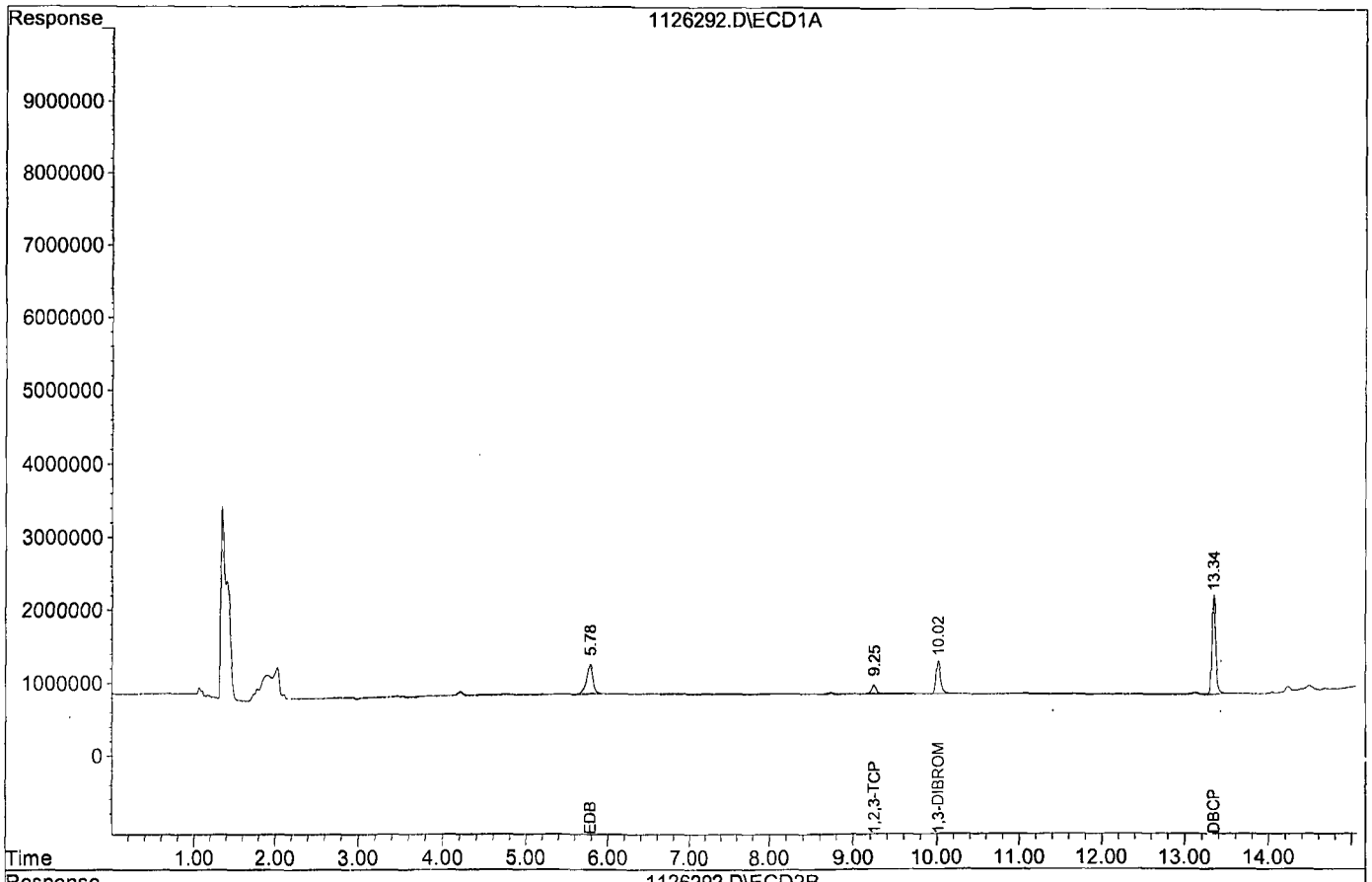
Target Compounds

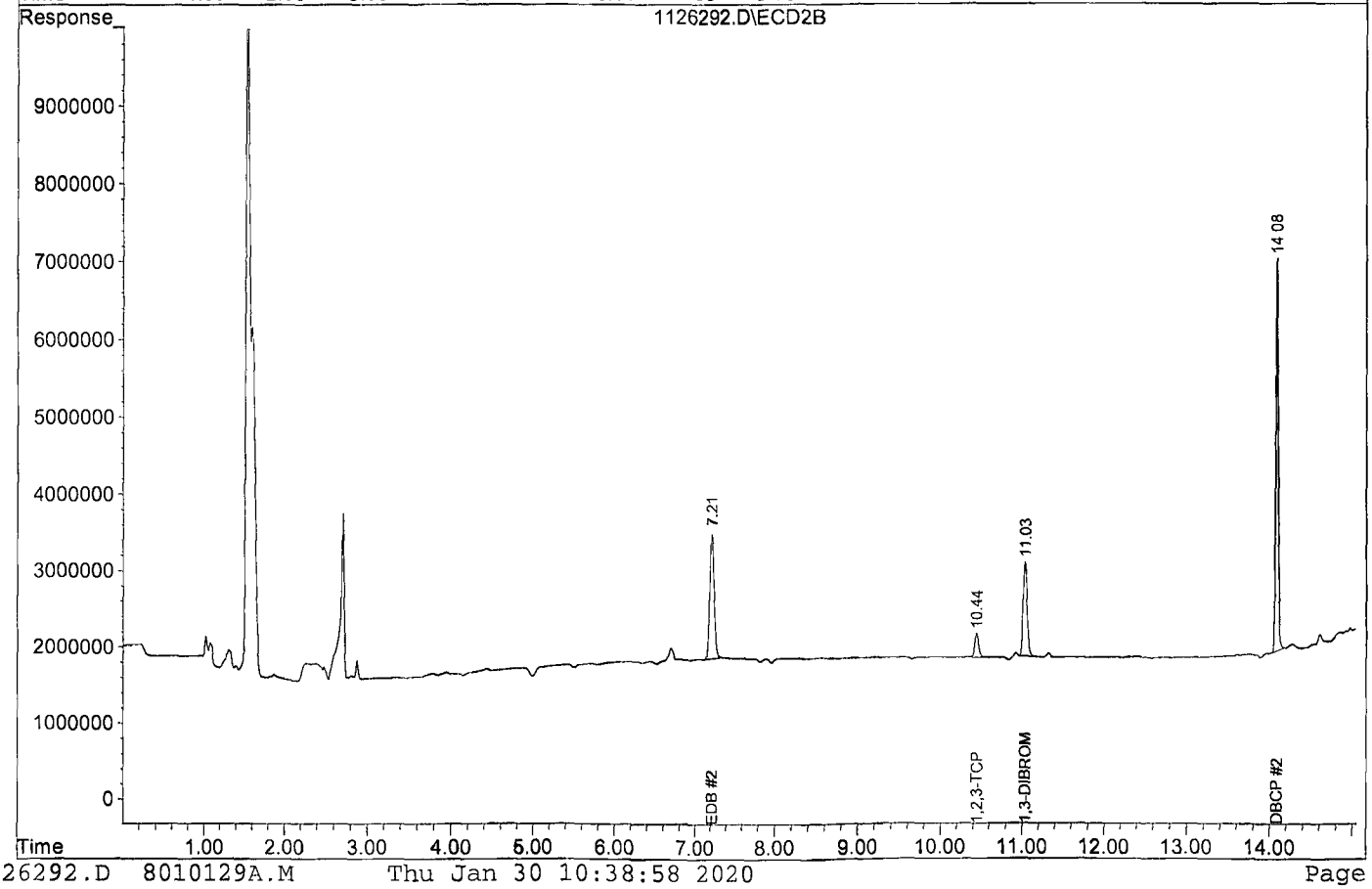
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\191126\1126292.D
Acq On : 01-29-20 15:11:08
Sample : 200129A LCS-1 2/35.00g
Misc :
Quant Method : G:\HERBIE\DATA\191126\8010129A.M

Vial: 92
Operator: GA
Inst : Herbie
Multiplr: 1.00





Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\191126\1126293.D\ECD1A.CH Vial: 93
Signal #2 : G:\HERBIE\DATA\191126\1126293.D\ECD2B.CH
Acq On : 01-29-20 15:31:10 Operator: GA
Sample : 200129A LCSD-1 2/35.00g Inst : Herbie
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Jan 30 8:55 2020 Quant Results File: 8010129A.RES

Quant Method : G:\HERBIE\DATA\191126\8010129A.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Thu Jan 30 08:23:56 2020
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

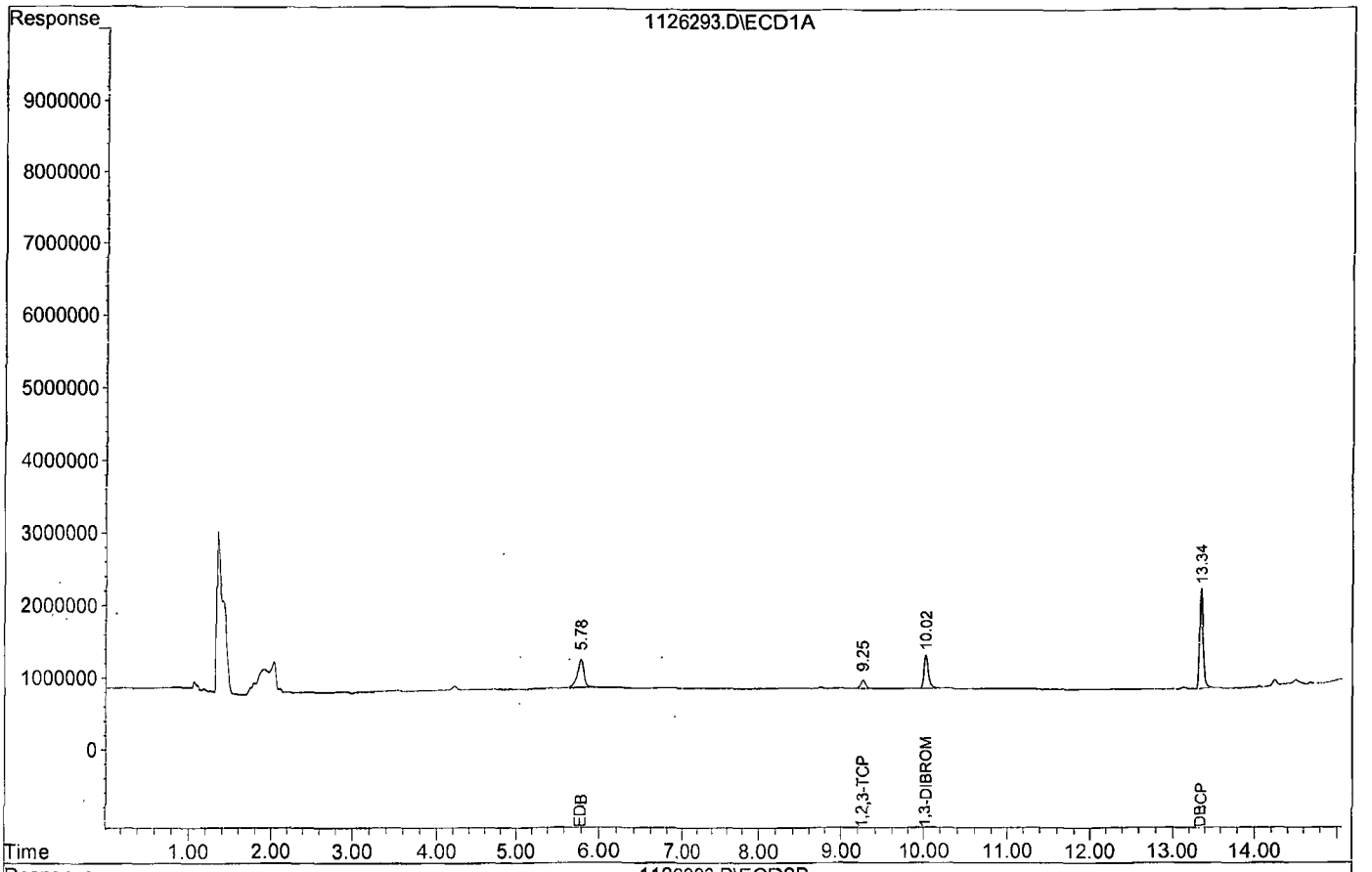
	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	System Monitoring Compounds						
3) S	1,3-DIBROMOPROPA	10.02	11.03	464639	1263746	0.262	0.252
	Spiked Amount 0.349			Recovery =		75.07%	72.21%
	Target Compounds						
1) TM	EDB	5.78	7.21	389454	1654714	0.250	0.248
2) TM	1,2,3-TCP	9.25	10.44	114025	322083	0.262	0.257
4) TM	DBCP	13.34	14.08	1385948	5064346	0.258	0.246
	Target Compounds						

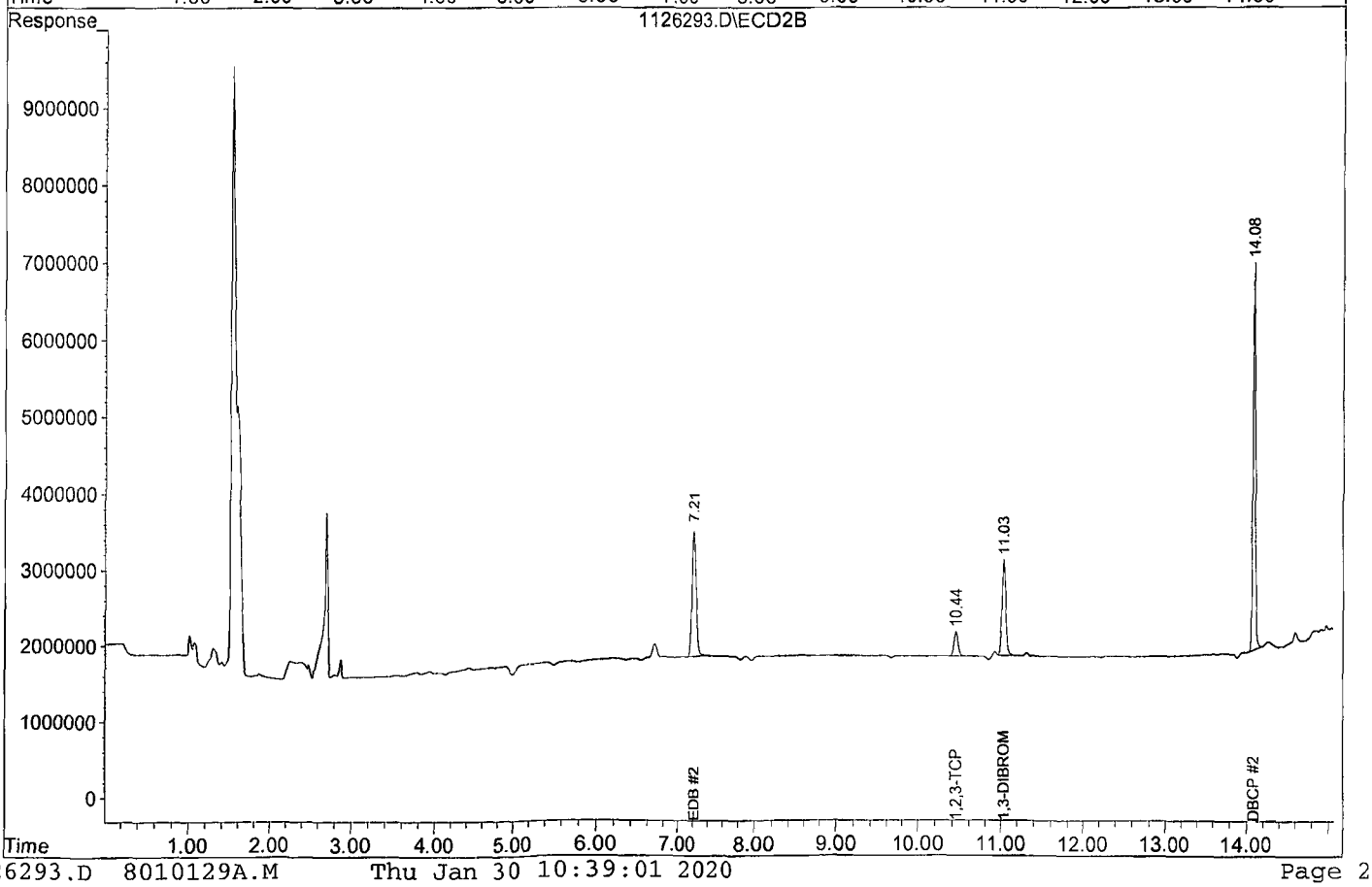
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\191126\1126293.D
Acq On : 01-29-20 15:31:10
Sample : 200129A LCSD-1 2/35.00g
Misc :
Quant Method : G:\HERBIE\DATA\191126\8010129A.M

Vial: 93
Operator: GA
Inst : Herbie
Multiplr: 1.00





_MWE012

Organic Extraction Worksheet

Method	EPA Method 8011 DBCP/EDB	Extraction Set	200129A	Extraction Method	MWE012	Units	mL

Spiked ID 1	504.1 SPIKE 1-28-20-5-8-20		Surrogate ID 1	504.1 Surrogate 10-8-20-5-8-20	
Spiked ID 2	504.1 SS 8-7-19 4-16-20		Surrogate ID 2		
Spiked ID 3			Surrogate ID 3		
Spiked ID 4			Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	NO	
Spiked ID 7			Ext. Start Time:	01/29/20 9:10	
Spiked ID 8			Ext. End Time:	01/29/20 10:20	
			GC Requires Extract By:		

pH1		Water Bath Temp 1 °C	
pH2		Water Bath Temp 2 °C	
pH3		Water Bath Temp 3 °C	

Spiked By: RB **Date** 01/29/20 **Witnessed By:** DL **Date** 01/29/20

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	200129A Blk				0.035	1 equip	35.12	2	7	01/29/20 9:10	
2	200129A LCS-1		0.250	1	NA	NA equip	35.11	2	7	01/29/20 9:10	
3	200129A LCSD-1		0.250	1	NA	NA equip	35.10	2	7	01/29/20 9:10	
4	BA06111	BA06111W01	0.019	1	NA	NA equip	35.20	2	7	01/29/20 9:10	91265
5	BA06360	BA06360W05			0.035	1 equip	35.61	2	7	01/29/20 10:10	91299
6	BA06361	BA06361W07			0.035	1 equip	35.25	2	7	01/29/20 9:10	91299
7	BA06362	BA06362W05			0.035	1 equip	35.20	2	7	01/29/20 10:10	91299
8	BA06426	BA06426W05			0.035	1 equip	35.50	2	7	01/29/20 9:10	91319
9	BA06427	BA06427W05			0.035	1 equip	35.40	2	7	01/29/20 9:10	91319
10	M STD 1		0.020	1	NA	NA equip	35.60	2	7	01/29/20 9:10	
11	M STD 2		0.100	1	NA	NA equip	35.10	2	7	01/29/20 9:10	
12	M STD 3		0.250	1	NA	NA equip	35.05	2	7	01/29/20 9:10	
13	M STD 4		0.500	1	NA	NA equip	35.40	2	7	01/29/20 9:10	
14	M STD 5		0.750	1	NA	NA equip	35.10	2	7	01/29/20 9:10	
15	M STD 6		1	1	NA	NA equip	35.40	2	7	01/29/20 9:10	
16	SS		0.100	2	0.035	1 equip	35.10	2	7	01/29/20 9:10	

Solvent and Lot#	
ph strip	HC 863463
NaCL	19A035211
GC2 Hexane (2mLs)	DV910

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	GA
Date	1/29/20
Time	11:00
Refrigerator	Hobart

	Technician's Initials
Scanned By	RB
Sample Preparation	RB
Extraction	RB
Concentration	RB

Modified	01/29/20 10:36:06 AM

Reviewed By: KY **Date** 01/29/20

Ext ID 65827

Injection Log

Directory: G:\HERBIE\DATA\191126\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	84	1126284.D	1	8011 1 1/29/20		01-29-20 12:30:48
2	85	1126285.D	1	8011 2 1/29/20		01-29-20 12:50:48
3	86	1126286.D	1	8011 3 1/29/20		01-29-20 13:10:56
4	87	1126287.D	1	8011 4 1/29/20		01-29-20 13:30:56
5	88	1126288.D	1	8011 5 1/29/20		01-29-20 13:50:58
6	89	1126289.D	1	8011 6 1/29/20		01-29-20 14:11:06
7	90	1126290.D	1	8011 SS 1/29/20		01-29-20 14:31:07
8	91	1126291.D	0.996583	200129A BLK 2/35.00g		01-29-20 14:51:05
9	92	1126292.D	0.99687	200129A LCS-1 2/35.00g		01-29-20 15:11:08
10	93	1126293.D	0.99715	200129A LCSD-1 2/35.00g		01-29-20 15:31:10
11	94	1126294.D	0.98287	BA06360W01 2/35.00g		01-29-20 15:51:12
12	95	1126295.D	0.99291	BA06361W01 2/35.00g		01-29-20 16:11:20
13	96	1126296.D	0.99432	BA06362W01 2/35.00g		01-29-20 16:31:22
18	1	1126301.D	1	8011 3 1/29/20		01-29-20 18:11:26

ORGANICS
Calibration Data

TPH Extractables
DOC0129

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Initial Cal. Date: 01/29/20
Matrix: Water Instrument: Apollo
Initials: SS/

			129003.D	129004.D	129005.D	129006.D	129007.D	129008.D										
		Compound	1	2	3	4	5	6					Avg	%RSD	Type	r^2	Q	
1	HATML	Diesel (C10-C24)	4301645	2074327	1969883	1982146	2013208	2034442					2395942	39	HATM	1.000		
2	HBTML	Motor Oil (C24-C40)	3133275	1556987	1523968	1544417	1575167	1599767					1822264	35	HBTM	1.000		
3	SAL	Ortho-Terphenyl(S)	3219032	1590724	1901435	2205187	2248499	2279827					2240784	24	SA	1.000		
4	SAL	Octacosane(S)	3976549	1932634	1971529	2006919	2013066	2152961					2342277	34	SA	0.998		
5																		
6																		
7																		
8																		
9																		
10																		
11																		
12																		
13																		
14																		
15																		
16																		
17																		
18																		
19																		
20																		
21																		
22																		
23																		
24																		
25																		
26																		
27																		
28																		
29																		
30																		
31																		
32																		
33																		
34																		
35																		

3.800686

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200129\129003.D Vial: 3
Acq On : 1-29-20 13:59:43 Operator: BT
Sample : Diesel Motor Oil - 1 1/29/20 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 30 7:58 2020 Quant Results File: DOC0129.RES

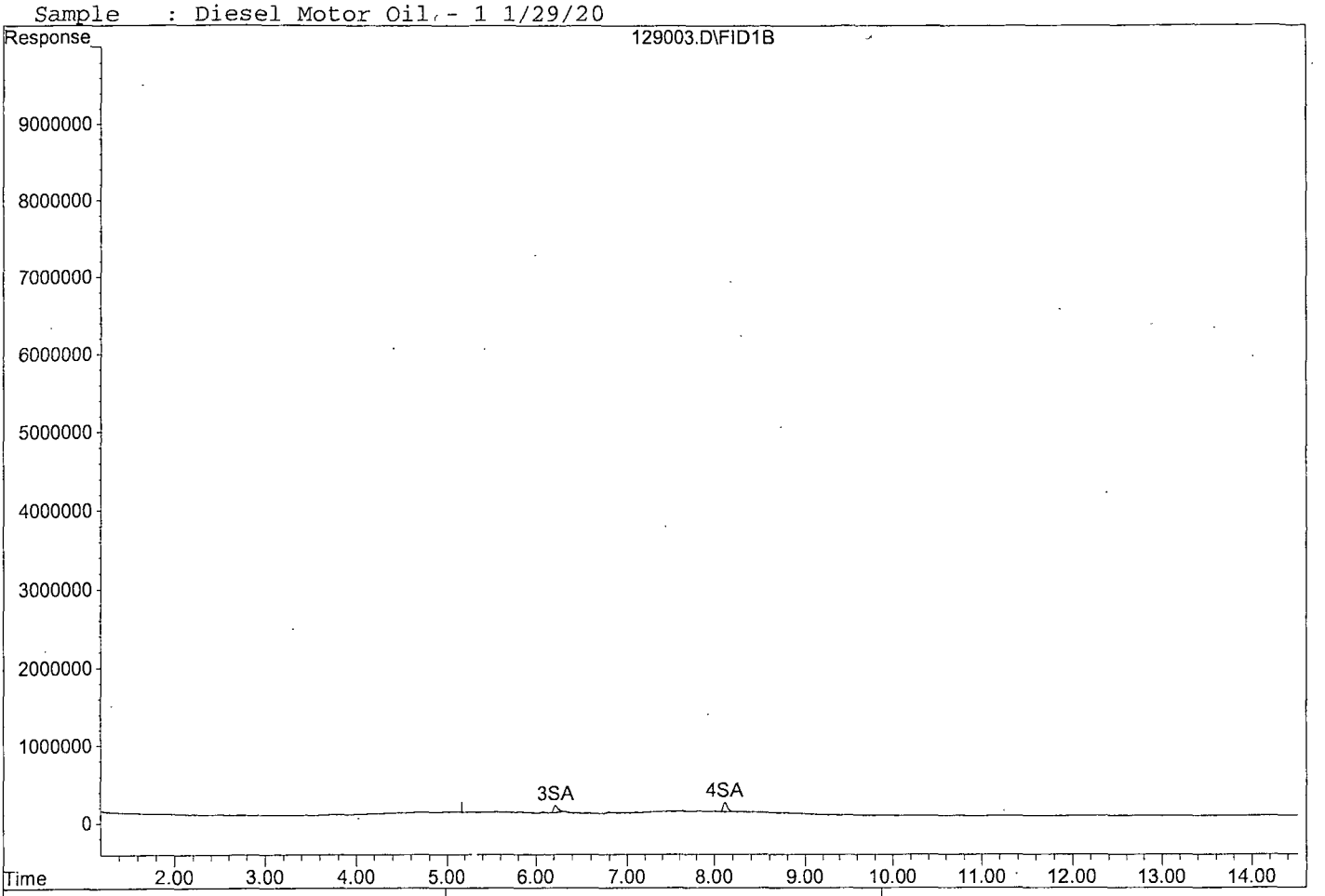
Method : G:\APOLLO\DATA\200129\DOC0129.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Jan 30 08:01:08 2020
Response via : Multiple Level Calibration

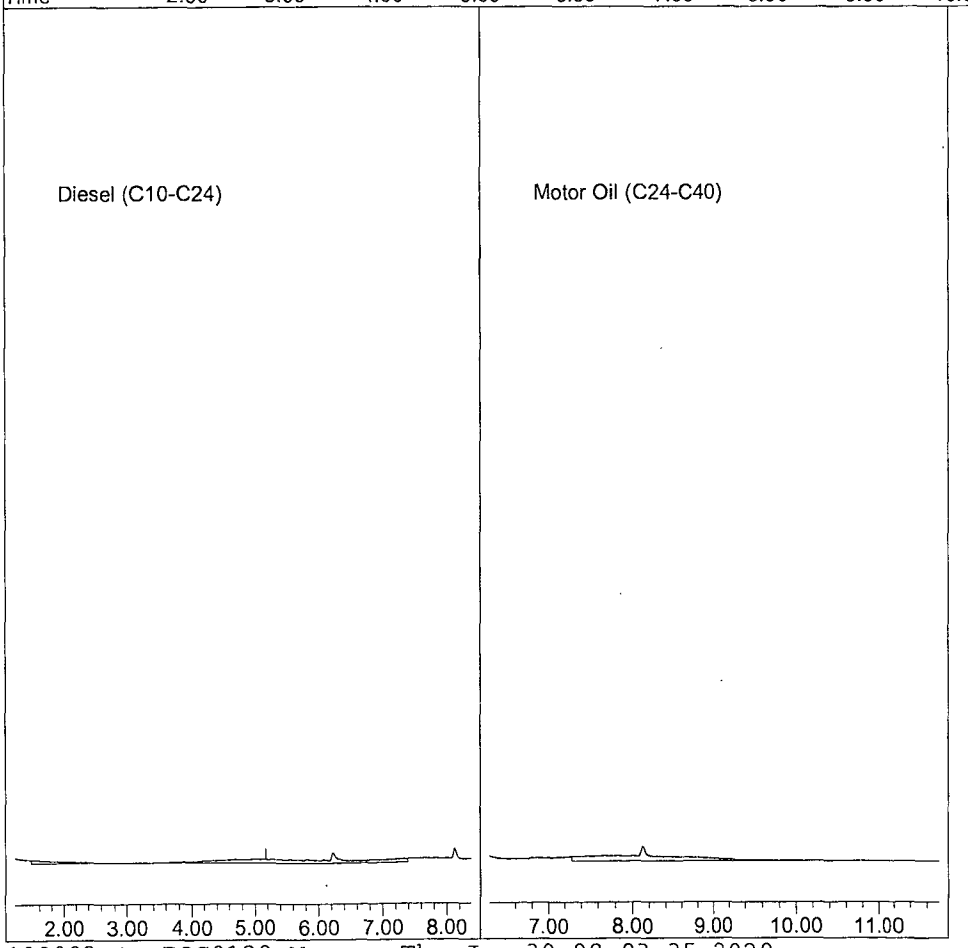
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SA Ortho-Terphenyl(S)	6.22	3219032	0.718 ppb
Surrogate Spike 30.000	Recovery =		2.39%
4) SA Octacosane(S)	8.12	3976549	0.849 ppb
Surrogate Spike 30.000	Recovery =		2.83%
Target Compounds			
1) HATM Diesel (C10-C24)	4.42	86032900	17.172 ppb
2) HBTM Motor Oil (C24-C40)	9.01	62665505	17.194 ppb
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200129\129003.D
Sample : Diesel Motor Oil - 1 1/29/20





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200129\129004.D Vial: 4
Acq On : 1-29-20 14:19:23 Operator: BT
Sample : Diesel Motor Oil - 2 1/29/20 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 30 7:58 2020 Quant Results File: DOC0129.RES

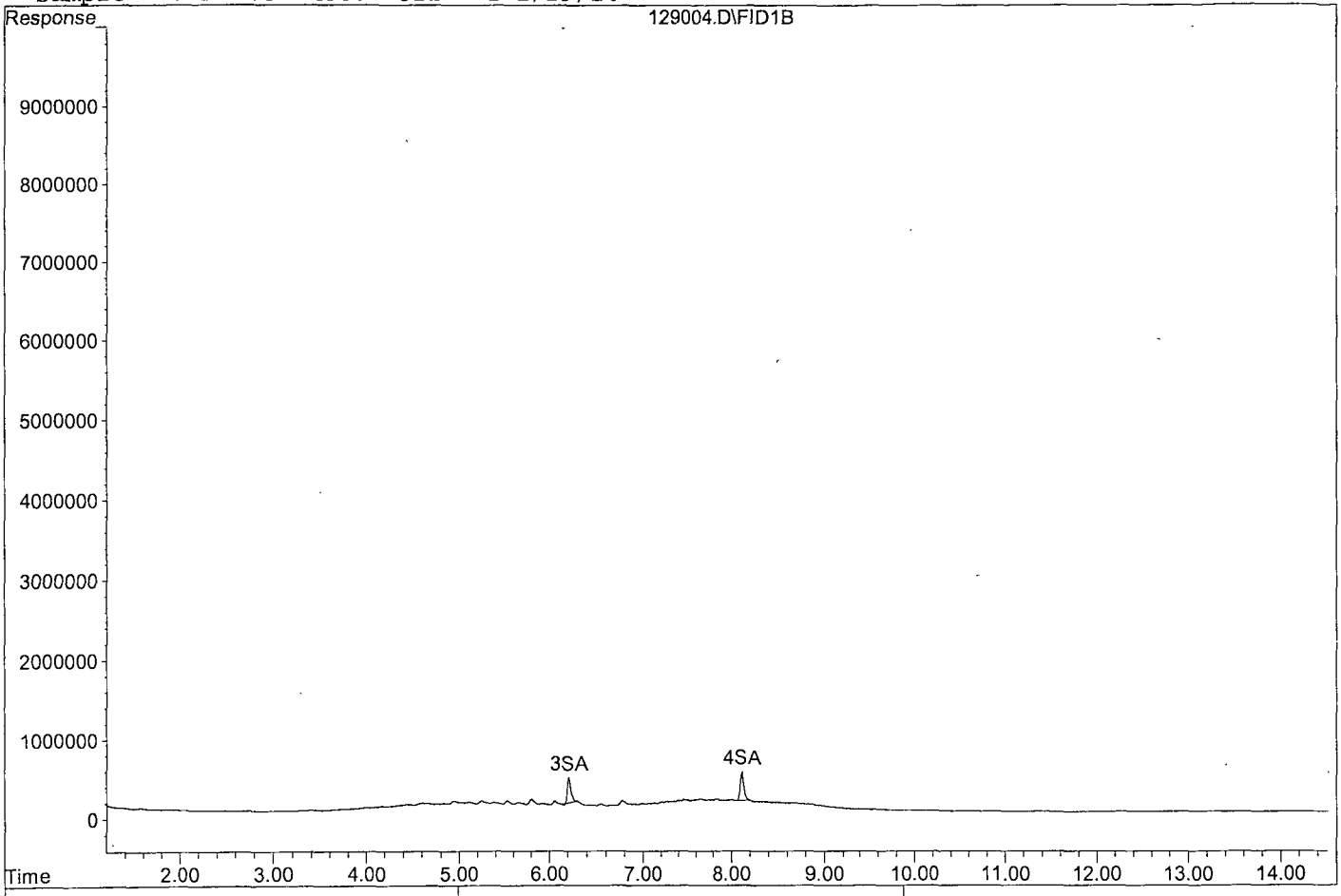
Method : G:\APOLLO\DATA\200129\DOC0129.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Jan 30 08:01:08 2020
Response via : Multiple Level Calibration

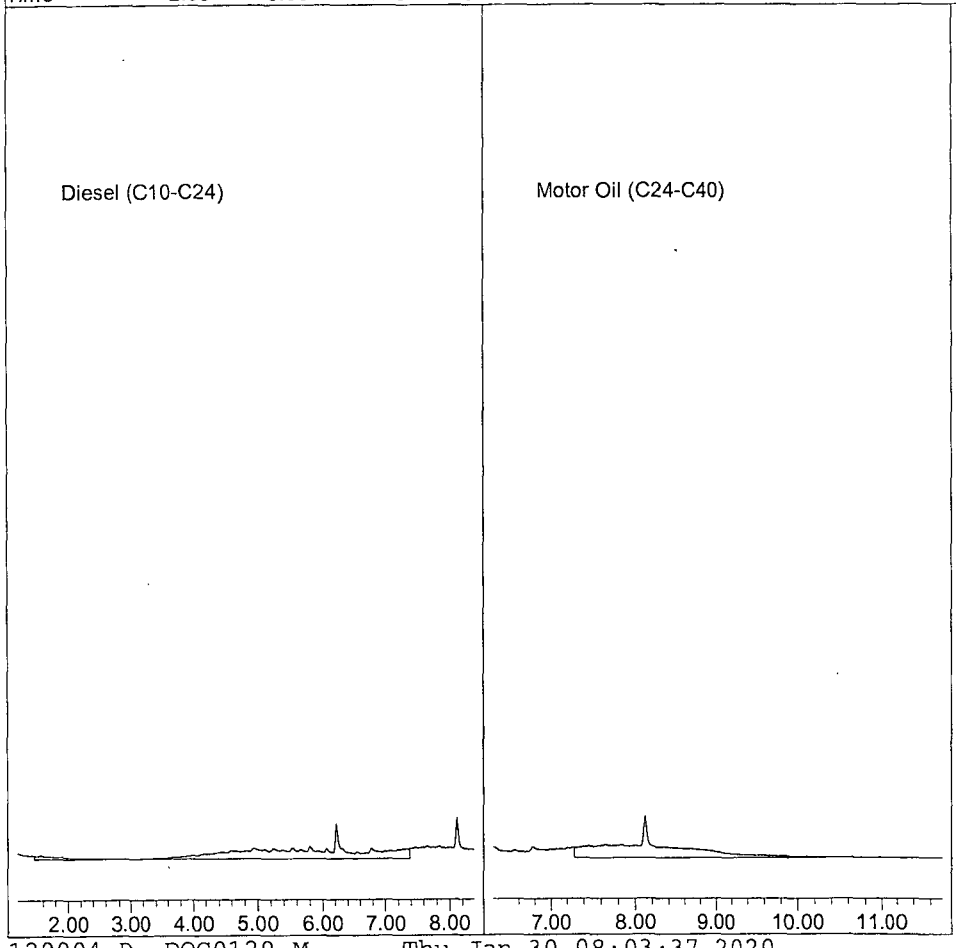
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SA Ortho-Terphenyl(S)	6.21	7953622	1.775 ppb
Surrogate Spike 30.000	Recovery =		5.92%
4) SA Octacosane(S)	8.11	9663172	2.063 ppb
Surrogate Spike 30.000	Recovery =		6.88%
Target Compounds			
1) HATM Diesel (C10-C24)	4.42	207432742	41.402 ppb
2) HBTM Motor Oil (C24-C40)	9.01	155698715	42.721 ppb
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200129\129004.D
Sample : Diesel Motor Oil - 2 1/29/20





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200129\129005.D Vial: 5
Acq On : 1-29-20 14:39:02 Operator: BT
Sample : Diesel Motor Oil - 3 1/29/20 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 30 7:58 2020 Quant Results File: DOC0129.RES

Method : G:\APOLLO\DATA\200129\DOC0129.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Jan 30 08:01:08 2020
Response via : Multiple Level Calibration

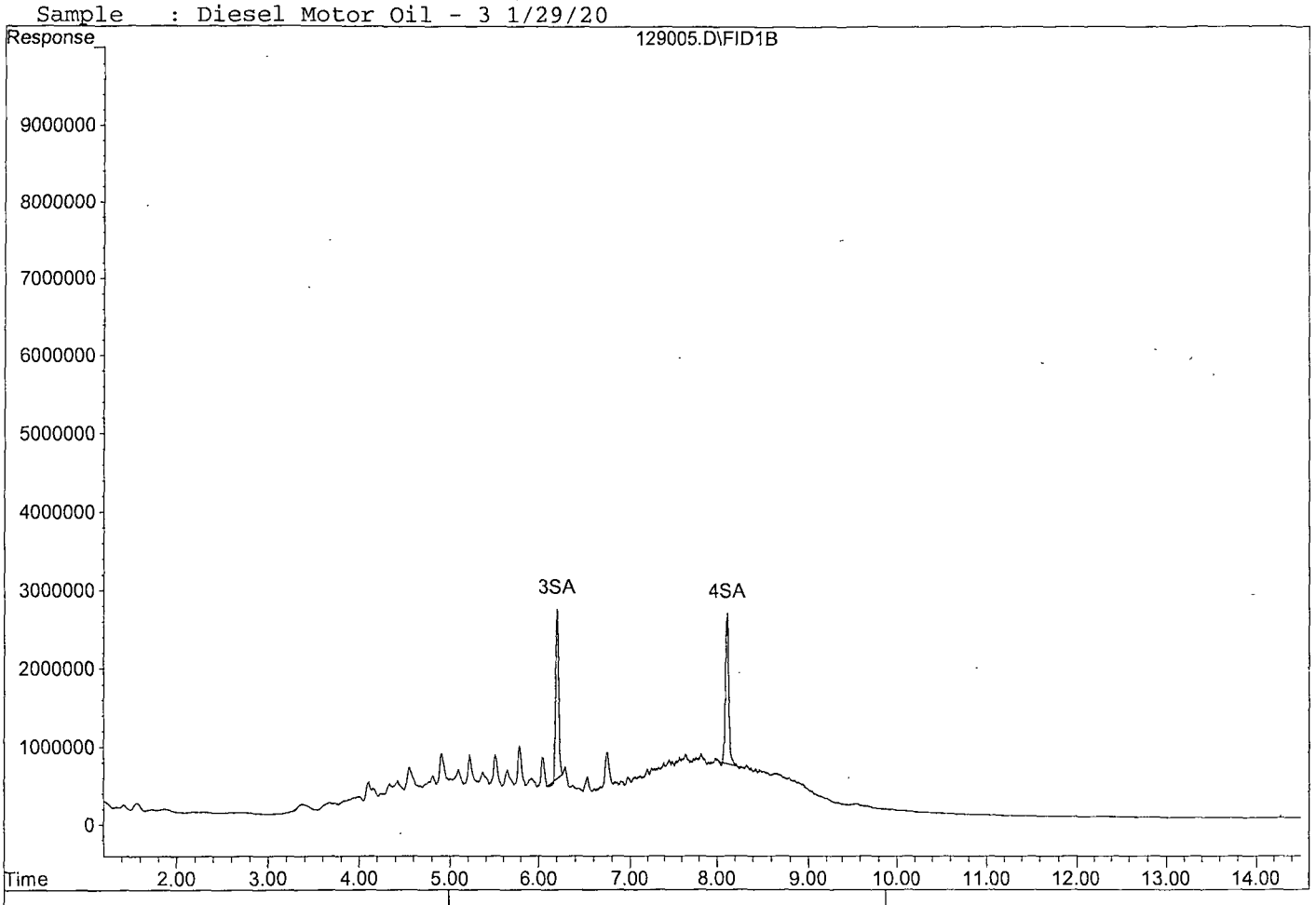
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

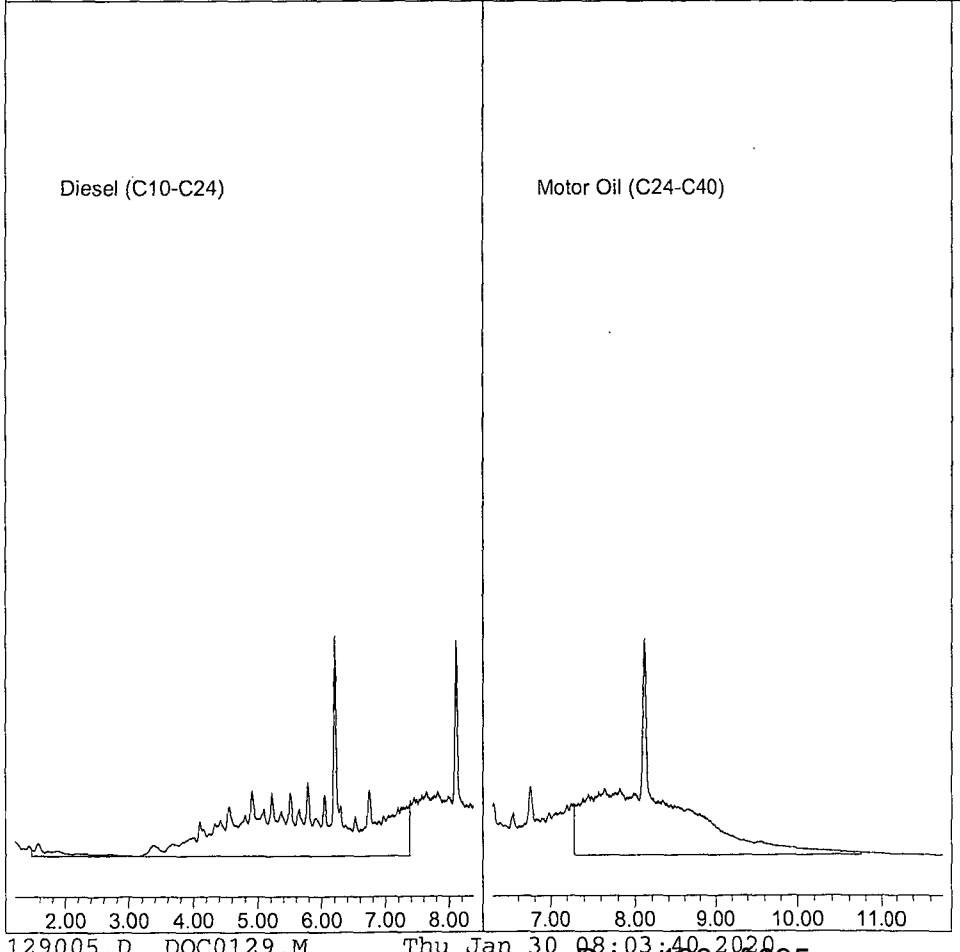
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SA Ortho-Terphenyl(S)	6.21	47535882	10.607 ppb
Surrogate Spike 30.000	Recovery =		35.36%
4) SA Octacosane(S)	8.11	49288227	10.521 ppb
Surrogate Spike 30.000	Recovery =		35.07%
Target Compounds			
1) HATM Diesel (C10-C24)	4.42	984941383	196.588 ppb
2) HBTM Motor Oil (C24-C40)	9.01	761984137	209.076 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200129\129005.D
Sample : Diesel Motor Oil - 3 1/29/20





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200129\129006.D Vial: 6
Acq On : 1-29-20 14:58:42 Operator: BT
Sample : Diesel Motor Oil - 4 1/29/20 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 30 7:58 2020 Quant Results File: DOC0129.RES

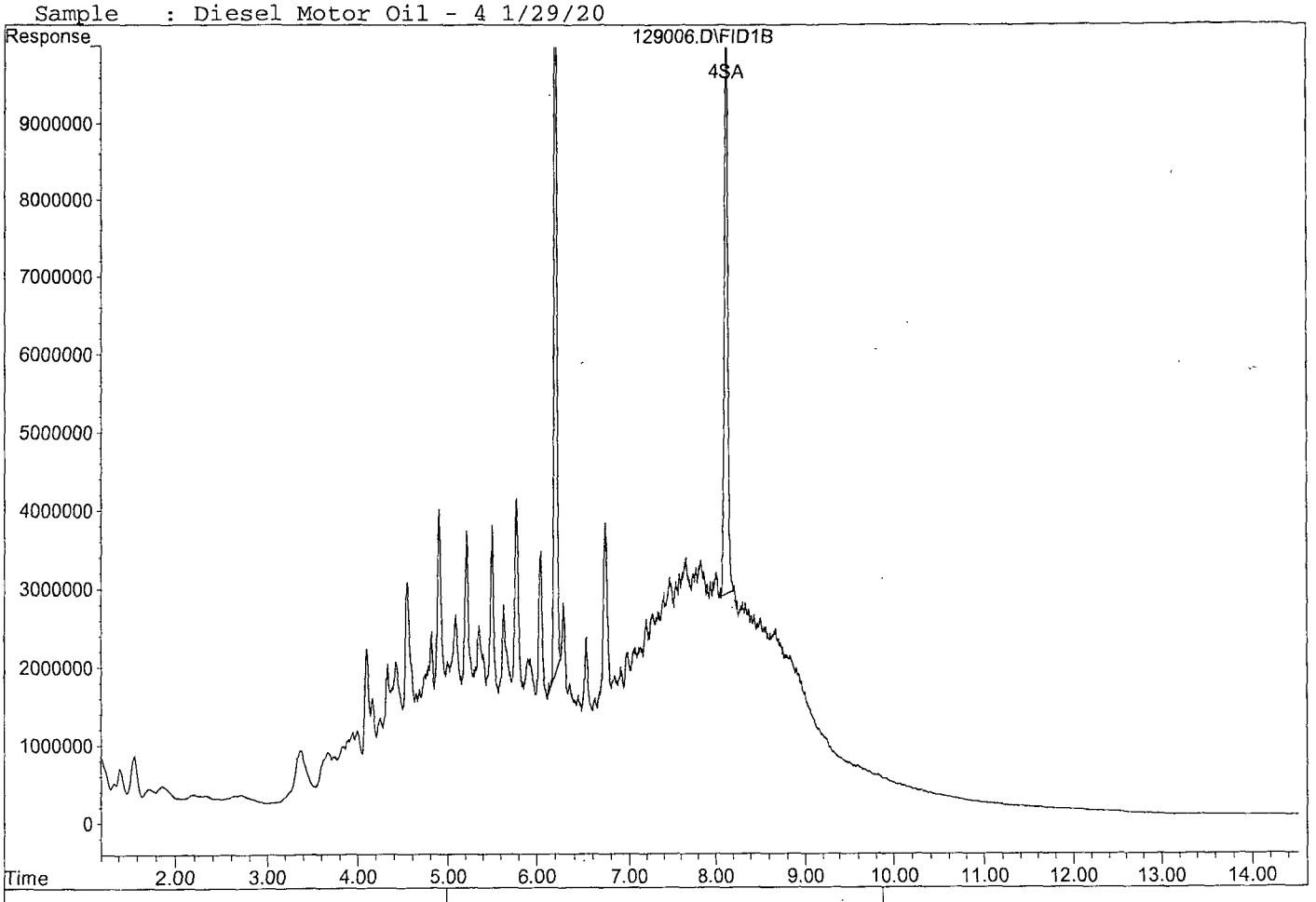
Method : G:\APOLLO\DATA\200129\DOC0129.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Jan 30 08:01:08 2020
Response via : Multiple Level Calibration

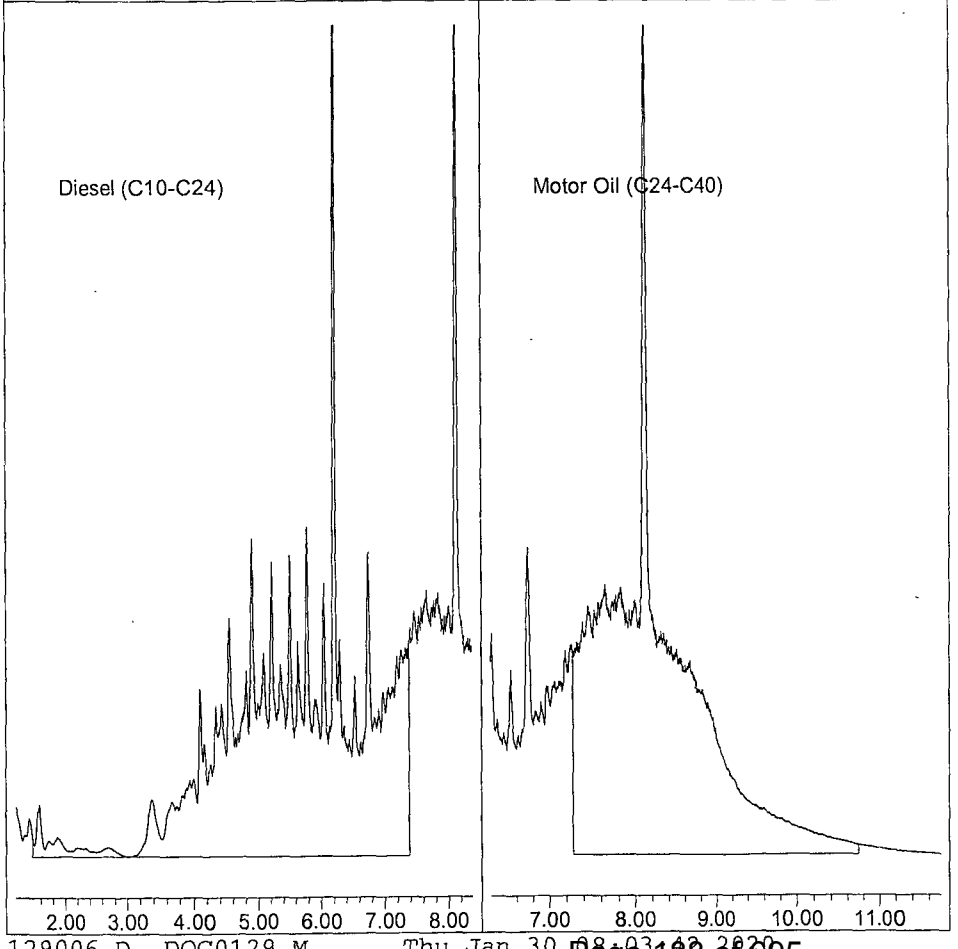
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SA Ortho-Terphenyl(S)	6.21	220518688	49.206 ppb
Surrogate Spike 30.000		Recovery =	164.02%
4) SA Octacosane(S)	8.12	200691942	42.841 ppb
Surrogate Spike 30.000		Recovery =	142.80%
Target Compounds			
1) HATM Diesel (C10-C24)	4.42	3964291090	791.245 ppb
2) HBTM Motor Oil (C24-C40)	9.01	3088833563	847.527 ppb
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200129\129006.D
Sample : Diesel Motor Oil - 4 1/29/20





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200129\129007.D Vial: 7
Acq On : 1-29-20 15:18:28 Operator: BT
Sample : Diesel Motor Oil - 5 1/29/20 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 30 7:58 2020 Quant Results File: DOC0129.RES

Method : G:\APOLLO\DATA\200129\DOC0129.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Jan 30 08:01:08 2020
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

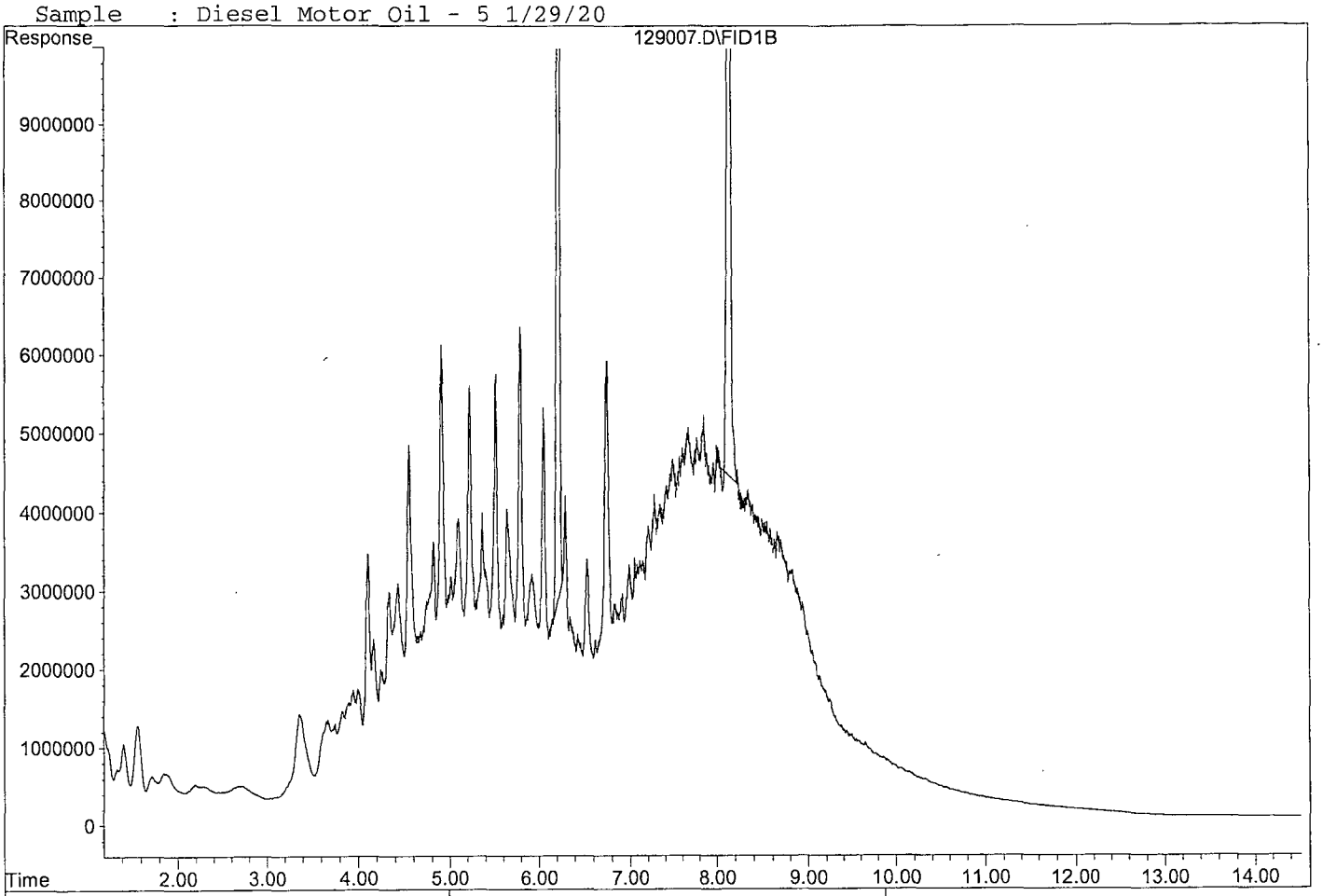
Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
3) SA Ortho-Terphenyl(S)	6.22	337274777	75.258	ppb
Surrogate Spike 30.000	Recovery =		250.86%	
4) SA Octacosane(S)	8.14	301959934	64.459	ppb
Surrogate Spike 30.000	Recovery =		214.86%	
Target Compounds				
1) HATM Diesel (C10-C24)	4.42	6039623685	1205.468	ppb
2) HBTM Motor Oil (C24-C40)	9.01	4725500800	1296.602	ppb

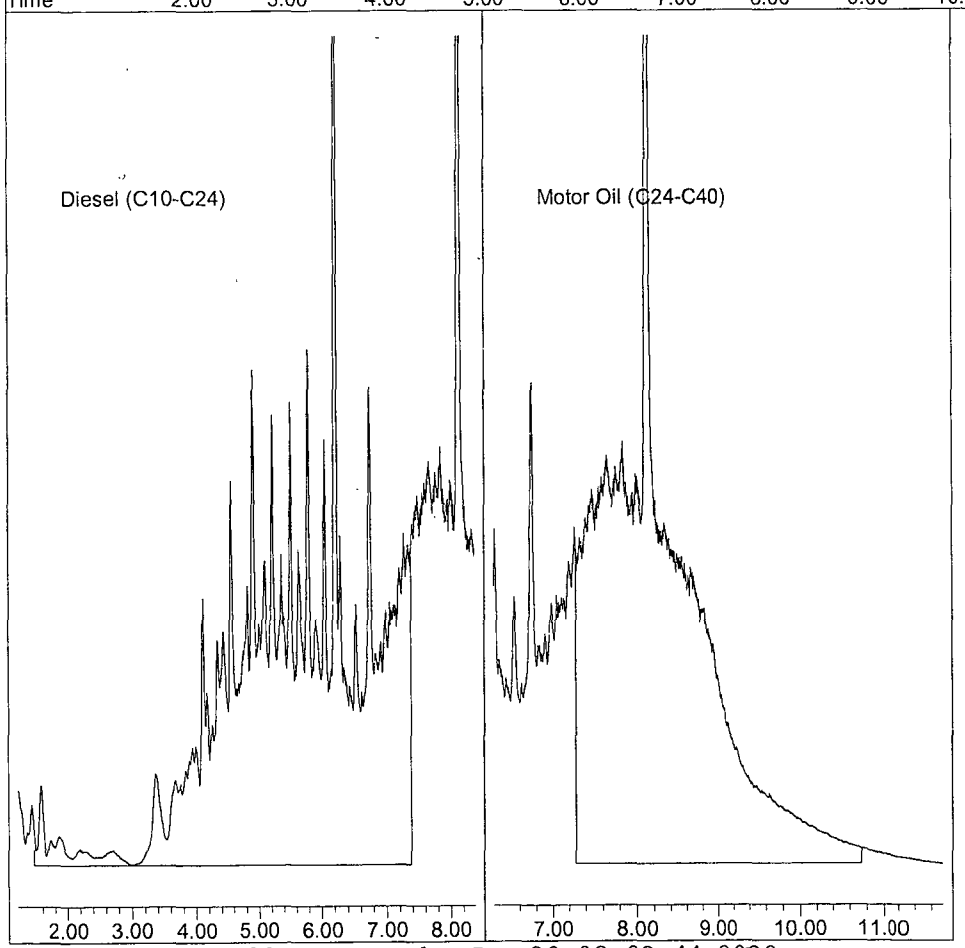
Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\200129\129007.D
Sample : Diesel Motor Oil - 5 1/29/20





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200129\129008.D Vial: 8
Acq On : 1-29-20 15:38:14 Operator: BT
Sample : Diesel Motor Oil - 6 1/29/20 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 30 7:58 2020 Quant Results File: DOC0129.RES

Method : G:\APOLLO\DATA\200129\DOC0129.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Jan 30 08:01:08 2020
Response via : Multiple Level Calibration

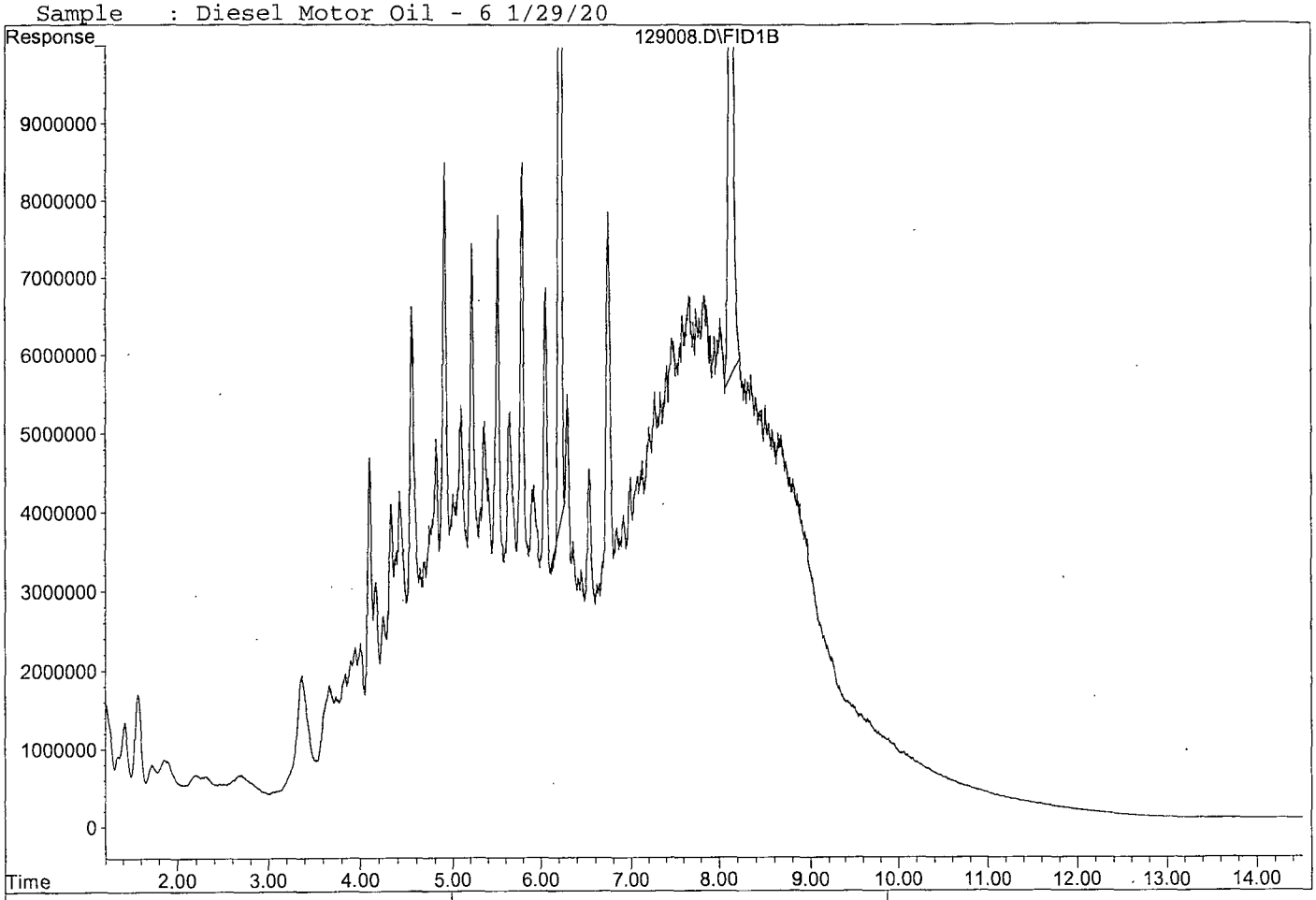
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

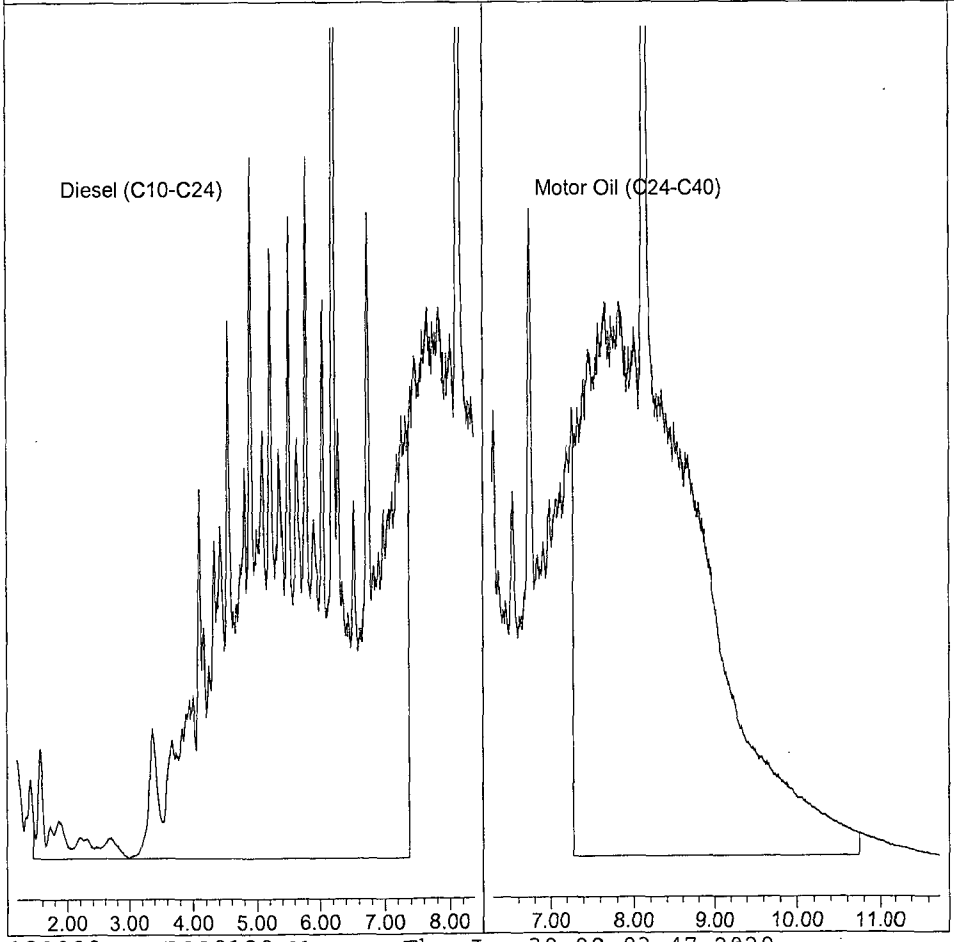
Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
3) SA Ortho-Terphenyl(S)	6.23	455965319	101.742	ppb
Surrogate Spike 30.000	Recovery =		339.14%	
4) SA Octacosane(S)	8.14	430592170	91.917	ppb
Surrogate Spike 30.000	Recovery =		306.39%	
Target Compounds				
1) HATM Diesel (C10-C24)	4.42	8137766957	1624.243	ppb
2) HBTM Motor Oil (C24-C40)	9.01	6399069480	1755.802	ppb

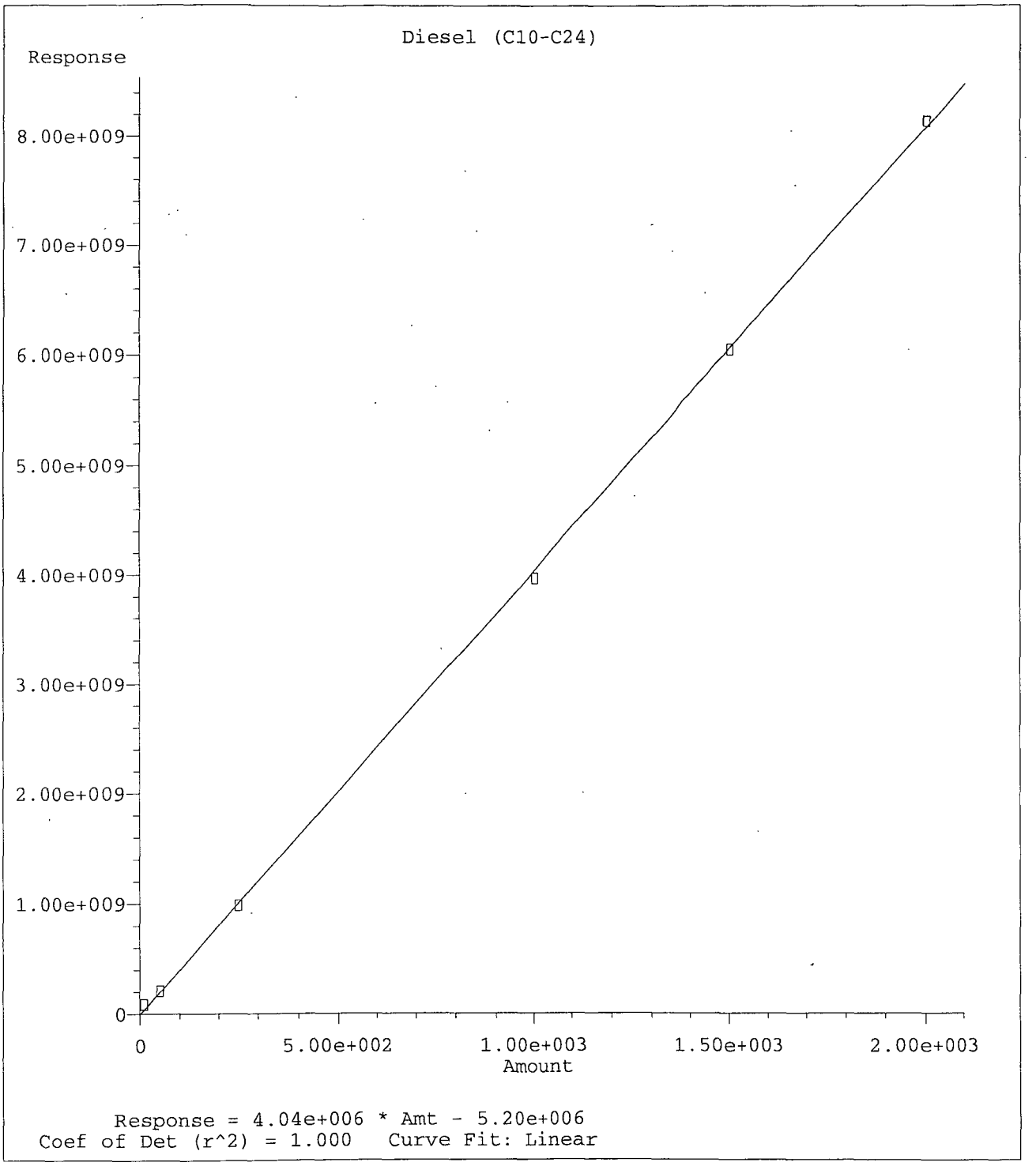
Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

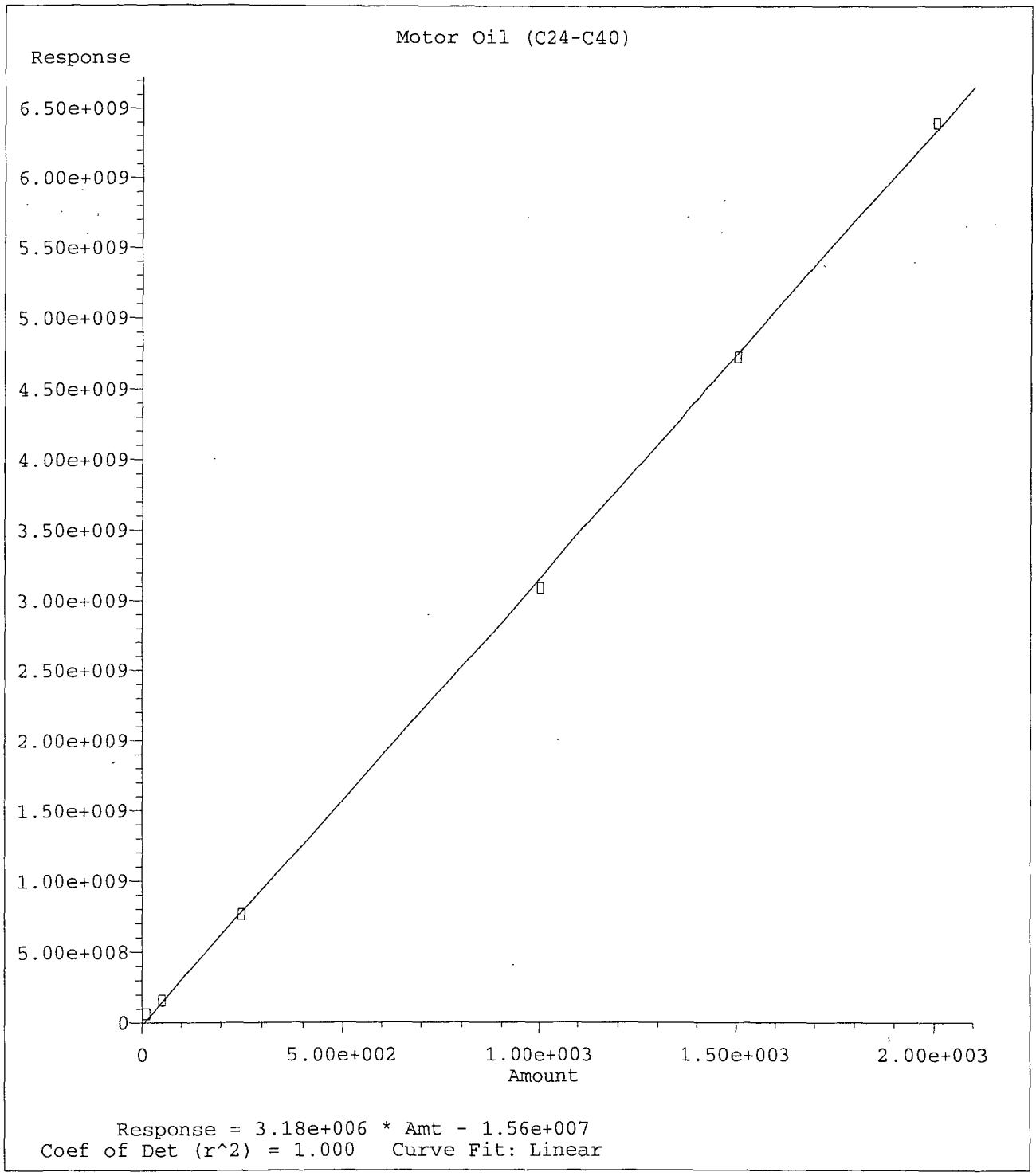
Data File: G:\APOLLO\DATA\200129\129008.D
Sample : Diesel Motor Oil - 6 1/29/20



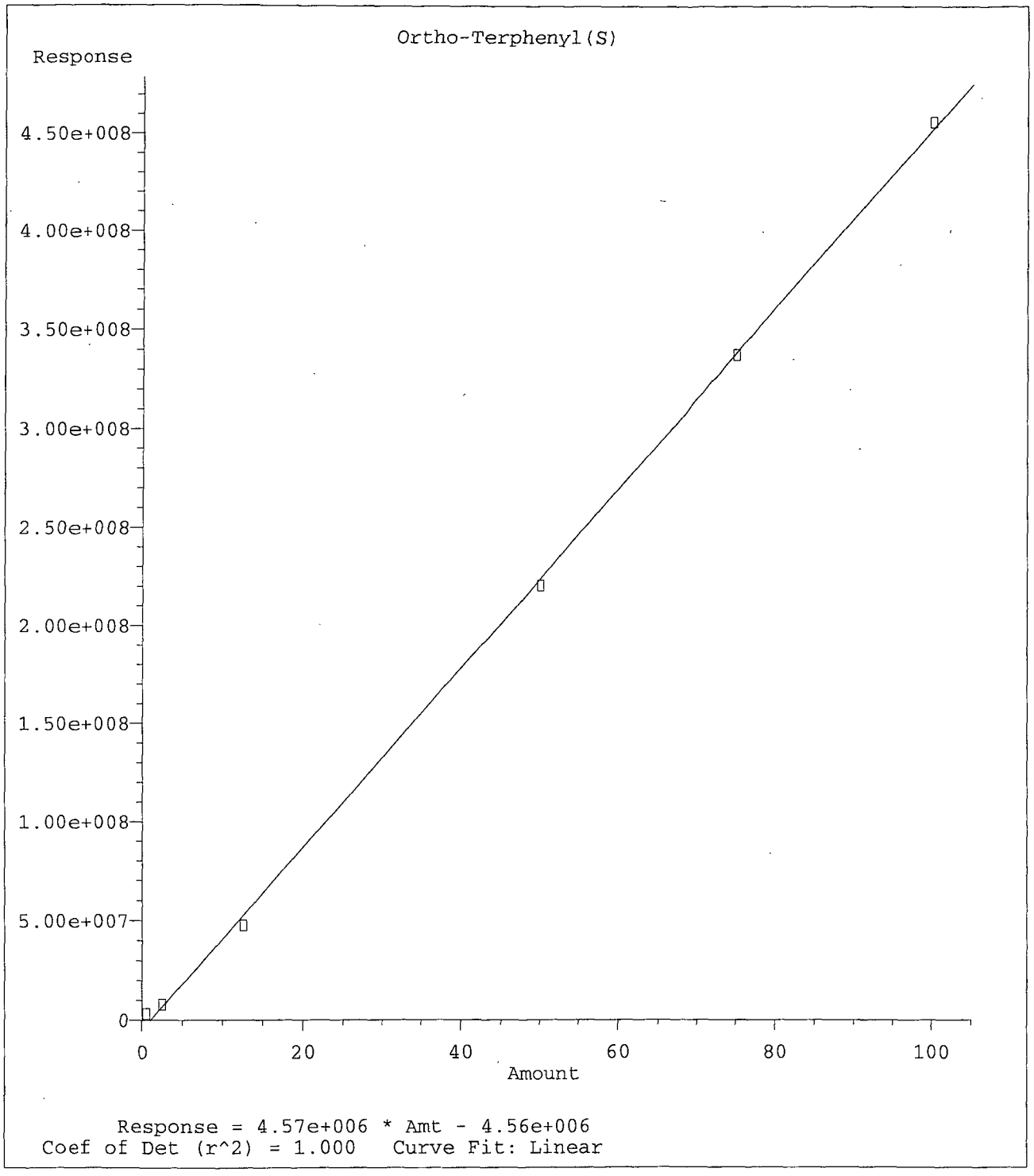




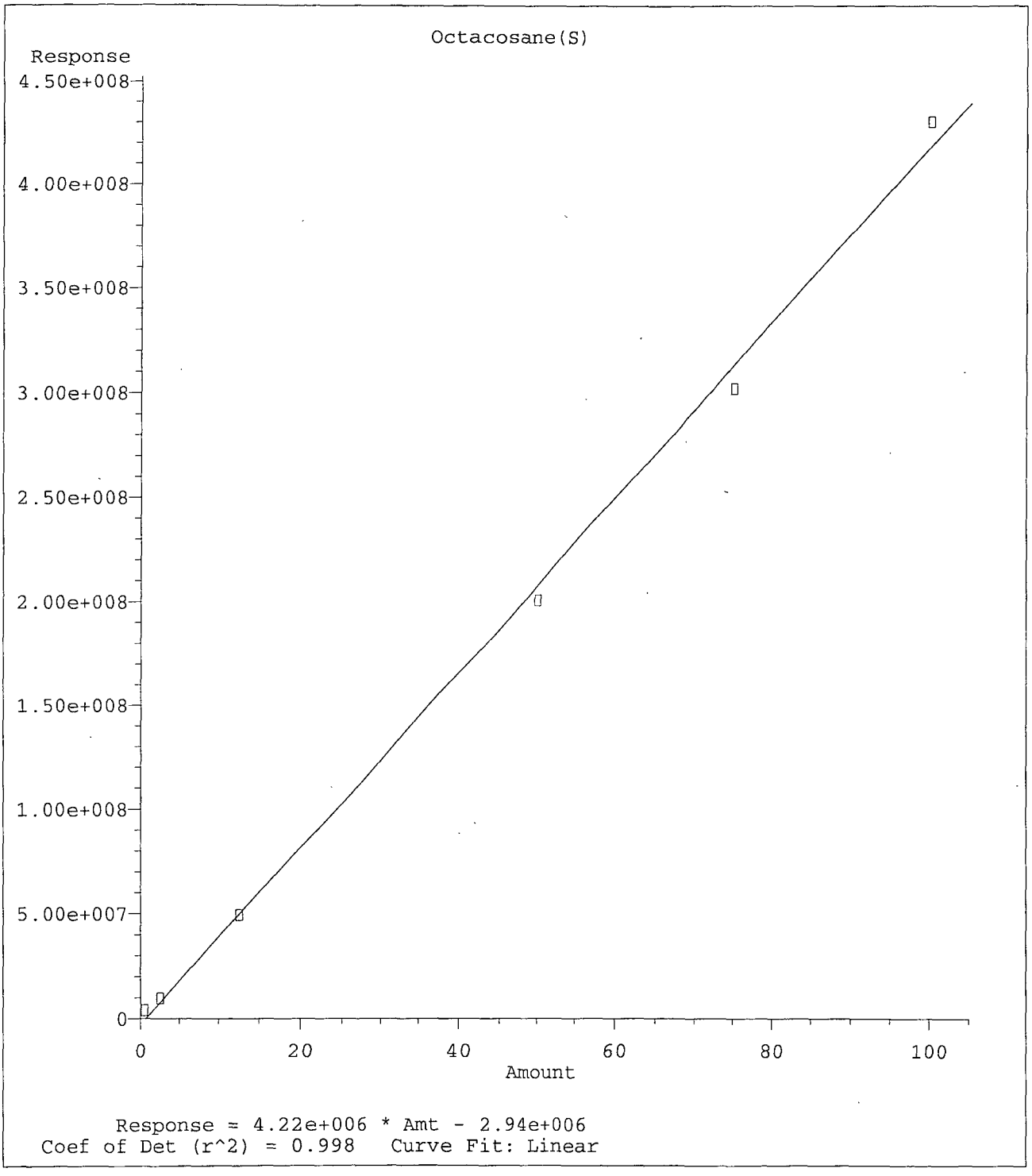
Method Name: G:\APOLLO\DATA\200129\DOC0129.M
Calibration Table Last Updated: Thu Jan 30 08:01:08 2020



Method Name: G:\APOLLO\DATA\200129\DOC0129.M
Calibration Table Last Updated: Thu Jan 30 08:01:08 2020



Method Name: G:\APOLLO\DATA\200129\DOC0129.M
Calibration Table Last Updated: Thu Jan 30 08:01:08 2020



Method Name: G:\APOLLO\DATA\200129\DOC0129.M
Calibration Table Last Updated: Thu Jan 30 08:01:08 2020

TPH Extractables
DOC0129

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: Water

SDG No:
Date Analyzed: 01/29/20
Instrument: Apollo
Initial Cal. Date: 01/29/20
Data File: 129009.D

		Compound	MEAN	CCRF	%D		%Drift
1	HATM	Diesel (C10-C24)	2395940	1924550	20	HATML	4.3
2	HBTM	Motor Oil (C24-C40)	1822260	1434290	21	HBTML	7.8
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			20.5		

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200129\129009.D Vial: 9
Acq On : 1-29-20 15:57:56 Operator: BT
Sample : Diesel Motor Oil - SS 12/23/19 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 30 8:03 2020 Quant Results File: DOC0129.RES

Method : G:\APOLLO\DATA\200129\DOC0129.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Jan 30 08:01:08 2020
Response via : Multiple Level Calibration

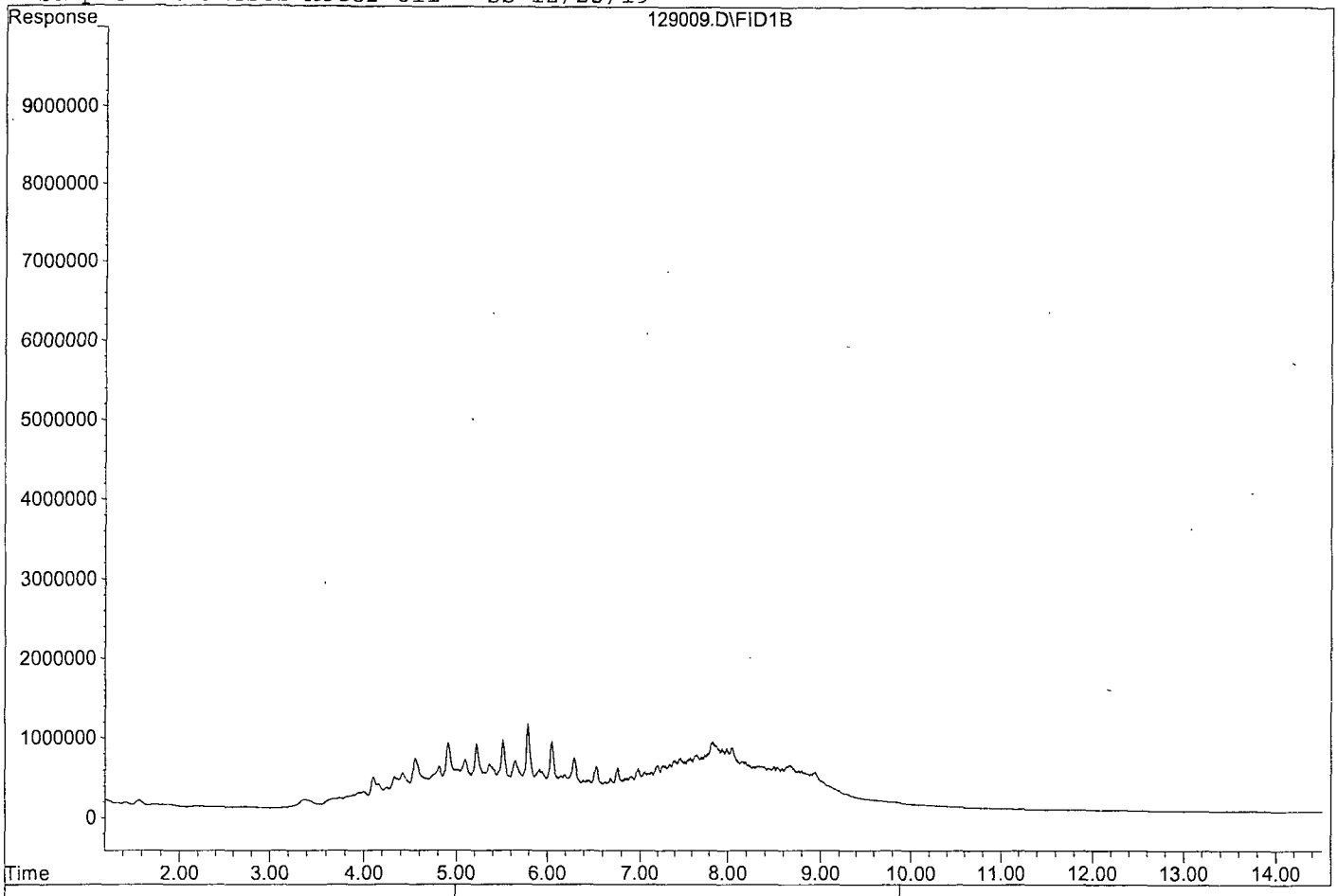
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

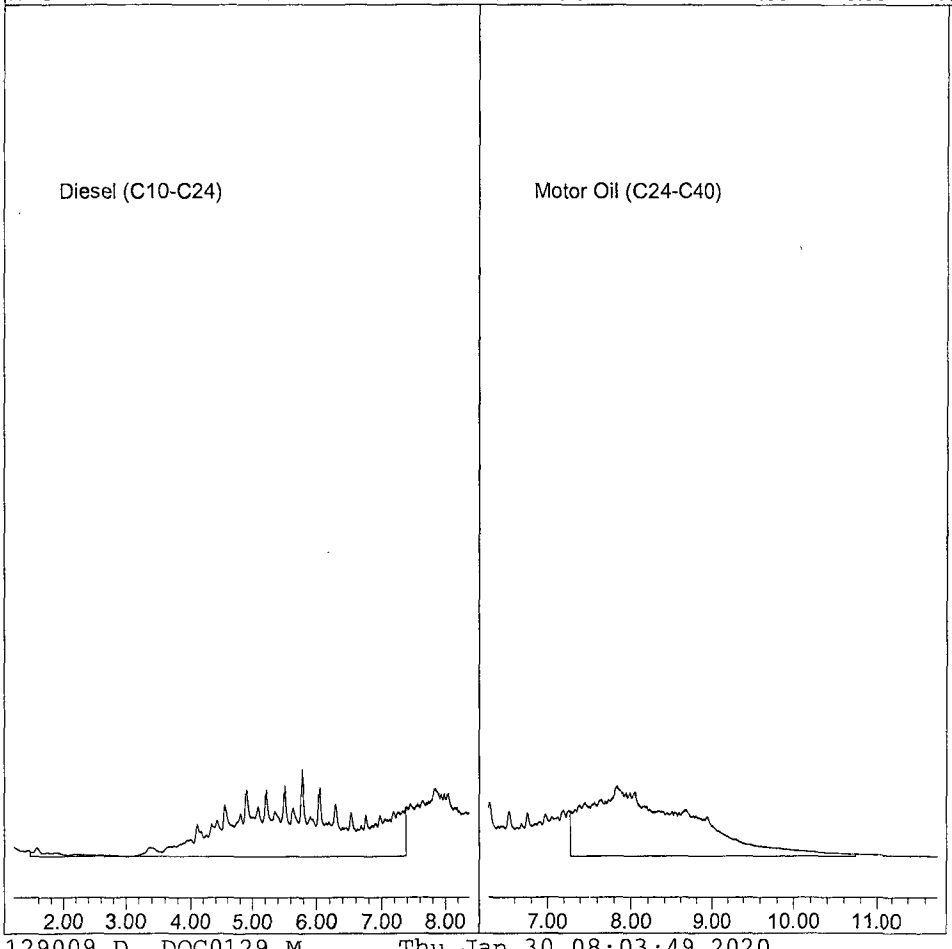
Compound	R.T.	Response	Conc	Units	
System Monitoring Compounds					
3) SA Ortho-Terphenyl(S)	0.00	0	N.D.	ppb	d
Surrogate Spike 30.000	Recovery	=	0.00%		
4) SA Octacosane(S)	0.00	0	N.D.	ppb	d
Surrogate Spike 30.000	Recovery	=	0.00%		
Target Compounds					
1) HATM Diesel (C10-C24)	4.42	962272818	239.241	ppb	
2) HBTM Motor Oil (C24-C40)	9.01	717146414	230.551	ppb	

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200129\129009.D
Sample : Diesel Motor Oil - SS 12/23/19





TPH Extractables
DEC1120

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Initial Cal. Date: Nov-20-2019
Matrix: Water Instrument: Apollo

Initials:

1115178.D 1115179.D 1115180.D 1115181.D 1115182.D 1115183.D

		Compound	1	2	3	4	5	6					Avg	%RSD	Type	r^2	Q
1	SCL	Decanoic Acid(S)	405087	460275	729336	758671	822876	812977					664870	28	SC	0.998	
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	
11																	
12																	
13																	
14																	
15																	
16																	
17																	
18																	
19																	
20																	
21																	
22																	
23																	
24																	
25																	
26																	
27																	
28																	
29																	
30																	
31																	
32																	
33																	
34																	
35																	

0.790521

Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\2019\191115\1115178.D Vial: 78
Acq On : 11-20-19 10:33:58 Operator: BT
Sample : Decanoic Acid - 1 11/20/19 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Nov 22 8:50 2019 Quant Results File: DEC1120.RES

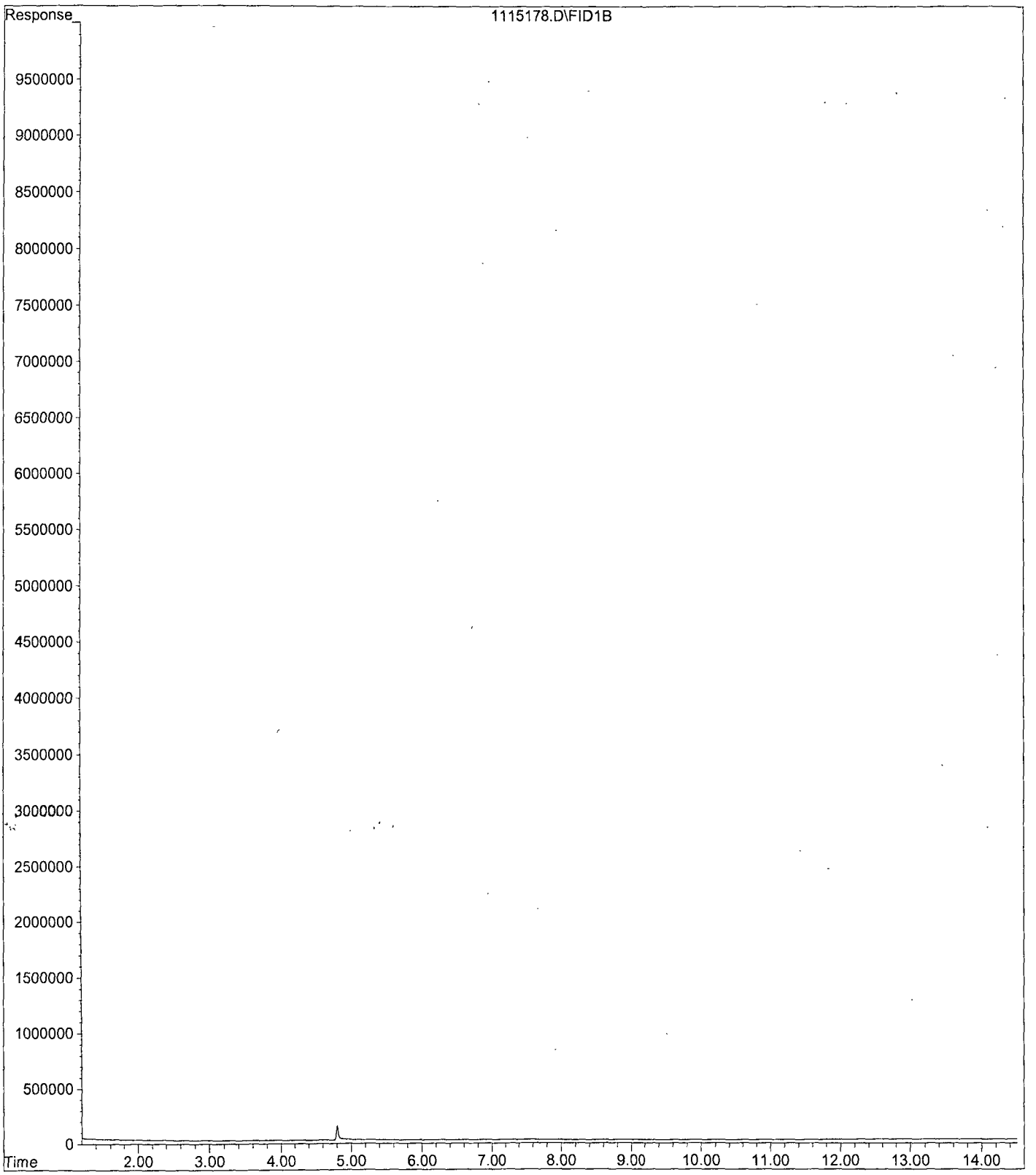
Method : G:\APOLLO\DATA\200129\DEC1120.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Jan 28 08:46:59 2020
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) SC Decanoic Acid(S)	4.80	2430521	1.828 ppb
Surrogate Spike 24.000	Recovery =		7.62%
Target Compounds			
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

File : G:\APOLLO\DATA\2019\191115\1115178.D
Operator : BT
Acquired : 11-20-19 10:33:58 using AcqMethod TPHSN.M
Instrument : Apollo
Sample Name: Decanoic Acid - 1 11/20/19
Misc Info : water
Vial Number: 78



Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\2019\191115\1115179.D Vial: 79
Acq On : 11-20-19 10:53:46 Operator: BT
Sample : Decanoic Acid - 2 11/20/19 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Nov 22 8:50 2019 Quant Results File: DEC1120.RES

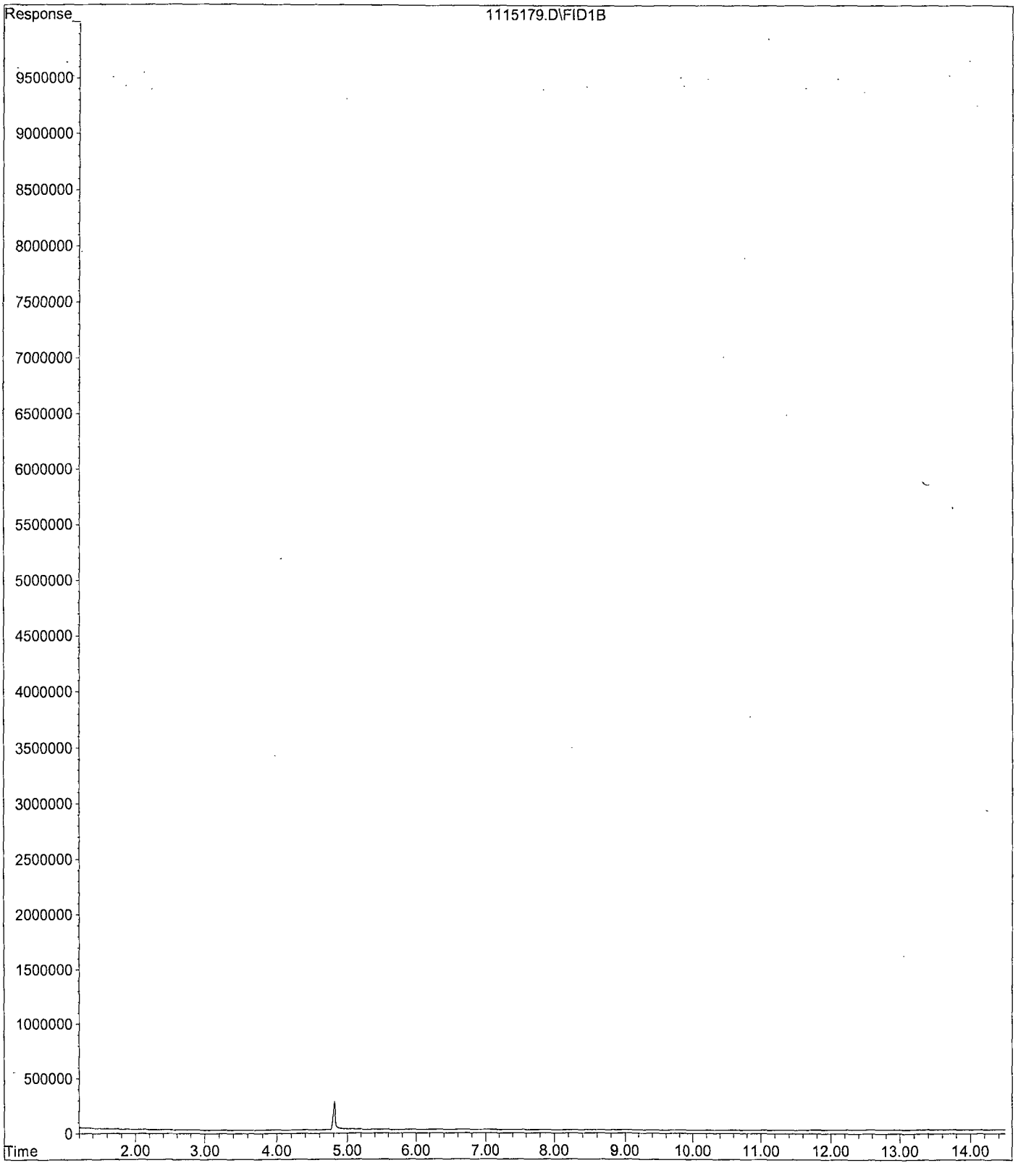
Method : G:\APOLLO\DATA\200129\DEC1120.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Jan 28 08:46:59 2020
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) SC Decanoic Acid(S)	4.82	5523296	4.154 ppb
Surrogate Spike 24.000		Recovery =	17.31%
Target Compounds			
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

File : G:\APOLLO\DATA\2019\191115\1115179.D
Operator : BT
Acquired : 11-20-19 10:53:46 using AcqMethod TPHSN.M
Instrument : Apollo
Sample Name: Decanoic Acid - 2 11/20/19
Misc Info : water
Vial Number: 79



Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\2019\191115\1115180.D Vial: 80
Acq On : 11-20-19 11:13:35 Operator: BT
Sample : Decanoic Acid - 3 11/20/19 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Nov 22 8:51 2019 Quant Results File: DEC1120.RES

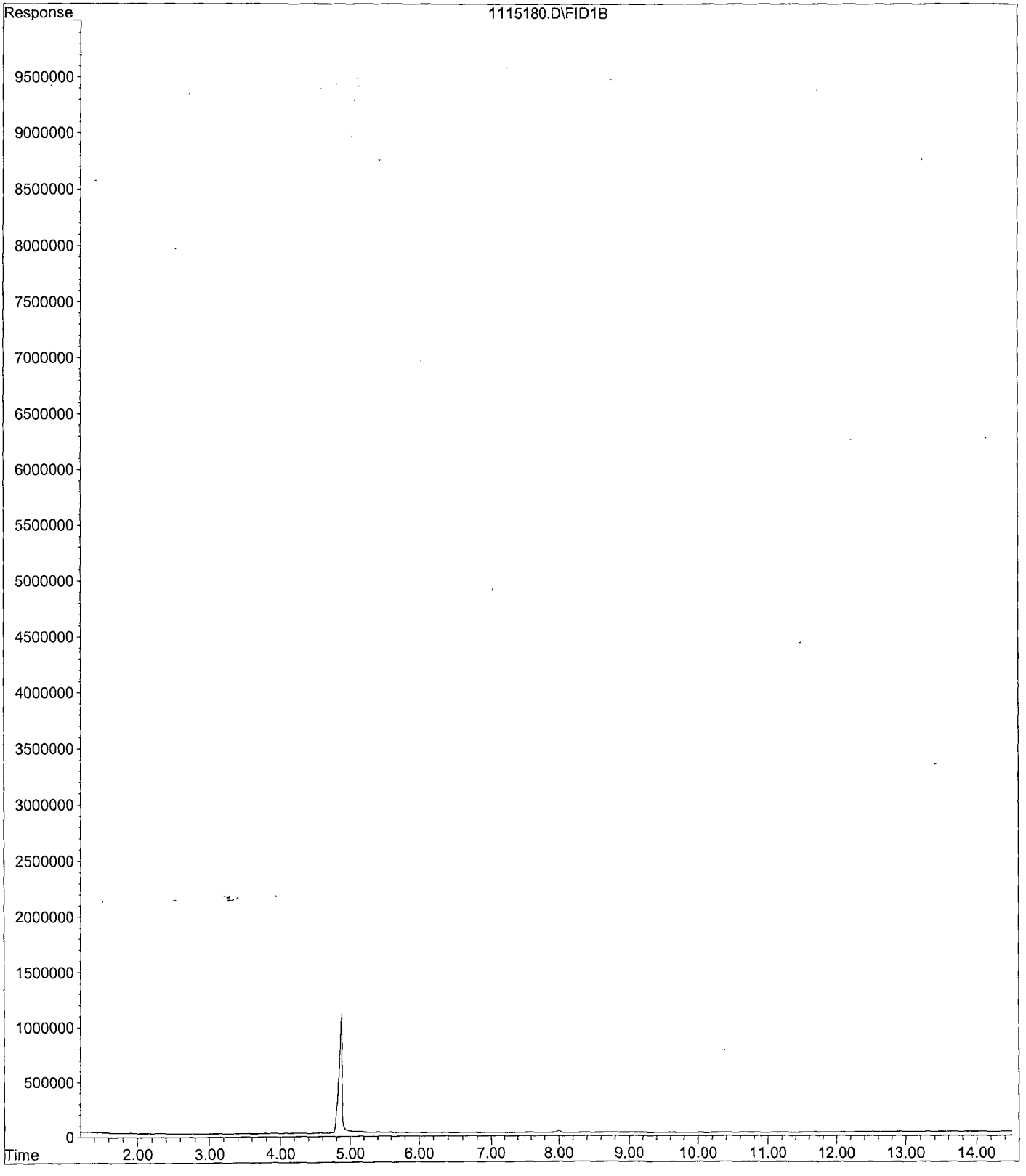
Method : G:\APOLLO\DATA\200129\DEC1120.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Jan 28 08:46:59 2020
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) SC Decanoic Acid(S)	4.87f	35008125	26.327 ppb
Surrogate Spike 24.000	Recovery =		109.70%
Target Compounds			
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

File : G:\APOLLO\DATA\2019\191115\1115180.D
Operator : BT
Acquired : 11-20-19 11:13:35 using AcqMethod TPHSN.M
Instrument : Apollo
Sample Name: Decanoic Acid - 3 11/20/19
Misc Info : water
Vial Number: 80



Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\2019\191115\1115181.D Vial: 81
Acq On : 11-20-19 11:33:26 Operator: BT
Sample : Decanoic Acid - 4 11/20/19 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Nov 22 8:51 2019 Quant Results File: DEC1120.RES

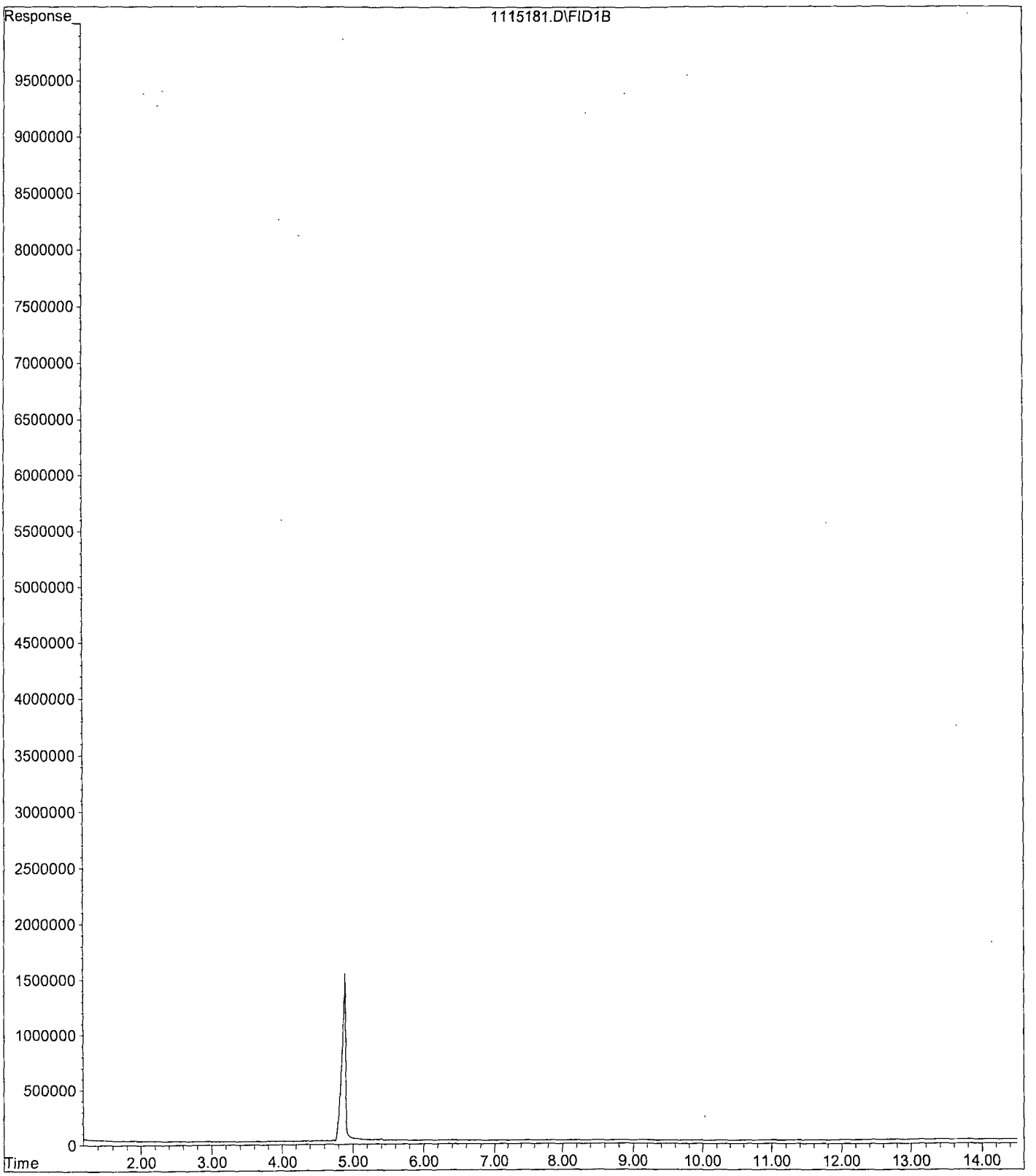
Method : G:\APOLLO\DATA\200129\DEC1120.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Jan 28 08:46:59 2020
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) SC Decanoic Acid(S)	4.89f	54624296	41.079 ppb
Surrogate Spike 24.000	Recovery	=	171.16%
Target Compounds			
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

File : G:\APOLLO\DATA\2019\191115\1115181.D
Operator : BT
Acquired : 11-20-19 11:33:26 using AcqMethod TPHSN.M
Instrument : Apollo
Sample Name: Decanoic Acid - 4 11/20/19
Misc Info : water
Vial Number: 81



Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\2019\191115\1115182.D Vial: 82
Acq On : 11-20-19 11:52:35 Operator: BT
Sample : Decanoic Acid - 5 11/20/19 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Nov 22 8:51 2019 Quant Results File: DEC1120.RES

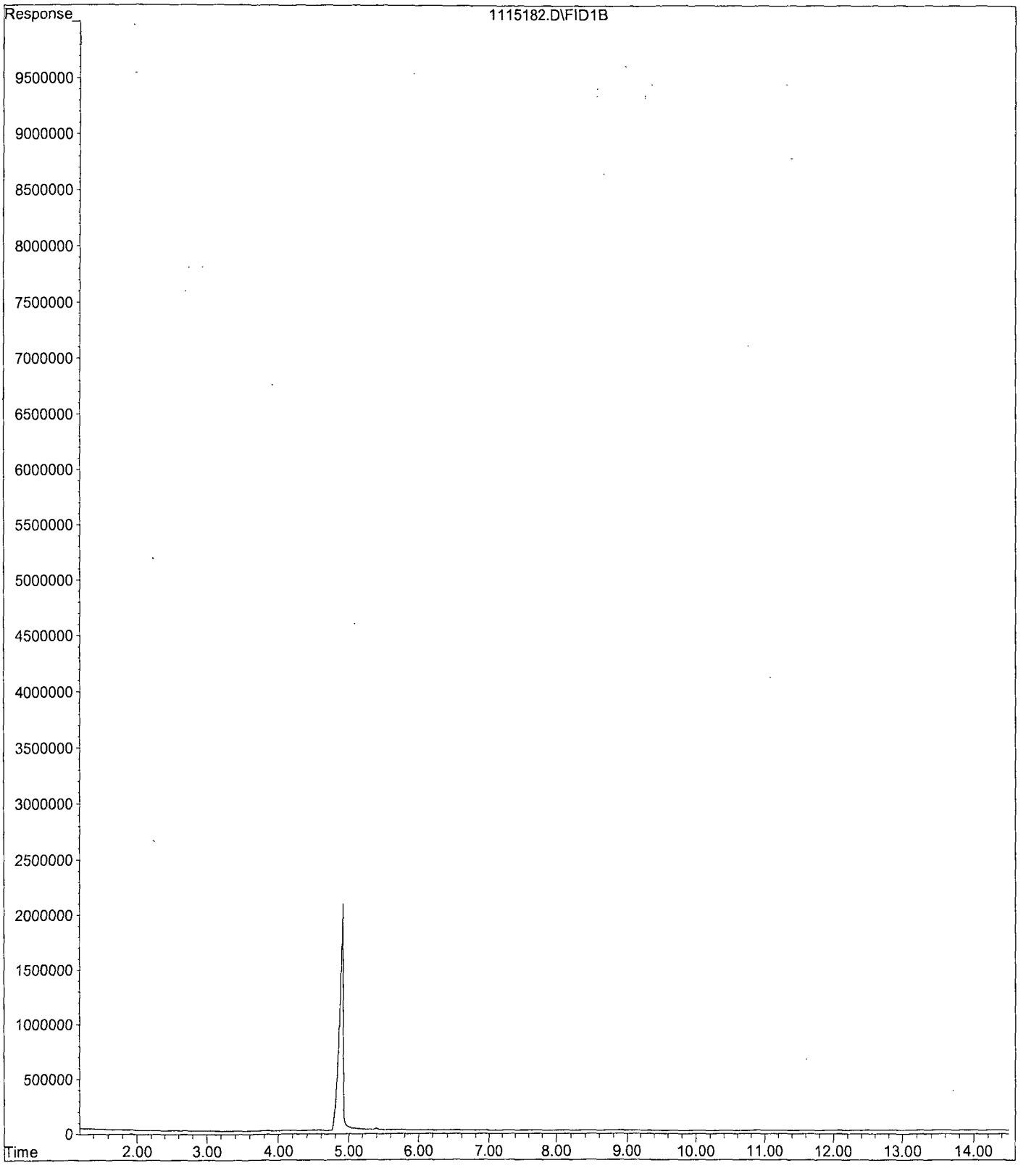
Method : G:\APOLLO\DATA\200129\DEC1120.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Jan 28 08:46:59 2020
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) SC Decanoic Acid(S)	4.92f	78996112	59.407 ppb
Surrogate Spike 24.000		Recovery =	247.53%
Target Compounds			
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

File : G:\APOLLO\DATA\2019\191115\1115182.D
Operator : BT
Acquired : 11-20-19 11:52:35 using AcqMethod TPHSN.M
Instrument : Apollo
Sample Name: Decanoic Acid - 5 11/20/19
Misc Info : water
Vial Number: 82



Quantitation Report (Not Reviewed)

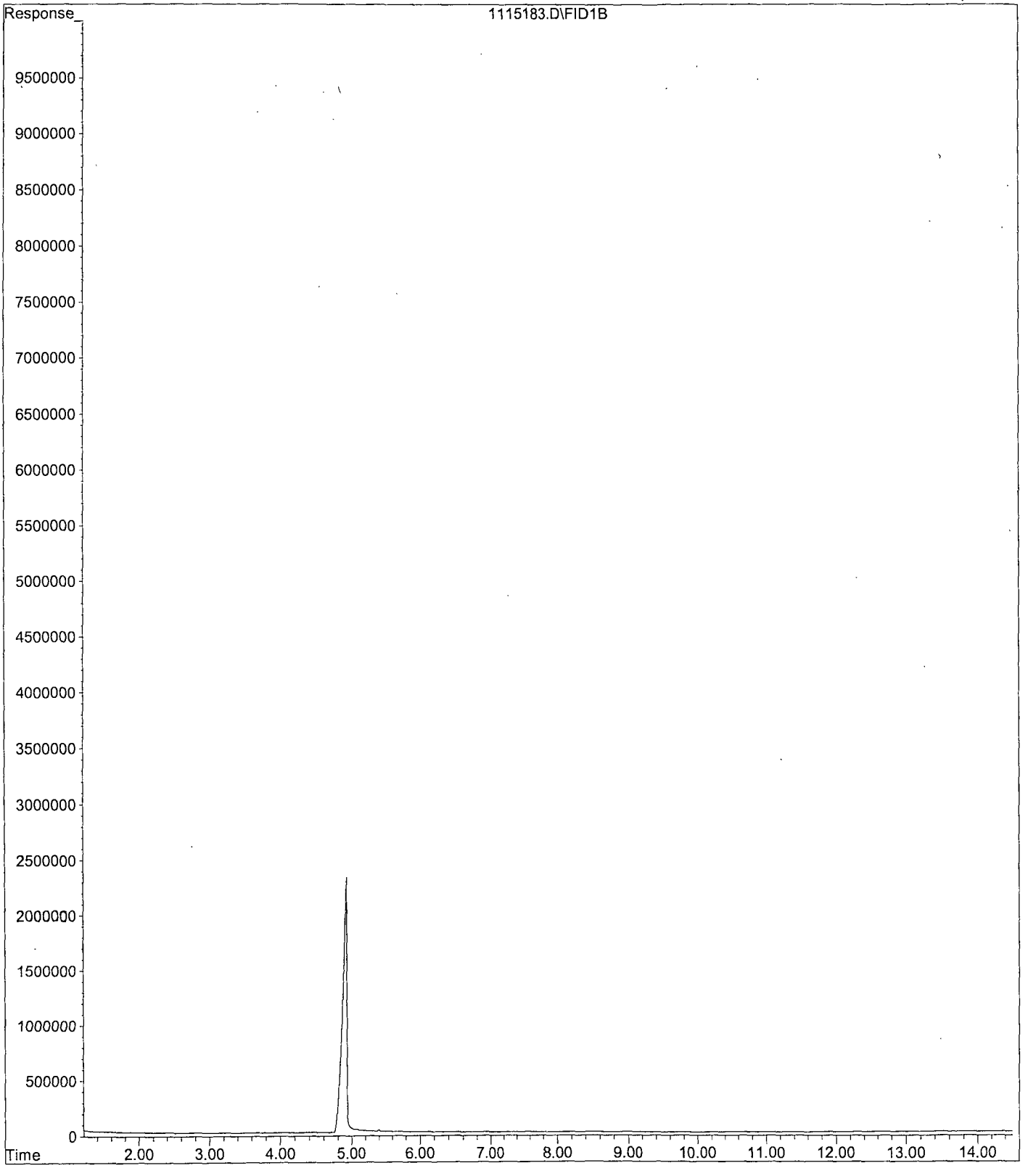
Data File : G:\APOLLO\DATA\2019\191115\1115183.D Vial: 83
Acq On : 11-20-19 12:12:26 Operator: BT
Sample : Decanoic Acid - 6 11/20/19 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Nov 22 8:51 2019 Quant Results File: DEC1120.RES

Method : G:\APOLLO\DATA\200129\DEC1120.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Jan 28 08:46:59 2020
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) SC Decanoic Acid(S)	4.93	97557275	73.366 ppb
Surrogate Spike 24.000		Recovery =	305.69%
Target Compounds			
Target Compounds			

File : G:\APOLLO\DATA\2019\191115\1115183.D
Operator : BT
Acquired : 11-20-19 12:12:26 using AcqMethod TPHSN.M
Instrument : Apollo
Sample Name: Decanoic Acid - 6 11/20/19
Misc Info : water
Vial Number: 83



TPH Extractables
DOC0129

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: Water

SDG No:
Date Analyzed: 01/29/20
Instrument: Apollo
Initial Cal. Date: 01/29/20
Data File: 129029.D

		Compound	MEAN	CCRF	%D		%Drift
1	HATM	Diesel (C10-C24)	2395940	1998050	17	HATML	0.67
2	HBTM	Motor Oil (C24-C40)	1822260	1561680	14	HBTML	0.24
3	SAL	Ortho-Terphenyl(S)	2240780	1970790	12	SAL	5.8
4	SAL	Octacosane(S)	2342280	2091300	11	SAL	4.8
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			13.5		

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200129\129029.D Vial: 29
Acq On : 1-29-20 22:27:03 Operator: BT
Sample : Diesel Motor Oil - CCV 12/23/19 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 30 8:19 2020 Quant Results File: DOC0129.RES

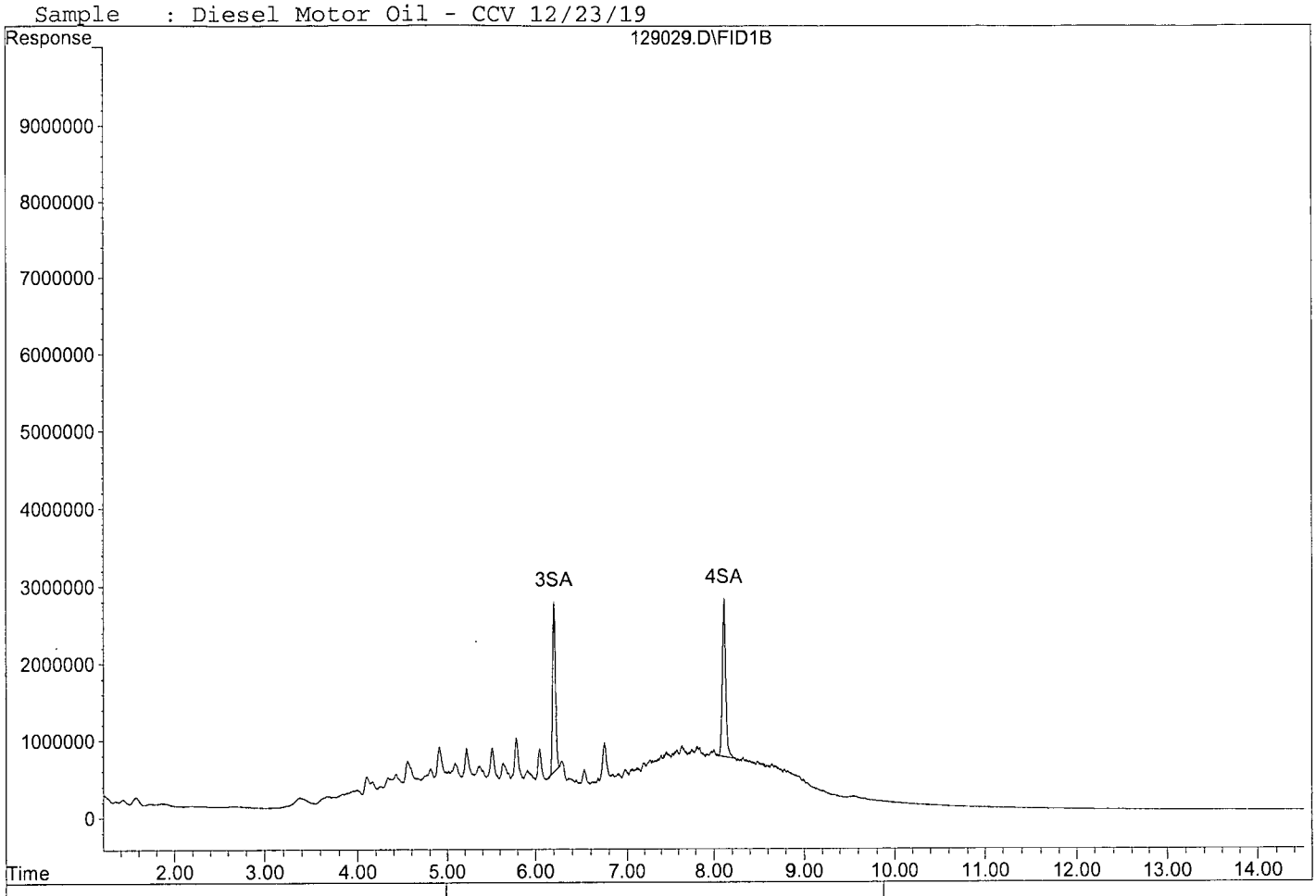
Method : G:\APOLLO\DATA\200129\DOC0129.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Jan 30 08:01:08 2020
Response via : Multiple Level Calibration

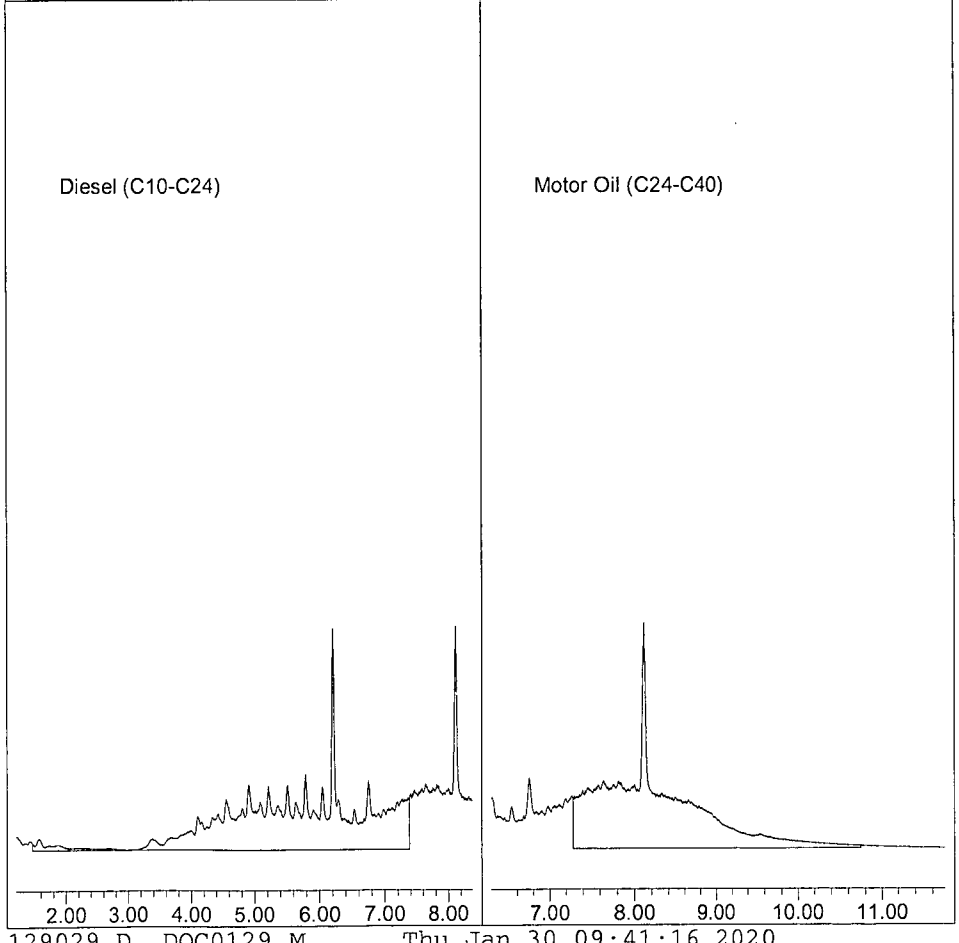
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SA Ortho-Terphenyl(S)	6.21	49269760	11.770 ppb
Surrogate Spike 30.000	Recovery =		39.23%
4) SA Octacosane(S)	8.11	52282451	13.100 ppb
Surrogate Spike 30.000	Recovery =		43.67%
Target Compounds			
1) HATM Diesel (C10-C24)	4.42	999024927	248.330 ppb
2) HBTM Motor Oil (C24-C40)	9.01	780842153	250.592 ppb
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200129\129029.D
Sample : Diesel Motor Oil - CCV 12/23/19





TPH Extractables
DEC1120

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: Water

SDG No:
Date Analyzed: 01/29/20
Instrument: Apollo
Initial Cal. Date: 11/20/19
Data File: 129030.D

		Compound	MEAN	CCRF	%D		%Drift
1	SCL	Decanoic Acid(S)	664870	976813	47	SCL	20
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			47.0		

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200129\129030.D Vial: 30
Acq On : 1-29-20 22:46:43 Operator: BT
Sample : Decanoic Acid CCV 1/27/20 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 30 8:26 2020 Quant Results File: DEC1120.RES

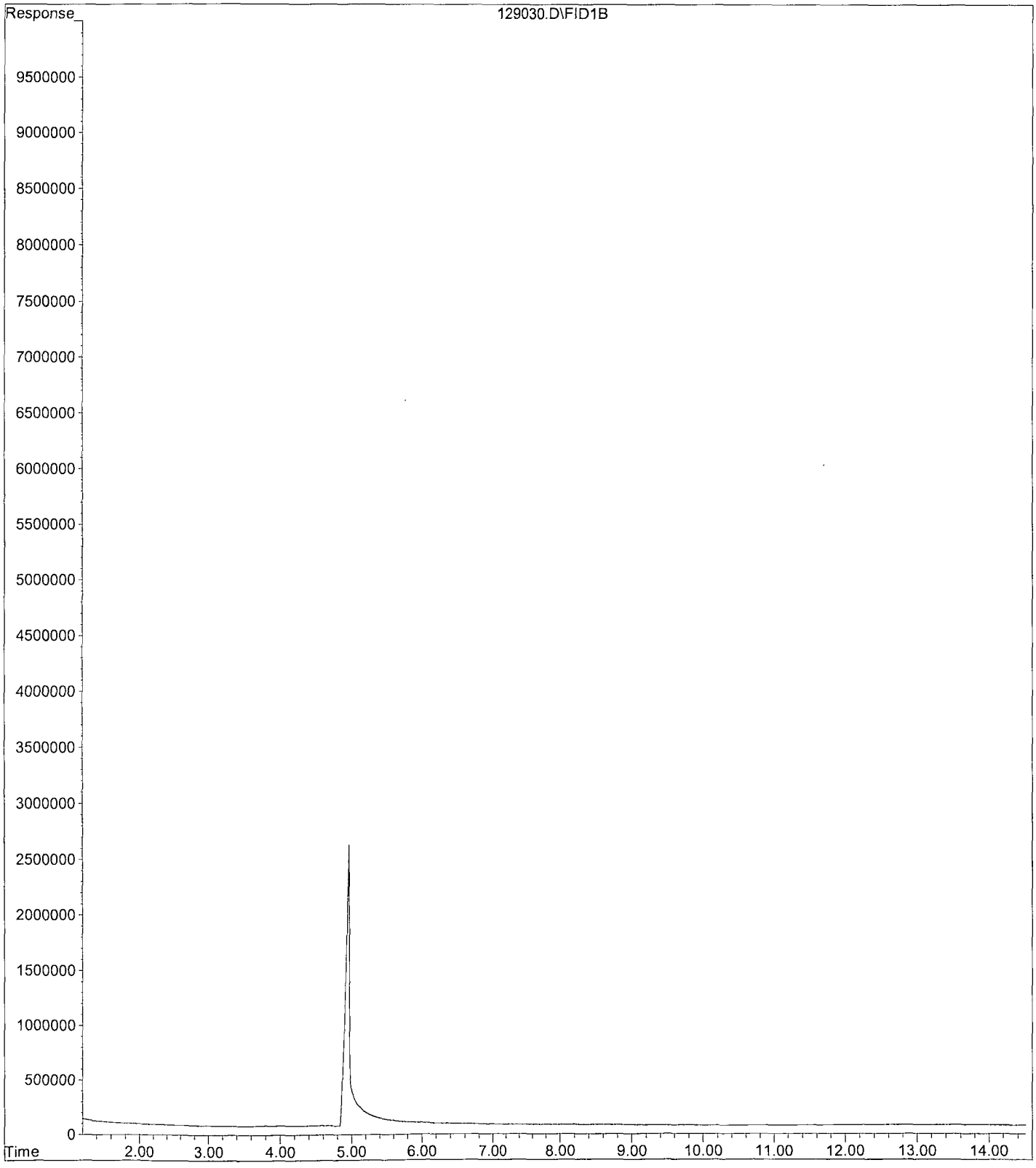
Method : G:\APOLLO\DATA\200129\DEC1120.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Jan 28 08:46:59 2020
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) SC Decanoic Acid(S)	4.96	117217584	71.708 ppb
Surrogate Spike 24.000	Recovery = 298.78%		
Target Compounds			
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

File : G:\APOLLO\DATA\200129\129030.D
Operator : BT
Acquired : 1-29-20 22:46:43 using AcqMethod TPHSN.M
Instrument : Apollo
Sample Name: Decanoic Acid CCV 1/27/20
Misc Info : water
Vial Number: 30



TPH Extractables
DOC0129

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: Water

SDG No:
Date Analyzed: 01/30/20
Instrument: Apollo
Initial Cal. Date: 01/29/20
Data File: 129041.D

		Compound	MEAN	CCRF	%D		%Drift
1	HATM	Diesel (C10-C24)	2395940	2097950	12	HATML	4.3
2	HBTM	Motor Oil (C24-C40)	1822260	1619480	11	HBTML	3.9
3	SAL	Ortho-Terphenyl(S)	2240780	1814860	19	SAL	13
4	SAL	Octacosane(S)	2342280	2000560	15	SAL	0.49
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			14.3		

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200129\129041.D Vial: 41
Acq On : 1-30-20 2:21:17 Operator: BT
Sample : Diesel Motor Oil - CCV 12/23/19 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 30 8:59 2020 Quant Results File: DOC0129.RES

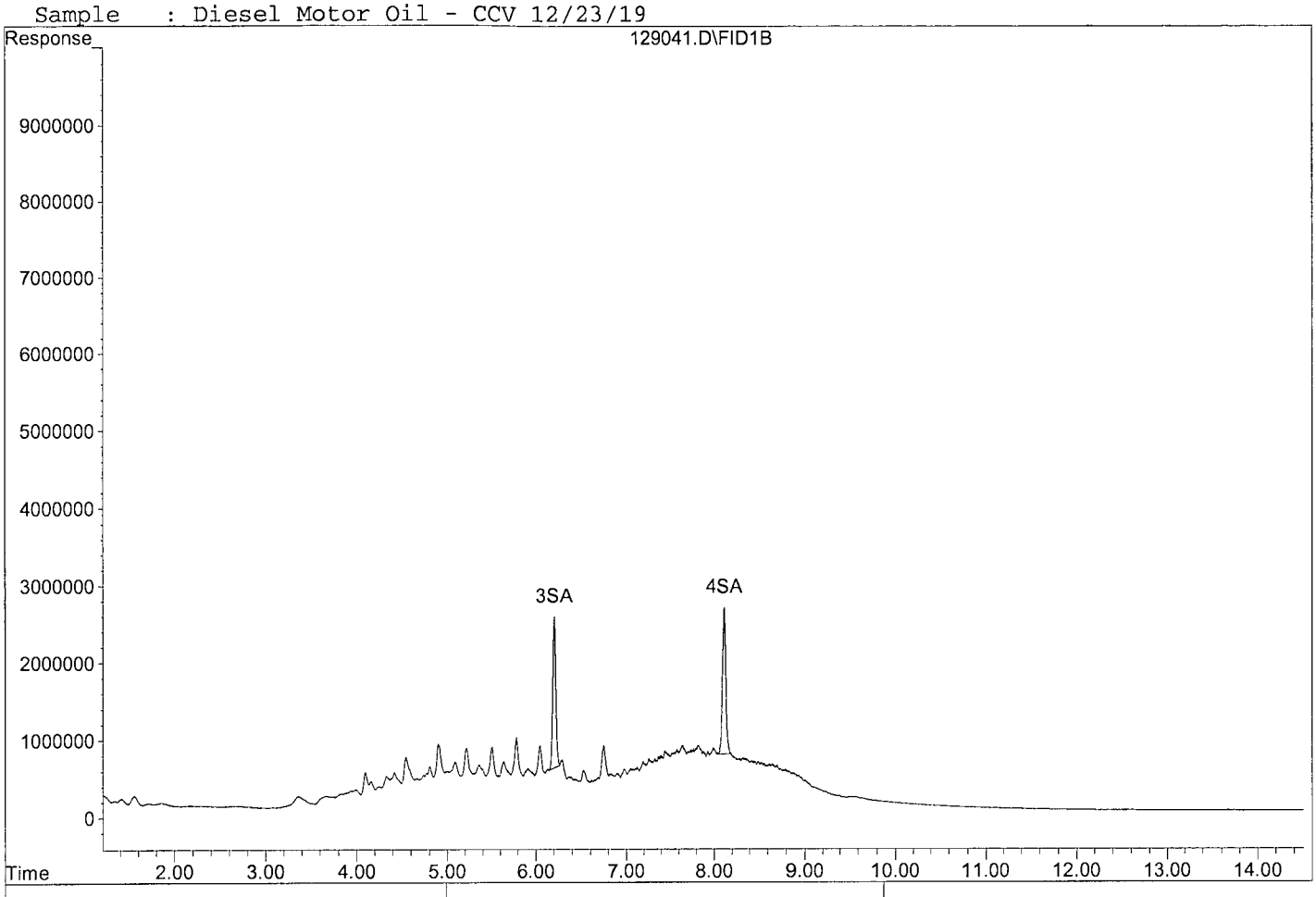
Method : G:\APOLLO\DATA\200129\DOC0129.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Jan 30 08:01:08 2020
Response via : Multiple Level Calibration

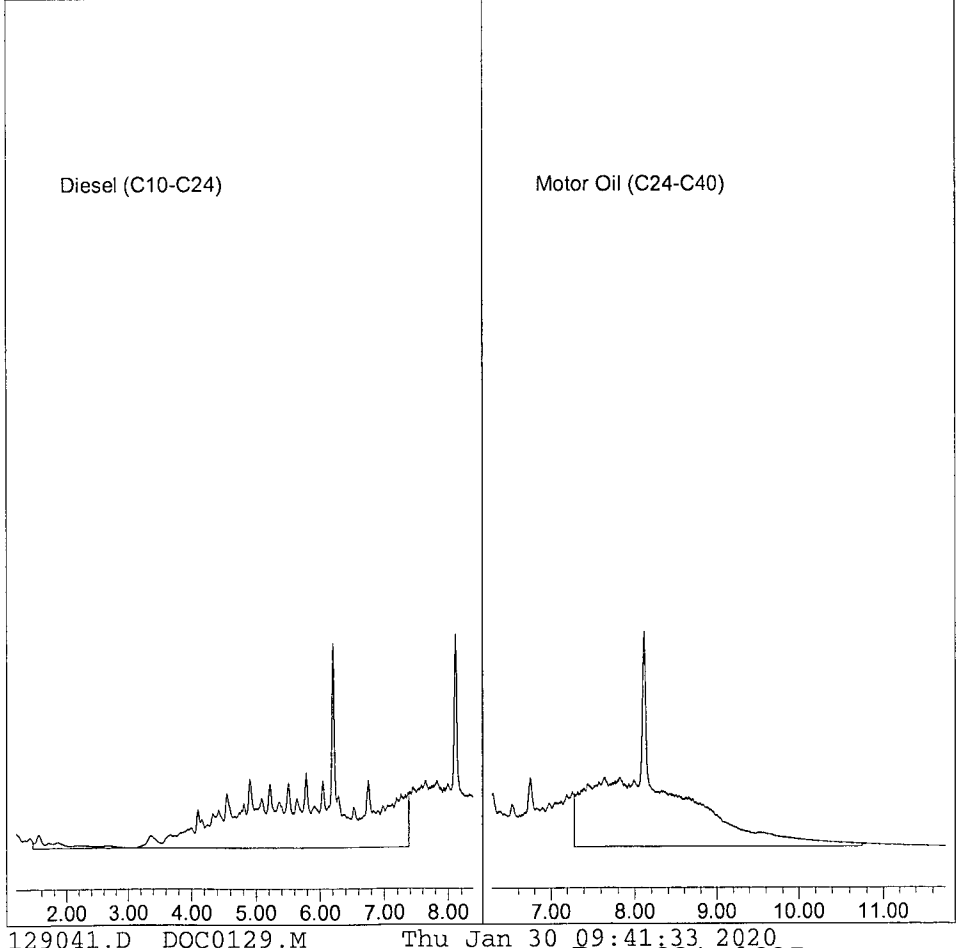
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SA Ortho-Terphenyl(S)	6.20	45371561	10.918 ppb
Surrogate Spike 30.000		Recovery =	36.39%
4) SA Octacosane(S)	8.11	50014014	12.561 ppb
Surrogate Spike 30.000		Recovery =	41.87%
Target Compounds			
1) HATM Diesel (C10-C24)	4.42	1048976107	260.682 ppb
2) HBTM Motor Oil (C24-C40)	9.01	809739887	259.684 ppb
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200129\129041.D
Sample : Diesel Motor Oil - CCV 12/23/19





TPH Extractables
DEC1120

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: Water

SDG No:
Date Analyzed: 01/30/20
Instrument: Apollo
Initial Cal. Date: 11/20/19
Data File: 129042.D

		Compound	MEAN	CCRF	%D	%Drift	
1	SCL	Decanoic Acid(S)	664870	1068030	61	SCL 30	*
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			61.0		

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200129\129042.D
Acq On : 1-30-20 2:40:50
Sample : Decanoic Acid CCV 1/27/20
Misc : water
IntFile : events.e
Quant Time: Jan 30 9:19 2020 Quant Results File: DEC1120.RES

Vial: 42
Operator: BT
Inst : Apollo
Multiplr: 1.00

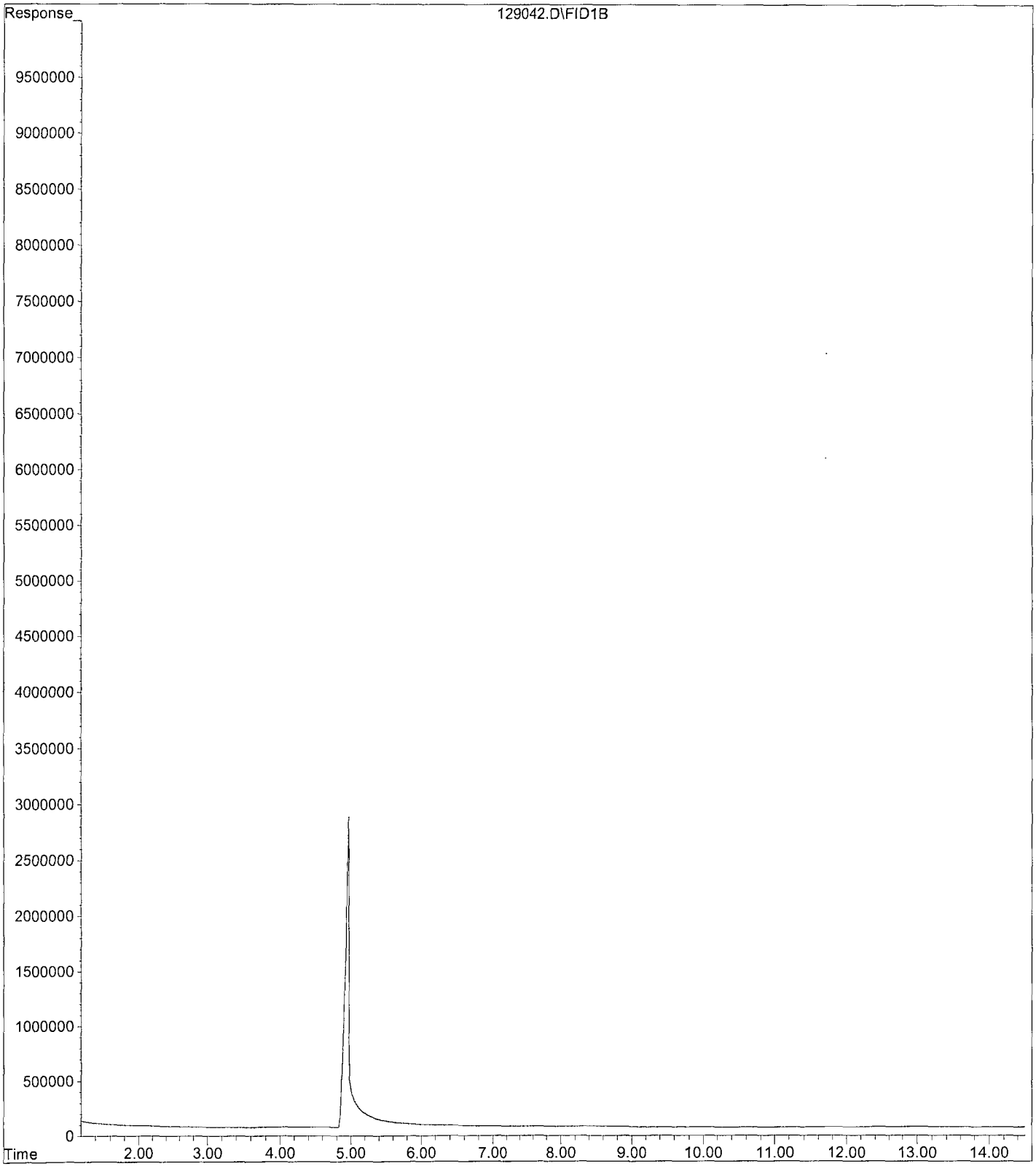
Method : G:\APOLLO\DATA\200129\DEC1120.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Jan 28 08:46:59 2020
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) SC Decanoic Acid(S)	4.97f	128163202	78.167 ppb
Surrogate Spike 24.000		Recovery =	325.70%
Target Compounds			
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

File : G:\APOLLO\DATA\200129\129042.D
Operator : BT
Acquired : 1-30-20 2:40:50 using AcqMethod TPHSN.M
Instrument : Apollo
Sample Name: Decanoic Acid CCV 1/27/20
Misc Info : water
Vial Number: 42



TPH Extractables
DOC0129

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: Water

SDG No:
Date Analyzed: 01/30/20
Instrument: Apollo
Initial Cal. Date: 01/29/20
Data File: 129056.D

		Compound	MEAN	CCRF	%D		%Drift
1	HATM	Diesel (C10-C24)	2395940	2164130	9.7	HATML	7.5
2	HBTM	Motor Oil (C24-C40)	1822260	1681790	7.7	HBTML	7.8
3	SAL	Ortho-Terphenyl(S)	2240780	1932790	14	SAL	7.5
4	SAL	Octacosane(S)	2342280	2151380	8.1	SAL	7.6
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			9.9		

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200129\129056.D Vial: 56
Acq On : 1-30-20 7:13:33 Operator: BT
Sample : Diesel Motor Oil - CCV 12/23/19 Inst : Apollo
Misc : water Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 30 8:59 2020 Quant Results File: DOC0129.RES

Method : G:\APOLLO\DATA\200129\DOC0129.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Jan 30 08:01:08 2020
Response via : Multiple Level Calibration

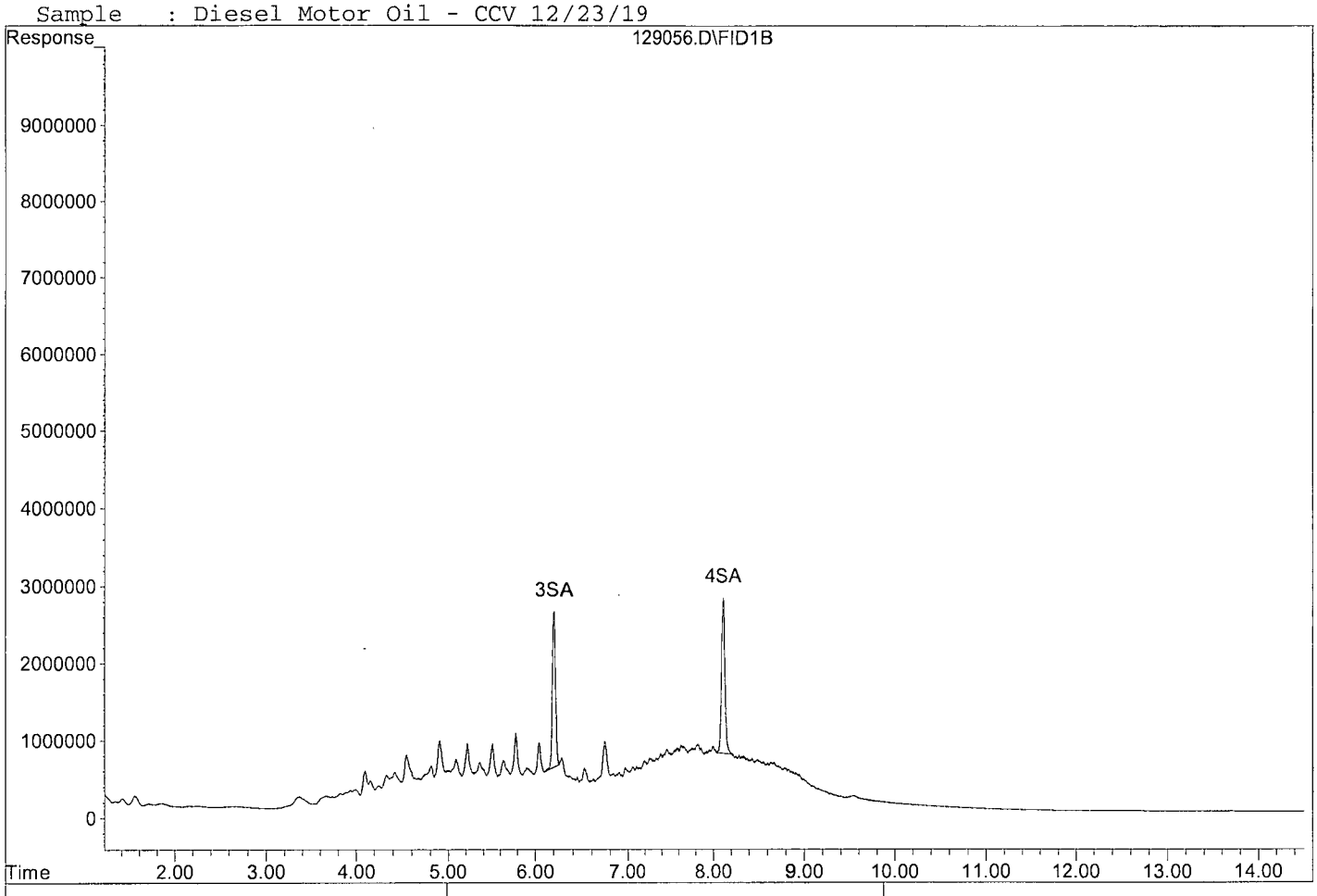
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

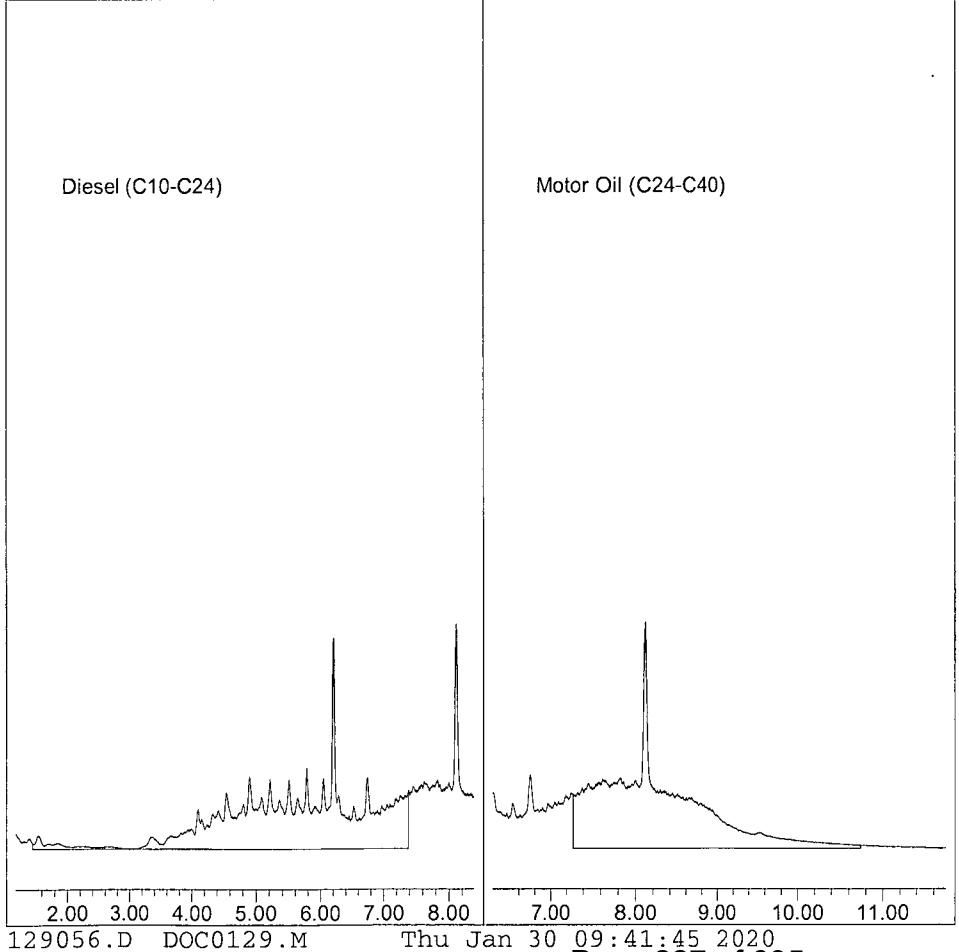
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SA Ortho-Terphenyl(S)	6.20	48319647	11.562 ppb
Surrogate Spike 30.000	Recovery =		38.54%
4) SA Octacosane(S)	8.11	53784589	13.456 ppb
Surrogate Spike 30.000	Recovery =		44.85%
Target Compounds			
1) HATM Diesel (C10-C24)	4.42	1082066144	268.864 ppb
2) HBTM Motor Oil (C24-C40)	9.01	840893967	269.486 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200129\129056.D
Sample : Diesel Motor Oil - CCV 12/23/19





ORGANICS
Raw Data

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200129\129050.D Vial: 50
Acq On : 1-30-20 5:17:01 Operator: BT
Sample : BA06361W17 2/800 Inst : Apollo
Misc : water Multiplr: 2.50
IntFile : events.e
Quant Time: Jan 30 9:38 2020 Quant Results File: DOC0129.RES

Method : G:\APOLLO\DATA\200129\DOC0129.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Jan 30 08:01:08 2020
Response via : Multiple Level Calibration

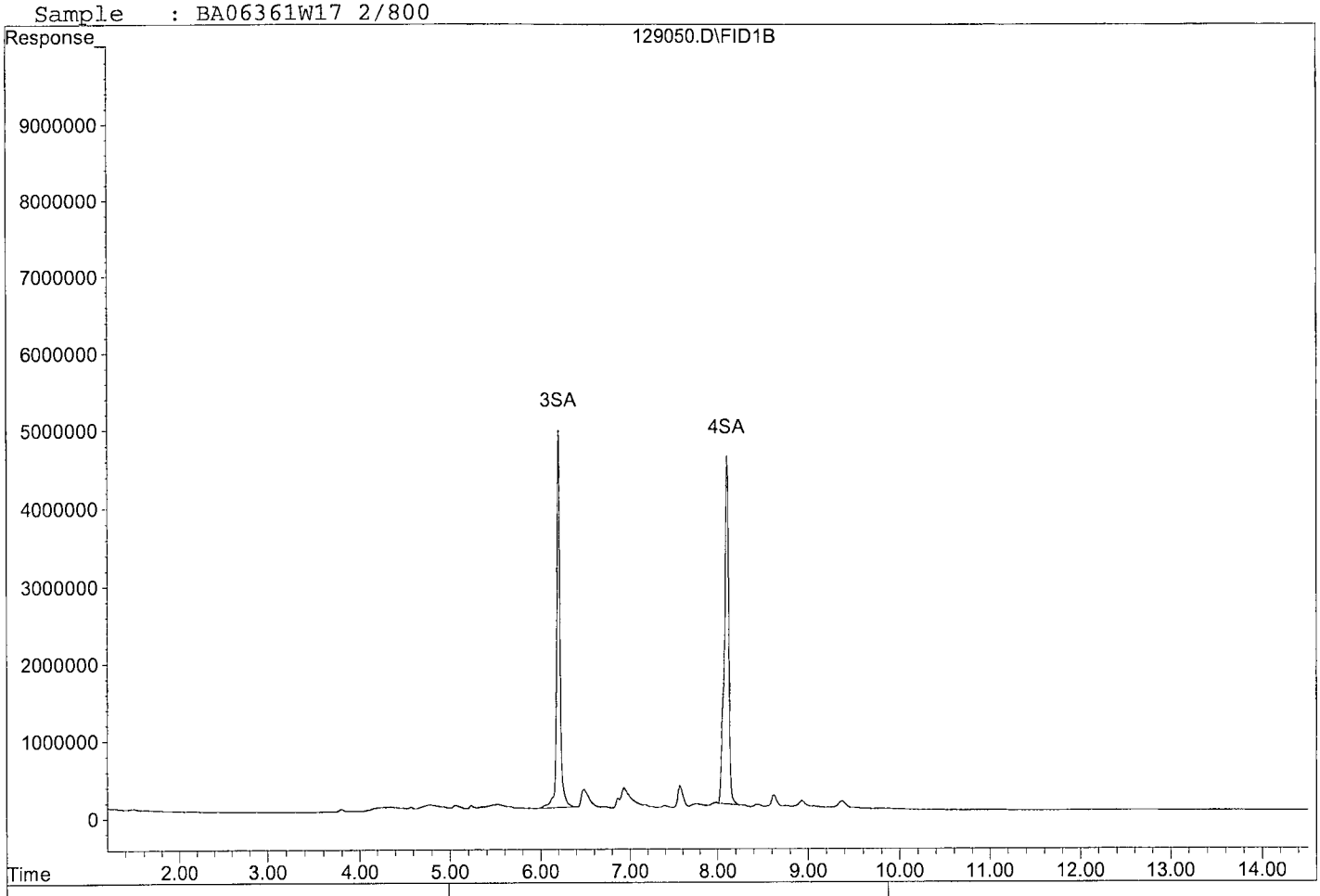
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

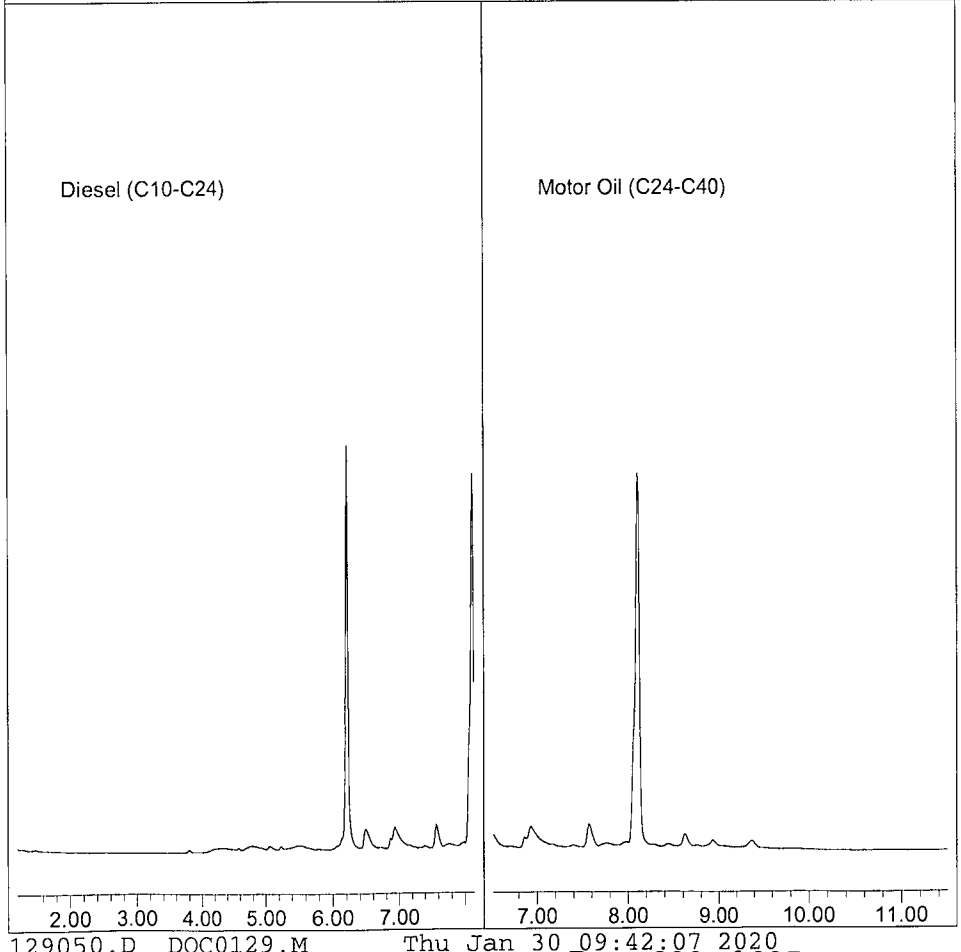
Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
3) SA Ortho-Terphenyl(S)	6.20	125131225	70.898	ppb
Surrogate Spike 75.000	Recovery =		94.53%	
4) SA Octacosane(S)	8.11	151822646	91.783	ppb
Surrogate Spike 75.000	Recovery =		122.38%	
Target Compounds				
Target Compounds				
1) HATM Diesel (C10-C24)	0.00	0	N.D.	ppb
2) HBTM Motor Oil (C24-C40)	0.00	0	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\200129\129050.D
Sample : BA06361W17 2/800





129050.D DOC0129.M Thu Jan 30 09:42:07 2020

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200129\129051.D Vial: 51
Acq On : 1-30-20 5:36:32 Operator: BT
Sample : BA06362W12 2/800 Inst : Apollo
Misc : water Multiplr: 2.50
IntFile : events.e
Quant Time: Jan 30 9:38 2020 Quant Results File: DOC0129.RES

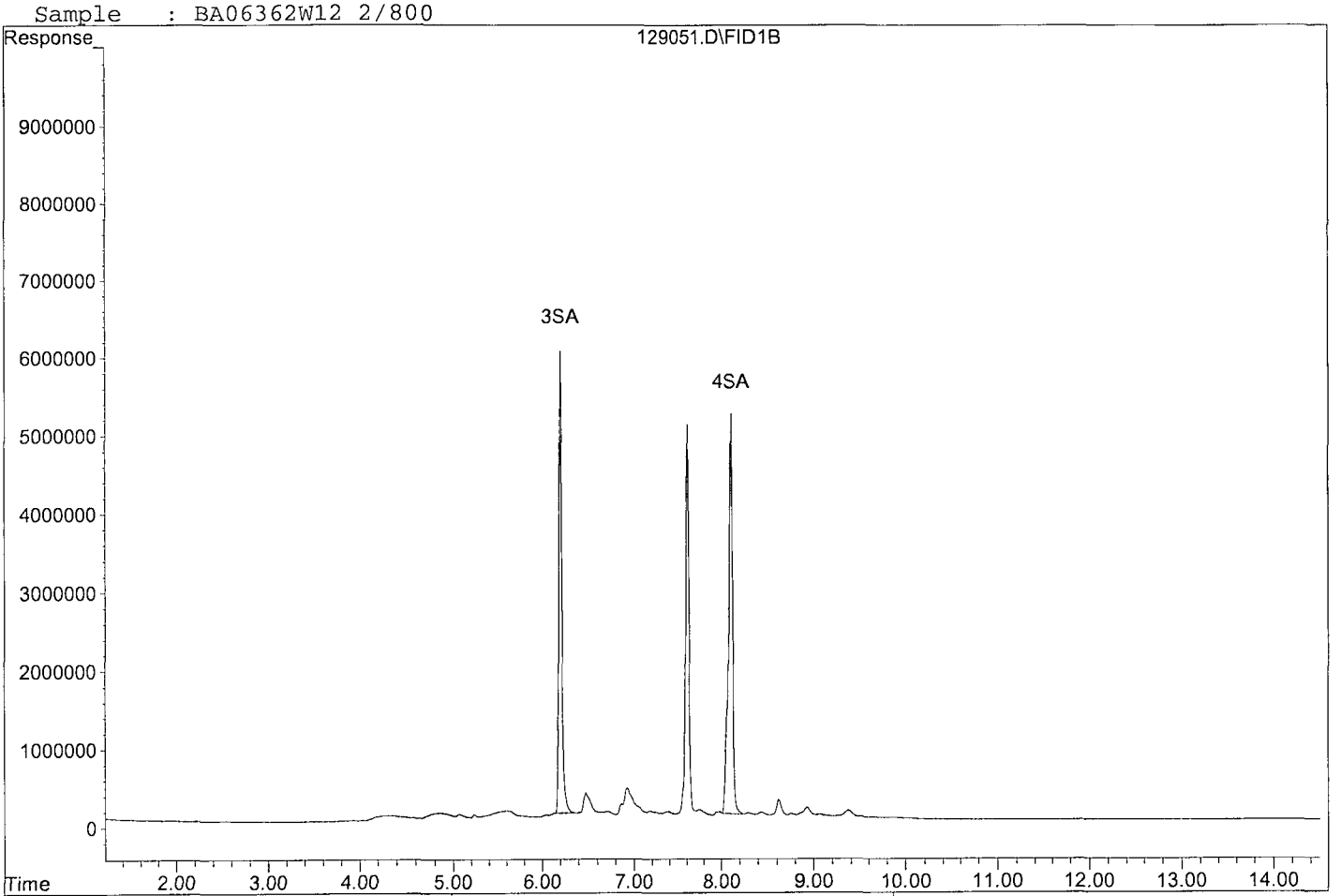
Method : G:\APOLLO\DATA\200129\DOC0129.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Jan 30 08:01:08 2020
Response via : Multiple Level Calibration

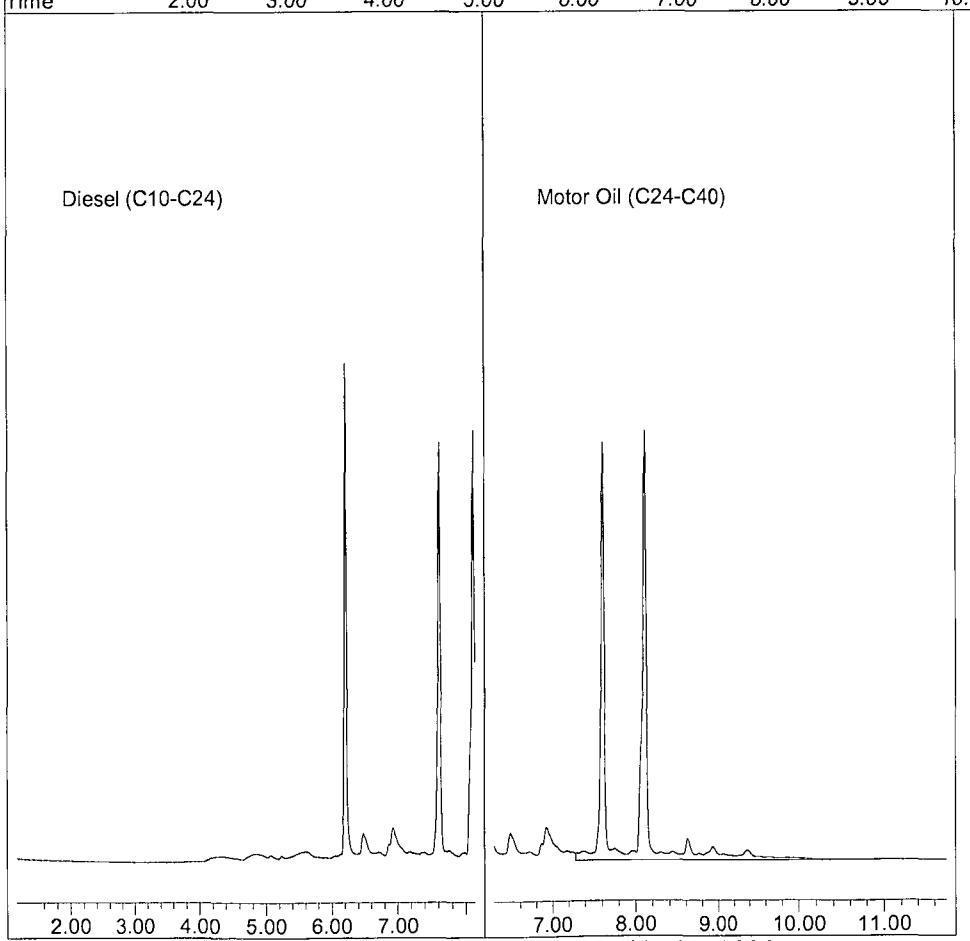
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
3) SA Ortho-Terphenyl(S)	6.21	129352682	73.206	ppb
Surrogate Spike 75.000		Recovery =	97.61%	
4) SA Octacosane(S)	8.11	158069105	95.488	ppb
Surrogate Spike 75.000		Recovery =	127.32%	
Target Compounds				
2) HBTM Motor Oil (C24-C40)	9.01	259957997	216.753	ppb
Target Compounds				
1) HATM Diesel (C10-C24)	0.00	0	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200129\129051.D
Sample : BA06362W12 2/800





129051.D DOC0129.M Thu Jan 30 09:41:42 2020

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200129\129039.D Vial: 39
Acq On : 1-30-20 1:42:47 Operator: BT
Sample : BA06362W12 2/800 SG Inst : Apollo
Misc : water Multiplr: 2.50
IntFile : events.e
Quant Time: Jan 30 9:36 2020 Quant Results File: DOC0129.RES

Method : G:\APOLLO\DATA\200129\DOC0129.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Jan 30 08:01:08 2020
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
3) SA Ortho-Terphenyl(S)	6.21	115113297	65.422	ppb
Surrogate Spike 75.000	Recovery =		87.23%	
4) SA Octacosane(S)	8.11	103469142	63.106	ppb
Surrogate Spike 75.000	Recovery =		84.14%	
Target Compounds				
2) HBTM Motor Oil (C24-C40)	9.01	79021987	74.429	ppb
Target Compounds				
1) HATM Diesel (C10-C24)	0.00	0	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200129\129039.D Vial: 39
Acq On : 1-30-20 1:42:47 Operator: BT
Sample : BA06362W12 2/800 SG Inst : Apollo
Misc : water Multiplr: 2.50
IntFile : events.e
Quant Time: Jan 30 9:44 2020 Quant Results File: DEC1120.RES

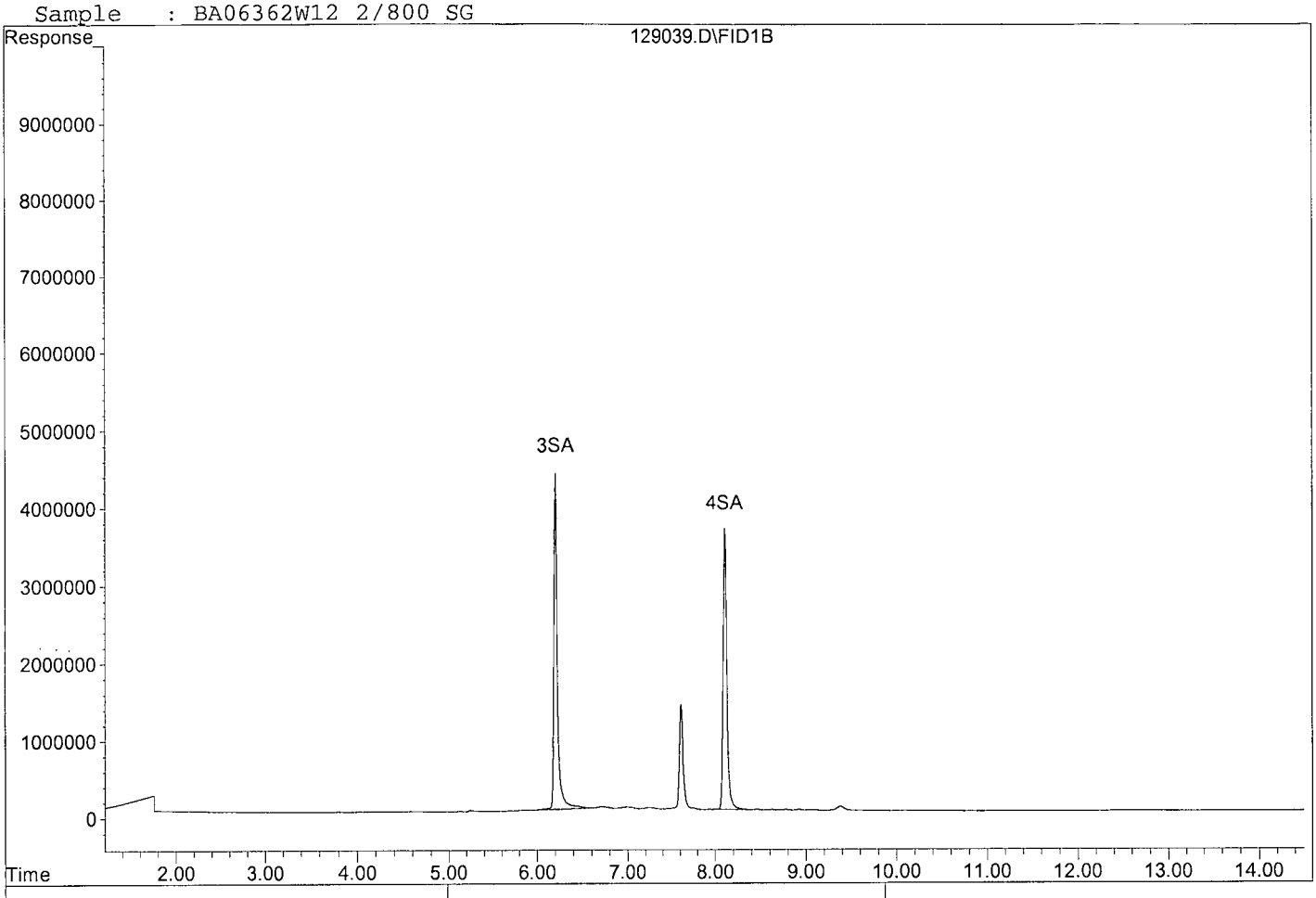
Method : G:\APOLLO\DATA\200129\DEC1120.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Jan 28 08:46:59 2020
Response via : Multiple Level Calibration

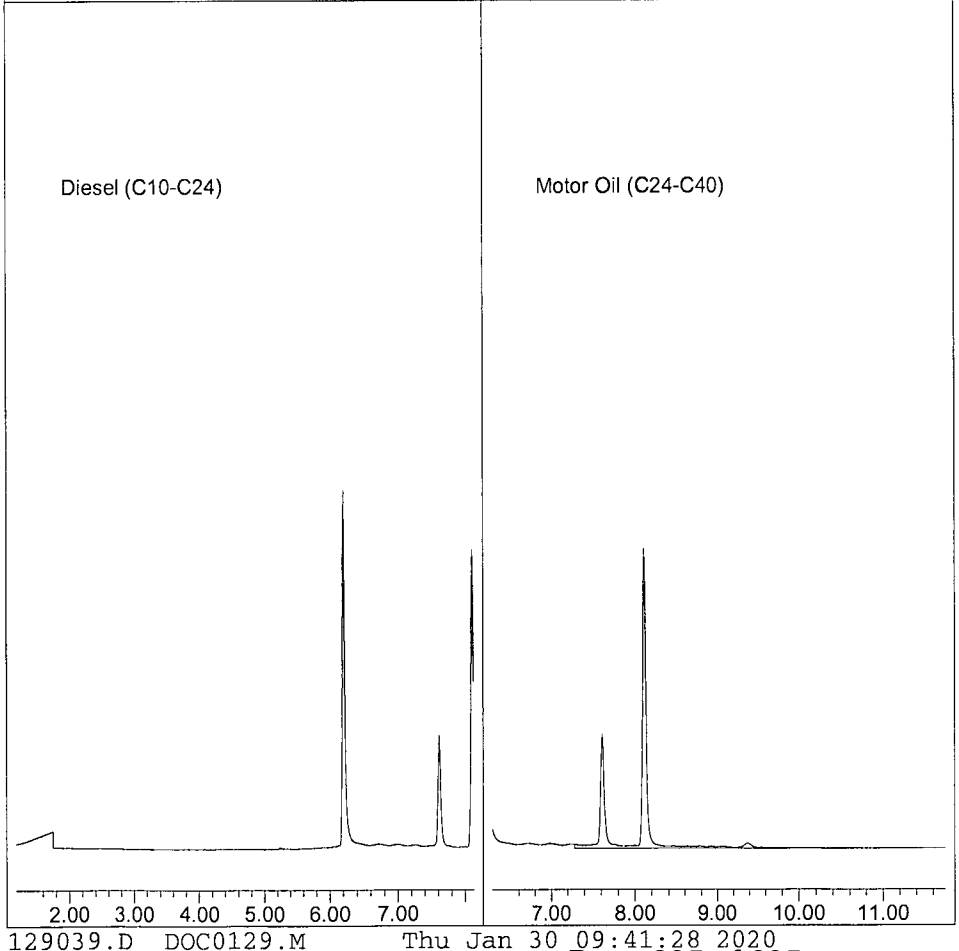
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
1) SC Decanoic Acid(S)	0.00	0	N.D.	ppb
Surrogate Spike 60.000	Recovery	=	0.00%	
Target Compounds				
Target Compounds				

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200129\129039.D
Sample : BA06362W12 2/800 SG





129039.D DOC0129.M Thu Jan 30 09:41:28 2020

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200129\129052.D Vial: 52
Acq On : 1-30-20 5:56:04 Operator: BT
Sample : BA06364W13 2/800 Inst : Apollo
Misc : water Multiplr: 2.50
IntFile : events.e
Quant Time: Jan 30 9:39 2020 Quant Results File: DOC0129.RES

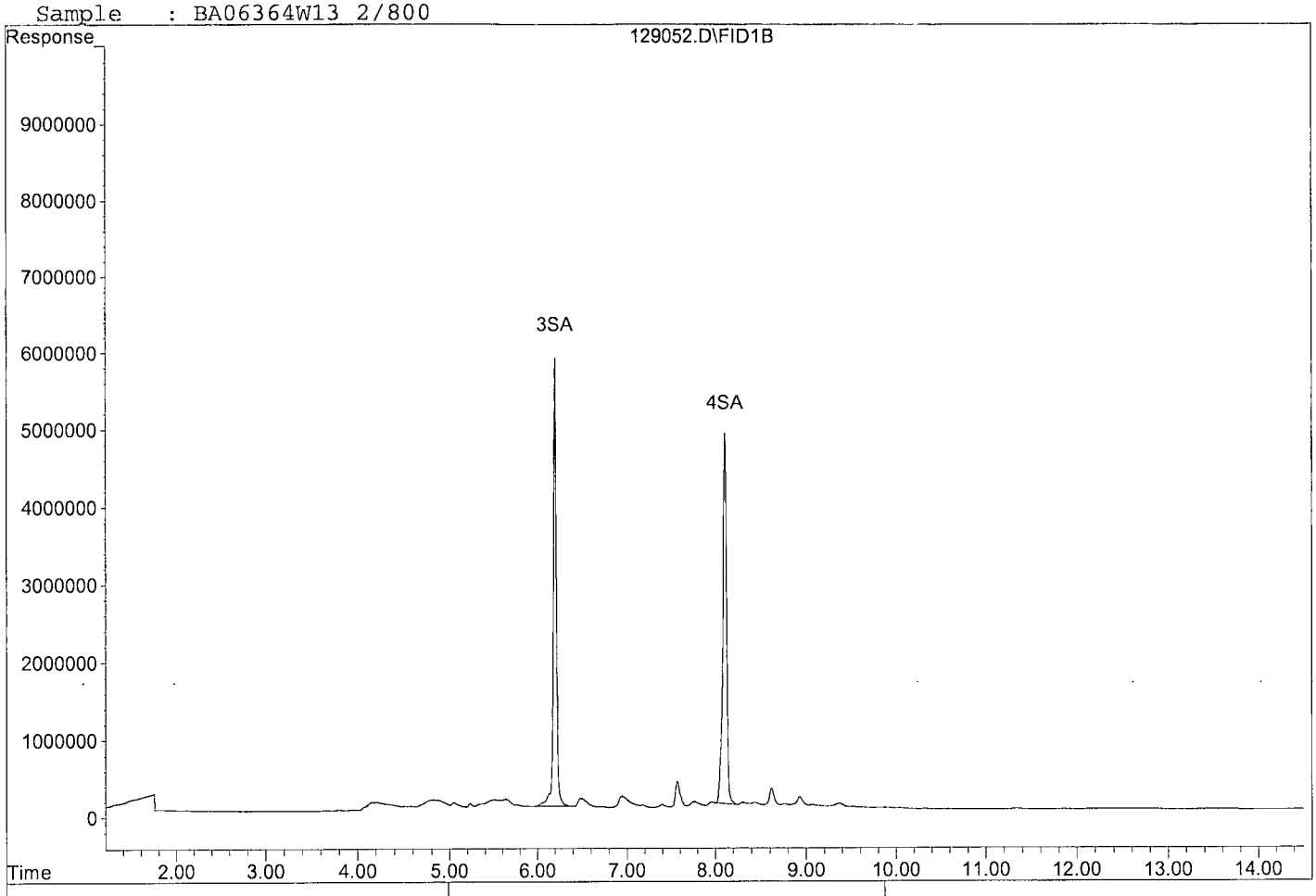
Method : G:\APOLLO\DATA\200129\DOC0129.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Jan 30 08:01:08 2020
Response via : Multiple Level Calibration

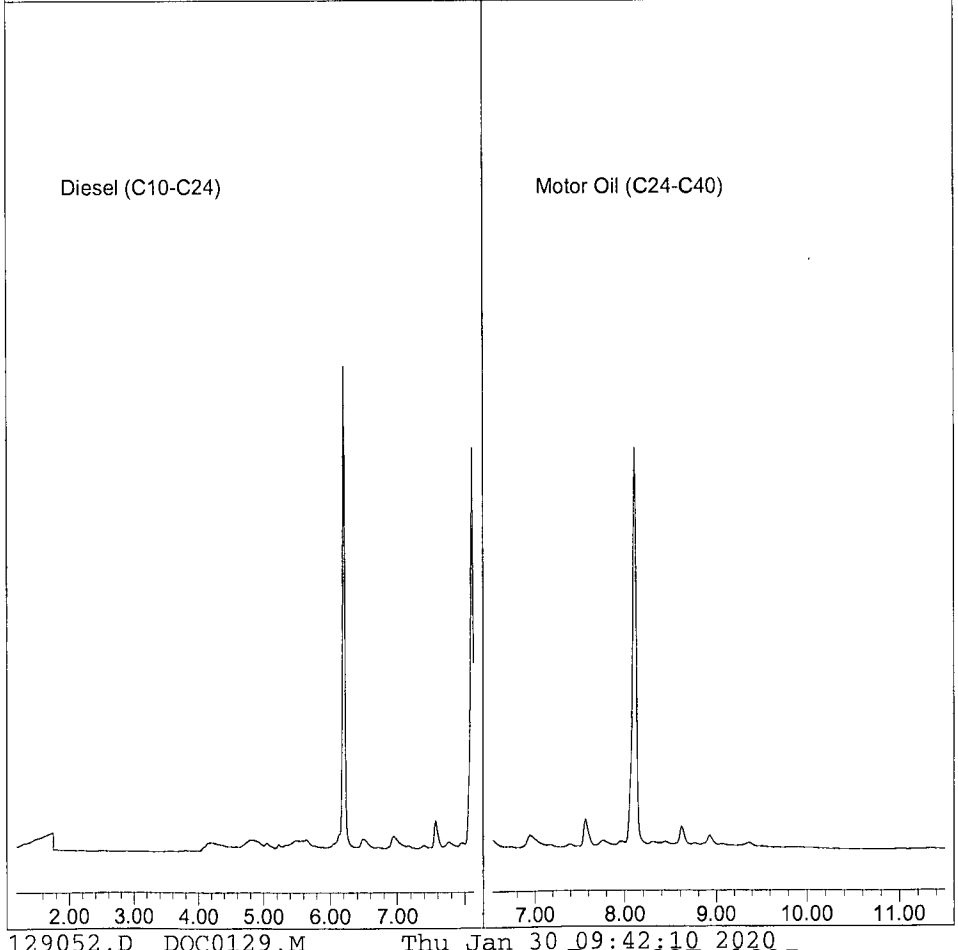
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
3) SA Ortho-Terphenyl(S)	6.20	136566117	77.150	ppb
Surrogate Spike 75.000		Recovery =	102.87%	
4) SA Octacosane(S)	8.11	138914082	84.127	ppb
Surrogate Spike 75.000		Recovery =	112.17%	
Target Compounds				
Target Compounds				
1) HATM Diesel (C10-C24)	0.00	0	N.D.	ppb
2) HBTM Motor Oil (C24-C40)	0.00	0	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200129\129052.D
Sample : BA06364W13 2/800





129052.D DOC0129.M Thu Jan 30 09:42:10 2020

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200129\129047.D Vial: 47
Acq On : 1-30-20 4:18:31 Operator: BT
Sample : 200126A BLK 2/800 Inst : Apollo
Misc : water Multiplr: 2.50
IntFile : events.e
Quant Time: Jan 30 9:37 2020 Quant Results File: DOC0129.RES

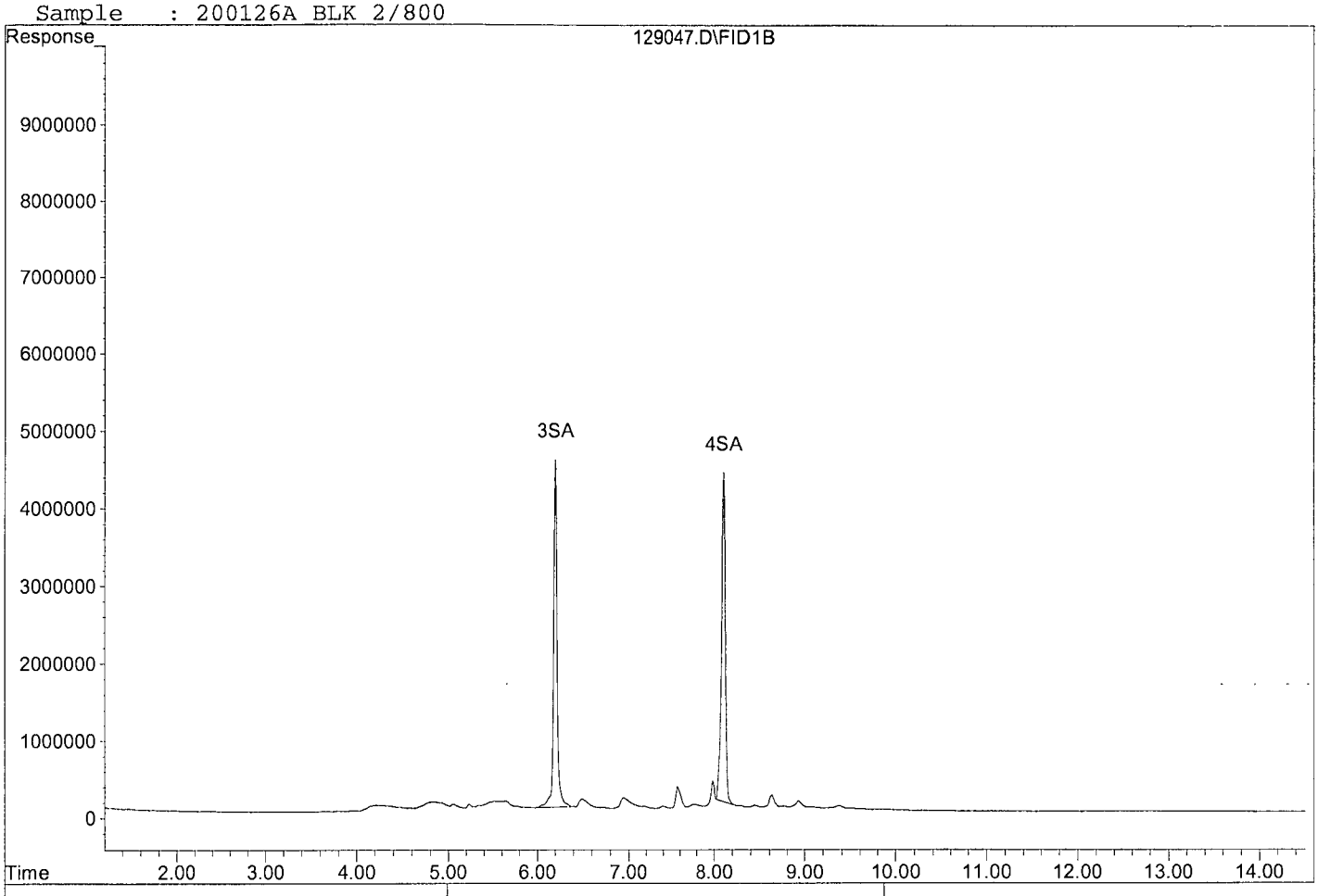
Method : G:\APOLLO\DATA\200129\DOC0129.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Jan 30 08:01:08 2020
Response via : Multiple Level Calibration

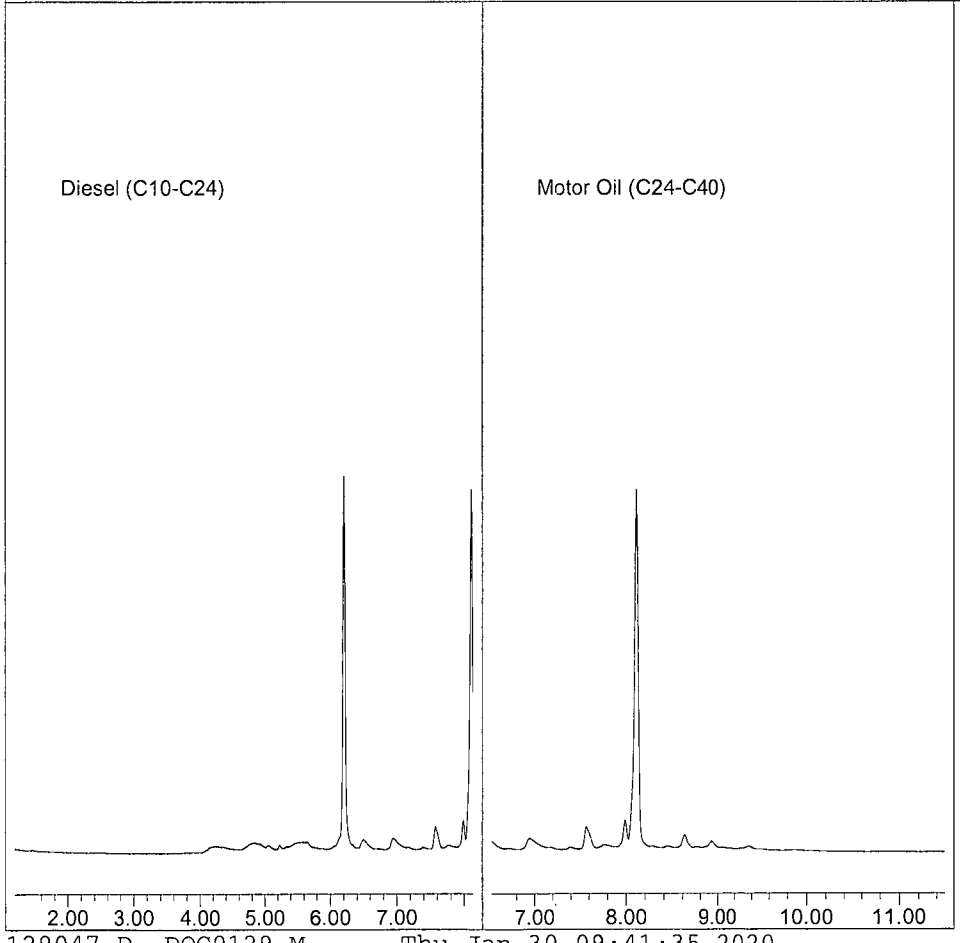
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
3) SA Ortho-Terphenyl(S)	6.20	120770975	68.515	ppb
Surrogate Spike 75.000		Recovery =	91.35%	
4) SA Octacosane(S)	8.11	121746675	73.946	ppb
Surrogate Spike 75.000		Recovery =	98.59%	
Target Compounds				
Target Compounds				
1) HATM Diesel (C10-C24)	0.00	0	N.D.	ppb
2) HBTM Motor Oil (C24-C40)	0.00	0	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200129\129047.D
Sample : 200126A BLK 2/800





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200129\129035.D Vial: 35
Acq On : 1-30-20 0:24:31 Operator: BT
Sample : 200126A BLK 2/800 SG Inst : Apollo
Misc : water Multiplr: 2.50
IntFile : events.e
Quant Time: Jan 30 9:35 2020 Quant Results File: DOC0129.RES

Method : G:\APOLLO\DATA\200129\DOC0129.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Jan 30 08:01:08 2020
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
3) SA Ortho-Terphenyl(S)	6.21	99331568	56.794	ppb
Surrogate Spike 75.000	Recovery =		75.73%	
4) SA Octacosane(S)	8.11	91867547	56.226	ppb
Surrogate Spike 75.000	Recovery =		74.97%	
Target Compounds				
Target Compounds				
1) HATM Diesel (C10-C24)	0.00	0	N.D.	ppb
2) HBTM Motor Oil (C24-C40)	0.00	0	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200129\129035.D Vial: 35
Acq On : 1-30-20 0:24:31 Operator: BT
Sample : 200126A BLK 2/800 SG Inst : Apollo
Misc : water Multiplr: 2.50
IntFile : events.e
Quant Time: Jan 30 9:45 2020 Quant Results File: DEC1120.RES

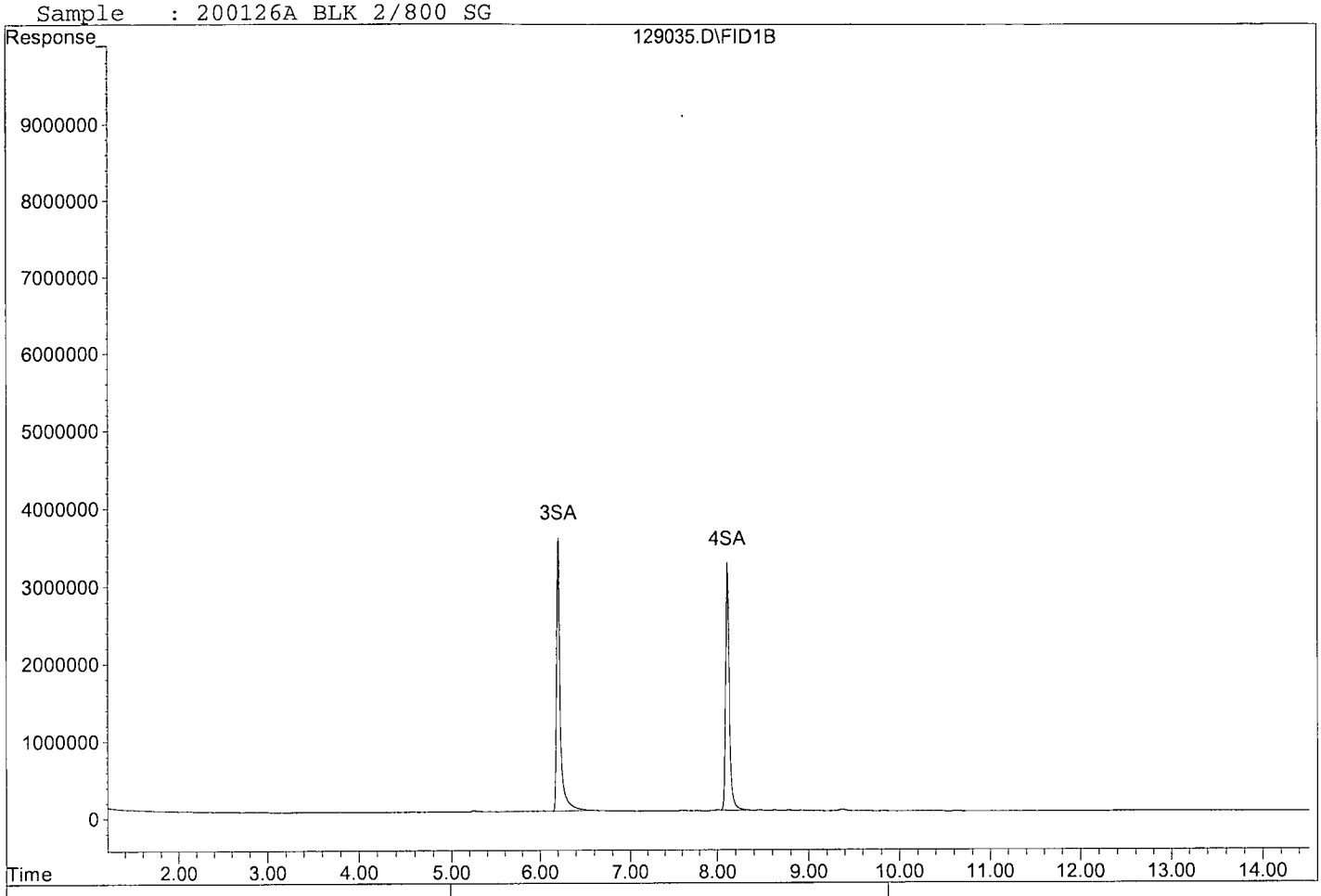
Method : G:\APOLLO\DATA\200129\DEC1120.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Jan 28 08:46:59 2020
Response via : Multiple Level Calibration

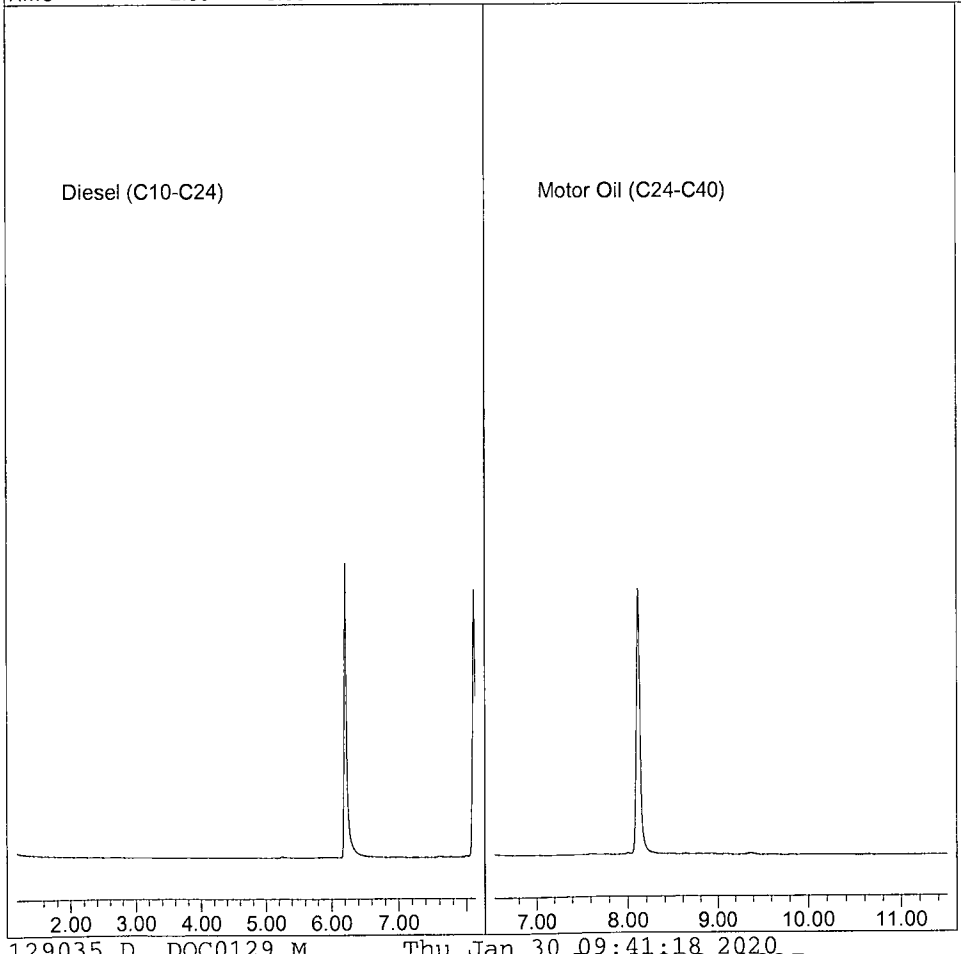
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc	Units	
System Monitoring Compounds					
1) SC Decanoic Acid(S)	0.00	0	N.D.	ppb	d
Surrogate Spike 60.000	Recovery	=	0.00%		
Target Compounds					
Target Compounds					

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200129\129035.D
Sample : 200126A BLK 2/800 SG





129035.D DOC0129.M Thu Jan 30 09:41:18 2020

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200129\129048.D Vial: 48
Acq On : 1-30-20 4:37:58 Operator: BT
Sample : 200126A LCS-1 2/800 Inst : Apollo
Misc : water Multiplr: 2.50
IntFile : events.e
Quant Time: Jan 30 9:35 2020 Quant Results File: DOC0129.RES

Method : G:\APOLLO\DATA\200129\DOC0129.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Jan 30 08:01:08 2020
Response via : Multiple Level Calibration

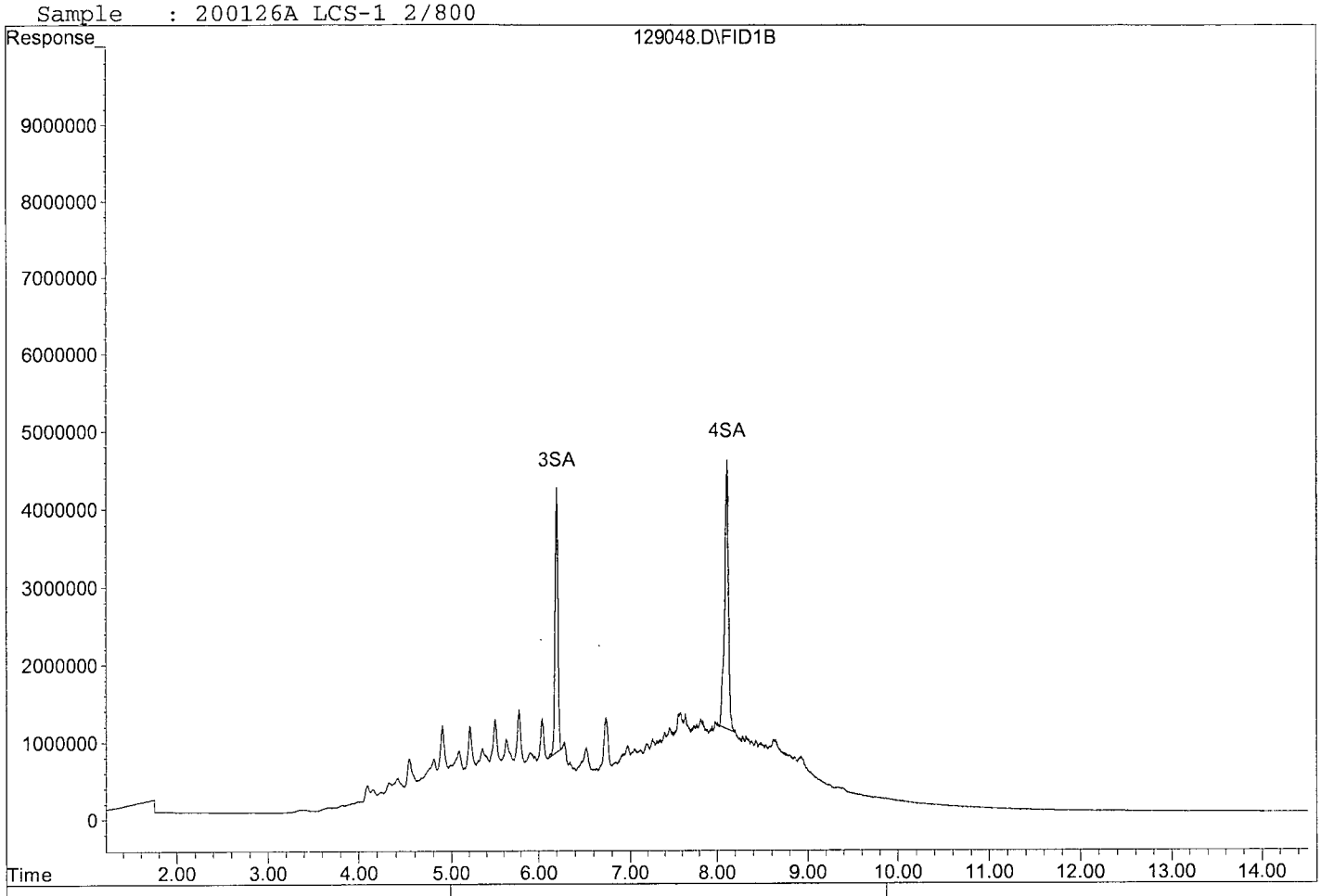
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

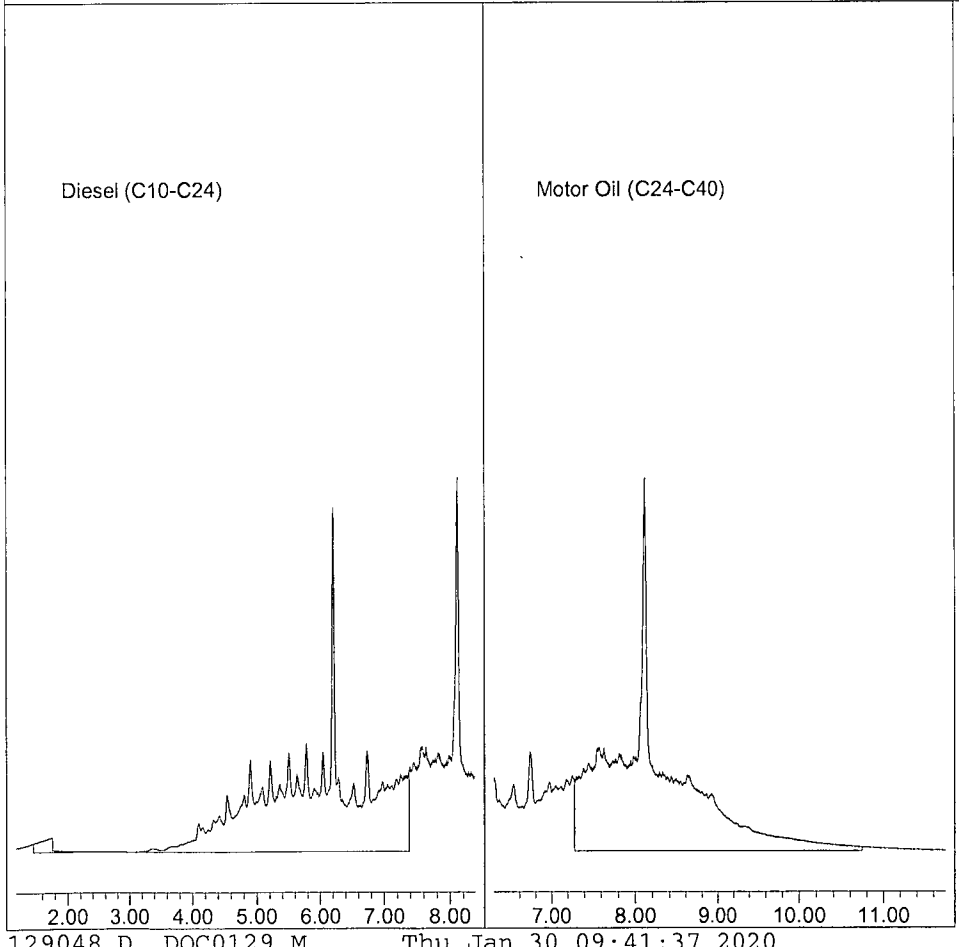
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SA Ortho-Terphenyl(S)	6.20	77074359	44.626 ppb
Surrogate Spike 75.000	Recovery =		59.50%
4) SA Octacosane(S)	8.11	102834558	62.730 ppb
Surrogate Spike 75.000	Recovery =		83.64%
Target Compounds			
1) HATM Diesel (C10-C24)	4.42	1406909939	872.983 ppb
2) HBTM Motor Oil (C24-C40)	9.01	1156243444	921.769 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200129\129048.D
Sample : 200126A LCS-1 2/800





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200129\129036.D Vial: 36
Acq On : 1-30-20 0:43:59 Operator: BT
Sample : 200126A LCS-1 2/800 SG Inst : Apollo
Misc : water Multiplr: 2.50
IntFile : events.e
Quant Time: Jan 30 9:35 2020 Quant Results File: DOC0129.RES

Method : G:\APOLLO\DATA\200129\DOC0129.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Jan 30 08:01:08 2020
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
3) SA Ortho-Terphenyl(S)	6.21	73996363	42.943	ppb
Surrogate Spike 75.000	Recovery =		57.26%	
4) SA Octacosane(S)	8.11	83045703	50.994	ppb
Surrogate Spike 75.000	Recovery =		67.99%	
Target Compounds				
1) HATM Diesel (C10-C24)	4.42	1148681224	713.343	ppb
2) HBTM Motor Oil (C24-C40)	9.01	1072851840	856.174	ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200129\129036.D Vial: 36
Acq On : 1-30-20 0:43:59 Operator: BT
Sample : 200126A LCS-1 2/800 SG Inst : Apollo
Misc : water Multiplr: 2.50
IntFile : events.e
Quant Time: Jan 30 9:45 2020 Quant Results File: DEC1120.RES

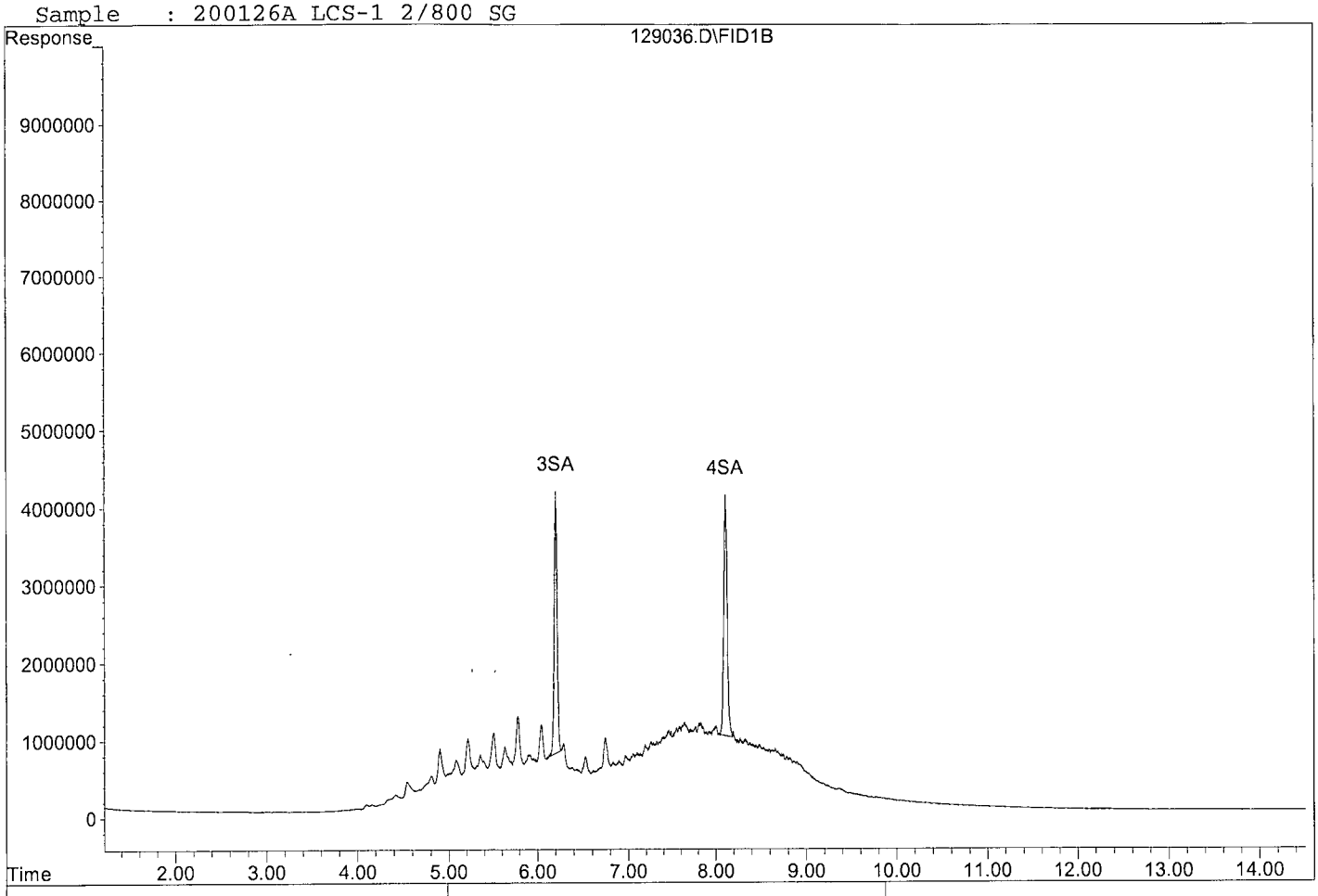
Method : G:\APOLLO\DATA\200129\DEC1120.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Jan 28 08:46:59 2020
Response via : Multiple Level Calibration

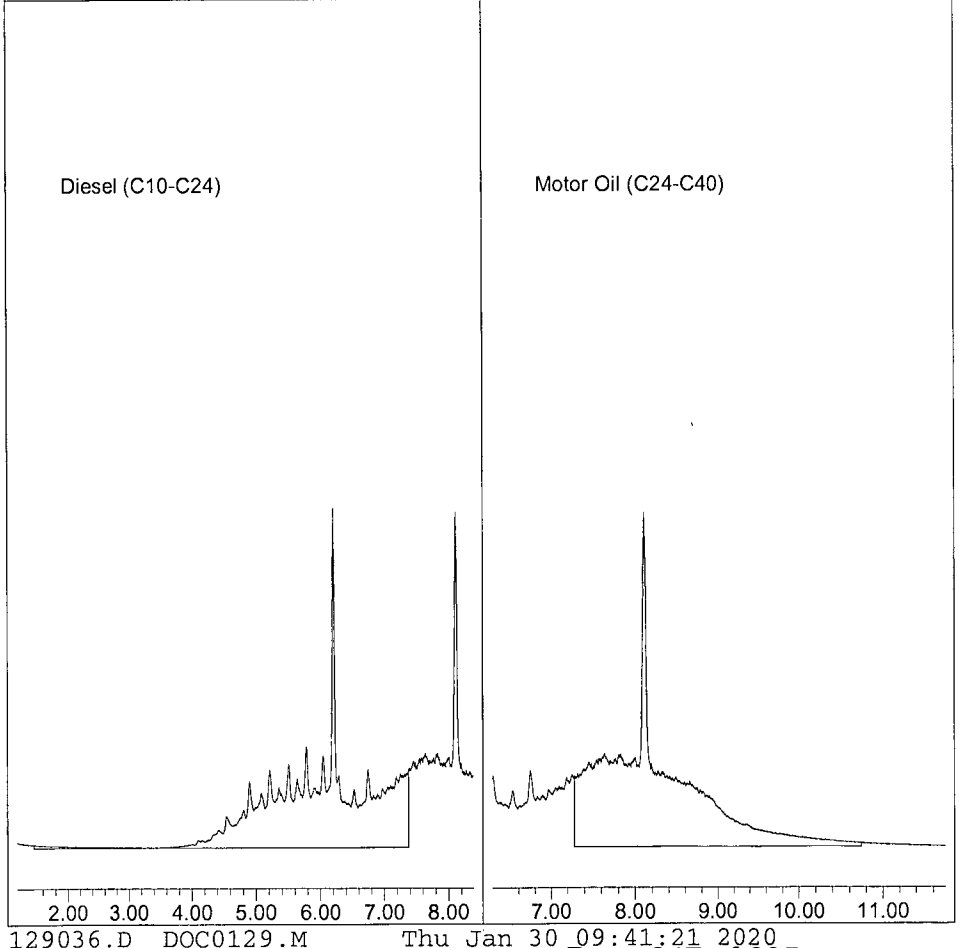
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc	Units	
System Monitoring Compounds					
1) SC Decanoic Acid(S)	0.00	0	N.D.	ppb	d
Surrogate Spike 60.000	Recovery	=	0.00%		
Target Compounds					
Target Compounds					

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200129\129036.D
Sample : 200126A LCS-1 2/800 SG





129036.D DOC0129.M Thu Jan 30 09:41:21 2020

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200129\129049.D Vial: 49
Acq On : 1-30-20 4:57:32 Operator: BT
Sample : 200126A LCSD-1 2/800 Inst : Apollo
Misc : water Multiplr: 2.50
IntFile : events.e
Quant Time: Jan 30 9:35 2020 Quant Results File: DOC0129.RES

Method : G:\APOLLO\DATA\200129\DOC0129.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Jan 30 08:01:08 2020
Response via : Multiple Level Calibration

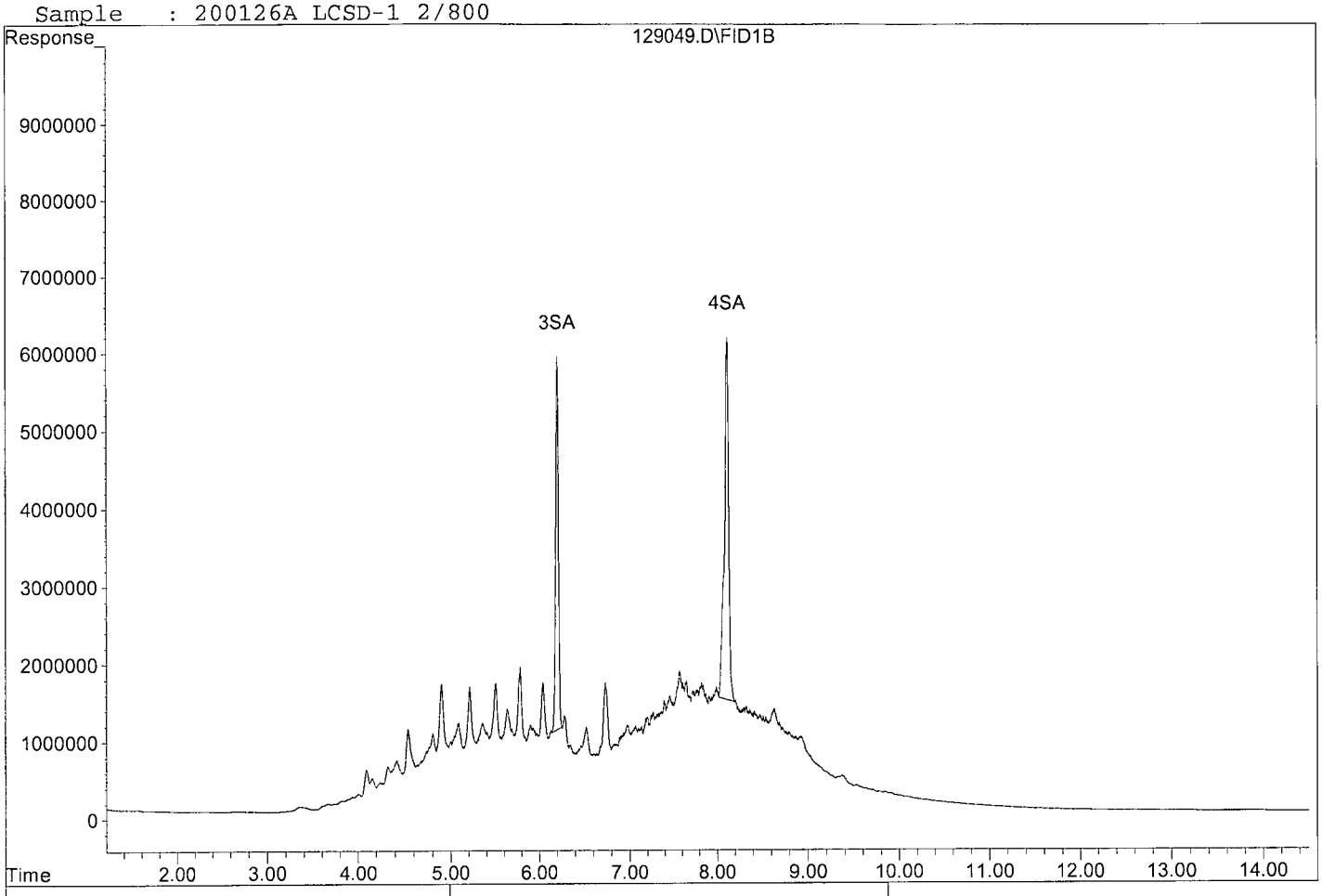
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

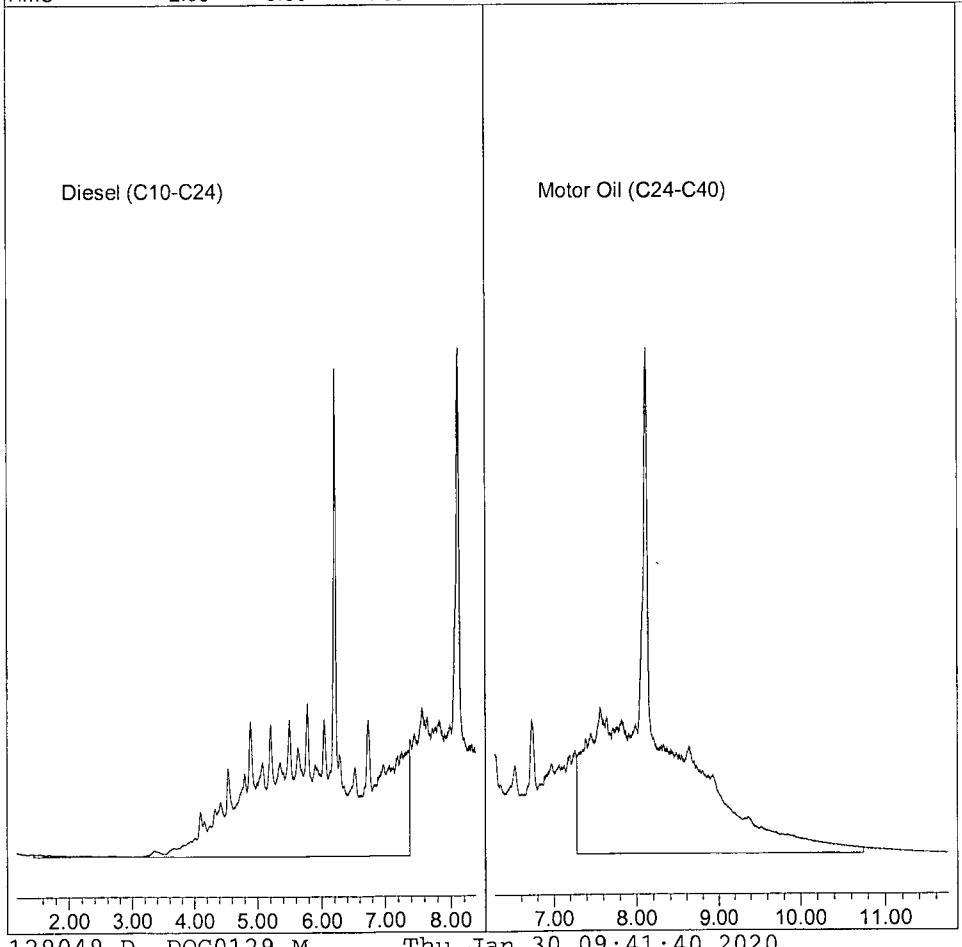
Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
3) SA Ortho-Terphenyl(S)	6.21	104605000	59.677	ppb
Surrogate Spike 75.000	Recovery =		79.57%	
4) SA Octacosane(S)	8.11	154478214	93.358	ppb
Surrogate Spike 75.000	Recovery =		124.48%	
Target Compounds				
1) HATM Diesel (C10-C24)	4.42	1938575384	1201.664	ppb
2) HBTM Motor Oil (C24-C40)	9.01	1598985735	1270.030	ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200129\129049.D
Sample : 200126A LCSD-1 2/800





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200129\129037.D Vial: 37
Acq On : 1-30-20 1:03:39 Operator: BT
Sample : 200126A LCSD-1 2/800 SG Inst : Apollo
Misc : water Multiplr: 2.50
IntFile : events.e
Quant Time: Jan 30 9:35 2020 Quant Results File: DOC0129.RES

Method : G:\APOLLO\DATA\200129\DOC0129.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Jan 30 08:01:08 2020
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SA Ortho-Terphenyl(S)	6.21	89376558	51.352 ppb
Surrogate Spike 75.000		Recovery =	68.47%
4) SA Octacosane(S)	8.11	102600685	62.591 ppb
Surrogate Spike 75.000		Recovery =	83.45%
Target Compounds			
1) HATM Diesel (C10-C24)	4.42	1457075235	903.995 ppb
2) HBTM Motor Oil (C24-C40)	9.01	1298316825	1033.524 ppb
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\200129\129037.D Vial: 37
Acq On : 1-30-20 1:03:39 Operator: BT
Sample : 200126A LCSD-1 2/800 SG Inst : Apollo
Misc : water Multiplr: 2.50
IntFile : events.e
Quant Time: Jan 30 9:45 2020 Quant Results File: DEC1120.RES

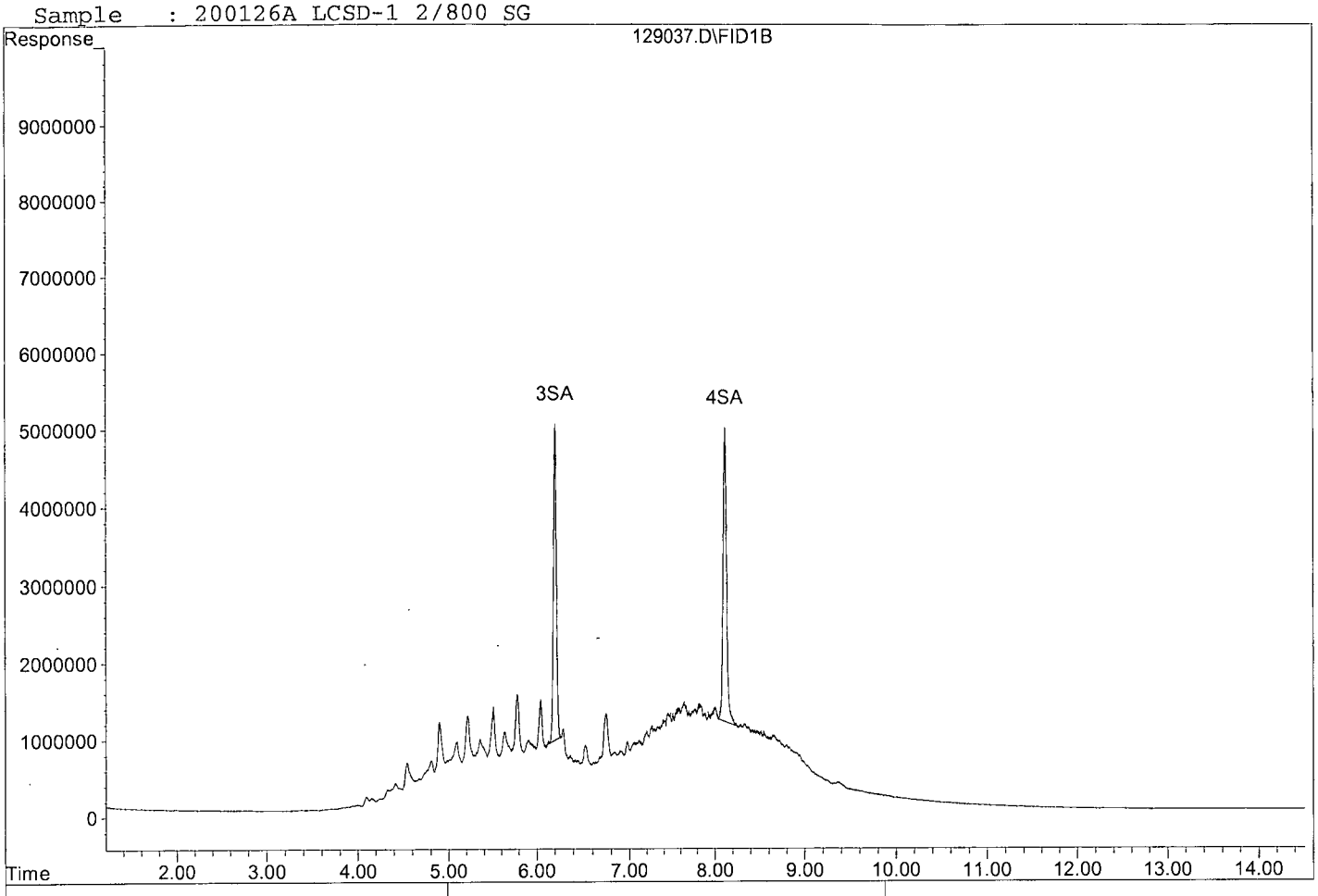
Method : G:\APOLLO\DATA\200129\DEC1120.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Jan 28 08:46:59 2020
Response via : Multiple Level Calibration

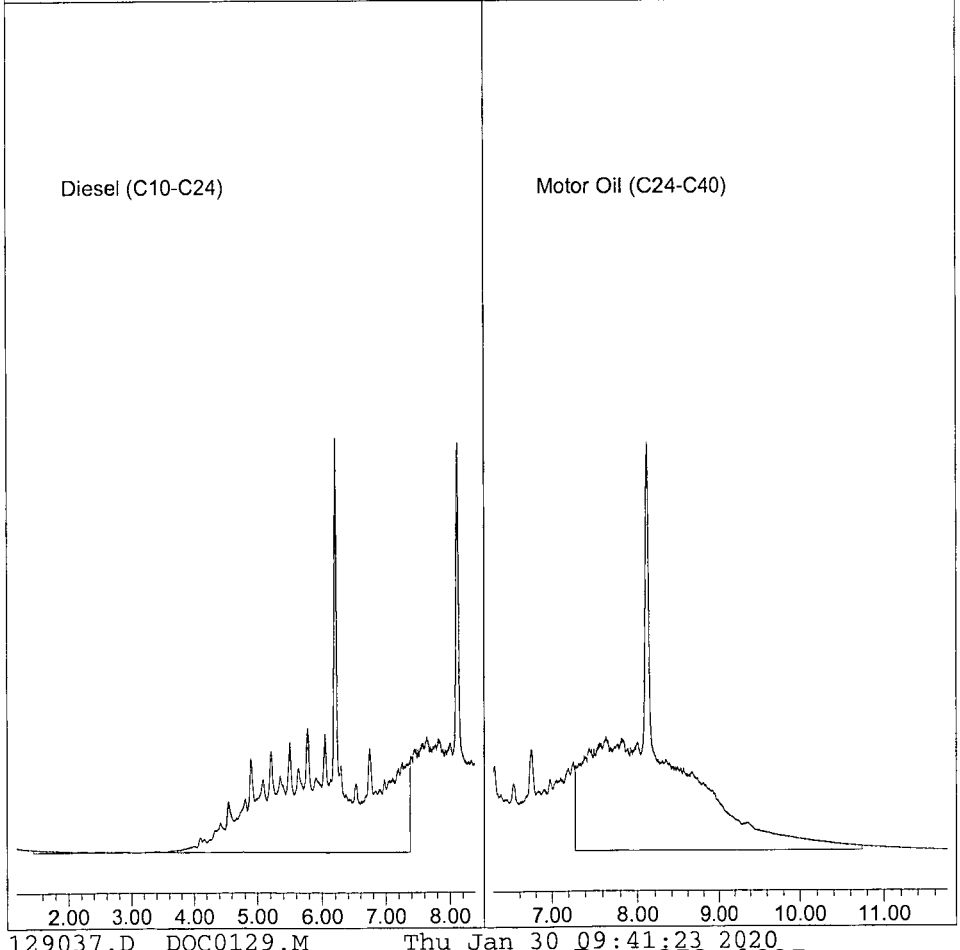
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc	Units	
System Monitoring Compounds					
1) SC Decanoic Acid(S)	0.00	0	N.D.	ppb	d
Surrogate Spike 60.000	Recovery	=	0.00%		
Target Compounds					
Target Compounds					

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\200129\129037.D
Sample : 200126A LCSD-1 2/800 SG





129037.D DOC0129.M Thu Jan 30 09:41:23 2020

THC Surrogate

Prepared: 01/06/20

Expires: 01/06/21

Prepared By (Initials): BT

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	Supplier Part No.	Conc. (ug/mL)	Lot Number - QA Number	Exp. Date (1 yr.)	Exp. Date (Manufacturer)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/mL)
O-terphenyl / Octacosane Mix	Phenova	ALO-130161	600	CL13256-49649	01/06/21	02/28/24	N/A	N/A	N/A	600

Diesel Motor Oil Mix

Prepared: 01/15/20 **Prepared By (Initials): SS**

Expires: 01/15/21

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	Supplier Part No.	Conc. (ug/mL)	Lot Number - QA Number	Exp. Date (1 yr.)	Exp. Date (Manufacturer)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/mL)
Diesel Fuel #2	Restek	31258	50,000	**A0149169-49607**	**01/15/21**	**06/30/26**	2.4 mL	4.8 mL	NA	25,000
Motor Oil Composite	Restek	31464	50,000	**A0153577-49614**	**01/15/21**	**11/30/26**	2.4 mL			25,000

Diesel / Motor Oil Calibration Curve

Prepared: 01/29/20

Expires: 06/23/20

Prepared By (Initials): SS

Methylene Chloride Lot No. 58059

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	APPL Mix Name	Conc. (ug/mL)	Reference to APPL Prep Date	Exp. Date	Exp. Date (Manufacturer)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/mL)
Diesel / Motor Oil Calibration STD	APPL	*Diesel / Motor Oil - 1*	2,000	Prepared 01/29/20	06/23/20	N/A	5uL	1mL	MC	10
Diesel / Motor Oil Calibration STD	APPL	Diesel / Motor Oil -2	2,000	Prepared 01/29/20	06/23/20	N/A	25uL	1mL	MC	50
Diesel / Motor Oil Calibration STD	APPL	Diesel / Motor Oil - 3	2,000	Prepared 01/29/20	06/23/20	N/A	125uL	1mL	MC	250
Diesel / Motor Oil Calibration STD	APPL	Diesel / Motor Oil - 4	2,000	Prepared 01/29/20	06/23/20	N/A	500uL	1mL	MC	1000
Diesel / Motor Oil Calibration STD	APPL	Diesel / Motor Oil - 5	2,000	Prepared 01/29/20	06/23/20	N/A	750uL	1mL	MC	1500
Diesel / Motor Oil Calibration STD	APPL	Diesel / Motor Oil - 6	2,000	Prepared 01/29/20	06/23/20	N/A	100uL	100uL	N/A	2,000

Decanoic Acid Spike

Prepared: 12/11/19

Expires: 12/10/20

Prepared By (Initials): BT

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	Supplier Part No.	Conc. (ug/mL)	Lot Number - QA Number	Exp. Date (1 yr.)	Exp. Date (Manufacturer)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/mL)
Decanoic Acid Spike	O2SI	011729-01-05-5PAK	1,000	371298-40661	12/11/20	03/31/21	N/A	N/A	N/A	1,000

Organic Extraction Worksheet

Method	Continuous Liq/Liq TPH-Diesel/MO 3520C	Extraction Set	200126A	Extraction Method	LIQ005	Units	mL

Spiked ID 1	Diesel Motor Oil Mix 1-15-20 1-15-21		Surrogate ID 1	THC Surrogate 1-6-20-1-6-21	
Spiked ID 2	Decanoic Acid SOLUTION 12-11-19 12-11-20		Surrogate ID 2		
Spiked ID 3			Surrogate ID 3		
Spiked ID 4			Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	NO	
Spiked ID 7			Ext. Start Time:	01/26/20 8:20	
Spiked ID 8			Ext. End Time:	01/27/20 6:00	
			GC Requires Extract By:		

pH1	2	01/26/20 7:30	Water Bath Temp 1 °C	37/36.5 °C
pH2			Water Bath Temp 2 °C	35/38.5
pH3			Water Bath Temp 3 °C	3635.4 °C

Spiked By: DL **Date** 01/26/20 **Witnessed By:** KY **Date** 01/26/20

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	200126A Blk		0.050	2	0.100	1	800	2	2	01/26/20 7:35	*
						equip	E-HP51 E-WB1				
2	200126A LCS-1		0.040,0.05	1,2	0.100	1	800	2	2	01/26/20 7:35	*
						equip	E-HP50 E-WB2				
3	200126A LCSD-1		0.040,0.050	1,2	0.100	1	800	2	2	01/26/20 7:35	*
						equip	E-HP49 E-WB3				
4	BA06361	BA06361W17	0.050	2	0.100	1	800	2	2	01/26/20 7:35	91299 *
						equip	E-HP48 E-WB1				
5	BA06362	BA06362W12	0.050	2	0.100	1	800	2	2	01/26/20 7:35	91299 *
						equip	E-HP47 E-WB2				
6	BA06364	BA06364W13	0.050	2	0.100	1	800	2	2	01/26/20 7:35	91299 *
						equip	E-HP25 E-WB3				

Solvent and Lot#	
1+1 HCL	6-15-19
PH Strips	hc 863463
Dicholormethane (DCM)	59239
Filter Paper	400171
B. Sodium Sulfate	2019020631
Silica Gel (*)	050627t

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	SS
Date	1/28/2020
Time	8:40
Refrigerator	HOBART

	Technician's Initials
Scanned By	DL
Sample Preparation	DL
Extraction	DL
Concentration	DL,DS

Modified	01/28/20 12:38:48 PM

Reviewed By: KY **Date** 01/28/20

Injection Log

Directory: G:\APOLLO\DATA\200129\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	78	1115178.D	1	Decanoic Acid - 1 11/20/19	water	11-20-19 10:33:58
2	79	1115179.D	1	Decanoic Acid - 2 11/20/19	water	11-20-19 10:53:46
3	80	1115180.D	1	Decanoic Acid - 3 11/20/19	water	11-20-19 11:13:35
4	81	1115181.D	1	Decanoic Acid - 4 11/20/19	water	11-20-19 11:33:26
5	82	1115182.D	1	Decanoic Acid - 5 11/20/19	water	11-20-19 11:52:35
6	83	1115183.D	1	Decanoic Acid - 6 11/20/19	water	11-20-19 12:12:26
7	3	129003.D	1	Diesel Motor Oil - 1 1/29/20	water	1-29-20 13:59:43
8	4	129004.D	1	Diesel Motor Oil - 2 1/29/20	water	1-29-20 14:19:23
9	5	129005.D	1	Diesel Motor Oil - 3 1/29/20	water	1-29-20 14:39:02
10	6	129006.D	1	Diesel Motor Oil - 4 1/29/20	water	1-29-20 14:58:42
11	7	129007.D	1	Diesel Motor Oil - 5 1/29/20	water	1-29-20 15:18:28
12	8	129008.D	1	Diesel Motor Oil - 6 1/29/20	water	1-29-20 15:38:14
13	9	129009.D	1	Diesel Motor Oil - SS 12/23/19	water	1-29-20 15:57:56
14	29	129029.D	1	Diesel Motor Oil - CCV 12/23/19	water	1-29-20 22:27:03
15	30	129030.D	1	Decanoic Acid CCV 1/27/20	water	1-29-20 22:46:43
16	35	129035.D	2.5	200126A BLK 2/800 SG	water	1-30-20 0:24:31
17	36	129036.D	2.5	200126A LCS-1 2/800 SG	water	1-30-20 0:43:59
18	37	129037.D	2.5	200126A LCSD-1 2/800 SG	water	1-30-20 1:03:39
19	39	129039.D	2.5	BA06362W12 2/800 SG	water	1-30-20 1:42:47
20	41	129041.D	1	Diesel Motor Oil - CCV 12/23/19	water	1-30-20 2:21:17
21	42	129042.D	1	Decanoic Acid CCV 1/27/20	water	1-30-20 2:40:50
22	47	129047.D	2.5	200126A BLK 2/800	water	1-30-20 4:18:31
23	48	129048.D	2.5	200126A LCS-1 2/800	water	1-30-20 4:37:58
24	49	129049.D	2.5	200126A LCSD-1 2/800	water	1-30-20 4:57:32
25	50	129050.D	2.5	BA06361W17 2/800	water	1-30-20 5:17:01
26	51	129051.D	2.5	BA06362W12 2/800	water	1-30-20 5:36:32
27	52	129052.D	2.5	BA06364W13 2/800	water	1-30-20 5:56:04
28	56	129056.D	1	Diesel Motor Oil - CCV 12/23/19	water	1-30-20 7:13:33

ORGANICS
Calibration Data

PAH by GCMS SIM
EPA 8270 SIM

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Initial Cal. Date: 01/13/20
Matrix: Instrument: Linus
Initials:

		Compound	0113L004.D 0.1	0113L005.D 0.2	0113L006.D 0.5	0113L007.D 2.5	0113L003.D 5	0113L008.D 25	0113L009.D 50				Avg	%RSD	Type	r^2	Q	MRF
1	I	Napthalene-D8(IS)																
2	S	Surrogate Recovery (NBZ)	0.3575	0.3153	0.2912	0.2963	0.2934	0.2750	0.3083				0.31	8.6	S			
3	TM	Naphthalene	1.149	1.117	1.067	1.075	1.035	1.025	0.9925				1.1	5.1	TM			0.700
4	S	2-methylnaphthalene-D10 (2M	1.266	1.244	1.195	1.252	1.200	1.246	1.163				1.2	3.1	S			
5	TM	2-Methylnaphthalene	0.6232	0.6106	0.5931	0.6047	0.5645	0.5839	0.5313				0.59	5.3	TM			0.400
6	TM	1-Methylnaphthalene	0.6633	0.6479	0.6224	0.6211	0.5920	0.6144	0.5537				0.62	5.8	TM			
7	I	Acenaphthene-D10(IS)																
8	S	Surrogate Recovery (FBP)	1.759	1.682	1.668	1.706	1.688	1.628	1.577				1.7	3.4	S			
9	TM	Acenaphthylene	4.638	4.590	4.448	4.525	4.479	4.276	3.884				4.4	5.8	TM			0.900
10	*TM	Acenaphthene	1.435	1.362	1.280	1.275	1.258	1.274	1.190				1.3	6.1	*TM			0.900
11	TM	Fluorene	1.661	1.650	1.607	1.640	1.651	1.590	1.551				1.6	2.5	TM			0.900
12	TML	Pentachlorophenol	0.3168	0.1274	0.1289	0.2039	0.2721	0.3681	0.3838				0.26	41	TML	0.999		0.050
13	I	Phenanthrene-D10(IS)																
14	TM	Phenanthrene	1.317	1.177	1.164	1.143	1.108	1.064	0.9831				1.1	9.1	TM			0.700
15	TM	Anthracene	1.184	1.122	1.065	1.062	1.058	1.006	0.9403				1.1	7.3	TM			0.700
16	S	Fluoranthene-D10 (FRT)	1.599	1.505	1.469	1.502	1.477	1.392	1.348				1.5	5.5	S			
17	*TM	Fluoranthene	1.913	1.675	1.638	1.596	1.575	1.430					1.6	9.7	*TM			0.600
18	I	Chrysene-D12(IS)																
19	TM	Pyrene	1.474	1.280	1.244	1.217	1.245	1.203	1.182				1.3	7.8	TM			0.600
20	S	Surrogate Recovery (TPH)	1.398	1.089	1.024	0.9991	0.9994	0.9558	0.9090				1.1	15	S			
21	TM	Benz (a) anthracene	1.657	1.271	1.239	1.189	1.249	1.227	1.163				1.3	13	TM			0.800
22	TM	Chrysene	1.607	1.254	1.199	1.154	1.165	1.140	1.134				1.2	14	TM			0.700
23	TM	Indeno (1,2,3-cd) pyrene	1.891	1.546	1.448	1.421	1.408	1.494	1.504				1.5	11	TM			0.500
24	I	Perylene-D12(IS)																
25	TM	Benzo (b) fluoranthene	1.449	1.186	1.047	1.150	1.168	1.100	1.068				1.2	12	TM			0.700
26	TML	Benzo (k) fluoranthene	1.580	1.171	1.177	1.050	1.072	1.075	1.055				1.2	16	TML	1.000		0.700
27	*TM	Benzo (a) pyrene	1.354	1.078	1.012	1.013	1.049	1.020	0.9854				1.1	12	*TM			0.700
28	TM	Dibenz (a,h) anthracene	1.416	1.091	1.063	1.042	1.024	1.054	1.059				1.1	12	TM			0.400
29	TM	Benzo (g,h,i) perylene	1.371	1.086	1.044	1.027	1.026	1.048	1.053				1.1	11	TM			0.500
30																		
31																		
32																		
33																		
34																		
35																		

Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L200113P\0113L003.D Vial: 88
Acq On : 13 Jan 20 14:59 Operator: MA
Sample : 5.0 SIM PCP 09/10/19 (0) Inst : Linus
Misc : Multiplr: 1.00

Quant Time: Jan 14 9:41 2020 Quant Results File: L0113PCP.RES

Quant Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 09:17:12 2020
Response via : Initial Calibration
DataAcq Meth : SIM_2

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Napthalene-D8(IS)	4.20	136	142465	2.50000 ppb		0.00
7) Acenaphthene-D10(IS)	6.19	164	70312	2.50000 ppb		0.00
13) Phenanthrene-D10(IS)	7.92	188	147923	2.50000 ppb		0.00
18) Chrysene-D12(IS)	11.04	240	193025	2.50000 ppb		0.00
24) Perylene-D12(IS)	13.47	264	226184	2.50000 ppb		0.00
System Monitoring Compounds						
2) Surrogate Recovery (NBZ)	3.41	82	83596	4.67099 ppb		0.00
Spiked Amount 5.000			Recovery	= 93.420%		
4) 2-methylnaphthalene-D10 (2	4.97	152	341988	4.75169 ppb		0.00
Spiked Amount 5.000			Recovery	= 95.040%		
8) Surrogate Recovery (FBP)	5.43	172	237384	4.86847 ppb		0.00
Spiked Amount 5.000			Recovery	= 97.360%		
16) Fluoranthene-D10 (FRT)	9.30	212	436829	4.83834 ppb		0.00
Spiked Amount 5.000			Recovery	= 96.760%		
20) Surrogate Recovery (TPH)	9.79	244	385818	5.20247 ppb		0.00
Spiked Amount 5.000			Recovery	= 104.040%		
Target Compounds						Qvalue
3) Naphthalene	4.23	128	294773	4.69771 ppb		99
5) 2-Methylnaphthalene	5.01	141	160832	4.62803 ppb		92
6) 1-Methylnaphthalene	5.12	141	168685	4.64680 ppb		92
9) Acenaphthylene	6.04	152	629792	4.89686 ppb		99
10) Acenaphthene	6.23	154	176954	4.67421 ppb		98
11) Fluorene	6.83	166	232144	4.90831 ppb		94
12) Pentachlorophenol	7.73	266	38263	4.18468 ppb		96
14) Phenanthrene	7.94	178	327677	4.69325 ppb		98
15) Anthracene	8.00	178	313146	4.79848 ppb		99
17) Fluoranthene	9.33	202	465935	4.60747 ppb	#	86
19) Pyrene	9.59	202	480458	4.75259 ppb	#	86
21) Benz (a) anthracene	11.02	228	482316	4.69530 ppb		100
22) Chrysene	11.08	228	449760	4.73930 ppb	#	97
23) Indeno (1,2,3-cd) pyrene	14.95	276	543643	4.44026 ppb	#	82
25) Benzo (b) fluoranthene	12.83	252	528222	4.82916 ppb	#	94
26) Benzo (k) fluoranthene	12.88	252	484802	4.66534 ppb	#	90
27) Benzo (a) pyrene	13.38	252	474453	4.71788 ppb	#	93
28) Dibenz (a,h) anthracene	14.99	278	463038	4.46641 ppb	#	85
29) Benzo (g,h,i) perylene	15.33	276	464028	4.52947 ppb	#	74

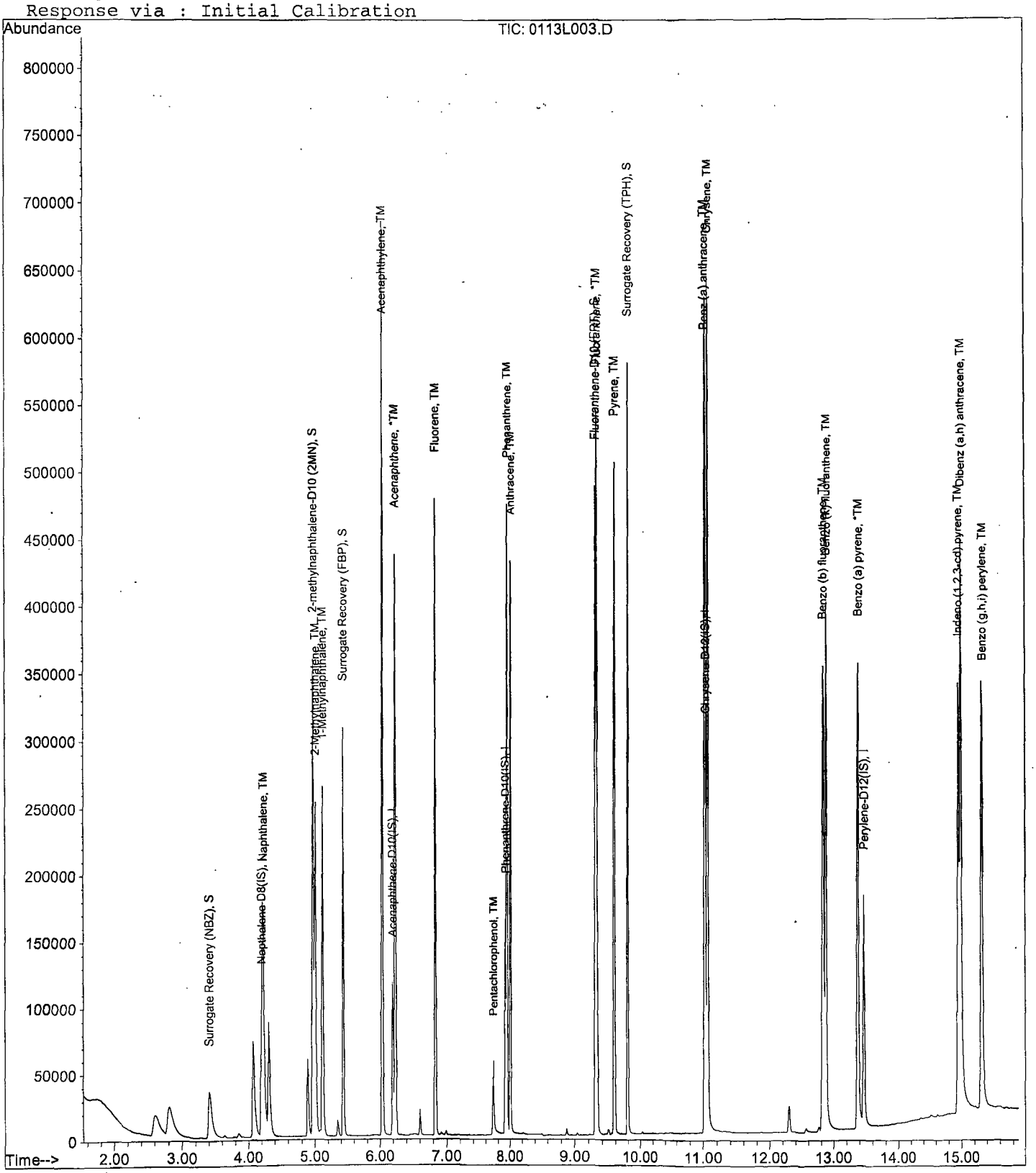
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L200113P\0113L003.D Vial: 88
Acq On : 13 Jan 20 14:59 Operator: MA
Sample : 5.0 SIM PCP 09/10/19 (0) Inst : Linus
Misc : Multiplr: 1.00

Quant Time: Jan 14 9:41 2020 Quant Results File: L0113PCP.RES

Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 09:45:39 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L200113P\0113L004.D Vial: 4
Acq On : 13 Jan 20 15:43 Operator: MA
Sample : 0.1 SIM PCP 09/10/19 Inst : Linus
Misc : Multiplr: 1.00

Quant Time: Jan 14 9:41 2020 Quant Results File: L0113PCP.RES

Quant Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 09:17:12 2020
Response via : Initial Calibration
DataAcq Meth : SIM_2

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Napthalene-D8(IS)	4.20	136	182920	2.50000 ppb		0.00
7) Acenaphthene-D10(IS)	6.19	164	93583	2.50000 ppb		0.00
13) Phenanthrene-D10(IS)	7.92	188	189919	2.50000 ppb		0.00
18) Chrysene-D12(IS)	11.03	240	255292	2.50000 ppb		-0.01
24) Perylene-D12(IS)	13.47	264	299330	2.50000 ppb		0.00
System Monitoring Compounds						
2) Surrogate Recovery (NBZ)	3.41	82	2616	0.11384 ppb		0.00
Spiked Amount 5.000			Recovery	= 2.280%		
4) 2-methylnaphthalene-D10 (2	4.97	152	9265	0.10026 ppb		0.00
Spiked Amount 5.000			Recovery	= 2.000%		
8) Surrogate Recovery (FBP)	5.43	172	6583	0.10144 ppb		0.00
Spiked Amount 5.000			Recovery	= 2.020%		
16) Fluoranthene-D10 (FRT)	9.30	212	12145	0.10477 ppb		0.00
Spiked Amount 5.000			Recovery	= 2.100%		
20) Surrogate Recovery (TPH)	9.79	244	14279	-0.11979 ppb		0.00
Spiked Amount 5.000			Recovery	= -2.400%		
Target Compounds						Qvalue
3) Naphthalene	4.23	128	8409	0.10437 ppb		99
5) 2-Methylnaphthalene	5.01	141	4560	0.10220 ppb		94
6) 1-Methylnaphthalene	5.12	141	4853	0.10412 ppb		94
9) Acenaphthylene	6.04	152	17362	0.10143 ppb		99
10) Acenaphthene	6.23	154	5372	0.10661 ppb		99
11) Fluorene	6.83	166	6218	0.09878 ppb		94
12) Pentachlorophenol	7.73	266	1186	0.73851 ppb		95
14) Phenanthrene	7.94	178	10006	0.11162 ppb		97
15) Anthracene	8.00	178	8992	0.10732 ppb		98
17) Fluoranthene	9.33	202	14530	0.11191 ppb	#	83
19) Pyrene	9.59	202	15048	0.11255 ppb	#	83
21) Benz (a) anthracene	11.02	228	16919	0.12453 ppb		98
22) Chrysene	11.08	228	16407	0.13072 ppb	#	95
23) Indeno (1,2,3-cd) pyrene	14.95	276	19315	0.11928 ppb	#	73
25) Benzo (b) fluoranthene	12.83	252	17349	0.11985 ppb	#	90
26) Benzo (k) fluoranthene	12.87	252	18918	0.13756 ppb	#	90
27) Benzo (a) pyrene	13.37	252	16209	0.12179 ppb	#	95
28) Dibenz (a,h) anthracene	14.99	278	16954	0.12357 ppb	#	84
29) Benzo (g,h,i) perylene	15.32	276	16418	0.12110 ppb	#	79

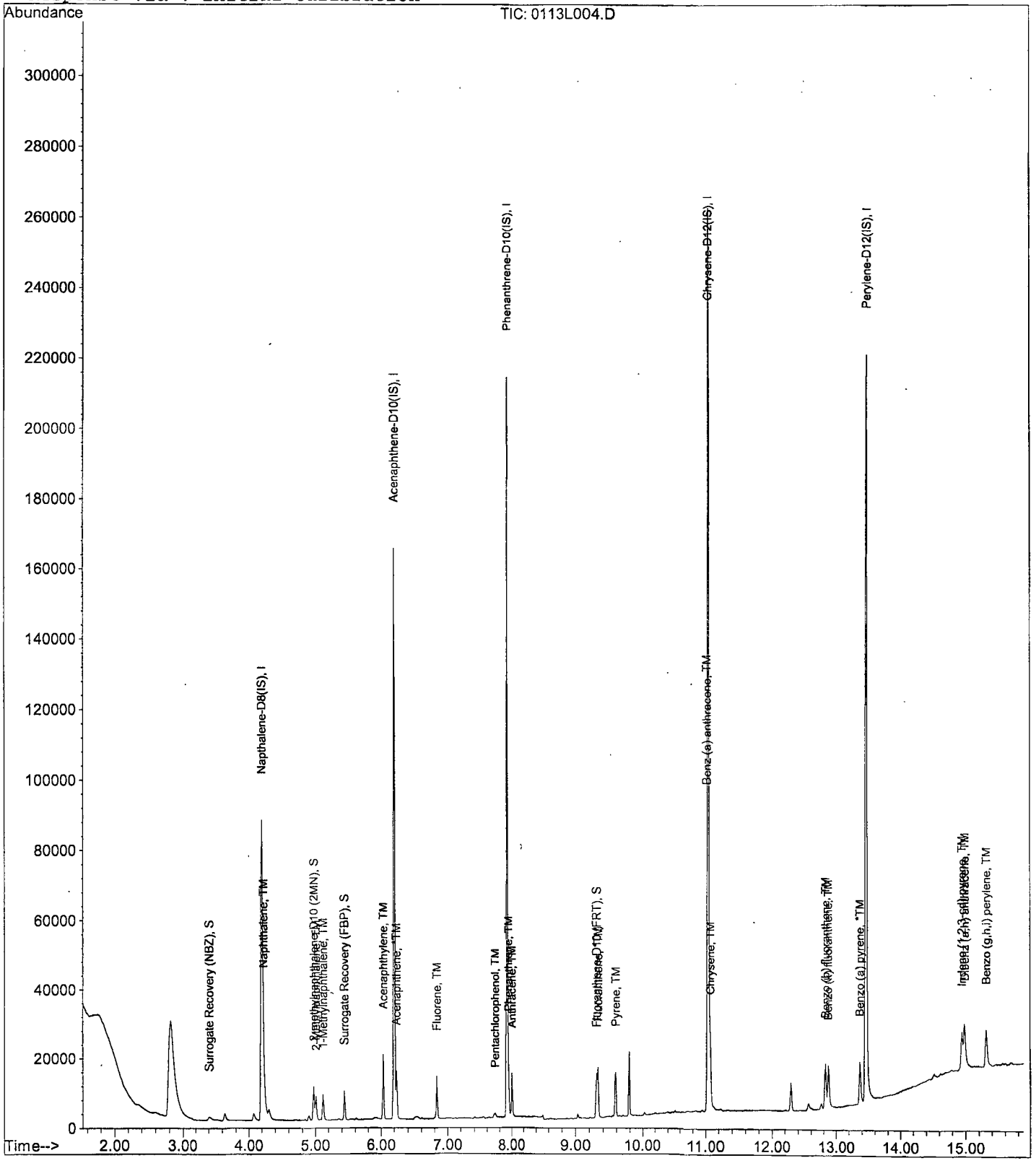
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L200113P\0113L004.D Vial: 4
Acq On : 13 Jan 20 15:43 Operator: MA
Sample : 0.1 SIM PCP 09/10/19 Inst : Linus
Misc : Multiplr: 1.00

Quant Time: Jan 14 9:41 2020 Quant Results File: L0113PCP.RES

Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 09:45:39 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L200113P\0113L005.D Vial: 5
Acq On : 13 Jan 20 16:05 Operator: MA
Sample : 0.25 SIM PCP 09/10/19 Inst : Linus
Misc : Multiplr: 1.00

Quant Time: Jan 14 9:41 2020 Quant Results File: L0113PCP.RES

Quant Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 09:17:12 2020
Response via : Initial Calibration
DataAcq Meth : SIM_2

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Napthalene-D8(IS)	4.20	136	139992	2.50000 ppb		0.00
7) Acenaphthene-D10(IS)	6.19	164	72066	2.50000 ppb		0.00
13) Phenanthrene-D10(IS)	7.92	188	147860	2.50000 ppb		0.00
18) Chrysene-D12(IS)	11.03	240	199568	2.50000 ppb		-0.01
24) Perylene-D12(IS)	13.46	264	234666	2.50000 ppb		-0.01
System Monitoring Compounds						
2) Surrogate Recovery (NBZ)	3.41	82	4414	0.25099 ppb		0.00
Spiked Amount 5.000			Recovery	= 5.020%		
4) 2-methylnaphthalene-D10 (2	4.97	152	17420	0.24631 ppb		0.00
Spiked Amount 5.000			Recovery	= 4.920%		
8) Surrogate Recovery (FBP)	5.43	172	12118	0.24248 ppb		0.00
Spiked Amount 5.000			Recovery	= 4.840%		
16) Fluoranthene-D10 (FRT)	9.30	212	22255	0.24660 ppb		0.00
Spiked Amount 5.000			Recovery	= 4.940%		
20) Surrogate Recovery (TPH)	9.78	244	21725	0.02520 ppb		-0.01
Spiked Amount 5.000			Recovery	= 0.500%		
Target Compounds						Qvalue
3) Naphthalene	4.23	128	15642	0.25369 ppb		98
5) 2-Methylnaphthalene	5.01	141	8548	0.25032 ppb		96
6) 1-Methylnaphthalene	5.12	141	9070	0.25427 ppb		94
9) Acenaphthylene	6.04	152	33075	0.25091 ppb		99
10) Acenaphthene	6.23	154	9817	0.25300 ppb		98
11) Fluorene	6.83	166	11891	0.24530 ppb		94
12) Pentachlorophenol	7.73	266	918	0.73893 ppb		95
14) Phenanthrene	7.94	178	17401	0.24934 ppb		97
15) Anthracene	8.00	178	16592	0.25436 ppb		98
17) Fluoranthene	9.33	202	24772	0.24507 ppb	#	81
19) Pyrene	9.58	202	25545	0.24440 ppb		95
21) Benz (a) anthracene	11.02	228	25375	0.23892 ppb		97
22) Chrysene	11.07	228	25033	0.25513 ppb		99
23) Indeno (1,2,3-cd) pyrene	14.93	276	30863	0.24381 ppb	#	80
25) Benzo (b) fluoranthene	12.82	252	27828	0.24522 ppb	#	93
26) Benzo (k) fluoranthene	12.87	252	27472	0.25481 ppb	#	90
27) Benzo (a) pyrene	13.37	252	25297	0.24246 ppb	#	94
28) Dibenz (a,h) anthracene	14.98	278	25593	0.23794 ppb	#	86
29) Benzo (g,h,i) perylene	15.30	276	25493	0.23985 ppb	#	82

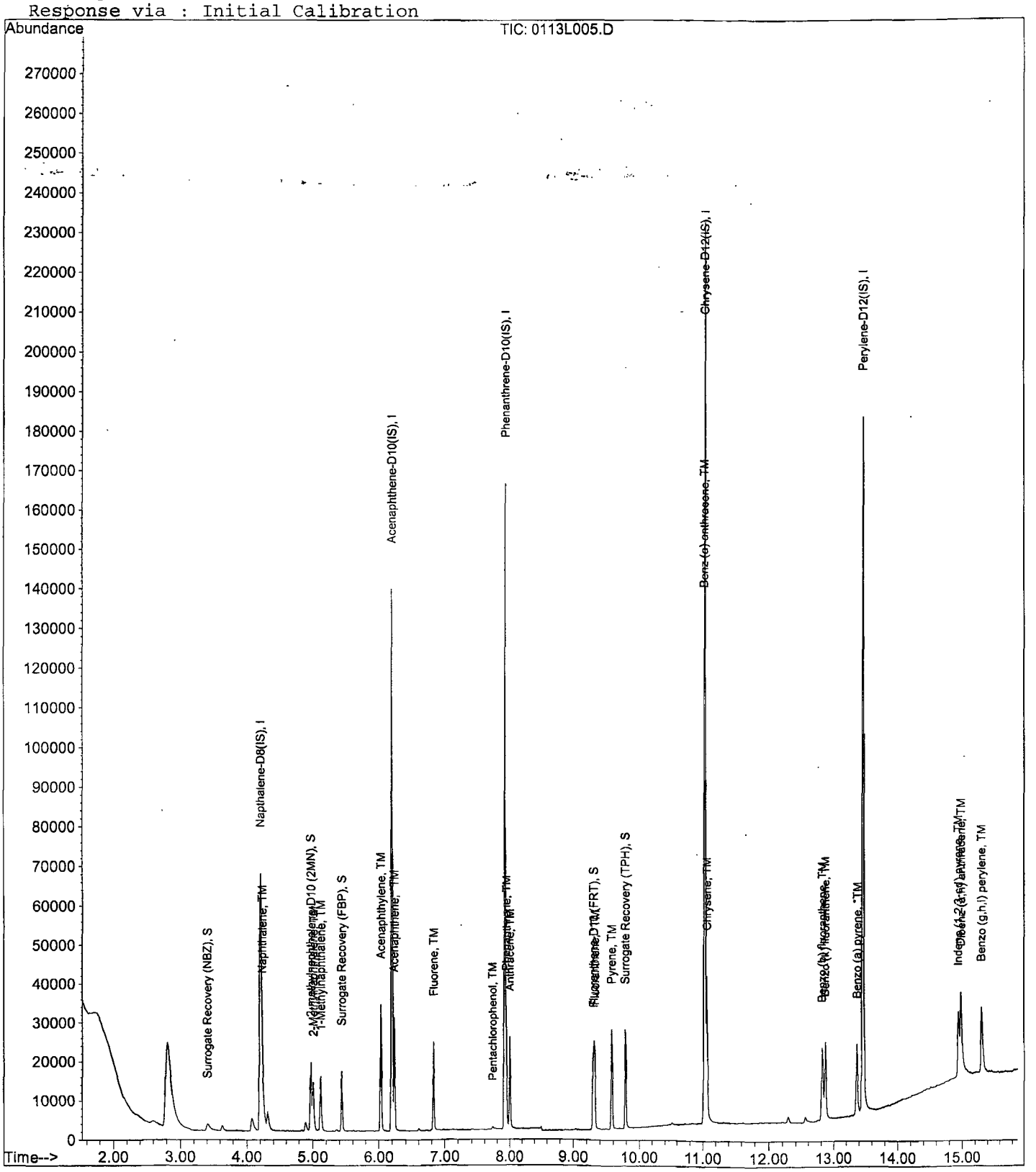
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L200113P\0113L005.D Vial: 5
Acq On : 13 Jan 20 16:05 Operator: MA
Sample : 0.25 SIM PCP 09/10/19 Inst : Linus
Misc : Multiplr: 1.00

Quant Time: Jan 14 9:41 2020 Quant Results File: L0113PCP.RES

Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 09:45:39 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L200113P\0113L006.D Vial: 6
Acq On : 13 Jan 20 16:26 Operator: MA
Sample : 0.5 SIM PCP 09/10/19 Inst : Linus
Misc : Multiplr: 1.00

Quant Time: Jan 14 9:41 2020 Quant Results File: L0113PCP.RES

Quant Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 09:17:12 2020
Response via : Initial Calibration
DataAcq Meth : SIM_2

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Napthalene-D8(IS)	4.20	136	166417	2.50000 ppb		0.00
7) Acenaphthene-D10(IS)	6.19	164	84916	2.50000 ppb		0.00
13) Phenanthrene-D10(IS)	7.92	188	175436	2.50000 ppb		0.00
18) Chrysene-D12(IS)	11.03	240	232237	2.50000 ppb		-0.01
24) Perylene-D12(IS)	13.46	264	275167	2.50000 ppb		-0.01
System Monitoring Compounds						
2) Surrogate Recovery (NBZ)	3.41	82	9691	0.46356 ppb		0.00
Spiked Amount 5.000			Recovery	= 9.280%		
4) 2-methylnaphthalene-D10 (2	4.97	152	39780	0.47317 ppb		0.00
Spiked Amount 5.000			Recovery	= 9.460%		
8) Surrogate Recovery (FBP)	5.43	172	28323	0.48097 ppb		0.00
Spiked Amount 5.000			Recovery	= 9.620%		
16) Fluoranthene-D10 (FRT)	9.29	212	51554	0.48146 ppb		-0.01
Spiked Amount 5.000			Recovery	= 9.620%		
20) Surrogate Recovery (TPH)	9.78	244	47543	0.28779 ppb		-0.01
Spiked Amount 5.000			Recovery	= 5.760%		
Target Compounds						Qvalue
3) Naphthalene	4.23	128	35497	0.48428 ppb		99
5) 2-Methylnaphthalene	5.01	141	19740	0.48627 ppb		93
6) 1-Methylnaphthalene	5.12	141	20714	0.48849 ppb		91
9) Acenaphthylene	6.04	152	75537	0.48632 ppb		99
10) Acenaphthene	6.23	154	21733	0.47534 ppb		99
11) Fluorene	6.83	166	27284	0.47766 ppb		94
12) Pentachlorophenol	7.73	266	2189	0.82348 ppb		91
14) Phenanthrene	7.94	178	40832	0.49311 ppb		98
15) Anthracene	8.00	178	37385	0.48303 ppb		98
17) Fluoranthene	9.32	202	57464	0.47913 ppb		93
19) Pyrene	9.58	202	57781	0.47505 ppb		94
21) Benz (a) anthracene	11.02	228	57542	0.46558 ppb		96
22) Chrysene	11.07	228	55677	0.48763 ppb		98
23) Indeno (1,2,3-cd) pyrene	14.94	276	67267	0.45665 ppb	#	80
25) Benzo (b) fluoranthene	12.82	252	57618	0.43299 ppb	#	92
26) Benzo (k) fluoranthene	12.87	252	64759	0.51225 ppb	#	89
27) Benzo (a) pyrene	13.37	252	55671	0.45504 ppb	#	93
28) Dibenz (a,h) anthracene	14.98	278	58499	0.46383 ppb	#	86
29) Benzo (g,h,i) perylene	15.30	276	57456	0.46100 ppb	#	81

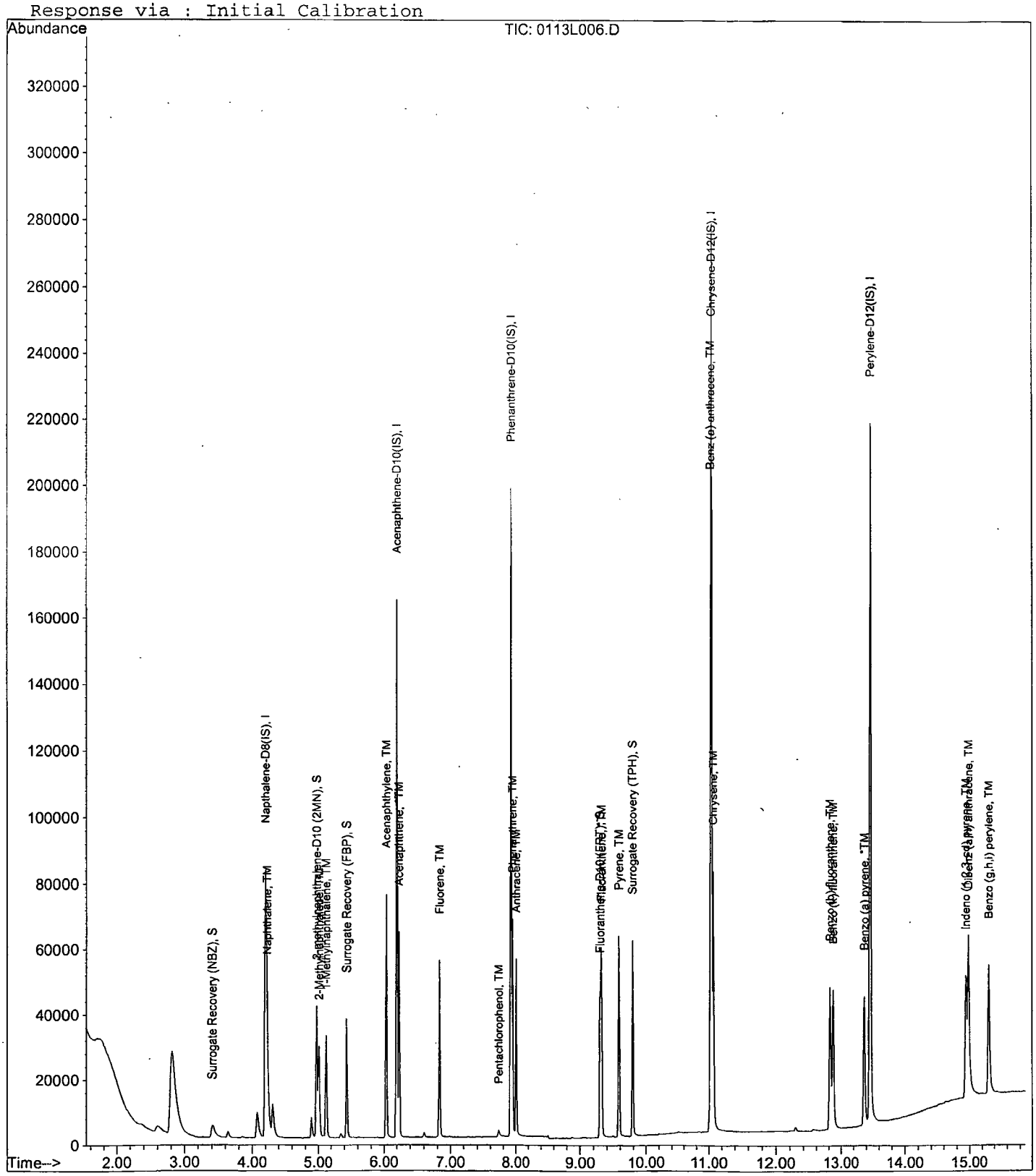
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L200113P\0113L006.D Vial: 6
Acq On : 13 Jan 20 16:26 Operator: MA
Sample : 0.5 SIM PCP 09/10/19 Inst : Linus
Misc : Multiplr: 1.00

Quant Time: Jan 14 9:41 2020 Quant Results File: L0113PCP.RES

Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 09:45:39 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L200113P\0113L007.D Vial: 7
Acq On : 13 Jan 20 16:48 Operator: MA
Sample : 2.5 SIM PCP 09/10/19 Inst : Linus
Misc : Multiplr: 1.00

Quant Time: Jan 14 9:41 2020 Quant Results File: L0113PCP.RES

Quant Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 09:17:12 2020
Response via : Initial Calibration
DataAcq Meth : SIM_2

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Napthalene-D8(IS)	4.20	136	124911	2.50000 ppb		0.00
7) Acenaphthene-D10(IS)	6.19	164	63938	2.50000 ppb		0.00
13) Phenanthrene-D10(IS)	7.92	188	134311	2.50000 ppb		0.00
18) Chrysene-D12(IS)	11.03	240	178972	2.50000 ppb		-0.01
24) Perylene-D12(IS)	13.46	264	210319	2.50000 ppb		-0.01
System Monitoring Compounds						
2) Surrogate Recovery (NBZ)	3.41	82	37017	2.35902 ppb		0.00
Spiked Amount 5.000			Recovery	= 47.180%		
4) 2-methylnaphthalene-D10 (2	4.97	152	156336	2.47744 ppb		0.00
Spiked Amount 5.000			Recovery	= 49.540%		
8) Surrogate Recovery (FBP)	5.43	172	109067	2.45983 ppb		0.00
Spiked Amount 5.000			Recovery	= 49.200%		
16) Fluoranthene-D10 (FRT)	9.29	212	201671	2.46010 ppb		-0.01
Spiked Amount 5.000			Recovery	= 49.200%		
20) Surrogate Recovery (TPH)	9.78	244	178817	2.46400 ppb		-0.01
Spiked Amount 5.000			Recovery	= 49.280%		
Target Compounds						Qvalue
3) Naphthalene	4.23	128	134284	2.44079 ppb		99
5) 2-Methylnaphthalene	5.01	141	75534	2.47898 ppb		93
6) 1-Methylnaphthalene	5.12	141	77579	2.43741 ppb		92
9) Acenaphthylene	6.04	152	289336	2.47397 ppb		98
10) Acenaphthene	6.23	154	81546	2.36876 ppb		98
11) Fluorene	6.83	166	104879	2.43856 ppb		92
12) Pentachlorophenol	7.73	266	13035	1.97816 ppb		94
14) Phenanthrene	7.94	178	153482	2.42108 ppb		97
15) Anthracene	8.00	178	142641	2.40727 ppb		98
17) Fluoranthene	9.32	202	214315	2.33407 ppb		94
19) Pyrene	9.58	202	217868	2.32433 ppb		93
21) Benz (a) anthracene	11.02	228	212782	2.23406 ppb		97
22) Chrysene	11.07	228	206585	2.34780 ppb		99
23) Indeno (1,2,3-cd) pyrene	14.93	276	254376	2.24078 ppb	#	80
25) Benzo (b) fluoranthene	12.82	252	241795	2.37731 ppb	#	93
26) Benzo (k) fluoranthene	12.87	252	220737	2.28443 ppb	#	90
27) Benzo (a) pyrene	13.37	252	213128	2.27917 ppb	#	93
28) Dibenz (a,h) anthracene	14.98	278	219101	2.27284 ppb	#	85
29) Benzo (g,h,i) perylene	15.30	276	216035	2.26783 ppb	#	80

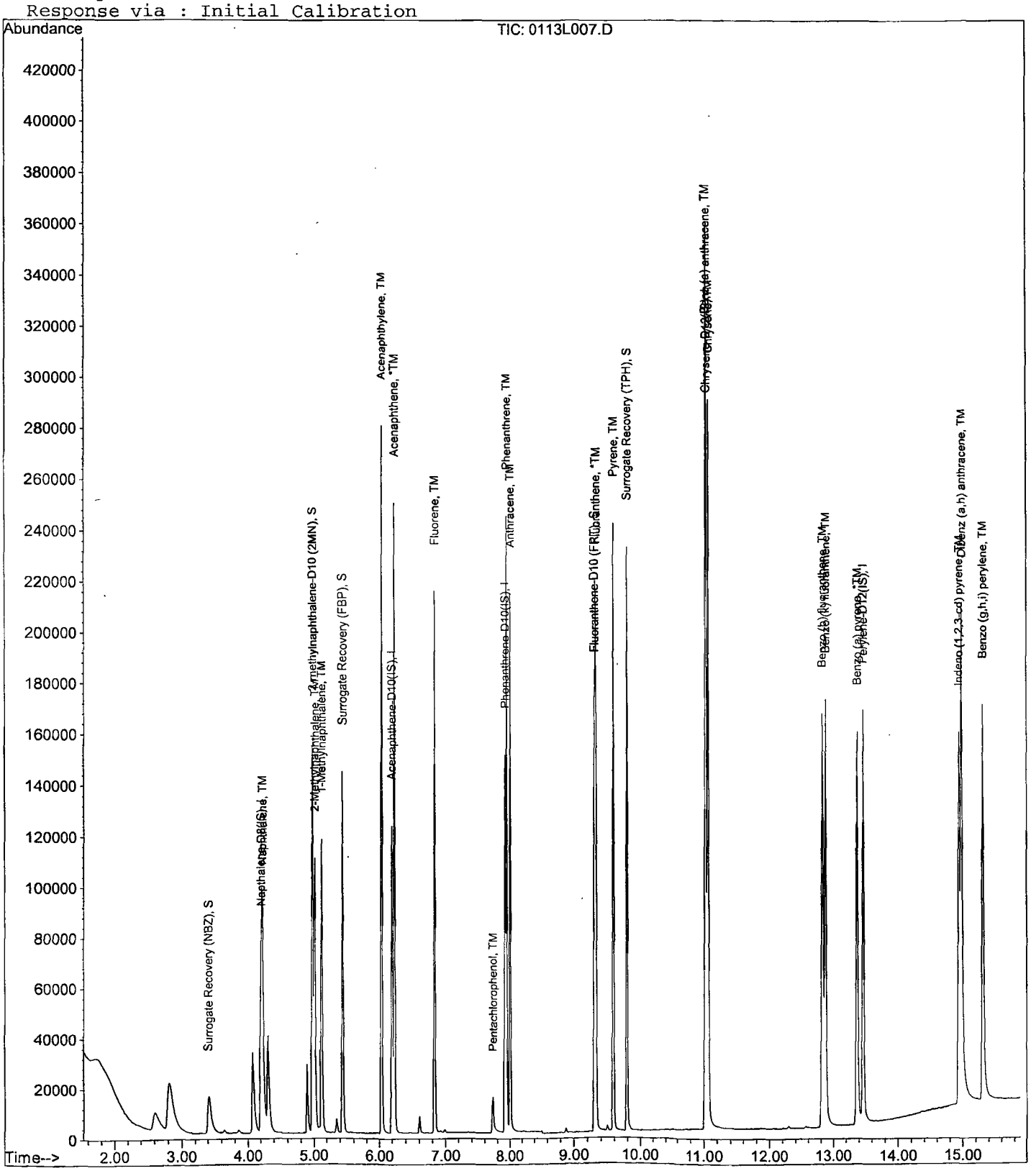
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L200113P\0113L007.D Vial: 7
Acq On : 13 Jan 20 16:48 Operator: MA
Sample : 2.5 SIM PCP 09/10/19 Inst : Linus
Misc : Multiplr: 1.00

Quant Time: Jan 14 9:41 2020 Quant Results File: L0113PCP.RES

Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 09:45:39 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L200113P\0113L008.D Vial: 8
Acq On : 13 Jan 20 17:10 Operator: MA
Sample : 25 SIM PCP 09/10/19 Inst : Linus
Misc : Multiplr: 1.00

Quant Time: Jan 14 9:41 2020 Quant Results File: L0113PCP.RES

Quant Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 09:17:12 2020
Response via : Initial Calibration
DataAcq Meth : SIM_2

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Napthalene-D8(IS)	4.20	136	132250	2.50000 ppb		0.00
7) Acenaphthene-D10(IS)	6.19	164	70869	2.50000 ppb		0.00
13) Phenanthrene-D10(IS)	7.92	188	152595	2.50000 ppb		0.00
18) Chrysene-D12(IS)	11.04	240	190630	2.50000 ppb		0.00
24) Perylene-D12(IS)	13.47	264	230401	2.50000 ppb		0.00
System Monitoring Compounds						
2) Surrogate Recovery (NBZ)	3.41	82	363625	21.88716 ppb		0.00
Spiked Amount 5.000			Recovery	= 437.740%		
4) 2-methylnaphthalene-D10 (2	4.97	152	1648284	24.67072 ppb		0.00
Spiked Amount 5.000			Recovery	= 493.420%		
8) Surrogate Recovery (FBP)	5.43	172	1153649	23.47403 ppb		0.00
Spiked Amount 5.000			Recovery	= 469.480%		
16) Fluoranthene-D10 (FRT)	9.30	212	2124681	22.81258 ppb		0.00
Spiked Amount 5.000			Recovery	= 456.260%		
20) Surrogate Recovery (TPH)	9.79	244	1822110	25.91102 ppb		0.00
Spiked Amount 5.000			Recovery	= 518.220%		
Target Compounds						Qvalue
3) Naphthalene	4.23	128	1355207	23.26571 ppb		98
5) 2-Methylnaphthalene	5.01	141	772195	23.93665 ppb		91
6) 1-Methylnaphthalene	5.12	141	812530	24.11179 ppb		90
9) Acenaphthylene	6.04	152	3030272	23.37628 ppb		98
10) Acenaphthene	6.24	154	903060	23.66671 ppb		84
11) Fluorene	6.83	166	1127127	23.64397 ppb		91
12) Pentachlorophenol	7.73	266	260871	24.52292 ppb		93
14) Phenanthrene	7.95	178	1624188	22.55066 ppb		95
15) Anthracene	8.01	178	1534860	22.79928 ppb		95
17) Fluoranthene	9.33	202	2181426	20.91091 ppb		93
19) Pyrene	9.59	202	2293914	22.97600 ppb		90
21) Benz (a) anthracene	11.03	228	2339377	23.05972 ppb		96
22) Chrysene	11.08	228	2173997	23.19610 ppb		98
23) Indeno (1,2,3-cd) pyrene	14.97	276	2847468	23.54920 ppb	#	67
25) Benzo (b) fluoranthene	12.84	252	2533452	22.73766 ppb	#	92
26) Benzo (k) fluoranthene	12.89	252	2477702	23.40698 ppb	#	90
27) Benzo (a) pyrene	13.38	252	2350924	22.94932 ppb		95
28) Dibenz (a,h) anthracene	15.00	278	2429243	23.00330 ppb	#	85
29) Benzo (g,h,i) perylene	15.34	276	2415655	23.14810 ppb	#	79

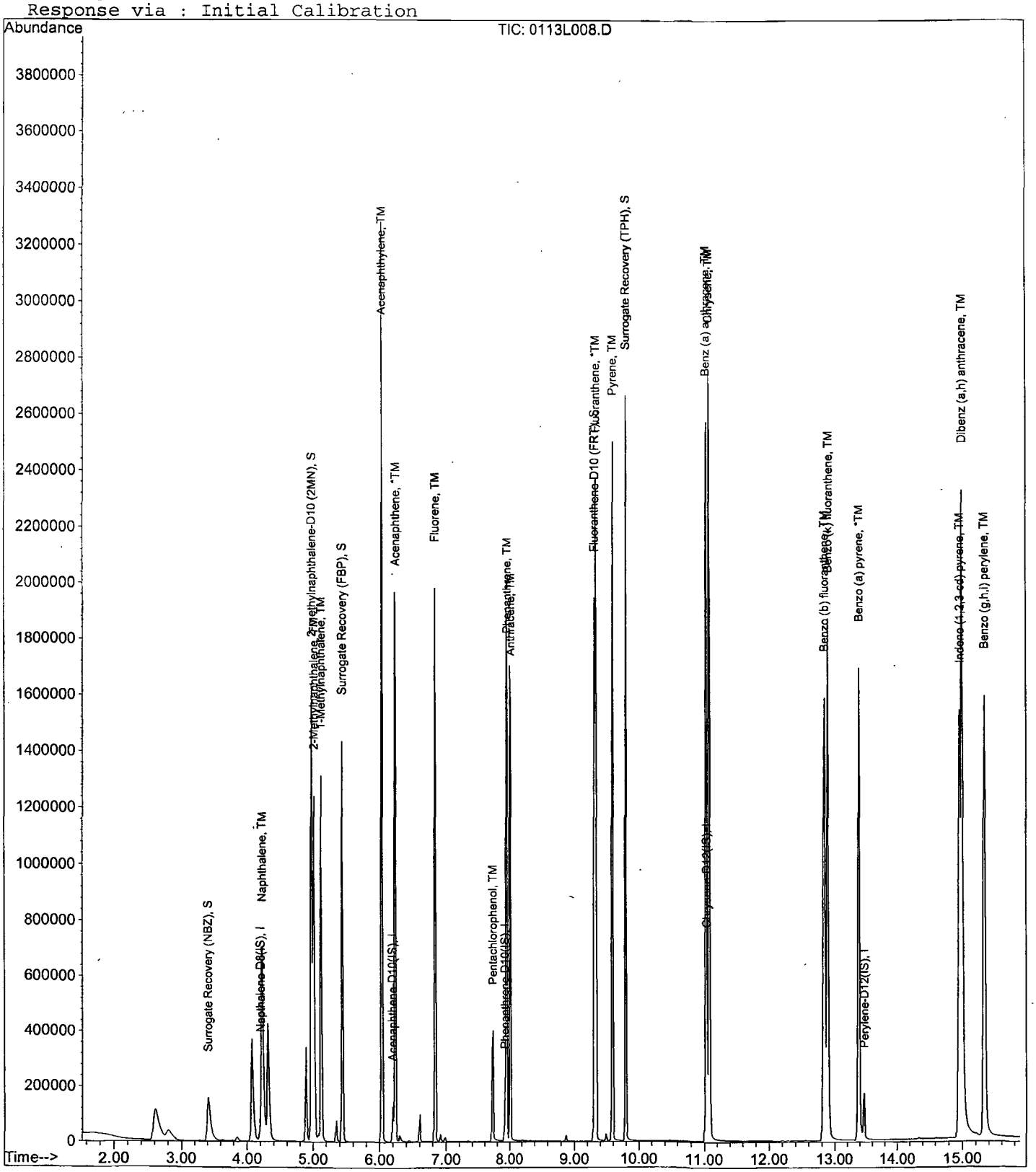
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L200113P\0113L008.D Vial: 8
Acq On : 13 Jan 20 17:10 Operator: MA
Sample : 25 SIM PCP 09/10/19 Inst : Linus
Misc : Multiplr: 1.00

Quant Time: Jan 14 9:41 2020 Quant Results File: L0113PCP.RES

Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 09:45:39 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L200113P\0113L009.D Vial: 9
Acq On : 13 Jan 20 17:32 Operator: MA
Sample : 50 SIM PCP 09/10/19 Inst : Linus
Misc : Multiplr: 1.00

Quant Time: Jan 14 9:42 2020 Quant Results File: L0113PCP.RES

Quant Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 09:17:12 2020
Response via : Initial Calibration
DataAcq Meth : SIM_2

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Napthalene-D8(IS)	4.20	136	139719	2.50000	ppb		0.00
7) Acenaphthene-D10(IS)	6.19	164	70415	2.50000	ppb		0.00
13) Phenanthrene-D10(IS)	7.92	188	146169	2.50000	ppb		0.00
18) Chrysene-D12(IS)	11.05	240	184151	2.50000	ppb		0.01
24) Perylene-D12(IS)	13.47	264	224065	2.50000	ppb		0.00
System Monitoring Compounds							
2) Surrogate Recovery (NBZ)	3.41	82	861548	49.08574	ppb		0.00
Spiked Amount 5.000			Recovery	= 981.720%			
4) 2-methylnaphthalene-D10 (2	4.97	152	3248750	46.02633	ppb		0.00
Spiked Amount 5.000			Recovery	= 920.520%			
8) Surrogate Recovery (FBP)	5.43	172	2220973	45.48291	ppb		0.00
Spiked Amount 5.000			Recovery	= 909.660%			
16) Fluoranthene-D10 (FRT)	9.32	212	3941442	44.17950	ppb		0.01
Spiked Amount 5.000			Recovery	= 883.600%			
20) Surrogate Recovery (TPH)	9.79	244	3347885	49.52931	ppb		0.00
Spiked Amount 5.000			Recovery	= 990.580%			
Target Compounds							Qvalue
3) Naphthalene	4.23	128	2773429	45.06796	ppb		98
5) 2-Methylnaphthalene	5.01	141	1484555	43.55849	ppb		92
6) 1-Methylnaphthalene	5.12	141	1547336	43.46252	ppb		91
9) Acenaphthylene	6.04	152	5470157	42.47024	ppb		97
10) Acenaphthene	6.24	154	1675761	44.20023	ppb		91
11) Fluorene	6.84	166	2184846	46.12745	ppb		88
12) Pentachlorophenol	7.73	266	540481	50.42270	ppb		95
14) Phenanthrene	7.95	178	2873879	41.65590	ppb		97
15) Anthracene	8.01	178	2748934	42.62866	ppb		97
17) Fluoranthene	9.34	202	3961424	39.64320	ppb	#	90
19) Pyrene	9.60	202	4352710	45.13092	ppb	#	81
21) Benz (a) anthracene	11.03	228	4282462	43.69830	ppb		97
22) Chrysene	11.09	228	4174742	46.11081	ppb		96
23) Indeno (1,2,3-cd) pyrene	14.98	276	5539626	47.42584	ppb	#	79
25) Benzo (b) fluoranthene	12.85	252	4784839	44.15813	ppb	#	93
26) Benzo (k) fluoranthene	12.91	252	4726666	45.91573	ppb	#	87
27) Benzo (a) pyrene	13.40	252	4415736	44.32459	ppb	#	90
28) Dibenz (a,h) anthracene	15.02	278	4746500	46.21713	ppb	#	83
29) Benzo (g,h,i) perylene	15.36	276	4719226	46.50093	ppb	#	83

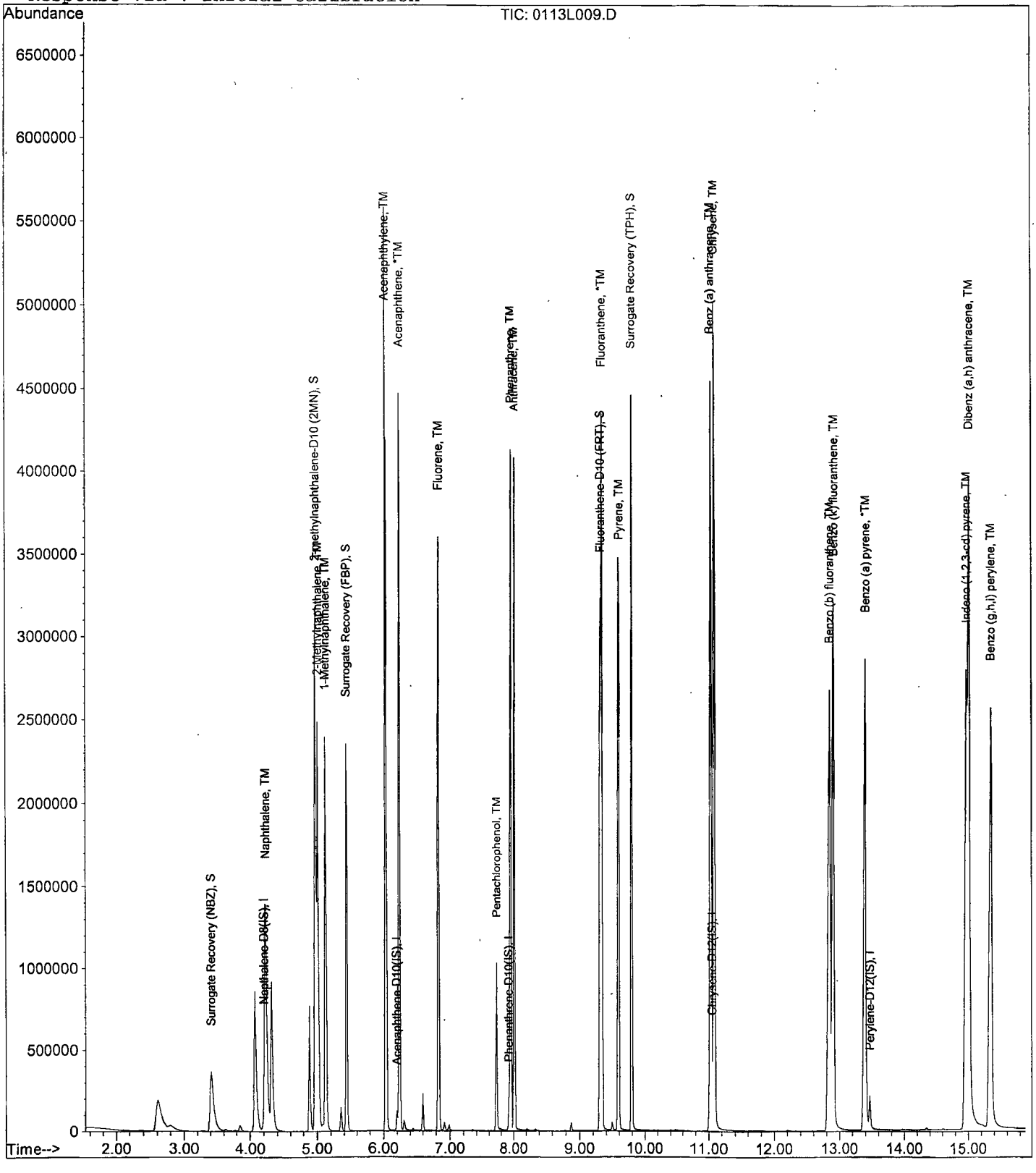
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L200113P\0113L009.D Vial: 9
Acq On : 13 Jan 20 17:32 Operator: MA
Sample : 50 SIM PCP 09/10/19 Inst : Linus
Misc : Multiplr: 1.00

Quant Time: Jan 14 9:42 2020 Quant Results File: L0113PCP.RES

Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 09:45:39 2020
Response via : Initial Calibration



PAH by GCMS SIM
EPA 8270 SIM

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 01/13/20
Instrument: Linus
Initial Cal. Date: 01/13/20
Data File: 0113L010.D

		Compound	MEAN	CCRF	%D		%Drift
1	TM	Naphthalene	1.066	0.9911	7.0	TM	
2	TM	2-Methylnaphthalene	0.5873	0.5561	5.3	TM	
3	TM	1-Methylnaphthalene	0.6164	0.5575	9.6	TM	
4	TM	Acenaphthylene	4.406	4.080	7.4	TM	
5	*TM	Acenaphthene	1.296	1.185	8.6	*TM	
6	TM	Fluorene	1.622	1.497	7.7	TM	
7	TML	Pentachlorophenol	0.2573	0.2626	2.1	TML	19
8	TM	Phenanthrene	1.137	1.087	4.4	TM	
9	TM	Anthracene	1.063	1.088	2.4	TM	
10	*TM	Fluoranthene	1.638	1.535	6.3	*TM	
11	TM	Pyrene	1.264	1.213	4.0	TM	
12	TM	Benz (a) anthracene	1.285	1.212	5.7	TM	
13	TM	Chrysene	1.236	1.091	12	TM	
14	TM	Indeno (1,2,3-cd) pyrene	1.531	1.495	2.3	TM	
15	TM	Benzo (b) fluoranthene	1.167	1.050	10	TM	
16	TML	Benzo (k) fluoranthene	1.168	1.077	7.8	TML	0.39
17	*TM	Benzo (a) pyrene	1.073	1.019	5.1	*TM	
18	TM	Dibenz (a,h) anthracene	1.107	1.031	6.8	TM	
19	TM	Benzo (g,h,i) perylene	1.094	1.020	6.8	TM	
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			6.4		

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L200113P\0113L010.D Vial: 10
Acq On : 13 Jan 20 17:54 Operator: MA
Sample : SS SIM PCP 01/07/20 Inst : Linus
Misc : Multiplr: 1.00

Quant Time: Jan 14 10:11 2020 Quant Results File: L0113PCP.RES

Quant Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 10:07:16 2020
Response via : Initial Calibration
DataAcq Meth : SIM_2

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Napthalene-D8(IS)	4.20	136	137049	2.50000	ppb		0.00
7) Acenaphthene-D10(IS)	6.19	164	73342	2.50000	ppb		0.00
13) Phenanthrene-D10(IS)	7.92	188	143388	2.50000	ppb		0.00
18) Chrysene-D12(IS)	11.03	240	185022	2.50000	ppb		-0.01
24) Perylene-D12(IS)	13.46	264	223282	2.50000	ppb		-0.01
System Monitoring Compounds							
2) Surrogate Recovery (NBZ)	0.00	82	0d	0.00000	ppb		
Spiked Amount 5.000			Recovery	=	0.000%		
4) 2-methylnaphthalene-D10 (2	0.00	152	0d	0.00000	ppb		
Spiked Amount 5.000			Recovery	=	0.000%		
8) Surrogate Recovery (FBP)	0.00	172	0d	0.00000	ppb		
Spiked Amount 5.000			Recovery	=	0.000%		
16) Fluoranthene-D10 (FRT)	0.00	212	0d	0.00000	ppb		
Spiked Amount 5.000			Recovery	=	0.000%		
20) Surrogate Recovery (TPH)	0.00	244	0d	0.00000	ppb		
Spiked Amount 5.000			Recovery	=	0.000%		
Target Compounds							Qvalue
3) Naphthalene	4.21	128	271657	4.64994	ppb		100
5) 2-Methylnaphthalene	5.01	141	152425	4.73419	ppb		92
6) 1-Methylnaphthalene	5.12	141	152810	4.52231	ppb		91
9) Acenaphthylene	6.04	152	598474	4.63048	ppb		98
10) Acenaphthene	6.23	154	173773	4.56904	ppb		97
11) Fluorene	6.83	166	219524	4.61475	ppb		91
12) Pentachlorophenol	7.71	266	38516m	4.06536	ppb		99
14) Phenanthrene	7.94	178	311611	4.78047	ppb		96
15) Anthracene	8.00	178	311899	5.11783	ppb		97
17) Fluoranthene	9.32	202	440235	4.68695	ppb	#	90
19) Pyrene	9.58	202	448976	4.80127	ppb		91
21) Benz (a) anthracene	11.02	228	448345	4.71418	ppb		96
22) Chrysene	11.07	228	403762	4.41339	ppb	#	98
23) Indeno (1,2,3-cd) pyrene	14.93	276	553182	4.88371	ppb	#	75
25) Benzo (b) fluoranthene	12.82	252	468839	4.49960	ppb	#	92
26) Benzo (k) fluoranthene	12.87	252	480847	5.01949	ppb	#	89
27) Benzo (a) pyrene	13.36	252	454826	4.74588	ppb		97
28) Dibenz (a,h) anthracene	14.98	278	460460	4.65759	ppb	#	84
29) Benzo (g,h,i) perylene	15.30	276	455427	4.66225	ppb	#	79

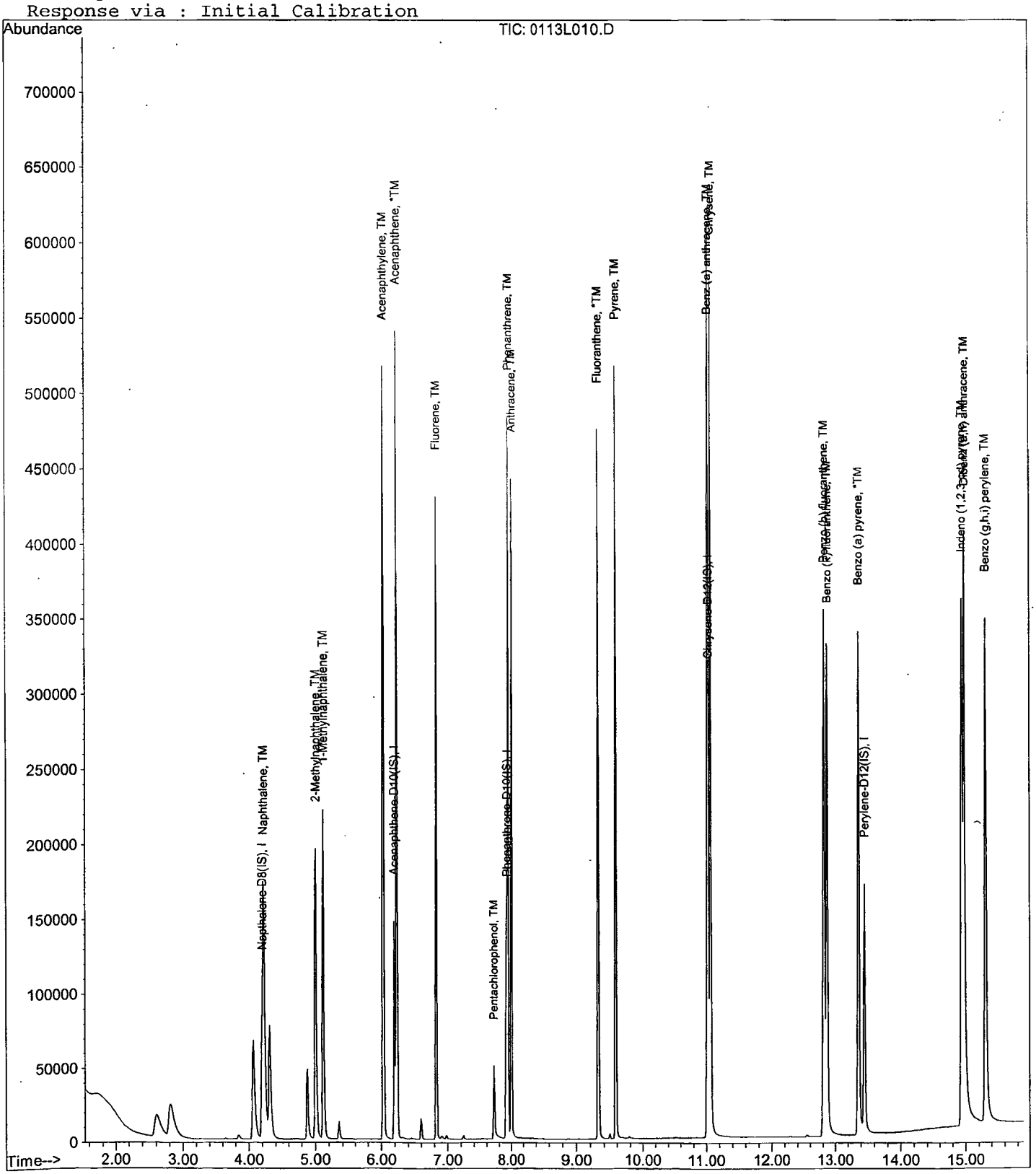
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L200113P\0113L010.D Vial: 10
Acq On : 13 Jan 20 17:54 Operator: MA
Sample : SS SIM PCP 01/07/20 Inst : Linus
Misc : Multiplr: 1.00

Quant Time: Jan 14 10:11 2020 Quant Results File: L0113PCP.RES

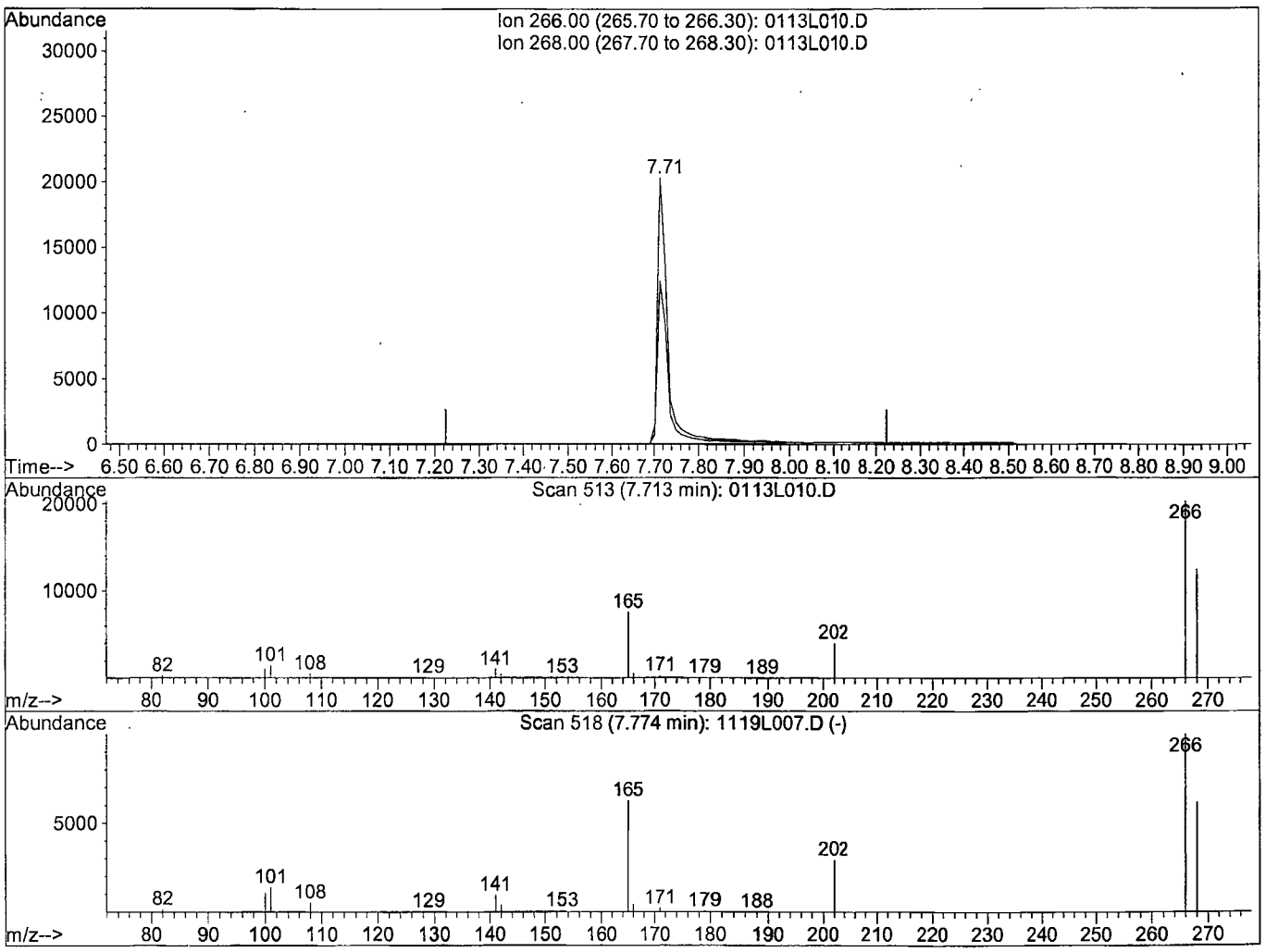
Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 10:07:16 2020
Response via : Initial Calibration



Quantitation Report

Data File : M:\LINUS\DATA\L200113P\0113L010.D Vial: 10
Acq On : 13 Jan 20 17:54 Operator: MA
Sample : SS SIM PCP 01/07/20 Inst : Linus
Misc : Multiplr: 1.00
Quant Time: Jan 14 10:10 2020 Quant Results File: temp.res

Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 10:07:16 2020
Response via : Multiple Level Calibration



TIC: 0113L010.D

(12) Pentachlorophenol (TM)

7.71min 3.7692ppb

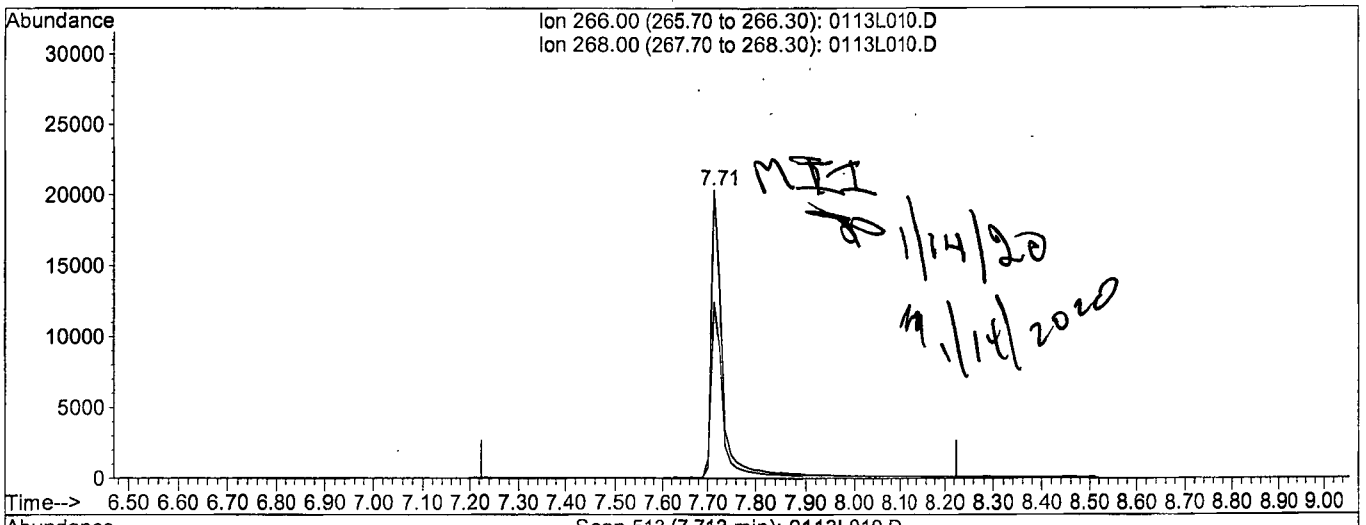
response 35161

Ion	Exp%	Act%
266.00	100	100
268.00	61.50	61.05
0.00	0.00	0.00
0.00	0.00	0.00

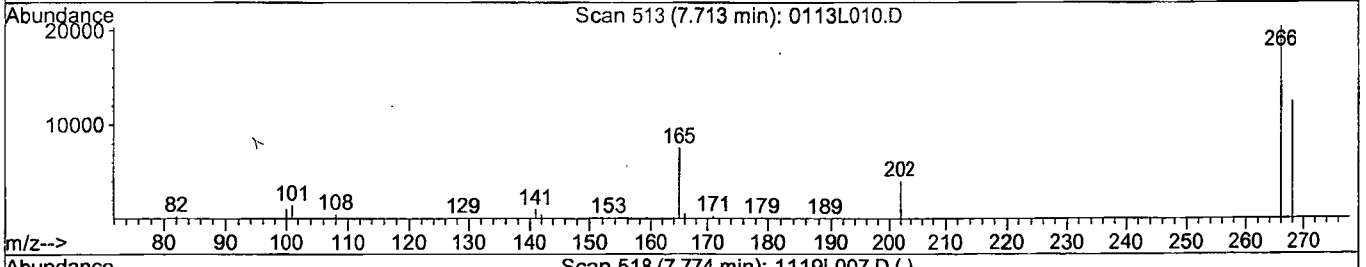
Quantitation Report

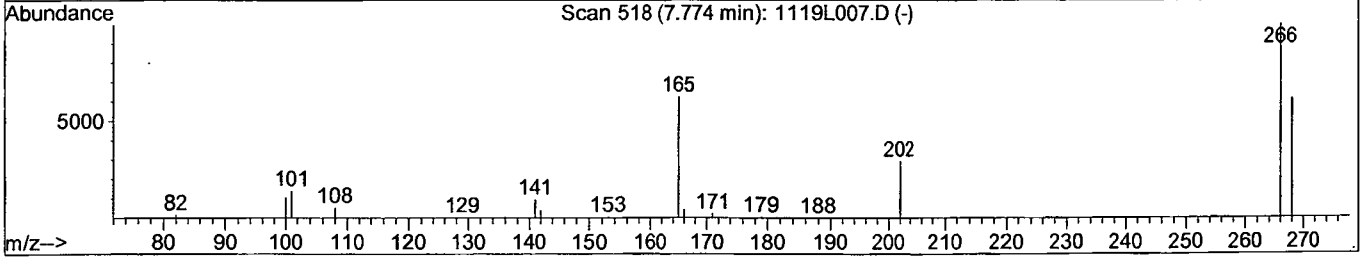
Data File : M:\LINUS\DATA\L200113P\0113L010.D Vial: 10
Acq On : 13 Jan 20 17:54 Operator: MA
Sample : SS SIM PCP 01/07/20 Inst : Linus
Misc : Multiplr: 1.00
Quant Time: Jan 14 10:11 2020 Quant Results File: temp.res

Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 10:07:16 2020
Response via : Multiple Level Calibration



MTI 1/14/20 1/14/2020





TIC: 0113L010.D

(12) Pentachlorophenol (TM)

7.71min 4.0654ppb m

response 38516

Ion	Exp%	Act%
266.00	100	100
268.00	61.50	61.19
0.00	0.00	0.00
0.00	0.00	0.00

PAH by GCMS SIM
EPA 8270 SIM

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 01/27/20
Instrument: Linus
Initial Cal. Date: 01/13/20
Data File: 0113L162.D

		Compound	MEAN	CCRF	%D		%Drift	
1	I	Napthalene-D8(IS)	ISTD			I		
2	S	Surrogate Recovery (NBZ)	0.3053	0.3309	8.4	S		
3	TM	Naphthalene	1.066	1.187	11	TM		
4	S	2-methylnaphthalene-D10 (2MN)	1.224	1.375	12	S		
5	TM	2-Methylnaphthalene	0.5873	0.6567	12	TM		
6	TM	1-Methylnaphthalene	0.6164	0.6793	10	TM		
7	I	Acenaphthene-D10(IS)	ISTD			I		
8	S	Surrogate Recovery (FBP)	1.672	1.696	1.4	S		
9	TM	Acenaphthylene	4.406	4.448	0.96	TM		
10	*TM	Acenaphthene	1.296	1.298	0.12	*TM		
11	TM	Fluorene	1.622	1.662	2.5	TM		
12	TML	Pentachlorophenol	0.2573	0.2371	7.9	TML	25	*NT
13	I	Phenanthrene-D10(IS)	ISTD			I		
14	TM	Phenanthrene	1.137	1.229	8.2	TM		
15	TM	Anthracene	1.063	1.137	7.0	TM		
16	S	Fluoranthene-D10 (FRT)	1.470	1.514	3.0	S		
17	*TM	Fluoranthene	1.638	1.696	3.6	*TM		
18	I	Chrysene-D12(IS)	ISTD			I		
19	TM	Pyrene	1.264	1.362	7.8	TM		
20	S	Surrogate Recovery (TPH)	1.053	1.056	0.27	S		
21	TM	Benz (a) anthracene	1.285	1.292	0.52	TM		
22	TM	Chrysene	1.236	1.306	5.6	TM		
23	TM	Indeno (1,2,3-cd) pyrene	1.531	1.720	12	TM		
24	I	Perylene-D12(IS)	ISTD			I		
25	TM	Benzo (b) fluoranthene	1.167	1.185	1.5	TM		
26	TML	Benzo (k) fluoranthene	1.168	1.289	10	TML	21	*NT
27	*TM	Benzo (a) pyrene	1.073	1.137	6.0	*TM		
28	TM	Dibenz (a,h) anthracene	1.107	1.243	12	TM		
29	TM	Benzo (g,h,i) perylene	1.094	1.242	14	TM		
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								
		Average			6.6			

Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L200113P\0113L162.D Vial: 62
Acq On : 27 Jan 20 14:51 Operator: MA
Sample : 5ug/mL SIM PCP 01/16/20 (1) Inst : Linus
Misc : Multiplr: 1.00

Quant Time: Jan 27 15:11 2020 Quant Results File: L0113PCP.RES

Quant Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 10:14:53 2020
Response via : Initial Calibration
DataAcq Meth : SIM_2

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Napthalene-D8(IS)	4.19	136	119953	2.50000 ppb		-0.01
7) Acenaphthene-D10(IS)	6.18	164	66859	2.50000 ppb		-0.01
13) Phenanthrene-D10(IS)	7.91	188	130657	2.50000 ppb		-0.01
18) Chrysene-D12(IS)	11.01	240	166604	2.50000 ppb		-0.03
24) Perylene-D12(IS)	13.43	264	195500	2.50000 ppb		-0.03
System Monitoring Compounds						
2) Surrogate Recovery (NBZ)	3.41	82	79392	5.41998 ppb		0.00
Spiked Amount 5.000			Recovery	= 108.400%		
4) 2-methylnaphthalene-D10 (2	4.96	152	329814	5.61679 ppb		-0.01
Spiked Amount 5.000			Recovery	= 112.340%		
8) Surrogate Recovery (FBP)	5.42	172	226814	5.07126 ppb		-0.01
Spiked Amount 5.000			Recovery	= 101.420%		
16) Fluoranthene-D10 (FRT)	9.28	212	395575	5.14803 ppb		-0.02
Spiked Amount 5.000			Recovery	= 102.960%		
20) Surrogate Recovery (TPH)	9.77	244	351938	5.01330 ppb		-0.02
Spiked Amount 5.000			Recovery	= 100.260%		
Target Compounds						Qvalue
3) Naphthalene	4.21	128	284763	5.56897 ppb		100
5) 2-Methylnaphthalene	5.00	141	157545	5.59061 ppb		100
6) 1-Methylnaphthalene	5.11	141	162975	5.51054 ppb		100
9) Acenaphthylene	6.02	152	594780	5.04812 ppb		100
10) Acenaphthene	6.22	154	173568	5.00617 ppb		94
11) Fluorene	6.82	166	222273	5.12561 ppb		96
12) Pentachlorophenol	7.71	266	31700	3.73507 ppb		100
14) Phenanthrene	7.93	178	321262	5.40875 ppb		98
15) Anthracene	7.99	178	296983	5.34790 ppb		98
17) Fluoranthene	9.30	202	443285	5.17927 ppb		99
19) Pyrene	9.57	202	453699	5.38814 ppb		98
21) Benz (a) anthracene	11.00	228	430403	5.02582 ppb		98
22) Chrysene	11.04	228	435132	5.28209 ppb	#	97
23) Indeno (1,2,3-cd) pyrene	14.92	276	573143	5.61930 ppb	#	85
25) Benzo (b) fluoranthene	12.79	252	463141	5.07657 ppb		98
26) Benzo (k) fluoranthene	12.84	252	504190	6.02582 ppb	#	98
27) Benzo (a) pyrene	13.34	252	444669	5.29926 ppb	#	97
28) Dibenz (a,h) anthracene	14.96	278	486094	5.61560 ppb		100
29) Benzo (g,h,i) perylene	15.28	276	485491	5.67629 ppb	#	93

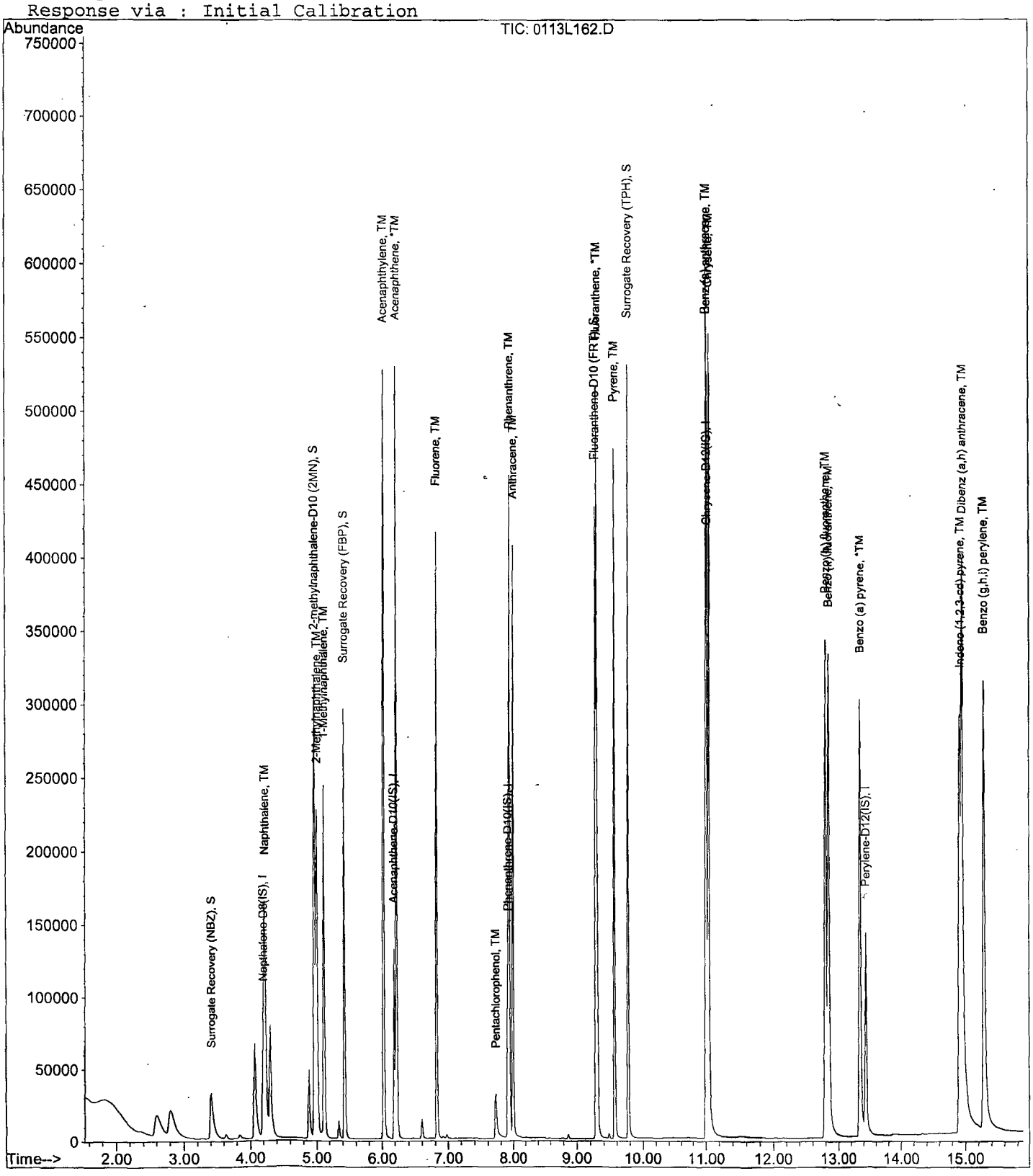
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L200113P\0113L162.D Vial: 62
Acq On : 27 Jan 20 14:51 Operator: MA
Sample : 5ug/mL SIM PCP 01/16/20 (1) Inst : Linus
Misc : Multiplr: 1.00

Quant Time: Jan 27 15:11 2020 Quant Results File: L0113PCP.RES

Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 10:14:53 2020
Response via : Initial Calibration



PAH by GCMS SIM
EPA 8270 SIM

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 01/27/20
Instrument: Linus
Initial Cal. Date: 01/13/20
Data File: 0113L182.D

		Compound	MEAN	CCRF	%D		%Drift	
1	I	Napthalene-D8(IS)	ISTD			I		
2	TM	Naphthalene	1.066	1.029	3.5	TM		
3	S	2-methylnaphthalene-D10 (2MN)	1.224	1.177	3.8	S		
4	TM	2-Methylnaphthalene	0.5873	0.5769	1.8	TM		
5	TM	1-Methylnaphthalene	0.6164	0.6009	2.5	TM		
6	I	Acenaphthene-D10(IS)	ISTD			I		
7	TM	Acenaphthylene	4.406	3.983	9.6	TM		
8	*TM	Acenaphthene	1.296	1.148	11	*TM		
9	TM	Fluorene	1.622	1.444	11	TM		
10	TML	Pentachlorophenol	0.2573	0.0008	100	TML	73	*NT
11	I	Phenanthrene-D10(IS)	ISTD			I		
12	TM	Phenanthrene	1.137	1.122	1.3	TM		
13	TM	Anthracene	1.063	1.032	2.8	TM		
14	S	Fluoranthene-D10 (FRT)	1.470	1.353	8.0	S		
15	*TM	Fluoranthene	1.638	1.552	5.2	*TM		
16	I	Chrysene-D12(IS)	ISTD			I		
17	TM	Pyrene	1.264	1.234	2.3	TM		
18	TM	Benz (a) anthracene	1.285	1.169	9.0	TM		
19	TM	Chrysene	1.236	1.205	2.5	TM		
20	TM	Indeno (1,2,3-cd) pyrene	1.531	1.506	1.6	TM		
21	I	Perylene-D12(IS)	ISTD			I		
22	TM	Benzo (b) fluoranthene	1.167	1.059	9.2	TM		
23	TML	Benzo (k) fluoranthene	1.168	1.151	1.5	TML	5.9	
24	*TM	Benzo (a) pyrene	1.073	1.016	5.3	*TM		
25	TM	Dibenz (a,h) anthracene	1.107	1.104	0.31	TM		
26	TM	Benzo (g,h,i) perylene	1.094	1.102	0.75	TM		
27								
28								
29								
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								
		Average			9.2			

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L200113P\0113L182.D Vial: 82
Acq On : 27 Jan 20 22:20 Operator: MA
Sample : 2.5ug/mL SIMLL SPK 01/21/20 ((CCV) Inst : Linus
Misc : Multiplr: 1.00

Quant Time: Jan 28 8:16 2020 Quant Results File: L0113PCP.RES

Quant Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 10:14:53 2020
Response via : Initial Calibration
DataAcq Meth : SIM_2

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Napthalene-D8(IS)	4.18	136	117517	2.50000 ppb		-0.02
7) Acenaphthene-D10(IS)	6.18	164	64097	2.50000 ppb		-0.01
13) Phenanthrene-D10(IS)	7.91	188	121027	2.50000 ppb		-0.01
18) Chrysene-D12(IS)	11.01	240	153354	2.50000 ppb		-0.03
24) Perylene-D12(IS)	13.43	264	178647	2.50000 ppb		-0.03
System Monitoring Compounds						
2) Surrogate Recovery (NBZ)	0.00	82	0d	0.00000 ppb		
Spiked Amount 5.000			Recovery	= 0.000%		
4) 2-methylnaphthalene-D10 (2	4.95	152	138281	2.40377 ppb		-0.02
Spiked Amount 5.000			Recovery	= 48.080%		
8) Surrogate Recovery (FBP)	0.00	172	0d	0.00000 ppb		
Spiked Amount 5.000			Recovery	= 0.000%		
16) Fluoranthene-D10 (FRT)	9.28	212	163737	2.30043 ppb		-0.02
Spiked Amount 5.000			Recovery	= 46.000%		
20) Surrogate Recovery (TPH)	0.00	244	0d	0.00000 ppb		
Spiked Amount 5.000			Recovery	= 0.000%		
Target Compounds						Qvalue
3) Naphthalene	4.20	128	120906	2.41351 ppb		100
5) 2-Methylnaphthalene	4.99	141	67794	2.45559 ppb		95
6) 1-Methylnaphthalene	5.09	141	70617	2.43721 ppb		94
9) Acenaphthylene	6.02	152	255306	2.26025 ppb		100
10) Acenaphthene	6.22	154	73595	2.21415 ppb		96
11) Fluorene	6.82	166	92554	2.22626 ppb		97
12) Pentachlorophenol	7.71	266	51	0.67102 ppb		78
14) Phenanthrene	7.93	178	135742	2.46719 ppb		98
15) Anthracene	7.99	178	124954	2.42914 ppb		98
17) Fluoranthene	9.30	202	187845	2.36939 ppb		100
19) Pyrene	9.57	202	189269	2.44197 ppb		99
21) Benz (a) anthracene	11.00	228	179235	2.27376 ppb		98
22) Chrysene	11.04	228	184770	2.43673 ppb	#	97
23) Indeno (1,2,3-cd) pyrene	14.91	276	230915	2.45959 ppb	#	97
25) Benzo (b) fluoranthene	12.79	252	189254	2.27014 ppb		98
26) Benzo (k) fluoranthene	12.84	252	205600	2.64776 ppb		98
27) Benzo (a) pyrene	13.34	252	181536	2.36751 ppb	#	97
28) Dibenz (a,h) anthracene	14.96	278	197139	2.49230 ppb		99
29) Benzo (g,h,i) perylene	15.28	276	196858	2.51876 ppb	#	94

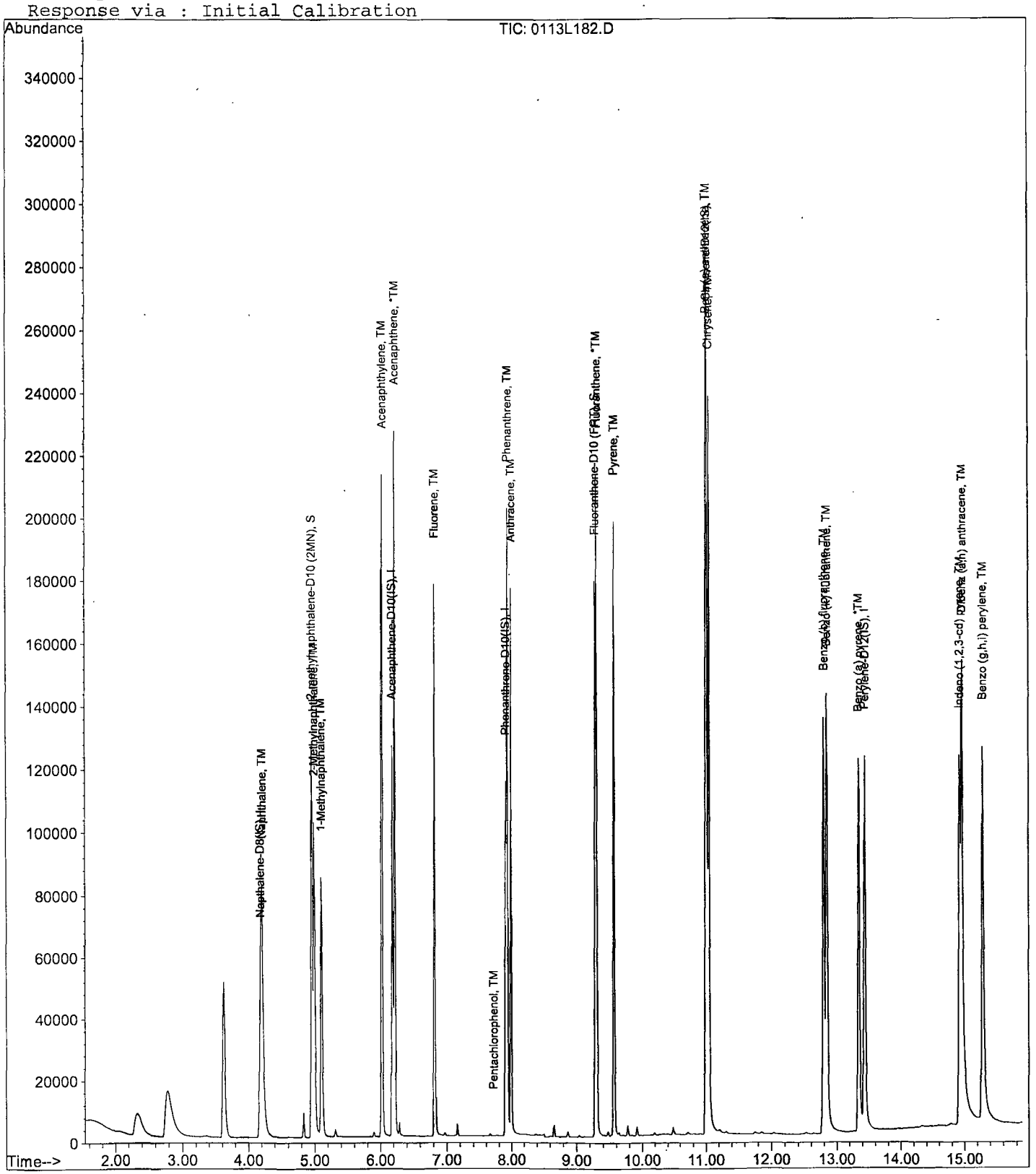
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L200113P\0113L182.D Vial: 82
Acq On : 27 Jan 20 22:20 Operator: MA
Sample : 2.5ug/mL SIMLL SPK 01/21/20 ((CCV) Inst : Linus
Misc : Multiplr: 1.00

Quant Time: Jan 28 8:16 2020 Quant Results File: L0113PCP.RES

Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 10:14:53 2020
Response via : Initial Calibration



ORGANICS
Raw Data

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L200113P\0113L179.D Vial: 79
Acq On : 27 Jan 20 21:14 Operator: MA
Sample : BA06361W18 1/800 Inst : Linus
Misc : Multiplr: 1.25

Quant Time: Jan 28 8:38 2020 Quant Results File: L0113PCP.RES

Quant Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 10:14:53 2020
Response via : Initial Calibration
DataAcq Meth : SIM_2

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	4.19	136	108384	2.50000 ppb	-0.01
7) Acenaphthene-D10(IS)	6.18	164	58890	2.50000 ppb	-0.01
13) Phenanthrene-D10(IS)	7.91	188	112031	2.50000 ppb	-0.01
18) Chrysene-D12(IS)	11.01	240	145746	2.50000 ppb	-0.03
24) Perylene-D12(IS)	13.43	264	172914	2.50000 ppb	-0.03
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	0.00	82	0d	0.00000 ppb	
Spiked Amount 6.250			Recovery	= 0.000%	
4) 2-methylnaphthalene-D10 (2	4.96	152	241029	5.67864 ppb	-0.01
Spiked Amount 6.250			Recovery	= 90.864%	
8) Surrogate Recovery (FBP)	0.00	172	0d	0.00000 ppb	
Spiked Amount 6.250			Recovery	= 0.000%	
16) Fluoranthene-D10 (FRT)	9.28	212	306928	5.82309 ppb	-0.02
Spiked Amount 6.250			Recovery	= 93.168%	
20) Surrogate Recovery (TPH)	0.00	244	0d	0.00000 ppb	
Spiked Amount 6.250			Recovery	= 0.000%	

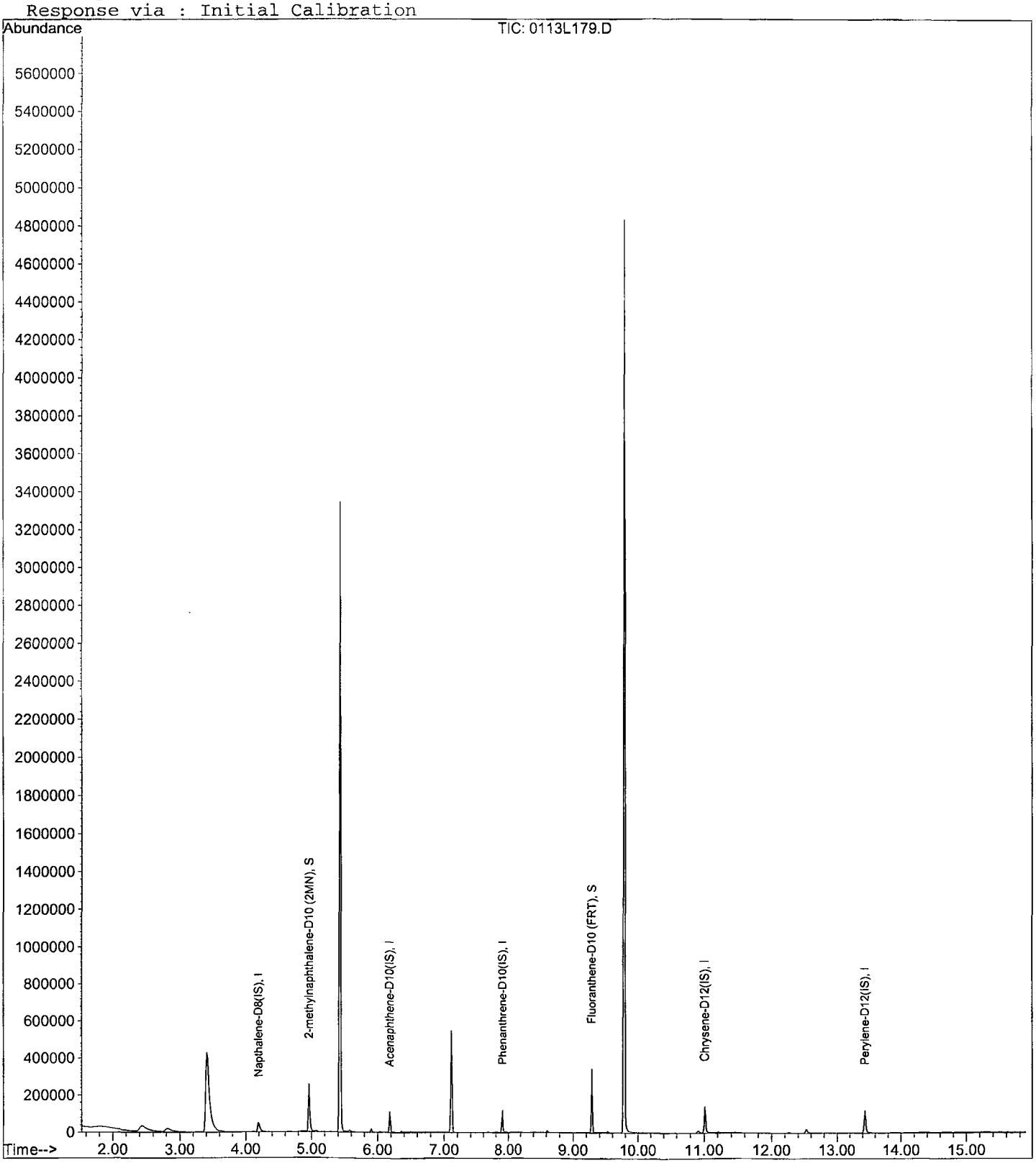
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Data File : M:\LINUS\DATA\L200113P\0113L179.D Vial: 79
Acq On : 27 Jan 20 21:14 Operator: MA
Sample : BA06361W18 1/800 Inst : Linus
Misc : Multiplr: 1.25

Quant Time: Jan 28 8:38 2020 Quant Results File: L0113PCP.RES

Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 10:14:53 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L200113P\0113L180.D Vial: 80
Acq On : 27 Jan 20 21:36 Operator: MA
Sample : BA06362W14 1/800 Inst : Linus
Misc : Multiplr: 1.25

Quant Time: Jan 28 8:39 2020 Quant Results File: L0113PCP.RES

Quant Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 10:14:53 2020
Response via : Initial Calibration
DataAcq Meth : SIM_2

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	4.19	136	112120	2.50000 ppb	-0.01
7) Acenaphthene-D10(IS)	6.18	164	62048	2.50000 ppb	-0.01
13) Phenanthrene-D10(IS)	7.91	188	114949	2.50000 ppb	-0.01
18) Chrysene-D12(IS)	11.01	240	149889	2.50000 ppb	-0.03
24) Perylene-D12(IS)	13.43	264	177173	2.50000 ppb	-0.03
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	0.00	82	0d	0.00000 ppb	
Spiked Amount 6.250			Recovery	= 0.000%	
4) 2-methylnaphthalene-D10 (2	4.96	152	234644	5.34400 ppb	-0.01
Spiked Amount 6.250			Recovery	= 85.504%	
8) Surrogate Recovery (FBP)	0.00	172	0d	0.00000 ppb	
Spiked Amount 6.250			Recovery	= 0.000%	
16) Fluoranthene-D10 (FRT)	9.28	212	308473	5.70384 ppb	-0.02
Spiked Amount 6.250			Recovery	= 91.264%	
20) Surrogate Recovery (TPH)	0.00	244	0d	0.00000 ppb	
Spiked Amount 6.250			Recovery	= 0.000%	

Target Compounds Qvalue

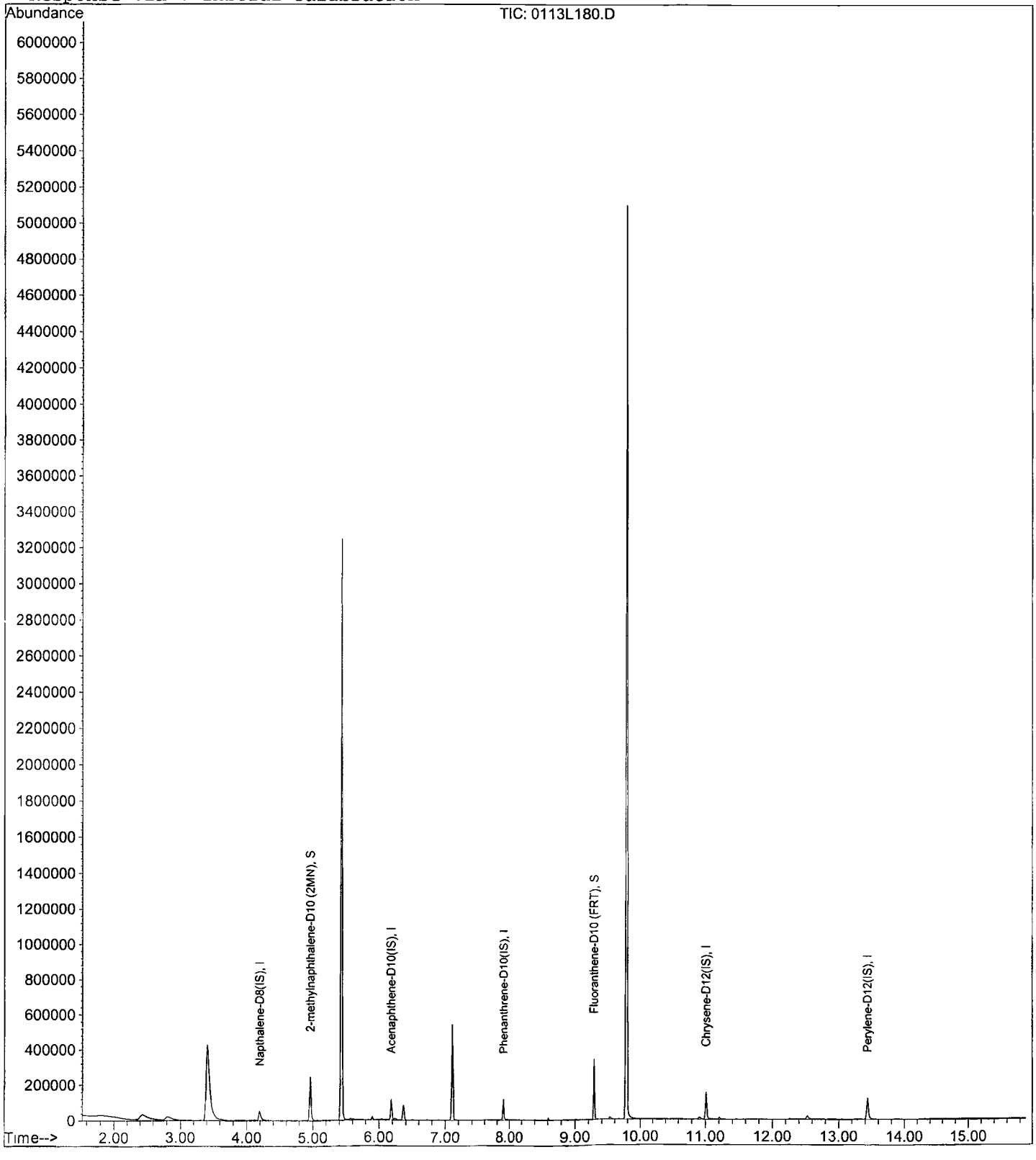
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L200113P\0113L180.D Vial: 80
Acq On : 27 Jan 20 21:36 Operator: MA
Sample : BA06362W14 1/800 Inst : Linus
Misc : Multiplr: 1.25

Quant Time: Jan 28 8:39 2020 Quant Results File: L0113PCP.RES

Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 10:14:53 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L200113P\0113L181.D Vial: 81
Acq On : 27 Jan 20 21:58 Operator: MA
Sample : BA06364W16 1/800 Inst : Linus
Misc : Multiplr: 1.25

Quant Time: Jan 28 8:39 2020 Quant Results File: L0113PCP.RES

Quant Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 10:14:53 2020
Response via : Initial Calibration
DataAcq Meth : SIM_2

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	4.19	136	108468	2.50000 ppb	-0.01
7) Acenaphthene-D10(IS)	6.18	164	59617	2.50000 ppb	-0.01
13) Phenanthrene-D10(IS)	7.91	188	112831	2.50000 ppb	-0.01
18) Chrysene-D12(IS)	11.01	240	146528	2.50000 ppb	-0.03
24) Perylene-D12(IS)	13.43	264	171388	2.50000 ppb	-0.03
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	0.00	82	0d	0.00000 ppb	
Spiked Amount 6.250			Recovery	= 0.000%	
4) 2-methylnaphthalene-D10 (2	4.96	152	239601	5.64063 ppb	-0.01
Spiked Amount 6.250			Recovery	= 90.256%	
8) Surrogate Recovery (FBP)	0.00	172	0d	0.00000 ppb	
Spiked Amount 6.250			Recovery	= 0.000%	
16) Fluoranthene-D10 (FRT)	9.28	212	303587	5.71887 ppb	-0.02
Spiked Amount 6.250			Recovery	= 91.504%	
20) Surrogate Recovery (TPH)	0.00	244	0d	0.00000 ppb	
Spiked Amount 6.250			Recovery	= 0.000%	

Target Compounds Qvalue

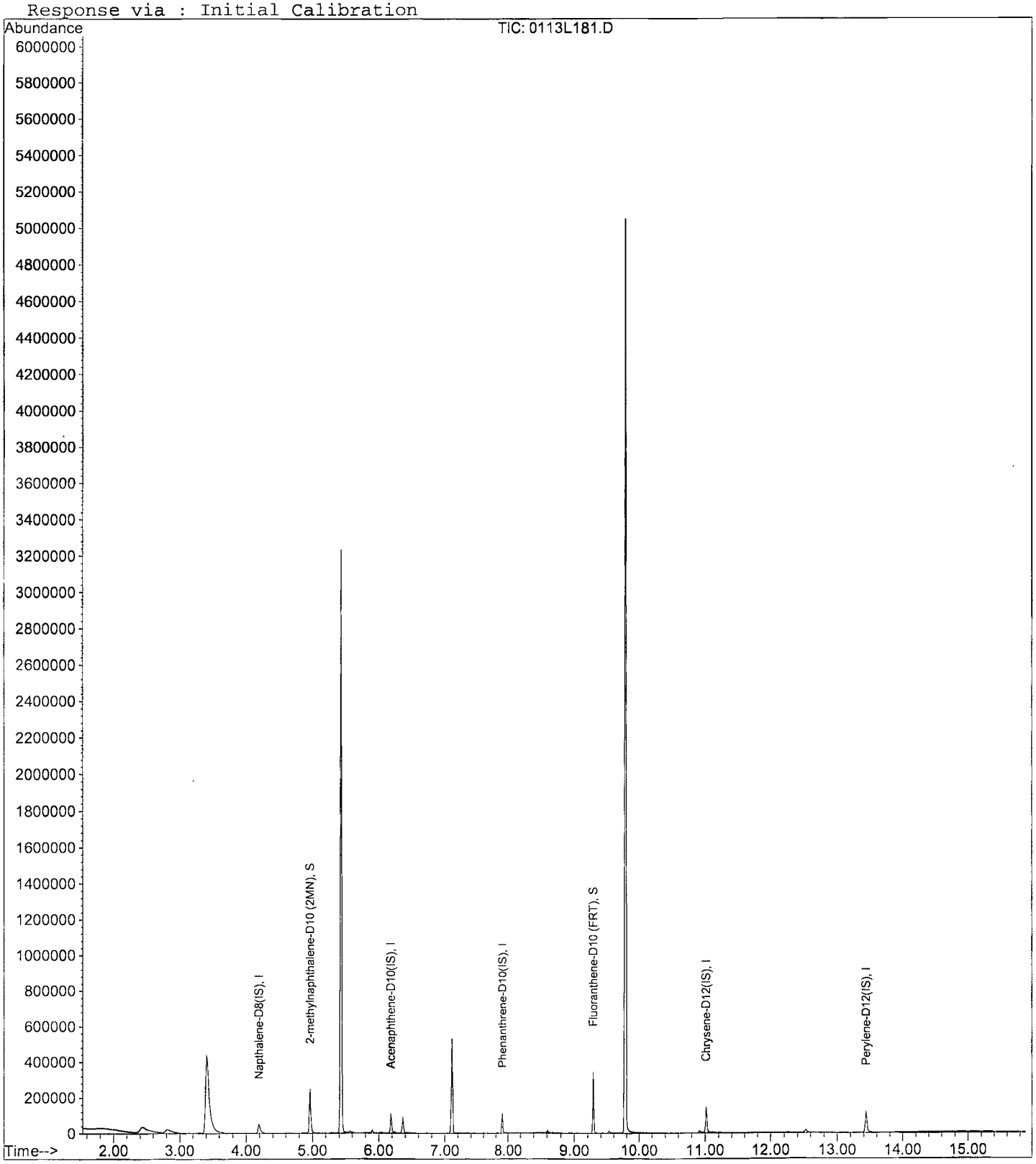
(#) = qualifier out of range (m) = manual integration
0113L181.D L0113PCP.M Tue Jan 28 08:42:50 2020 Page 1

Quantitation Report

Data File : M:\LINUS\DATA\L200113P\0113L181.D Vial: 81
Acq On : 27 Jan 20 21:58 Operator: MA
Sample : BA06364W16 1/800 Inst : Linus
Misc : Multiplr: 1.25

Quant Time: Jan 28 8:39 2020 Quant Results File: L0113PCP.RES

Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 10:14:53 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L200113P\0113L163.D Vial: 63
Acq On : 27 Jan 20 15:24 Operator: MA
Sample : 200124A BLK 1/800 Inst : Linus
Misc : Multiplr: 1.25

Quant Time: Jan 27 16:05 2020 Quant Results File: L0113PCP.RES

Quant Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 10:14:53 2020
Response via : Initial Calibration
DataAcq Meth : SIM_2

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	4.19	136	115033	2.50000 ppb	-0.01
7) Acenaphthene-D10(IS)	6.18	164	64382	2.50000 ppb	-0.01
13) Phenanthrene-D10(IS)	7.91	188	120314	2.50000 ppb	-0.01
18) Chrysene-D12(IS)	11.01	240	155799	2.50000 ppb	-0.03
24) Perylene-D12(IS)	13.45	264	181226	2.50000 ppb	-0.02
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	3.41	82	1088142	96.82887 ppb	0.00
Spiked Amount 6.250			Recovery	= 1549.264%	
4) 2-methylnaphthalene-D10 (2	4.96	152	247271	5.48897 ppb	-0.01
Spiked Amount 6.250			Recovery	= 87.824%	
8) Surrogate Recovery (FBP)	5.43	172	2727873	79.17269 ppb	0.00
Spiked Amount 6.250			Recovery	= 1266.768%	
16) Fluoranthene-D10 (FRT)	9.28	212	320794	5.66716 ppb	-0.02
Spiked Amount 6.250			Recovery	= 90.672%	
20) Surrogate Recovery (TPH)	9.79	244	4717362	89.82298 ppb	0.00
Spiked Amount 6.250			Recovery	= 1437.168%	

Target Compounds Qvalue

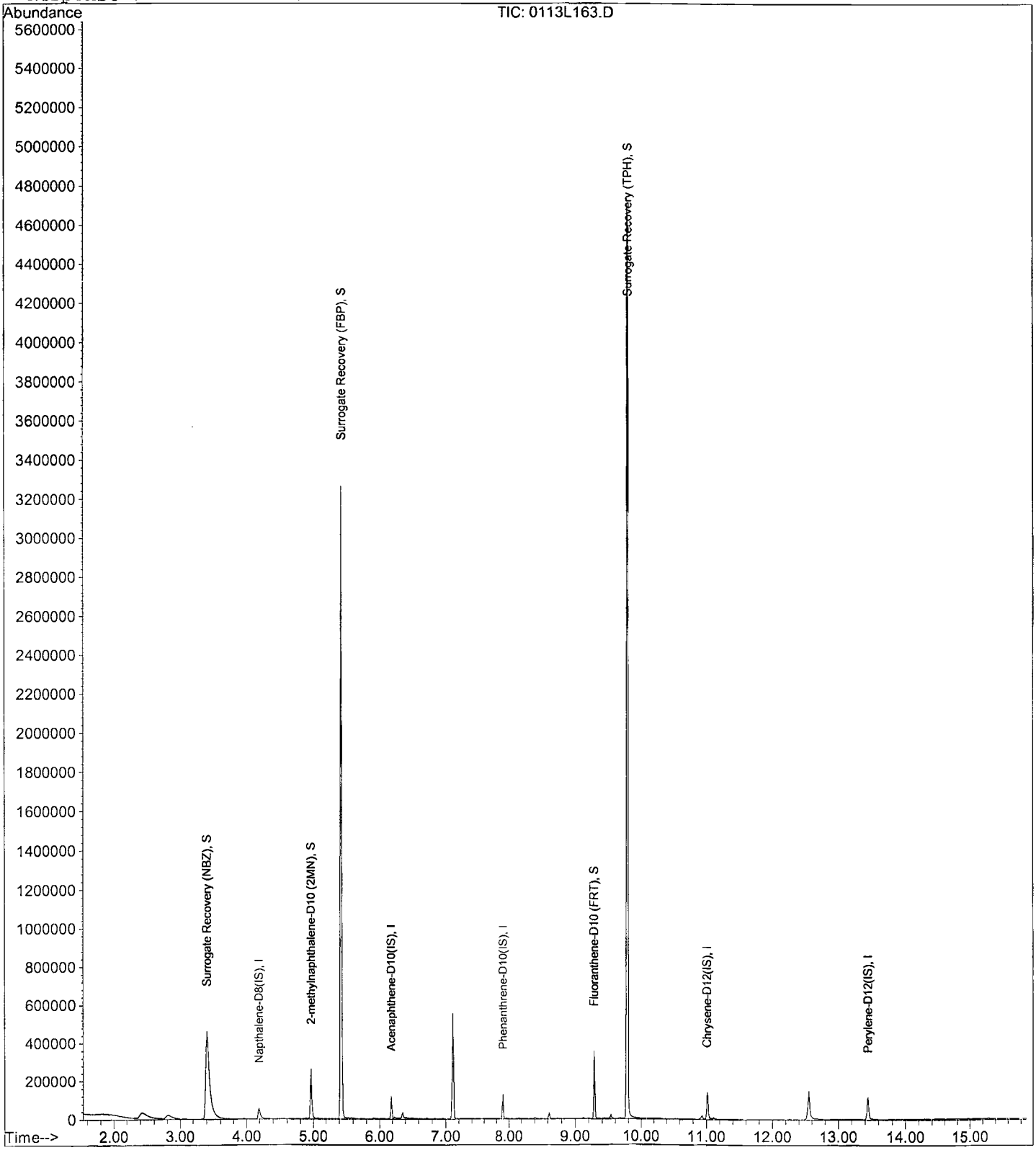
(#) = qualifier out of range (m) = manual integration
0113L163.D L0113PCP.M Tue Jan 28 08:43:34 2020 Page 1

Quantitation Report

Data File : M:\LINUS\DATA\L200113P\0113L163.D Vial: 63
Acq On : 27 Jan 20 15:24 Operator: MA
Sample : 200124A BLK 1/800 Inst : Linus
Misc : Multiplr: 1.25

Quant Time: Jan 27 16:05 2020 Quant Results File: L0113PCP.RES

Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 10:14:53 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L200113P\0113L164.D Vial: 64
Acq On : 27 Jan 20 15:46 Operator: MA
Sample : 200124A LCS-2 1/800 Inst : Linus
Misc : Multiplr: 1.25

Quant Time: Jan 27 16:05 2020 Quant Results File: L0113PCP.RES

Quant Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 10:14:53 2020
Response via : Initial Calibration
DataAcq Meth : SIM_2

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Napthalene-D8(IS)	4.19	136	114861	2.50000 ppb		-0.01
7) Acenaphthene-D10(IS)	6.18	164	61848	2.50000 ppb		-0.01
13) Phenanthrene-D10(IS)	7.91	188	120769	2.50000 ppb		-0.01
18) Chrysene-D12(IS)	11.01	240	153309	2.50000 ppb		-0.03
24) Perylene-D12(IS)	13.43	264	175981	2.50000 ppb		-0.03
System Monitoring Compounds						
2) Surrogate Recovery (NBZ)	0.00	82	0	0.00000 ppb		
Spiked Amount 6.250			Recovery	= 0.000%		
4) 2-methylnaphthalene-D10 (2	4.96	152	244428	5.43399 ppb		-0.01
Spiked Amount 6.250			Recovery	= 86.944%		
8) Surrogate Recovery (FBP)	5.42	172	171	0.00517 ppb		-0.01
Spiked Amount 6.250			Recovery	= 0.080%		
16) Fluoranthene-D10 (FRT)	9.28	212	300745	5.29295 ppb		-0.02
Spiked Amount 6.250			Recovery	= 84.688%		
20) Surrogate Recovery (TPH)	9.77	244	1864	0.03607 ppb		-0.02
Spiked Amount 6.250			Recovery	= 0.576%		
Target Compounds						Qvalue
3) Naphthalene	4.21	128	206026	5.25971 ppb		100
5) 2-Methylnaphthalene	5.00	141	114693	5.31300 ppb		100
6) 1-Methylnaphthalene	5.11	141	120804	5.33216 ppb		99
9) Acenaphthylene	6.02	152	434552	4.98378 ppb		100
10) Acenaphthene	6.22	154	127113	4.95416 ppb		97
11) Fluorene	6.82	166	166104	5.17587 ppb		97
12) Pentachlorophenol	7.71	266	176	0.85536 ppb		97
14) Phenanthrene	7.93	178	240183	5.46849 ppb		98
15) Anthracene	7.99	178	209073	5.09140 ppb		98
17) Fluoranthene	9.30	202	332658	5.25619 ppb		100
19) Pyrene	9.57	202	339077	5.47012 ppb		100
21) Benz (a) anthracene	11.00	228	324181	5.14218 ppb		98
22) Chrysene	11.04	228	327971	5.40815 ppb	#	97
23) Indeno (1,2,3-cd) pyrene	14.92	276	422044	5.62089 ppb	#	86
25) Benzo (b) fluoranthene	12.79	252	339647	5.16983 ppb		99
26) Benzo (k) fluoranthene	12.85	252	377208	6.24455 ppb		99
27) Benzo (a) pyrene	13.35	252	313604	5.18980 ppb		99
28) Dibenz (a,h) anthracene	14.96	278	360759	5.78741 ppb		99
29) Benzo (g,h,i) perylene	15.29	276	362916	5.89224 ppb		99

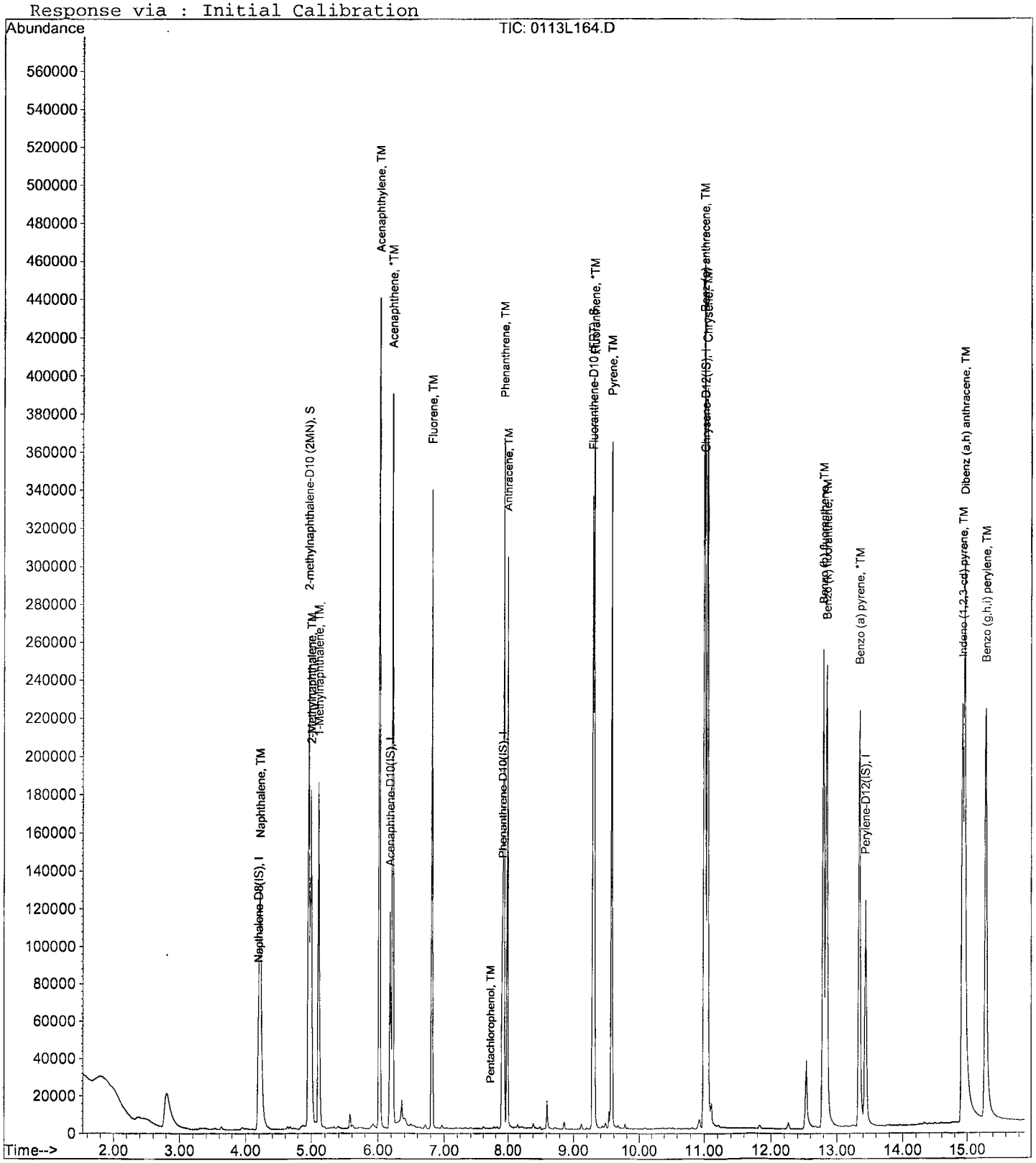
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L200113P\0113L164.D Vial: 64
Acq On : 27 Jan 20 15:46 Operator: MA
Sample : 200124A LCS-2 1/800 Inst : Linus
Misc : Multiplr: 1.25

Quant Time: Jan 27 16:05 2020 Quant Results File: L0113PCP.RES

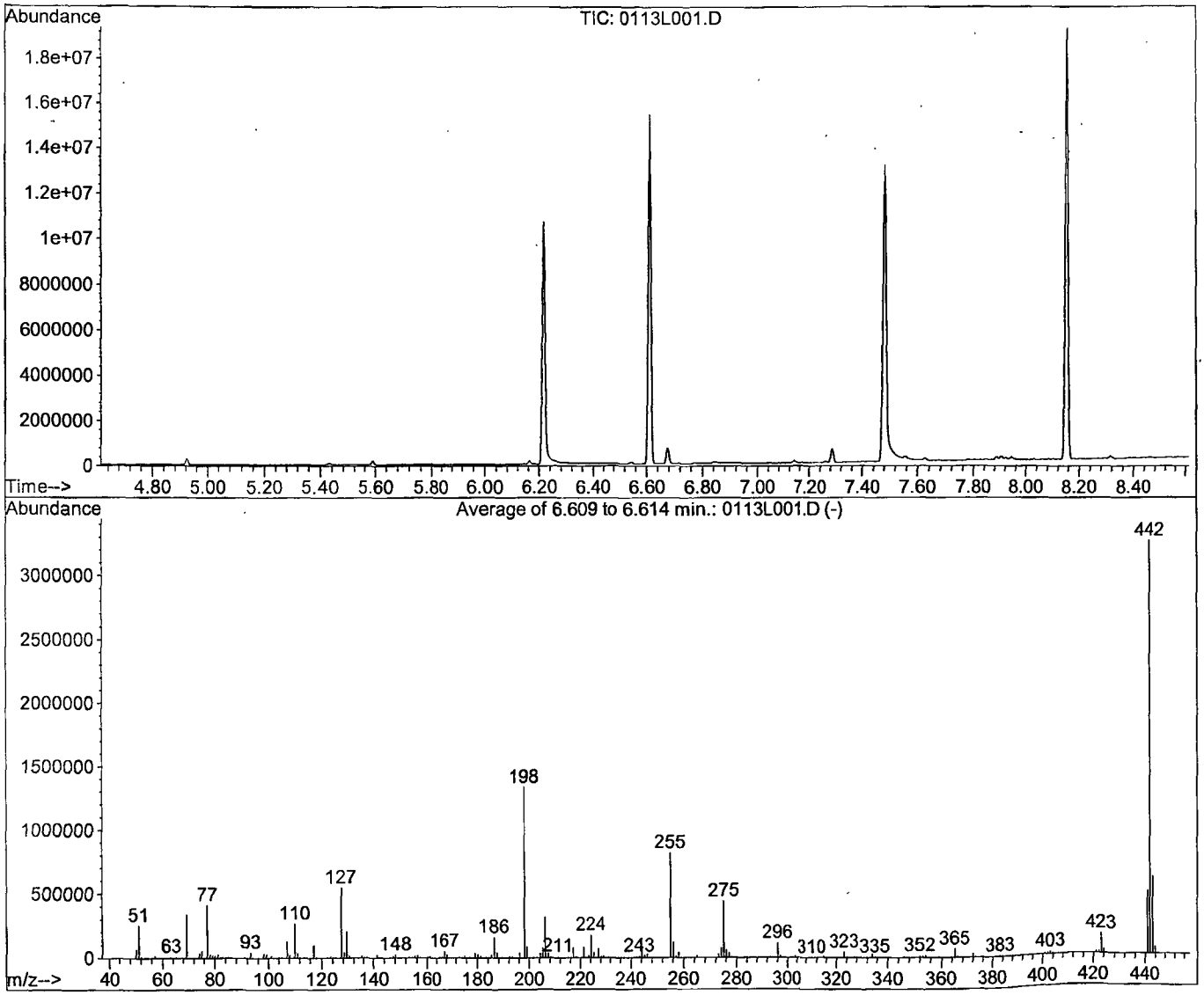
Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Jan 14 10:14:53 2020
Response via : Initial Calibration



DFTPP

Data File : M:\LINUS\DATA\L200113P\0113L001.D Vial: 86
Acq On : 13 Jan 20 13:07 Operator: MA
Sample : SV Tune 10/01/19 Inst : Linus
Misc : Multiplr: 1.00

Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270



Spectrum Information: Average of 6.609 to 6.614 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	19.0	255177	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.3	1117	PASS
127	198	10	80	41.1	551011	PASS
197	198	0.00	2	0.0	0	PASS
198	198	100	100	100.0	1340245	PASS
199	198	5	9	6.5	87608	PASS
275	198	10	60	33.0	442112	PASS
365	198	1	100	5.1	68096	PASS
441	442	0.01	24	15.2	497451	PASS
442	198	50	500	244.5	3276971	PASS
443	442	15	24	18.6	609451	PASS

Data File Name:	**0113L001.D**
Data File Path:	**M:\LINUS\DATA\L200113P**
Operator:	**MA**
Date Acquired:	**13 Jan 2020 13:07**
Method File:	**DFTPP2.M**
Sample Name:	**SV Tune 10/01/19**
Vial Number:	**86**
Instrument Name:	**Linus**

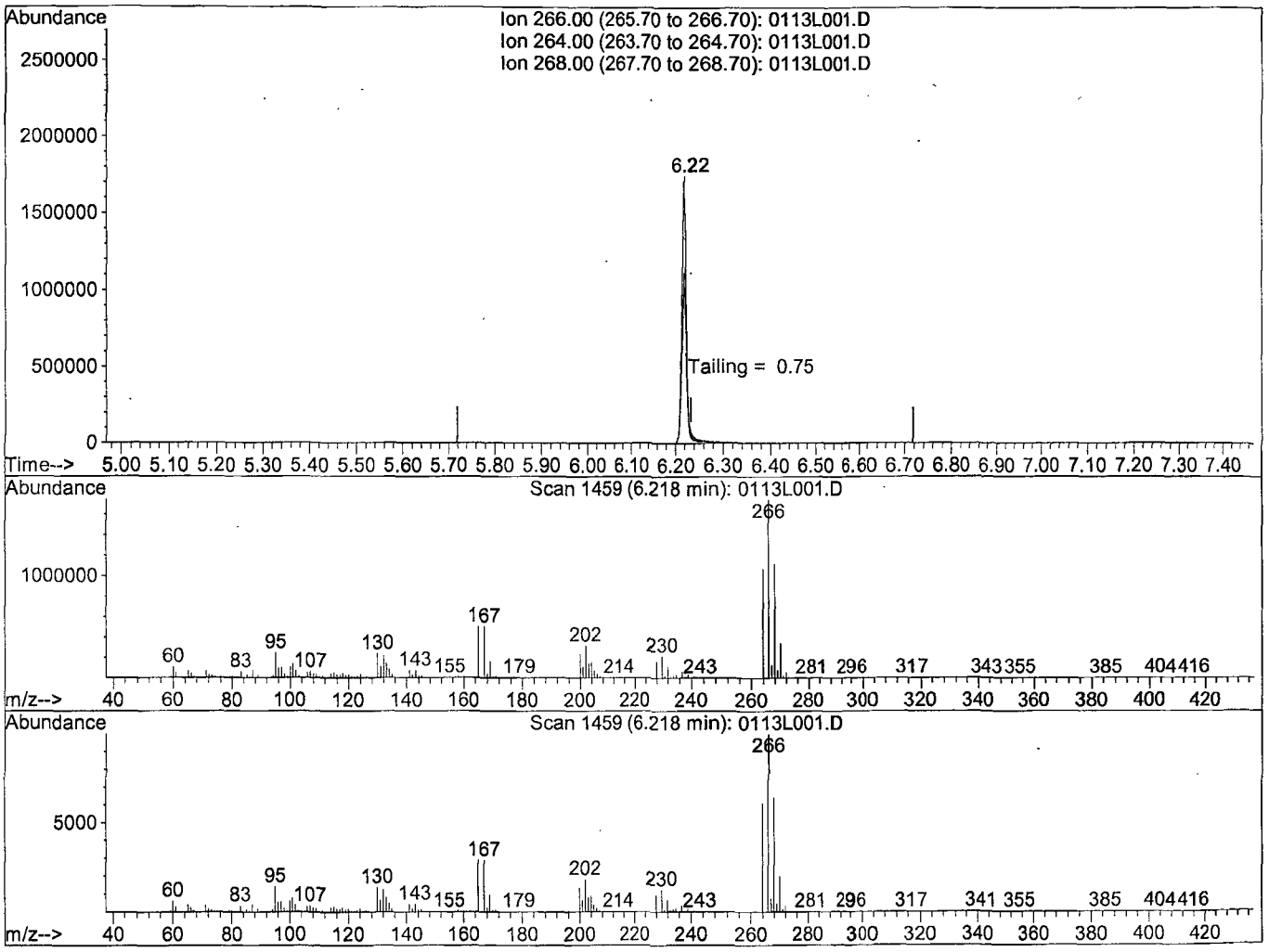
#	Name	Ret Time	Target Response
1)	DDT	8.16	137090000
2)	DDD	7.91	1495930
3)	DDE	7.63	676631

Breakdown **1.56**

Quantitation Report

Data File : M:\LINUS\DATA\L200113P\0113L001.D Vial: 86
Acq On : 13 Jan 20 13:07 Operator: MA
Sample : SV Tune 10/01/19 Inst : Linus
Misc : Multiplr: 1.00
Quant Time: Jan 14 10:19 2020 Quant Results File: temp.res

Method : M:\LINUS\DATA\L200113P\DFTPP2.M (Chemstation Integrator)
Title :
Last Update : Tue Jan 14 10:19:04 2020
Response via : Single Level Calibration



TIC: 0113L001.D

(5) Pentachlorophenol

6.22min 0.0000

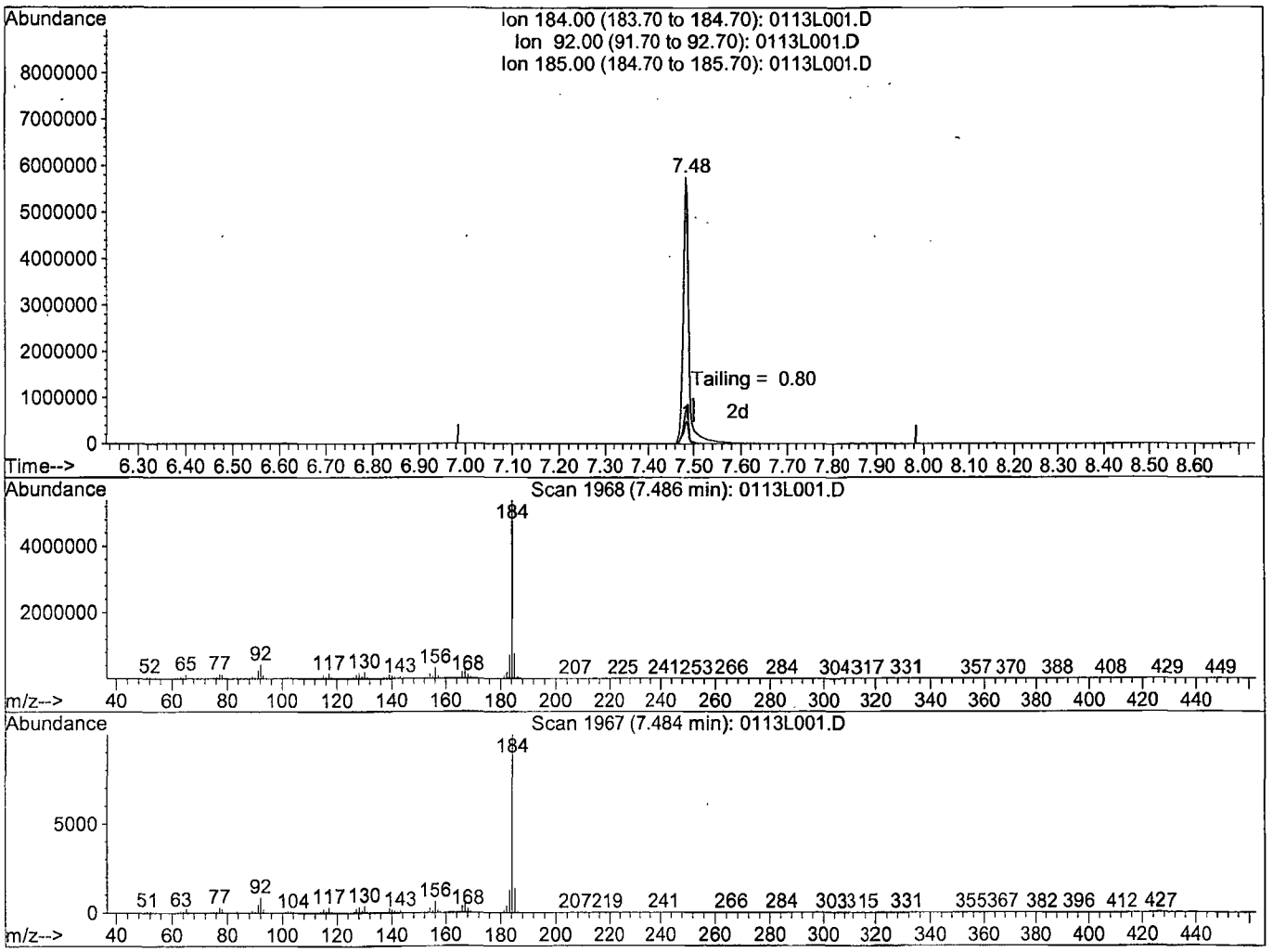
response 11875602

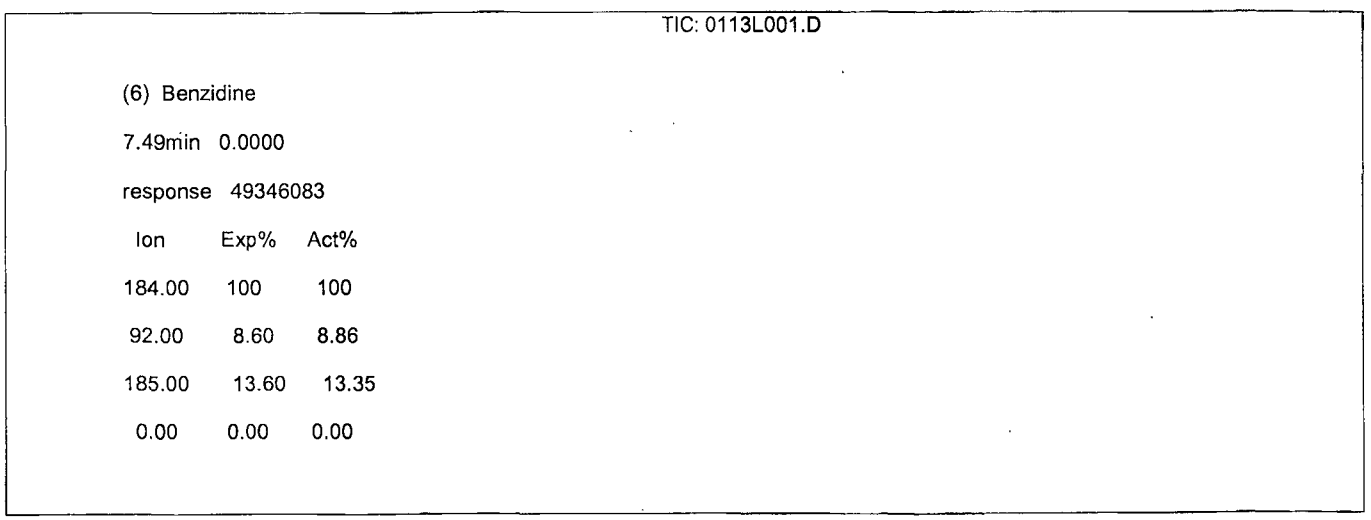
Ion	Exp%	Act%
266.00	100	100
264.00	61.10	61.52
268.00	64.00	64.03
0.00	0.00	0.00

Quantitation Report

Data File : M:\LINUS\DATA\L200113P\0113L001.D Vial: 86
Acq On : 13 Jan 20 13:07 Operator: MA
Sample : SV Tune 10/01/19 Inst : Linus
Misc : Multiplr: 1.00
Quant Time: Jan 14 10:19 2020 Quant Results File: temp.res

Method : M:\LINUS\DATA\L200113P\DFTPP2.M (Chemstation Integrator)
Title :
Last Update : Tue Jan 14 10:19:04 2020
Response via : Single Level Calibration





(6) Benzidine

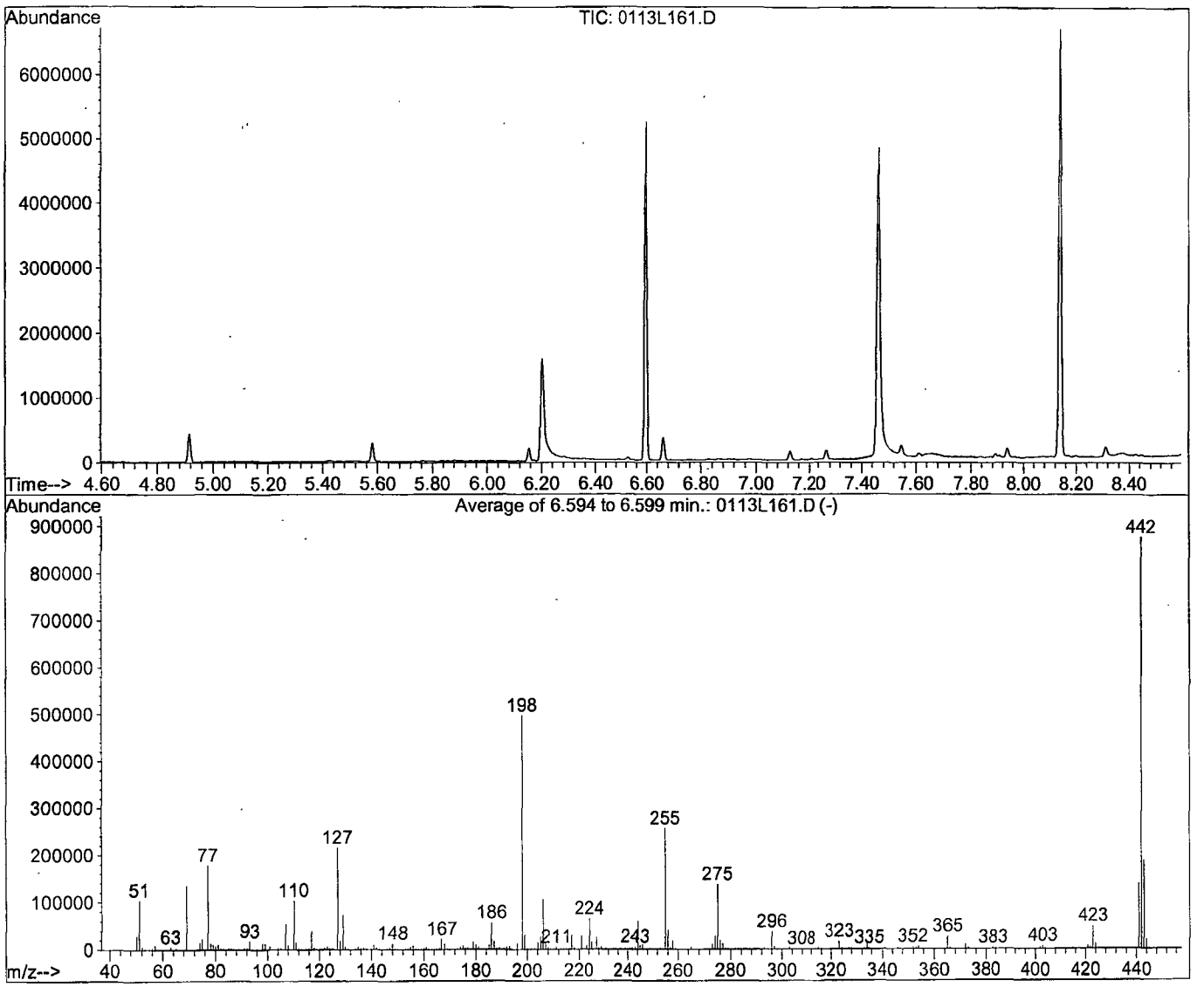
7.49min 0.0000

response 49346083

Ion	Exp%	Act%
184.00	100	100
92.00	8.60	8.86
185.00	13.60	13.35
0.00	0.00	0.00

Data File : M:\LINUS\DATA\L200113P\0113L161.D Vial: 61
Acq On : 27 Jan 20 14:35 Operator: MA
Sample : SV TUNE 10/01/19 Inst : Linus
Misc : Multiplr: 1.00

Method : M:\LINUS\DATA\L200113P\L0113PCP.M (RTE Integrator)
Title : EPA 8270



Spectrum Information: Average of 6.594 to 6.599 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	20.9	103743	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.5	711	PASS
127	198	10	80	43.3	215147	PASS
197	198	0.00	2	0.0	0	PASS
198	198	100	100	100.0	496811	PASS
199	198	5	9	6.3	31128	PASS
275	198	10	60	27.5	136752	PASS
365	198	1	100	5.3	26264	PASS
441	442	0.01	24	15.7	137731	PASS
442	198	50	500	176.6	877483	PASS
443	442	15	24	21.3	187264	PASS

Data File Name:	**0113L161.D**
Data File Path:	**M:\LINUS\DATA\L200113P**
Operator:	**MA**
Date Acquired:	**27 Jan 2020 14:35**
Method File:	**DFTPP2.M**
Sample Name:	**SV TUNE 10/01/19**
Vial Number:	**61**
Instrument Name:	**Linus**

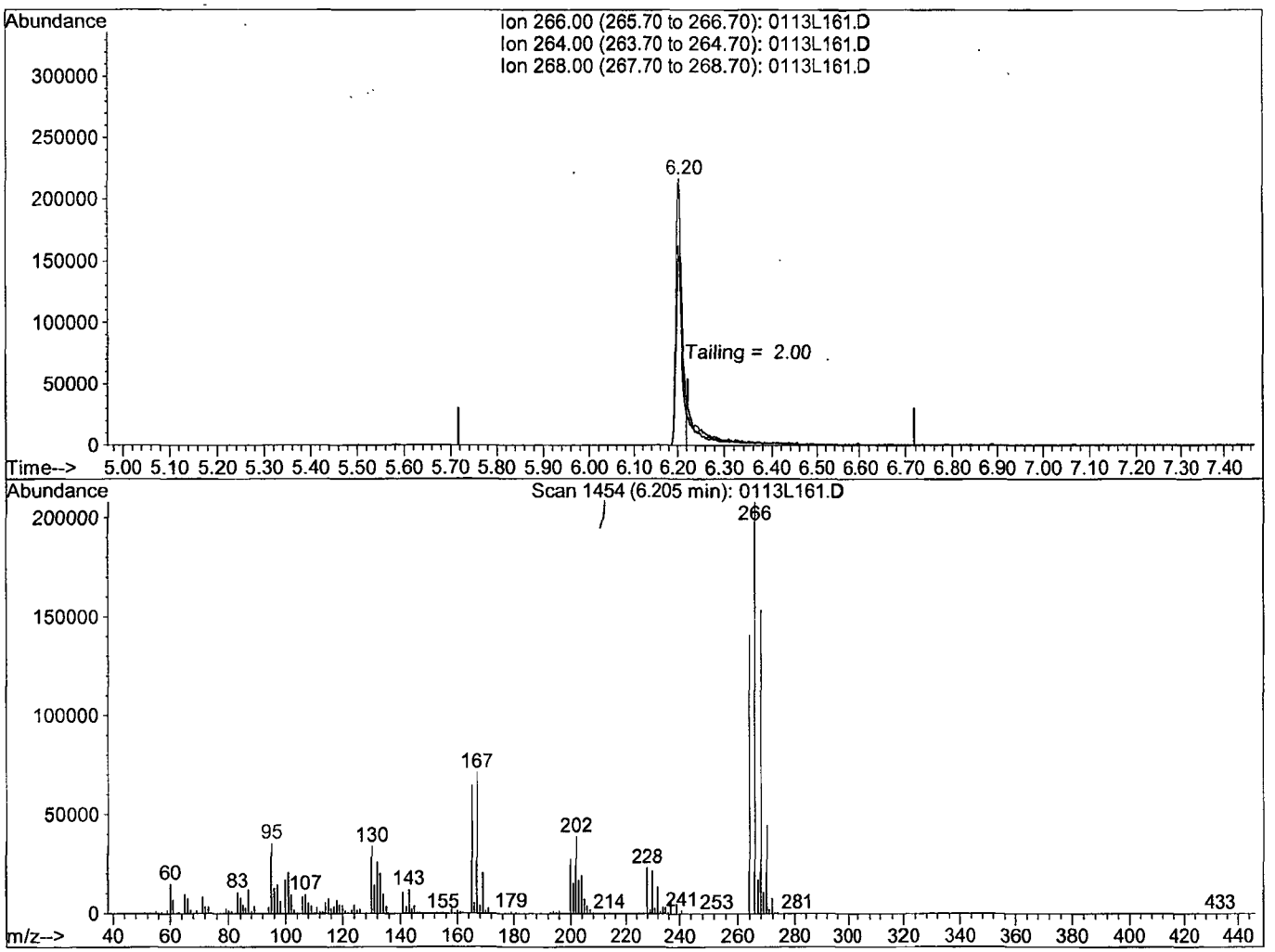
#	Name	Ret Time	Target Response
1)	DDT	8.16	43167500
2)	DDD	7.91	269680
3)	DDE	7.63	239806

Breakdown **1.17**

Quantitation Report

Data File : M:\LINUS\DATA\L200113P\0113L161.D Vial: 61
Acq On : 27 Jan 20 14:35 Operator: MA
Sample : SV TUNE 10/01/19 Inst : Linus
Misc : Multiplr: 1.00
Quant Time: Jan 27 14:57 2020 Quant Results File: temp.res

Method : M:\LINUS\DATA\L200113P\DFTPP2.M (Chemstation Integrator)
Title :
Last Update : Tue Jan 14 10:19:04 2020
Response via : Single Level Calibration



TIC: 0113L161.D

(5) Pentachlorophenol

6.20min 0.0000

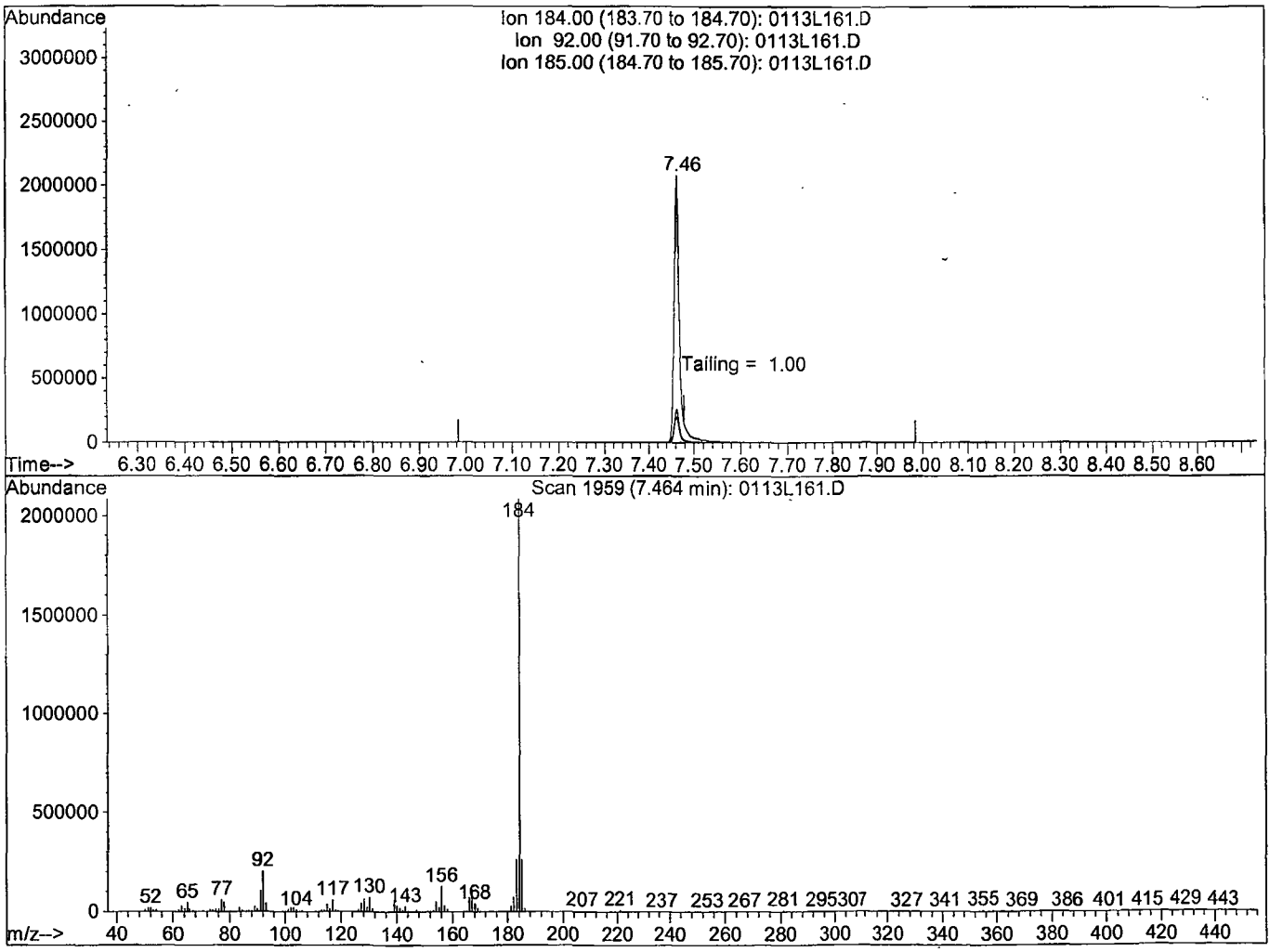
response 1915817

Ion	Exp%	Act%
266.00	100	100
264.00	61.10	77.13
268.00	64.00	84.59#
0.00	0.00	0.00

Quantitation Report

Data File : M:\LINUS\DATA\L200113P\0113L161.D Vial: 61
Acq On : 27 Jan 20 14:35 Operator: MA
Sample : SV TUNE 10/01/19 Inst : Linus
Misc : Multiplr: 1.00
Quant Time: Jan 27 14:57 2020 Quant Results File: temp.res

Method : M:\LINUS\DATA\L200113P\DFTPP2.M (Chemstation Integrator)
Title :
Last Update : Tue Jan 14 10:19:04 2020
Response via : Single Level Calibration



TIC: 0113L161.D

(6) Benzidine

7.46min 0.0000

response 16234112

Ion	Exp%	Act%
184.00	100	100
92.00	8.60	9.84
185.00	13.60	13.61
0.00	0.00	0.00

Name of Final Standard	Semivolatile (SV) Tuning Solution	Prep'd By (Initials)	JP
Prep Date	10/01/19		
Exp Date	11/30/20		

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from contianer Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
Semivolatile GC/MS Tuning Standard	Ultra Scientific	GCM-150-1	1,000 ug/mL	CR3789A-41241	11/30/20	1,250 uL	25 mL	MC #58240	50 ug/mL

Name of Final Standard	SIM PCP Continuing Calibration	Prep'd By (Initials)	JP
Prep Date	01/16/20		
Exp Date	01/24/20		

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from container Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
PAH SIMPCP	APPL	PAH SIMPCP	100 ug/mL	09/10/19	09/10/20	10 uL	200uL	MC DW717 180uL	5.0 ug/mL
SIM 2S SURROGATE	APPL	SIM 2S SURROGATE	100 ug/mL	05/17/19	01/24/20	10 uL	*	*	*
SV Internal Standard	APPL	SV Internal Standard	2000 ug/mL	07/10/19	07/10/20	4 uL	*	*	*

Name of Final Standard	SIM 2S Surrogate	Prep'd By (Initials)	GA
Prep Date	05/17/19		
Exp Date	05/17/20		

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from contianer Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
SIM Surrogate Mix	Restek	33913	2000 ug/mL	A0137718 - 39318	04/30/24	250 uL	5 mL	Acetone #030817A	100 ug/mL
8270 B/N surrog mix	Restek	31086	5000 ug/mL	A0141697 - 40112	08/31/24	100 uL	*	*	*

Name of Final Standard	8270 SIM PAH Internal Standard	Prep'd By (Initials)	GA
Prep Date	07/10/19		
Exp Date	07/10/20		

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from contianer Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
SV Internal Standard	Restek	31206	2000 ug/mL	A0144261-40464	11/30/24	350 uL	5,600 uL	MC 56258 5,250 uL	125 ug/mL

Name of Final Standard	PAH SIM PCP STD	Prep'd By (Initials)	GA
Prep Date	09/07/18		
Exp Date	11/08/19		

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from contianer Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
110780-01	O2SI	110780-01	200 ug/mL	327601-38573	11/08/19	1000 uL	2 mL	MC 56258	100
10018	Absolute	10018	2000 ug/mL	062718-39449	06/27/23	100 uL	*	*	*

Name of Final Standard **PAH SIM PCP STD** Prep'd By (Initials) **MA**

Prep Date **09/10/19**
Exp Date **09/10/20**

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from contianer Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
PAH SIM	Phenova	ALO-130490	200 ug/mL	**CL13121-41226**	**12/31/22**	1000 uL	2 mL	**MC 58341**	100
10018	Absolute	10018	2000 ug/mL	**051719-41155**	**05/17/24**	100 uL	*	*	*

Name of Final Standard **8270 PAH SIM PCP Second Source** Prep'd By (Initials) **MA**

Prep Date **09/10/19**
Exp Date **11/08/19**

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from container Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
PAH SIMPCP SS Stock	O2SI	PAH SIMPCP SS Stock	100 ug/mL	**09/07/18**	**11/08/19**	10 uL	200uL	**MC 56341** 195uL	5 ug/mL
SV Internal Standard	APPL	SV Internal Standard	2000 ug/mL	**07/10/19**	**07/10/20**	4 uL	*	*	*

Name of Final Standard: **SIM PCP Curve** Prep'd By (Initials): **MA**

Prep Date: **09/10/19**
Exp Date: **01/24/20**

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from container Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
0.5 ug/mL SIM PCP	APPL	0.5 ug/mL SIM PCP	0.5 ug/mL	09/10/19	01/24/20	20 uL	100uL	MC 58341 80uL	0.1 ug/mL
SV Internal Standard	APPL	SV Internal Standard	2000 ug/mL	07/10/19	07/10/20	2 uL	*	*	*
2.5 ug/mL SIM PCP	APPL	2.5 ug/mL SIM PCP	2.5 ug/mL	09/10/19	01/24/20	10 uL	100uL	MC 58341 90uL	0.25 ug/mL
SV Internal Standard	APPL	SV Internal Standard	2000 ug/mL	07/10/19	07/10/20	2 uL	*	*	*
2.5 ug/mL SIM PCP	APPL	2.5 ug/mL SIM PCP	2.5 ug/mL	09/10/19	01/24/20	20 uL	100uL	MC 58341 80uL	0.5 ug/mL
SV Internal Standard	APPL	SV Internal Standard	2000 ug/mL	07/10/19	07/10/20	2 uL	*	*	*
PAH SIMPCP	APPL	PAH SIMPCP	100 ug/mL	09/10/19	09/10/20	5 uL	200uL	MC 58341 190 uL	2.5 ug/mL
SIM 2S SURROGATE	APPL	SIM 2S SURROGATE	100 ug/mL	05/17/19	01/24/20	5 uL	*	*	*
SV Internal Standard	APPL	SV Internal Standard	2000	07/10/19	07/10/20	4 uL	*	*	*
PAH SIMPCP	APPL	PAH SIMPCP	100 ug/mL	09/10/19	09/10/20	10 uL	200uL	MC 58341 180 uL	5.0 ug/mL
SIM 2S SURROGATE	APPL	SIM 2S SURROGATE	100 ug/mL	05/17/19	01/24/20	10 uL	*	*	*
SV Internal Standard	APPL	SV Internal Standard	2000 ug/mL	07/10/19	07/10/20	4 uL	*	*	*
PAH SIMPCP	APPL	PAH SIMPCP	100 ug/mL	09/10/19	09/10/20	25 uL	100 uL	MC 58341 50 uL	25 ug/mL
SIM 2S SURROGATE	APPL	SIM 2S SURROGATE	100 ug/mL	05/17/19	01/24/20	25 uL	*	*	*
SV Internal Standard	APPL	SV Internal Standard	2000 ug/mL	07/10/19	07/10/20	2 uL	*	*	*
PAH SIMPCP	APPL	PAH SIMPCP	100 ug/mL	09/10/19	09/10/20	50 uL	100uL	na	50 ug/mL
SIM 2S SURROGATE	APPL	SIM 2S SURROGATE	100 ug/mL	05/17/19	01/24/20	50 uL	*	*	*
SV Internal Standard	APPL	SV Internal Standard	2000 ug/mL	07/10/19	07/10/20	2 uL	*	*	*

Organic Extraction Worksheet

Method	Continuous Liquid/Liquid SVOC 3520C	Extraction Set	200124A	Extraction Method	LIQ003	Units	mL

Spiked ID 1	8270T Spike		Surrogate ID 1	8270 Surrogate	
Spiked ID 2	Sim Spike		Surrogate ID 2	SIM Surrogate	
Spiked ID 3			Surrogate ID 3		
Spiked ID 4			Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	YES	
Spiked ID 7			Ext. Start Time:	01/24/20 15:30	
Spiked ID 8			Ext. End Time:	01/25/20 9:30	
			GC Requires Extract By:		

pH1	2		Water Bath Temp 1 °C	75/74.2 E-WB5 °
pH2	14		Water Bath Temp 2 °C	75/74.9 E-WB6
pH3			Water Bath Temp 3 °C	

Spiked By: DL **Date** 01/24/20 **Witnessed By:** KY,DS **Date** 01/24/20

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	200124A Blk				1,0.050	1,2	800	1	2/1	01/24/20 13:30	
						equip	E-HP51				
2	200124A LCS-1		1	1	1	1	800	1	2/1	01/24/20 13:30	
						equip	E-HP50				
3	200124A LCS-2		0.125	2	0.050	2	800	1	2/1	01/24/20 13:30	
						equip	E-HP49				
4	BA06272 MS-1	BA06272W30	1	1	1	1	800	1	2/1	01/24/20 13:30	91282
						equip	E-HP47				
5	BA06272 MSD-1	BA06272W31	1	1	1	1	800	1	2/1	01/24/20 13:30	91282
						equip	E-HP25				
6	BA06272 MS-2	BA06272W34	0.125	2	0.050	2	800	1	2/1	01/24/20 13:30	91282
						equip	E-HP26				
7	BA06272 MSD-2	BA06272W28	0.125	2	0.050	2	800	1	2/1	01/24/20 13:30	91282
						equip	E-HP27				
8	BA06272	BA06272W29			1,0.050	1,2	800	1	2/1	01/24/20 13:30	91282
						equip	E-HP48				
9	BA06273	BA06273W11			1,0.050	1,2	800	1	2/1	01/24/20 13:30	91282
						equip	E-HP28				
10	BA06275	BA06275W13			1,0.050	1,2	800	1	2/1	01/24/20 13:30	91282
						equip	E-HP29				
11	BA06276	BA06276W15			1,0.050	1,2	800	1	2/1	01/24/20 13:30	91282
						equip	E-HP30				
12	BA06279	BA06279W14			1,0.050	1,2	800	1	2/1	01/24/20 13:30	91282
						equip	E-HP17				
13	BA06281	BA06281W13			1,0.050	1,2	800	1	2/1	01/24/20 13:30	91282
						equip	E-HP16				
14	BA06282	BA06282W13			1,0.050	1,2	800	1	2/1	01/24/20 13:30	91282
						equip	E-HP15				
15	BA06284	BA06284W19			1,0.050	1,2	800	1	2/1	01/24/20 13:30	91282
						equip	E-HP14				
16	BA06313	BA06313W13			1,0.050	1,2	800	1	2/1	01/24/20 13:30	91288
						equip	E-HP13				

Solvent and Lot#	
PH Strips	HC863463
Dichloromethane (DCM)	59239
1+1 H2SO4	12-17-19
10N NaOH	11-20-19
Filter Paper	400121
Acidified Na2SO4	1041-26-20
B. Na2SO4	2019020631

Extraction COC Transfer	
Extraction lab employee Initials	
GC analyst's initials	JP
Date	
Time	
Refrigerator	GC-C

	Technician's Initials
Scanned By	DL
Sample Preparation	DL
Extraction	DL
Concentration	DL, ERR

Modified	01/27/20 2:47:05 PM

Reviewed By: **Date**

Organic Extraction Worksheet

Method	Continuous Liquid/Liquid SVOC 3520C	Extraction Set	200124A	Extraction Method	LIQ003	Units	mL

Spiked ID 1	8270T Spike		Surrogate ID 1	8270 Surrogate	
Spiked ID 2	Sim Spike		Surrogate ID 2	SIM Surrogate	
Spiked ID 3			Surrogate ID 3		
Spiked ID 4			Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	YES	
Spiked ID 7			Ext. Start Time:	01/24/20 15:30	
Spiked ID 8			Ext. End Time:	01/25/20 9:30	
			GC Requires Extract By:		

pH1	2		Water Bath Temp 1 °C	75/74.2 E-WB5 °
pH2	14		Water Bath Temp 2 °C	75/74.9 E-WB6
pH3			Water Bath Temp 3 °C	

Spiked By: DL **Date** 01/24/20 **Witnessed By:** KY,DS **Date** 01/24/20

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
17	BA06315	BA06315W13			1,0.050	1,2	800	1	2/1	01/24/20 13:30	91288
						equip	E-HP12				
18	BA06317	BA06317W14			1,0.050	1,2	800	1	2/1	01/24/20 13:30	91288
						equip	E-HP11				
19	BA06319	BA06319W16			1,0.050	1,2	800	1	2/1	01/24/20 13:30	91288
						equip	E-HP10				
20	BA06361	BA06361W18			1,0.050	1,2	800	1	2/1	01/24/20 15:15	91299
						equip	E-HP9				
21	BA06362	BA06362W14			1,0.050	1,2	800	1	2/1	01/24/20 15:15	91299
						equip	E-HP6				
22	BA06364	BA06364W16			1,0.050	1,2	800	1	2/1	01/24/20 15:15	91299
						equip	E-HP4				

Solvent and Lot#	
PH Strips	HC863463
Dichloromethane (DCM)	59239
1+1 H2SO4	12-17-19
10N NaOH	11-20-19
Filter Paper	400121
Acidified Na2SO4	1041-26-20
B. Na2SO4	2019020631

Extraction COC Transfer	
Extraction lab employee Initials	
GC analyst's initials	JP
Date	
Time	
Refrigerator	GC-C

	Technician's Initials
Scanned By	DL
Sample Preparation	DL
Extraction	DL
Concentration	DL, ERR

Modified	01/27/20 2:47:05 PM

Reviewed By: **Date**

Injection Log

Directory: M:\LINUS\DATA\L200113P\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	86	0113L001.D	1	SV Tune 10/01/19		13 Jan 20 13:07
2	88	0113L003.D	1	5.0 SIM PCP 09/10/19 (0)		13 Jan 20 14:59
3	4	0113L004.D	1	0.1 SIM PCP 09/10/19		13 Jan 20 15:43
4	5	0113L005.D	1	0.25 SIM PCP 09/10/19		13 Jan 20 16:05
5	6	0113L006.D	1	0.5 SIM PCP 09/10/19		13 Jan 20 16:26
6	7	0113L007.D	1	2.5 SIM PCP 09/10/19		13 Jan 20 16:48
7	8	0113L008.D	1	25 SIM PCP 09/10/19		13 Jan 20 17:10
8	9	0113L009.D	1	50 SIM PCP 09/10/19		13 Jan 20 17:32
9	10	0113L010.D	1	SS SIM PCP 01/07/20		13 Jan 20 17:54
10	61	0113L161.D	1	SV TUNE 10/01/19		27 Jan 20 14:35
11	62	0113L162.D	1	5ug/mL SIM PCP 01/16/20 (1)		27 Jan 20 14:51
12	63	0113L163.D	1.25	200124A BLK 1/800		27 Jan 20 15:24
13	64	0113L164.D	1.25	200124A LCS-2 1/800		27 Jan 20 15:46
14	79	0113L179.D	1.25	BA06361W18 1/800		27 Jan 20 21:14
15	80	0113L180.D	1.25	BA06362W14 1/800		27 Jan 20 21:36
16	81	0113L181.D	1.25	BA06364W16 1/800		27 Jan 20 21:58
17	82	0113L182.D	1	2.5ug/mL SIMLL SPK 01/21/20 ((CCV)		27 Jan 20 22:20

ORGANICS
Calibration Data

Semi-Volatile Analysis by GC-MS
EPA 8270

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Initial Cal. Date: 12/19/19
Matrix: Instrument: Yoda
Initials:

			1219Y004.D	1219Y005.D	1219Y006.D	1219Y007.D	1219Y008.D	1219Y003 D	1219Y009.D	1219Y010.D	1219Y011.D							
		Compound	4	5	10	20	40	50	60	80	91		Avg	%RSD	Type	r^2	Q	MRF
1	I	1,4-dichlorobenzene-D4(IS)	ISTD															
2		1,4-Dioxane	0.5052	0.5856	0.6410	0.5627	0.5805	0.5963	0.6744	0.6671	0.6074		0.60	8.8				
3	TM	n-Nitrosodimethylamine	1.092	1.156	1.069	0.9475	1.038	1.123	1.210	1.250	1.165		1.1	8.3	TM			
4	TM	Pyridine	2.280	2.408	2.771	2.400	2.420	2.500	2.834	2.907	2.763		2.6	8.9	TM			
5	S	2-Fluorophenol (S)	1.525	1.320	1.432	1.300	1.319	1.484	1.561	1.672	1.583		1.5	9.1	S			
6	S	Phenol-D6 (S)	1.895	1.660	1.756	1.615	1.647	1.920	2.000	2.210	2.108		1.9	11	S			
7	*TM	Phenol	1.874	1.910	2.112	1.928	2.040	2.339	2.470	2.610	2.555		2.2	13	*TM			0.800
8	TM	Aniline	1.334	1.308	1.389	1.427	1.419	1.463	1.661	1.551	1.396		1.4	7.6	TM			
9	TM	Bis (2-chloroethyl) ether	0.9219	0.9198	1.036	0.9251	0.9557	1.056	1.119	1.151	1.107		1.0	9.1	TM			0.700
10	TM	2-Chlorophenol	1.386	1.438	1.555	1.396	1.440	1.608	1.703	1.757	1.686		1.6	9.2	TM			0.800
11	TM	1,3-DCB	1.540	1.631	1.750	1.502	1.582	1.715	1.840	1.921	1.849		1.7	8.7	TM			
12	*TM	1,4-DCB	1.544	1.652	1.762	1.558	1.630	1.757	1.903	1.978	1.905		1.7	9.1	*TM			
13	TM	Benzyl alcohol	0.7777	0.8093	0.9119	0.8082	0.8456	0.9912	1.002	1.065	1.018		0.91	12	TM			
14	TM	1,2-DCB	1.448	1.499	1.651	1.429	1.487	1.659	1.774	1.842	1.807		1.6	10.0	TM			
15	TM	2-Methylphenol	1.219	1.234	1.309	1.185	1.252	1.417	1.495	1.568	1.511		1.4	11	TM			0.700
16	TM	Bis (2-chloroisopropyl) ether	1.212	1.245	1.332	1.184	1.244	1.395	1.475	1.549	1.485		1.3	10.0	TM			
17	TM	Acetophenone	2.010	2.013	2.231	2.067	2.158	2.442	2.558	2.698	2.600		2.3	12	TM			0.010
18	TM	3&4-Methylphenol	1.542	1.554	1.716	1.541	1.629	1.904	1.973	2.123	2.050		1.8	13	TM			0.600
19	**TM	n-Nitrosodi-n-propylamine	1.263	1.297	1.414	1.295	1.361	1.591	1.666	1.776	1.701		1.5	13	**TM			0.500
20	TM	Hexachloroethane	0.6270	0.6828	0.7293	0.6605	0.6729	0.7406	0.7887	0.8348	0.8027		0.73	9.8	TM			0.300
21	I	Napthalene-D8(IS)	ISTD															
22	S	Nitrobenzene-D5(S)	0.5318	0.4774	0.4864	0.4745	0.4719	0.4933	0.5032	0.5240	0.5147		0.50	4.5	S			
23	TM	Nitrobenzene	0.4642	0.5003	0.5125	0.4754	0.5054	0.5308	0.5427	0.5516	0.5571		0.52	6.4	TM			0.200
24	TM	Isophorone	0.7546	0.7674	0.8060	0.7539	0.7961	0.8472	0.8485	0.8787	0.8684		0.81	6.0	TM			0.400
25	*TM	2-Nitrophenol	0.1803	0.1912	0.2042	0.1970	0.2076	0.2181	0.2244	0.2306	0.2309		0.21	8.6	*TM			0.100
26	TM	2,4-Dimethylphenol	0.3048	0.3153	0.3305	0.3095	0.3230	0.3472	0.3501	0.3640	0.3704		0.33	7.1	TM			0.200
27	TML	Benzoic acid	0.0946	0.1138	0.1879	0.2336	0.2825	0.2721	0.2855	0.3030	0.3030		0.23	35	TML	0.998		
28	TM	Bis (2-chloroethoxy) methane	0.3781	0.3943	0.4143	0.3907	0.4119	0.4361	0.4454	0.4624	0.4662		0.42	7.6	TM			0.300
29	*TM	2,4-Dichlorophenol	0.2893	0.2989	0.3168	0.3008	0.3208	0.3413	0.3480	0.3629	0.3610		0.33	8.5	*TM			0.200
30	TM	1,2,4-Trichlorobenzene	0.3149	0.3503	0.3569	0.3288	0.3583	0.3733	0.3895	0.4028	0.4041		0.36	8.6	TM			
31	TM	3,4-Dimethylphenol	0.5088	0.4953	0.5614	0.5223	0.5395	0.5890	0.5844	0.6060	0.6089		0.56	7.6	TM			
32	TM	Naphthalene	0.9866	1.025	1.068	1.000	1.055	1.118	1.145	1.187	1.210		1.1	7.4	TM			0.700
33	TM	4-Chloroaniline	0.4130	0.4102	0.4466	0.4160	0.4341	0.4535	0.4589	0.4596	0.4467		0.44	4.6	TM			0.010
34	TM	2,6-Dichlorophenol	0.2696	0.2967	0.3074	0.2937	0.3088	0.3382	0.3396	0.3625	0.3634		0.32	10	TM			
35	TM	Hexachloropropene	0.2671	0.2881	0.2978	0.2893	0.3112	0.3320	0.3401	0.3527	0.3589		0.32	10	TM			

Semi-Volatile Analysis by GC-MS
EPA 8270

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No: _____
Case No: _____ Initial Cal. Date: 12/19/19
Matrix: _____ Instrument: Yoda Initials: _____

		Compound	4	5	10	20	40	50	60	80	91		Avg	%RSD	Type		Q	
36	*TM	Hexachlorobutadiene	0.2198	0.2305	0.2457	0.2253	0.2401	0.2518	0.2615	0.2734	0.2764		0.25	8.3	*TM			0.010
37	TM	Caprolactum	0.1360	0.1418	0.1459	0.1372	0.1421	0.1515	0.1509	0.1569	0.1569		0.15	5.4	TM			0.010
38	*TM	4-Chloro-3-methylphenol	0.3433	0.3492	0.3767	0.3527	0.3826	0.4117	0.4148	0.4325	0.4262		0.39	8.9	*TM			0.200
39	TM	2-Methylnaphthalene	0.6528	0.6825	0.7189	0.6672	0.7074	0.7659	0.7721	0.8038	0.8214		0.73	8.3	TM			0.400
40	TM	1-Methylnaphthalene	0.6774	0.7258	0.7430	0.6772	0.7340	0.7929	0.8094	0.8459	0.8492		0.76	8.6	TM			
41	I	Acenaphthene-D10(IS)	ISTD															
42	**TML	Hexachlorocyclopentadiene	0.1728	0.2331	0.2484	0.3602	0.4060	0.4718	0.4812	0.5045	0.4482		0.37	33	**TML	0.991		0.050
43	TM	1,2,4,5-Tetrachlorobenzene	0.5593	0.5899	0.5937	0.5643	0.6173	0.6743	0.6677	0.7241	0.7440		0.64	11	TM			0.010
44	*TM	2,4,6-Trichlorophenol	0.3671	0.3707	0.4007	0.3830	0.4055	0.4458	0.4421	0.4627	0.4769		0.42	9.8	*TM			0.200
45	TM	2,4,5-Trichlorophenol	0.4207	0.4236	0.4252	0.4143	0.4421	0.4723	0.4724	0.4964	0.5050		0.45	7.7	TM			0.200
46	S	2-Fluorobiphenyl(S)	1.577	1.423	1.350	1.366	1.373	1.489	1.494	1.591	1.634		1.5	7.2	S			
47	TM	1,1'-Biphenyl	1.395	1.444	1.455	1.418	1.494	1.625	1.612	1.736	1.784		1.6	9.2	TM			0.010
48	TM	2-Chloronaphthalene	1.127	1.156	1.195	1.149	1.201	1.307	1.296	1.382	1.417		1.2	8.5	TM			0.800
49	TM	2-Nitroaniline	0.4167	0.4376	0.4565	0.4486	0.4606	0.5021	0.4976	0.5202	0.5237		0.47	8.1	TM			0.010
50	TM	Dimethyl phthalate	1.422	1.455	1.461	1.410	1.474	1.591	1.590	1.671	1.690		1.5	7.0	TM			0.010
51	TM	2,6-DNT	0.2885	0.2872	0.3086	0.3140	0.3290	0.3597	0.3549	0.3784	0.3815		0.33	11	TM			0.200
52	TM	Acenaphthylene	1.710	1.793	1.808	1.775	1.875	2.023	2.023	2.114	2.167		1.9	8.5	TM			0.900
53	TM	3-Nitroaniline	0.3591	0.3544	0.3786	0.3695	0.3887	0.4218	0.4188	0.4298	0.4424		0.40	8.3	TM			0.010
54	*TM	Acenaphthene	1.085	1.127	1.137	1.078	1.162	1.275	1.255	1.332	1.363		1.2	8.9	*TM			0.900
55	**TML	2,4-Dinitrophenol	0.0287	0.0331	0.0777	0.1240	0.1723	0.1832	0.1984	0.2141	0.2201		0.14	55	**TML	0.993		0.010
56	**TM	4-Nitrophenol	0.0290	0.0284	0.0307	0.0282	0.0302	0.0332	0.0320	0.0336	0.0352		0.03	7.9	**TM			0.010
57	TM	Dibenzofuran	1.623	1.671	1.677	1.629	1.734	1.930	1.924	2.084	2.153		1.8	11	TM			0.800
58	TM	2,4-DNT	0.3958	0.4169	0.4457	0.4462	0.4784	0.5343	0.5256	0.5800	0.5904		0.49	14	TM			0.200
59	TM	2,3,4,6-Tetrachlorophenol	0.2835	0.3006	0.3178	0.3136	0.3386	0.3682	0.3763	0.3904	0.3993		0.34	12	TM			0.010
60	TM	Diethyl phthalate	1.467	1.516	1.534	1.474	1.545	1.655	1.632	1.704	1.733		1.6	6.3	TM			0.010
61	TM	4-Chlorophenyl phenyl ether		0.7633	0.7429	0.7444	0.8104	0.9246	0.9212	1.040	1.072		0.88	15	TM			0.400
62	TM	Fluorene	1.306	1.349	1.363	1.361	1.475	1.673	1.668	1.846	1.932		1.6	15	TM			0.900
63	TM	4-Nitroaniline	0.3151	0.3031	0.3294	0.3142	0.3263	0.3501	0.3462	0.3402	0.3445		0.33	5.0	TM			0.010
64	S	2,4,6-Tribromophenol(S)	0.2342	0.2311	0.2068	0.2116	0.2324	0.2576	0.2590	0.2918	0.3127		0.25	14	S			
65	I	Phenanthrene-D10(IS)	ISTD															
66	TM	4,6-Dinitro-2-methylphenol			0.1237	0.1331	0.1507	0.1615	0.1663	0.1780	0.1783		0.16	14	TM			0.010
67	TM	Diphenyl amine		0.5674	0.5878	0.5670	0.6272	0.6767	0.6917	0.7384	0.7531		0.65	11	TM			
68	*TM	n-Nitrosodiphenylamine		0.5674	0.5878	0.5670	0.6272	0.6767	0.6917	0.7384	0.7531		0.65	11	*TM			0.010
69	TM	1,2-Diphenylhydrazine	0.8725	0.8825	0.9231	0.8661	0.9237	0.9667	0.9904	1.038	1.013		0.94	6.7	TM			
70	TM	4-Bromophenyl phenyl ether	0.2168	0.2117	0.2303	0.2234	0.2447	0.2591	0.2603	0.2775	0.2827		0.25	11	TM			0.100

Semi-Volatile Analysis by GC-MS
EPA 8270

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Initial Cal. Date: 12/19/19
Matrix: Instrument: Yoda Initials:

		Compound	4	5	10	20	40	50	60	80	91		Avg	%RSD	Type		Q	
71	TM	Hexachlorobenzene	0.2189	0.2230	0.2350	0.2209	0.2419	0.2639	0.2678	0.2781	0.2827		0.25	10	TM			0.100
72	TM	Atrazine		0.2202	0.2285	0.2039	0.2199	0.2039	0.2312	0.2400	0.2413		0.22	6.5	TM			0.010
73	*TM	Pentachlorophenol				0.1167	0.1380	0.1587	0.1560	0.1693	0.1761		0.15	14	*TM			0.050
74	TM	Phenanthrene	1.008	1.029	1.058	1.008	1.079	1.131	1.159	1.215	1.247		1.1	8.0	TM			0.700
75	TM	Anthracene	1.024	1.060	1.108	1.058	1.130	1.203	1.210	1.282	1.310		1.2	8.9	TM			0.700
76	TM	Carbazol	0.9547	0.9719	1.001	0.9555	1.020	1.099	1.107	1.168	1.177		1.1	8.5	TM			0.010
77	TM	Di-n-butylphthalate	1.254	1.280	1.325	1.308	1.422	1.524	1.557	1.600	1.659		1.4	11	TM			0.010
78		2-Nitrodiphenylamine	0.2581	0.2591	0.2987	0.3023	0.3376	0.3611	0.3621	0.3733	0.3885		0.33	15				
79	*TM	Fluoranthene	1.136	1.164	1.219	1.161	1.277	1.377	1.374	1.473	1.455		1.3	10	*TM			0.600
80	I	Chrysene-D12(IS)	ISTD															
81	TM	Benzidine	0.4294	0.4321	0.4090	0.3966	0.3741						0.41	5.9	TM			
82	TM	Pyrene	1.234	1.320	1.294	1.198	1.211	1.149	1.140	1.104	1.141		1.2	6.1	TM			0.600
83	S	Terphenyl-D14(S)	1.144	1.050	0.9741	0.9361	0.9110	0.8552	0.8740	0.8455	0.9945		0.95	10	S			
84	TM	Butyl benzylphthalate	0.6241	0.6476	0.6440	0.6034	0.6057	0.5784	0.5714	0.5550	0.5770		0.60	5.5	TM			0.010
85	TM	3,3'-Dichlorobenzidine	0.4406	0.4474	0.4653	0.4210	0.4166	0.4318	0.3803	0.3533	0.3523		0.41	9.9	TM			0.010
86	TM	Benz (a) anthracene	1.378	1.384	1.377	1.254	1.272	1.281	1.262	1.262	1.284		1.3	4.3	TM			0.800
87	TM	Bis (2-ethylhexyl) phthalate	0.9872	1.026	1.020	0.9806	0.9843	1.006	0.9951	1.003	1.032		1.0	1.9	TM			0.010
88	TM	Chrysene	1.126	1.256	1.202	1.146	1.157	1.110	1.070	1.065	1.090		1.1	5.5	TM			0.700
89	*TM	Di-n-octylphthalate	1.492	1.569	1.601	1.470	1.479	1.480	1.436	1.394	1.414		1.5	4.6	*TM			0.010
90	I	Perylene-D12(IS)	ISTD															
91	TM	Benzo (b) fluoranthene	1.200	1.183	1.189	1.231	1.306	1.417	1.414	1.408	1.411		1.3	8.2	TM			0.700
92	TM	Benzo (k) fluoranthene	1.036	1.129	1.146	1.047	1.126	1.214	1.174	1.322	1.406		1.2	10	TM			0.700
93	*TM	Benzo (a) pyrene	1.048	1.092	1.101	1.069	1.126	1.226	1.213	1.267	1.293		1.2	7.8	*TM			0.700
94	TM	Indeno (1,2,3-cd) pyrene	1.218	1.270	1.279	1.250	1.330	1.445	1.416	1.464	1.494		1.4	7.7	TM			0.500
95	TM	Dibenz (a,h) anthracene	1.044	1.127	1.135	1.106	1.175	1.293	1.267	1.331	1.359		1.2	9.2	TM			0.400
96	TM	Benzo (g,h,i) perylene	0.9656	1.022	1.029	1.003	1.043	1.124	1.098	1.126	1.148		1.1	6.0	TM			0.500
97																		
98																		
99																		
100																		
101																		
102																		
103																		
104																		
105																		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y003.D Vial: 3
Acq On : 19 Dec 19 9:06 Operator: MA,SS
Sample : 50ug/ml 8270 11/21/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.38	152	196599	40.00000 ppb	0.00
21) Napthalene-D8(IS)	6.83	136	821661	40.00000 ppb	0.00
41) Acenaphthene-D10(IS)	8.84	164	498864	40.00000 ppb	0.00
65) Phenanthrene-D10(IS)	10.57	188	965840	40.00000 ppb	0.00
80) Chrysene-D12(IS)	13.67	240	1196016	40.00000 ppb	0.00
90) Perylene-D12(IS)	15.49	264	1033039	40.00000 ppb	0.00
System Monitoring Compounds					
5) 2-Fluorophenol (S)	3.82	112	729337	101.21407 ppb	0.00
Spiked Amount 200.000			Recovery =	50.607%	
6) Phenol-D6 (S)	5.00	99	943605	102.78046 ppb	0.00
Spiked Amount 200.000			Recovery =	51.390%	
22) Nitrobenzene-D5(S)	6.01	82	506628	49.57999 ppb	0.00
Spiked Amount 100.000			Recovery =	49.580%	
46) 2-Fluorobiphenyl(S)	8.06	172	928304	50.38731 ppb	0.00
Spiked Amount 100.000			Recovery =	50.387%	
64) 2,4,6-Tribromophenol(S)	9.77	330	321251	103.61865 ppb	0.00
Spiked Amount 200.000			Recovery =	51.810%	
83) Terphenyl-D14(S)	12.43	244	1278597	44.83129 ppb	0.00
Spiked Amount 100.000			Recovery =	44.831%	
Target Compounds					Qvalue
3) n-Nitrosodimethylamine	1.91	42	275394	50.17040 ppb	100
4) Pyridine	1.92	79	614275	48.30945 ppb	100
7) Phenol	5.02	94	574851	53.05712 ppb	100
8) Aniline	5.01	93	359488	50.84319 ppb	100
9) Bis (2-chloroethyl) ether	5.08	63	259464	51.69417 ppb	100
10) 2-Chlorophenol	5.15	128	395131	51.79401 ppb	100
11) 1,3-DCB	5.31	146	421373	50.33398 ppb	100
12) 1,4-DCB	5.40	146	431772	50.39583 ppb	100
13) Benzyl alcohol	5.54	108	243593	54.20799 ppb	100
14) 1,2-DCB	5.57	146	407782	51.15484 ppb	100
15) 2-Methylphenol	5.68	107	348274	52.31608 ppb	100
16) Bis (2-chloroisopropyl) et	5.69	45	342864	51.79894 ppb	100
17) Acetophenone	5.84	105	600018	52.87990 ppb	100
18) 3&4-Methylphenol	5.86	107	935580	106.86276 ppb	100
19) n-Nitrosodi-n-propylamine	5.85	70	391093	53.58916 ppb	100
20) Hexachloroethane	5.95	117	182011	50.96658 ppb	100
23) Nitrobenzene	6.04	77	545143	51.47563 ppb	100
24) Isophorone	6.31	82	870177	52.07890 ppb	100
25) 2-Nitrophenol	6.39	139	223955	52.07765 ppb	100
26) 2,4-Dimethylphenol	6.44	122	356638	51.82729 ppb	100
27) Benzoic acid	6.60	105	279476	47.48334 ppb	100
28) Bis (2-chloroethoxy) metha	6.54	93	447865	51.64725 ppb	100
29) 2,4-Dichlorophenol	6.68	162	350537	52.24411 ppb	100
30) 1,2,4-Trichlorobenzene	6.76	180	383401	51.23105 ppb	100
31) 3,4-Dimethylphenol	6.79	107	604918	52.84249 ppb	100
32) Naphthalene	6.84	128	1148204	51.36025 ppb	100
33) 4-Chloroaniline	6.91	127	465735	51.81136 ppb	100
34) 2,6-Dichlorophenol	6.92	162	347372	52.84673 ppb	100
35) Hexachloropropene	6.95	213	340941	52.64986 ppb	100
36) Hexachlorobutadiene	6.98	225	258626	50.94087 ppb	100
37) Caprolactum	7.34	55	155640	51.68587 ppb	100
38) 4-Chloro-3-methylphenol	7.48	107	422799	53.08472 ppb	100

(#) = qualifier out of range (m) = manual integration

Data File : M:\YODA\DATA\Y191219\1219Y003.D Vial: 3
Acq On : 19 Dec 19 9:06 Operator: MA,SS
Sample : 50ug/ml 8270 11/21/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
39)	2-Methylnaphthalene	7.63	142	786668	52.28541	ppb	100
40)	1-Methylnaphthalene	7.75	142	814338	52.04963	ppb	100
42)	Hexachlorocyclopentadiene	7.82	237	294208	51.41653	ppb	100
43)	1,2,4,5-Tetrachlorobenzene	7.84	216	420454	52.91044	ppb	100
44)	2,4,6-Trichlorophenol	7.97	196	277989	53.43197	ppb	100
45)	2,4,5-Trichlorophenol	8.02	196	294494	52.19170	ppb	100
47)	1,1'-Biphenyl	8.17	154	1013613	52.38680	ppb	100
48)	2-Chloronaphthalene	8.20	162	814737	52.35985	ppb	100
49)	2-Nitroaniline	8.32	65	313105	52.99430	ppb	100
50)	Dimethyl phthalate	8.53	163	992101	52.01547	ppb	100
51)	2,6-DNT	8.61	165	224309	53.92342	ppb	100
52)	Acenaphthylene	8.68	152	1261631	52.66138	ppb	100
53)	3-Nitroaniline	8.32	138	263026	53.26882	ppb	100
54)	Acenaphthene	8.89	154	794988	53.04993	ppb	100
55)	2,4-Dinitrophenol	8.92	184	114232	46.68381	ppb	100
56)	4-Nitrophenol	8.60	65	20732	53.32779	ppb	100
57)	Dibenzofuran	9.08	168	1203351	52.86739	ppb	100
58)	2,4-DNT	9.07	165	333192	54.48047	ppb	100
59)	2,3,4,6-Tetrachlorophenol	9.24	232	229610	53.65092	ppb	100
60)	Diethyl phthalate	9.35	149	1031999	52.22569	ppb	100
61)	4-Chlorophenyl phenyl ethe	9.48	204	576562	52.69605	ppb	100
62)	Fluorene	9.48	166	1043084	53.86740	ppb	100
63)	4-Nitroaniline	8.80	138	218292	53.05517	ppb	100
66)	4,6-Dinitro-2-methylphenol	9.56	198	195000	51.78616	ppb	100
67)	Diphenyl amine	9.63	169	1633943	103.92069	ppb	100
68)	n-Nitrosodiphenylamine	9.63	169	1633943	103.92069	ppb	100
69)	1,2-Diphenylhydrazine	9.67	77	1167037	51.32296	ppb	100
70)	4-Bromophenyl phenyl ether	10.05	248	312755	52.83109	ppb	100
71)	Hexachlorobenzene	10.13	284	318617	53.20114	ppb	100
72)	Atrazine	10.25	200	123091	22.79679	ppb	100
73)	Pentachlorophenol	10.36	266	191605	52.04610	ppb	100
74)	Phenanthrene	10.60	178	1365637	51.23790	ppb	100
75)	Anthracene	10.67	178	1452175	52.12221	ppb	100
76)	Carbazol	10.85	167	1327202	52.32019	ppb	100
77)	Di-n-butylphthalate	11.25	149	1840279	53.05379	ppb	100
78)	2-Nitrodiphenylamine	11.43	167	218003	27.62865	ppb	100
79)	Fluoranthene	11.99	202	1662853	53.26539	ppb	100
81)	Benzidine	12.14	184	328745	26.93277	ppb	100
82)	Pyrene	12.25	202	1717114	47.89582	ppb	100
84)	Butyl benzylphthalate	13.00	149	864776	48.14287	ppb	100
85)	3,3'-Dichlorobenzidine	13.62	252	645596	52.39866	ppb	100
86)	Benz (a) anthracene	13.66	228	1915683	49.05514	ppb	100
87)	Bis (2-ethylhexyl) phthala	13.67	149	1504164	50.11549	ppb	100
88)	Chrysene	13.69	228	1660091	48.87974	ppb	100
89)	Di-n-octylphthalate	14.42	149	2213014	49.95022	ppb	100
91)	Benzo (b) fluoranthene	14.96	252	1830066	54.23818	ppb	100
92)	Benzo (k) fluoranthene	14.99	252	1567732	51.53429	ppb	100
93)	Benzo (a) pyrene	15.42	252	1583146	52.86784	ppb	100
94)	Indeno (1,2,3-cd) pyrene	17.36	276	1864158	53.40274	ppb	100
95)	Dibenz (a,h) anthracene	17.40	278	1668227	53.64701	ppb	100
96)	Benzo (g,h,i) perylene	17.93	276	1451452	52.91619	ppb	100

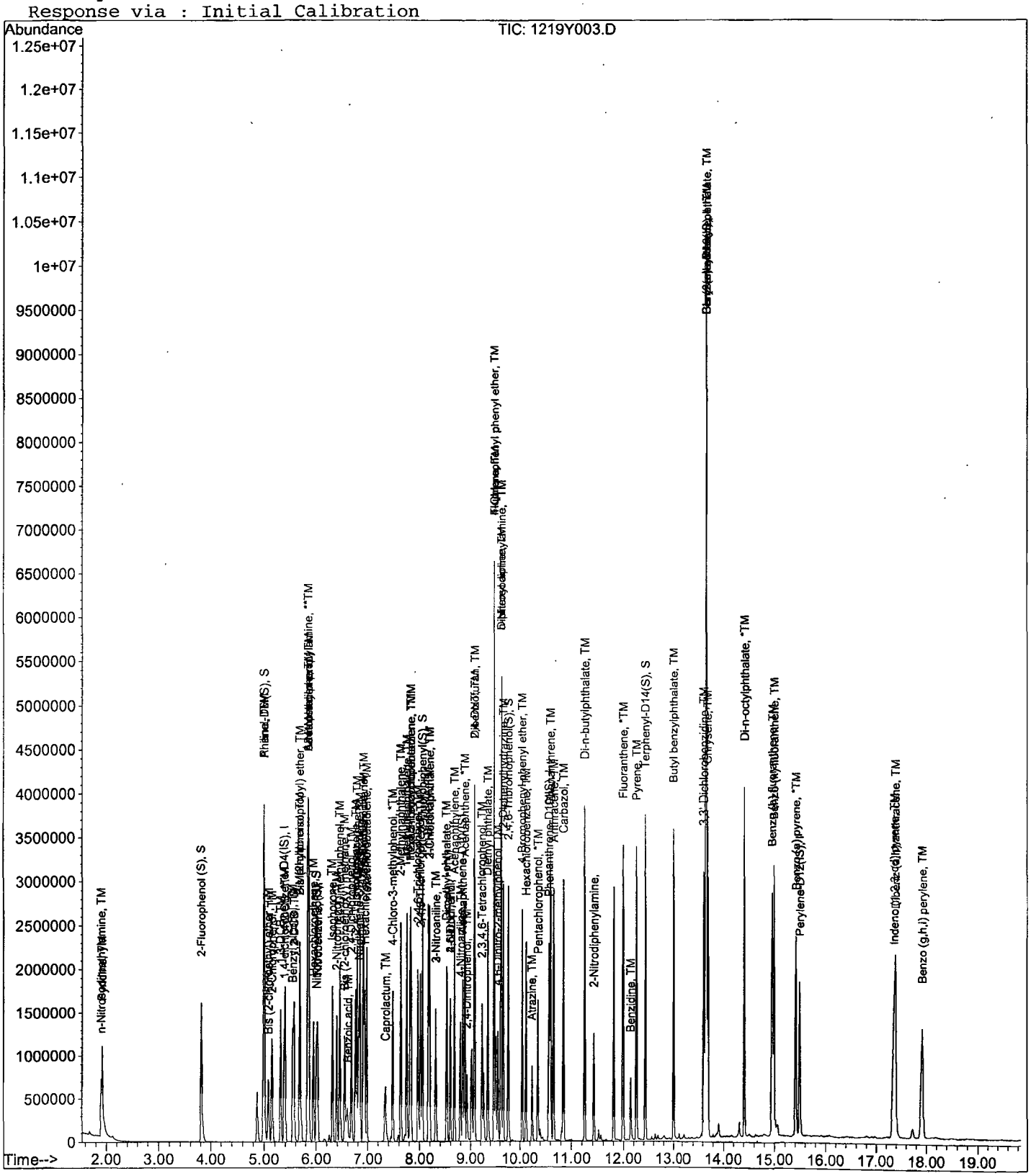
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y191219\1219Y003.D Vial: 3
Acq On : 19 Dec 19 9:06 Operator: MA,SS
Sample : 50ug/ml 8270 11/21/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y004.D Vial: 4
Acq On : 19 Dec 19 9:33 Operator: MA,SS
Sample : 4ug/ml 8270 11/21/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.38	152	172988	40.00000 ppb	0.00
21) Napthalene-D8(IS)	6.82	136	714555	40.00000 ppb	0.00
41) Acenaphthene-D10(IS)	8.84	164	436036	40.00000 ppb	0.00
65) Phenanthrene-D10(IS)	10.57	188	836785	40.00000 ppb	0.00
80) Chrysene-D12(IS)	13.66	240	796002	40.00000 ppb	0.00
90) Perylene-D12(IS)	15.49	264	872764	40.00000 ppb	0.00
System Monitoring Compounds					
5) 2-Fluorophenol (S)	3.81	112	52772	8.32303 ppb	0.00
Spiked Amount 200.000			Recovery =	4.162%	
6) Phenol-D6 (S)	4.99	99	65554	8.11493 ppb	0.00
Spiked Amount 200.000			Recovery =	4.058%	
22) Nitrobenzene-D5(S)	6.00	82	37998	4.27597 ppb	0.00
Spiked Amount 100.000			Recovery =	4.276%	
46) 2-Fluorobiphenyl(S)	8.05	172	68746	4.26912 ppb	0.00
Spiked Amount 100.000			Recovery =	4.269%	
64) 2,4,6-Tribromophenol(S)	9.76	330	20427	7.53803 ppb	0.00
Spiked Amount 200.000			Recovery =	3.769%	
83) Terphenyl-D14(S)	12.42	244	91079	4.79831 ppb	0.00
Spiked Amount 100.000			Recovery =	4.798%	

Target Compounds Qvalue

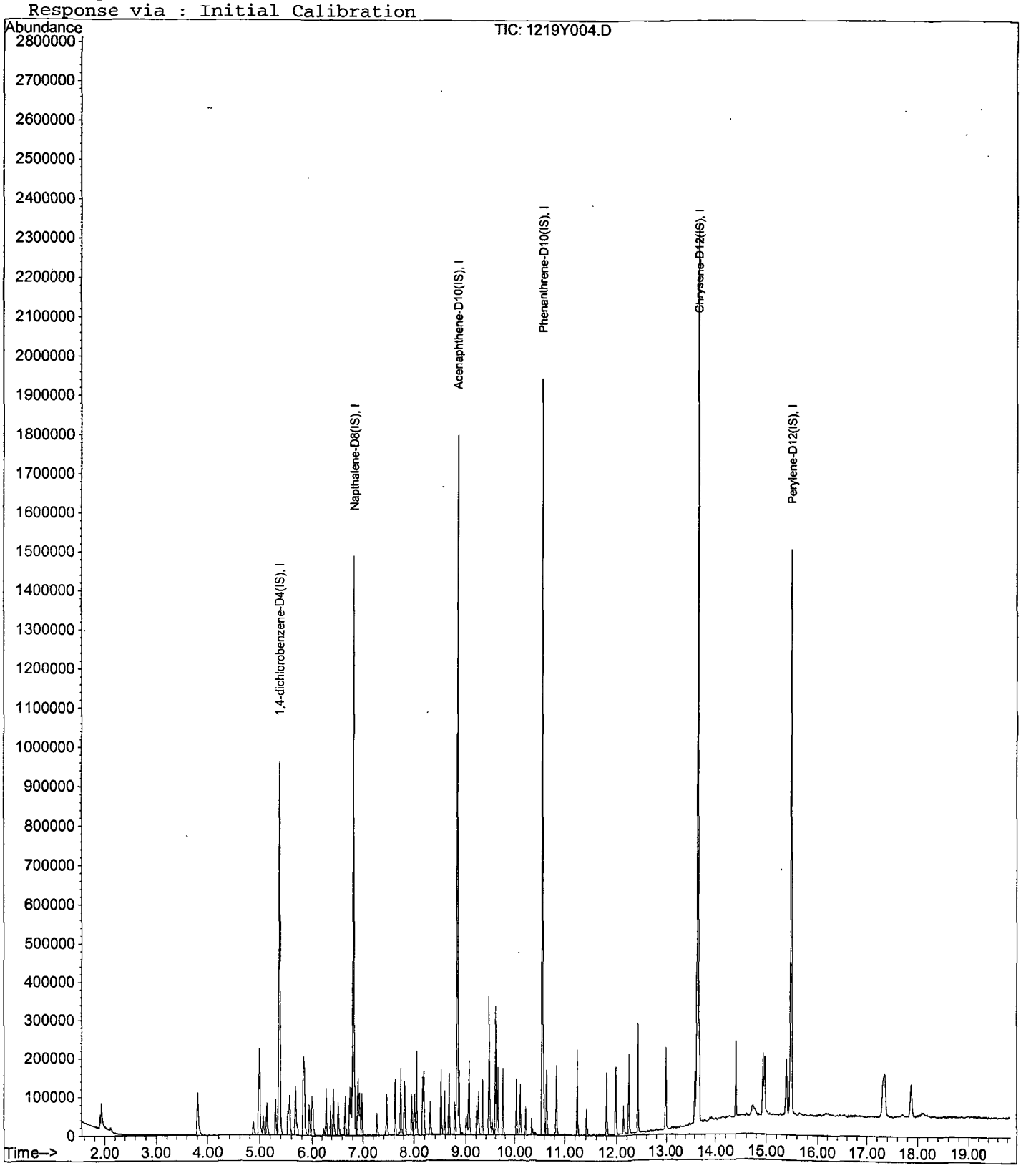
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y191219\1219Y004.D Vial: 4
Acq On : 19 Dec 19 9:33 Operator: MA,SS
Sample : 4ug/ml 8270 11/21/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y005.D Vial: 5
Acq On : 19 Dec 19 10:01 Operator: MA,SS
Sample : 5ug/ml 8270 11/21/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.38	152	171722	40.00000	ppb	0.00
21) Napthalene-D8(IS)	6.82	136	688709	40.00000	ppb	0.00
41) Acenaphthene-D10(IS)	8.84	164	415788	40.00000	ppb	0.00
65) Phenanthrene-D10(IS)	10.57	188	806286	40.00000	ppb	0.00
80) Chrysene-D12(IS)	13.66	240	749085	40.00000	ppb	0.00
90) Perylene-D12(IS)	15.48	264	827486	40.00000	ppb	0.00
System Monitoring Compounds						
5) 2-Fluorophenol (S)	3.82	112	56647	9.00005	ppb	0.00
Spiked Amount 200.000			Recovery =	4.500%		
6) Phenol-D6 (S)	4.99	99	71276	8.88831	ppb	0.00
Spiked Amount 200.000			Recovery =	4.444%		
22) Nitrobenzene-D5(S)	6.00	82	41101	4.79873	ppb	0.00
Spiked Amount 100.000			Recovery =	4.799%		
46) 2-Fluorobiphenyl(S)	8.05	172	73943	4.81547	ppb	0.00
Spiked Amount 100.000			Recovery =	4.815%		
64) 2,4,6-Tribromophenol(S)	9.76	330	24023	9.29674	ppb	0.00
Spiked Amount 200.000			Recovery =	4.649%		
83) Terphenyl-D14(S)	12.43	244	98299	5.50304	ppb	0.00
Spiked Amount 100.000			Recovery =	5.503%		

Target Compounds Qvalue

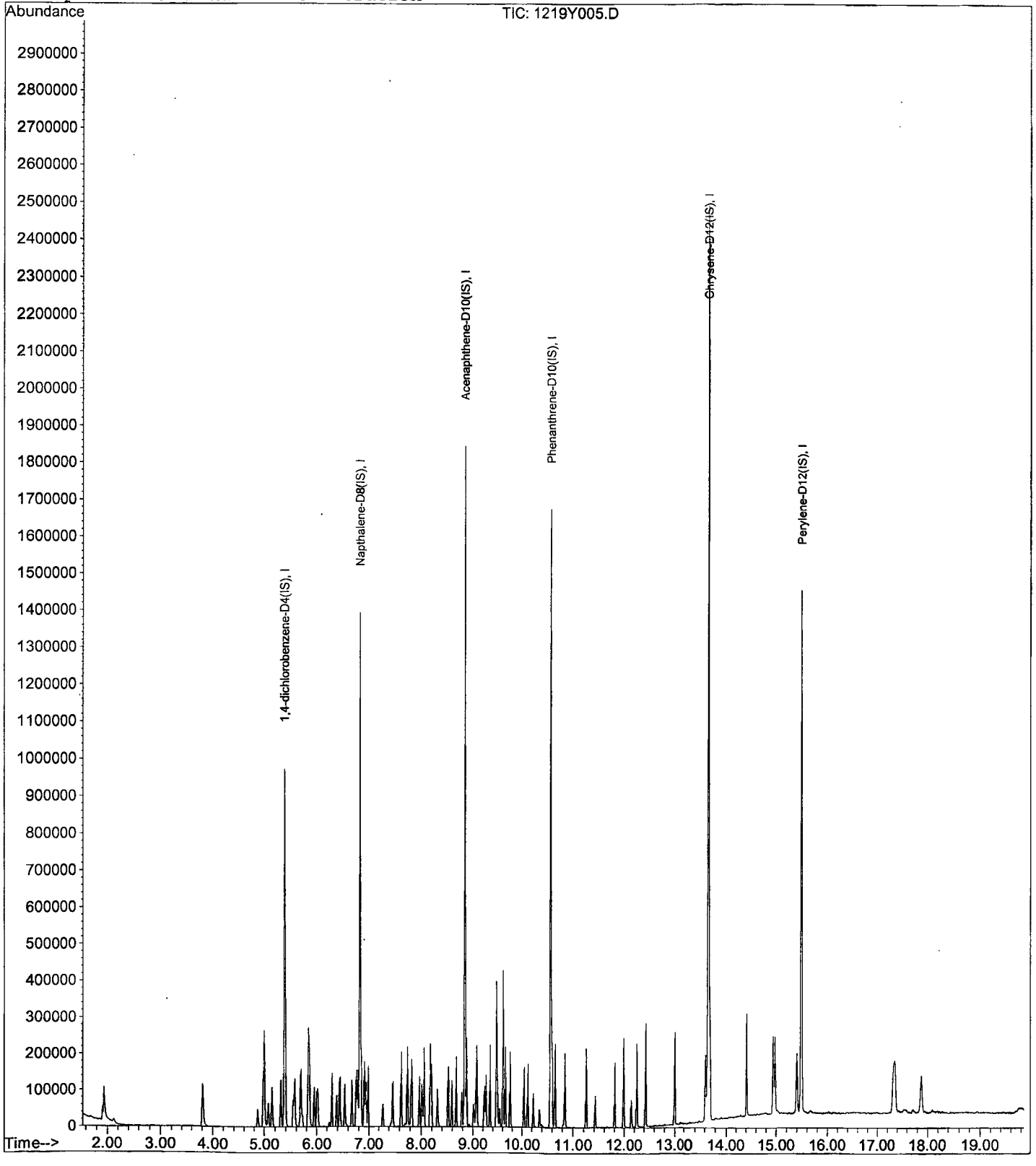
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y191219\1219Y005.D Vial: 5
Acq On : 19 Dec 19 10:01 Operator: MA,SS
Sample : 5ug/ml 8270 11/21/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y006.D Vial: 6
Acq On : 19 Dec 19 10:28 Operator: MA,SS
Sample : 10ug/ml 8270 11/21/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.38	152	160128	40.00000	ppb	0.00
21) Napthalene-D8(IS)	6.82	136	678749	40.00000	ppb	0.00
41) Acenaphthene-D10(IS)	8.84	164	424690	40.00000	ppb	0.00
65) Phenanthrene-D10(IS)	10.57	188	801834	40.00000	ppb	0.00
80) Chrysene-D12(IS)	13.66	240	780754	40.00000	ppb	0.00
90) Perylene-D12(IS)	15.49	264	843433	40.00000	ppb	0.00
System Monitoring Compounds						
5) 2-Fluorophenol (S)	3.81	112	114683	19.54005	ppb	0.00
Spiked Amount 200.000			Recovery =	9.770%		
6) Phenol-D6 (S)	4.99	99	140612	18.80428	ppb	0.00
Spiked Amount 200.000			Recovery =	9.402%		
22) Nitrobenzene-D5(S)	6.00	82	82528	9.77692	ppb	0.00
Spiked Amount 100.000			Recovery =	9.777%		
46) 2-Fluorobiphenyl(S)	8.05	172	143294	9.13627	ppb	0.00
Spiked Amount 100.000			Recovery =	9.136%		
64) 2,4,6-Tribromophenol(S)	9.76	330	43913	16.63783	ppb	0.00
Spiked Amount 200.000			Recovery =	8.319%		
83) Terphenyl-D14(S)	12.42	244	190140	10.21278	ppb	0.00
Spiked Amount 100.000			Recovery =	10.213%		
Target Compounds						Qvalue
18) 3&4-Methylphenol	5.85	107	137362	19.26310	ppb	99
67) Diphenyl amine	9.61	169	235673	18.05492	ppb	99
68) n-Nitrosodiphenylamine	9.61	169	235673	18.05492	ppb	99

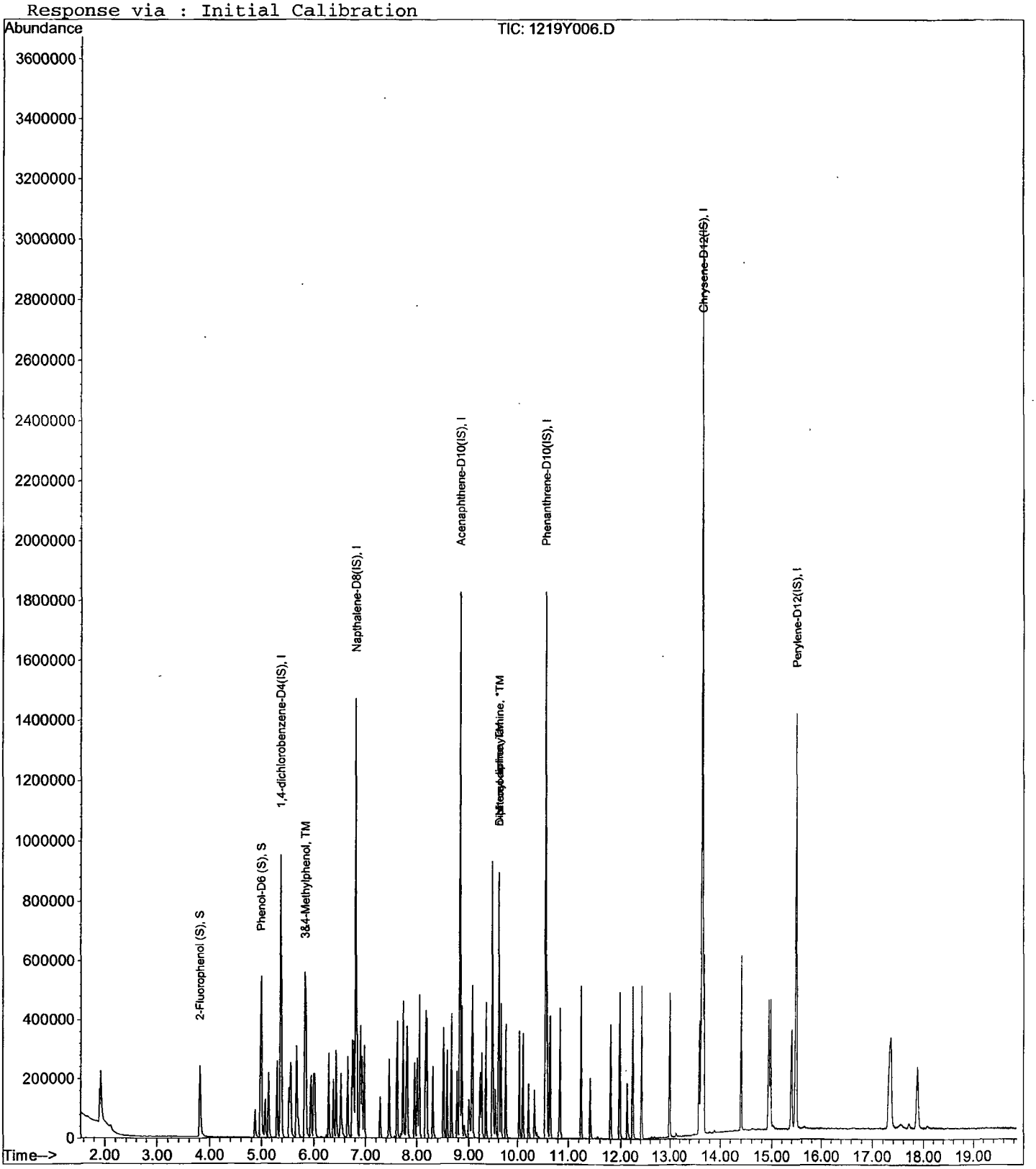
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y191219\1219Y006.D Vial: 6
Acq On : 19 Dec 19 10:28 Operator: MA,SS
Sample : 10ug/ml 8270 11/21/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y007.D Vial: 7
Acq On : 19 Dec 19 10:56 Operator: MA,SS
Sample : 20ug/ml 8270 11/21/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.38	152	194747	40.00000 ppb		0.00
21) Napthalene-D8(IS)	6.82	136	781182	40.00000 ppb		0.00
41) Acenaphthene-D10(IS)	8.84	164	473595	40.00000 ppb		0.00
65) Phenanthrene-D10(IS)	10.57	188	902012	40.00000 ppb		0.00
80) Chrysene-D12(IS)	13.66	240	912227	40.00000 ppb		0.00
90) Perylene-D12(IS)	15.49	264	942777	40.00000 ppb		0.00
System Monitoring Compounds						
5) 2-Fluorophenol (S)	3.82	112	253075	35.45459 ppb		0.00
Spiked Amount 200.000			Recovery =	17.728%		
6) Phenol-D6 (S)	4.99	99	314450	34.57661 ppb		-0.01
Spiked Amount 200.000			Recovery =	17.289%		
22) Nitrobenzene-D5(S)	6.01	82	185338	19.07753 ppb		0.00
Spiked Amount 100.000			Recovery =	19.078%		
46) 2-Fluorobiphenyl(S)	8.06	172	323480	18.49496 ppb		0.00
Spiked Amount 100.000			Recovery =	18.495%		
64) 2,4,6-Tribromophenol(S)	9.77	330	100215	34.04876 ppb		0.00
Spiked Amount 200.000			Recovery =	17.025%		
83) Terphenyl-D14(S)	12.43	244	426966	19.62795 ppb		0.00
Spiked Amount 100.000			Recovery =	19.628%		
Target Compounds						Qvalue
4) Pyridine	1.92	79	233730	18.55642 ppb		98
7) Phenol	5.00	94	187775	17.49592 ppb	#	74
8) Aniline	5.00	93	138944	19.83804 ppb	#	95
9) Bis (2-chloroethyl) ether	5.08	63	90085	18.11872 ppb		96
10) 2-Chlorophenol	5.14	128	135911	17.98472 ppb		92
11) 1,3-DCB	5.31	146	146244	17.63531 ppb		97
12) 1,4-DCB	5.39	146	151686	17.87295 ppb		97
13) Benzyl alcohol	5.54	108	78697	17.67939 ppb		99
14) 1,2-DCB	5.57	146	139110	17.61682 ppb		99
15) 2-Methylphenol	5.68	107	115359	17.49348 ppb		97
16) Bis (2-chloroisopropyl) et	5.69	45	115311	17.58653 ppb	#	78
17) Acetophenone	5.83	105	201308	17.91010 ppb		98
18) 3&4-Methylphenol	5.85	107	300091	34.60262 ppb		97
19) n-Nitrosodi-n-propylamine	5.84	70	126055	17.43683 ppb		98
20) Hexachloroethane	5.95	117	64312	18.17985 ppb		94
23) Nitrobenzene	6.03	77	185983	18.47162 ppb		95
24) Isophorone	6.29	82	294453	18.53577 ppb		99
25) 2-Nitrophenol	6.39	139	76958	18.82282 ppb		95
26) 2,4-Dimethylphenol	6.44	122	120904	18.48043 ppb		97
27) Benzoic acid	6.55	105	91223	18.97597 ppb		98
28) Bis (2-chloroethoxy) metha	6.54	93	152615	18.51133 ppb		98
29) 2,4-Dichlorophenol	6.67	162	117474	18.41559 ppb		95
30) 1,2,4-Trichlorobenzene	6.76	180	128436	18.05125 ppb		99
31) 3,4-Dimethylphenol	6.78	107	204008	18.74452 ppb		98
32) Naphthalene	6.84	128	390776	18.38554 ppb		99
33) 4-Chloroaniline	6.91	127	162474	19.01124 ppb		96
34) 2,6-Dichlorophenol	6.92	162	114733	18.35913 ppb		98
35) Hexachloropropene	6.94	213	112998	18.35394 ppb		99
36) Hexachlorobutadiene	6.98	225	87981	18.22735 ppb		99
37) Caprolactum	7.31	55	53587	18.71761 ppb		97
38) 4-Chloro-3-methylphenol	7.47	107	137771	18.19424 ppb		96
39) 2-Methylnaphthalene	7.63	142	260607	18.21862 ppb		100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y007.D Vial: 7
Acq On : 19 Dec 19 10:56 Operator: MA,SS
Sample : 20ug/ml 8270 11/21/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
40)	1-Methylnaphthalene	7.74	142	264522	17.78341	ppb		98
42)	Hexachlorocyclopentadiene	7.82	237	85296	18.35365	ppb		100
43)	1,2,4,5-Tetrachlorobenzene	7.83	216	133618	17.71181	ppb		96
44)	2,4,6-Trichlorophenol	7.97	196	90696	18.36271	ppb		100
45)	2,4,5-Trichlorophenol	8.02	196	98112	18.31564	ppb		96
47)	1,1'-Biphenyl	8.17	154	335661	18.27366	ppb		98
48)	2-Chloronaphthalene	8.20	162	272066	18.41748	ppb		97
49)	2-Nitroaniline	8.31	65	106234	18.93990	ppb		92
50)	Dimethyl phthalate	8.52	163	333975	18.44445	ppb		99
51)	2,6-DNT	8.60	165	74351	18.82750	ppb		86
52)	Acenaphthylene	8.68	152	420370	18.48275	ppb		100
53)	3-Nitroaniline	8.32	138	87497	18.66563	ppb		95
54)	Acenaphthene	8.87	154	255265	17.94281	ppb		98
55)	2,4-Dinitrophenol	8.92	184	29356	17.54041	ppb		89
56)	4-Nitrophenol	8.60	65	6688	18.12107	ppb		98
57)	Dibenzofuran	9.08	168	385855	17.85643	ppb		100
58)	2,4-DNT	9.07	165	105670	18.20007	ppb		87
59)	2,3,4,6-Tetrachlorophenol	9.23	232	74261	18.27773	ppb	#	91
60)	Diethyl phthalate	9.35	149	348940	18.60076	ppb		97
62)	Fluorene	9.48	166	322306	17.53276	ppb		98
63)	4-Nitroaniline	8.79	138	74412	19.05057	ppb		97
66)	4,6-Dinitro-2-methylphenol	9.54	198	60050	17.07595	ppb		84
67)	Diphenyl amine	9.62	169	511426	34.82898	ppb		100
68)	n-Nitrosodiphenylamine	9.62	169	511426	34.82898	ppb		100
69)	1,2-Diphenylhydrazine	9.66	77	390616	18.39374	ppb		94
70)	4-Bromophenyl phenyl ether	10.04	248	100768	18.22640	ppb		94
71)	Hexachlorobenzene	10.13	284	99643	17.81524	ppb		93
74)	Phenanthrene	10.60	178	454835	18.27270	ppb		99
75)	Anthracene	10.66	178	477063	18.33464	ppb		99
76)	Carbazol	10.85	167	430950	18.19081	ppb		98
77)	Di-n-butylphthalate	11.25	149	590040	18.21407	ppb		99
79)	Fluoranthene	11.98	202	523700	17.96250	ppb		98
81)	Benzidine	12.14	184	180875	19.42829	ppb		98
82)	Pyrene	12.25	202	546244	19.97649	ppb		99
84)	Butyl benzylphthalate	13.00	149	275238	20.08958	ppb		92
85)	3,3'-Dichlorobenzidine	13.61	252	192045	20.43603	ppb		98
86)	Benz (a) anthracene	13.65	228	571831	19.19829	ppb		99
87)	Bis (2-ethylhexyl) phthala	13.66	149	447267	19.53789	ppb		98
88)	Chrysene	13.69	228	522873	20.18493	ppb		100
89)	Di-n-octylphthalate	14.41	149	670387	19.83868	ppb	#	92
91)	Benzo (b) fluoranthene	14.94	252	580450	18.84998	ppb		99
92)	Benzo (k) fluoranthene	14.98	252	493722	17.78340	ppb		99
93)	Benzo (a) pyrene	15.40	252	504143	18.44727	ppb		98
94)	Indeno (1,2,3-cd) pyrene	17.33	276	588328	18.46750	ppb		99
95)	Dibenz (a,h) anthracene	17.37	278	521335	18.37025	ppb		99
96)	Benzo (g,h,i) perylene	17.90	276	472757	18.88564	ppb		99

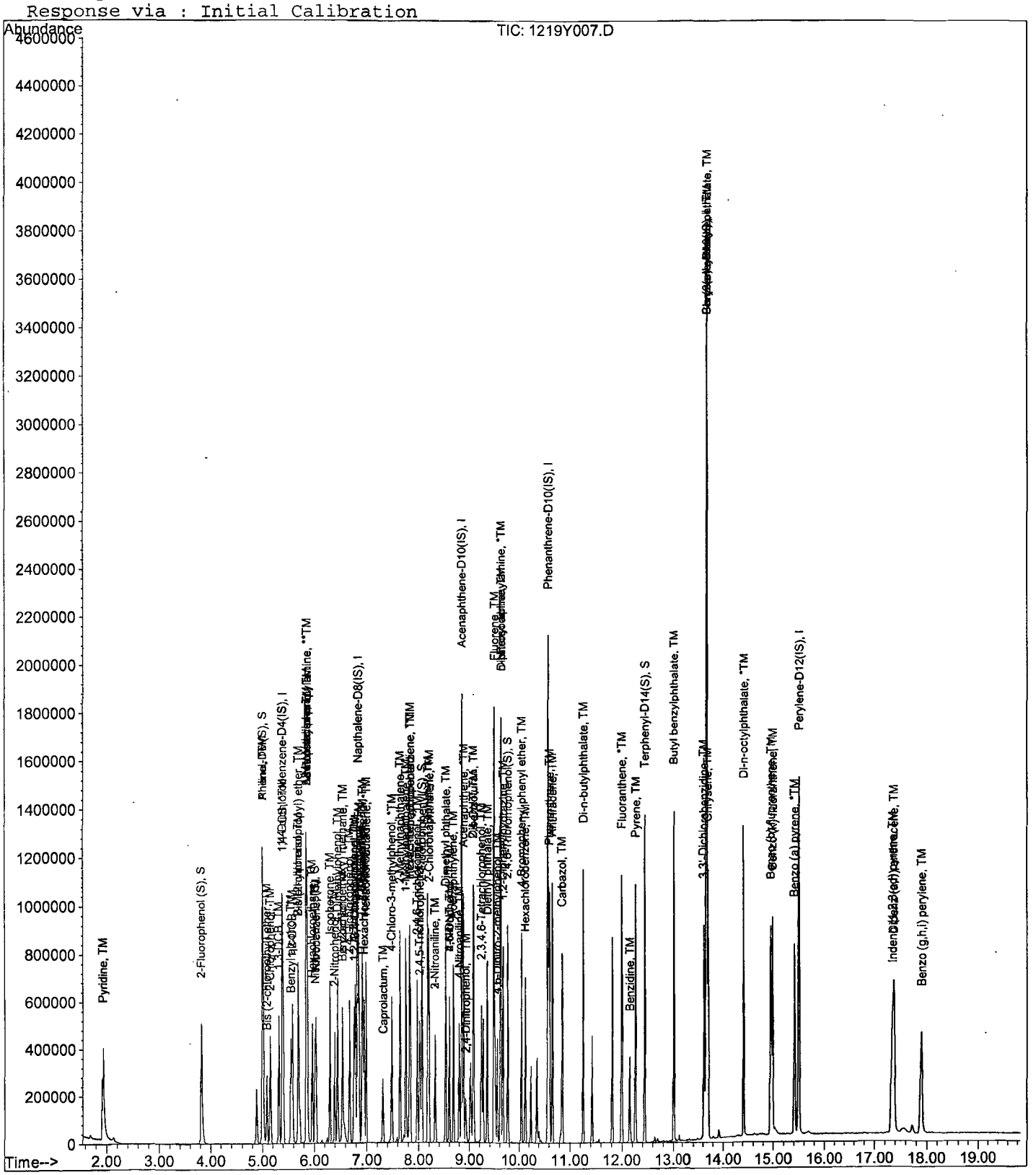
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y191219\1219Y007.D Vial: 7
Acq On : 19 Dec 19 10:56 Operator: MA,SS
Sample : 20ug/ml 8270 11/21/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y008.D Vial: 8
Acq On : 19 Dec 19 11:24 Operator: MA,SS
Sample : 40ug/ml 8270 11/21/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.38	152	182216	40.00000 ppb		0.00
21) Napthalene-D8(IS)	6.82	136	710542	40.00000 ppb		0.00
41) Acenaphthene-D10(IS)	8.84	164	434485	40.00000 ppb		0.00
65) Phenanthrene-D10(IS)	10.58	188	813606	40.00000 ppb		0.00
80) Chrysene-D12(IS)	13.66	240	894163	40.00000 ppb		0.00
90) Perylene-D12(IS)	15.49	264	870632	40.00000 ppb		0.00
System Monitoring Compounds						
5) 2-Fluorophenol (S)	3.82	112	480507	71.94609 ppb		0.00
Spiked Amount 200.000			Recovery =	35.973%		
6) Phenol-D6 (S)	5.00	99	600312	70.54921 ppb		0.00
Spiked Amount 200.000			Recovery =	35.275%		
22) Nitrobenzene-D5(S)	6.01	82	335277	37.94232 ppb		0.00
Spiked Amount 100.000			Recovery =	37.942%		
46) 2-Fluorobiphenyl(S)	8.06	172	596646	37.18391 ppb		0.00
Spiked Amount 100.000			Recovery =	37.184%		
64) 2,4,6-Tribromophenol(S)	9.77	330	201973	74.79872 ppb		0.00
Spiked Amount 200.000			Recovery =	37.400%		
83) Terphenyl-D14(S)	12.43	244	814625	38.20548 ppb		0.00
Spiked Amount 100.000			Recovery =	38.205%		
Target Compounds						Qvalue
3) n-Nitrosodimethylamine	1.91	42	188163	36.98470 ppb		96
4) Pyridine	1.93	79	440907	37.41201 ppb		99
7) Phenol	5.01	94	371632	37.00806 ppb		79
8) Aniline	5.01	93	258560	39.45523 ppb	#	91
9) Bis (2-chloroethyl) ether	5.08	63	174139	37.43306 ppb		97
10) 2-Chlorophenol	5.15	128	262410	37.11194 ppb		94
11) 1,3-DCB	5.31	146	288290	37.15515 ppb		99
12) 1,4-DCB	5.40	146	297071	37.41064 ppb		98
13) Benzyl alcohol	5.55	108	154077	36.99399 ppb		97
14) 1,2-DCB	5.57	146	270886	36.66402 ppb		100
15) 2-Methylphenol	5.69	107	228108	36.97000 ppb		98
16) Bis (2-chloroisopropyl) et	5.69	45	226589	36.93453 ppb	#	78
17) Acetophenone	5.83	105	393243	37.39230 ppb		98
18) 3&4-Methylphenol	5.85	107	593695	73.16504 ppb		97
19) n-Nitrosodi-n-propylamine	5.84	70	248031	36.66888 ppb		97
20) Hexachloroethane	5.95	117	122615	37.04471 ppb		94
23) Nitrobenzene	6.03	77	359196	39.22163 ppb		95
24) Isophorone	6.30	82	565650	39.14758 ppb		98
25) 2-Nitrophenol	6.39	139	147502	39.66353 ppb		93
26) 2,4-Dimethylphenol	6.45	122	229476	38.56303 ppb		98
27) Benzoic acid	6.58	105	202255	40.40161 ppb		99
28) Bis (2-chloroethoxy) metha	6.54	93	292655	39.02644 ppb		98
29) 2,4-Dichlorophenol	6.67	162	227943	39.28553 ppb		96
30) 1,2,4-Trichlorobenzene	6.75	180	254586	39.33847 ppb		96
31) 3,4-Dimethylphenol	6.78	107	383358	38.72525 ppb		98
32) Naphthalene	6.85	128	749802	38.78445 ppb		100
33) 4-Chloroaniline	6.91	127	308474	39.68328 ppb		97
34) 2,6-Dichlorophenol	6.92	162	219445	38.60574 ppb		97
35) Hexachloropropene	6.95	213	221138	39.48974 ppb		99
36) Hexachlorobutadiene	6.99	225	170617	38.86148 ppb		100
37) Caprolactum	7.32	55	100984	38.77985 ppb		95
38) 4-Chloro-3-methylphenol	7.48	107	271819	39.46556 ppb		95

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y008.D Vial: 8
Acq On : 19 Dec 19 11:24 Operator: MA,SS
Sample : 40ug/ml 8270 11/21/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	2-Methylnaphthalene	7.63	142	502608	38.62970	ppb		99
40)	1-Methylnaphthalene	7.75	142	521546	38.54859	ppb		98
42)	Hexachlorocyclopentadiene	7.82	237	176384	36.58253	ppb		99
43)	1,2,4,5-Tetrachlorobenzene	7.83	216	268214	38.75357	ppb		97
44)	2,4,6-Trichlorophenol	7.97	196	176195	38.88432	ppb		99
45)	2,4,5-Trichlorophenol	8.02	196	192075	39.08438	ppb		94
47)	1,1'-Biphenyl	8.17	154	649127	38.52004	ppb		98
48)	2-Chloronaphthalene	8.20	162	521946	38.51358	ppb		97
49)	2-Nitroaniline	8.31	65	200138	38.89341	ppb		95
50)	Dimethyl phthalate	8.53	163	640502	38.55712	ppb		99
51)	2,6-DNT	8.60	165	142948	39.45629	ppb		86
52)	Acenaphthylene	8.67	152	814666	39.04333	ppb		99
53)	3-Nitroaniline	8.32	138	168892	39.27271	ppb		93
54)	Acenaphthene	8.88	154	504832	38.67929	ppb		99
55)	2,4-Dinitrophenol	8.92	184	74846	36.78536	ppb		86
56)	4-Nitrophenol	8.60	65	13109	38.71590	ppb		95
57)	Dibenzofuran	9.08	168	753264	37.99707	ppb		98
58)	2,4-DNT	9.07	165	207839	39.01941	ppb		89
59)	2,3,4,6-Tetrachlorophenol	9.23	232	147125	39.47119	ppb		94
60)	Diethyl phthalate	9.35	149	671228	39.00159	ppb		98
61)	4-Chlorophenyl phenyl ethe	9.47	204	352091	36.94829	ppb		88
62)	Fluorene	9.48	166	641030	38.00953	ppb		98
63)	4-Nitroaniline	8.79	138	141770	39.56230	ppb		88
66)	4,6-Dinitro-2-methylphenol	9.56	198	122593	38.64878	ppb		99
67)	Diphenyl amine	9.62	169	1020591	77.05626	ppb		100
68)	n-Nitrosodiphenylamine	9.62	169	1020591	77.05626	ppb		100
69)	1,2-Diphenylhydrazine	9.66	77	751770	39.24670	ppb		94
70)	4-Bromophenyl phenyl ether	10.05	248	199129	39.93106	ppb		88
71)	Hexachlorobenzene	10.12	284	196806	39.01049	ppb	#	84
72)	Atrazine	10.24	200	89439	19.66371	ppb		99
73)	Pentachlorophenol	10.35	266	112272	36.20294	ppb		96
74)	Phenanthrene	10.60	178	877664	39.09087	ppb		99
75)	Anthracene	10.66	178	919645	39.18457	ppb		99
76)	Carbazol	10.85	167	830000	38.84199	ppb		98
77)	Di-n-butylphthalate	11.25	149	1156611	39.58322	ppb		98
78)	2-Nitrodiphenylamine	11.42	167	137354	20.66472	ppb		92
79)	Fluoranthene	11.99	202	1038608	39.49426	ppb		98
81)	Benzidine	12.14	184	334522	36.65784	ppb		99
82)	Pyrene	12.26	202	1083004	40.40627	ppb		100
84)	Butyl benzylphthalate	13.00	149	541594	40.32946	ppb		87
85)	3,3'-Dichlorobenzidine	13.61	252	372475	40.43680	ppb		100
86)	Benz (a) anthracene	13.65	228	1137597	38.96454	ppb		99
87)	Bis (2-ethylhexyl) phthala	13.66	149	880088	39.22141	ppb		97
88)	Chrysene	13.69	228	1034971	40.76106	ppb		99
89)	Di-n-octylphthalate	14.41	149	1322580	39.92965	ppb		97
91)	Benzo (b) fluoranthene	14.95	252	1137431	39.99867	ppb		98
92)	Benzo (k) fluoranthene	14.99	252	981428	38.27939	ppb		98
93)	Benzo (a) pyrene	15.40	252	980057	38.83327	ppb		98
94)	Indeno (1,2,3-cd) pyrene	17.34	276	1157206	39.33449	ppb		99
95)	Dibenz (a,h) anthracene	17.37	278	1022289	39.00732	ppb		98
96)	Benzo (g,h,i) perylene	17.91	276	908299	39.29134	ppb		98

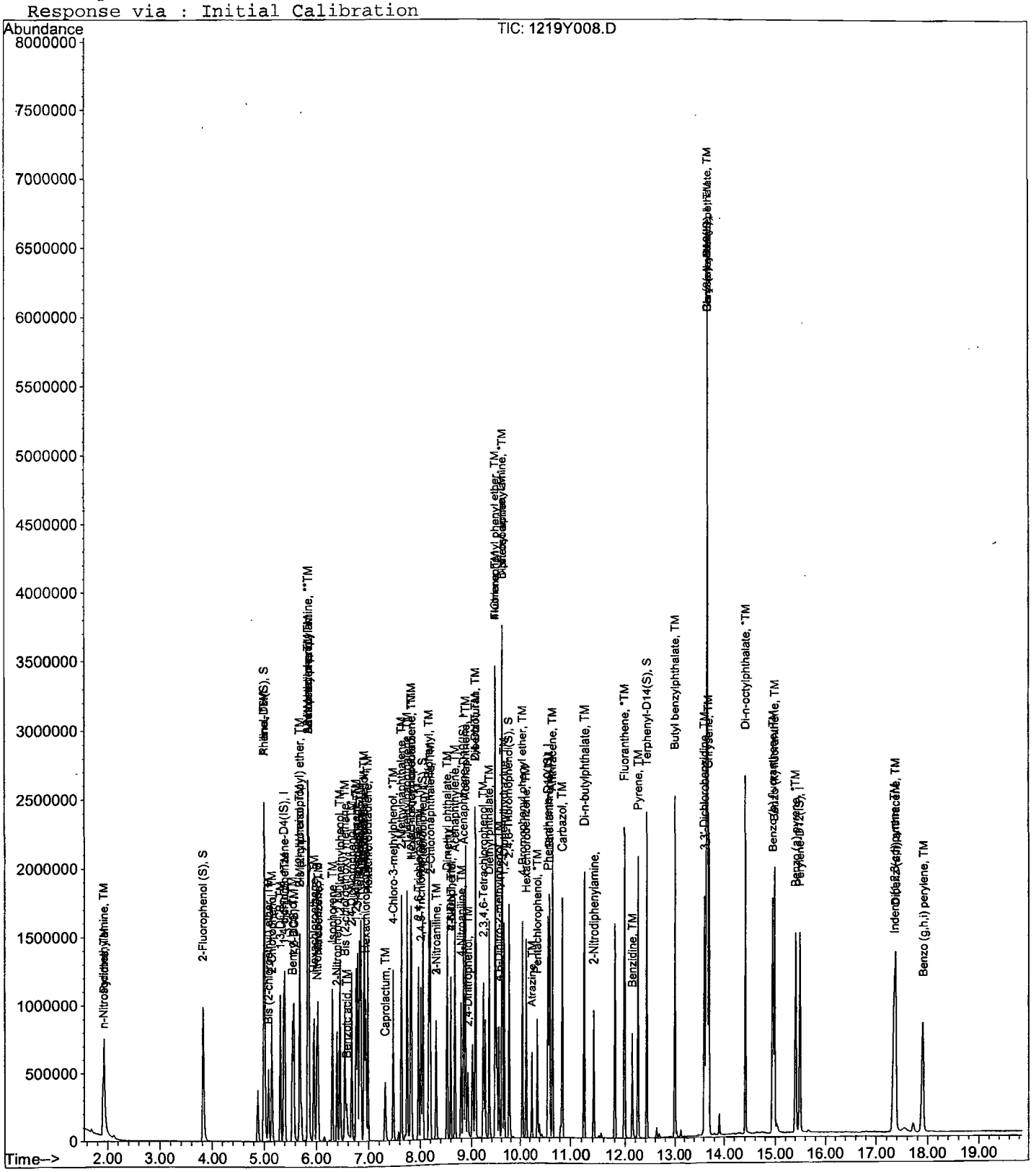
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y191219\1219Y008.D Vial: 8
Acq On : 19 Dec 19 11:24 Operator: MA,SS
Sample : 40ug/ml 8270 11/21/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y009.D Vial: 9
Acq On : 19 Dec 19 11:51 Operator: MA,SS
Sample : 60ug/ml 8270 11/21/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.38	152	160953	40.00000 ppb	0.00
21) Napthalene-D8(IS)	6.82	136	685348	40.00000 ppb	0.00
41) Acenaphthene-D10(IS)	8.84	164	424996	40.00000 ppb	0.00
65) Phenanthrene-D10(IS)	10.57	188	796514	40.00000 ppb	0.00
80) Chrysene-D12(IS)	13.67	240	1005038	40.00000 ppb	0.00
90) Perylene-D12(IS)	15.49	264	865168	40.00000 ppb	0.00
System Monitoring Compounds					
5) 2-Fluorophenol (S)	3.82	112	753971	127.80550 ppb	0.00
Spiked Amount 200.000			Recovery =	63.903%	
6) Phenol-D6 (S)	5.00	99	965746	128.48885 ppb	0.00
Spiked Amount 200.000			Recovery =	64.245%	
22) Nitrobenzene-D5(S)	6.01	82	517338	60.69782 ppb	0.00
Spiked Amount 100.000			Recovery =	60.698%	
46) 2-Fluorobiphenyl(S)	8.06	172	952099	60.66112 ppb	0.00
Spiked Amount 100.000			Recovery =	60.661%	
64) 2,4,6-Tribromophenol(S)	9.77	330	330216	125.02270 ppb	0.00
Spiked Amount 200.000			Recovery =	62.512%	
83) Terphenyl-D14(S)	12.43	244	1317552	54.97558 ppb	0.00
Spiked Amount 100.000			Recovery =	54.976%	
Target Compounds					Qvalue
3) n-Nitrosodimethylamine	1.91	42	292234	65.02884 ppb	100
4) Pyridine	1.92	79	684285	65.73377 ppb	98
7) Phenol	5.02	94	596449	67.24251 ppb	95
8) Aniline	5.01	93	400896	69.25679 ppb	95
9) Bis (2-chloroethyl) ether	5.09	63	270061	65.72167 ppb	94
10) 2-Chlorophenol	5.15	128	411267	65.84829 ppb	99
11) 1,3-DCB	5.31	146	444136	64.80266 ppb	98
12) 1,4-DCB	5.40	146	459470	65.50576 ppb	96
13) Benzyl alcohol	5.54	108	241965	65.77083 ppb	97
14) 1,2-DCB	5.57	146	428400	65.64329 ppb	99
15) 2-Methylphenol	5.68	107	361008	66.23892 ppb	99
16) Bis (2-chloroisopropyl) et	5.69	45	356163	65.72491 ppb	99
17) Acetophenone	5.84	105	617676	66.49198 ppb	99
18) 3&4-Methylphenol	5.86	107	952694	132.91717 ppb	99
19) n-Nitrosodi-n-propylamine	5.85	70	402101	67.29988 ppb	98
20) Hexachloroethane	5.95	117	190409	65.12647 ppb	97
23) Nitrobenzene	6.04	77	557986	63.16784 ppb	99
24) Isophorone	6.31	82	872286	62.58851 ppb	99
25) 2-Nitrophenol	6.39	139	230690	64.31331 ppb	99
26) 2,4-Dimethylphenol	6.44	122	359953	62.71309 ppb	100
27) Benzoic acid	6.60	105	293487	58.72692 ppb	99
28) Bis (2-chloroethoxy) metha	6.55	93	457869	63.30278 ppb	97
29) 2,4-Dichlorophenol	6.68	162	357701	63.91535 ppb	100
30) 1,2,4-Trichlorobenzene	6.76	180	400374	64.13977 ppb	98
31) 3,4-Dimethylphenol	6.79	107	600730	62.91404 ppb	100
32) Naphthalene	6.84	128	1176746	63.10625 ppb	99
33) 4-Chloroaniline	6.91	127	471729	62.91587 ppb	98
34) 2,6-Dichlorophenol	6.92	162	349158	63.68349 ppb	98
35) Hexachloropropene	6.95	213	349669	64.73761 ppb	100
36) Hexachlorobutadiene	6.98	225	268805	63.47650 ppb	100
37) Caprolactum	7.34	55	155158	61.77408 ppb	97
38) 4-Chloro-3-methylphenol	7.48	107	426464	64.19474 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y009.D Vial: 9
Acq On : 19 Dec 19 11:51 Operator: MA,SS
Sample : 60ug/ml 8270 11/21/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	2-Methylnaphthalene	7.63	142	793770	63.25069	ppb		99
40)	1-Methylnaphthalene	7.75	142	832076	63.76134	ppb		100
42)	Hexachlorocyclopentadiene	7.82	237	306752	62.07183	ppb		99
43)	1,2,4,5-Tetrachlorobenzene	7.84	216	425660	62.87574	ppb		99
44)	2,4,6-Trichlorophenol	7.97	196	281816	63.58234	ppb		98
45)	2,4,5-Trichlorophenol	8.02	196	301154	62.64854	ppb		97
47)	1,1'-Biphenyl	8.18	154	1027471	62.33279	ppb		97
48)	2-Chloronaphthalene	8.20	162	825988	62.30917	ppb		99
49)	2-Nitroaniline	8.32	65	317213	63.02131	ppb		100
50)	Dimethyl phthalate	8.53	163	1013833	62.39365	ppb		99
51)	2,6-DNT	8.61	165	226254	63.84462	ppb		99
52)	Acenaphthylene	8.68	152	1289574	63.18347	ppb		100
53)	3-Nitroaniline	8.32	138	266968	63.46450	ppb		100
54)	Acenaphthene	8.89	154	800171	62.67644	ppb		100
55)	2,4-Dinitrophenol	8.93	184	126506	58.66929	ppb	#	78
56)	4-Nitrophenol	8.60	65	20413	61.63346	ppb		97
57)	Dibenzofuran	9.08	168	1226638	63.25710	ppb		99
58)	2,4-DNT	9.07	165	335087	64.31335	ppb		96
59)	2,3,4,6-Tetrachlorophenol	9.24	232	239911	65.80120	ppb		99
60)	Diethyl phthalate	9.35	149	1040635	61.81596	ppb		99
61)	4-Chlorophenyl phenyl ethe	9.48	204	587260	63.00279	ppb		99
62)	Fluorene	9.48	166	1063405	64.46185	ppb		99
63)	4-Nitroaniline	8.80	138	220693	62.96160	ppb		95
66)	4,6-Dinitro-2-methylphenol	9.56	198	198681	63.98043	ppb		99
67)	Diphenyl amine	9.63	169	1652863	127.47170	ppb		100
68)	n-Nitrosodiphenylamine	9.63	169	1652863	127.47170	ppb		100
69)	1,2-Diphenylhydrazine	9.67	77	1183313	63.10133	ppb		99
70)	4-Bromophenyl phenyl ether	10.05	248	310984	63.69937	ppb		97
71)	Hexachlorobenzene	10.13	284	320014	64.79369	ppb		100
72)	Atrazine	10.24	200	138142	31.02308	ppb		96
73)	Pentachlorophenol	10.36	266	186384	61.39058	ppb		99
74)	Phenanthrene	10.60	178	1384259	62.97746	ppb		99
75)	Anthracene	10.66	178	1445744	62.92265	ppb		99
76)	Carbazol	10.85	167	1323037	63.24352	ppb		99
77)	Di-n-butylphthalate	11.25	149	1860030	65.02262	ppb		99
78)	2-Nitrodiphenylamine	11.42	167	216308	33.24157	ppb		91
79)	Fluoranthene	11.99	202	1641246	63.74949	ppb		99
81)	Benzidine	12.14	184	513732	50.08562	ppb		99
82)	Pyrene	12.25	202	1718860	57.05497	ppb		100
84)	Butyl benzylphthalate	13.00	149	861484	57.07291	ppb		96
85)	3,3'-Dichlorobenzidine	13.62	252	573326	55.37523	ppb		98
86)	Benz (a) anthracene	13.65	228	1901953	57.95823	ppb		100
87)	Bis (2-ethylhexyl) phthala	13.67	149	1500100	59.47733	ppb		99
88)	Chrysene	13.69	228	1612879	56.51364	ppb		100
89)	Di-n-octylphthalate	14.41	149	2164466	58.13779	ppb	#	89
91)	Benzo (b) fluoranthene	14.96	252	1834489	64.91869	ppb		99
92)	Benzo (k) fluoranthene	14.99	252	1524121	59.82190	ppb		99
93)	Benzo (a) pyrene	15.41	252	1574220	62.77002	ppb		98
94)	Indeno (1,2,3-cd) pyrene	17.36	276	1835591	62.78747	ppb		99
95)	Dibenz (a,h) anthracene	17.39	278	1644729	63.15402	ppb		99
96)	Benzo (g,h,i) perylene	17.92	276	1423801	61.97998	ppb		98

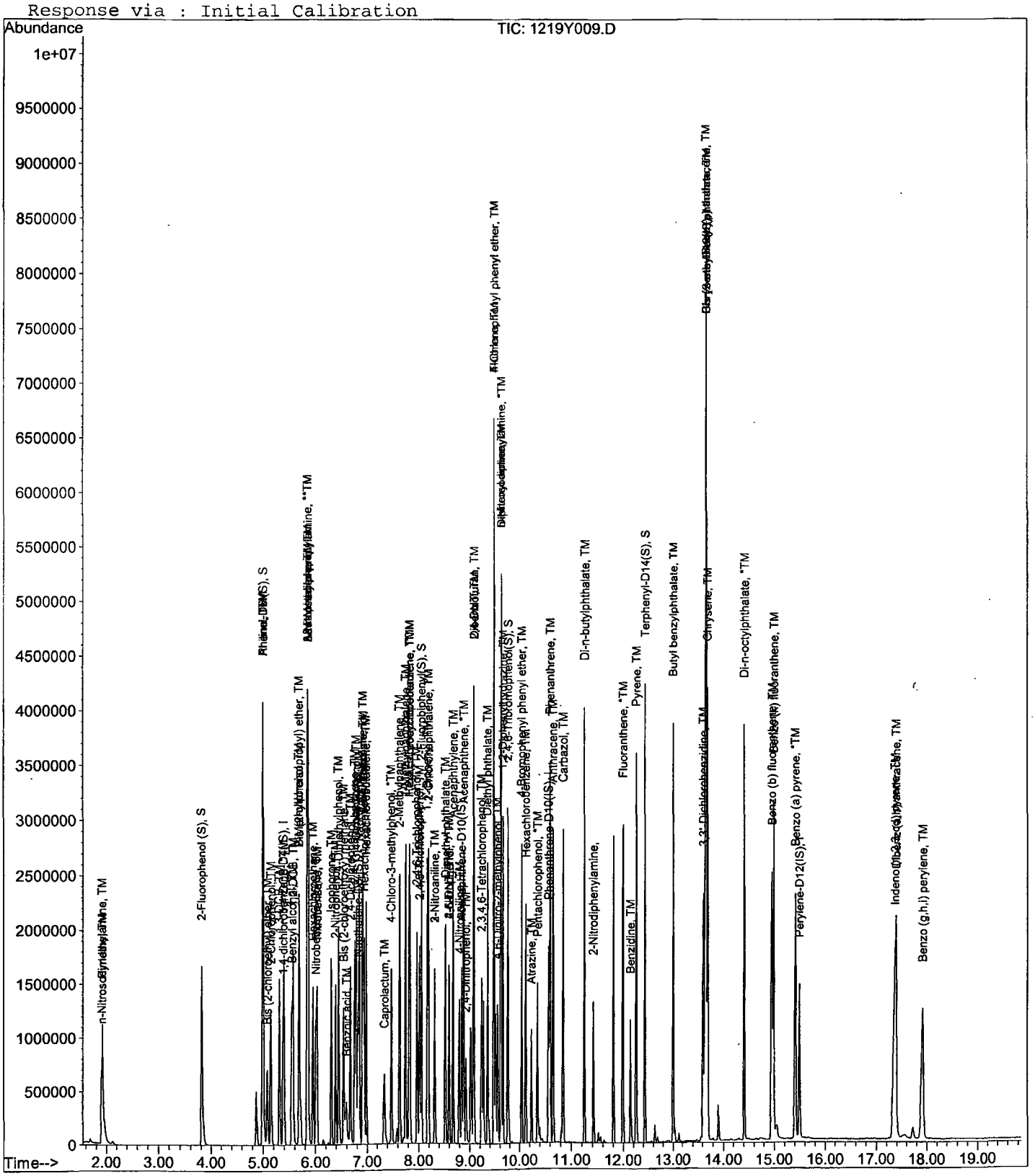
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y191219\1219Y009.D Vial: 9
Acq On : 19 Dec 19 11:51 Operator: MA,SS
Sample : 60ug/ml 8270 11/21/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y010.D Vial: 10
Acq On : 19 Dec 19 12:19 Operator: MA,SS
Sample : 80ug/ml 8270 11/21/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.38	152	160754	40.00000 ppb	0.00
21) Napthalene-D8(IS)	6.83	136	692959	40.00000 ppb	0.00
41) Acenaphthene-D10(IS)	8.84	164	424996	40.00000 ppb	0.00
65) Phenanthrene-D10(IS)	10.58	188	805372	40.00000 ppb	0.00
80) Chrysene-D12(IS)	13.67	240	1113628	40.00000 ppb	0.00
90) Perylene-D12(IS)	15.49	264	871956	40.00000 ppb	0.00
System Monitoring Compounds					
5) 2-Fluorophenol (S)	3.82	112	1075001	182.44881 ppb	0.00
Spiked Amount 200.000			Recovery =	91.225%	
6) Phenol-D6 (S)	5.01	99	1420883	189.27713 ppb	0.01
Spiked Amount 200.000			Recovery =	94.638%	
22) Nitrobenzene-D5(S)	6.02	82	726169	84.26361 ppb	0.01
Spiked Amount 100.000			Recovery =	84.264%	
46) 2-Fluorobiphenyl(S)	8.06	172	1352303	86.15933 ppb	0.00
Spiked Amount 100.000			Recovery =	86.159%	
64) 2,4,6-Tribromophenol(S)	9.78	330	496073	187.81763 ppb	0.01
Spiked Amount 200.000			Recovery =	93.909%	
83) Terphenyl-D14(S)	12.43	244	1883191	70.91511 ppb	0.00
Spiked Amount 100.000			Recovery =	70.915%	
Target Compounds					Qvalue
3) n-Nitrosodimethylamine	1.91	42	401885	89.53944 ppb	99
4) Pyridine	1.93	79	934760	89.90605 ppb	98
7) Phenol	5.02	94	839274	94.73526 ppb	88
8) Aniline	5.01	93	498688	86.25749 ppb	85
9) Bis (2-chloroethyl) ether	5.09	63	369777	90.09981 ppb	97
10) 2-Chlorophenol	5.16	128	564852	90.55087 ppb	97
11) 1,3-DCB	5.31	146	617727	90.24242 ppb	99
12) 1,4-DCB	5.41	146	635798	90.75672 ppb	96
13) Benzyl alcohol	5.55	108	342328	93.16664 ppb	96
14) 1,2-DCB	5.57	146	592153	90.84732 ppb	100
15) 2-Methylphenol	5.69	107	504104	92.60913 ppb	99
16) Bis (2-chloroisopropyl) et	5.69	45	497984	92.00976 ppb	91
17) Acetophenone	5.85	105	867366	93.48636 ppb	88
18) 3&4-Methylphenol	5.87	107	1364847	190.65532 ppb	96
19) n-Nitrosodi-n-propylamine	5.85	70	570874	95.66579 ppb	96
20) Hexachloroethane	5.95	117	268399	91.91539 ppb	98
23) Nitrobenzene	6.04	77	764484	85.59428 ppb	97
24) Isophorone	6.32	82	1217808	86.42078 ppb	99
25) 2-Nitrophenol	6.39	139	319613	88.12521 ppb	99
26) 2,4-Dimethylphenol	6.45	122	504451	86.92306 ppb	97
27) Benzoic acid	6.62	105	419869	81.40378 ppb	98
28) Bis (2-chloroethoxy) metha	6.55	93	640818	87.62335 ppb	98
29) 2,4-Dichlorophenol	6.68	162	502883	88.87008 ppb	99
30) 1,2,4-Trichlorobenzene	6.76	180	558246	88.44856 ppb	99
31) 3,4-Dimethylphenol	6.79	107	839926	86.99873 ppb	99
32) Naphthalene	6.84	128	1644894	87.24311 ppb	100
33) 4-Chloroaniline	6.92	127	636919	84.01473 ppb	94
34) 2,6-Dichlorophenol	6.93	162	502385	90.62439 ppb	94
35) Hexachloropropene	6.95	213	488764	89.49574 ppb	100
36) Hexachlorobutadiene	6.98	225	378957	88.50528 ppb	99
37) Caprolactum	7.36	55	217497	85.64244 ppb	97
38) 4-Chloro-3-methylphenol	7.49	107	599365	89.23025 ppb	95

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y010.D Vial: 10
Acq On : 19 Dec 19 12:19 Operator: MA,SS
Sample : 80ug/ml 8270 11/21/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
39)	2-Methylnaphthalene	7.63	142	1113998	87.79274 ppb		100
40)	1-Methylnaphthalene	7.75	142	1172330	88.84806 ppb		99
42)	Hexachlorocyclopentadiene	7.82	237	428800	85.24955 ppb		98
43)	1,2,4,5-Tetrachlorobenzene	7.84	216	615504	90.91826 ppb		100
44)	2,4,6-Trichlorophenol	7.97	196	393255	88.72482 ppb		100
45)	2,4,5-Trichlorophenol	8.02	196	421934	87.77419 ppb		97
47)	1,1'-Biphenyl	8.18	154	1475278	89.49955 ppb		97
48)	2-Chloronaphthalene	8.20	162	1174670	88.61232 ppb		99
49)	2-Nitroaniline	8.32	65	442197	87.85212 ppb		97
50)	Dimethyl phthalate	8.53	163	1419958	87.38754 ppb		100
51)	2,6-DNT	8.61	165	321665	90.76781 ppb		90
52)	Acenaphthylene	8.68	152	1796603	88.02567 ppb		100
53)	3-Nitroaniline	8.32	138	365367	86.85624 ppb		96
54)	Acenaphthene	8.89	154	1132422	88.70127 ppb		100
55)	2,4-Dinitrophenol	8.93	184	181951	81.43622 ppb		87
56)	4-Nitrophenol	8.61	65	28530	86.14131 ppb		100
57)	Dibenzofuran	9.08	168	1771319	91.34602 ppb		99
58)	2,4-DNT	9.08	165	492992	94.62011 ppb		89
59)	2,3,4,6-Tetrachlorophenol	9.24	232	331804	91.00501 ppb		99
60)	Diethyl phthalate	9.36	149	1448375	86.03660 ppb		97
61)	4-Chlorophenyl phenyl ethe	9.48	204	883654	94.80072 ppb		99
62)	Fluorene	9.48	166	1569501	95.14055 ppb		100
63)	4-Nitroaniline	8.80	138	289183	82.50114 ppb		92
66)	4,6-Dinitro-2-methylphenol	9.56	198	286670	91.29983 ppb	#	77
67)	Diphenyl amine	9.63	169	2378602	181.42435 ppb		100
68)	n-Nitrosodiphenylamine	9.63	169	2378602	181.42435 ppb		100
69)	1,2-Diphenylhydrazine	9.67	77	1671934	88.17691 ppb		99
70)	4-Bromophenyl phenyl ether	10.05	248	446909	90.53429 ppb		96
71)	Hexachlorobenzene	10.13	284	447867	89.68291 ppb		96
72)	Atrazine	10.25	200	193291	42.93067 ppb		99
73)	Pentachlorophenol	10.36	266	272701	88.83349 ppb		100
74)	Phenanthrene	10.60	178	1957324	88.06988 ppb		100
75)	Anthracene	10.67	178	2064260	88.85398 ppb		100
76)	Carbazol	10.85	167	1880718	88.91287 ppb		99
77)	Di-n-butylphthalate	11.25	149	2576769	89.08752 ppb		99
78)	2-Nitrodiphenylamine	11.43	167	300682	45.69969 ppb		97
79)	Fluoranthene	12.00	202	2372919	91.15549 ppb		99
81)	Benzidine	12.14	184	645213	56.77039 ppb		100
82)	Pyrene	12.26	202	2459441	73.67696 ppb		100
84)	Butyl benzylphthalate	13.00	149	1236168	73.90991 ppb		99
85)	3,3'-Dichlorobenzidine	13.62	252	786783	68.58216 ppb		100
86)	Benz (a) anthracene	13.66	228	2811632	77.32433 ppb		100
87)	Bis (2-ethylhexyl) phthala	13.67	149	2233399	79.91714 ppb		98
88)	Chrysene	13.69	228	2371032	74.97755 ppb		100
89)	Di-n-octylphthalate	14.42	149	3105415	75.27828 ppb		100
91)	Benzo (b) fluoranthene	14.96	252	2455809	86.22935 ppb		99
92)	Benzo (k) fluoranthene	14.99	252	2306290	89.81741 ppb		99
93)	Benzo (a) pyrene	15.42	252	2209159	87.40166 ppb		99
94)	Indeno (1,2,3-cd) pyrene	17.37	276	2551188	86.58555 ppb		98
95)	Dibenz (a,h) anthracene	17.41	278	2321142	88.43297 ppb		99
96)	Benzo (g,h,i) perylene	17.94	276	1961989	84.74315 ppb		99

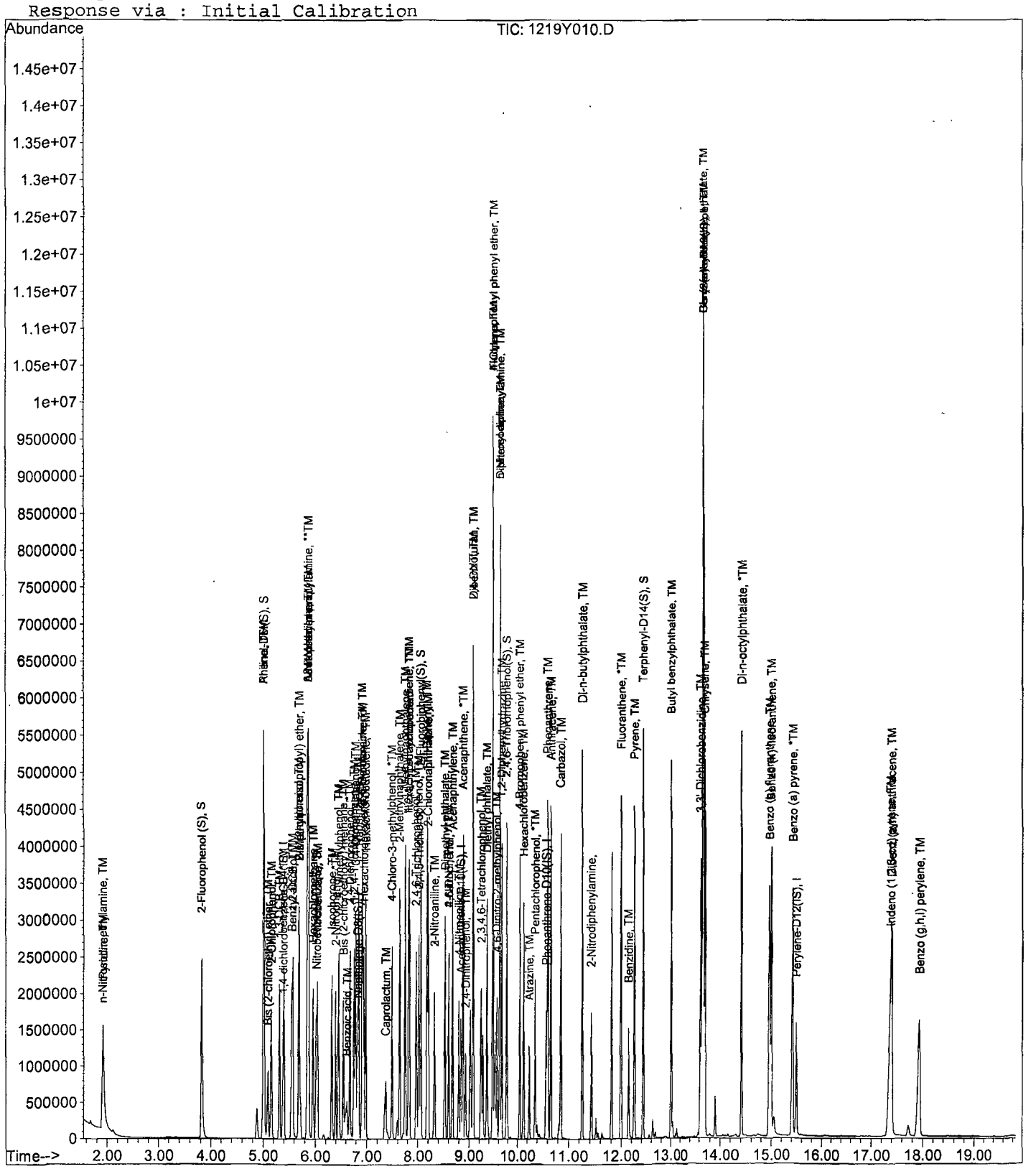
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y191219\1219Y010.D Vial: 10
Acq On : 19 Dec 19 12:19 Operator: MA,SS
Sample : 80ug/ml 8270 11/21/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y011.D Vial: 11
Acq On : 19 Dec 19 12:46 Operator: MA,SS
Sample : 100ug/ml 8270 11/21/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.39	152	167721	40.00000 ppb	0.00
21) Napthalene-D8(IS)	6.82	136	690825	40.00000 ppb	0.00
41) Acenaphthene-D10(IS)	8.85	164	415501	40.00000 ppb	0.00
65) Phenanthrene-D10(IS)	10.57	188	801375	40.00000 ppb	0.00
80) Chrysene-D12(IS)	13.66	240	1091847	40.00000 ppb	0.00
90) Perylene-D12(IS)	15.49	264	847047	40.00000 ppb	0.00
System Monitoring Compounds					
5) 2-Fluorophenol (S)	3.83	112	1327145	215.88621 ppb	0.00
Spiked Amount 200.000				Recovery = 107.943%	
6) Phenol-D6 (S)	5.00	99	1768177	225.75631 ppb	0.00
Spiked Amount 200.000				Recovery = 112.878%	
22) Nitrobenzene-D5(S)	6.02	82	888862	103.46088 ppb	0.00
Spiked Amount 100.000				Recovery = 103.461%	
46) 2-Fluorobiphenyl(S)	8.06	172	1696969	110.58977 ppb	0.00
Spiked Amount 100.000				Recovery = 110.590%	
64) 2,4,6-Tribromophenol(S)	9.78	330	649730	251.61496 ppb	0.00
Spiked Amount 200.000				Recovery = 125.808%	
83) Terphenyl-D14(S)	12.44	244	2470353	94.88156 ppb	0.00
Spiked Amount 100.000				Recovery = 94.882%	
Target Compounds					Qvalue
3) n-Nitrosodimethylamine	1.90	42	444670	94.95651 ppb	93
4) Pyridine	1.92	79	1054326	97.19369 ppb	99
7) Phenol	5.02	94	975068	105.49142 ppb	96
8) Aniline	5.01	93	532480	88.27659 ppb	97
9) Bis (2-chloroethyl) ether	5.09	63	422559	98.68376 ppb	98
10) 2-Chlorophenol	5.15	128	643242	98.83407 ppb	96
11) 1,3-DCB	5.32	146	705388	98.76806 ppb	98
12) 1,4-DCB	5.40	146	726887	99.44911 ppb	97
13) Benzyl alcohol	5.55	108	388291	101.28607 ppb	99
14) 1,2-DCB	5.57	146	689593	101.40173 ppb	99
15) 2-Methylphenol	5.69	107	576392	101.49063 ppb	99
16) Bis (2-chloroisopropyl) et	5.69	45	566462	100.31448 ppb	80
17) Acetophenone	5.85	105	992228	102.50184 ppb	98
18) 3&4-Methylphenol	5.87	107	1564530	209.47066 ppb	100
19) n-Nitrosodi-n-propylamine	5.86	70	649091	104.25487 ppb	100
20) Hexachloroethane	5.95	117	306272	100.52845 ppb	93
23) Nitrobenzene	6.04	77	875644	98.34300 ppb	93
24) Isophorone	6.31	82	1364800	97.15113 ppb	100
25) 2-Nitrophenol	6.40	139	362836	100.35190 ppb	90
26) 2,4-Dimethylphenol	6.45	122	582120	100.61623 ppb	97
27) Benzoic acid	6.63	105	476161	92.04260 ppb	97
28) Bis (2-chloroethoxy) metha	6.55	93	732731	100.50073 ppb	100
29) 2,4-Dichlorophenol	6.68	162	567413	100.58365 ppb	96
30) 1,2,4-Trichlorobenzene	6.76	180	635162	100.94600 ppb	98
31) 3,4-Dimethylphenol	6.80	107	956954	99.42657 ppb	97
32) Naphthalene	6.85	128	1900914	101.13354 ppb	100
33) 4-Chloroaniline	6.92	127	702041	92.89091 ppb	97
34) 2,6-Dichlorophenol	6.93	162	571198	103.35574 ppb	96
35) Hexachloropropene	6.94	213	564125	103.61389 ppb	100
36) Hexachlorobutadiene	6.99	225	434421	101.77230 ppb	99
37) Caprolactum	7.36	55	246611	97.40644 ppb	95
38) 4-Chloro-3-methylphenol	7.48	107	669864	100.03382 ppb	91

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y011.D Vial: 11
Acq On : 19 Dec 19 12:46 Operator: MA,SS
Sample : 100ug/ml 8270 11/21/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	2-Methylnaphthalene	7.64	142	1291010	102.05711	ppb		99
40)	1-Methylnaphthalene	7.75	142	1334685	101.46501	ppb		100
42)	Hexachlorocyclopentadiene	7.82	237	423680	86.11588	ppb		100
43)	1,2,4,5-Tetrachlorobenzene	7.84	216	703291	106.25957	ppb		98
44)	2,4,6-Trichlorophenol	7.97	196	450783	104.02822	ppb		99
45)	2,4,5-Trichlorophenol	8.03	196	477360	101.57366	ppb		94
47)	1,1'-Biphenyl	8.18	154	1686770	104.66841	ppb		98
48)	2-Chloronaphthalene	8.21	162	1339298	103.33995	ppb		97
49)	2-Nitroaniline	8.33	65	495048	100.59966	ppb		91
50)	Dimethyl phthalate	8.53	163	1597157	100.53896	ppb		99
51)	2,6-DNT	8.61	165	360589	104.07665	ppb	#	75
52)	Acenaphthylene	8.68	152	2048709	102.67159	ppb		99
53)	3-Nitroaniline	8.33	138	418230	101.69501	ppb		96
54)	Acenaphthene	8.88	154	1288641	103.24434	ppb		99
55)	2,4-Dinitrophenol	8.93	184	208042	94.10192	ppb		96
56)	4-Nitrophenol	8.61	65	33255	102.70213	ppb		98
57)	Dibenzofuran	9.09	168	2035181	107.35164	ppb		93
58)	2,4-DNT	9.08	165	558092	109.56255	ppb		97
59)	2,3,4,6-Tetrachlorophenol	9.24	232	377431	105.88489	ppb		96
60)	Diethyl phthalate	9.36	149	1638573	99.55906	ppb		99
61)	4-Chlorophenyl phenyl ethe	9.48	204	1013272	111.19063	ppb		94
62)	Fluorene	9.49	166	1826006	113.21893	ppb		99
63)	4-Nitroaniline	8.80	138	325641	95.02525	ppb		82
66)	4,6-Dinitro-2-methylphenol	9.57	198	325138	104.06776	ppb		97
67)	Diphenyl amine	9.63	169	2746000	210.49174	ppb		100
68)	n-Nitrosodiphenylamine	9.63	169	2746000	210.49174	ppb		100
69)	1,2-Diphenylhydrazine	9.66	77	1846029	97.84419	ppb		96
70)	4-Bromophenyl phenyl ether	10.05	248	515407	104.93130	ppb		83
71)	Hexachlorobenzene	10.13	284	515422	103.72521	ppb		89
72)	Atrazine	10.25	200	217511	48.55098	ppb		96
73)	Pentachlorophenol	10.36	266	321253	105.17146	ppb		98
74)	Phenanthrene	10.60	178	2272938	102.78104	ppb		100
75)	Anthracene	10.67	178	2388824	103.33737	ppb		100
76)	Carbazol	10.86	167	2146142	101.96712	ppb		98
77)	Di-n-butylphthalate	11.26	149	3023885	105.06726	ppb		98
78)	2-Nitrodiphenylamine	11.43	167	350286	53.50438	ppb		97
79)	Fluoranthene	11.99	202	2652267	102.39480	ppb		98
81)	Benzidine	12.14	184	709638	63.68453	ppb		99
82)	Pyrene	12.26	202	2834840	86.61682	ppb		99
84)	Butyl benzylphthalate	13.01	149	1433320	87.40709	ppb	#	79
85)	3,3'-Dichlorobenzidine	13.62	252	875135	77.80538	ppb		99
86)	Benz (a) anthracene	13.66	228	3190283	89.48810	ppb		100
87)	Bis (2-ethylhexyl) phthala	13.66	149	2564215	93.58504	ppb		99
88)	Chrysene	13.70	228	2706844	87.30426	ppb		100
89)	Di-n-octylphthalate	14.42	149	3511144	86.81146	ppb		97
91)	Benzo (b) fluoranthene	14.95	252	2718531	98.26115	ppb		98
92)	Benzo (k) fluoranthene	15.00	252	2709650	108.62927	ppb		99
93)	Benzo (a) pyrene	15.42	252	2492274	101.50223	ppb		98
94)	Indeno (1,2,3-cd) pyrene	17.37	276	2878800	100.57766	ppb		100
95)	Dibenz (a,h) anthracene	17.40	278	2618904	102.71152	ppb		99
96)	Benzo (g,h,i) perylene	17.94	276	2213051	98.39806	ppb		100

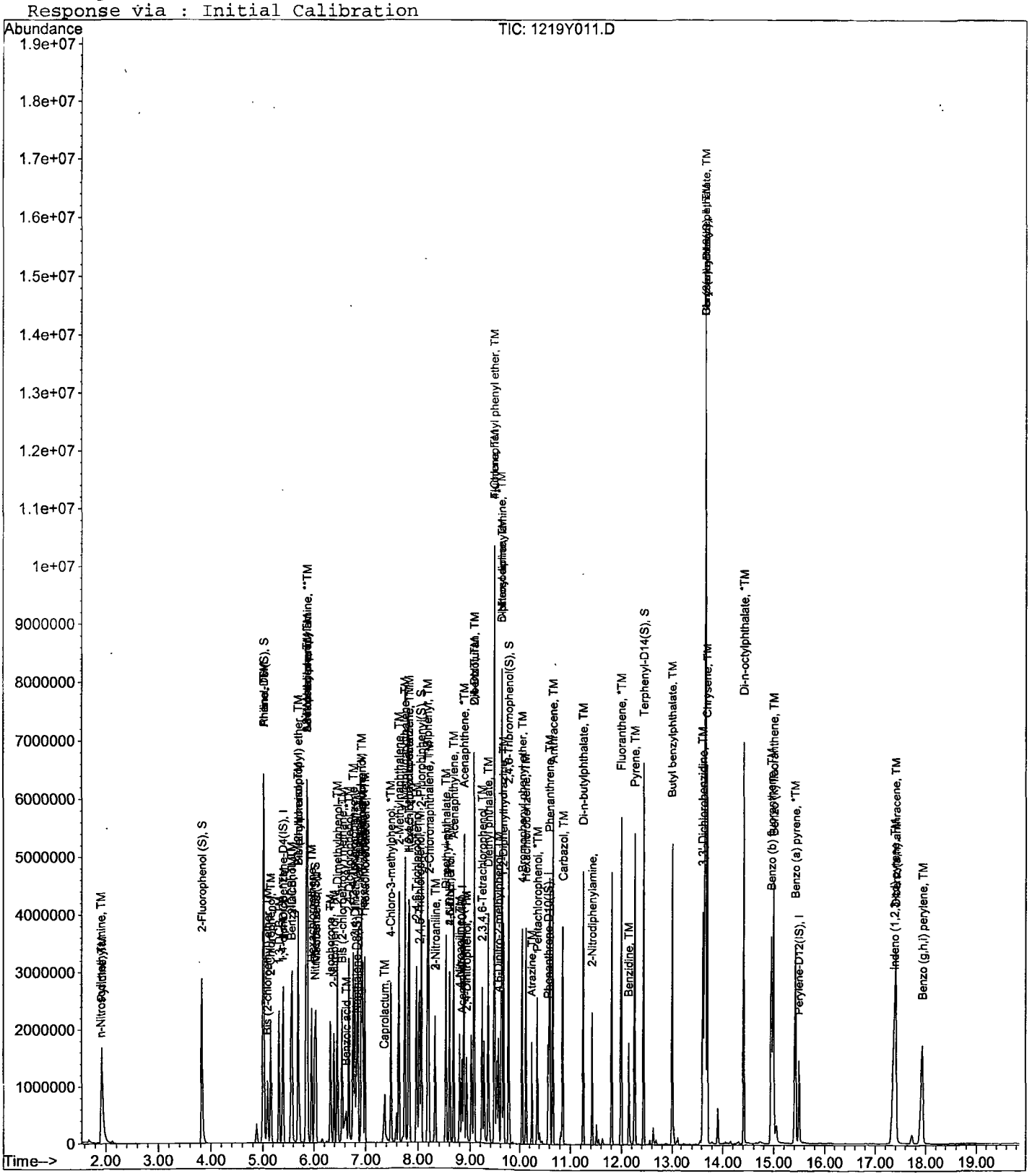
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y191219\1219Y011.D Vial: 11
Acq On : 19 Dec 19 12:46 Operator: MA,SS
Sample : 100ug/ml 8270 11/21/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration



Semi-Volatile Analysis by GC-MS
EPA 8270

Form 7

Second Source Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Date Analyzed: 12/19/19
Matrix: Instrument: Yoda
Initial Cal. Date: 12/19/19
Data File: 1219Y012.D

		Compound	MEAN	CCRF	%D		%Drift
1		1,4-Dioxane	0.6022	0.6376	5.9		
2	TM	n-Nitrosodimethylamine	1.117	1.180	5.6	TM	
3	TM	Pyridine	2.587	2.639	2.0	TM	
4	*TM	Phenol	2.204	2.243	1.7	*TM	
5	TM	Aniline	1.439	1.657	15	TM	
6	TM	Bis (2-chloroethyl) ether	1.021	1.080	5.7	TM	
7	TM	2-Chlorophenol	1.552	1.607	3.6	TM	
8	TM	1,3-DCB	1.703	1.753	2.9	TM	
9	*TM	1,4-DCB	1.743	1.793	2.8	*TM	
10	TM	Benzyl alcohol	0.9143	0.9743	6.6	TM	
11	TM	1,2-DCB	1.622	1.674	3.2	TM	
12	TM	2-Methylphenol	1.354	1.404	3.7	TM	
13	TM	Bis (2-chloroisopropyl) ether	1.347	1.393	3.4	TM	
14	TM	Acetophenone	2.309	2.421	4.9	TM	
15	TM	3&4-Methylphenol	1.781	1.810	1.6	TM	
16	**TM	n-Nitrosodi-n-propylamine	1.485	1.540	3.7	**TM	
17	TM	Hexachloroethane	0.7266	0.7587	4.4	TM	
18	TM	Nitrobenzene	0.5156	0.5309	3.0	TM	
19	TM	Isophorone	0.8134	0.8514	4.7	TM	
20	*TM	2-Nitrophenol	0.2094	0.2223	6.2	*TM	
21	TM	2,4-Dimethylphenol	0.3350	0.3505	4.6	TM	
22	TML	Benzoic acid	0.2307	0.3085	34	TML	6.6
23	TM	Bis (2-chloroethoxy) methane	0.4222	0.4476	6.0	TM	
24	*TM	2,4-Dichlorophenol	0.3266	0.3400	4.1	*TM	
25	TM	1,2,4-Trichlorobenzene	0.3643	0.3811	4.6	TM	
26	TM	3,4-Dimethylphenol	0.5573	0.5842	4.8	TM	
27	TM	Naphthalene	1.088	1.154	6.0	TM	
28	TM	4-Chloroaniline	0.4376	0.4640	6.0	TM	
29	TM	2,6-Dichlorophenol	0.3200	0.3394	6.1	TM	
30	TM	Hexachloropropene	0.3152	0.3339	5.9	TM	
31	*TM	Hexachlorobutadiene	0.2472	0.2560	3.6	*TM	
32	TM	Caprolactum	0.1466	0.1538	4.9	TM	
33	*TM	4-Chloro-3-methylphenol	0.3877	0.4161	7.3	*TM	
34	TM	2-Methylnaphthalene	0.7325	0.7990	9.1	TM	
35	TM	1-Methylnaphthalene	0.7616	0.7886	3.5	TM	
36	**TML	Hexachlorocyclopentadiene	0.3696	0.4521	22	**TML	1.1
37	TM	1,2,4,5-Tetrachlorobenzene	0.6372	0.6766	6.2	TM	
38	*TM	2,4,6-Trichlorophenol	0.4172	0.4464	7.0	*TM	
39	TM	2,4,5-Trichlorophenol	0.4524	0.4860	7.4	TM	
40	TM	1,1'-Biphenyl	1.551	1.646	6.1	TM	
		Average			6.2		

Semi-Volatile Analysis by GC-MS
EPA 8270

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 12/19/19
Instrument: Yoda
Cal. Date: 12/19/19
Data File: 1219Y012.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	2-Chloronaphthalene	1.248	1.287	3.1	TM	
42	TM	2-Nitroaniline	0.4737	0.5330	13	TM	
43	TM	Dimethyl phthalate	1.529	1.612	5.4	TM	
44	TM	2,6-DNT	0.3335	0.3594	7.8	TM	
45	TM	Acenaphthylene	1.921	2.039	6.2	TM	
46	TM	3-Nitroaniline	0.3959	0.4440	12	TM	
47	*TM	Acenaphthene	1.202	1.272	5.8	*TM	
48	**TML	2,4-Dinitrophenol	0.1391	0.1930	39	**TML	2.4
49	**TM	4-Nitrophenol	0.0312	0.0331	6.3	**TM	
50	TM	Dibenzofuran	1.825	1.991	9.1	TM	
51	TM	2,4-DNT	0.4904	0.5209	6.2	TM	
52	TM	2,3,4,6-Tetrachlorophenol	0.3432	0.3772	9.9	TM	
53	TM	Diethyl phthalate	1.584	1.664	5.0	TM	
54	TM	4-Chlorophenyl phenyl ether	0.8773	0.8972	2.3	TM	
55	TM	Fluorene	1.553	1.642	5.8	TM	
56	TM	4-Nitroaniline	0.3299	0.3692	12	TM	
57	TM	4,6-Dinitro-2-methylphenol	0.1559	0.1668	7.0	TM	
58	TM	Diphenyl amine	0.6512	0.7094	8.9	TM	
59	*TM	n-Nitrosodiphenylamine	0.6512	0.7094	8.9	*TM	
60	TM	1,2-Diphenylhydrazine	0.9417	0.9917	5.3	TM	
61	TM	4-Bromophenyl phenyl ether	0.2452	0.2643	7.8	TM	
62	TM	Hexachlorobenzene	0.2480	0.2730	10	TM	
63	TM	Atrazine	0.2236	0.2354	5.3	TM	
64	*TM	Pentachlorophenol	0.1525	0.1514	0.68	*TM	
65	TM	Phenanthrene	1.104	1.206	9.2	TM	
66	TM	Anthracene	1.154	1.246	8.0	TM	
67	TM	Carbazol	1.051	1.136	8.1	TM	
68	TM	Di-n-butylphthalate	1.437	1.529	6.5	TM	
69		2-Nitrodiphenylamine	0.3268	0.3682	13		
70	*TM	Fluoranthene	1.293	1.392	7.7	*TM	
71	TM	Benzidine	0.4082	0.3716	9.0	TM	
72	TM	Pyrene	1.199	1.267	5.7	TM	
73	TM	Butyl benzylphthalate	0.6008	0.6332	5.4	TM	
74	TM	3,3'-Dichlorobenzidine	0.4121	0.4458	8.2	TM	
75	TM	Benz (a) anthracene	1.306	1.401	7.3	TM	
76	TM	Bis (2-ethylhexyl) phthalate	1.004	1.044	4.0	TM	
77	TM	Chrysene	1.136	1.200	5.6	TM	
78	*TM	Di-n-octylphthalate	1.482	1.554	4.8	*TM	
79	TM	Benzo (b) fluoranthene	1.306	1.367	4.6	TM	
80	TM	Benzo (k) fluoranthene	1.178	1.349	14	TM	
		Average			8.1		

Semi-Volatile Analysis by GC-MS
EPA 8270

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 12/19/19
Instrument: Yoda
Cal. Date: 12/19/19
Data File: 1219Y012.D

		Compound	MEAN	CCRF	%D	%Drift	
81	*TM	Benzo (a) pyrene	1.160	1.260	8.7	*TM	
82	TM	Indeno (1,2,3-cd) pyrene	1.352	1.394	3.1	TM	
83	TM	Dibenz (a,h) anthracene	1.204	1.302	8.1	TM	
84	TM	Benzo (g,h,i) perylene	1.062	1.208	14	TM	
85							
86							
87							
88							
89							
90							
91							
92							
93							
94							
95							
96							
97							
98							
99							
100							
101							
102							
103							
104							
105							
106							
107							
108							
109							
110							
111							
112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			8.5		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y012.D Vial: 12
Acq On : 19 Dec 19 13:14 Operator: MA,SS
Sample : SS 8270 11/22/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.38	152	154648	40.00000 ppb	0.00
21) Napthalene-D8(IS)	6.82	136	627218	40.00000 ppb	0.00
41) Acenaphthene-D10(IS)	8.84	164	380731	40.00000 ppb	0.00
65) Phenanthrene-D10(IS)	10.57	188	716758	40.00000 ppb	0.00
80) Chrysene-D12(IS)	13.66	240	829696	40.00000 ppb	0.00
90) Perylene-D12(IS)	15.48	264	760670	40.00000 ppb	-0.01
System Monitoring Compounds					
5) 2-Fluorophenol (S)	0.00	112	0	0.00000 ppb	
Spiked Amount 200.000			Recovery =	0.000%	
6) Phenol-D6 (S)	0.00	99	0	0.00000 ppb	
Spiked Amount 200.000			Recovery =	0.000%	
22) Nitrobenzene-D5(S)	5.95	82	52711	6.75760 ppb	-0.06
Spiked Amount 100.000			Recovery =	6.758%	
46) 2-Fluorobiphenyl(S)	8.02	172	554	0.03940 ppb	-0.04
Spiked Amount 100.000			Recovery =	0.039%	
64) 2,4,6-Tribromophenol(S)	0.00	330	0	0.00000 ppb	
Spiked Amount 200.000			Recovery =	0.000%	
83) Terphenyl-D14(S)	12.43	244	297	0.01501 ppb	0.00
Spiked Amount 100.000			Recovery =	0.015%	
Target Compounds					Qvalue
3) n-Nitrosodimethylamine	1.90	42	228024	52.80932 ppb	98
4) Pyridine	1.92	79	510199	51.00889 ppb	99
7) Phenol	5.00	94	433587	50.87467 ppb	79
8) Aniline	5.00	93	320384	57.60447 ppb #	92
9) Bis (2-chloroethyl) ether	5.08	63	208721	52.86493 ppb	99
10) 2-Chlorophenol	5.15	128	310728	51.77926 ppb	99
11) 1,3-DCB	5.31	146	338803	51.44923 ppb	98
12) 1,4-DCB	5.39	146	346514	51.41595 ppb	99
13) Benzyl alcohol	5.54	108	188349	53.28425 ppb	98
14) 1,2-DCB	5.57	146	323570	51.60169 ppb	98
15) 2-Methylphenol	5.68	107	271451	51.83733 ppb	99
16) Bis (2-chloroisopropyl) et	5.69	45	269286	51.71896 ppb	86
17) Acetophenone	5.84	105	467976	52.43085 ppb	97
18) 3&4-Methylphenol	5.86	107	699849	101.62178 ppb	99
19) n-Nitrosodi-n-propylamine	5.84	70	297756	51.86739 ppb	93
20) Hexachloroethane	5.95	117	146655	52.20615 ppb	96
23) Nitrobenzene	6.03	77	416218	51.48566 ppb	93
24) Isophorone	6.30	82	667515	52.33466 ppb	98
25) 2-Nitrophenol	6.39	139	174251	53.08111 ppb	98
26) 2,4-Dimethylphenol	6.44	122	274826	52.31942 ppb	99
27) Benzoic acid	6.58	105	241867	53.28837 ppb	98
28) Bis (2-chloroethoxy) metha	6.54	93	350898	53.00967 ppb	98
29) 2,4-Dichlorophenol	6.68	162	266533	52.03896 ppb	99
30) 1,2,4-Trichlorobenzene	6.76	180	298756	52.29628 ppb	100
31) 3,4-Dimethylphenol	6.79	107	458062	52.41857 ppb	99
32) Naphthalene	6.84	128	904563	53.00552 ppb	100
33) 4-Chloroaniline	6.91	127	363799	53.01781 ppb	98
34) 2,6-Dichlorophenol	6.92	162	266063	53.02515 ppb	98
35) Hexachloropropene	6.94	213	261770	52.95562 ppb	98
36) Hexachlorobutadiene	6.98	225	200685	51.78252 ppb	99
37) Caprolactum	7.32	55	120598	52.46442 ppb	93
38) 4-Chloro-3-methylphenol	7.47	107	326264	53.66349 ppb	90

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y012.D Vial: 12
Acq On : 19 Dec 19 13:14 Operator: MA,SS
Sample : SS 8270 11/22/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
39)	2-Methylnaphthalene	7.63	142	626418	54.54154 ppb		99
40)	1-Methylnaphthalene	7.75	142	618310	51.77181 ppb		99
42)	Hexachlorocyclopentadiene	7.82	237	215168	49.43015 ppb		99
43)	1,2,4,5-Tetrachlorobenzene	7.84	216	321980	53.09037 ppb		99
44)	2,4,6-Trichlorophenol	7.97	196	212425	53.49868 ppb		99
45)	2,4,5-Trichlorophenol	8.02	196	231296	53.71023 ppb		96
47)	1,1'-Biphenyl	8.17	154	783426	53.05320 ppb		99
48)	2-Chloronaphthalene	8.20	162	612398	51.56780 ppb		99
49)	2-Nitroaniline	8.32	65	253652	56.25244 ppb		98
50)	Dimethyl phthalate	8.52	163	767054	52.69465 ppb		98
51)	2,6-DNT	8.60	165	171054	53.88004 ppb	#	66
52)	Acenaphthylene	8.68	152	970447	53.07569 ppb		100
53)	3-Nitroaniline	8.32	138	211306	56.07253 ppb		99
54)	Acenaphthene	8.87	154	605219	52.91767 ppb		99
55)	2,4-Dinitrophenol	8.92	184	91847	48.82234 ppb		96
56)	4-Nitrophenol	8.60	65	15775	53.16743 ppb		98
57)	Dibenzofuran	9.08	168	947587	54.54797 ppb		100
58)	2,4-DNT	9.07	165	247899	53.11106 ppb		94
59)	2,3,4,6-Tetrachlorophenol	9.24	232	179532	54.96575 ppb		98
60)	Diethyl phthalate	9.35	149	791693	52.49593 ppb		99
61)	4-Chlorophenyl phenyl ethe	9.48	204	426980	51.13326 ppb		98
62)	Fluorene	9.48	166	781637	52.89027 ppb		99
63)	4-Nitroaniline	8.80	138	175684	55.94819 ppb		89
66)	4,6-Dinitro-2-methylphenol	9.55	198	149456	53.48414 ppb		90
67)	Diphenyl amine	9.62	169	1271157	108.94241 ppb		99
68)	n-Nitrosodiphenylamine	9.62	169	1271157	108.94241 ppb		99
69)	1,2-Diphenylhydrazine	9.66	77	888538	52.65453 ppb		98
70)	4-Bromophenyl phenyl ether	10.04	248	236821	53.90613 ppb		97
71)	Hexachlorobenzene	10.13	284	244573	55.02919 ppb		97
72)	Atrazine	10.24	200	105442	26.31441 ppb		97
73)	Pentachlorophenol	10.36	266	135671	49.65935 ppb		99
74)	Phenanthrene	10.60	178	1080229	54.61406 ppb		99
75)	Anthracene	10.66	178	1116406	53.99563 ppb		100
76)	Carbazol	10.85	167	1017680	54.06002 ppb		99
77)	Di-n-butylphthalate	11.25	149	1370271	53.23188 ppb		99
78)	2-Nitrodiphenylamine	11.42	167	164948	28.16935 ppb		89
79)	Fluoranthene	11.99	202	1247416	53.84374 ppb		99
81)	Benzidine	12.14	184	385367	45.51080 ppb		99
82)	Pyrene	12.25	202	1314061	52.83625 ppb		99
84)	Butyl benzylphthalate	13.00	149	656686	52.69920 ppb		91
85)	3,3'-Dichlorobenzidine	13.62	252	462307	54.08886 ppb	#	99
86)	Benz (a) anthracene	13.65	228	1453439	53.65073 ppb		99
87)	Bis (2-ethylhexyl) phthala	13.66	149	1082924	52.01071 ppb	#	98
88)	Chrysene	13.69	228	1244504	52.82157 ppb		100
89)	Di-n-octylphthalate	14.41	149	1611191	52.42256 ppb	#	91
91)	Benzo (b) fluoranthene	14.94	252	1300001	52.32418 ppb		99
92)	Benzo (k) fluoranthene	14.99	252	1282239	57.24188 ppb		98
93)	Benzo (a) pyrene	15.41	252	1198281	54.34376 ppb		99
94)	Indeno (1,2,3-cd) pyrene	17.35	276	1325649	51.57388 ppb		99
95)	Dibenz (a,h) anthracene	17.38	278	1237782	54.05738 ppb		100
96)	Benzo (g,h,i) perylene	17.91	276	1148610	56.86944 ppb		99

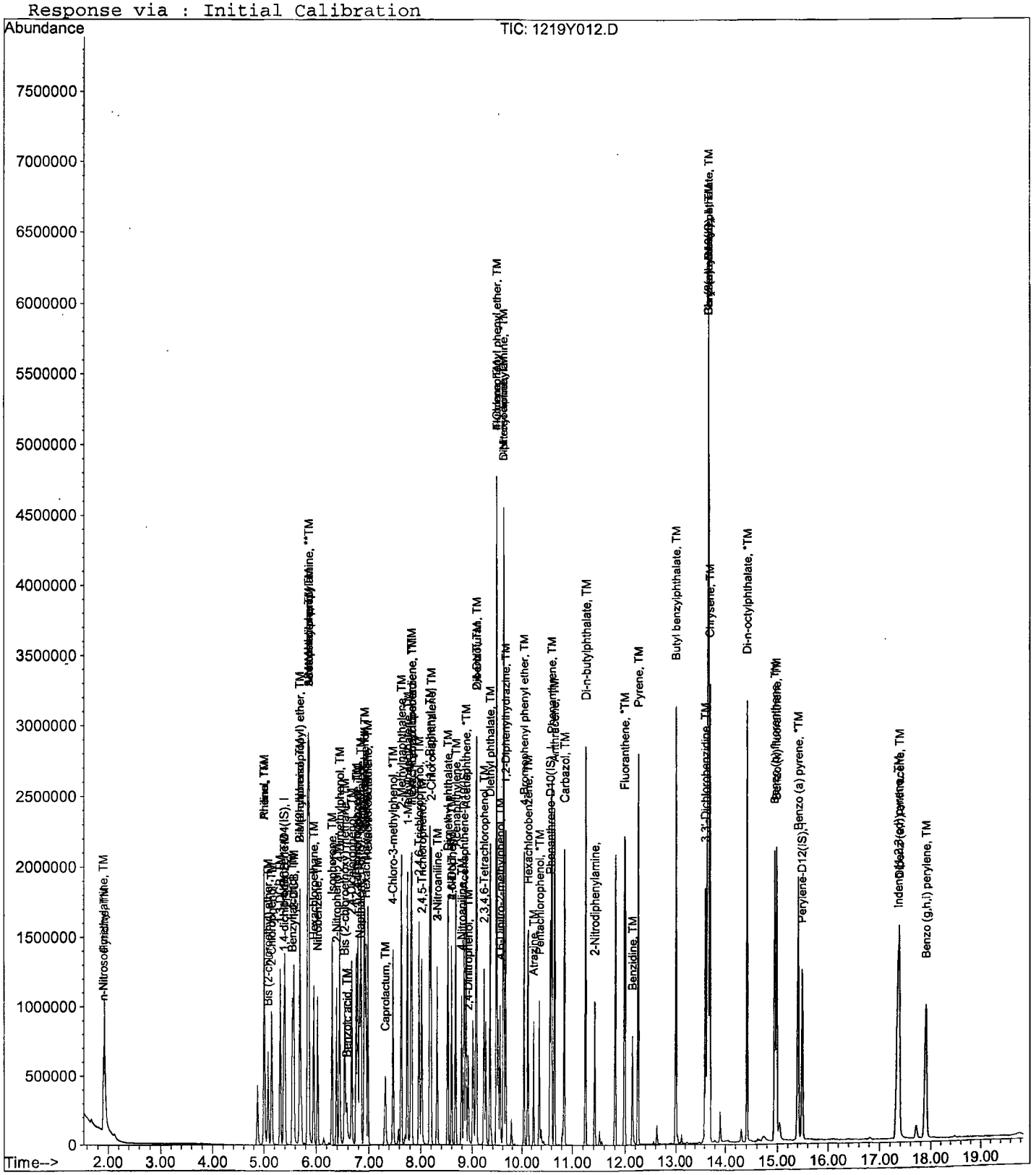
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y191219\1219Y012.D Vial: 12
Acq On : 19 Dec 19 13:14 Operator: MA,SS
Sample : SS 8270 11/22/19 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 12:40 2019 Quant Results File: Y1219.RES

Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration



Semi-Volatile Analysis by GC-MS
EPA 8270

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 01/27/20
Instrument: Yoda
Initial Cal. Date: 12/19/19
Data File: 1219Y247.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	1,4-dichlorobenzene-D4(IS)	ISTD			I	
2		1,4-Dioxane	0.6022	0.6056	0.56		
3	TM	n-Nitrosodimethylamine	1.117	1.277	14	TM	
4	TM	Pyridine	2.587	2.841	9.8	TM	
5	S	2-Fluorophenol (S)	1.466	1.463	0.19	S	
6	S	Phenol-D6 (S)	1.868	2.088	12	S	
7	*TM	Phenol	2.204	2.526	15	*TM	
8	TM	Aniline	1.439	1.422	1.1	TM	
9	TM	Bis (2-chloroethyl) ether	1.021	1.130	11	TM	
10	TM	2-Chlorophenol	1.552	1.636	5.4	TM	
11	TM	1,3-DCB	1.703	1.734	1.8	TM	
12	*TM	1,4-DCB	1.743	1.801	3.3	*TM	
13	TM	Benzyl alcohol	0.9143	1.048	15	TM	
14	TM	1,2-DCB	1.622	1.726	6.4	TM	
15	TM	2-Methylphenol	1.354	1.550	14	TM	
16	TM	Bis (2-chloroisopropyl) ether	1.347	1.566	16	TM	
17	TM	Acetophenone	2.309	2.676	16	TM	
18	TM	3&4-Methylphenol	1.781	2.120	19	TM	
19	**TM	n-Nitrosodi-n-propylamine	1.485	1.784	20	**TM	
20	TM	Hexachloroethane	0.7266	0.7589	4.4	TM	
21	I	Napthalene-D8(IS)	ISTD			I	
22	S	Nitrobenzene-D5(S)	0.4975	0.4923	1.0	S	
23	TM	Nitrobenzene	0.5156	0.5422	5.2	TM	
24	TM	Isophorone	0.8134	0.8885	9.2	TM	
25	*TM	2-Nitrophenol	0.2094	0.2182	4.2	*TM	
26	TM	2,4-Dimethylphenol	0.3350	0.3701	10	TM	
27	TML	Benzoic acid	0.2307	0.3311	44	TML	14
28	TM	Bis (2-chloroethoxy) methane	0.4222	0.4531	7.3	TM	
29	*TM	2,4-Dichlorophenol	0.3266	0.3630	11	*TM	
30	TM	1,2,4-Trichlorobenzene	0.3643	0.3884	6.6	TM	
31	TM	3,4-Dimethylphenol	0.5573	0.6146	10	TM	
32	TM	Naphthalene	1.088	1.167	7.2	TM	
33	TM	4-Chloroaniline	0.4376	0.4744	8.4	TM	
34	TM	2,6-Dichlorophenol	0.3200	0.3625	13	TM	
35	TM	Hexachloropropene	0.3152	0.3443	9.2	TM	
36	*TM	Hexachlorobutadiene	0.2472	0.2752	11	*TM	
37	TM	Caprolactum	0.1466	0.1645	12	TM	
38	*TM	4-Chloro-3-methylphenol	0.3877	0.4290	11	*TM	
39	TM	2-Methylnaphthalene	0.7325	0.8178	12	TM	
40	TM	1-Methylnaphthalene	0.7616	0.8464	11	TM	
		Average			10.2		

Semi-Volatile Analysis by GC-MS
EPA 8270

Form 7

Continuing Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Date Analyzed: 01/27/20
Matrix: 0 Instrument: Yoda
Cal. Date: 12/19/19
Data File: 1219Y247.D

		Compound	MEAN	CCRF	%D	%Drift		
41	I	Acenaphthene-D10(IS)	ISTD			I		
42	**TML	Hexachlorocyclopentadiene	0.3696	0.3327	10.0	**TML	25	*NT
43	TM	1,2,4,5-Tetrachlorobenzene	0.6372	0.6926	8.7	TM		
44	*TM	2,4,6-Trichlorophenol	0.4172	0.4588	10.0	*TM		
45	TM	2,4,5-Trichlorophenol	0.4524	0.4738	4.7	TM		
46	S	2-Fluorobiphenyl(S)	1.477	1.521	3.0	S		
47	TM	1,1'-Biphenyl	1.551	1.725	11	TM		
48	TM	2-Chloronaphthalene	1.248	1.331	6.7	TM		
49	TM	2-Nitroaniline	0.4737	0.5140	8.5	TM		
50	TM	Dimethyl phthalate	1.529	1.641	7.3	TM		
51	TM	2,6-DNT	0.3335	0.3681	10	TM		
52	TM	Acenaphthylene	1.921	2.062	7.4	TM		
53	TM	3-Nitroaniline	0.3959	0.4216	6.5	TM		
54	*TM	Acenaphthene	1.202	1.299	8.1	*TM		
55	**TML	2,4-Dinitrophenol	0.1391	0.2032	46	**TML	2.1	
56	**TM	4-Nitrophenol	0.0312	0.0336	7.8	**TM		
57	TM	Dibenzofuran	1.825	2.112	16	TM		
58	TM	2,4-DNT	0.4904	0.5768	18	TM		
59	TM	2,3,4,6-Tetrachlorophenol	0.3432	0.3841	12	TM		
60	TM	Diethyl phthalate	1.584	1.708	7.8	TM		
61	TM	4-Chlorophenyl phenyl ether	0.8773	1.056	20	TM		
62	TM	Fluorene	1.553	1.884	21	TM		*NT
63	TM	4-Nitroaniline	0.3299	0.3404	3.2	TM		
64	S	2,4,6-Tribromophenol(S)	0.2486	0.2816	13	S		
65	I	Phenanthrene-D10(IS)	ISTD			I		
66	TM	4,6-Dinitro-2-methylphenol	0.1559	0.1597	2.4	TM		
67	TM	Diphenyl amine	0.6512	0.7232	11	TM		
68	*TM	n-Nitrosodiphenylamine	0.6512	0.7232	11	*TM		
69	TM	1,2-Diphenylhydrazine	0.9417	0.9921	5.4	TM		
70	TM	4-Bromophenyl phenyl ether	0.2452	0.2675	9.1	TM		
71	TM	Hexachlorobenzene	0.2480	0.2746	11	TM		
72	TM	Atrazine	0.2236	0.1459	35	TM		*NT
73	*TM	Pentachlorophenol	0.1525	0.1652	8.3	*TM		
74	TM	Phenanthrene	1.104	1.188	7.6	TM		
75	TM	Anthracene	1.154	1.237	7.2	TM		
76	TM	Carbazol	1.051	1.136	8.2	TM		
77	TM	Di-n-butylphthalate	1.437	1.578	9.9	TM		
78		2-Nitrodiphenylamine	0.3268	0.3754	15			
79	*TM	Fluoranthene	1.293	1.427	10	*TM		
80	I	Chrysene-D12(IS)	ISTD			I		
		Average			11.3			

Semi-Volatile Analysis by GC-MS
EPA 8270

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 01/27/20
Instrument: Yoda
Cal. Date: 12/19/19
Data File: 1219Y247.D

		Compound	MEAN	CCRF	%D	%Drift		
81	TM	Benzidine	0.4082	0.1638	60	TM		*NT
82	TM	Pyrene	1.199	1.085	9.5	TM		
83	S	Terphenyl-D14(S)	0.9538	0.8132	15	S		
84	TM	Butyl benzylphthalate	0.6008	0.5343	11	TM		
85	TM	3,3'-Dichlorobenzidine	0.4121	0.4253	3.2	TM		
86	TM	Benz (a) anthracene	1.306	1.353	3.6	TM		
87	TM	Bis (2-ethylhexyl) phthalate	1.004	1.041	3.7	TM		
88	TM	Chrysene	1.136	1.024	9.9	TM		
89	*TM	Di-n-octylphthalate	1.482	1.306	12	*TM		
90	I	Perylene-D12(IS)	ISTD			I		
91	TM	Benzo (b) fluoranthene	1.306	1.430	9.4	TM		
92	TM	Benzo (k) fluoranthene	1.178	1.289	9.4	TM		
93	*TM	Benzo (a) pyrene	1.160	1.246	7.5	*TM		
94	TM	Indeno (1,2,3-cd) pyrene	1.352	1.418	4.9	TM		
95	TM	Dibenz (a,h) anthracene	1.204	1.293	7.4	TM		
96	TM	Benzo (g,h,i) perylene	1.062	1.085	2.1	TM		
97								
98								
99								
100								
101								
102								
103								
104								
105								
106								
107								
108								
109								
110								
111								
112								
113								
114								
115								
116								
117								
118								
119								
120								
		Average			11.2			

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y247.D Vial: 47
Acq On : 27 Jan 20 17:04 Operator: MA,SS
Sample : 50ug/ml 8270 01/06/20 (1) Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 27 17:08 2020 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.38	152	248048	40.00000	ppb		0.00
21) Napthalene-D8(IS)	6.81	136	1087911	40.00000	ppb		-0.01
41) Acenaphthene-D10(IS)	8.84	164	692449	40.00000	ppb		0.00
65) Phenanthrene-D10(IS)	10.56	188	1380976	40.00000	ppb		-0.01
80) Chrysene-D12(IS)	13.66	240	1896333	40.00000	ppb		0.00
90) Perylene-D12(IS)	15.49	264	1449984	40.00000	ppb		0.00
System Monitoring Compounds							
5) 2-Fluorophenol (S)	3.81	112	907440	99.81048	ppb		-0.01
Spiked Amount 200.000			Recovery = 49.905%				
6) Phenol-D6 (S)	5.00	99	1294566	111.76095	ppb		0.00
Spiked Amount 200.000			Recovery = 55.881%				
22) Nitrobenzene-D5(S)	6.01	82	669450	49.48057	ppb		0.00
Spiked Amount 100.000			Recovery = 49.481%				
46) 2-Fluorobiphenyl(S)	8.06	172	1316739	51.49025	ppb		0.00
Spiked Amount 100.000			Recovery = 51.490%				
64) 2,4,6-Tribromophenol(S)	9.77	330	487418	113.26335	ppb		0.00
Spiked Amount 200.000			Recovery = 56.632%				
83) Terphenyl-D14(S)	12.43	244	1927610	42.62743	ppb		0.00
Spiked Amount 100.000			Recovery = 42.627%				
Target Compounds							Qvalue
2) 1,4-Dioxane	1.68	58	18778	5.02816			82
3) n-Nitrosodimethylamine	1.91	42	395978	57.17546	ppb		99
4) Pyridine	1.92	79	880943	54.91142	ppb		98
7) Phenol	5.01	94	783104	57.28664	ppb		98
8) Aniline	5.01	93	441024	49.43747	ppb		98
9) Bis (2-chloroethyl) ether	5.08	63	350293	55.31482	ppb		99
10) 2-Chlorophenol	5.14	128	507351	52.70994	ppb		92
11) 1,3-DCB	5.31	146	537503	50.88867	ppb		98
12) 1,4-DCB	5.39	146	558540	51.67018	ppb		98
13) Benzyl alcohol	5.54	108	324800	57.28753	ppb		95
14) 1,2-DCB	5.56	146	535100	53.20338	ppb		99
15) 2-Methylphenol	5.68	107	480708	57.23228	ppb		98
16) Bis (2-chloroisopropyl) et	5.68	45	485607	58.14729	ppb	#	74
17) Acetophenone	5.84	105	829818	57.96352	ppb		96
18) 3&4-Methylphenol	5.86	107	1314698	119.01920	ppb		100
19) n-Nitrosodi-n-propylamine	5.85	70	553058	60.06385	ppb		99
20) Hexachloroethane	5.94	117	235293	52.22067	ppb		91
23) Nitrobenzene	6.04	77	737375	52.58707	ppb		98
24) Isophorone	6.30	82	1208203	54.61267	ppb		99
25) 2-Nitrophenol	6.39	139	296686	52.10591	ppb		97
26) 2,4-Dimethylphenol	6.44	122	503359	55.24692	ppb		99
27) Benzoic acid	6.63	105	450305	56.90009	ppb		95
28) Bis (2-chloroethoxy) metha	6.54	93	616192	53.66800	ppb		99
29) 2,4-Dichlorophenol	6.67	162	493630	55.56538	ppb		95
30) 1,2,4-Trichlorobenzene	6.75	180	528226	53.30882	ppb		97
31) 3,4-Dimethylphenol	6.79	107	835770	55.14077	ppb		98
32) Naphthalene	6.84	128	1586460	53.59651	ppb		100
33) 4-Chloroaniline	6.91	127	645174	54.20786	ppb		98
34) 2,6-Dichlorophenol	6.92	162	493004	56.64650	ppb		98
35) Hexachloropropene	6.94	213	468163	54.60274	ppb		99
36) Hexachlorobutadiene	6.98	225	374282	55.67912	ppb		99
37) Caprolactum	7.35	55	223686	56.10334	ppb		95

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y247.D Vial: 47
Acq On : 27 Jan 20 17:04 Operator: MA,SS
Sample : 50ug/ml 8270 01/06/20 (1) Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 27 17:08 2020 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
38)	4-Chloro-3-methylphenol	7.48	107	583330	55.31580	ppb		98
39)	2-Methylnaphthalene	7.63	142	1112174	55.82916	ppb		100
40)	1-Methylnaphthalene	7.74	142	1151006	55.56353	ppb		99
42)	Hexachlorocyclopentadiene	7.81	237	288000	37.38592	ppb		98
43)	1,2,4,5-Tetrachlorobenzene	7.83	216	599463	54.34751	ppb		98
44)	2,4,6-Trichlorophenol	7.97	196	397144	54.99408	ppb		100
45)	2,4,5-Trichlorophenol	8.02	196	410063	52.35642	ppb		94
47)	1,1'-Biphenyl	8.17	154	1493250	55.60023	ppb		98
48)	2-Chloronaphthalene	8.20	162	1152268	53.34931	ppb		98
49)	2-Nitroaniline	8.32	65	444893	54.24867	ppb		99
50)	Dimethyl phthalate	8.52	163	1420572	53.65798	ppb		99
51)	2,6-DNT	8.61	165	318621	55.18226	ppb		96
52)	Acenaphthylene	8.67	152	1784986	53.67711	ppb		99
53)	3-Nitroaniline	8.32	138	364885	53.23837	ppb		97
54)	Acenaphthene	8.88	154	1124636	54.06679	ppb		99
55)	2,4-Dinitrophenol	8.93	184	175859	51.04357	ppb		88
56)	4-Nitrophenol	8.60	65	29084	53.89654	ppb		97
57)	Dibenzofuran	9.08	168	1828226	57.86551	ppb		97
58)	2,4-DNT	9.08	165	499240	58.80984	ppb		83
59)	2,3,4,6-Tetrachlorophenol	9.23	232	332476	55.96816	ppb	#	90
60)	Diethyl phthalate	9.35	149	1478014	53.88623	ppb		99
61)	4-Chlorophenyl phenyl ethe	9.47	204	914330	60.20456	ppb		89
62)	Fluorene	9.48	166	1630633	60.66767	ppb		99
63)	4-Nitroaniline	8.80	138	294629	51.58931	ppb		94
66)	4,6-Dinitro-2-methylphenol	9.56	198	275673	51.20264	ppb	#	72
67)	Diphenyl amine	9.63	169	2496808	111.06298	ppb		99
68)	n-Nitrosodiphenylamine	9.63	169	2496808	111.06298	ppb		99
69)	1,2-Diphenylhydrazine	9.66	77	1712647	52.67615	ppb		93
70)	4-Bromophenyl phenyl ether	10.04	248	461693	54.54534	ppb		89
71)	Hexachlorobenzene	10.13	284	474051	55.36000	ppb		94
72)	Atrazine	10.24	200	125890	16.30639	ppb		97
73)	Pentachlorophenol	10.36	266	285155	54.17281	ppb		99
74)	Phenanthrene	10.60	178	2050972	53.81890	ppb		99
75)	Anthracene	10.66	178	2135402	53.60466	ppb		100
76)	Carbazol	10.85	167	1961784	54.08820	ppb		99
77)	Di-n-butylphthalate	11.25	149	2724190	54.92742	ppb		98
78)	2-Nitrodiphenylamine	11.42	167	324022	28.72042	ppb		94
79)	Fluoranthene	11.98	202	2462762	55.17378	ppb		98
81)	Benzidine	12.13	184	388255	20.06141	ppb		99
82)	Pyrene	12.25	202	2572063	45.24832	ppb		99
84)	Butyl benzylphthalate	13.00	149	1266438	44.46667	ppb		82
85)	3,3'-Dichlorobenzidine	13.62	252	1008185	51.60859	ppb		99
86)	Benz (a) anthracene	13.66	228	3206063	51.77919	ppb		100
87)	Bis (2-ethylhexyl) phthala	13.66	149	2467933	51.86000	ppb		100
88)	Chrysene	13.69	228	2426728	45.06511	ppb		99
89)	Di-n-octylphthalate	14.41	149	3094606	44.05356	ppb		97
91)	Benzo (b) fluoranthene	14.95	252	2591620	54.72215	ppb		98
92)	Benzo (k) fluoranthene	14.99	252	2336000	54.70800	ppb		99
93)	Benzo (a) pyrene	15.42	252	2258180	53.72577	ppb		99
94)	Indeno (1,2,3-cd) pyrene	17.37	276	2570402	52.46085	ppb		99
95)	Dibenz (a,h) anthracene	17.40	278	2342769	53.67516	ppb		99
96)	Benzo (g,h,i) perylene	17.93	276	1965863	51.06139	ppb		99

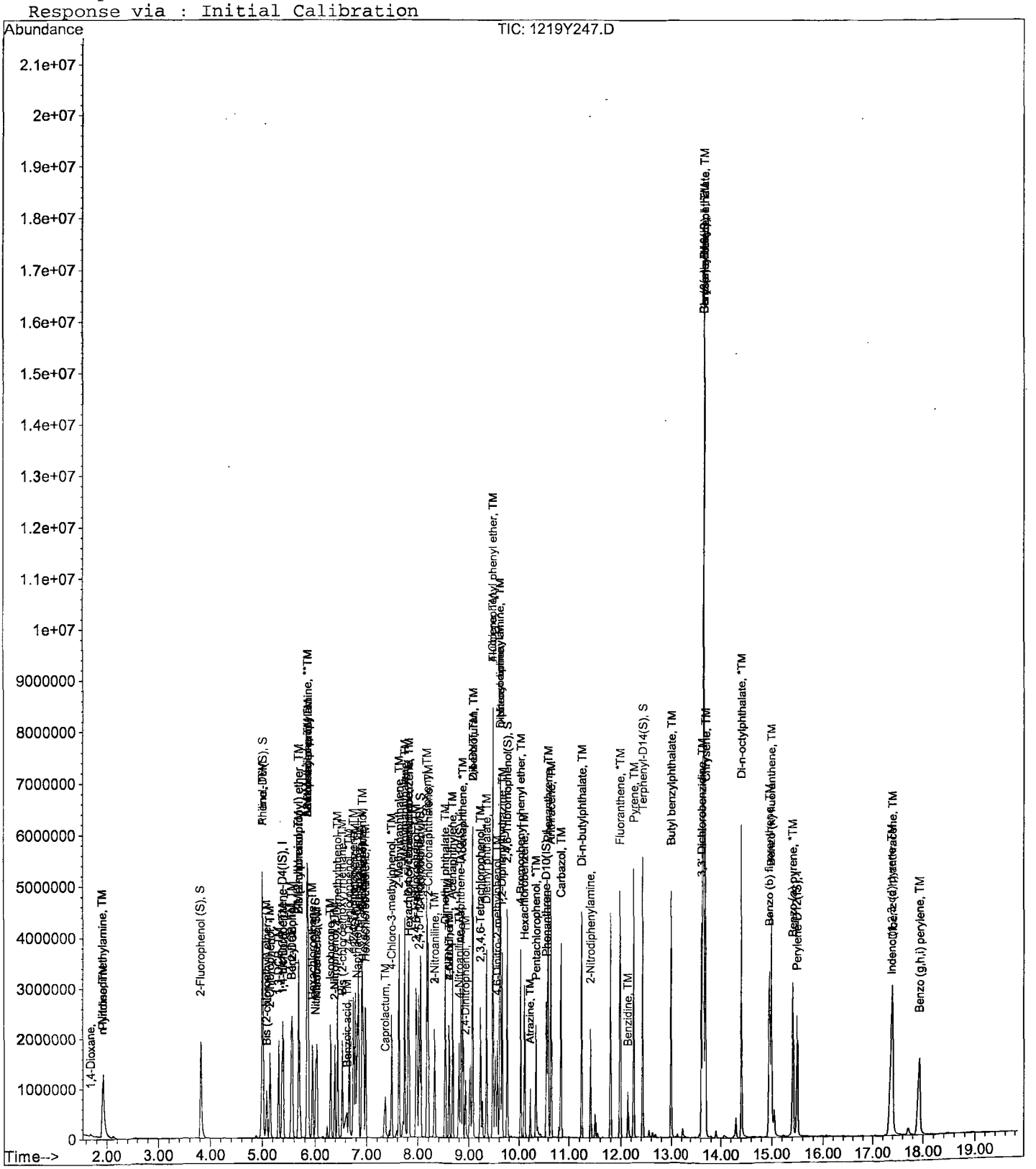
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y191219\1219Y247.D Vial: 47
Acq On : 27 Jan 20 17:04 Operator: MA,SS
Sample : 50ug/ml 8270 01/06/20 (1) Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 27 17:08 2020 Quant Results File: Y1219.RES

Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration



Semi-Volatile Analysis by GC-MS
EPA 8270

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 01/28/20
Instrument: Yoda
Initial Cal. Date: 12/19/19
Data File: 1219Y267.D

		Compound	MEAN	CCRF	%D		%Drift	
1	I	1,4-dichlorobenzene-D4(IS)	ISTD			I		
2		1,4-Dioxane	0.6022	0.7249	20			
3	TM	n-Nitrosodimethylamine	1.117	1.347	21	TM		*
4	TM	Pyridine	2.587	3.013	16	TM		
5	S	2-Fluorophenol (S)	1.466	1.473	0.45	S		
6	S	Phenol-D6 (S)	1.868	1.927	3.1	S		
7	*TM	Phenol	2.204	2.381	8.0	*TM		
8	TM	Aniline	1.439	1.191	17	TM		
9	TM	Bis (2-chloroethyl) ether	1.021	1.129	11	TM		
10	TM	2-Chlorophenol	1.552	1.653	6.5	TM		
11	TM	1,3-DCB	1.703	1.766	3.7	TM		
12	*TM	1,4-DCB	1.743	1.826	4.8	*TM		
13	TM	Benzyl alcohol	0.9143	1.003	9.7	TM		
14	TM	1,2-DCB	1.622	1.720	6.1	TM		
15	TM	2-Methylphenol	1.354	1.457	7.6	TM		
16	TM	Bis (2-chloroisopropyl) ether	1.347	1.509	12	TM		
17	TM	Acetophenone	2.309	2.548	10	TM		
18	TM	3&4-Methylphenol	1.781	1.971	11	TM		
19	**TM	n-Nitrosodi-n-propylamine	1.485	1.653	11	**TM		
20	TM	Hexachloroethane	0.7266	0.7831	7.8	TM		
21	I	Napthalene-D8(IS)	ISTD			I		
22	S	Nitrobenzene-D5(S)	0.4975	0.5029	1.1	S		
23	TM	Nitrobenzene	0.5156	0.5542	7.5	TM		
24	TM	Isophorone	0.8134	0.8824	8.5	TM		
25	*TM	2-Nitrophenol	0.2094	0.2245	7.2	*TM		
26	TM	2,4-Dimethylphenol	0.3350	0.3654	9.1	TM		
27	TML	Benzoic acid	0.2307	0.3195	39	TML	10	
28	TM	Bis (2-chloroethoxy) methane	0.4222	0.4509	6.8	TM		
29	*TM	2,4-Dichlorophenol	0.3266	0.3495	7.0	*TM		
30	TM	1,2,4-Trichlorobenzene	0.3643	0.3889	6.8	TM		
31	TM	3,4-Dimethylphenol	0.5573	0.6031	8.2	TM		
32	TM	Naphthalene	1.088	1.168	7.3	TM		
33	TM	4-Chloroaniline	0.4376	0.4177	4.6	TM		
34	TM	2,6-Dichlorophenol	0.3200	0.3471	8.5	TM		
35	TM	Hexachloropropene	0.3152	0.3442	9.2	TM		
36	*TM	Hexachlorobutadiene	0.2472	0.2688	8.7	*TM		
37	TM	Caprolactum	0.1466	0.1651	13	TM		
38	*TM	4-Chloro-3-methylphenol	0.3877	0.4217	8.8	*TM		
39	TM	2-Methylnaphthalene	0.7325	0.7955	8.6	TM		
40	TM	1-Methylnaphthalene	0.7616	0.8273	8.6	TM		
		Average			9.6			

Semi-Volatile Analysis by GC-MS
EPA 8270

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 01/28/20
Instrument: Yoda
Cal. Date: 12/19/19
Data File: 1219Y267.D

		Compound	MEAN	CCRF	%D		%Drift	
41	I	Acenaphthene-D10(IS)	ISTD			I		
42	**TML	Hexachlorocyclopentadiene	0.3696	0.3801	2.9	**TML	16	
43	TM	1,2,4,5-Tetrachlorobenzene	0.6372	0.6833	7.2	TM		
44	*TM	2,4,6-Trichlorophenol	0.4172	0.4556	9.2	*TM		
45	TM	2,4,5-Trichlorophenol	0.4524	0.4686	3.6	TM		
46	S	2-Fluorobiphenyl(S)	1.477	1.492	1.0	S		
47	TM	1,1'-Biphenyl	1.551	1.685	8.6	TM		
48	TM	2-Chloronaphthalene	1.248	1.343	7.6	TM		
49	TM	2-Nitroaniline	0.4737	0.5234	10	TM		
50	TM	Dimethyl phthalate	1.529	1.654	8.1	TM		
51	TM	2,6-DNT	0.3335	0.3623	8.6	TM		
52	TM	Acenaphthylene	1.921	2.048	6.6	TM		
53	TM	3-Nitroaniline	0.3959	0.4304	8.7	TM		
54	*TM	Acenaphthene	1.202	1.281	6.6	*TM		
55	**TML	2,4-Dinitrophenol	0.1391	0.2113	52	**TML	5.6	
56	**TM	4-Nitrophenol	0.0312	0.0351	13	**TM		
57	TM	Dibenzofuran	1.825	2.042	12	TM		
58	TM	2,4-DNT	0.4904	0.5607	14	TM		
59	TM	2,3,4,6-Tetrachlorophenol	0.3432	0.3705	8.0	TM		
60	TM	Diethyl phthalate	1.584	1.718	8.4	TM		
61	TM	4-Chlorophenyl phenyl ether	0.8773	0.9798	12	TM		
62	TM	Fluorene	1.553	1.754	13	TM		
63	TM	4-Nitroaniline	0.3299	0.3375	2.3	TM		
64	S	2,4,6-Tribromophenol(S)	0.2486	0.2569	3.3	S		
65	I	Phenanthrene-D10(IS)	ISTD			I		
66	TM	4,6-Dinitro-2-methylphenol	0.1559	0.1643	5.4	TM		
67	TM	Diphenyl amine	0.6512	0.7085	8.8	TM		
68	*TM	n-Nitrosodiphenylamine	0.6512	0.7085	8.8	*TM		
69	TM	1,2-Diphenylhydrazine	0.9417	1.018	8.1	TM		
70	TM	4-Bromophenyl phenyl ether	0.2452	0.2660	8.5	TM		
71	TM	Hexachlorobenzene	0.2480	0.2713	9.4	TM		
72	TM	Atrazine	0.2236	0.0917	59	TM		*
73	*TM	Pentachlorophenol	0.1525	0.1550	1.6	*TM		
74	TM	Phenanthrene	1.104	1.172	6.2	TM		
75	TM	Anthracene	1.154	1.244	7.8	TM		
76	TM	Carbazol	1.051	1.129	7.5	TM		
77	TM	Di-n-butylphthalate	1.437	1.557	8.4	TM		
78		2-Nitrodiphenylamine	0.3268	0.3770	15			
79	*TM	Fluoranthene	1.293	1.404	8.6	*TM		
80	I	Chrysene-D12(IS)	ISTD			I		
		Average			10.5			

Semi-Volatile Analysis by GC-MS
EPA 8270

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 01/28/20
Instrument: Yoda
Cal. Date: 12/19/19
Data File: 1219Y267.D

		Compound	MEAN	CCRF	%D		%Drift
81	TM	Benzidine	0.4082	0.0727	82	TM	*
82	TM	Pyrene	1.199	1.196	0.22	TM	
83	S	Terphenyl-D14(S)	0.9538	0.8773	8.0	S	
84	TM	Butyl benzylphthalate	0.6008	0.5962	0.75	TM	
85	TM	3,3'-Dichlorobenzidine	0.4121	0.4434	7.6	TM	
86	TM	Benz (a) anthracene	1.306	1.378	5.5	TM	
87	TM	Bis (2-ethylhexyl) phthalate	1.004	1.110	11	TM	
88	TM	Chrysene	1.136	1.139	0.26	TM	
89	*TM	Di-n-octylphthalate	1.482	1.474	0.50	*TM	
90	I	Perylene-D12(IS)	ISTD			I	
91	TM	Benzo (b) fluoranthene	1.306	1.382	5.8	TM	
92	TM	Benzo (k) fluoranthene	1.178	1.409	20	TM	
93	*TM	Benzo (a) pyrene	1.160	1.294	12	*TM	
94	TM	Indeno (1,2,3-cd) pyrene	1.352	1.454	7.6	TM	
95	TM	Dibenz (a,h) anthracene	1.204	1.302	8.1	TM	
96	TM	Benzo (g,h,i) perylene	1.062	1.121	5.6	TM	
97							
98							
99							
100							
101							
102							
103							
104							
105							
106							
107							
108							
109							
110							
111							
112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			11.7		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y267.D Vial: 67
Acq On : 28 Jan 20 2:19 Operator: MA,SS
Sample : 50ug/ml 8270 01/03/20 (1) Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 28 7:16 2020 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.38	152	196253	40.00000 ppb		0.00
21) Napthalene-D8(IS)	6.82	136	822183	40.00000 ppb		0.00
41) Acenaphthene-D10(IS)	8.84	164	507672	40.00000 ppb		0.00
65) Phenanthrene-D10(IS)	10.56	188	970577	40.00000 ppb		0.00
80) Chrysene-D12(IS)	13.66	240	1183007	40.00000 ppb		0.00
90) Perylene-D12(IS)	15.49	264	975908	40.00000 ppb		0.00
System Monitoring Compounds						
5) 2-Fluorophenol (S)	3.81	112	722540	100.44760 ppb		0.00
Spiked Amount 200.000			Recovery	= 50.224%		
6) Phenol-D6 (S)	5.00	99	945222	103.13810 ppb		0.00
Spiked Amount 200.000			Recovery	= 51.569%		
22) Nitrobenzene-D5(S)	6.01	82	516889	50.55204 ppb		0.00
Spiked Amount 100.000			Recovery	= 50.552%		
46) 2-Fluorobiphenyl(S)	8.05	172	946847	50.50213 ppb		0.00
Spiked Amount 100.000			Recovery	= 50.502%		
64) 2,4,6-Tribromophenol(S)	9.77	330	326025	103.33402 ppb		0.00
Spiked Amount 200.000			Recovery	= 51.667%		
83) Terphenyl-D14(S)	12.42	244	1297345	45.98887 ppb		0.00
Spiked Amount 100.000			Recovery	= 45.989%		
Target Compounds						Qvalue
2) 1,4-Dioxane	1.68	58	17782	6.01810		99
3) n-Nitrosodimethylamine	1.91	42	330460	60.30828 ppb		98
4) Pyridine	1.92	79	739250	58.24057 ppb		98
7) Phenol	5.01	94	584052	54.00138 ppb		85
8) Aniline	5.00	93	292096	41.38462 ppb	#	87
9) Bis (2-chloroethyl) ether	5.08	63	276890	55.26329 ppb		98
10) 2-Chlorophenol	5.14	128	405462	53.24191 ppb		94
11) 1,3-DCB	5.31	146	433139	51.83068 ppb		99
12) 1,4-DCB	5.40	146	448055	52.38856 ppb		97
13) Benzyl alcohol	5.54	108	246138	54.87091 ppb		99
14) 1,2-DCB	5.56	146	421964	53.02725 ppb		99
15) 2-Methylphenol	5.68	107	357418	53.78431 ppb		98
16) Bis (2-chloroisopropyl) et	5.68	45	370163	56.02179 ppb		83
17) Acetophenone	5.83	105	625174	55.19405 ppb		99
18) 3&4-Methylphenol	5.86	107	966999	110.64619 ppb		97
19) n-Nitrosodi-n-propylamine	5.84	70	405527	55.66493 ppb		95
20) Hexachloroethane	5.94	117	192102	53.88709 ppb		92
23) Nitrobenzene	6.03	77	569529	53.74416 ppb		95
24) Isophorone	6.30	82	906847	54.23909 ppb		98
25) 2-Nitrophenol	6.39	139	230676	53.60647 ppb		91
26) 2,4-Dimethylphenol	6.44	122	375525	54.53734 ppb		98
27) Benzoic acid	6.61	105	328380	55.04729 ppb		97
28) Bis (2-chloroethoxy) metha	6.54	93	463450	53.41056 ppb		99
29) 2,4-Dichlorophenol	6.67	162	359223	53.50468 ppb		97
30) 1,2,4-Trichlorobenzene	6.75	180	399727	53.37866 ppb		98
31) 3,4-Dimethylphenol	6.78	107	619823	54.11014 ppb		99
32) Naphthalene	6.84	128	1200307	53.65678 ppb		99
33) 4-Chloroaniline	6.91	127	429274	47.72488 ppb		95
34) 2,6-Dichlorophenol	6.92	162	356746	54.23837 ppb		94
35) Hexachloropropene	6.94	213	353739	54.59152 ppb		100
36) Hexachlorobutadiene	6.97	225	276217	54.37118 ppb		99
37) Caprolactum	7.34	55	169722	56.32652 ppb		93

(#) = qualifier out of range (m) = manual integration

Data File : M:\YODA\DATA\Y191219\1219Y267.D Vial: 67
Acq On : 28 Jan 20 2:19 Operator: MA,SS
Sample : 50ug/ml 8270 01/03/20 (1) Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 28 7:16 2020 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

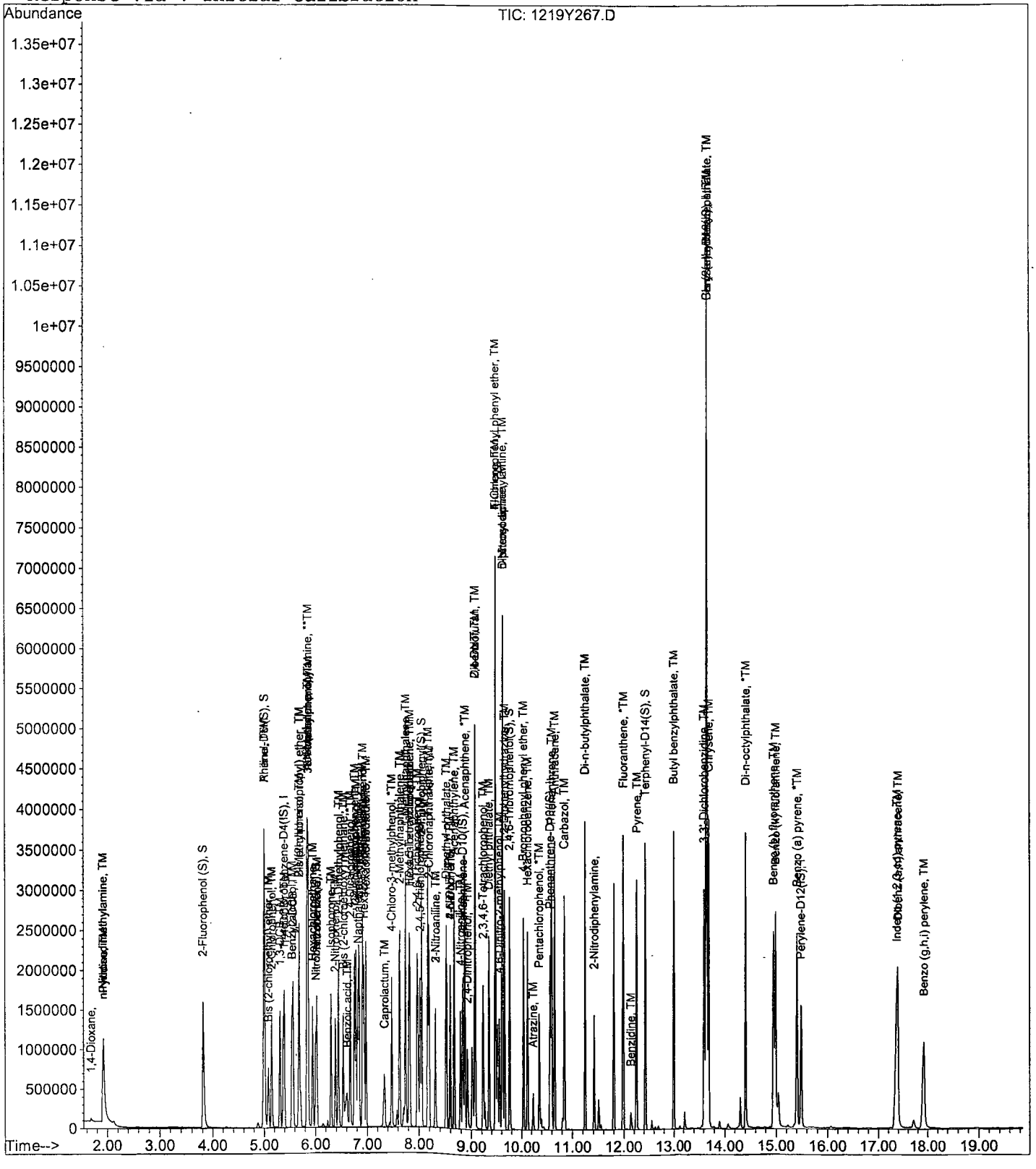
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
38)	4-Chloro-3-methylphenol	7.47	107	433414	54.38294	ppb		92
39)	2-Methylnaphthalene	7.63	142	817541	54.30287	ppb		100
40)	1-Methylnaphthalene	7.74	142	850279	54.31234	ppb		99
42)	Hexachlorocyclopentadiene	7.81	237	241216	42.16605	ppb		99
43)	1,2,4,5-Tetrachlorobenzene	7.83	216	433603	53.61844	ppb		98
44)	2,4,6-Trichlorophenol	7.97	196	289116	54.60654	ppb		99
45)	2,4,5-Trichlorophenol	8.02	196	297392	51.79087	ppb		97
47)	1,1'-Biphenyl	8.17	154	1069501	54.31626	ppb		97
48)	2-Chloronaphthalene	8.20	162	852071	53.80909	ppb		95
49)	2-Nitroaniline	8.32	65	332135	55.23988	ppb		91
50)	Dimethyl phthalate	8.52	163	1049553	54.07294	ppb		99
51)	2,6-DNT	8.60	165	229893	54.30695	ppb	#	74
52)	Acenaphthylene	8.67	152	1299517	53.30167	ppb		100
53)	3-Nitroaniline	8.32	138	273138	54.35700	ppb		96
54)	Acenaphthene	8.88	154	812982	53.30944	ppb		99
55)	2,4-Dinitrophenol	8.92	184	134060	52.80639	ppb		98
56)	4-Nitrophenol	8.60	65	22263	56.27235	ppb		99
57)	Dibenzofuran	9.07	168	1295519	55.92916	ppb		97
58)	2,4-DNT	9.07	165	355804	57.16840	ppb		96
59)	2,3,4,6-Tetrachlorophenol	9.23	232	235086	53.97741	ppb		96
60)	Diethyl phthalate	9.34	149	1090356	54.22158	ppb		99
61)	4-Chlorophenyl phenyl ethe	9.47	204	621795	55.84422	ppb		95
62)	Fluorene	9.47	166	1113038	56.48273	ppb		99
63)	4-Nitroaniline	8.79	138	214167	51.14950	ppb		80
66)	4,6-Dinitro-2-methylphenol	9.55	198	199343	52.68115	ppb	#	68
67)	Diphenyl amine	9.62	169	1719072	108.80138	ppb		99
68)	n-Nitrosodiphenylamine	9.62	169	1719072	108.80138	ppb		99
69)	1,2-Diphenylhydrazine	9.66	77	1235210	54.05590	ppb		97
70)	4-Bromophenyl phenyl ether	10.05	248	322706	54.24598	ppb	#	82
71)	Hexachlorobenzene	10.12	284	329169	54.69481	ppb	#	84
72)	Atrazine	10.23	200	55617	10.25015	ppb		95
73)	Pentachlorophenol	10.36	266	188005	50.81898	ppb		98
74)	Phenanthrene	10.59	178	1422174	53.09871	ppb		99
75)	Anthracene	10.66	178	1509748	53.92417	ppb		100
76)	Carbazol	10.84	167	1370248	53.75349	ppb		98
77)	Di-n-butylphthalate	11.24	149	1889216	54.19878	ppb		99
78)	2-Nitrodiphenylamine	11.42	167	228702	28.84313	ppb		98
79)	Fluoranthene	11.99	202	1702802	54.27884	ppb		99
81)	Benzidine	12.13	184	107440	8.89893	ppb		97
82)	Pyrene	12.25	202	1769079	49.88792	ppb		99
84)	Butyl benzylphthalate	12.99	149	881690	49.62424	ppb		98
85)	3,3'-Dichlorobenzidine	13.61	252	655635	53.79862	ppb		99
86)	Benz (a) anthracene	13.65	228	2038261	52.76796	ppb		99
87)	Bis (2-ethylhexyl) phthala	13.66	149	1641850	55.30443	ppb		99
88)	Chrysene	13.69	228	1683958	50.12772	ppb		100
89)	Di-n-octylphthalate	14.41	149	2180060	49.74751	ppb		99
91)	Benzo (b) fluoranthene	14.95	252	1685568	52.88013	ppb		99
92)	Benzo (k) fluoranthene	14.99	252	1718787	59.80732	ppb		98
93)	Benzo (a) pyrene	15.41	252	1578872	55.81171	ppb		99
94)	Indeno (1,2,3-cd) pyrene	17.36	276	1774120	53.79868	ppb		98
95)	Dibenz (a,h) anthracene	17.39	278	1588216	54.06395	ppb		99
96)	Benzo (g,h,i) perylene	17.92	276	1367661	52.78034	ppb		99

(#) = qualifier out of range (m) = manual integration

Data File : M:\YODA\DATA\Y191219\1219Y267.D Vial: 67
Acq On : 28 Jan 20 2:19 Operator: MA,SS
Sample : 50ug/ml 8270 01/03/20 (1) Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 28 7:16 2020 Quant Results File: Y1219.RES

Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration



ORGANICS
Raw Data

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y264.D Vial: 64
Acq On : 28 Jan 20 00:56 Operator: MA,SS
Sample : BA06361W18 1/800 Inst : Yoda
Misc : Multiplr: 1.25

Quant Time: Jan 28 7:44 2020 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.37	152	156014	40.00000 ppb	0.00
21) Napthalene-D8(IS)	6.81	136	642780	40.00000 ppb	-0.02
41) Acenaphthene-D10(IS)	8.83	164	461652	40.00000 ppb	0.00
65) Phenanthrene-D10(IS)	10.57	188	908885	40.00000 ppb	0.00
80) Chrysene-D12(IS)	13.65	240	835319	40.00000 ppb	-0.02
90) Perylene-D12(IS)	15.48	264	879481	40.00000 ppb	0.00
System Monitoring Compounds					
5) 2-Fluorophenol (S)	3.81	112	1037629	226.82061 ppb	0.00
Spiked Amount 250.000			Recovery	= 90.728%	
6) Phenol-D6 (S)	4.99	99	1398789	239.99393 ppb	0.00
Spiked Amount 250.000			Recovery	= 95.998%	
22) Nitrobenzene-D5(S)	6.00	82	800554	125.18381 ppb	0.00
Spiked Amount 125.000			Recovery	= 100.147%	
46) 2-Fluorobiphenyl(S)	8.05	172	1502974	110.19449 ppb	0.00
Spiked Amount 125.000			Recovery	= 88.155%	
64) 2,4,6-Tribromophenol(S)	9.76	330	595066	259.26032 ppb	0.00
Spiked Amount 250.000			Recovery	= 103.704%	
83) Terphenyl-D14(S)	12.43	244	2354981	147.78475 ppb	0.00
Spiked Amount 125.000			Recovery	= 118.228%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

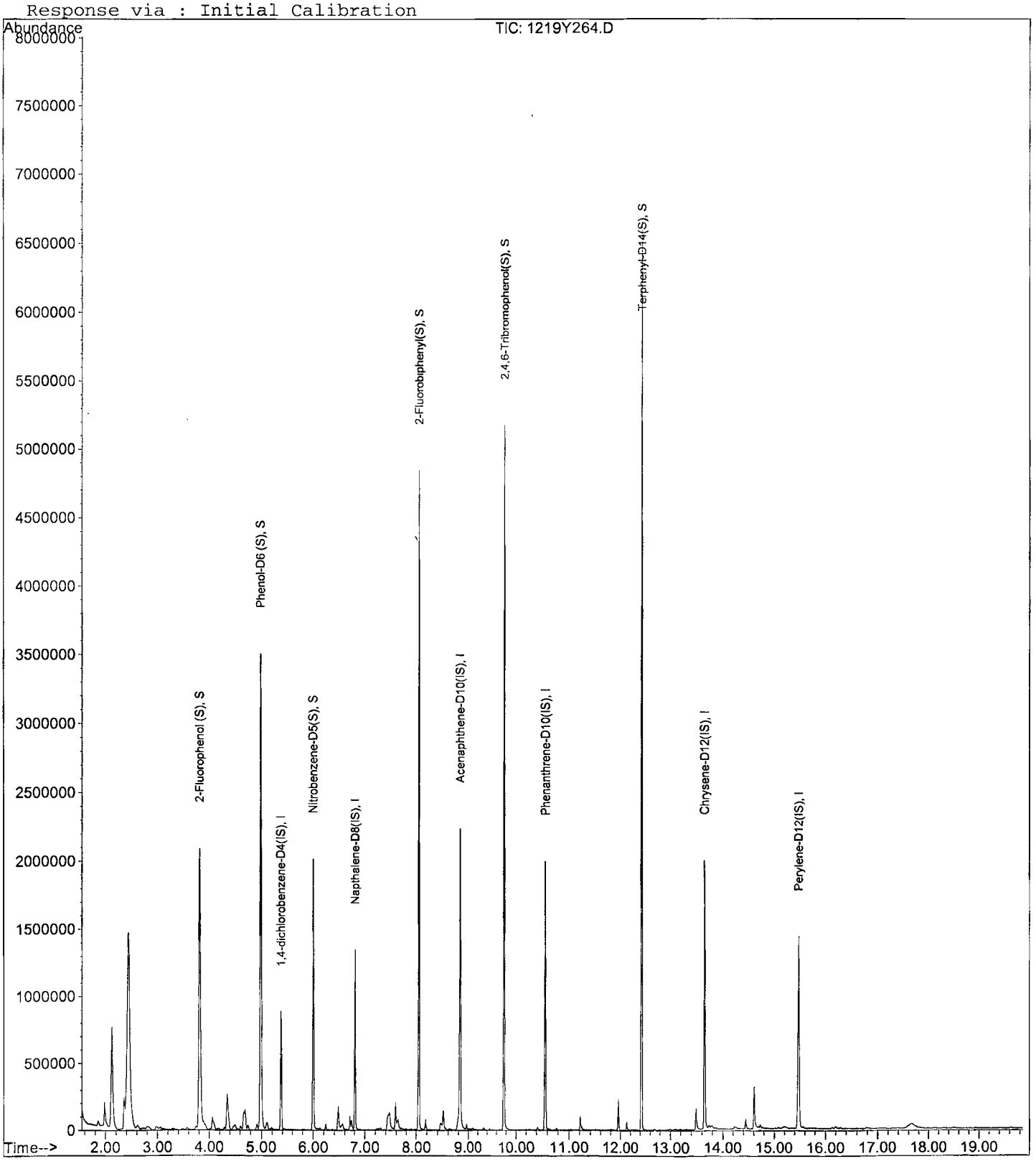
Quantitation Report

Data File : M:\YODA\DATA\Y191219\1219Y264.D
Acq On : 28 Jan 20 00:56
Sample : BA06361W18 1/800
Misc :

Vial: 64
Operator: MA,SS
Inst : Yoda
Multiplr: 1.25

Quant Time: Jan 28 7:44 2020 Quant Results File: Y1219.RES

Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y265.D Vial: 65
Acq On : 28 Jan 20 1:23 Operator: MA,SS
Sample : BA06362W14 1/800 Inst : Yoda
Misc : Multiplr: 1.25

Quant Time: Jan 28 7:44 2020 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.37	152	187515	40.00000 ppb	0.00
21) Napthalene-D8(IS)	6.81	136	732177	40.00000 ppb	-0.02
41) Acenaphthene-D10(IS)	8.83	164	468615	40.00000 ppb	0.00
65) Phenanthrene-D10(IS)	10.57	188	904270	40.00000 ppb	0.00
80) Chrysene-D12(IS)	13.65	240	830217	40.00000 ppb	-0.02
90) Perylene-D12(IS)	15.48	264	891736	40.00000 ppb	0.00
System Monitoring Compounds					
5) 2-Fluorophenol (S)	3.81	112	1002909	182.40196 ppb	0.00
Spiked Amount 250.000			Recovery =	72.961%	
6) Phenol-D6 (S)	4.99	99	1347565	192.36468 ppb	0.00
Spiked Amount 250.000			Recovery =	76.946%	
22) Nitrobenzene-D5(S)	6.00	82	764063	104.88973 ppb	0.00
Spiked Amount 125.000			Recovery =	83.912%	
46) 2-Fluorobiphenyl(S)	8.05	172	1441626	104.12609 ppb	0.00
Spiked Amount 125.000			Recovery =	83.301%	
64) 2,4,6-Tribromophenol(S)	9.76	330	574215	246.45860 ppb	0.00
Spiked Amount 250.000			Recovery =	98.584%	
83) Terphenyl-D14(S)	12.43	244	2334916	147.42605 ppb	0.00
Spiked Amount 125.000			Recovery =	117.941%	

Target Compounds Qvalue

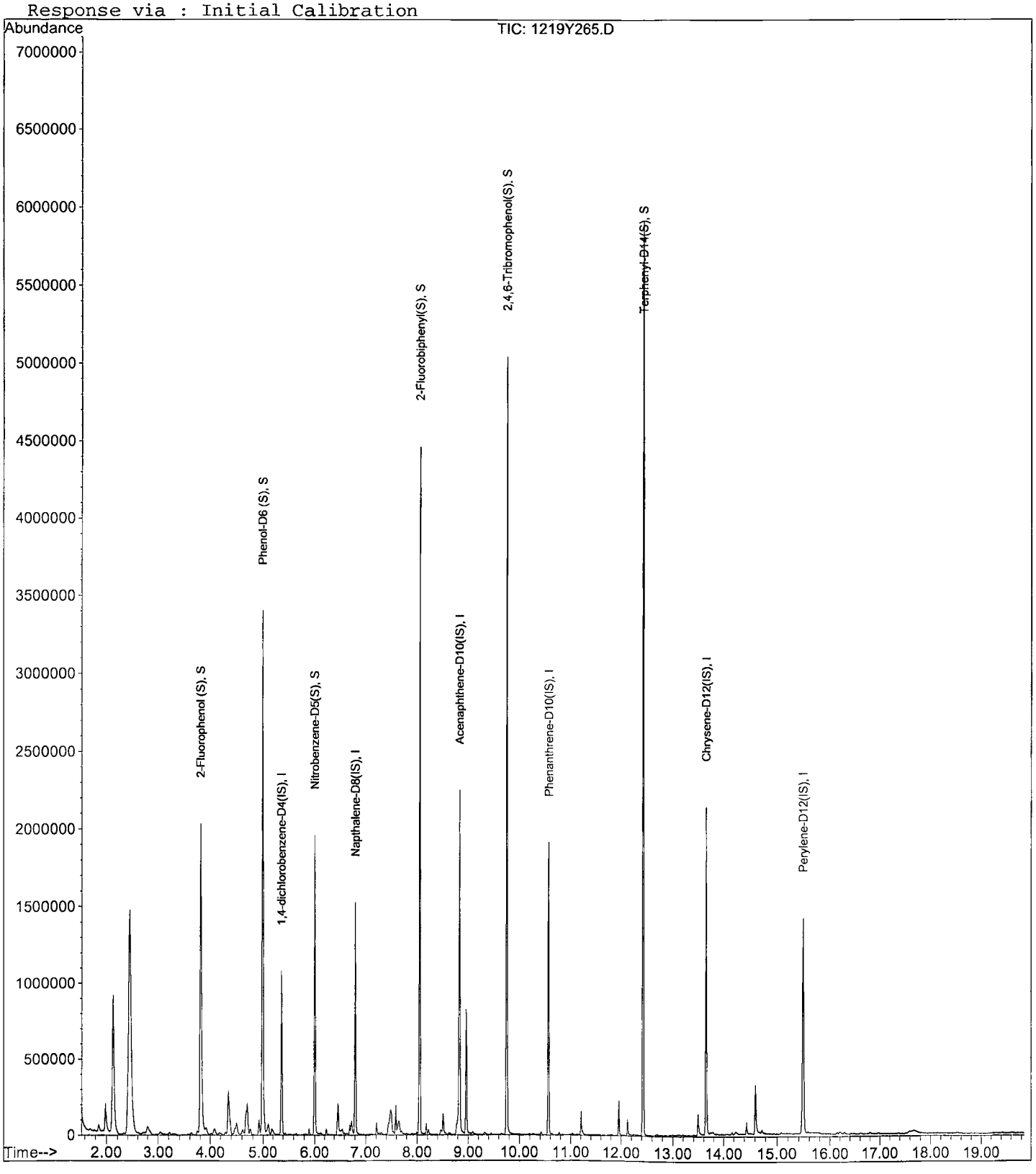
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y191219\1219Y265.D Vial: 65
Acq On : 28 Jan 20 1:23 Operator: MA,SS
Sample : BA06362W14 1/800 Inst : Yoda
Misc : Multiplr: 1.25

Quant Time: Jan 28 7:44 2020 Quant Results File: Y1219.RES

Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y191219\1219Y266.D Vial: 66
Acq On : 28 Jan 20 1:51 Operator: MA,SS
Sample : BA06364W16 1/800 Inst : Yoda
Misc : Multiplr: 1.25

Quant Time: Jan 28 7:45 2020 Quant Results File: Y1219.RES

Quant Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration
DataAcq Meth : SVOC1011

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.38	152	154255	40.00000 ppb	0.00
21) Napthalene-D8(IS)	6.81	136	616486	40.00000 ppb	-0.02
41) Acenaphthene-D10(IS)	8.83	164	460893	40.00000 ppb	0.00
65) Phenanthrene-D10(IS)	10.56	188	905496	40.00000 ppb	0.00
80) Chrysene-D12(IS)	13.66	240	834844	40.00000 ppb	0.00
90) Perylene-D12(IS)	15.48	264	876848	40.00000 ppb	0.00
System Monitoring Compounds					
5) 2-Fluorophenol (S)	3.81	112	1028779	227.45046 ppb	0.00
Spiked Amount 250.000			Recovery	= 90.980%	
6) Phenol-D6 (S)	4.99	99	1398896	242.74920 ppb	0.00
Spiked Amount 250.000			Recovery	= 97.100%	
22) Nitrobenzene-D5(S)	6.00	82	801008	130.59710 ppb	0.00
Spiked Amount 125.000			Recovery	= 104.478%	
46) 2-Fluorobiphenyl(S)	8.05	172	1468350	107.83323 ppb	0.00
Spiked Amount 125.000			Recovery	= 86.266%	
64) 2,4,6-Tribromophenol(S)	9.76	330	560745	244.70956 ppb	0.00
Spiked Amount 250.000			Recovery	= 97.884%	
83) Terphenyl-D14(S)	12.43	244	2273310	142.74073 ppb	0.00
Spiked Amount 125.000			Recovery	= 114.193%	

Target Compounds Qvalue

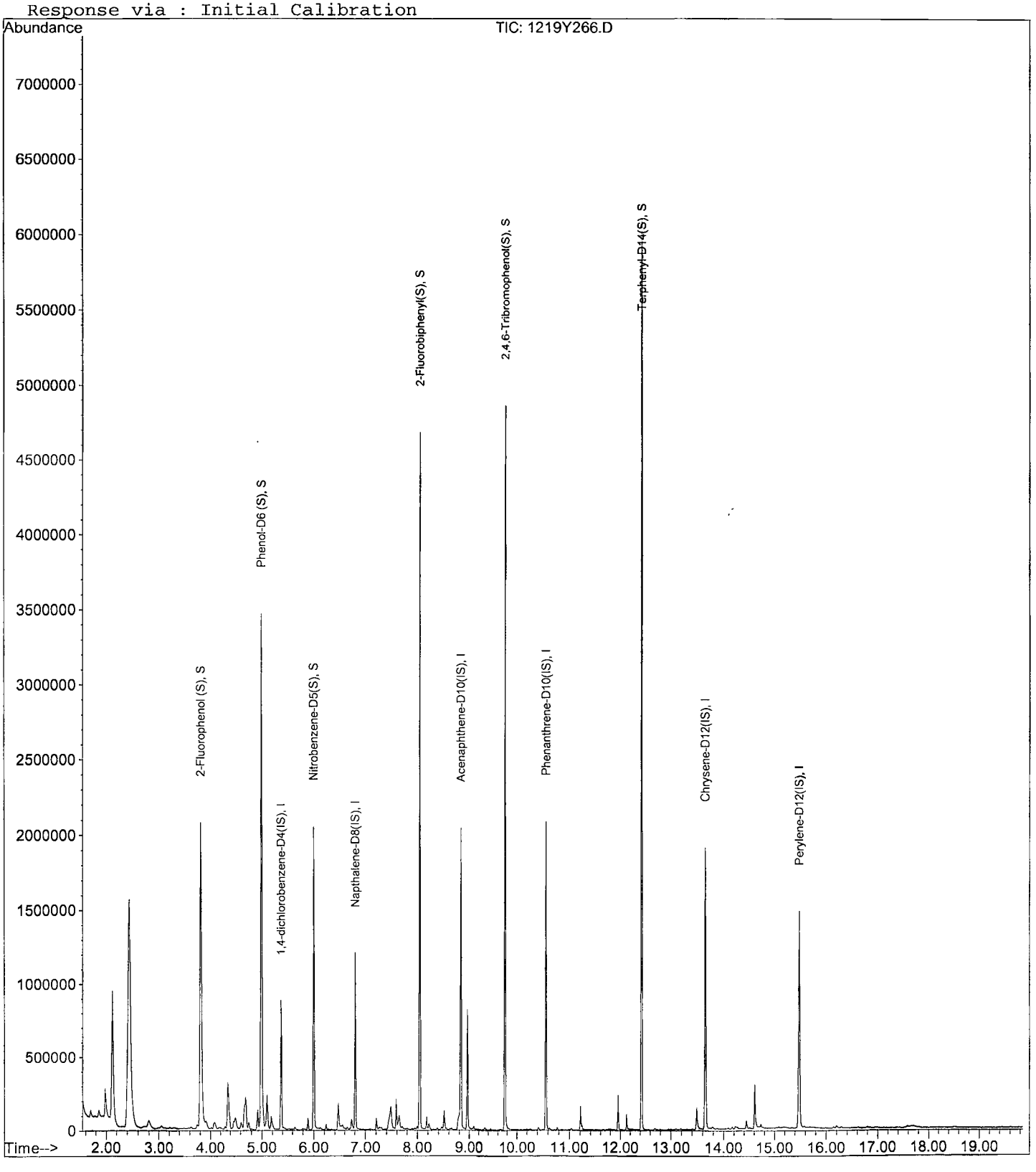
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y191219\1219Y266.D Vial: 66
Acq On : 28 Jan 20 1:51 Operator: MA,SS
Sample : BA06364W16 1/800 Inst : Yoda
Misc : Multiplr: 1.25

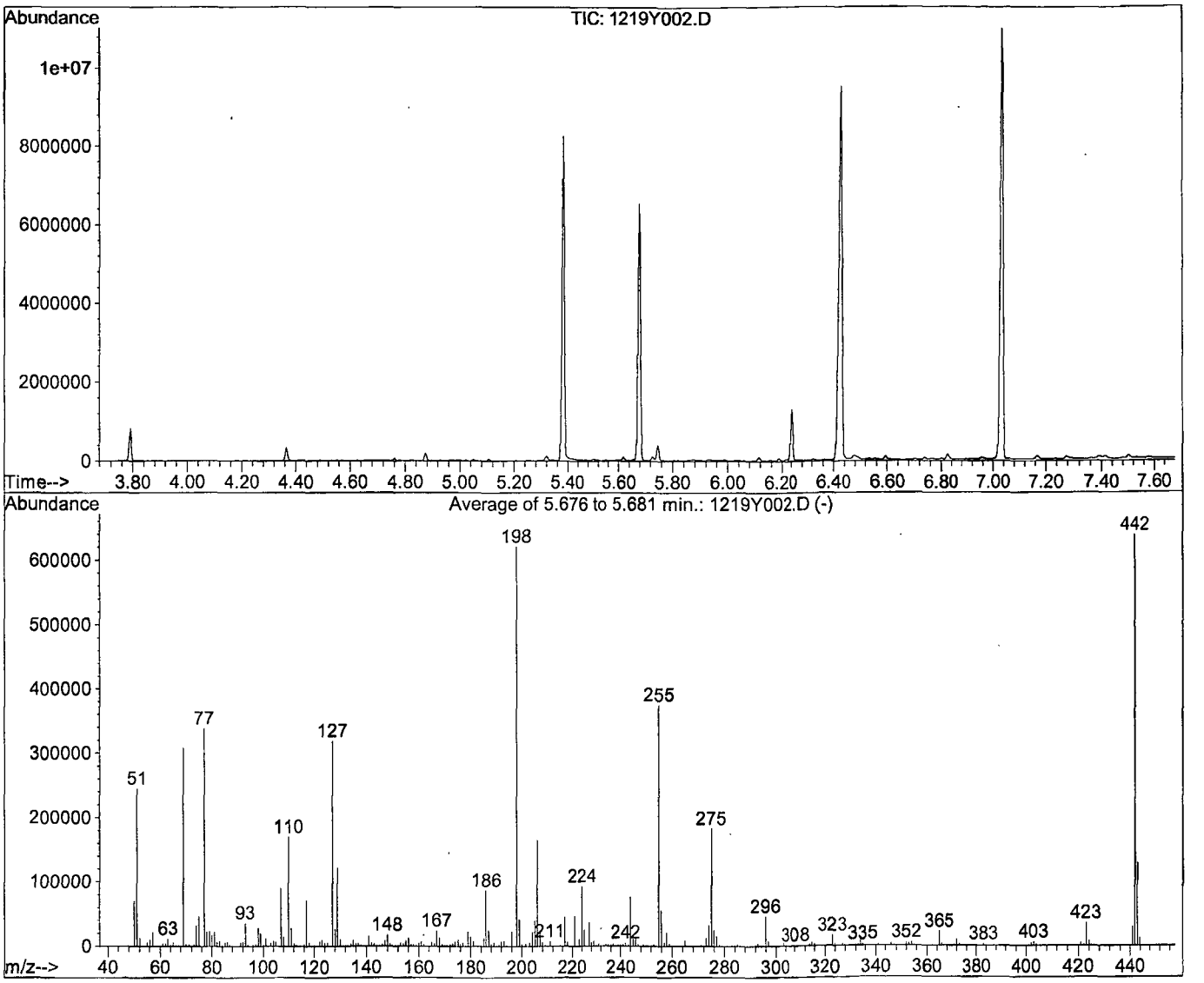
Quant Time: Jan 28 7:45 2020 Quant Results File: Y1219.RES

Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Dec 19 16:07:36 2019
Response via : Initial Calibration



Data File : M:\YODA\DATA\Y191219\1219Y002.D Vial: 2
Acq On : 19 Dec 19 8:50 Operator: MA,SS
Sample : SV TUNE 10/01/19 Inst : Yoda
Misc : Multiplr: 1.00

Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C



Spectrum Information: Average of 5.676 to 5.681 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	39.5	245061	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	1.0	3141	PASS
127	198	10	80	51.3	318211	PASS
197	198	0.00	2	0.0	0	PASS
198	198	100	100	100.0	620800	PASS
199	198	5	9	6.7	41381	PASS
275	198	10	60	29.4	182251	PASS
365	198	1	100	3.5	21877	PASS
441	442	0.01	24	4.6	29075	PASS
442	198	50	500	102.9	638805	PASS
443	442	15	24	20.0	127973	PASS

Data File Name:	**1219Y002.D**
Data File Path:	**M:\YODA\DATA\Y191219**
Operator:	**MA,SS**
Date Acquired:	**19 Dec 2019 08:50**
Method File:	**DFTPP2.M**
Sample Name:	**SV TUNE 10/01/19**
Vial Number:	**2**
Instrument Name:	**Yoda**

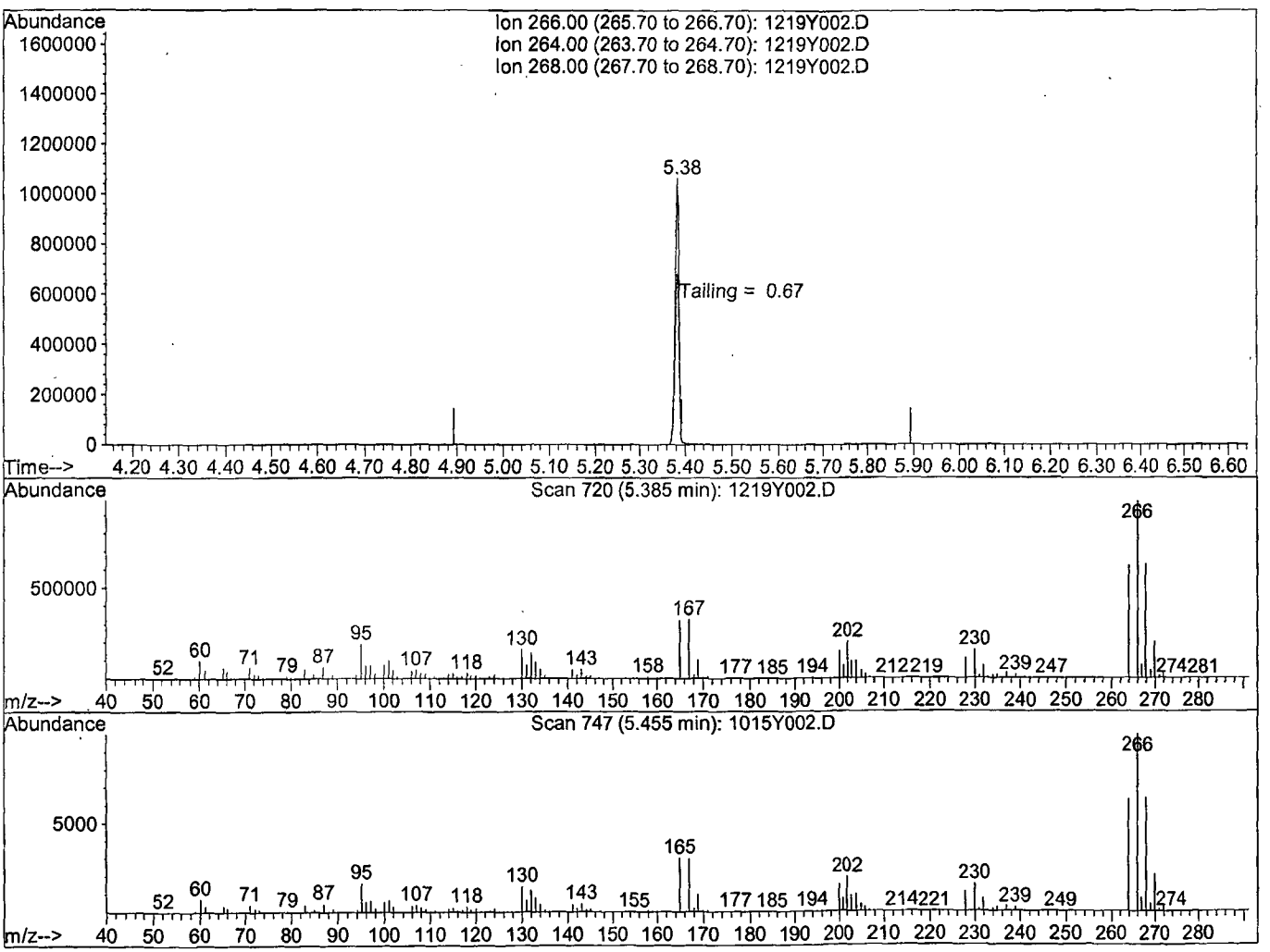
#	Name	Ret Time	Target Response
1)	DDT	7.02	83598600
2)	DDD	6.79	322054
3)	DDE	6.59	610218

Breakdown **1.10**

Quantitation Report

Data File : M:\YODA\DATA\Y191219\1219Y002.D Vial: 2
Acq On : 19 Dec 19 8:50 Operator: MA,SS
Sample : SV TUNE 10/01/19 Inst : Yoda
Misc : Multiplr: 1.00
Quant Time: Dec 19 16:49 2019 Quant Results File: temp.res

Method : M:\YODA\DATA\Y191219\DFTPP2.M (Chemstation Integrator)
Title :
Last Update : Tue Dec 10 08:34:10 2019
Response via : Single Level Calibration



TIC: 1219Y002.D

(5) Pentachlorophenol

5.38min 0.0000

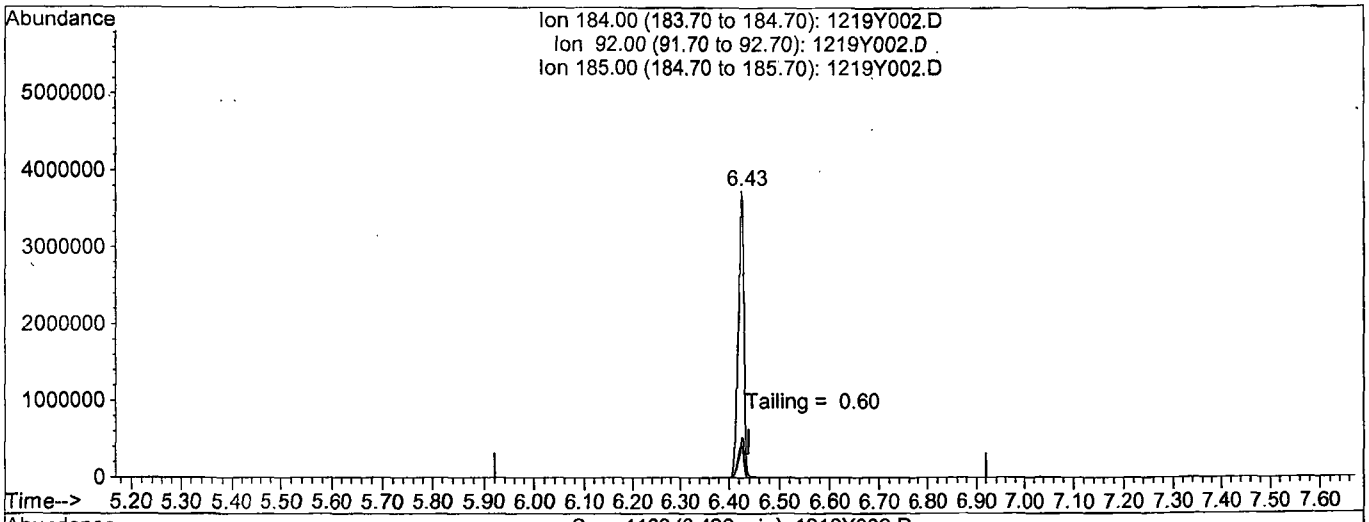
response 6507700

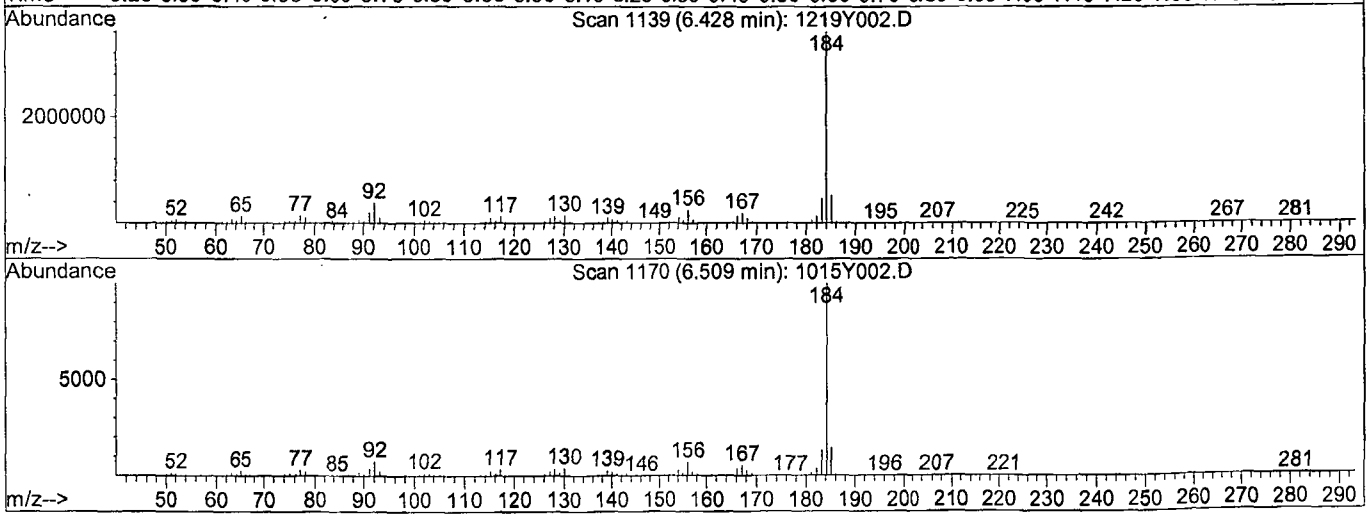
Ion	Exp%	Act%
266.00	100	100
264.00	65.60	64.20
268.00	64.10	63.98
0.00	0.00	0.00

Quantitation Report

Data File : M:\YODA\DATA\Y191219\1219Y002.D Vial: 2
Acq On : 19 Dec 19 8:50 Operator: MA,SS
Sample : SV TUNE 10/01/19 Inst : Yoda
Misc : Multiplr: 1.00
Quant Time: Dec 19 16:49 2019 Quant Results File: temp.res

Method : M:\YODA\DATA\Y191219\DFTPP2.M (Chemstation Integrator)
Title :
Last Update : Tue Dec 10 08:34:10 2019
Response via : Single Level Calibration





TIC: 1219Y002.D

(6) Benzidine

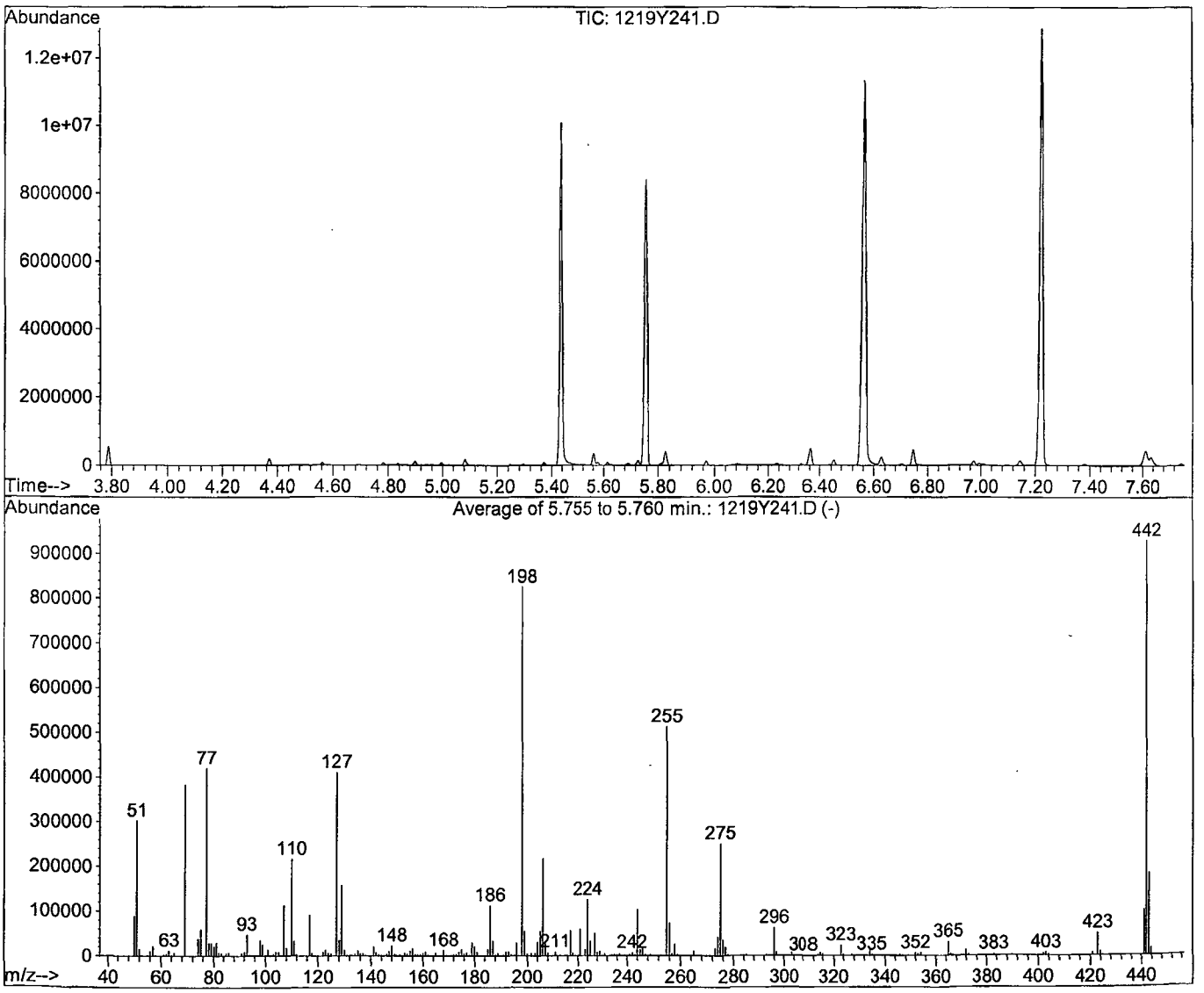
6.43min 0.0000

response 29741628

Ion	Exp%	Act%
184.00	100	100
92.00	10.30	10.56
185.00	14.50	14.29
0.00	0.00	0.00

Data File : M:\YODA\DATA\Y191219\1219Y241.D Vial: 41
Acq On : 27 Jan 20 14:51 Operator: MA,SS
Sample : SV TUNE 10/01/19 Inst : Yoda
Misc : Multiplr: 1.00

Method : M:\YODA\DATA\Y191219\Y1219.M (RTE Integrator)
Title : EPA 8270C



Spectrum Information: Average of 5.755 to 5.760 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	36.7	302523	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.2	955	PASS
127	198	10	80	49.8	410475	PASS
197	198	0.00	2	0.0	0	PASS
198	198	100	100	100.0	825003	PASS
199	198	5	9	6.7	55147	PASS
275	198	10	60	30.4	250560	PASS
365	198	1	100	3.8	31659	PASS
441	442	0.01	24	11.0	102165	PASS
442	198	50	500	112.9	931072	PASS
443	442	15	24	19.7	183552	PASS

Data File Name:	**1219Y241.D**
Data File Path:	**M:\YODA\DATA\Y191219**
Operator:	**MA,SS**
Date Acquired:	**27 Jan 2020 14:51**
Method File:	**DFTPP2.M**
Sample Name:	**SV TUNE 10/01/19**
Vial Number:	**41**
Instrument Name:	**Yoda**

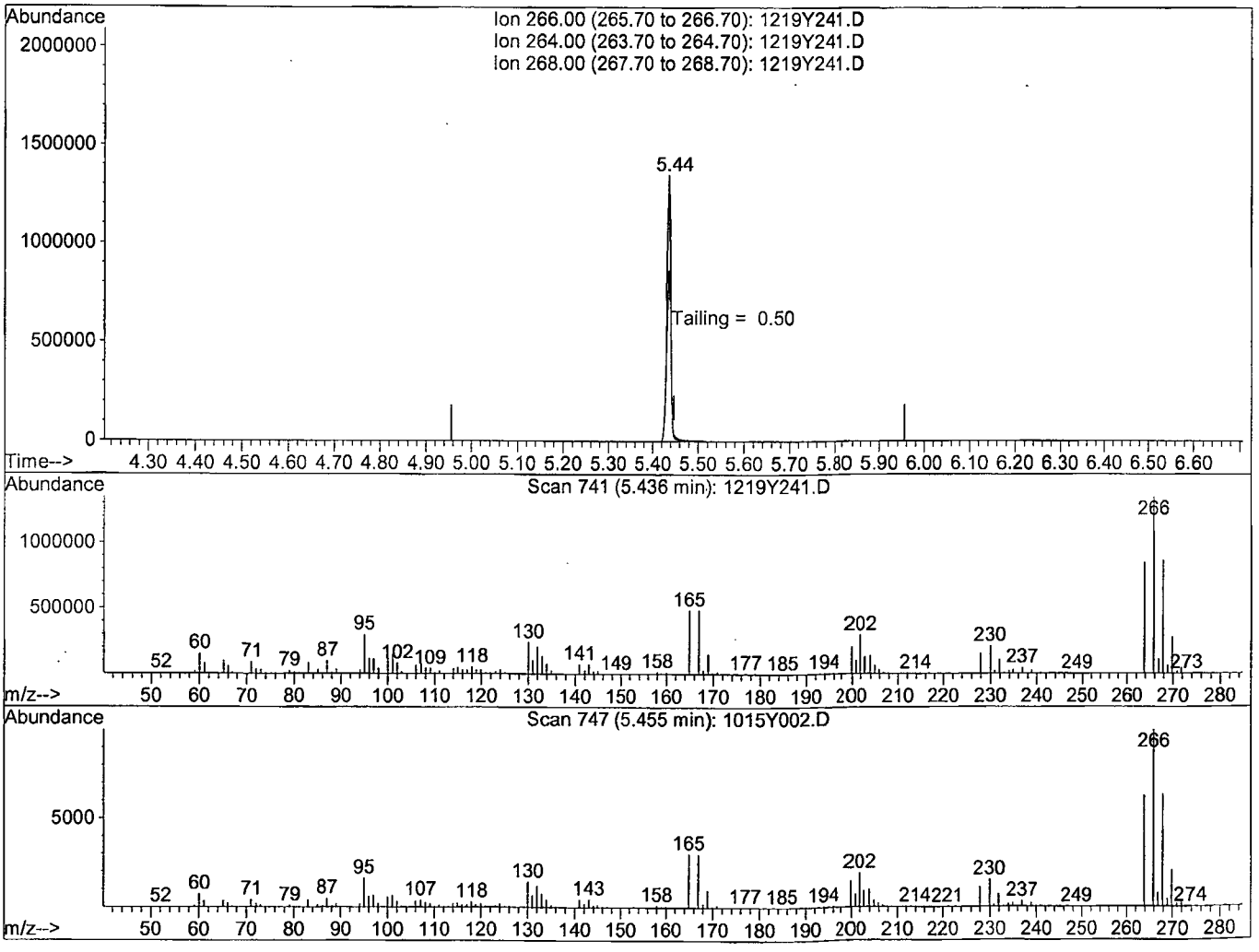
#	Name	Ret Time	Target Response
1)	DDT	7.28	101837000
2)	DDD	7.02	424830
3)	DDE	6.79	0

Breakdown **0.42**

Quantitation Report

Data File : M:\YODA\DATA\Y191219\1219Y241.D Vial: 41
Acq On : 27 Jan 20 14:51 Operator: MA,SS
Sample : SV TUNE 10/01/19 Inst : Yoda
Misc : Multiplr: 1.00
Quant Time: Jan 28 7:46 2020 Quant Results File: temp.res

Method : M:\YODA\DATA\Y191219\DFTPP2.M (Chemstation Integrator)
Title :
Last Update : Mon Jan 27 08:38:00 2020
Response via : Single Level Calibration



TIC: 1219Y241.D

(5) Pentachlorophenol

5.44min 0.0000

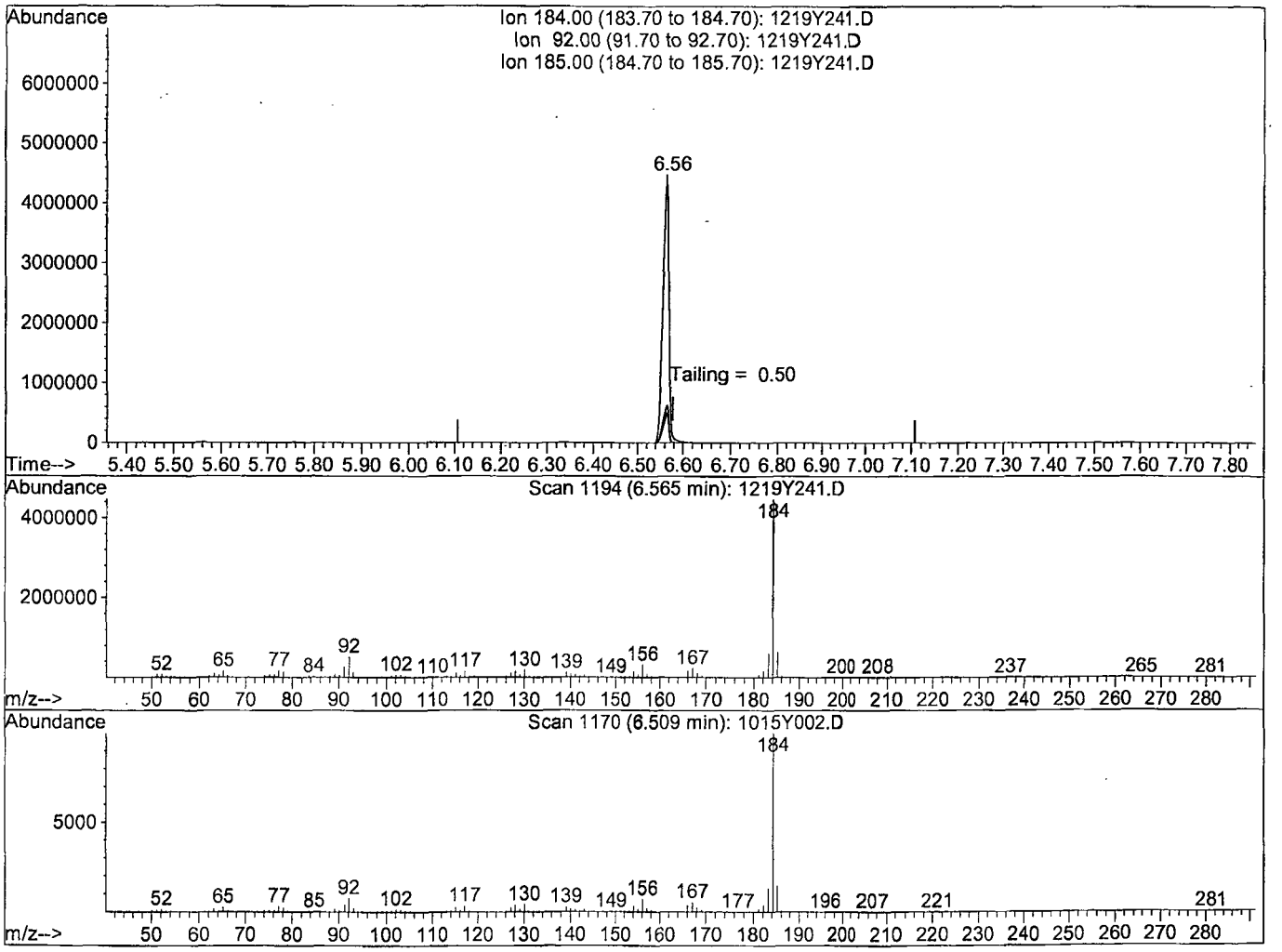
response 8550834

Ion	Exp%	Act%
266.00	100	100
264.00	63.10	63.21
268.00	63.80	63.54
0.00	0.00	0.00

Quantitation Report

Data File : M:\YODA\DATA\Y191219\1219Y241.D Vial: 41
Acq On : 27 Jan 20 14:51 Operator: MA,SS
Sample : SV TUNE 10/01/19 Inst : Yoda
Misc : Multiplr: 1.00
Quant Time: Jan 28 7:46 2020 Quant Results File: temp.res

Method : M:\YODA\DATA\Y191219\DFTPP2.M (Chemstation Integrator)
Title :
Last Update : Mon Jan 27 08:38:00 2020
Response via : Single Level Calibration



TIC: 1219Y241.D

(6) Benzidine

6.57min 0.0000

response 39172468

Ion	Exp%	Act%
184.00	100	100
92.00	7.50	10.22#
185.00	14.30	14.30
0.00	0.00	0.00

Name of Final Standard	8270 Full Scan Stock Spike	Prep'd By (Initials)	JP
Prep Date	011/21/2019		
Exp Date	011/21/2020		

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from contianer Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
10001	Absolute	10001	2000	081419 - 49302	08/14/22	1.0 mL	11 mL	NA	181.82 ug/mL
10002	Absolute	10002	2000	090919-49211	09/09/22	1.0 mL	*	*	181.82 ug/mL
10004	Absolute	10004	2000	071618-99221	07/16/23	1.0 mL	*	*	181.82 ug/mL
10005	Absolute	10005	2000	032018-40234	03/20/23	1.0 mL	*	*	181.82 ug/mL
10006	Absolute	10006	2000	030119-49242	03/01/22	1.0 mL	*	*	181.82 ug/mL
10007	Absolute	10007	2000	080116-40254	08/01/21	1.0 mL	*	*	181.82 ug/mL
10018	Absolute	10018	2000	051719-49262	05/17/24	1.0 mL	*	*	181.82 ug/mL
70023	Absolute	70023	1000	012819-49268	01/28/24	1.0 mL	*	*	90.91ug/mL
82705	Absolute	82705	2000	090919-49293	09/09/22	1.0 mL	*	*	181.82 ug/mL
94552	Absolute	94552	various	053119-49284	05/31/21	1.0 mL	*	*	various
72304	Absolute	70023	1000	090519-49455 - 41159	09/05/24	1.0 mL	*	*	90.91ug/mL

Name of Final Standard	8270 Internal Standard Ampules (2)	Prep'd By (Initials)	JP
Prep Date	11/20/19		
Exp Date	11/20/20		

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from contianer Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
Semivolatile Internal Standard	Restek	31206	2000 ug/mL	**A0151843-49411 A0151843-49412**	**07/31/25**	2 mL	2 mL	NA	2000ug/mL

Name of Final Standard	**8270 SS STOCK**	**Prep'd By (Initials)**	**JP**
Prep Date	**11/20/19**		
Exp Date	**11/20/20**		

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from contianer Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
10001	Absolute	10001	2000 ug/mL	051019-40534	05/10/21	1.0 mL	20 mL	**Methanol Lot 208858**	100 ug/mL
10002	Absolute	10002	2000 ug/mL	020217-39199	02/02/20	1.0 mL	*	*	100 ug/mL
10004	Absolute	10004	2000 ug/mL	051018-39196	05/10/21	1.0 mL	*	*	100 ug/mL
10005	Absolute	10005	2000 ug/mL	031618-39207	03/16/23	1.0 mL	*	*	100 ug/mL
10006	Absolute	10006	2000 ug/mL	011718-39208	01/17/21	1.0 mL	*	*	100 ug/mL
10007	Absolute	10007	2000 ug/mL	060118-39213	06/01/23	1.0 mL	*	*	100 ug/mL
10018	Absolute	10018	2000 ug/mL	062718-40535	06/27/23	1.0 mL	*	*	100 ug/mL
70023	Absolute	70023	1000 ug/mL	051618-39214	05/16/23	1.0 mL	*	*	50 ug/mL
82705	Absolute	82705	2000 ug/mL	090617-40540	09/06/20	1.0 mL	*	*	100 ug/mL
94552	Absolute	94552	various	013118-40542	01/31/20	1.0 mL	*	*	various
72304	Absolute	72304	1000 ug/mL	110719-49477	11/07/24	1.0 mL	*	*	50 ug/mL

Name of Final Standard	**8270 Full Scan Second Source**	**Prep'd By (Initials)**	**JP**
Prep Date	**11/22/19**		
Exp Date	**11/22/20**		

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from container Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
8270 SS Stock	APPL	8270 SS Stock	100:50 ug/mL	**11/20/19**	**11/20/20**	100 uL	200uL	**MC DW717 150uL**	50:25 ug/mL
SV Internal Standard	APPL	SV Internal Standard	2000 ug/mL	**11/20/19**	**11/20/19**	4 uL	*	*	*

Name of Final Standard	8270 Full Scan Standard Curve	Prep'd By (Initials)	JP
Prep Date	011/21/2019		
Exp Date	011/21/2020		

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from container Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
8270 Stock	APPL	8270 Stock	182:91 ug/mL	011/21/2019	011/21/2020	4.4 uL	200uL	MC DW717 150uL	4 ug/mL
8270 Surrogate	APPL	8270 Surrogate	200:400 ug/mL	07/10/19	06/24/20	4 uL	*	*	*
SV Internal Standard	APPL	SV Internal Standard	2000 ug/mL	011/20/2019	07/31/25	4 uL	*	*	*
8270 Stock	APPL	8270 Stock	182:91 ug/mL	011/21/2019	011/21/2020	11 uL	400uL	MC DW717 150uL	5 ug/mL
8270 Surrogate	APPL	8270 Surrogate	200:400 ug/mL	07/10/19	06/24/20	10 uL	*	*	*
SV Internal Standard	APPL	SV Internal Standard	2000 ug/mL	011/20/2019	07/31/25	8 uL	*	*	*
8270 Stock	APPL	8270 Stock	182:91 ug/mL	011/21/2019	011/21/2020	11 uL	200uL	MC DW717 150uL	10 ug/mL
8270 Surrogate	APPL	8270 Surrogate	200:400 ug/mL	07/10/19	06/24/20	10 uL	*	*	*
SV Internal Standard	APPL	SV Internal Standard	2000 ug/mL	011/20/2019	07/31/25	4 uL	*	*	*
8270 Stock	APPL	8270 Stock	182:91 ug/mL	011/21/2019	011/21/2020	11 uL	100uL	MC DW717 150uL	20 ug/mL
8270 Surrogate	APPL	8270 Surrogate	200:400 ug/mL	07/10/19	06/24/20	10 uL	*	*	*
SV Internal Standard	APPL	SV Internal Standard	2000 ug/mL	011/20/2019	07/31/25	2 uL	*	*	*
8270 Stock	APPL	8270 Stock	182:91 ug/mL	011/21/2019	011/21/2020	22 uL	100uL	MC DW717 150uL	40 ug/mL
8270 Surrogate	APPL	8270 Surrogate	200:400 ug/mL	07/10/19	06/24/20	20 uL	*	*	*
SV Internal Standard	APPL	SV Internal Standard	2000 ug/mL	011/20/2019	07/31/25	2 uL	*	*	*
8270 Stock	APPL	8270 Stock	182:91 ug/mL	011/21/2019	011/21/2020	55 uL	200 uL	MC DW717 150uL	50 ug/mL
8270 Surrogate	APPL	8270 Surrogate	200:400 ug/mL	07/10/19	06/24/20	50 uL	*	*	*
SV Internal Standard	APPL	SV Internal Standard	2000 ug/mL	011/20/2019	07/31/25	4 uL	*	*	*
8270 Stock	APPL	8270 Stock	182:91 ug/mL	011/21/2019	011/21/2020	33 uL	100uL	MC DW717 150uL	60 ug/mL
8270 Surrogate	APPL	8270 Surrogate	200:400 ug/mL	07/10/19	06/24/20	30 uL	*	*	*
SV Internal Standard	APPL	SV Internal Standard	2000 ug/mL	011/20/2019	07/31/25	2 uL	*	*	*
8270 Stock	APPL	8270 Stock	182:91 ug/mL	011/21/2019	011/21/2020	44 uL	100uL	MC DW717 150uL	80 ug/mL
8270 Surrogate	APPL	8270 Surrogate	200:400 ug/mL	07/10/19	06/24/20	40 uL	*	*	*
SV Internal Standard	APPL	SV Internal Standard	2000 ug/mL	011/20/2019	07/31/25	2 uL	*	*	*
8270 Stock	APPL	8270 Stock	182:91 ug/mL	011/21/2019	011/21/2020	50 uL	100uL	na	91 ug/mL
8270 Surrogate	APPL	8270 Surrogate	200:400 ug/mL	07/10/19	06/24/20	50 uL	*	*	*
SV Internal Standard	APPL	SV Internal Standard	2000 ug/mL	011/20/2019	07/31/25	2 uL	*	*	*

Name of Final Standard	Semivolatile (SV) Tuning Solution	Prep'd By (Initials)	JP
Prep Date	10/01/19		
Exp Date	11/30/20		

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from contianer Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
Semivolatile GC/MS Tuning Standard	Ultra Scientific	GCM-150-1	1,000 ug/mL	CR3789-38879	11/30/20	1,250 uL	25 mL	MC #58240	50 ug/mL

Name of Final Standard	**8270 Full Scan Spike**
Prep Date	**12/04/19**
Exp Date	**12/04/20**

Prep'd By (Initials) **JP**

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from contianer Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
10001	Absolute	10001	2000	081419 - 49299	08/14/22	1.0 mL	40 mL	**Methanol Lot# 208858**	50 ug/mL
10002	Absolute	10002	2000	090919-49208	09/09/22	1.0 mL	*	*	50 ug/mL
10004	Absolute	10004	2000	071618-49218	07/16/23	1.0 mL	*	*	50 ug/mL
10005	Absolute	10005	2000	032018-49228	03/20/23	1.0 mL	*	*	50 ug/mL
10006	Absolute	10006	2000	030119-49239	03/01/22	1.0 mL	*	*	50 ug/mL
10007	Absolute	10007	2000	080116-40249	08/01/21	1.0 mL	*	*	50 ug/mL
10018	Absolute	10018	2000	051719-49259	05/17/24	1.0 mL	*	*	50 ug/mL
70023	Absolute	70023	1000	012819-49275	01/28/24	1.0 mL	*	*	25 ug/mL
82705	Absolute	82705	2000	090919-49290	09/09/22	1.0 mL	*	*	50 ug/mL
94552	Absolute	94552	various	053119-49286	05/31/21	1.0 mL	*	*	various

Name of Final Standard	8270 Full Scan Standard Curve	Prep'd By (Initials)	JP
Prep Date	01/16/20		
Exp Date	06/24/20		

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from container Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
8270 Stock	APPL	8270 Stock	182:91 ug/mL	011/21/2019	011/21/2020	55 uL	200 uL	MC DW717 150uL	50 ug/mL
8270 Surrogate	APPL	8270 Surrogate	200:400 ug/mL	07/10/19	06/24/20	50 uL	"	"	"
SV Internal Standard	APPL	SV Internal Standard	2000 ug/mL	011/20/2019	07/31/25	4 uL	"	"	"

Organic Extraction Worksheet

Method	Continuous Liquid/Liquid SVOC 3520C	Extraction Set	200124A	Extraction Method	LIQ003	Units	mL

Spiked ID 1	8270T Spike		Surrogate ID 1	8270 Surrogate	
Spiked ID 2	Sim Spike		Surrogate ID 2	SIM Surrogate	
Spiked ID 3			Surrogate ID 3		
Spiked ID 4			Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	YES	
Spiked ID 7			Ext. Start Time:	01/24/20 15:30	
Spiked ID 8			Ext. End Time:	01/25/20 9:30	
			GC Requires Extract By:		

pH1	2		Water Bath Temp 1 °C	75/74.2 E-WB5 °
pH2	14		Water Bath Temp 2 °C	75/74.9 E-WB6
pH3			Water Bath Temp 3 °C	

Spiked By: DL **Date** 01/24/20 **Witnessed By:** KY,DS **Date** 01/24/20

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	200124A Blk				1,0.050	1,2	800	1	2/1	01/24/20 13:30	
						equip	E-HP51				
2	200124A LCS-1		1	1	1	1	800	1	2/1	01/24/20 13:30	
						equip	E-HP50				
3	200124A LCS-2		0.125	2	0.050	2	800	1	2/1	01/24/20 13:30	
						equip	E-HP49				
4	BA06272 MS-1	BA06272W30	1	1	1	1	800	1	2/1	01/24/20 13:30	91282
						equip	E-HP47				
5	BA06272 MSD-1	BA06272W31	1	1	1	1	800	1	2/1	01/24/20 13:30	91282
						equip	E-HP25				
6	BA06272 MS-2	BA06272W34	0.125	2	0.050	2	800	1	2/1	01/24/20 13:30	91282
						equip	E-HP26				
7	BA06272 MSD-2	BA06272W28	0.125	2	0.050	2	800	1	2/1	01/24/20 13:30	91282
						equip	E-HP27				
8	BA06272	BA06272W29			1,0.050	1,2	800	1	2/1	01/24/20 13:30	91282
						equip	E-HP48				
9	BA06273	BA06273W11			1,0.050	1,2	800	1	2/1	01/24/20 13:30	91282
						equip	E-HP28				
10	BA06275	BA06275W13			1,0.050	1,2	800	1	2/1	01/24/20 13:30	91282
						equip	E-HP29				
11	BA06276	BA06276W15			1,0.050	1,2	800	1	2/1	01/24/20 13:30	91282
						equip	E-HP30				
12	BA06279	BA06279W14			1,0.050	1,2	800	1	2/1	01/24/20 13:30	91282
						equip	E-HP17				
13	BA06281	BA06281W13			1,0.050	1,2	800	1	2/1	01/24/20 13:30	91282
						equip	E-HP16				
14	BA06282	BA06282W13			1,0.050	1,2	800	1	2/1	01/24/20 13:30	91282
						equip	E-HP15				
15	BA06284	BA06284W19			1,0.050	1,2	800	1	2/1	01/24/20 13:30	91282
						equip	E-HP14				
16	BA06313	BA06313W13			1,0.050	1,2	800	1	2/1	01/24/20 13:30	91288
						equip	E-HP13				

Solvent and Lot#	
PH Strips	HC863463
Dichloromethane (DCM)	59239
1+1 H2SO4	12-17-19
10N NaOH	11-20-19
Filter Paper	400121
Acidified Na2SO4	1041-26-20
B. Na2SO4	2019020631

Extraction COC Transfer	
Extraction lab employee Initials	
GC analyst's initials	JP
Date	1/27/20
Time	1402
Refrigerator	GC-C

	Technician's Initials
Scanned By	DL
Sample Preparation	DL
Extraction	DL
Concentration	DL, ERR

Modified	01/27/20 2:47:05 PM

Reviewed By: **Date**

Organic Extraction Worksheet

Method	Continuous Liquid/Liquid SVOC 3520C	Extraction Set	200124A	Extraction Method	LIQ003	Units	mL

Spiked ID 1	8270T Spike		Surrogate ID 1	8270 Surrogate	
Spiked ID 2	Sim Spike		Surrogate ID 2	SIM Surrogate	
Spiked ID 3			Surrogate ID 3		
Spiked ID 4			Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	YES	
Spiked ID 7			Ext. Start Time:	01/24/20 15:30	
Spiked ID 8			Ext. End Time:	01/25/20 9:30	
			GC Requires Extract By:		

pH1	2		Water Bath Temp 1 °C	75/74.2 E-WB5 °
pH2	14		Water Bath Temp 2 °C	75/74.9 E-WB6
pH3			Water Bath Temp 3 °C	

Spiked By: DL **Date** 01/24/20 **Witnessed By:** KY,DS **Date** 01/24/20

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
17	BA06315	BA06315W13			1,0.050	1,2	800	1	2/1	01/24/20 13:30	91288
						equip	E-HP12				
18	BA06317	BA06317W14			1,0.050	1,2	800	1	2/1	01/24/20 13:30	91288
						equip	E-HP11				
19	BA06319	BA06319W16			1,0.050	1,2	800	1	2/1	01/24/20 13:30	91288
						equip	E-HP10				
20	BA06361	BA06361W18			1,0.050	1,2	800	1	2/1	01/24/20 15:15	91299
						equip	E-HP9				
21	BA06362	BA06362W14			1,0.050	1,2	800	1	2/1	01/24/20 15:15	91299
						equip	E-HP6				
22	BA06364	BA06364W16			1,0.050	1,2	800	1	2/1	01/24/20 15:15	91299
						equip	E-HP4				

Solvent and Lot#	
PH Strips	HC863463
Dichloromethane (DCM)	59239
1+1 H2SO4	12-17-19
10N NaOH	11-20-19
Filter Paper	400121
Acidified Na2SO4	1041-26-20
B. Na2SO4	2019020631

Extraction COC Transfer	
Extraction lab employee Initials	
GC analyst's initials	JP
Date	
Time	
Refrigerator	GC-C

	Technician's Initials
Scanned By	DL
Sample Preparation	DL
Extraction	DL
Concentration	DL, ERR

Modified	01/27/20 2:47:05 PM

Reviewed By: **Date**

Injection Log

Directory: M:\YODA\DATA\Y191219\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	2	1219Y002.D	1	SV TUNE 10/01/19		19 Dec 19 8:50
2	3	1219Y003.D	1	50ug/ml 8270 11/21/19		19 Dec 19 9:06
3	4	1219Y004.D	1	4ug/ml 8270 11/21/19		19 Dec 19 9:33
4	5	1219Y005.D	1	5ug/ml 8270 11/21/19		19 Dec 19 10:01
5	6	1219Y006.D	1	10ug/ml 8270 11/21/19		19 Dec 19 10:28
6	7	1219Y007.D	1	20ug/ml 8270 11/21/19		19 Dec 19 10:56
7	8	1219Y008.D	1	40ug/ml 8270 11/21/19		19 Dec 19 11:24
8	9	1219Y009.D	1	60ug/ml 8270 11/21/19		19 Dec 19 11:51
9	10	1219Y010.D	1	80ug/ml 8270 11/21/19		19 Dec 19 12:19
10	11	1219Y011.D	1	100ug/ml 8270 11/21/19		19 Dec 19 12:46
11	12	1219Y012.D	1	SS 8270 11/22/19		19 Dec 19 13:14
12	41	1219Y241.D	1	SV TUNE 10/01/19		27 Jan 20 14:51
13	47	1219Y247.D	1	50ug/ml 8270 01/06/20 (1)		27 Jan 20 17:04
14	48	1219Y248.D	1.25	200124A BLK 1/800		27 Jan 20 17:32
15	49	1219Y249.D	1.25	200124A LCS-1 1/800		27 Jan 20 18:00
16	64	1219Y264.D	1.25	BA06361W18 1/800		28 Jan 20 00:56
17	65	1219Y265.D	1.25	BA06362W14 1/800		28 Jan 20 1:23
18	66	1219Y266.D	1.25	BA06364W16 1/800		28 Jan 20 1:51
19	67	1219Y267.D	1	50ug/ml 8270 01/03/20 (1)		28 Jan 20 2:19

ORGANICS
Calibration Data

2MEE
EPA 8270

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Initial Cal. Date: 01/22/20
Matrix: Instrument: Yoda

Initials:

		Compound	1	2	3	4	5	6	7	8			Avg	%RSD	Type	r^2	Q	MRF
			0122Y003.D	0122Y004.D	0122Y005.D	0122Y006.D	0122Y007.D	0122Y008.D	0122Y009.D	0122Y010.D								
1	I	1,4-dichlorobenzene-D4(IS)																
2	TM	2-(2-Methoxyethoxy)ethanol	0.1821	0.2585	0.2387	0.2203	0.2137	0.2203	0.2856	0.2603			0.23	14	TM			
3	I	Napthalene-D8(IS)																
4	I	Acenaphthene-D10(IS)																
5	I	Phenanthrene-D10(IS)																
6	I	Chrysene-D12(IS)																
7	I	Perylene-D12(IS)																
8																		
9																		
10																		
11																		
12																		
13																		
14																		
15																		
16																		
17																		
18																		
19																		
20																		
21																		
22																		
23																		
24																		
25																		
26																		
27																		
28																		
29																		
30																		
31																		
32																		
33																		
34																		
35																		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y200122M\0122Y003.D Vial: 3
Acq On : 22 Jan 20 15:46 Operator: MA,SS
Sample : 50ug/ml MEE 01/22/20 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 23 10:02 2020 Quant Results File: YMEE0122.RES

Quant Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 10:01:29 2020
Response via : Initial Calibration
DataAcq Meth : GED

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.15	152	171017	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.56	136	665562	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.59	164	409494	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	10.31	188	788135	40.00000 ppb	0.00
6) Chrysene-D12(IS)	13.39	240	679346	40.00000 ppb	0.00
7) Perylene-D12(IS)	15.12	264	699262	40.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.33	45	38926	38.75395 ppb	99

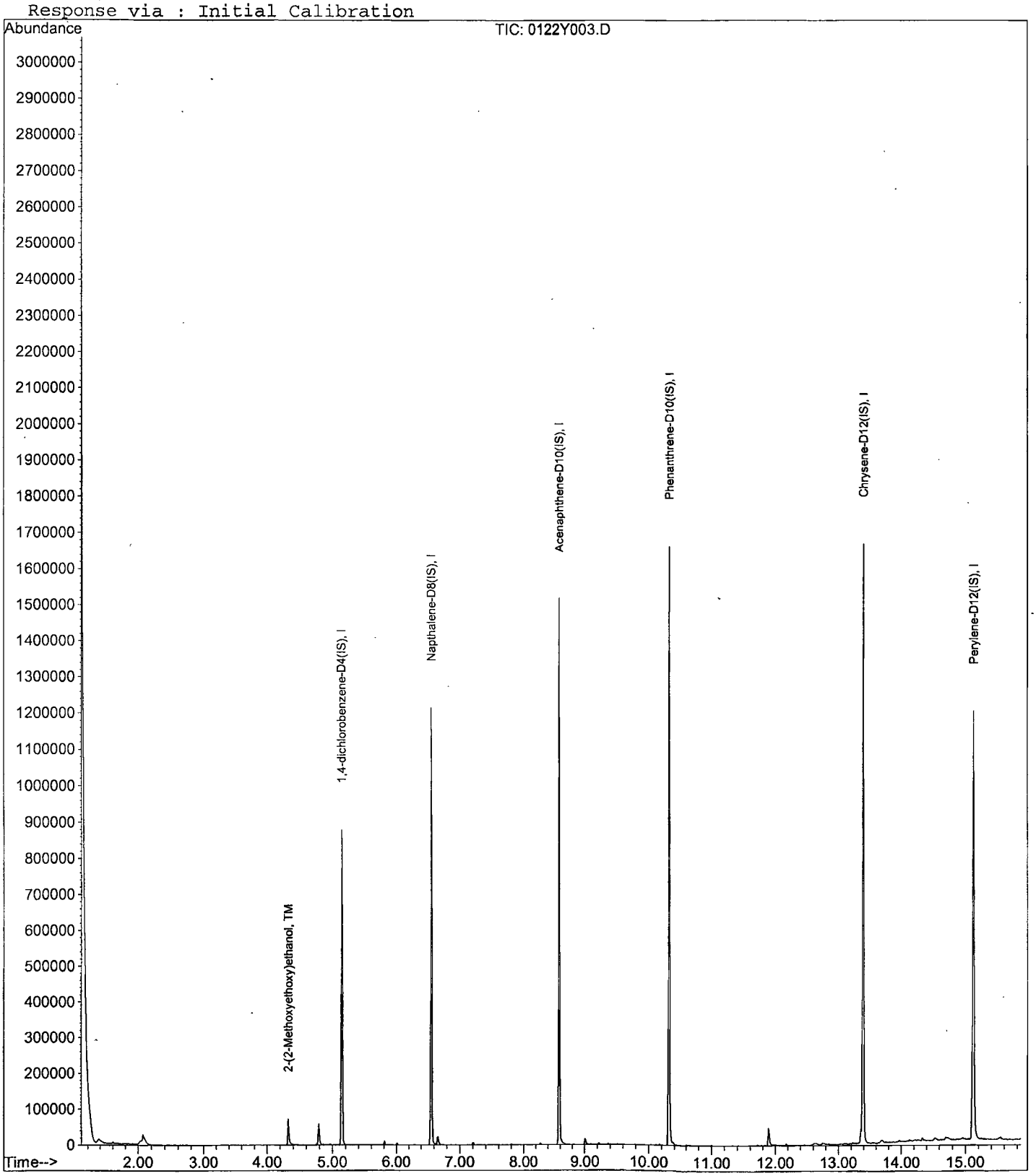
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y200122M\0122Y003.D Vial: 3
Acq On : 22 Jan 20 15:46 Operator: MA,SS
Sample : 50ug/ml MEE 01/22/20 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 23 10:02 2020 Quant Results File: YMEE0122.RES

Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 10:01:29 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y200122M\0122Y004.D Vial: 4
Acq On : 22 Jan 20 16:10 Operator: MA,SS
Sample : 100ug/ml MEE 01/22/20 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 23 10:02 2020 Quant Results File: YMEE0122.RES

Quant Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 10:01:29 2020
Response via : Initial Calibration
DataAcq Meth : GED

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.15	152	158778	40.00000	ppb	0.00
3) Napthalene-D8(IS)	6.57	136	642353	40.00000	ppb	0.00
4) Acenaphthene-D10(IS)	8.58	164	393654	40.00000	ppb	0.00
5) Phenanthrene-D10(IS)	10.31	188	759584	40.00000	ppb	0.00
6) Chrysene-D12(IS)	13.39	240	664524	40.00000	ppb	0.00
7) Perylene-D12(IS)	15.12	264	676233	40.00000	ppb	0.00

System Monitoring Compounds

Target Compounds						Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.32	45	102613	110.03417	ppb	98

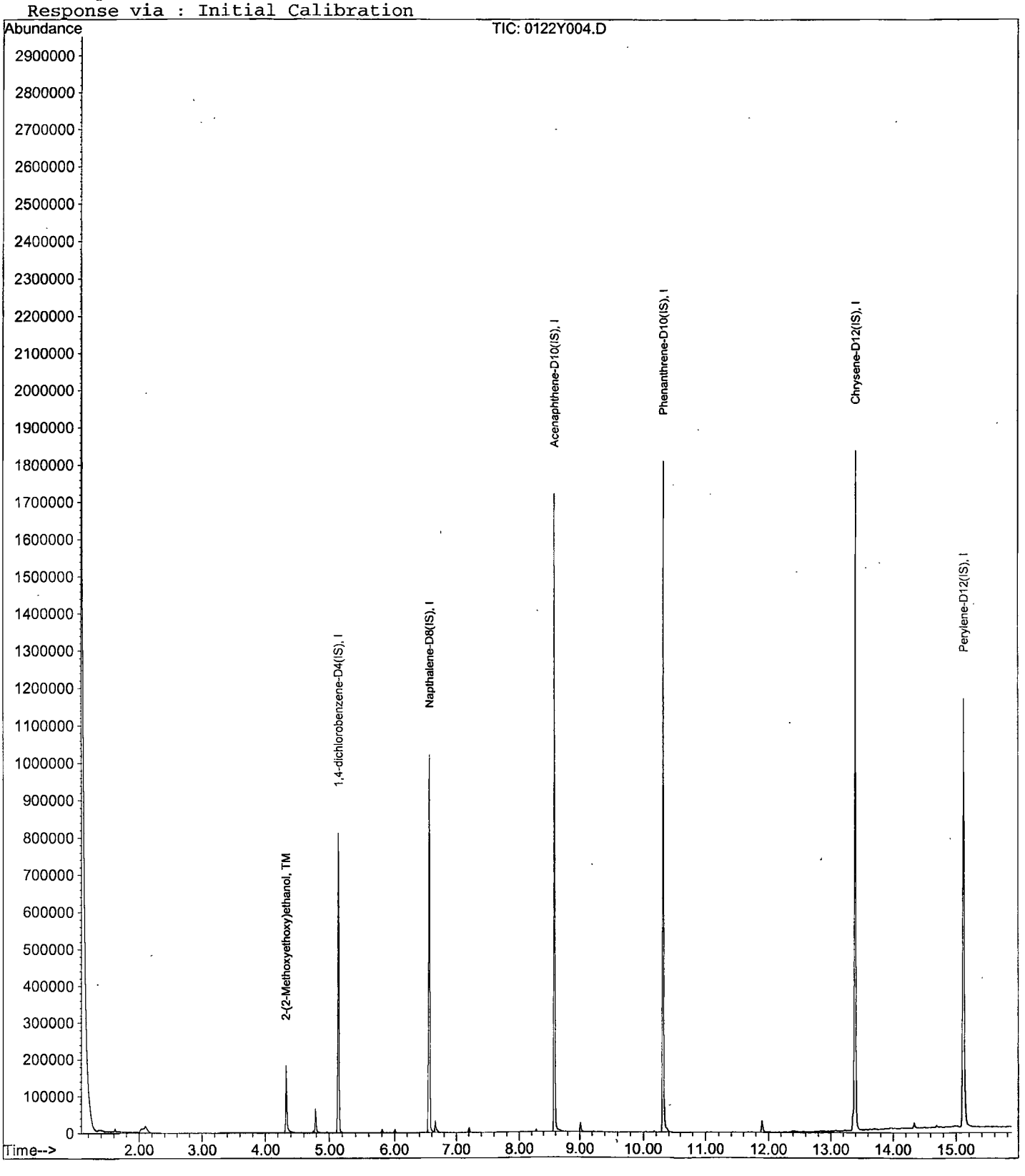
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y200122M\0122Y004.D Vial: 4
Acq On : 22 Jan 20 16:10 Operator: MA,SS
Sample : 100ug/ml MEE 01/22/20 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 23 10:02 2020 Quant Results File: YMEE0122.RES

Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 10:01:29 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y200122M\0122Y005.D Vial: 5
Acq On : 22 Jan 20 16:33 Operator: MA,SS
Sample : 200ug/ml MEE 01/22/20 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 23 10:02 2020 Quant Results File: YMEE0122.RES

Quant Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 10:01:29 2020
Response via : Initial Calibration
DataAcq Meth : GED

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.15	152	155385	40.00000	ppb	0.00
3) Napthalene-D8(IS)	6.57	136	636024	40.00000	ppb	0.00
4) Acenaphthene-D10(IS)	8.58	164	388934	40.00000	ppb	0.00
5) Phenanthrene-D10(IS)	10.31	188	754620	40.00000	ppb	0.00
6) Chrysene-D12(IS)	13.39	240	621602	40.00000	ppb	0.00
7) Perylene-D12(IS)	15.12	264	626915	40.00000	ppb	0.00

System Monitoring Compounds

Target Compounds						Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.33	45	185455	203.20994	ppb	100

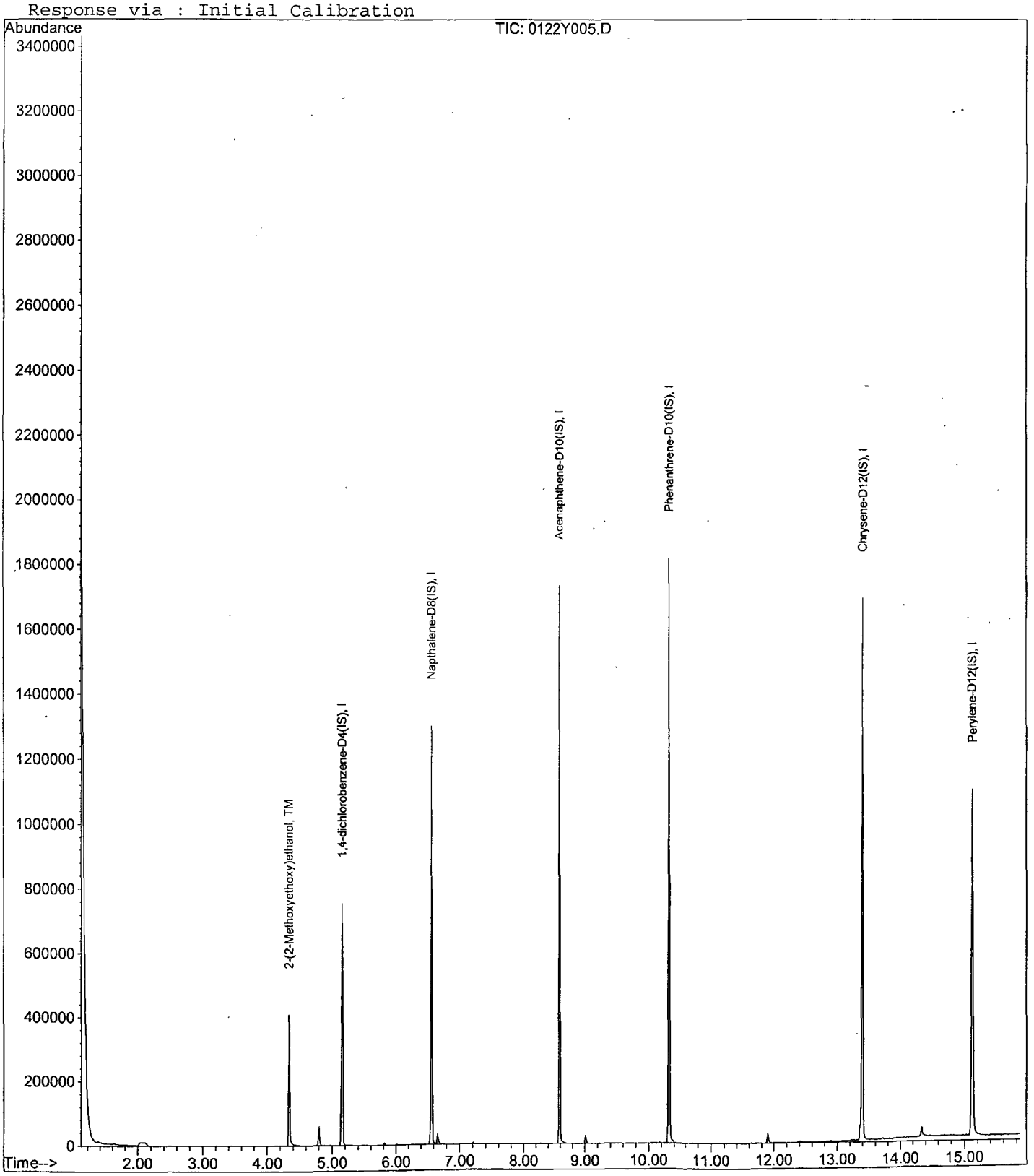
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y200122M\0122Y005.D Vial: 5
Acq On : 22 Jan 20 16:33 Operator: MA,SS
Sample : 200ug/ml MEE 01/22/20 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 23 10:02 2020 Quant Results File: YMEE0122.RES

Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 10:01:29 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y200122M\0122Y006.D Vial: 6
Acq On : 22 Jan 20 16:57 Operator: MA,SS
Sample : 400ug/ml MEE 01/22/20 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 23 10:02 2020 Quant Results File: YMEE0122.RES

Quant Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 10:01:29 2020
Response via : Initial Calibration
DataAcq Meth : GED

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.15	152	156027	40.00000	ppb	0.00
3) Napthalene-D8(IS)	6.57	136	648446	40.00000	ppb	0.00
4) Acenaphthene-D10(IS)	8.58	164	399790	40.00000	ppb	0.00
5) Phenanthrene-D10(IS)	10.31	188	767514	40.00000	ppb	0.00
6) Chrysene-D12(IS)	13.39	240	672840	40.00000	ppb	0.00
7) Perylene-D12(IS)	15.12	264	695421	40.00000	ppb	0.00

System Monitoring Compounds

Target Compounds						Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.34	45	343734	375.09237	ppb	98

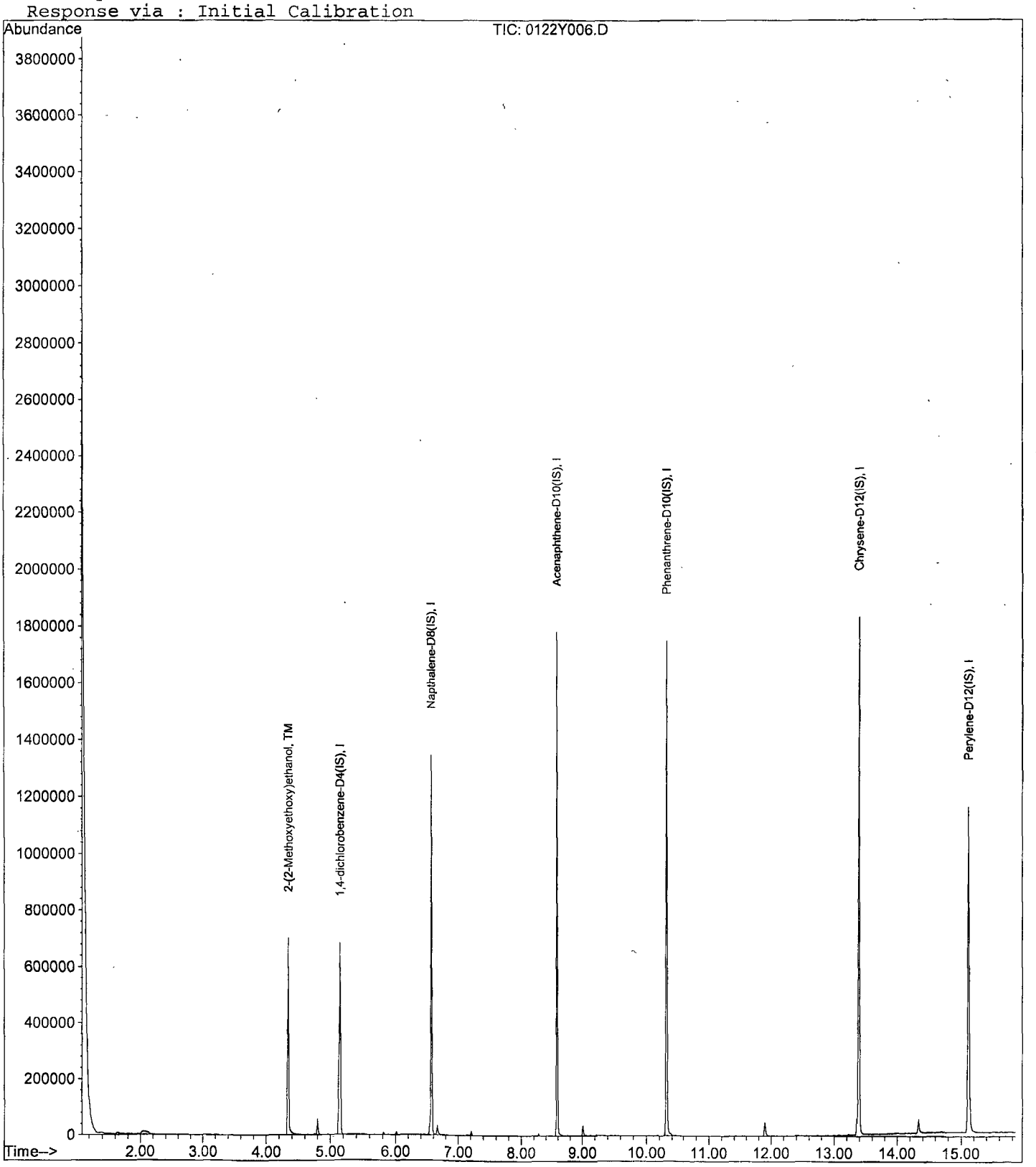
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y200122M\0122Y006.D Vial: 6
Acq On : 22 Jan 20 16:57 Operator: MA,SS
Sample : 400ug/ml MEE 01/22/20 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 23 10:02 2020 Quant Results File: YMEE0122.RES

Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 10:01:29 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y200122M\0122Y007.D Vial: 7
Acq On : 22 Jan 20 17:21 Operator: MA,SS
Sample : 500ug/ml MEE 01/22/20 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 23 10:02 2020 Quant Results File: YMEE0122.RES

Quant Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 10:01:29 2020
Response via : Initial Calibration
DataAcq Meth : GED

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.15	152	160036	40.00000	ppb	0.00
3) Napthalene-D8(IS)	6.57	136	657892	40.00000	ppb	0.00
4) Acenaphthene-D10(IS)	8.59	164	410790	40.00000	ppb	0.00
5) Phenanthrene-D10(IS)	10.31	188	788159	40.00000	ppb	0.00
6) Chrysene-D12(IS)	13.39	240	699023	40.00000	ppb	0.00
7) Perylene-D12(IS)	15.12	264	751183	40.00000	ppb	0.00

System Monitoring Compounds

Target Compounds						Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.34	45	427461	454.77262	ppb	100

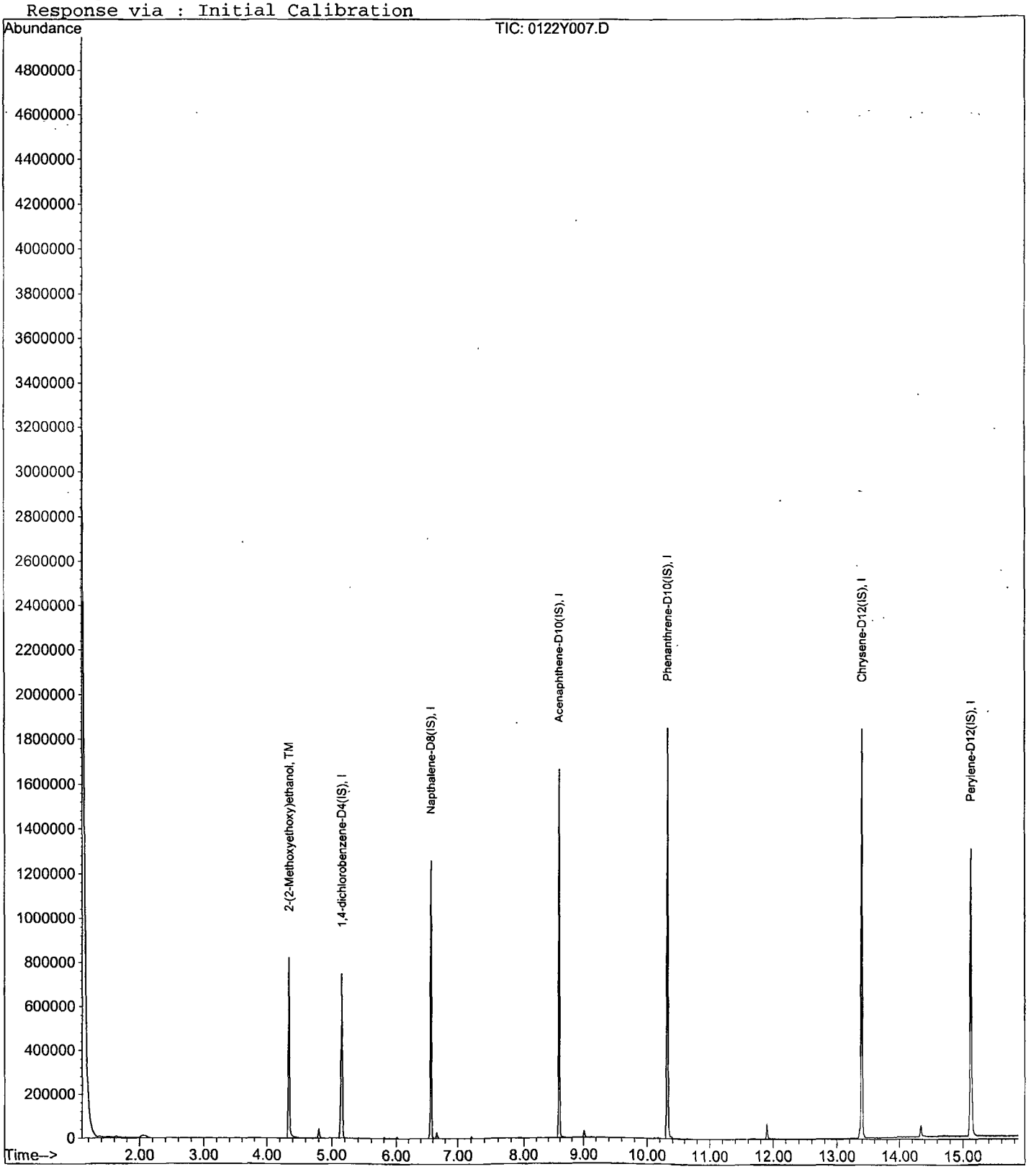
(#) = qualifier out of range (m) = manual integration
0122Y007.D YMEE0122.M Thu Jan 23 10:03:55 2020 Page 1

Quantitation Report

Data File : M:\YODA\DATA\Y200122M\0122Y007.D Vial: 7
Acq On : 22 Jan 20 17:21 Operator: MA,SS
Sample : 500ug/ml MEE 01/22/20 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 23 10:02 2020 Quant Results File: YMEE0122.RES

Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 10:01:29 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y200122M\0122Y008.D Vial: 8
Acq On : 22 Jan 20 17:45 Operator: MA,SS
Sample : 600ug/ml MEE 01/22/20 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 23 10:02 2020 Quant Results File: YMEE0122.RES

Quant Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 10:01:29 2020
Response via : Initial Calibration
DataAcq Meth : GED

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.15	152	156507	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.57	136	664381	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.59	164	408801	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	10.31	188	788845	40.00000 ppb	0.00
6) Chrysene-D12(IS)	13.39	240	676569	40.00000 ppb	0.00
7) Perylene-D12(IS)	15.12	264	692003	40.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.35	45	517114	562.55893 ppb	99

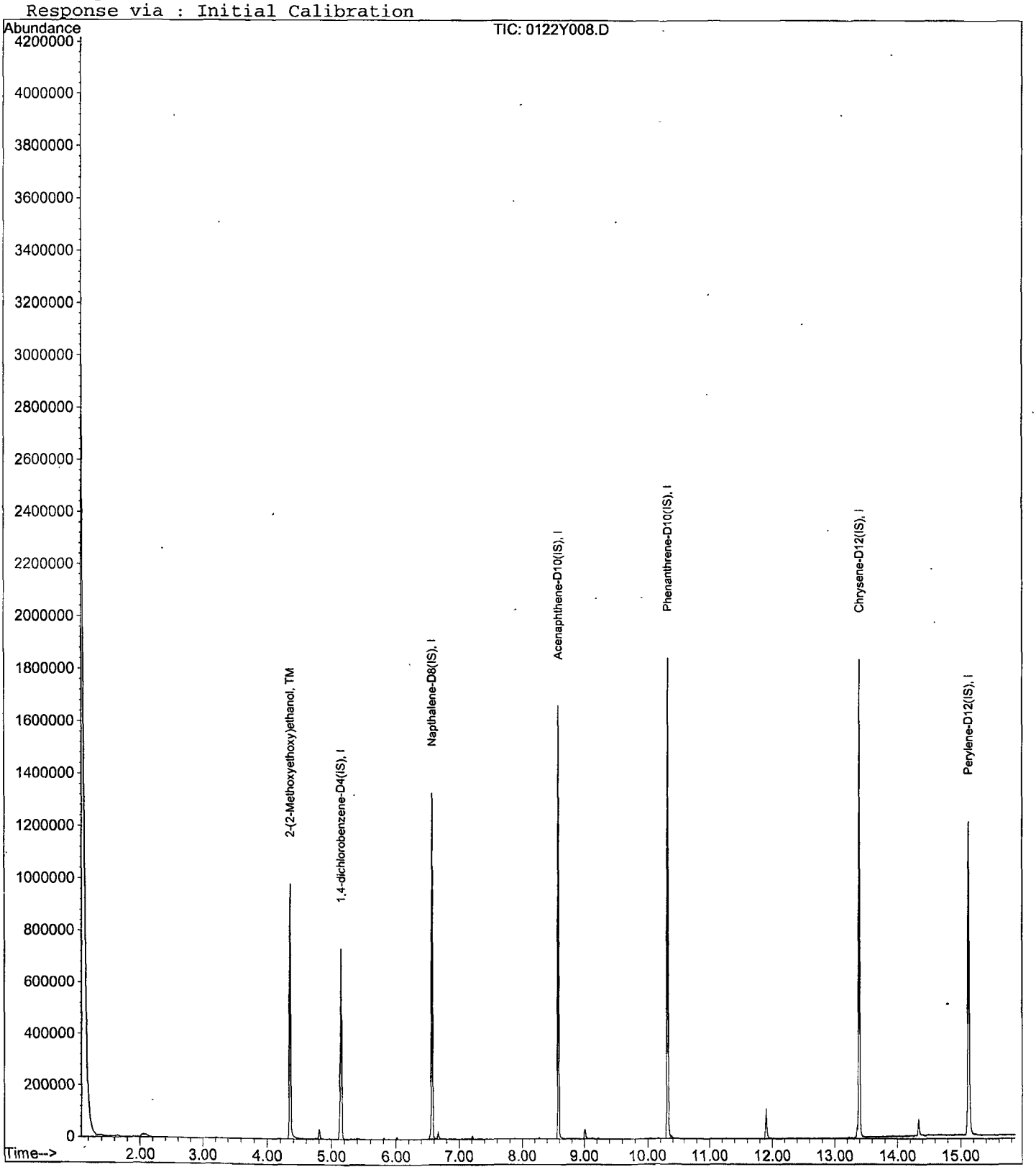
(#) = qualifier out of range (m) = manual integration
0122Y008.D YMEE0122.M Thu Jan 23 10:03:57 2020 Page 1

Quantitation Report

Data File : M:\YODA\DATA\Y200122M\0122Y008.D Vial: 8
Acq On : 22 Jan 20 17:45 Operator: MA,SS
Sample : 600ug/ml MEE 01/22/20 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 23 10:02 2020 Quant Results File: YMEE0122.RES

Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 10:01:29 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y200122M\0122Y009.D Vial: 9
Acq On : 22 Jan 20 18:08 Operator: MA,SS
Sample : 800ug/ml MEE 01/22/20 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 23 10:02 2020 Quant Results File: YMEE0122.RES

Quant Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 10:01:29 2020
Response via : Initial Calibration
DataAcq Meth : GED

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.15	152	125205	40.00000	ppb	0.00
3) Napthalene-D8(IS)	6.57	136	550099	40.00000	ppb	0.00
4) Acenaphthene-D10(IS)	8.58	164	372511	40.00000	ppb	0.00
5) Phenanthrene-D10(IS)	10.31	188	750924	40.00000	ppb	0.00
6) Chrysene-D12(IS)	13.39	240	643830	40.00000	ppb	0.00
7) Perylene-D12(IS)	15.12	264	637032	40.00000	ppb	0.00

System Monitoring Compounds

Target Compounds						Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.36	45	715213	972.58871	ppb	98

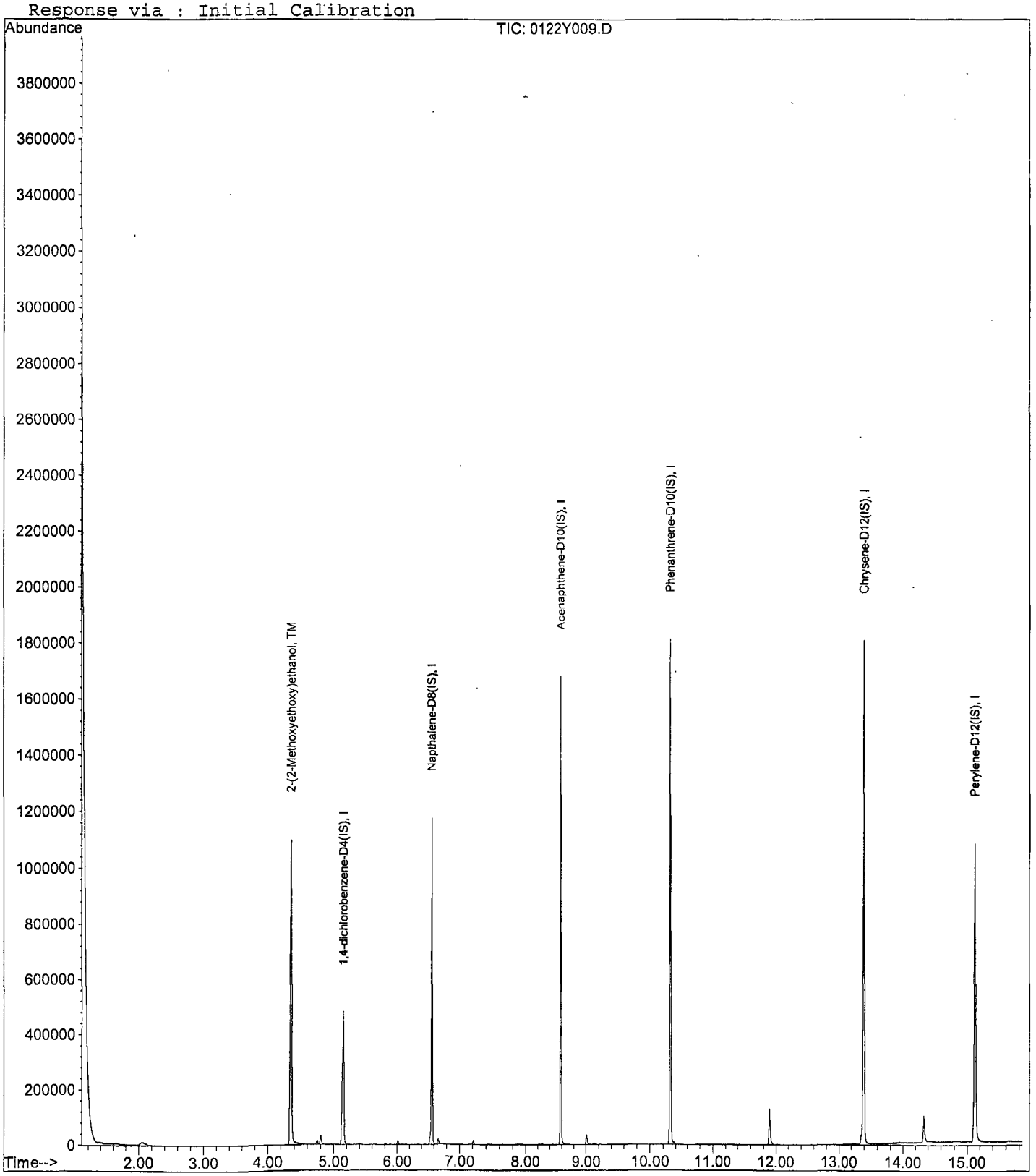
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y200122M\0122Y009.D Vial: 9
Acq On : 22 Jan 20 18:08 Operator: MA,SS
Sample : 800ug/ml MEE 01/22/20 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 23 10:02 2020 Quant Results File: YMEE0122.RES

Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 10:01:29 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y200122M\0122Y010.D Vial: 10
Acq On : 22 Jan 20 18:32 Operator: MA,SS
Sample : 1000ug/ml MEE 01/22/20 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 23 10:02 2020 Quant Results File: YMEE0122.RES

Quant Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 10:01:29 2020
Response via : Initial Calibration
DataAcq Meth : GED

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.15	152	145736	40.00000	ppb	0.00
3) Napthalene-D8(IS)	6.57	136	643934	40.00000	ppb	0.00
4) Acenaphthene-D10(IS)	8.58	164	429609	40.00000	ppb	0.00
5) Phenanthrene-D10(IS)	10.31	188	848518	40.00000	ppb	0.00
6) Chrysene-D12(IS)	13.39	240	708250	40.00000	ppb	0.00
7) Perylene-D12(IS)	15.12	264	727830	40.00000	ppb	0.00

System Monitoring Compounds

Target Compounds						Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.36	45	948330	1107.91933	ppb	99

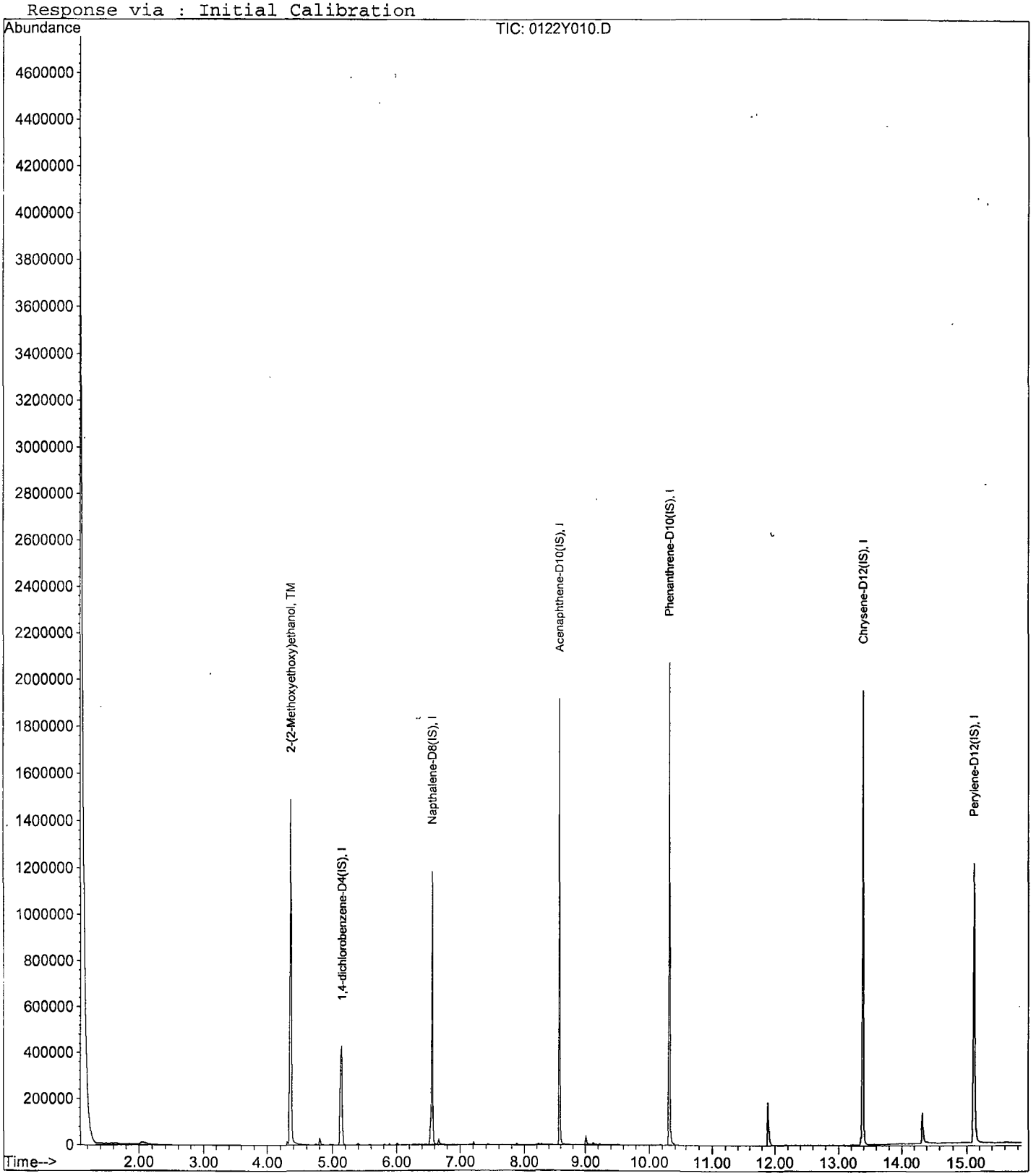
(#) = qualifier out of range (m) = manual integration
0122Y010.D YMEE0122.M Thu Jan 23 10:04:02 2020 Page 1

Quantitation Report

Data File : M:\YODA\DATA\Y200122M\0122Y010.D Vial: 10
Acq On : 22 Jan 20 18:32 Operator: MA,SS
Sample : 1000ug/ml MEE 01/22/20 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 23 10:02 2020 Quant Results File: YMEE0122.RES

Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 10:01:29 2020
Response via : Initial Calibration



2MEE
EPA 8270

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 01/22/20
Instrument: Yoda
Initial Cal. Date: 01/22/20
Data File: 0122Y011.D

		Compound	MEAN	CCRF	%D	%Drift	
1	TM	2-(2-Methoxyethoxy)ethanol	0.2349	0.2425	3.2	TM	
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			3.2		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y200122M\0122Y011.D Vial: 11
Acq On : 22 Jan 20 18:55 Operator: MA,SS
Sample : SS MEE 01/22/20 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 23 9:55 2020 Quant Results File: YMEE0122.RES

Quant Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 09:54:44 2020
Response via : Initial Calibration
DataAcq Meth : GED

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.15	152	173956	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.57	136	686273	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.59	164	422630	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	10.31	188	806716	40.00000 ppb	0.00
6) Chrysene-D12(IS)	13.39	240	723146	40.00000 ppb	0.00
7) Perylene-D12(IS)	0.00	264	0	0.00000 ppb	-14.73

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.33	45	527290	516.09021 ppb	93

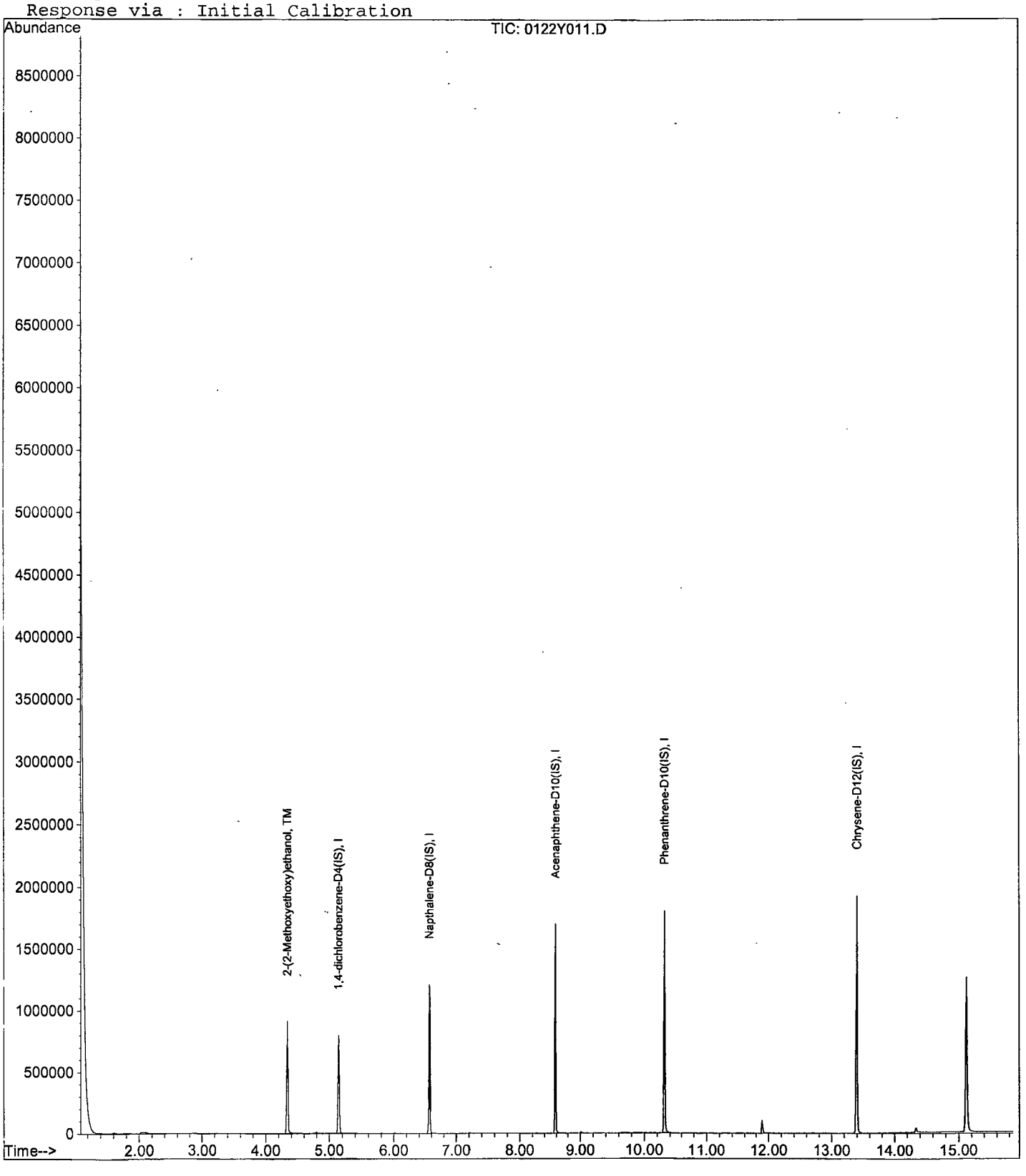
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y200122M\0122Y011.D Vial: 11
Acq On : 22 Jan 20 18:55 Operator: MA,SS
Sample : SS MEE 01/22/20 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 23 9:55 2020 Quant Results File: YMEE0122.RES

Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 09:54:44 2020
Response via : Initial Calibration



2MEE
EPA 8270

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 01/29/20
Instrument: Yoda
Initial Cal. Date: 01/22/20
Data File: 0122Y018.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	1,4-dichlorobenzene-D4(IS)	ISTD			I	
2	TM	2-(2-Methoxyethoxy)ethanol	0.2349	0.1947	17	TM	
3	I	Napthalene-D8(IS)	ISTD			I	
4	I	Acenaphthene-D10(IS)	ISTD			I	
5	I	Phenanthrene-D10(IS)	ISTD			I	
6	I	Chrysene-D12(IS)	ISTD			I	
7	I	Perylene-D12(IS)	ISTD			I	
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			17.0		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y200122M\0122Y018.D Vial: 18
Acq On : 29 Jan 20 15:01 Operator: MA,SS
Sample : 500ug/ml MEE 01/29/20 (1) Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 29 15:02 2020 Quant Results File: YMEE0122.RES

Quant Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 16:28:09 2020
Response via : Initial Calibration
DataAcq Meth : GED

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.15	152	173907	40.00000	ppb	0.00
3) Napthalene-D8(IS)	6.57	136	698618	40.00000	ppb	0.00
4) Acenaphthene-D10(IS)	8.58	164	436389	40.00000	ppb	0.00
5) Phenanthrene-D10(IS)	10.31	188	837531	40.00000	ppb	0.00
6) Chrysene-D12(IS)	13.39	240	754740	40.00000	ppb	0.00
7) Perylene-D12(IS)	15.12	264	834233	40.00000	ppb	0.00

System Monitoring Compounds

Target Compounds						Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.33	45	423311	414.43649	ppb	97

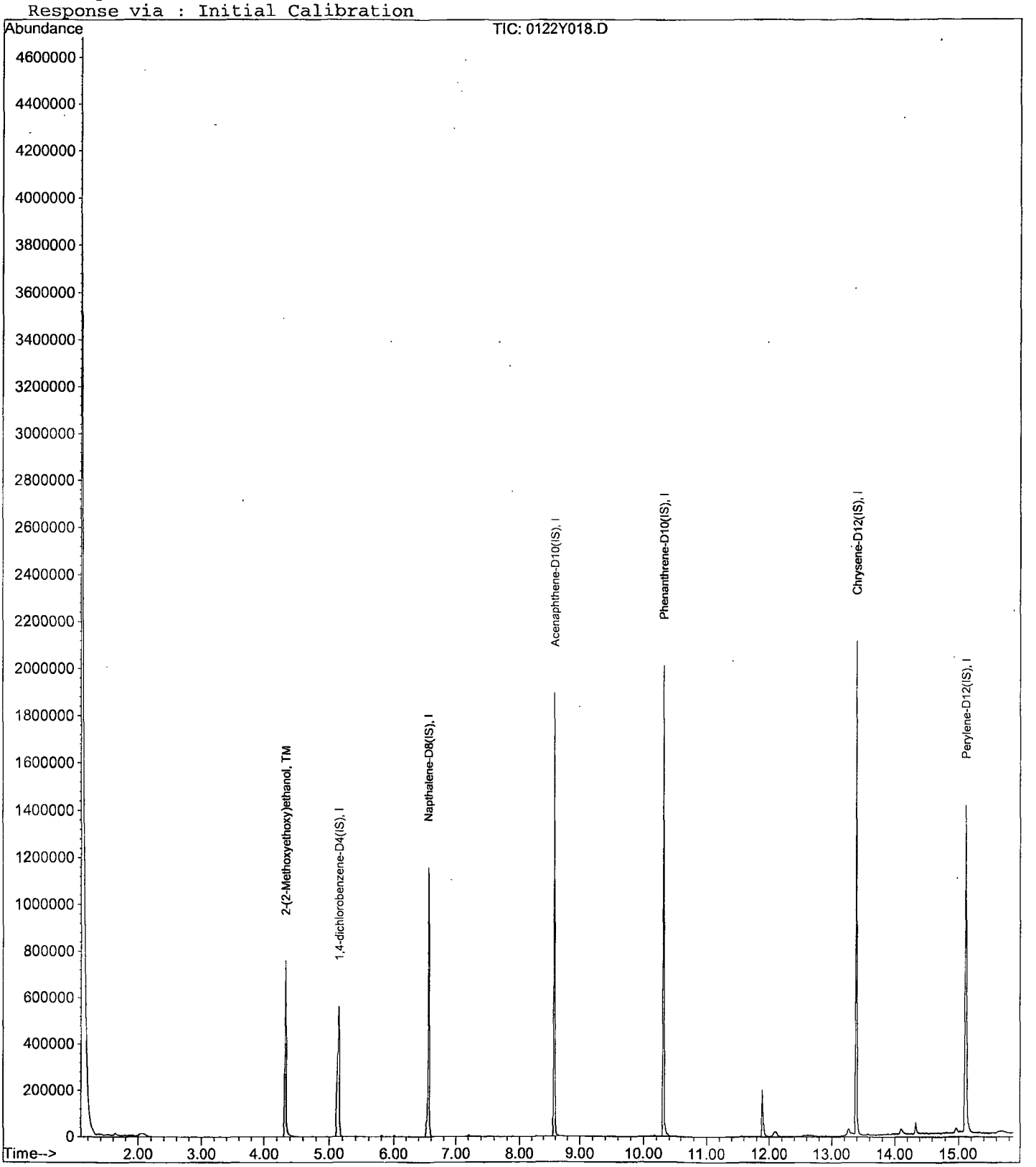
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y200122M\0122Y018.D Vial: 18
Acq On : 29 Jan 20 15:01 Operator: MA,SS
Sample : 500ug/ml MEE 01/29/20 (1) Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 29 15:02 2020 Quant Results File: YMEE0122.RES

Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 16:28:09 2020
Response via : Initial Calibration



2MEE
EPA 8270

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 01/30/20
Instrument: Yoda
Initial Cal. Date: 01/22/20
Data File: 0122Y040.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	1,4-dichlorobenzene-D4(IS)	ISTD			I	
2	TM	2-(2-Methoxyethoxy)ethanol	0.2349	0.2263	3.7	TM	
3	I	Napthalene-D8(IS)	ISTD			I	
4	I	Acenaphthene-D10(IS)	ISTD			I	
5	I	Phenanthrene-D10(IS)	ISTD			I	
6	I	Chrysene-D12(IS)	ISTD			I	
7	I	Perylene-D12(IS)	ISTD			I	
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			3.7		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y200122M\0122Y040.D Vial: 40
Acq On : 30 Jan 20 00:07 Operator: MA,SS
Sample : 500ug/ml MEE 01/29/20 (2) Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 30 7:51 2020 Quant Results File: YMEE0122.RES

Quant Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 16:28:09 2020
Response via : Initial Calibration
DataAcq Meth : GED

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.15	152	154425	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.57	136	634344	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.58	164	403367	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	10.31	188	773403	40.00000 ppb	0.00
6) Chrysene-D12(IS)	13.39	240	688581	40.00000 ppb	0.00
7) Perylene-D12(IS)	15.12	264	728249	40.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.34	45	436925	481.73121 ppb	97

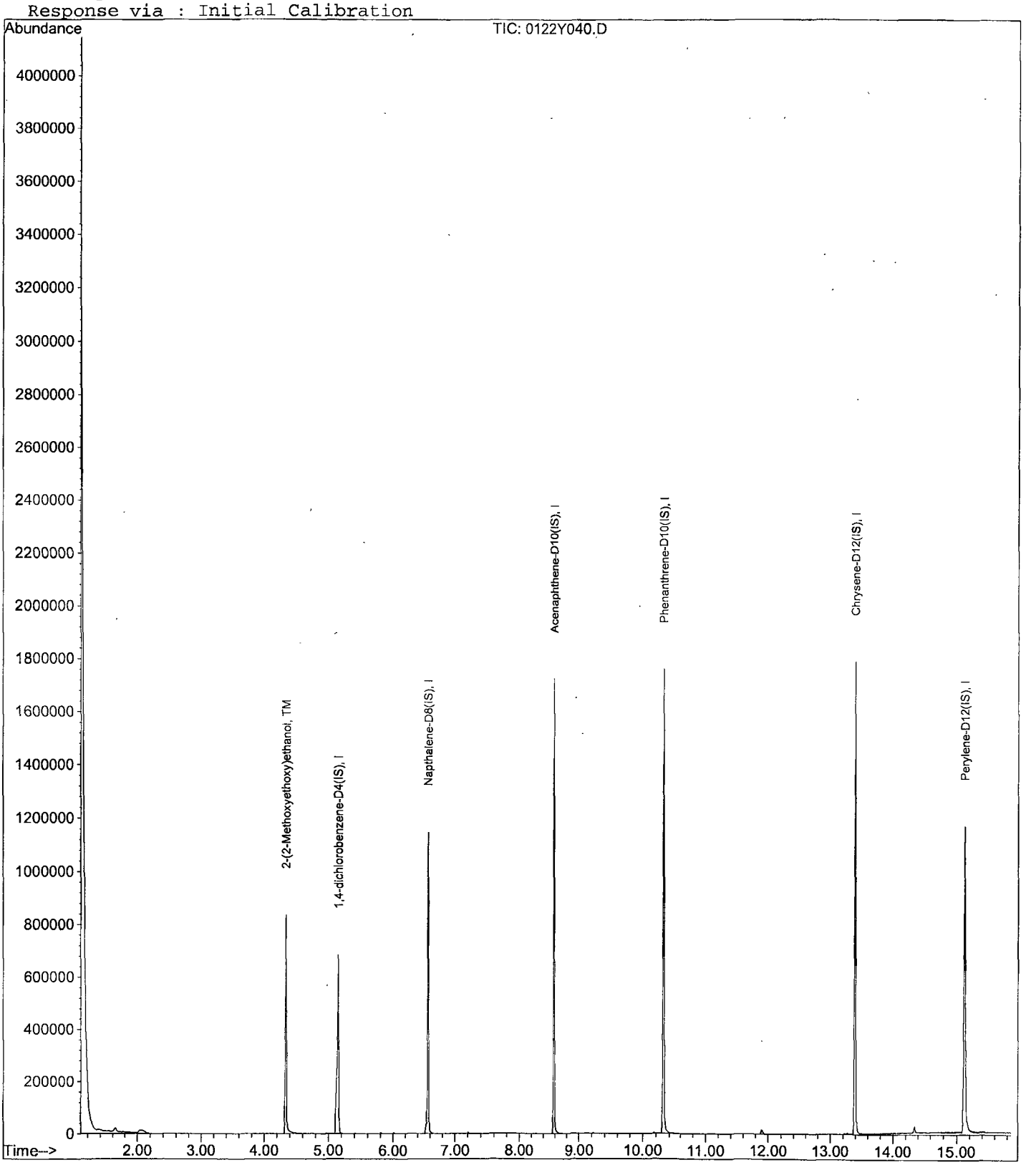
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y200122M\0122Y040.D Vial: 40
Acq On : 30 Jan 20 00:07 Operator: MA,SS
Sample : 500ug/ml MEE 01/29/20 (2) Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 30 7:51 2020 Quant Results File: YMEE0122.RES

Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 16:28:09 2020
Response via : Initial Calibration



ORGANICS
Raw Data

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y200122M\0122Y036.D Vial: 36
Acq On : 29 Jan 20 22:33 Operator: MA,SS
Sample : BA06361W14 2/500 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 30 7:51 2020 Quant Results File: YMEE0122.RES

Quant Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 16:28:09 2020
Response via : Initial Calibration
DataAcq Meth : GED

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.16	152	135897	40.00000	ppb	0.00
3) Napthalene-D8(IS)	6.57	136	566323	40.00000	ppb	0.00
4) Acenaphthene-D10(IS)	8.58	164	403698	40.00000	ppb	0.00
5) Phenanthrene-D10(IS)	10.31	188	792884	40.00000	ppb	0.00
6) Chrysene-D12(IS)	13.39	240	617953	40.00000	ppb	0.00
7) Perylene-D12(IS)	15.12	264	595435	40.00000	ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

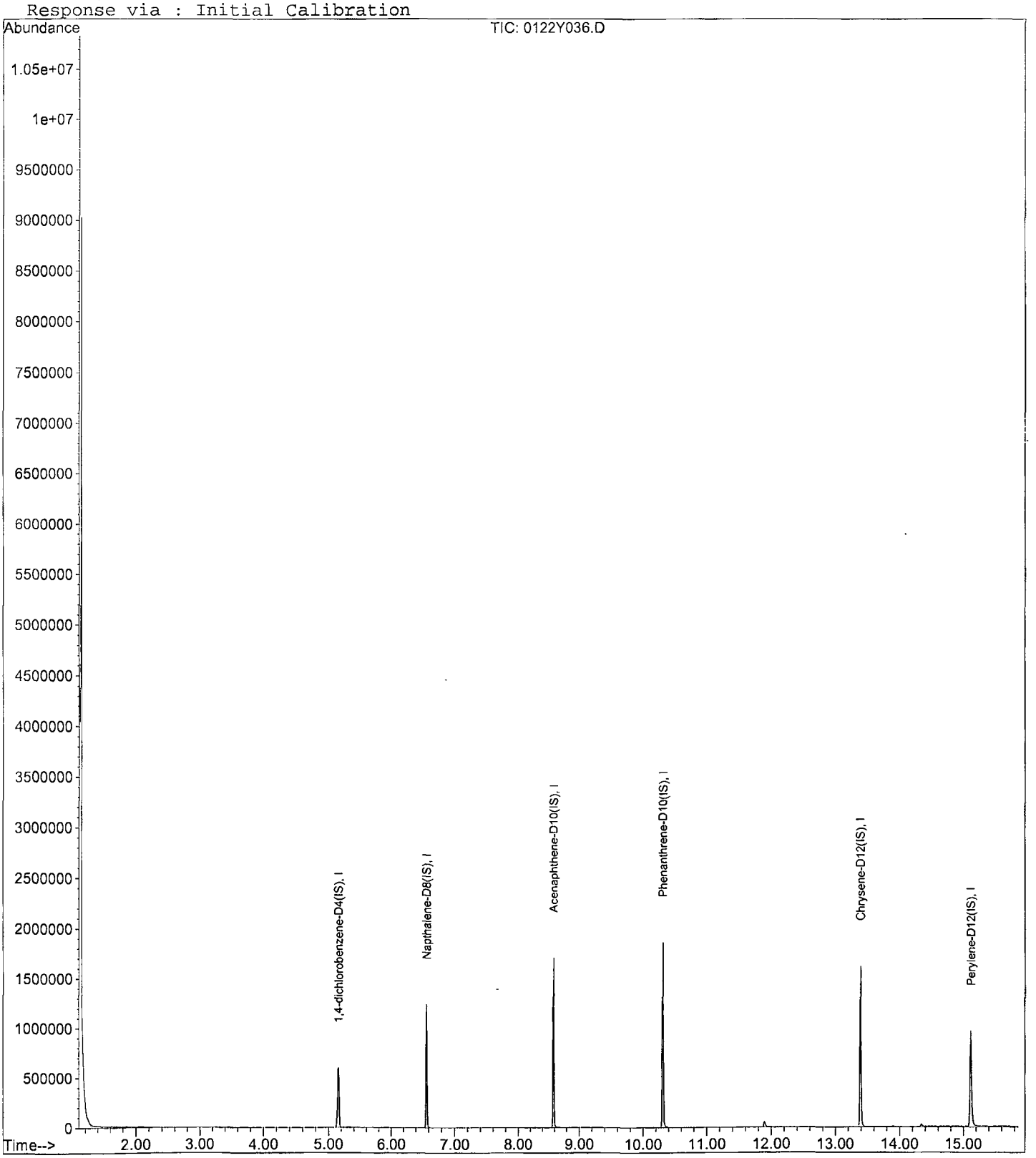
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y200122M\0122Y036.D Vial: 36
Acq On : 29 Jan 20 22:33 Operator: MA,SS
Sample : BA06361W14 2/500 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 30 7:51 2020 Quant Results File: YMEE0122.RES

Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 16:28:09 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y200122M\0122Y037.D Vial: 37
Acq On : 29 Jan 20 22:57 Operator: MA,SS
Sample : BA06362W10 2/500 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 30 7:51 2020 Quant Results File: YMEE0122.RES

Quant Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 16:28:09 2020
Response via : Initial Calibration
DataAcq Meth : GED

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.15	152	123185	40.00000	ppb	0.00
3) Napthalene-D8(IS)	6.57	136	544866	40.00000	ppb	0.00
4) Acenaphthene-D10(IS)	8.58	164	407250	40.00000	ppb	0.00
5) Phenanthrene-D10(IS)	10.31	188	777340	40.00000	ppb	0.00
6) Chrysene-D12(IS)	13.39	240	595468	40.00000	ppb	0.00
7) Perylene-D12(IS)	15.12	264	576181	40.00000	ppb	0.00

System Monitoring Compounds

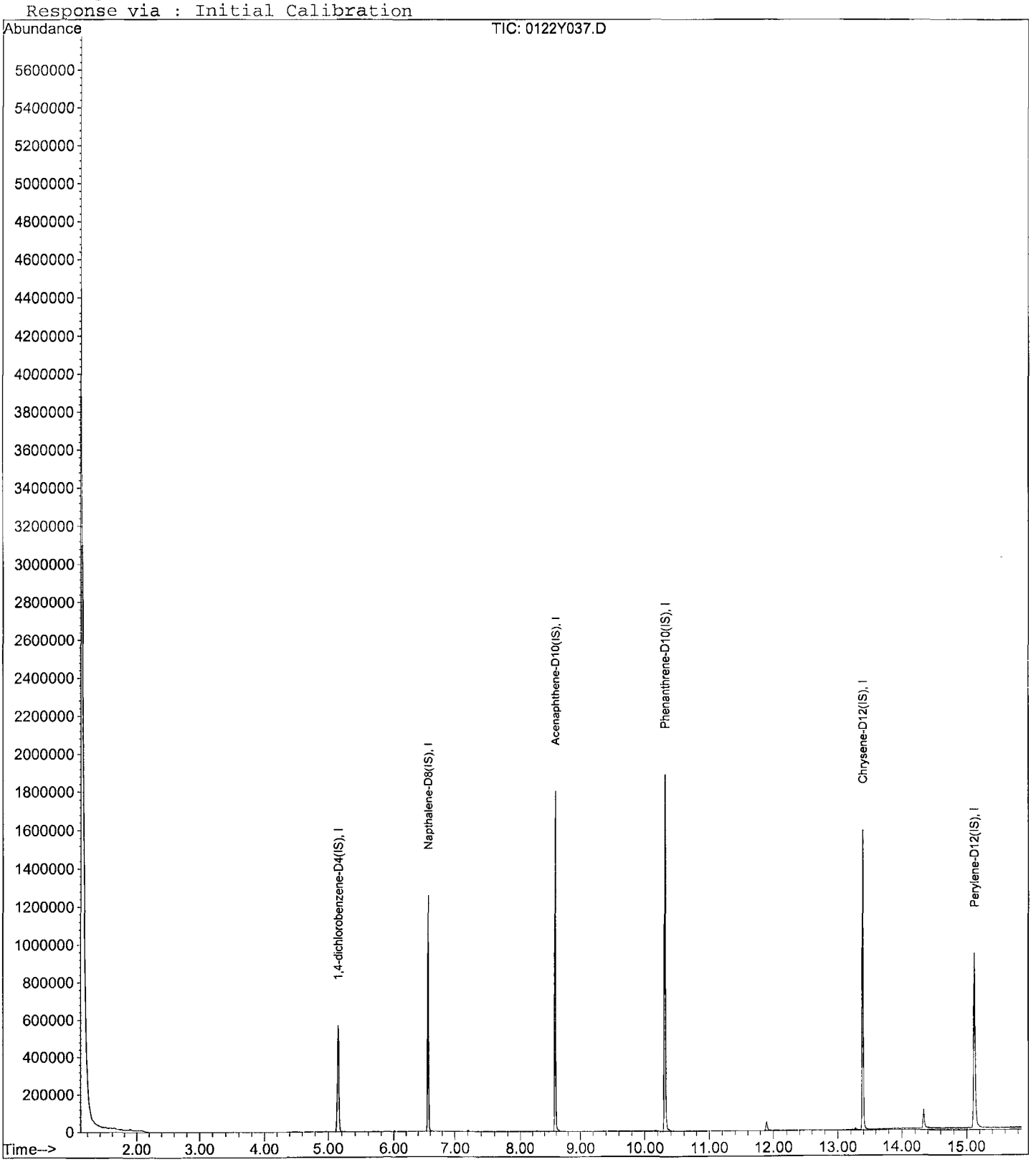
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Data File : M:\YODA\DATA\Y200122M\0122Y037.D Vial: 37
Acq On : 29 Jan 20 22:57 Operator: MA,SS
Sample : BA06362W10 2/500 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 30 7:51 2020 Quant Results File: YMEE0122.RES

Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 16:28:09 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y200122M\0122Y038.D Vial: 38
Acq On : 29 Jan 20 23:20 Operator: MA,SS
Sample : BA06364W12 2/500 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 30 7:51 2020 Quant Results File: YMEE0122.RES

Quant Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 16:28:09 2020
Response via : Initial Calibration
DataAcq Meth : GED

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.15	152	126956	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.57	136	524079	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.58	164	401311	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	10.31	188	777257	40.00000 ppb	0.00
6) Chrysene-D12(IS)	13.39	240	639977	40.00000 ppb	0.00
7) Perylene-D12(IS)	15.12	264	692344	40.00000 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

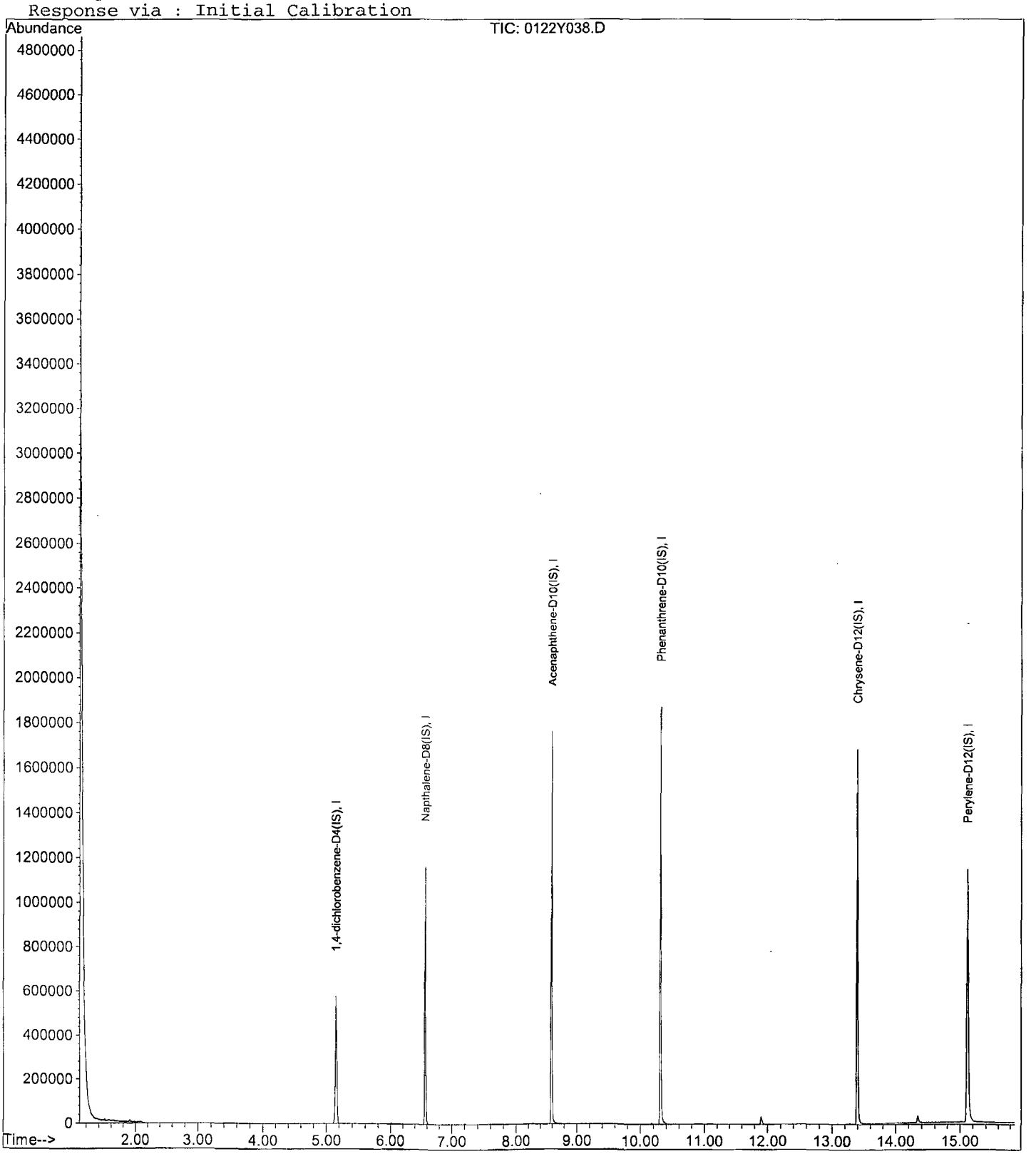
(#) = qualifier out of range (m) = manual integration
0122Y038.D YMEE0122.M Thu Jan 30 08:35:21 2020 Page 1

Quantitation Report

Data File : M:\YODA\DATA\Y200122M\0122Y038.D Vial: 38
Acq On : 29 Jan 20 23:20 Operator: MA,SS
Sample : BA06364W12 2/500 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 30 7:51 2020 Quant Results File: YMEE0122.RES

Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 16:28:09 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y200122M\0122Y021.D Vial: 21
Acq On : 29 Jan 20 16:40 Operator: MA,SS
Sample : 200129A BLK 2/500 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 30 7:51 2020 Quant Results File: YMEE0122.RES

Quant Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 16:28:09 2020
Response via : Initial Calibration
DataAcq Meth : GED

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.16	152	114624	40.00000	ppb	0.00
3) Napthalene-D8(IS)	6.57	136	454770	40.00000	ppb	0.00
4) Acenaphthene-D10(IS)	8.58	164	347237	40.00000	ppb	0.00
5) Phenanthrene-D10(IS)	10.31	188	644334	40.00000	ppb	0.00
6) Chrysene-D12(IS)	13.39	240	513266	40.00000	ppb	0.00
7) Perylene-D12(IS)	15.12	264	770377	40.00000	ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

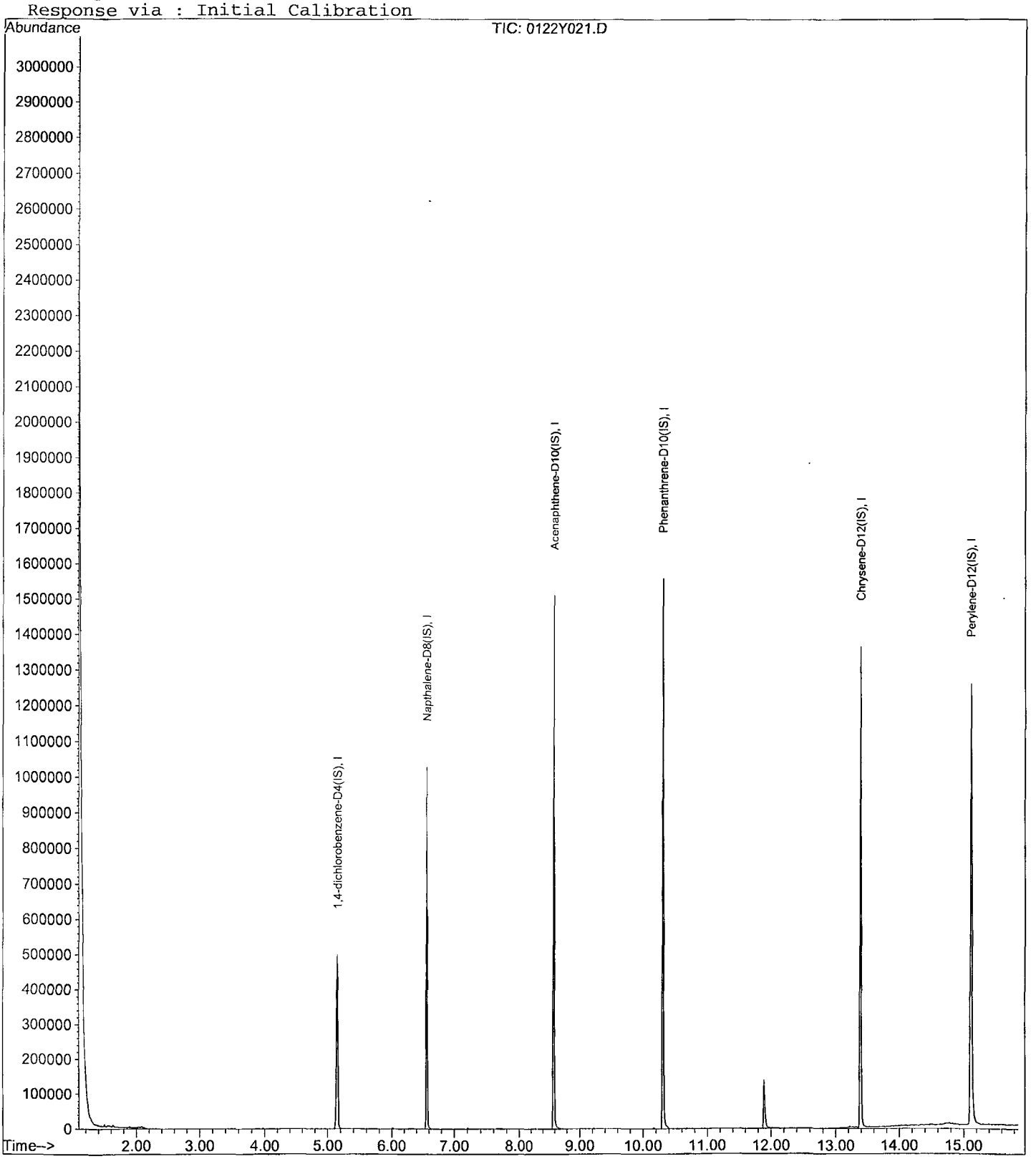
(#) = qualifier out of range (m) = manual integration
0122Y021.D YMEE0122.M Thu Jan 30 08:38:31 2020 Page 1

Quantitation Report

Data File : M:\YODA\DATA\Y200122M\0122Y021.D Vial: 21
Acq On : 29 Jan 20 16:40 Operator: MA,SS
Sample : 200129A BLK 2/500 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 30 7:51 2020 Quant Results File: YMEE0122.RES

Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 16:28:09 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y200122M\0122Y023.D Vial: 23
Acq On : 29 Jan 20 17:27 Operator: MA,SS
Sample : 200129A LCS-1 2/500 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 30 7:51 2020 Quant Results File: YMEE0122.RES

Quant Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 16:28:09 2020
Response via : Initial Calibration
DataAcq Meth : GED

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.16	152	110200	40.00000	ppb	0.00
3) Napthalene-D8(IS)	6.57	136	427395	40.00000	ppb	0.00
4) Acenaphthene-D10(IS)	8.58	164	357807	40.00000	ppb	0.00
5) Phenanthrene-D10(IS)	10.31	188	684274	40.00000	ppb	0.00
6) Chrysene-D12(IS)	13.39	240	504588	40.00000	ppb	0.00
7) Perylene-D12(IS)	15.12	264	478387	40.00000	ppb	0.00

System Monitoring Compounds

Target Compounds						Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.40	45	53590	82.79758	ppb	98

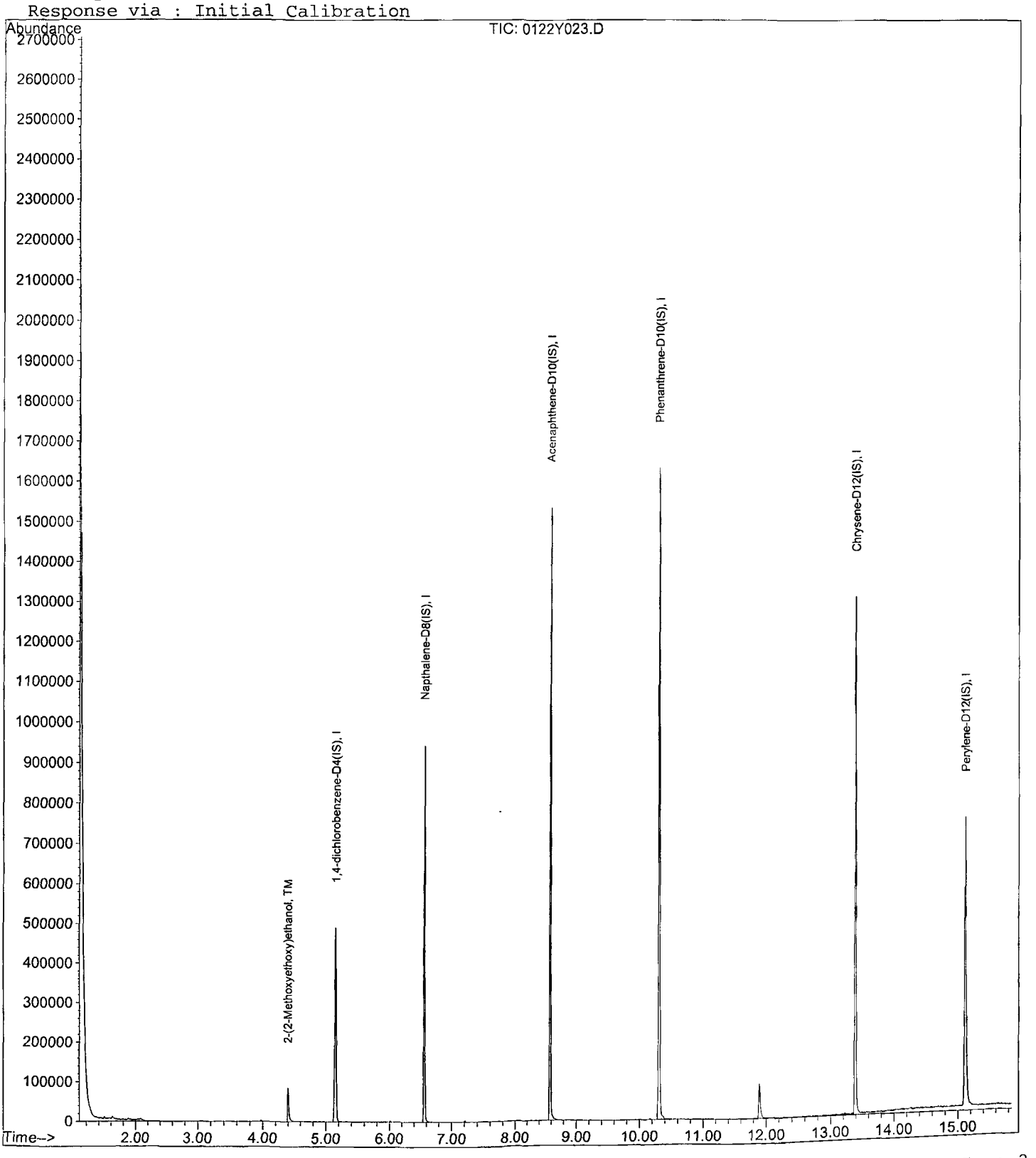
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y200122M\0122Y023.D Vial: 23
Acq On : 29 Jan 20 17:27 Operator: MA,SS
Sample : 200129A LCS-1 2/500 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 30 7:51 2020 Quant Results File: YMEE0122.RES

Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 16:28:09 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y200122M\0122Y024.D Vial: 24
Acq On : 29 Jan 20 17:51 Operator: MA,SS
Sample : 200129A LCSD-1 2/500 Inst : Yoda
Misc : soil Multiplr: 1.00

Quant Time: Jan 30 7:51 2020 Quant Results File: YMEE0122.RES

Quant Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 16:28:09 2020
Response via : Initial Calibration
DataAcq Meth : GED

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	5.16	152	119932	40.00000	ppb	0.00
3) Napthalene-D8(IS)	6.56	136	492663	40.00000	ppb	0.00
4) Acenaphthene-D10(IS)	8.58	164	365113	40.00000	ppb	0.00
5) Phenanthrene-D10(IS)	10.30	188	724639	40.00000	ppb	0.00
6) Chrysene-D12(IS)	13.39	240	588074	40.00000	ppb	0.00
7) Perylene-D12(IS)	15.12	264	586816	40.00000	ppb	0.00

System Monitoring Compounds

Target Compounds						Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.39	45	45920	65.19020	ppb	98

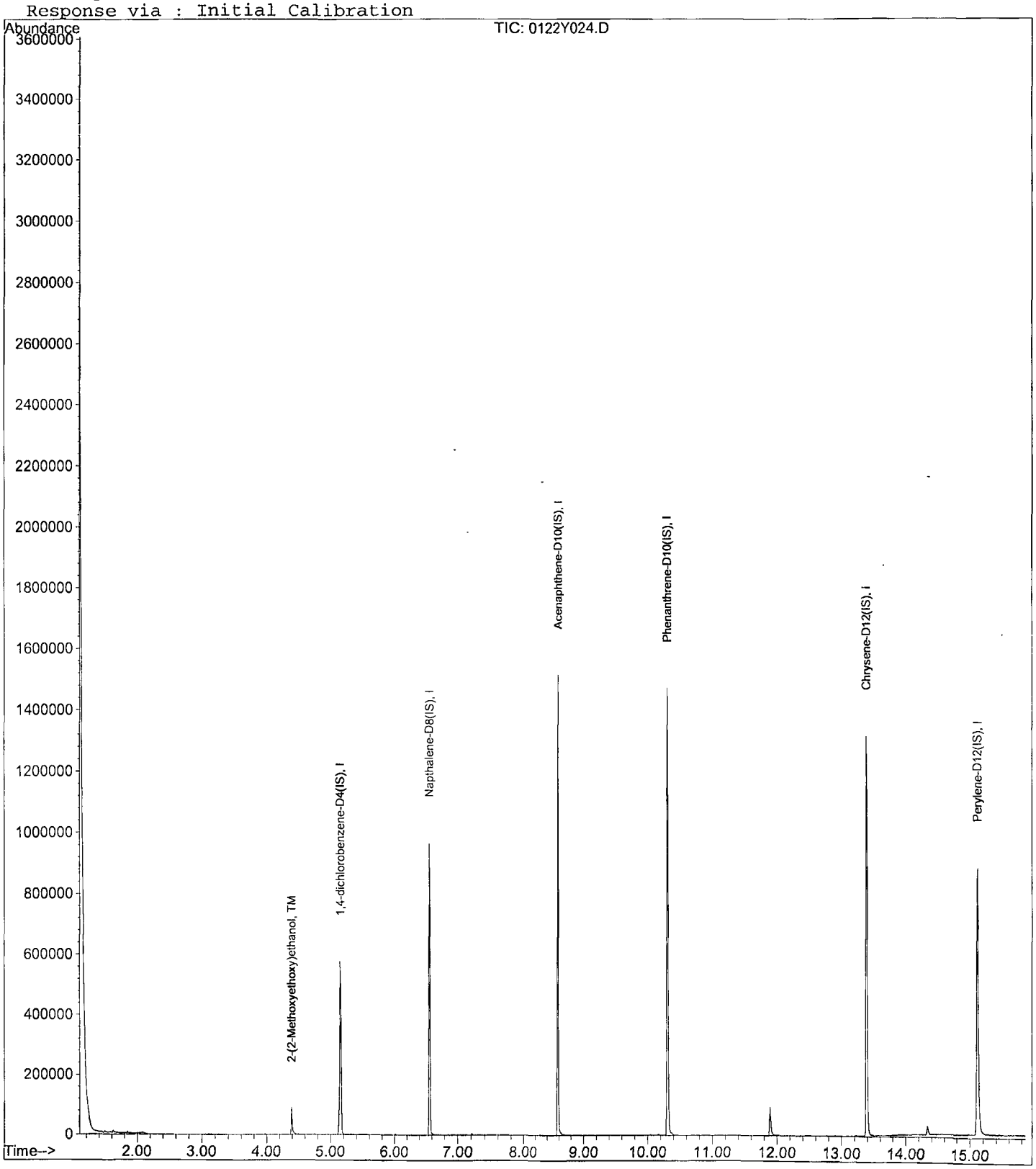
(#) = qualifier out of range (m) = manual integration
0122Y024.D YMEE0122.M Thu Jan 30 08:38:39 2020

Quantitation Report

Data File : M:\YODA\DATA\Y200122M\0122Y024.D Vial: 24
Acq On : 29 Jan 20 17:51 Operator: MA,SS
Sample : 200129A LCSD-1 2/500 Inst : Yoda
Misc : soil Multiplr: 1.00

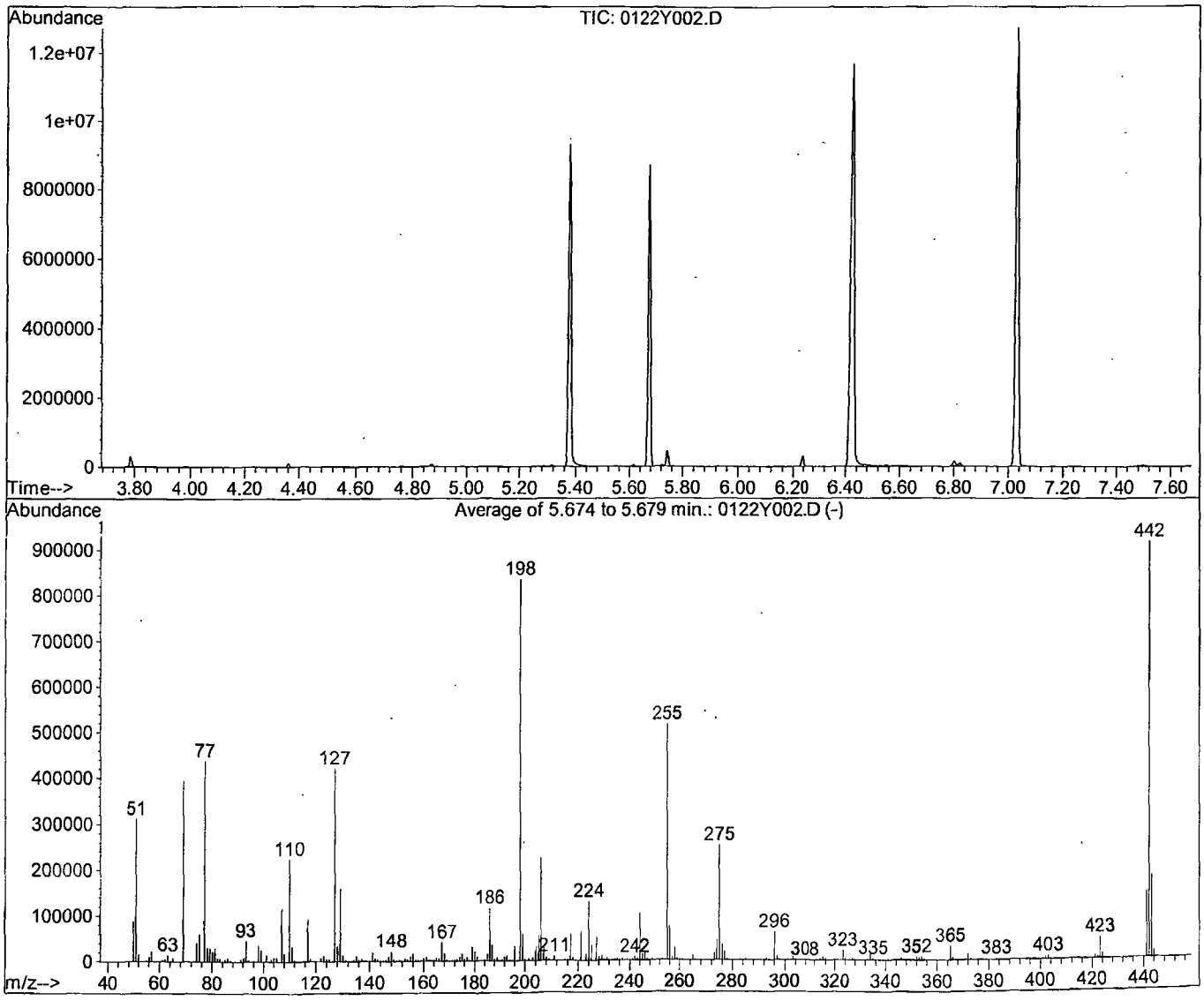
Quant Time: Jan 30 7:51 2020 Quant Results File: YMEE0122.RES

Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 23 16:28:09 2020
Response via : Initial Calibration



Data File : M:\YODA\DATA\Y200122M\0122Y002.D Vial: 2
Acq On : 22 Jan 20 15:31 Operator: MA,SS
Sample : SV Tune 10/11/18 Inst : Yoda
Misc : Multiplr: 1.00

Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C



Spectrum Information: Average of 5.674 to 5.679 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	37.2	310756	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.2	963	PASS
127	198	10	80	50.4	420821	PASS
197	198	0.00	2	0.0	0	PASS
198	198	100	100	100.0	835008	PASS
199	198	5	9	7.1	58973	PASS
275	198	10	60	30.1	251435	PASS
365	198	1	100	3.7	30675	PASS
441	442	0.01	24	15.9	145797	PASS
442	198	50	500	109.9	917909	PASS
443	442	15	24	19.8	181739	PASS

Data File Name:	**0122Y002.D**
Data File Path:	**M:\YODA\DATA\Y200122M**
Operator:	**MA,SS**
Date Acquired:	**22 Jan 2020 15:31**
Method File:	**DFTPP2.M**
Sample Name:	**SV Tune 10/11/18**
Vial Number:	**2**
Instrument Name:	**Yoda**

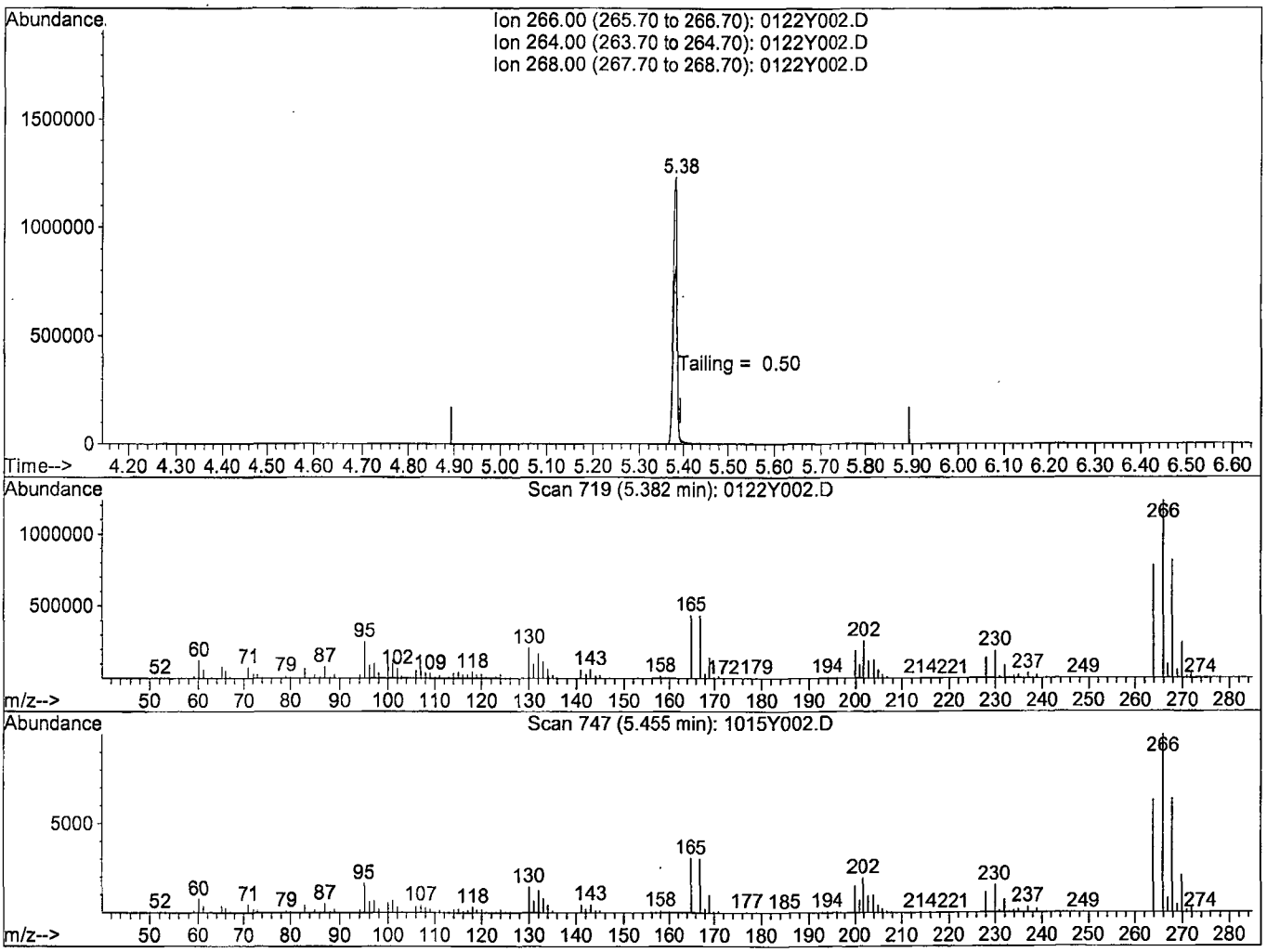
#	Name	Ret Time	Target Response
1)	DDT	7.02	96603900
2)	DDD	6.79	987534
3)	DDE	6.59	119819

Breakdown **1.13**

Quantitation Report

Data File : M:\YODA\DATA\Y200122M\0122Y002.D Vial: 2
Acq On : 22 Jan 20 15:31 Operator: MA,SS
Sample : SV Tune 10/11/18 Inst : Yoda
Misc : Multiplr: 1.00
Quant Time: Jan 23 9:58 2020 Quant Results File: temp.res

Method : M:\YODA\DATA\Y191219\DFTPP2.M (Chemstation Integrator)
Title :
Last Update : Tue Dec 10 08:34:10 2019
Response via : Single Level Calibration



TIC: 0122Y002.D

(5) Pentachlorophenol

5.38min 0.0000

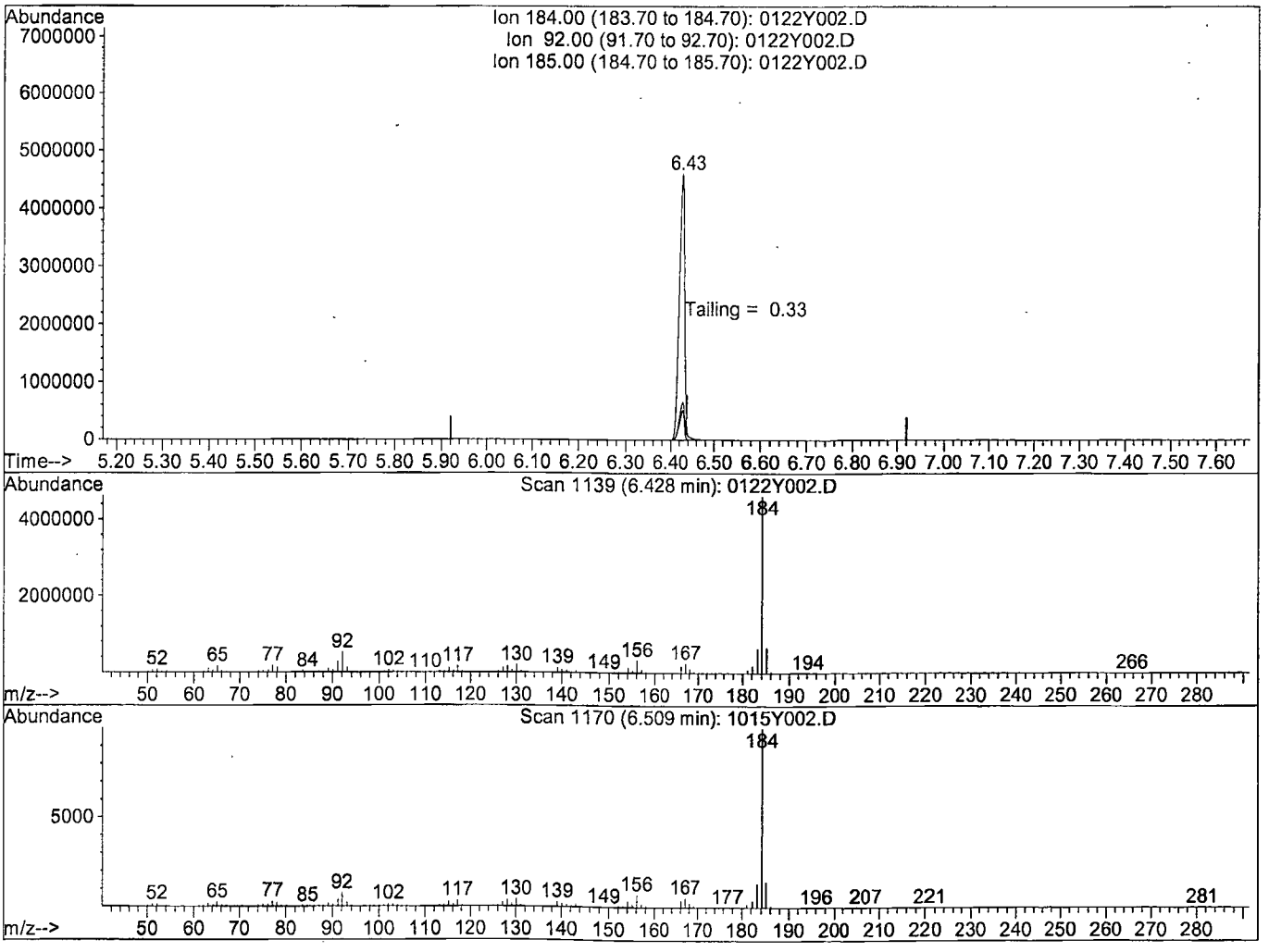
response 7823618

Ion	Exp%	Act%
266.00	100	100
264.00	65.60	63.49
268.00	64.10	65.10
0.00	0.00	0.00

Quantitation Report

Data File : M:\YODA\DATA\Y200122M\0122Y002.D Vial: 2
Acq On : 22 Jan 20 15:31 Operator: MA,SS
Sample : SV Tune 10/11/18 Inst : Yoda
Misc : Multiplr: 1.00
Quant Time: Jan 23 9:58 2020 Quant Results File: temp.res

Method : M:\YODA\DATA\Y191219\DFTPP2.M (Chemstation Integrator)
Title :
Last Update : Tue Dec 10 08:34:10 2019
Response via : Single Level Calibration



TIC: 0122Y002.D

(6) Benzidine

6.43min 0.0000

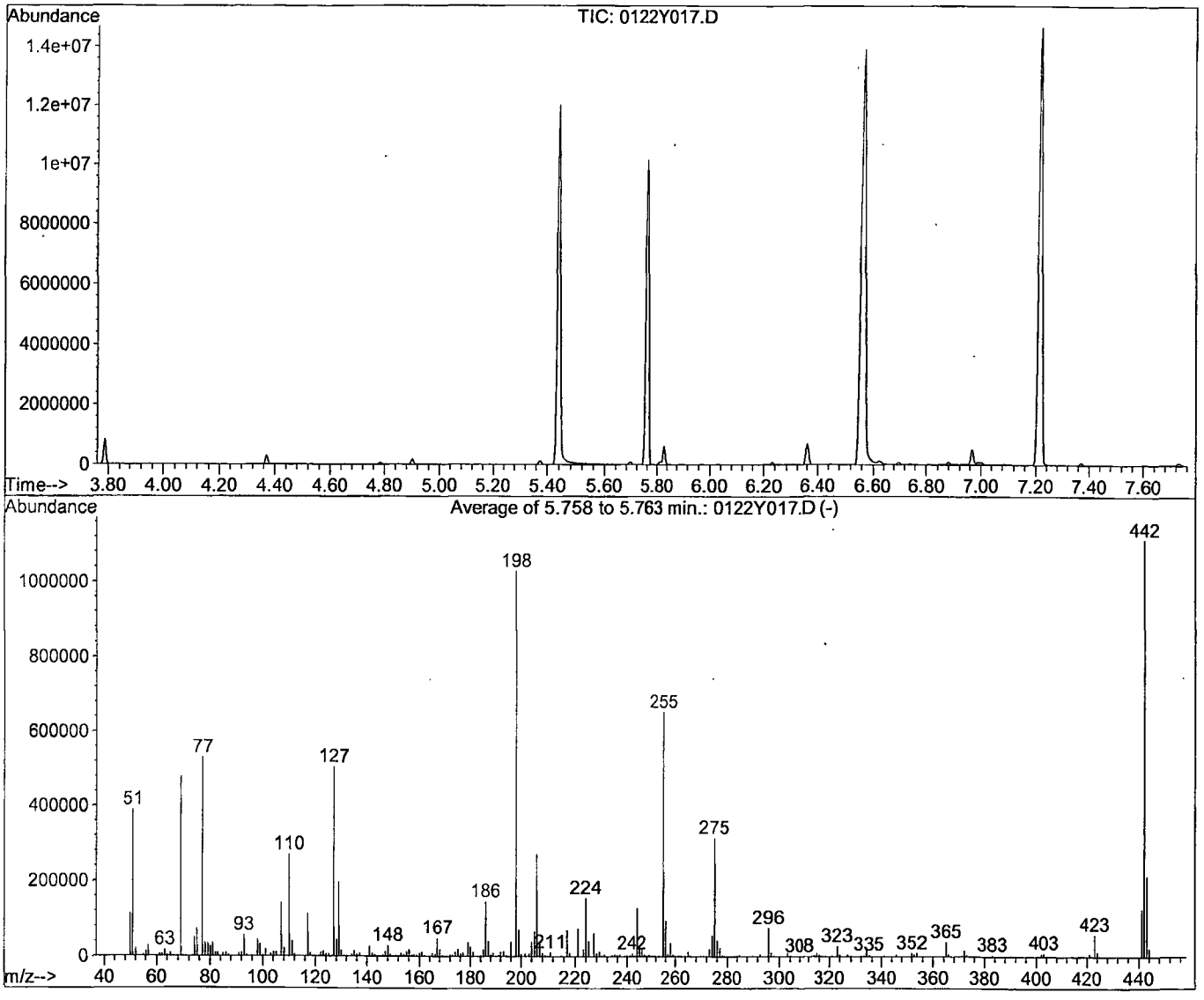
response 41313552

Ion	Exp%	Act%
184.00	100	100
92.00	10.30	10.42
185.00	14.50	14.34
0.00	0.00	0.00

Data File : M:\YODA\DATA\Y200122M\0122Y017.D
Acq On : 29 Jan 20 14:46
Sample : SV TUNE 10/01/19
Misc : soil

Vial: 17
Operator: MA,SS
Inst : Yoda
Multiplr: 1.00

Method : M:\YODA\DATA\Y200122M\YMEE0122.M (RTE Integrator)
Title : EPA 8270C



Spectrum Information: Average of 5.758 to 5.763 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	37.9	390059	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.0	0	PASS
127	198	10	80	49.1	504917	PASS
197	198	0.00	2	0.0	0	PASS
198	198	100	100	100.0	1028117	PASS
199	198	5	9	6.8	70373	PASS
275	198	10	60	30.6	314453	PASS
365	198	1	100	3.8	38696	PASS
441	442	0.01	24	11.4	126528	PASS
442	198	50	500	108.4	1114155	PASS
443	442	15	24	19.2	214037	PASS

Data File Name:	**0122Y017.D**
Data File Path:	**M:\YODA\DATA\Y200122M**
Operator:	**MA,SS**
Date Acquired:	**29 Jan 2020 14:46**
Method File:	**DFTPP2.M**
Sample Name:	**SV TUNE 10/01/19**
Vial Number:	**17**
Instrument Name:	**Yoda**

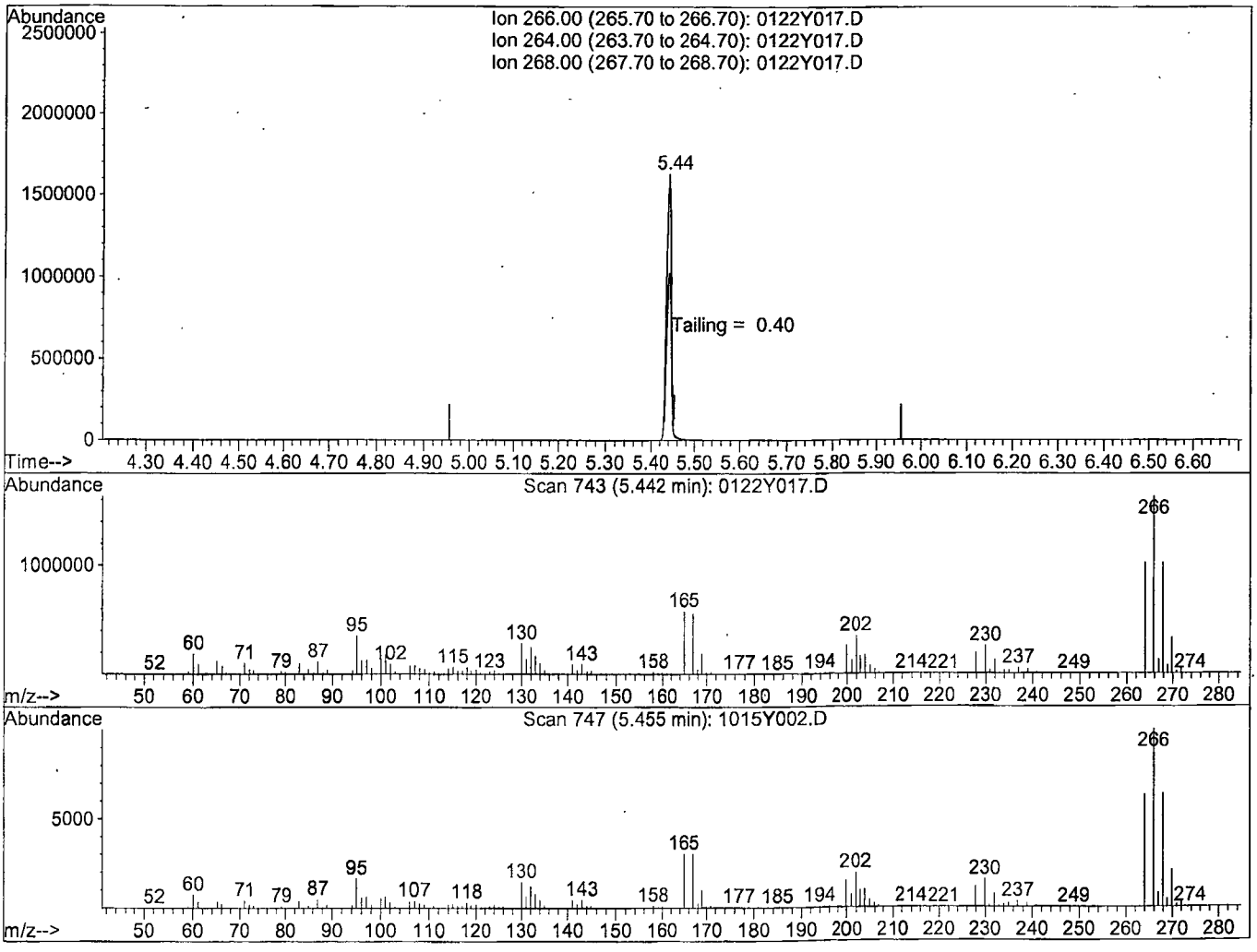
#	Name	Ret Time	Target Response
1)	DDT	7.28	135494000
2)	DDD	7.02	652428
3)	DDE	6.79	0

Breakdown **0.48**

Quantitation Report

Data File : M:\YODA\DATA\Y200122M\0122Y017.D Vial: 17
Acq On : 29 Jan 20 14:46 Operator: MA,SS
Sample : SV TUNE 10/01/19 Inst : Yoda
Misc : soil Multiplr: 1.00
Quant Time: Jan 30 10:28 2020 Quant Results File: temp.res

Method : M:\YODA\DATA\Y191219\DFTPP2.M (Chemstation Integrator)
Title :
Last Update : Mon Jan 27 08:38:00 2020
Response via : Single Level Calibration



TIC: 0122Y017.D

(5) Pentachlorophenol

5.44min 0.0000

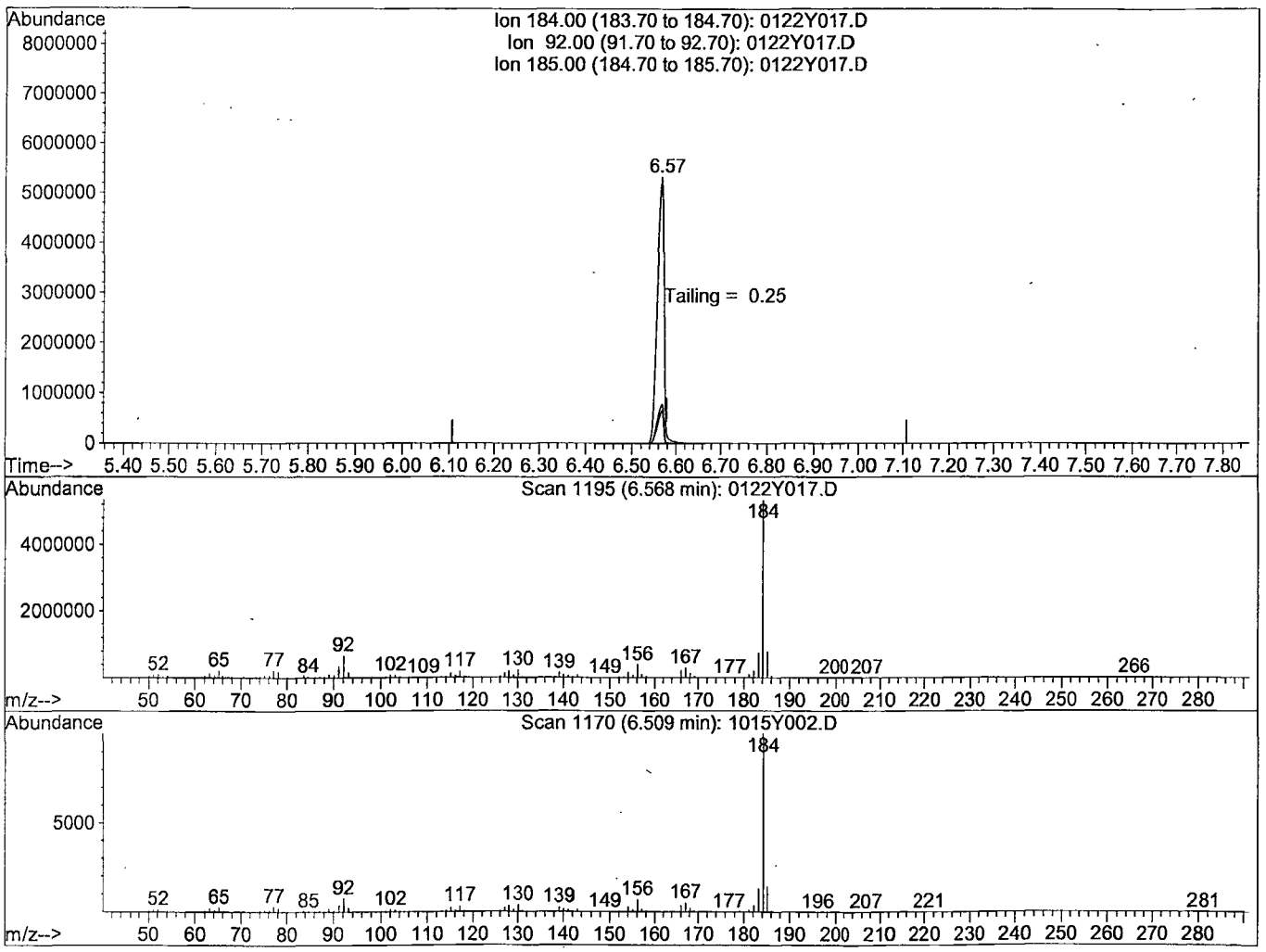
response 12220310

Ion	Exp%	Act%
266.00	100	100
264.00	63.10	63.62
268.00	63.80	63.58
0.00	0.00	0.00

Quantitation Report

Data File : M:\YODA\DATA\Y200122M\0122Y017.D Vial: 17
Acq On : 29 Jan 20 14:46 Operator: MA,SS
Sample : SV TUNE 10/01/19 Inst : Yoda
Misc : soil Multiplr: 1.00
Quant Time: Jan 30 10:28 2020 Quant Results File: temp.res

Method : M:\YODA\DATA\Y191219\DFTPP2.M (Chemstation Integrator)
Title :
Last Update : Mon Jan 27 08:38:00 2020
Response via : Single Level Calibration



TIC: 0122Y017.D

(6) Benzidine

6.57min 0.0000

response 56275709

Ion	Exp%	Act%
184.00	100	100
92.00	7.50	11.03#
185.00	14.30	14.33
0.00	0.00	0.00

Name of Final Standard: MEE Curve
Prep Date: 01/22/20
Exp Date: 11/05/20
Prep'd By (Initials): JP

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from container Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
MEE M STD Stock	APPL		2000 ug/mL	11/05/19	11/05/20	5 uL	200uL	Methanol 195uL Lot# 235140	50 ug/mL
SV Internal Standard	APPL	8270 Internal Standard	2000 ug/mL	11/20/19	11/20/20	4 uL	"	"	"
MEE M STD Stock	APPL		2000 ug/mL	11/05/19	11/05/20	5 uL	100uL	Methanol 95uL Lot# 235140	100 ug/mL
SV Internal Standard	APPL	8271 Internal Standard	2000 ug/mL	11/20/19	11/20/20	2 uL	"	"	"
MEE M STD Stock	APPL		2000 ug/mL	11/05/19	11/05/20	10 uL	100uL	Methanol 90uL Lot# 235140	200 ug/mL
SV Internal Standard	APPL	8272 Internal Standard	2000 ug/mL	11/20/19	11/20/20	2 uL	"	"	"
MEE M STD Stock	APPL		2000 ug/mL	11/05/19	11/05/20	20 uL	100uL	Methanol 80 uL Lot# 235140	400 ug/mL
SV Internal Standard	APPL	8273 Internal Standard	2000 ug/mL	11/20/19	11/20/20	2 uL	"	"	"
MEE M STD Stock	APPL		2000 ug/mL	11/05/19	11/05/20	50 uL	200 uL	Methanol 150 uL Lot# 235140	500 ug/mL
SV Internal Standard	APPL	8274 Internal Standard	2000 ug/mL	11/20/19	11/20/20	4 uL	"	"	"
MEE M STD Stock	APPL		2000 ug/mL	11/05/19	11/05/20	30 uL	100uL	Methanol 70 uL Lot# 235140	600 ug/mL
SV Internal Standard	APPL	8275 Internal Standard	2000 ug/mL	11/20/19	11/20/20	2 uL	"	"	"
MEE M STD Stock	APPL		2000 ug/mL	11/05/19	11/05/20	40 uL	100uL	Methanol 60 uL Lot# 235140	800 ug/mL
SV Internal Standard	APPL	8276 Internal Standard	2000 ug/mL	11/20/19	11/20/20	2 uL	"	"	"
MEE M STD Stock	APPL		2000 ug/mL	11/05/19	11/05/20	50 uL	100uL	Methanol 50uL Lot# 235140	1000 ug/mL
SV Internal Standard	APPL	8277 Internal Standard	2000 ug/mL	11/20/19	11/20/20	2 uL	"	"	"

Name of Final Standard: MEE Second Source
Prep Date: 01/22/20
Exp Date: 10/28/20
Prep'd By (Initials): JP

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from container Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
MEE SS	APPL		2000 ug/mL	10/28/19	10/28/20	50 uL	200uL	Methanol 150uL Lot# 235140	500 ug/mL
SV Internal Standard	APPL	8277 Internal Standard	2000 ug/mL	11/20/19	11/20/20	4 uL	"	"	"

_MWE2MEE

Organic Extraction Worksheet

Method	Solid Phase Extraction of 2MEE in Water	Extraction Set	191106A	Extraction Method	MWE2MEE	Units	mL

Spiked ID 1	Diethylene Glycol 1-31-19 EXP 1-31-20		Surrogate ID 1		
Spiked ID 2	2MEE SS 10320ug/mL 10/28/19 exp 10/28/20		Surrogate ID 2		
Spiked ID 3	Diethylene Glycol 11-5-19 exp 11-5-20		Surrogate ID 3		
Spiked ID 4			Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	no	
Spiked ID 7			Ext. Start Time:	11/06/19 6:25	
Spiked ID 8			Ext. End Time:	11/06/19 13:30	
			GC Requires Extract By:		

M STD AND SS PREPARATION MA 1/21/20

pH1			Water Bath Temp 1 °C		
pH2			Water Bath Temp 2 °C		
pH3			Water Bath Temp 3 °C		

Spiked By: DL **Date** 11/06/19 **Witnessed By:** CFM **Date** 11/06/19

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	191106A Blk				NA	NA equip	500	2	7Y	11/06/19 6:25	
2	191106A LCS-1		0.040	1	NA	NA equip	500	2	7Y	11/06/19 6:25	
3	191106A LCSD-1		0.040	1	NA	NA equip	500	2	7Y	11/06/19 6:25	
4	BA02214	BA02214W18			NA	NA equip	500	2	7Y	11/06/19 6:25	90611
5	BA02216	BA02216W10			NA	NA equip	500	2	7Y	11/06/19 6:25	90611
6	BA02301	BA02301W22			NA	NA equip	500	2	7Y	11/06/19 6:25	90625
7	M STD		1	3	na	na equip	500	2	7Y	11/06/19 6:25	
8	SS		0.097	2	NA	NA equip	500	2	7Y	11/06/19 6:25	

Solvent and Lot#	
ENVI-Carb Plus 400MG/1ML	11694501
Reverible Tube Lot:	11694501
PH Strip	HC863463
Di Water	11/6/19
Dichloromethane	59130
Methanol	59129

Extraction COC Transfer	
Extraction lab employee Initials	SS
GC analyst's initials	MA
Date	
Time	
Refrigerator	Hobart

	Technician's Initials
Scanned By	DL
Sample Preparation	DL
Extraction	DL
Concentration	DL

Modified	11/06/19 6:07:34 AM

Reviewed By: **Date**

Name of Final Standard Diethylene Glycol **Prep'd By (Initials)** MA

Prep Date 11/05/19

Exp Date 11/05/20

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from contianer Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
Diethylene glycol methyl ether	AccuStandard	S-72273	2000 ug/mL	**218101558-39890**	**12/01/20**	1.0 mL	2 mL	**Methanol #208858**	1000 ug/mL

Given to Extraction to do **MEE M STD Stock** (used for ICAL) Final concentration 2000ug/L

Name of Final Standard 2MEE Second Source Stock **Prep'd By (Initials)** JP

Prep Date 10/28/19
Exp Date 10/28/20

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from contianer Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
Methoxyethanol-Neat	Chem Service	N-12404-1G	Neat 99.5%	**7079100 - 39417**	**07/31/22**	0.1022g	10 mL	**MC #56258**	10220 ug/mL

Given to Extraction to do **MEE SS** (used for ICAL SS)
0.097ml were spiked in 500ml of water and extracted on 04/29/19 . Final concentration is 2000ug/L

Name of Final Standard	**MEE Curve**	**Prep'd By (Initials)**	**JP**
Prep Date	**01/29/20**		
Exp Date	**11/05/20**		

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from container Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
MEE M STD Stock	APPL		2000 ug/mL	**11/05/19**	**11/05/20**	50 uL	200 uL	**Methanol 150 uL**	500 ug/mL
SV Internal Standard	APPL	Internal Standard	2000 ug/mL	**11/20/19**	**11/20/20**	4 uL	*	*	*

Organic Extraction Worksheet

Method	Solid Phase Extraction of 2MEE in Water	Extraction Set	200129A	Extraction Method	MWE2MEE	Units	mL

Spiked ID 1	Diethylene Glycol 1-31-19 EXP 1-31-20		Surrogate ID 1		
Spiked ID 2			Surrogate ID 2		
Spiked ID 3			Surrogate ID 3		
Spiked ID 4			Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	NO	
Spiked ID 7			Ext. Start Time:	01/29/20 7:00	
Spiked ID 8			Ext. End Time:	01/29/20 13:30	
			GC Requires Extract By:		

pH1			Water Bath Temp 1 °C	
pH2			Water Bath Temp 2 °C	
pH3			Water Bath Temp 3 °C	

Spiked By: DL **Date** 01/29/20 **Witnessed By:** KY **Date** 01/29/20

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	200129A Blk				NA	NA equip	500	2	7	01/29/20 7:00	
2	200129A LCS-1		0.040	1	NA	NA equip	500	2	7	01/29/20 7:00	
3	200129A LCSD-1		0.040	1	NA	NA equip	500	2	7	01/29/20 7:00	
4	BA06361	BA06361W14			NA	NA equip	500	2	7	01/29/20 7:00	91299
5	BA06362	BA06362W10			NA	NA equip	500	2	7	01/29/20 7:00	91299
6	BA06364	BA06364W12			NA	NA equip	500	2	7	01/29/20 7:00	91299
7	BA06427	BA06427W14			NA	NA equip	500	2	7	01/29/20 7:00	91319

Solvent and Lot#	
ENVI-Carb Plus 400MG/1ML	
Reverible Tube Lot:	11694501
PH Strip	HC 863463
Di Water	1-29-20
Dichloromethane	59239
Methanol	59129

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	JP
Date	1/29/20
Time	1445
Refrigerator	Hobart

	Technician's Initials
Scanned By	DL
Sample Preparation	DL
Extraction	DL
Concentration	DL

Modified	01/29/20 9:07:03 AM

Reviewed By: **Date**

Injection Log

Directory: M:\YODA\DATA\Y200122M\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	2	0122Y002.D	1	SV Tune 10/11/18		22 Jan 20 15:31
2	3	0122Y003.D	1	50ug/ml MEE 01/22/20	soil	22 Jan 20 15:46
3	4	0122Y004.D	1	100ug/ml MEE 01/22/20	soil	22 Jan 20 16:10
4	5	0122Y005.D	1	200ug/ml MEE 01/22/20	soil	22 Jan 20 16:33
5	6	0122Y006.D	1	400ug/ml MEE 01/22/20	soil	22 Jan 20 16:57
6	7	0122Y007.D	1	500ug/ml MEE 01/22/20	soil	22 Jan 20 17:21
7	8	0122Y008.D	1	600ug/ml MEE 01/22/20	soil	22 Jan 20 17:45
8	9	0122Y009.D	1	800ug/ml MEE 01/22/20	soil	22 Jan 20 18:08
9	10	0122Y010.D	1	1000ug/ml MEE 01/22/20	soil	22 Jan 20 18:32
10	11	0122Y011.D	1	SS MEE 01/22/20	soil	22 Jan 20 18:55
11	17	0122Y017.D	1	SV TUNE 10/01/19	soil	29 Jan 20 14:46
12	18	0122Y018.D	1	500ug/ml MEE 01/29/20 (1)	soil	29 Jan 20 15:01
13	21	0122Y021.D	1	200129A BLK 2/500	soil	29 Jan 20 16:40
14	23	0122Y023.D	1	200129A LCS-1 2/500	soil	29 Jan 20 17:27
15	24	0122Y024.D	1	200129A LCSD-1 2/500	soil	29 Jan 20 17:51
16	36	0122Y036.D	1	BA06361W14 2/500	soil	29 Jan 20 22:33
17	37	0122Y037.D	1	BA06362W10 2/500	soil	29 Jan 20 22:57
18	38	0122Y038.D	1	BA06364W12 2/500	soil	29 Jan 20 23:20
19	40	0122Y040.D	1	500ug/ml MEE 01/29/20 (2)	soil	30 Jan 20 00:07

ORGANICS
Calibration Data

VOLATILE ORGANIC ANALYSIS
VOLATILE ORGANIC COMPOUNDS

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Initial Cal. Date: 01/21/20
Matrix: Instrument: Thor Initials: DP

		Compound	1	2	3	4	5	6	7	8	9		Avg	%RSD	Type	r^2	Q	MRF
			0121T02.D	0121T03.D	0121T04.D	0121T05.D	0121T06.D	0121T07.D	0121T08.D	0121T09.D	0121T10.D							
1	I	Fluorobenzene (IS)																
2	TM	Chlorotrifluoroethene		0.0353	0.0341	0.0368	0.0372	0.0355	0.0354	0.0343	0.0344		0.04	3.2	TM			
3	TM	Dichlorodifluoromethane		0.0776	0.0750	0.0837	0.0752	0.0700	0.0735	0.0695	0.0686		0.07	6.8	TM			
4	TM	Freon 114		0.0921	0.0850	0.0763	0.0749	0.0763	0.0745	0.0702	0.0725		0.08	9.3	TM			
5	TM**L	Chloromethane		0.1799	0.1345	0.1224	0.1059	0.1009	0.1025	0.0958	0.0893		0.12	25	TM**L	0.999		
6	TM*	Vinyl chloride		0.0969	0.0969	0.0930	0.0893	0.0820	0.0861	0.0795	0.0796		0.09	8.3	TM*			
7	TM	2-Chloro-1,1,1-trifluoroethane		0.1141	0.1070	0.1116	0.1132	0.1055	0.1084	0.1077	0.1088		0.11	2.8	TM			
8	TML	Bromomethane		0.1223	0.1131	0.1100	0.0916	0.0786	0.0701				0.10	21	TML	0.995		
9	TML	Chloroethane		0.0800	0.0978	0.0574	0.0597	0.0569	0.0583				0.07	25	TML	0.999		
10	TM	Dichlorofluoromethane		0.1779	0.1709	0.1788	0.1742	0.1657	0.1653	0.1597	0.1619		0.17	4.3	TM			
11	TM	Trichlorofluoromethane		0.1296	0.1305	0.1284	0.1217	0.1203	0.1262	0.1197	0.1220		0.12	3.5	TM			
12	TM	Diethyl ether													TM			
13	TM	1,2 Dichlorotrifluoroethane													TM			
14	TM	Acrolein		0.0102	0.0107	0.0112	0.0108	0.0104	0.0103	0.0101	0.0089		0.01	6.7	TM			
15	TML	Acetone			0.0338	0.0334	0.0213	0.0190	0.0165	0.0155	0.0139		0.02	38	TML	0.999		
16	TM	Freon-113		0.0755	0.0690	0.0726	0.0681	0.0673	0.0664	0.0627	0.0667		0.07	5.7	TM			
17	TM*	1,1-DCE		0.1197	0.1086	0.1195	0.1166	0.1048	0.1094	0.1039	0.1080		0.11	5.7	TM*			
18	TM	2-Propanol		0.0054	0.0059	0.0054	0.0043	0.0055	0.0058	0.0061	0.0064		0.01	11	TM			
19	TM	Acetonitrile		0.0031	0.0029	0.0034	0.0030	0.0033	0.0030	0.0032	0.0022		0.00	12	TM			
20	TM	t-Butanol	0.0025	0.0035	0.0040	0.0040	0.0042	0.0039	0.0039	0.0039	0.0038		0.00	13	TM			
21	TM	Methyl Acetate		0.0893	0.0899	0.0862	0.0781	0.0705	0.0701	0.0714	0.0764		0.08	11	TM			
22	TMQ	Iodomethane		0.0253	0.0226	0.0173	0.0190	0.0270	0.0503	0.0756	0.0913		0.04	69	TMQ	0.998		
23	TM	Acrylonitrile		0.0263	0.0293	0.0304	0.0323	0.0298	0.0308	0.0312	0.0313		0.03	6.1	TM			
24	TM	Methylene chloride		0.1404	0.1279	0.1260	0.1234	0.1174	0.1183	0.1158	0.1150		0.12	6.9	TM			
25	TM	Carbon disulfide		0.2367	0.2265	0.2189	0.2171	0.2033	0.2132	0.2050	0.2144		0.22	5.0	TM			
26	TM	Methyl t-butyl ether (MtBE)		0.2649	0.2704	0.2849	0.2756	0.2678	0.2717	0.2692	0.2782		0.27	2.4	TM			
27	TM	Trans-1,2-DCE		0.1388	0.1122	0.1203	0.1138	0.1123	0.1137	0.1096	0.1128		0.12	8.1	TM			
28	TM	Hexane													TM			
29	TM	Diisopropyl Ether		0.2572	0.2697	0.2579	0.2771	0.2613	0.2727	0.2690	0.2748		0.27	2.9	TM			
30	TM**	2,2-Dichloro-1,1,1-trifluoroethane													TM**			
31	TM**	1,1-DCA		0.1815	0.1538	0.1588	0.1653	0.1522	0.1552	0.1502	0.1535		0.16	6.5	TM**			
32	TM	Vinyl Acetate		0.0479	0.0525	0.0535	0.0531	0.0535	0.0581	0.0571	0.0548		0.05	5.8	TM			
33	TM	Ethyl tert Butyl Ether		0.2578	0.2689	0.2693	0.2790	0.2652	0.2810	0.2795	0.2899		0.27	3.8	TM			
34	TML	MEK (2-Butanone)		0.0873	0.0584	0.0564	0.0460	0.0403	0.0437	0.0428	0.0445		0.05	30	TML	1.000		
35	TM	Cis-1,2-DCE		0.1648	0.1388	0.1525	0.1500	0.1430	0.1496	0.1450	0.1466		0.15	5.2	TM			

VOLATILE ORGANIC ANALYSIS
VOLATILE ORGANIC COMPOUNDS

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Initial Cal. Date: 01/21/20
Matrix: Instrument: Thor Initials: DP

		Compound	1	2	3	4	5	6	7	8	9		Avg	%RSD	Type		Q	MRF
36	TM	2,2-Dichloropropane		0.1404	0.1311	0.1347	0.1340	0.1264	0.1298	0.1271	0.1306		0.13	3.5	TM			
37	TM	2-Methylpentane													TM			
38	TM	3-Methylpentane													TM			
39	TM*	Chloroform		0.1974	0.1945	0.1826	0.1908	0.1788	0.1837	0.1808	0.1834		0.19	3.6	TM*			
40	TM	Bromochloromethane		0.0842	0.0839	0.0893	0.0794	0.0785	0.0818	0.0790	0.0781		0.08	4.7	TM			
41	SL	Dibromofluoromethane(S)	0.5252	0.5004	0.3888	0.3868	0.3352	0.3273	0.3026	0.2933	0.2836		0.37	24	SL	1.000		
42	TM	1,1,1-TCA		0.1420	0.1572	0.1476	0.1499	0.1437	0.1498	0.1420	0.1496		0.15	3.5	TM			
43	TM	Cyclohexane		0.1111	0.0992	0.0982	0.0939	0.0943	0.1023	0.1013	0.1096		0.10	6.3	TM			
44	TM	1,1-Dichloropropene		0.1048	0.1103	0.1021	0.1085	0.1045	0.1098	0.1079	0.1133		0.11	3.4	TM			
45	TM	2,2,4-Trimethylpentane		0.2278	0.1932	0.1952	0.1748	0.1804	0.1930	0.1907	0.2090		0.20	8.5	TM			
46	SL	1,2-DCA-D4(S)	0.5752	0.5304	0.4255	0.4208	0.3577	0.3513	0.3221	0.3107	0.2985		0.40	25	SL	0.999		
47	TM	Carbon Tetrachloride		0.1311	0.1234	0.1245	0.1238	0.1252	0.1260	0.1223	0.1275		0.13	2.2	TM			
48	TM	Tert Amyl Methyl Ether		0.2490	0.2460	0.2587	0.2675	0.2663	0.2794	0.2844	0.2944		0.27	6.4	TM			
49	TM	Methylcyclopentane													TM			
50	TM	1,2-DCA		0.1744	0.1528	0.1561	0.1595	0.1517	0.1469	0.1455	0.1461		0.15	6.2	TM			
51	TM	Benzene		0.4068	0.3780	0.3748	0.3880	0.3704	0.3808	0.3719	0.3830		0.38	3.1	TM			
52	TM	TCE		0.1226	0.1099	0.1045	0.1173	0.1094	0.1114	0.1093	0.1144		0.11	5.0	TM			
53	TM	2-Pentanone		0.0623	0.0655	0.0675	0.0694	0.0693	0.0746	0.0804	0.0770		0.07	8.6	TM			
54	TM*	1,2-Dichloropropane		0.1031	0.0949	0.1002	0.0986	0.0953	0.0975	0.0966	0.1011		0.10	2.9	TM*			
55	TM	Bromodichloromethane		0.1291	0.1403	0.1380	0.1412	0.1396	0.1452	0.1455	0.1535		0.14	4.9	TM			
56	TM	Methyl Cyclohexane		0.1196	0.0993	0.1093	0.1024	0.1061	0.1116	0.1100	0.1190		0.11	6.6	TM			
57	TM	Dibromomethane		0.0812	0.0960	0.1003	0.0903	0.0874	0.0917	0.0910	0.0929		0.09	6.2	TM			
58	TM	MIBK (methyl isobutyl ketone)		0.0776	0.0879	0.0873	0.1006	0.0805	0.0852	0.0965	0.1051		0.09	11	TM			
59	TM	1-Bromo-2-chloroethane		0.0698	0.0663	0.0747	0.0733	0.0698	0.0727	0.0708	0.0765		0.07	4.5	TM			
60	TMQ	2-Chloroethyl vinyl ether		0.0016	0.0023	0.0029	0.0030	0.0032	0.0046	0.0047	0.0063		0.00	43	TMQ	0.998		
61	TM	Cis-1,3-Dichloropropene		0.1273	0.1537	0.1476	0.1489	0.1499	0.1596	0.1633	0.1781		0.15	9.5	TM			
62	TM*	Toluene		0.4638	0.4399	0.4325	0.4475	0.4237	0.4471	0.4570	0.4593		0.45	3.1	TM*			
63	TM	Trans-1,3-Dichloropropene		0.1372	0.1333	0.1316	0.1369	0.1365	0.1475	0.1553	0.1688		0.14	9.0	TM			
64	TM	1,1,2-TCA		0.0878	0.1012	0.0933	0.1038	0.0984	0.1030	0.1086	0.1112		0.10	7.6	TM			
65	TML	2-Hexanone		0.0518	0.0525	0.0262	0.0524	0.0543	0.0569	0.0631	0.0716		0.05	24	TML	0.997		
66	I	Chlorobenzene-D5 (IS)																
67	SL	Toluene-D8(S)	2.491	2.257	1.779	1.756	1.567	1.532	1.424	1.346	1.252		1.7	24	SL	0.997		
68	TM	1,2-EDB		0.1251	0.1284	0.1309	0.1335	0.1322	0.1349	0.1330	0.1405		0.13	3.5	TM			
69	TM	Tetrachloroethene		0.1722	0.1473	0.1430	0.1555	0.1530	0.1531	0.1417	0.1427		0.15	6.7	TM			
70	TML	1-Chlorohexane		0.2054	0.1527	0.0972	0.1151	0.1090	0.1204	0.1216	0.1361		0.13	26	TML	0.998		

VOLATILE ORGANIC ANALYSIS
VOLATILE ORGANIC COMPOUNDS

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Initial Cal. Date: 01/21/20
Matrix: Instrument: Thor Initials: DP

		Compound	1	2	3	4	5	6	7	8	9		Avg	%RSD	Type		Q	MRF
71	TM	1,1,1,2-Tetrachloroethane		0.1482	0.1450	0.1379	0.1484	0.1443	0.1501	0.1503	0.1592		0.15	4.1	TM			
72	TM	m&p-Xylene		0.4466	0.4176	0.3935	0.4407	0.4258	0.4622	0.4685	0.4843		0.44	6.7	TM			
73	TM	o-Xylene		0.4432	0.4247	0.4307	0.4685	0.4654	0.4946	0.5089	0.5309		0.47	8.1	TM			
74	TML	Styrene		0.2907	0.2822	0.3020	0.3308	0.3367	0.3814	0.4058	0.4396		0.35	17	TML	0.999		
75	SL	4-Bromofluorobenzene(S)	0.8390	0.7724	0.6130	0.6072	0.5490	0.5504	0.5329	0.5301	0.5292		0.61	19	SL	1.000		
76	TM	1,3-Dichloropropane		0.1897	0.2059	0.2089	0.2140	0.2035	0.2079	0.1998	0.2071		0.20	3.6	TM			
77	TM	Dibromochloromethane		0.1370	0.1403	0.1529	0.1543	0.1534	0.1585	0.1603	0.1722		0.15	7.3	TM			
78	TM**	Chlorobenzene		0.4407	0.3698	0.3811	0.3945	0.3795	0.3892	0.3852	0.3892		0.39	5.5	TM**			
79	TM*	Ethylbenzene		0.6021	0.5718	0.5519	0.5755	0.5651	0.6025	0.5984	0.6180		0.59	3.9	TM*			
80	TM**	Bromoform		0.0967	0.1159	0.1124	0.1142	0.1170	0.1271	0.1295	0.1412		0.12	11	TM**			
81	I	1,4-Dichlorobenzene-D (IS)																
82	TM	Isopropylbenzene		0.9545	0.9039	0.9160	1.020	1.019	1.045	1.039	1.034		0.99	5.8	TM			
83	TM**	1,1,2,2-Tetrachloroethane		0.3170	0.3050	0.3329	0.3179	0.3253	0.3126	0.3115	0.3040		0.32	3.1	TM**			
84	TM	1,2,3-Trichloropropane		0.1027	0.1053	0.1081	0.1132	0.1095	0.1072	0.1048	0.1015		0.11	3.5	TM			
85	TM	t-1,4-Dichloro-2-Butene		0.0389	0.0507	0.0536	0.0526	0.0572	0.0595	0.0623	0.0640		0.05	15	TM			
86	TM	Bromobenzene		0.5123	0.5593	0.5196	0.5639	0.5535	0.5448	0.5431	0.5325		0.54	3.4	TM			
87	TM	n-Propylbenzene		1.035	1.038	1.004	1.098	1.053	1.113	1.122	1.163		1.1	5.0	TM			
88	TM	4-Ethyltoluene		0.9894	0.8936	0.8366	0.9212	0.9108	0.9310	0.9550	0.9963		0.93	5.6	TM			
89	TM	2-Chlorotoluene		0.8896	0.8076	0.7922	0.8136	0.8164	0.8431	0.8339	0.8309		0.83	3.6	TM			
90	TM	1,3,5-Trimethylbenzene		0.8224	0.8137	0.7898	0.8962	0.8954	0.9107	0.9159	0.9022		0.87	5.8	TM			
91	TM	4-Chlorotoluene		0.8316	0.8125	0.7939	0.8430	0.8172	0.8463	0.8592	0.8632		0.83	2.9	TM			
92	TM	Tert-Butylbenzene		0.9213	0.8200	0.8213	0.8520	0.8263	0.8909	0.8889	0.9020		0.87	4.7	TM			
93	TM	1,2,4-Trimethylbenzene		1.032	0.8639	0.8516	0.9060	0.9154	0.9308	0.9443	0.9282		0.92	6.0	TM			
94	TM	Sec-Butylbenzene		0.9656	0.8514	0.8666	0.9507	0.9354	0.9818	1.017	1.070		0.95	7.6	TM			
95	TM	p-Isopropyltoluene		0.8067	0.7790	0.8153	0.8581	0.8582	0.8703	0.8814	0.9278		0.85	5.6	TM			
96	TM	Benzyl Chloride		0.3280	0.2928	0.2888	0.2693	0.2884	0.2948	0.2961	0.3222		0.30	6.4	TM			
97	TM	1,3-DCB		0.5697	0.5388	0.5678	0.5876	0.5586	0.5731	0.5668	0.5744		0.57	2.5	TM			
98	TM	1,4-DCB		0.6658	0.6060	0.5875	0.5942	0.5776	0.5746	0.5713	0.5773		0.59	5.2	TM			
99	TM	n-Butylbenzene		0.7198	0.6823	0.6456	0.7087	0.7309	0.7261	0.7306	0.7194		0.71	4.2	TM			
100	TM	1,2-DCB		0.6166	0.6092	0.5695	0.6002	0.5776	0.5667	0.5732	0.5768		0.59	3.3	TM			
101	TML	Hexachloroethane		0.1023	0.1543	0.1623	0.1586	0.1747	0.1770	0.1723	0.1786		0.16	16	TML	1.000		
102	TML	1,2-Dibromo-3-chloropropane		0.0337	0.0447	0.0569	0.0670	0.0668	0.0701	0.0718	0.0756		0.06	24	TML	1.000		
103	TM	1,2,4-Trichlorobenzene		0.3928	0.3234	0.3491	0.3492	0.3455	0.3534	0.3667	0.3904		0.36	6.5	TM			
104	TM	Hexachlorobutadiene		0.1333	0.1784	0.1912	0.2077	0.2054	0.1910	0.1819	0.1902		0.18	13	TM			
105	TML	Naphthalene		0.0627	0.0417	0.0322	0.0404	0.0398	0.0415	0.0462	0.0541		0.04	21	TML	0.996		

VOLATILE ORGANIC ANALYSIS
VOLATILE ORGANIC COMPOUNDS

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:
SDG No:
Initial Cal. Date: 01/21/20
Instrument: Thor
Initials: DP

		Compound	1	2	3	4	5	6	7	8	9		Avg	%RSD	Type		Q	MRF
106	TM	1,2,3-Trichlorobenzene		0.3134	0.3132	0.2937	0.3161	0.3243	0.3387	0.3440	0.3638		0.33	6.7	TM			
107																		
108																		
109																		
110																		
111																		
112																		
113																		
114																		
115																		
116																		
117																		
118																		
119																		
120																		
121																		
122																		
123																		
124																		
125																		
126																		
127																		
128																		
129																		
130																		
131																		
132																		
133																		
134																		
135																		
136																		
137																		
138																		
139																		
140																		

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0121T02.D Vial: 2
Acq On : 21 Jan 20 7:41 Operator:
Sample : 0.3ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 21 15:54 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene (IS)	6.51	96	1021866	25.00	ppb		0.00
66) Chlorobenzene-D5 (IS)	9.96	117	789770	25.00	ppb		0.00
81) 1,4-Dichlorobenzene-D (IS)	12.52	152	406901	25.00	ppb		0.00
System Monitoring Compounds							
41) Dibromofluoromethane(S)	5.66	111	107330	4.97	ppb		0.00
Spiked Amount 25.000			Recovery =	19.880%			
46) 1,2-DCA-D4(S)	6.07	65	117550	4.90	ppb		0.00
Spiked Amount 25.000			Recovery =	19.588%			
67) Toluene-D8(S)	8.37	98	393419	4.58	ppb		0.00
Spiked Amount 25.000			Recovery =	18.324%			
75) 4-Bromofluorobenzene(S)	11.25	95	132516	6.09	ppb		0.00
Spiked Amount 25.000			Recovery =	24.348%			
Target Compounds							Qvalue
2) Chlorotrifluoroethene	1.15	116	4088	2.83	ppb		96
3) Dichlorodifluoromethane	1.17	85	1209	0.40	ppb		94
4) Freon 114	1.28	85	955	0.30	ppb	#	82
5) Chloromethane	1.32	50	2655	-0.57	ppb	#	85
6) Vinyl chloride	1.42	62	1460	0.41	ppb		95
7) 2-Chloro-1,1,1-trifluoroet	1.51	118	13533	3.02	ppb		98
8) Bromomethane	1.69	96	1645	-0.44	ppb		81
9) Chloroethane	1.77	64	160	-0.18	ppb	#	44
10) Dichlorofluoromethane	1.98	67	2520	0.36	ppb		96
11) Trichlorofluoromethane	2.04	101	1721	0.34	ppb	#	60
14) Acrolein	2.44	56	2370	5.61	ppb		84
15) Acetone	2.61	43	1448	-0.72	ppb		100
16) Freon-113	2.59	101	1041	0.37	ppb	#	82
17) 1,1-DCE	2.55	61	1474	0.32	ppb		97
18) 2-Propanol	2.84	45	959	4.19	ppb		99
19) Acetonitrile	2.94	40	658	5.32	ppb	#	17
20) t-Butanol	3.35	59	1029	6.71	ppb		93
21) Methyl Acetate	3.03	43	1289	0.40	ppb	#	51
22) Iodomethane	2.70	142	469	2.58	ppb	#	36
23) Acrylonitrile	3.45	52	164	0.13	ppb	#	40
24) Methylene chloride	3.13	49	1921	0.38	ppb		94
25) Carbon disulfide	2.77	76	3361	0.38	ppb		99
26) Methyl t-butyl ether (MtBE	3.54	73	3616	0.32	ppb	#	78
27) Trans-1,2-DCE	3.50	61	1449	0.30	ppb	#	90
29) Diisopropyl Ether	4.35	45	3348	0.31	ppb		96
31) 1,1-DCA	4.13	63	2245	0.35	ppb	#	85
32) Vinyl Acetate	4.30	43	768	0.35	ppb	#	72
33) Ethyl tert Butyl Ether	4.88	59	3700	0.33	ppb		87
34) MEK (2-Butanone)	5.07	43	1297	0.77	ppb	#	83
35) Cis-1,2-DCE	5.00	61	2149	0.35	ppb	#	76
36) 2,2-Dichloropropane	4.99	77	1740	0.32	ppb	#	79
39) Chloroform	5.45	83	2671	0.35	ppb		95
40) Bromochloromethane	5.30	49	993	0.30	ppb		92
42) 1,1,1-TCA	5.67	97	1948	0.32	ppb		91
43) Cyclohexane	5.76	56	1380	0.33	ppb	#	91
44) 1,1-Dichloropropene	5.90	75	1478	0.34	ppb	#	89
45) 2,2,4-Trimethylpentane	6.32	57	2941	0.37	ppb		88
47) Carbon Tetrachloride	5.90	117	1751	0.34	ppb	#	79
48) Tert Amyl Methyl Ether	6.36	73	3191	0.29	ppb		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0121T02.D Vial: 2
Acq On : 21 Jan 20 7:41 Operator:
Sample : 0.3ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 21 15:54 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
50)	1,2-DCA	6.17	62	2475	0.39	ppb	#	76
51)	Benzene	6.15	78	4974	0.32	ppb		95
52)	TCE	6.96	130	1300	0.28	ppb	#	50
53)	2-Pentanone	7.20	43	12791	4.42	ppb		95
54)	1,2-Dichloropropane	7.20	63	1170	0.29	ppb	#	84
55)	Bromodichloromethane	7.54	83	2057	0.36	ppb	#	71
56)	Methyl Cyclohexane	7.20	83	1599	0.36	ppb	#	76
57)	Dibromomethane	7.33	174	1021	0.27	ppb		90
58)	MIBK (methyl isobutyl ket	8.26	43	1047	0.28	ppb	#	78
59)	1-Bromo-2-chloroethane	7.88	63	965	0.33	ppb	#	73
60)	2-Chloroethyl vinyl ether	7.92	106	328	10.39	ppb	#	87
61)	Cis-1,3-Dichloropropene	8.06	75	1891	0.30	ppb	#	77
62)	Toluene	8.45	91	5738	0.31	ppb		100
63)	Trans-1,3-Dichloropropene	8.69	75	1836	0.31	ppb	#	52
64)	1,1,2-TCA	8.89	97	1552	0.38	ppb	#	78
65)	2-Hexanone	9.19	43	610	2.25	ppb	#	34
68)	1,2-EDB	9.43	107	1302	0.31	ppb	#	95
69)	Tetrachloroethene	9.06	166	1319	0.28	ppb		93
70)	1-Chlorohexane	10.00	91	1174	1.39	ppb		97
71)	1,1,1,2-Tetrachloroethane	10.08	131	1318	0.28	ppb		96
72)	m&p-Xylene	10.26	91	10358	0.74	ppb		95
73)	o-Xylene	10.69	91	5071	0.34	ppb		96
74)	Styrene	10.71	104	3100	1.60	ppb	#	65
76)	1,3-Dichloropropane	9.07	76	1890	0.29	ppb	#	74
77)	Dibromochloromethane	9.32	129	1257	0.26	ppb	#	72
78)	Chlorobenzene	9.99	112	3951	0.32	ppb	#	87
79)	Ethylbenzene	10.13	91	5659	0.31	ppb	#	76
80)	Bromoform	10.88	173	1115	0.30	ppb	#	77
82)	Isopropylbenzene	11.11	105	5022	0.31	ppb		93
83)	1,1,2,2-Tetrachloroethane	11.41	83	1585	0.31	ppb		93
84)	1,2,3-Trichloropropane	11.45	110	359	0.21	ppb	#	54
85)	t-1,4-Dichloro-2-Butene	11.47	53	81	0.09	ppb	#	18
86)	Bromobenzene	11.41	77	2828	0.32	ppb		91
87)	n-Propylbenzene	11.55	91	6046	0.34	ppb		94
88)	4-Ethyltoluene	11.68	105	6287	0.42	ppb		97
89)	2-Chlorotoluene	11.64	91	4809	0.36	ppb		95
90)	1,3,5-Trimethylbenzene	11.75	105	4906	0.35	ppb		88
91)	4-Chlorotoluene	11.75	91	4408	0.32	ppb		100
92)	Tert-Butylbenzene	12.11	119	4724	0.34	ppb		94
93)	1,2,4-Trimethylbenzene	12.16	105	6226	0.42	ppb		87
94)	Sec-Butylbenzene	12.35	105	4723	0.30	ppb		96
95)	p-Isopropyltoluene	12.51	119	4716	0.34	ppb		99
96)	Benzyl Chloride	12.69	91	1984	0.41	ppb	#	85
97)	1,3-DCB	12.46	146	3144	0.34	ppb		91
98)	1,4-DCB	12.55	146	3610	0.37	ppb	#	79
99)	n-Butylbenzene	12.96	91	4035	0.35	ppb	#	83
100)	1,2-DCB	12.95	146	3070	0.32	ppb	#	79
101)	Hexachloroethane	13.25	201	663	0.59	ppb	#	19
103)	1,2,4-Trichlorobenzene	14.72	180	1930	0.33	ppb		87
104)	Hexachlorobutadiene	14.94	225	1159	0.39	ppb	#	45
105)	Naphthalene	15.00	127	387	2.32	ppb	#	37
106)	1,2,3-Trichlorobenzene	15.26	180	2116	0.40	ppb		90

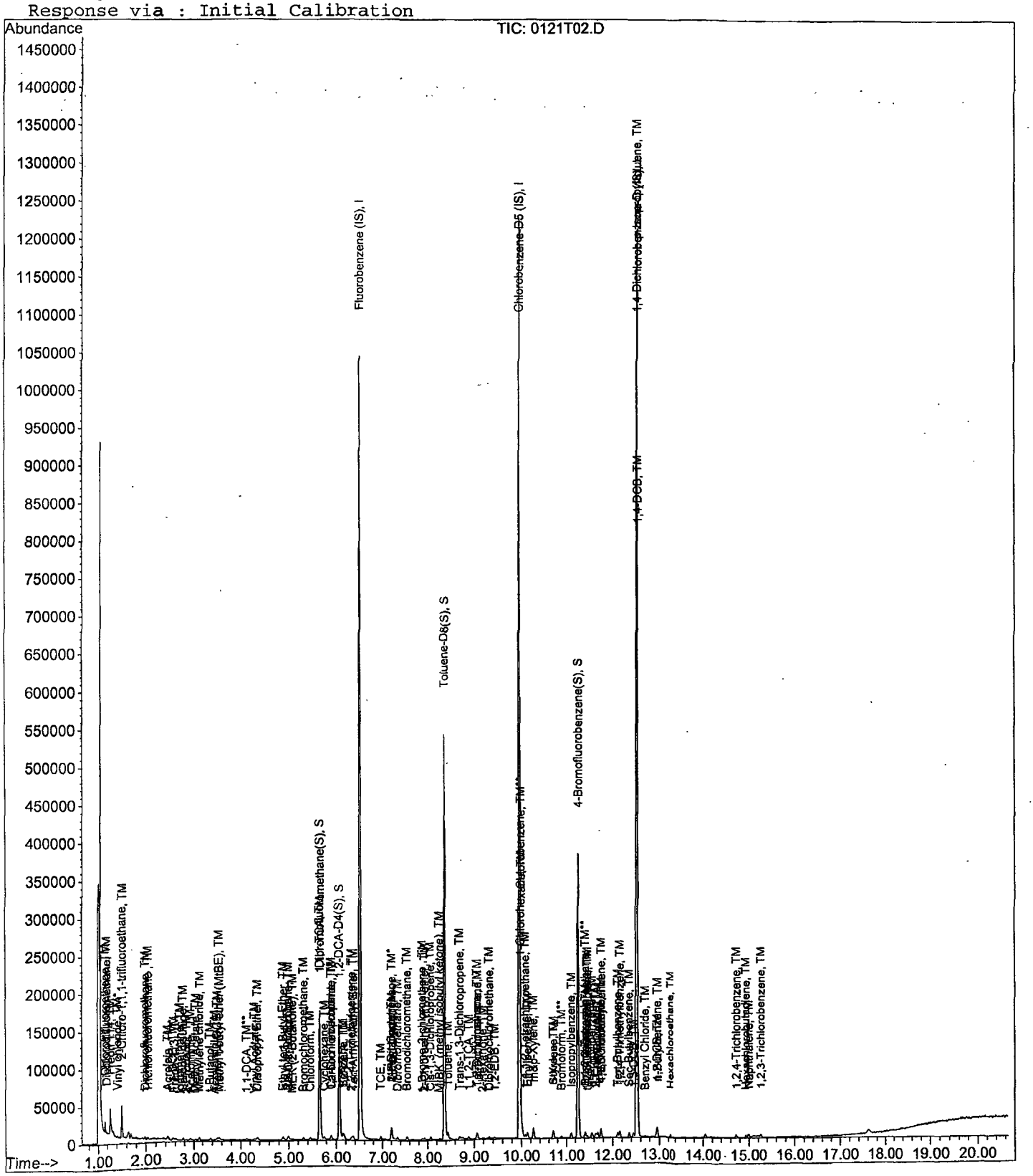
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0121T02.D Vial: 2
Acq On : 21 Jan 20 7:41 Operator:
Sample : 0.3ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 21 15:54 2020 Quant Results File: T0121W.RES

Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0121T03.D Vial: 3
Acq On : 21 Jan 20 8:09 Operator:
Sample : 0.5ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 21 15:54 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene (IS)	6.51	96	1004691	25.00	ppb		0.00
66) Chlorobenzene-D5 (IS)	9.96	117	790347	25.00	ppb		0.00
81) 1,4-Dichlorobenzene-D (IS)	12.52	152	406984	25.00	ppb		0.00
System Monitoring Compounds							
41) Dibromofluoromethane(S)	5.66	111	100543	4.51	ppb		0.00
Spiked Amount 25.000			Recovery = 18.056%				
46) 1,2-DCA-D4(S)	6.07	65	106574	4.11	ppb		0.00
Spiked Amount 25.000			Recovery = 16.448%				
67) Toluene-D8(S)	8.37	98	356692	3.61	ppb		0.00
Spiked Amount 25.000			Recovery = 14.444%				
75) 4-Bromofluorobenzene(S)	11.25	95	122029	5.44	ppb		0.00
Spiked Amount 25.000			Recovery = 21.748%				
Target Compounds							Qvalue
2) Chlorotrifluoroethene	1.14	116	7084	4.98	ppb		97
3) Dichlorodifluoromethane	1.17	85	1559	0.52	ppb	#	62
4) Freon 114	1.28	85	1851	0.59	ppb	#	73
5) Chloromethane	1.32	50	3615	-0.29	ppb		96
6) Vinyl chloride	1.42	62	1948	0.55	ppb		96
7) 2-Chloro-1,1,1-trifluoroet	1.51	118	22917	5.21	ppb		95
8) Bromomethane	1.69	96	2457	-0.13	ppb		92
9) Chloroethane	1.79	64	1607	0.45	ppb	#	40
10) Dichlorofluoromethane	1.98	67	3575	0.53	ppb		98
11) Trichlorofluoromethane	2.04	101	2605	0.52	ppb	#	78
14) Acrolein	2.44	56	10279	24.76	ppb		96
15) Acetone	2.62	43	1352	-0.86	ppb	#	89
16) Freon-113	2.59	101	1517	0.55	ppb	#	87
17) 1,1-DCE	2.55	61	2405	0.54	ppb		97
18) 2-Propanol	2.83	45	1090	4.85	ppb	#	77
19) Acetonitrile	2.92	40	3052	25.11	ppb		97
20) t-Butanol	3.35	59	3545	23.53	ppb		94
21) Methyl Acetate	3.04	43	1795	0.57	ppb	#	85
22) Iodomethane	2.70	142	508	2.60	ppb	#	36
23) Acrylonitrile	3.45	52	528	0.44	ppb	#	94
24) Methylene chloride	3.13	49	2822	0.57	ppb		90
25) Carbon disulfide	2.77	76	4757	0.55	ppb	#	84
26) Methyl t-butyl ether (MtBE	3.54	73	5322	0.49	ppb		94
27) Trans-1,2-DCE	3.50	61	2790	0.59	ppb	#	86
29) Diisopropyl Ether	4.35	45	5168	0.48	ppb		92
31) 1,1-DCA	4.12	63	3647	0.57	ppb	#	89
32) Vinyl Acetate	4.29	43	963	0.45	ppb	#	72
33) Ethyl tert Butyl Ether	4.89	59	5180	0.47	ppb		94
34) MEK (2-Butanone)	5.06	43	1755	1.04	ppb	#	78
35) Cis-1,2-DCE	5.00	61	3311	0.55	ppb		93
36) 2,2-Dichloropropane	5.00	77	2822	0.53	ppb		93
39) Chloroform	5.46	83	3966	0.53	ppb		96
40) Bromochloromethane	5.31	49	1692	0.51	ppb	#	77
42) 1,1,1-TCA	5.68	97	2854	0.48	ppb		91
43) Cyclohexane	5.76	56	2233	0.55	ppb		96
44) 1,1-Dichloropropene	5.89	75	2105	0.49	ppb	#	90
45) 2,2,4-Trimethylpentane	6.32	57	4578	0.58	ppb		99
47) Carbon Tetrachloride	5.90	117	2635	0.52	ppb		85
48) Tert Amyl Methyl Ether	6.36	73	5004	0.46	ppb		92

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0121T03.D Vial: 3
Acq On : 21 Jan 20 8:09 Operator:
Sample : 0.5ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 21 15:54 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
50)	1,2-DCA	6.17	62	3504	0.57	ppb		96
51)	Benzene	6.15	78	8175	0.53	ppb	#	90
52)	TCE	6.96	130	2464	0.55	ppb		92
53)	2-Pentanone	7.20	43	62617	22.02	ppb		96
54)	1,2-Dichloropropane	7.20	63	2071	0.52	ppb	#	84
55)	Bromodichloromethane	7.55	83	2595	0.46	ppb		98
56)	Methyl Cyclohexane	7.20	83	2403	0.55	ppb		93
57)	Dibromomethane	7.33	174	1631	0.44	ppb	#	81
58)	MIBK (methyl isobutyl ket	8.26	43	1559	0.43	ppb		91
59)	1-Bromo-2-chloroethane	7.88	63	1403	0.49	ppb	#	80
60)	2-Chloroethyl vinyl ether	7.93	106	630	12.34	ppb	#	87
61)	Cis-1,3-Dichloropropene	8.06	75	2558	0.41	ppb	#	85
62)	Toluene	8.44	91	9320	0.52	ppb		89
63)	Trans-1,3-Dichloropropene	8.70	75	2756	0.48	ppb	#	60
64)	1,1,2-TCA	8.89	97	1765	0.44	ppb		95
65)	2-Hexanone	9.19	43	1041	2.40	ppb	#	96
68)	1,2-EDB	9.43	107	1977	0.47	ppb	#	85
69)	Tetrachloroethene	9.06	166	2722	0.57	ppb		98
70)	1-Chlorohexane	9.99	91	3246	1.87	ppb		90
71)	1,1,1,2-Tetrachloroethane	10.09	131	2343	0.50	ppb		93
72)	m&p-Xylene	10.26	91	14120	1.01	ppb		89
73)	o-Xylene	10.69	91	7005	0.47	ppb		96
74)	Styrene	10.70	104	4595	1.70	ppb		99
76)	1,3-Dichloropropane	9.07	76	2999	0.46	ppb		91
77)	Dibromochloromethane	9.31	129	2165	0.45	ppb		99
78)	Chlorobenzene	9.99	112	6966	0.56	ppb		95
79)	Ethylbenzene	10.13	91	9517	0.51	ppb		100
80)	Bromoform	10.88	173	1529	0.41	ppb		95
82)	Isopropylbenzene	11.11	105	7769	0.48	ppb		98
83)	1,1,2,2-Tetrachloroethane	11.41	83	2580	0.50	ppb	#	96
84)	1,2,3-Trichloropropane	11.44	110	836	0.48	ppb		95
85)	t-1,4-Dichloro-2-Butene	11.48	53	317	0.35	ppb	#	57
86)	Bromobenzene	11.41	77	4170	0.47	ppb		93
87)	n-Propylbenzene	11.56	91	8424	0.48	ppb		94
88)	4-Ethyltoluene	11.68	105	8053	0.53	ppb		93
89)	2-Chlorotoluene	11.63	91	7241	0.54	ppb		96
90)	1,3,5-Trimethylbenzene	11.75	105	6694	0.47	ppb		88
91)	4-Chlorotoluene	11.76	91	6769	0.50	ppb		99
92)	Tert-Butylbenzene	12.11	119	7499	0.53	ppb		99
93)	1,2,4-Trimethylbenzene	12.16	105	8403	0.56	ppb		91
94)	Sec-Butylbenzene	12.35	105	7860	0.51	ppb		97
95)	p-Isopropyltoluene	12.51	119	6566	0.47	ppb		91
96)	Benzyl Chloride	12.70	91	2670	0.55	ppb	#	91
97)	1,3-DCB	12.46	146	4637	0.50	ppb	#	87
98)	1,4-DCB	12.55	146	5419	0.56	ppb	#	92
99)	n-Butylbenzene	12.96	91	5859	0.51	ppb		100
100)	1,2-DCB	12.95	146	5019	0.53	ppb		94
101)	Hexachloroethane	13.25	201	833	0.65	ppb	#	75
102)	1,2-Dibromo-3-chloropropan	13.80	157	274	1.06	ppb	#	80
103)	1,2,4-Trichlorobenzene	14.73	180	3197	0.55	ppb		85
104)	Hexachlorobutadiene	14.93	225	1085	0.36	ppb		89
105)	Naphthalene	14.99	127	510	2.46	ppb	#	26
106)	1,2,3-Trichlorobenzene	15.26	180	2551	0.48	ppb		90

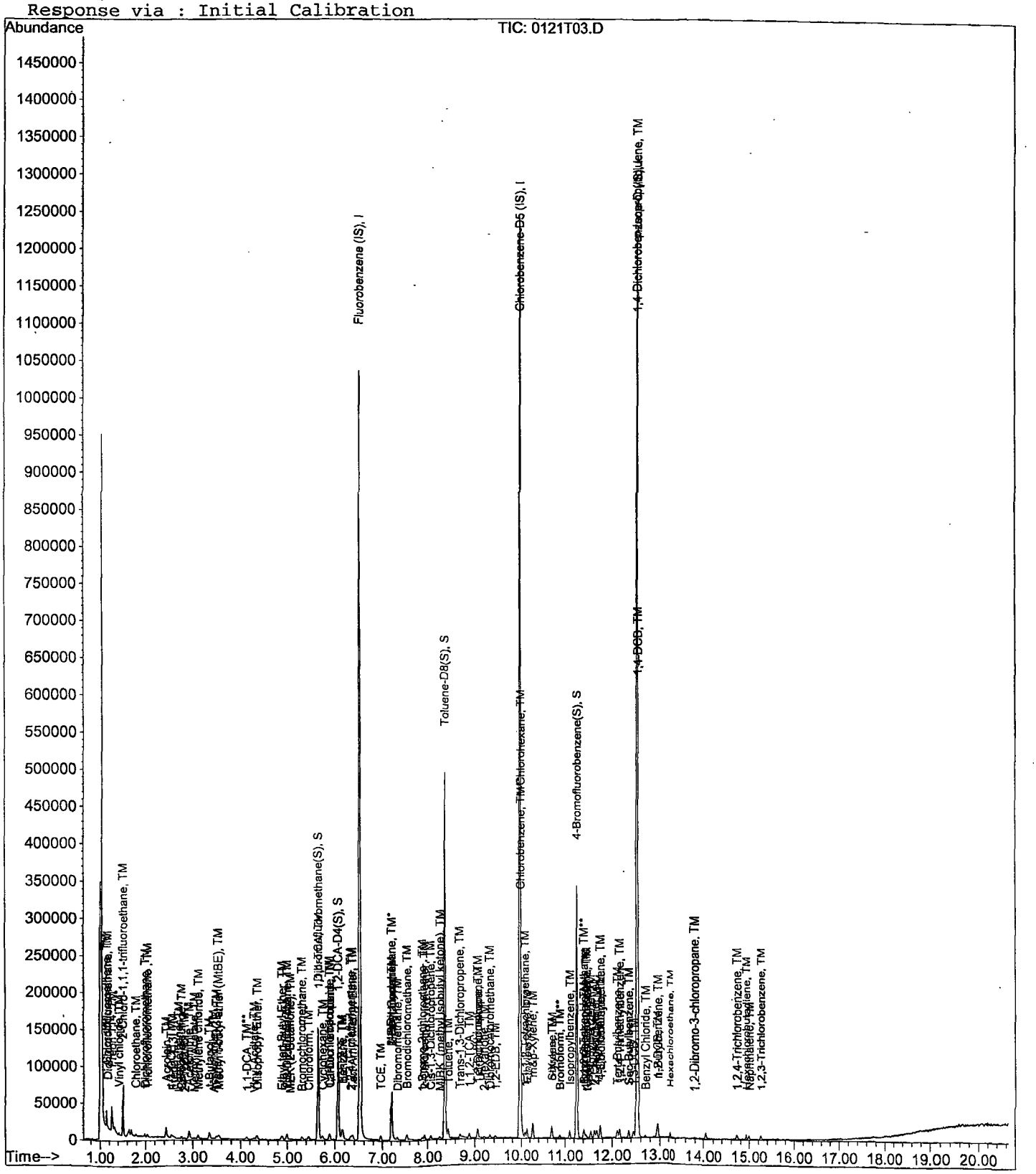
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0121T03.D Vial: 3
Acq On : 21 Jan 20 8:09 Operator:
Sample : 0.5ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 21 15:54 2020 Quant Results File: T0121W.RES

Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0121T04.D Vial: 4
Acq On : 21 Jan 20 8:37 Operator:
Sample : 1ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 21 15:54 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene (IS)	6.51	96	1003430	25.00	ppb		0.00
66) Chlorobenzene-D5 (IS)	9.96	117	793951	25.00	ppb		0.00
81) 1,4-Dichlorobenzene-D (IS)	12.52	152	414015	25.00	ppb		0.00
System Monitoring Compounds							
41) Dibromofluoromethane(S)	5.66	111	156037	9.61	ppb		0.00
Spiked Amount 25.000			Recovery	=	38.440%		
46) 1,2-DCA-D4(S)	6.07	65	170767	9.73	ppb		0.00
Spiked Amount 25.000			Recovery	=	38.916%		
67) Toluene-D8(S)	8.37	98	565068	9.00	ppb		0.00
Spiked Amount 25.000			Recovery	=	36.020%		
75) 4-Bromofluorobenzene(S)	11.25	95	194688	9.84	ppb		0.00
Spiked Amount 25.000			Recovery	=	39.372%		
Target Compounds							Qvalue
2) Chlorotrifluoroethene	1.14	116	13689	9.64	ppb		95
3) Dichlorodifluoromethane	1.17	85	3012	1.01	ppb		99
4) Freon 114	1.28	85	3413	1.09	ppb		82
5) Chloromethane	1.32	50	5400	0.21	ppb		92
6) Vinyl chloride	1.42	62	3891	1.10	ppb		94
7) 2-Chloro-1,1,1-trifluoroet	1.51	118	42956	9.77	ppb		98
8) Bromomethane	1.69	96	4541	0.63	ppb		90
9) Chloroethane	1.78	64	3072	1.09	ppb		93
10) Dichlorofluoromethane	1.98	67	6858	1.01	ppb		96
11) Trichlorofluoromethane	2.03	101	5236	1.05	ppb		89
14) Acrolein	2.44	56	21518	51.91	ppb		96
15) Acetone	2.61	43	1358	-0.84	ppb		97
16) Freon-113	2.58	101	2768	1.01	ppb	#	86
17) 1,1-DCE	2.55	61	4360	0.98	ppb		99
18) 2-Propanol	2.83	45	2349	10.45	ppb		95
19) Acetonitrile	2.92	40	5870	48.36	ppb		86
20) t-Butanol	3.36	59	8044	53.45	ppb	#	88
21) Methyl Acetate	3.03	43	3610	1.14	ppb		97
22) Iodomethane	2.70	142	907	2.75	ppb	#	83
23) Acrylonitrile	3.45	52	1176	0.97	ppb		97
24) Methylene chloride	3.13	49	5134	1.04	ppb		94
25) Carbon disulfide	2.77	76	9093	1.04	ppb	#	78
26) Methyl t-butyl ether (MtBE	3.55	73	10854	0.99	ppb		94
27) Trans-1,2-DCE	3.50	61	4505	0.96	ppb		87
29) Diisopropyl Ether	4.36	45	10824	1.01	ppb		95
31) 1,1-DCA	4.13	63	6173	0.97	ppb		95
32) Vinyl Acetate	4.29	43	2108	0.98	ppb	#	92
33) Ethyl tert Butyl Ether	4.89	59	10792	0.98	ppb		95
34) MEK (2-Butanone)	5.06	43	2342	1.37	ppb		94
35) Cis-1,2-DCE	4.99	61	5572	0.93	ppb	#	93
36) 2,2-Dichloropropane	4.99	77	5262	1.00	ppb	#	85
39) Chloroform	5.46	83	7806	1.04	ppb		86
40) Bromochloromethane	5.31	49	3369	1.03	ppb	#	78
42) 1,1,1-TCA	5.68	97	6311	1.06	ppb		97
43) Cyclohexane	5.75	56	3981	0.98	ppb		97
44) 1,1-Dichloropropene	5.90	75	4428	1.02	ppb		93
45) 2,2,4-Trimethylpentane	6.32	57	7754	0.99	ppb		97
47) Carbon Tetrachloride	5.90	117	4953	0.98	ppb		99
48) Tert Amyl Methyl Ether	6.37	73	9875	0.92	ppb		91

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0121T04.D Vial: 4
Acq On : 21 Jan 20 8:37 Operator:
Sample : 1ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 21 15:54 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
50)	1,2-DCA	6.17	62	6133	0.99	ppb	#	94
51)	Benzene	6.15	78	15171	0.99	ppb		98
52)	TCE	6.97	130	4412	0.98	ppb		98
53)	2-Pentanone	7.20	43	131509	46.31	ppb		99
54)	1,2-Dichloropropane	7.21	63	3810	0.96	ppb	#	84
55)	Bromodichloromethane	7.55	83	5632	0.99	ppb		87
56)	Methyl Cyclohexane	7.20	83	3984	0.91	ppb	#	48
57)	Dibromomethane	7.33	174	3855	1.05	ppb		96
58)	MIBK (methyl isobutyl ket	8.27	43	3528	0.98	ppb	#	86
59)	1-Bromo-2-chloroethane	7.88	63	2662	0.92	ppb	#	86
60)	2-Chloroethyl vinyl ether	7.93	106	1855	19.87	ppb	#	87
61)	Cis-1,3-Dichloropropene	8.07	75	6169	1.00	ppb		91
62)	Toluene	8.45	91	17655	0.99	ppb		100
63)	Trans-1,3-Dichloropropene	8.69	75	5350	0.93	ppb	#	79
64)	1,1,2-TCA	8.89	97	4063	1.00	ppb		96
65)	2-Hexanone	9.19	43	2108	2.77	ppb	#	93
68)	1,2-EDB	9.43	107	4077	0.97	ppb	#	85
69)	Tetrachloroethene	9.06	166	4678	0.97	ppb		93
70)	1-Chlorohexane	10.00	91	4849	2.24	ppb		89
71)	1,1,1,2-Tetrachloroethane	10.08	131	4604	0.98	ppb		87
72)	m&p-Xylene	10.26	91	26523	1.89	ppb		94
73)	o-Xylene	10.69	91	13489	0.90	ppb		97
74)	Styrene	10.70	104	8961	2.01	ppb		98
76)	1,3-Dichloropropane	9.07	76	6540	1.01	ppb	#	86
77)	Dibromochloromethane	9.32	129	4457	0.91	ppb		94
78)	Chlorobenzene	9.99	112	11743	0.95	ppb	#	88
79)	Ethylbenzene	10.13	91	18158	0.98	ppb		94
80)	Bromoform	10.88	173	3680	0.97	ppb		88
82)	Isopropylbenzene	11.11	105	14969	0.91	ppb	#	89
83)	1,1,2,2-Tetrachloroethane	11.41	83	5051	0.97	ppb	#	89
84)	1,2,3-Trichloropropane	11.45	110	1743	0.99	ppb		91
85)	t-1,4-Dichloro-2-Butene	11.47	53	839	0.92	ppb	#	79
86)	Bromobenzene	11.41	77	9263	1.03	ppb		94
87)	n-Propylbenzene	11.56	91	17193	0.96	ppb		100
88)	4-Ethyltoluene	11.68	105	14799	0.96	ppb		98
89)	2-Chlorotoluene	11.64	91	13375	0.97	ppb		95
90)	1,3,5-Trimethylbenzene	11.75	105	13475	0.94	ppb	#	81
91)	4-Chlorotoluene	11.76	91	13455	0.97	ppb	#	86
92)	Tert-Butylbenzene	12.11	119	13579	0.95	ppb		95
93)	1,2,4-Trimethylbenzene	12.16	105	14306	0.94	ppb		93
94)	Sec-Butylbenzene	12.35	105	14100	0.89	ppb		99
95)	p-Isopropyltoluene	12.51	119	12900	0.92	ppb		98
96)	Benzyl Chloride	12.69	91	4849	0.98	ppb	#	88
97)	1,3-DCB	12.45	146	8923	0.95	ppb		97
98)	1,4-DCB	12.55	146	10036	1.02	ppb		93
99)	n-Butylbenzene	12.96	91	11300	0.96	ppb		86
100)	1,2-DCB	12.95	146	10089	1.04	ppb		93
101)	Hexachloroethane	13.25	201	2556	1.22	ppb		94
102)	1,2-Dibromo-3-chloropropan	13.79	157	741	1.43	ppb	#	76
103)	1,2,4-Trichlorobenzene	14.73	180	5355	0.90	ppb		86
104)	Hexachlorobutadiene	14.94	225	2954	0.96	ppb		96
105)	Naphthalene	14.99	127	691	2.65	ppb		65
106)	1,2,3-Trichlorobenzene	15.26	180	5187	0.96	ppb		92

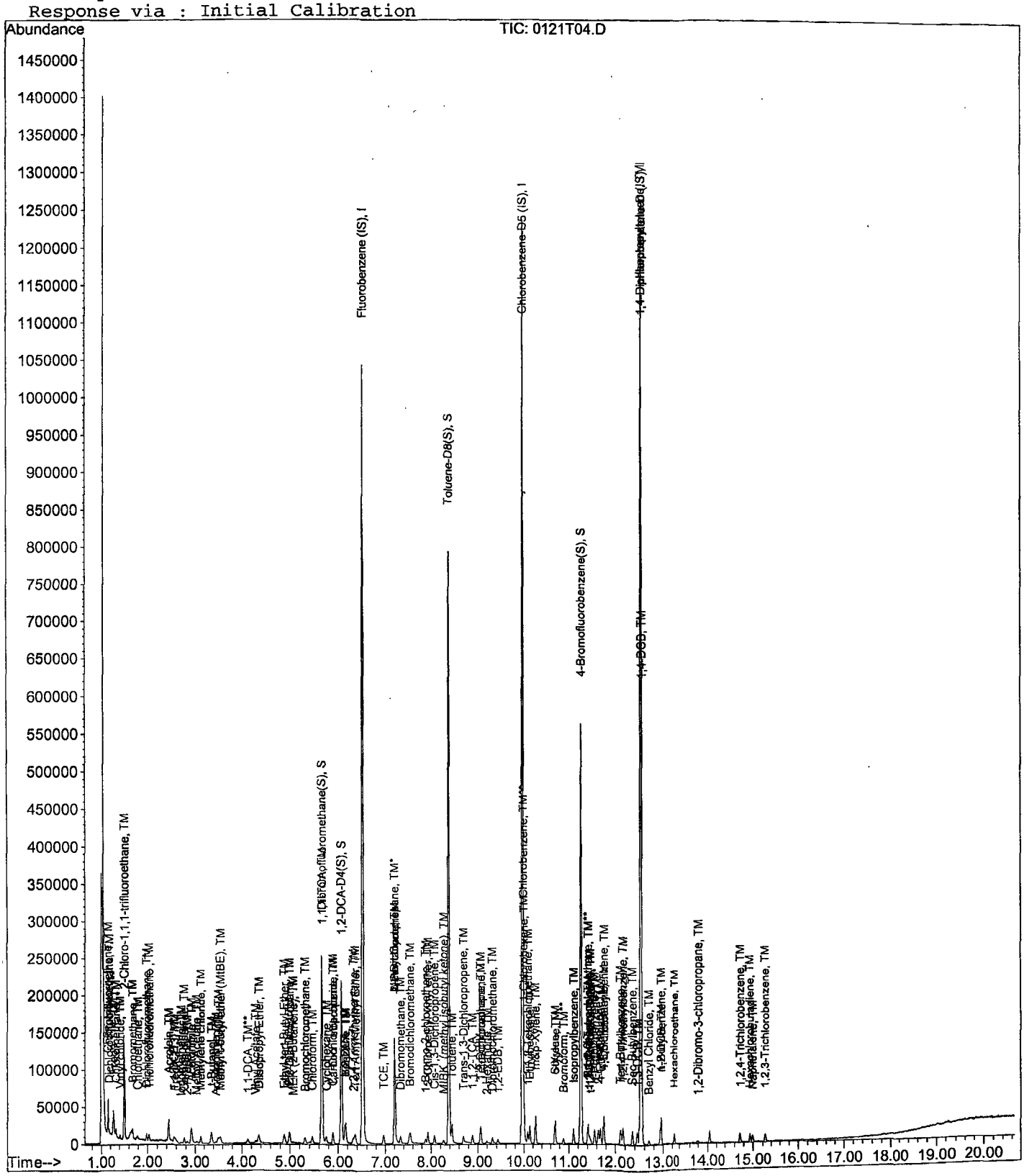
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0121T04.D Vial: 4
Acq On : 21 Jan 20 8:37 Operator:
Sample : 1ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 21 15:54 2020 Quant Results File: T0121W.RES

Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0121T05.D Vial: 5
Acq On : 21 Jan 20 9:05 Operator:
Sample : 2ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 21 15:54 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene (IS)	6.51	96	1013704	25.00	ppb		0.00
66) Chlorobenzene-D5 (IS)	9.96	117	798540	25.00	ppb		0.00
81) 1,4-Dichlorobenzene-D (IS)	12.52	152	418905	25.00	ppb		0.00
System Monitoring Compounds							
41) Dibromofluoromethane(S)	5.66	111	156838	9.54	ppb		0.00
Spiked Amount 25.000			Recovery =	38.152%			
46) 1,2-DCA-D4(S)	6.07	65	170607	9.56	ppb		0.00
Spiked Amount 25.000			Recovery =	38.256%			
67) Toluene-D8(S)	8.37	98	560877	8.81	ppb		0.00
Spiked Amount 25.000			Recovery =	35.244%			
75) 4-Bromofluorobenzene(S)	11.25	95	193951	9.73	ppb		0.00
Spiked Amount 25.000			Recovery =	38.920%			
Target Compounds							Qvalue
2) Chlorotrifluoroethene	1.14	116	29833	20.80	ppb		98
3) Dichlorodifluoromethane	1.17	85	6790	2.26	ppb		95
4) Freon 114	1.28	85	6190	1.96	ppb		93
5) Chloromethane	1.32	50	9928	1.45	ppb		99
6) Vinyl chloride	1.41	62	7542	2.12	ppb		98
7) 2-Chloro-1,1,1-trifluoroet	1.51	118	90485	20.38	ppb		99
8) Bromomethane	1.68	96	8924	2.20	ppb		99
9) Chloroethane	1.78	64	4707	1.78	ppb		99
10) Dichlorofluoromethane	1.98	67	14497	2.11	ppb		93
11) Trichlorofluoromethane	2.03	101	10411	2.06	ppb		97
14) Acrolein	2.44	56	34035	81.27	ppb		99
15) Acetone	2.62	43	2707	1.58	ppb		93
16) Freon-113	2.58	101	5884	2.12	ppb	#	91
17) 1,1-DCE	2.55	61	9688	2.15	ppb		98
18) 2-Propanol	2.84	45	4413	19.44	ppb		90
19) Acetonitrile	2.92	40	10422	84.99	ppb		98
20) t-Butanol	3.36	59	12040	79.19	ppb		97
21) Methyl Acetate	3.03	43	6990	2.18	ppb		99
22) Iodomethane	2.71	142	1406	2.95	ppb	#	87
23) Acrylonitrile	3.45	52	2467	2.02	ppb	#	68
24) Methylene chloride	3.12	49	10215	2.05	ppb		95
25) Carbon disulfide	2.77	76	17752	2.02	ppb		96
26) Methyl t-butyl ether (MtBE	3.55	73	23104	2.09	ppb		92
27) Trans-1,2-DCE	3.50	61	9756	2.06	ppb		96
29) Diisopropyl Ether	4.36	45	20914	1.93	ppb		92
31) 1,1-DCA	4.14	63	12878	2.00	ppb	#	89
32) Vinyl Acetate	4.29	43	4342	1.99	ppb	#	93
33) Ethyl tert Butyl Ether	4.89	59	21839	1.97	ppb		99
34) MEK (2-Butanone)	5.06	43	4577	2.60	ppb		99
35) Cis-1,2-DCE	4.99	61	12371	2.05	ppb	#	87
36) 2,2-Dichloropropane	4.99	77	10920	2.04	ppb		91
39) Chloroform	5.46	83	14805	1.96	ppb		99
40) Bromochloromethane	5.31	49	7238	2.18	ppb	#	84
42) 1,1,1-TCA	5.67	97	11966	2.00	ppb		97
43) Cyclohexane	5.75	56	7967	1.94	ppb		96
44) 1,1-Dichloropropene	5.90	75	8278	1.90	ppb		95
45) 2,2,4-Trimethylpentane	6.32	57	15832	2.00	ppb		96
47) Carbon Tetrachloride	5.89	117	10100	1.99	ppb		94
48) Tert Amyl Methyl Ether	6.36	73	20978	1.93	ppb		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0121T05.D Vial: 5
Acq On : 21 Jan 20 9:05 Operator:
Sample : 2ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 21 15:54 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
50)	1,2-DCA	6.16	62	12661	2.03	ppb		97
51)	Benzene	6.15	78	30396	1.96	ppb		98
52)	TCE	6.97	130	8472	1.86	ppb		88
53)	2-Pentanone	7.20	43	205159	71.51	ppb		100
54)	1,2-Dichloropropane	7.20	63	8122	2.04	ppb	#	95
55)	Bromodichloromethane	7.54	83	11188	1.95	ppb		93
56)	Methyl Cyclohexane	7.20	83	8862	1.99	ppb		83
57)	Dibromomethane	7.33	174	8131	2.20	ppb	#	90
58)	MIBK (methyl isobutyl ket	8.26	43	7082	1.94	ppb		94
59)	1-Bromo-2-chloroethane	7.88	63	6054	2.08	ppb		99
60)	2-Chloroethyl vinyl ether	7.93	106	3484	29.09	ppb	#	87
61)	Cis-1,3-Dichloropropene	8.07	75	11966	1.92	ppb		98
62)	Toluene	8.45	91	35076	1.94	ppb		97
63)	Trans-1,3-Dichloropropene	8.70	75	10674	1.84	ppb	#	88
64)	1,1,2-TCA	8.89	97	7569	1.85	ppb		95
65)	2-Hexanone	9.20	43	4251	3.50	ppb	#	94
68)	1,2-EDB	9.43	107	8363	1.98	ppb		97
69)	Tetrachloroethene	9.06	166	9135	1.89	ppb	#	86
70)	1-Chlorohexane	9.99	91	6208	2.55	ppb		96
71)	1,1,1,2-Tetrachloroethane	10.08	131	8808	1.86	ppb		95
72)	m&p-Xylene	10.26	91	50272	3.56	ppb		97
73)	o-Xylene	10.69	91	27516	1.83	ppb		94
74)	Styrene	10.71	104	19291	2.74	ppb		97
76)	1,3-Dichloropropane	9.07	76	13348	2.04	ppb		98
77)	Dibromochloromethane	9.32	129	9766	1.99	ppb		86
78)	Chlorobenzene	9.99	112	24343	1.95	ppb		95
79)	Ethylbenzene	10.13	91	35254	1.88	ppb		100
80)	Bromoform	10.88	173	7180	1.89	ppb		94
82)	Isopropylbenzene	11.11	105	30699	1.85	ppb		92
83)	1,1,2,2-Tetrachloroethane	11.41	83	11157	2.11	ppb		93
84)	1,2,3-Trichloropropane	11.45	110	3621	2.03	ppb	#	83
85)	t-1,4-Dichloro-2-Butene	11.48	53	1795	1.95	ppb		90
86)	Bromobenzene	11.41	77	17413	1.92	ppb		98
87)	n-Propylbenzene	11.56	91	33648	1.86	ppb		99
88)	4-Ethyltoluene	11.68	105	28035	1.80	ppb		90
89)	2-Chlorotoluene	11.64	91	26550	1.91	ppb		95
90)	1,3,5-Trimethylbenzene	11.75	105	26468	1.82	ppb		98
91)	4-Chlorotoluene	11.76	91	26605	1.91	ppb		98
92)	Tert-Butylbenzene	12.11	119	27523	1.90	ppb		93
93)	1,2,4-Trimethylbenzene	12.16	105	28540	1.85	ppb		98
94)	Sec-Butylbenzene	12.35	105	29041	1.82	ppb		93
95)	p-Isopropyltoluene	12.51	119	27324	1.92	ppb		97
96)	Benzyl Chloride	12.69	91	9680	1.94	ppb	#	90
97)	1,3-DCB	12.45	146	19029	2.00	ppb		98
98)	1,4-DCB	12.55	146	19690	1.98	ppb		97
99)	n-Butylbenzene	12.96	91	21634	1.82	ppb		96
100)	1,2-DCB	12.96	146	19085	1.94	ppb		97
101)	Hexachloroethane	13.25	201	5439	2.18	ppb		94
102)	1,2-Dibromo-3-chloropropan	13.80	157	1907	2.34	ppb		95
103)	1,2,4-Trichlorobenzene	14.73	180	11698	1.95	ppb		96
104)	Hexachlorobutadiene	14.93	225	6406	2.07	ppb		89
105)	Naphthalene	15.00	127	1079	3.07	ppb		93
106)	1,2,3-Trichlorobenzene	15.26	180	9842	1.80	ppb	#	77

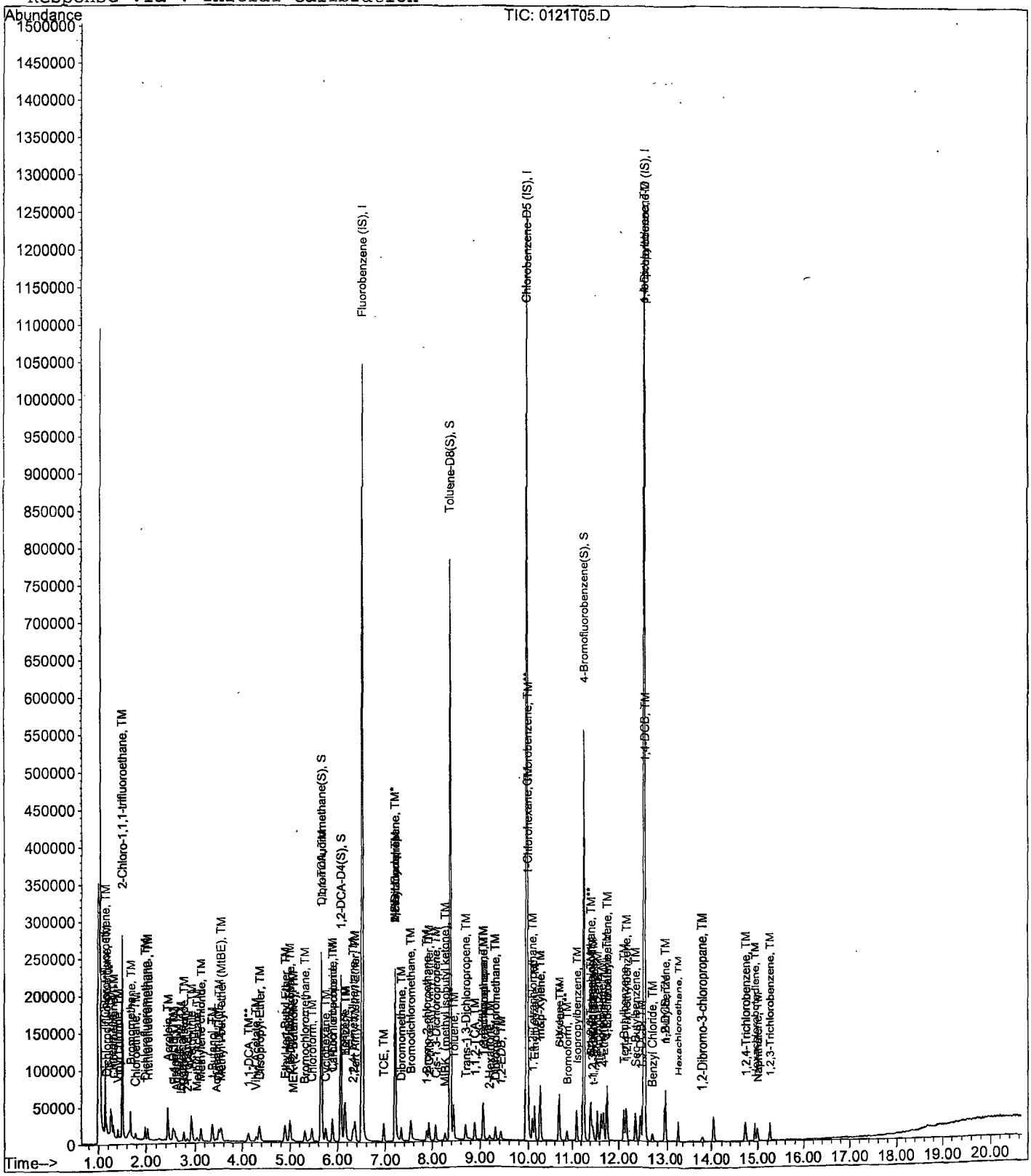
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0121T05.D Vial: 5
Acq On : 21 Jan 20 9:05 Operator:
Sample : 2ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 21 15:54 2020 Quant Results File: T0121W.RES

Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0121T06.D Vial: 6
Acq On : 21 Jan 20 9:34 Operator:
Sample : 5ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 21 15:54 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene (IS)	6.51	96	1014454	25.00	ppb		0.00
66) Chlorobenzene-D5 (IS)	9.96	117	790523	25.00	ppb		0.00
81) 1,4-Dichlorobenzene-D (IS)	12.52	152	420669	25.00	ppb		0.00
System Monitoring Compounds							
41) Dibromofluoromethane(S)	5.66	111	340025	26.13	ppb		0.00
Spiked Amount 25.000			Recovery = 104.524%				
46) 1,2-DCA-D4(S)	6.07	65	362839	26.16	ppb		0.00
Spiked Amount 25.000			Recovery = 104.624%				
67) Toluene-D8(S)	8.37	98	1238785	26.72	ppb		0.00
Spiked Amount 25.000			Recovery = 106.888%				
75) 4-Bromofluorobenzene(S)	11.25	95	433975	24.58	ppb		0.00
Spiked Amount 25.000			Recovery = 98.316%				
Target Compounds							Qvalue
2) Chlorotrifluoroethene	1.14	116	60396	42.08	ppb		98
3) Dichlorodifluoromethane	1.17	85	15263	5.07	ppb		93
4) Freon 114	1.28	85	15191	4.82	ppb		96
5) Chloromethane	1.32	50	21489	4.65	ppb		97
6) Vinyl chloride	1.41	62	18112	5.08	ppb		98
7) 2-Chloro-1,1,1-trifluoroet	1.50	118	183686	41.33	ppb		98
8) Bromomethane	1.68	96	18576	5.70	ppb		99
9) Chloroethane	1.78	64	12100	4.96	ppb		96
10) Dichlorofluoromethane	1.98	67	35339	5.14	ppb		96
11) Trichlorofluoromethane	2.03	101	24701	4.88	ppb		90
14) Acrolein	2.44	56	43745	104.38	ppb		93
15) Acetone	2.62	43	4316	4.50	ppb		99
16) Freon-113	2.58	101	13822	4.97	ppb	#	84
17) 1,1-DCE	2.55	61	23661	5.24	ppb		95
18) 2-Propanol	2.84	45	8822	38.84	ppb	#	85
19) Acetonitrile	2.92	40	12366	100.76	ppb	#	85
20) t-Butanol	3.36	59	17176	112.89	ppb		98
21) Methyl Acetate	3.04	43	15841	4.94	ppb		91
22) Iodomethane	2.70	142	3858	3.90	ppb		94
23) Acrylonitrile	3.45	52	6554	5.35	ppb		94
24) Methylene chloride	3.12	49	25046	5.02	ppb		94
25) Carbon disulfide	2.77	76	44057	5.01	ppb		100
26) Methyl t-butyl ether (MtBE	3.55	73	55927	5.05	ppb		96
27) Trans-1,2-DCE	3.50	61	23096	4.88	ppb		98
29) Diisopropyl Ether	4.35	45	56221	5.18	ppb		99
31) 1,1-DCA	4.13	63	33537	5.20	ppb		98
32) Vinyl Acetate	4.29	43	10767	4.93	ppb		95
33) Ethyl tert Butyl Ether	4.89	59	56602	5.09	ppb		96
34) MEK (2-Butanone)	5.05	43	9359	5.26	ppb	#	86
35) Cis-1,2-DCE	5.00	61	30437	5.04	ppb		98
36) 2,2-Dichloropropane	4.99	77	27182	5.08	ppb		96
39) Chloroform	5.46	83	38702	5.11	ppb		97
40) Bromochloromethane	5.31	49	16112	4.86	ppb		96
42) 1,1,1-TCA	5.67	97	30414	5.07	ppb		96
43) Cyclohexane	5.75	56	19044	4.64	ppb		96
44) 1,1-Dichloropropene	5.90	75	22019	5.04	ppb		97
45) 2,2,4-Trimethylpentane	6.32	57	35465	4.47	ppb		98
47) Carbon Tetrachloride	5.89	117	25112	4.93	ppb		98
48) Tert Amyl Methyl Ether	6.37	73	54283	4.99	ppb		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0121T06.D Vial: 6
Acq On : 21 Jan 20 9:34 Operator:
Sample : 5ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 21 15:54 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
50)	1,2-DCA	6.17	62	32354	5.17	ppb		98
51)	Benzene	6.15	78	78727	5.08	ppb		98
52)	TCE	6.96	130	23789	5.22	ppb		98
53)	2-Pentanone	7.20	43	281616	98.09	ppb		100
54)	1,2-Dichloropropane	7.21	63	20001	5.01	ppb	#	97
55)	Bromodichloromethane	7.54	83	28643	4.99	ppb		92
56)	Methyl Cyclohexane	7.20	83	20774	4.67	ppb		91
57)	Dibromomethane	7.33	174	18331	4.94	ppb		98
58)	MIBK (methyl isobutyl ket	8.26	43	16333	4.47	ppb		92
59)	1-Bromo-2-chloroethane	7.88	63	14869	5.11	ppb		96
60)	2-Chloroethyl vinyl ether	7.93	106	4947	37.00	ppb	#	87
61)	Cis-1,3-Dichloropropene	8.07	75	30202	4.85	ppb		99
62)	Toluene	8.45	91	90788	5.01	ppb		98
63)	Trans-1,3-Dichloropropene	8.70	75	27773	4.77	ppb		97
64)	1,1,2-TCA	8.89	97	21067	5.14	ppb		95
65)	2-Hexanone	9.20	43	10614	5.68	ppb		96
68)	1,2-EDB	9.43	107	21113	5.05	ppb	#	100
69)	Tetrachloroethene	9.06	166	24593	5.15	ppb		95
70)	1-Chlorohexane	10.00	91	18198	5.36	ppb		95
71)	1,1,1,2-Tetrachloroethane	10.09	131	23466	5.02	ppb		100
72)	m&p-Xylene	10.26	91	139357	9.96	ppb		100
73)	o-Xylene	10.69	91	74068	4.97	ppb		95
74)	Styrene	10.70	104	52294	5.12	ppb		95
76)	1,3-Dichloropropane	9.07	76	33830	5.23	ppb		95
77)	Dibromochloromethane	9.31	129	24402	5.02	ppb		97
78)	Chlorobenzene	9.99	112	62373	5.04	ppb		99
79)	Ethylbenzene	10.13	91	90992	4.91	ppb		98
80)	Bromoform	10.88	173	18051	4.79	ppb		97
82)	Isopropylbenzene	11.11	105	85826	5.14	ppb		99
83)	1,1,2,2-Tetrachloroethane	11.41	83	26750	5.03	ppb		97
84)	1,2,3-Trichloropropane	11.45	110	9523	5.31	ppb		88
85)	t-1,4-Dichloro-2-Butene	11.48	53	4427	4.80	ppb	#	83
86)	Bromobenzene	11.41	77	47446	5.21	ppb		98
87)	n-Propylbenzene	11.56	91	92370	5.09	ppb		99
88)	4-Ethyltoluene	11.68	105	77503	4.96	ppb		100
89)	2-Chlorotoluene	11.64	91	68450	4.91	ppb		99
90)	1,3,5-Trimethylbenzene	11.75	105	75398	5.16	ppb		96
91)	4-Chlorotoluene	11.76	91	70926	5.06	ppb		99
92)	Tert-Butylbenzene	12.11	119	71681	4.92	ppb		96
93)	1,2,4-Trimethylbenzene	12.16	105	76228	4.92	ppb		96
94)	Sec-Butylbenzene	12.35	105	79982	4.98	ppb		99
95)	p-Isopropyltoluene	12.51	119	72192	5.05	ppb		98
96)	Benzyl Chloride	12.69	91	22653	4.52	ppb		93
97)	1,3-DCB	12.45	146	49438	5.18	ppb		98
98)	1,4-DCB	12.55	146	49991	5.00	ppb		94
99)	n-Butylbenzene	12.96	91	59629	5.01	ppb		95
100)	1,2-DCB	12.95	146	50493	5.12	ppb		99
101)	Hexachloroethane	13.25	201	13340	4.80	ppb	#	85
102)	1,2-Dibromo-3-chloropropan	13.79	157	5635	5.26	ppb		99
103)	1,2,4-Trichlorobenzene	14.73	180	29378	4.87	ppb		94
104)	Hexachlorobutadiene	14.93	225	17473	5.62	ppb		98
105)	Naphthalene	14.99	127	3400	5.62	ppb		79
106)	1,2,3-Trichlorobenzene	15.26	180	26596	4.85	ppb		96

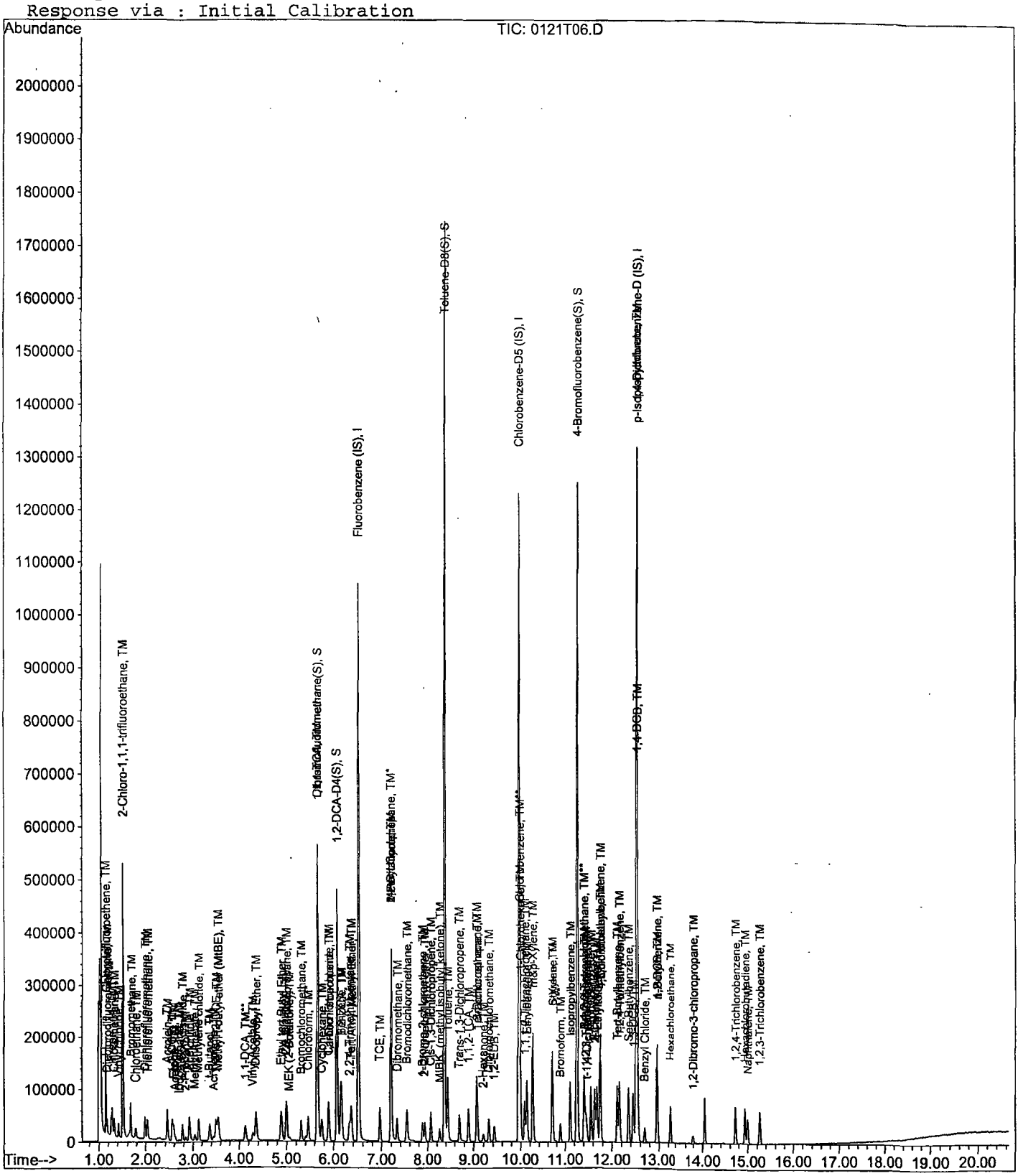
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0121T06.D Vial: 6
Acq On : 21 Jan 20 9:34 Operator:
Sample : 5ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 21 15:54 2020 Quant Results File: T0121W.RES

Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0121T07.D Vial: 7
Acq On : 21 Jan 20 10:02 Operator:
Sample : 10ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 21 15:54 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	1052818	25.00	ppb	0.00
66) Chlorobenzene-D5 (IS)	9.96	117	824642	25.00	ppb	0.00
81) 1,4-Dichlorobenzene-D (IS)	12.52	152	433370	25.00	ppb	0.00
System Monitoring Compounds						
41) Dibromofluoromethane(S)	5.66	111	344638	25.41	ppb	0.00
Spiked Amount 25.000			Recovery =	101.644%		
46) 1,2-DCA-D4(S)	6.07	65	369870	25.60	ppb	0.00
Spiked Amount 25.000			Recovery =	102.396%		
67) Toluene-D8(S)	8.37	98	1263271	25.99	ppb	0.00
Spiked Amount 25.000			Recovery =	103.976%		
75) 4-Bromofluorobenzene(S)	11.25	95	453846	24.65	ppb	0.00
Spiked Amount 25.000			Recovery =	98.584%		
Target Compounds						Qvalue
2) Chlorotrifluoroethene	1.14	116	149494	100.37	ppb	99
3) Dichlorodifluoromethane	1.17	85	29464	9.44	ppb	100
4) Freon 114	1.28	85	32142	9.82	ppb	100
5) Chloromethane	1.32	50	42471	10.03	ppb	100
6) Vinyl chloride	1.41	62	34547	9.33	ppb	100
7) 2-Chloro-1,1,1-trifluoroet	1.51	118	444296	96.33	ppb	99
8) Bromomethane	1.68	96	33096	10.52	ppb	100
9) Chloroethane	1.78	64	24034	9.73	ppb	100
10) Dichlorofluoromethane	1.98	67	69789	9.79	ppb	100
11) Trichlorofluoromethane	2.02	101	50679	9.64	ppb	100
14) Acrolein	2.44	56	55000	126.45	ppb	99
15) Acetone	2.62	43	7999	10.65	ppb	100
16) Freon-113	2.58	101	28359	9.83	ppb	100
17) 1,1-DCE	2.55	61	44121	9.41	ppb	100
18) 2-Propanol	2.85	45	22969	97.43	ppb	100
19) Acetonitrile	2.93	40	17273	135.62	ppb	100
20) t-Butanol	3.37	59	20352	128.89	ppb	100
21) Methyl Acetate	3.03	43	29735	8.94	ppb	100
22) Iodomethane	2.70	142	11387	6.62	ppb	100
23) Acrylonitrile	3.45	52	12568	9.89	ppb	100
24) Methylene chloride	3.12	49	49458	9.55	ppb	100
25) Carbon disulfide	2.77	76	85603	9.37	ppb	100
26) Methyl t-butyl ether (MtBE	3.55	73	112777	9.82	ppb	100
27) Trans-1,2-DCE	3.50	61	47290	9.62	ppb	100
29) Diisopropyl Ether	4.35	45	110040	9.77	ppb	100
31) 1,1-DCA	4.13	63	64088	9.58	ppb	100
32) Vinyl Acetate	4.29	43	22544	9.95	ppb	100
33) Ethyl tert Butyl Ether	4.89	59	111572	9.68	ppb	100
34) MEK (2-Butanone)	5.05	43	16993	9.17	ppb	100
35) Cis-1,2-DCE	4.99	61	60205	9.61	ppb	100
36) 2,2-Dichloropropane	4.99	77	53233	9.59	ppb	100
39) Chloroform	5.46	83	75327	9.59	ppb	100
40) Bromochloromethane	5.31	49	33049	9.60	ppb	100
42) 1,1,1-TCA	5.68	97	60516	9.73	ppb	100
43) Cyclohexane	5.75	56	39719	9.32	ppb	100
44) 1,1-Dichloropropene	5.90	75	44001	9.71	ppb	100
45) 2,2,4-Trimethylpentane	6.32	57	75960	9.23	ppb	100
47) Carbon Tetrachloride	5.89	117	52741	9.98	ppb	100
48) Tert Amyl Methyl Ether	6.36	73	112129	9.93	ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0121T07.D Vial: 7
Acq On : 21 Jan 20 10:02 Operator:
Sample : 10ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 21 15:54 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
50)	1,2-DCA	6.17	62	63870	9.84	ppb	100
51)	Benzene	6.15	78	155971	9.70	ppb	100
52)	TCE	6.96	130	46083	9.74	ppb	100
53)	2-Pentanone	7.20	43	364684	122.39	ppb	100
54)	1,2-Dichloropropane	7.21	63	40119	9.68	ppb	100
55)	Bromodichloromethane	7.54	83	58783	9.86	ppb	100
56)	Methyl Cyclohexane	7.20	83	44677	9.67	ppb	100
57)	Dibromomethane	7.33	174	36805	9.57	ppb	100
58)	MIBK (methyl isobutyl ket	8.27	43	33880	8.93	ppb	100
59)	1-Bromo-2-chloroethane	7.88	63	29376	9.72	ppb	100
60)	2-Chloroethyl vinyl ether	7.93	106	6766	45.11	ppb	100
61)	Cis-1,3-Dichloropropene	8.07	75	63116	9.76	ppb	100
62)	Toluene	8.45	91	178422	9.49	ppb	100
63)	Trans-1,3-Dichloropropene	8.69	75	57485	9.52	ppb	100
64)	1,1,2-TCA	8.89	97	41433	9.75	ppb	100
65)	2-Hexanone	9.19	43	22847	9.58	ppb	100
68)	1,2-EDB	9.43	107	43603	9.99	ppb	100
69)	Tetrachloroethene	9.06	166	50478	10.13	ppb	100
70)	1-Chlorohexane	10.00	91	35945	9.15	ppb	100
71)	1,1,1,2-Tetrachloroethane	10.09	131	47600	9.76	ppb	100
72)	m&p-Xylene	10.26	91	280924	19.25	ppb	100
73)	o-Xylene	10.69	91	153530	9.88	ppb	100
74)	Styrene	10.70	104	111070	9.01	ppb	100
76)	1,3-Dichloropropane	9.07	76	67135	9.95	ppb	100
77)	Dibromochloromethane	9.31	129	50596	9.98	ppb	100
78)	Chlorobenzene	9.99	112	125190	9.70	ppb	100
79)	Ethylbenzene	10.13	91	186393	9.65	ppb	100
80)	Bromoform	10.88	173	38587	9.81	ppb	100
82)	Isopropylbenzene	11.11	105	176689	10.28	ppb	100
83)	1,1,2,2-Tetrachloroethane	11.41	83	56387	10.30	ppb	100
84)	1,2,3-Trichloropropane	11.45	110	18977	10.28	ppb	100
85)	t-1,4-Dichloro-2-Butene	11.47	53	9916	10.43	ppb	100
86)	Bromobenzene	11.41	77	95946	10.23	ppb	100
87)	n-Propylbenzene	11.56	91	182470	9.76	ppb	100
88)	4-Ethyltoluene	11.68	105	157879	9.80	ppb	100
89)	2-Chlorotoluene	11.64	91	141518	9.85	ppb	100
90)	1,3,5-Trimethylbenzene	11.75	105	155217	10.31	ppb	100
91)	4-Chlorotoluene	11.76	91	141667	9.81	ppb	100
92)	Tert-Butylbenzene	12.11	119	143244	9.55	ppb	100
93)	1,2,4-Trimethylbenzene	12.16	105	158685	9.93	ppb	100
94)	Sec-Butylbenzene	12.35	105	162153	9.80	ppb	100
95)	p-Isopropyltoluene	12.51	119	148773	10.10	ppb	100
96)	Benzyl Chloride	12.69	91	49997	9.69	ppb	100
97)	1,3-DCB	12.45	146	96840	9.85	ppb	100
98)	1,4-DCB	12.55	146	100121	9.72	ppb	100
99)	n-Butylbenzene	12.96	91	126693	10.32	ppb	100
100)	1,2-DCB	12.95	146	100128	9.85	ppb	100
101)	Hexachloroethane	13.25	201	30284	10.14	ppb	100
102)	1,2-Dibromo-3-chloropropan	13.79	157	11577	9.66	ppb	100
103)	1,2,4-Trichlorobenzene	14.73	180	59894	9.63	ppb	100
104)	Hexachlorobutadiene	14.93	225	35598	11.11	ppb	100
105)	Naphthalene	14.99	127	6896	9.24	ppb	100
106)	1,2,3-Trichlorobenzene	15.26	180	56216	9.95	ppb	100

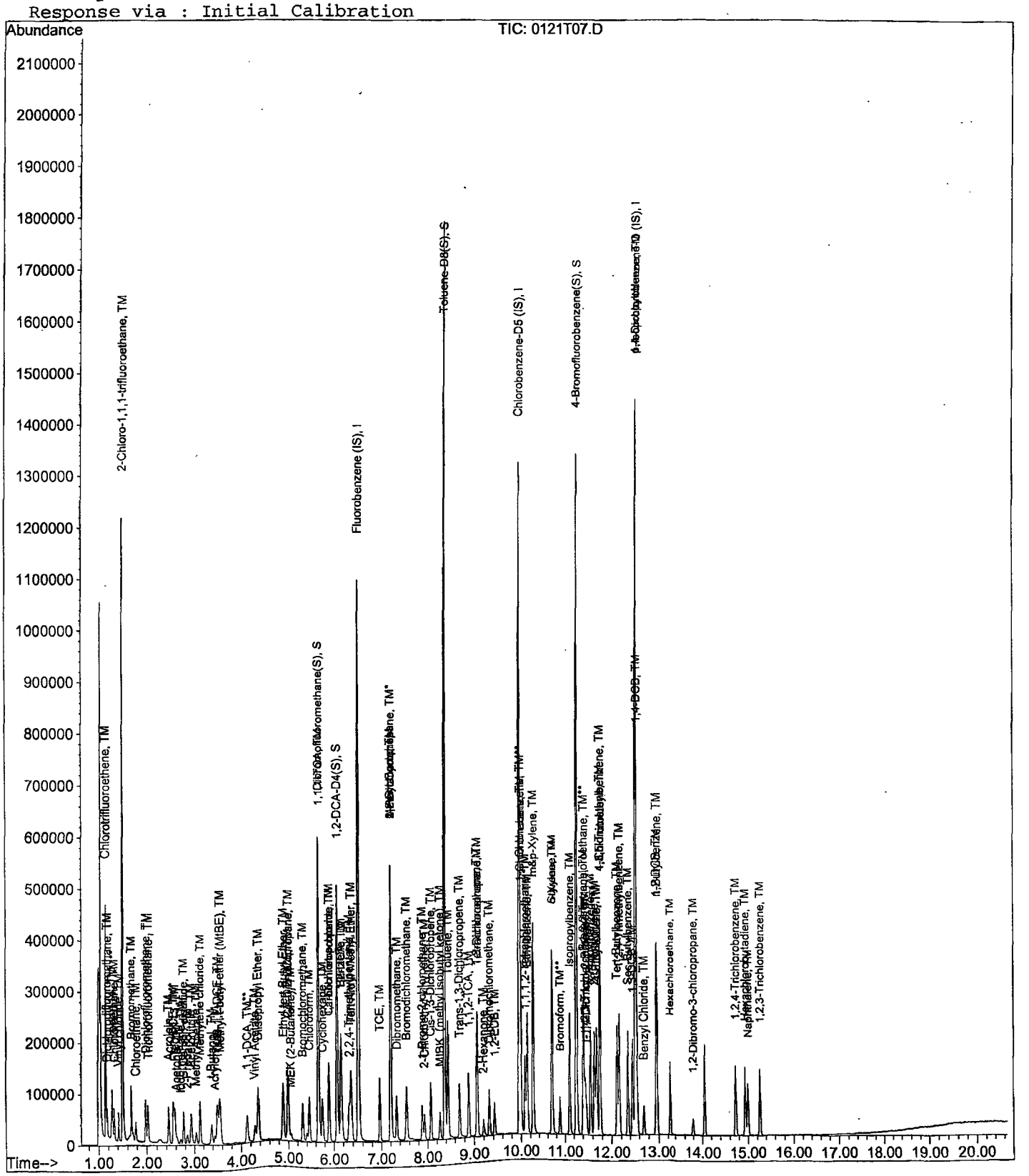
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0121T07.D Vial: 7
Acq On : 21 Jan 20 10:02 Operator:
Sample : 10ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 21 15:54 2020 Quant Results File: T0121W.RES

Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0121T08.D Vial: 8
Acq On : 21 Jan 20 10:30 Operator:
Sample : 20ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 21 15:54 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	1076126	25.00	ppb	0.00
66) Chlorobenzene-D5 (IS)	9.96	117	852719	25.00	ppb	0.00
81) 1,4-Dichlorobenzene-D (IS)	12.52	152	475060	25.00	ppb	0.00
System Monitoring Compounds						
41) Dibromofluoromethane(S)	5.66	111	651247	50.96	ppb	0.00
Spiked Amount 25.000			Recovery =	203.828%		
46) 1,2-DCA-D4(S)	6.07	65	693335	51.27	ppb	0.00
Spiked Amount 25.000			Recovery =	205.076%		
67) Toluene-D8(S)	8.37	98	2429130	53.27	ppb	0.00
Spiked Amount 25.000			Recovery =	213.084%		
75) 4-Bromofluorobenzene(S)	11.25	95	908776	49.65	ppb	0.00
Spiked Amount 25.000			Recovery =	198.596%		
Target Compounds						Qvalue
2) Chlorotrifluoroethene	1.14	116	182883	120.13	ppb	98
3) Dichlorodifluoromethane	1.17	85	63294	19.83	ppb	93
4) Freon 114	1.28	85	64179	19.18	ppb	95
5) Chloromethane	1.32	50	88283	21.73	ppb	99
6) Vinyl chloride	1.41	62	74149	19.59	ppb	98
7) 2-Chloro-1,1,1-trifluoroet	1.50	118	559758	118.73	ppb	99
8) Bromomethane	1.68	96	60376	19.58	ppb	98
9) Chloroethane	1.77	64	50228	20.16	ppb	98
10) Dichlorofluoromethane	1.97	67	142244	19.52	ppb	98
11) Trichlorofluoromethane	2.02	101	108479	20.19	ppb	89
14) Acrolein	2.44	56	66647	149.91	ppb	95
15) Acetone	2.62	43	14223	21.00	ppb	96
16) Freon-113	2.57	101	57134	19.37	ppb	94
17) 1,1-DCE	2.54	61	94146	19.65	ppb	94
18) 2-Propanol	2.86	45	30008	124.53	ppb	98
19) Acetonitrile	2.93	40	19665	151.06	ppb	90
20) t-Butanol	3.38	59	25072	155.35	ppb	93
21) Methyl Acetate	3.03	43	60365	17.75	ppb	99
22) Iodomethane	2.69	142	43300	17.31	ppb	92
23) Acrylonitrile	3.45	52	26638	20.50	ppb	92
24) Methylene chloride	3.12	49	101887	19.24	ppb	97
25) Carbon disulfide	2.76	76	183575	19.66	ppb	99
26) Methyl t-butyl ether (MtBE	3.55	73	234023	19.93	ppb	95
27) Trans-1,2-DCE	3.50	61	97878	19.49	ppb	97
29) Diisopropyl Ether	4.36	45	234774	20.39	ppb	100
31) 1,1-DCA	4.13	63	133620	19.55	ppb	98
32) Vinyl Acetate	4.29	43	50017	21.59	ppb	98
33) Ethyl tert Butyl Ether	4.89	59	241760	20.51	ppb	99
34) MEK (2-Butanone)	5.05	43	37592	19.78	ppb	92
35) Cis-1,2-DCE	4.99	61	128798	20.11	ppb	98
36) 2,2-Dichloropropane	4.99	77	111773	19.71	ppb	100
39) Chloroform	5.45	83	158222	19.71	ppb	94
40) Bromochloromethane	5.31	49	70429	20.01	ppb	95
42) 1,1,1-TCA	5.67	97	128997	20.28	ppb	97
43) Cyclohexane	5.75	56	88102	20.22	ppb	98
44) 1,1-Dichloropropene	5.90	75	94568	20.41	ppb	96
45) 2,2,4-Trimethylpentane	6.32	57	166188	19.75	ppb	96
47) Carbon Tetrachloride	5.89	117	108438	20.08	ppb	100
48) Tert Amyl Methyl Ether	6.36	73	240559	20.83	ppb	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0121T08.D Vial: 8
Acq On : 21 Jan 20 10:30 Operator:
Sample : 20ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 21 15:54 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

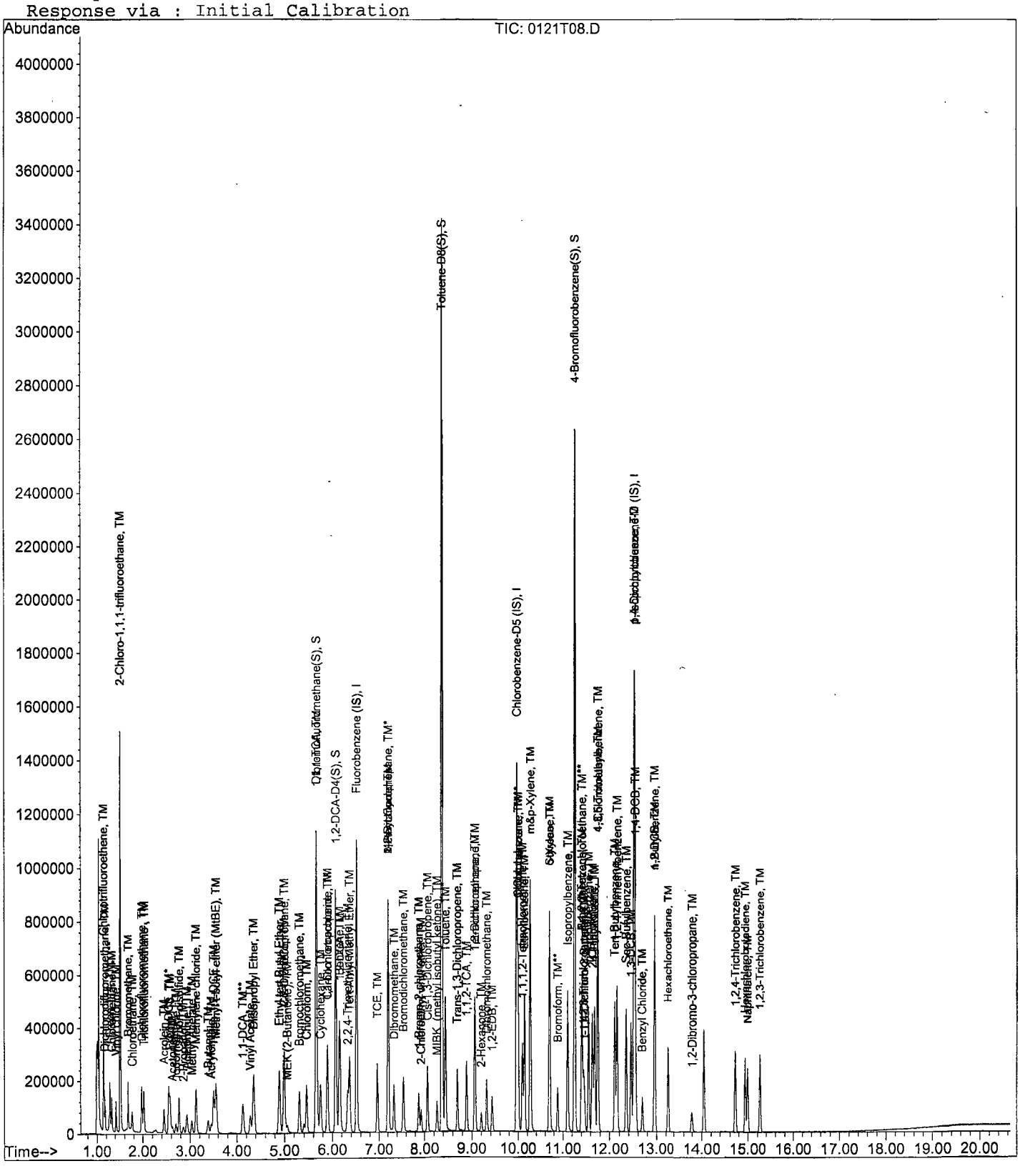
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
50)	1,2-DCA	6.17	62	126506	19.07	ppb	98
51)	Benzene	6.15	78	327958	19.96	ppb	98
52)	TCE	6.96	130	95870	19.82	ppb	91
53)	2-Pentanone	7.20	43	481940	158.24	ppb	99
54)	1,2-Dichloropropane	7.21	63	83971	19.83	ppb	98
55)	Bromodichloromethane	7.54	83	124991	20.52	ppb	98
56)	Methyl Cyclohexane	7.20	83	96070	20.35	ppb	95
57)	Dibromomethane	7.33	174	78959	20.08	ppb	97
58)	MIBK (methyl isobutyl ket	8.27	43	73353	18.92	ppb	96
59)	1-Bromo-2-chloroethane	7.88	63	62592	20.27	ppb	95
60)	2-Chloroethyl vinyl ether	7.93	106	11858	67.12	ppb	100
61)	Cis-1,3-Dichloropropene	8.07	75	137375	20.79	ppb	97
62)	Toluene	8.45	91	384888	20.03	ppb	100
63)	Trans-1,3-Dichloropropene	8.69	75	127017	20.58	ppb	98
64)	1,1,2-TCA	8.89	97	88633	20.40	ppb	96
65)	2-Hexanone	9.19	43	48967	17.86	ppb	96
68)	1,2-EDB	9.43	107	92053	20.40	ppb	98
69)	Tetrachloroethene	9.06	166	104453	20.27	ppb	98
70)	1-Chlorohexane	10.00	91	82121	18.87	ppb	97
71)	1,1,1,2-Tetrachloroethane	10.09	131	102397	20.29	ppb	97
72)	m&p-Xylene	10.26	91	630657	41.79	ppb	97
73)	o-Xylene	10.69	91	337410	21.01	ppb	98
74)	Styrene	10.70	104	260171	18.67	ppb	99
76)	1,3-Dichloropropane	9.07	76	141824	20.32	ppb	96
77)	Dibromochloromethane	9.31	129	108154	20.64	ppb	97
78)	Chlorobenzene	9.99	112	265501	19.90	ppb	99
79)	Ethylbenzene	10.13	91	411004	20.58	ppb	99
80)	Bromoform	10.88	173	86728	21.32	ppb	100
82)	Isopropylbenzene	11.11	105	397064	21.07	ppb	99
83)	1,1,2,2-Tetrachloroethane	11.41	83	118793	19.80	ppb	97
84)	1,2,3-Trichloropropane	11.45	110	40723	20.12	ppb	88
85)	t-1,4-Dichloro-2-Butene	11.47	53	22606	21.69	ppb	88
86)	Bromobenzene	11.41	77	207057	20.14	ppb	99
87)	n-Propylbenzene	11.56	91	423024	20.65	ppb	99
88)	4-Ethyltoluene	11.68	105	353833	20.04	ppb	99
89)	2-Chlorotoluene	11.64	91	320436	20.36	ppb	99
90)	1,3,5-Trimethylbenzene	11.75	105	346099	20.98	ppb	100
91)	4-Chlorotoluene	11.76	91	321646	20.31	ppb	98
92)	Tert-Butylbenzene	12.11	119	338600	20.59	ppb	98
93)	1,2,4-Trimethylbenzene	12.16	105	353744	20.20	ppb	99
94)	Sec-Butylbenzene	12.35	105	373121	20.57	ppb	100
95)	p-Isopropyltoluene	12.51	119	330744	20.49	ppb	99
96)	Benzyl Chloride	12.69	91	112049	19.82	ppb	98
97)	1,3-DCB	12.45	146	217787	20.21	ppb	99
98)	1,4-DCB	12.55	146	218387	19.34	ppb	99
99)	n-Butylbenzene	12.96	91	275951	20.51	ppb	98
100)	1,2-DCB	12.95	146	215390	19.34	ppb	97
101)	Hexachloroethane	13.25	201	67271	20.19	ppb	95
102)	1,2-Dibromo-3-chloropropan	13.79	157	26651	19.36	ppb	97
103)	1,2,4-Trichlorobenzene	14.73	180	134324	19.70	ppb	99
104)	Hexachlorobutadiene	14.93	225	72572	20.66	ppb	91
105)	Naphthalene	14.99	127	15758	17.23	ppb	92
106)	1,2,3-Trichlorobenzene	15.26	180	128721	20.79	ppb	98

(#) = qualifier out of range (m) = manual integration

Data File : M:\THOR\DATA\T200121\0121T08.D Vial: 8
Acq On : 21 Jan 20 10:30 Operator:
Sample : 20ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 21 15:54 2020 Quant Results File: T0121W.RES

Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0121T09.D Vial: 9
Acq On : 21 Jan 20 10:59 Operator:
Sample : 40ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 21 15:54 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	1054648	25.00	ppb	0.00
66) Chlorobenzene-D5 (IS)	9.96	117	894422	25.00	ppb	0.00
81) 1,4-Dichlorobenzene-D (IS)	12.52	152	515905	25.00	ppb	0.00
System Monitoring Compounds						
41) Dibromofluoromethane(S)	5.66	111	618615	49.24	ppb	0.00
Spiked Amount 25.000			Recovery =	196.980%		
46) 1,2-DCA-D4(S)	6.07	65	655265	49.26	ppb	0.00
Spiked Amount 25.000			Recovery =	197.024%		
67) Toluene-D8(S)	8.37	98	2407625	50.02	ppb	0.00
Spiked Amount 25.000			Recovery =	200.084%		
75) 4-Bromofluorobenzene(S)	11.26	95	948175	49.37	ppb	0.00
Spiked Amount 25.000			Recovery =	197.500%		
Target Compounds						Qvalue
2) Chlorotrifluoroethene	1.14	116	202699	135.86	ppb	98
3) Dichlorodifluoromethane	1.17	85	117291	37.50	ppb	95
4) Freon 114	1.28	85	118373	36.10	ppb	97
5) Chloromethane	1.32	50	161623	41.72	ppb	99
6) Vinyl chloride	1.42	62	134164	36.17	ppb	96
7) 2-Chloro-1,1,1-trifluoroet	1.50	118	635844	137.62	ppb	99
8) Bromomethane	1.68	96	88824	29.91	ppb	97
9) Chloroethane	1.77	64	57199	23.46	ppb	97
10) Dichlorofluoromethane	1.97	67	269362	37.72	ppb	98
11) Trichlorofluoromethane	2.01	101	201905	38.35	ppb	93
14) Acrolein	2.44	56	74737	171.53	ppb	95
15) Acetone	2.63	43	26111	42.24	ppb	94
16) Freon-113	2.57	101	105771	36.59	ppb	96
17) 1,1-DCE	2.54	61	175251	37.32	ppb	97
18) 2-Propanol	2.87	45	35948	152.22	ppb	96
19) Acetonitrile	2.93	40	23716	185.88	ppb	93
20) t-Butanol	3.40	59	28968	183.14	ppb	97
21) Methyl Acetate	3.03	43	120496	36.16	ppb	97
22) Iodomethane	2.69	142	127591	42.48	ppb	92
23) Acrylonitrile	3.45	52	52835	41.49	ppb	89
24) Methylene chloride	3.12	49	195429	37.65	ppb	97
25) Carbon disulfide	2.76	76	345888	37.80	ppb	97
26) Methyl t-butyl ether (MtBE	3.55	73	454331	39.47	ppb	96
27) Trans-1,2-DCE	3.50	61	184858	37.55	ppb	97
29) Diisopropyl Ether	4.36	45	453966	40.23	ppb	99
31) 1,1-DCA	4.13	63	253490	37.84	ppb	98
32) Vinyl Acetate	4.29	43	96304	42.41	ppb	97
33) Ethyl tert Butyl Ether	4.89	59	471334	40.80	ppb	98
34) MEK (2-Butanone)	5.05	43	72222	38.73	ppb	91
35) Cis-1,2-DCE	4.99	61	244673	38.98	ppb	99
36) 2,2-Dichloropropane	4.99	77	214464	38.58	ppb	99
39) Chloroform	5.46	83	305203	38.79	ppb	95
40) Bromochloromethane	5.31	49	133369	38.66	ppb	94
42) 1,1,1-TCA	5.68	97	239600	38.44	ppb	97
43) Cyclohexane	5.75	56	170868	40.01	ppb	99
44) 1,1-Dichloropropene	5.90	75	182143	40.11	ppb	96
45) 2,2,4-Trimethylpentane	6.32	57	321757	39.01	ppb	98
47) Carbon Tetrachloride	5.89	117	206419	38.99	ppb	98
48) Tert Amyl Methyl Ether	6.36	73	479954	42.42	ppb	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0121T09.D Vial: 9
Acq On : 21 Jan 20 10:59 Operator:
Sample : 40ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 21 15:54 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
50)	1,2-DCA	6.16	62	245527	37.76 ppb	98
51)	Benzene	6.15	78	627743	38.98 ppb	98
52)	TCE	6.96	130	184547	38.94 ppb	96
53)	2-Pentanone	7.21	43	593462	198.82 ppb	99
54)	1,2-Dichloropropane	7.21	63	162975	39.27 ppb	99
55)	Bromodichloromethane	7.54	83	245468	41.11 ppb	97
56)	Methyl Cyclohexane	7.20	83	185698	40.14 ppb	96
57)	Dibromomethane	7.33	174	153486	39.83 ppb	95
58)	MIBK (methyl isobutyl ket	8.27	43	162798	42.84 ppb	97
59)	1-Bromo-2-chloroethane	7.88	63	119448	39.47 ppb	95
60)	2-Chloroethyl vinyl ether	7.93	106	19756	99.27 ppb	99
61)	Cis-1,3-Dichloropropene	8.07	75	275552	42.54 ppb	97
62)	Toluene	8.45	91	771076	40.95 ppb	99
63)	Trans-1,3-Dichloropropene	8.69	75	261977	43.31 ppb	97
64)	1,1,2-TCA	8.89	97	183228	43.04 ppb	96
65)	2-Hexanone	9.20	43	106475	37.13 ppb	99
68)	1,2-EDB	9.43	107	190276	40.19 ppb	99
69)	Tetrachloroethene	9.06	166	202797	37.52 ppb	97
70)	1-Chlorohexane	10.00	91	174011	36.99 ppb	98
71)	1,1,1,2-Tetrachloroethane	10.09	131	215047	40.63 ppb	97
72)	m&p-Xylene	10.26	91	1340898	84.72 ppb	97
73)	o-Xylene	10.69	91	728284	43.23 ppb	98
74)	Styrene	10.70	104	580797	38.19 ppb	98
76)	1,3-Dichloropropane	9.07	76	285992	39.07 ppb	99
77)	Dibromochloromethane	9.32	129	229456	41.75 ppb	95
78)	Chlorobenzene	9.99	112	551214	39.39 ppb	99
79)	Ethylbenzene	10.13	91	856351	40.87 ppb	99
80)	Bromoform	10.88	173	185295	43.43 ppb	99
82)	Isopropylbenzene	11.11	105	857693	41.92 ppb	98
83)	1,1,2,2-Tetrachloroethane	11.41	83	257156	39.46 ppb	98
84)	1,2,3-Trichloropropane	11.45	110	86535	39.37 ppb	95
85)	t-1,4-Dichloro-2-Butene	11.47	53	51455	45.45 ppb	93
86)	Bromobenzene	11.41	77	448280	40.14 ppb	97
87)	n-Propylbenzene	11.56	91	926311	41.63 ppb	100
88)	4-Ethyltoluene	11.68	105	788291	41.11 ppb	98
89)	2-Chlorotoluene	11.64	91	688336	40.26 ppb	100
90)	1,3,5-Trimethylbenzene	11.75	105	756063	42.20 ppb	100
91)	4-Chlorotoluene	11.76	91	709213	41.24 ppb	99
92)	Tert-Butylbenzene	12.11	119	733765	41.09 ppb	99
93)	1,2,4-Trimethylbenzene	12.16	105	779496	40.99 ppb	99
94)	Sec-Butylbenzene	12.35	105	839271	42.60 ppb	98
95)	p-Isopropyltoluene	12.51	119	727526	41.50 ppb	99
96)	Benzyl Chloride	12.69	91	244403	39.80 ppb	99
97)	1,3-DCB	12.45	146	467874	39.98 ppb	99
98)	1,4-DCB	12.55	146	471615	38.46 ppb	98
99)	n-Butylbenzene	12.96	91	603110	41.28 ppb	99
100)	1,2-DCB	12.95	146	473147	39.11 ppb	100
101)	Hexachloroethane	13.25	201	142211	38.96 ppb	92
102)	1,2-Dibromo-3-chloropropan	13.79	157	59275	38.77 ppb	98
103)	1,2,4-Trichlorobenzene	14.73	180	302706	40.88 ppb	99
104)	Hexachlorobutadiene	14.93	225	150112	39.35 ppb	93
105)	Naphthalene	14.99	127	38160	36.11 ppb	95
106)	1,2,3-Trichlorobenzene	15.26	180	283936	42.22 ppb	100

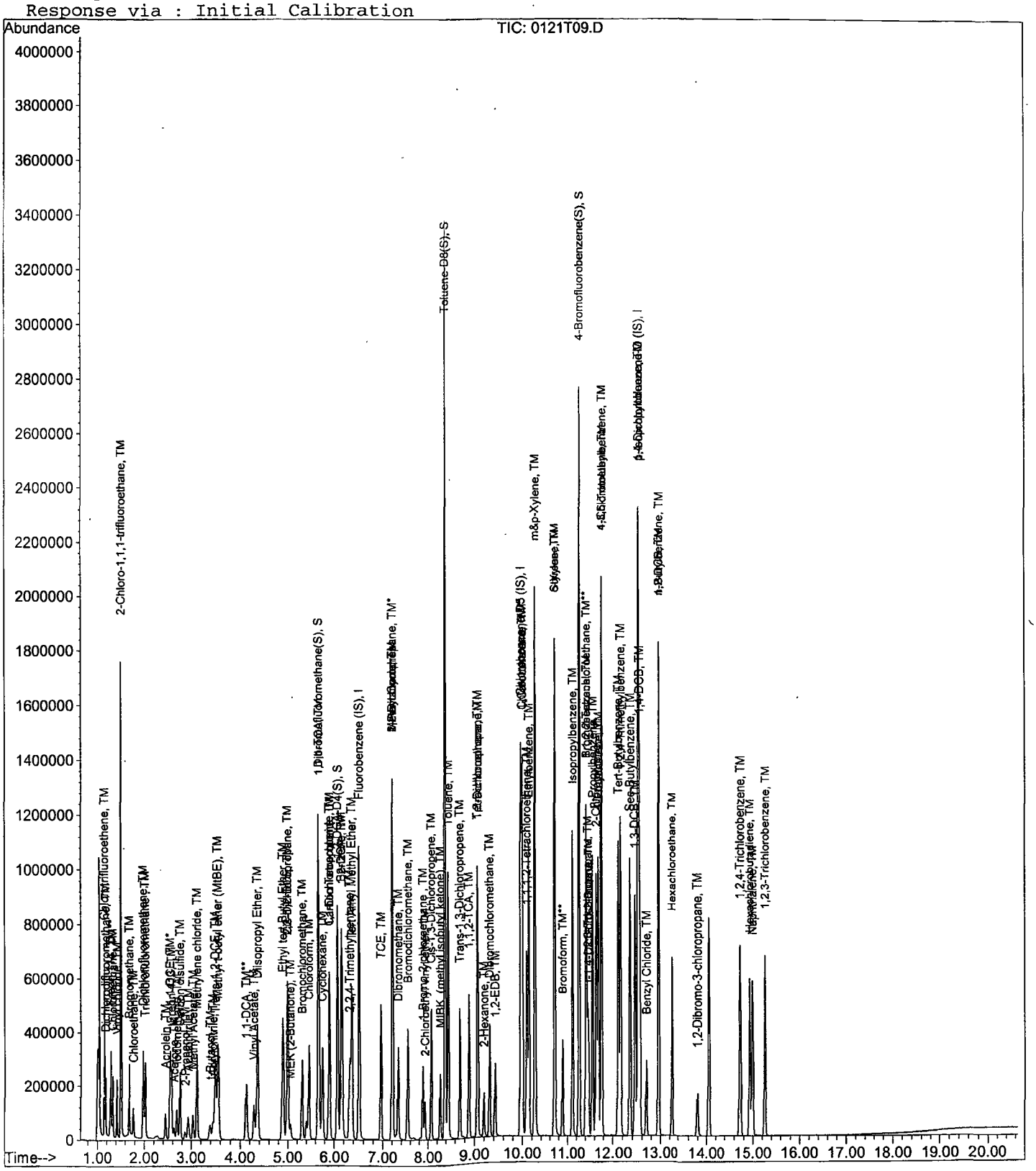
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0121T09.D Vial: 9
Acq On : 21 Jan 20 10:59 Operator:
Sample : 40ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 21 15:54 2020 Quant Results File: T0121W.RES

Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0121T10.D Vial: 10
Acq On : 21 Jan 20 11:27 Operator:
Sample : 100ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 21 15:54 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene (IS)	6.51	96	1065218	25.00	ppb		0.00
66) Chlorobenzene-D5 (IS)	9.96	117	916624	25.00	ppb		0.00
81) 1,4-Dichlorobenzene-D (IS)	12.52	152	565783	25.00	ppb		0.00
System Monitoring Compounds							
41) Dibromofluoromethane(S)	5.66	111	1208474	99.62	ppb		0.00
Spiked Amount 25.000			Recovery =	398.500%			
46) 1,2-DCA-D4(S)	6.07	65	1271687	99.42	ppb		0.00
Spiked Amount 25.000			Recovery =	397.676%			
67) Toluene-D8(S)	8.37	98	4589751	97.98	ppb		0.00
Spiked Amount 25.000			Recovery =	391.936%			
75) 4-Bromofluorobenzene(S)	11.26	95	1940451	100.65	ppb		0.00
Spiked Amount 25.000			Recovery =	402.584%			
Target Compounds							Qvalue
2) Chlorotrifluoroethene	1.14	116	234471	155.59	ppb		100
3) Dichlorodifluoromethane	1.17	85	292201	92.49	ppb		96
4) Freon 114	1.28	85	308794	93.23	ppb		100
5) Chloromethane	1.32	50	380597	99.00	ppb		99
6) Vinyl chloride	1.41	62	339058	90.50	ppb		97
7) 2-Chloro-1,1,1-trifluoroet	1.51	118	741931	158.99	ppb		100
8) Bromomethane	1.68	96	184128	62.47	ppb		98
9) Chloroethane	1.76	64	124932	51.03	ppb		97
10) Dichlorofluoromethane	1.96	67	689483	95.58	ppb		97
11) Trichlorofluoromethane	2.00	101	519736	97.73	ppb		91
14) Acrolein	2.45	56	84981	193.10	ppb		92
15) Acetone	2.64	43	59169	98.91	ppb		97
16) Freon-113	2.56	101	284026	97.27	ppb		96
17) 1,1-DCE	2.53	61	459847	96.96	ppb		96
18) 2-Propanol	2.90	45	43404	181.97	ppb		90
19) Acetonitrile	2.95	40	21166	164.25	ppb	#	90
20) t-Butanol	3.42	59	36848	230.65	ppb		97
21) Methyl Acetate	3.04	43	326003	96.87	ppb		97
22) Iodomethane	2.69	142	388993	99.80	ppb		93
23) Acrylonitrile	3.46	52	133527	103.81	ppb		94
24) Methylene chloride	3.12	49	489786	93.43	ppb		98
25) Carbon disulfide	2.75	76	913407	98.83	ppb		97
26) Methyl t-butyl ether (MtBE	3.56	73	1185788	102.00	ppb		96
27) Trans-1,2-DCE	3.50	61	480666	96.67	ppb		97
29) Diisopropyl Ether	4.36	45	1171036	102.76	ppb		97
31) 1,1-DCA	4.13	63	653831	96.63	ppb		98
32) Vinyl Acetate	4.29	43	233600	101.86	ppb		98
33) Ethyl tert Butyl Ether	4.90	59	1234540	105.81	ppb		100
34) MEK (2-Butanone)	5.06	43	189778	100.68	ppb		92
35) Cis-1,2-DCE	4.99	61	624609	98.52	ppb		98
36) 2,2-Dichloropropane	4.99	77	556329	99.10	ppb		99
39) Chloroform	5.46	83	781573	98.36	ppb		98
40) Bromochloromethane	5.31	49	332624	95.46	ppb		93
42) 1,1,1-TCA	5.67	97	637624	101.29	ppb		98
43) Cyclohexane	5.75	56	466966	108.25	ppb		99
44) 1,1-Dichloropropene	5.90	75	483037	105.30	ppb		96
45) 2,2,4-Trimethylpentane	6.32	57	890440	106.89	ppb		96
47) Carbon Tetrachloride	5.89	117	543183	101.59	ppb		95
48) Tert Amyl Methyl Ether	6.37	73	1254546	109.77	ppb		96

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0121T10.D Vial: 10
Acq On : 21 Jan 20 11:27 Operator:
Sample : 100ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 21 15:54 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
50)	1,2-DCA	6.17	62	622637	94.81	ppb	97
51)	Benzene	6.15	78	1632509	100.37	ppb	98
52)	TCE	6.96	130	487497	101.84	ppb	94
53)	2-Pentanone	7.21	43	738342	244.91	ppb	100
54)	1,2-Dichloropropane	7.21	63	431033	102.82	ppb	99
55)	Bromodichloromethane	7.54	83	653917	108.43	ppb	99
56)	Methyl Cyclohexane	7.20	83	506976	108.50	ppb	91
57)	Dibromomethane	7.33	174	396027	101.74	ppb	94
58)	MIBK (methyl isobutyl ket	8.27	43	447646	116.63	ppb	97
59)	1-Bromo-2-chloroethane	7.88	63	326080	106.69	ppb	97
60)	2-Chloroethyl vinyl ether	7.93	106	53926	199.98	ppb	99
61)	Cis-1,3-Dichloropropene	8.07	75	758982	116.02	ppb	95
62)	Toluene	8.45	91	1957086	102.91	ppb	99
63)	Trans-1,3-Dichloropropene	8.70	75	719391	117.75	ppb	95
64)	1,1,2-TCA	8.89	97	473840	110.19	ppb	95
65)	2-Hexanone	9.20	43	304972	101.54	ppb	98
68)	1,2-EDB	9.43	107	515312	106.22	ppb	99
69)	Tetrachloroethene	9.06	166	523299	94.47	ppb	98
70)	1-Chlorohexane	10.00	91	498897	101.47	ppb	96
71)	1,1,1,2-Tetrachloroethane	10.09	131	583829	107.64	ppb	98
72)	m&p-Xylene	10.26	91	3551060	218.92	ppb	98
73)	o-Xylene	10.69	91	1946656	112.75	ppb	97
74)	Styrene	10.71	104	1611706	101.05	ppb	98
76)	1,3-Dichloropropane	9.07	76	759219	101.20	ppb	100
77)	Dibromochloromethane	9.32	129	631371	112.09	ppb	100
78)	Chlorobenzene	9.99	112	1427057	99.51	ppb	99
79)	Ethylbenzene	10.13	91	2265790	105.52	ppb	100
80)	Bromoform	10.88	173	517736	118.42	ppb	99
82)	Isopropylbenzene	11.11	105	2341115	104.33	ppb	99
83)	1,1,2,2-Tetrachloroethane	11.41	83	687956	96.27	ppb	98
84)	1,2,3-Trichloropropane	11.45	110	229718	95.29	ppb	94
85)	t-1,4-Dichloro-2-Butene	11.47	53	144930	116.74	ppb	87
86)	Bromobenzene	11.41	77	1205224	98.41	ppb	98
87)	n-Propylbenzene	11.56	91	2632990	107.89	ppb	99
88)	4-Ethyltoluene	11.68	105	2254712	107.22	ppb	98
89)	2-Chlorotoluene	11.64	91	1880411	100.30	ppb	98
90)	1,3,5-Trimethylbenzene	11.75	105	2041787	103.91	ppb	100
91)	4-Chlorotoluene	11.76	91	1953454	103.58	ppb	100
92)	Tert-Butylbenzene	12.11	119	2041371	104.24	ppb	100
93)	1,2,4-Trimethylbenzene	12.16	105	2100620	100.72	ppb	100
94)	Sec-Butylbenzene	12.35	105	2421016	112.05	ppb	100
95)	p-Isopropyltoluene	12.51	119	2099825	109.21	ppb	100
96)	Benzyl Chloride	12.69	91	729222	108.29	ppb	99
97)	1,3-DCB	12.45	146	1299940	101.29	ppb	99
98)	1,4-DCB	12.55	146	1306402	97.13	ppb	99
99)	n-Butylbenzene	12.96	91	1627991	101.61	ppb	99
100)	1,2-DCB	12.95	146	1305325	98.39	ppb	98
101)	Hexachloroethane	13.25	201	404099	100.37	ppb	87
102)	1,2-Dibromo-3-chloropropan	13.79	157	170994	100.63	ppb	98
103)	1,2,4-Trichlorobenzene	14.73	180	883580	108.81	ppb	100
104)	Hexachlorobutadiene	14.93	225	430491	102.90	ppb	93
105)	Naphthalene	14.99	127	122528	102.11	ppb	96
106)	1,2,3-Trichlorobenzene	15.26	180	823407	111.64	ppb	98

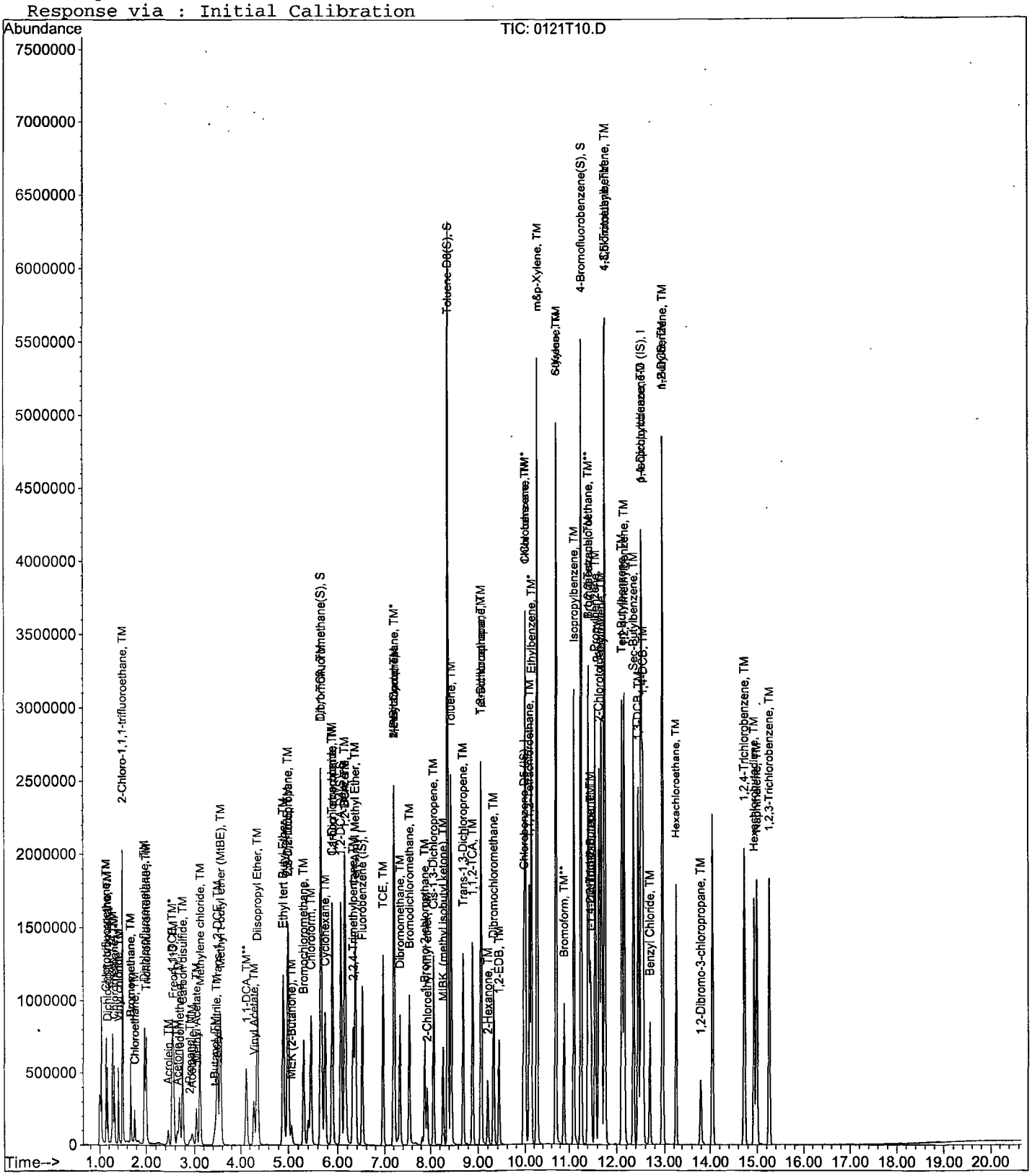
(#) = qualifier out of range (m) = manual integration

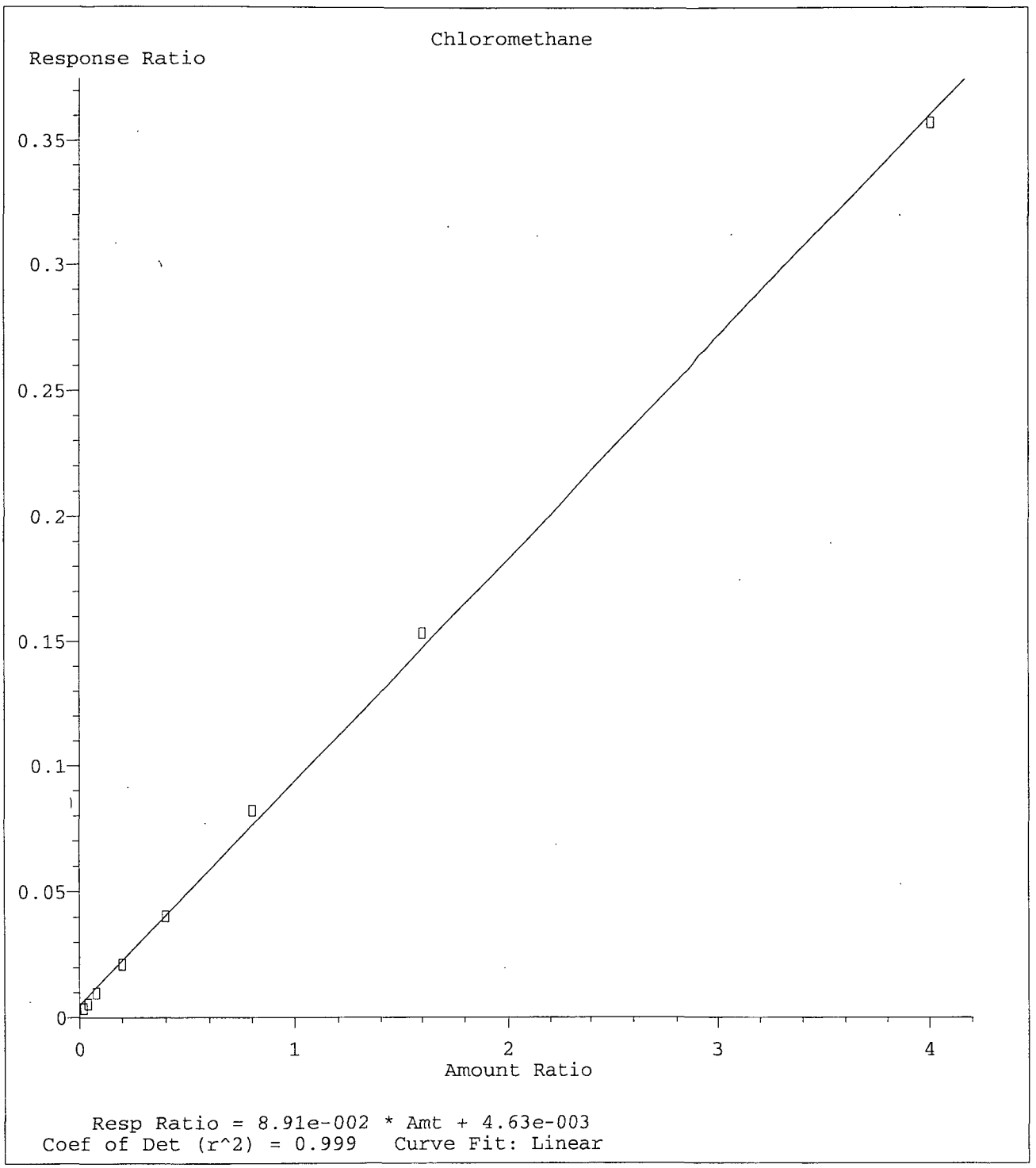
Quantitation Report

Data File : M:\THOR\DATA\T200121\0121T10.D Vial: 10
Acq On : 21 Jan 20 11:27 Operator:
Sample : 100ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

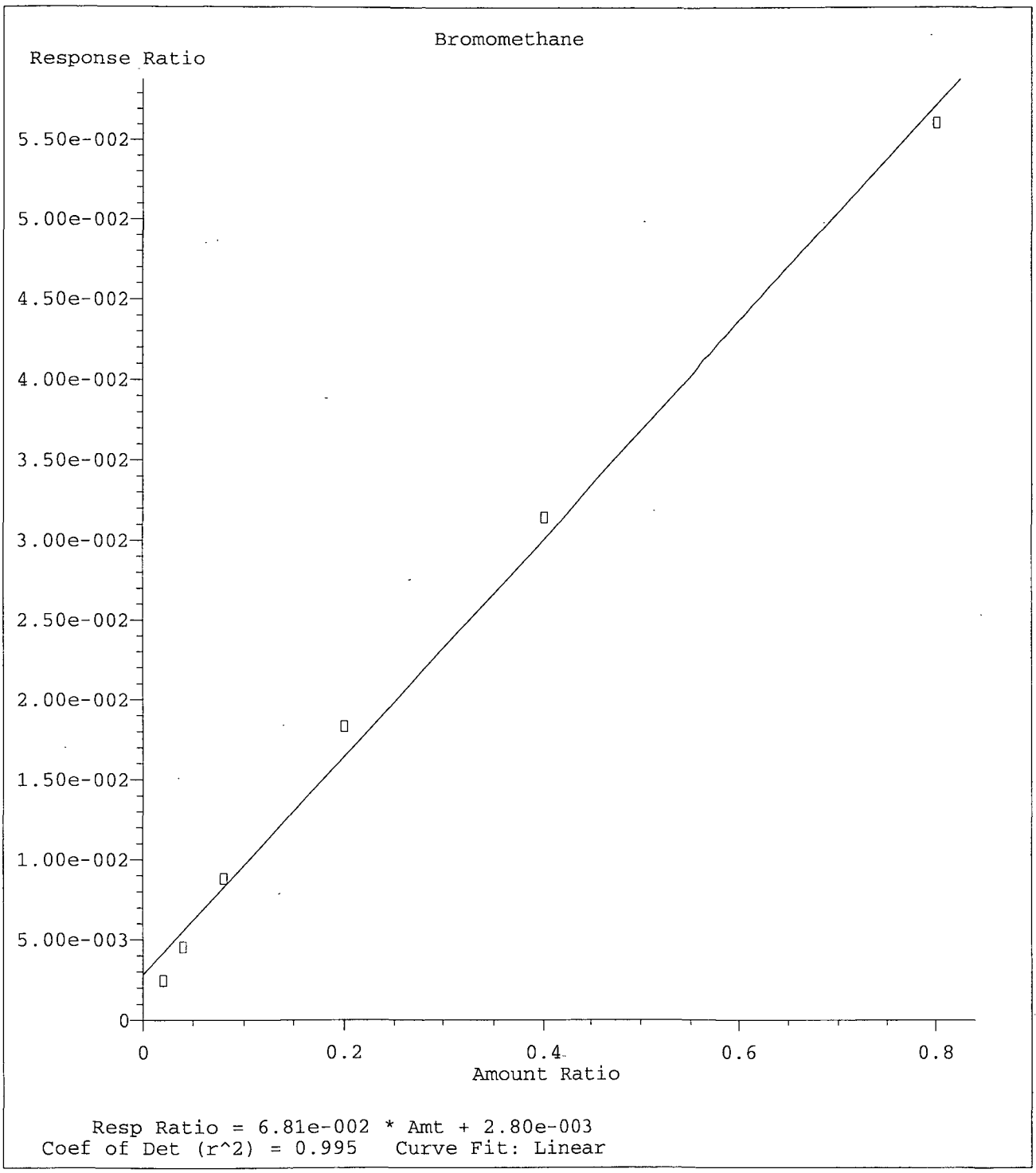
Quant Time: Jan 21 15:54 2020 Quant Results File: T0121W.RES

Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration

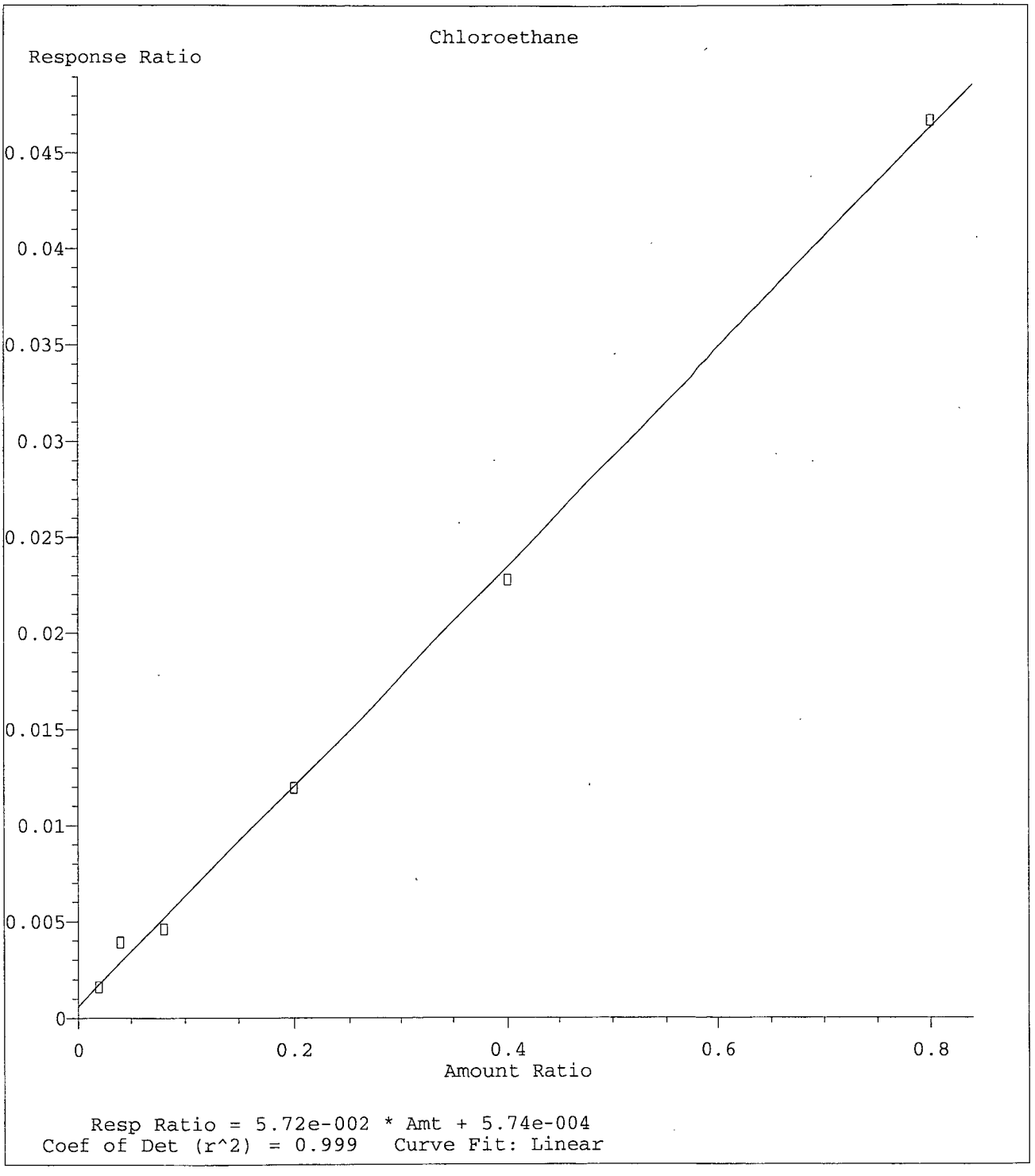




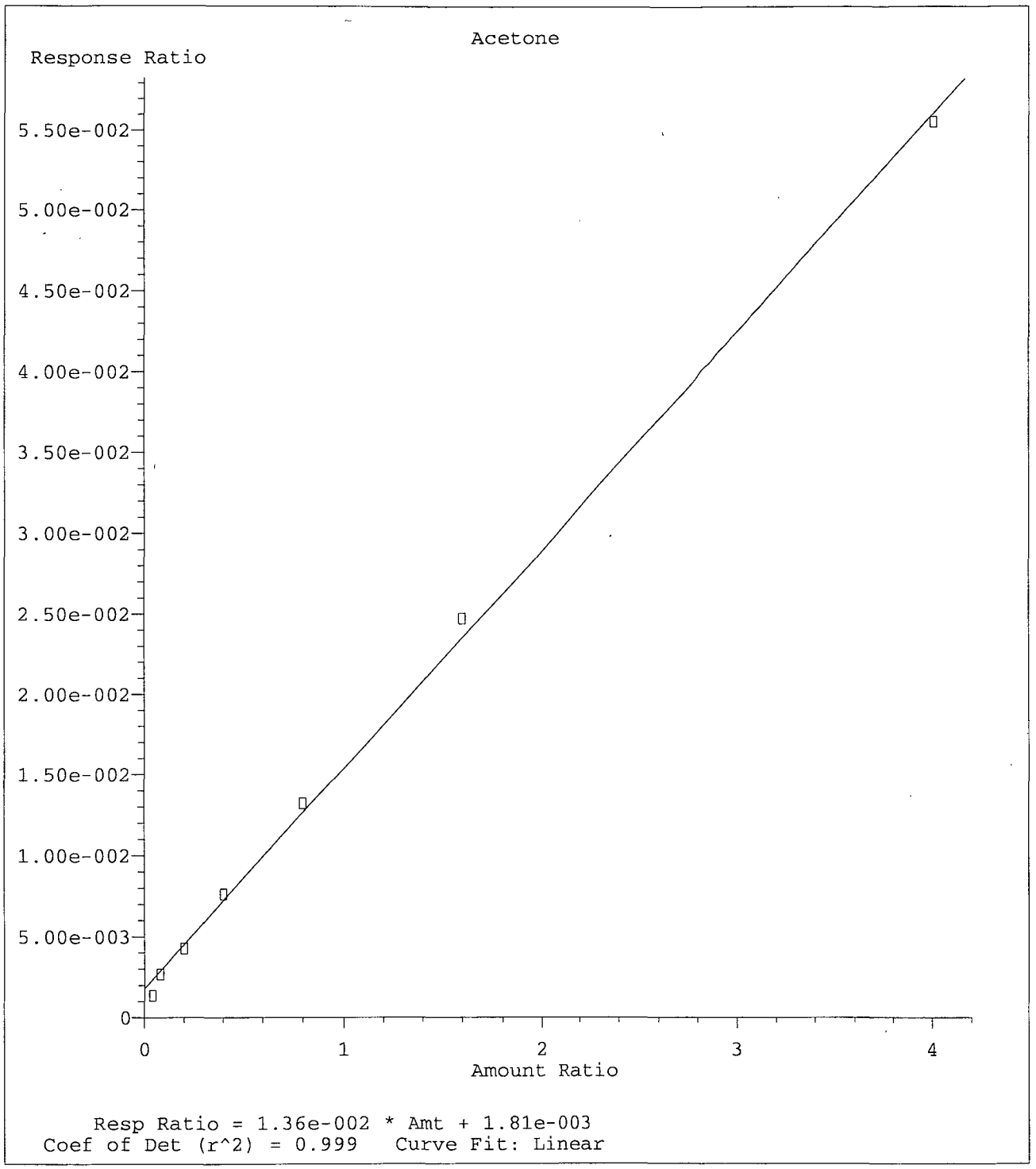
Method Name: M:\THOR\DATA\T200121\T0121W.M
Calibration Table Last Updated: Tue Jan 21 15:36:55 2020



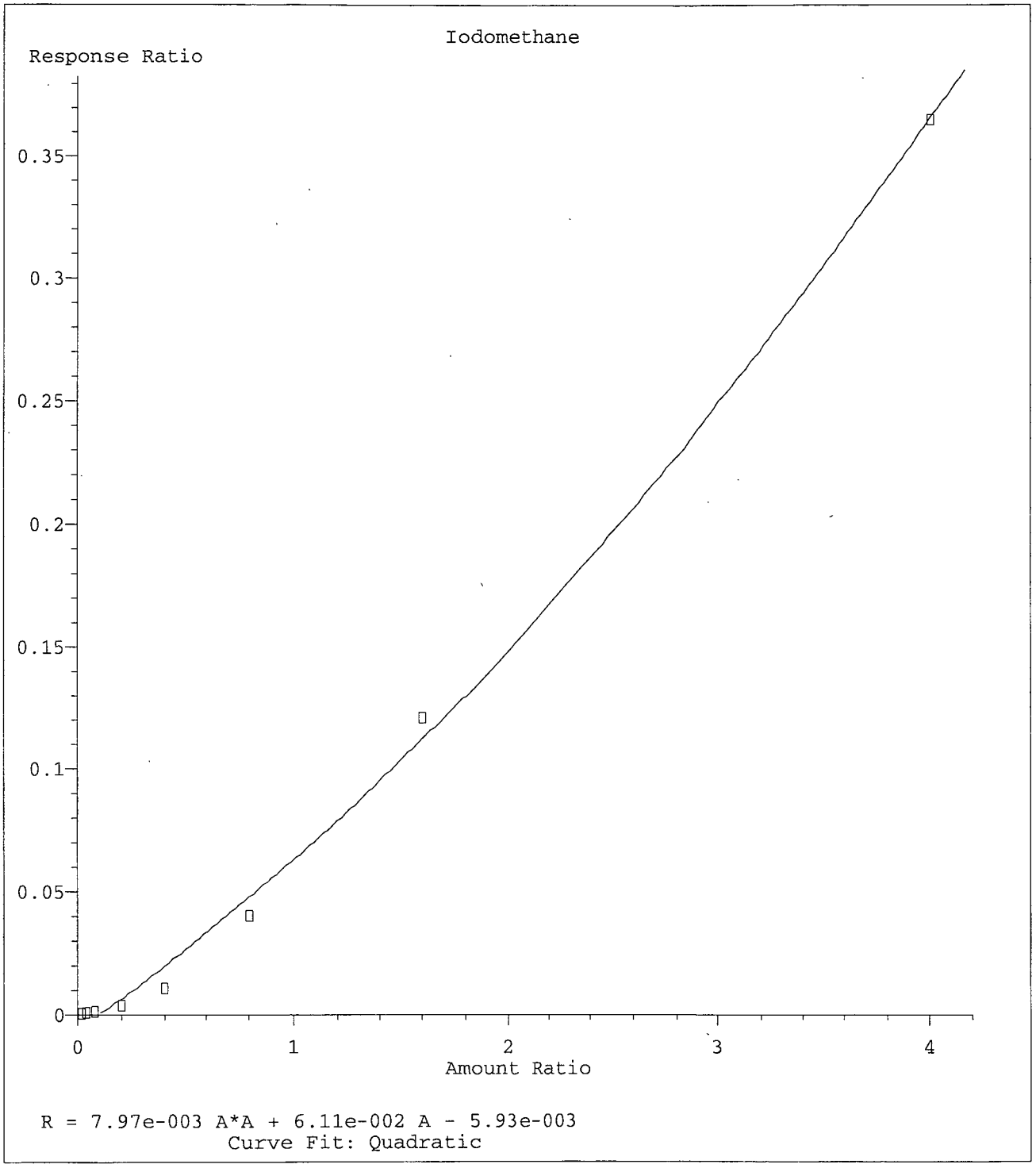
Method Name: M:\THOR\DATA\T200121\T0121W.M
Calibration Table Last Updated: Tue Jan 21 15:36:55 2020



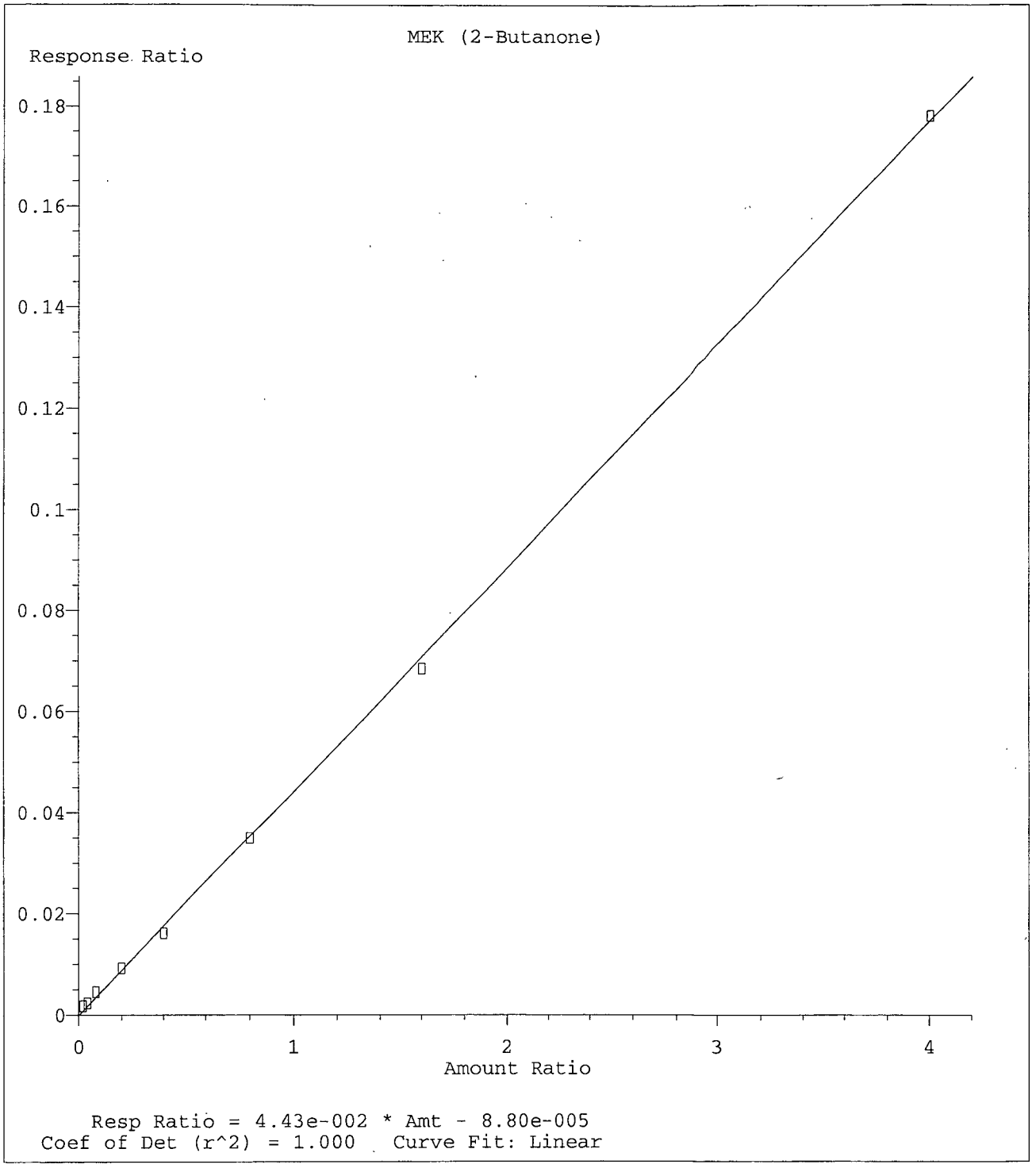
Method Name: M:\THOR\DATA\T200121\T0121W.M
Calibration Table Last Updated: Tue Jan 21 15:36:55 2020



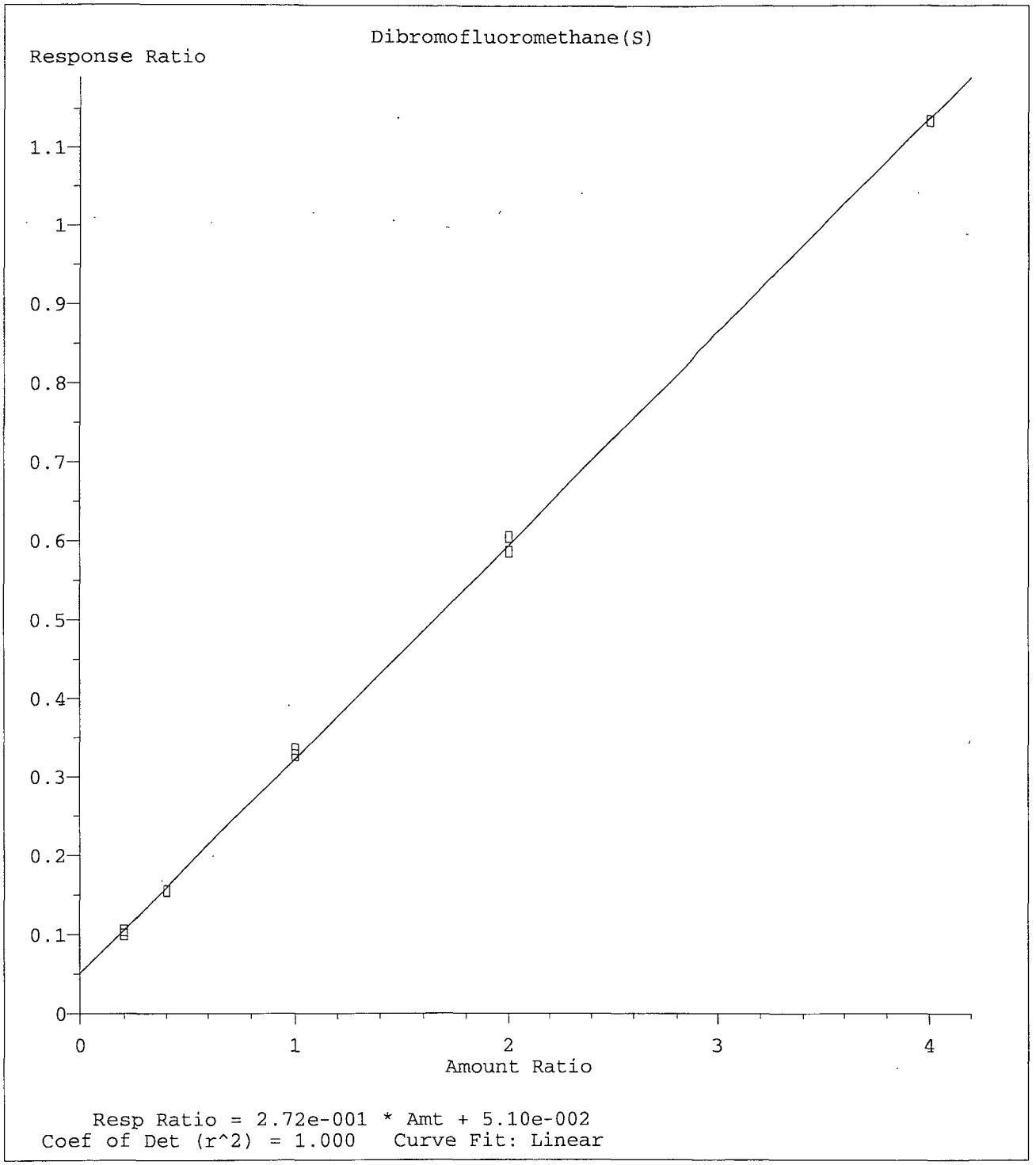
Method Name: M:\THOR\DATA\T200121\T0121W.M
Calibration Table Last Updated: Tue Jan 21 15:36:55 2020



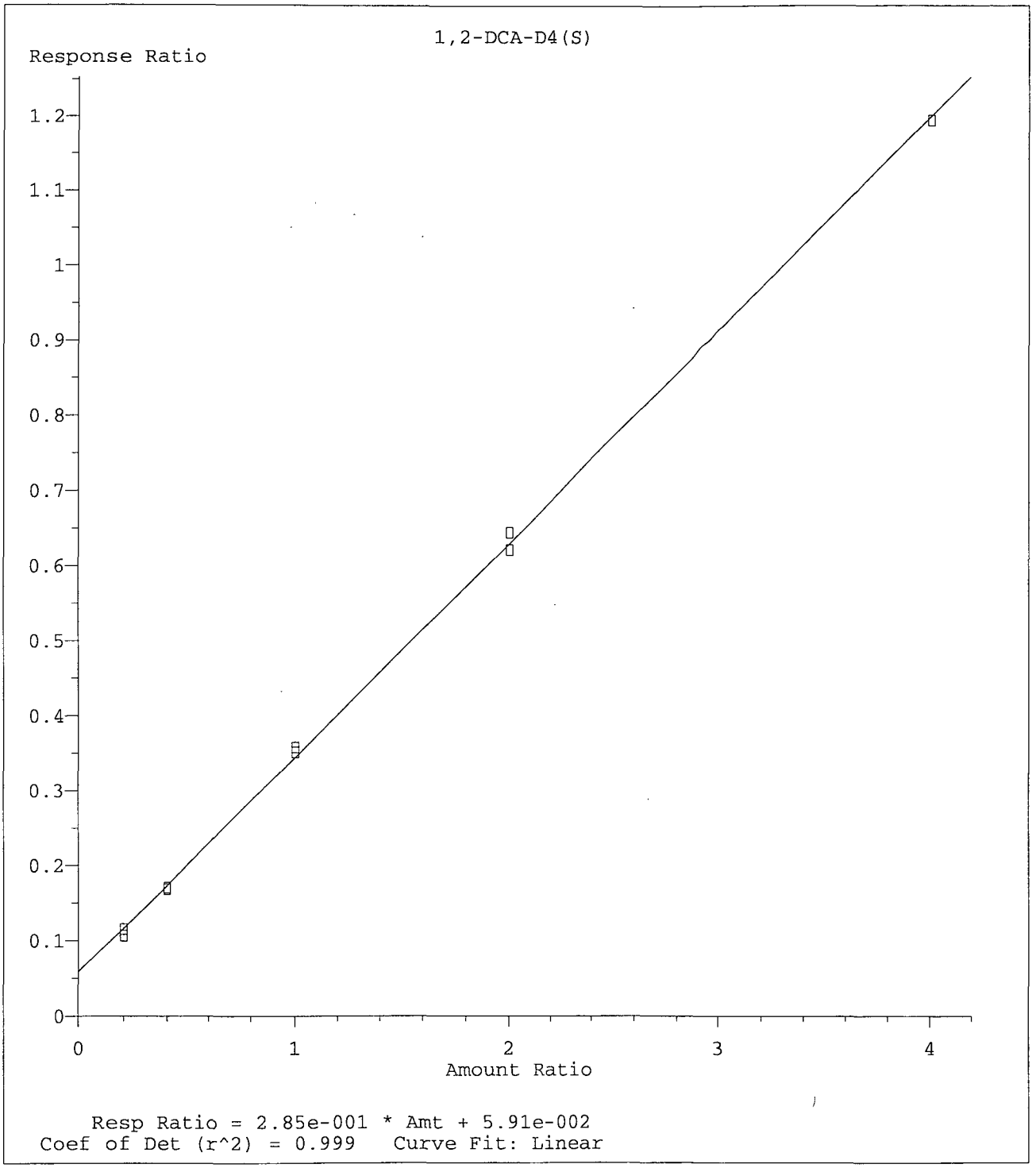
Method Name: M:\THOR\DATA\T200121\T0121W.M
Calibration Table Last Updated: Tue Jan 21 15:36:55 2020



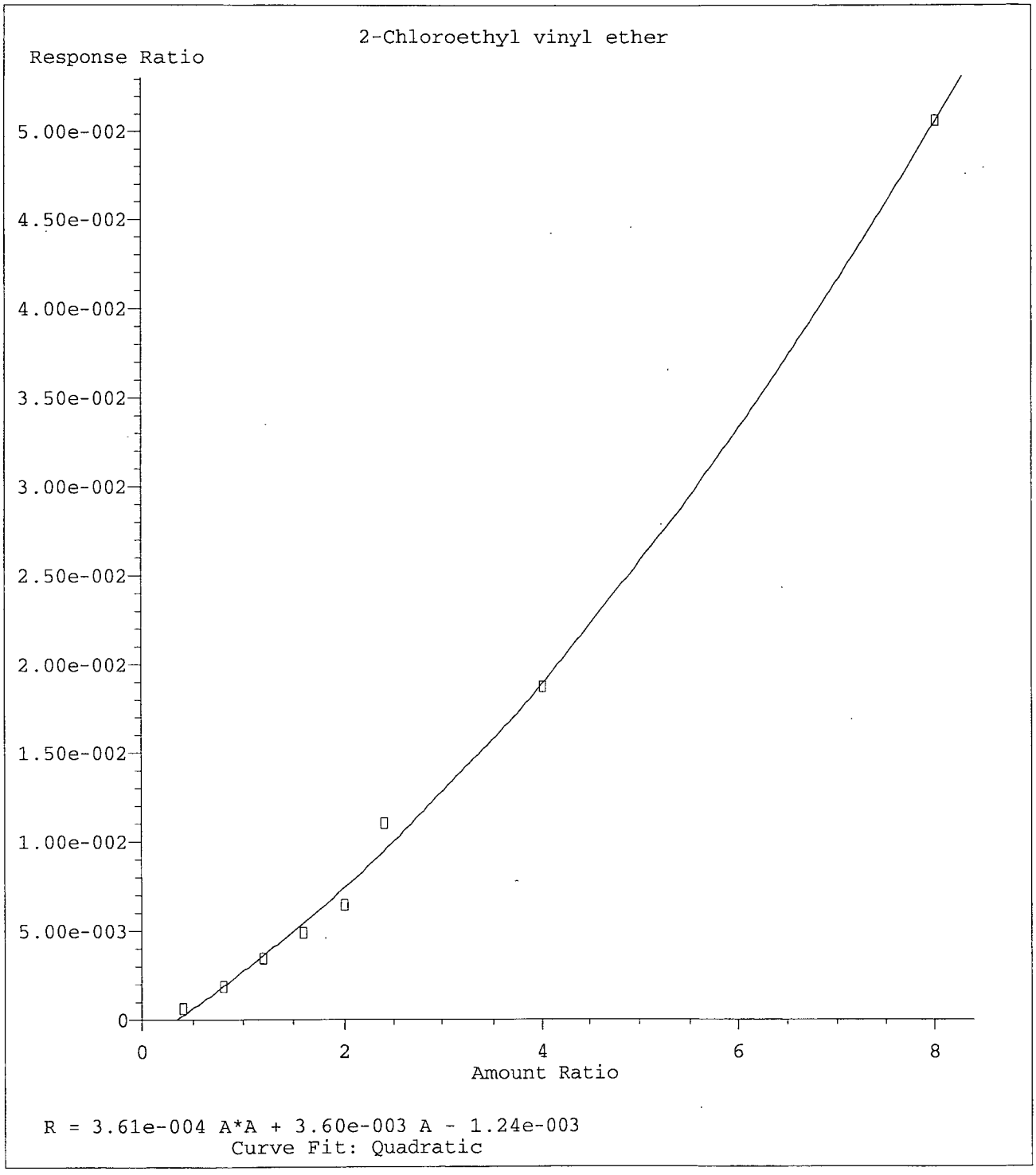
Method Name: M:\THOR\DATA\T200121\T0121W.M
Calibration Table Last Updated: Tue Jan 21 15:36:55 2020



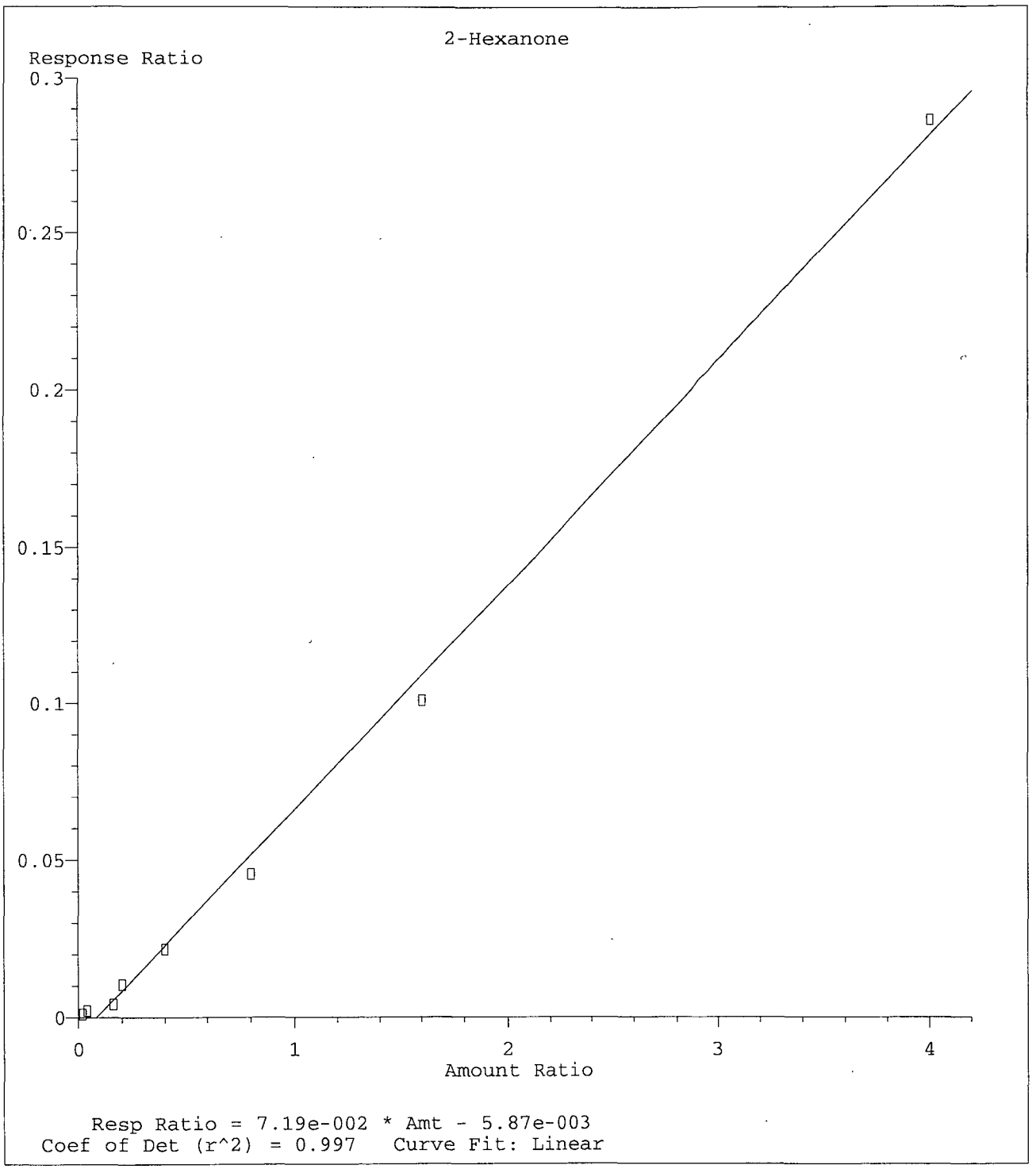
Method Name: M:\THOR\DATA\T200121\T0121W.M
Calibration Table Last Updated: Tue Jan 21 15:36:55 2020



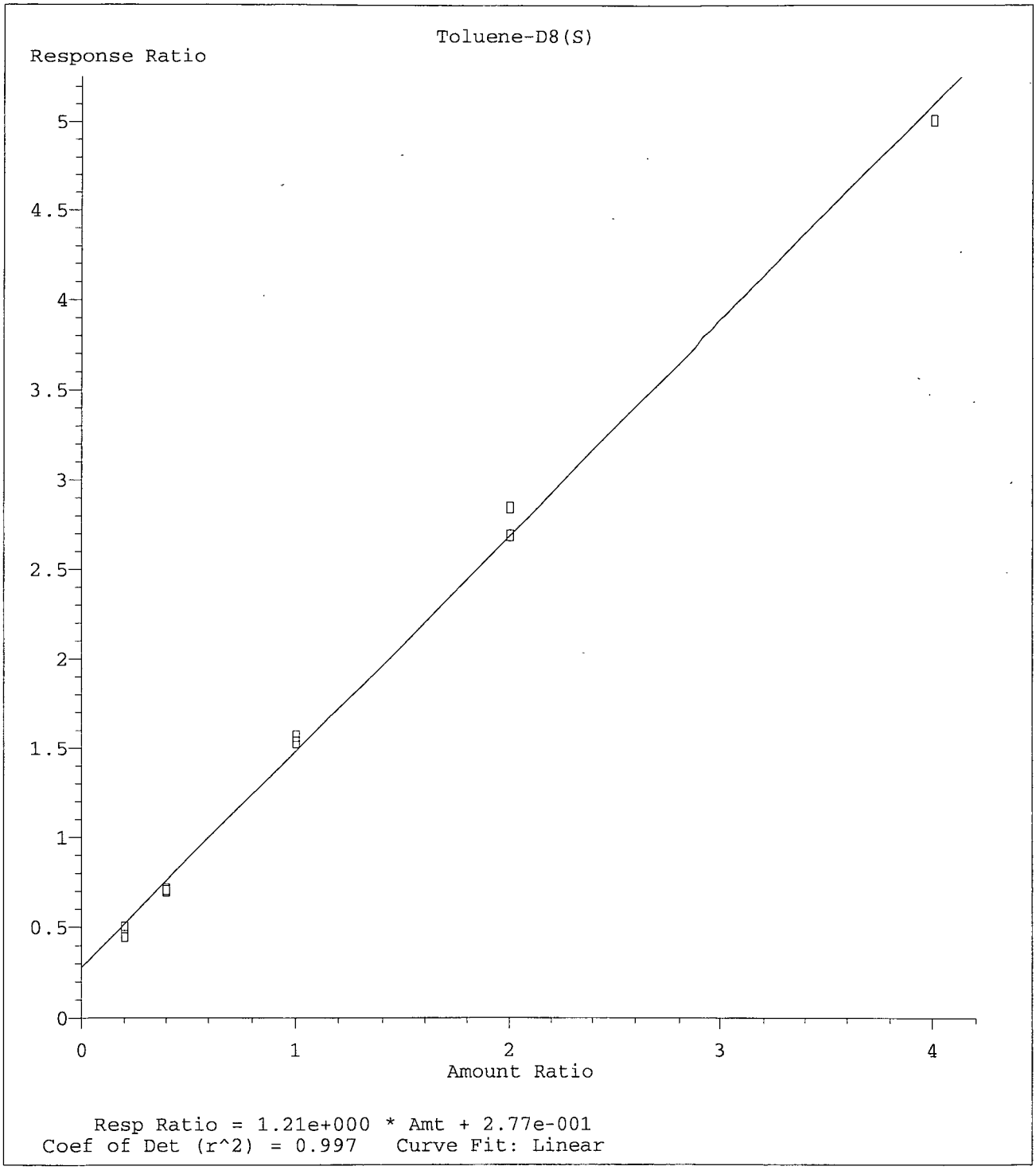
Method Name: M:\THOR\DATA\T200121\T0121W.M
Calibration Table Last Updated: Tue Jan 21 15:36:55 2020



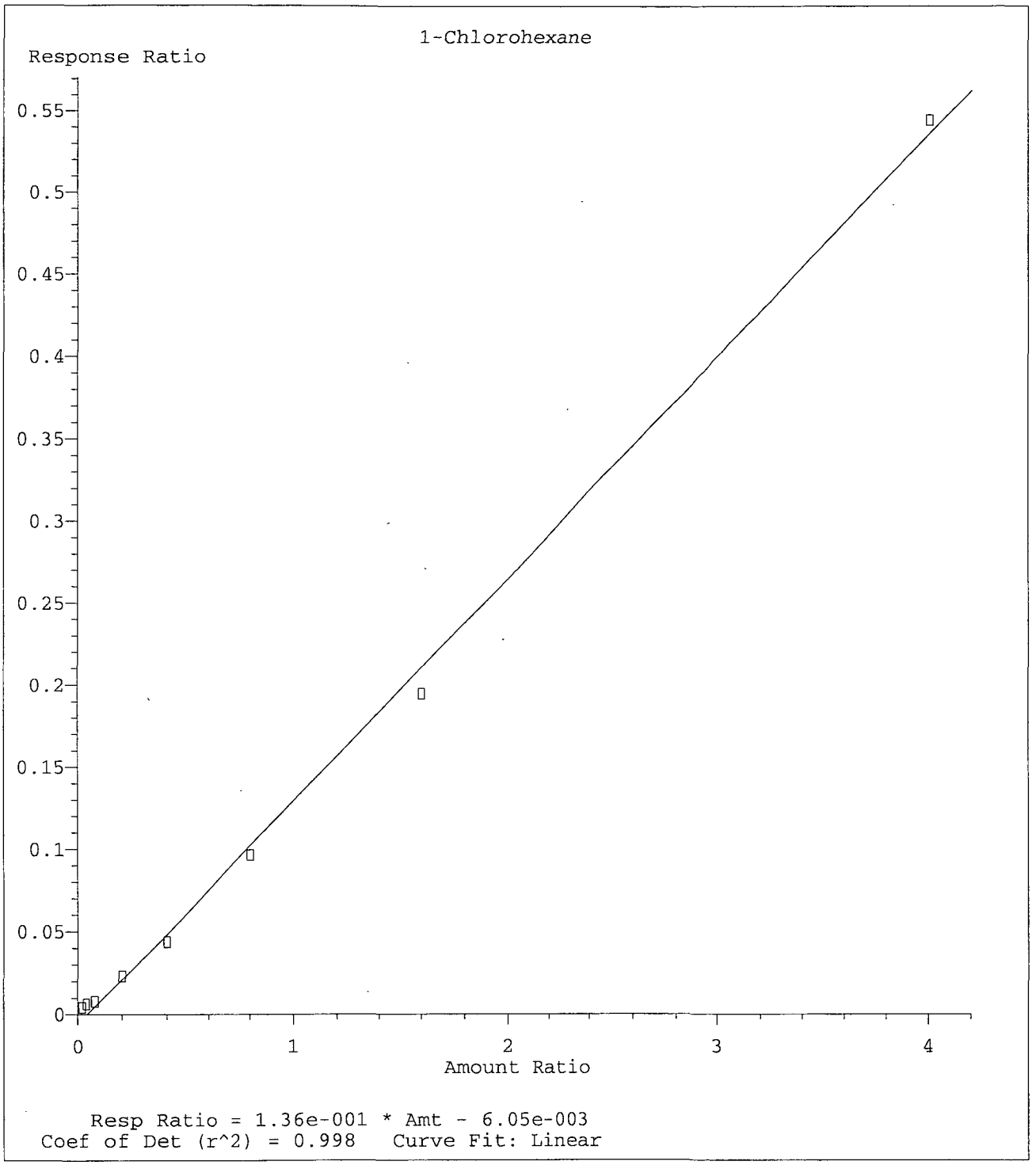
Method Name: M:\THOR\DATA\T200121\T0121W.M
Calibration Table Last Updated: Tue Jan 21 15:36:55 2020



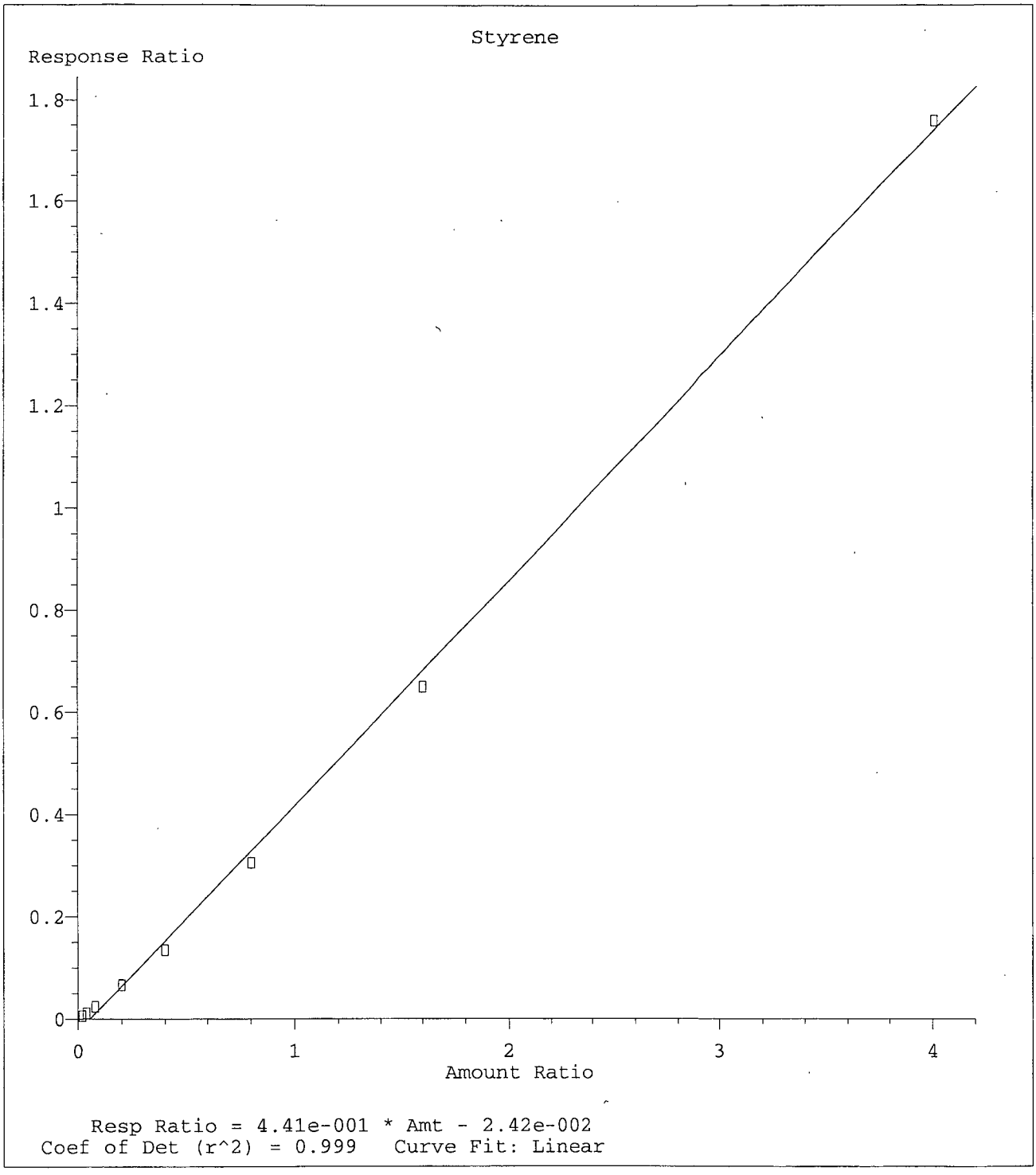
Method Name: M:\THOR\DATA\T200121\T0121W.M
Calibration Table Last Updated: Tue Jan 21 15:36:55 2020



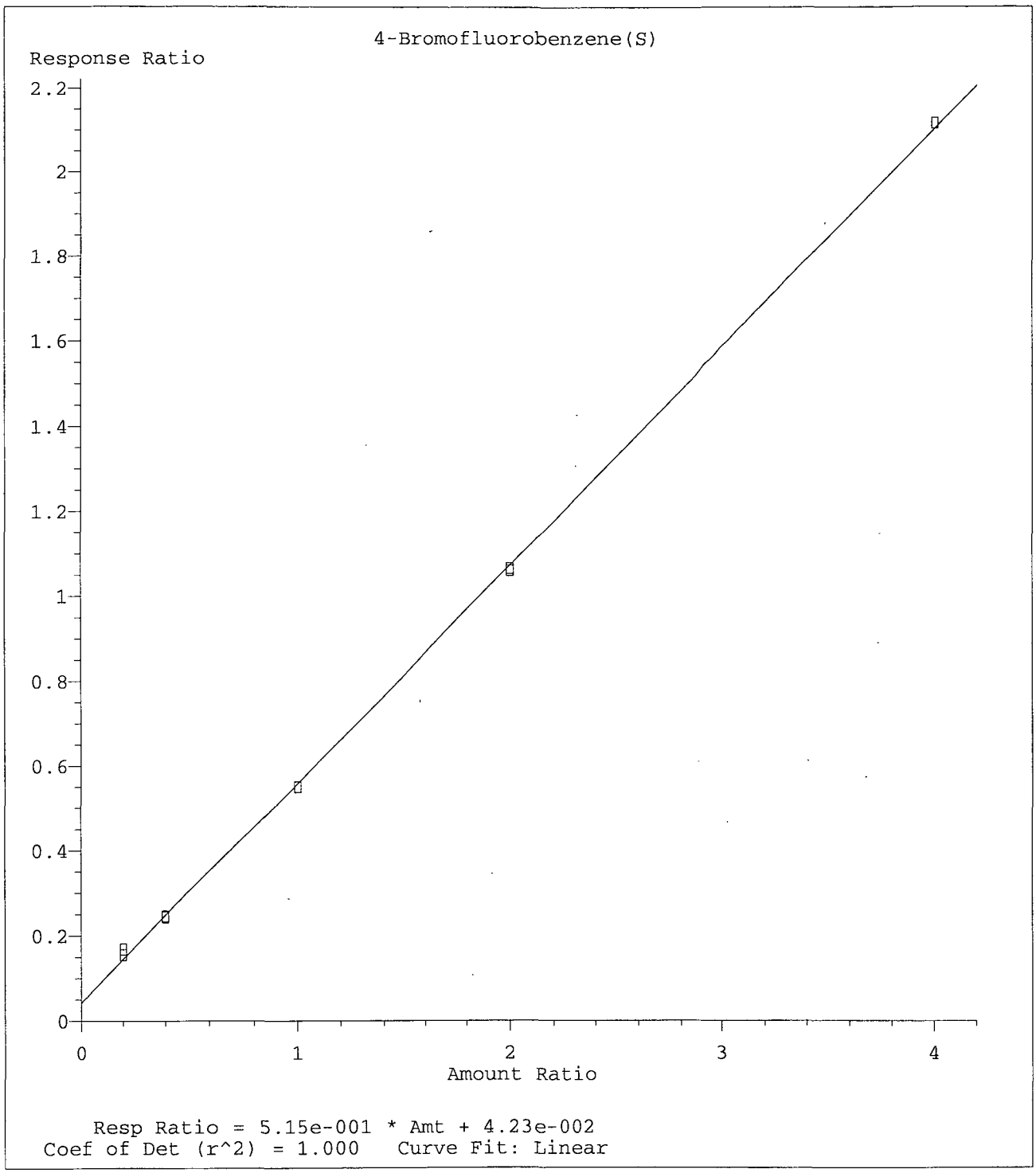
Method Name: M:\THOR\DATA\T200121\T0121W.M
Calibration Table Last Updated: Tue Jan 21 15:36:55 2020



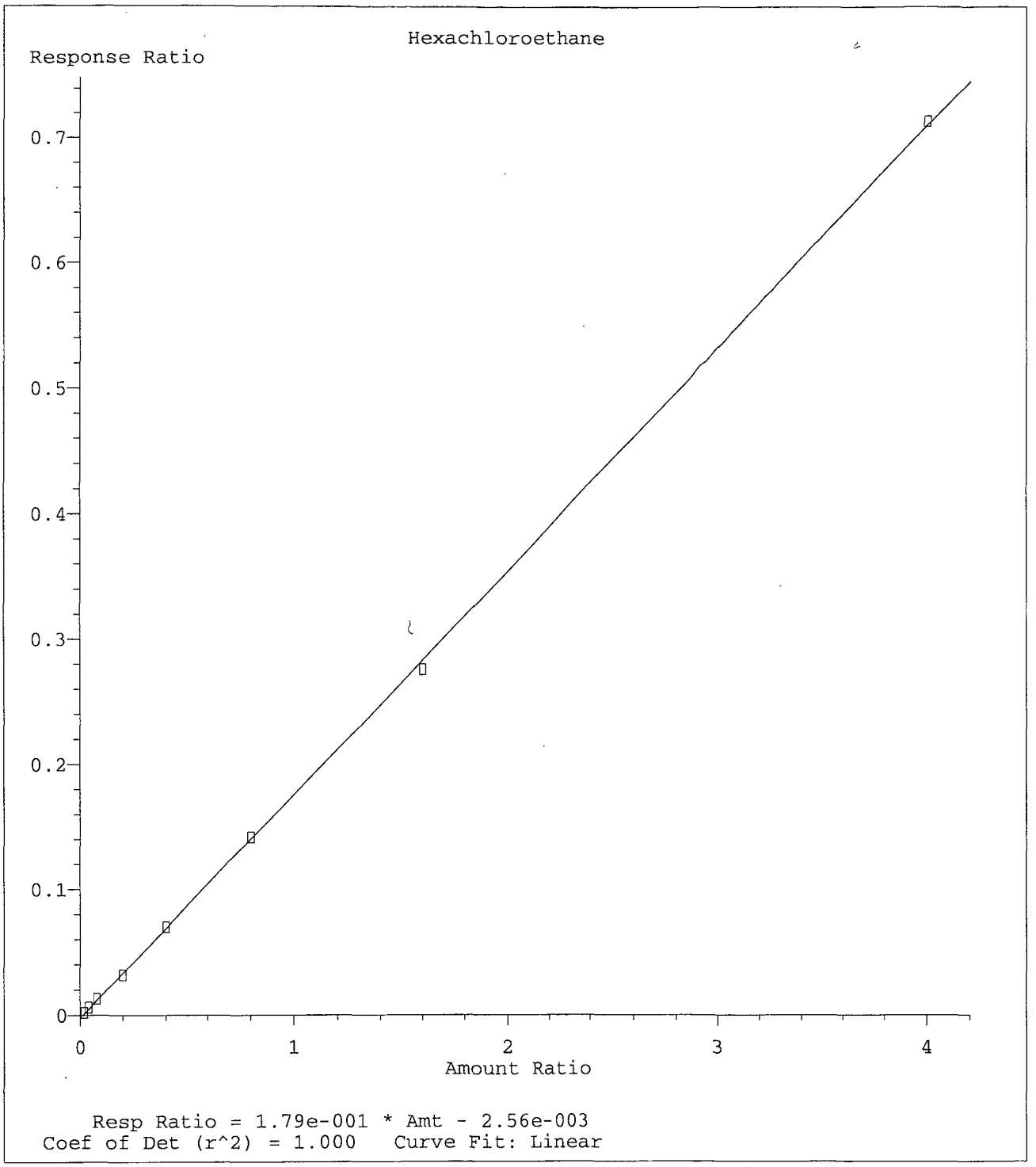
Method Name: M:\THOR\DATA\T200121\T0121W.M
Calibration Table Last Updated: Tue Jan 21 15:36:55 2020



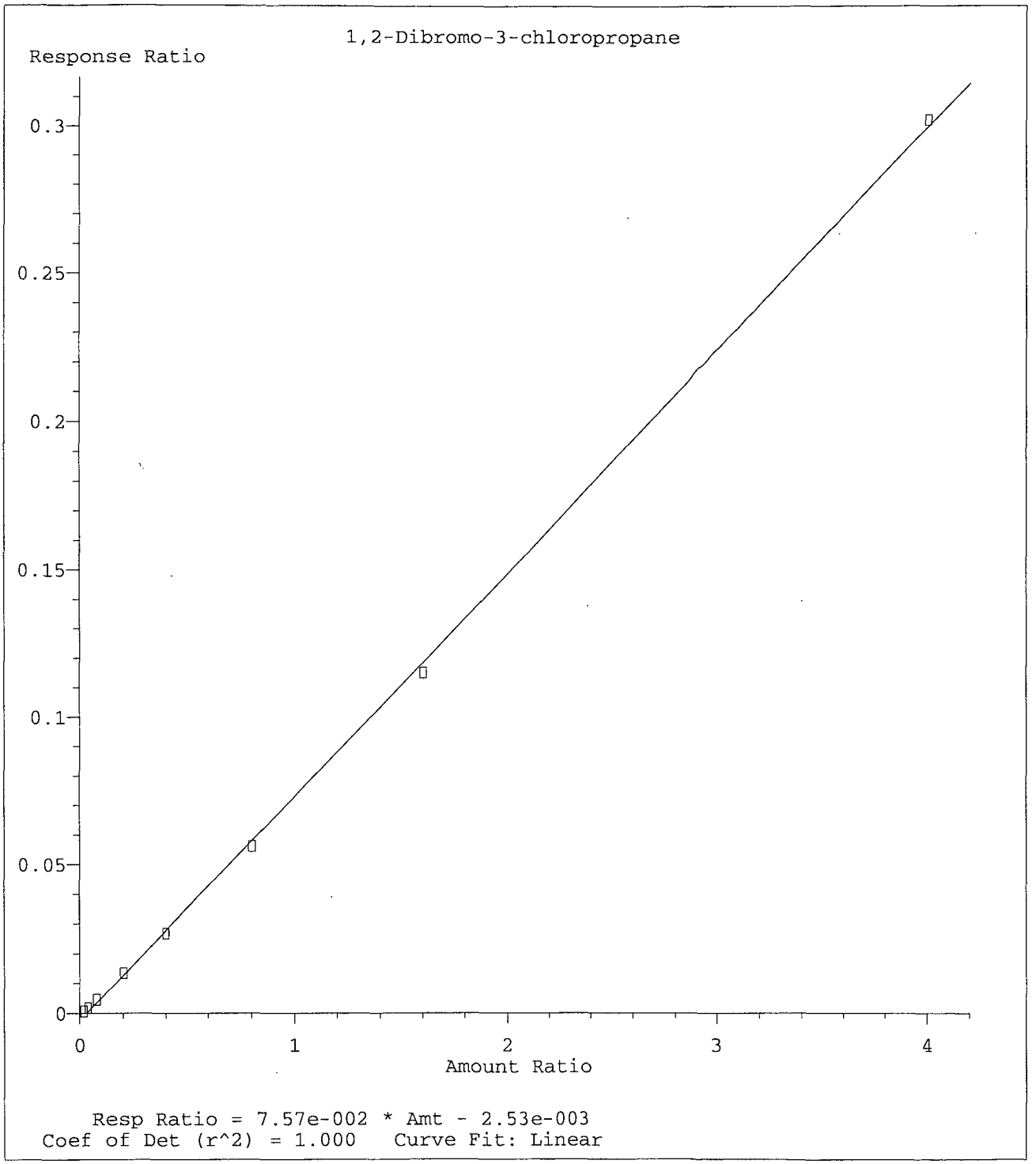
Method Name: M:\THOR\DATA\T200121\T0121W.M
Calibration Table Last Updated: Tue Jan 21 15:36:55 2020



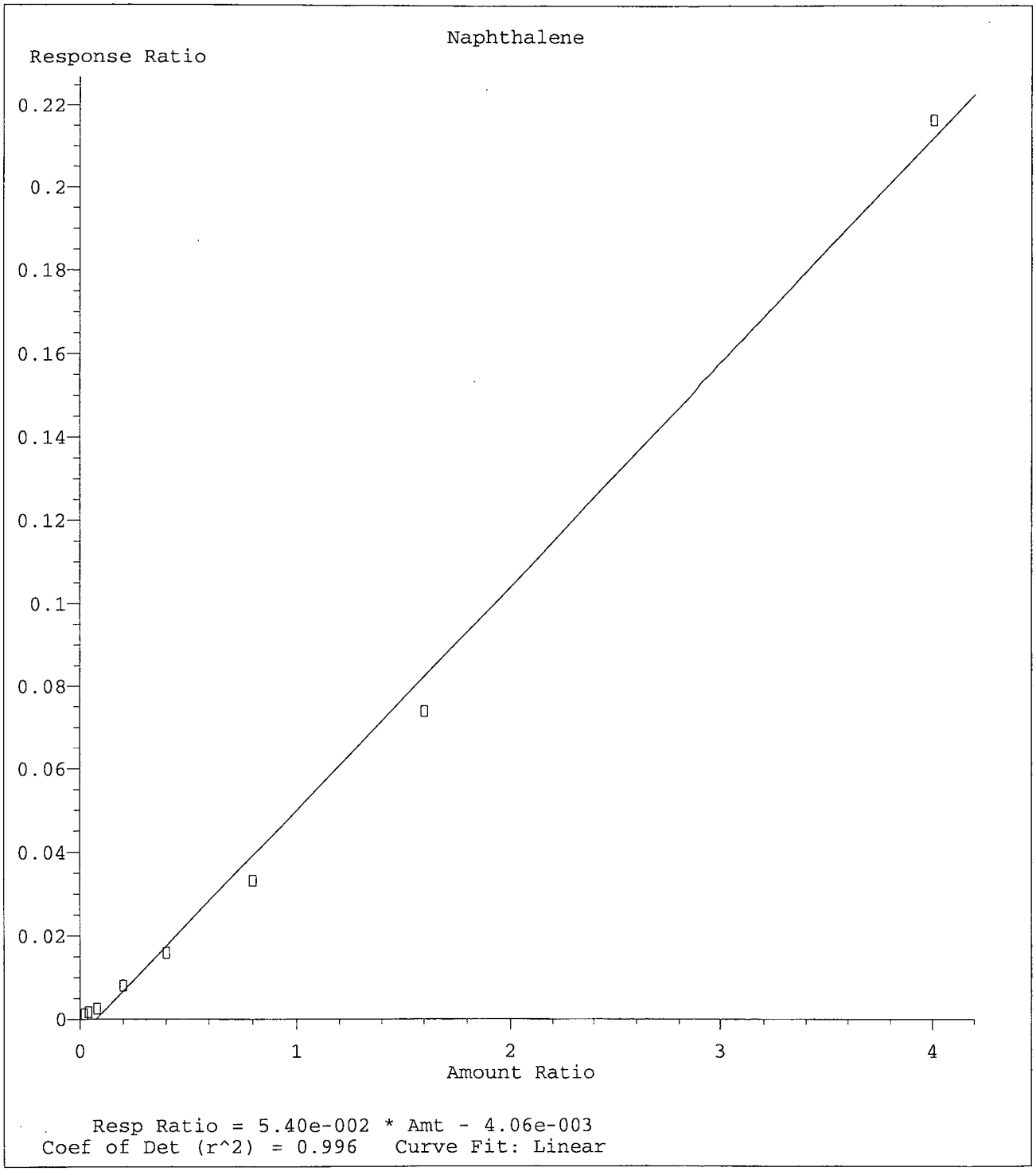
Method Name: M:\THOR\DATA\T200121\T0121W.M
Calibration Table Last Updated: Tue Jan 21 15:36:55 2020



Method Name: M:\THOR\DATA\T200121\T0121W.M
Calibration Table Last Updated: Tue Jan 21 15:36:55 2020



Method Name: M:\THOR\DATA\T200121\T0121W.M
Calibration Table Last Updated: Tue Jan 21 15:36:55 2020



Method Name: M:\THOR\DATA\T200121\T0121W.M
Calibration Table Last Updated: Tue Jan 21 15:36:55 2020

VOLATILE ORGANIC ANALYSIS
VOLATILE ORGANIC COMPOUNDS

Form 7

Second Source Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Date Analyzed: 01/21/20
Matrix: Instrument: Thor
Initial Cal. Date: 01/21/20
Data File: 0121T13.D

		Compound	MEAN	CCRF	%D		%Drift	
1	TM	Chlorotrifluoroethene	0.0354	0.0404	14	TM		
2	TM	Dichlorodifluoromethane	0.0741	0.0945	28	TM		*
3	TM	Freon 114	0.0777	0.0838	7.8	TM		
4	TM**L	Chloromethane	0.1164	0.1171	0.59	TM**L	18	
5	TM*	Vinyl chloride	0.0879	0.1010	15	TM*		
6	TM	2-Chloro-1,1,1-trifluoroethane	0.1095	0.1152	5.2	TM		
7	TML	Bromomethane	0.0976	0.0859	12	TML	16	
8	TML	Chloroethane	0.0684	0.0826	21	TML	42	*
9	TM	Dichlorofluoromethane	0.1693	0.1728	2.1	TM		
10	TM	Trichlorofluoromethane	0.1248	0.1346	7.8	TM		
11	TM	Diethyl ether	0.0000	0.0007	0.00	TM		
12	TM	1,2 Dichlorotrifluoroethane	0.0000	0.0003	0.00	TM		
13	TM	Acrolein	0.0103	0.0089	14	TM		
14	TML	Acetone	0.0219	0.0220	0.30	TML	28	*
15	TM	Freon-113	0.0685	0.0714	4.2	TM		
16	TM*	1,1-DCE	0.1113	0.1019	8.5	TM*		
17	TM	2-Propanol	0.0056	0.0058	2.8	TM		
18	TM	Acetonitrile	0.0030	0.0032	6.5	TM		
19	TM	t-Butanol	0.0037	0.0038	1.4	TM		
20	TM	Methyl Acetate	0.0790	0.0773	2.1	TM		
21	TMQ	Iodomethane	0.0411	0.0399	2.8	TMQ	14	
22	TM	Acrylonitrile	0.0302	0.0325	7.6	TM		
23	TM	Methylene chloride	0.1230	0.1180	4.1	TM		
24	TM	Carbon disulfide	0.2169	0.2386	10.0	TM		
25	TM	Methyl t-butyl ether (MtBE)	0.2728	0.2779	1.8	TM		
26	TM	Trans-1,2-DCE	0.1167	0.1089	6.7	TM		
27	TM	Hexane	0.0000	0.0004	0.00	TM		
28	TM	Diisopropyl Ether	0.2675	0.2723	1.8	TM		
29	TM**	2,2-Dichloro-1,1,1-trifluoroethane	0.0000	0.0001	0.00	TM**		
30	TM**	1,1-DCA	0.1588	0.1544	2.8	TM**		
31	TM	Vinyl Acetate	0.0538	0.0311	42	TM		* NT
32	TM	Ethyl tert Butyl Ether	0.2738	0.2731	0.25	TM		
33	TML	MEK (2-Butanone)	0.0524	0.0481	8.2	TML	9.2	
34	TM	Cis-1,2-DCE	0.1488	0.1377	7.4	TM		
35	TM	2,2-Dichloropropane	0.1318	0.1189	9.8	TM		
36	TM	2-Methylpentane	0.0000	0.0000	0.00	TM		
37	TM	3-Methylpentane	0.0000	0.0579	0.00	TM		
38	TM*	Chloroform	0.1865	0.1718	7.9	TM*		
39	TM	Bromochloromethane	0.0818	0.0745	8.9	TM		
40	TM	1,1,1-TCA	0.1477	0.1414	4.3	TM		
		Average			7.0			

VOLATILE ORGANIC ANALYSIS
VOLATILE ORGANIC COMPOUNDS

Form 7

Second Source Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Date Analyzed: 01/21/20
Matrix: 0 Instrument: Thor
Cal. Date: 01/21/20
Data File: 0121T13.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	Cyclohexane	0.1012	0.1063	5.0	TM	
42	TM	1,1-Dichloropropene	0.1077	0.1001	7.0	TM	
43	TM	2,2,4-Trimethylpentane	0.1955	0.1929	1.3	TM	
44	TM	Carbon Tetrachloride	0.1255	0.1168	6.9	TM	
45	TM	Tert Amyl Methyl Ether	0.2682	0.2721	1.4	TM	
46	TM	Methylcyclopentane	0.0000	0.0178	0.00	TM	
47	TM	1,2-DCA	0.1541	0.1409	8.6	TM	
48	TM	Benzene	0.3817	0.3591	5.9	TM	
49	TM	TCE	0.1123	0.1052	6.4	TM	
50	TM	2-Pentanone	0.0708	0.0744	5.1	TM	
51	TM*	1,2-Dichloropropane	0.0984	0.0903	8.3	TM*	
52	TM	Bromodichloromethane	0.1415	0.1322	6.6	TM	
53	TM	Methyl Cyclohexane	0.1097	0.1159	5.7	TM	
54	TM	Dibromomethane	0.0914	0.0844	7.6	TM	
55	TM	MIBK (methyl isobutyl ketone)	0.0901	0.0968	7.5	TM	
56	TM	1-Bromo-2-chloroethane	0.0717	0.0711	0.86	TM	
57	TMQ	2-Chloroethyl vinyl ether	0.0036	0.0037	3.1	TMQ	0.25
58	TM	Cis-1,3-Dichloropropene	0.1535	0.1402	8.7	TM	
59	TM*	Toluene	0.4463	0.4118	7.7	TM*	
60	TM	Trans-1,3-Dichloropropene	0.1434	0.1288	10	TM	
61	TM	1,1,2-TCA	0.1009	0.0913	9.5	TM	
62	TML	2-Hexanone	0.0536	0.0614	15	TML	5.8
63	TM	1,2-EDB	0.1323	0.1249	5.6	TM	
64	TM	Tetrachloroethene	0.1511	0.1489	1.5	TM	
65	TML	1-Chlorohexane	0.1322	0.1238	6.3	TML	2.4
66	TM	1,1,1,2-Tetrachloroethane	0.1479	0.1414	4.4	TM	
67	TM	m&p-Xylene	0.4424	0.4149	6.2	TM	
68	TM	o-Xylene	0.4709	0.4532	3.8	TM	
69	TML	Styrene	0.3461	0.3328	3.8	TML	11
70	TM	1,3-Dichloropropane	0.2046	0.1939	5.2	TM	
71	TM	Dibromochloromethane	0.1536	0.1412	8.1	TM	
72	TM**	Chlorobenzene	0.3911	0.3631	7.2	TM**	
73	TM*	Ethylbenzene	0.5856	0.5463	6.7	TM*	
74	TM**	Bromoform	0.1192	0.1127	5.5	TM**	
75	TM	Isopropylbenzene	0.9915	0.9395	5.2	TM	
76	TM**	1,1,2,2-Tetrachloroethane	0.3158	0.2957	6.4	TM**	
77	TM	1,2,3-Trichloropropane	0.1065	0.1070	0.46	TM	
78	TM	t-1,4-Dichloro-2-Butene	0.0549	0.0604	10	TM	
79	TM	Bromobenzene	0.5411	0.5060	6.5	TM	
80	TM	n-Propylbenzene	1.078	0.9937	7.8	TM	
		Average			6.0		

VOLATILE ORGANIC ANALYSIS
VOLATILE ORGANIC COMPOUNDS

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 01/21/20
Instrument: Thor
Cal. Date: 01/21/20
Data File: 0121T13.D

		Compound	MEAN	CCRF	%D		%Drift
81	TM	4-Ethyltoluene	0.9292	0.9320	0.30	TM	
82	TM	2-Chlorotoluene	0.8284	0.7905	4.6	TM	
83	TM	1,3,5-Trimethylbenzene	0.8683	0.8205	5.5	TM	
84	TM	4-Chlorotoluene	0.8334	0.7722	7.3	TM	
85	TM	Tert-Butylbenzene	0.8653	0.7832	9.5	TM	
86	TM	1,2,4-Trimethylbenzene	0.9216	0.8590	6.8	TM	
87	TM	Sec-Butylbenzene	0.9547	0.8770	8.1	TM	
88	TM	p-Isopropyltoluene	0.8496	0.8146	4.1	TM	
89	TM	Benzyl Chloride	0.2976	0.2866	3.7	TM	
90	TM	1,3-DCB	0.5671	0.5458	3.8	TM	
91	TM	1,4-DCB	0.5943	0.5412	8.9	TM	
92	TM	n-Butylbenzene	0.7079	0.7011	0.96	TM	
93	TM	1,2-DCB	0.5862	0.5406	7.8	TM	
94	TML	Hexachloroethane	0.1600	0.1689	5.6	TML	1.8
95	TML	1,2-Dibromo-3-chloropropane	0.0608	0.0633	4.0	TML	8.1
96	TM	1,2,4-Trichlorobenzene	0.3588	0.3475	3.1	TM	
97	TM	Hexachlorobutadiene	0.1849	0.1792	3.1	TM	
98	TML	Naphthalene	0.0448	0.0439	2.1	TML	0.03
99	TM	1,2,3-Trichlorobenzene	0.3259	0.3290	0.96	TM	
100							
101							
102							
103							
104							
105							
106							
107							
108							
109							
110							
111							
112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			4.7		

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0121T13.D Vial: 13
Acq On : 21 Jan 20 12:52 Operator:
Sample : (SS) 10ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 21 15:37 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene (IS)	6.51	96	1067609	25.00	ppb		0.00
66) Chlorobenzene-D5 (IS)	9.96	117	828210	25.00	ppb		0.00
81) 1,4-Dichlorobenzene-D (IS)	12.52	152	445896	25.00	ppb		0.00
System Monitoring Compounds							
41) Dibromofluoromethane(S)	5.66	111	344605	24.99	ppb		0.00
Spiked Amount 25.000			Recovery =	99.964%			
46) 1,2-DCA-D4(S)	6.07	65	368110	25.03	ppb		0.00
Spiked Amount 25.000			Recovery =	100.112%			
67) Toluene-D8(S)	8.37	98	1259404	25.76	ppb		0.00
Spiked Amount 25.000			Recovery =	103.044%			
75) 4-Bromofluorobenzene(S)	11.26	95	453005	24.48	ppb		0.00
Spiked Amount 25.000			Recovery =	97.928%			
Target Compounds							Qvalue
2) Chlorotrifluoroethene	1.14	116	172422	114.16	ppb		98
3) Dichlorodifluoromethane	1.17	85	40376	12.75	ppb		95
4) Freon 114	1.28	85	35797	10.78	ppb		95
5) Chloromethane	1.32	50	50005	11.85	ppb		98
6) Vinyl chloride	1.41	62	43111	11.48	ppb		100
7) 2-Chloro-1,1,1-trifluoroet	1.50	118	492101	105.22	ppb		99
8) Bromomethane	1.68	96	36688	11.59	ppb		99
9) Chloroethane	1.77	64	35257	14.19	ppb		95
10) Dichlorofluoromethane	1.98	67	73785	10.21	ppb		94
11) Trichlorofluoromethane	2.03	101	57463	10.78	ppb		91
14) Acrolein	2.44	56	47354	107.36	ppb		87
15) Acetone	2.62	43	9384	12.85	ppb		100
16) Freon-113	2.58	101	30498	10.42	ppb		96
17) 1,1-DCE	2.55	61	43509	9.15	ppb		91
18) 2-Propanol	2.85	45	24577	102.81	ppb		98
19) Acetonitrile	2.92	40	17189	133.09	ppb		92
20) t-Butanol	3.37	59	20304	126.81	ppb		96
21) Methyl Acetate	3.03	43	33024	9.79	ppb		92
22) Iodomethane	2.70	142	17037	8.57	ppb		89
23) Acrylonitrile	3.45	52	13867	10.76	ppb		87
24) Methylene chloride	3.12	49	50402	9.59	ppb		98
25) Carbon disulfide	2.76	76	101875	11.00	ppb		98
26) Methyl t-butyl ether (MtBE	3.55	73	118665	10.18	ppb		97
27) Trans-1,2-DCE	3.50	61	46499	9.33	ppb		98
29) Diisopropyl Ether	4.35	45	116305	10.18	ppb		100
31) 1,1-DCA	4.13	63	65919	9.72	ppb		97
32) Vinyl Acetate	4.29	43	13274	5.78	ppb		97
33) Ethyl tert Butyl Ether	4.89	59	116639	9.97	ppb		99
34) MEK (2-Butanone)	5.05	43	20539	10.92	ppb	#	86
35) Cis-1,2-DCE	5.00	61	58814	9.26	ppb		99
36) 2,2-Dichloropropane	4.99	77	50755	9.02	ppb		94
39) Chloroform	5.46	83	73371	9.21	ppb		95
40) Bromochloromethane	5.31	49	31819	9.11	ppb		96
42) 1,1,1-TCA	5.68	97	60402	9.57	ppb		98
43) Cyclohexane	5.75	56	45379	10.50	ppb		96
44) 1,1-Dichloropropene	5.90	75	42763	9.30	ppb		98
45) 2,2,4-Trimethylpentane	6.32	57	82394	9.87	ppb		100
47) Carbon Tetrachloride	5.89	117	49883	9.31	ppb		94
48) Tert Amyl Methyl Ether	6.36	73	116183	10.14	ppb		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0121T13.D Vial: 13
Acq On : 21 Jan 20 12:52 Operator:
Sample : (SS) 10ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 21 15:37 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
50)	1,2-DCA	6.17	62	60151	9.14	ppb		98
51)	Benzene	6.15	78	153346	9.41	ppb		96
52)	TCE	6.96	130	44922	9.36	ppb		96
53)	2-Pentanone	7.20	43	396934	131.37	ppb		99
54)	1,2-Dichloropropane	7.21	63	38545	9.17	ppb		98
55)	Bromodichloromethane	7.54	83	56455	9.34	ppb		98
56)	Methyl Cyclohexane	7.20	83	49488	10.57	ppb		95
57)	Dibromomethane	7.33	174	36058	9.24	ppb		97
58)	MIBK (methyl isobutyl ket	8.27	43	41344	10.75	ppb		93
59)	1-Bromo-2-chloroethane	7.88	63	30368	9.91	ppb		91
60)	2-Chloroethyl vinyl ether	7.93	106	7872	49.88	ppb	#	97
61)	Cis-1,3-Dichloropropene	8.07	75	59891	9.13	ppb		94
62)	Toluene	8.45	91	175841	9.23	ppb		100
63)	Trans-1,3-Dichloropropene	8.70	75	55017	8.99	ppb		95
64)	1,1,2-TCA	8.89	97	38988	9.05	ppb		95
65)	2-Hexanone	9.20	43	26237	10.58	ppb		95
68)	1,2-EDB	9.43	107	41386	9.44	ppb		99
69)	Tetrachloroethene	9.06	166	49322	9.85	ppb		98
70)	1-Chlorohexane	10.00	91	41005	10.24	ppb		97
71)	1,1,1,2-Tetrachloroethane	10.09	131	46854	9.56	ppb		96
72)	m&p-Xylene	10.26	91	274917	18.76	ppb		98
73)	o-Xylene	10.69	91	150137	9.62	ppb		95
74)	Styrene	10.70	104	110257	8.92	ppb		99
76)	1,3-Dichloropropane	9.07	76	64251	9.48	ppb		99
77)	Dibromochloromethane	9.31	129	46781	9.19	ppb		97
78)	Chlorobenzene	9.99	112	120304	9.28	ppb		100
79)	Ethylbenzene	10.13	91	180995	9.33	ppb		99
80)	Bromoform	10.88	173	37319	9.45	ppb		92
82)	Isopropylbenzene	11.11	105	167569	9.48	ppb		100
83)	1,1,2,2-Tetrachloroethane	11.41	83	52732	9.36	ppb		98
84)	1,2,3-Trichloropropane	11.45	110	19087	10.05	ppb		95
85)	t-1,4-Dichloro-2-Butene	11.47	53	10780	11.02	ppb		96
86)	Bromobenzene	11.41	77	90254	9.35	ppb		98
87)	n-Propylbenzene	11.56	91	177237	9.22	ppb		100
88)	4-Ethyltoluene	11.68	105	166224	10.03	ppb		95
89)	2-Chlorotoluene	11.64	91	140984	9.54	ppb		99
90)	1,3,5-Trimethylbenzene	11.75	105	146347	9.45	ppb		97
91)	4-Chlorotoluene	11.76	91	137727	9.27	ppb		97
92)	Tert-Butylbenzene	12.11	119	139691	9.05	ppb		100
93)	1,2,4-Trimethylbenzene	12.16	105	153203	9.32	ppb		96
94)	Sec-Butylbenzene	12.35	105	156423	9.19	ppb		100
95)	p-Isopropyltoluene	12.51	119	145296	9.59	ppb		99
96)	Benzyl Chloride	12.69	91	51120	9.63	ppb		98
97)	1,3-DCB	12.45	146	97349	9.62	ppb		97
98)	1,4-DCB	12.55	146	96531	9.11	ppb		97
99)	n-Butylbenzene	12.96	91	125046	9.90	ppb		100
100)	1,2-DCB	12.95	146	96418	9.22	ppb		99
101)	Hexachloroethane	13.25	201	30127	9.82	ppb		96
102)	1,2-Dibromo-3-chloropropan	13.79	157	11285	9.19	ppb		96
103)	1,2,4-Trichlorobenzene	14.73	180	61981	9.69	ppb		98
104)	Hexachlorobutadiene	14.93	225	31956	9.69	ppb		94
105)	Naphthalene	14.99	127	7826	10.00	ppb		87
106)	1,2,3-Trichlorobenzene	15.26	180	58683	10.10	ppb		98

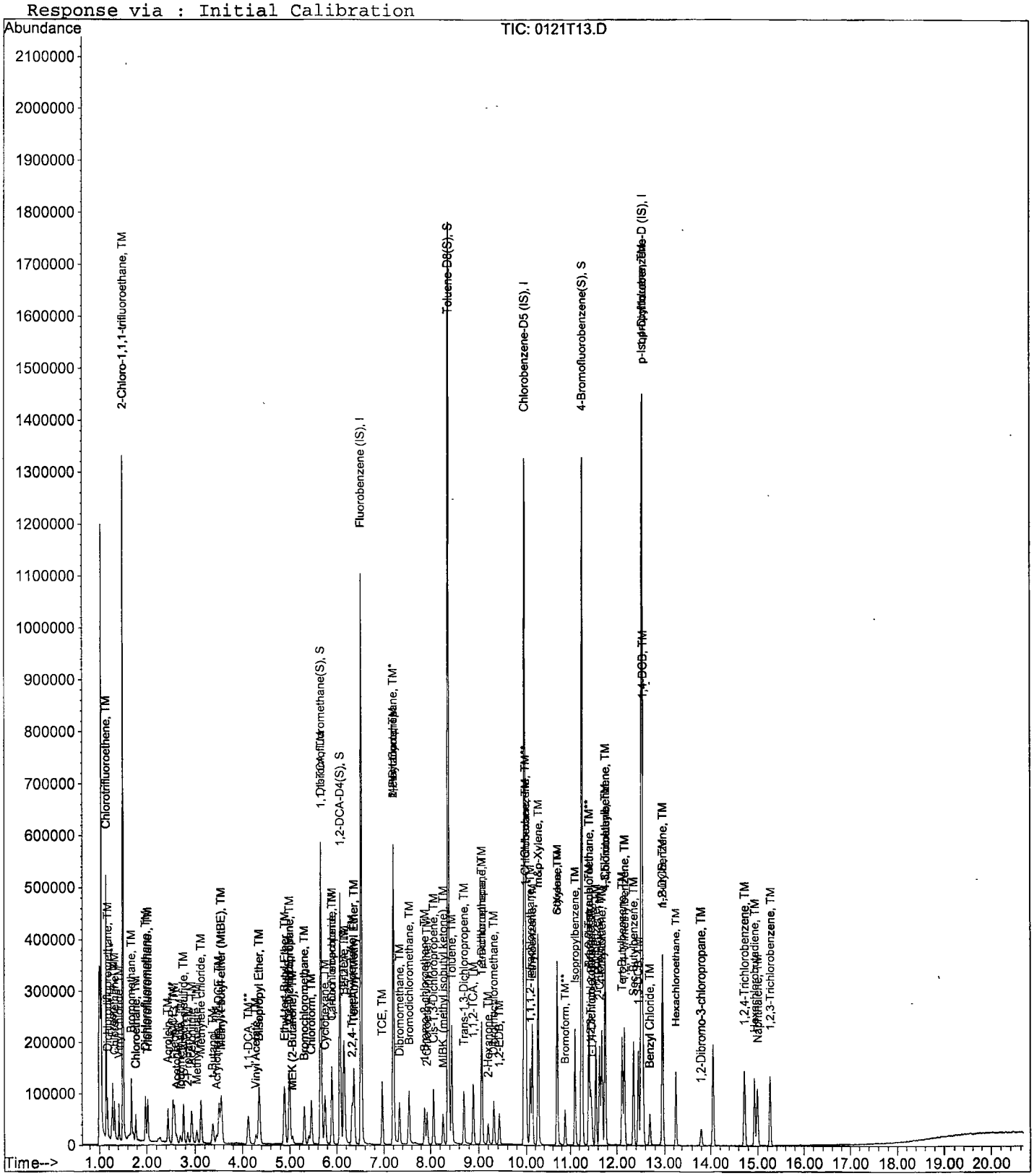
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0121T13.D Vial: 13
Acq On : 21 Jan 20 12:52 Operator:
Sample : (SS) 10ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 21 15:37 2020 Quant Results File: T0121W.RES

Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS
VOLATILE ORGANIC COMPOUNDS

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 01/25/20
Instrument: Thor
Initial Cal. Date: 01/21/20
Data File: 0125T02.D

		Compound	MEAN	CCRF	%D		%Drift	
1	I	Fluorobenzene (IS)	ISTD			I		
2	TM	Dichlorodifluoromethane	0.0741	0.0708	4.5	TM		
3	TM	Freon 114	0.0777	0.0710	8.6	TM		
4	TM**L	Chloromethane	0.1164	0.0959	18	TM**L	5.3	
5	TM*	Vinyl chloride	0.0879	0.0848	3.6	TM*		
6	TML	Bromomethane	0.0976	0.0662	32	TML	13	
7	TML	Chloroethane	0.0684	0.0599	12	TML	2.2	
8	TM	Dichlorofluoromethane	0.1693	0.1755	3.7	TM		
9	TM	Trichlorofluoromethane	0.1248	0.1326	6.2	TM		
10	TM	Diethyl ether	0.0000	0.0001	0.00	TM		
11	TM	1,2 Dichlorotrifluoroethane	0.0000	0.0001	0.00	TM		
12	TM	Acrolein	0.0103	0.0093	10	TM		
13	TML	Acetone	0.0219	0.0180	18	TML	0.43	
14	TM	Freon-113	0.0685	0.0721	5.2	TM		
15	TM*	1,1-DCE	0.1113	0.1070	3.9	TM*		
16	TM	2-Propanol	0.0056	0.0000	100	TM		*nt
17	TM	Acetonitrile	0.0030	0.0032	6.4	TM		
18	TM	t-Butanol	0.0037	0.0040	6.5	TM		
19	TM	Methyl Acetate	0.0790	0.0753	4.7	TM		
20	TMQ	Iodomethane	0.0411	0.0164	60	TMQ	50	*nt
21	TM	Acrylonitrile	0.0302	0.0317	4.9	TM		
22	TM	Methylene chloride	0.1230	0.1218	1.00	TM		
23	TM	Carbon disulfide	0.2169	0.1904	12	TM		
24	TM	Methyl t-butyl ether (MtBE)	0.2728	0.2684	1.6	TM		
25	TM	Trans-1,2-DCE	0.1167	0.1170	0.22	TM		
26	TM	Hexane	0.0000	0.0001	0.00	TM		
27	TM	Diisopropyl Ether	0.2675	0.2696	0.78	TM		
28	TM**	2,2-Dichloro-1,1,1-trifluoroethane	0.0000	0.0001	0.00	TM**		
29	TM**	1,1-DCA	0.1588	0.1623	2.2	TM**		
30	TM	Vinyl Acetate	0.0538	0.0649	21	TM		*nt
31	TM	Ethyl tert Butyl Ether	0.2738	0.2637	3.7	TM		
32	TML	MEK (2-Butanone)	0.0524	0.0445	15	TML	1.1	
33	TM	Cis-1,2-DCE	0.1488	0.1503	1.0	TM		
34	TM	2,2-Dichloropropane	0.1318	0.1380	4.7	TM		
35	TM	3-Methylpentane	0.0000	0.0606	0.00	TM		
36	TM*	Chloroform	0.1865	0.1931	3.5	TM*		
37	TM	Bromochloromethane	0.0818	0.0855	4.6	TM		
38	SL	Dibromofluoromethane(S)	0.3715	0.3333	10	SL	3.8	
39	TM	1,1,1-TCA	0.1477	0.1515	2.5	TM		
40	TM	Cyclohexane	0.1012	0.0989	2.4	TM		
		Average			10.1			

VOLATILE ORGANIC ANALYSIS
VOLATILE ORGANIC COMPOUNDS

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 01/25/20
Instrument: Thor
Cal. Date: 01/21/20
Data File: 0125T02.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	1,1-Dichloropropene	0.1077	0.1088	1.1	TM	
42	TM	2,2,4-Trimethylpentane	0.1955	0.2028	3.7	TM	
43	SL	1,2-DCA-D4(S)	0.3991	0.3590	10	SL	5.1
44	TM	Carbon Tetrachloride	0.1255	0.1269	1.2	TM	
45	TM	Tert Amyl Methyl Ether	0.2682	0.2687	0.17	TM	
46	TM	Methylcyclopentane	0.0000	0.0202	0.00	TM	
47	TM	1,2-DCA	0.1541	0.1508	2.2	TM	
48	TM	Benzene	0.3817	0.3950	3.5	TM	
49	TM	TCE	0.1123	0.1111	1.1	TM	
50	TM	2-Pentanone	0.0708	0.0716	1.2	TM	
51	TM*	1,2-Dichloropropane	0.0984	0.1018	3.4	TM*	
52	TM	Bromodichloromethane	0.1415	0.1473	4.1	TM	
53	TM	Methyl Cyclohexane	0.1097	0.1117	1.8	TM	
54	TM	Dibromomethane	0.0914	0.0917	0.41	TM	
55	TM	MIBK (methyl isobutyl ketone)	0.0901	0.0854	5.2	TM	
56	TM	1-Bromo-2-chloroethane	0.0717	0.0718	0.10	TM	
57	TM	Cis-1,3-Dichloropropene	0.1535	0.1537	0.08	TM	
58	TM*	Toluene	0.4463	0.4514	1.1	TM*	
59	TM	Trans-1,3-Dichloropropene	0.1434	0.1471	2.6	TM	
60	TM	1,1,2-TCA	0.1009	0.1092	8.2	TM	
61	TML	2-Hexanone	0.0536	0.0534	0.40	TML	5.4
62	I	Chlorobenzene-D5 (IS)	ISTD			I	
63	SL	Toluene-D8(S)	1.712	1.592	7.0	SL	8.9
64	TM	1,2-EDB	0.1323	0.1392	5.2	TM	
65	TM	Tetrachloroethene	0.1511	0.1602	6.1	TM	
66	TML	1-Chlorohexane	0.1322	0.1188	10	TML	1.2
67	TM	1,1,1,2-Tetrachloroethane	0.1479	0.1534	3.7	TM	
68	TM	m&p-Xylene	0.4424	0.4604	4.1	TM	
69	TM	o-Xylene	0.4709	0.4854	3.1	TM	
70	TML	Styrene	0.3461	0.3596	3.9	TML	4.7
71	SL	4-Bromofluorobenzene(S)	0.6137	0.5712	6.9	SL	2.6
72	TM	1,3-Dichloropropane	0.2046	0.2136	4.4	TM	
73	TM	Dibromochloromethane	0.1536	0.1573	2.4	TM	
74	TM**	Chlorobenzene	0.3911	0.4092	4.6	TM**	
75	TM*	Ethylbenzene	0.5856	0.6107	4.3	TM*	
76	TM**	Bromoform	0.1192	0.1236	3.7	TM**	
77	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
78	TM	Isopropylbenzene	0.9915	1.042	5.1	TM	
79	TM**	1,1,2,2-Tetrachloroethane	0.3158	0.3485	10	TM**	
80	TM	1,2,3-Trichloropropane	0.1065	0.1052	1.2	TM	
		Average			3.6		

VOLATILE ORGANIC ANALYSIS
VOLATILE ORGANIC COMPOUNDS

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 01/25/20
Instrument: Thor
Cal. Date: 01/21/20
Data File: 0125T02.D

		Compound	MEAN	CCRF	%D		%Drift
81	TM	t-1,4-Dichloro-2-Butene	0.0549	0.0578	5.4	TM	
82	TM	Bromobenzene	0.5411	0.5641	4.2	TM	
83	TM	n-Propylbenzene	1.078	1.157	7.3	TM	
84	TM	4-Ethyltoluene	0.9292	0.9657	3.9	TM	
85	TM	2-Chlorotoluene	0.8284	0.8532	3.0	TM	
86	TM	1,3,5-Trimethylbenzene	0.8683	0.9527	9.7	TM	
87	TM	4-Chlorotoluene	0.8334	0.8726	4.7	TM	
88	TM	Tert-Butylbenzene	0.8653	0.9017	4.2	TM	
89	TM	1,2,4-Trimethylbenzene	0.9216	0.9277	0.67	TM	
90	TM	Sec-Butylbenzene	0.9547	1.041	9.1	TM	
91	TM	p-Isopropyltoluene	0.8496	0.9162	7.8	TM	
92	TM	Benzyl Chloride	0.2976	0.3032	1.9	TM	
93	TM	1,3-DCB	0.5671	0.5869	3.5	TM	
94	TM	1,4-DCB	0.5943	0.5983	0.67	TM	
95	TM	n-Butylbenzene	0.7079	0.7597	7.3	TM	
96	TM	1,2-DCB	0.5862	0.5991	2.2	TM	
97	TML	Hexachloroethane	0.1600	0.1725	7.8	TML	0.20
98	TML	1,2-Dibromo-3-chloropropane	0.0608	0.0713	17	TML	2.5
99	TM	1,2,4-Trichlorobenzene	0.3588	0.3552	1.00	TM	
100	TM	Hexachlorobutadiene	0.1849	0.2095	13	TM	
101	TML	Naphthalene	0.0448	0.0343	23	TML	18
102	TM	1,2,3-Trichlorobenzene	0.3259	0.3363	3.2	TM	
103							
104							
105							
106							
107							
108							
109							
110							
111							
112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			6.4		

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0125T02.D Vial: 2
Acq On : 25 Jan 20 16:56 Operator:
Sample : 200125A CCV/LCS 10ug/L Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 6:36 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Fluorobenzene (IS)	6.51	96	994327	25.00000 ppb		0.00
66) Chlorobenzene-D5 (IS)	9.96	117	782631	25.00000 ppb		0.00
81) 1,4-Dichlorobenzene-D (IS)	12.52	152	426324	25.00000 ppb		0.00
System Monitoring Compounds						
41) Dibromofluoromethane(S)	5.66	111	331429	25.96003 ppb		0.00
Spiked Amount 25.000			Recovery	= 103.840%		
46) 1,2-DCA-D4(S)	6.07	65	356990	26.27490 ppb		0.00
Spiked Amount 25.000			Recovery	= 105.100%		
67) Toluene-D8(S)	8.37	98	1245763	27.23437 ppb		0.00
Spiked Amount 25.000			Recovery	= 108.936%		
75) 4-Bromofluorobenzene(S)	11.25	95	447012	25.65557 ppb		0.00
Spiked Amount 25.000			Recovery	= 102.624%		
Target Compounds						Qvalue
3) Dichlorodifluoromethane	1.17	85	28168	9.55187 ppb		97
4) Freon 114	1.28	85	28253	9.13864 ppb		99
5) Chloromethane	1.32	50	38134	9.46693 ppb		94
6) Vinyl chloride	1.41	62	33710	9.63950 ppb		93
8) Bromomethane	1.68	96	26344	8.70283 ppb		98
9) Chloroethane	1.78	64	23811	10.21977 ppb		96
10) Dichlorofluoromethane	1.98	67	69811	10.36805 ppb		96
11) Trichlorofluoromethane	2.03	101	52742	10.62466 ppb		94
14) Acrolein	2.44	56	46139	112.31645 ppb		98
15) Acetone	2.62	43	7179	9.95727 ppb		95
16) Freon-113	2.58	101	28670	10.51851 ppb		96
17) 1,1-DCE	2.55	61	42564	9.61457 ppb		93
18) 2-Propanol	2.82	45	63	0.28296 ppb	#	1
19) Acetonitrile	2.92	40	16002	133.03149 ppb		91
20) t-Butanol	3.35	59	19856	133.14877 ppb		92
21) Methyl Acetate	3.03	43	29930	9.52727 ppb		98
22) Iodomethane	2.70	142	6530	4.97986 ppb		89
23) Acrylonitrile	3.44	52	12594	10.48954 ppb		97
24) Methylene chloride	3.12	49	48449	9.90038 ppb		98
25) Carbon disulfide	2.77	76	75718	8.77714 ppb		99
26) Methyl t-butyl ether (MtBE	3.54	73	106743	9.83647 ppb	#	89
27) Trans-1,2-DCE	3.50	61	46518	10.02247 ppb		94
29) Diisopropyl Ether	4.35	45	107211	10.07817 ppb		97
31) 1,1-DCA	4.13	63	64565	10.22207 ppb		98
32) Vinyl Acetate	4.28	43	25832	12.06713 ppb	#	92
33) Ethyl tert Butyl Ether	4.89	59	104898	9.63189 ppb		99
34) MEK (2-Butanone)	5.05	43	17711	10.11050 ppb		92
35) Cis-1,2-DCE	4.99	61	59780	10.10164 ppb		97
36) 2,2-Dichloropropane	4.99	77	54889	10.47410 ppb		98
39) Chloroform	5.45	83	76798	10.35389 ppb		97
40) Bromochloromethane	5.31	49	34010	10.45686 ppb		90
42) 1,1,1-TCA	5.67	97	60247	10.25309 ppb		95
43) Cyclohexane	5.75	56	39318	9.76446 ppb		100
44) 1,1-Dichloropropene	5.90	75	43283	10.10859 ppb		97
45) 2,2,4-Trimethylpentane	6.32	57	80677	10.37486 ppb		99
47) Carbon Tetrachloride	5.89	117	50490	10.11660 ppb		90
48) Tert Amyl Methyl Ether	6.36	73	106860	10.01656 ppb		95
50) 1,2-DCA	6.17	62	59965	9.78207 ppb		98
51) Benzene	6.15	78	157092	10.34691 ppb		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0125T02.D Vial: 2
Acq On : 25 Jan 20 16:56 Operator:
Sample : 200125A CCV/LCS 10ug/L Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 6:36 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
52)	TCE	6.96	130	44175	9.88612 ppb		96
53)	2-Pentanone	7.20	43	356144	126.55533 ppb		98
54)	1,2-Dichloropropane	7.21	63	40477	10.34368 ppb		98
55)	Bromodichloromethane	7.54	83	58590	10.40783 ppb		93
56)	Methyl Cyclohexane	7.20	83	44417	10.18376 ppb		97
57)	Dibromomethane	7.33	174	36485	10.04132 ppb		91
58)	MIBK (methyl isobutyl ket	8.26	43	33958	9.47828 ppb		92
59)	1-Bromo-2-chloroethane	7.88	63	28560	10.01045 ppb		92
61)	Cis-1,3-Dichloropropene	8.07	75	61116	10.00824 ppb		94
62)	Toluene	8.45	91	179523	10.11269 ppb		98
63)	Trans-1,3-Dichloropropene	8.69	75	58492	10.25654 ppb		97
64)	1,1,2-TCA	8.89	97	43419	10.81662 ppb		97
65)	2-Hexanone	9.19	43	21234	9.46275 ppb		95
68)	1,2-EDB	9.43	107	43570	10.51857 ppb		94
69)	Tetrachloroethene	9.06	166	50162	10.60607 ppb		95
70)	1-Chlorohexane	10.00	91	37203	9.87983 ppb		97
71)	1,1,1,2-Tetrachloroethane	10.09	131	48026	10.37088 ppb		96
72)	m&p-Xylene	10.26	91	288278	20.81505 ppb		99
73)	o-Xylene	10.69	91	151971	10.30953 ppb		100
74)	Styrene	10.70	104	112587	9.52856 ppb		98
76)	1,3-Dichloropropane	9.07	76	66860	10.43782 ppb		96
77)	Dibromochloromethane	9.31	129	49252	10.24114 ppb		92
78)	Chlorobenzene	9.99	112	128101	10.46168 ppb		98
79)	Ethylbenzene	10.13	91	191177	10.42764 ppb		99
80)	Bromoform	10.88	173	38695	10.36554 ppb		95
82)	Isopropylbenzene	11.11	105	177648	10.50663 ppb		98
83)	1,1,2,2-Tetrachloroethane	11.40	83	59429	11.03619 ppb	#	93
84)	1,2,3-Trichloropropane	11.45	110	17948	9.88065 ppb		86
85)	t-1,4-Dichloro-2-Butene	11.47	53	9862	10.54243 ppb		97
86)	Bromobenzene	11.41	77	96201	10.42489 ppb		97
87)	n-Propylbenzene	11.56	91	197292	10.72929 ppb		99
88)	4-Ethyltoluene	11.68	105	164673	10.39210 ppb		96
89)	2-Chlorotoluene	11.64	91	145488	10.29855 ppb		99
90)	1,3,5-Trimethylbenzene	11.75	105	162463	10.97221 ppb		99
91)	4-Chlorotoluene	11.76	91	148808	10.47111 ppb		98
92)	Tert-Butylbenzene	12.11	119	153763	10.41992 ppb		100
93)	1,2,4-Trimethylbenzene	12.16	105	158204	10.06671 ppb		99
94)	Sec-Butylbenzene	12.35	105	177559	10.90571 ppb		100
95)	p-Isopropyltoluene	12.51	119	156238	10.78391 ppb		98
96)	Benzyl Chloride	12.69	91	51705	10.18964 ppb	#	96
97)	1,3-DCB	12.45	146	100084	10.34910 ppb		99
98)	1,4-DCB	12.55	146	102023	10.06705 ppb		97
99)	n-Butylbenzene	12.96	91	129556	10.73176 ppb		100
100)	1,2-DCB	12.95	146	102163	10.21949 ppb		99
101)	Hexachloroethane	13.25	201	29416	10.02015 ppb		94
102)	1,2-Dibromo-3-chloropropan	13.79	157	12153	10.24864 ppb		93
103)	1,2,4-Trichlorobenzene	14.73	180	60578	9.90040 ppb		91
104)	Hexachlorobutadiene	14.93	225	35728	11.33346 ppb		93
105)	Naphthalene	14.99	127	5851	8.23189 ppb		86
106)	1,2,3-Trichlorobenzene	15.26	180	57342	10.31776 ppb		100

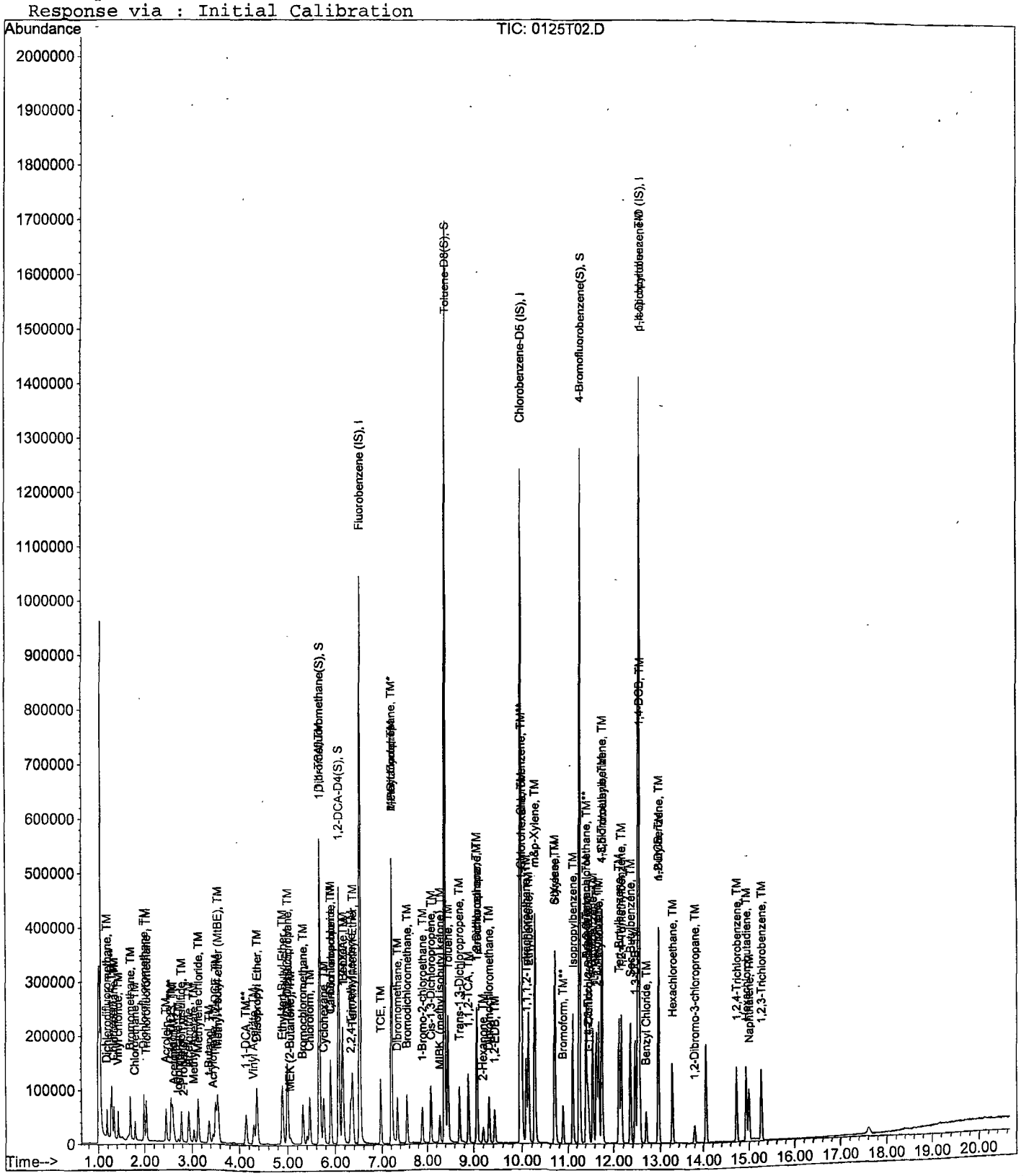
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0125T02.D Vial: 2
Acq On : 25 Jan 20 16:56 Operator:
Sample : 200125A CCV/LCS 10ug/L Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 6:36 2020 Quant Results File: T0121W.RES

Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS
VOLATILE ORGANIC COMPOUNDS

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Date Analyzed: 01/26/20
Matrix: Instrument: Thor
Initial Cal. Date: 01/21/20
Data File: 0125T27.D

		Compound	MEAN	CCRF	%D	%Drift		
1	I	Fluorobenzene (IS)	ISTD			I		
2	TM	Dichlorodifluoromethane	0.0741	0.0656	12	TM		
3	TM	Freon 114	0.0777	0.0580	25	TM		
4	TM**L	Chloromethane	0.1164	0.0848	27	TM**L	18	
5	TM*	Vinyl chloride	0.0879	0.0746	15	TM*		
6	TML	Bromomethane	0.0976	0.0630	35	TML	18	
7	TML	Chloroethane	0.0684	0.0540	21	TML	8.0	
8	TM	Dichlorofluoromethane	0.1693	0.1571	7.2	TM		
9	TM	Trichlorofluoromethane	0.1248	0.1176	5.8	TM		
10	TM	1,2 Dichlorotrifluoroethane	0.0000	0.0002	0.00	TM		
11	TM	Acrolein	0.0103	0.0090	13	TM		
12	TML	Acetone	0.0219	0.0196	11	TML	11	
13	TM	Freon-113	0.0685	0.0668	2.5	TM		
14	TM*	1,1-DCE	0.1113	0.1007	9.5	TM*		
15	TM	2-Propanol	0.0056	0.0024	58	TM		*nt
16	TM	Acetonitrile	0.0030	0.0029	4.9	TM		
17	TM	t-Butanol	0.0037	0.0036	4.3	TM		
18	TM	Methyl Acetate	0.0790	0.0711	10.0	TM		
19	TMQ	Iodomethane	0.0411	0.0173	58	TMQ	49	
20	TM	Acrylonitrile	0.0302	0.0293	3.0	TM		
21	TM	Methylene chloride	0.1230	0.1130	8.1	TM		
22	TM	Carbon disulfide	0.2169	0.1686	22	TM		
23	TM	Methyl t-butyl ether (MtBE)	0.2728	0.2545	6.7	TM		
24	TM	Trans-1,2-DCE	0.1167	0.1050	10	TM		
25	TM	Hexane	0.0000	0.0001	0.00	TM		
26	TM	Diisopropyl Ether	0.2675	0.2499	6.6	TM		
27	TM**	2,2-Dichloro-1,1,1-trifluoroethane	0.0000	0.0002	0.00	TM**		
28	TM**	1,1-DCA	0.1588	0.1472	7.3	TM**		
29	TM	Vinyl Acetate	0.0538	0.0269	50	TM		
30	TM	Ethyl tert Butyl Ether	0.2738	0.2537	7.4	TM		
31	TML	MEK (2-Butanone)	0.0524	0.0374	29	TML	15	
32	TM	Cis-1,2-DCE	0.1488	0.1330	11	TM		
33	TM	2,2-Dichloropropane	0.1318	0.1057	20	TM		
34	TM	3-Methylpentane	0.0000	0.0545	0.00	TM		
35	TM*	Chloroform	0.1865	0.1687	9.5	TM*		
36	TM	Bromochloromethane	0.0818	0.0740	9.6	TM		
37	SL	Dibromofluoromethane(S)	0.3715	0.3122	16	SL	3.9	
38	TM	1,1,1-TCA	0.1477	0.1406	4.8	TM		
39	TM	Cyclohexane	0.1012	0.0964	4.8	TM		
40	TM	1,1-Dichloropropene	0.1077	0.1021	5.1	TM		
		Average			14.1			

VOLATILE ORGANIC ANALYSIS
VOLATILE ORGANIC COMPOUNDS

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Date Analyzed: 01/26/20
Matrix: 0 Instrument: Thor
Cal. Date: 01/21/20
Data File: 0125T27.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	2,2,4-Trimethylpentane	0.1955	0.1621	17	TM	
42	SL	1,2-DCA-D4(S)	0.3991	0.3347	16	SL	3.4
43	TM	Carbon Tetrachloride	0.1255	0.1176	6.2	TM	
44	TM	Tert Amyl Methyl Ether	0.2682	0.2531	5.7	TM	
45	TM	Methylcyclopentane	0.0000	0.0161	0.00	TM	
46	TM	1,2-DCA	0.1541	0.1385	10	TM	
47	TM	Benzene	0.3817	0.3611	5.4	TM	
48	TM	TCE	0.1123	0.1133	0.83	TM	
49	TM	2-Pentanone	0.0708	0.0688	2.8	TM	
50	TM*	1,2-Dichloropropane	0.0984	0.0954	3.0	TM*	
51	TM	Bromodichloromethane	0.1415	0.1369	3.3	TM	
52	TM	Methyl Cyclohexane	0.1097	0.1018	7.2	TM	
53	TM	Dibromomethane	0.0914	0.0842	7.8	TM	
54	TM	MIBK (methyl isobutyl ketone)	0.0901	0.0840	6.8	TM	
55	TM	1-Bromo-2-chloroethane	0.0717	0.0691	3.7	TM	
56	TM	Cis-1,3-Dichloropropene	0.1535	0.1415	7.9	TM	
57	TM*	Toluene	0.4463	0.4079	8.6	TM*	
58	TM	Trans-1,3-Dichloropropene	0.1434	0.1300	9.4	TM	
59	TM	1,1,2-TCA	0.1009	0.0983	2.6	TM	
60	TML	2-Hexanone	0.0536	0.0519	3.1	TML	7.4
61	I	Chlorobenzene-D5 (IS)	ISTD			I	
62	SL	Toluene-D8(S)	1.712	1.482	13	SL	0.15
63	TM	1,2-EDB	0.1323	0.1291	2.4	TM	
64	TM	Tetrachloroethene	0.1511	0.1484	1.8	TM	
65	TML	1-Chlorohexane	0.1322	0.1145	13	TML	4.4
66	TM	1,1,1,2-Tetrachloroethane	0.1479	0.1347	9.0	TM	
67	TM	m&p-Xylene	0.4424	0.4257	3.8	TM	
68	TM	o-Xylene	0.4709	0.4464	5.2	TM	
69	TML	Styrene	0.3461	0.3353	3.1	TML	10
70	SL	4-Bromofluorobenzene(S)	0.6137	0.5546	9.6	SL	0.59
71	TM	1,3-Dichloropropane	0.2046	0.1999	2.3	TM	
72	TM	Dibromochloromethane	0.1536	0.1440	6.3	TM	
73	TM**	Chlorobenzene	0.3911	0.3663	6.3	TM**	
74	TM*	Ethylbenzene	0.5856	0.5580	4.7	TM*	
75	TM**	Bromoform	0.1192	0.1081	9.4	TM**	
76	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
77	TM	Isopropylbenzene	0.9915	0.9816	1.00	TM	
78	TM**	1,1,2,2-Tetrachloroethane	0.3158	0.2787	12	TM**	
79	TM	1,2,3-Trichloropropane	0.1065	0.1041	2.3	TM	
80	TM	t-1,4-Dichloro-2-Butene	0.0549	0.0499	9.1	TM	
		Average			6.4		

VOLATILE ORGANIC ANALYSIS
VOLATILE ORGANIC COMPOUNDS

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 01/26/20
Instrument: Thor
Cal. Date: 01/21/20
Data File: 0125T27.D

		Compound	MEAN	CCRF	%D		%Drift
81	TM	Bromobenzene	0.5411	0.5249	3.0	TM	
82	TM	n-Propylbenzene	1.078	1.053	2.4	TM	
83	TM	4-Ethyltoluene	0.9292	0.8939	3.8	TM	
84	TM	2-Chlorotoluene	0.8284	0.8036	3.0	TM	
85	TM	1,3,5-Trimethylbenzene	0.8683	0.8547	1.6	TM	
86	TM	4-Chlorotoluene	0.8334	0.8134	2.4	TM	
87	TM	Tert-Butylbenzene	0.8653	0.8657	0.04	TM	
88	TM	1,2,4-Trimethylbenzene	0.9216	0.8539	7.3	TM	
89	TM	Sec-Butylbenzene	0.9547	0.9628	0.84	TM	
90	TM	p-Isopropyltoluene	0.8496	0.8528	0.37	TM	
91	TM	Benzyl Chloride	0.2976	0.2014	32	TM	
92	TM	1,3-DCB	0.5671	0.5345	5.7	TM	
93	TM	1,4-DCB	0.5943	0.5430	8.6	TM	
94	TM	n-Butylbenzene	0.7079	0.6572	7.2	TM	
95	TM	1,2-DCB	0.5862	0.5541	5.5	TM	
96	TML	Hexachloroethane	0.1600	0.1573	1.7	TML	8.3
97	TML	1,2-Dibromo-3-chloropropane	0.0608	0.0677	11	TML	2.2
98	TM	1,2,4-Trichlorobenzene	0.3588	0.3348	6.7	TM	
99	TM	Hexachlorobutadiene	0.1849	0.1901	2.8	TM	
100	TML	Naphthalene	0.0448	0.0399	11	TML	7.3
101	TM	1,2,3-Trichlorobenzene	0.3259	0.3249	0.32	TM	
102							
103							
104							
105							
106							
107							
108							
109							
110							
111							
112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			5.6		

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0125T27.D Vial: 27
Acq On : 26 Jan 20 4:42 Operator:
Sample : Ending CCV 10ug/L 1/25/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 6:37 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Fluorobenzene (IS)	6.51	96	1062824	25.00000 ppb		0.00
66) Chlorobenzene-D5 (IS)	9.96	117	848777	25.00000 ppb		0.00
81) 1,4-Dichlorobenzene-D (IS)	12.52	152	465093	25.00000 ppb		0.00
System Monitoring Compounds						
41) Dibromofluoromethane(S)	5.66	111	331847	24.02100 ppb		0.00
Spiked Amount 25.000			Recovery = 96.084%			
46) 1,2-DCA-D4(S)	6.07	65	355738	24.14432 ppb		0.00
Spiked Amount 25.000			Recovery = 96.576%			
67) Toluene-D8(S)	8.37	98	1258010	24.96369 ppb		0.00
Spiked Amount 25.000			Recovery = 99.856%			
75) 4-Bromofluorobenzene(S)	11.25	95	470732	24.85195 ppb		0.00
Spiked Amount 25.000			Recovery = 99.408%			
Target Compounds						Qvalue
3) Dichlorodifluoromethane	1.17	85	27888	8.84744 ppb		99
4) Freon 114	1.28	85	24650	7.45937 ppb		98
5) Chloromethane	1.32	50	36042	8.22049 ppb		99
6) Vinyl chloride	1.41	62	31731	8.48882 ppb		98
8) Bromomethane	1.68	96	26800	8.23318 ppb		97
9) Chloroethane	1.78	64	22961	9.19525 ppb		95
10) Dichlorofluoromethane	1.98	67	66788	9.27982 ppb		99
11) Trichlorofluoromethane	2.03	101	49993	9.42184 ppb		86
14) Acrolein	2.44	56	47687	108.60331 ppb		98
15) Acetone	2.62	43	8326	11.08727 ppb		98
16) Freon-113	2.58	101	28394	9.74587 ppb		97
17) 1,1-DCE	2.55	61	42830	9.05114 ppb		98
18) 2-Propanol	2.83	45	10067	42.30080 ppb	#	86
19) Acetonitrile	2.92	40	15290	118.92018 ppb	#	87
20) t-Butanol	3.35	59	19072	119.64912 ppb		94
21) Methyl Acetate	3.03	43	30222	9.00021 ppb		97
22) Iodomethane	2.70	142	7354	5.11661 ppb	#	86
23) Acrylonitrile	3.45	52	12444	9.69662 ppb		93
24) Methylene chloride	3.12	49	48049	9.18584 ppb		99
25) Carbon disulfide	2.77	76	71678	7.77334 ppb		96
26) Methyl t-butyl ether (MtBE	3.55	73	108188	9.32710 ppb		98
27) Trans-1,2-DCE	3.50	61	44640	8.99800 ppb		99
29) Diisopropyl Ether	4.35	45	106219	9.34141 ppb		99
31) 1,1-DCA	4.13	63	62565	9.26704 ppb		99
32) Vinyl Acetate	4.29	43	11431	4.99572 ppb		98
33) Ethyl tert Butyl Ether	4.89	59	107845	9.26429 ppb		98
34) MEK (2-Butanone)	5.05	43	15903	8.50126 ppb		94
35) Cis-1,2-DCE	4.99	61	56521	8.93539 ppb		96
36) 2,2-Dichloropropane	4.99	77	44922	8.01970 ppb		97
39) Chloroform	5.46	83	71718	9.04586 ppb		97
40) Bromochloromethane	5.31	49	31439	9.04339 ppb		95
42) 1,1,1-TCA	5.68	97	59772	9.51667 ppb		97
43) Cyclohexane	5.76	56	40967	9.51828 ppb		99
44) 1,1-Dichloropropene	5.90	75	43420	9.48705 ppb		95
45) 2,2,4-Trimethylpentane	6.32	57	68915	8.29114 ppb		99
47) Carbon Tetrachloride	5.89	117	50013	9.37519 ppb		97
48) Tert Amyl Methyl Ether	6.36	73	107585	9.43459 ppb		95
50) 1,2-DCA	6.17	62	58883	8.98650 ppb		97
51) Benzene	6.15	78	153512	9.45947 ppb		100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0125T27.D Vial: 27
Acq On : 26 Jan 20 4:42 Operator:
Sample : Ending CCV 10ug/L 1/25/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 6:37 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
52)	TCE	6.96	130	48160	10.08332	ppb		94
53)	2-Pentanone	7.20	43	365362	121.46358	ppb		100
54)	1,2-Dichloropropane	7.21	63	40562	9.69737	ppb	#	96
55)	Bromodichloromethane	7.54	83	58183	9.66943	ppb		97
56)	Methyl Cyclohexane	7.20	83	43284	9.28441	ppb		100
57)	Dibromomethane	7.33	174	35790	9.21522	ppb		95
58)	MIBK (methyl isobutyl ket	8.26	43	35704	9.32336	ppb		98
59)	1-Bromo-2-chloroethane	7.88	63	29368	9.63025	ppb		100
61)	Cis-1,3-Dichloropropene	8.06	75	60138	9.21339	ppb		96
62)	Toluene	8.45	91	173406	9.13858	ppb		97
63)	Trans-1,3-Dichloropropene	8.69	75	55258	9.06499	ppb		95
64)	1,1,2-TCA	8.89	97	41791	9.74008	ppb		94
65)	2-Hexanone	9.19	43	22073	9.25877	ppb		95
68)	1,2-EDB	9.43	107	43830	9.75672	ppb		99
69)	Tetrachloroethene	9.06	166	50395	9.82495	ppb		96
70)	1-Chlorohexane	10.00	91	38870	9.55892	ppb		94
71)	1,1,1,2-Tetrachloroethane	10.09	131	45725	9.10450	ppb		99
72)	m&p-Xylene	10.26	91	289059	19.24491	ppb		96
73)	o-Xylene	10.69	91	151557	9.48020	ppb		92
74)	Styrene	10.70	104	113837	8.97649	ppb		98
76)	1,3-Dichloropropane	9.07	76	67860	9.76834	ppb		95
77)	Dibromochloromethane	9.31	129	48895	9.37459	ppb		99
78)	Chlorobenzene	9.99	112	124371	9.36551	ppb		99
79)	Ethylbenzene	10.13	91	189455	9.52840	ppb		100
80)	Bromoform	10.88	173	36700	9.06498	ppb		98
82)	Isopropylbenzene	11.11	105	182618	9.90026	ppb		96
83)	1,1,2,2-Tetrachloroethane	11.40	83	51849	8.82595	ppb		99
84)	1,2,3-Trichloropropane	11.45	110	19361	9.77006	ppb		92
85)	t-1,4-Dichloro-2-Butene	11.47	53	9281	9.09432	ppb		94
86)	Bromobenzene	11.41	77	97645	9.69934	ppb		96
87)	n-Propylbenzene	11.56	91	195878	9.76444	ppb		100
88)	4-Ethyltoluene	11.68	105	166295	9.61967	ppb		97
89)	2-Chlorotoluene	11.64	91	149506	9.70080	ppb		96
90)	1,3,5-Trimethylbenzene	11.75	105	158998	9.84309	ppb		100
91)	4-Chlorotoluene	11.76	91	151317	9.76010	ppb		97
92)	Tert-Butylbenzene	12.11	119	161045	10.00368	ppb		99
93)	1,2,4-Trimethylbenzene	12.16	105	158856	9.26561	ppb		99
94)	Sec-Butylbenzene	12.35	105	179116	10.08430	ppb		100
95)	p-Isopropyltoluene	12.51	119	158644	10.03722	ppb		97
96)	Benzyl Chloride	12.69	91	37474	6.76950	ppb		98
97)	1,3-DCB	12.45	146	99443	9.42567	ppb		98
98)	1,4-DCB	12.55	146	101014	9.13662	ppb		97
99)	n-Butylbenzene	12.96	91	122260	9.28320	ppb		98
100)	1,2-DCB	12.95	146	103087	9.45234	ppb		96
101)	Hexachloroethane	13.25	201	29262	9.16841	ppb		97
102)	1,2-Dibromo-3-chloropropan	13.79	157	12601	9.78210	ppb		94
103)	1,2,4-Trichlorobenzene	14.73	180	62286	9.33100	ppb		95
104)	Hexachlorobutadiene	14.93	225	35358	10.28114	ppb		94
105)	Naphthalene	14.99	127	7430	9.27364	ppb		91
106)	1,2,3-Trichlorobenzene	15.26	180	60437	9.96817	ppb		98

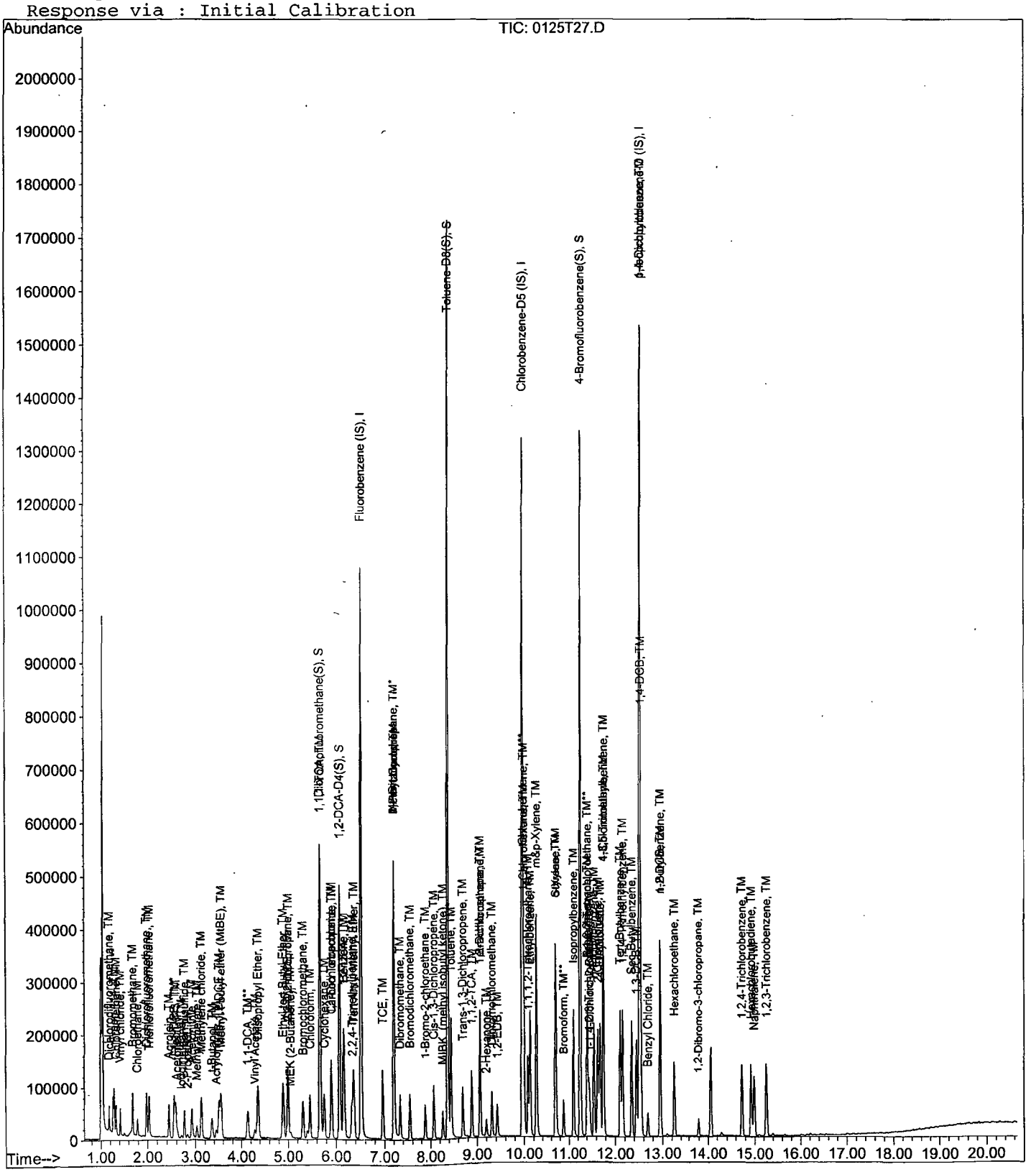
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0125T27.D Vial: 27
Acq On : 26 Jan 20 4:42 Operator:
Sample : Ending CCV 10ug/L 1/25/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 6:37 2020 Quant Results File: T0121W.RES

Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration



ORGANICS
Raw Data

Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T200121\0125T12.D Vial: 12
Acq On : 25 Jan 20 21:38 Operator:
Sample : BA06360W04 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 13:25 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	953475	25.00000 ppb	0.00
66) Chlorobenzene-D5 (IS)	9.96	117	755679	25.00000 ppb	0.00
81) 1,4-Dichlorobenzene-D (IS)	12.52	152	385614	25.00000 ppb	0.00
System Monitoring Compounds					
41) Dibromofluoromethane(S)	5.66	111	307051	24.92228 ppb	0.00
Spiked Amount 25.000			Recovery = 99.688%		
46) 1,2-DCA-D4(S)	6.07	65	327105	24.87646 ppb	0.00
Spiked Amount 25.000			Recovery = 99.504%		
67) Toluene-D8(S)	8.37	98	1126088	25.12988 ppb	0.00
Spiked Amount 25.000			Recovery = 100.520%		
75) 4-Bromofluorobenzene(S)	11.26	95	390835	23.03742 ppb	0.00
Spiked Amount 25.000			Recovery = 92.148%		

Target Compounds Qvalue

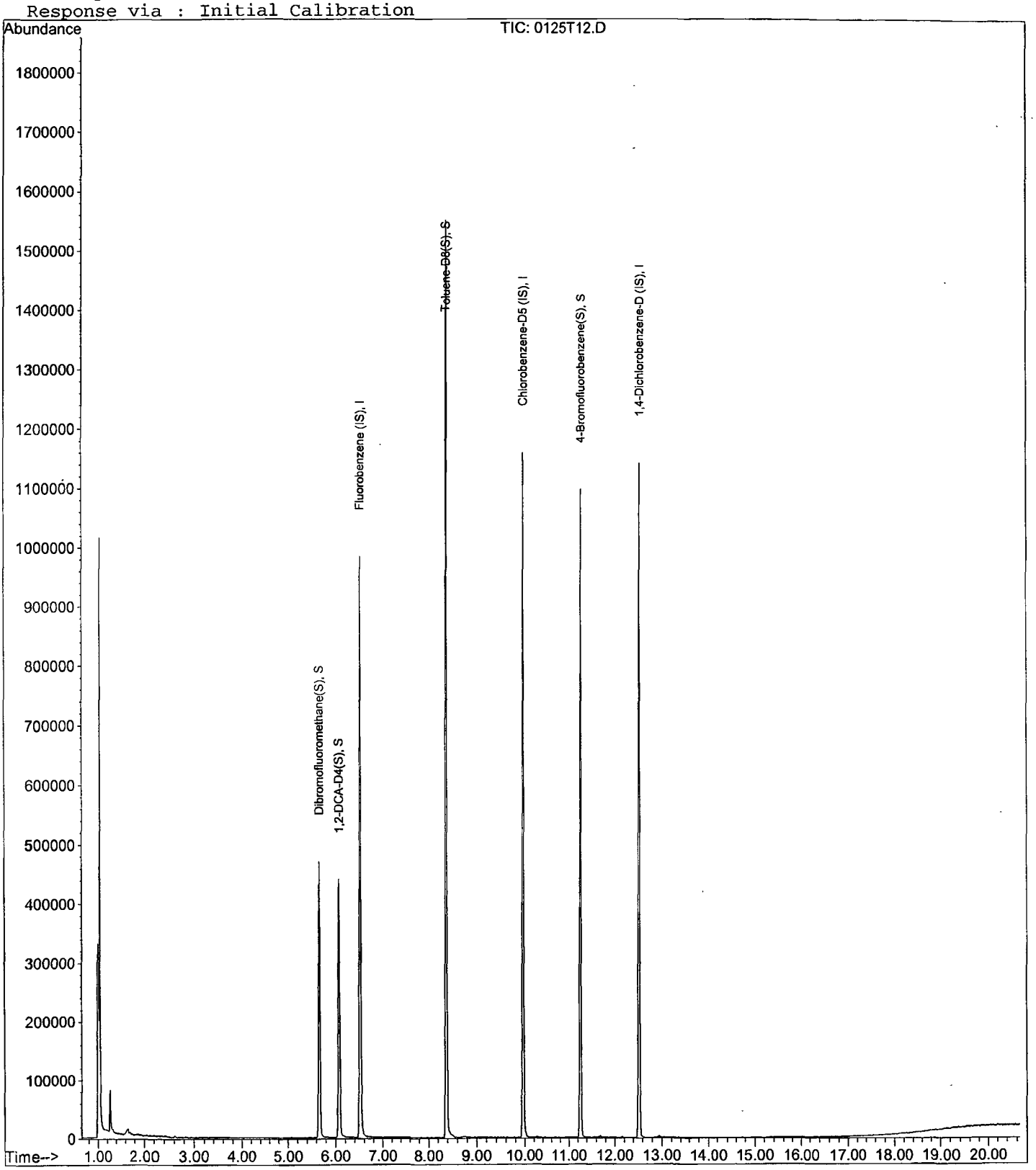
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0125T12.D Vial: 12
Acq On : 25 Jan 20 21:38 Operator:
Sample : BA06360W04 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 13:25 2020 Quant Results File: T0121W.RES

Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T200121\0125T14.D Vial: 14
Acq On : 25 Jan 20 22:35 Operator:
Sample : BA06361W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 13:30 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	967770	25.00000 ppb	0.00
66) Chlorobenzene-D5 (IS)	9.96	117	809787	25.00000 ppb	0.00
81) 1,4-Dichlorobenzene-D (IS)	12.52	152	423410	25.00000 ppb	0.00
System Monitoring Compounds					
41) Dibromofluoromethane(S)	5.67	111	299757	23.79191 ppb	0.00
Spiked Amount 25.000			Recovery =	95.168%	
46) 1,2-DCA-D4(S)	6.08	65	342665	25.84120 ppb	0.00
Spiked Amount 25.000			Recovery =	103.364%	
67) Toluene-D8(S)	8.37	98	1186365	24.60925 ppb	0.00
Spiked Amount 25.000			Recovery =	98.436%	
75) 4-Bromofluorobenzene(S)	11.26	95	439352	24.26748 ppb	0.00
Spiked Amount 25.000			Recovery =	97.068%	

Target Compounds Qvalue

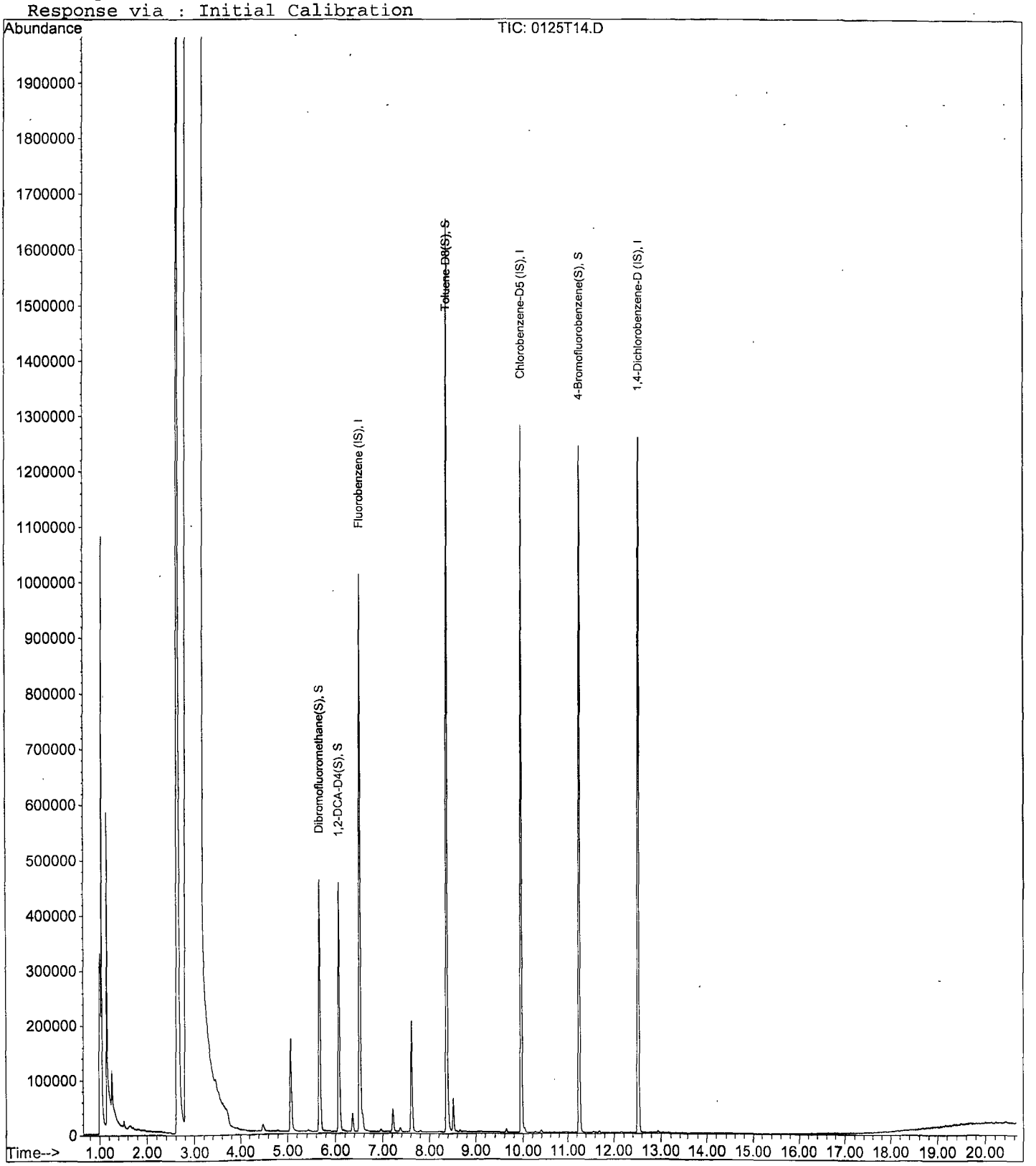
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0125T14.D Vial: 14
Acq On : 25 Jan 20 22:35 Operator:
Sample : BA06361W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 13:30 2020 Quant Results File: T0121W.RES

Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T200121\0125T15.D Vial: 15
Acq On : 25 Jan 20 23:03 Operator:
Sample : BA06362W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 13:31 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	957133	25.00000 ppb	0.00
66) Chlorobenzene-D5 (IS)	9.96	117	786709	25.00000 ppb	0.00
81) 1,4-Dichlorobenzene-D (IS)	12.52	152	403948	25.00000 ppb	0.00
System Monitoring Compounds					
41) Dibromofluoromethane(S)	5.66	111	313943	25.47120 ppb	0.00
Spiked Amount 25.000			Recovery = 101.884%		
46) 1,2-DCA-D4(S)	6.07	65	334866	25.47204 ppb	0.00
Spiked Amount 25.000			Recovery = 101.888%		
67) Toluene-D8(S)	8.37	98	1157485	24.73906 ppb	0.00
Spiked Amount 25.000			Recovery = 98.956%		
75) 4-Bromofluorobenzene(S)	11.26	95	409802	23.21739 ppb	0.00
Spiked Amount 25.000			Recovery = 92.868%		

Target Compounds Qvalue

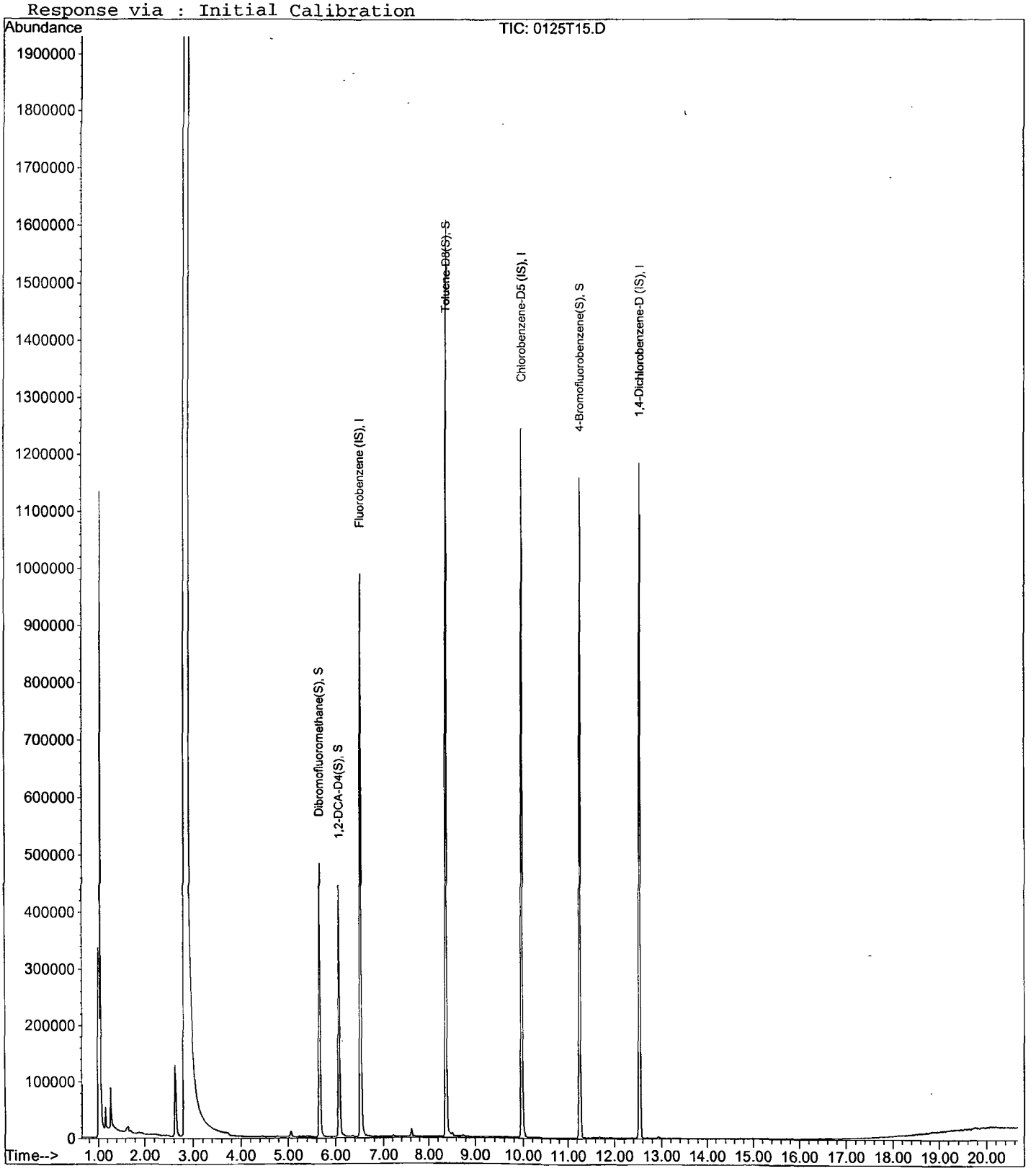
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0125T15.D Vial: 15
Acq On : 25 Jan 20 23:03 Operator:
Sample : BA06362W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 13:31 2020 Quant Results File: T0121W.RES

Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T200121\0125T13.D Vial: 13
Acq On : 25 Jan 20 22:07 Operator:
Sample : BA06363W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 13:27 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	941538	25.00000 ppb	0.00
66) Chlorobenzene-D5 (IS)	9.96	117	751959	25.00000 ppb	0.00
81) 1,4-Dichlorobenzene-D (IS)	12.52	152	382355	25.00000 ppb	0.00
System Monitoring Compounds					
41) Dibromofluoromethane(S)	5.66	111	307342	25.32610 ppb	0.00
Spiked Amount 25.000			Recovery = 101.304%		
46) 1,2-DCA-D4(S)	6.07	65	330937	25.61415 ppb	0.00
Spiked Amount 25.000			Recovery = 102.456%		
67) Toluene-D8(S)	8.37	98	1132703	25.46481 ppb	0.00
Spiked Amount 25.000			Recovery = 101.860%		
75) 4-Bromofluorobenzene(S)	11.26	95	392618	23.27658 ppb	0.00
Spiked Amount 25.000			Recovery = 93.108%		

Target Compounds Qvalue

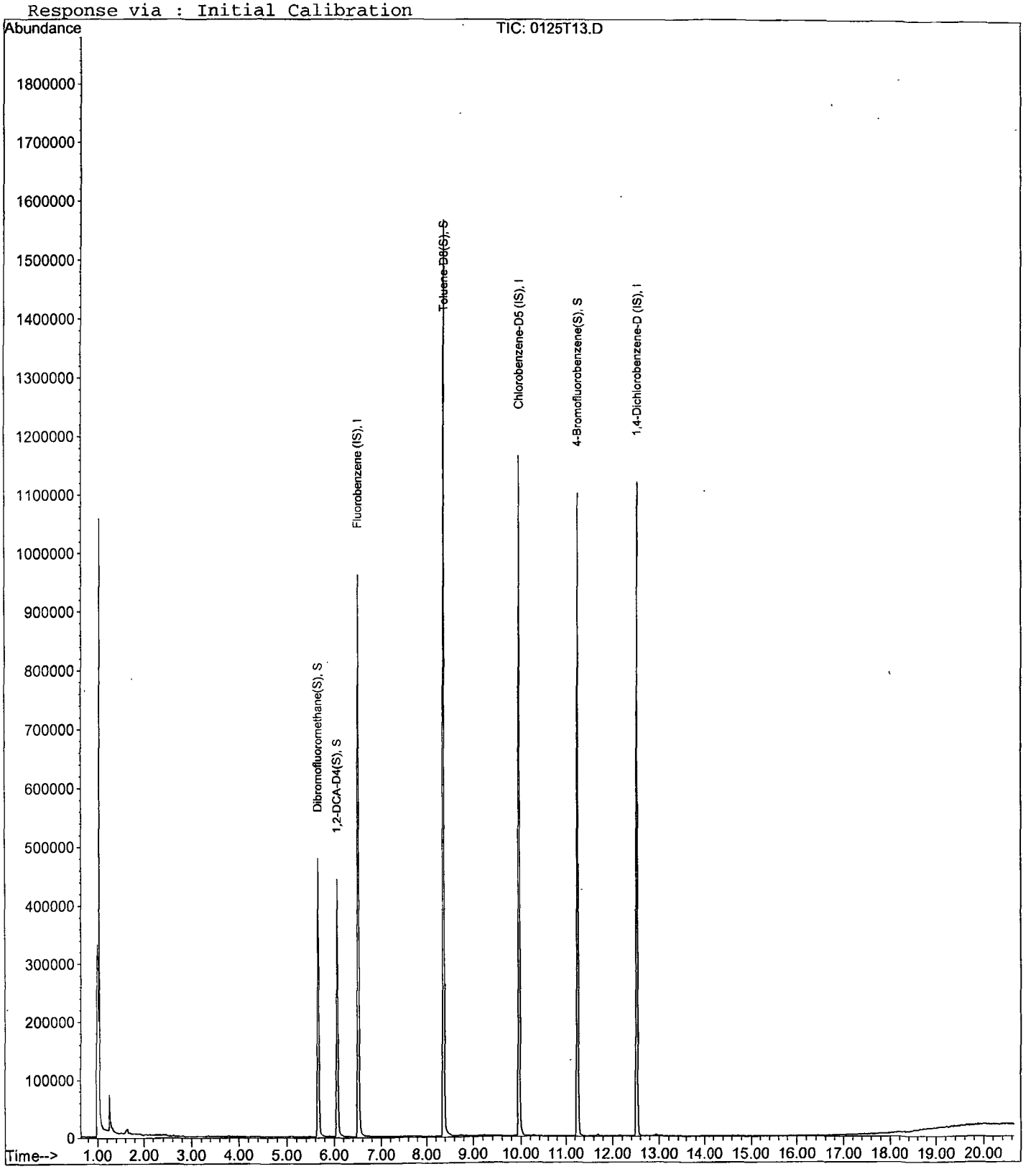
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0125T13.D Vial: 13
Acq On : 25 Jan 20 22:07 Operator:
Sample : BA06363W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 13:27 2020 Quant Results File: T0121W.RES

Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T200121\0125T16.D Vial: 16
Acq On : 25 Jan 20 23:31 Operator:
Sample : BA06364W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 13:33 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	957942	25.00000 ppb	0.00
66) Chlorobenzene-D5 (IS)	9.96	117	773321	25.00000 ppb	0.00
81) 1,4-Dichlorobenzene-D (IS)	12.52	152	396741	25.00000 ppb	0.00
System Monitoring Compounds					
41) Dibromofluoromethane(S)	5.66	111	316421	25.68358 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.736%	
46) 1,2-DCA-D4(S)	6.07	65	337854	25.71945 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.876%	
67) Toluene-D8(S)	8.37	98	1150028	25.06694 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.268%	
75) 4-Bromofluorobenzene(S)	11.26	95	405191	23.36562 ppb	0.00
Spiked Amount 25.000			Recovery	= 93.464%	

Target Compounds Qvalue

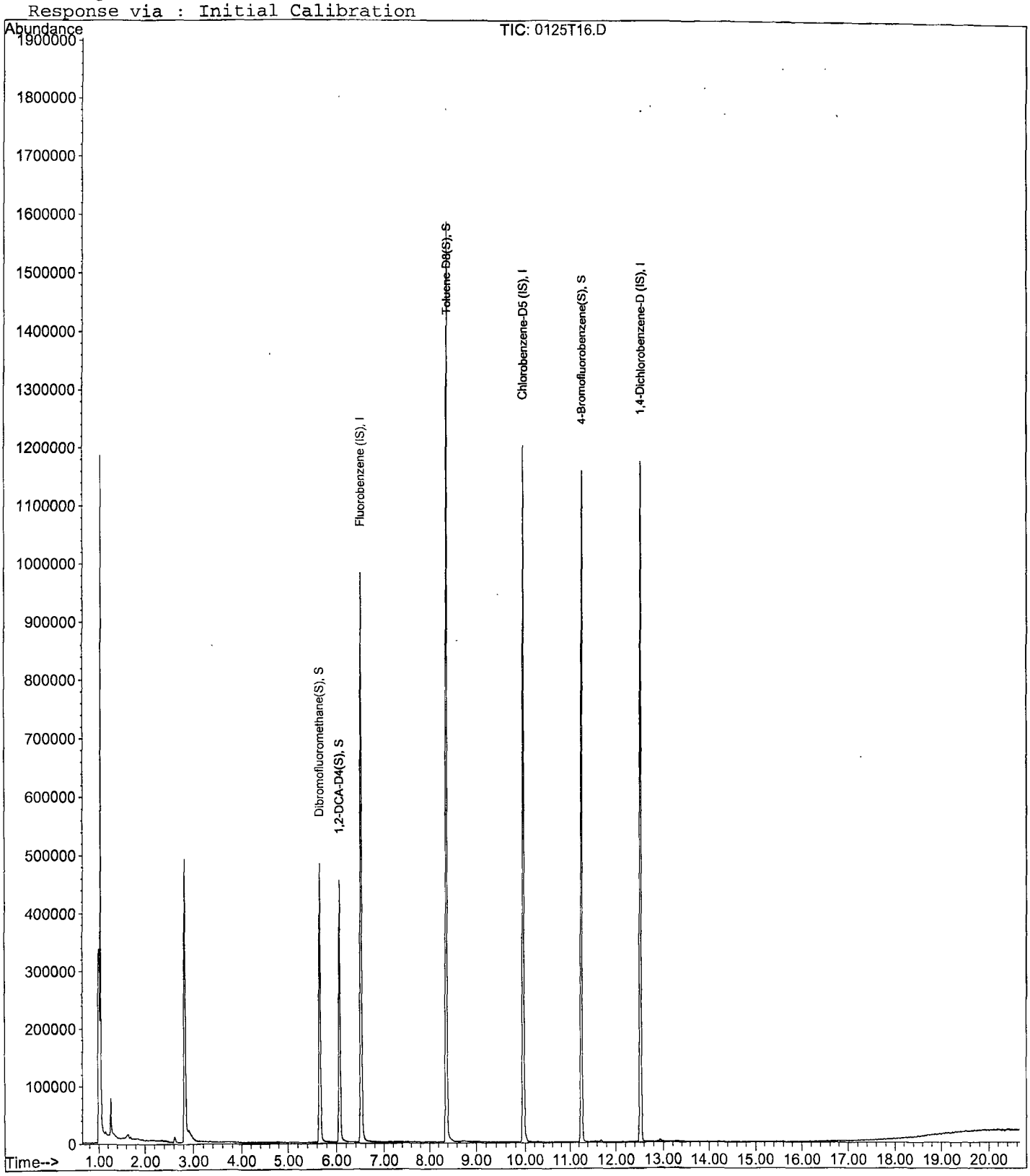
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0125T16.D Vial: 16
Acq On : 25 Jan 20 23:31 Operator:
Sample : BA06364W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 13:33 2020 Quant Results File: T0121W.RES

Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T200121\0125T11.D Vial: 11
Acq On : 25 Jan 20 21:10 Operator:
Sample : 200125A BLK Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 8:37 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	952647	25.00000 ppb	0.00
66) Chlorobenzene-D5 (IS)	9.96	117	763715	25.00000 ppb	0.00
81) 1,4-Dichlorobenzene-D (IS)	12.52	152	388019	25.00000 ppb	0.00
System Monitoring Compounds					
41) Dibromofluoromethane(S)	5.66	111	310809	25.31073 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.244%	
46) 1,2-DCA-D4(S)	6.07	65	336443	25.76143 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.044%	
67) Toluene-D8(S)	8.37	98	1149880	25.45039 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.800%	
75) 4-Bromofluorobenzene(S)	11.25	95	395577	23.07464 ppb	0.00
Spiked Amount 25.000			Recovery	= 92.300%	

Target Compounds Qvalue

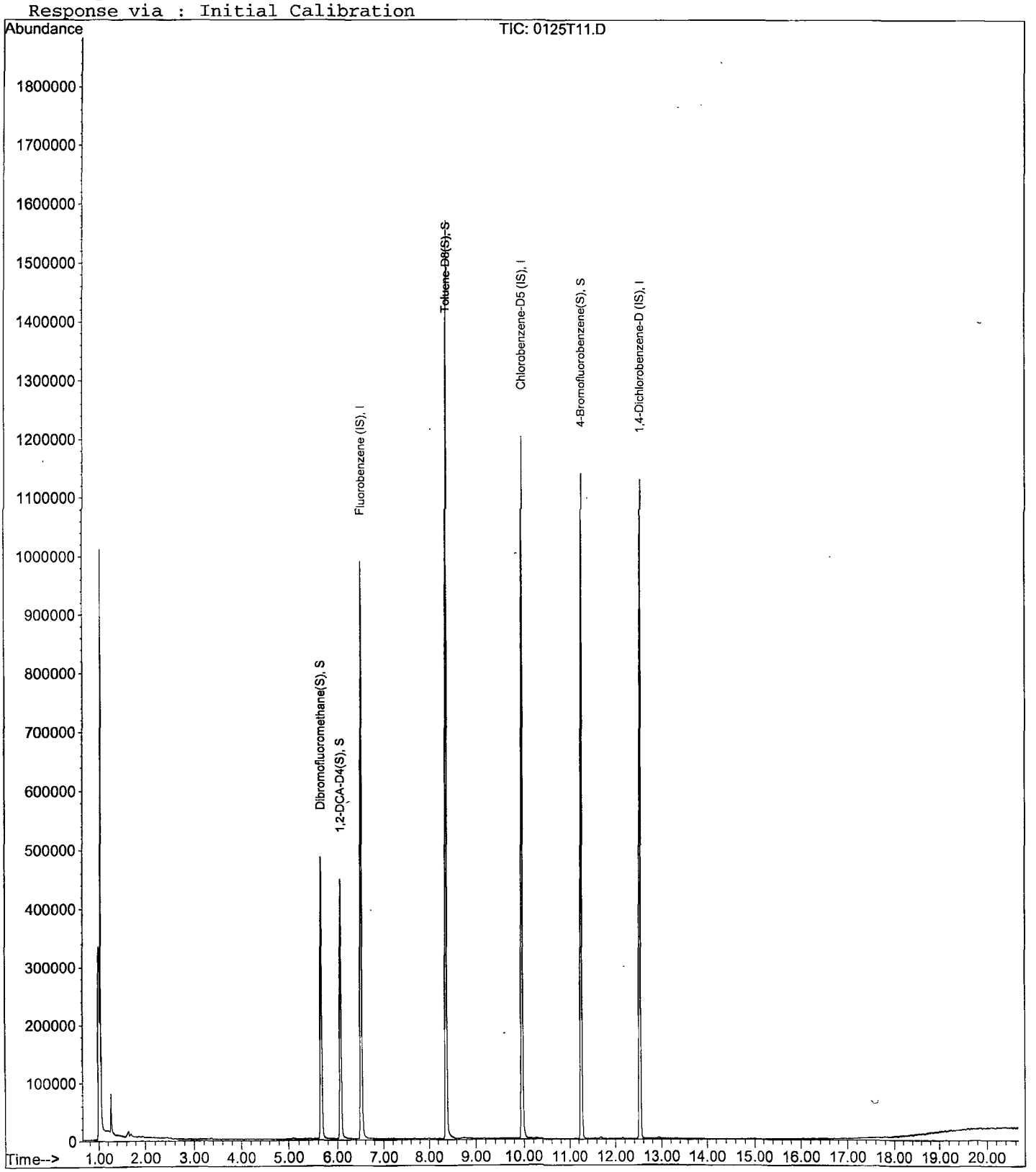
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0125T11.D Vial: 11
Acq On : 25 Jan 20 21:10 Operator:
Sample : 200125A BLK Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 8:37 2020 Quant Results File: T0121W.RES

Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0125T02.D Vial: 2
Acq On : 25 Jan 20 16:56 Operator:
Sample : 200125A CCV/LCS 10ug/L Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 6:36 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Fluorobenzene (IS)	6.51	96	994327	25.00000 ppb		0.00
66) Chlorobenzene-D5 (IS)	9.96	117	782631	25.00000 ppb		0.00
81) 1,4-Dichlorobenzene-D (IS)	12.52	152	426324	25.00000 ppb		0.00
System Monitoring Compounds						
41) Dibromofluoromethane(S)	5.66	111	331429	25.96003 ppb		0.00
Spiked Amount 25.000			Recovery	= 103.840%		
46) 1,2-DCA-D4(S)	6.07	65	356990	26.27490 ppb		0.00
Spiked Amount 25.000			Recovery	= 105.100%		
67) Toluene-D8(S)	8.37	98	1245763	27.23437 ppb		0.00
Spiked Amount 25.000			Recovery	= 108.936%		
75) 4-Bromofluorobenzene(S)	11.25	95	447012	25.65557 ppb		0.00
Spiked Amount 25.000			Recovery	= 102.624%		
Target Compounds						Qvalue
3) Dichlorodifluoromethane	1.17	85	28168	9.55187 ppb		97
4) Freon 114	1.28	85	28253	9.13864 ppb		99
5) Chloromethane	1.32	50	38134	9.46693 ppb		94
6) Vinyl chloride	1.41	62	33710	9.63950 ppb		93
8) Bromomethane	1.68	96	26344	8.70283 ppb		98
9) Chloroethane	1.78	64	23811	10.21977 ppb		96
10) Dichlorofluoromethane	1.98	67	69811	10.36805 ppb		96
11) Trichlorofluoromethane	2.03	101	52742	10.62466 ppb		94
14) Acrolein	2.44	56	46139	112.31645 ppb		98
15) Acetone	2.62	43	7179	9.95727 ppb		95
16) Freon-113	2.58	101	28670	10.51851 ppb		96
17) 1,1-DCE	2.55	61	42564	9.61457 ppb		93
18) 2-Propanol	2.82	45	63	0.28296 ppb	#	1
19) Acetonitrile	2.92	40	16002	133.03149 ppb		91
20) t-Butanol	3.35	59	19856	133.14877 ppb		92
21) Methyl Acetate	3.03	43	29930	9.52727 ppb		98
22) Iodomethane	2.70	142	6530	4.97986 ppb		89
23) Acrylonitrile	3.44	52	12594	10.48954 ppb		97
24) Methylene chloride	3.12	49	48449	9.90038 ppb		98
25) Carbon disulfide	2.77	76	75718	8.77714 ppb		99
26) Methyl t-butyl ether (MtBE	3.54	73	106743	9.83647 ppb	#	89
27) Trans-1,2-DCE	3.50	61	46518	10.02247 ppb		94
29) Diisopropyl Ether	4.35	45	107211	10.07817 ppb		97
31) 1,1-DCA	4.13	63	64565	10.22207 ppb		98
32) Vinyl Acetate	4.28	43	25832	12.06713 ppb	#	92
33) Ethyl tert Butyl Ether	4.89	59	104898	9.63189 ppb		99
34) MEK (2-Butanone)	5.05	43	17711	10.11050 ppb		92
35) Cis-1,2-DCE	4.99	61	59780	10.10164 ppb		97
36) 2,2-Dichloropropane	4.99	77	54889	10.47410 ppb		98
39) Chloroform	5.45	83	76798	10.35389 ppb		97
40) Bromochloromethane	5.31	49	34010	10.45686 ppb		90
42) 1,1,1-TCA	5.67	97	60247	10.25309 ppb		95
43) Cyclohexane	5.75	56	39318	9.76446 ppb		100
44) 1,1-Dichloropropene	5.90	75	43283	10.10859 ppb		97
45) 2,2,4-Trimethylpentane	6.32	57	80677	10.37486 ppb		99
47) Carbon Tetrachloride	5.89	117	50490	10.11660 ppb		90
48) Tert Amyl Methyl Ether	6.36	73	106860	10.01656 ppb		95
50) 1,2-DCA	6.17	62	59965	9.78207 ppb		98
51) Benzene	6.15	78	157092	10.34691 ppb		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0125T02.D Vial: 2
Acq On : 25 Jan 20 16:56 Operator:
Sample : 200125A CCV/LCS 10ug/L Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 6:36 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
52)	TCE	6.96	130	44175	9.88612	ppb		96
53)	2-Pentanone	7.20	43	356144	126.55533	ppb		98
54)	1,2-Dichloropropane	7.21	63	40477	10.34368	ppb		98
55)	Bromodichloromethane	7.54	83	58590	10.40783	ppb		93
56)	Methyl Cyclohexane	7.20	83	44417	10.18376	ppb		97
57)	Dibromomethane	7.33	174	36485	10.04132	ppb		91
58)	MIBK (methyl isobutyl ket	8.26	43	33958	9.47828	ppb		92
59)	1-Bromo-2-chloroethane	7.88	63	28560	10.01045	ppb		92
61)	Cis-1,3-Dichloropropene	8.07	75	61116	10.00824	ppb		94
62)	Toluene	8.45	91	179523	10.11269	ppb		98
63)	Trans-1,3-Dichloropropene	8.69	75	58492	10.25654	ppb		97
64)	1,1,2-TCA	8.89	97	43419	10.81662	ppb		97
65)	2-Hexanone	9.19	43	21234	9.46275	ppb		95
68)	1,2-EDB	9.43	107	43570	10.51857	ppb		94
69)	Tetrachloroethene	9.06	166	50162	10.60607	ppb		95
70)	1-Chlorohexane	10.00	91	37203	9.87983	ppb		97
71)	1,1,1,2-Tetrachloroethane	10.09	131	48026	10.37088	ppb		96
72)	m&p-Xylene	10.26	91	288278	20.81505	ppb		99
73)	o-Xylene	10.69	91	151971	10.30953	ppb		100
74)	Styrene	10.70	104	112587	9.52856	ppb		98
76)	1,3-Dichloropropane	9.07	76	66860	10.43782	ppb		96
77)	Dibromochloromethane	9.31	129	49252	10.24114	ppb		92
78)	Chlorobenzene	9.99	112	128101	10.46168	ppb		98
79)	Ethylbenzene	10.13	91	191177	10.42764	ppb		99
80)	Bromoform	10.88	173	38695	10.36554	ppb		95
82)	Isopropylbenzene	11.11	105	177648	10.50663	ppb		98
83)	1,1,2,2-Tetrachloroethane	11.40	83	59429	11.03619	ppb	#	93
84)	1,2,3-Trichloropropane	11.45	110	17948	9.88065	ppb		86
85)	t-1,4-Dichloro-2-Butene	11.47	53	9862	10.54243	ppb		97
86)	Bromobenzene	11.41	77	96201	10.42489	ppb		97
87)	n-Propylbenzene	11.56	91	197292	10.72929	ppb		99
88)	4-Ethyltoluene	11.68	105	164673	10.39210	ppb		96
89)	2-Chlorotoluene	11.64	91	145488	10.29855	ppb		99
90)	1,3,5-Trimethylbenzene	11.75	105	162463	10.97221	ppb		99
91)	4-Chlorotoluene	11.76	91	148808	10.47111	ppb		98
92)	Tert-Butylbenzene	12.11	119	153763	10.41992	ppb		100
93)	1,2,4-Trimethylbenzene	12.16	105	158204	10.06671	ppb		99
94)	Sec-Butylbenzene	12.35	105	177559	10.90571	ppb		100
95)	p-Isopropyltoluene	12.51	119	156238	10.78391	ppb		98
96)	Benzyl Chloride	12.69	91	51705	10.18964	ppb	#	96
97)	1,3-DCB	12.45	146	100084	10.34910	ppb		99
98)	1,4-DCB	12.55	146	102023	10.06705	ppb		97
99)	n-Butylbenzene	12.96	91	129556	10.73176	ppb		100
100)	1,2-DCB	12.95	146	102163	10.21949	ppb		99
101)	Hexachloroethane	13.25	201	29416	10.02015	ppb		94
102)	1,2-Dibromo-3-chloropropan	13.79	157	12153	10.24864	ppb		93
103)	1,2,4-Trichlorobenzene	14.73	180	60578	9.90040	ppb		91
104)	Hexachlorobutadiene	14.93	225	35728	11.33346	ppb		93
105)	Naphthalene	14.99	127	5851	8.23189	ppb		86
106)	1,2,3-Trichlorobenzene	15.26	180	57342	10.31776	ppb		100

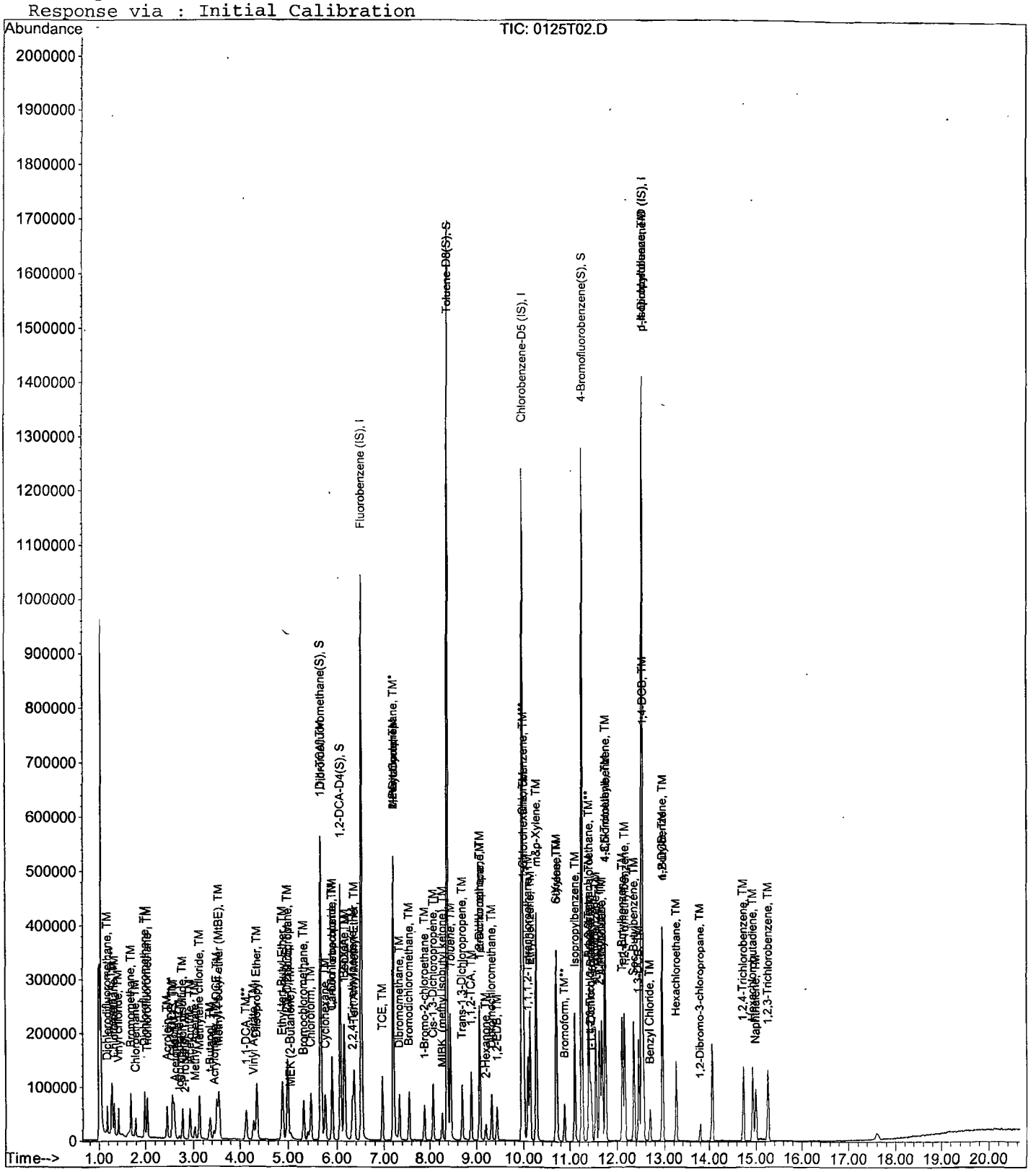
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0125T02.D Vial: 2
Acq On : 25 Jan 20 16:56 Operator:
Sample : 200125A CCV/LCS 10ug/L Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 6:36 2020 Quant Results File: T0121W.RES

Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0125T03.D Vial: 3
Acq On : 25 Jan 20 17:24 Operator:
Sample : 200125A LCSD 10ug/L Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 6:36 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Fluorobenzene (IS)	6.51	96	1020952	25.00000 ppb		0.00
66) Chlorobenzene-D5 (IS)	9.96	117	795263	25.00000 ppb		0.00
81) 1,4-Dichlorobenzene-D (IS)	12.52	152	436130	25.00000 ppb		0.00
System Monitoring Compounds						
41) Dibromofluoromethane(S)	5.66	111	331839	25.19770 ppb		0.00
Spiked Amount 25.000			Recovery = 100.792%			
46) 1,2-DCA-D4(S)	6.07	65	354562	25.24616 ppb		0.00
Spiked Amount 25.000			Recovery = 100.984%			
67) Toluene-D8(S)	8.37	98	1245844	26.71274 ppb		0.00
Spiked Amount 25.000			Recovery = 106.852%			
75) 4-Bromofluorobenzene(S)	11.25	95	455021	25.70401 ppb		0.00
Spiked Amount 25.000			Recovery = 102.816%			
Target Compounds						Qvalue
3) Dichlorodifluoromethane	1.17	85	25608	8.45730 ppb		90
4) Freon 114	1.28	85	26280	8.27878 ppb		100
5) Chloromethane	1.32	50	38560	9.30329 ppb		97
6) Vinyl chloride	1.41	62	32006	8.91356 ppb		97
8) Bromomethane	1.68	96	25888	8.28493 ppb		100
9) Chloroethane	1.78	64	22805	9.51586 ppb		99
10) Dichlorofluoromethane	1.98	67	65542	9.48018 ppb		99
11) Trichlorofluoromethane	2.03	101	48161	9.44883 ppb		91
14) Acrolein	2.44	56	47454	112.50503 ppb		98
15) Acetone	2.62	43	7049	9.37630 ppb		97
16) Freon-113	2.58	101	28586	10.21418 ppb		88
17) 1,1-DCE	2.55	61	41103	9.04243 ppb		95
18) 2-Propanol	2.77	45	68	0.29745 ppb	#	1
19) Acetonitrile	2.92	40	15362	124.38037 ppb		88
20) t-Butanol	3.36	59	20800	135.84155 ppb		98
21) Methyl Acetate	3.03	43	30210	9.36561 ppb		98
22) Iodomethane	2.69	142	8381	5.61601 ppb		92
23) Acrylonitrile	3.44	52	12808	10.38958 ppb		95
24) Methylene chloride	3.12	49	49072	9.76618 ppb		96
25) Carbon disulfide	2.77	76	72377	8.17106 ppb		99
26) Methyl t-butyl ether (MtBE	3.55	73	107526	9.65022 ppb		99
27) Trans-1,2-DCE	3.50	61	42913	9.00465 ppb		97
29) Diisopropyl Ether	4.36	45	103979	9.51945 ppb		99
31) 1,1-DCA	4.13	63	64355	9.92311 ppb		98
32) Vinyl Acetate	4.29	43	24744	11.25745 ppb		98
33) Ethyl tert Butyl Ether	4.89	59	105411	9.42658 ppb		98
34) MEK (2-Butanone)	5.05	43	15867	8.82796 ppb		94
35) Cis-1,2-DCE	5.00	61	58824	9.68087 ppb		97
36) 2,2-Dichloropropane	4.99	77	51655	9.59992 ppb		95
39) Chloroform	5.46	83	75459	9.90806 ppb		93
40) Bromochloromethane	5.31	49	32014	9.58646 ppb		92
42) 1,1,1-TCA	5.67	97	57151	9.47255 ppb		96
43) Cyclohexane	5.75	56	38420	9.29261 ppb		98
44) 1,1-Dichloropropene	5.90	75	42333	9.62889 ppb		95
45) 2,2,4-Trimethylpentane	6.32	57	77986	9.76727 ppb		99
47) Carbon Tetrachloride	5.90	117	48948	9.55187 ppb		99
48) Tert Amyl Methyl Ether	6.36	73	107570	9.82016 ppb		96
50) 1,2-DCA	6.17	62	60573	9.62356 ppb	#	94
51) Benzene	6.15	78	153624	9.85461 ppb		100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0125T03.D Vial: 3
Acq On : 25 Jan 20 17:24 Operator:
Sample : 200125A LCSD 10ug/L Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 6:36 2020 Quant Results File: T0121W.RES

Quant Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
52)	TCE	6.96	130	44228	9.63985 ppb	96
53)	2-Pentanone	7.20	43	372677	128.97671 ppb	100
54)	1,2-Dichloropropane	7.21	63	43118	10.73122 ppb	98
55)	Bromodichloromethane	7.54	83	59525	10.29817 ppb	96
56)	Methyl Cyclohexane	7.20	83	42166	9.41554 ppb	94
57)	Dibromomethane	7.33	174	37195	9.96976 ppb	93
58)	MIBK (methyl isobutyl ket	8.26	43	34377	9.34500 ppb	94
59)	1-Bromo-2-chloroethane	7.88	63	30000	10.24096 ppb	99
61)	Cis-1,3-Dichloropropene	8.06	75	62791	10.01438 ppb	98
62)	Toluene	8.45	91	178865	9.81287 ppb	99
63)	Trans-1,3-Dichloropropene	8.70	75	59007	10.07701 ppb	94
64)	1,1,2-TCA	8.89	97	42498	10.31108 ppb	92
65)	2-Hexanone	9.19	43	23294	9.97046 ppb	98
68)	1,2-EDB	9.43	107	44290	10.52255 ppb	100
69)	Tetrachloroethene	9.06	166	49254	10.24867 ppb	100
70)	1-Chlorohexane	10.00	91	36181	9.50367 ppb	95
71)	1,1,1,2-Tetrachloroethane	10.09	131	47020	9.99236 ppb	97
72)	m&p-Xylene	10.27	91	278855	19.81484 ppb	99
73)	o-Xylene	10.69	91	150392	10.04036 ppb	95
74)	Styrene	10.70	104	110528	9.25224 ppb	99
76)	1,3-Dichloropropane	9.07	76	66986	10.29138 ppb	97
77)	Dibromochloromethane	9.31	129	51803	10.60049 ppb	99
78)	Chlorobenzene	9.99	112	125992	10.12601 ppb	99
79)	Ethylbenzene	10.13	91	185253	9.94402 ppb	99
80)	Bromoform	10.88	173	38817	10.23306 ppb	96
82)	Isopropylbenzene	11.11	105	172307	9.96161 ppb	100
83)	1,1,2,2-Tetrachloroethane	11.40	83	59528	10.80603 ppb	98
84)	1,2,3-Trichloropropane	11.45	110	18952	10.19879 ppb	94
85)	t-1,4-Dichloro-2-Butene	11.47	53	9947	10.39421 ppb	84
86)	Bromobenzene	11.41	77	97217	10.29812 ppb	99
87)	n-Propylbenzene	11.56	91	195523	10.39401 ppb	99
88)	4-Ethyltoluene	11.68	105	162440	10.02069 ppb	98
89)	2-Chlorotoluene	11.64	91	143460	9.92667 ppb	99
90)	1,3,5-Trimethylbenzene	11.75	105	157446	10.39430 ppb	99
91)	4-Chlorotoluene	11.76	91	149040	10.25164 ppb	99
92)	Tert-Butylbenzene	12.11	119	151325	10.02414 ppb	99
93)	1,2,4-Trimethylbenzene	12.16	105	159871	9.94406 ppb	99
94)	Sec-Butylbenzene	12.35	105	176556	10.60029 ppb	98
95)	p-Isopropyltoluene	12.51	119	155001	10.45798 ppb	98
96)	Benzyl Chloride	12.69	91	54055	10.41325 ppb	97
97)	1,3-DCB	12.45	146	103063	10.41753 ppb	99
98)	1,4-DCB	12.55	146	105576	10.18340 ppb	97
99)	n-Butylbenzene	12.96	91	129928	10.52059 ppb	99
100)	1,2-DCB	12.95	146	105771	10.34251 ppb	98
101)	Hexachloroethane	13.25	201	30385	10.11403 ppb	95
102)	1,2-Dibromo-3-chloropropan	13.79	157	12095	9.99310 ppb	96
103)	1,2,4-Trichlorobenzene	14.73	180	63821	10.19589 ppb	94
104)	Hexachlorobutadiene	14.93	225	35454	10.99367 ppb	98
105)	Naphthalene	14.99	127	7434	9.76887 ppb	89
106)	1,2,3-Trichlorobenzene	15.26	180	62680	11.02466 ppb	96

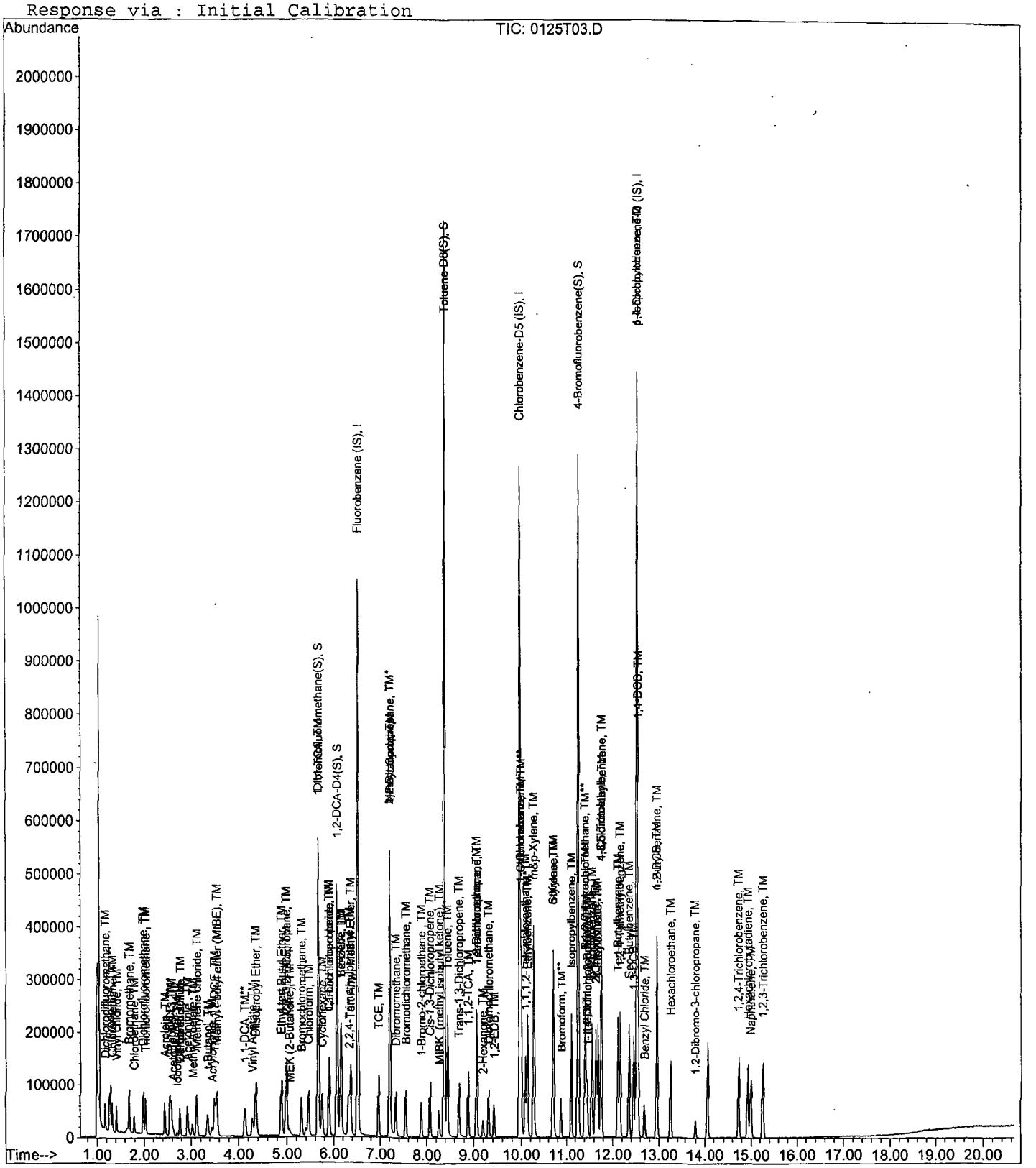
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0125T03.D Vial: 3
Acq On : 25 Jan 20 17:24 Operator:
Sample : 200125A LCSD 10ug/L Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 6:36 2020 Quant Results File: T0121W.RES

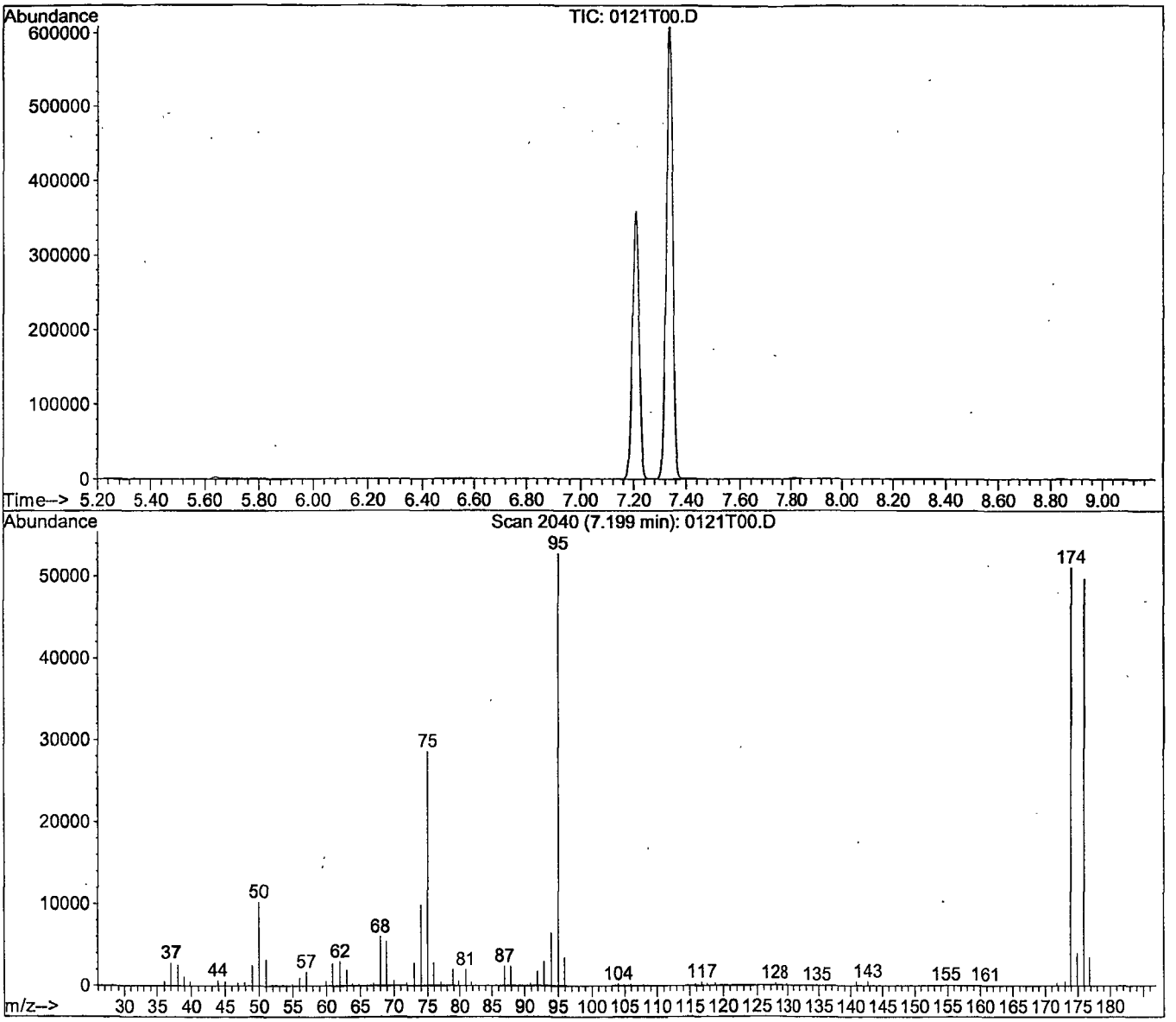
Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration



BFB

Data File : M:\THOR\DATA\T200121\0121T00.D Vial: 1
Acq On : 21 Jan 20 6:29 Operator:
Sample : 25ug/L BFB STD 12/29/19 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B



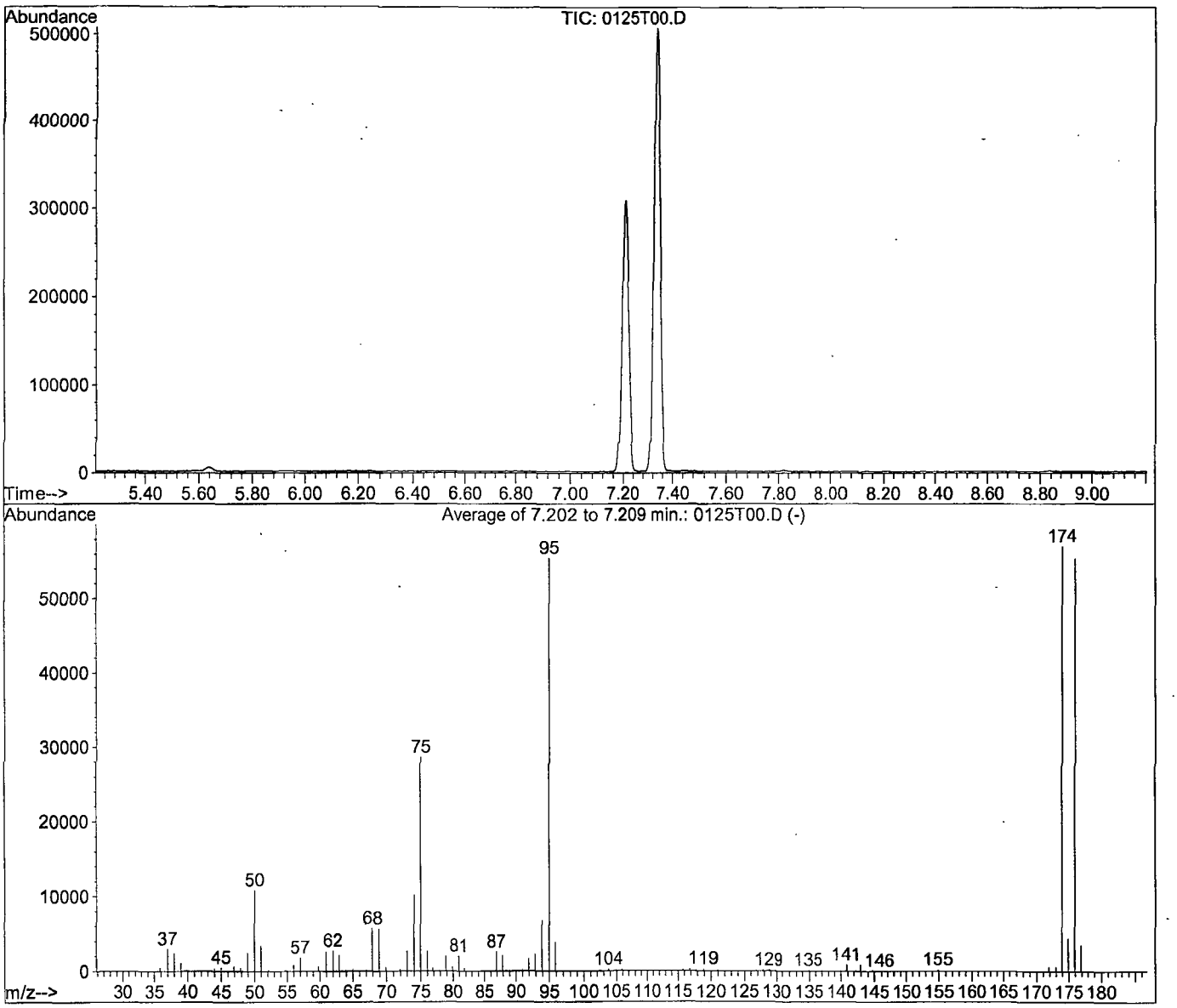
Spectrum Information: Scan 2040

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	19.4	10240	PASS
75	95	30	60	54.2	28568	PASS
95	95	100	100	100.0	52752	PASS
96	95	5	9	6.5	3454	PASS
173	174	0.00	2	1.1	544	PASS
174	95	50	200	96.9	51112	PASS
175	174	5	9	7.8	3990	PASS
176	174	95	101	97.3	49728	PASS
177	176	5	9	7.1	3512	PASS

BFB

Data File : M:\THOR\DATA\T200121\0125T00.D Vial: 1
Acq On : 25 Jan 20 15:58 Operator:
Sample : 25ug/L BFB STD 12/29/19 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Method : M:\THOR\DATA\T200121\T0121W.M (RTE Integrator)
Title : METHOD 8260B



Spectrum Information: Average of 7.202 to 7.209 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	19.6	10875	PASS
75	95	30	60	51.6	28667	PASS
95	95	100	100	100.0	55539	PASS
96	95	5	9	6.9	3853	PASS
173	174	0.00	2	1.1	642	PASS
174	95	50	200	102.8	57112	PASS
175	174	5	9	7.8	4427	PASS
176	174	95	101	97.0	55419	PASS
177	176	5	9	6.3	3509	PASS

Thor 8260 Standard Prep

Thor 8260 Water Calibration Curve

0.3ug/L

Prepared By (Initials): CH

Prepared: 01/21/20

Expires: 02/20/20

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	APPL Mix Name	Conc. (ug/mL)	Reference To APPL Prep Date	Exp. Date	Exp. Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/L)
VOA STD. 9	O2SI	0.3ug/L	5	Prepared 01/15/20	03/15/20	N/A	3uL	50mL	P&T Water	0.3
VOA STD. 10	O2SI		5	Prepared 01/15/20	03/15/20	N/A	3uL			0.3
VOA STD. 12	O2SI		5	Prepared 01/15/20	03/15/20	N/A	3uL			0.3
VOA STD. TBA	Various		250	Prepared 01/15/20	01/15/20	N/A	2uL			10

0.5ug/L

Prepared: 01/21/20

Expires: 02/20/20

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	APPL Mix Name	Conc. (ug/mL)	Reference To APPL Prep Date	Exp. Date	Exp. Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/L)
VOA STD. 9	O2SI	0.5ug/L	5	Prepared 01/15/20	03/15/20	N/A	5uL	50mL	P&T Water	0.5
VOA STD. 10	O2SI		5	Prepared 01/15/20	03/15/20	N/A	5uL			0.5
VOA STD. 12	O2SI		5	Prepared 01/15/20	03/15/20	N/A	5uL			0.5
VOA STD. TBA	Various		250	Prepared 01/15/20	01/15/20	N/A	5uL			25

1.0ug/L

Prepared: 01/21/20

Expires: 02/20/20

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	APPL Mix Name	Conc. (ug/mL)	Reference To APPL Prep Date	Exp. Date	Exp. Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/L)
VOA STD. 9	O2SI	1.0ug/L	5	Prepared 01/15/20	03/15/20	N/A	10uL	50mL	P&T Water	1
VOA STD. 10	O2SI		5	Prepared 01/15/20	03/15/20	N/A	10uL			1
VOA STD. 12	O2SI		5	Prepared 01/15/20	03/15/20	N/A	10uL			1
VOA STD. TBA	Various		250	Prepared 01/15/20	01/15/20	N/A	10uL			50

2.0ug/L

Prepared: 01/21/20

Expires: 02/20/20

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	APPL Mix Name	Conc. (ug/mL)	Reference To APPL Prep Date	Exp. Date	Exp. Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/L)
VOA STD. 9	O2SI	2.0ug/L	5	Prepared 01/15/20	03/15/20	N/A	20uL	50mL	P&T Water	2
VOA STD. 10	O2SI		5	Prepared 01/15/20	03/15/20	N/A	20uL			2
VOA STD. 12	O2SI		5	Prepared 01/15/20	03/15/20	N/A	20uL			2
VOA STD. TBA	Various		250	Prepared 01/15/20	01/15/20	N/A	15uL			75

5ug/L

Prepared: 01/21/20

Expires: 02/20/20

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	APPL Mix Name	Conc. (ug/mL)	Reference To APPL Prep Date	Exp. Date	Exp. Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/L)
VOA STD. 7	Various	5ug/L	50	Prepared 01/15/20	03/15/20	N/A	5uL	50mL	P&T Water	5
VOA STD. 8	Phenova		50	Prepared 01/15/20	01/15/20	N/A	5uL			5
VOA STD. 1	O2SI		50	Prepared 01/15/20	03/15/20	N/A	5uL			5
VOA STD. 2	O2SI		50	Prepared 01/15/20	03/15/20	N/A	5uL			5
VOA STD. TBA	Various		250	Prepared 01/15/20	01/15/20	N/A	20uL			100

10ug/L

Prepared: 01/21/20

Expires: 02/20/20

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	APPL Mix Name	Conc. (ug/mL)	Reference To APPL Prep Date	Exp. Date	Exp Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/L)
VOA STD. 7	Various	10ug/L	50	Prepared 01/15/20	03/15/20	N/A	10uL	50mL	P&T Water	10
VOA STD. 8	Phenova		50	Prepared 01/15/20	01/15/20	N/A	10uL			10
VOA STD. 1	O2SI		50	Prepared 01/15/20	03/15/20	N/A	10uL			10
VOA STD. 2	O2SI		50	Prepared 01/15/20	03/15/20	N/A	10uL			10
VOA STD. TBA	Various		250	Prepared 01/15/20	01/15/20	N/A	25uL			125

20ug/L

Prepared: 01/21/20

Expires: 02/20/20

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	APPL Mix Name	Conc. (ug/mL)	Reference To APPL Prep Date	Exp. Date	Exp. Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/L)
VOA STD. 7	Various	20ug/L	50	Prepared 01/15/20	03/15/20	N/A	20uL	50mL	P&T Water	20
VOA STD. 8	Phenova		50	Prepared 01/15/20	01/15/20	N/A	20uL			20
VOA STD. 1	O2SI		50	Prepared 01/15/20	03/15/20	N/A	20uL			20
VOA STD. 2	O2SI		50	Prepared 01/15/20	03/15/20	N/A	20uL			20
VOA STD. TBA	Various		250	Prepared 01/15/20	01/15/20	N/A	30uL			150

40ug/L

Prepared: 01/21/20

Expires: 02/20/20

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	APPL Mix Name	Conc. (ug/mL)	Reference To APPL Prep Date	Exp. Date	Exp Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc (ug/L)
VOA STD. 7	Various	40ug/L	50	Prepared 01/15/20	03/15/20	N/A	40uL	50mL	P&T Water	40
VOA STD. 8	Phenova		50	Prepared 01/15/20	01/15/20	N/A	40uL			40
VOA STD. 1	O2SI		50	Prepared 01/15/20	03/15/20	N/A	40uL			40
VOA STD. 2	O2SI		50	Prepared 01/15/20	03/15/20	N/A	40uL			40
VOA STD. TBA	Various		250	Prepared 01/15/20	01/15/20	N/A	35uL			175

100ug/L

Prepared: 01/21/20

Expires: 02/20/20

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	APPL Mix Name	Conc. (ug/mL)	Reference To APPL Prep Date	Exp. Date	Exp. Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/L)
VOA STD. 7	Various	100ug/L	50	Prepared 01/15/20	03/15/20	N/A	100uL	50mL	P&T Water	100
VOA STD. 8	Phenova		50	Prepared 01/15/20	01/15/20	N/A	100uL			100
VOA STD. 1	O2SI		50	Prepared 01/15/20	03/15/20	N/A	100uL			100
VOA STD. 2	O2SI		50	Prepared 01/15/20	03/15/20	N/A	100uL			100
VOA STD. TBA	Various		250	Prepared 01/15/20	01/15/20	N/A	40uL			200

Thor 8260 Water Second Source (SS)

Prepared: 01/21/20

Prepared By (Initials): CH

Expires: 02/20/20

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	APPL Mix Name	Conc. (ug/mL)	Reference To APPL Prep Date	Exp. Date	Exp. Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/L)
VOA STD. 4	Phenova	8260 Water SS	50	Prepared 01/15/20	03/15/20	N/A	10uL	50mL	P&T Water	10
VOA STD. 5	O2SI	8260 Water SS	50	Prepared 01/15/20	03/15/20	N/A	10uL			10
VOA STD. 6	Various	8260 Water SS	50	Prepared 01/15/20	01/01/20	N/A	10uL			10
Voa STD. TBA	Various	8260 Water SS	250	Prepared 01/15/20	01/01/20	N/A	25uL			250

8260 Water Continuing Calibrations (CCV)/ Lab Control Spikes (LCS)

Prepared: 01/21/20

Prepared By (Initials): CH

Expires: 01/22/20

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	APPL Mix Name	Conc. (ug/mL)	Reference To APPL Prep Date	Exp. Date	Exp. Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/L)
VOA STD. 7	Various	CCV/ LCS	50	Prepared 01/15/20	03/15/20	N/A	10uL	50mL	P&T Water	10
VOA STD. 8	Phenova	CCV/ LCS	50	Prepared 01/15/20	01/15/20	N/A	10uL			10
VOA STD. 1	O2SI	CCV/ LCS	50	Prepared 01/15/20	03/15/20	N/A	10uL			10
VOA STD. 2	O2SI	CCV/ LCS	50	Prepared 01/15/20	03/15/20	N/A	10uL			10
VOA STD. TBA	Various	CCV/ LCS	250	Prepared 01/15/20	01/15/20	N/A	25uL			125

LCS (X4 Ketones)

Prepared: 01/21/20

Prepared By (Initials): CH

Expires: 01/22/20

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	APPL Mix Name	Conc. (ug/mL)	Reference To APPL Prep Date	Exp. Date	Exp. Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/L)
VOA STD. 7	Various	LCS X4 Ketones	50	Prepared 01/15/20	03/15/20	N/A	10uL	50mL	P&T Water	10
VOA STD. 8	Phenova	LCS X4 Ketones	50	Prepared 01/15/20	01/15/20	N/A	10uL			10
VOA STD. 1	O2SI	LCS X4 Ketones	50	Prepared 01/15/20	03/15/20	N/A	10uL			10
VOA STD. 2	O2SI	LCS X4 Ketones	50	Prepared 01/15/20	03/15/20	N/A	40uL			40
VOA STD. TBA	Various	LCS X4 Ketones	250	Prepared 01/15/20	01/15/20	N/A	25uL			125

Thor 8260 Surrogate

Prepared: 09/23/19

Expires: 09/12/20

Methanol Lot No: 58243

Prepared By (Initials): DG

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	Supplier P/N#	Conc. (ug/mL)	Lot Number - QA Number	Exp. Date (1 yr.)	Exp. Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/mL)
8260 Surrogate Solution	O2SI	120002-01	2,000	**348756-39339**	**09/12/20**	**02/10/22**	375uL	15mL	Methanol	50

Thor 8260 Internal Standard

Prepared: 11/11/19

Expires: 11/10/20

Methanol Lot No: 58243

Prepared By (Initials): DG

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	Supplier P/N#	Conc. (ug/mL)	Lot Number - QA Number	Exp. Date (1 yr.)	Exp. Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/mL)
Internal Standard Solution	Phenova	ALO-101215	2,500	**CL12444-40616**	**11/11/20**	**04/30/23**	300uL	15mL	Methanol	50

Primary and Secondary Working Standards

Primary Standards

VOA STD 7

Prepared: 01/15/20 A
Expires: 01/15/20
Prepared By (Initials): CH
Methanol Lot No. DW117-US-0095

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	Supplier P/N#	Conc. (ug/mL)	Lot Number - QA Number	Exp. Date (1 yr)	Exp. Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/mL)
VOA Gasses STD	Phenova	ALO-101206	2,000	**CL14052-49486**	**01/15/21**	**08/31/24**	100uL	4mL	Methanol	50
Hexachloroethane	Absolute	70199	1,000	**091818-449637**	**01/15/21**	**09/18/23**	200uL			50
Benzyl Chloride	Accusta	M-8010-01	1,000	**219041664-49373**	**01/15/20**	**05/22/21**	200uL			50

VOA STD 8

Prepared: 01/15/20 B
Expires: 01/15/20
Prepared By (Initials): CH
Methanol Lot No. DW117-US-0095

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	Supplier P/N#	Conc. (ug/mL)	Lot Number - QA Number	Exp. Date (1 yr)	Exp Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/mL)
VOA Additions STD	Phenova	ALO-130175	2,000	**CL12744-49503**	**01/15/21**	08/31/20	100uL	4mL	Methanol	50
502.2 Cal. Std.	Phenova	ALO-101200	2,000	**CL14379-49511**	**01/15/21**	**10/31/24**	100uL			50
Vinyl Acetate	Phenova	ALO-101228	2,000	**CL14746-49650**	**01/06/21**	**01/15/20**	100uL			50

VOA STD TBA

Prepared: 01/15/20 C
Expires: 01/15/20
Prepared By (Initials): CH
Methanol Lot No. DW117-US-0095

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	Supplier P/N#	Conc. (ug/mL)	Lot Number - QA Number	Exp. Date (1 yr)	Exp. Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/mL)
Custom VOC Mix	Phenova	ALO-130176	2,000	**CL12929-49513**	**01/15/21**	**11/30/20**	500uL	4mL	Methanol	250
Acrolein	Phenova	ALO-130549	10,000	**CL14750-49651**	**1/6/221**	**01/15/20**	100uL			250

VOA STD 1

Prepared: 01/15/20 D
Expires: 03/15/20
Prepared By (Initials): CH
Methanol Lot No. DW117-US-0095

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	Supplier P/N#	Conc. (ug/mL)	Lot Number - QA Number	Exp. Date (1 yr)	Exp. Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/mL)
2-CEVE	Absolute	82408	2,000	11419-49531	**01/15/21**	**11/14/22**	50	2mL	Methanol	50

VOA STD 2

Prepared: 01/15/20 E
Expires: 03/15/20
Prepared By (Initials): CH
Methanol Lot No. DW117-US-0095

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	Supplier P/N#	Conc. (ug/mL)	Lot Number - QA Number	Exp. Date (1 yr)	Exp. Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/mL)
Ketones Std.	Phenova	ALO-109211	2,000	**CL12730-49390**	**01/15/21**	**08/31/28**	100	4mL	Methanol	50

VOA STD 9

Prepared: 01/15/20 F
Expires: 03/15/20
Prepared By (Initials): CH
Methanol Lot No. DW117-US-0095

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	APPL Mix Name	Conc. (ug/mL)	Reference To APPL Prep Date	Exp. Date (1 yr)	Exp. Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/mL)
VOA STD. 7		VOA STD. 9	50	Prepared 01/15/20	**01/15/21**	N/A	200uL	2mL	Methanol	5
VOA STD. 8			50	Prepared 01/15/20	**01/15/21**	N/A	200uL			5

VOA STD. 10

Prepared: 01/15/20 G
Expires: 03/15/20
Prepared By (Initials): CH
Methanol Lot No. DW117-US-0095

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	APPL Mix Name	Conc. (ug/mL)	Reference To APPL Prep Date	Exp. Date (1 yr)	Exp. Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/mL)
VOA STD. 1		VOA STD. 10	50	Prepared 01/15/20	**01/15/21**	N/A	200uL	2mL	Methanol	5

VOA STD. 12

Prepared: 01/15/20 H
Expires: 03/15/20
Prepared By (Initials): CH
Methanol Lot No. DW117-US-0095

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	APPL Mix Name	Conc. (ug/mL)	Reference To APPL Prep Date	Exp. Date (1 yr)	Exp. Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/mL)
VOA STD. 2		VOA STD. 12	50	Prepared 01/15/20	**01/15/21**	N/A	200uL	2mL	Methanol	5

Second Source (SS) Standards

VOA STD. 3

Prepared: 01/15/20 I
Expires: 01/15/20
Methanol Lot No. DW117-US-0095

Prepared By (Initials): CH

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	Supplier P/N#	Conc. (ug/mL)	Lot Number - QA Number	Exp. Date (1 yr)	Exp. Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/mL)
Ketones Standard	Phenova	ALO-101211	2,000	CL12730-41080	01/15/20	08/31/28	50uL	2mL	Methanol	50

VOA STD. Gases

Prepared: 01/15/20 J
Expires: 03/15/20
Methanol Lot No. DW117-US-0095

Prepared By (Initials): CH

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	Supplier P/N#	Conc. (ug/mL)	Lot Number - QA Number	Exp. Date (1 yr)	Exp. Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/mL)
8260 Gases (SS)	Phenova	ALO-101206	2,000	CL14057-49495	01/15/21	08/31/24	50uL	2mL	Methanol	50

VOA STD. 6

Prepared: 01/15/20 K
Expires: 01/01/20
Methanol Lot No. DW117-US-0095

Prepared By (Initials): CH

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	Supplier P/N#	Conc. (ug/mL)	Lot Number - QA Number	Exp. Date (1 yr)	Exp. Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/mL)
502.2 Calibration STD. (54-compounds)	Phenova	ALO-101200	2,000	CL12490-40929	01/15/21	05/31/23	50uL	2mL	Methanol	50
Vinyl Acetate	Phenova	ALO-101228	2,000	CL14694-49582	12/11/20	01/01/20	50uL			50
Hexachloroethane	Accustan	AS-E0011	1,000	219061767-41301	01/06/21	06/28/29	100uL			50
Benzyl Chloride	Accustan	M-8010-01	200	219041664-49643	01/15/21	05/22/21	500uL			50

VOA STD. TBA

Prepared: 01/15/20 L
Expires: 01/01/20
Methanol Lot No. DW117-US-0095

Prepared By (Initials): CH

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	Supplier P/N#	Conc. (ug/mL)	Lot Number - QA Number	Exp. Date (1 yr)	Exp. Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/mL)
Custom VOA Mix (4-3)	Phenova	ALO-130176	2,000	CL12228-49384	12/12/20	11/30/20	250uL	2mL	Methanol	250
Acrolein	Phenova	ALO-101224	10,000	CL14689-49583	12/11/20	01/01/20	50uL			250

VOA STD. 0

Prepared: 01/15/20 M
Expires: 03/15/20
Methanol Lot No. DW117-US-0095

Prepared By (Initials): CH

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	Supplier P/N#	Conc. (ug/mL)	Lot Number - QA Number	Exp Date (1 yr)	Exp. Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/mL)
VOA Addition STD.	Phenova	ALO-130175	2,000	CL12622-49500	01/15/21	06/30/20	50uL	2mL	Methanol	50

VOA STD. 2-CEVE

Prepared: 01/15/20 N
Expires: 03/15/20
Methanol Lot No. DW117-US-0095

Prepared By (Initials): CH

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	Supplier P/N#	Conc. (ug/mL)	Lot Number - QA Number	Exp. Date (1 yr)	Exp. Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/mL)
2-CEVE (SS)	Absolute	82408	2,000	121119-49631	01/06/21	12/11/22	50uL			50

Primary and Secondary BSSW Standards

Primary Standards

VOA STD 34

Prepared: 01/20/20 AA
Expires: 03/20/20
Methanol Lot No. DW117-US-0095

Prepared By (Initials): DG

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	Supplier P/N#	Conc. (ug/mL)	Lot Number - QA Number	Exp. Date (1 yr)	Exp. Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/mL)
2-Propanol	Absolute	70941	1,000	070119-41194	01/20/21	07/01/24	200uL	4mL	Methanol	50
Chlorotrifluorethene	Absolute	71605	1,000	071619-41181	01/20/21	07/16/20	200uL			50
2-Chloro-1,1,1-trifluoroethane	Absolute	34271	10,000	011719-41184	01/20/21	01/17/24	20uL			50

Secondary Standards

VOA STD 44

Prepared: 01/20/20 AB
Expires: 03/20/20
Methanol Lot No. DW117-US-0095

Prepared By (Initials): DG

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	Supplier P/N#	Conc. (ug/mL)	Lot Number - QA Number	Exp. Date (1 yr)	Exp. Date (Manufacturers)	Aliquot From Stock	Final Volume	Solvent	Final Standard Conc. (ug/mL)
2-Propanol	Absolute	70941	1,000	031419-41190	01/20/21	03/14/24	200uL	4mL	Methanol	50
Chlorotrifluorethene	Absolute	71605	1,000	071519-41175	01/20/21	07/15/20	200uL			50
2-Chloro-1,1,1-trifluoroethane	Absolute	34271	10,000	071519-41188	01/20/21	07/15/24	20uL			50

Injection Log

Directory: M:\THOR\DATA\T200121\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	1	0121T00.D	1	25ug/L BFB STD 12/29/19	IS&S 12/26/19,12/26/19	21 Jan 20 6:29
2	2	0121T02.D	1	0.3ug/L VOC STD 1/21/20	IS&S 12/26/19,12/26/19	21 Jan 20 7:41
3	3	0121T03.D	1	0.5ug/L VOC STD 1/21/20	IS&S 12/26/19,12/26/19	21 Jan 20 8:09
4	4	0121T04.D	1	1ug/L VOC STD 1/21/20	IS&S 12/26/19,12/26/19	21 Jan 20 8:37
5	5	0121T05.D	1	2ug/L VOC STD 1/21/20	IS&S 12/26/19,12/26/19	21 Jan 20 9:05
6	6	0121T06.D	1	5ug/L VOC STD 1/21/20	IS&S 12/26/19,12/26/19	21 Jan 20 9:34
7	7	0121T07.D	1	10ug/L VOC STD 1/21/20	IS&S 12/26/19,12/26/19	21 Jan 20 10:02
8	8	0121T08.D	1	20ug/L VOC STD 1/21/20	IS&S 12/26/19,12/26/19	21 Jan 20 10:30
9	9	0121T09.D	1	40ug/L VOC STD 1/21/20	IS&S 12/26/19,12/26/19	21 Jan 20 10:59
10	10	0121T10.D	1	100ug/L VOC STD 1/21/20	IS&S 12/26/19,12/26/19	21 Jan 20 11:27
11	13	0121T13.D	1	(SS) 10ug/L VOC STD 1/21/20	IS&S 12/26/19,12/26/19	21 Jan 20 12:52
12	1	0125T00.D	1	25ug/L BFB STD 12/29/19	IS&S 12/26/19,12/26/19	25 Jan 20 15:58
13	2	0125T02.D	1	200125A CCV/LCS 10ug/L	IS&S 12/26/19,12/26/19	25 Jan 20 16:56
14	3	0125T03.D	1	200125A LCSD 10ug/L	IS&S 12/26/19,12/26/19	25 Jan 20 17:24
15	11	0125T11.D	1	200125A BLK	IS&S 12/26/19,12/26/19	25 Jan 20 21:10
16	12	0125T12.D	1	BA06360W04	IS&S 12/26/19,12/26/19	25 Jan 20 21:38
17	13	0125T13.D	1	BA06363W01	IS&S 12/26/19,12/26/19	25 Jan 20 22:07
18	14	0125T14.D	1	BA06361W01	IS&S 12/26/19,12/26/19	25 Jan 20 22:35
19	15	0125T15.D	1	BA06362W01	IS&S 12/26/19,12/26/19	25 Jan 20 23:03
20	16	0125T16.D	1	BA06364W01	IS&S 12/26/19,12/26/19	25 Jan 20 23:31
21	27	0125T27.D	1	Ending CCV 10ug/L 1/25/20	IS&S 12/26/19,12/26/19	26 Jan 20 4:42

ORGANICS
Calibration Data

VOLATILE ORGANIC ANALYSIS
VOLATILE ORGANIC COMPOUNDS

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Initial Cal. Date: 01/21/20
Matrix: Instrument: Thor Initials: DP

			0121T02.D	0121T03 D	0121T04.D	0121T05 D	0121T06 D	0121T07.D	0121T08 D	0121T09 D	0121T10 D							
		Compound	1	2	3	4	5	6	7	8	9		Avg	%RSD	Type	r^2	Q	MRF
1	I	Fluorobenzene (IS)																
2	SL	Dibromofluoromethane(S)	0.5252	0.5004	0.3888	0.3868	0.3352	0.3273	0.3026	0.2933	0.2836		0.37	24	SL	1.000		
3	SL	1,2-DCA-D4(S)	0.5752	0.5304	0.4255	0.4208	0.3577	0.3513	0.3221	0.3107	0.2985		0.40	25	SL	0.999		
4	I	Chlorobenzene-D5 (IS)																
5	SL	Toluene-D8(S)	2.491	2.257	1.779	1.756	1.567	1.532	1.424	1.346	1.252		1.7	24	SL	0.997		
6	SL	4-Bromofluorobenzene(S)	0.8390	0.7724	0.6130	0.6072	0.5490	0.5504	0.5329	0.5301	0.5292		0.61	19	SL	1.000		
7	I	1,4-Dichlorobenzene-D (IS)																
8																		
9																		
10																		
11																		
12																		
13																		
14																		
15																		
16																		
17																		
18																		
19																		
20																		
21																		
22																		
23																		
24																		
25																		
26																		
27																		
28																		
29																		
30																		
31																		
32																		
33																		
34																		
35																		

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0121T02.D Vial: 2
Acq On : 21 Jan 20 7:41 Operator:
Sample : 0.3ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 23 15:07 2020 Quant Results File: TSUR121W.RES

Quant Method : M:\THOR\DATA\T200121\TSUR121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	1021866	25.00	ppb	0.00
4) Chlorobenzene-D5 (IS)	9.96	117	789770	25.00	ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.52	152	406901	25.00	ppb	0.00
System Monitoring Compounds						
2) Dibromofluoromethane(S)	5.66	111	107330	4.97	ppb	0.00
Spiked Amount 25.000			Recovery =	19.880%		
3) 1,2-DCA-D4(S)	6.07	65	117550	4.90	ppb	0.00
Spiked Amount 25.000			Recovery =	19.588%		
5) Toluene-D8(S)	8.37	98	393419	4.58	ppb	0.00
Spiked Amount 25.000			Recovery =	18.324%		
6) 4-Bromofluorobenzene(S)	11.25	95	132516	6.09	ppb	0.00
Spiked Amount 25.000			Recovery =	24.348%		

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0121T03.D Vial: 3
Acq On : 21 Jan 20 8:09 Operator:
Sample : 0.5ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 23 15:07 2020 Quant Results File: TSUR121W.RES

Quant Method : M:\THOR\DATA\T200121\TSUR121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	1004691	25.00	ppb	0.00
4) Chlorobenzene-D5 (IS)	9.96	117	790347	25.00	ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.52	152	406984	25.00	ppb	0.00
System Monitoring Compounds						
2) Dibromofluoromethane(S)	5.66	111	100543	4.51	ppb	0.00
Spiked Amount 25.000			Recovery =	18.056%		
3) 1,2-DCA-D4(S)	6.07	65	106574	4.11	ppb	0.00
Spiked Amount 25.000			Recovery =	16.448%		
5) Toluene-D8(S)	8.37	98	356692	3.61	ppb	0.00
Spiked Amount 25.000			Recovery =	14.444%		
6) 4-Bromofluorobenzene(S)	11.25	95	122029	5.44	ppb	0.00
Spiked Amount 25.000			Recovery =	21.748%		

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0121T04.D Vial: 4
Acq On : 21 Jan 20 8:37 Operator:
Sample : 1ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 23 15:07 2020 Quant Results File: TSUR121W.RES

Quant Method : M:\THOR\DATA\T200121\TSUR121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	1003430	25.00	ppb	0.00
4) Chlorobenzene-D5 (IS)	9.96	117	793951	25.00	ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.52	152	414015	25.00	ppb	0.00
System Monitoring Compounds						
2) Dibromofluoromethane(S)	5.66	111	156037	9.61	ppb	0.00
Spiked Amount 25.000			Recovery =	38.440%		
3) 1,2-DCA-D4(S)	6.07	65	170767	9.73	ppb	0.00
Spiked Amount 25.000			Recovery =	38.916%		
5) Toluene-D8(S)	8.37	98	565068	9.00	ppb	0.00
Spiked Amount 25.000			Recovery =	36.020%		
6) 4-Bromofluorobenzene(S)	11.25	95	194688	9.84	ppb	0.00
Spiked Amount 25.000			Recovery =	39.372%		

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0121T05.D Vial: 5
Acq On : 21 Jan 20 9:05 Operator:
Sample : 2ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 23 15:07 2020 Quant Results File: TSUR121W.RES

Quant Method : M:\THOR\DATA\T200121\TSUR121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	1013704	25.00	ppb	0.00
4) Chlorobenzene-D5 (IS)	9.96	117	798540	25.00	ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.52	152	418905	25.00	ppb	0.00
System Monitoring Compounds						
2) Dibromofluoromethane(S)	5.66	111	156838	9.54	ppb	0.00
Spiked Amount 25.000			Recovery =	38.152%		
3) 1,2-DCA-D4(S)	6.07	65	170607	9.56	ppb	0.00
Spiked Amount 25.000			Recovery =	38.256%		
5) Toluene-D8(S)	8.37	98	560877	8.81	ppb	0.00
Spiked Amount 25.000			Recovery =	35.244%		
6) 4-Bromofluorobenzene(S)	11.25	95	193951	9.73	ppb	0.00
Spiked Amount 25.000			Recovery =	38.920%		

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0121T06.D Vial: 6
Acq On : 21 Jan 20 9:34 Operator:
Sample : 5ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 23 15:07 2020 Quant Results File: TSUR121W.RES

Quant Method : M:\THOR\DATA\T200121\TSUR121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	1014454	25.00	ppb	0.00
4) Chlorobenzene-D5 (IS)	9.96	117	790523	25.00	ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.52	152	420669	25.00	ppb	0.00
System Monitoring Compounds						
2) Dibromofluoromethane(S)	5.66	111	340025	26.13	ppb	0.00
Spiked Amount 25.000			Recovery = 104.524%			
3) 1,2-DCA-D4(S)	6.07	65	362839	26.16	ppb	0.00
Spiked Amount 25.000			Recovery = 104.624%			
5) Toluene-D8(S)	8.37	98	1238785	26.72	ppb	0.00
Spiked Amount 25.000			Recovery = 106.888%			
6) 4-Bromofluorobenzene(S)	11.25	95	433975	24.58	ppb	0.00
Spiked Amount 25.000			Recovery = 98.316%			

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0121T07.D Vial: 7
Acq On : 21 Jan 20 10:02 Operator:
Sample : 10ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 23 15:07 2020 Quant Results File: TSUR121W.RES

Quant Method : M:\THOR\DATA\T200121\TSUR121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	1052818	25.00	ppb	0.00
4) Chlorobenzene-D5 (IS)	9.96	117	824642	25.00	ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.52	152	433370	25.00	ppb	0.00
System Monitoring Compounds						
2) Dibromofluoromethane(S)	5.66	111	344638	25.41	ppb	0.00
Spiked Amount 25.000			Recovery = 101.644%			
3) 1,2-DCA-D4(S)	6.07	65	369870	25.60	ppb	0.00
Spiked Amount 25.000			Recovery = 102.396%			
5) Toluene-D8(S)	8.37	98	1263271	25.99	ppb	0.00
Spiked Amount 25.000			Recovery = 103.976%			
6) 4-Bromofluorobenzene(S)	11.25	95	453846	24.65	ppb	0.00
Spiked Amount 25.000			Recovery = 98.584%			

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0121T08.D Vial: 8
Acq On : 21 Jan 20 10:30 Operator:
Sample : 20ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 23 15:07 2020 Quant Results File: TSUR121W.RES

Quant Method : M:\THOR\DATA\T200121\TSUR121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	1076126	25.00	ppb	0.00
4) Chlorobenzene-D5 (IS)	9.96	117	852719	25.00	ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.52	152	475060	25.00	ppb	0.00
System Monitoring Compounds						
2) Dibromofluoromethane(S)	5.66	111	651247	50.96	ppb	0.00
Spiked Amount 25.000			Recovery =	203.828%		
3) 1,2-DCA-D4(S)	6.07	65	693335	51.27	ppb	0.00
Spiked Amount 25.000			Recovery =	205.076%		
5) Toluene-D8(S)	8.37	98	2429130	53.27	ppb	0.00
Spiked Amount 25.000			Recovery =	213.084%		
6) 4-Bromofluorobenzene(S)	11.25	95	908776	49.65	ppb	0.00
Spiked Amount 25.000			Recovery =	198.596%		

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
0121T08.D TSUR121W.M Thu Jan 30 14:47:25 2020 Page 1

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0121T09.D Vial: 9
Acq On : 21 Jan 20 10:59 Operator:
Sample : 40ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 23 15:07 2020 Quant Results File: TSUR121W.RES

Quant Method : M:\THOR\DATA\T200121\TSUR121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	1054648	25.00	ppb	0.00
4) Chlorobenzene-D5 (IS)	9.96	117	894422	25.00	ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.52	152	515905	25.00	ppb	0.00
System Monitoring Compounds						
2) Dibromofluoromethane(S)	5.66	111	618615	49.24	ppb	0.00
Spiked Amount 25.000			Recovery =	196.980%		
3) 1,2-DCA-D4(S)	6.07	65	655265	49.26	ppb	0.00
Spiked Amount 25.000			Recovery =	197.024%		
5) Toluene-D8(S)	8.37	98	2407625	50.02	ppb	0.00
Spiked Amount 25.000			Recovery =	200.084%		
6) 4-Bromofluorobenzene(S)	11.26	95	948175	49.37	ppb	0.00
Spiked Amount 25.000			Recovery =	197.500%		

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0121T10.D Vial: 10
Acq On : 21 Jan 20 11:27 Operator:
Sample : 100ug/L VOC STD 1/21/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 23 15:07 2020 Quant Results File: TSUR121W.RES

Quant Method : M:\THOR\DATA\T200121\TSUR121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	1065218	25.00	ppb	0.00
4) Chlorobenzene-D5 (IS)	9.96	117	916624	25.00	ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.52	152	565783	25.00	ppb	0.00
System Monitoring Compounds						
2) Dibromofluoromethane(S)	5.66	111	1208474	99.62	ppb	0.00
Spiked Amount 25.000			Recovery =	398.500%		
3) 1,2-DCA-D4(S)	6.07	65	1271687	99.42	ppb	0.00
Spiked Amount 25.000			Recovery =	397.676%		
5) Toluene-D8(S)	8.37	98	4589751	97.98	ppb	0.00
Spiked Amount 25.000			Recovery =	391.936%		
6) 4-Bromofluorobenzene(S)	11.26	95	1940451	100.65	ppb	0.00
Spiked Amount 25.000			Recovery =	402.584%		

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

VOLATILE ORGANIC ANALYSIS
VOLATILE ORGANIC COMPOUNDS

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Initial Cal. Date: 01/21/20
Matrix: Instrument: Thor Initials: DP

			0116T20.D	0116T21 D	0116T22 D	0116T23 D	0116T24.D	0116T25.D	0116T26.D										
		Compound	1	2	3	4	5	6	7				Avg	%RSD	Type	r^2	Q	MRF
1	I	Fluorobenzene (IS)																
2	TMHBL	Gasoline C6-C10	14.6	6.167	3.214	1.315	0.8187	0.7104	0.6355				3.9	130	TMHBL	1.000		
3	I	Chlorobenzene-D5 (IS)																
4	I	1,4-Dichlorobenzene-D (IS)																
5																		
6																		
7																		
8																		
9																		
10																		
11																		
12																		
13																		
14																		
15																		
16																		
17																		
18																		
19																		
20																		
21																		
22																		
23																		
24																		
25																		
26																		
27																		
28																		
29																		
30																		
31																		
32																		
33																		
34																		
35																		

Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T200116\0116T20.D Vial: 14
Acq On : 16 Jan 20 22:12 Operator:
Sample : 20ug/L GAS STD 1/16/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 17 10:02 2020 Quant Results File: TGAS0116.RES

Quant Method : M:\THOR\DATA\T200116\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 09:40:47 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	TIC	1065212	25.00 ppb	0.00
3) Chlorobenzene-D5 (IS)	9.96	TIC	1248213	25.00 ppb	0.00
4) 1,4-Dichlorobenzene-D (IS)	12.52	TIC	1244038	25.00 ppb	0.00
System Monitoring Compounds					
Target Compounds					Qvalue
2) Gasoline C6-C10	8.37	TIC	12439089m	13.05 ppb	100

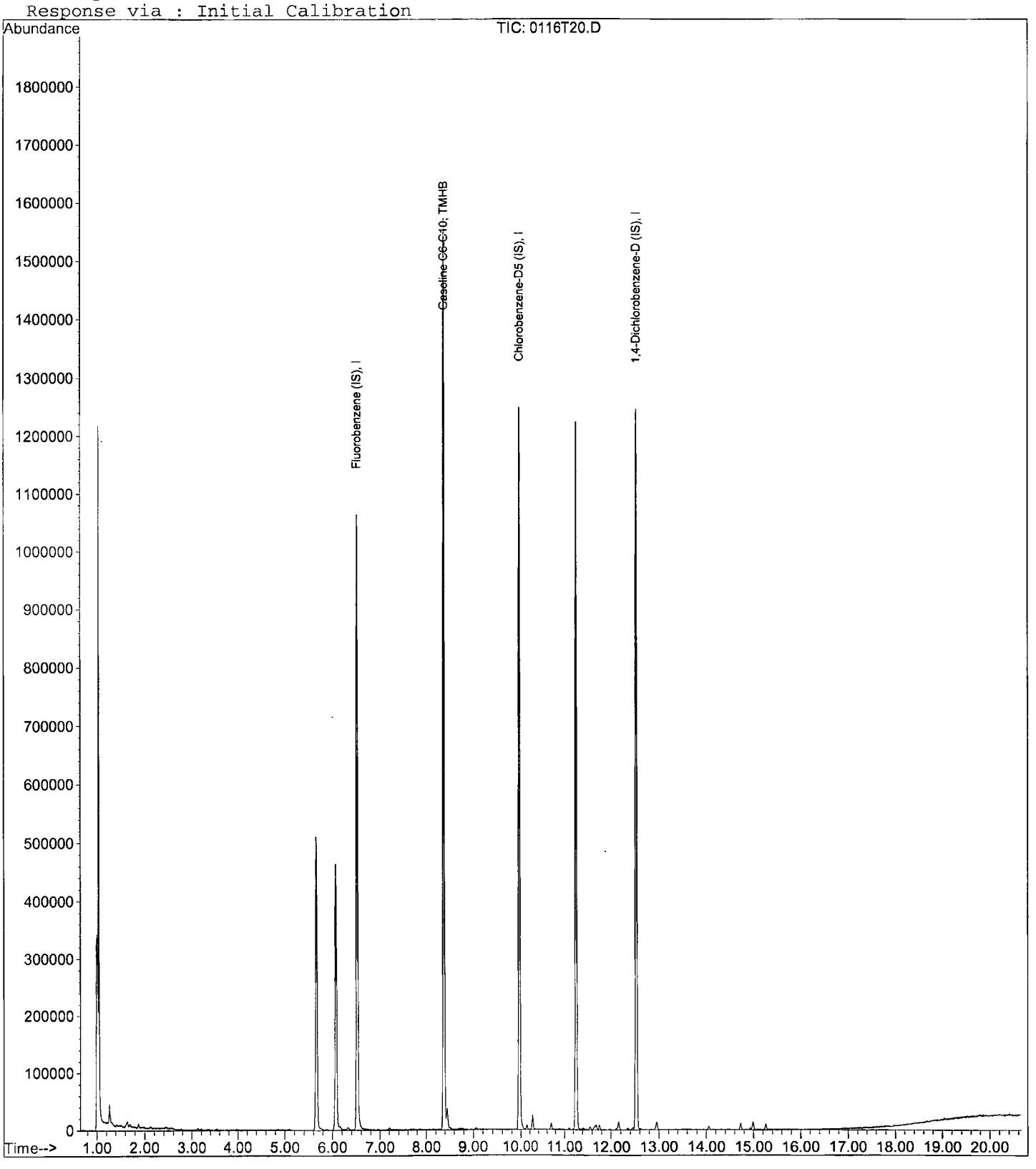
(#) = qualifier out of range (m) = manual integration
0116T20.D TGAS0116.M Thu Jan 30 14:49:09 2020 Page 1

Quantitation Report

Data File : M:\THOR\DATA\T200116\0116T20.D Vial: 14
Acq On : 16 Jan 20 22:12 Operator:
Sample : 20ug/L GAS STD 1/16/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 17 10:02 2020 Quant Results File: TGAS0116.RES

Method : M:\THOR\DATA\T200116\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T200116\0116T21.D Vial: 15
Acq On : 16 Jan 20 22:40 Operator:
Sample : 50ug/L GAS STD 1/16/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 17 10:03 2020 Quant Results File: TGAS0116.RES

Quant Method : M:\THOR\DATA\T200116\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 09:40:47 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	TIC	1030969	25.00	ppb	0.00
3) Chlorobenzene-D5 (IS)	9.96	TIC	1239650	25.00	ppb	0.00
4) 1,4-Dichlorobenzene-D (IS)	12.52	TIC	1263422	25.00	ppb	0.00
System Monitoring Compounds						
Target Compounds						Qvalue
2) Gasoline C6-C10	8.37	TIC	12715661m	60.36	ppb	100

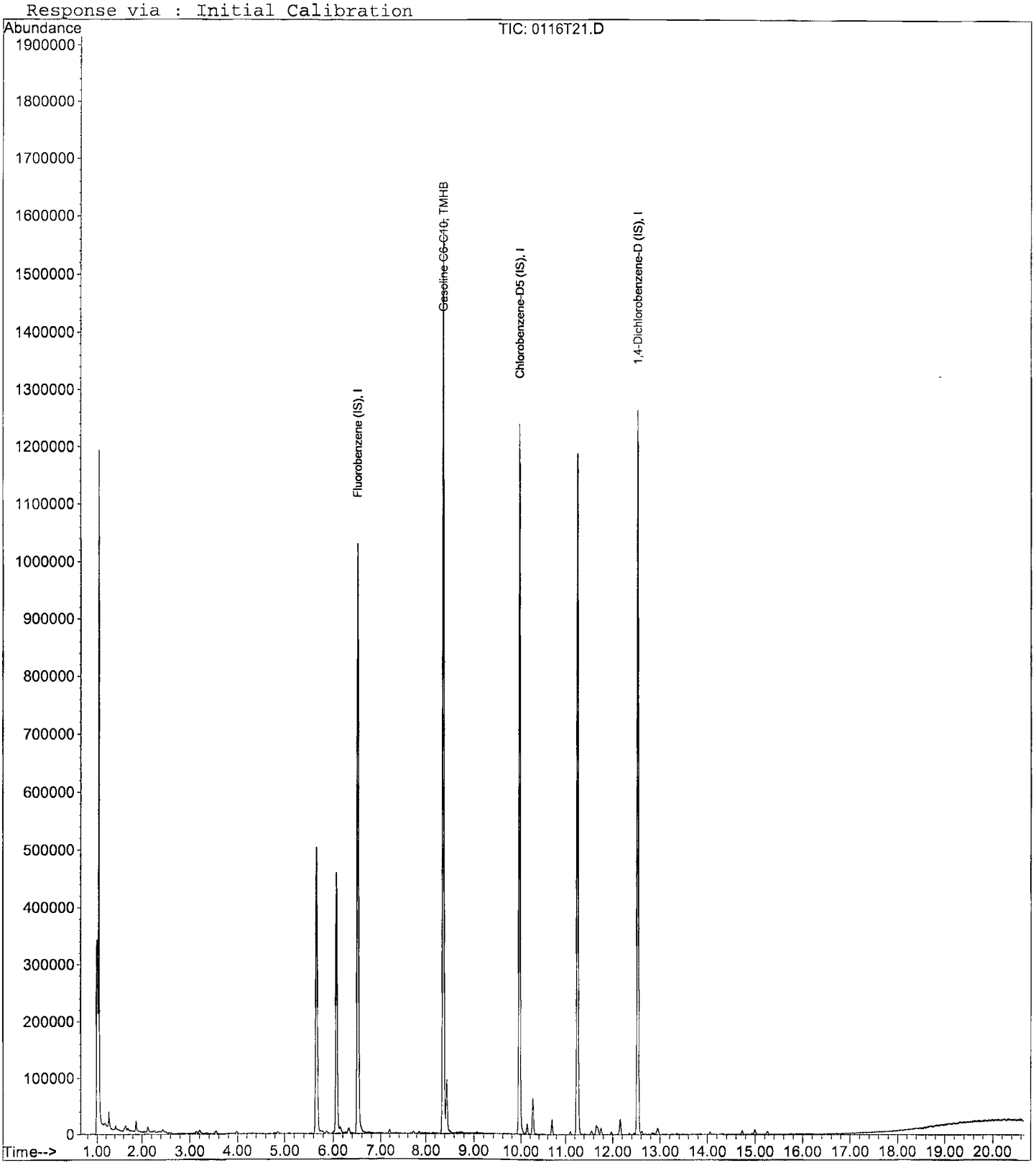
(#) = qualifier out of range (m) = manual integration
0116T21.D TGAS0116.M Thu Jan 30 14:49:11 2020 Page 1

Quantitation Report

Data File : M:\THOR\DATA\T200116\0116T21.D Vial: 15
Acq On : 16 Jan 20 22:40 Operator:
Sample : 50ug/L GAS STD 1/16/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 17 10:03 2020 Quant Results File: TGAS0116.RES

Method : M:\THOR\DATA\T200116\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T200116\0116T22.D Vial: 16
Acq On : 16 Jan 20 23:08 Operator:
Sample : 100ug/L GAS STD 1/16/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 17 10:03 2020 Quant Results File: TGAS0116.RES

Quant Method : M:\THOR\DATA\T200116\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 09:40:47 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

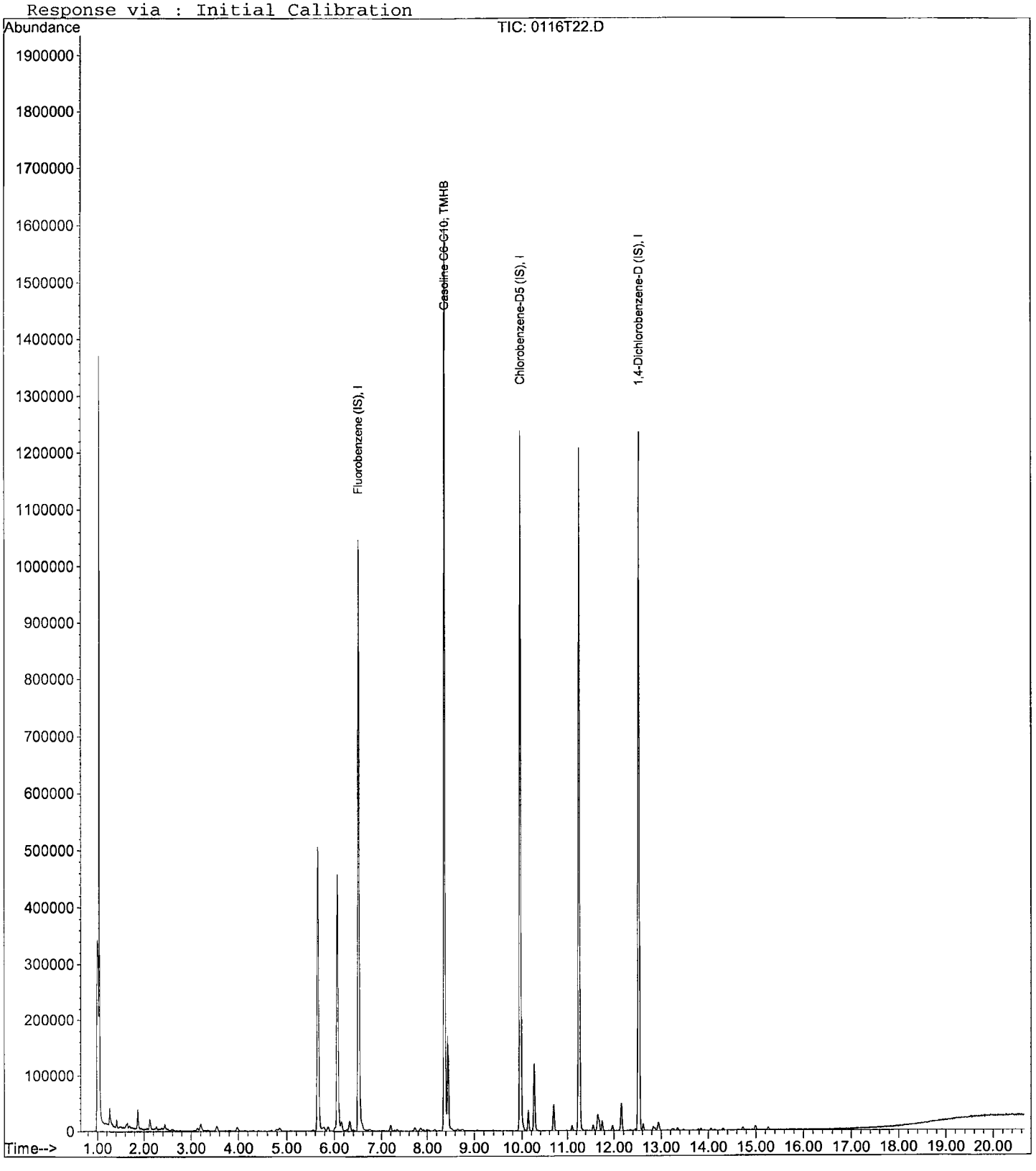
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	TIC	1047091	25.00	ppb	0.00
3) Chlorobenzene-D5 (IS)	9.96	TIC	1238298	25.00	ppb	0.00
4) 1,4-Dichlorobenzene-D (IS)	12.52	TIC	1235111	25.00	ppb	0.00
System Monitoring Compounds						
Target Compounds						Qvalue
2) Gasoline C6-C10	8.37	TIC	13461175m	98.00	ppb	100

(#) = qualifier out of range (m) = manual integration

Data File : M:\THOR\DATA\T200116\0116T22.D Vial: 16
Acq On : 16 Jan 20 23:08 Operator:
Sample : 100ug/L GAS STD 1/16/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 17 10:03 2020 Quant Results File: TGAS0116.RES

Method : M:\THOR\DATA\T200116\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T200116\0116T23.D Vial: 17
Acq On : 16 Jan 20 23:37 Operator:
Sample : 300ug/L GAS STD 1/16/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 17 10:04 2020 Quant Results File: TGAS0116.RES

Quant Method : M:\THOR\DATA\T200116\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 09:40:47 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	TIC	1050438	25.00	ppb	0.00
3) Chlorobenzene-D5 (IS)	9.96	TIC	1265632	25.00	ppb	0.00
4) 1,4-Dichlorobenzene-D (IS)	12.52	TIC	1261017	25.00	ppb	0.00
System Monitoring Compounds						
Target Compounds						Qvalue
2) Gasoline C6-C10	8.37	TIC	16572917m	308.65	ppb	100

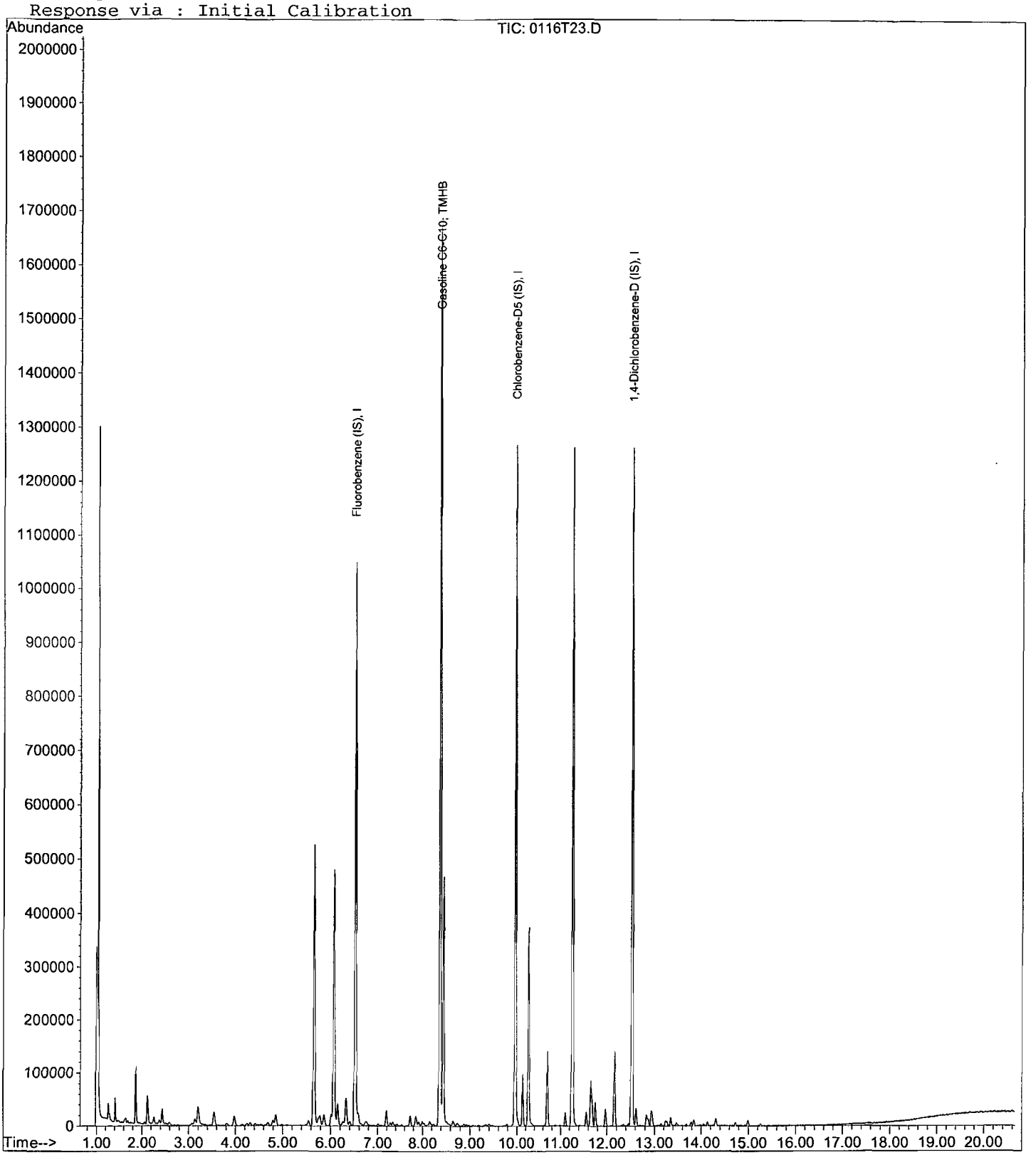
(#) = qualifier out of range (m) = manual integration
0116T23.D TGAS0116.M Thu Jan 30 14:49:16 2020 Page 1

Quantitation Report

Data File : M:\THOR\DATA\T200116\0116T23.D Vial: 17
Acq On : 16 Jan 20 23:37 Operator:
Sample : 300ug/L GAS STD 1/16/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 17 10:04 2020 Quant Results File: TGAS0116.RES

Method : M:\THOR\DATA\T200116\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T200116\0116T24.D Vial: 18
Acq On : 17 Jan 20 00:05 Operator:
Sample : 600ug/L GAS STD 1/16/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 17 10:05 2020 Quant Results File: TGAS0116.RES

Quant Method : M:\THOR\DATA\T200116\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 09:40:47 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	TIC	1044608	25.00 ppb	0.00
3) Chlorobenzene-D5 (IS)	9.96	TIC	1228227	25.00 ppb	0.00
4) 1,4-Dichlorobenzene-D (IS)	12.52	TIC	1245746	25.00 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	8.37	TIC	20524559m	587.77 ppb	100

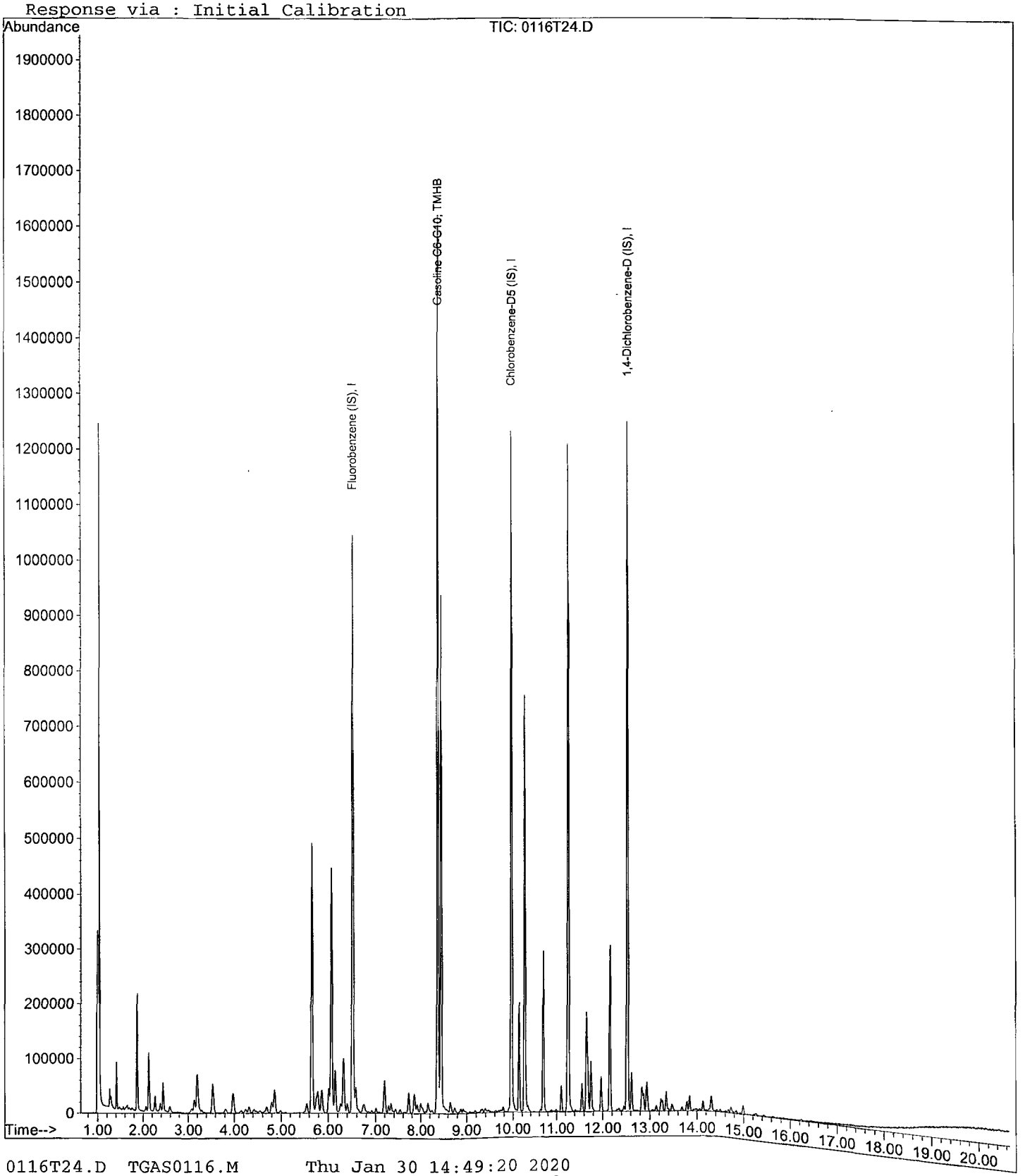
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200116\0116T24.D Vial: 18
Acq On : 17 Jan 20 00:05 Operator:
Sample : 600ug/L GAS STD 1/16/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 17 10:05 2020 Quant Results File: TGAS0116.RES

Method : M:\THOR\DATA\T200116\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration



0116T24.D TGAS0116.M Thu Jan 30 14:49:20 2020

Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T200116\0116T25.D Vial: 19
Acq On : 17 Jan 20 00:33 Operator:
Sample : 800ug/L GAS STD 1/16/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 17 10:05 2020 Quant Results File: TGAS0116.RES

Quant Method : M:\THOR\DATA\T200116\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 09:40:47 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	TIC	1064412	25.00	ppb	0.00
3) Chlorobenzene-D5 (IS)	9.96	TIC	1289326	25.00	ppb	0.00
4) 1,4-Dichlorobenzene-D (IS)	12.52	TIC	1307330	25.00	ppb	0.00

System Monitoring Compounds

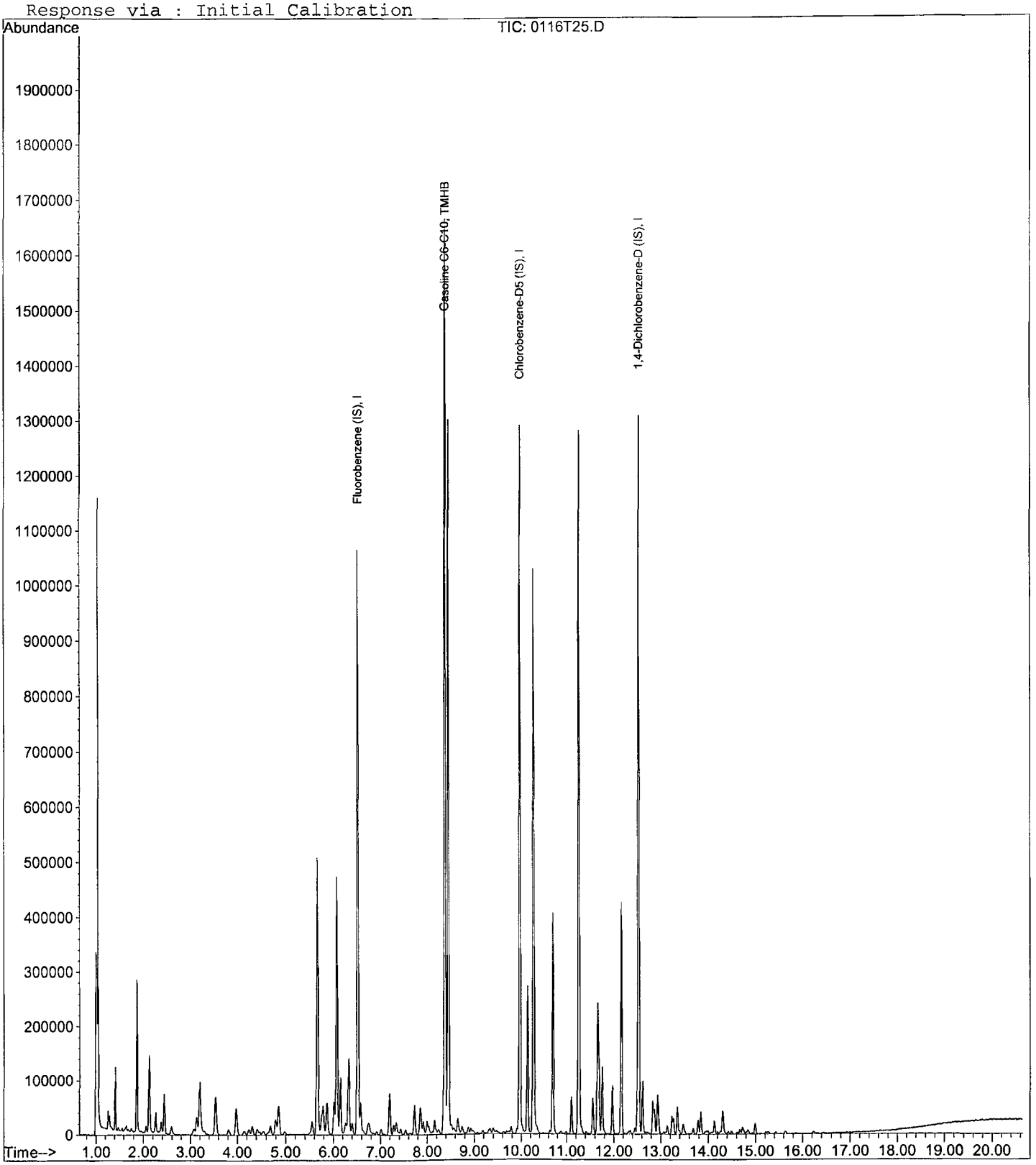
Target Compounds						Qvalue
2) Gasoline C6-C10	8.37	TIC	24197442m	810.22	ppb	100

(#) = qualifier out of range (m) = manual integration
0116T25.D TGAS0116.M Thu Jan 30 14:49:21 2020 Page 1

Data File : M:\THOR\DATA\T200116\0116T25.D Vial: 19
Acq On : 17 Jan 20 00:33 Operator:
Sample : 800ug/L GAS STD 1/16/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 17 10:05 2020 Quant Results File: TGAS0116.RES

Method : M:\THOR\DATA\T200116\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T200116\0116T26.D Vial: 20
Acq On : 17 Jan 20 1:02 Operator:
Sample : 1000ug/L GAS STD 1/16/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 17 10:06 2020 Quant Results File: TGAS0116.RES

Quant Method : M:\THOR\DATA\T200116\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 09:40:47 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	TIC	1067613	25.00	ppb	0.00
3) Chlorobenzene-D5 (IS)	9.96	TIC	1245143	25.00	ppb	0.00
4) 1,4-Dichlorobenzene-D (IS)	12.52	TIC	1309319	25.00	ppb	0.00

System Monitoring Compounds

Target Compounds						Qvalue
2) Gasoline C6-C10	8.37	TIC	27138242m	1003.93	ppb	100

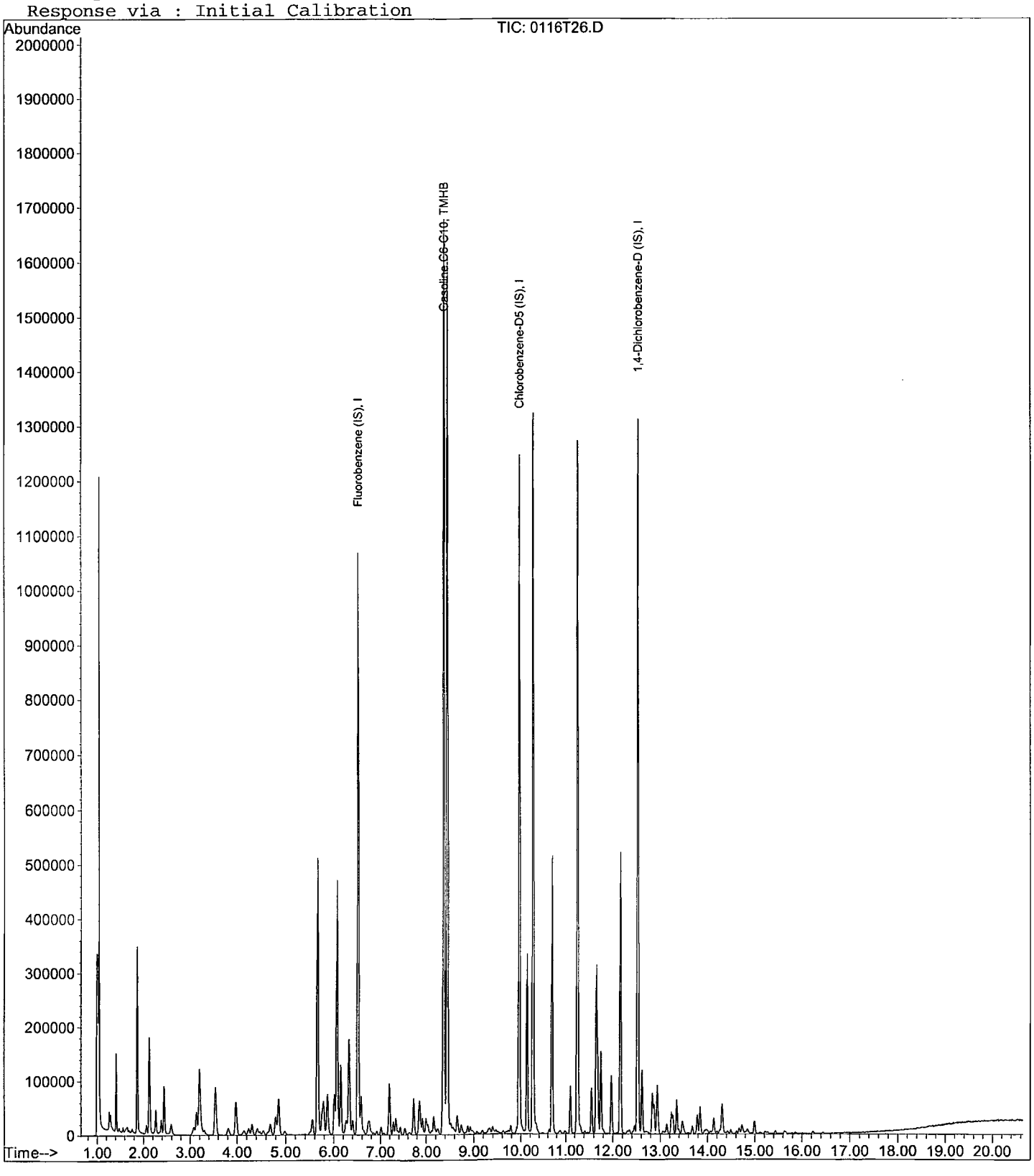
(#) = qualifier out of range (m) = manual integration
0116T26.D TGAS0116.M Thu Jan 30 14:49:24 2020 Page 1

Quantitation Report

Data File : M:\THOR\DATA\T200116\0116T26.D Vial: 20
Acq On : 17 Jan 20 1:02 Operator:
Sample : 1000ug/L GAS STD 1/16/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 17 10:06 2020 Quant Results File: TGAS0116.RES

Method : M:\THOR\DATA\T200116\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS
VOLATILE ORGANIC COMPOUNDS

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 01/17/20
Instrument: Thor
Initial Cal. Date: 01/16/20
Data File: 0116T28.D

		Compound	MEAN	CCRF	%D		%Drift
1	TMHB	Gasoline C6-C10	3.922	1.312	67	TMHBL	1.6
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			67.0		

Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T200116\0116T28.D Vial: 22
Acq On : 17 Jan 20 1:58 Operator:
Sample : (SS) 300ug/L GAS STD 1/16/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 17 10:08 2020 Quant Results File: TGAS0116.RES

Quant Method : M:\THOR\DATA\T200116\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	TIC	1044816	25.00	ppb	0.00
3) Chlorobenzene-D5 (IS)	9.96	TIC	1228554	25.00	ppb	0.00
4) 1,4-Dichlorobenzene-D (IS)	12.52	TIC	1250181	25.00	ppb	0.00

System Monitoring Compounds

Target Compounds						Qvalue
2) Gasoline C6-C10	8.37	TIC	16447897m	304.73	ppb	100

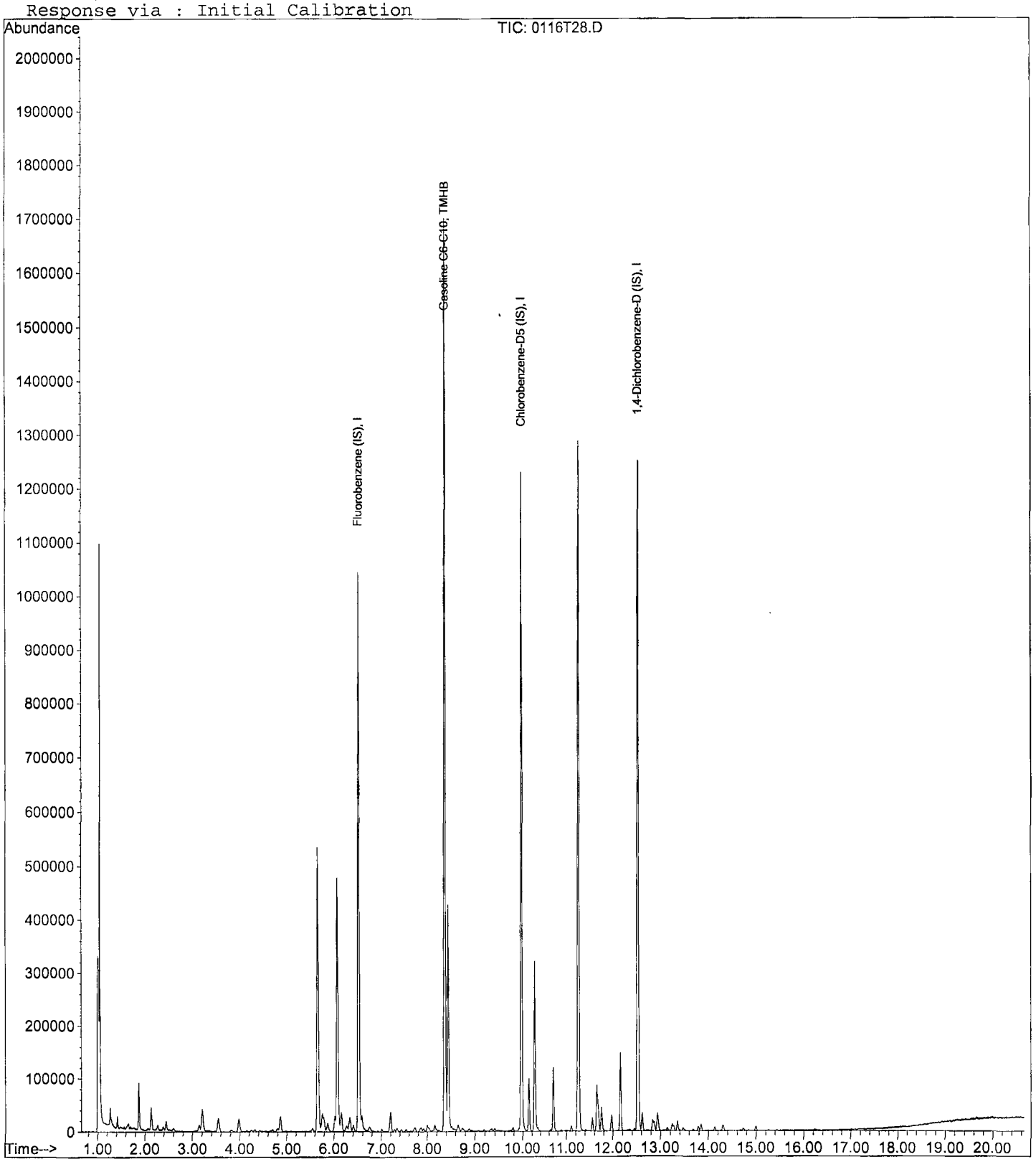
(#) = qualifier out of range (m) = manual integration
0116T28.D TGAS0116.M Thu Jan 30 14:49:41 2020 Page 1

Quantitation Report

Data File : M:\THOR\DATA\T200116\0116T28.D Vial: 22
Acq On : 17 Jan 20 1:58 Operator:
Sample : (SS) 300ug/L GAS STD 1/16/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 17 10:08 2020 Quant Results File: TGAS0116.RES

Method : M:\THOR\DATA\T200116\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS
VOLATILE ORGANIC COMPOUNDS

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 01/25/20
Instrument: Thor
Initial Cal. Date: 01/21/20
Data File: 0125T06.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Fluorobenzene (IS)	ISTD			I	
2	TMHB	Gasoline C6-C10	3.922	1.285	67	TMHBL	6.2
3	I	Chlorobenzene-D5 (IS)	ISTD			I	
4	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			67.0		

VOLATILE ORGANIC ANALYSIS
VOLATILE ORGANIC COMPOUNDS

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 01/25/20
Instrument: Thor
Initial Cal. Date: 01/21/20
Data File: 0125T06.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Fluorobenzene (IS)	ISTD			I	
2	SL	Dibromofluoromethane(S)	0.3715	0.3161	15	SL	2.5
3	SL	1,2-DCA-D4(S)	0.3991	0.3375	15	SL	2.4
4	I	Chlorobenzene-D5 (IS)	ISTD			I	
5	SL	Toluene-D8(S)	1.712	1.474	14	SL	0.79
6	SL	4-Bromofluorobenzene(S)	0.6137	0.5176	16	SL	7.8
7	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			15.0		

Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T200121\0125T06.D Vial: 6
Acq On : 25 Jan 20 18:49 Operator:
Sample : 200125A CCV 300ug/L Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 14:13 2020 Quant Results File: TGAS0116.RES

Quant Method : M:\THOR\DATA\T200121\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	TIC	1001394	25.00	ppb	0.00
3) Chlorobenzene-D5 (IS)	9.96	TIC	1216432	25.00	ppb	0.00
4) 1,4-Dichlorobenzene-D (IS)	12.52	TIC	1197274	25.00	ppb	0.00
System Monitoring Compounds						
Target Compounds						Qvalue
2) Gasoline C6-C10	8.37	TIC	15440774m	281.50	ppb	100

(#) = qualifier out of range (m) = manual integration
0125T06.D TGAS0116.M Thu Jan 30 14:50:53 2020 Page 1

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0125T06.D Vial: 6
Acq On : 25 Jan 20 18:49 Operator:
Sample : 200125A CCV 300ug/L Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 14:45 2020 Quant Results File: TSUR121W.RES

Quant Method : M:\THOR\DATA\T200121\TSUR121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	6.52	96	971016	25.00	ppb	0.00
4) Chlorobenzene-D5 (IS)	9.96	117	775077	25.00	ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.52	152	404201	25.00	ppb	0.00
System Monitoring Compounds						
2) Dibromofluoromethane(S)	5.66	111	306916	24.37	ppb	0.00
Spiked Amount 25.000			Recovery = 97.500%			
3) 1,2-DCA-D4(S)	6.07	65	327750	24.39	ppb	0.00
Spiked Amount 25.000			Recovery = 97.568%			
5) Toluene-D8(S)	8.37	98	1142772	24.80	ppb	0.00
Spiked Amount 25.000			Recovery = 99.212%			
6) 4-Bromofluorobenzene(S)	11.26	95	401166	23.06	ppb	0.00
Spiked Amount 25.000			Recovery = 92.224%			

Target Compounds Qvalue

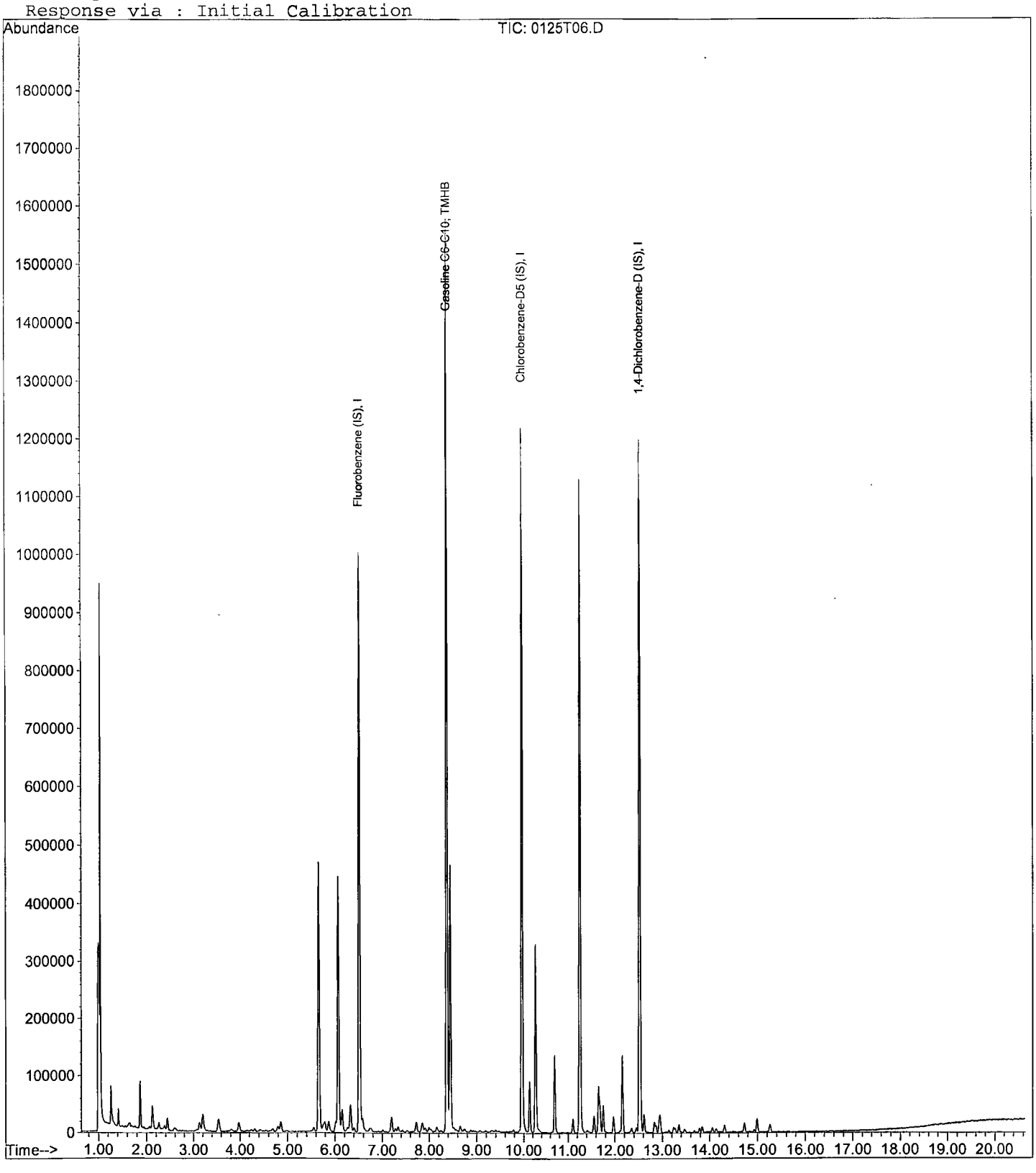
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0125T06.D Vial: 6
Acq On : 25 Jan 20 18:49 Operator:
Sample : 200125A CCV 300ug/L Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 14:13 2020 Quant Results File: TGAS0116.RES

Method : M:\THOR\DATA\T200116\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS
VOLATILE ORGANIC COMPOUNDS

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 01/27/20
Instrument: Thor
Initial Cal. Date: 01/21/20
Data File: 0125t28.D

		Compound	MEAN	CCRF	%D	%Drift	
1	I	Fluorobenzene (IS)	ISTD			I	
2	TMHB	Gasoline C6-C10	3.922	1.377	65	TMHBL	20
3	I	Chlorobenzene-D5 (IS)	ISTD			I	
4	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			65.0		

VOLATILE ORGANIC ANALYSIS
VOLATILE ORGANIC COMPOUNDS

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 01/27/20
Instrument: Thor
Initial Cal. Date: 01/21/20
Data File: 0125t28.D

		Compound	MEAN	CCRF	%D	%Drift	
1	I	Fluorobenzene (IS)	ISTD			I	
2	SL	Dibromofluoromethane(S)	0.3715	0.3532	4.9	SL	11
3	SL	1,2-DCA-D4(S)	0.3991	0.3743	6.2	SL	10
4	I	Chlorobenzene-D5 (IS)	ISTD			I	
5	SL	Toluene-D8(S)	1.712	1.690	1.2	SL	17
6	SL	4-Bromofluorobenzene(S)	0.6137	0.6120	0.28	SL	11
7	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			3.1		

Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T200121\0125t28.D Vial: 28
Acq On : 27 Jan 20 5:23 Operator:
Sample : Ending CCV 300ug/L 1/25/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 14:36 2020 Quant Results File: TGAS0116.RES

Quant Method : M:\THOR\DATA\T200121\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	6.50	TIC	1069114	25.00	ppb	0.00
3) Chlorobenzene-D5 (IS)	9.96	TIC	1241214	25.00	ppb	0.00
4) 1,4-Dichlorobenzene-D (IS)	12.52	TIC	1187629	25.00	ppb	0.00
System Monitoring Compounds						
Target Compounds						Qvalue
2) Gasoline C6-C10	8.37	TIC	17660380m	360.55	ppb	100

(#) = qualifier out of range (m) = manual integration
0125t28.D TGAS0116.M Thu Jan 30 14:51:20 2020 Page 1

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0125t28.D Vial: 28
Acq On : 27 Jan 20 5:23 Operator:
Sample : Ending CCV 300ug/L 1/25/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 14:45 2020 Quant Results File: TSUR121W.RES

Quant Method : M:\THOR\DATA\T200121\TSUR121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	6.50	96	1036877	25.00	ppb	0.00
4) Chlorobenzene-D5 (IS)	9.96	117	798710	25.00	ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.52	152	408952	25.00	ppb	0.00
System Monitoring Compounds						
2) Dibromofluoromethane(S)	5.65	111	366176	27.78	ppb	0.00
Spiked Amount 25.000			Recovery =	111.136%		
3) 1,2-DCA-D4(S)	6.06	65	388102	27.61	ppb	0.00
Spiked Amount 25.000			Recovery =	110.452%		
5) Toluene-D8(S)	8.37	98	1350070	29.28	ppb	0.00
Spiked Amount 25.000			Recovery =	117.104%		
6) 4-Bromofluorobenzene(S)	11.25	95	488779	27.63	ppb	0.00
Spiked Amount 25.000			Recovery =	110.540%		

Target Compounds Qvalue

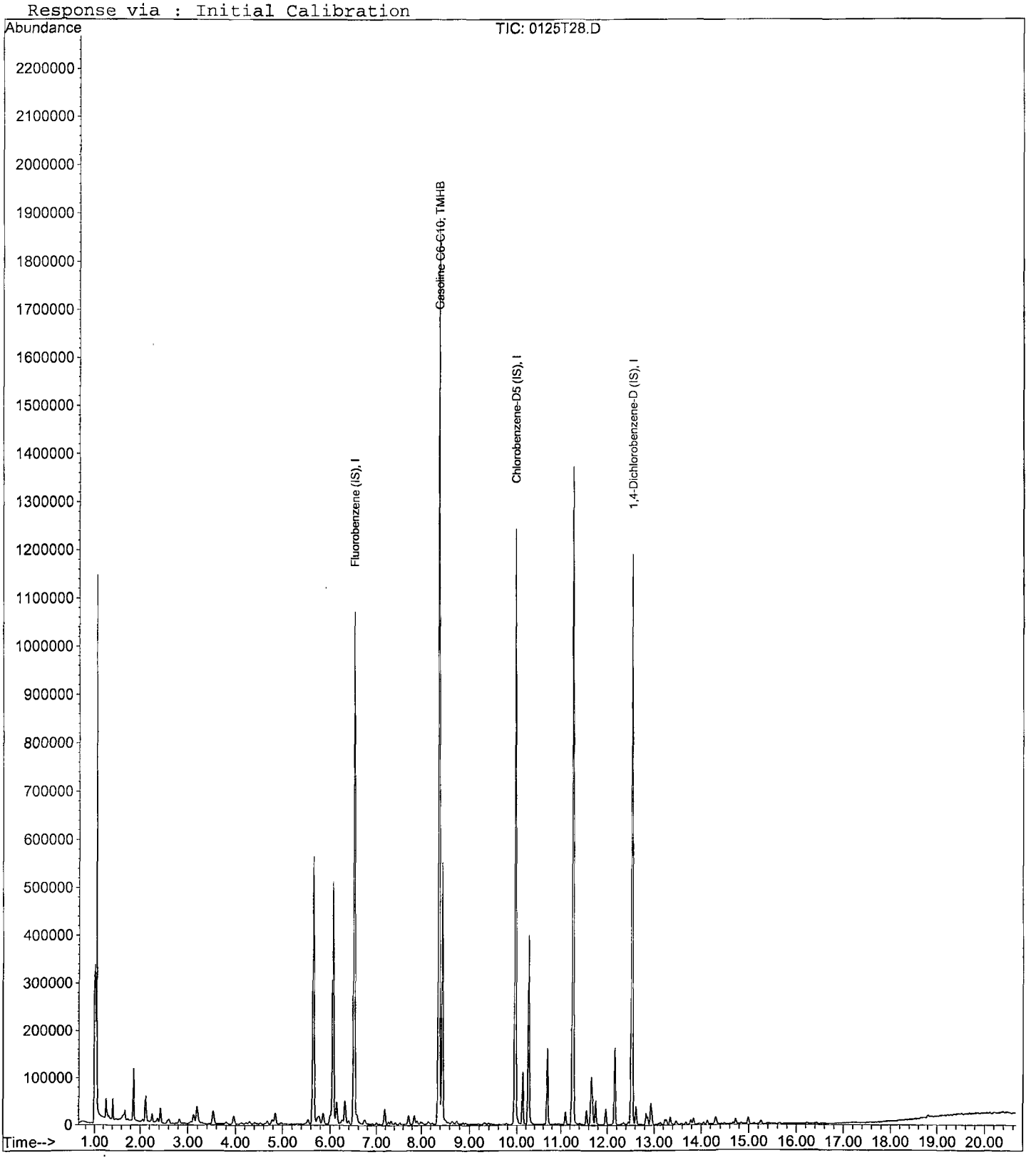
(#) = qualifier out of range (m) = manual integration
0125t28.D TSUR121W.M Thu Jan 30 14:51:34 2020 Page 1

Quantitation Report

Data File : M:\THOR\DATA\T200121\0125t28.D Vial: 28
Acq On : 27 Jan 20 5:23 Operator:
Sample : Ending CCV 300ug/L 1/25/20 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 14:36 2020 Quant Results File: TGAS0116.RES

Method : M:\THOR\DATA\T200116\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration



ORGANICS
Raw Data

Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T200121\0125T12.D Vial: 12
Acq On : 25 Jan 20 21:38 Operator:
Sample : BA06360W04 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 14:31 2020 Quant Results File: TGAS0116.RES

Quant Method : M:\THOR\DATA\T200121\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	TIC	982313	25.00	ppb	0.00
3) Chlorobenzene-D5 (IS)	9.96	TIC	1157176	25.00	ppb	0.00
4) 1,4-Dichlorobenzene-D (IS)	12.52	TIC	1139468	25.00	ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0125T12.D Vial: 12
Acq On : 25 Jan 20 21:38 Operator:
Sample : BA06360W04 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 14:45 2020 Quant Results File: TSUR121W.RES

Quant Method : M:\THOR\DATA\T200121\TSUR121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	953475	25.00	ppb	0.00
4) Chlorobenzene-D5 (IS)	9.96	117	755679	25.00	ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.52	152	385614	25.00	ppb	0.00
System Monitoring Compounds						
2) Dibromofluoromethane(S)	5.66	111	307051	24.92	ppb	0.00
Spiked Amount 25.000			Recovery =	99.688%		
3) 1,2-DCA-D4(S)	6.07	65	327105	24.88	ppb	0.00
Spiked Amount 25.000			Recovery =	99.504%		
5) Toluene-D8(S)	8.37	98	1126088	25.13	ppb	0.00
Spiked Amount 25.000			Recovery =	100.520%		
6) 4-Bromofluorobenzene(S)	11.26	95	390835	23.04	ppb	0.00
Spiked Amount 25.000			Recovery =	92.148%		

Target Compounds Qvalue

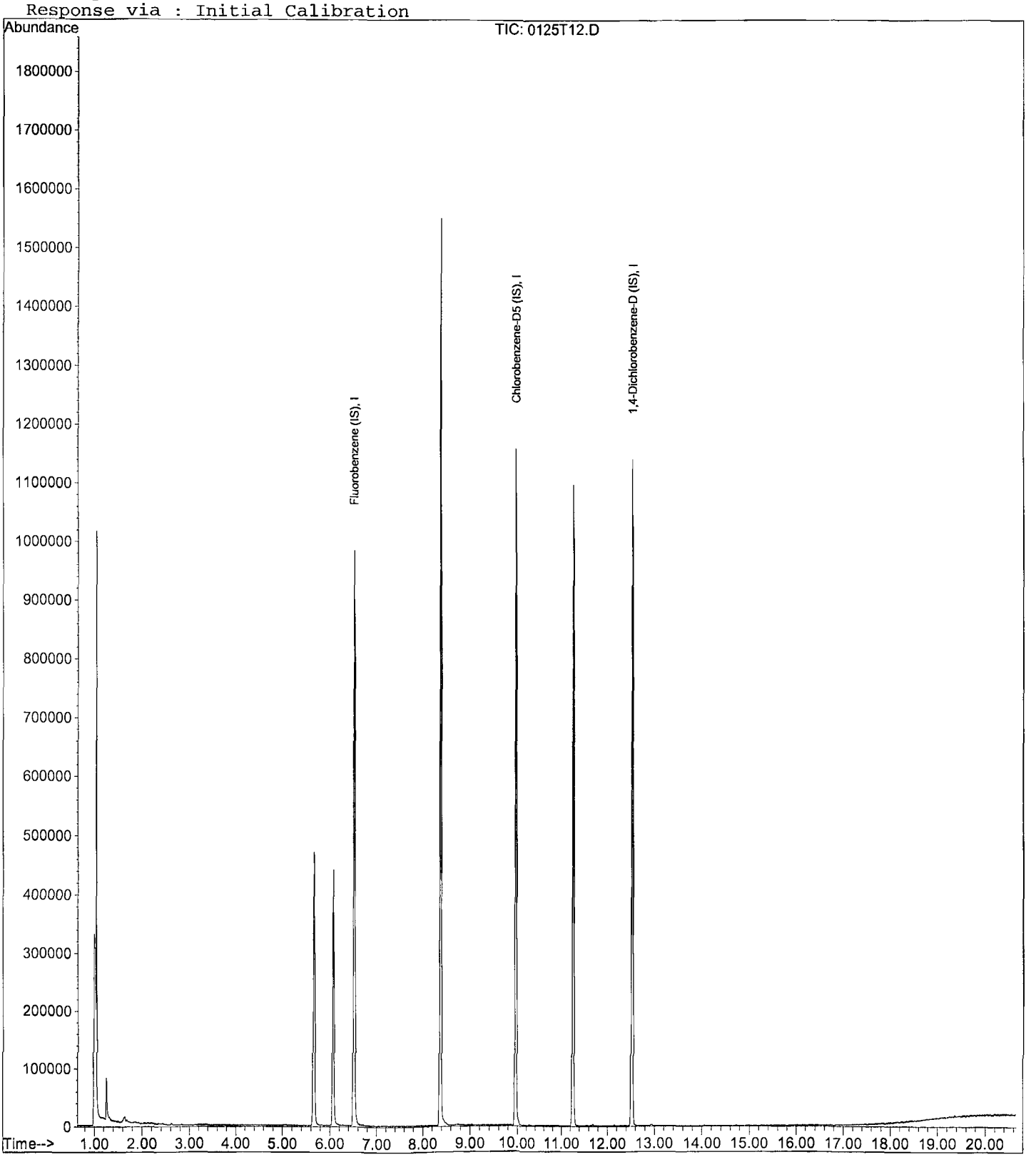
(#) = qualifier out of range (m) = manual integration
0125T12.D TSUR121W.M Thu Jan 30 14:54:31 2020 Page 1

Quantitation Report

Data File : M:\THOR\DATA\T200121\0125T12.D Vial: 12
Acq On : 25 Jan 20 21:38 Operator:
Sample : BA06360W04 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 14:31 2020 Quant Results File: TGAS0116.RES

Method : M:\THOR\DATA\T200116\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0125T14.D Vial: 14
Acq On : 25 Jan 20 22:35 Operator:
Sample : BA06361W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 14:45 2020 Quant Results File: TSUR121W.RES

Quant Method : M:\THOR\DATA\T200121\TSUR121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	967770	25.000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.96	117	809787	25.000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.52	152	423410	25.000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	5.67	111	299757	23.792 ppb	0.00
Spiked Amount 25.000			Recovery =	95.168%	
3) 1,2-DCA-D4(S)	6.08	65	342665	25.841 ppb	0.00
Spiked Amount 25.000			Recovery =	103.364%	
5) Toluene-D8(S)	8.37	98	1186365	24.609 ppb	0.00
Spiked Amount 25.000			Recovery =	98.436%	
6) 4-Bromofluorobenzene(S)	11.26	95	439352	24.267 ppb	0.00
Spiked Amount 25.000			Recovery =	97.068%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T200121\0125T14.D Vial: 14
Acq On : 25 Jan 20 22:35 Operator:
Sample : BA06361W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Feb 25 13:15 2020 Quant Results File: TGAS0116.RES

Quant Method : M:\THOR\DATA\T200121\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	TIC	1009545	25.000	ppb	0.00
3) Chlorobenzene-D5 (IS)	9.96	TIC	1280159	25.000	ppb	0.00
4) 1,4-Dichlorobenzene-D (IS)	12.52	TIC	1258550	25.000	ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
0125T14.D TGAS0116.M Tue Feb 25 13:47:47 2020 Page 1

Quantitation Report

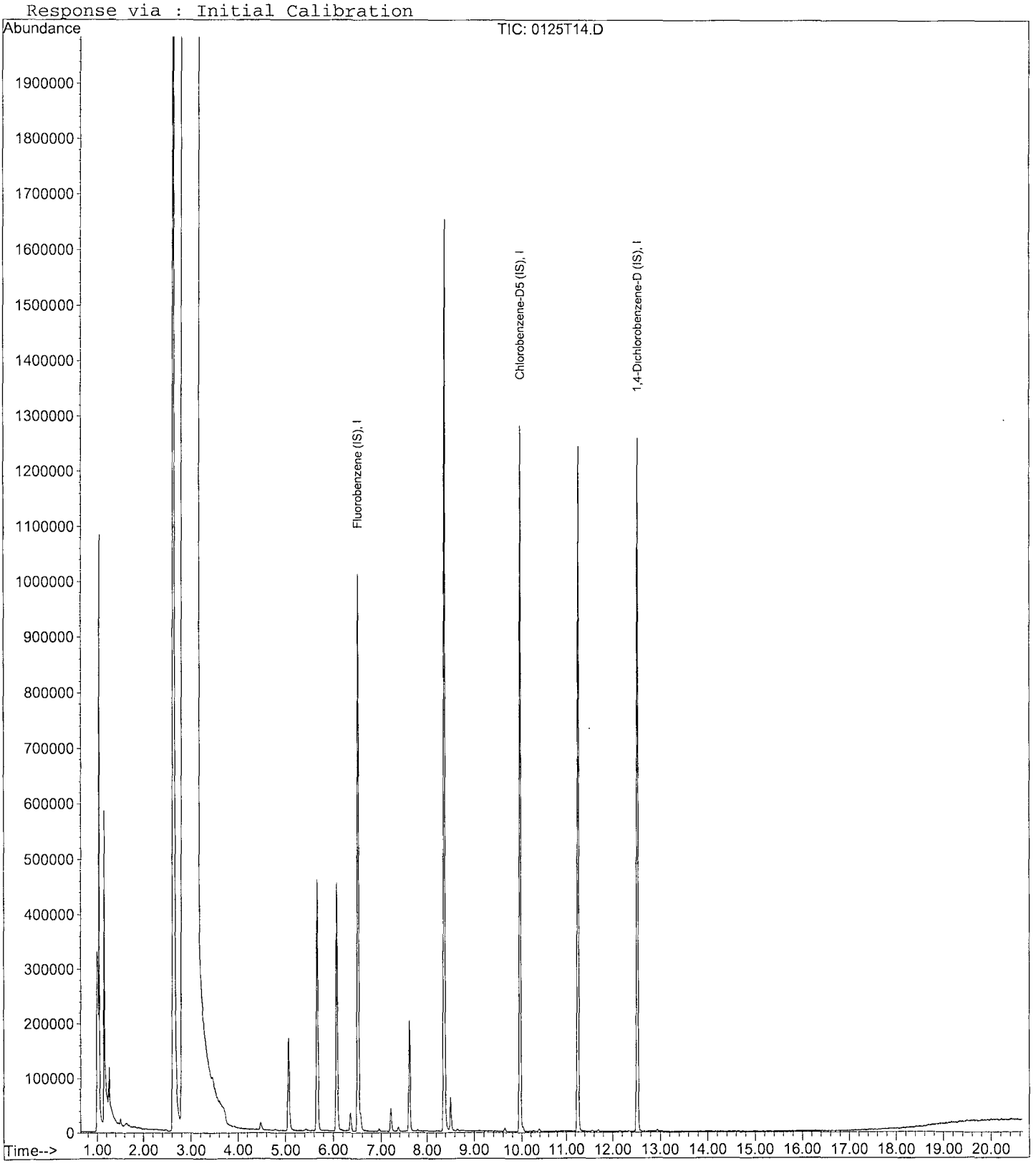
Data File : M:\THOR\DATA\T200121\0125T14.D
Acq On : 25 Jan 20 22:35
Sample : BA06361W01
Misc : IS&S 12/26/19,12/26/19

Vial: 14
Operator:
Inst : Thor
Multiplr: 1.00

Quant Time: Feb 25 13:15 2020

Quant Results File: TGAS0116.RES

Method : M:\THOR\DATA\T200121\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T200121\0125T15.D Vial: 15
Acq On : 25 Jan 20 23:03 Operator:
Sample : BA06362W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Feb 21 7:01 2020 Quant Results File: TGAS0116.RES

Quant Method : M:\THOR\DATA\T200121\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	TIC	988066	25.000	ppb	0.00
3) Chlorobenzene-D5 (IS)	9.96	TIC	1243973	25.000	ppb	0.00
4) 1,4-Dichlorobenzene-D (IS)	12.52	TIC	1183948	25.000	ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
0125T15.D TGAS0116.M Fri Feb 21 07:01:36 2020 Page 1

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0125T15.D Vial: 15
Acq On : 25 Jan 20 23:03 Operator:
Sample : BA06362W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 14:45 2020 Quant Results File: TSUR121W.RES

Quant Method : M:\THOR\DATA\T200121\TSUR121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	957133	25.000	ppb	0.00
4) Chlorobenzene-D5 (IS)	9.96	117	786709	25.000	ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.52	152	403948	25.000	ppb	0.00
System Monitoring Compounds						
2) Dibromofluoromethane(S)	5.66	111	313943	25.471	ppb	0.00
Spiked Amount 25.000			Recovery = 101.884%			
3) 1,2-DCA-D4(S)	6.07	65	334866	25.472	ppb	0.00
Spiked Amount 25.000			Recovery = 101.888%			
5) Toluene-D8(S)	8.37	98	1157485	24.739	ppb	0.00
Spiked Amount 25.000			Recovery = 98.956%			
6) 4-Bromofluorobenzene(S)	11.26	95	409802	23.217	ppb	0.00
Spiked Amount 25.000			Recovery = 92.868%			

Target Compounds Qvalue

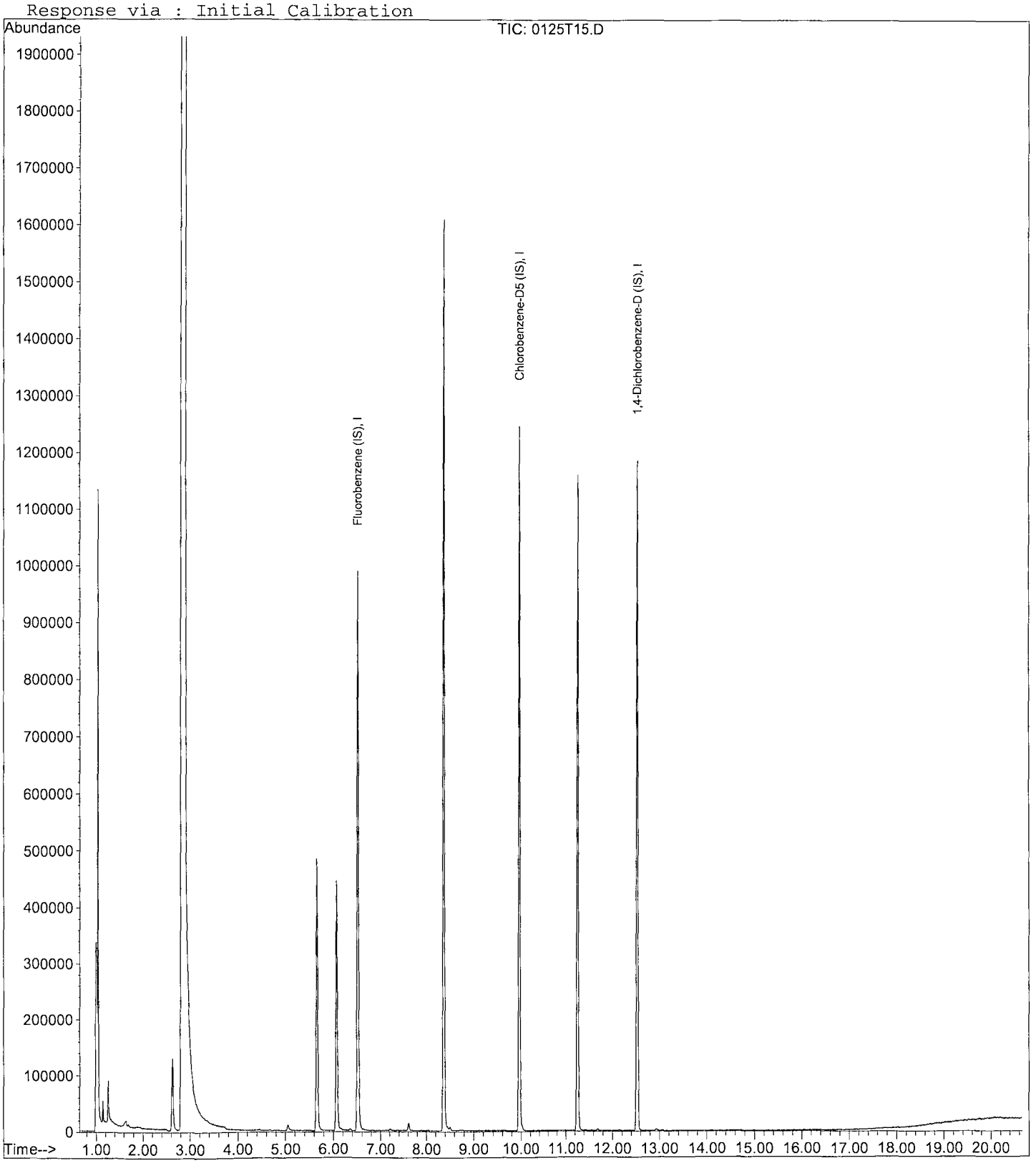
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0125T15.D Vial: 15
Acq On : 25 Jan 20 23:03 Operator:
Sample : BA06362W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Feb 21 7:01 2020 Quant Results File: TGAS0116.RES

Method : M:\THOR\DATA\T200121\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0125T13.D Vial: 13
Acq On : 25 Jan 20 22:07 Operator:
Sample : BA06363W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 14:45 2020 Quant Results File: TSUR121W.RES

Quant Method : M:\THOR\DATA\T200121\TSUR121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	941538	25.00	ppb	0.00
4) Chlorobenzene-D5 (IS)	9.96	117	751959	25.00	ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.52	152	382355	25.00	ppb	0.00
System Monitoring Compounds						
2) Dibromofluoromethane(S)	5.66	111	307342	25.33	ppb	0.00
Spiked Amount 25.000			Recovery = 101.304%			
3) 1,2-DCA-D4(S)	6.07	65	330937	25.61	ppb	0.00
Spiked Amount 25.000			Recovery = 102.456%			
5) Toluene-D8(S)	8.37	98	1132703	25.46	ppb	0.00
Spiked Amount 25.000			Recovery = 101.860%			
6) 4-Bromofluorobenzene(S)	11.26	95	392618	23.28	ppb	0.00
Spiked Amount 25.000			Recovery = 93.108%			

Target Compounds Qvalue

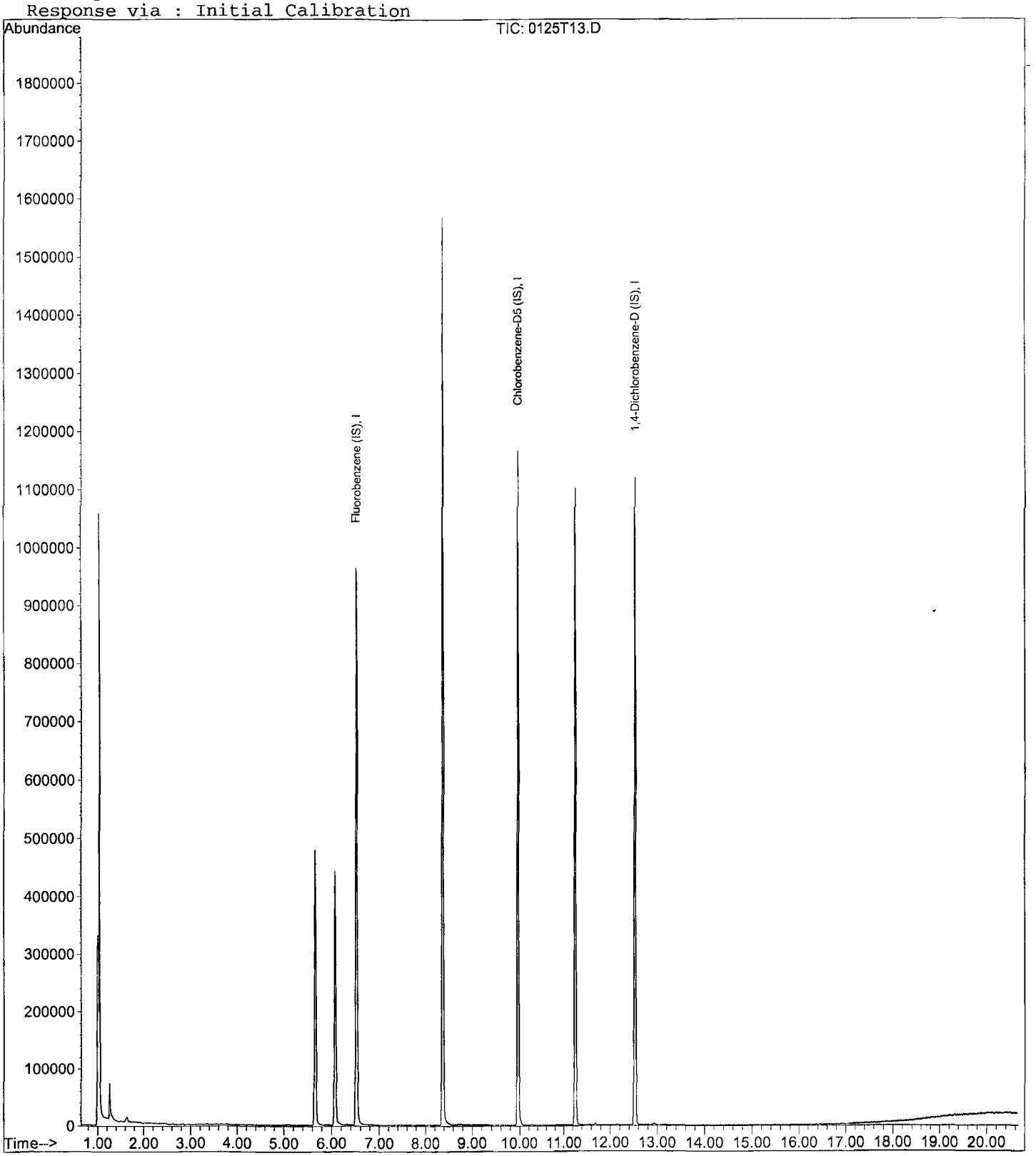
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0125T13.D Vial: 13
Acq On : 25 Jan 20 22:07 Operator:
Sample : BA06363W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 14:31 2020 Quant Results File: TGAS0116.RES

Method : M:\THOR\DATA\T200116\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T200121\0125T16.D Vial: 16
Acq On : 25 Jan 20 23:31 Operator:
Sample : BA06364W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 14:35 2020 Quant Results File: TGAS0116.RES

Quant Method : M:\THOR\DATA\T200121\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	TIC	980470	25.00	ppb	0.00
3) Chlorobenzene-D5 (IS)	9.96	TIC	1200730	25.00	ppb	0.00
4) 1,4-Dichlorobenzene-D (IS)	12.52	TIC	1174177	25.00	ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0125T16.D Vial: 16
Acq On : 25 Jan 20 23:31 Operator:
Sample : BA06364W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 14:45 2020 Quant Results File: TSUR121W.RES

Quant Method : M:\THOR\DATA\T200121\TSUR121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	957942	25.00	ppb	0.00
4) Chlorobenzene-D5 (IS)	9.96	117	773321	25.00	ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.52	152	396741	25.00	ppb	0.00
System Monitoring Compounds						
2) Dibromofluoromethane(S)	5.66	111	316421	25.68	ppb	0.00
Spiked Amount 25.000			Recovery = 102.736%			
3) 1,2-DCA-D4(S)	6.07	65	337854	25.72	ppb	0.00
Spiked Amount 25.000			Recovery = 102.876%			
5) Toluene-D8(S)	8.37	98	1150028	25.07	ppb	0.00
Spiked Amount 25.000			Recovery = 100.268%			
6) 4-Bromofluorobenzene(S)	11.26	95	405191	23.37	ppb	0.00
Spiked Amount 25.000			Recovery = 93.464%			

Target Compounds Qvalue

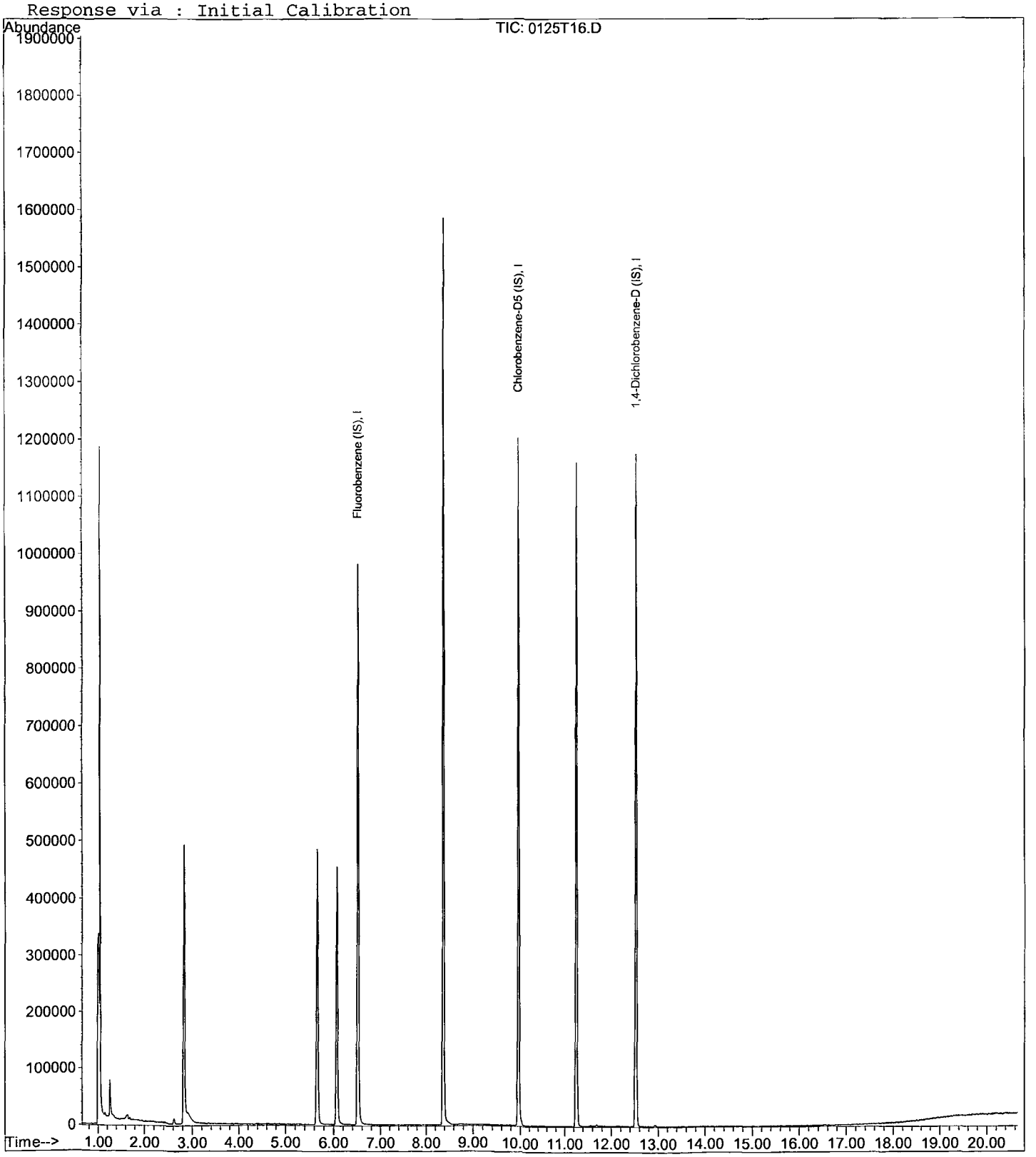
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0125T16.D Vial: 16
Acq On : 25 Jan 20 23:31 Operator:
Sample : BA06364W01 Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 14:35 2020 Quant Results File: TGAS0116.RES

Method : M:\THOR\DATA\T200116\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T200121\0125T11.D Vial: 11
Acq On : 25 Jan 20 21:10 Operator:
Sample : 200125A BLK Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 14:31 2020 Quant Results File: TGAS0116.RES

Quant Method : M:\THOR\DATA\T200121\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	TIC	988420	25.00	ppb	0.00
3) Chlorobenzene-D5 (IS)	9.96	TIC	1201554	25.00	ppb	0.00
4) 1,4-Dichlorobenzene-D (IS)	12.52	TIC	1128843	25.00	ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0125T11.D Vial: 11
Acq On : 25 Jan 20 21:10 Operator:
Sample : 200125A BLK Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 14:45 2020 Quant Results File: TSUR121W.RES

Quant Method : M:\THOR\DATA\T200121\TSUR121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	952647	25.00	ppb	0.00
4) Chlorobenzene-D5 (IS)	9.96	117	763715	25.00	ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.52	152	388019	25.00	ppb	0.00
System Monitoring Compounds						
2) Dibromofluoromethane(S)	5.66	111	310809	25.31	ppb	0.00
Spiked Amount 25.000			Recovery = 101.244%			
3) 1,2-DCA-D4(S)	6.07	65	336443	25.76	ppb	0.00
Spiked Amount 25.000			Recovery = 103.044%			
5) Toluene-D8(S)	8.37	98	1149880	25.45	ppb	0.00
Spiked Amount 25.000			Recovery = 101.800%			
6) 4-Bromofluorobenzene(S)	11.25	95	395577	23.07	ppb	0.00
Spiked Amount 25.000			Recovery = 92.300%			

Target Compounds Qvalue

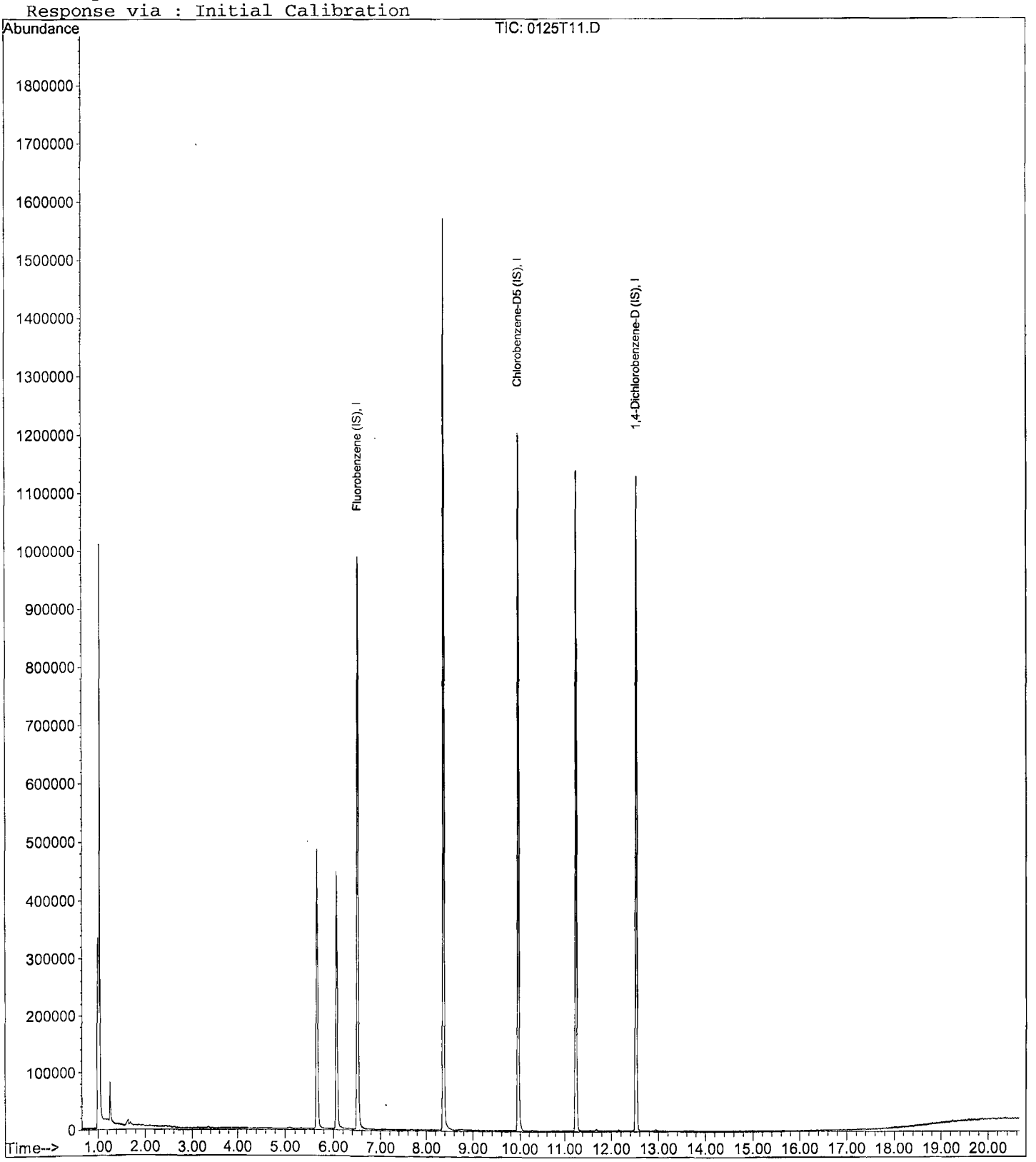
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0125T11.D Vial: 11
Acq On : 25 Jan 20 21:10 Operator:
Sample : 200125A BLK Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 14:31 2020 Quant Results File: TGAS0116.RES

Method : M:\THOR\DATA\T200116\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\LOKI\DATA\200129\0129L35.D Vial: 34
Acq On : 30 Jan 20 4:07 Operator:
Sample : 200129A BLK Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 30 11:52 2020 Quant Results File: LGAS0128.RES

Quant Method : M:\LOKI\DATA\200128\LGAS0128.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Jan 29 08:43:44 2020
Response via : Initial Calibration
DataAcq Meth : L8260

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	4.90	TIC	565243	25.00 ppb	0.00
3) Chlorobenzene-D5 (IS)	8.55	TIC	760933	25.00 ppb	0.00
4) 1,4-Dichlorobenzene-D (IS)	11.09	TIC	692176	25.00 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\200129\0129L35.D Vial: 34
Acq On : 30 Jan 20 4:07 Operator:
Sample : 200129A BLK Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 30 11:52 2020 Quant Results File: L0128SUR.RES

Quant Method : M:\LOKI\DATA\200128\L0128SUR.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Jan 29 06:54:23 2020
Response via : Initial Calibration
DataAcq Meth : L8260

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	4.90	96	264960	25.00	ppb	0.00
4) Chlorobenzene-D5 (IS)	8.55	117	248576	25.00	ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	11.09	152	103384	25.00	ppb	0.00
System Monitoring Compounds						
2) Dibromofluoromethane(S)	3.90	111	153793	25.06	ppb	0.00
Spiked Amount 25.000			Recovery = 100.240%			
3) 1,2-DCA-D4(S)	4.39	65	175354	24.51	ppb	0.00
Spiked Amount 25.000			Recovery = 98.028%			
5) Toluene-D8(S)	6.93	98	507756	24.88	ppb	0.00
Spiked Amount 25.000			Recovery = 99.508%			
6) 4-Bromofluorobenzene(S)	9.86	95	175205	22.86	ppb	0.00
Spiked Amount 25.000			Recovery = 91.436%			

Target Compounds Qvalue

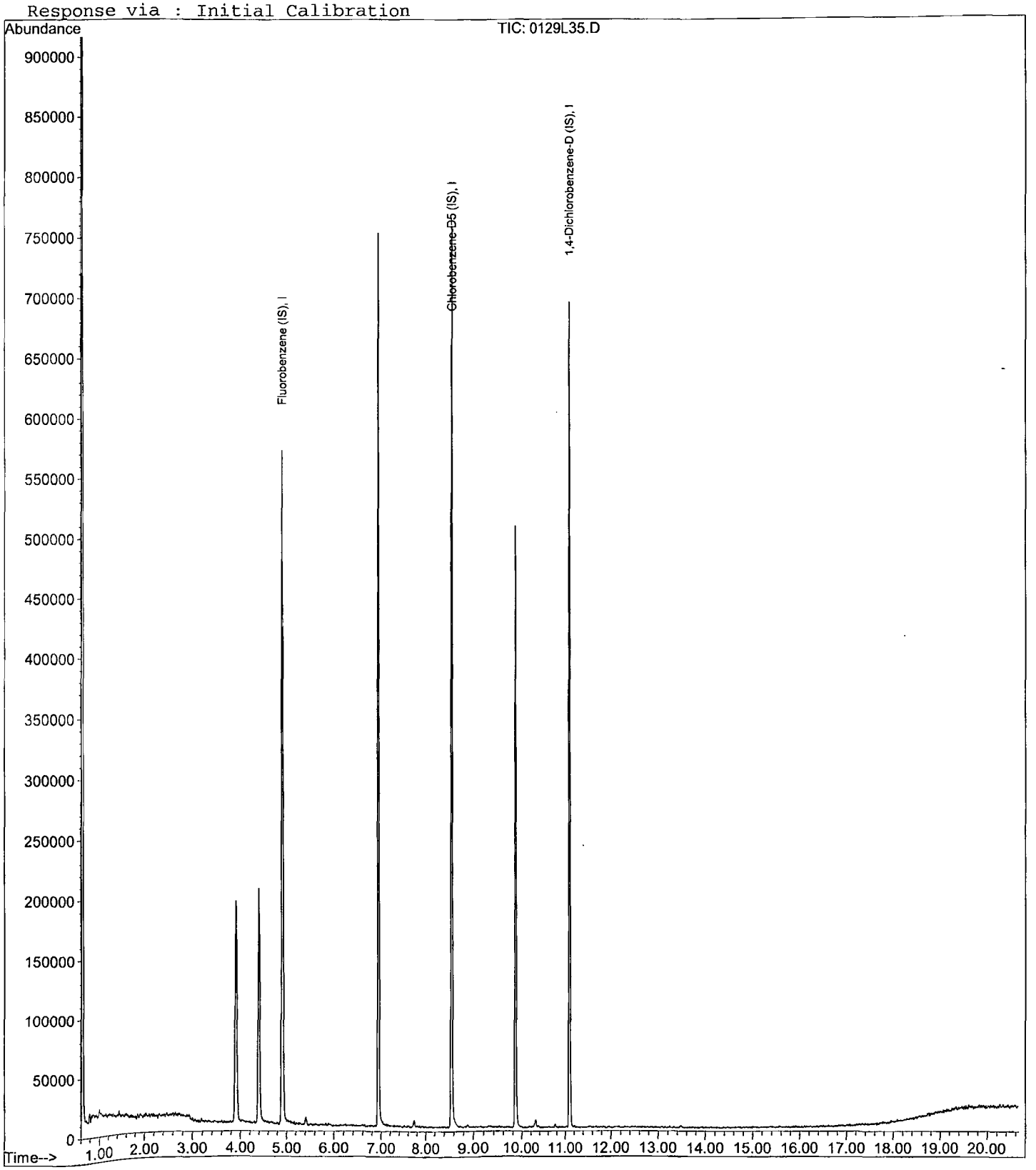
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LOKI\DATA\200129\0129L35.D Vial: 34
Acq On : 30 Jan 20 4:07 Operator:
Sample : 200129A BLK Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 30 11:52 2020 Quant Results File: LGAS0128.RES

Method : M:\LOKI\DATA\200128\LGAS0128.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Jan 29 08:43:44 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T200121\0125T07.D Vial: 7
Acq On : 25 Jan 20 19:17 Operator:
Sample : 200125A LCS 300ug/L Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 14:29 2020 Quant Results File: TGAS0116.RES

Quant Method : M:\THOR\DATA\T200121\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	TIC	984872	25.00	ppb	0.00
3) Chlorobenzene-D5 (IS)	9.96	TIC	1200472	25.00	ppb	0.00
4) 1,4-Dichlorobenzene-D (IS)	12.52	TIC	1180092	25.00	ppb	0.00
System Monitoring Compounds						
Target Compounds						Qvalue
2) Gasoline C6-C10	8.37	TIC	15159892m	279.59	ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0125T07.D Vial: 7
Acq On : 25 Jan 20 19:17 Operator:
Sample : 200125A LCS 300ug/L Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 14:45 2020 Quant Results File: TSUR121W.RES

Quant Method : M:\THOR\DATA\T200121\TSUR121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	965962	25.00	ppb	0.00
4) Chlorobenzene-D5 (IS)	9.96	117	772588	25.00	ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.52	152	402610	25.00	ppb	0.00
System Monitoring Compounds						
2) Dibromofluoromethane(S)	5.66	111	303546	24.21	ppb	0.00
Spiked Amount 25.000			Recovery =	96.824%		
3) 1,2-DCA-D4(S)	6.07	65	327057	24.48	ppb	0.00
Spiked Amount 25.000			Recovery =	97.936%		
5) Toluene-D8(S)	8.37	98	1126951	24.48	ppb	0.00
Spiked Amount 25.000			Recovery =	97.908%		
6) 4-Bromofluorobenzene(S)	11.26	95	399756	23.05	ppb	0.00
Spiked Amount 25.000			Recovery =	92.192%		

Target Compounds Qvalue

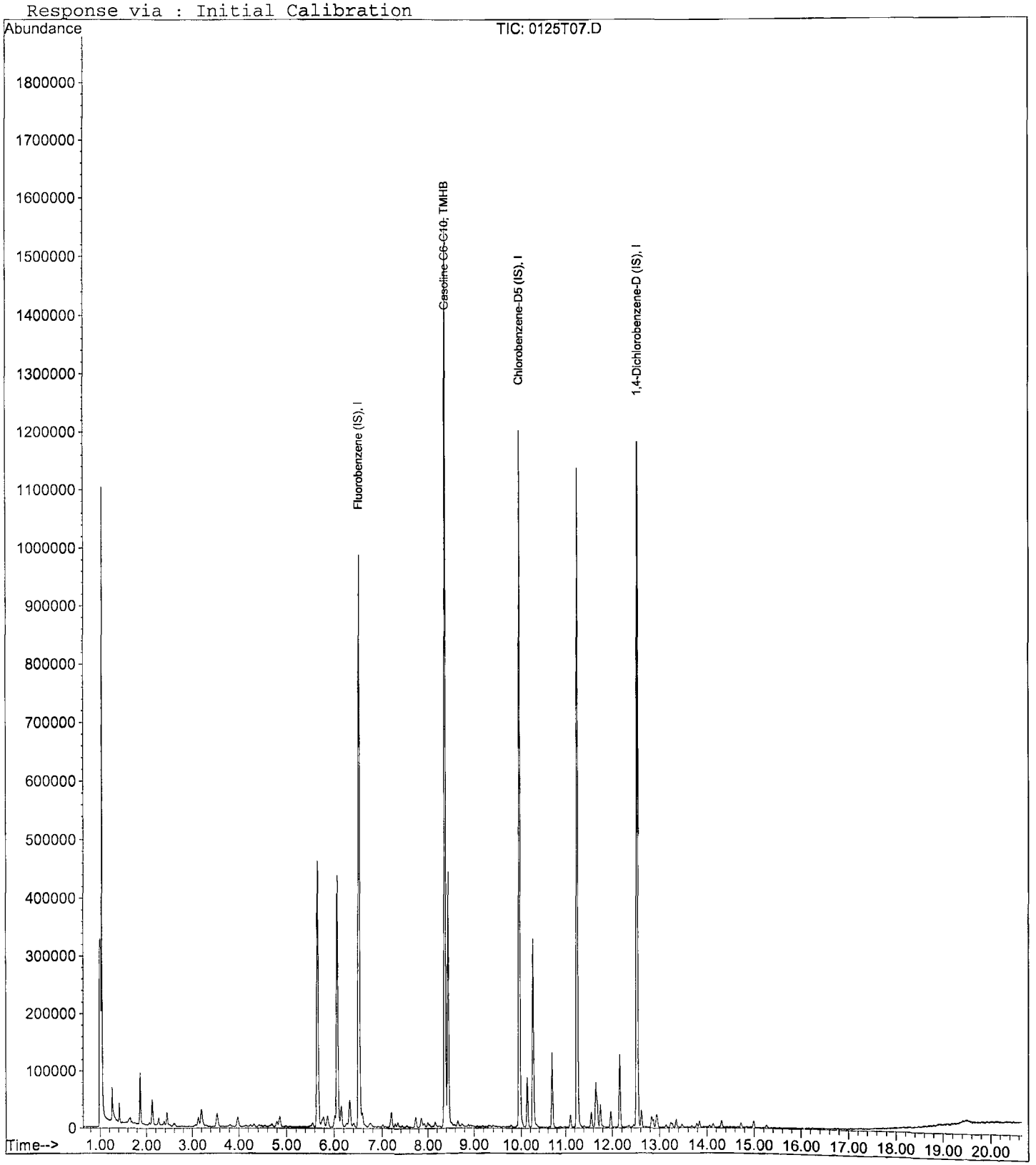
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0125T07.D Vial: 7
Acq On : 25 Jan 20 19:17 Operator:
Sample : 200125A LCS 300ug/L Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 14:29 2020 Quant Results File: TGAS0116.RES

Method : M:\THOR\DATA\T200116\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T200121\0125T08.D Vial: 8
Acq On : 25 Jan 20 19:45 Operator:
Sample : 200125A LCSD 300ug/L Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 14:30 2020 Quant Results File: TGAS0116.RES

Quant Method : M:\THOR\DATA\T200121\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	TIC	994033	25.00	ppb	0.00
3) Chlorobenzene-D5 (IS)	9.96	TIC	1196061	25.00	ppb	0.00
4) 1,4-Dichlorobenzene-D (IS)	12.52	TIC	1177518	25.00	ppb	0.00
System Monitoring Compounds						
Target Compounds						Qvalue
2) Gasoline C6-C10	8.37	TIC	15498826m	293.91	ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T200121\0125T08.D Vial: 8
Acq On : 25 Jan 20 19:45 Operator:
Sample : 200125A LCSD 300ug/L Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 14:45 2020 Quant Results File: TSUR121W.RES

Quant Method : M:\THOR\DATA\T200121\TSUR121W.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Jan 21 15:36:55 2020
Response via : Initial Calibration
DataAcq Meth : T8260LS

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	6.51	96	969809	25.00	ppb	0.00
4) Chlorobenzene-D5 (IS)	9.96	117	773767	25.00	ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.52	152	401600	25.00	ppb	0.00
System Monitoring Compounds						
2) Dibromofluoromethane(S)	5.66	111	312857	24.97	ppb	0.00
Spiked Amount 25.000			Recovery =	99.896%		
3) 1,2-DCA-D4(S)	6.07	65	338267	25.38	ppb	0.00
Spiked Amount 25.000			Recovery =	101.516%		
5) Toluene-D8(S)	8.37	98	1164311	25.43	ppb	0.00
Spiked Amount 25.000			Recovery =	101.728%		
6) 4-Bromofluorobenzene(S)	11.26	95	411413	23.74	ppb	0.00
Spiked Amount 25.000			Recovery =	94.964%		

Target Compounds Qvalue

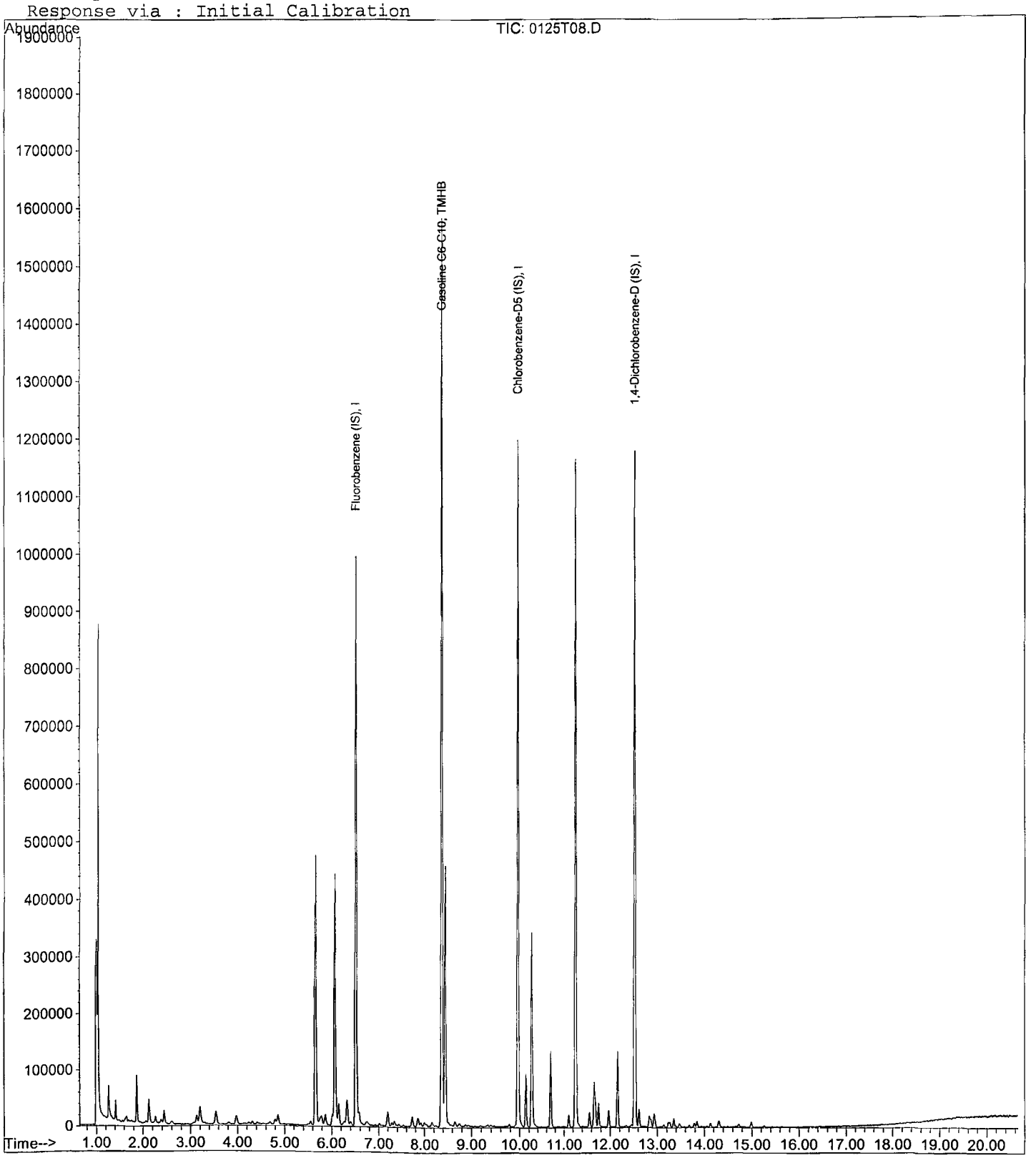
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T200121\0125T08.D Vial: 8
Acq On : 25 Jan 20 19:45 Operator:
Sample : 200125A LCSD 300ug/L Inst : Thor
Misc : IS&S 12/26/19,12/26/19 Multiplr: 1.00

Quant Time: Jan 27 14:30 2020 Quant Results File: TGAS0116.RES

Method : M:\THOR\DATA\T200116\TGAS0116.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 17 10:06:37 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\LOKI\DATA\200129\0129L33.D Vial: 32
Acq On : 30 Jan 20 3:10 Operator:
Sample : 200129A LCS 300ug/L Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 30 6:42 2020 Quant Results File: LGAS0128.RES

Quant Method : M:\LOKI\DATA\200128\LGAS0128.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Jan 29 08:43:44 2020
Response via : Initial Calibration
DataAcq Meth : L8260

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	4.90	TIC	554612	25.00	ppb	0.00
3) Chlorobenzene-D5 (IS)	8.55	TIC	746619	25.00	ppb	0.00
4) 1,4-Dichlorobenzene-D (IS)	11.09	TIC	739414	25.00	ppb	0.00

System Monitoring Compounds

Target Compounds						Qvalue
2) Gasoline C6-C10	6.93	TIC	10855008m	302.87	ppb	100

(#) = qualifier out of range (m) = manual integration
0129L33.D LGAS0128.M Thu Jan 30 14:55:59 2020 Page 1

Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\200129\0129L33.D Vial: 32
Acq On : 30 Jan 20 3:10 Operator:
Sample : 200129A LCS 300ug/L Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 30 11:52 2020 Quant Results File: L0128SUR.RES

Quant Method : M:\LOKI\DATA\200128\L0128SUR.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Jan 29 06:54:23 2020
Response via : Initial Calibration
DataAcq Meth : L8260

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	4.90	96	256512	25.00	ppb	0.00
4) Chlorobenzene-D5 (IS)	8.55	117	239488	25.00	ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	11.09	152	113280	25.00	ppb	0.00
System Monitoring Compounds						
2) Dibromofluoromethane(S)	3.90	111	152998	25.75	ppb	0.00
Spiked Amount 25.000			Recovery = 103.004%			
3) 1,2-DCA-D4(S)	4.39	65	179971	25.98	ppb	0.00
Spiked Amount 25.000			Recovery = 103.920%			
5) Toluene-D8(S)	6.93	98	508448	25.86	ppb	0.00
Spiked Amount 25.000			Recovery = 103.424%			
6) 4-Bromofluorobenzene(S)	9.86	95	175988	23.83	ppb	0.00
Spiked Amount 25.000			Recovery = 95.332%			

Target Compounds Qvalue

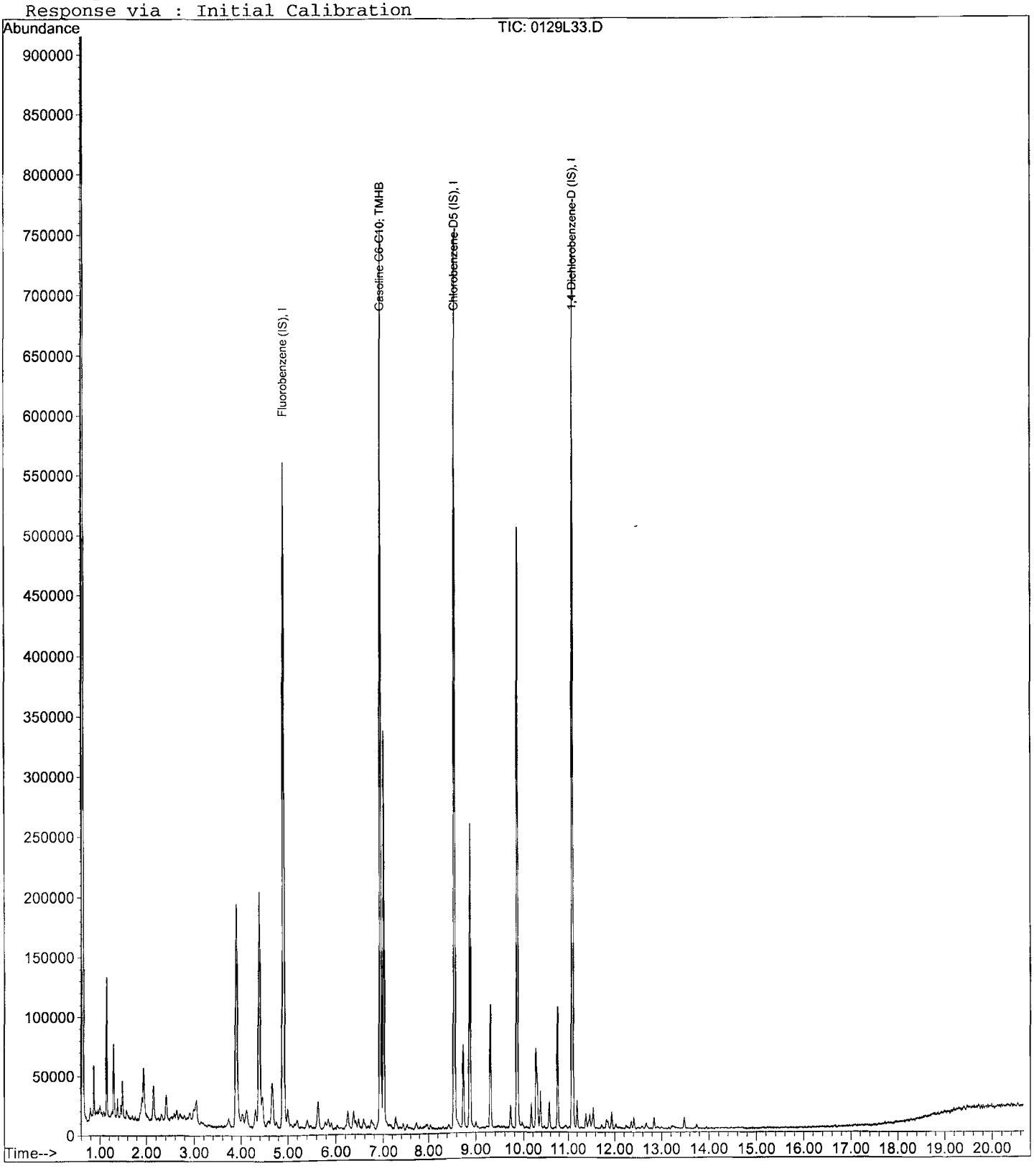
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LOKI\DATA\200129\0129L33.D Vial: 32
Acq On : 30 Jan 20 3:10 Operator:
Sample : 200129A LCS 300ug/L Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 30 6:42 2020 Quant Results File: LGAS0128.RES

Method : M:\LOKI\DATA\200128\LGAS0128.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Jan 29 08:43:44 2020
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\LOKI\DATA\200129\0129L34.D Vial: 33
Acq On : 30 Jan 20 3:39 Operator:
Sample : 200129A LCSD 300ug/L Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 30 6:43 2020 Quant Results File: LGAS0128.RES

Quant Method : M:\LOKI\DATA\200128\LGAS0128.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Jan 29 08:43:44 2020
Response via : Initial Calibration
DataAcq Meth : L8260

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	4.90	TIC	547169	25.00	ppb	0.00
3) Chlorobenzene-D5 (IS)	8.55	TIC	726596	25.00	ppb	0.00
4) 1,4-Dichlorobenzene-D (IS)	11.09	TIC	709343	25.00	ppb	0.00
System Monitoring Compounds						
Target Compounds						Qvalue
2) Gasoline C6-C10	6.93	TIC	10592254m	292.13	ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\200129\0129L34.D Vial: 33
Acq On : 30 Jan 20 3:39 Operator:
Sample : 200129A LCSD 300ug/L Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 30 11:52 2020 Quant Results File: L0128SUR.RES

Quant Method : M:\LOKI\DATA\200128\L0128SUR.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Jan 29 06:54:23 2020
Response via : Initial Calibration
DataAcq Meth : L8260

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	4.90	96	257792	25.00	ppb	0.00
4) Chlorobenzene-D5 (IS)	8.55	117	235328	25.00	ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	11.10	152	109520	25.00	ppb	0.00
System Monitoring Compounds						
2) Dibromofluoromethane(S)	3.90	111	148779	24.92	ppb	0.00
Spiked Amount 25.000			Recovery = 99.668%			
3) 1,2-DCA-D4(S)	4.39	65	173065	24.86	ppb	0.00
Spiked Amount 25.000			Recovery = 99.436%			
5) Toluene-D8(S)	6.93	98	497283	25.74	ppb	0.00
Spiked Amount 25.000			Recovery = 102.940%			
6) 4-Bromofluorobenzene(S)	9.86	95	173586	23.92	ppb	0.00
Spiked Amount 25.000			Recovery = 95.692%			

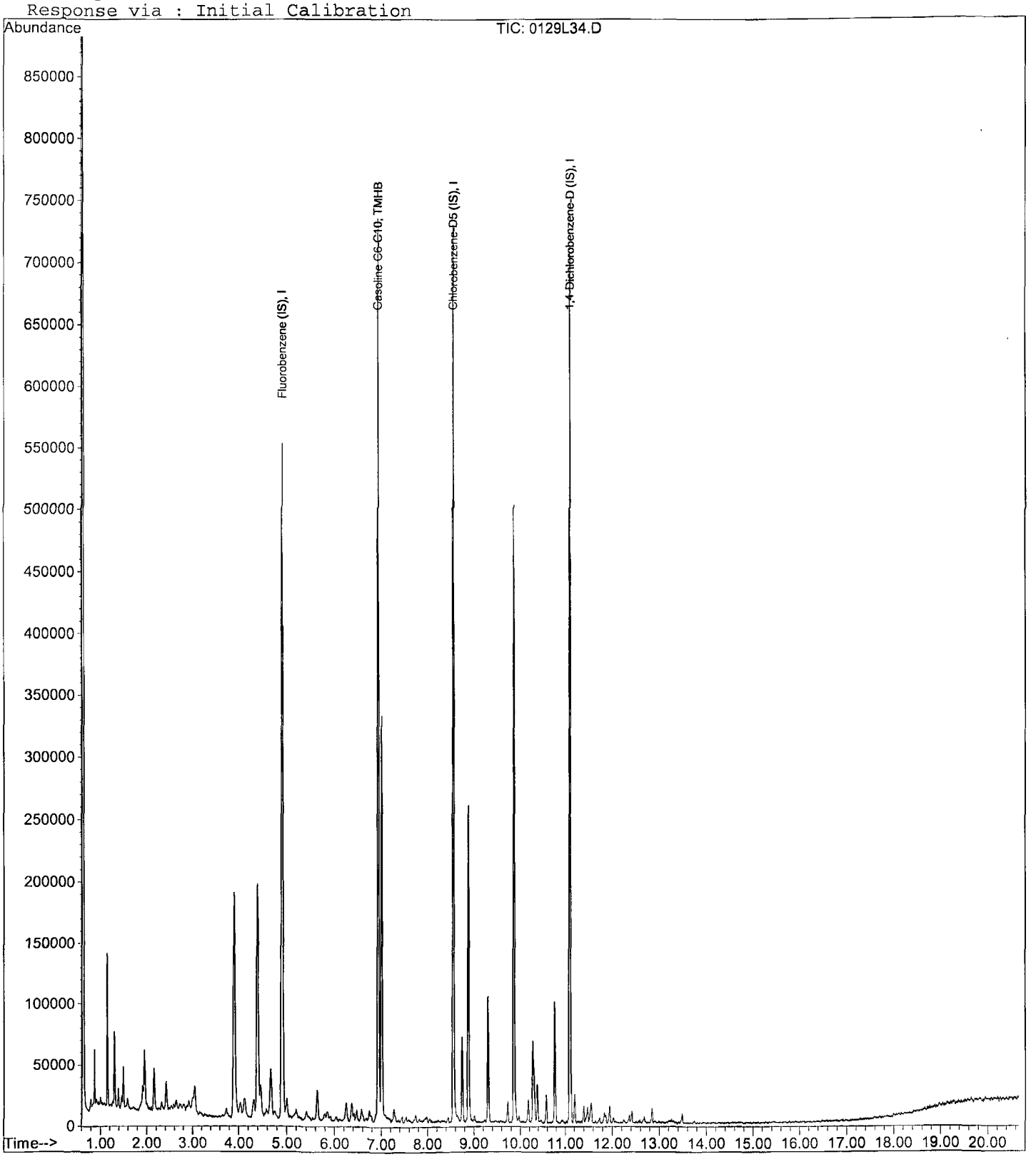
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Data File : M:\LOKI\DATA\200129\0129L34.D Vial: 33
Acq On : 30 Jan 20 3:39 Operator:
Sample : 200129A LCSD 300ug/L Inst : Loki
Misc : IS&S:12/19/19 Multiplr: 1.00

Quant Time: Jan 30 6:43 2020 Quant Results File: LGAS0128.RES

Method : M:\LOKI\DATA\200128\LGAS0128.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Jan 29 08:43:44 2020
Response via : Initial Calibration



Injection Log

Directory: M:\THOR\DATA\T200116\

Vial	FileName	Multiplier	SampleName	Misc Info	Injected
14	0116T20.D	1	20ug/L GAS STD 1/16/20	IS&S 12/26/19,12/26/19	16 Jan 20 22:12
15	0116T21.D	1	50ug/L GAS STD 1/16/20	IS&S 12/26/19,12/26/19	16 Jan 20 22:40
16	0116T22.D	1	100ug/L GAS STD 1/16/20	IS&S 12/26/19,12/26/19	16 Jan 20 23:08
17	0116T23.D	1	300ug/L GAS STD 1/16/20	IS&S 12/26/19,12/26/19	16 Jan 20 23:37
18	0116T24.D	1	600ug/L GAS STD 1/16/20	IS&S 12/26/19,12/26/19	17 Jan 20 00:05
19	0116T25.D	1	800ug/L GAS STD 1/16/20	IS&S 12/26/19,12/26/19	17 Jan 20 00:33
20	0116T26.D	1	1000ug/L GAS STD 1/16/20	IS&S 12/26/19,12/26/19	17 Jan 20 1:02
22	0116T28.D	1	(SS) 300ug/L GAS STD 1/16/20	IS&S 12/26/19,12/26/19	17 Jan 20 1:58
2	0121T02.D	1	0.3ug/L VOC STD 1/21/20	IS&S 12/26/19,12/26/19	21 Jan 20 7:41
3	0121T03.D	1	0.5ug/L VOC STD 1/21/20	IS&S 12/26/19,12/26/19	21 Jan 20 8:09
4	0121T04.D	1	1ug/L VOC STD 1/21/20	IS&S 12/26/19,12/26/19	21 Jan 20 8:37
5	0121T05.D	1	2ug/L VOC STD 1/21/20	IS&S 12/26/19,12/26/19	21 Jan 20 9:05
6	0121T06.D	1	5ug/L VOC STD 1/21/20	IS&S 12/26/19,12/26/19	21 Jan 20 9:34
7	0121T07.D	1	10ug/L VOC STD 1/21/20	IS&S 12/26/19,12/26/19	21 Jan 20 10:02
8	0121T08.D	1	20ug/L VOC STD 1/21/20	IS&S 12/26/19,12/26/19	21 Jan 20 10:30
9	0121T09.D	1	40ug/L VOC STD 1/21/20	IS&S 12/26/19,12/26/19	21 Jan 20 10:59
10	0121T10.D	1	100ug/L VOC STD 1/21/20	IS&S 12/26/19,12/26/19	21 Jan 20 11:27
6	0125T06.D	1	200125A CCV 300ug/L	IS&S 12/26/19,12/26/19	25 Jan 20 18:49
7	0125T07.D	1	200125A LCS 300ug/L	IS&S 12/26/19,12/26/19	25 Jan 20 19:17
8	0125T08.D	1	200125A LCSD 300ug/L	IS&S 12/26/19,12/26/19	25 Jan 20 19:45
11	0125T11.D	1	200125A BLK	IS&S 12/26/19,12/26/19	25 Jan 20 21:10
12	0125T12.D	1	BA06360W04	IS&S 12/26/19,12/26/19	25 Jan 20 21:38
13	0125T13.D	1	BA06363W01	IS&S 12/26/19,12/26/19	25 Jan 20 22:07
14	0125T14.D	1	BA06361W01	IS&S 12/26/19,12/26/19	25 Jan 20 22:35
15	0125T15.D	1	BA06362W01	IS&S 12/26/19,12/26/19	25 Jan 20 23:03
16	0125T16.D	1	BA06364W01	IS&S 12/26/19,12/26/19	25 Jan 20 23:31
28	0125T28.D	1	Ending CCV 300ug/L 1/25/20	IS&S 12/26/19,12/26/19	27 Jan 20 5:23

ORGANICS
Calibration Data

RSK 175

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No:

Case No: Initial Cal. Date: 10/02/19

Matrix: Instrument: 7890

Initials:

			1002R02.D	1002R03.D	1002R04.D	1002R05.D	1002R06.D	1002R07.D	1002R08.D								
		Compound	1	2	3	4	5	6	7				Avg	%RSD	Type	r^2	Q
1	ATM	Methane	63820	40452	36215	46202	48427	44031	45774				46274	19	ATM		
2	ATM	Ethane	42546	31037	26553	34655	37738	32771	32974				34039	15	ATM		
3	ATM	Ethene	32900	24299	20841	27689	29847	25551	26297				26775	15	ATM		
4																	
5																	
6																	
7																	
8																	
9																	
10																	
11																	
12																	
13																	
14																	
15																	
16																	
17																	
18																	
19																	
20																	
21																	
22																	
23																	
24																	
25																	
26																	
27																	
28																	
29																	
30																	
31																	
32																	
33																	
34																	
35																	

1.377886

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\191002RS\1002R02.D Vial: 2
Acq On : 2 Oct 19 17:45 Operator: GA
Sample : RSK STD 1 10/2/19 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Oct 2 18:11 2019 Quant Results File: RSK1002.RES

Method : G:\ROCKY\DATA\190929RS\RSK1002.M (Chemstation Integrator)
Title : RSK 175
Last Update : Wed Oct 02 18:14:49 2019
Response via : Multiple Level Calibration

Volume Inj. : 0.500 mL
Signal Phase : CARBOPACK
Signal Info :

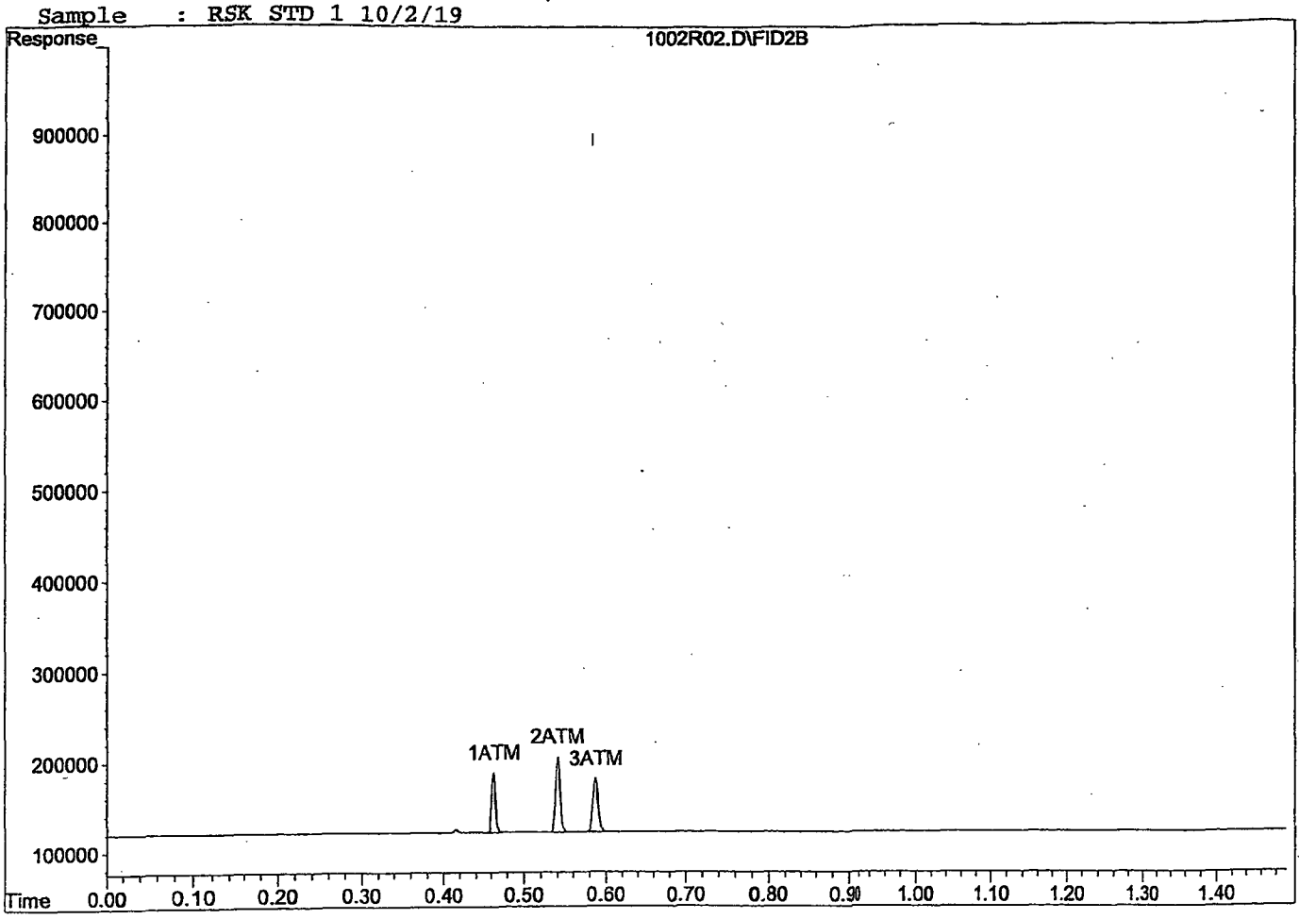
Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.46	66373	8.306 ppb
2) ATM Ethane	0.54	83177	6.216 ppb
3) ATM Ethene	0.59	60042	5.640 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\191002RS\1002R02.D
Sample : RSK STD 1 10/2/19



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\191002RS\1002R03.D Vial: 3
Acq On : 2 Oct 19 17:50 Operator: GA
Sample : RSK STD 2 10/2/19 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Oct 2 18:11 2019 Quant Results File: RSK1002.RES

Method : G:\ROCKY\DATA\190929RS\RSK1002.M (Chemstation Integrator)
Title : RSK 175
Last Update : Wed Oct 02 18:14:49 2019
Response via : Multiple Level Calibration

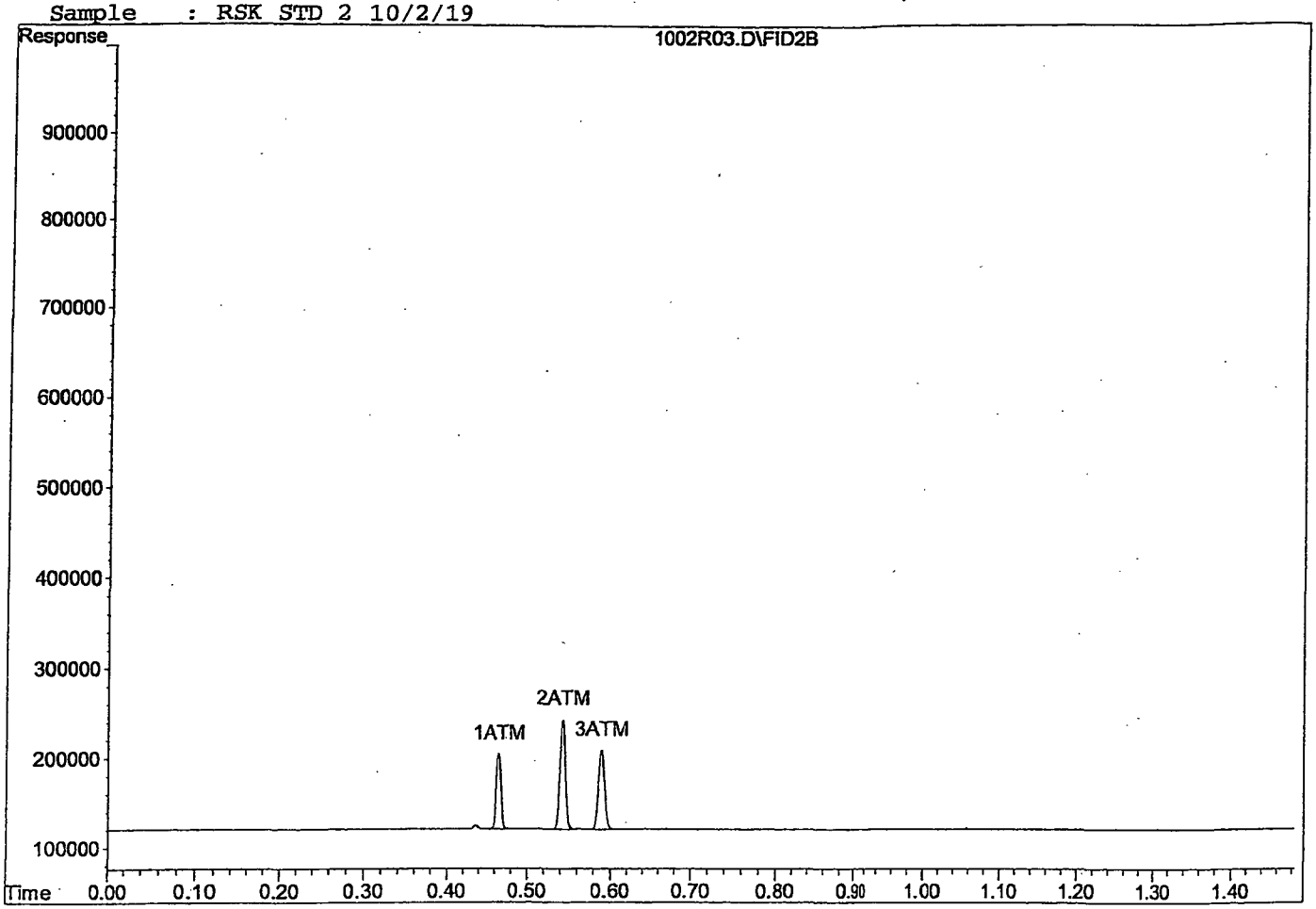
Volume Inj. : 0.500 mL
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.46	84140	9.332 ppb
2) ATM Ethane	0.54	121200	9.058 ppb
3) ATM Ethene	0.59	88693	8.332 ppb

Target Compounds

Quantitation Report

Data File: G:\ROCKY\DATA\191002RS\1002R03.D
Sample : RSK STD 2 10/2/19



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\191002RS\1002R04.D Vial: 4
Acq On : 2 Oct 19 17:52 Operator: GA
Sample : RSK STD 3 10/2/19 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Oct 2 18:11 2019 Quant Results File: RSK1002.RES

Method : G:\ROCKY\DATA\190929RS\RSK1002.M (Chemstation Integrator)
Title : RSK 175
Last Update : Wed Oct 02 18:14:49 2019
Response via : Multiple Level Calibration

Volume Inj. : 0.500 mL
Signal Phase : CARBOPACK
Signal Info :

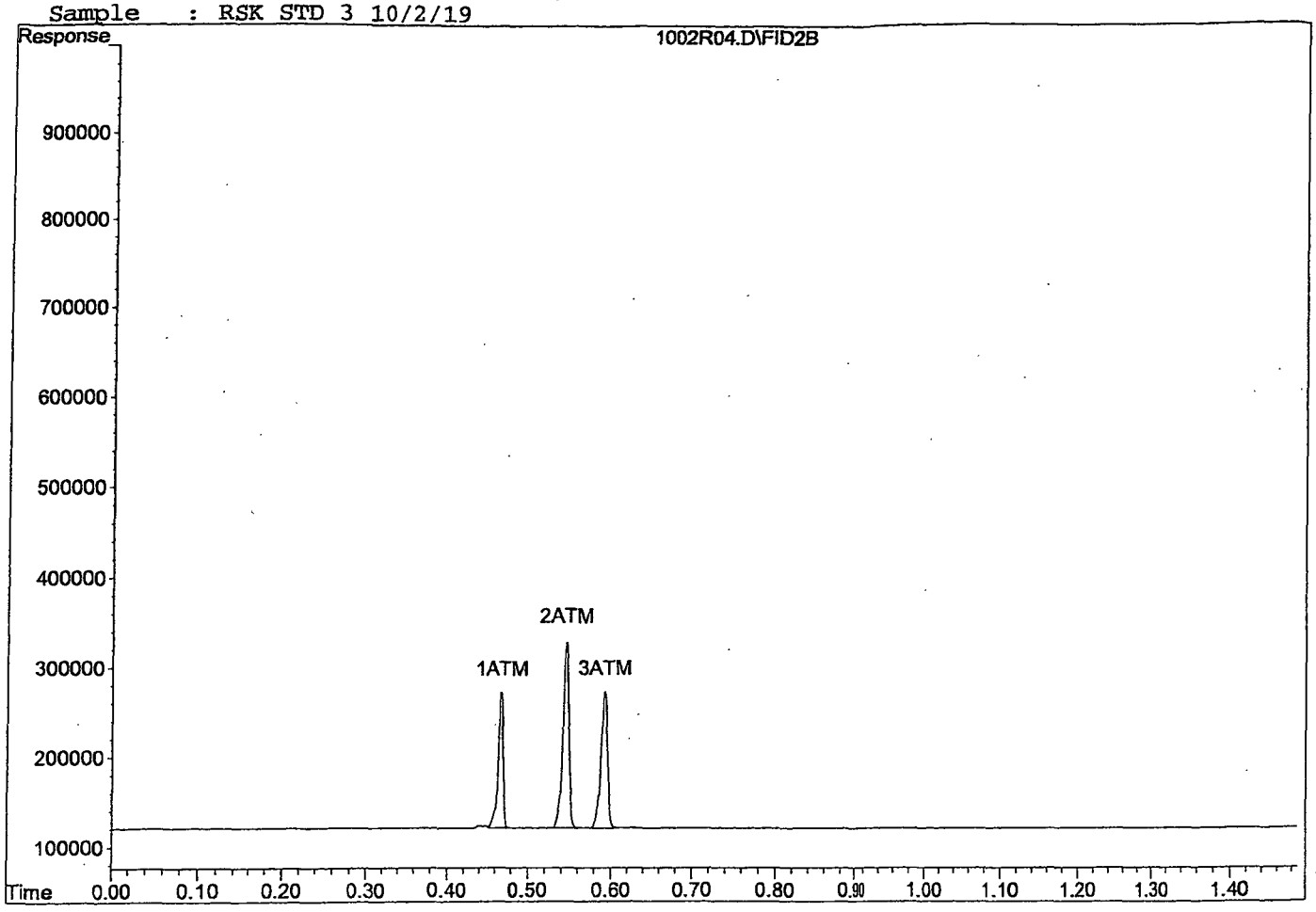
Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.47	151018	13.195 ppb
2) ATM Ethane	0.55	207113	15.479 ppb
3) ATM Ethene	0.59	152138	14.292 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.
1002R04.D RSK1002.M Wed Oct 02 18:16:58 2019 Page 1

Quantitation Report

Data File: G:\ROCKY\DATA\191002RS\1002R04.D
Sample : RSK STD 3 10/2/19



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\191002RS\1002R05.D Vial: 5
Acq On : 2 Oct 19 17:57 Operator: GA
Sample : RSK STD 4 10/2/19 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Oct 2 18:11 2019 Quant Results File: RSK1002.RES

Method : G:\ROCKY\DATA\190929RS\RSK1002.M (Chemstation Integrator)
Title : RSK 175
Last Update : Wed Oct 02 18:14:49 2019
Response via : Multiple Level Calibration

Volume Inj. : 0.500 mL
Signal Phase : CARBOPACK
Signal Info :

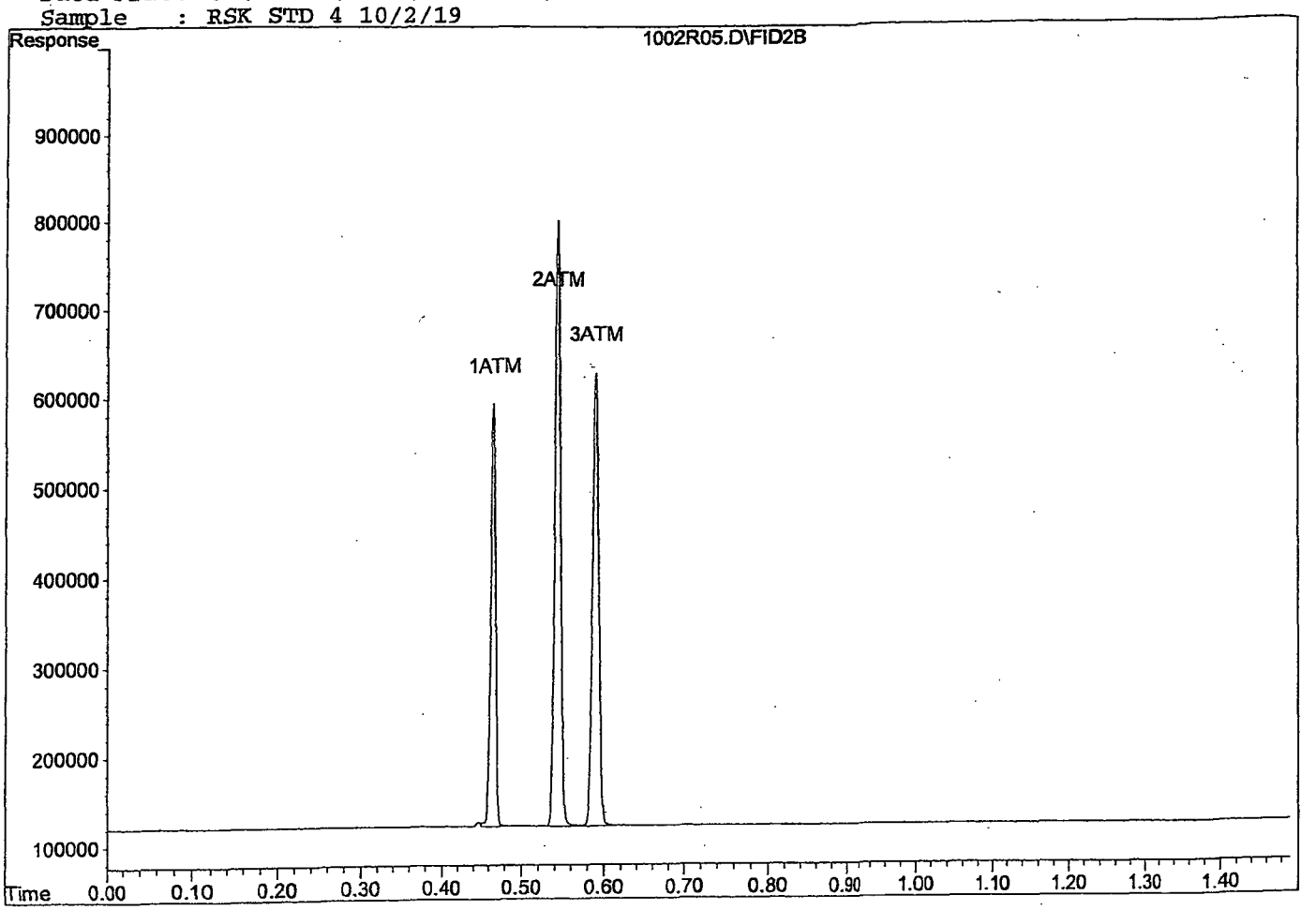
Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.47	471234	31.689 ppb
2) ATM Ethane	0.54	677330	50.623 ppb
3) ATM Ethene	0.59	504779	47.419 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\191002RS\1002R05.D
Sample : RSK STD 4 10/2/19



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\191002RS\1002R06.D Vial: 6
Acq On : 2 Oct 19 17:59 Operator: GA
Sample : RSK STD 5 10/2/19 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Oct 2 18:11 2019 Quant Results File: RSK1002.RES

Method : G:\ROCKY\DATA\190929RS\RSK1002.M (Chemstation Integrator)
Title : RSK 175
Last Update : Wed Oct 02 18:14:49 2019
Response via : Multiple Level Calibration

Volume Inj. : 0.500 mL
Signal Phase : CARBOPACK
Signal Info :

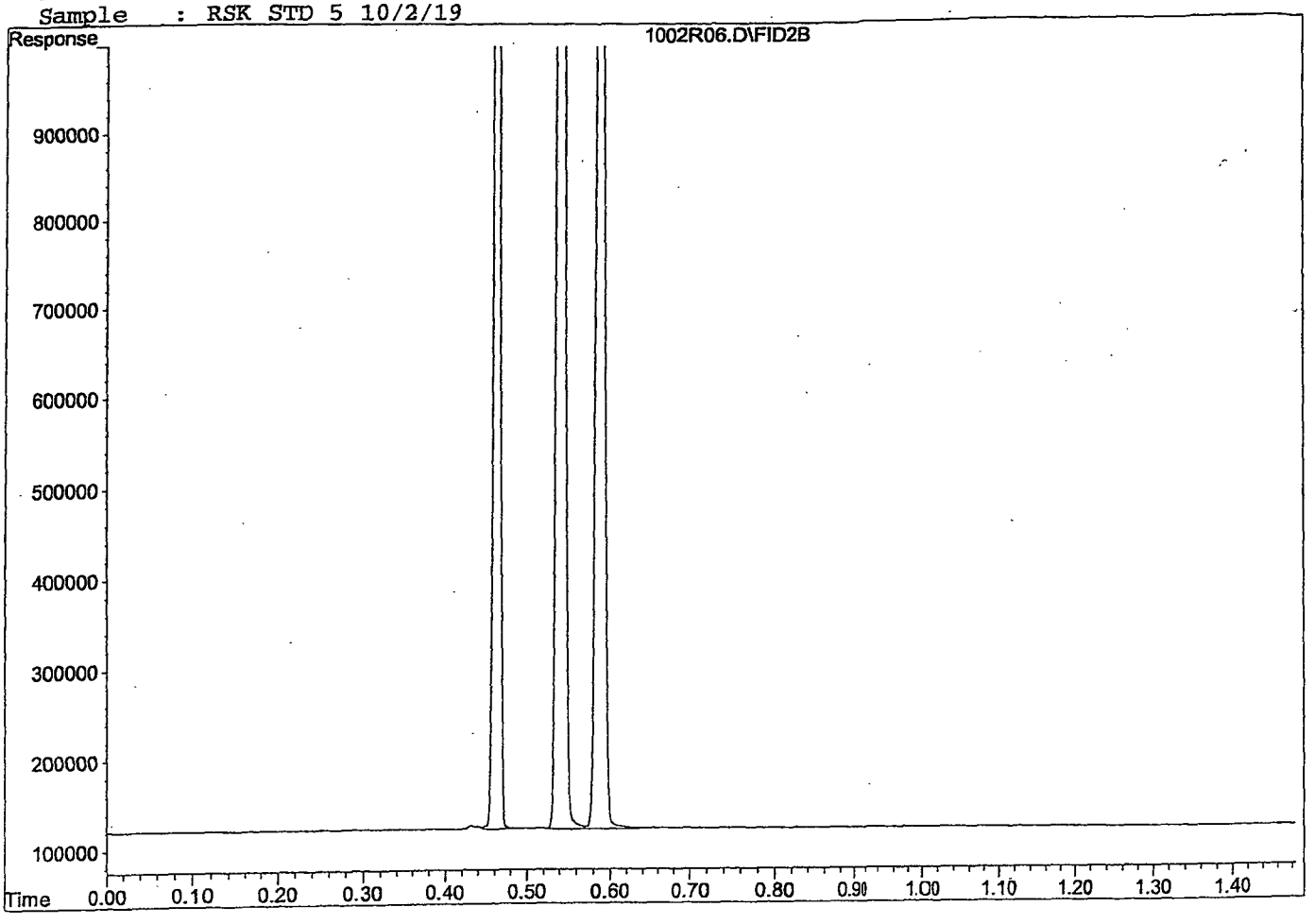
Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.46	2019402	121.105 ppb
2) ATM Ethane	0.54	2950189	220.492 ppb
3) ATM Ethene	0.59	2176445	204.454 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\191002RS\1002R06.D
Sample : RSK STD 5 10/2/19



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\191002RS\1002R07.D Vial: 7
Acq On : 2 Oct 19 18:05 Operator: GA
Sample : RSK STD 6 10/2/19 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Oct 2 18:11 2019 Quant Results File: RSK1002.RES

Method : G:\ROCKY\DATA\190929RS\RSK1002.M (Chemstation Integrator)
Title : RSK 175
Last Update : Wed Oct 02 18:14:49 2019
Response via : Multiple Level Calibration

Volume Inj. : 0.500 mL
Signal Phase : CARBOPACK
Signal Info :

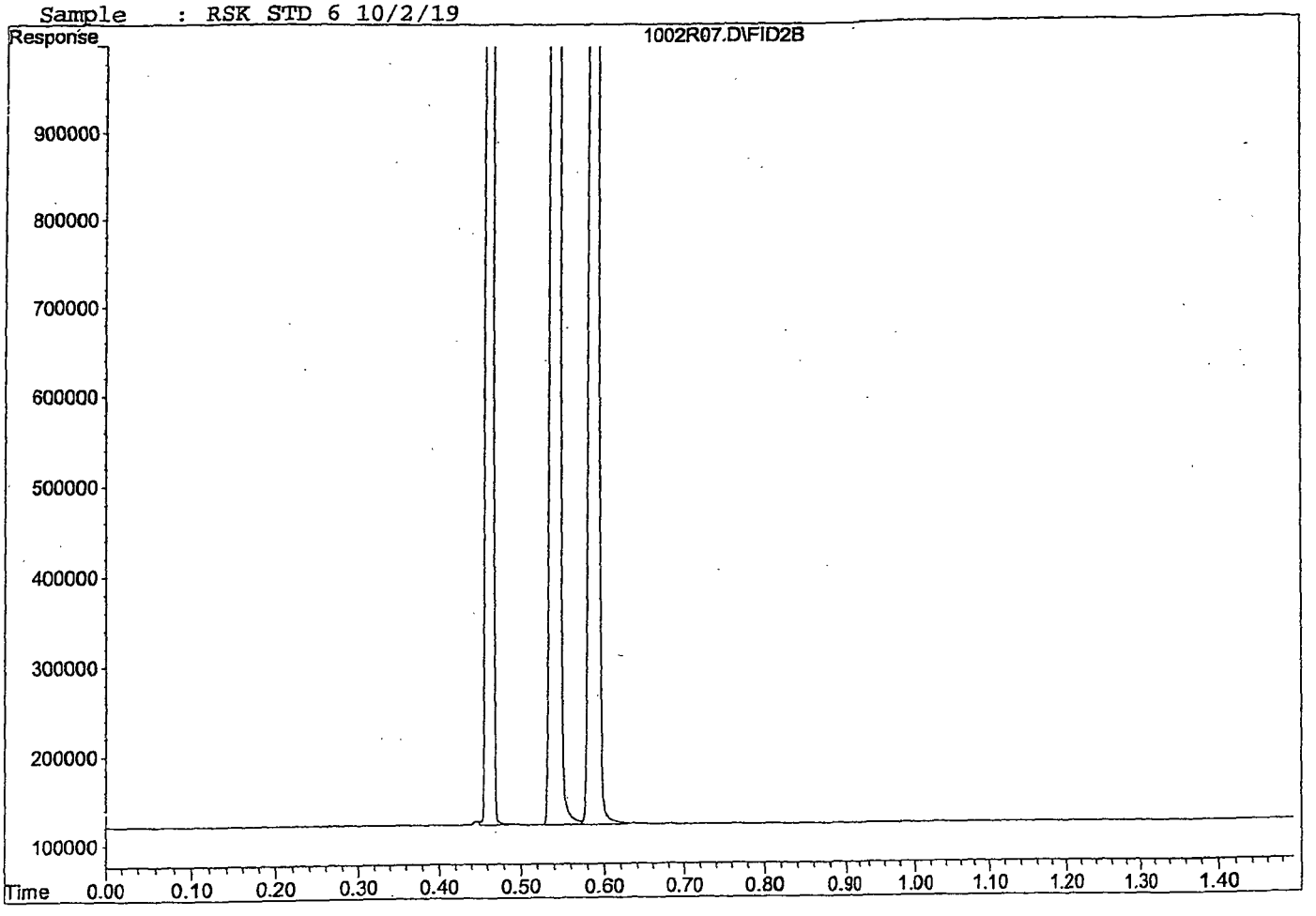
Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.46	4590194	269.583 ppb
2) ATM Ethane	0.54	6405030	478.702 ppb
3) ATM Ethene	0.59	4657966	437.567 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.
1002R07.D RSK1002.M Wed Oct 02 18:17:05 2019 Page 1

Quantitation Report

Data File: G:\ROCKY\DATA\191002RS\1002R07.D
Sample : RSK STD 6 10/2/19



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\191002RS\1002R08.D Vial: 8
Acq On : 2 Oct 19 18:07 Operator: GA
Sample : RSK STD 7 10/2/19 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Oct 2 18:11 2019 Quant Results File: RSK1002.RES

Method : G:\ROCKY\DATA\190929RS\RSK1002.M (Chemstation Integrator)
Title : RSK 175
Last Update : Wed Oct 02 18:14:49 2019
Response via : Multiple Level Calibration

Volume Inj. : 0.500 mL
Signal Phase : CARBOPACK
Signal Info :

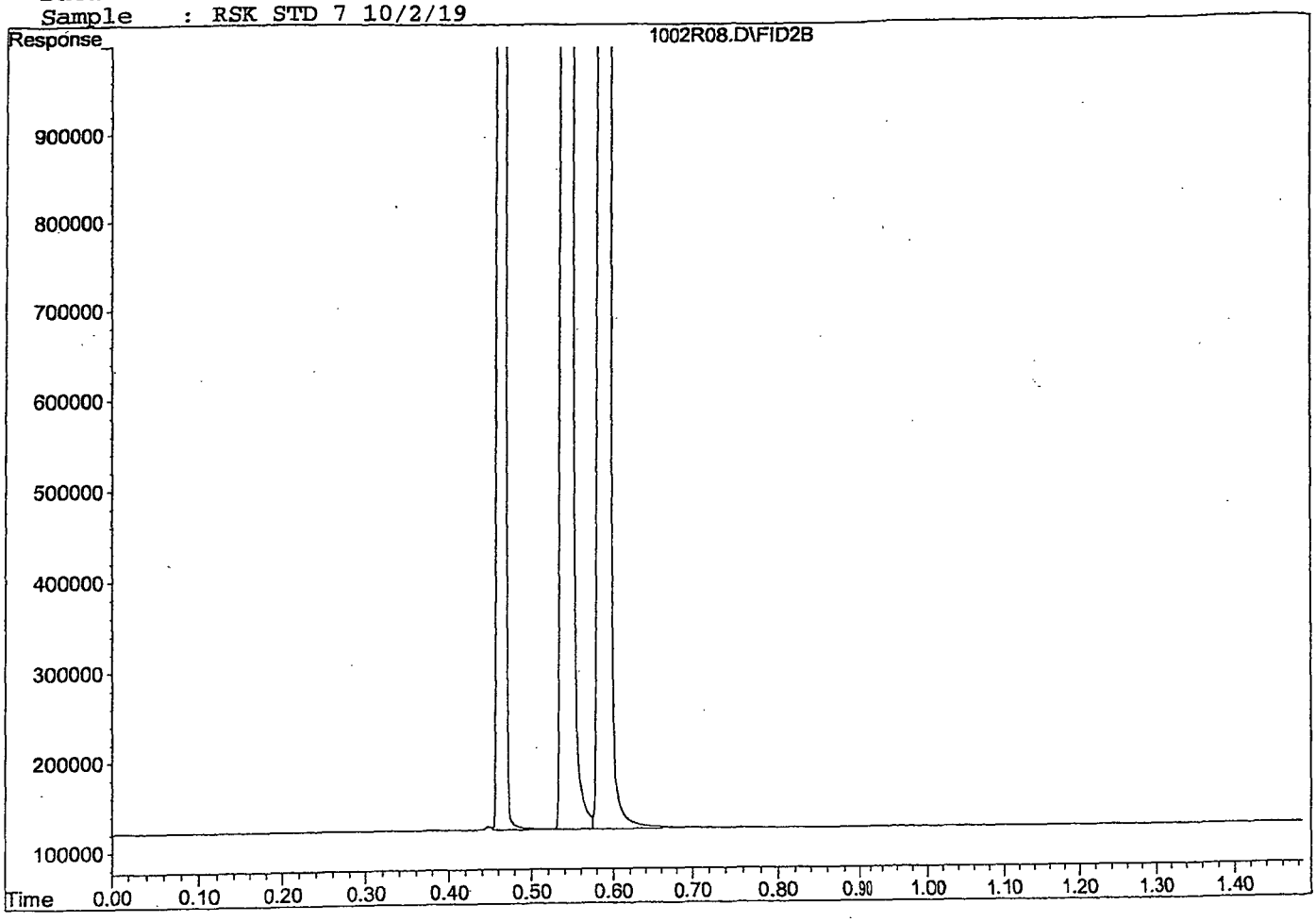
Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.46	19087907	1106.909 ppb
2) ATM Ethane	0.54	25777712	1926.584 ppb
3) ATM Ethene	0.59	19176068	1801.389 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\191002RS\1002R08.D
Sample : RSK STD 7 10/2/19



RSK 175
RSK 175

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 2 Oct 19 18:24
Instrument: 7890
Initial Cal. Date: 10/02/19
Data File: 1002R10.D

		Compound	MEAN	CCRF	%D		%Drift
1	ATM	Methane	46275	50203	8.5	ATM	
2	ATM	Ethane	34039	37011	8.7	ATM	
3	ATM	Ethene	26775	28699	7.2	ATM	
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			8.1		

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\191002RS\1002R10.D Vial: 10
Acq On : 2 Oct 19 18:24 Operator: GA
Sample : SS RSK STD 5 10/2/19 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Oct 2 18:27 2019 Quant Results File: RSK1002.RES

Method : G:\ROCKY\DATA\190929RS\RSK1002.M (Chemstation Integrator)
Title : RSK 175
Last Update : Wed Oct 02 18:14:49 2019
Response via : Multiple Level Calibration

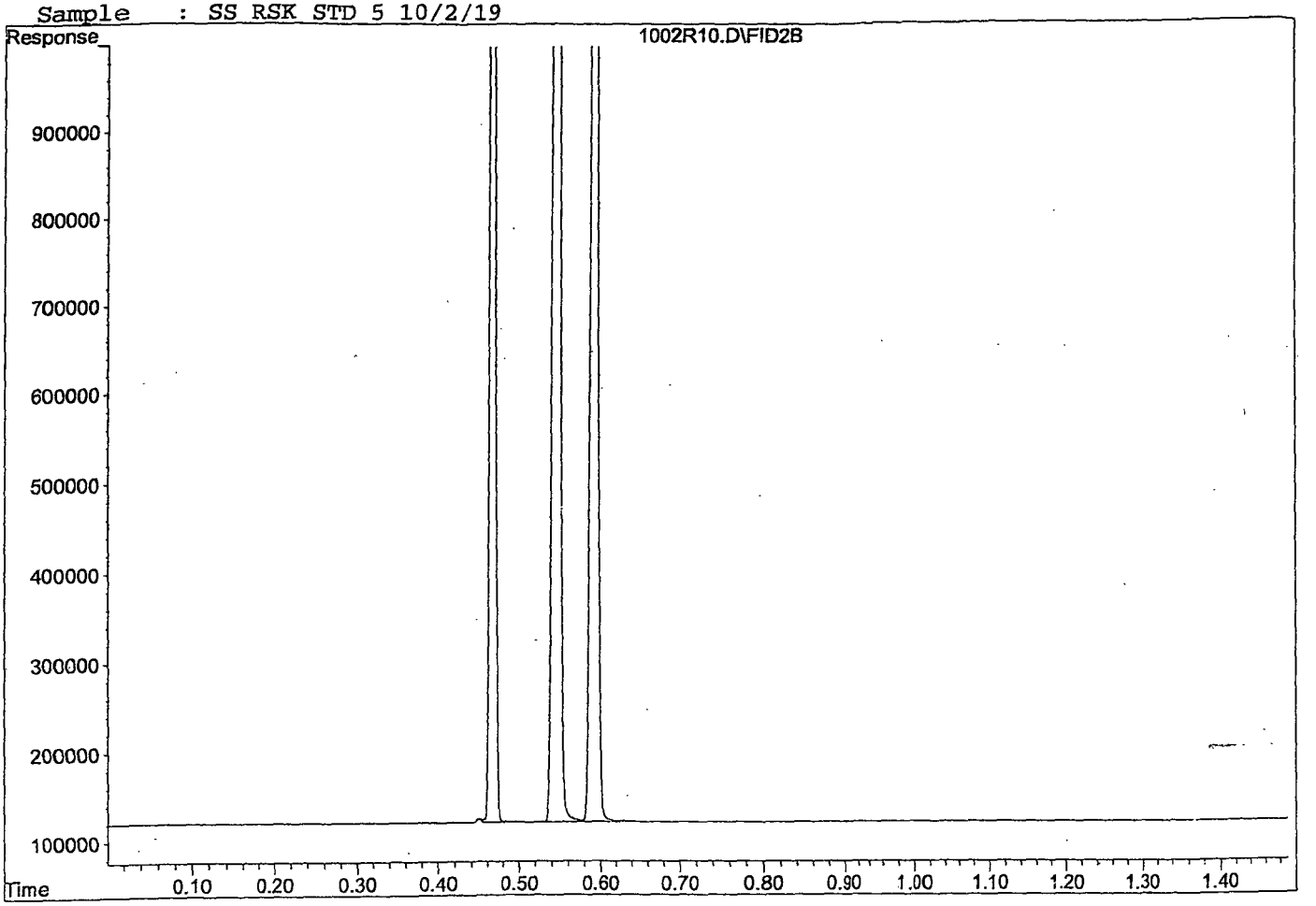
Volume Inj. : 0.500 mL
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.47	2093456	90.480 ppb
2) ATM Ethane	0.54	2893356	170.002 ppb
3) ATM Ethene	0.59	2092707	156.318 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\191002RS\1002R10.D
Sample : SS RSK STD 5 10/2/19



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 01/28/20
Instrument: 7890
Initial Cal. Date: 10/02/19
Data File: 0128R03.D

		Compound	MEAN	CCRF	%D		%Drift
1	ATM	Methane	46275	37689	19	ATM	
2	ATM	Ethane	34039	30126	11	ATM	
3	ATM	Ethene	26775	26468	1.1	ATM	
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			10.4		

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\191002RS\0128R03.D Vial: 3
Acq On : 28 Jan 20 14:49 Operator: GA
Sample : 200128A LCS/CCV RSK STD 5 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Jan 28 14:53 2020 Quant Results File: RSK1002.RES

Method : G:\ROCKY\DATA\190929RS\RSK1002.M (Chemstation Integrator)
Title : RSK 175
Last Update : Fri Jan 24 14:31:23 2020
Response via : Multiple Level Calibration

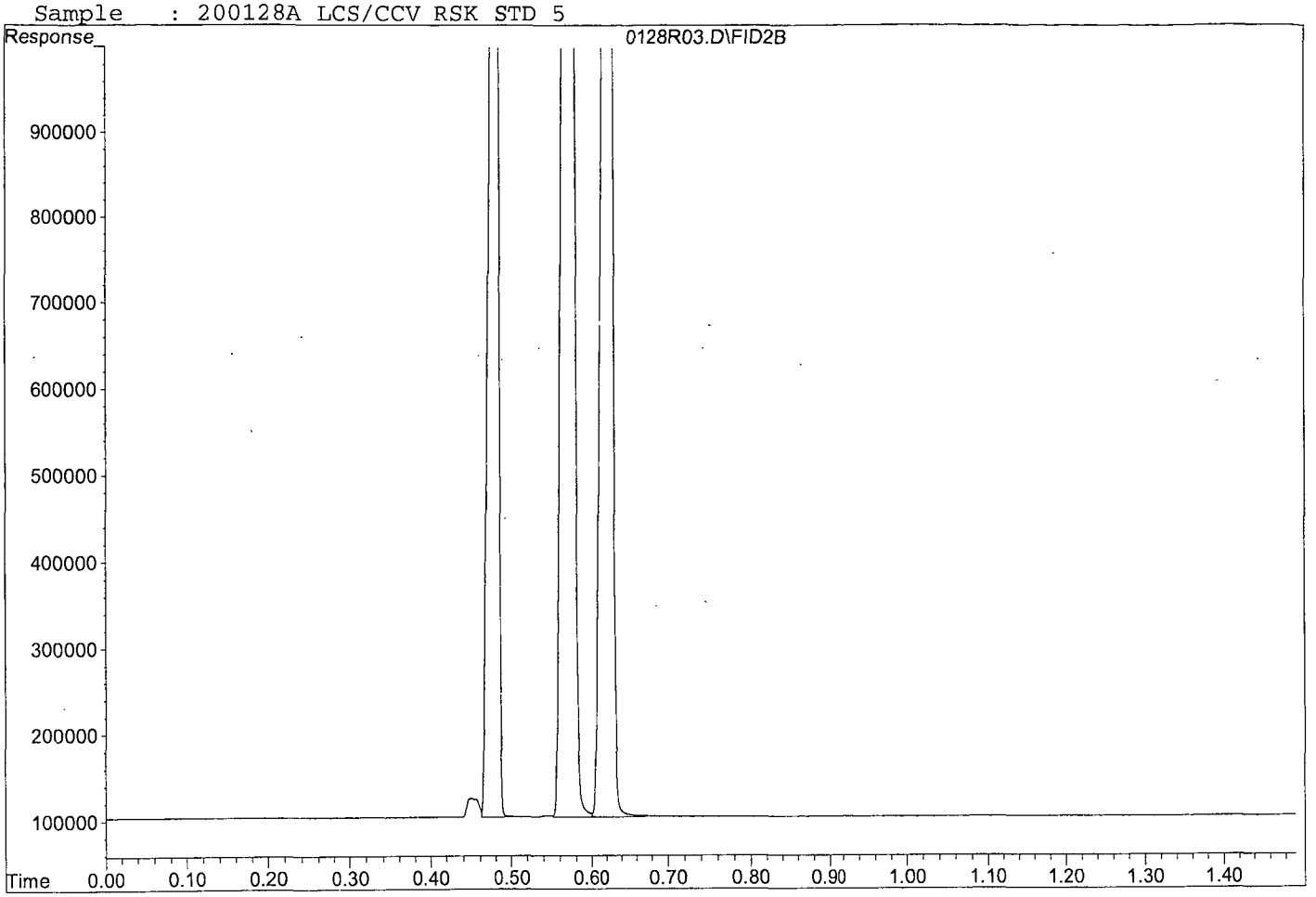
Volume Inj. : 0.500 mL
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.48	1571636	67.927 ppb
2) ATM Ethane	0.57	2355111	138.377 ppb
3) ATM Ethene	0.62	1930061	144.169 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\191002RS\0128R03.D
Sample : 200128A LCS/CCV RSK STD 5



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 01/28/20
Instrument: 7890
Initial Cal. Date: 10/02/19
Data File: 0128R27.D

		Compound	MEAN	CCRF	%D		%Drift
1	ATM	Methane	46275	40158	13	ATM	
2	ATM	Ethane	34039	30123	12	ATM	
3	ATM	Ethene	26775	25256	5.7	ATM	
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			10.2		

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\191002RS\0128R27.D Vial: 27
Acq On : 28 Jan 20 16:54 Operator: GA
Sample : ENDING CCV RSK STD 5 1/28/20 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Jan 28 16:56 2020 Quant Results File: RSK1002.RES

Method : G:\ROCKY\DATA\190929RS\RSK1002.M (Chemstation Integrator)
Title : RSK 175
Last Update : Tue Jan 28 15:33:25 2020
Response via : Multiple Level Calibration

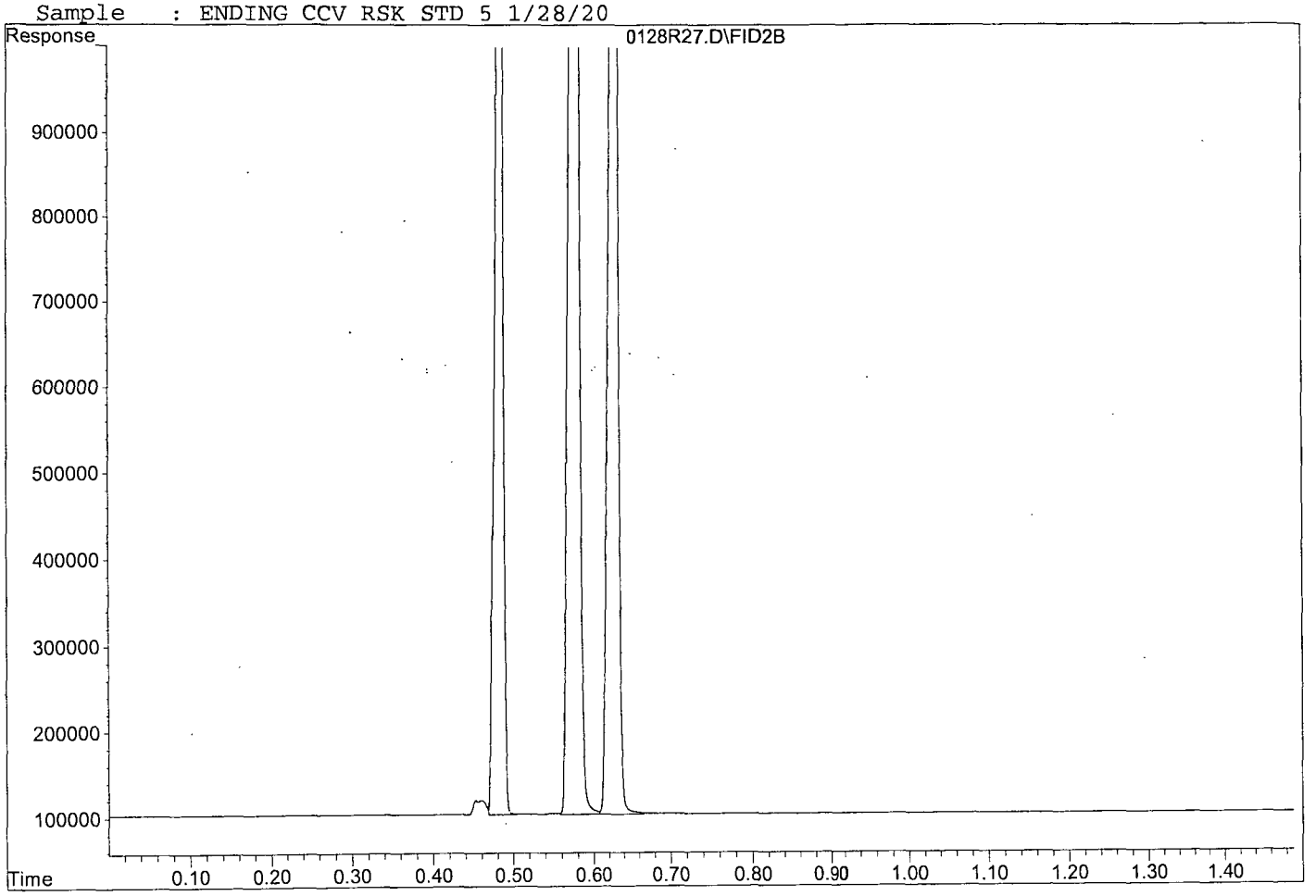
Volume Inj. : 0.500 mL
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.49	1674585	72.376 ppb
2) ATM Ethane	0.58	2354849	138.361 ppb
3) ATM Ethene	0.63	1841670	137.566 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\191002RS\0128R27.D
Sample : ENDING CCV RSK STD 5 1/28/20



ORGANICS
Raw Data

Quantitation Report (QT Reviewed)

Data File : G:\ROCKY\DATA\191002RS\0128R20.D Vial: 20
Acq On : 28 Jan 20 16:29 Operator: GA
Sample : BA06360W03 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Jan 28 16:31 2020 Quant Results File: RSK1002.RES

Method : G:\ROCKY\DATA\190929RS\RSK1002.M (Chemstation Integrator)
Title : RSK 175
Last Update : Tue Jan 28 15:33:25 2020
Response via : Multiple Level Calibration

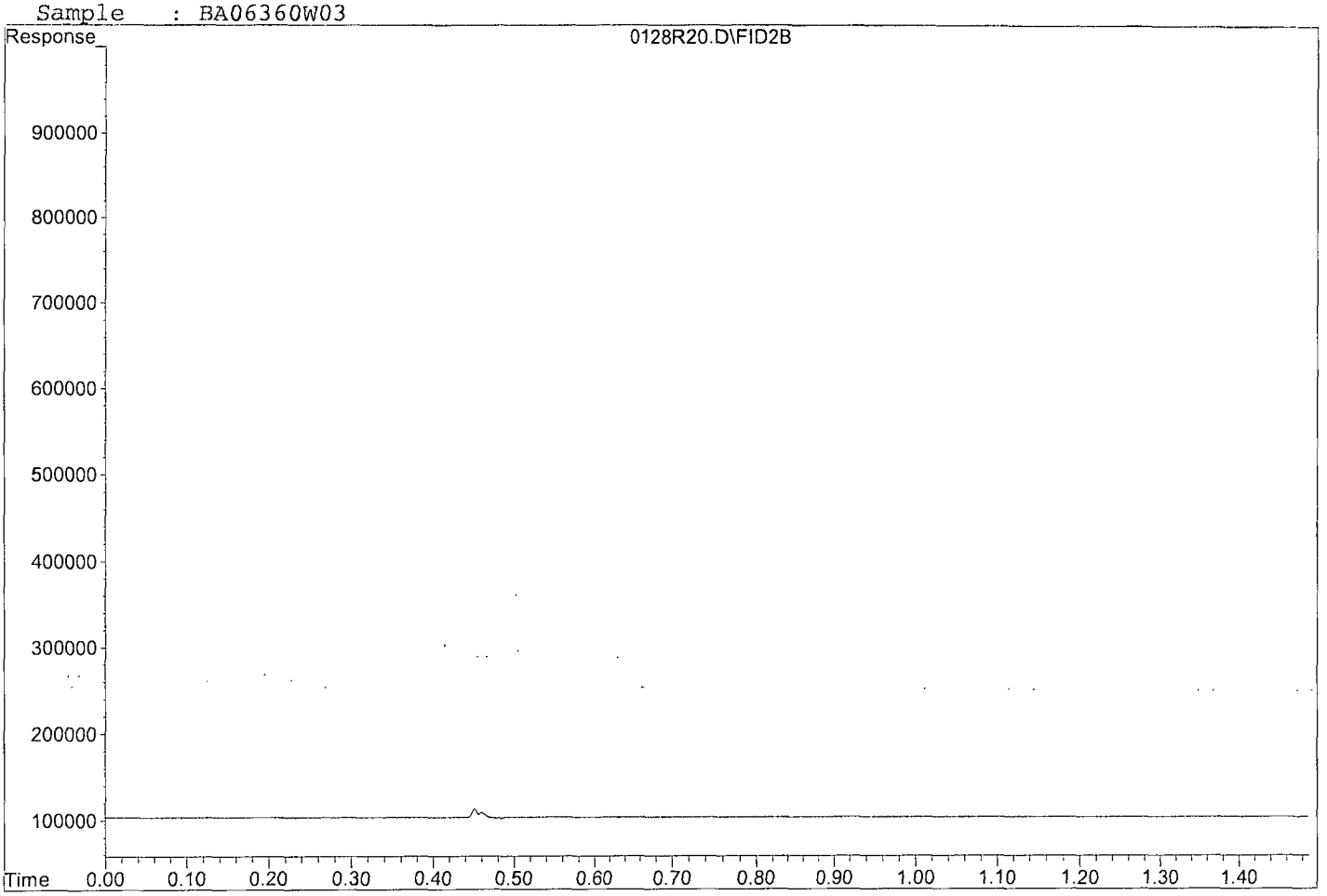
Volume Inj. : 0.500 mL
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units	
Target Compounds					
Target Compounds					
1) ATM Methane	0.00	0	N.D.	ppb	d
2) ATM Ethane	0.00	0	N.D.	ppb	d
3) ATM Ethene	0.00	0	N.D.	ppb	d

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\191002RS\0128R20.D
Sample : BA06360W03



Quantitation Report (QT Reviewed)

Data File : G:\ROCKY\DATA\191002RS\0128R21.D Vial: 21
Acq On : 28 Jan 20 16:32 Operator: GA
Sample : BA06361W04 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Jan 28 16:34 2020 Quant Results File: RSK1002.RES

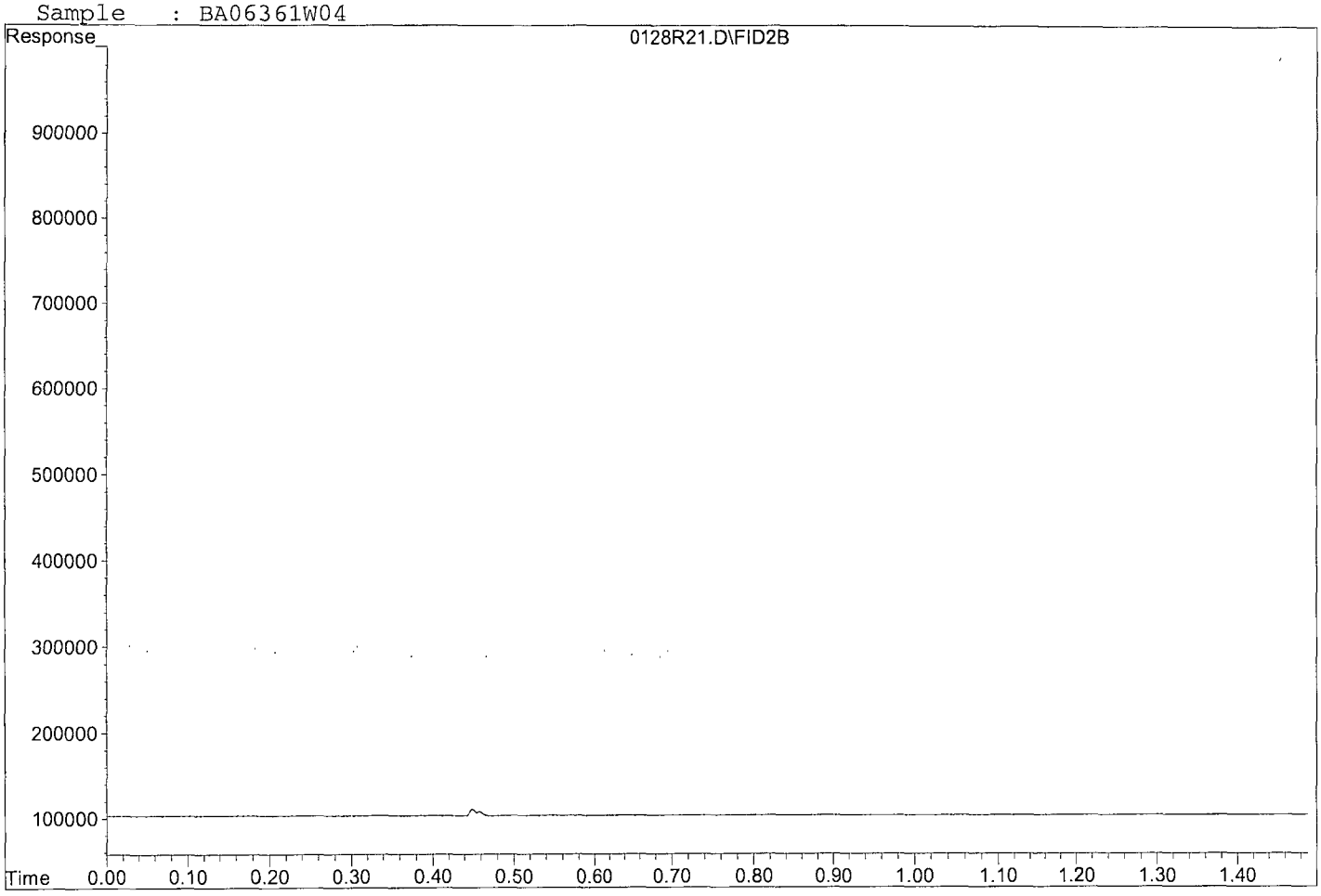
Method : G:\ROCKY\DATA\190929RS\RSK1002.M (Chemstation Integrator)
Title : RSK 175
Last Update : Tue Jan 28 15:33:25 2020
Response via : Multiple Level Calibration

Volume Inj. : 0.500 mL
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units	
Target Compounds					
Target Compounds					
1) ATM Methane	0.00	0	N.D.	ppb	d
2) ATM Ethane	0.00	0	N.D.	ppb	d
3) ATM Ethene	0.00	0	N.D.	ppb	d

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\191002RS\0128R21.D
Sample : BA06361W04



Quantitation Report (QT Reviewed)

Data File : G:\ROCKY\DATA\191002RS\0128R22.D Vial: 22
Acq On : 28 Jan 20 16:35 Operator: GA
Sample : BA06363W04 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Jan 28 16:38 2020 Quant Results File: RSK1002.RES

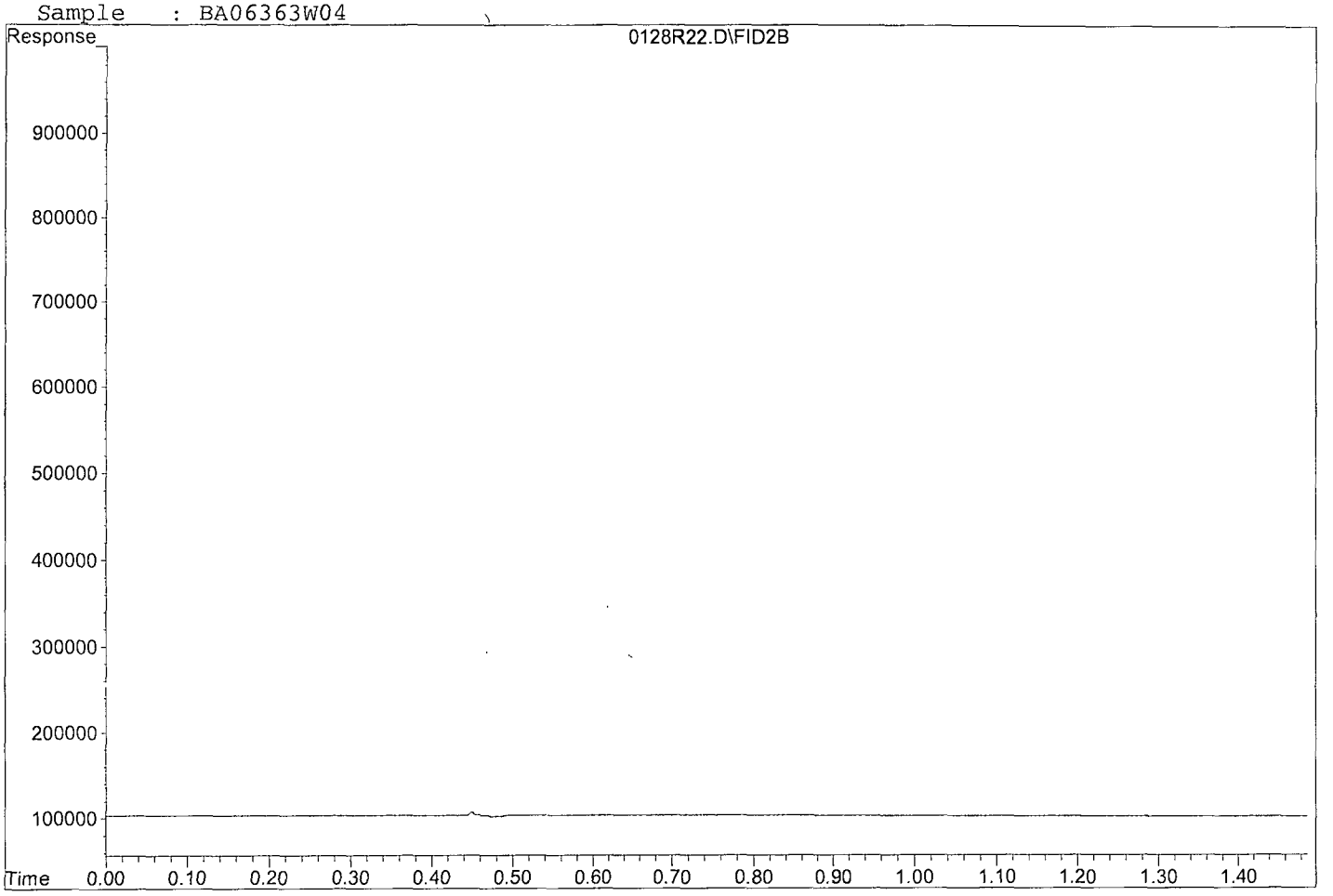
Method : G:\ROCKY\DATA\190929RS\RSK1002.M (Chemstation Integrator)
Title : RSK 175
Last Update : Tue Jan 28 15:33:25 2020
Response via : Multiple Level Calibration

Volume Inj. : 0.500 mL
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units	
Target Compounds					
Target Compounds					
1) ATM Methane	0.00	0	N.D.	ppb	d
2) ATM Ethane	0.00	0	N.D.	ppb	d
3) ATM Ethene	0.00	0	N.D.	ppb	d

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\191002RS\0128R22.D
Sample : BA06363W04



Quantitation Report (QT Reviewed)

Data File : G:\ROCKY\DATA\191002RS\0128R23.D Vial: 23
Acq On : 28 Jan 20 16:38 Operator: GA
Sample : BA06364W04 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Jan 28 16:41 2020 Quant Results File: RSK1002.RES

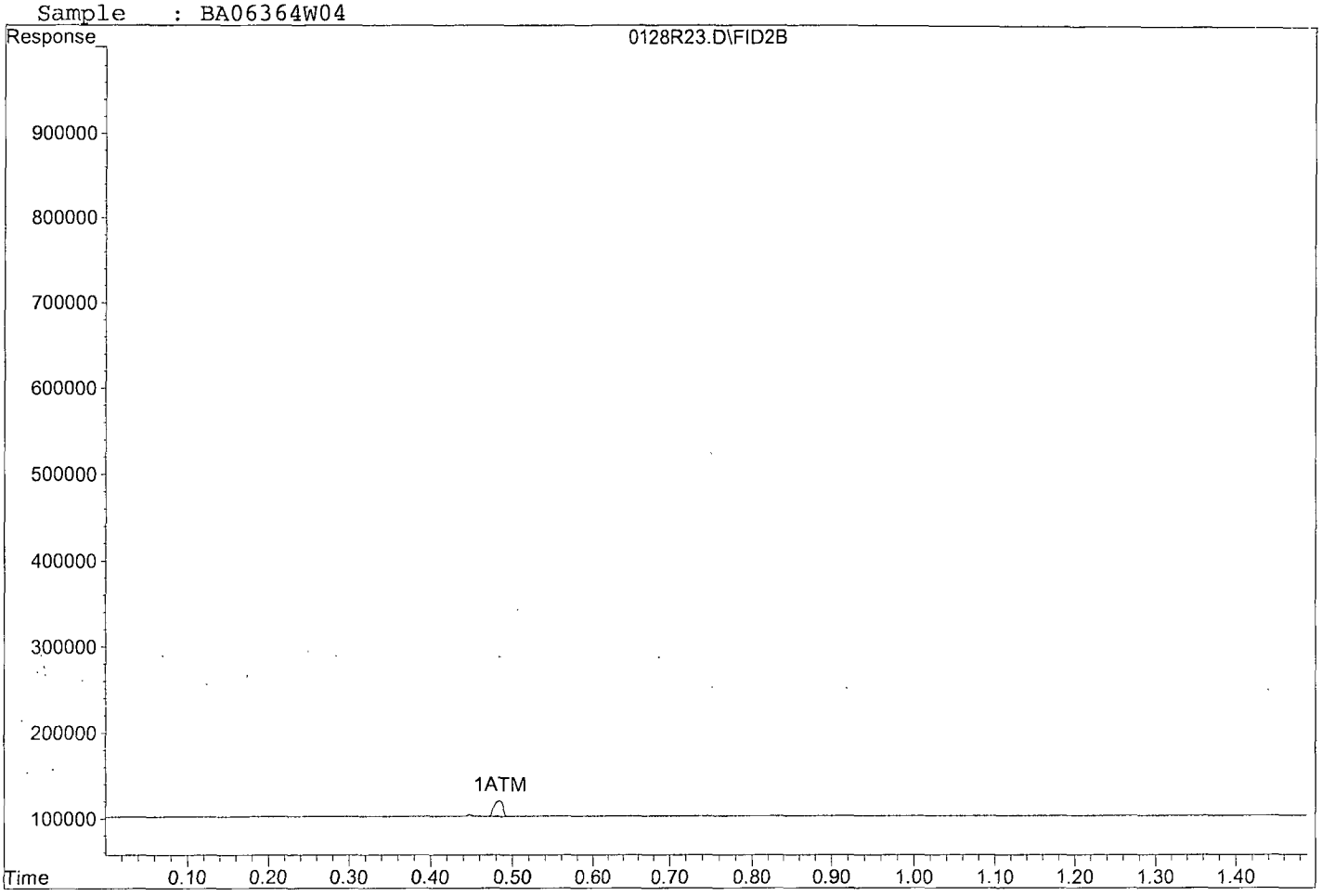
Method : G:\ROCKY\DATA\190929RS\RSK1002.M (Chemstation Integrator)
Title : RSK 175
Last Update : Tue Jan 28 15:33:25 2020
Response via : Multiple Level Calibration

Volume Inj. : 0.500 mL
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units	
Target Compounds					
1) ATM Methane	0.49	18097	0.782	ppb	
Target Compounds					
2) ATM Ethane	0.00	0	N.D.	ppb	d
3) ATM Ethene	0.00	0	N.D.	ppb	d

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\191002RS\0128R23.D
Sample : BA06364W04



Quantitation Report (QT Reviewed)

Data File : G:\ROCKY\DATA\191002RS\0128R05.D Vial: 5
Acq On : 28 Jan 20 15:00 Operator: GA
Sample : 200128A BLK Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Jan 28 15:04 2020 Quant Results File: RSK1002.RES

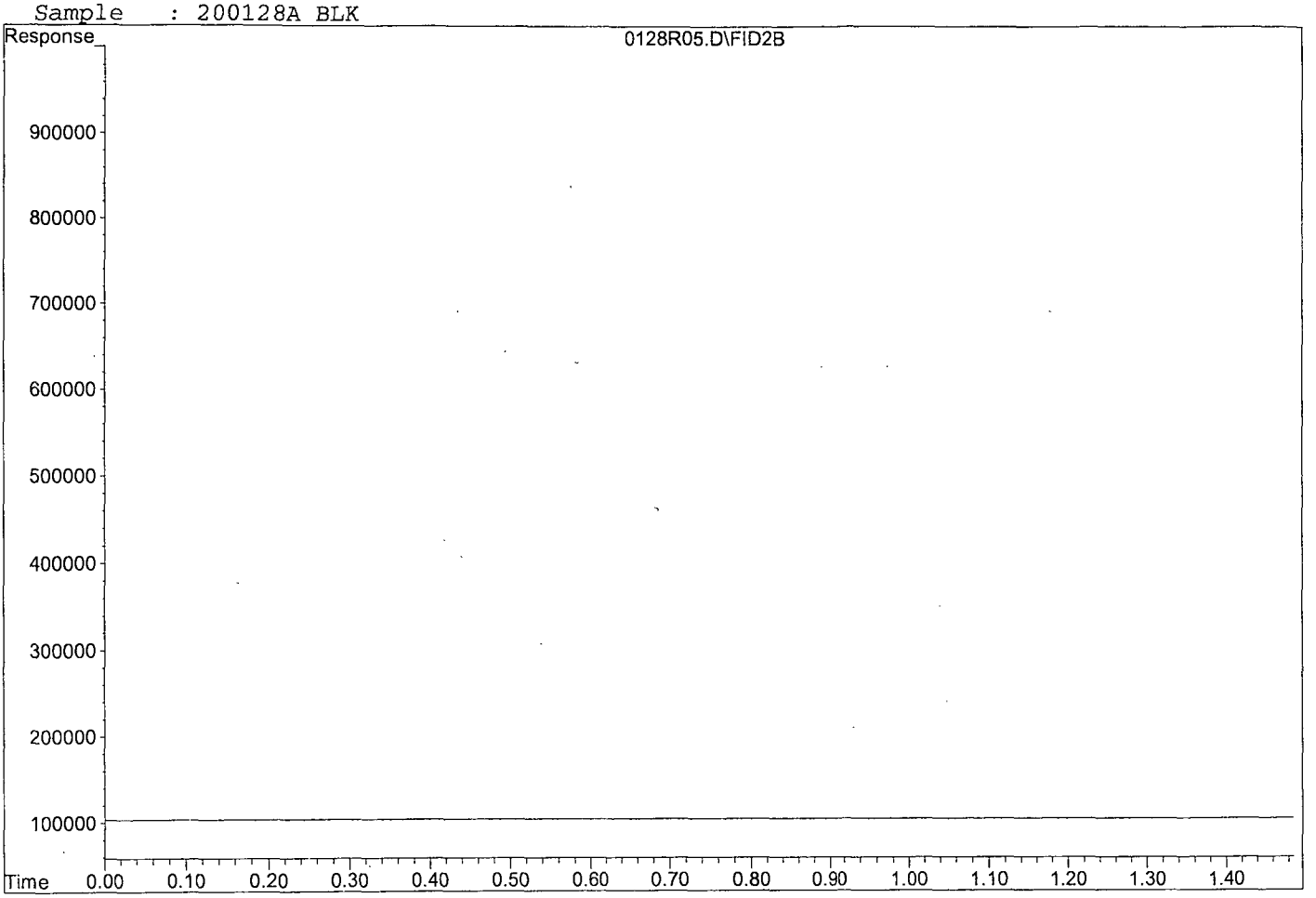
Method : G:\ROCKY\DATA\190929RS\RSK1002.M (Chemstation Integrator)
Title : RSK 175
Last Update : Fri Jan 24 14:31:23 2020
Response via : Multiple Level Calibration

Volume Inj. : 0.500 mL
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units	
Target Compounds					
Target Compounds					
1) ATM Methane	0.00	0	N.D.	ppb	d
2) ATM Ethane	0.00	0	N.D.	ppb	d
3) ATM Ethene	0.00	0	N.D.	ppb	d

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\191002RS\0128R05.D
Sample : 200128A BLK



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\191002RS\0128R03.D Vial: 3
Acq On : 28 Jan 20 14:49 Operator: GA
Sample : 200128A LCS/CCV RSK STD 5 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Jan 28 14:53 2020 Quant Results File: RSK1002.RES

Method : G:\ROCKY\DATA\190929RS\RSK1002.M (Chemstation Integrator)
Title : RSK 175
Last Update : Tue Jan 28 15:33:25 2020
Response via : Multiple Level Calibration

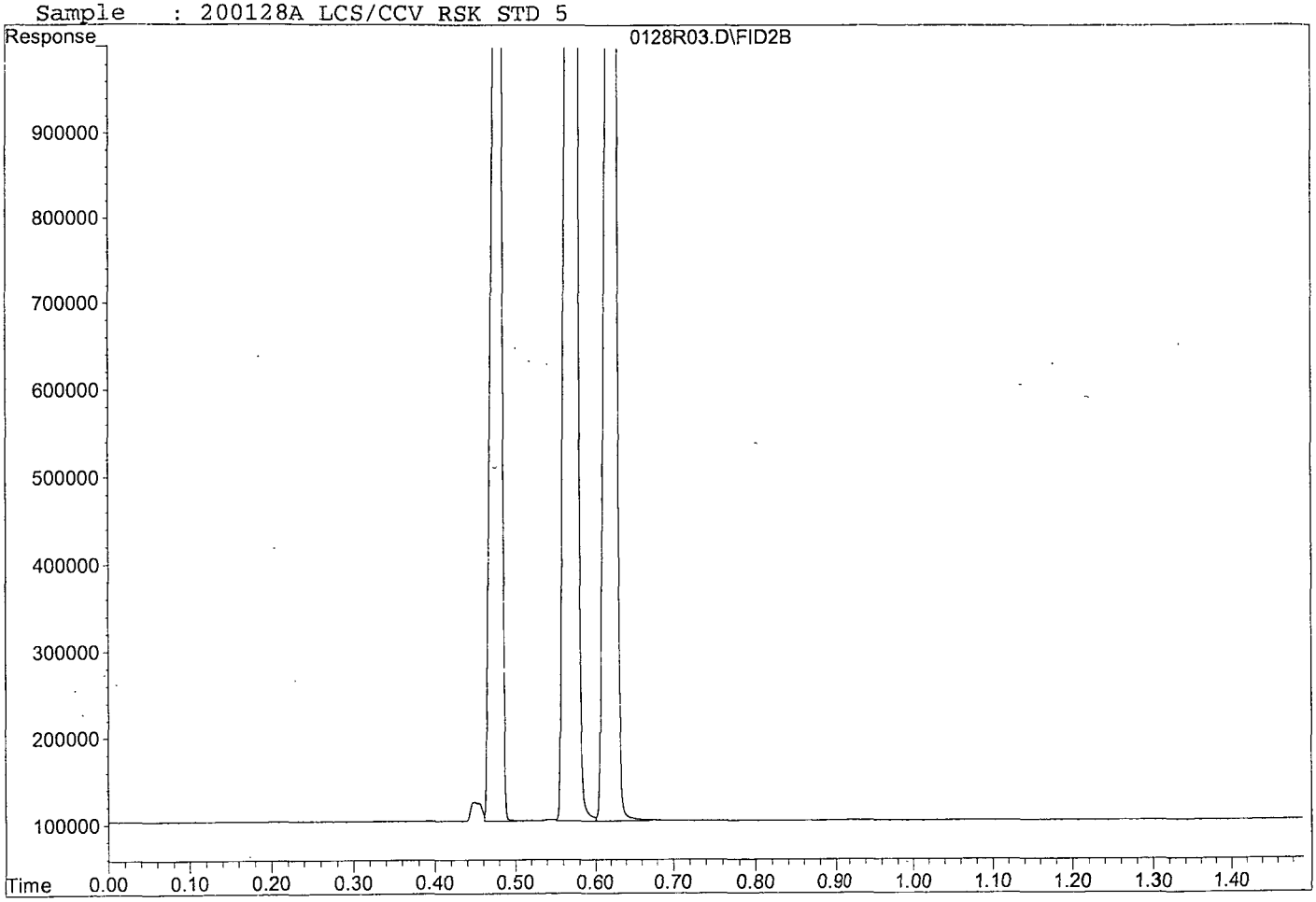
Volume Inj. : 0.500 mL
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.48	1571636	67.927 ppb
2) ATM Ethane	0.57	2355111	138.377 ppb
3) ATM Ethene	0.62	1930061	144.169 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\191002RS\0128R03.D
Sample : 200128A LCS/CCV RSK STD 5



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\191002RS\0128R04.D Vial: 4
Acq On : 28 Jan 20 14:54 Operator: GA
Sample : 200128A LCSD Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Jan 28 14:58 2020 Quant Results File: RSK1002.RES

Method : G:\ROCKY\DATA\190929RS\RSK1002.M (Chemstation Integrator)
Title : RSK 175
Last Update : Fri Jan 24 14:31:23 2020
Response via : Multiple Level Calibration

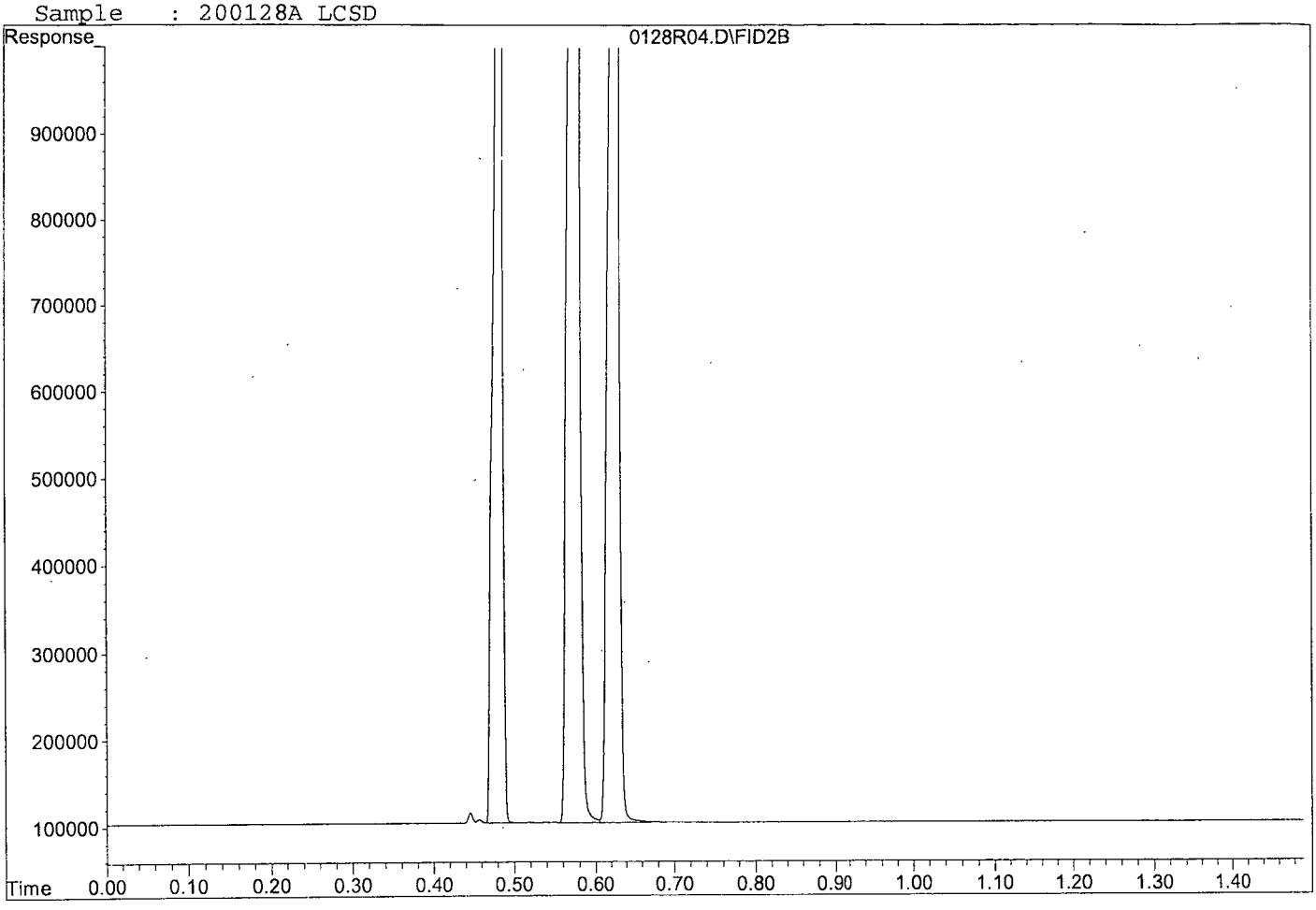
Volume Inj. : 0.500 mL
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.48	1732656	74.886 ppb
2) ATM Ethane	0.58	2524258	148.315 ppb
3) ATM Ethene	0.63	2024170	151.198 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\191002RS\0128R04.D
Sample : 200128A LCSD



Primary Stock Source

10,000ppmV **Manufacture Expiration:** 09/21/21

RSK Gas Mix (Scott Specialty Gas) CAT#X04NI97CP140001 LOT#160-401558175-1

1% Gas Concentration Moles = 10,000ppmV Methane, Ethane, Ethene

RSK Calibration Curve (prepared in 1.0 L Tedlar Bags at room temp) **01/02/19** **10/02/19**

Analyte	Conc Std 1 (1/2 = LOD) (ug/L)	Conc Std 2 (LOQ Chk) (ug/L)	Conc Std 3 (ug/L)	Conc Std 4 (ug/L)	Conc Std 5 (ug/L)	Conc Std 6 (ug/L)	Conc Std 7 (ug/L)
Methane (MW 16.04)	2.08	4.16	8.34	20.85	83.40	208.5	834.0
Ethane (MW 30.07)	3.91	7.81	15.6	39.09	156.35	390.9	1563.5
Ethene (MW 28.05)	3.65	7.30	14.6	36.46	145.84	364.6	1458.4
Stock Source	160-401558175-1	160-401558175-1	160-401558175-1	160-401558175-1	160-401558175-1	160-401558175-1	160-401558175-1
Stock Conc (ppmv)	10,000 ppmV	10,000 ppmV	10,000 ppmV	10,000 ppmV	10,000 ppmV	10,000 ppmV	10,000 ppmV
Stock Aliquot (mL)	0.010	0.020	0.040	0.100	0.400	1.00	4.00
Final Volume P&T Water	32 mL	32 mL	32 mL	32 mL	32 mL	32 mL	32 mL

Second Source Stock Standard 10,000ppmV **Manufacturer Exp date 9-21-2021**

RSK Gas Mix (Scott Specialty Gas) Cat.# 23452, Lot # 160-401303032-1-39774

1% Gas Concentration Moles = 10,000ppmV Methane, Ethane, Ethene

Second Source **Expires 10/03/19** **GA 10/02/19**

2.0mL of SS from tank into 980 mL Nitrogen

final conc: 13.3ug/L Methane, 25.0 ug/L Ethane, and 23.3 ug/L Ethene

CCV/LCS/LCSD **GA 01/28/20**

Spike 0.400mL of 10,000ppmV into 32mL DI water, with 8mL Nitrogen headspace

final conc: 83.40ug/L Methane, 156.35ug/L Ethane, and 145.84ug/L Ethene

Injection Log

Directory: G:\ROCKY\DATA\191002RS\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	2	1002R02.D	1	RSK STD 1 10/2/19		2 Oct 19 17:45
2	3	1002R03.D	1	RSK STD 2 10/2/19		2 Oct 19 17:50
3	4	1002R04.D	1	RSK STD 3 10/2/19		2 Oct 19 17:52
4	5	1002R05.D	1	RSK STD 4 10/2/19		2 Oct 19 17:57
5	6	1002R06.D	1	RSK STD 5 10/2/19		2 Oct 19 17:59
6	7	1002R07.D	1	RSK STD 6 10/2/19		2 Oct 19 18:05
7	8	1002R08.D	1	RSK STD 7 10/2/19		2 Oct 19 18:07
8	10	1002R10.D	1	SS RSK STD 5 10/2/19		2 Oct 19 18:24
9	3	0128R03.D	1	200128A LCS/CCV RSK STD 5		28 Jan 20 14:49
10	4	0128R04.D	1	200128A LCSD		28 Jan 20 14:54
11	5	0128R05.D	1	200128A BLK		28 Jan 20 15:00
12	20	0128R20.D	1	BA06360W03		28 Jan 20 16:29
13	21	0128R21.D	1	BA06361W04		28 Jan 20 16:32
14	22	0128R22.D	1	BA06363W04		28 Jan 20 16:35
15	23	0128R23.D	1	BA06364W04		28 Jan 20 16:38
16	27	0128R27.D	1	ENDING CCV RSK STD 5 1/28/20		28 Jan 20 16:54

INORGANIC ANALYSIS
Calibration Data

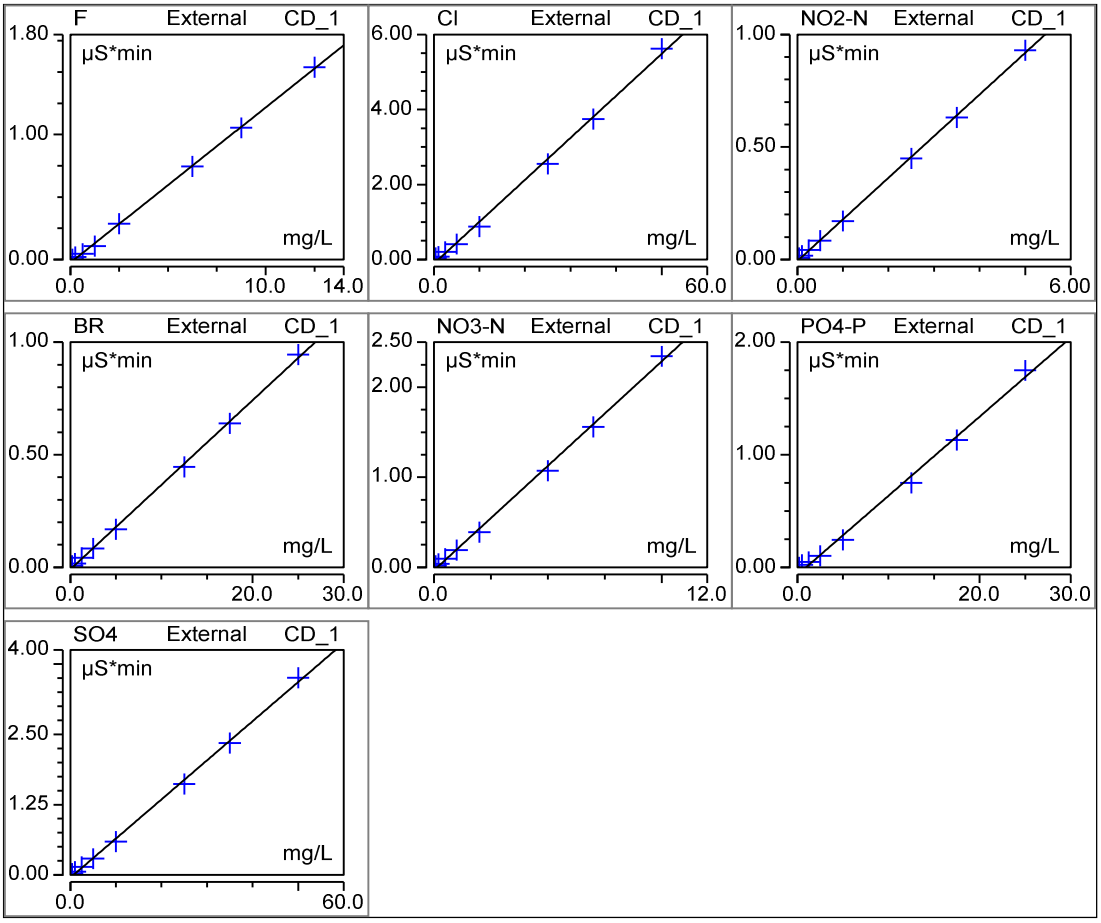
Calibration Batch Report

Sequence:	**200124 Soils & Calibration**	*Injection Volume:*	**25.00**
Instrument Method:	**Anions IM**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**24-Jan-2020 / 11:24**	*Run Time:*	**4**

Calibration Summary

Peak Name	Eval.Type	Cal.Type	Points	Offset (C0)	Slope (C1)	Curve (C2)	Coeff.Det. %
F	Area	Lin, WithOffset	8.000	-0.025	0.124	0.000	99.9488
Cl	Area	Lin, WithOffset	8.000	-0.113	0.112	0.000	99.7405
NO2-N	Area	Lin, WithOffset	8.000	-0.007	0.185	0.000	99.9513
BR	Area	Lin, WithOffset	8.000	-0.009	0.038	0.000	99.9109
NO3-N	Area	Lin, WithOffset	8.000	-0.035	0.232	0.000	99.7977
PO4-P	Area	Lin, WithOffset	7.000	-0.068	0.070	0.000	99.4792
SO4	Area	Lin, WithOffset	8.000	-0.048	0.070	0.000	99.8299

Injection Name	Amount mg/L CD_1 F	Amount mg/L CD_1 Cl	Amount mg/L CD_1 NO2-N	Amount mg/L CD_1 BR	Amount mg/L CD_1 NO3-N	Amount mg/L CD_1 PO4-P	Amount mg/L CD_1 SO4
Cal1 2020.01.24	0.228	1.3600	0.0722	0.4229	0.2234	n.a.	1.0723
Cal2 2020.01.24	0.362	1.7181	0.1262	0.6872	0.3116	1.2621	1.5442
Cal3 2020.01.24	0.586	2.8243	0.2660	1.3612	0.5638	1.6564	2.7826
Cal4 2020.01.24	1.070	4.7051	0.4917	2.4619	0.9732	2.3867	4.8512
Cal5 2020.01.24	2.511	8.8539	0.9620	4.7332	1.8368	4.4319	9.2057
Cal6 2020.01.24	6.197	23.7634	2.4619	12.1193	4.7654	11.6172	23.9660
Cal7 2020.01.24	8.687	34.4548	3.4470	17.2598	6.8658	17.0500	34.3918
Cal8 2020.01.24	12.585	51.2204	5.0630	25.4046	10.2400	25.8458	51.0861

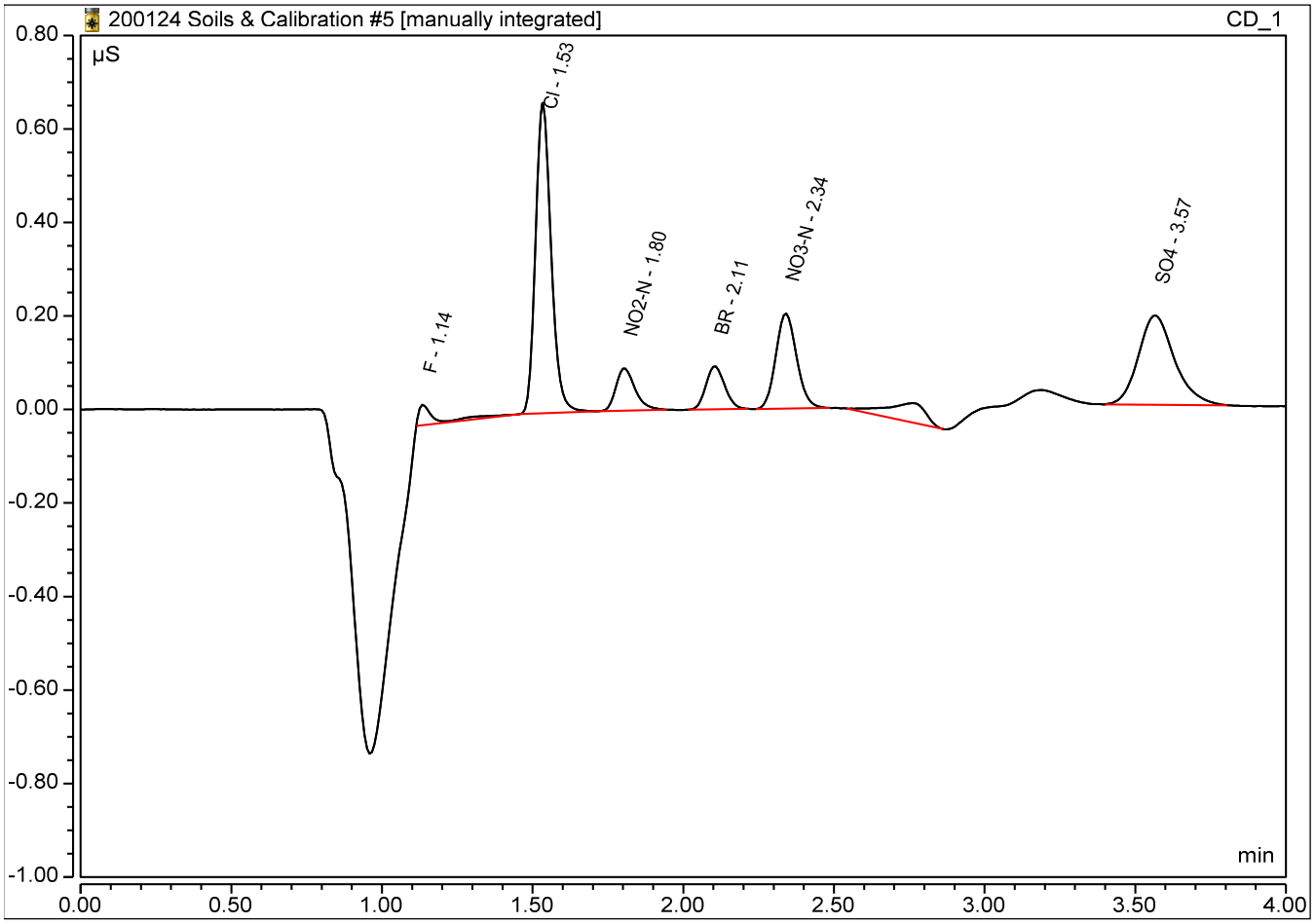


Logged on User: BW
Instrument: Charlie System_1
Sequence: 200124 Soils Calibration

Peak Integration Report

Sample Name:	**Cal1 2020.01.24**	*Inj. Vol.:*	**25uL**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**24-Jan-2020 / 10:39**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.14	**F**	BMB*	0.003	0.044	0.23	0.1	227.6%
2	1.53	**Cl**	BMB	0.039	0.664	1.36	0.4	340.0%
3	1.80	**NO2-N**	BMB	0.007	0.091	0.07	0.04	180.4%
4	2.11	**BR**	BMB	0.007	0.093	0.42	0.2	211.4%
5	2.34	**NO3-N**	BMB	0.016	0.204	0.22	0.08	279.3%
7	3.57	**SO4**	BMB	0.027	0.191	1.07	0.4	268.1%



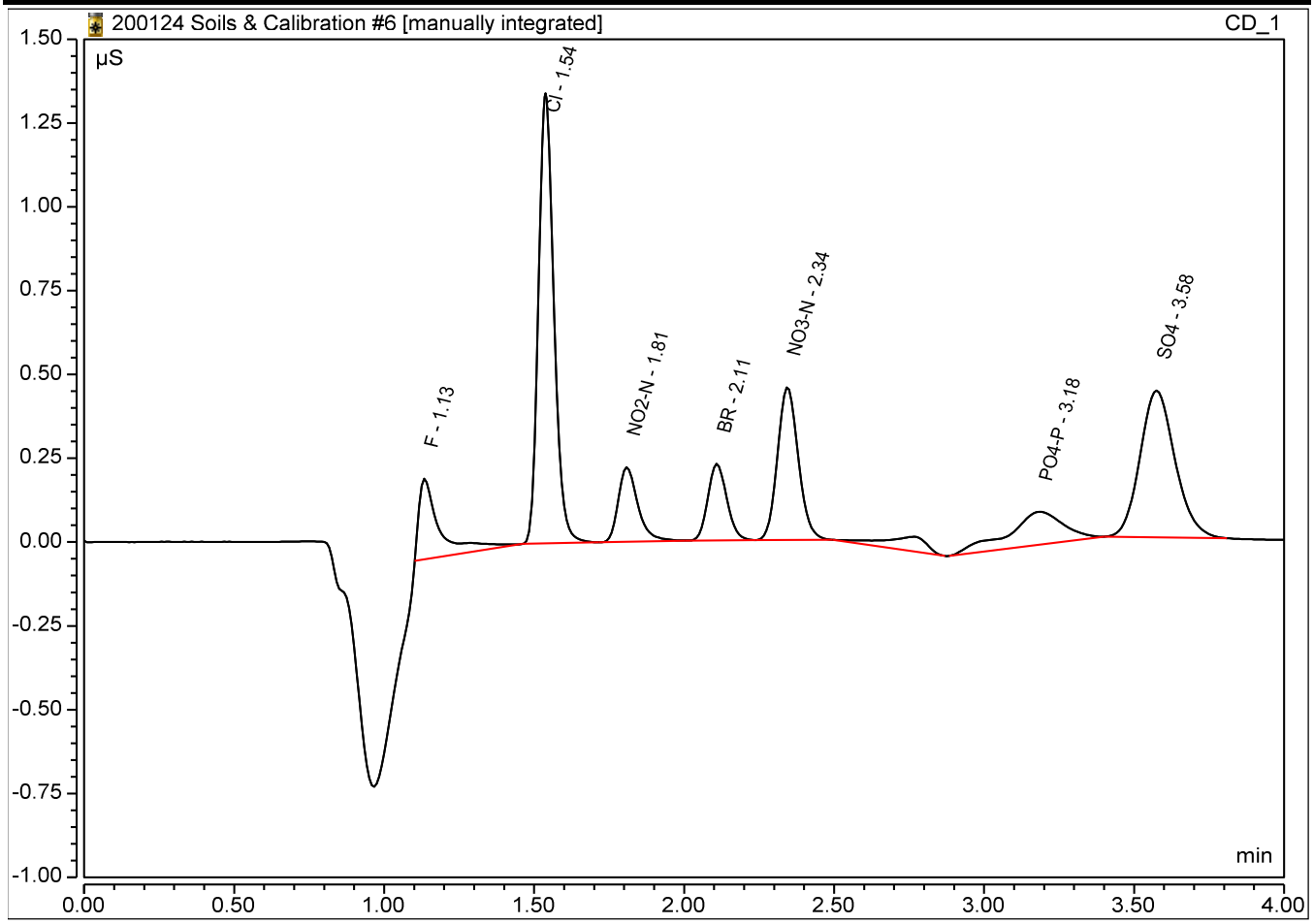
Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Logged on User: BW
Instrument: Charlie System_1
Sequence: 200124 Soils Calibration

Peak Integration Report

Sample Name:	**Cal2 2020.01.24**	*Inj. Vol.:*	**25uL**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**24-Jan-2020 / 10:46**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.13	**F**	BMB*	0.019	0.241	0.36	0.25	144.6%
2	1.54	**Cl**	BMB	0.080	1.343	1.72	1	171.8%
3	1.81	**NO2-N**	BMB	0.017	0.222	0.13	0.1	126.2%
4	2.11	**BR**	BMB	0.017	0.228	0.69	0.5	137.4%
5	2.34	**NO3-N**	BMB	0.037	0.456	0.31	0.2	155.8%
7	3.18	**PO4-P**	BMB	0.021	0.098	1.26	0.5	252.4%
8	3.58	**SO4**	BMB	0.059	0.438	1.54	1	154.4%



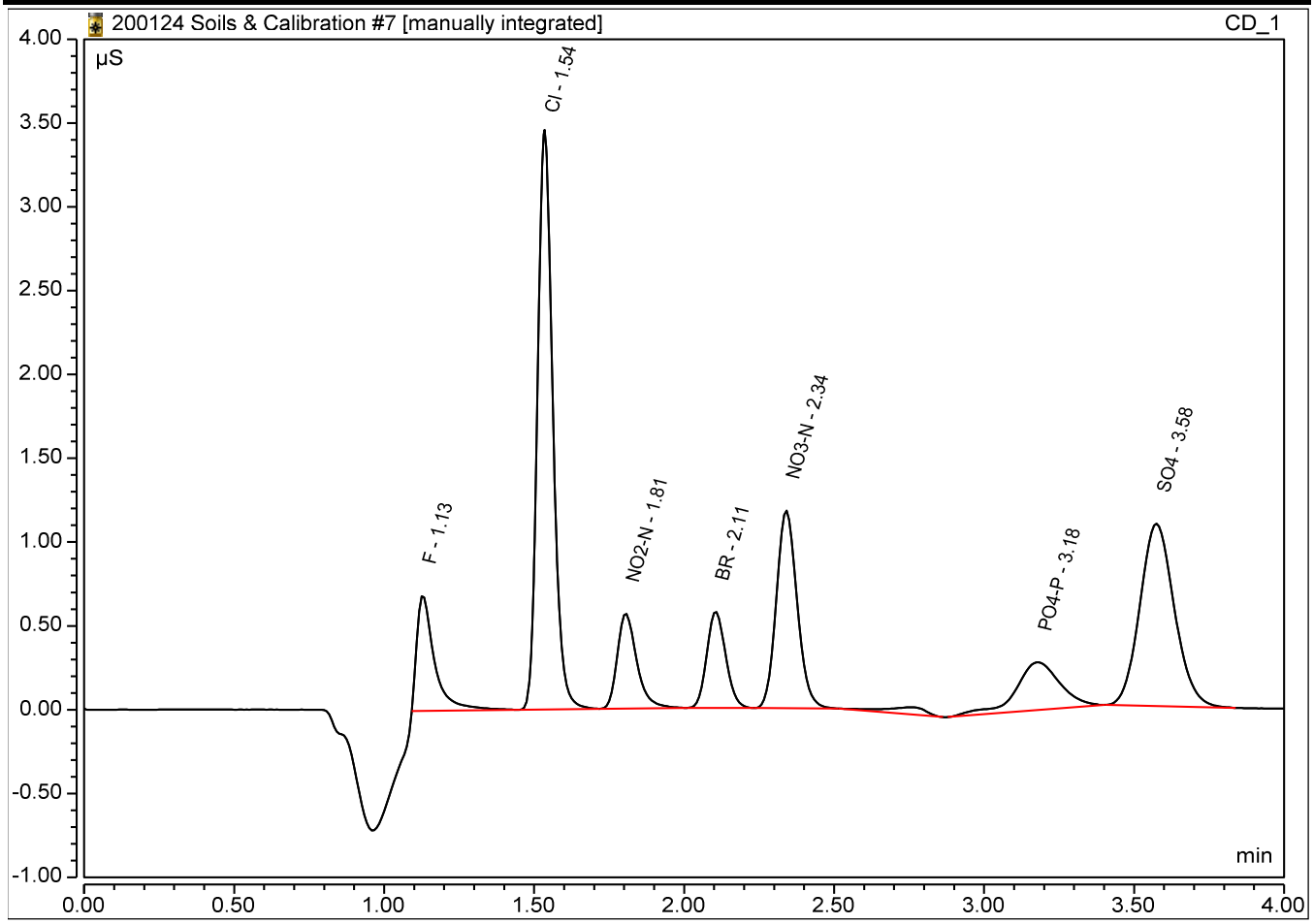
Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Logged on User: BW
Instrument: Charlie System_1
Sequence: 200124 Soils Calibration

Peak Integration Report

Sample Name:	**Cal3 2020.01.24**	*Inj. Vol.:*	**25uL**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**24-Jan-2020 / 10:52**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.13	**F**	BMB*	0.047	0.692	0.59	0.625	93.8%
2	1.54	**Cl**	BMB	0.203	3.456	2.82	2.5	113.0%
3	1.81	**NO2-N**	BMB	0.043	0.567	0.27	0.25	106.4%
4	2.11	**BR**	BMB	0.042	0.577	1.36	1.25	108.9%
5	2.34	**NO3-N**	BMB	0.095	1.180	0.56	0.5	112.8%
7	3.18	**PO4-P**	BMB	0.049	0.286	1.66	1.25	132.5%
8	3.58	**SO4**	BMB	0.145	1.089	2.78	2.5	111.3%



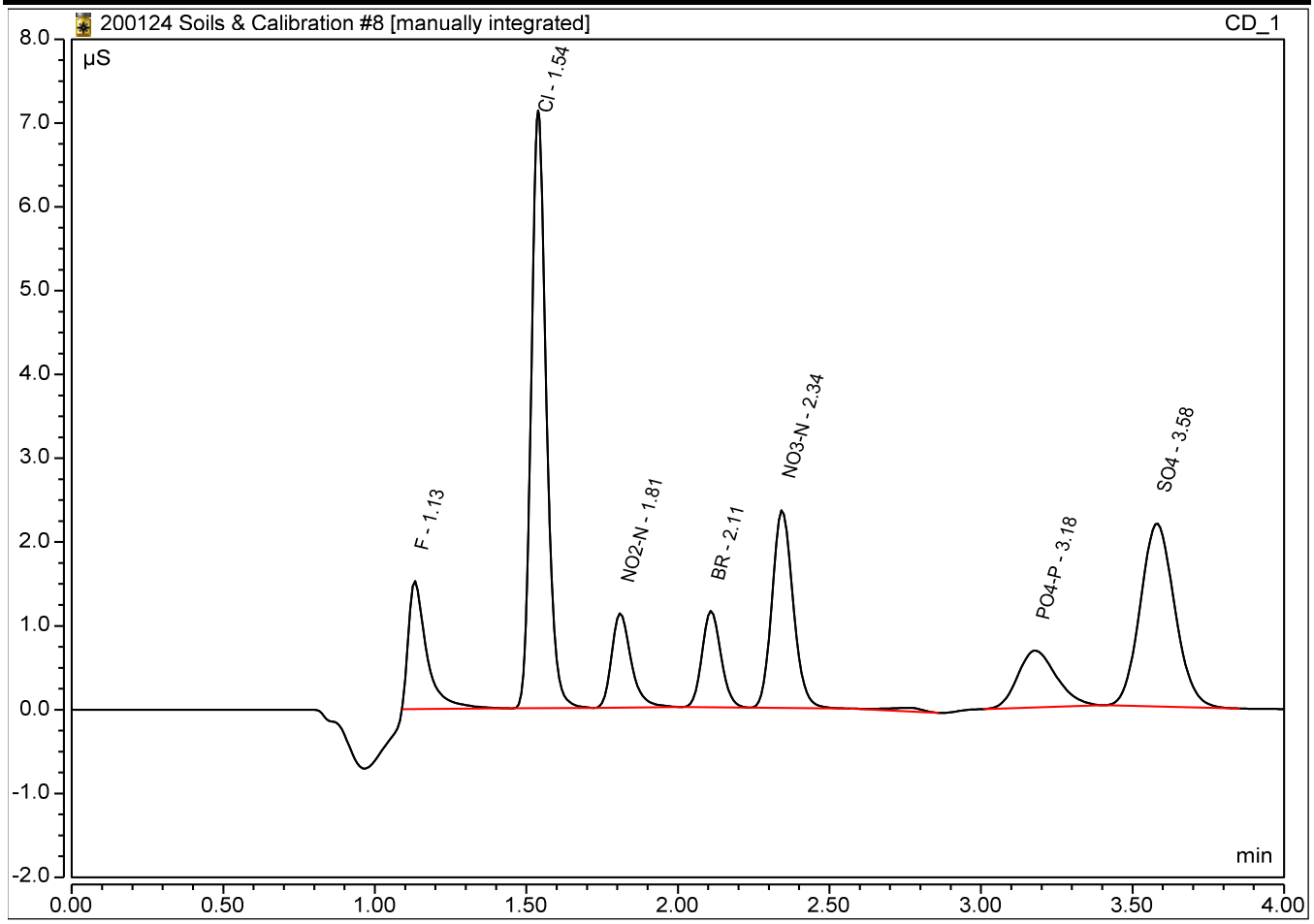
Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Logged on User: BW
Instrument: Charlie System_1
Sequence: 200124 Soils Calibration

Peak Integration Report

Sample Name:	**Cal4 2020.01.24**	*Inj. Vol.:*	**25uL**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**24-Jan-2020 / 10:58**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.13	**F**	BMB*	0.107	1.531	1.07	1.25	85.6%
2	1.54	**Cl**	BMB	0.414	7.133	4.71	5	94.1%
3	1.81	**NO2-N**	BMB	0.084	1.126	0.49	0.5	98.3%
4	2.11	**BR**	BMB	0.083	1.149	2.46	2.5	98.5%
5	2.34	**NO3-N**	BMB	0.191	2.361	0.97	1	97.3%
7	3.18	**PO4-P**	BMB	0.100	0.678	2.39	2.5	95.5%
8	3.58	**SO4**	BMB	0.289	2.186	4.85	5	97.0%



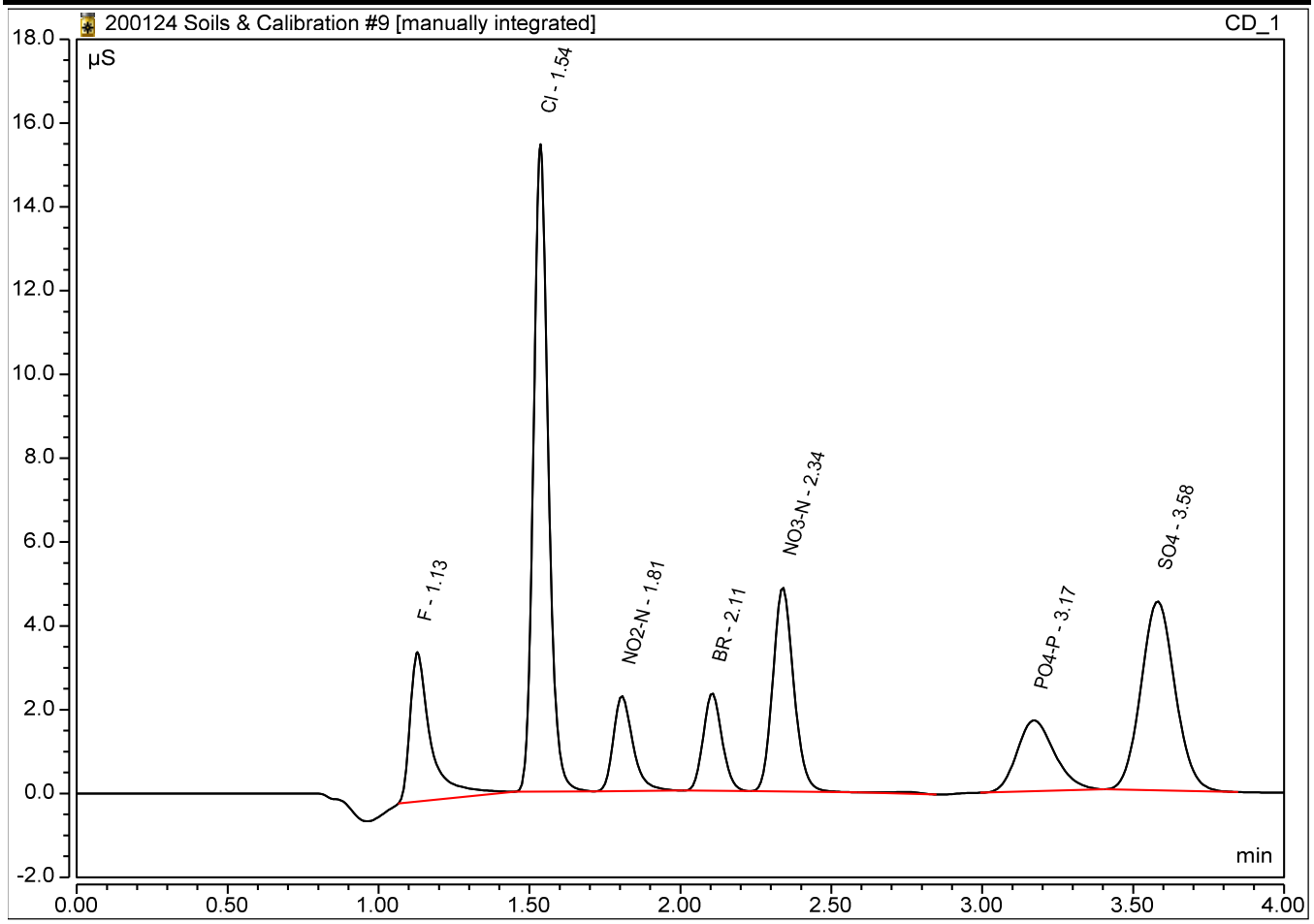
Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Logged on User: BW
Instrument: Charlie System_1
Sequence: 200124 Soils Calibration

Peak Integration Report

Sample Name:	**Cal5 2020.01.24**	*Inj. Vol.:*	**25uL**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**24-Jan-2020 / 11:05**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.13	**F**	BMB*	0.286	3.571	2.51	2.5	100.4%
2	1.54	**Cl**	BMB	0.878	15.449	8.85	10	88.5%
3	1.81	**NO2-N**	BMB	0.171	2.277	0.96	1	96.2%
4	2.11	**BR**	BMB	0.169	2.336	4.73	5	94.7%
5	2.34	**NO3-N**	BMB	0.391	4.883	1.84	2	91.8%
7	3.17	**PO4-P**	BMB	0.244	1.692	4.43	5	88.6%
8	3.58	**SO4**	BMB	0.592	4.514	9.21	10	92.1%



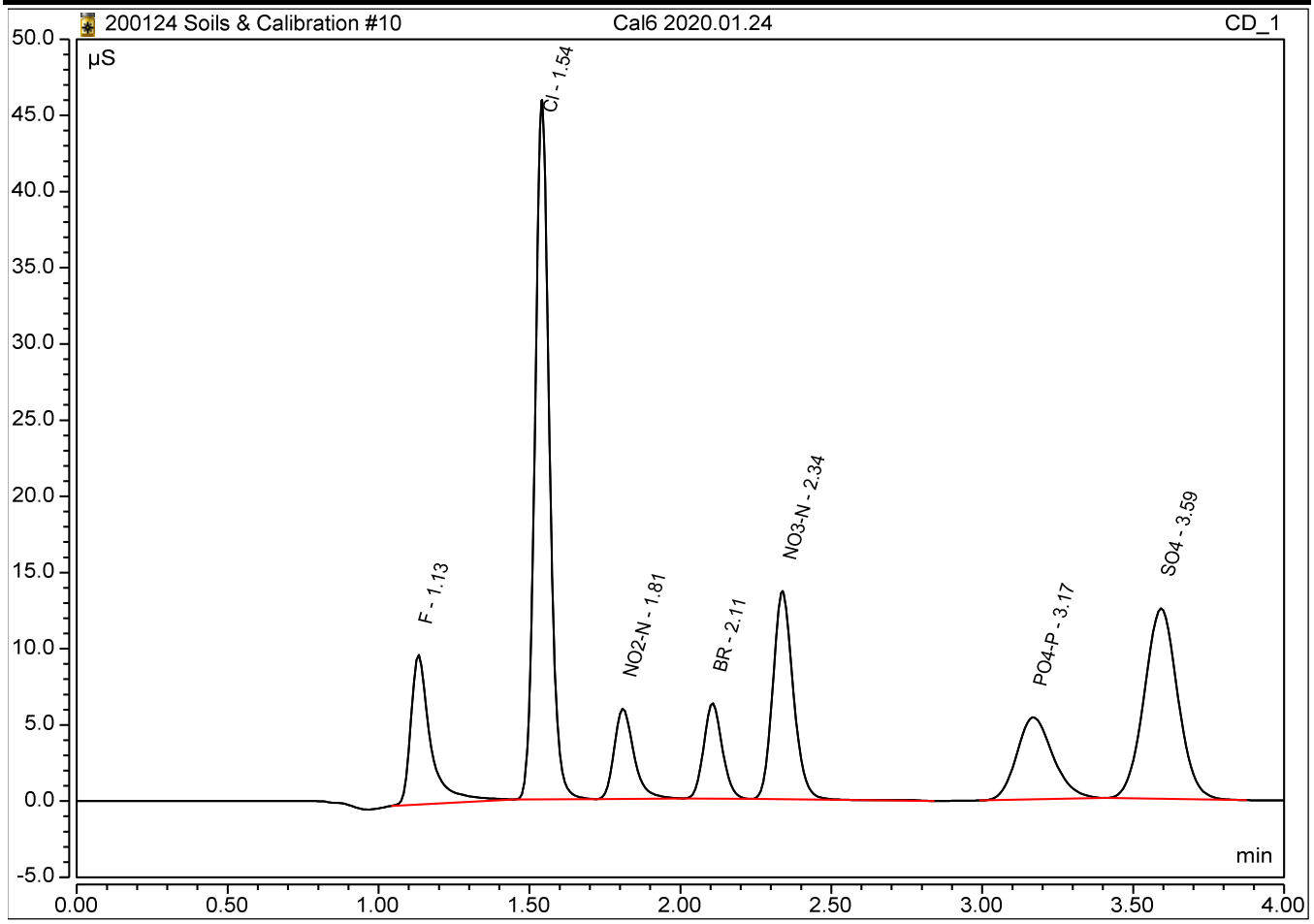
Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Logged on User: BW
Instrument: Charlie System_1
Sequence: 200124 Soils Calibration

Peak Integration Report

Sample Name:	**Cal6 2020.01.24**	*Inj. Vol.:*	**25uL**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**24-Jan-2020 / 11:11**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.13	**F**	BMB	0.744	9.837	6.20	6.25	99.2%
2	1.54	**Cl**	BMB	2.547	45.898	23.76	25	95.1%
3	1.81	**NO2-N**	BMB	0.449	5.934	2.46	2.5	98.5%
4	2.11	**BR**	BMB	0.446	6.270	12.12	12.5	97.0%
5	2.34	**NO3-N**	BMB	1.071	13.663	4.77	5	95.3%
7	3.17	**PO4-P**	BMB	0.749	5.390	11.62	12.5	92.9%
8	3.59	**SO4**	BMB	1.619	12.507	23.97	25	95.9%



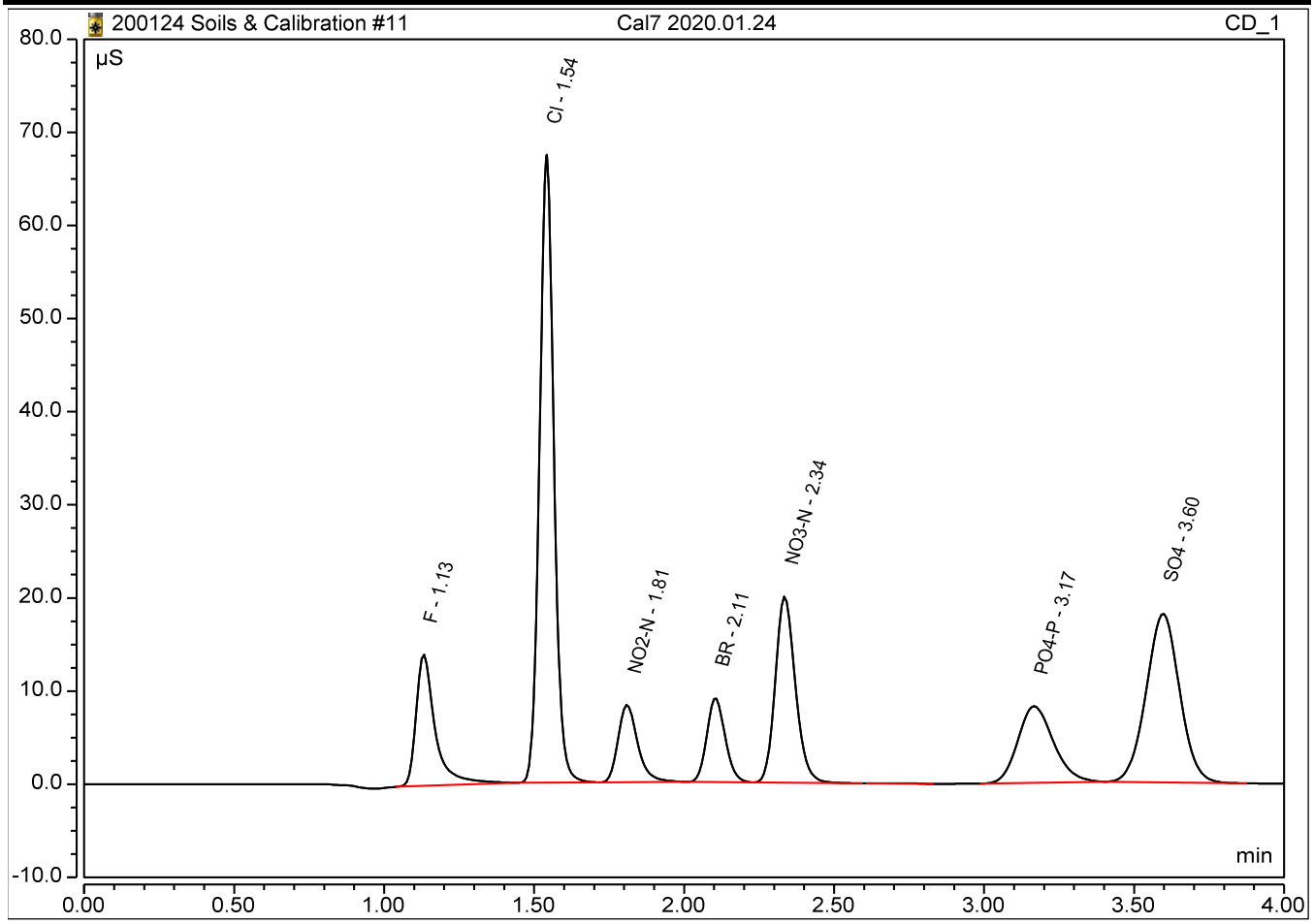
Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Logged on User: BW
Instrument: Charlie System_1
Sequence: 200124 Soils Calibration

Peak Integration Report

Sample Name:	**Cal7 2020.01.24**	*Inj. Vol.:*	**25uL**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**24-Jan-2020 / 11:18**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.13	**F**	BMB	1.053	14.161	8.69	8.75	99.3%
2	1.54	**Cl**	BMB	3.744	67.416	34.45	35	98.4%
3	1.81	**NO2-N**	BMB	0.631	8.309	3.45	3.5	98.5%
4	2.11	**BR**	BMB	0.639	9.051	17.26	17.5	98.6%
5	2.34	**NO3-N**	BMB	1.559	20.012	6.87	7	98.1%
7	3.17	**PO4-P**	BMB	1.131	8.229	17.05	17.5	97.4%
8	3.60	**SO4**	BMB	2.344	18.127	34.39	35	98.3%



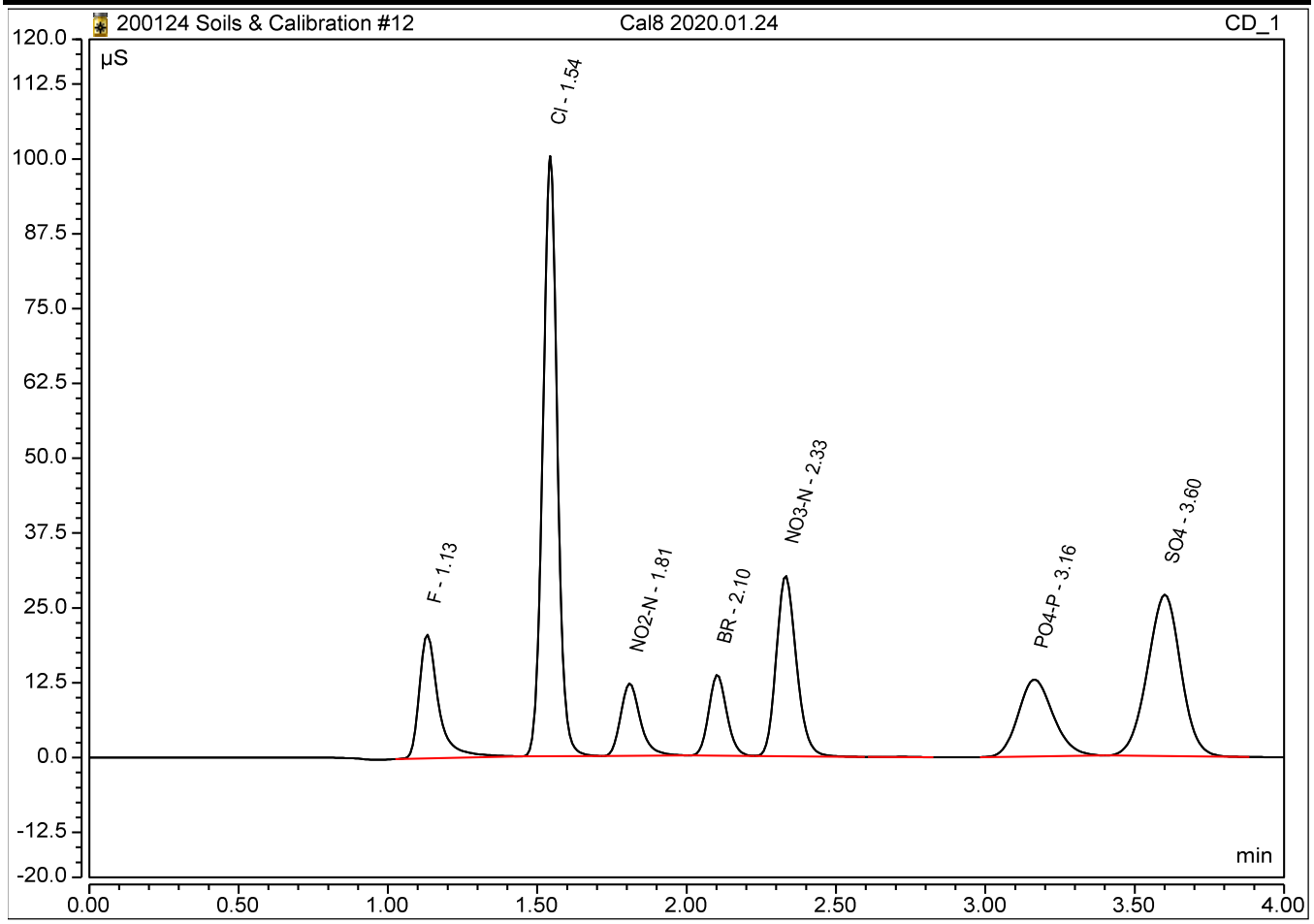
Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Logged on User: BW
Instrument: Charlie System_1
Sequence: 200124 Soils Calibration

Peak Integration Report

Sample Name:	**Cal8 2020.01.24**	*Inj. Vol.:*	**25uL**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**24-Jan-2020 / 11:24**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.13	**F**	BMB	1.537	20.700	12.59	12.5	100.7%
2	1.54	**Cl**	BMB	5.621	100.270	51.22	50	102.4%
3	1.81	**NO2-N**	BMB	0.930	12.106	5.06	5	101.3%
4	2.10	**BR**	BMB	0.945	13.502	25.40	25	101.6%
5	2.33	**NO3-N**	BMB	2.343	30.202	10.24	10	102.4%
7	3.16	**PO4-P**	BMB	1.749	12.851	25.85	25	103.4%
8	3.60	**SO4**	BMB	3.505	26.950	51.09	50	102.2%



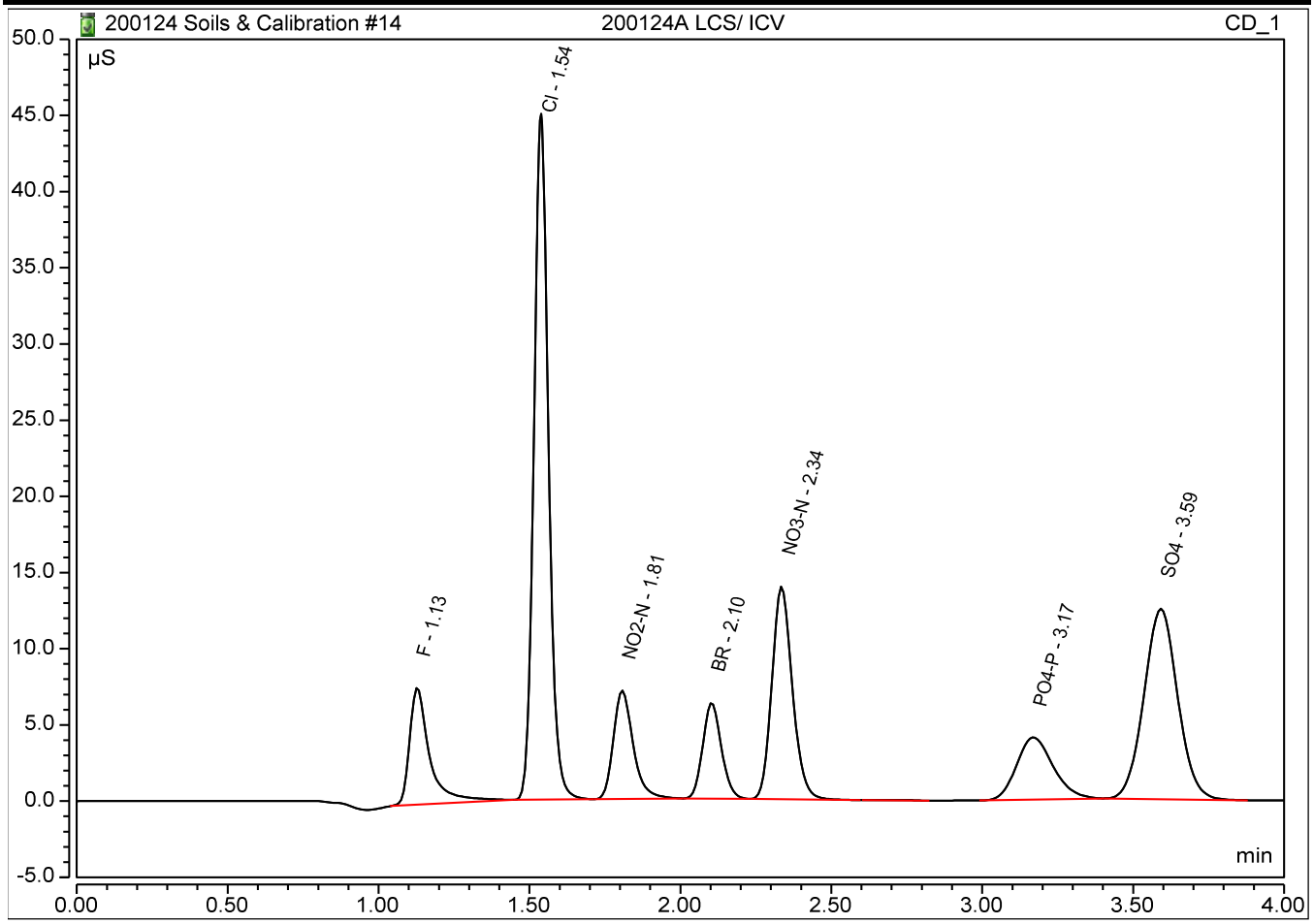
Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Logged on User: BW
Instrument: Charlie System_1
Sequence: 200124 Soils Calibration

Peak Integration Report

Sample Name:	**200124A LCS/ ICV**	*Inj. Vol.:*	**25uL**
Injection Type:	**Check Standard**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**24-Jan-2020 / 11:37**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.13	**F**	BMB	0.593	7.697	4.98	5	99.7%
2	1.54	**Cl**	BMB	2.516	45.013	23.48	25	93.9%
3	1.81	**NO2-N**	BMB	0.541	7.120	2.96	3.04	97.4%
4	2.10	**BR**	BMB	0.450	6.297	12.22	12.5	97.7%
5	2.34	**NO3-N**	BMB	1.099	13.953	4.89	5	97.7%
7	3.17	**PO4-P**	BMB	0.573	4.076	9.11	10	91.1%
8	3.59	**SO4**	BMB	1.618	12.498	23.96	25	95.9%



Algorithm Check
y = Peak Area
x = mg/L S04

y = 0.0695 x + -0.0480
y = 1.6184 therefor x =

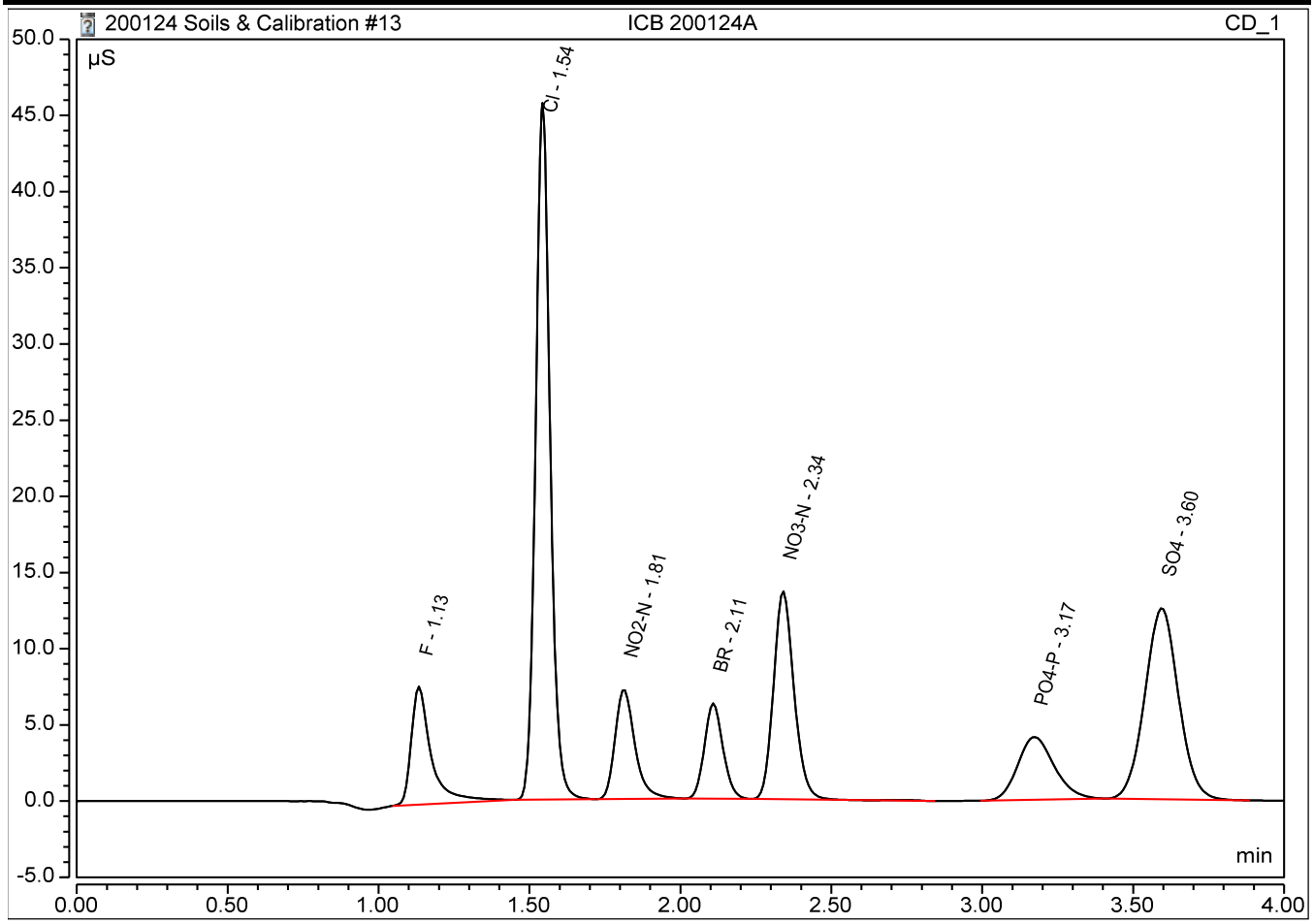
Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Logged on User: BW
Instrument: Charlie System_1
Sequence: 200124 Soils Calibration

Peak Integration Report

Sample Name:	**ICB 200124A**	*Inj. Vol.:*	**25uL**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**24-Jan-2020 / 11:30**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.13	**F**	BMB	0.595	7.739	5.00		
2	1.54	**Cl**	BMB	2.547	45.712	23.76		
3	1.81	**NO2-N**	BMB	0.548	7.202	3.00		
4	2.11	**BR**	BMB	0.446	6.258	12.13		
5	2.34	**NO3-N**	BMB	1.077	13.675	4.79		
7	3.17	**PO4-P**	BMB	0.579	4.119	9.19		
8	3.60	**SO4**	BMB	1.626	12.547	24.08		



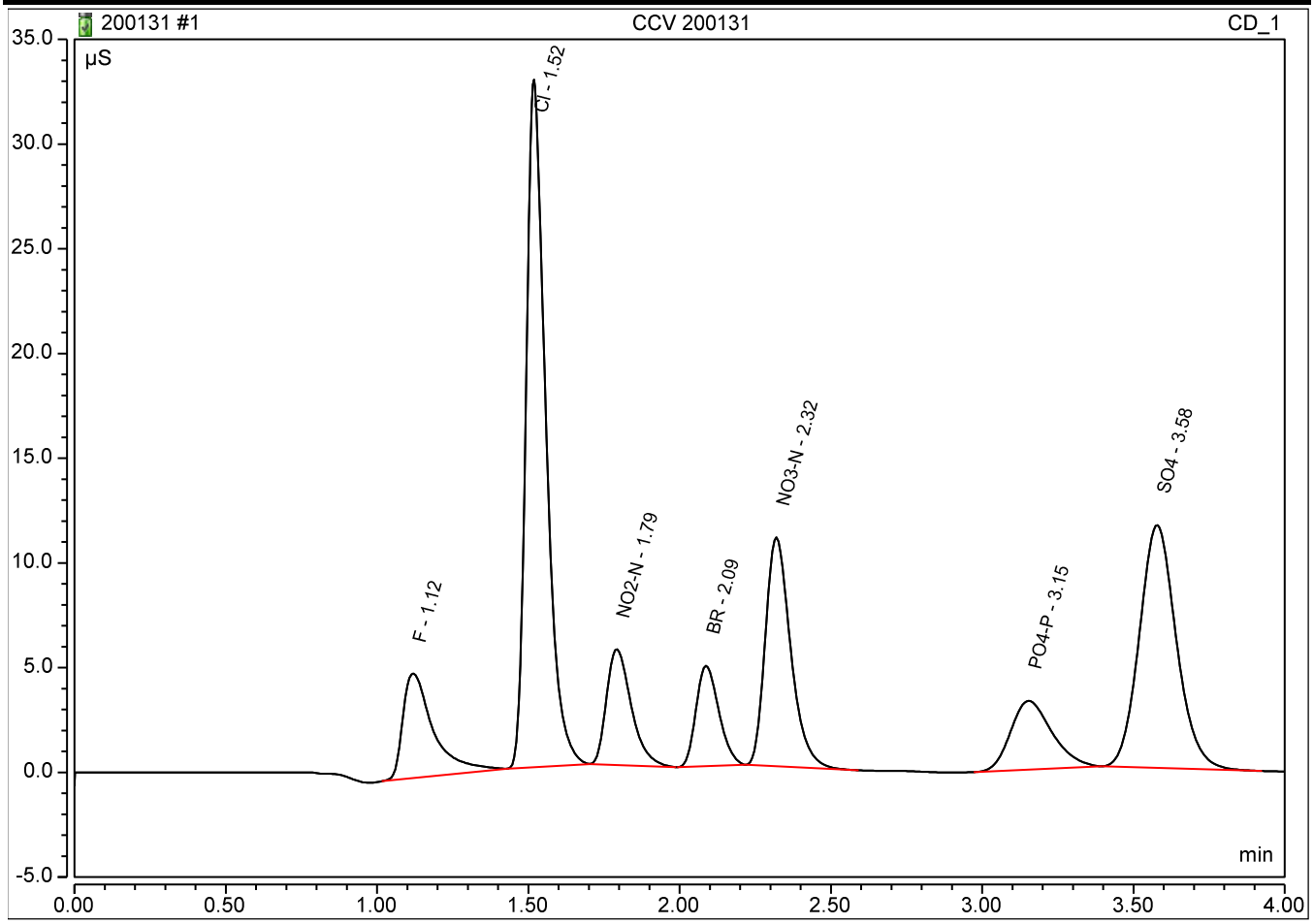
Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Logged on User: BW
Instrument: Charlie System_1
Sequence: 200131

Peak Integration Report

Sample Name:	**CCV 200131**	*Inj. Vol.:*	**25uL**
Injection Type:	**Check Standard**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**31-Jan-2020 / 16:50**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.12	**F**	BMB	0.584	4.991	4.91	5	98.1%
2	1.52	**Cl**	BMB	2.464	32.819	23.02	25	92.1%
3	1.79	**NO2-N**	BMB	0.524	5.529	2.87	3.04	94.3%
4	2.09	**BR**	BMB	0.420	4.803	11.42	12.5	91.3%
5	2.32	**NO3-N**	BMB	1.060	10.930	4.72	5	94.4%
6	3.15	**PO4-P**	BMB	0.519	3.280	8.34	10	83.4%
7	3.58	**SO4**	BMB	1.645	11.602	24.34	25	97.4%



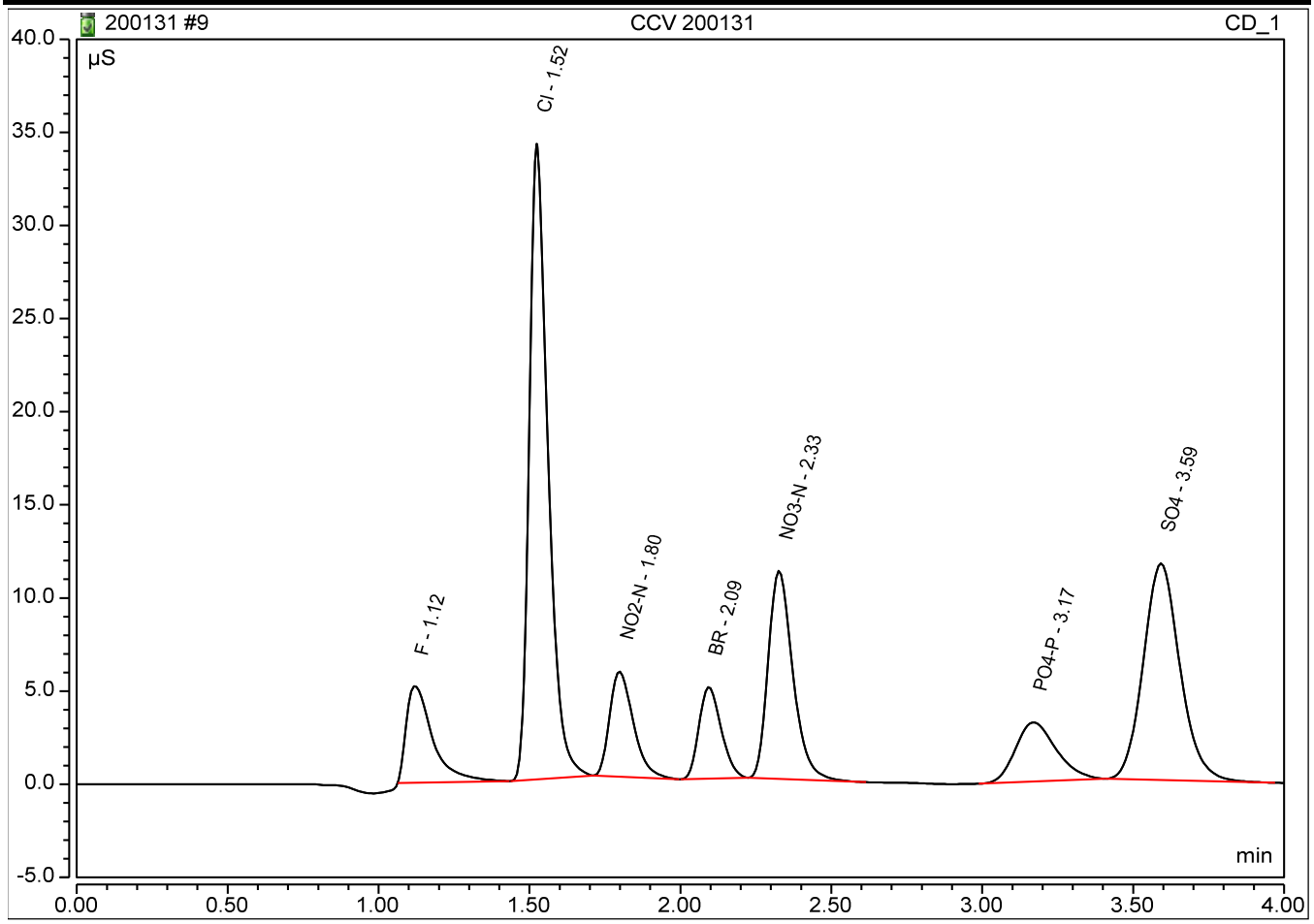
Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Logged on User: BW
Instrument: Charlie System_1
Sequence: 200131

Peak Integration Report

Sample Name:	**CCV 200131**	*Inj. Vol.:*	**25uL**
Injection Type:	**Check Standard**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**31-Jan-2020 / 18:23**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.12	**F**	BMB	0.526	5.193	4.44	5	88.8%
2	1.52	**Cl**	BMB	2.451	34.114	22.91	25	91.6%
3	1.80	**NO2-N**	BMB	0.516	5.653	2.83	3.04	93.0%
4	2.09	**BR**	BMB	0.419	4.928	11.41	12.5	91.3%
5	2.33	**NO3-N**	BMB	1.060	11.174	4.72	5	94.4%
6	3.17	**PO4-P**	BMB	0.497	3.181	8.03	10	80.3%
7	3.59	**SO4**	BMB	1.641	11.640	24.29	25	97.2%



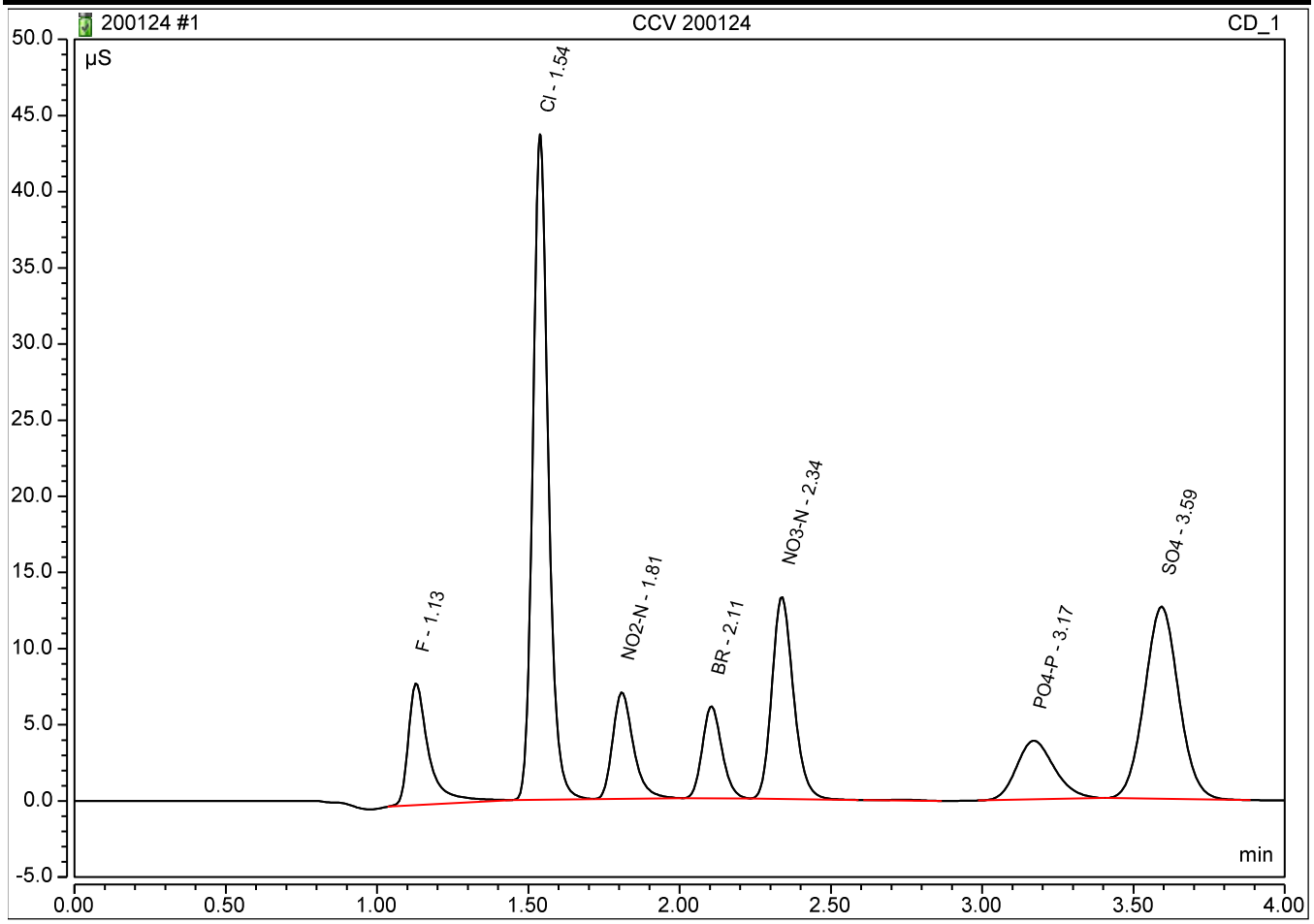
Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Logged on User: BW
Instrument: Charlie System_1
Sequence: 200124

Peak Integration Report

Sample Name:	**CCV 200124**	*Inj. Vol.:*	**25uL**
Injection Type:	**Check Standard**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**24-Jan-2020 / 20:04**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.13	**F**	BMB	0.631	8.021	5.29	5	105.8%
2	1.54	**Cl**	BMB	2.583	43.687	24.08	25	96.3%
3	1.81	**NO2-N**	BMB	0.556	6.991	3.04	3.04	99.9%
4	2.11	**BR**	BMB	0.453	6.051	12.30	12.5	98.4%
5	2.34	**NO3-N**	BMB	1.097	13.280	4.87	5	97.5%
7	3.17	**PO4-P**	BMB	0.558	3.853	8.91	10	89.1%
8	3.59	**SO4**	BMB	1.659	12.622	24.55	25	98.2%



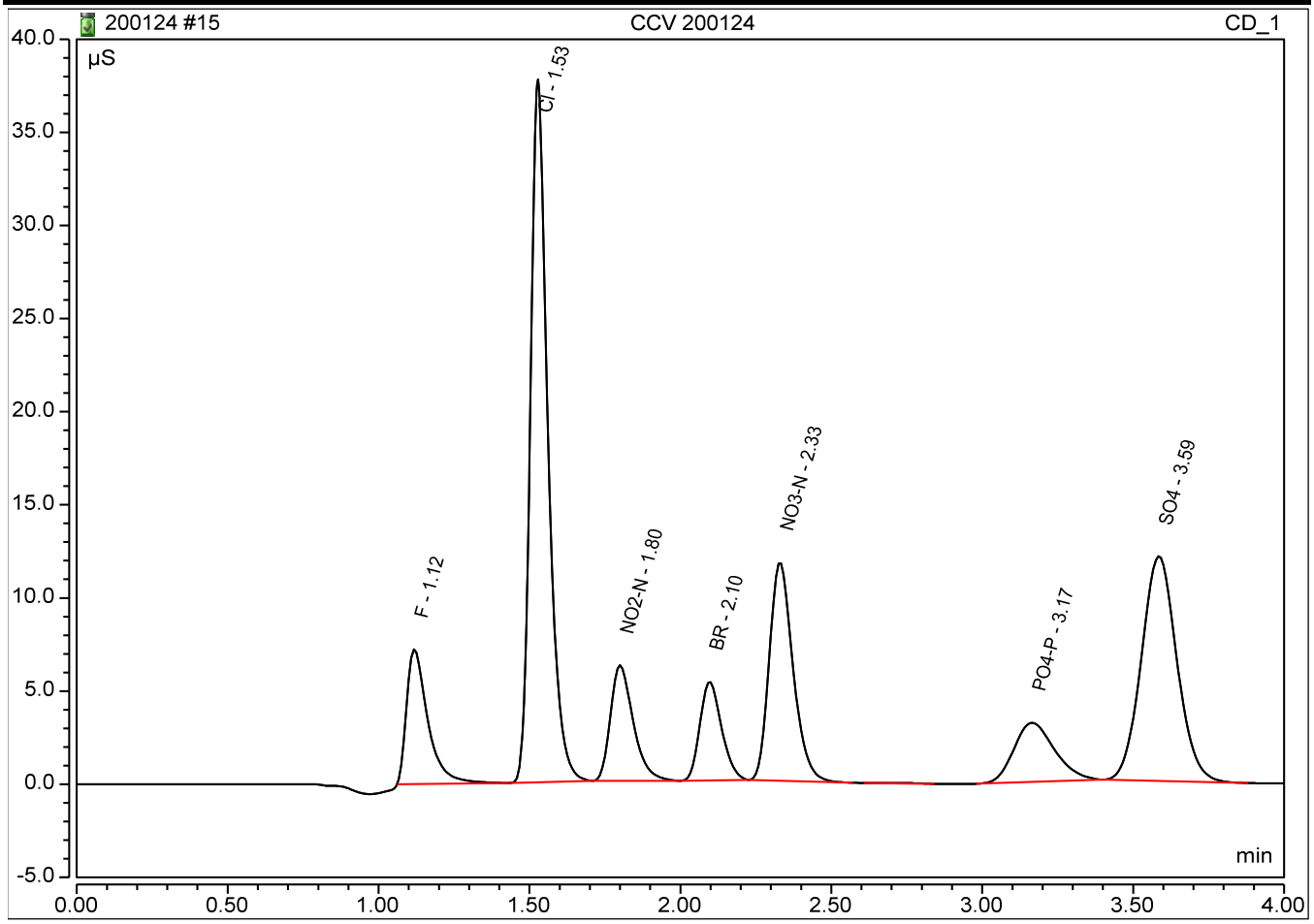
Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Logged on User: BW
Instrument: Charlie System_1
Sequence: 200124

Peak Integration Report

Sample Name:	**CCV 200124**	*Inj. Vol.:*	**25uL**
Injection Type:	**Check Standard**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**24-Jan-2020 / 21:33**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.12	**F**	BMB	0.589	7.247	4.95	5	99.0%
2	1.53	**Cl**	BMB	2.522	37.740	23.54	25	94.2%
3	1.80	**NO2-N**	BMB	0.544	6.208	2.98	3.04	98.0%
4	2.10	**BR**	BMB	0.439	5.306	11.94	12.5	95.5%
5	2.33	**NO3-N**	BMB	1.069	11.744	4.76	5	95.1%
7	3.17	**PO4-P**	BMB	0.496	3.178	8.01	10	80.1%
8	3.59	**SO4**	BMB	1.650	12.069	24.42	25	97.7%



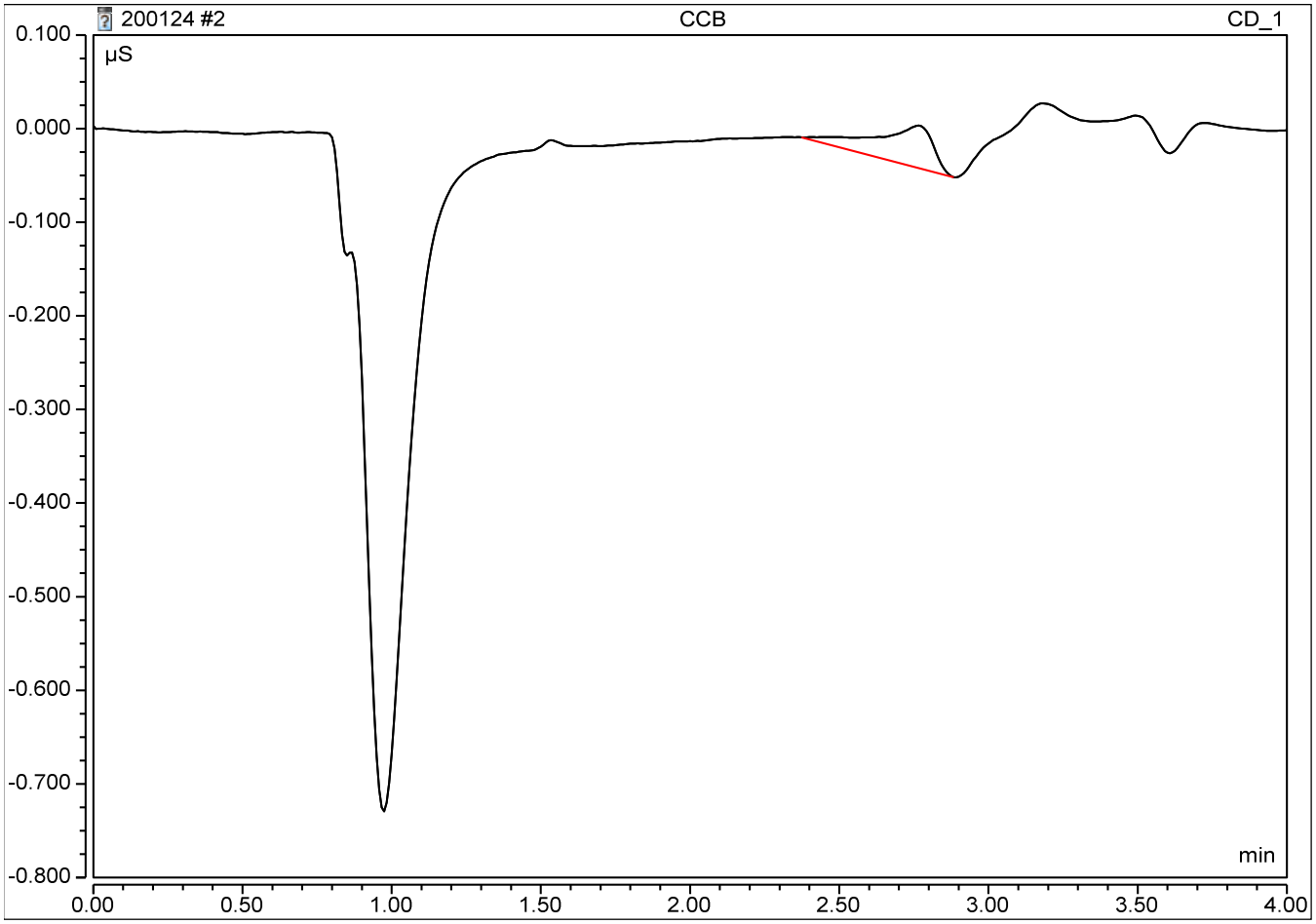
Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Logged on User: BW
Instrument: Charlie System_1
Sequence: 200124

Peak Integration Report

Sample Name:	**CCB**	*Inj. Vol.:*	**25uL**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**24-Jan-2020 / 20:10**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery

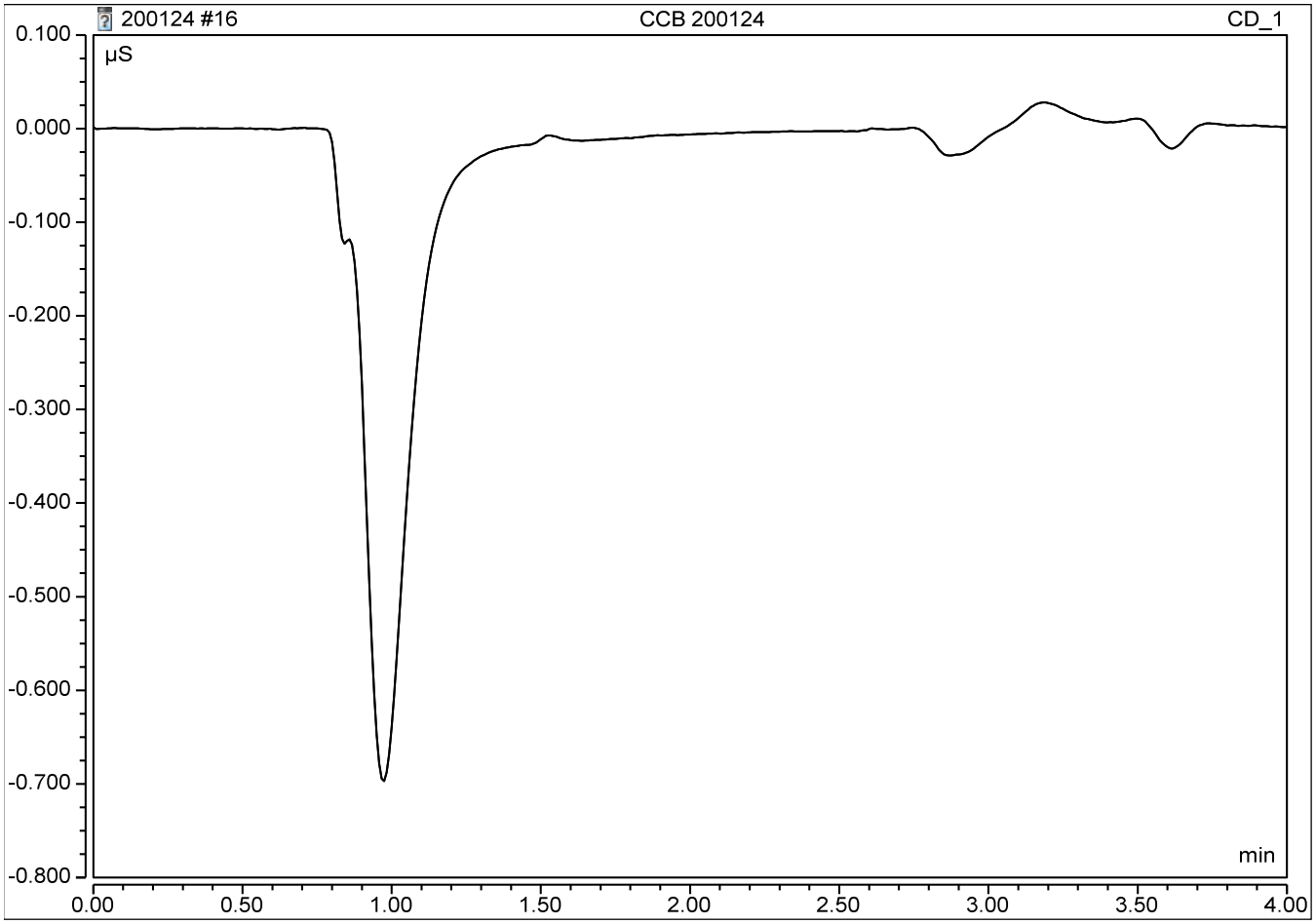


Logged on User: BW
Instrument: Charlie System_1
Sequence: 200124

Peak Integration Report

Sample Name:	**CCB 200124**	*Inj. Vol.:*	**25uL**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**24-Jan-2020 / 21:40**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery



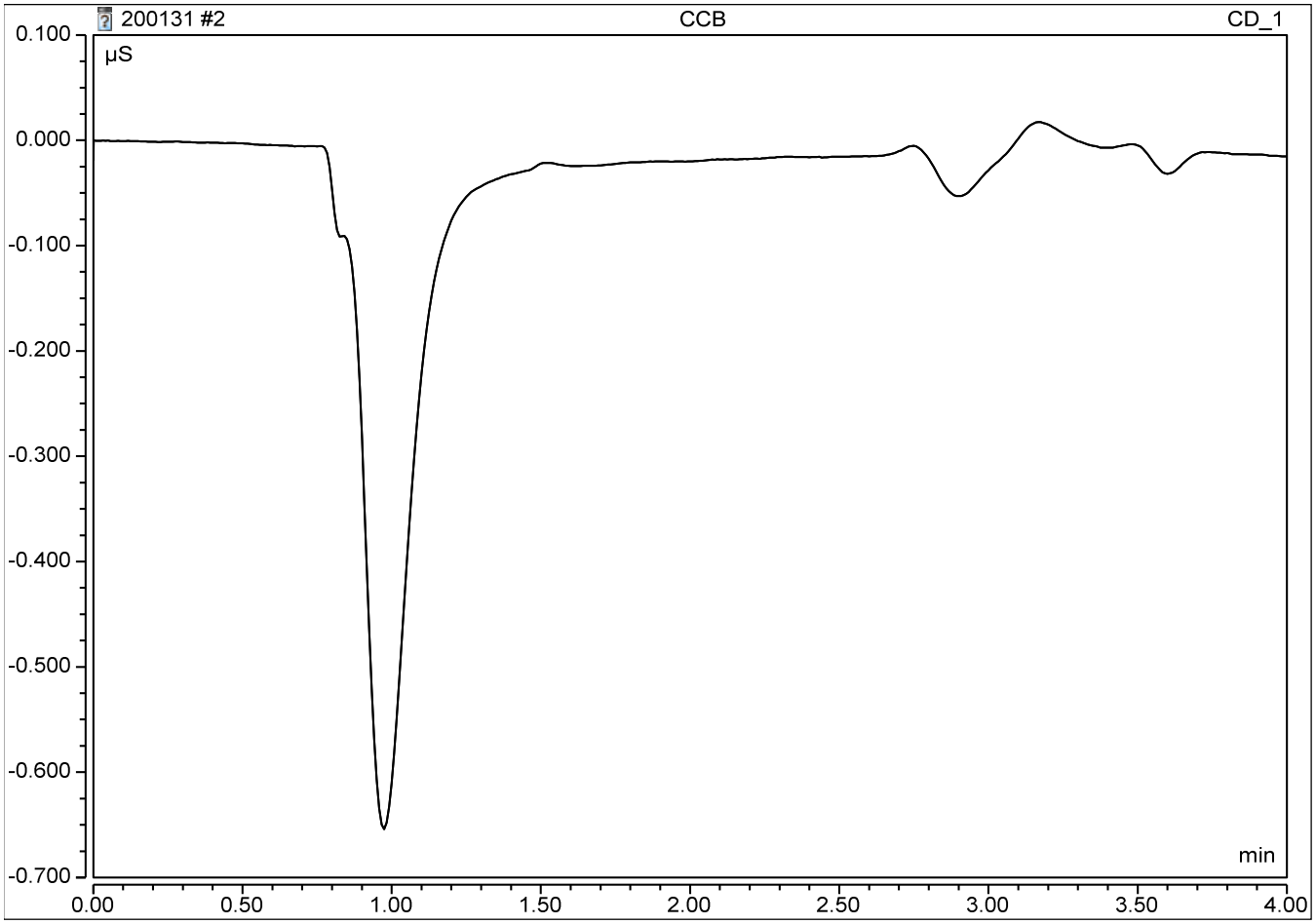
Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Logged on User: BW
Instrument: Charlie System_1
Sequence: 200131

Peak Integration Report

Sample Name:	**CCB**	*Inj. Vol.:*	**25uL**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**31-Jan-2020 / 16:57**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery

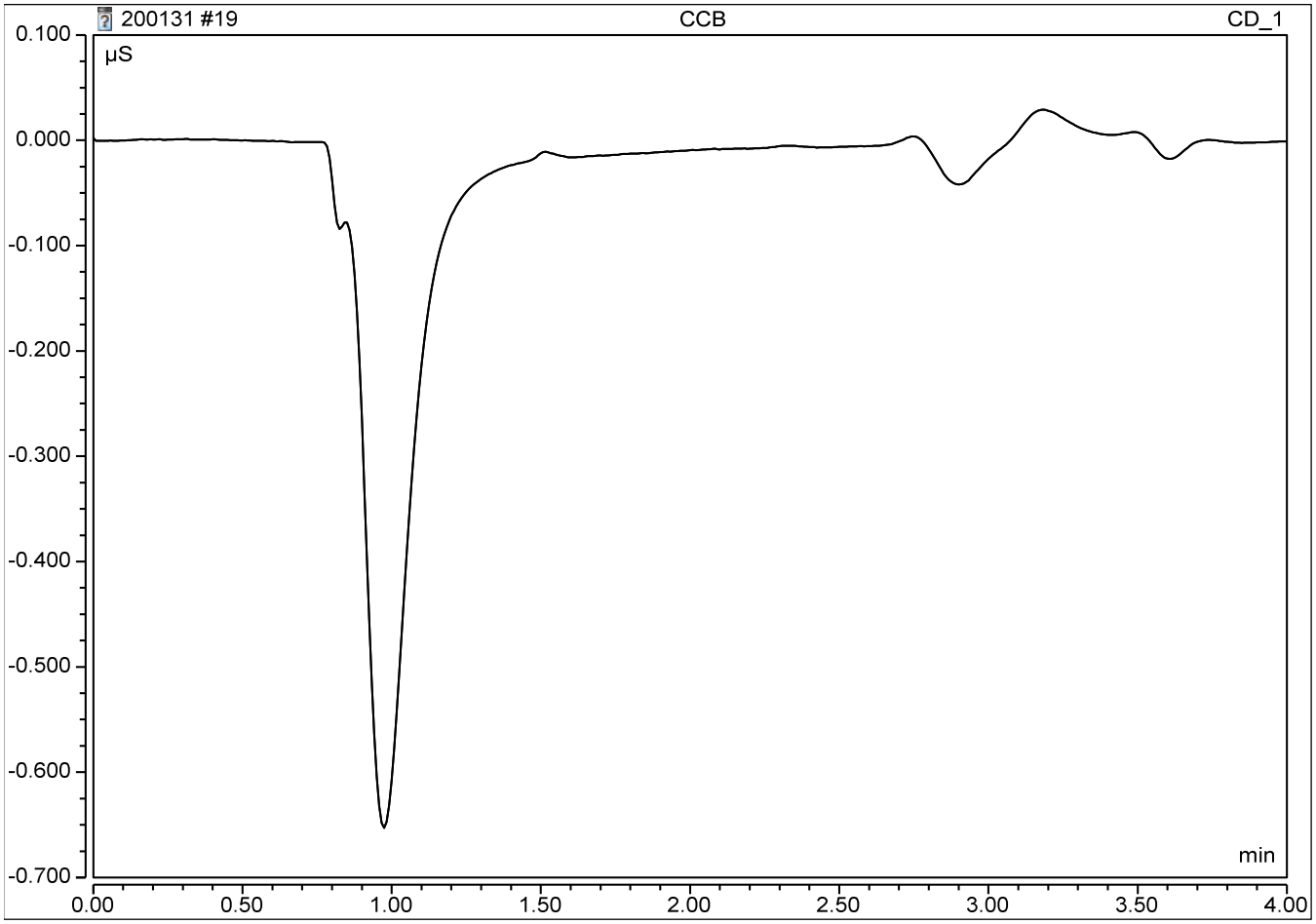


Logged on User: BW
Instrument: Charlie System_1
Sequence: 200131

Peak Integration Report

Sample Name:	**CCB**	*Inj. Vol.:*	**25uL**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**31-Jan-2020 / 19:27**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery



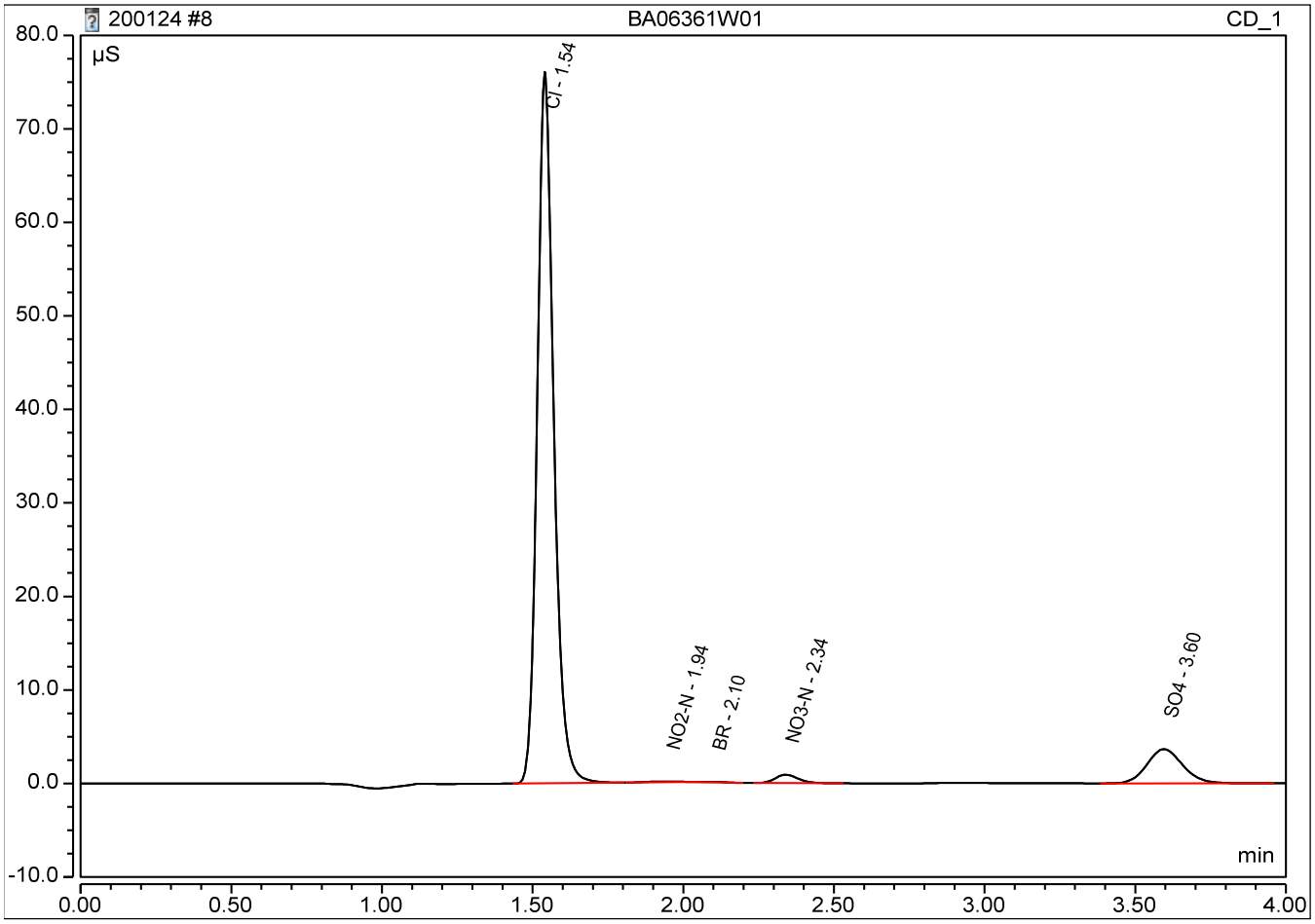
INORGANIC ANALYSIS
Raw Data

Logged on User: BW
Instrument: Charlie System_1
Sequence: 200124

Peak Integration Report

Sample Name:	**BA06361W01**	*Inj. Vol.:*	**25uL**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**24-Jan-2020 / 20:49**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.54	**Cl**	BMB	4.824	76.085	44.10		
2	1.94	**NO2-N**	BMB	0.011	0.081	0.10		
3	2.10	**BR**	BMB	0.004	0.055	0.35		
4	2.34	**NO3-N**	BMB	0.081	0.900	0.50		
5	3.60	**SO4**	BMB	0.505	3.665	7.95		



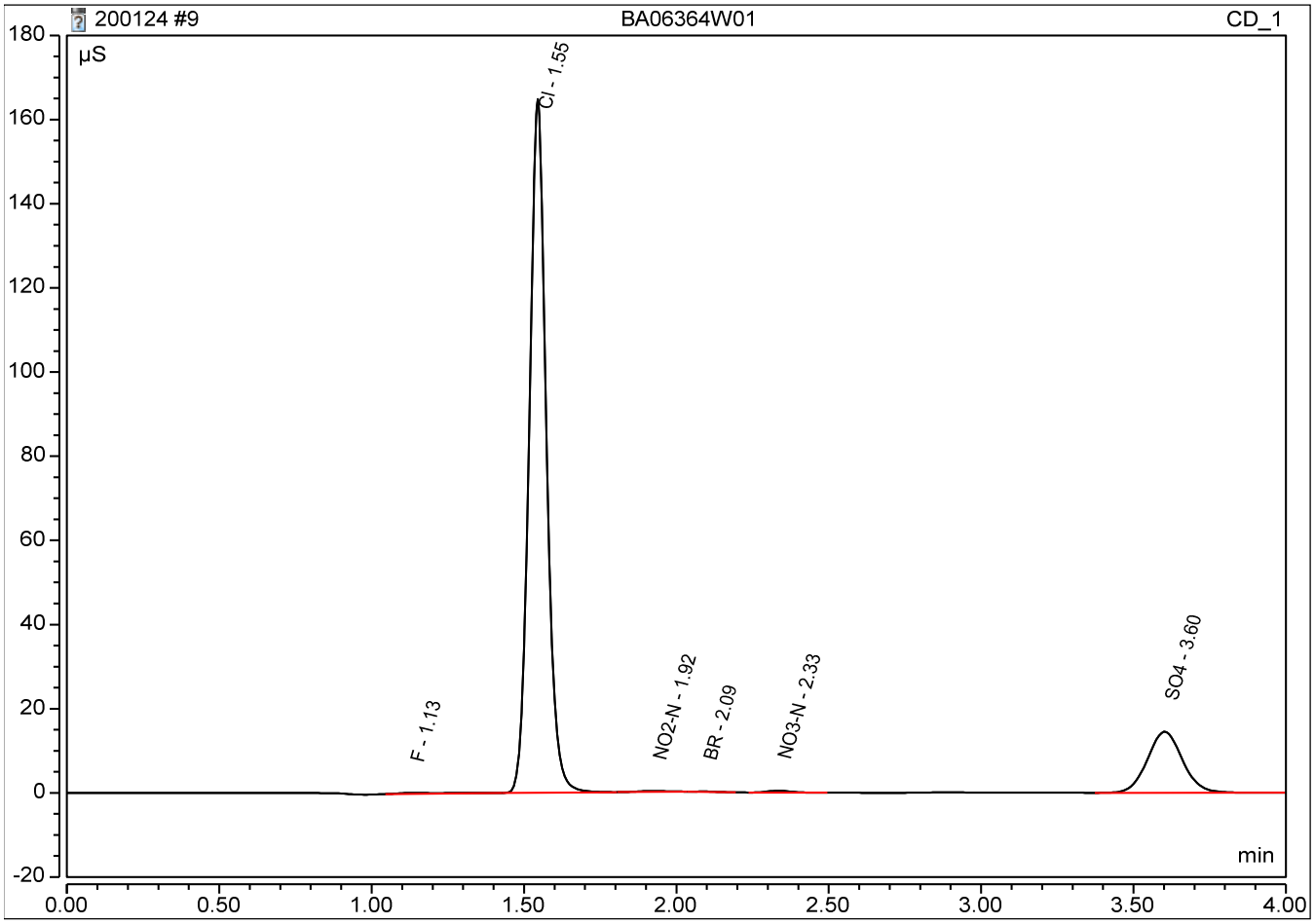
Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Logged on User: BW
Instrument: Charlie System_1
Sequence: 200124

Peak Integration Report

Sample Name:	**BA06364W01**	*Inj. Vol.:*	**25uL**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**24-Jan-2020 / 20:55**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.13	**F**	BMB	0.036	0.225	0.50		
2	1.55	**Cl**	BMB	10.676	164.843	96.38		
3	1.92	**NO2-N**	BMB	0.023	0.186	0.16		
4	2.09	**BR**	BMB	0.006	0.087	0.42		
5	2.33	**NO3-N**	BMB	0.039	0.444	0.32		
6	3.60	**SO4**	BMB	1.942	14.522	28.62		



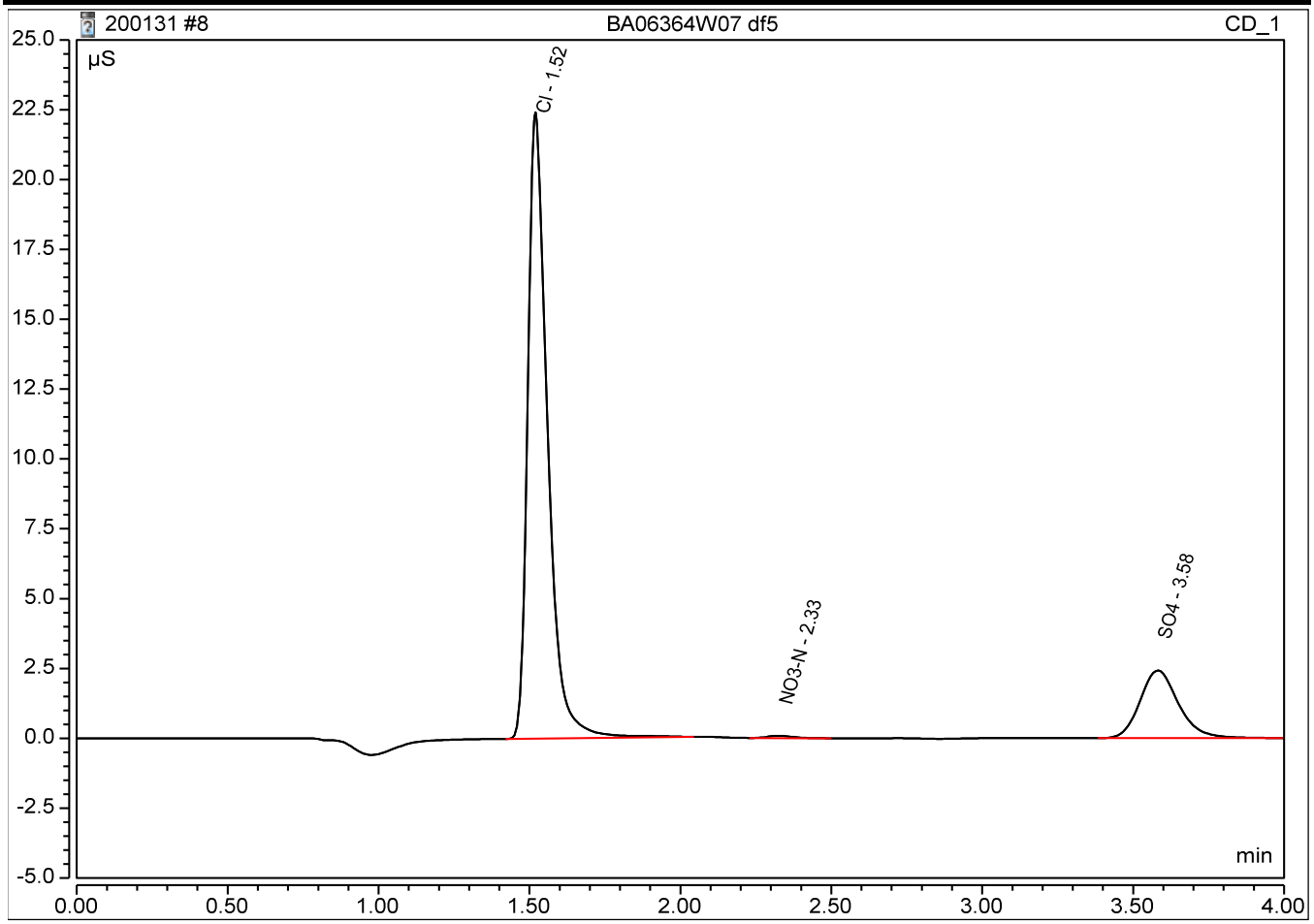
Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Logged on User: BW
Instrument: Charlie System_1
Sequence: 200131

Peak Integration Report

Sample Name:	**BA06364W07 df5**	*Inj. Vol.:*	**25uL**
Injection Type:	**Unknown**	*Dilution Factor:*	**5.00**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**31-Jan-2020 / 18:17**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.52	**Cl**	BMB	1.703	22.421	81.11		
2	2.33	**NO3-N**	BMB	0.008	0.082	0.93		
3	3.58	**SO4**	BMB	0.358	2.423	29.19		



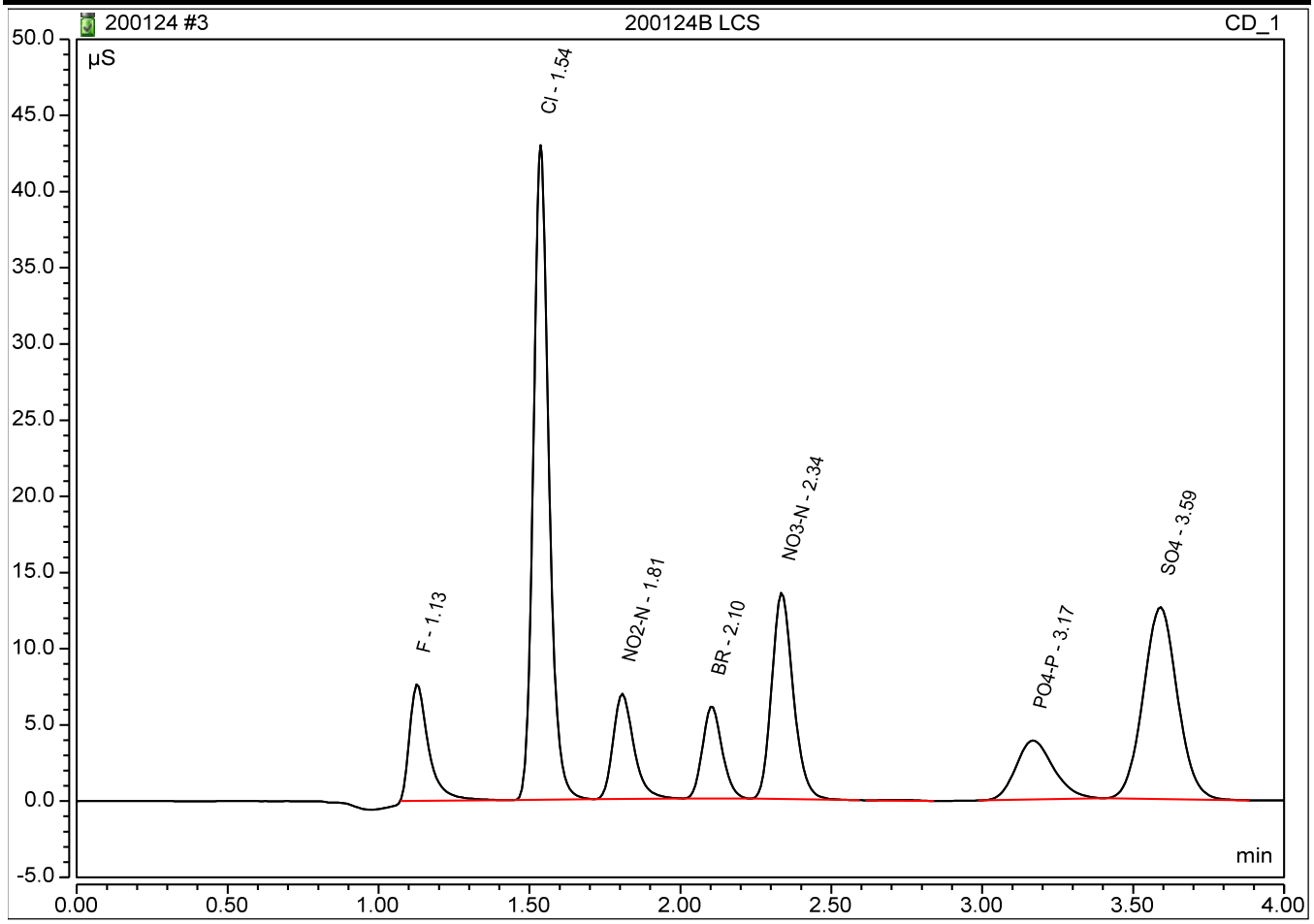
Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Logged on User: BW
Instrument: Charlie System_1
Sequence: 200124

Peak Integration Report

Sample Name:	**200124B LCS**	*Inj. Vol.:*	**25uL**
Injection Type:	**Check Standard**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**24-Jan-2020 / 20:17**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.13	**F**	BMB	0.561	7.678	4.72	5	94.4%
2	1.54	**Cl**	BMB	2.559	42.958	23.87	25	95.5%
3	1.81	**NO2-N**	BMB	0.550	6.904	3.01	3.04	99.0%
4	2.10	**BR**	BMB	0.457	6.068	12.41	12.5	99.2%
5	2.34	**NO3-N**	BMB	1.121	13.553	4.98	5	99.6%
7	3.17	**PO4-P**	BMB	0.559	3.872	8.92	10	89.2%
8	3.59	**SO4**	BMB	1.660	12.606	24.56	25	98.2%



Algorithm Check
y = Peak Area
x = mg/L S04

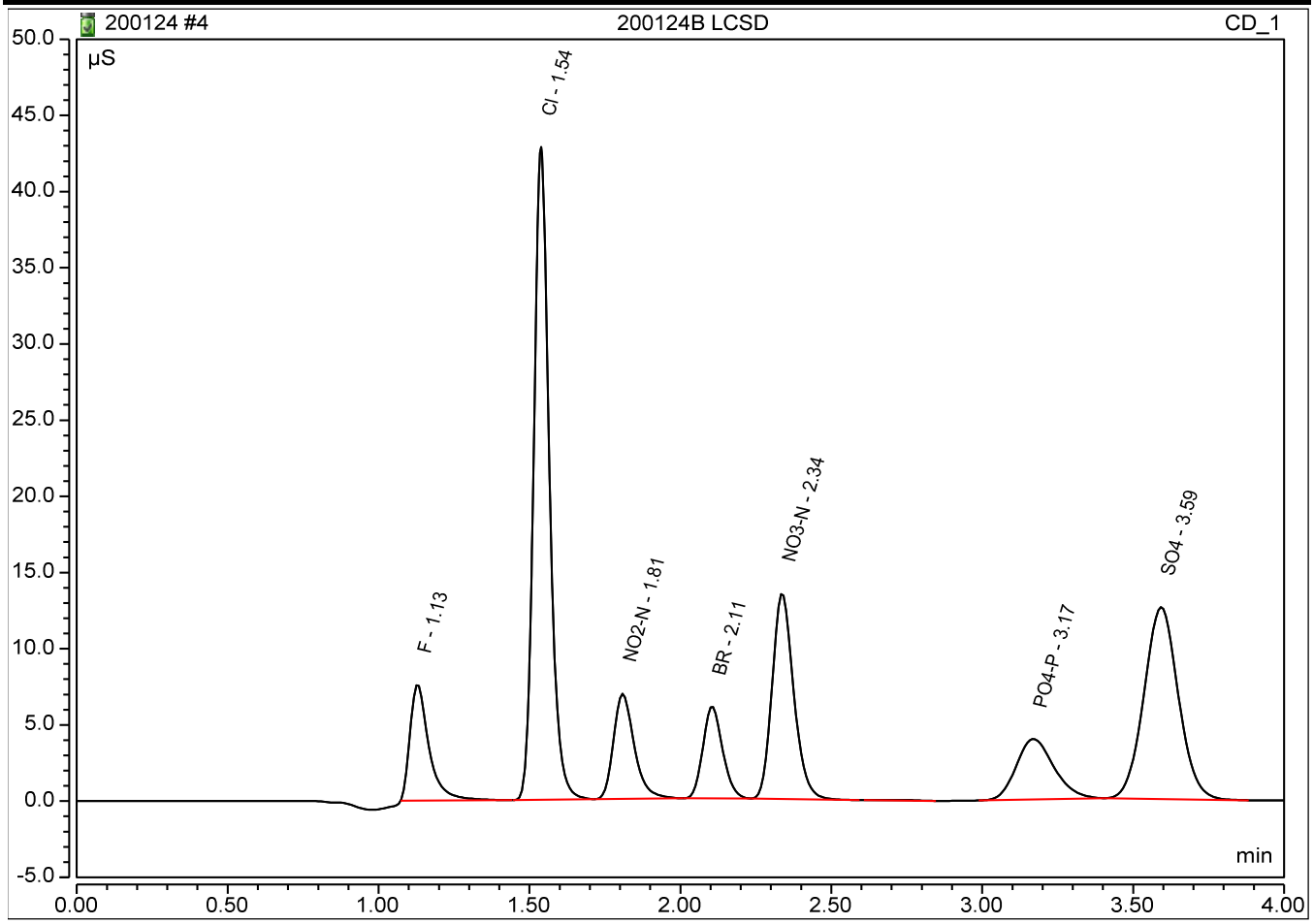
y = 0.0695 x + -0.0480
y = 1.6597 therefor x = 24.5712 CD

Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Peak Integration Report

Sample Name:	**200124B LCSD**	*Inj. Vol.:*	**25uL**
Injection Type:	**Check Standard**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**24-Jan-2020 / 20:23**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.13	**F**	BMB	0.557	7.655	4.69	5	93.8%
2	1.54	**Cl**	BMB	2.560	42.845	23.88	25	95.5%
3	1.81	**NO2-N**	BMB	0.551	6.900	3.01	3.04	99.1%
4	2.11	**BR**	BMB	0.457	6.054	12.40	12.5	99.2%
5	2.34	**NO3-N**	BMB	1.121	13.524	4.98	5	99.5%
7	3.17	**PO4-P**	BMB	0.574	3.972	9.13	10	91.3%
8	3.59	**SO4**	BMB	1.666	12.593	24.65	25	98.6%



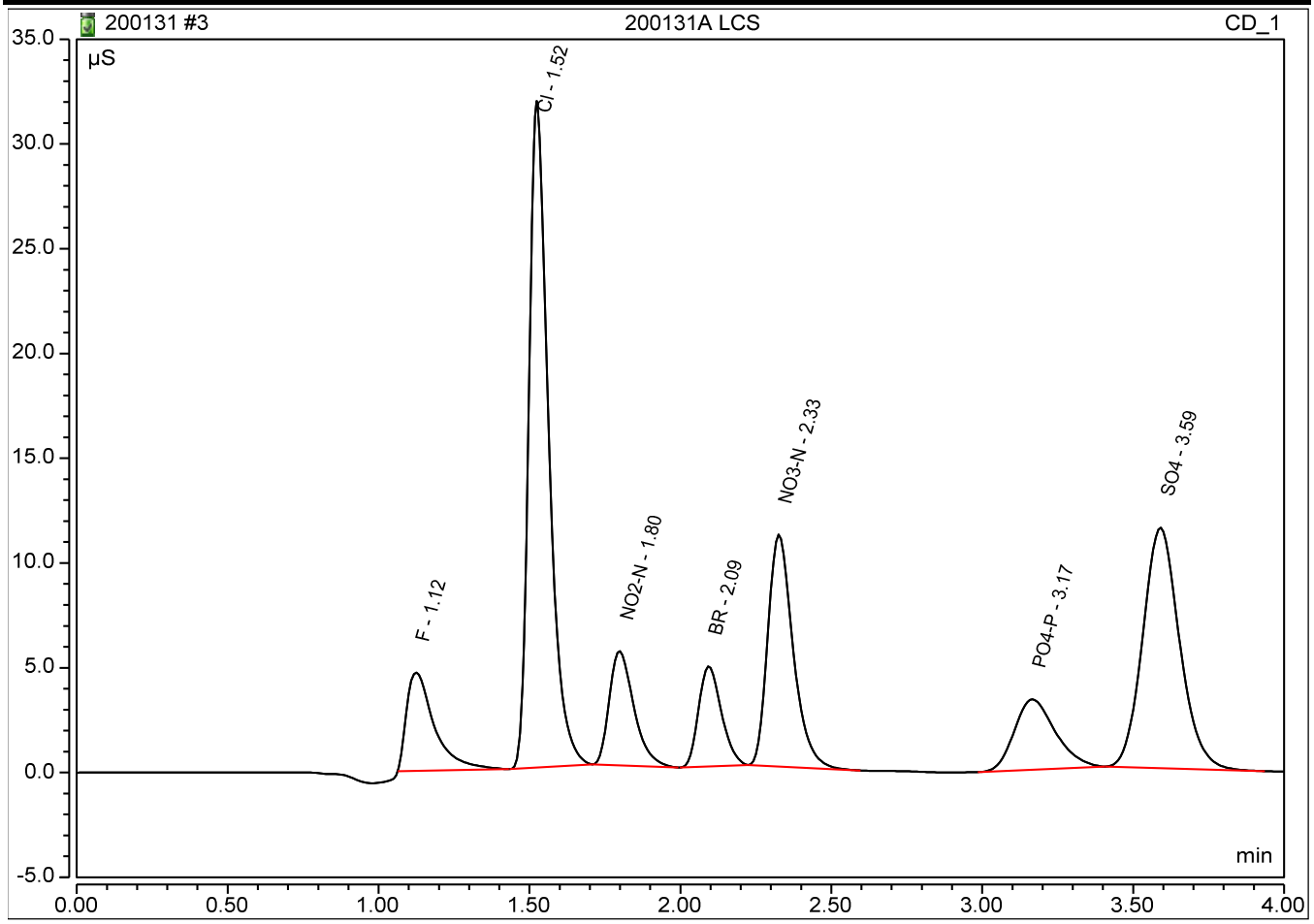
Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Logged on User: BW
Instrument: Charlie System_1
Sequence: 200131

Peak Integration Report

Sample Name:	**200131A LCS**	*Inj. Vol.:*	**25uL**
Injection Type:	**Check Standard**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**31-Jan-2020 / 17:03**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.12	**F**	BMB	0.501	4.699	4.24	5	84.9%
2	1.52	**Cl**	BMB	2.402	31.815	22.47	25	89.9%
3	1.80	**NO2-N**	BMB	0.516	5.456	2.82	3.04	92.9%
4	2.09	**BR**	BMB	0.418	4.780	11.37	12.5	90.9%
5	2.33	**NO3-N**	BMB	1.075	11.062	4.78	5	95.6%
6	3.17	**PO4-P**	BMB	0.527	3.357	8.46	10	84.6%
7	3.59	**SO4**	BMB	1.629	11.479	24.11	25	96.4%



Algorithm Check
y = Peak Area
x = mg/L S04

y = 0.0695 x + -0.0480
y = 1.6286 therefor x = 24.1295 CD

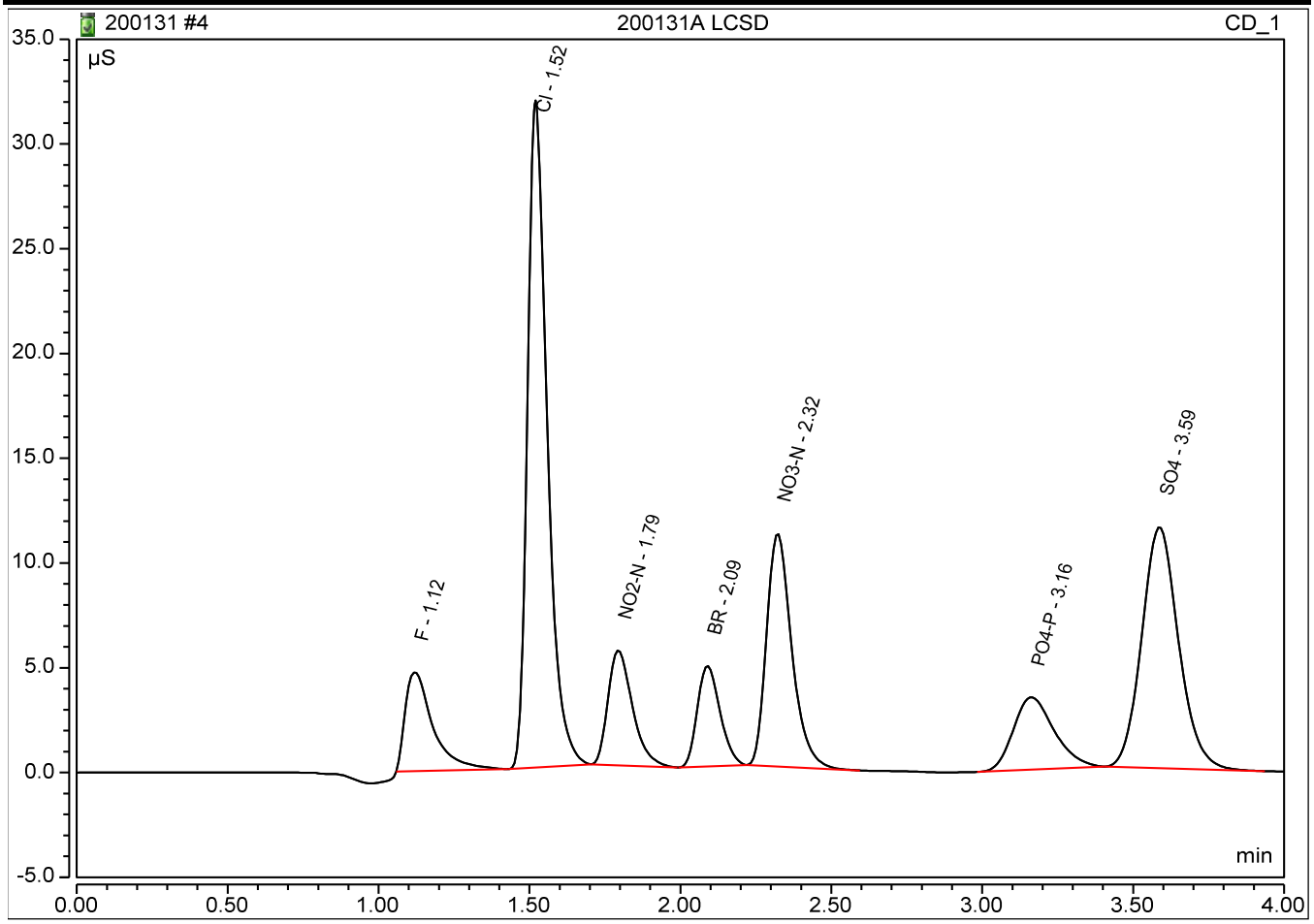
Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Logged on User: BW
Instrument: Charlie System_1
Sequence: 200131

Peak Integration Report

Sample Name:	**200131A LCSD**	*Inj. Vol.:*	**25uL**
Injection Type:	**Check Standard**	*Dilution Factor:*	**1.00**
Program:	**Anion APM 2020.01.24**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**31-Jan-2020 / 17:09**	*Run Time:*	**4.00**

No.	Time (min) min	Peak Name	Peak Type	Area (µS*min) µS*min	Height (µS) µS	Amount mg/L	Spike Level mg/L	Recovery
1	1.12	**F**	BMB	0.502	4.726	4.24	5	84.9%
2	1.52	**Cl**	BMB	2.402	31.843	22.47	25	89.9%
3	1.79	**NO2-N**	BMB	0.517	5.485	2.83	3.04	93.1%
4	2.09	**BR**	BMB	0.419	4.804	11.39	12.5	91.1%
5	2.32	**NO3-N**	BMB	1.076	11.138	4.78	5	95.7%
6	3.16	**PO4-P**	BMB	0.541	3.460	8.66	10	86.6%
7	3.59	**SO4**	BMB	1.628	11.512	24.11	25	96.4%



Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Anion Chromatography Working Standard

Prep Date: 01/24/20

Exp Date: 01/25/20

Prep'd By (Initials): CD

Initial Standard Information						Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	Supplier Part No.	Conc. (ug/mL)	Lot Number - QA Number	Exp. Date	Aliquot from Stock	Final Volume	Solvent	Final Standard Conc (µg/mL)
Ion Chromatography Standard Fluoride 1000 µg/mL in H2O	o2si	O2SI-062002-01-01	1000	687393-38-40744	10/30/20	312.5 µL	25 mL	Millipore Water	12.5
Ion Chromatography Standard Nitrite 1000 µg/mL in H2O	Inorganic Ventures	ICN021	1000	N2-NOX672889-40759	05/01/20	411 µL	25 mL	Millipore Water	5 as NO2-N
Ion Chromatography Standard Chloride 5000 µg/mL in H2O	o2si	062001-08-03	5000	10084781-1-39578	02/21/20	250 µL	25 mL	Millipore Water	50
Ortho-Phosphate as P Standard	Ultra Scientific	ICC-005A	1000	G34-CP-3323-39057	08/31/23	625 µL	25 mL	Millipore Water	25
Ion Chromatography Standard Nitrate as N 1000 µg/mL in H2O	o2si	062003-01-03	1000	880117-4-39577	02/21/20	250 µL	25 mL	Millipore Water	10
Bromide Standard	Ultra Scientific	ICC-001	1000	CR-5372-39521	12/31/21	625 µL	25 mL	Millipore Water	25
Sulfate Standard	Agilent	ICC-006	1000	CS-0688-41050	03/31/22	1250 µL	25 mL	Millipore Water	50

Anion Chromatography Calibration Curve

Prep Date: 01/24/20

Exp Date: 01/25/20

Prep'd By (Initials): CD

Initial Standard Information						Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	APPL Mix Name	Conc. Range (ug/mL)	Reference To APPL Prep Date	Exp. Date	Aliquot from Stock	Final Volume	Solvent	Final Standard Conc. Range (µg/mL)
Anion Chromatography Working Standard	Varies	ICal1	5.0-50.0	Prepared 01/24/20	01/25/20	200 µL	25000 µL	Millipore Water	0.04-0.40
Anion Chromatography Working Standard	Varies	ICal2	5.0-50.0	Prepared 01/24/20	01/25/20	20 µL	1000 µL	Millipore Water	0.1-1.0
Anion Chromatography Working Standard	Varies	ICal3	5.0-50.0	Prepared 01/24/20	01/25/20	50 µL	1000 µL	Millipore Water	0.25-2.5
Anion Chromatography Working Standard	Varies	ICal4	5.0-50.0	Prepared 01/24/20	01/25/20	100 µL	1000 µL	Millipore Water	0.5-5.0
Anion Chromatography Working Standard	Varies	ICal5	5.0-50.0	Prepared 01/24/20	01/25/20	200 µL	1000 µL	Millipore Water	1.0-10.0
Anion Chromatography Working Standard	Varies	ICal6	5.0-50.0	Prepared 01/24/20	01/25/20	500 µL	1000 µL	Millipore Water	2.5-25.0
Anion Chromatography Working Standard	Varies	ICal7	5.0-50.0	Prepared 01/24/20	01/25/20	700 µL	1000 µL	Millipore Water	3.5-35.0
Anion Chromatography Working Standard	Varies	ICal8	5.0-50.0	Prepared 01/24/20	01/25/20	1000 µL	1000 µL	Millipore Water	5.0-50.0

Anion Chromatography LCS/ICV

Prep Date: See injection Log

Exp Date: 24 hours after prep

Prep'd By (Initials): CD

Initial Standard Information						Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	Supplier Part No.	Conc. Range (ug/mL)	Lot Number - QA Number	Exp. Date	Aliquot from Stock	Final Volume	Solvent	Final Standard Conc (µg/mL)
Flouride	Inorganic Ventures	ICF1	993-999	K-F652018-39801**	04/23/20	125 µL	25 mL	Millipore Water	5
Nitrite	Inorganic Ventures	ICNO21	993-1001	M2-NOX660562-40468	08/25/21	250 µL	25 mL	Millipore Water	10
Chloride	Inorganic Ventures	ICCL1	995-1001	N2CL664868-39905	03/07/22	625 µL	25 mL	Millipore Water	25
O-Phosphate as P	Inorganic Ventures	ICPPO41	1001-1009	M2-POX655826-39803**	04/23/20	250 µL	25 mL	Millipore Water	10
Nitrate as N	Inorganic Ventures	ICNNO31	997-1005	P2-NOX675324-49391	02/14/23	125 µL	25 mL	Millipore Water	5
Ion Chromatography Standard Bromide, 1000 µg/mL in H2O	CPI International	4400-IC8M	995-1005	161681-8-39539	02/06/20	312.5 µL	25 mL	Millipore Water	12.5
Sulfate	Inorganic Ventures	ICSO41	998-1006	N2-SOX664928-39507**	05/27/20	625 µL	25 mL	Millipore Water	25

Anion Chromatography CCV

Prep Date: See injection Log

Exp Date: 24 hours after prep

**Recertified with CCV Standards listed below on 191021; extended exp. date by 6 mo.

Prep'd By (Initials): CD

Initial Standard Information						Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	Supplier Part No.	Conc. (ug/mL)	Lot Number - QA Number	Exp. Date	Aliquot from Stock	Final Volume	Solvent	Final Standard Conc (µg/mL)
Ion Chromatography Standard Fluoride 1000 µg/mL in H2O	o2si	O2SI-062002-01-01	1000	687393-38-40744	10/30/20	125 µL	25 mL	Millipore Water	5
Ion Chromatography Standard Nitrite 1000 µg/mL in H2O	Inorganic Ventures	ICN021	1000	N2-NOX672889-40759	05/01/20	250 µL	25 mL	Millipore Water	10
Ion Chromatography Standard Chloride 5000 µg/mL in H2O	o2si	062001-08-03	5000	10084781-1-39578	02/21/20	125 µL	25 mL	Millipore Water	25
Ortho-Phosphate as P Standard	Ultra Scientific	ICC-005A	1000	G34-CP-3323-39057	08/31/23	250 µL	25 mL	Millipore Water	10
Ion Chromatography Standard Nitrate as N 1000 µg/mL in H2O	o2si	062003-01-03	1000	880117-4-39577	02/21/20	125 µL	25 mL	Millipore Water	5
Bromide Standard	Ultra Scientific	ICC-001	1000	CR-5372-39521	12/31/21	312.5 µL	25 mL	Millipore Water	12.5
Sulfate Standard	Agilent	ICC-006	1000	CS-0688-41050	03/31/22	625 µL	25 mL	Millipore Water	25

Method 300 and 9056 Injection Log

No.	Position	Injection Description	Inject Time		Type	Comment
1	R2	CCV 20014A	24/Jan/2020	10:06	Check Standard	Cl NO3 SO4 fail
2	R1	CCB 200124A	24/Jan/2020	10:12	Unknown	
3	R2	CCV 20014A	24/Jan/2020	10:21	Check Standard	
4	R1	CCB 200124A	24/Jan/2020	10:28	Unknown	
5	BE1	Cal1 2020.01.24	24/Jan/2020	10:39	Calibration Standard	
6	BE2	Cal2 2020.01.24	24/Jan/2020	10:46	Calibration Standard	
7	BE3	Cal3 2020.01.24	24/Jan/2020	10:52	Calibration Standard	
8	BE4	Cal4 2020.01.24	24/Jan/2020	10:58	Calibration Standard	
9	BE5	Cal5 2020.01.24	24/Jan/2020	11:05	Calibration Standard	
10	BE6	Cal6 2020.01.24	24/Jan/2020	11:11	Calibration Standard	
11	BE7	Cal7 2020.01.24	24/Jan/2020	11:18	Calibration Standard	
12	BE8	Cal8 2020.01.24	24/Jan/2020	11:24	Calibration Standard	
13	R2	ICB 200124A	24/Jan/2020	11:30	Unknown	
14	R3	200124A LCS/ ICV	24/Jan/2020	11:37	Check Standard	
15	R3	200124A LCSD	24/Jan/2020	11:43	Check Standard	
16	R2	CCV 200124	24/Jan/2020	11:50	Check Standard	
17	R1	CCB	24/Jan/2020	11:56	Unknown	
18	GC1	Method LCS 191015	24/Jan/2020	14:41	Check Standard	half spike
19	GC2	Method LCSD 191015	24/Jan/2020	14:48	Check Standard	half spike
20	GC1	200124A LCS	24/Jan/2020	14:58	Check Standard	full spike
21	GC2	200124A LCSD	24/Jan/2020	15:04	Check Standard	full spike
22	GC3	200124A BLK	24/Jan/2020	15:11	Unknown	
23	GC4	BA06100S04	24/Jan/2020	15:17	Unknown	
24	GC5	BA06100S04 MS	24/Jan/2020	15:24	Unknown	half spike
25	GC6	BA06100S04 MSD	24/Jan/2020	15:30	Unknown	half spike
26	GC7	BA06101S04	24/Jan/2020	15:36	Unknown	
27	GC8	BA06102S04	24/Jan/2020	15:43	Unknown	
28	GD1	BA06103S04	24/Jan/2020	15:49	Unknown	
29	R2	CCV 200124	24/Jan/2020	15:55	Check Standard	
30	R1	CCB	24/Jan/2020	16:02	Unknown	
31	R3	STOP	n.a.		Unknown	

Method 300 and 9056 Injection Log

No.	Position	Injection Description	Inject Time		Type	Comment
1	R2	CCV 200124	24/Jan/2020	20:04	Check Standard	
2	R1	CCB	24/Jan/2020	20:10	Unknown	
3	R3	200124B LCS	24/Jan/2020	20:17	Check Standard	
4	R3	200124B LCSD	24/Jan/2020	20:23	Check Standard	
5	RA1	BA05744W01	24/Jan/2020	20:30	Unknown	
6	RA2	BA05745W01	24/Jan/2020	20:36	Unknown	
7	RA3	BA05746W01	24/Jan/2020	20:42	Unknown	
8	RA4	BA06361W01	24/Jan/2020	20:49	Unknown	
9	RA5	BA06364W01	24/Jan/2020	20:55	Unknown	
10	RA6	BA06373W01	24/Jan/2020	21:01	Unknown	
11	RA7	BA06263W07	24/Jan/2020	21:08	Unknown	
12	RA8	BA06264W19 df2	24/Jan/2020	21:14	Unknown	
13	RB1	BA06264W19 df2 MS df2	24/Jan/2020	21:21	Unknown	
14	RB2	BA06264W19 df2 MSD df2	24/Jan/2020	21:27	Unknown	
15	R2	CCV 200124	24/Jan/2020	21:33	Check Standard	
16	R1	CCB 200124	24/Jan/2020	21:40	Unknown	
17	R3	STOP	24/Jan/2020	21:44	Unknown	

Chromeleon (c) Dionex 1996-2009
Version 7.2.4.8340

Method 300 and 9056 Injection Log

No.	Position	Injection Description	Inject Time		Type	Comment
1	R2	CCV 200131	31/Jan/2020	16:50	Check Standard	
2	R1	CCB	31/Jan/2020	16:57	Unknown	
3	R3	200131A LCS	31/Jan/2020	17:03	Check Standard	
4	R3	200131A LCSD	31/Jan/2020	17:09	Check Standard	
5	BE8	xxx	31/Jan/2020	17:52	Unknown	BA06373W02 df10
6	BE4	BA06582W01 df10	31/Jan/2020	17:58	Unknown	
7	BA8	BA06373W02 df10	31/Jan/2020	18:11	Unknown	
8	BB1	BA06364W07 df5	31/Jan/2020	18:17	Unknown	
9	R2	CCV 200131	31/Jan/2020	18:23	Check Standard	
10	R1	CCB	31/Jan/2020	18:30	Unknown	
11	BA1	BA06469W10 df5	31/Jan/2020	18:36	Unknown	
12	BA2	BA06469W10 MS df5	31/Jan/2020	18:43	Unknown	
13	BA3	BA06469W10 MSD df5	31/Jan/2020	18:49	Unknown	
14	BA4	BA06582W01	31/Jan/2020	18:55	Unknown	
15	BA5	BA06581W01 df5	31/Jan/2020	19:02	Unknown	
16	BA6	BA06602W07	31/Jan/2020	19:08	Unknown	
17	BA7	BA06604W20	31/Jan/2020	19:14	Unknown	
18	R2	CCV 200131	31/Jan/2020	19:21	Check Standard	
19	R1	CCB	31/Jan/2020	19:27	Unknown	
20	R3	STOP	31/Jan/2020	19:31	Unknown	

INORGANIC ANALYSIS
Calibration Data

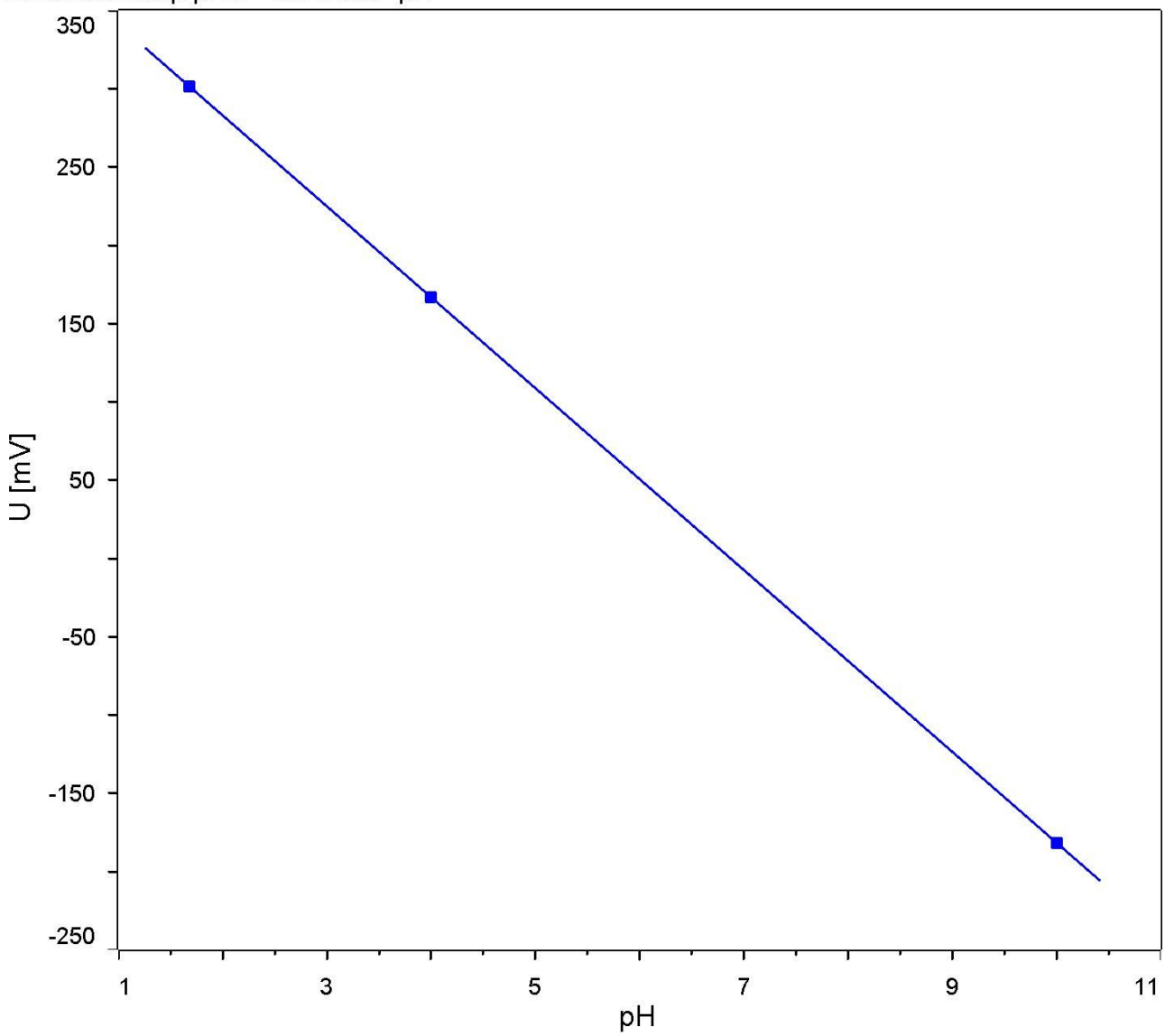
Timao Calibration Curve

2020-01-27 19:21:51

Calculations

Buffer 7	7.04	
Formula	'MEAS pH.EME'	
MEAS pH.EME	7.0382	
Slope	99.40	
Formula	'Calibration loop pH.SLO'	
Calibration loop pH.SLO	99.4	
pH(as)	6.87	
Formula	'Calibration loop pH.ENP'	
Calibration loop pH.ENP	6.871	
Res19	21.4	°C
Formula	'CAL MEAS pH.ETE'	
CAL MEAS pH.ETE	21.3891	

Calibration loop pH.1 - CAL LOOP pH



A.P.P.L. INC.
2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: AECOM
ARF No: 91299 SDG: 91299
Initial Calibration Source: CPI
Continuing Calibration Source: Environmental Express
Analysis Date: 01/27/20

Analyte	Calibration Verification									M
	True CCV1	Found 14:13	%R(1)	True CCV1	Found 14:41	%R(1)	True CCV1	Found 15:04	%R(1)	
TOXN	3	2.8876	96.3	3	3.0182	101	3	2.7945	93.2	

(1) Control Limits: 90-110

A.P.P.L. INC.
2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: AECOM
ARF No: 91299 SDG: 91299
Initial Calibration Source: CPI
Continuing Calibration Source: Environmental Express
Analysis Date: 01/27/20

Analyte	Calibration Verification									M
	True CCV1	Found 15:09	%R(1)	True	Found	%R(1)	True	Found	%R(1)	
TOXN	3	2.8006	93.4							

(1) Control Limits: 90-110

A.P.P.L. INC.
3
BLANKS

Lab Name: A.P.P.L. INC. Contract: AECOM

ARF No.: 91299 SDG: 91299

Preparation Blank Matrix (soil/water): water

Preparation Blank Concentration Units (ug/L or mg/kg): mg/L

Analyte	Calibration Blanks										M
	CCB 01/27/20 14:16	C	CCB 01/27/20 14:43	C	CCB 01/27/20 15:05	C	CCB 01/27/20 15:10	C		C	
TOXN	.100	U	.100	U	.100	U	.100	U			

INORGANIC ANALYSIS
Raw Data

Metrohm 814/809 Titrando Data

Sample ID	Analysis Date/Time	Method	Titration Volume (to 8.3)	Titration Volume (total)	OH	CO3	HCO3	Total Alk	Unit	Sample Vol	N	Batch	Initials
BA06364W07	2020-01-27 22:27:29 UTC-8	Alkalinity	0.000	1.186	0.00	0.00	49.10	49.10	mg/L	25 mL	0.0207	200127A	AR
BA06361W10	2020-01-27 22:23:41 UTC-8	Alkalinity	0.000	1.370	0.00	0.00	56.72	56.72	mg/L	25 mL	0.0207	200127A	AR
200127A LCSD	2020-01-27 20:47:15 UTC-8	Alkalinity	0.026	5.784	0.00	2.15	237.30	239.46	mg/L	25 mL	0.0207	200127A	AR
200127A LCS	2020-01-27 20:39:03 UTC-8	Alkalinity	0.028	5.770	0.00	2.32	236.56	238.88	mg/L	25 mL	0.0207	200127A	AR
200127A BLK	2020-01-27 20:35:37 UTC-8	Alkalinity	0.000	0.048	0.00	0.00	1.99	1.99	mg/L	25 mL	0.0207	200127A	AR

Bold and Blue= Needs to be filled out everytime reagent is prepped
Bold and Green= Needs to be filled out everytime reagent is switched out

Tiamo Alkalinity Standard Prep

Prep Date:
Exp Date:

Prep'd By (Initials): CD

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	Unit	Conc	Lot Number - QA Number	Prep/Opened	Exp. Date	Aliquot from Stock	Final Volume	Solvent	Final Standard Conc
Sulfuric Acid (H2SO4)	J.T.Baker	NA	NA	**167828**	**NA**	**NA**	PURCHASED	NA	NA	NA
0.10N Sulfuric Acid (H2SO4)	J.T.Baker	Normality	0.1N	**167828**	**05/24/19**	**05/24/20**	3ml	1L	DI	0.10N
0.02N Sulfuric Acid (H2SO4)	J.T.Baker	Normality	0.02N	**167828**	**05/24/19**	**05/24/20**	200mL	1L	DI	0.02N
Inorganic Spike(NaHCO3)	BDH	NA	NA	**1575C510**	**10/18/18**	**08/14/20**	PURCHASED	NA	NA	NA
Inorganic Spike Solution	BDH	Milligrams/Liters	250mg/L	**1575C510**	**09/17/19**	**03/17/20**	3.5g	500mL	DI	250mg/L
Standarizing Solution(NaCO3)	J.T.Baker	Normality	1N	**178494**	**07/25/17**	**07/25/19**	PURCHASED	NA	NA	NA

Tiamo Electroconductivity Standard Prep

Prep Date:
Exp Date:

Prep'd By (Initials): CD

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	Units	Conc	Lot Number	Prep/Opened	Exp. Date	Aliquot from Stock	Final Volume	Solvent	Final Standard Conc. Range (µg/mL)
EC Spike(KCl)	Mallinckrodt AR	Na	NA	**6858 KHMV**	**NA**	**NA**	PURCHASED	NA	NA	NA
EC Spike Solution	Mallinckrodt AR	Moles/Conductivity	0.01M	**6858 KHMV**	**10/01/19**	10/1/20	0.7456g	1L	DI	1412umos
EC Daily LCS Solution	Mallinckrodt AR	Moles/Conductivity	0.0070824M	**6858 KHMV**	09/10/19	9/10/20	0.5280g	1L	DI	1000umos
Storage Solution EC Probe	APPL	NA	NA	NA	NA	NA	NA	NA	DI	NA

Tiamo pH Buffer Reference Standards

Prep Date: Daily
Exp Date: Daily

Prep'd By (Initials): AR

Initial Standard Information							Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	Units	pH	Lot Number - QA Number	Opened	Exp. Date	Aliquot from Stock	Final Volume	Solvent	Final Standard Conc (µg/mL)
pH 1.68 Buffer	ORION	pH Units	1.68	**WX1-40709**	**04/22/19**	**01/01/21**	NA	NA	NA	NA
pH 4.00 Buffer	RICCA	pH Units	4	**1807191-39782**	**04/22/19**	**01/01/21**	NA	NA	NA	NA
pH 10.01 Buffer	VWR	pH Units	10.01	**0903980-40707**	**04/22/19**	**08/27/20**	NA	NA	NA	NA
pH 7.00 Buffer	Ricca	pH Units	7	**1805M17 - 39765**	**10/11/18**	**05/01/20**	NA	NA	NA	NA

Ferrous Iron — Rev 2, 04-05-19

Method SM3500Fe | Units mg/L | Instrument: Genisis Spectrometer
Analyte Fe2+ | QCG: 200124A | Wavelength: 510 nm
Analyist fjr | Final Volume: 50mL | Units: mg/L

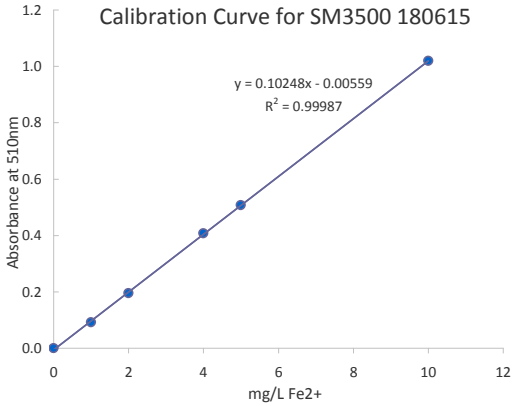
Date	Time	Appl ID	[Fe2+]	Absorbance	% Recovery
06/28/19	12:48	ICB	0.00	0.000	
06/28/19	12:49	Ical 1	1.00	0.092	95.2%
06/28/19	12:50	Ical 2	2.00	0.195	97.9%
06/28/19	12:51	Ical 3	4.00	0.408	100.9%
06/28/19	12:51	Ical 4	5.00	0.507	100.0%
06/28/19	12:52	Ical 5	10.00	1.019	100.0%
06/28/19	13:08	ICV	3.00	0.326	107.9%
06/28/19	12:53	ICB	0.00	0.002	

Slope	0.102479592
Intercept	-0.005591837
Coefficient of Determination	0.999872044

Algortithm Check:	**Appl ID**	**Absorbance**	**Result**
	LCS 200124A	0.303	3.01

Result = (Absorbance-Raw Blk-Intercept)/ Slope

Test:	FJR	01/24/20	3.01



Date	Time	Appl ID	DF	Raw Result	SubSample Amount	Raw BLK	Calc Conc	Result	QC True	% Recovery
01/24/20	15:27	CCV 4.0 200124A	1	0.404	25mL		4.00	4.00	4.00	99.9%
01/24/20	15:26	CCB 200124A	1	0.000	25mL		0.05	0.05		
01/24/20	15:28	LCS 200124A	1	0.303	25mL		3.01	3.01	3.00	100.4%
01/24/20	15:28	LCSD 200124A	1	0.303	25mL		3.01	3.01	3.00	100.4%
01/24/20	15:29	BA06361W12	1	0.004	25mL		0.09	0.09		
01/24/20	15:29	BA06364W09	1	0.118	25mL		1.21	1.21		
01/24/20	15:30	BA06364W09 MS	1	0.420	25mL		4.15	4.15		
01/24/20	15:30	BA06364W09 MSD	1	0.420	25mL		4.15	4.15		
01/24/20	15:31	CCV 4.0 200124A	1	0.404	25mL		4.00	4.00	4.00	99.9%
01/24/20	15:32	CCB 200124A	1	-0.001	25mL		0.04	0.04		

Standard Prep

	Ferrous Iron Standards		Prep'd By (Initials)		FJR		
Prep Date	06/28/18						
Exp Date	06/28/19						
Stock Label	Supplier	Batch Number	Exp Date	Aliquot from Stock	Final Volume	Solvent	Ferrous Iron Concentration
Ferrous Ammonium Sulfate	J.T.Baker	0000184592	08/21/20	0.351	250mL	5ml H2SO4 (0000167828) Diluted with water	200ug/L
Ferrous Sulfate	Mallinckrodt	Lot 5056 KDRX	NA	0.250	250mL	5ml H2SO4 (0000167828) Diluted with water	200ug/L
Ferrous Iron CCV/LCS/MS/ICV			Prep'd By (Initials)		FJR		
Prep Date	See Injection Log						
Exp Date	24 Hours						
Initial Standard Information	Supplier	Batch Number	Exp Date	Final Standard Information			
Ferrous Iron CCV	J.T.Baker	0000184592	06/14/19	500uL	25mL	Deionized water	4mg/L
Ferrous Iron ICV/LCS	Mallinckrodt	Lot 5056 KDRX	06/14/19	375uL	25mL	Deionized water	3mg/L
	Ferrous Iron Calibration Curve		Prep'd By (Initials)		FJR		
Prep Date	06/28/18						
Exp Date	06/28/19						
Final Standard Information							
Point Label	Supplier	Batch Number	Exp Date	Aliquot from Stock (mL)	Final Volume	Solvent	Ferrous Iron Concentration
CCB	J.T.Baker	0000184592	06/14/19	0	25mL	Deionized water	0mg/L
Ical 1	J.T.Baker	0000184592	06/14/19	0.125	25mL	Deionized water	1mg/L
Ical 2	J.T.Baker	0000184592	06/14/19	0.25	25mL	Deionized water	2mg/L
Ical 3	J.T.Baker	0000184592	06/14/19	0.5	25mL	Deionized water	4mg/L
Ical 4	J.T.Baker	0000184592	06/14/19	0.625	25mL	Deionized water	5mg/L
Ical 5	J.T.Baker	0000184592	06/14/19	1.25	25mL	Deionized water	10mg/L
ICV	Mallinckrodt	Lot 5056 KDRX	06/14/19	0.375	25mL	Deionized water	3mg/L

Reagent Prep

Reagent	Chemical Lot #	Chemical	Chemical Expiration Date	Amount	Date Prep
Colorizer	0747C107	1,10-phenanthroline	na	1.001	01/03/20
		10% HCL conc	na	enough to dissolve	01/03/20
Buffer	Z28B018	Ammonia Acetate	na	248	01/03/20
	2018071399	Glacial Acetic Acid	06/27/20	700mL	

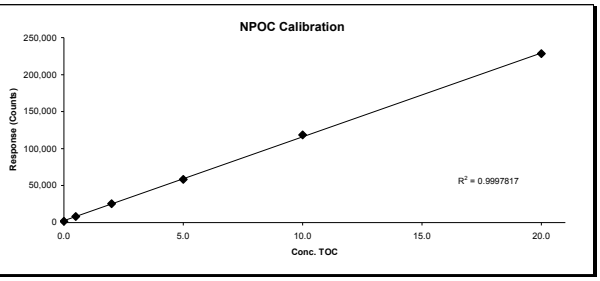
TOTAL ORGANIC CARBON

Method: WetChem | Units mg/L | Instrument: Tic Toc

Analyte: TOC | QCG: 200131A

Analyist: AR | Final Volume: 40mL

Date	Time	Appl ID	[TOC]	Raw	% Recovery
01/15/20	13:42	QC blank	0.00	1639	
01/15/20	14:25	Ical 1	0.50	8021	
01/15/20	15:01	Ical 2	2.00	25461	
01/15/20	15:37	Ical 3	5.00	58252	
01/15/20	16:13	Ical 4	10.00	118315	
01/15/20	16:49	Ical 5	20.00	228427	
01/16/20	15:11	ICB	0.08	906	
01/16/20	14:33	ICV	5.20	59018	104.0%



Date	Time	Appl ID	DF	Raw Result	SubSample Amount	Filter Blank Subtract	Calc Conc	Result	Range (mg/L)	QC True	% Recovery
2020-01-28	02:09 PM	CCV	1	54237	40mL	0.000	4.779	4.78	0.97	5.00	95.6%
2020-01-28	02:49 PM	CCB	1	472	40mL	0.000	0.042	0.04	0.02		
2020-01-28	03:28 PM	200128A LCS	1	55990	40mL	0.000	4.933	4.93	0.01	5.00	98.7%
2020-01-28	04:09 PM	200128A LCSD	1	55645	40mL	0.000	4.902	4.90	0.05	5.00	98.0%
2020-01-28	05:28 PM	BA06361W09	1	4850	40mL	0.000	0.398	0.40	0.03		
2020-01-28	08:39 PM	CCV	1	76657	40mL	0.000	6.753	6.75	2.29	5.00	135.1%
2020-01-28	09:19 PM	CCB	1	15583	40mL	0.000	1.373	1.37	0.04		
2020-01-29	10:42 PM	CCV	1	58312	40mL	0.000	5.137	5.14	0.10	5.00	102.7%
2020-01-29	11:23 PM	CCB	1	2370	40mL	0.000	0.209	0.21	0.01		
2020-01-30	12:02 AM	200129A LCS	1	59186	40mL	0.000	5.214	5.21	0.03	5.00	104.3%
2020-01-30	12:42 AM	200129A LCSD	1	58785	40mL	0.000	5.179	5.18	0.09	5.00	103.6%
2020-01-30	02:01 AM	BA06364W06	1	14553	40mL	0.000	1.252	1.25	1.09		
2020-01-30	02:39 AM	BA06427W09	1	133154	40mL	0.000	11.701	11.70	1.52		
2020-01-30	03:17 AM	BA06430W08	1	14129	40mL	0.000	1.215	1.22	0.52		
2020-01-30	03:55 AM	BA06430W08 DUP	1	10695	40mL	0.000	0.912	0.91	0.32		
2020-01-30	04:33 AM	BA06430W08 MS	1	61146	40mL	0.000	5.357	5.36	0.11		
2020-01-30	05:11 AM	BA06430W08 MSD	1	52668	40mL	0.000	4.61	4.61	2.41		
2020-01-30	05:49 AM	BA06431W08	1	23339	40mL	0.000	2.026	2.03	0.43		
2020-01-30	06:27 AM	BA06432W08	1	59562	40mL	0.000	5.218	5.22	0.01		
2020-01-30	07:05 AM	BA06433W08	1	60082	40mL	0.000	5.263	5.26	0.89		
2020-01-30	07:43 AM	BA06469W09	1	9105	40mL	0.000	0.772	0.77	0.11		
2020-01-30	08:21 AM	CCV	1	59309	40mL	0.000	5.225	5.23	0.12	5.00	104.5%
2020-01-30	10:17 AM	CCB	1	5611	40mL	0.000	0.495	0.50	0.04		

Name of Final Standard TOC Calibration Curve — **Prep'd By (Initials)** AR

Prep Date 01/15/20

Exp Date 01/15/21

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from contianer Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
Total Organic Carbon (TOC) Standard	Agilent	IQC-1 06-5	1000 mg/L	CS-5157-40233	11/30/20	20 uL	40 mL	DI Water	0.5 ppm
Total Organic Carbon (TOC) Standard	Agilent	IQC-1 06-5	1000 mg/L	CS-5157-40233	11/30/20	100 uL	40 mL	DI Water	2 ppm
Total Organic Carbon (TOC) Standard	Agilent	IQC-1 06-5	1000 mg/L	CS-5157-40233	11/30/20	250 uL	40 mL	DI Water	5 ppm
Total Organic Carbon (TOC) Standard	Agilent	IQC-1 06-5	1000 mg/L	CS-5157-40233	11/30/20	500 uL	40 mL	DI Water	10 ppm
Total Organic Carbon (TOC) Standard	Agilent	IQC-1 06-5	1000 mg/L	CS-5157-40233	11/30/20	1000 uL	40 mL	DI Water	20 ppm

Name of Final Standard ICV (TOC) — **Prep'd By (Initials)** HH

Prep Date 10/16/19

Exp Date 06/30/21

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from contianer Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
1000 PPM ICV TOC Intermediate	APPL Inc.	Prep: 2/11/19	1000 mg/L	Prep: 2/11/19	06/30/21	500 uL	40mL	DI Water	10 ppm

Name of Final Standard CCV (TOC) — **Prep'd By (Initials)** AR

Prep Date See Data

Exp Date 1 year

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from contianer Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
Total Organic Carbon (TOC) Standard	Agilent	IQC-1 06-5	1000 mg/L	CS-5157-40233	11/30/20	200 uL	40 mL	DI Water	5 ppm

Name of Final Standard TOC_LCS/LCSD — **Prep'd By (Initials)** AR

Prep Date See Data

Exp Date 1 year

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from contianer Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
Total Organic Carbon (TOC) Standard	ULTRA Scientific	IQC-106-5	1000 mg/L	CR-0328-37639	02/28/19	200 uL	40 mL	DI Water	5 ppm

Name of Final Standard TOC_MS/MSD — **Prep'd By (Initials)** AR

Prep Date See Data

Exp Date 1 year

Initial Standard Information						Final Standard Information			
Name of Initial Standard (from contianer Label)	Supplier	Supplier P/N# (or APPL Mix Name)	Conc.(range)	Lot # with QA # (or reference to APPL prep date)	Exp Date	Aliquot from Stock	Final Volume	Final Solvent + Lot# (or APPL Prep Date)	Final Standard Conc (range)
Total Organic Carbon (TOC) Standard	ULTRA Scientific	IQC-106-5	1000 mg/L	CR-0328-37639	02/28/19	200 uL	40 mL	sample	5 ppm

AQ2 Tray Report

Serial Number:	190170
Software Version:	2.1.0
Report Requested By:	Kyle S
Date & Time:	2020-01-27 15:19:49
Tray Number:	4
Tray Name:	200127A TOXN

Nitrite-N

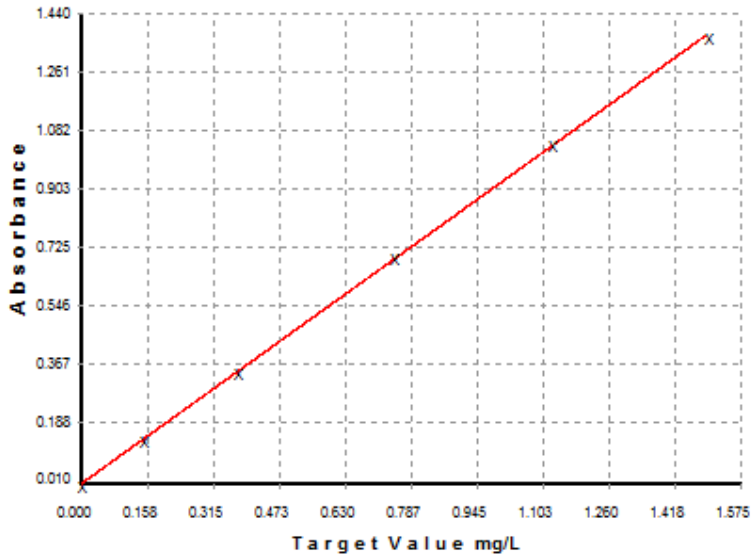
Calibration Chart

Type	Absorbance	Calc mg/L	Target mg/L	% Error
S1	0.0096	-0.0017	0.0000	
S90	0.1445	0.1461	0.1500	-2.59
S91	0.3547	0.3766	0.3750	0.43
S92	0.6982	0.7533	0.7500	0.44
S93	1.0456	1.1343	1.1250	0.83
S94	1.3712	1.4913	1.5000	-0.58
S0	0.0196	0.0092	0.0000	

Polynomial Order:	1
Correlation Coefficient:	0.9999
Carryover(%):	0.7
Calibration equation:	y = bx + a
y =:	Concentration mg/L
x =:	Measured absorbance
a =:	-1.228615E-002
b =:	1.096562E+000
Date & Time:	2020-01-27 12:58:18

Algorithm Check:
y=(1.096562)(0.678177)-1.228615E-002
y=0.7314 ✓

Calibration Graph



Reagents

Name	Batch	Prepared By	Expiry Date
Sulfa-NEDD		Joel	
NO2 Buffer		Joel	

Test Results

Cup Type	ID	Result	Units	QC Pro	Raw Data	Auto Dil.	Man Dil.	User	Time/Date
S1	Standard 1	0.0096			0.009640			KS	2020-01-27 12:50:33
S90	Standard 90	0.1445			0.144456			KS	2020-01-27 12:51:50
S91	Standard 91	0.3547			0.354659			KS	2020-01-27 12:53:08
S92	Standard 92	0.6982			0.698199			KS	2020-01-27 12:54:25
S93	Standard 93	1.0456			1.045629			KS	2020-01-27 12:55:43
S94	Standard 94	1.3712			1.371212			KS	2020-01-27 12:57:01
S0	Standard 0	0.0196			0.019628			KS	2020-01-27 12:58:18
CCV	CCV .75	0.7394	mg/L		0.685528			KS	2020-01-27 12:59:36
CCB	CCB	0.0046	mg/L		0.015439			KS	2020-01-27

							13:00:54
3	U1	ICV NO2	0.7219	mg/L	0.669531	KS	2020-01-27 13:02:13
4	U2	ICV NO3 TOXN	0.0046	mg/L	0.015354	KS	2020-01-27 13:03:31
5	U3	ICB NO2 NO3 TOXN	-0.0008	mg/L	0.010500	KS	2020-01-27 13:04:48
6	U28	200127A Blk NO2 NO3 TOXN pH5.28 Thing 0	-0.0001	mg/L	0.011093	KS	2020-01-27 13:06:07
7	U5	200127A LCS NO2 pH5.28	0.7314	mg/L	0.678177	KS	2020-01-27 13:07:25
8	U6	200127A LCSD NO2 pH5.28	0.7226	mg/L	0.670175	KS	2020-01-27 13:08:43
9	U7	200127A LCS NO3 TOXN pH5.28	0.0049	mg/L	0.015696	KS	2020-01-27 13:09:59
10	U8	200127A LCSD NO3 TOXN pH5.28	-0.0009	mg/L	0.010401	KS	2020-01-27 13:11:13
11	U9	1 ppm NO2	1.0193	mg/L	0.940773	KS	2020-01-27 13:12:28
12	U10	1 ppm NO3	0.0057	mg/L	0.016440	KS	2020-01-27 13:13:42
	CCV	CCV .75	0.7508	mg/L	0.695868	KS	2020-01-27 13:14:56
	CCB	CCB	0.0045	mg/L	0.015311	KS	2020-01-27 13:16:11
13	U11	BA06136W08 MS pH6.95	0.0016	mg/L	0.012693	KS	2020-01-27 13:17:25
14	U12	BA06136W08 MSD pH6.95	0.0012	mg/L	0.012282	KS	2020-01-27 13:18:39
15	U13	BA06136W08 pH6.02	-0.0009	mg/L	0.010387	KS	2020-01-27 13:19:52
16	U14	BA06138W08 pH7.53	-0.0007	mg/L	0.010556	KS	2020-01-27 13:21:08
17	U15	BA06141W08 pH5.89	-0.0009	mg/L	0.010344	KS	2020-01-27 13:22:21
18	U16	BA06143W08 pH7.01	-0.0005	mg/L	0.010768	KS	2020-01-27 13:23:35
19	U17	BA06272W12 pH6.77	-0.0000	mg/L	0.011164	KS	2020-01-27 13:24:49
20	U18	BA06275W08 pH5.92	0.0007	mg/L	0.011871	KS	2020-01-27 13:26:02
21	U19	BA06276W08 pH5.41	-0.0004	mg/L	0.010810	KS	2020-01-27 13:27:15
22	U20	BA06279W08 pH7.30	-0.0009	mg/L	0.010373	KS	2020-01-27 13:28:29
	CCV	CCV .75	0.7501	mg/L	0.695252	KS	2020-01-27 13:29:42
	CCB	CCB	0.0039	mg/L	0.014755	KS	2020-01-27 13:30:56
23	U21	BA06284W11 pH5.33	0.0000	mg/L	0.011234	KS	2020-01-27 13:32:11
24	U22	BA06313W08 pH6.82	-0.0001	mg/L	0.011093	KS	2020-01-27 13:32:49
25	U23	BA06315W08 pH6.47	-0.0002	mg/L	0.011008	KS	2020-01-27 13:34:58
26	U24	BA06317W08 pH6.25	0.0022	mg/L	0.013232	KS	2020-01-27 13:37:12
27	U25	BA06319W11 pH7.63	-0.0006	mg/L	0.010669	KS	2020-01-27 13:39:29
28	U26	BA06361W11 pH6.99	-0.0005	mg/L	0.010782	KS	2020-01-27 13:41:49
29	U27	BA06364W08 pH6.48	0.0001	mg/L	0.011319	KS	2020-01-27 13:44:13
	CCV	CCV .75	0.7493	mg/L	0.694502	KS	2020-01-27 13:46:35
	CCB	CCB	0.0034	mg/L	0.014313	KS	2020-01-27 13:48:48

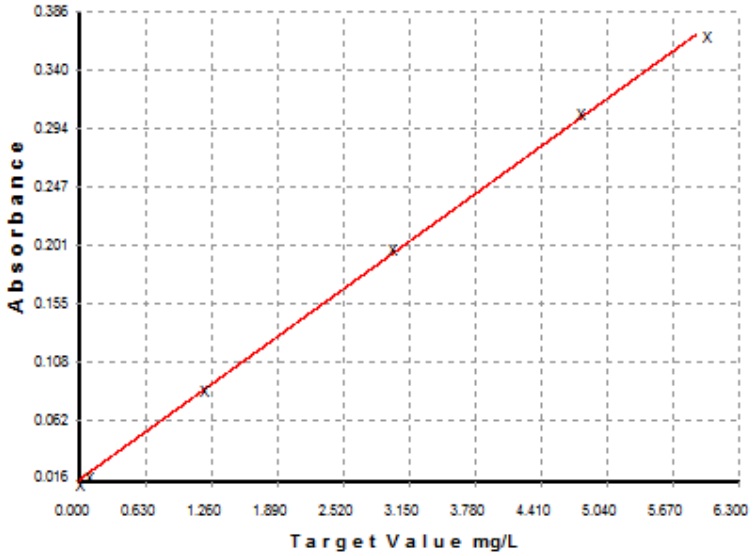
TOXN

Calibration Chart

Type	Absorbance	Calc mg/L	Target mg/L	% Error
S1	0.0158	-0.0336	0.0000	
S90	0.0221	0.0726	0.1000	-27.44
S91	0.0894	1.2059	1.2000	0.49
S92	0.2007	3.0791	3.0000	2.64
S93	0.3077	4.8815	4.8000	1.70
S94	0.3679	5.8945	6.0000	-1.76
S0	0.0162	-0.0273	0.0000	

Polynomial Order:	1
Correlation Coefficient:	0.9996
Carryover(%):	0.1
Calibration equation:	y = bx + a
y =:	Concentration mg/L
x =:	Measured absorbance
a =:	-2.994905E-001
b =:	1.683517E+001
Date & Time:	2020-01-27 14:11:30

Calibration Graph



Reagents

Name	Batch	Prepared By	Expiry Date
NO3 W Buffer		Joel	
Sulfa-NEDD		Joel	

Test Results

Cup	Type	ID	Result	Units	QC Pro	Raw Data	Auto Dil.	Man Dil.	User	Time/Date
	S1	Standard 1	0.0158			0.015796			KS	2020-01-27 13:57:50
	S90	Standard 90	0.0221			0.022100			KS	2020-01-27 14:00:07
	S91	Standard 91	0.0894			0.089419			KS	2020-01-27 14:02:25
	S92	Standard 92	0.2007			0.200684			KS	2020-01-27 14:04:41
	S93	Standard 93	0.3077			0.307750			KS	2020-01-27 14:06:57
	S94	Standard 94	0.3679			0.367922			KS	2020-01-27 14:09:12
	S0	Standard 0	0.0162			0.016168			KS	2020-01-27 14:11:30
	CCV	CCV	2.8876	mg/L		0.189309			KS	2020-01-27 14:13:48
	CCB	CCB	-0.0362	mg/L		0.015639			KS	2020-01-27 14:16:02
4	U2	ICV NO3 TOXN	2.9311	mg/L		0.191895			KS	2020-01-27 14:18:14
5	U3	ICB NO2 NO3 TOXN	-0.0220	mg/L		0.016483			KS	2020-01-27 14:20:29
6	U28	200127A Blk NO2 NO3 TOXN pH5.28 Thing 0	-0.0403ELL	mg/L		0.015396			KS	2020-01-27 14:22:48
9	U7	200127A LCS NO3 TOXN pH5.28	3.0156	mg/L		0.196917			KS	2020-01-27 14:25:05
10	U8	200127A LCSD NO3 TOXN pH5.28	2.8955	mg/L		0.189778			KS	2020-01-27 14:27:23
12	U10	1 ppm NO3	0.9568	mg/L		0.074626			KS	2020-01-27 14:29:41
13	U11	BA06136W08 MS pH6.95	-0.0078	mg/L		0.017328			KS	2020-01-27 14:31:59
14	U12	BA06136W08 MSD pH6.95	-0.0107	mg/L		0.017156			KS	2020-01-27 14:34:17
										2020-01-27

15	U13	BA06136W08 pH6.02	-0.0326	mg/L	0.015853	KS	14:36:35
16	U14	BA06138W08 pH7.53	-0.0213	mg/L	0.016526	KS	2020-01-27 14:38:53
	CCV	CCV	3.0182	mg/L	0.197069	KS	2020-01-27 14:41:12
	CCB	CCB	-0.0396	mg/L	0.015439	KS	2020-01-27 14:43:31
17	U15	BA06141W08 pH5.89	0.6315	mg/L	0.055300	KS	2020-01-27 14:45:50
18	U16	BA06143W08 pH7.01	1.3202	mg/L	0.096208	KS	2020-01-27 14:48:08
19	U17	BA06272W12 pH6.77	0.5599	mg/L	0.051049	KS	2020-01-27 14:50:27
20	U18	BA06275W08 pH5.92	1.5126	mg/L	0.107636	KS	2020-01-27 14:52:45
21	U19	BA06276W08 pH5.41	0.5092	mg/L	0.048038	KS	2020-01-27 14:55:04
22	U20	BA06279W08 pH7.30	1.0737	mg/L	0.081568	KS	2020-01-27 14:57:22
23	U21	BA06284W11 pH5.33	0.3486	mg/L	0.038495	KS	2020-01-27 14:59:41
24	U22	BA06313W08 pH6.82	0.7599	mg/L	0.062924	KS	2020-01-27 15:02:00
25	U23	BA06315W08 pH6.47	0.4512	mg/L	0.044590	KS	2020-01-27 15:02:39
26	U24	BA06317W08 pH6.25	1.7857	mg/L	0.123856	KS	2020-01-27 15:03:44
	CCV	CCV	2.7945	mg/L	0.183784	KS	2020-01-27 15:04:40
	CCB	CCB	-0.0573	mg/L	0.014384	KS	2020-01-27 15:05:38
27	U25	BA06319W11 pH7.63	0.2878	mg/L	0.034883	KS	2020-01-27 15:06:35
28	U26	BA06361W11 pH6.99	0.3337	mg/L	0.037608	KS	2020-01-27 15:07:31
29	U27	BA06364W08 pH6.48	0.1671	mg/L	0.027717	KS	2020-01-27 15:08:28
	CCV	CCV	2.8006	mg/L	0.184142	KS	2020-01-27 15:09:24
	CCB	CCB	-0.0456	mg/L	0.015083	KS	2020-01-27 15:10:21

Nitrate-N

Test Results

Cup	Type	ID	Result	Units	QC Pro	Raw Data	Auto Dil.	Man Dil.	User	Time/Date
4	U2	ICV NO3 TOXN	2.9265	mg/L		0.000000			KS	2020-01-27 14:18:14
4	U2	ICV NO3 TOXN				0.000000			KS	2020-01-27 14:18:14
5	U3	ICB NO2 NO3 TOXN	-0.0212	mg/L		0.000000			KS	2020-01-27 14:20:29
5	U3	ICB NO2 NO3 TOXN				0.000000			KS	2020-01-27 14:20:29
6	U28	200127A Blk NO2 NO3 TOXN pH5.28 Thing 0	-0.0402	mg/L		0.000000			KS	2020-01-27 14:22:48
6	U28	200127A Blk NO2 NO3 TOXN pH5.28 Thing 0				0.000000			KS	2020-01-27 14:22:48
9	U7	200127A LCS NO3 TOXN pH5.28	3.0107	mg/L		0.000000			KS	2020-01-27 14:25:05
9	U7	200127A LCS NO3 TOXN pH5.28				0.000000			KS	2020-01-27 14:25:05
10	U8	200127A LCSD NO3 TOXN pH5.28	2.8963	mg/L		0.000000			KS	2020-01-27 14:27:23
10	U8	200127A LCSD NO3 TOXN pH5.28				0.000000			KS	2020-01-27 14:27:23
12	U10	1 ppm NO3	0.9511	mg/L		0.000000			KS	2020-01-27 14:29:41
12	U10	1 ppm NO3				0.000000			KS	2020-01-27 14:29:41
13	U11	BA06136W08 MS pH6.95	-0.0094	mg/L		0.000000			KS	2020-01-27 14:31:59
13	U11	BA06136W08 MS pH6.95				0.000000			KS	2020-01-27 14:31:59
14	U12	BA06136W08 MSD pH6.95	-0.0119	mg/L		0.000000			KS	2020-01-27 14:34:17
14	U12	BA06136W08 MSD pH6.95				0.000000			KS	2020-01-27 14:34:17
15	U13	BA06136W08 pH6.02	-0.0317	mg/L		0.000000			KS	2020-01-27 14:36:35
15	U13	BA06136W08 pH6.02				0.000000			KS	2020-01-27 14:36:35
16	U14	BA06138W08 pH7.53	-0.0206	mg/L		0.000000			KS	2020-01-27 14:38:53
16	U14	BA06138W08 pH7.53				0.000000			KS	2020-01-27 14:38:53
17	U15	BA06141W08 pH5.89	0.6324	mg/L		0.000000			KS	2020-01-27 14:45:50
17	U15	BA06141W08 pH5.89				0.000000			KS	2020-01-27 14:45:50
18	U16	BA06143W08 pH7.01	1.3207	mg/L		0.000000			KS	2020-01-27 14:48:08
18	U16	BA06143W08 pH7.01				0.000000			KS	2020-01-27 14:48:08
19	U17	BA06272W12 pH6.77	0.5600	mg/L		0.000000			KS	2020-01-27 14:50:27
19	U17	BA06272W12 pH6.77				0.000000			KS	2020-01-27 14:50:27
20	U18	BA06275W08 pH5.92	1.5118	mg/L		0.000000			KS	2020-01-27 14:52:45
20	U18	BA06275W08 pH5.92				0.000000			KS	2020-01-27 14:52:45
21	U19	BA06276W08 pH5.41	0.5097	mg/L		0.000000			KS	2020-01-27 14:55:04
21	U19	BA06276W08 pH5.41				0.000000			KS	2020-01-27 14:55:04
22	U20	BA06279W08 pH7.30	1.0746	mg/L		0.000000			KS	2020-01-27 14:57:22
22	U20	BA06279W08 pH7.30				0.000000			KS	2020-01-27 14:57:22
23	U21	BA06284W11 pH5.33	0.3486	mg/L		0.000000			KS	2020-01-27 14:59:41
23	U21	BA06284W11 pH5.33				0.000000			KS	2020-01-27

							14:59:41
24	U22	BA06313W08 pH6.82	0.7600	mg/L	0.000000	KS	2020-01-27 15:02:00
24	U22	BA06313W08 pH6.82			0.000000	KS	2020-01-27 15:02:00
25	U23	BA06315W08 pH6.47	0.4514	mg/L	0.000000	KS	2020-01-27 15:02:39
25	U23	BA06315W08 pH6.47			0.000000	KS	2020-01-27 15:02:39
26	U24	BA06317W08 pH6.25	1.7834	mg/L	0.000000	KS	2020-01-27 15:03:44
26	U24	BA06317W08 pH6.25			0.000000	KS	2020-01-27 15:03:44
27	U25	BA06319W11 pH7.63	0.2884	mg/L	0.000000	KS	2020-01-27 15:06:35
27	U25	BA06319W11 pH7.63			0.000000	KS	2020-01-27 15:06:35
28	U26	BA06361W11 pH6.99	0.3341	mg/L	0.000000	KS	2020-01-27 15:07:31
28	U26	BA06361W11 pH6.99			0.000000	KS	2020-01-27 15:07:31
29	U27	BA06364W08 pH6.48	0.1670	mg/L	0.000000	KS	2020-01-27 15:08:28
29	U27	BA06364W08 pH6.48			0.000000	KS	2020-01-27 15:08:28

Nitrite

High Point @ 1.5 mg/L
0.2463 mL NO2 Inorganic Ventures lot N2-NOX672889-40759 exp: 05/01/20
50 mL DI Water

CCV @ 0.75 mg/L
0.1232 mL NO2 Inorganic Ventures lot N2-NOX672889-40759 exp: 05/01/20
50 mL DI Water

ICV/LCS @ 0.73 mg/L
0.120 mL NO2 Inorganic Ventures lot M2-NOX660562-40468 exp: 08/25/21
50 mL DI Water

1 mg/L NO2
400 uL of High point and 200 uL of DI made directly into a sample cup

Prep 01/27/20
Exp 02/03/20
KS

Nitrate/TOXN

High Point @ 6 mg/L
0.300 mL NO3 O2Si lot 880117-4-39577 exp: 2/21/20
50 mL DI Water

CCV @ 3.0 mg/L
0.150 mL NO3 O2Si lot 880117-4-39577 exp: 2/21/20
50 mL DI Water

ICV/LCS @ 3.0 mg/L
0.150 mL NO3 Inorganic Ventures lot P2-NOX675324-49391 exp: 02/14/23
50 mL DI Water

1 mg/L NO3
100 uL of High point and 500 uLof DI made directly into a sample cup

MS @ 0.73 mg/L NO2 and 2.5 mg/L NO3
0.120 mL NO2 Inorganic Ventures lot M2-NOX660562-40468 exp: 08/25/21and
0.125 mL NO3 Inorganic Ventures lot P2-NOX675324-49391 exp: 02/14/23
Final volume 50 mL of sample

Prep 01/27/20
Exp 02/03/20
KS

908 North Temperance Ave. ∇ Clovis, CA 93611 ∇ Phone 559-275-2175 ∇ Fax 559-275-4422

Certification Number: CA1312
NELAP Certification number: CA00046
DoD-ELAP Certificate number: 4064.01

Data Validatable Report

February 19, 2020

AECOM
1001 Bishop Street, Suite 1600
Honolulu, Hawaii 96813

Attn: Margie Pascua

Title: Report of Data: Case 91319

Project: 60571032 CV18F0126 Red Hill Fuel Storage. HI

Contract #: Prime contract # for DoD: NAVY CLEAN N62742-17-F-1800, CV18F0126
Subcontract: 18S-22209-HI27

Dear Ms. Pascua:

Two water samples were received January 28, 2020. Written results for the requested analyses are being provided on this February 19, 2020.

Results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

If you have any questions or require further information, please contact your APPL Project Manager, Libby Cheeseborough, libby@applinc.com, at your convenience. Thank you for choosing APPL, Inc.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. These test results meet all requirements of NELAC and DoD QSM. Release of the hard copy has been authorized by the Laboratory Manager or her designee, as verified by the following signature.

for PM

Paula McCartney, Laboratory Director
APPL, Inc.

PM/lac
Enclosure
cc: File

Data Validation Package
for
60481245 CIV 0053 Red Hill Fuel Storage
APPL SDG 91319
TABLE OF CONTENTS

LABORATORY NAME: *APPL, Inc.*

Case Narrative	4
Sample Management Records	8
Sample Results	13
QC Forms	28
Method 8011 Calibration Data	99
Method 8011 Raw Data	122
Method 8015B Calibration Data	136
Method 8015B Raw Data	165
Method 8270D SIM Calibration Data	179
Method 8270D SIM Raw Data	206
Method 8270D Calibration Data	228
Method 8270D Raw Data	274
APPL SOP 2-MEE Calibration Data	301
APPL SOP 2-MEE Raw Data	328
Method 8260B Calibration Data	352
Method 8260B Raw Data	420
Method 8260B GRO Calibration Data	439
Method 8260B GRO Raw Data	491
Method RSK-175 Calibration Data	511
Method RSK-175 Raw Data	536

Method 300 Calibration Data 549
Method 300 Raw Data 572
Inorganic Analyses Calibration Data 580
Inorganic Analyses Raw Data 580

CASE NARRATIVE

Case Narrative

ARF: 91319

Project: 60571032 CV18F0126 Red Hill Fuel Storage. HI

Sample Receipt Information:

Two water samples were received January 28, 2020, at 3.4°C. The sample group was assigned Analytical Request Form (ARF) number 91319.

Sample Preparation and Analysis Information:

For the EPA 8011 analysis, the samples were extracted according to APPL SOP method MWE012.

For the EPA 8015B analysis, the sample was extracted according to EPA method 3510C. The sample extracts were silica gel cleaned according to APPL's SOP CLN004 and placed on hold.

For the EPA 8270D SIM analysis, the samples were extracted according to EPA method 3520C.

For the EPA 8270D Phenol analysis, the samples were extracted according to EPA method 3520C.

For the APPL SOP ANA2MEE analysis, the samples were extracted according to EPA method 3535.

For the EPA 8260B analysis, the samples were purged according to EPA method 5030B.

For the RSK-175 analysis, the samples were allowed to equilibrate for 10 minutes at 40°C and a portion of the headspace was analyzed.

For the EPA 9060A, 300.0, 353.2, SM 2320B, SM 3500FeB analyses, the samples were prepared according to the methods.

Only the portion of the injection log relative to these samples is included. A full sequence log is available upon request. Measurement uncertainty can be reported upon request.

Analytical Exceptions, Deviations and Abnormalities.

EPA 8015B: Manual integrations were performed in accordance with APPL's SOP. Chromatograms of before and after manual integration are enclosed.

EPA 8270D SIM: One sample recovered one surrogate below its lower control limit. Corrective action: The six surrogate from this sample extract pertaining to 8270 full scan analysis recovered well and within their control limits. The sample was reinjected with similar low surrogate recovery. The client was notified of the low surrogate recovery.

EPA 8270D: In the 200129A LCS, the analyte Phenol and the surrogate Phenol-D6 recovered above their 115% upper control limit. Corrective action: None, Phenol was not detected in the associated samples.

APPL SOP ANA2MEE: In the 200129A LCS/LCSD, the RPD exceeded the 20% limit.

SDG	Received	Client ID	APPL ID	Collected DateTime	Matrix	Method	Method Description
91319	01/28/20	ERH1010	BA06426	01/27/20 8:40:00 AM	WATER	8011	EPA 8011
91319	01/28/20	ERH1010	BA06426	01/27/20 8:40:00 AM	WATER	EPA 8260B	EPA 8260B BTEX & 1,2-DCA WATER
91319	01/28/20	ERH1010	BA06426	01/27/20 8:40:00 AM	WATER	EPA 8260-GAS	EPA 8260 with GAS
91319	01/28/20	ERH1010	BA06426	01/27/20 8:40:00 AM	WATER	EPA 8260B	EPA 8260B GRO WATER
91319	01/28/20	ERH1010	BA06426	01/27/20 8:40:00 AM	WATER	RSK 175	METHANE BY RSK 175
91319	01/28/20	ERH1011	BA06427	01/27/20 9:45:00 AM	WATER	SM 2320B	Wetlab 2320B - Water
91319	01/28/20	ERH1011	BA06427	01/27/20 9:45:00 AM	WATER	EPA 300.0	Wetlab 300.0 - Water
91319	01/28/20	ERH1011	BA06427	01/27/20 9:45:00 AM	WATER	SM3500FeB	Ferrous Iron
91319	01/28/20	ERH1011	BA06427	01/27/20 9:45:00 AM	WATER	EPA 353.2	EPA 353.2 - WATER
91319	01/28/20	ERH1011	BA06427	01/27/20 9:45:00 AM	WATER	8011	EPA 8011
91319	01/28/20	ERH1011	BA06427	01/27/20 9:45:00 AM	WATER	EPA 8260B	EPA 8260B BTEX & 1,2-DCA WATER
91319	01/28/20	ERH1011	BA06427	01/27/20 9:45:00 AM	WATER	EPA 8270D	EPA 8270D WATER
91319	01/28/20	ERH1011	BA06427	01/27/20 9:45:00 AM	WATER	EPA 8270D	EPA 8270D MODIFIED WATER
91319	01/28/20	ERH1011	BA06427	01/27/20 9:45:00 AM	WATER	EPA 8015B-eLL	EPA 8015B TPH LIQ-LIQ
91319	01/28/20	ERH1011	BA06427	01/27/20 9:45:00 AM	WATER	EPA 8260-GAS	EPA 8260 with GAS
91319	01/28/20	ERH1011	BA06427	01/27/20 9:45:00 AM	WATER	EPA 8260B	EPA 8260B GRO WATER
91319	01/28/20	ERH1011	BA06427	01/27/20 9:45:00 AM	WATER	RSK 175	METHANE BY RSK 175
91319	01/28/20	ERH1011	BA06427	01/27/20 9:45:00 AM	WATER	8270D-SIM	EPA 8270D SIM LIQ-LIQ
91319	01/28/20	ERH1011	BA06427	01/27/20 9:45:00 AM	WATER	SW846 9060A	9060A TOC

APPL Inc.
Abbreviations and Flags

FLAG	DESCRIPTION
#	Recovery or RPD outside control limits
*	Recovery or RPD outside control limits
B	Analyte detected in associated method blank
C1	Reason for correction: wrote incorrect response
C2	Reason for correction: calculated incorrectly
C3	Reason for correction: needs to be rechecked
C4	Reason for correction: data not usable
DO	Diluted out
E	Exceeds linear range
F	Estimated value
G1	Includes a wide range of hydrocarbons which does not match our gasoline standard
G10	Includes a match to hydrocarbon profiles within the range of mineral spirits
G11	Includes a match to hydrocarbon profiles within the range of JP-4
G12	Pattern does not match the gasoline standard; the carbon range for this sample is consistent with JP8
G13	Closely resembles the hydrocarbon profile of aviation gasoline
G14	Analyte concentration may be biased due to carry over
G2	Closely resembles the boiling point hydrocarbon profile consistent with weathered gasoline
G3	Includes higher boiling hydrocarbons
G4	Includes dominant peak(s) not indicative of petroleum hydrocarbons
G5	Is mainly dominant peak(s) not indicative of petroleum hydrocarbons
G6	Contains recognizable contaminant peak(s) which has been removed from quantitation
G7	Is mainly a match to hydrocarbons within the range of gasoline
G8	Closely resembles the boiling point hydrocarbon profile consistent with weathered gasoline
G9	Includes hydrocarbons within the range of kerosene
J	Estimated value
M	Matrix effect
MI1	Manual integration: integration does not follow baseline
MI2	Manual integration: non-target peak interference
MI3	Manual integration: to split a peak that was integrated as one peak by the computer.
MI4	Manual integration: to integrate a split peak
MI5	Manual integration: the whole peak or part of the peak was not integrated
MI6	Manual integration: computer integrated wrong peak
MI7	Manual integration: other – (See case narrative)
MDL	Method detection limit
ND	Not detected
NT	Non-target
Q	Acceptance criteria not met
T1 I	Includes wide range of hydrocarbons not indicative of diesel
T1 M	Is mainly wide range of hydrocarbons not necessarily indicative of diesel
T2 I	Includes lower boiling hydrocarbons, e.g. mineral spirits, kerosene, stoddard solvent, white gas
T2 M	Is mainly lower boiling hydrocarbons, e.g. mineral spirits, kerosene, stoddard solvent, white gas
T3 I	Includes higher boiling hydrocarbons, e.g. asphaltene, waste oil, motor oil, or weathered diesel fuel
T3 M	Is mainly higher boiling hydrocarbons, e.g. asphaltene, waste oil, motor oil, or weathered diesel fuel
T4 I	Includes dominant peak(s) not indicative of hydrocarbons
T4 M	Is mainly dominant peak(s) not indicative of hydrocarbons
T5	Contains recognizable contaminant peak(s) which has been removed from quantitation
T6	Is mainly a match to hydrocarbons within range of diesel fuel
T7	Closely resembles the boiling point hydrocarbon profile consistent with diesel fuel
T8	Includes a match to hydrocarbon profiles within range of diesel and kerosene fuel
T9 I	Includes non-diesel hydrocarbons within boiling point range of diesel fuel
T9 M	Is mainly non-diesel hydrocarbons within boiling point range of diesel fuel
U	Not detected
Y	Percent difference between primary and confirmation column > 40%

SAMPLE RECORDS MANAGEMENT

CHAIN OF CUSTODY,

ARF, CRF, AND

CLIENT COMMUNICATION

APPL - Analysis Request Form 91319

Client: AECOM
Address: 1001 Bishop Street, Suite 1600
Honolulu, HI 96813
Attn: Margie Pascua
Phone: 808-356-5373 Fax: 808-523-8950
Job: 60571032 CV18F0126 Red Hill Fuel Storage
PO #: 18S-22209-HI27 PO# 102604
Chain of Custody (Y/N): Y # 162
RAD Screen (Y/N): Y pH (Y/N): Y
Turn Around Type: 1 WEEK

Received by: AAR
Date Received: 01/28/20 Time: 10:00
Delivered by: FEDEX
Shuttle Custody Seals (Y/N): Y Time Zone: -10
Chest Temp(s): 3.4°C
Color: VFRG/B-Red
Samples Chilled until Placed in Refrig/Freezer: Y
Project Manager: Libby Cheesebor
QC Report Type: DVP4DOD/EQUIS/HI
Due Date: 02/04/20

Comments:
PM: login and F1s to Margie.Pascua@aecom.com
AN: 7 day TAT for Form 1s; 21 day TAT for PKG STYLE 1; DOD v5.1; DOD Forms: LOD database
Wetlab: NO3, CL & SO4 by EPA 300 and NO2-N & NO3-N by 353.2
8270 SIM: 1-methylnaphthalene, 2-methylnaphthalene & naphthalene only.
TPH D & O both with and w/o SGC, reverse surrogate for the SGC; analyze SGC if detections
RSK: Methane only; 8011: EDB only; $87DC53W5: report phenol
FR: email ftp info to Margie, Stella, trommelfanger@lab-data.com & jcanlas@lab-data.com
EDD: AECOM EQuIS EDD 2.5.3 Red Hill 87DMEE->3535A to Margie.Pascua@aecom.com & jecklund@lab-data.com

Sample Distribution:
GC: 2-$8011, 1-$87DC53W5, 1-$87DMEEW5, 1-$DOC53W5LIQ, 1-$SIM53LIQ51
Extractions: 2- MWE012, 1- LIQ003, 1- LIQ005, 1- MWE2MEE
VOA: 2-$86BTOTXDCAW, 2-$GASBL, 2-$GRO86BW, 2-$RSKMETH
Wetlab: 1-$232W(HCO3,CO3,ALK), 1-$300W, 1-$35FE, 1-$35OF, 1-$TOCW53

Charges:

Invoice To:
ACCOUNTS PAYABLE
1001 Bishop Street, Ste 1600
USAPImaging@aecom.com
mary.basano@aecom.com

	Client ID	APPL ID	Sampled	Analyses Requested
1.	ERH1010	LCSD BA06426W	01/27/20 08:40	$8011, $86BTOTXDCAW, $GASBL, $GRO86BW, $RSKMETH -- See Comments
2.	ERH1011	LCSD BA06427W	01/27/20 09:45	$232W(HCO3,CO3,ALK), $300W, $35FE, $35OF, $8011, $86BTOTXDCAW, $87DC53W5, $87DMEEW5, $DOC53W5LIQ, $GASBL, $GRO86BW, $RSKMETH, $SIM53LIQ51, $TOCW53 -- See Comments

Note: All times, excluding sample collection times, are Pacific Time Zone unless noted otherwise. Collection times are in: -10 UTC
Page 1 Client Code: AECOM-REDHILL *Printed 01/30/20 12:57:16 PM* Computer: APPL-LC **# 91319**

APPL Sample Receipt Form

ARF# **91319**

Sample	Container Type	Count	p
BA06426	[13] VOAs - HCL	4	NA
	[15] VOAs - NP	3	NA
BA06427	[3] PL 250mL	1	NA
	[10] PL 250mL - H2SO4	1	1.7
	[13] VOAs - HCL	4	NA
	[15] VOAs - NP	3	NA
	[17] Amber Liter	4	NA
	[32] Clear VOA - H2SO4	2	NA
	[38] 250mL brn poly, HCl prsvd	1	1.7
	[40] 500mL Amber, unprsrvd	3	NA

Sample	Container Type	Count	p

9/319

APPL LABS

APPL, Inc.
908 N Temperance Ave
Clovis, CA 93611
www.applinc.com

Phone: (559) 275-2175
Fax: (559) 275-4422
coc@applinc.com

CHAIN OF CUSTODY RECORD

C.O.C. 162

Report to: PLEASE PRINT

Company Name: AECOM Phone: 808-356-5373

Address: 1001 Bishop St, Suite 1600
Honolulu, HI 96813
Fax: 808-523-8950

Attn: Margie Pascua

Email: margie.pascua@aecom.com

Invoice to: PLEASE PRINT

Company Name: AECOM Phone: 808-529-7249

Address: 1001 Bishop St, Suite 1600
Honolulu, HI 96813
Fax: 808-523-8950

Attn: Mary Basano

Email: mary.basano@aecom.com; usapimaging@aecom.com

Project Name/Number: CV18F0126 / 60571032

Sampler (Print): BM, BL, TV

Purchase Order Number: 102604

Sampler (Signature): MP for BM, BL, TV

Date Shipped: MM/DD/YY

Carrier: FedEx

Waybill No.:

Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Sed.	Soil	8260C BTEX,TPH-g	8260C DCA 8011 EDB	8015C TPH-d/o	3630/8015C TPH-d/o w/ SGT	8270DSIM PAHs short list	8270D Phenol, LMW, MW	8270D 2-(2-methoxy ethoxy)-ethanol	RSK175M Methane	SM3500-Fe Ferrous Iron	353.2 Nitrate-Nitrite N	SM2320B Alkalinity 300.0 Nitrate,Sulfate,Chloride	300.0 Bromide/Fluoride 6010 Total Ca,Mg,Mn,K,Na SM4500 Total & Dissolved Silica	9060A TOC
ERH1010	Trip Blank	01/27/20	0840	HST	7	X			X	X						X					
ERH1011	RHMW15-03	01/27/20	0945	HST	19	X			X	X	X	X*	X	X	X	X	X	X	X		X

EB 01/27/20

*Analyze TPH w/SGT only if TPH-d/o detected.

TPH-d/o & PAHs need liquid-liquid extraction.

Shuttle Temperature: RSQ 3.0/3.4

Turnaround Requested: Check one
☐ Standard 2-3 wk ☒ One week ☐ 3 days ☐ 24/48 Hrs. ☐ Other:

Sample Disposal:
☐ Return to client ☒ Disposal by Lab (30-day retention)

Relinquished by sampler: AECOM Estelle BONNY	Date 01/27/20	Time 1353	Received by:	Relinquished by:	Date	Time	Received by:
Relinquished by:	Date	Time	Received by:	Relinquished by:	Date 1-28-20	Time 1000	Received at lab by:

See page 2 for Container Preservative and Sampling Information

COOLER RECEIPT FORM **ARF: 91319**

1) Project: 60571032 CV18F0126 Red Hill Fuel Storage Date Received: 01/28/20

2) Coolers: Number of Coolers: 1

3) YES Were custody seals present and intact?
How many? 2 Name/Date on seal? SEE BELOW

4) YES Was there a shipping slip? Carrier name: FEDEX

5) Type of packing in cooler: X bubble wrap __ popcorn __ foam X plastic bags __ other
X wet ice __ dry ice __ no ice __ gel ice

6) YES Were cooler temperatures acceptable?

7) Serial number of certified NIST thermometer use R5@+0.4°C

8) Cooler temp(s): In °C. Thermometer Temp / Corrected Temp
1: 3.0/3.4° 2: _____ 3: _____ 4: _____ 5: _____ 6: _____
7: _____ 8: _____ 9: _____ 10: _____ 11: _____ 12: _____

Chain of custody:

9) YES Was a chain of custody received?

10) YES Were the custody papers complete/signed in the appropriate places?

Sample Labels:

11) YES Were all sample labels complete (sample ID, date/time of sampling, etc.)?

12) YES Did all container labels agree with custody papers?

Sample Containers:

13) YES Were all containers sealed in separate bags?

14) YES Did all containers arrive in good condition:(unbroken, no leakage, no cracked/broken lids)?

15) YES Were correct containers and preservatives used for the tests indicated?

16) YES Was a sufficient amount of sample sent for tests indicated?

17) NO Were bubbles present in volatile samples?
If yes, the following were received with air bubbles:
Larger than a pea: _____
Smaller than a pea: _____

Preservation Hold time:

18) YES Was a sufficient amount of holding time remaining to analyze the samples?

19) YES Was the pH taken of all non-VOA preserved samples and written on the sample container?

20) YES Was the pH of acid preserved non-VOA samples < 2?

21) NA Was the pH of sodium hydroxide preserved samples for Cyanide > 12 and Sulfide >9?

22) YES Were unpreserved VOA Vials received?

23) ~~YES~~ NO Are unpreserved VOA vials noted in the ADD TEST FIELD on the ARF?
pH strip lot number: HC982588
Lab notified if pH was not adequate: _____

Notes/Deficiencies:

CUSTODY SEAL
AECOM (808)521-3051
Initials EB Date 01/27/20

Personnel receiving samples: ZG Second reviewer: AA
Personnel labeling samples: MD
Project manager notified: ZG Date/Time of notification 01/28/20
Name of client notified: _____ Date/Time of notification _____

Revision: 22, November 5, 2013

SAMPLE RESULTS

EPA 8011

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

Sample ID: ERH1010

Sample Collection Date: 01/27/20

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 91319

APPL ID: BA06426

QCG: #8011-200129A-249595

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8011	EDB	0.019 U	0.02	0.019	0.010	ug/L	01/29/20	01/29/20
8011	SURROGATE: 1,3-DIBROMOPROPANE	104	70-132			%	01/29/20	01/29/20

Quant Method: 8010129A.M
Run #: 1126297
Instrument: Herbie
Sequence: 191126
Dilution Factor: 1
Initials: GAG

Printed: 01/30/20 11:23:09 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8011

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

Attn: Margie Pascua
Project: 60571032 CV18F0126 Red Hill Fuel Storage
Sample ID: ERH1011
Sample Collection Date: 01/27/20

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 91319
APPL ID: BA06427
QCG: #8011-200129A-249595

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8011	EDB	0.019 U	0.02	0.019	0.010	ug/L	01/29/20	01/29/20
8011	SURROGATE: 1,3-DIBROMOPROPANE	105	70-132			%	01/29/20	01/29/20

Quant Method: 8010129A.M
Run #: 1126298
Instrument: Herbie
Sequence: 191126
Dilution Factor: 1
Initials: GAG

Printed: 01/30/20 11:23:09 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8015B TPH LIQ-LIQ

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91319

Sample ID: ERH1011

APPL ID: BA06427

Sample Collection Date: 01/27/20

QCG: #DOC53-200129A-249672

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8015B-eL	DIESEL (C10-C24)	25.00 U	40.0	25.00	13.07	ug/L	01/29/20	01/31/20
EPA 8015B-eL	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	01/29/20	01/31/20
EPA 8015B-eL	SURROGATE: OCTACOSANE (S)	113	60-142			%	01/29/20	01/31/20
EPA 8015B-eL	SURROGATE: ORTHO-TERPHENYL (S)	93.6	56-125			%	01/29/20	01/31/20

Quant Method: DOC0129.M
Run #: 129086
Instrument: Apollo
Sequence: 200129
Dilution Factor: 1
Initials: SSE

Printed: 02/03/20 8:21:35 AM

APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8270D SIM LIQ-LIQ

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91319

Sample ID: ERH1011

APPL ID: BA06427

Sample Collection Date: 01/27/20

QCG: #SIM53-200129A-249674

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8270D-SIM	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.04	ug/L	01/29/20	01/31/20
8270D-SIM	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.04	ug/L	01/29/20	01/31/20
8270D-SIM	NAPHTHALENE	0.10 U	0.2	0.10	0.04	ug/L	01/29/20	01/31/20
8270D-SIM	SURROGATE: 2-METHYLNAPHTHALEN	87.1	39-114			%	01/29/20	01/31/20
8270D-SIM	SURROGATE: FLUORANTHENE-D10 (S	14.8 #	58-120			%	01/29/20	01/31/20

= Recovery (or RPD) is outside QC limits.

Quant Method: L0113PCP.M
Run #: 0113L243
Instrument: Linus
Sequence: L200113P
Dilution Factor: 1
Initials: JPR

Printed: 02/03/20 8:50:01 AM

APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8270D WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

Sample ID: ERH1011

Sample Collection Date: 01/27/20

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 91319

APPL ID: BA06427

QCG: #87DC5-200129A-249671

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	01/29/20	01/31/20
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHENO	91.5	43-140			%	01/29/20	01/31/20
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	87.2	44-119			%	01/29/20	01/31/20
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	94.6	19-119			%	01/29/20	01/31/20
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	109	44-120			%	01/29/20	01/31/20
EPA 8270D	SURROGATE: PHENOL-D6 (S)	14.1	10-115			%	01/29/20	01/31/20
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	102	50-134			%	01/29/20	01/31/20

Quant Method: Y1219.M
Run #: 1219Y308
Instrument: Yoda
Sequence: Y191219
Dilution Factor: 1
Initials: JPR

Printed: 02/03/20 8:20:07 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8270D MODIFIED WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua
Project: 60571032 CV18F0126 Red Hill Fuel Storage
Sample ID: ERH1011
Sample Collection Date: 01/27/20

ARF: 91319
APPL ID: BA06427
QCG: #87DME-200129A-249593

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	2-(2-METHOXYETHOXY)-ETHANOL	80.0 U	100	80.0	40.0	ug/L	01/29/20	01/29/20

Quant Method: YMEE0122.M
Run #: 0122Y039
Instrument: Yoda
Sequence: Y200122M
Dilution Factor: 1
Initials: JPR

Printed: 01/30/20 9:38:23 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8260B BTEX & 1,2-DCA WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91319

Sample ID: ERH1010

APPL ID: BA06426

Sample Collection Date: 01/27/20

QCG: #86BTO-200129AL-249603

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	1,2-DICHLOROETHANE	0.30 U	1.0	0.30	0.14	ug/L	01/30/20	01/30/20
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.15	ug/L	01/30/20	01/30/20
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	01/30/20	01/30/20
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.15	ug/L	01/30/20	01/30/20
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.15	ug/L	01/30/20	01/30/20
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE-	102	81-118			%	01/30/20	01/30/20
EPA 8260B	SURROGATE: 4-BROMOFLUOROBENZ	92.7	85-114			%	01/30/20	01/30/20
EPA 8260B	SURROGATE: DIBROMOFLUOROMETH	104	80-119			%	01/30/20	01/30/20
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	102	89-112			%	01/30/20	01/30/20

Quant Method: L0128W.M
Run #: 0129L40
Instrument: Loki
Sequence: 200129
Dilution Factor: 1
Initials: DPO

Printed: 01/30/20 10:34:09 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8260B BTEX & 1,2-DCA WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91319

Sample ID: ERH1011

APPL ID: BA06427

Sample Collection Date: 01/27/20

QCG: #86BTO-200129AL-249603

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	1,2-DICHLOROETHANE	0.30 U	1.0	0.30	0.14	ug/L	01/30/20	01/30/20
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.15	ug/L	01/30/20	01/30/20
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	01/30/20	01/30/20
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.15	ug/L	01/30/20	01/30/20
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.15	ug/L	01/30/20	01/30/20
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE-	102	81-118			%	01/30/20	01/30/20
EPA 8260B	SURROGATE: 4-BROMOFLUOROBENZ	87.2	85-114			%	01/30/20	01/30/20
EPA 8260B	SURROGATE: DIBROMOFLUOROMETH	102	80-119			%	01/30/20	01/30/20
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	96.7	89-112			%	01/30/20	01/30/20

Quant Method: L0128W.M
Run #: 0129L41
Instrument: Loki
Sequence: 200129
Dilution Factor: 1
Initials: DPO

Printed: 01/30/20 10:34:09 AM

APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91319

Sample ID: ERH1010

APPL ID: BA06426

Sample Collection Date: 01/27/20

QCG: #GRO86-200129AL-249614

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	01/30/20	01/30/20
EPA 8260B	SURROGATE: 4-BROMOFLUOROBENZ	92.7	85-114			%	01/30/20	01/30/20

Quant Method: LGAS0128.M
Run #: 0129L40
Instrument: Loki
Sequence: 200129
Dilution Factor: 1
Initials: DPO

Printed: 01/30/20 4:46:13 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

ARF: 91319

Sample ID: ERH1011

APPL ID: BA06427

Sample Collection Date: 01/27/20

QCG: #GRO86-200129AL-249614

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	01/30/20	01/30/20
EPA 8260B	SURROGATE: 4-BROMOFLUOROBENZ	87.2	85-114			%	01/30/20	01/30/20

Quant Method: LGAS0128.M
Run #: 0129L41
Instrument: Loki
Sequence: 200129
Dilution Factor: 1
Initials: DPO

Printed: 01/30/20 4:46:13 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

METHANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

Sample ID: ERH1010

Sample Collection Date: 01/27/20

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 91319

APPL ID: BA06426

QCG: #RSKME-200130A-249648

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	0.69 J	5.0	1.00	0.25	ug/L	01/30/20	01/30/20

J = Estimated value.

Quant Method:	RSK1002.M
Run #:	0130R22
Instrument:	Rocky
Sequence:	ocky\d
Dilution Factor:	1
Initials:	GAG

Printed: 01/31/20 12:08:01 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

METHANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

Attn: Margie Pascua
Project: 60571032 CV18F0126 Red Hill Fuel Storage
Sample ID: ERH1011
Sample Collection Date: 01/27/20

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 91319
APPL ID: BA06427
QCG: #RSKME-200130A-249648

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	1.00 U	5.0	1.00	0.25	ug/L	01/30/20	01/30/20

Quant Method: RSK1002.M
Run #: 0130R23
Instrument: Rocky
Sequence: ocky\d
Dilution Factor: 1
Initials: GAG

Printed: 01/31/20 12:08:01 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Wet Lab Analysis

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

Sample ID: ERH1011

APPL ID: BA06427

Sample Collection Date: 01/27/20

ARF: 91319

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
EPA 300.0	NITRATE	2.0	0.5	0.18	0.04	mg/L	1	01/28/20	01/28/20
EPA 300.0	SULFATE	10.9	1.0	0.20	0.09	mg/L	1	01/28/20	01/28/20
EPA 300.0	CHLORIDE	73.7	2.0	0.40	0.16	mg/L	2	01/28/20	01/28/20

Printed: 02/13/20 9:53:58 AM

APPL-F1-SC-NoMC-REG MDLs

Wet Lab Analysis

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Pascua

Project: 60571032 CV18F0126 Red Hill Fuel Storage

Sample ID: ERH1011

Sample Collection Date: 01/27/20

APPL ID: BA06427

ARF: 91319

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
EPA 353.2	NITRATE-NITRITE-N	0.41	0.10	0.090	0.028	mg/L	1	01/31/20	01/31/20
SM 2320B	BICARBONATE AS CACO3	50.5	2.0	1.70	0.85	mg/L	1	02/03/20	02/03/20
SM 2320B	CARBONATE AS CACO3	1.70 U	2.0	1.70	0.85	mg/L	1	02/03/20	02/03/20
SM 2320B	TOTAL ALKALINITY AS CACO	50.5	2.0	1.70	0.85	mg/L	1	02/03/20	02/03/20
SM3500FeB	FERROUS IRON	0.32 U	1.0	0.32	0.16	mg/L	1	01/29/20	01/29/20
SW846 9060A	TOTAL ORGANIC CARBON	11.7	0.93	0.350	0.130	mg/L	1	01/29/20	01/30/20

Printed: 02/13/20 9:53:03 AM

APPL-F1-SC-NoMC-REG MDLs

QC FORMS

8011

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 91319

Case No: 91319 Date Analyzed: 01/29/20

Matrix: WATER Instrument: Herbie

APPL ID.	Client Sample No.	SURROGATE: 1,3-DIBROMOPROPANE (S)					
		Limits	Result	Qualifier	Limits	Result	Qualifier
200129A-BLK	Blank	70-132	105				
200129A-LCS	Lab Control Spike	70-132	102				
200129A-LCSD	Lab Control SpikeD	70-132	105				
BA06426	ERH1010	70-132	104				
BA06427	ERH1011	70-132	105				

Comments: Batch: #8011-200129A

8011

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 91319

Case No: 91319 Date Analyzed: 01/29/20

Matrix: WATER Instrument: Herbie

Blank ID: 200129A-BLK Time Analyzed: 1451

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200129A-BLK	Blank	1126291	01/29/20 1451
200129A-LCS	Lab Control Spike	1126292	01/29/20 1511
200129A-LCSD	Lab Control SpikeD	1126293	01/29/20 1531
BA06426	ERH1010	1126297	01/29/20 1651
BA06427	ERH1011	1126298	01/29/20 1711

Comments: Batch: #8011-200129A

Printed: 01/30/20 11:23:11 AM
Form 4, Blank Summary

Method Blank
EPA 8011

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **200129W-06360 - 249595**
Batch ID: #8011-200129A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	EDB	0.019 U	0.02	0.019	0.010	ug/L	01/29/20	01/29/20
BLANK	SURROGATE: 1,3-DIBROMOPRO	105	70-132			%	01/29/20	01/29/20

Quant Method: 8010129A.M
Run #: 1126291
Instrument: Herbie
Sequence: 191126
Initials: GAG

GC SC-Blank-REG MDLs-DOD
Printed: 01/30/20 11:23:09 AM

8011

Form 4

LCS Summary

Lab Name: APPL, Inc. SDG No: 91319

Case No: 91319 Date Analyzed: 01/29/20

Matrix: WATER Instrument: Herbie

LCS ID: 200129A-LCS Time Analyzed: 1511

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200129A-BLK	Blank	1126291	01/29/20 1451
200129A-LCS	Lab Control Spike	1126292	01/29/20 1511
200129A-LCSD	Lab Control SpikeD	1126293	01/29/20 1531
BA06426	ERH1010	1126297	01/29/20 1651
BA06427	ERH1011	1126298	01/29/20 1711

Comments: Batch: #8011-200129A

Laboratory Control Spike Recoveries

EPA 8011

APPL ID: **200129W-06360 LCS - 249595**
Batch ID: #8011-200129A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
EDB	0.250	0.256	0.250	102	100	60-140	2.4	25
SURROGATE: 1,3-DIBROMOPROPANE (	0.250	0.255	0.262	102	105	70-132		

Comments: _____

Primary	SPK	DUP
Quant Method :	8010129A.M	8010129A.M
Extraction Date :	01/29/20	01/29/20
Analysis Date :	01/29/20	01/29/20
Instrument :	Herbie	Herbie
Run :	1126292	1126293
Initials :	GAG	

Printed: 01/30/20 11:23:10 AM
APPL Standard LCSD

EPA 8015B-eLL

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 91319

Case No: 91319 Date Analyzed: 01/31/20

Matrix: WATER Instrument: Apollo

APPL ID.	Client Sample No.	SURROGATE: OCTACOSANE (S)			SURROGATE: ORTHO-TERPHENYL (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
200129A-BLK	Blank	60-142	110		56-125	95.5	
200129A-LCS	Lab Control Spike	60-142	110		56-125	74.9	
200129A-LCSD	Lab Control SpikeD	60-142	111		56-125	75.7	
BA06427	ERH1011	60-142	113		56-125	93.6	

Comments: Batch: #DOC53-200129A

EPA 8015B-eL

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 91319

Case No: 91319 Date Analyzed: 01/31/20

Matrix: WATER Instrument: Apollo

Blank ID: 200129A-BLK Time Analyzed: 1535

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200129A-BLK	Blank	129083	01/31/20 1535
200129A-LCS	Lab Control Spike	129084	01/31/20 1556
200129A-LCSD	Lab Control SpikeD	129085	01/31/20 1616
BA06427	ERH1011	129086	01/31/20 1636

Comments: Batch: #DOC53-200129A

Method Blank

EPA 8015B TPH LIQ-LIQ

Blank Name/QCG: **200129W-06427 - 249672**

Batch ID: #DOC53-200129A

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	DIESEL (C10-C24)	25.00 U	40.0	25.00	13.07	ug/L	01/29/20	01/31/20
BLANK	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	01/29/20	01/31/20
BLANK	SURROGATE: OCTACOSANE (S)	110	60-142			%	01/29/20	01/31/20
BLANK	SURROGATE: ORTHO-TERPHEN	95.5	56-125			%	01/29/20	01/31/20

Quant Method:DOC0129.M
Run #:129083
Instrument:Apollo
Sequence:200129
Initials:SSE

GC SC-Blank-REG MDLs-DOD
Printed: 02/03/20 8:21:35 AM

EPA 8015B-eL

Form 4

LCS Summary

Lab Name: APPL, Inc. SDG No: 91319

Case No: 91319 Date Analyzed: 01/31/20

Matrix: WATER Instrument: Apollo

LCS ID: 200129A-LCS Time Analyzed: 1556

APPL ID.	Client Sample No.	File ID.	Date Analyzed
200129A-BLK	Blank	129083	01/31/20 1535
200129A-LCS	Lab Control Spike	129084	01/31/20 1556
200129A-LCSD	Lab Control SpikeD	129085	01/31/20 1616
BA06427	ERH1011	129086	01/31/20 1636

Comments: Batch: #DOC53-200129A