



ANALYTICAL SUMMARY REPORT

February 14, 2022

AECOM - Honolulu
1001 Bishop Street, Suite 1600
Honolulu HI, 96813-3698

Work Order: B21121965 Quote ID: 5912

Project Name: CV18F0126/60571032.02.46.01

Energy Laboratories Inc Billings MT received the following 5 samples from AECOM - Honolulu on 12/27/2021 for analysis.

Lab ID	Client Sample ID	Collect Date	Received Date	Matrix	Test
B21121965-001	ERH2238 (RHMW03)	12/20/21 18:10	12/27/2021	Ground Water	Metals Digestion by SW3010A DRO-Liquid-Liquid Extraction SW3520C Separatory Funnel SW3510C Liquid-Liquid Ext. Carbon, Total Organic SW9060A Metals by ICP-MS, Dissolved SW6020 Metals by ICP-MS, Total SW6020 8260-Volatile Organic Compounds-Short List SW8260B EDB in Water by ECD SW8011 Gasoline Range Organics SW8015C Diesel Range Organics SW8015C Headspace Gas Analysis SW8015M Semi-Volatile Organic Compounds SW8270C Low Level PAH SW8270C SW8011 Microextraction
B21121965-002	ERH2237 Trip Blank- 14575	12/20/21 18:10	12/27/2021	Trip Blank	Gasoline Range Organics SW8015C
B21121965-003	ERH2237 Trip Blank- 14575	12/20/21 18:10	12/27/2021	Trip Blank	8260-Volatile Organic Compounds-Short List SW8260B
B21121965-005	ERH2237 Trip Blank- 14451	12/20/21 18:10	12/27/2021	Trip Blank	EDB in Water by ECD SW8011 SW8011 Microextraction
B21121965-006	ERH2237 Trip Blank- 14457	12/20/21 18:10	12/27/2021	Trip Blank	Headspace Gas Analysis SW8015M

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the report package. Any issues encountered during sample receipt are documented in the Work Order Receipt Checklist.

The results as reported relate only to the item(s) submitted for testing. This report shall be used or copied only in its entirety. Energy Laboratories, Inc. is not responsible for the consequences arising from the use of a partial report.

If you have any questions regarding these test results, please contact your Project Manager.

Report Approved By:



CLIENT: AECOM - Honolulu
Project: CV18F0126/60571032.02.46.01
Work Order: B21121965

Report Date: 2/14/2022

CASE NARRATIVE

Tests associated with analyst identified as ELI-CA were subcontracted to Energy Laboratories, PO Box 247, Casper, WY, EPA Number WY00002.

Prep Comments for Sample B21121965-001C, Test SVOC-3510C-8270: The prep hold time was exceeded by 0.660 days.

General Comments:

For any question please contact your Project Manager at (406) 252-6325 or billingspm@energylab.com.

All analyses have been performed in accordance with DOD QSM Version 5.3 unless otherwise noted below. The specific methodologies used in obtaining the enclosed analytical results are indicated on the Analytical Summary Report and the Laboratory Analytical Report. The samples were received at the appropriate temperature and in accordance with the chain of custody unless otherwise noted in the Work Order Receipt Checklist.

The tests listed below are accredited and meet the requirements of DoD QSM Version 5.3 as verified by ANSI-ASQ National Accreditation Board (ANAB) certificate number ADE-2588. Exceptions to this require client authorization and records documenting this approval are attached in the Sample Management Records. Accreditation may not be offered or required for all methods and analytes reported in this package. Refer to the certificate and scope of accreditation located at <https://www.energylab.com/whyus/certifications-quality-control/> or contact your project manager.

Tests for Total Organic Carbon by SW9060A associated with analyst identified as ELI-CA were subcontracted to Energy Laboratories, PO Box 247, Casper, WY, EPA Number WY00002.

Project specific matrix quality control samples may not be reported if site specific samples were not submitted. Matrix quality control samples were performed on project samples where adequate volume was available. All quality control measures met criteria unless otherwise noted in the Analytical QC Exceptions report and in the Analysis Specific Comments below. Where available, sample management records are attached.

The Level IV Validation Package includes data reports for all analyses associated with the instrument calibration, quality control (QC) sample analysis, and sample analysis. All analytical data is within method specifications except as noted in the Analytical QC Exceptions report or the Analysis Specific Comments below. The analytical report identifies preparation batch and analytical run IDs associated with each result for a sample. Only the raw data associated with the parameters listed on this report should be validated.

Analysis Specific Comments:

An Analytical QC Exceptions Report has been attached, summarizing all qualified QC results. Corrective actions regarding Semi-Volatile Petroleum Hydrocarbons by SW8015C, Volatile Organic Compounds by EPA 8260B and Semi-Volatile Organic Compounds by EPA 8270C analysis are summarized below.

Method SW8015C DRO:

B21121965-001

Due to low surrogate recovery of o-Terphenyl, the sample was re-extracted and re-analyzed. Silica gel treatment was performed on the re-extracted sample.

Method SW8260B:

B21121841-001CMS, B21121841-001CMSD, CCV122821_Closing

The analyte recoveries and RPD values for 1,1,2,2-Tetrachloroethane and 1,1-Dichloroethene were slightly above quality control limits. Bromomethane is a known very reactive compound and often recovers poorly. These analytes were not detected in the associated samples.

B21121965-001, B21121965-003

The sample B21121965-001 was re-analyzed due to a low recovery for Bromomethane in the bracketing CCV. Re-

analysis produced similar results. Both the original and re-analysis results are included in the analytical report. Sample B21121965-003 could not be re-analyzed due to limited sample volume.

Method SW8270C:

B21121965-001

The prep extraction hold time was exceeded by 0.660 days.

LCS-162528, LCSD-162528, B21121981-001CMS, B21121981-001CMSD

The analyte recoveries for 4-Nitrophenol and 4-Chlorophenol were slightly above quality control limits. RPD values were above the quality control limit for 2,4-Dimethylphenol and 3,3'-Dichlorobenzidine. Benzidine is a known very reactive compound and often recovers poorly. These analytes were not detected in the associated samples.



Trust our People. Trust our Data.

Chain of Custody & Analytical Request Record – DoD Project

www.energylab.com

COC: 202112-39 NOI Page 1 of 1

Account Information (Billing information)

Company/Name **AECOM**
 Contact **Alethea Ramos / Margie Pascua**
 Phone **808-529-7283 / 808-356-5373**
 Mailing Address **1001 Bishop St., Suite 1600**
 City, State, Zip **Honolulu, HI 96813**
 Email **alethea.ramos@aecom.com / margie.pascua@aecom.com**
 Receive Invoice Hard Copy Email Receive Report Hard Copy Email
 Purchase Order **N/A** Quote **N/A** Bottle Order **N/A**

Report Information (if different than Account information)

Company/Name **AECOM**
 Contact **see Account information**
 Phone
 Mailing Address
 City, State, Zip
 Email **USAPimaging@aecom.com**
 Receive Report Hard Copy Email
 Special Report/Formats:
 LEVEL IV NELAC EDD/EDT (contact laboratory) Other

Comments

1. Project performed under DoD QSM
2. TPH-d/o needs 3520 extraction
3. Preliminary data (or level 1) in 1-2 business days; Level IV report in 10 working days
4. Note. NOI log is separate from other COC's
5. *SVOC/VOC (full suite); PAH SIM (naphthalene, 1-methylnaphthalene, 2-methylnaphthalene)

Project Information

Project Name, PWSID, Permit, etc. **CV18F0126, 60571032.02.46.01**
 Sampler Name **AE, SW, RS, BL** Sampler Phone **808-393-6607**
 Sample Origin State **Hawaii** EPA/State Compliance Yes No
 The following tests will be subcontracted to other certified laboratories as shown:
 Signing this COC is authorization to subcontract the analyses as indicated.
 Analysis Subcontract Lab
 TOC Energy Laboratories Inc., Casper

Matrix Codes

- A - Air
- W - Water
- S - Soils/Solids
- V - Vegetation
- B - Bioassay
- O - Other
- DW - Drinking Water

Analysis Requested

8260 VOC's (Full Suite) + DCA* [(6) 40ml VOA w/HCL]	8015 TPH-g [(3) 40ml VOA w/HCL]	RSK175 Methane [(2) 40ml VOA w/H2SO4]	8011 EDB [(3) 40ml VOA w/HCL]	8270D SVOC (Full Suite)* PAH 8270D SIM [(2) 1-L AG]	EPA 3630/8015 TPH-d/o +SGC [(2) 1-L AG w/H2SO4]	EPA 9060 TOC [(2) 250ml AG w/H3PO4]	EPA 6020 Total Lead [(1) 500ml HDPE w/HNO3]	EPA 6020 Diss. Lead (Field Filtered) [(1) 500ml HDPE w/HNO3]
X	X	X	X	X	X	X	X	X

All turnaround times are standard unless marked as RUSH.
 Energy Laboratories MUST be contacted prior to RUSH sample submittal for charges and scheduling - See Instructions Page

Sample Identification (Name, Location, Interval, etc.)	Collection		Number of Containers	Matrix (See Codes Above)	Analysis Requested									See Attached	RUSH TAT	EEL LAB ID Laboratory Use Only
	Date	Time			8260 VOC's (Full Suite) + DCA* [(6) 40ml VOA w/HCL]	8015 TPH-g [(3) 40ml VOA w/HCL]	RSK175 Methane [(2) 40ml VOA w/H2SO4]	8011 EDB [(3) 40ml VOA w/HCL]	8270D SVOC (Full Suite)* PAH 8270D SIM [(2) 1-L AG]	EPA 3630/8015 TPH-d/o +SGC [(2) 1-L AG w/H2SO4]	EPA 9060 TOC [(2) 250ml AG w/H3PO4]	EPA 6020 Total Lead [(1) 500ml HDPE w/HNO3]	EPA 6020 Diss. Lead (Field Filtered) [(1) 500ml HDPE w/HNO3]			
1 ERH2238 (RHMW03)	12/20/21	1410	22	W	X	X	X	X	X	X	X	X	X	X	✓	B21121965-001
2 ERH2237 (Trip Blank)	12/20/21	1400	8	W	X	X	X	X							✓	-002, 003, 004, 005, 006
3																
4 TBGRD 14575																-002
5 TB 8260 14575																-003
6 TB 8260 client																-004
7 TB 8011 14451																-005
8 TB Methane 14457																-006
9																
10																

Custody Record MUST be signed

Relinquished by (print) **Tranzhen Nie** Date/Time **12/21/21 15:00** Signature *[Signature]*
 Relinquished by (print) _____ Date/Time _____ Signature _____

Received by (print) **Sea G... [Signature]** Date/Time **12/21/21 08:45** Signature *[Signature]*
 Received by Laboratory (print) _____ Date/Time _____ Signature _____

LABORATORY USE ONLY

Shipped By _____ Cooler ID(s) _____ Custody Seals **Y N C B** Intact **Y N** Receipt Temp **0.6 °C** Temp Blank **Y N** Dilution **Y N** Payment Type **CC Cash Check** Amount \$ _____ Receipt Number (cash/check only) _____



Work Order Receipt Checklist

AECOM - Honolulu

B21121965

Login completed by: Leslie S. Cadreau
Reviewed by: BL2000\gmccartney
Reviewed Date: 12/29/2021

Date Received: 12/27/2021
Received by: srg
Carrier name: FedEx

- Shipping container/cooler in good condition? Yes [checked] No [] Not Present []
Custody seals intact on all shipping container(s)/cooler(s)? Yes [checked] No [] Not Present []
Custody seals intact on all sample bottles? Yes [checked] No [] Not Present []
Chain of custody present? Yes [checked] No []
Chain of custody signed when relinquished and received? Yes [checked] No []
Chain of custody agrees with sample labels? Yes [checked] No []
Samples in proper container/bottle? Yes [checked] No []
Sample containers intact? Yes [checked] No []
Sufficient sample volume for indicated test? Yes [checked] No []
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.) Yes [checked] No []
Temp Blank received in all shipping container(s)/cooler(s)? Yes [checked] No [] Not Applicable []
Container/Temp Blank temperature: 0.6°C On Ice
Water - VOA vials have zero headspace? Yes [checked] No [] Not Applicable []
Water - pH acceptable upon receipt? Yes [checked] No [] Not Applicable []

Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as -dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

Contact and Corrective Action Comments:

The collection time indicated on the Chain of Custody for all samples is in Hawaii-Aleutian Standard Time. The collection time has been converted (+4 Hours) to Mountain Standard Time.

The matrix was not specified on the Chain of Custody. The matrix should be Ground Water per email from Alethea Ramos on 12/28/21.

One of the Trip Blanks for 8260 was received without the preservative traceability bottle labels provided by Energy Laboratories.

Qualifiers and Abbreviations

Qualifier	Qualifier Description
##	Limit of Quantitation (LOQ) for this analyte exceeds the Maximum Contaminant Level (MCL)
*	Result exceeds the Maximum Contaminant Level (MCL)
A	The analyte level was greater than four times the spike level - in accordance with the method, percent recovery is not calculated
B	Analyte detected in the method blank
C	Continuing calibration verification was outside of the quality control advisory limits
D	Limit of Quantitation (LOQ) increased due to sample matrix
E	Estimated value - result exceeds the instrument upper quantitation limit
H	Analysis performed past the method holding time
J	The reported result is an estimated value
L	Lowest Limit of Quantitation (LOQ) available for the analytical method used
N	Analyte concentration was not sufficiently high to calculate a Relative Percent Difference (RPD) for the serial dilution test
O	Diluted out
P	Poor method performance - method validations have shown no recoveries at low concentrations or method performance was erratic
Q	Values reported below the Limit of Quantitation (LOQ) are statistically invalid
R	Relative Percent Difference (RPD) exceeds advisory limit
S	Spike recovery outside of advisory limits
T	Analyte detected in the associated trip blank
U	Not detected at the Limit of Detection (LOD)
V	The RPD value for this duplicate represents the RER value and the RPD limit of 2 is the RER upper limit.

Qualifiers and Abbreviations

Abbreviation

Reporting	Explanation of Abbreviation
DF	Dilution Factor
DL	Detection Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
MCL	Maximum Contaminant Level
MDC	Minimum Detectable Concentration
ND	Not detected at the Limit of Quantitation (LOQ)
RBSL	Risk-Based Screening Levels
REC	Recovery
RER	Relative Error Ratio
RPD	Relative Percent Difference
SPK	Spike

Sample Types	Explanation of Abbreviation
CCB	Continuing Calibration Blank
CCV	Continuing Calibration Verification Standard
DUP	Sample Duplicate
ICSA	Interference Check Sample A
ICSAB	Interference Check Sample AB
ICV	Initial Calibration Verification Standard
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LFB	Laboratory Fortified Blank
LRB	Laboratory Reagent Blank
MBLK	Method Blank
MS	Sample Matrix Spike
MSD	Sample Matrix Spike Duplicate
PDS	Post Digestion/Distillation Spike
QCS	Quality Control Sample
SD	Serial Dilution
SRM	Standard Reference Material



LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Lab ID: B21121965-001
Collection Date: 12/20/2021 18:10
Date Received: 12/27/2021
Report Date: 02/14/2022

Client: AECOM - Honolulu
Client Sample ID: ERH2238 (RHMW03)
Project: CV18F0126/60571032.02.46.01
Matrix: Ground Water

Analyses	Result	Units	DF	Qual	LOQ	LOD	DL	MCL	Method	Analysis Date / By	RunID : Run Order	BatchID
AGGREGATE ORGANICS												
Organic Carbon, Total (TOC) - TOC Range is 2.5 to 2.6	2.6	mg/L	1		0.50	0.50	0.17		SW9060A	12/29/2021 22:51/eli-ca	SUB-C278345 : 16	C_R278345
METALS, DISSOLVED												
Lead	ND	mg/L	1	U	0.001	0.0001	0.00006		SW6020	01/19/2022 03:43/car	ICPMS206-B_220118A : 96	R373351
METALS, TOTAL												
Lead	0.00014	mg/L	1	J	0.001	0.0001	0.00008		SW6020	01/19/2022 03:49/car	ICPMS206-B_220118A : 97	162497
VOLATILE ORGANIC COMPOUNDS												
Benzene	ND	ug/L	1	U	1.0	0.25	0.12		SW8260B	12/27/2021 17:51/msc	VOA5975C.I_211227A : 18	R372727
Benzene	ND	ug/L	1	U	1.0	0.25	0.12		SW8260B	12/28/2021 18:14/msc	VOA5975C.I_211228A : 17	R372824
Bromobenzene	ND	ug/L	1	U	1.0	0.25	0.12		SW8260B	12/27/2021 17:51/msc	VOA5975C.I_211227A : 18	R372727
Bromobenzene	ND	ug/L	1	U	1.0	0.25	0.12		SW8260B	12/28/2021 18:14/msc	VOA5975C.I_211228A : 17	R372824
Bromochloromethane	ND	ug/L	1	U	1.0	0.50	0.18		SW8260B	12/27/2021 17:51/msc	VOA5975C.I_211227A : 18	R372727
Bromochloromethane	ND	ug/L	1	U	1.0	0.50	0.18		SW8260B	12/28/2021 18:14/msc	VOA5975C.I_211228A : 17	R372824
Bromodichloromethane	ND	ug/L	1	U	1.0	0.50	0.16		SW8260B	12/27/2021 17:51/msc	VOA5975C.I_211227A : 18	R372727
Bromodichloromethane	ND	ug/L	1	U	1.0	0.50	0.16		SW8260B	12/28/2021 18:14/msc	VOA5975C.I_211228A : 17	R372824
Bromoform	ND	ug/L	1	U	1.0	0.25	0.12		SW8260B	12/27/2021 17:51/msc	VOA5975C.I_211227A : 18	R372727
Bromoform	ND	ug/L	1	U	1.0	0.25	0.12		SW8260B	12/28/2021 18:14/msc	VOA5975C.I_211228A : 17	R372824
Bromomethane	ND	ug/L	1	U	1.0	0.50	0.25		SW8260B	12/27/2021 17:51/msc	VOA5975C.I_211227A : 18	R372727
Bromomethane	ND	ug/L	1	U	1.0	0.50	0.25		SW8260B	12/28/2021 18:14/msc	VOA5975C.I_211228A : 17	R372824
Carbon tetrachloride	ND	ug/L	1	U	1.0	0.50	0.16		SW8260B	12/27/2021 17:51/msc	VOA5975C.I_211227A : 18	R372727
Carbon tetrachloride	ND	ug/L	1	U	1.0	0.50	0.16		SW8260B	12/28/2021 18:14/msc	VOA5975C.I_211228A : 17	R372824
Chlorobenzene	ND	ug/L	1	U	1.0	0.25	0.12		SW8260B	12/27/2021 17:51/msc	VOA5975C.I_211227A : 18	R372727
Chlorobenzene	ND	ug/L	1	U	1.0	0.25	0.12		SW8260B	12/28/2021 18:14/msc	VOA5975C.I_211228A : 17	R372824
Chlorodibromomethane	ND	ug/L	1	U	1.0	0.25	0.084		SW8260B	12/27/2021 17:51/msc	VOA5975C.I_211227A : 18	R372727
Chlorodibromomethane	ND	ug/L	1	U	1.0	0.25	0.084		SW8260B	12/28/2021 18:14/msc	VOA5975C.I_211228A : 17	R372824
Chloroethane	ND	ug/L	1	U	1.0	0.50	0.17		SW8260B	12/27/2021 17:51/msc	VOA5975C.I_211227A : 18	R372727
Chloroethane	ND	ug/L	1	U	1.0	0.50	0.17		SW8260B	12/28/2021 18:14/msc	VOA5975C.I_211228A : 17	R372824
Chloroform	ND	ug/L	1	U	1.0	0.25	0.079		SW8260B	12/27/2021 17:51/msc	VOA5975C.I_211227A : 18	R372727
Chloroform	ND	ug/L	1	U	1.0	0.25	0.079		SW8260B	12/28/2021 18:14/msc	VOA5975C.I_211228A : 17	R372824
Chloromethane	ND	ug/L	1	U	1.0	0.50	0.19		SW8260B	12/27/2021 17:51/msc	VOA5975C.I_211227A : 18	R372727
Chloromethane	ND	ug/L	1	U	1.0	0.50	0.19		SW8260B	12/28/2021 18:14/msc	VOA5975C.I_211228A : 17	R372824
1,2-Dibromoethane	ND	ug/L	1	U	1.0	0.50	0.14		SW8260B	12/27/2021 17:51/msc	VOA5975C.I_211227A : 18	R372727
1,2-Dibromoethane	ND	ug/L	1	U	1.0	0.50	0.14		SW8260B	12/28/2021 18:14/msc	VOA5975C.I_211228A : 17	R372824
2-Chlorotoluene	ND	ug/L	1	U	1.0	0.25	0.088		SW8260B	12/27/2021 17:51/msc	VOA5975C.I_211227A : 18	R372727
2-Chlorotoluene	ND	ug/L	1	U	1.0	0.25	0.088		SW8260B	12/28/2021 18:14/msc	VOA5975C.I_211228A : 17	R372824
4-Chlorotoluene	ND	ug/L	1	U	1.0	0.25	0.091		SW8260B	12/27/2021 17:51/msc	VOA5975C.I_211227A : 18	R372727
4-Chlorotoluene	ND	ug/L	1	U	1.0	0.25	0.091		SW8260B	12/28/2021 18:14/msc	VOA5975C.I_211228A : 17	R372824
Dibromomethane	ND	ug/L	1	U	1.0	0.50	0.16		SW8260B	12/27/2021 17:51/msc	VOA5975C.I_211227A : 18	R372727



LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Lab ID: B21121965-001

Collection Date: 12/20/2021 18:10

Date Received: 12/27/2021

Report Date: 02/14/2022

Client: AECOM - Honolulu
Client Sample ID: ERH2238 (RHMW03)
Project: CV18F0126/60571032.02.46.01
Matrix: Ground Water

Analyses	Result	Units	DF	Qual	LOQ	LOD	DL	MCL	Method	Analysis Date / By	RunID : Run Order	BatchID
VOLATILE ORGANIC COMPOUNDS												
Dibromomethane	ND	ug/L	1	U	1.0	0.50	0.16		SW8260B	12/28/2021 18:14/msc	VOA5975C.I_211228A : 17	R372824
1,2-Dichlorobenzene	ND	ug/L	1	U	1.0	0.25	0.086		SW8260B	12/27/2021 17:51/msc	VOA5975C.I_211227A : 18	R372727
1,2-Dichlorobenzene	ND	ug/L	1	U	1.0	0.25	0.086		SW8260B	12/28/2021 18:14/msc	VOA5975C.I_211228A : 17	R372824
1,3-Dichlorobenzene	ND	ug/L	1	U	1.0	0.25	0.10		SW8260B	12/27/2021 17:51/msc	VOA5975C.I_211227A : 18	R372727
1,3-Dichlorobenzene	ND	ug/L	1	U	1.0	0.25	0.10		SW8260B	12/28/2021 18:14/msc	VOA5975C.I_211228A : 17	R372824
1,4-Dichlorobenzene	ND	ug/L	1	U	1.0	0.25	0.086		SW8260B	12/27/2021 17:51/msc	VOA5975C.I_211227A : 18	R372727
1,4-Dichlorobenzene	ND	ug/L	1	U	1.0	0.25	0.086		SW8260B	12/28/2021 18:14/msc	VOA5975C.I_211228A : 17	R372824
Dichlorodifluoromethane	ND	ug/L	1	U	1.0	0.50	0.18		SW8260B	12/27/2021 17:51/msc	VOA5975C.I_211227A : 18	R372727
Dichlorodifluoromethane	ND	ug/L	1	U	1.0	0.50	0.18		SW8260B	12/28/2021 18:14/msc	VOA5975C.I_211228A : 17	R372824
1,1-Dichloroethane	ND	ug/L	1	U	1.0	0.50	0.18		SW8260B	12/27/2021 17:51/msc	VOA5975C.I_211227A : 18	R372727
1,1-Dichloroethane	ND	ug/L	1	U	1.0	0.50	0.18		SW8260B	12/28/2021 18:14/msc	VOA5975C.I_211228A : 17	R372824
1,2-Dichloroethane	ND	ug/L	1	U	1.0	0.50	0.16		SW8260B	12/27/2021 17:51/msc	VOA5975C.I_211227A : 18	R372727
1,2-Dichloroethane	ND	ug/L	1	U	1.0	0.50	0.16		SW8260B	12/28/2021 18:14/msc	VOA5975C.I_211228A : 17	R372824
1,1-Dichloroethene	ND	ug/L	1	U	1.0	0.50	0.14		SW8260B	12/27/2021 17:51/msc	VOA5975C.I_211227A : 18	R372727
1,1-Dichloroethene	ND	ug/L	1	U	1.0	0.50	0.14		SW8260B	12/28/2021 18:14/msc	VOA5975C.I_211228A : 17	R372824
cis-1,2-Dichloroethene	ND	ug/L	1	U	1.0	0.50	0.17		SW8260B	12/27/2021 17:51/msc	VOA5975C.I_211227A : 18	R372727
cis-1,2-Dichloroethene	ND	ug/L	1	U	1.0	0.50	0.17		SW8260B	12/28/2021 18:14/msc	VOA5975C.I_211228A : 17	R372824
trans-1,2-Dichloroethene	ND	ug/L	1	U	1.0	0.50	0.15		SW8260B	12/27/2021 17:51/msc	VOA5975C.I_211227A : 18	R372727
trans-1,2-Dichloroethene	ND	ug/L	1	U	1.0	0.50	0.15		SW8260B	12/28/2021 18:14/msc	VOA5975C.I_211228A : 17	R372824
1,2-Dichloropropane	ND	ug/L	1	U	1.0	0.25	0.089		SW8260B	12/27/2021 17:51/msc	VOA5975C.I_211227A : 18	R372727
1,2-Dichloropropane	ND	ug/L	1	U	1.0	0.25	0.089		SW8260B	12/28/2021 18:14/msc	VOA5975C.I_211228A : 17	R372824
1,3-Dichloropropane	ND	ug/L	1	U	1.0	0.25	0.11		SW8260B	12/27/2021 17:51/msc	VOA5975C.I_211227A : 18	R372727
1,3-Dichloropropane	ND	ug/L	1	U	1.0	0.25	0.11		SW8260B	12/28/2021 18:14/msc	VOA5975C.I_211228A : 17	R372824
2,2-Dichloropropane	ND	ug/L	1	U	1.0	0.50	0.20		SW8260B	12/27/2021 17:51/msc	VOA5975C.I_211227A : 18	R372727
2,2-Dichloropropane	ND	ug/L	1	U	1.0	0.50	0.20		SW8260B	12/28/2021 18:14/msc	VOA5975C.I_211228A : 17	R372824
1,1-Dichloropropene	ND	ug/L	1	U	1.0	0.25	0.083		SW8260B	12/27/2021 17:51/msc	VOA5975C.I_211227A : 18	R372727
1,1-Dichloropropene	ND	ug/L	1	U	1.0	0.25	0.083		SW8260B	12/28/2021 18:14/msc	VOA5975C.I_211228A : 17	R372824
cis-1,3-Dichloropropene	ND	ug/L	1	U	1.0	0.25	0.094		SW8260B	12/27/2021 17:51/msc	VOA5975C.I_211227A : 18	R372727
cis-1,3-Dichloropropene	ND	ug/L	1	U	1.0	0.25	0.094		SW8260B	12/28/2021 18:14/msc	VOA5975C.I_211228A : 17	R372824
trans-1,3-Dichloropropene	ND	ug/L	1	U	1.0	0.25	0.085		SW8260B	12/27/2021 17:51/msc	VOA5975C.I_211227A : 18	R372727
trans-1,3-Dichloropropene	ND	ug/L	1	U	1.0	0.25	0.085		SW8260B	12/28/2021 18:14/msc	VOA5975C.I_211228A : 17	R372824
Ethylbenzene	ND	ug/L	1	U	1.0	0.25	0.091		SW8260B	12/27/2021 17:51/msc	VOA5975C.I_211227A : 18	R372727
Ethylbenzene	ND	ug/L	1	U	1.0	0.25	0.091		SW8260B	12/28/2021 18:14/msc	VOA5975C.I_211228A : 17	R372824
Methyl ethyl ketone	ND	ug/L	1	U	20	5.0	2.2		SW8260B	12/27/2021 17:51/msc	VOA5975C.I_211227A : 18	R372727
Methyl ethyl ketone	ND	ug/L	1	U	20	5.0	2.2		SW8260B	12/28/2021 18:14/msc	VOA5975C.I_211228A : 17	R372824
Methyl tert-butyl ether (MTBE)	ND	ug/L	1	U	1.0	0.25	0.12		SW8260B	12/27/2021 17:51/msc	VOA5975C.I_211227A : 18	R372727
Methyl tert-butyl ether (MTBE)	ND	ug/L	1	U	1.0	0.25	0.12		SW8260B	12/28/2021 18:14/msc	VOA5975C.I_211228A : 17	R372824
Methylene chloride	ND	ug/L	1	U	1.0	0.50	0.13		SW8260B	12/27/2021 17:51/msc	VOA5975C.I_211227A : 18	R372727
Methylene chloride	ND	ug/L	1	U	1.0	0.50	0.13		SW8260B	12/28/2021 18:14/msc	VOA5975C.I_211228A : 17	R372824



LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Lab ID: B21121965-001

Collection Date: 12/20/2021 18:10

Date Received: 12/27/2021

Report Date: 02/14/2022

Client: AECOM - Honolulu
Client Sample ID: ERH2238 (RHMW03)
Project: CV18F0126/60571032.02.46.01
Matrix: Ground Water

Analyses	Result	Units	DF	Qual	LOQ	LOD	DL	MCL	Method	Analysis Date / By	RunID : Run Order	BatchID
VOLATILE ORGANIC COMPOUNDS												
Styrene	ND	ug/L	1	U	1.0	0.25	0.067		SW8260B	12/27/2021 17:51/msc	VOA5975C.I_211227A : 18	R372727
Styrene	ND	ug/L	1	U	1.0	0.25	0.067		SW8260B	12/28/2021 18:14/msc	VOA5975C.I_211228A : 17	R372824
1,1,1,2-Tetrachloroethane	ND	ug/L	1	U	1.0	0.25	0.11		SW8260B	12/27/2021 17:51/msc	VOA5975C.I_211227A : 18	R372727
1,1,1,2-Tetrachloroethane	ND	ug/L	1	U	1.0	0.25	0.11		SW8260B	12/28/2021 18:14/msc	VOA5975C.I_211228A : 17	R372824
1,1,2,2-Tetrachloroethane	ND	ug/L	1	U	1.0	0.25	0.087		SW8260B	12/27/2021 17:51/msc	VOA5975C.I_211227A : 18	R372727
1,1,2,2-Tetrachloroethane	ND	ug/L	1	U	1.0	0.25	0.087		SW8260B	12/28/2021 18:14/msc	VOA5975C.I_211228A : 17	R372824
Tetrachloroethene	ND	ug/L	1	U	1.0	0.25	0.067		SW8260B	12/27/2021 17:51/msc	VOA5975C.I_211227A : 18	R372727
Tetrachloroethene	ND	ug/L	1	U	1.0	0.25	0.067		SW8260B	12/28/2021 18:14/msc	VOA5975C.I_211228A : 17	R372824
Toluene	ND	ug/L	1	U	1.0	0.25	0.075		SW8260B	12/27/2021 17:51/msc	VOA5975C.I_211227A : 18	R372727
Toluene	ND	ug/L	1	U	1.0	0.25	0.075		SW8260B	12/28/2021 18:14/msc	VOA5975C.I_211228A : 17	R372824
1,1,1-Trichloroethane	ND	ug/L	1	U	1.0	0.50	0.13		SW8260B	12/27/2021 17:51/msc	VOA5975C.I_211227A : 18	R372727
1,1,1-Trichloroethane	ND	ug/L	1	U	1.0	0.50	0.13		SW8260B	12/28/2021 18:14/msc	VOA5975C.I_211228A : 17	R372824
1,1,2-Trichloroethane	ND	ug/L	1	U	1.0	0.25	0.11		SW8260B	12/27/2021 17:51/msc	VOA5975C.I_211227A : 18	R372727
1,1,2-Trichloroethane	ND	ug/L	1	U	1.0	0.25	0.11		SW8260B	12/28/2021 18:14/msc	VOA5975C.I_211228A : 17	R372824
Trichloroethene	ND	ug/L	1	U	1.0	0.25	0.099		SW8260B	12/27/2021 17:51/msc	VOA5975C.I_211227A : 18	R372727
Trichloroethene	ND	ug/L	1	U	1.0	0.25	0.099		SW8260B	12/28/2021 18:14/msc	VOA5975C.I_211228A : 17	R372824
Trichlorofluoromethane	ND	ug/L	1	U	1.0	0.50	0.13		SW8260B	12/27/2021 17:51/msc	VOA5975C.I_211227A : 18	R372727
Trichlorofluoromethane	ND	ug/L	1	U	1.0	0.50	0.13		SW8260B	12/28/2021 18:14/msc	VOA5975C.I_211228A : 17	R372824
1,2,3-Trichloropropane	ND	ug/L	1	U	1.0	0.50	0.38		SW8260B	12/27/2021 17:51/msc	VOA5975C.I_211227A : 18	R372727
1,2,3-Trichloropropane	ND	ug/L	1	U	1.0	0.50	0.38		SW8260B	12/28/2021 18:14/msc	VOA5975C.I_211228A : 17	R372824
Vinyl chloride	ND	ug/L	1	U	1.0	0.50	0.15		SW8260B	12/27/2021 17:51/msc	VOA5975C.I_211227A : 18	R372727
Vinyl chloride	ND	ug/L	1	U	1.0	0.50	0.15		SW8260B	12/28/2021 18:14/msc	VOA5975C.I_211228A : 17	R372824
m+p-Xylenes	ND	ug/L	1	U	1.0	0.50	0.16		SW8260B	12/27/2021 17:51/msc	VOA5975C.I_211227A : 18	R372727
m+p-Xylenes	ND	ug/L	1	U	1.0	0.50	0.16		SW8260B	12/28/2021 18:14/msc	VOA5975C.I_211228A : 17	R372824
o-Xylene	ND	ug/L	1	U	1.0	0.20	0.060		SW8260B	12/27/2021 17:51/msc	VOA5975C.I_211227A : 18	R372727
o-Xylene	ND	ug/L	1	U	1.0	0.20	0.060		SW8260B	12/28/2021 18:14/msc	VOA5975C.I_211228A : 17	R372824
Xylenes, Total	ND	ug/L	1	U	1.0	0.20	0.060		SW8260B	12/27/2021 17:51/msc	VOA5975C.I_211227A : 18	R372727
Xylenes, Total	ND	ug/L	1	U	1.0	0.20	0.060		SW8260B	12/28/2021 18:14/msc	VOA5975C.I_211228A : 17	R372824
Surr: Dibromofluoromethane	104.0	%REC	1		80-119				SW8260B	12/27/2021 17:51/msc	VOA5975C.I_211227A : 18	R372727
Surr: Dibromofluoromethane	104.0	%REC	1		80-119				SW8260B	12/28/2021 18:14/msc	VOA5975C.I_211228A : 17	R372824
Surr: 1,2-Dichloroethane-d4	104.0	%REC	1		81-118				SW8260B	12/27/2021 17:51/msc	VOA5975C.I_211227A : 18	R372727
Surr: 1,2-Dichloroethane-d4	102.0	%REC	1		81-118				SW8260B	12/28/2021 18:14/msc	VOA5975C.I_211228A : 17	R372824
Surr: Toluene-d8	103.0	%REC	1		89-112				SW8260B	12/27/2021 17:51/msc	VOA5975C.I_211227A : 18	R372727
Surr: Toluene-d8	103.0	%REC	1		89-112				SW8260B	12/28/2021 18:14/msc	VOA5975C.I_211228A : 17	R372824
Surr: p-Bromofluorobenzene	105.0	%REC	1		85-114				SW8260B	12/27/2021 17:51/msc	VOA5975C.I_211227A : 18	R372727
Surr: p-Bromofluorobenzene	104.0	%REC	1		85-114				SW8260B	12/28/2021 18:14/msc	VOA5975C.I_211228A : 17	R372824

- The sample was re-analyzed due to a low recovery for Bromomethane in the bracketing CCV. Re-analysis produced similar results. Both the original and re-analysis results are included in the analytical report.

VOCS BY MICROEXTRACTION-ECD

1,2-Dibromoethane	ND	ug/L	1	U	0.010	0.0050	0.0026		SW8011	12/28/2021 19:09/clt	GECD.I_211228A : 18	162519
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LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Lab ID: B21121965-001
Collection Date: 12/20/2021 18:10
Date Received: 12/27/2021
Report Date: 02/14/2022

Client: AECOM - Honolulu
Client Sample ID: ERH2238 (RHMW03)
Project: CV18F0126/60571032.02.46.01
Matrix: Ground Water

Analyses	Result	Units	DF	Qual	LOQ	LOD	DL	MCL	Method	Analysis Date / By	RunID : Run Order	BatchID
VOCS BY MICROEXTRACTION-ECD												
Surr: 1,1,1,2-Tetrachloroethane	85.0	%REC	1		70-130				SW8011	12/28/2021 19:09/clt	GECD.I_211228A : 18	162519
PETROLEUM HYDROCARBONS-VOLATILE												
C6 to C10	ND	ug/L	1	U	20	8.7	2.3		SW8015C	12/29/2021 01:58/jp	PE 1_211228A : 23	R372468
Total Purgeable Hydrocarbons	ND	ug/L	1	U	20	10	3.6		SW8015C	12/29/2021 01:58/jp	PE 1_211228A : 23	R372468
Surr: Trifluorotoluene	81.0	%REC	1		70-130				SW8015C	12/29/2021 01:58/jp	PE 1_211228A : 23	R372468
- Note 1: C6 to C10 is defined as all hydrocarbons eluting between 2-Methylpentane and 1,2,4-Trimethylbenzene.												
- Note 2: Total Purgeable Hydrocarbons are defined as the total hydrocarbon response regardless of elution time.												
PETROLEUM HYDROCARBONS-SEMI-VOLATILE												
Diesel Range Organics (C10 to C24)	0.14	mg/L	1	J	0.30	0.15	0.035		SW8015C	01/5/2022 17:36/amn	GCFID-HP4-B_220105A : 11	162648
Diesel Range Organics (C10 to C24)	0.096	mg/L	1	J	0.30	0.15	0.039		SW8015C	12/30/2021 03:41/amn	GCFID-HP5-B_211228B : 20	162502
Diesel Range Organics (SGT-C10 to C24)	ND	mg/L	1	U	0.30	0.15	0.035		SW8015C	01/7/2022 04:46/amn	GCFID-HP4-B_220106A : 11	162648
Oil Range Hydrocarbons (C24 to C40)	0.40	mg/L	1		0.30	0.15	0.050		SW8015C	01/5/2022 17:36/amn	GCFID-HP4-B_220105A : 11	162648
Oil Range Hydrocarbons (C24 to C40)	0.25	mg/L	1	J	0.30	0.15	0.088		SW8015C	12/30/2021 03:41/amn	GCFID-HP5-B_211228B : 20	162502
Oil Range Hydrocarbons (SGT-C24 to C40)	ND	mg/L	1	U	0.30	0.15	0.050		SW8015C	01/7/2022 04:46/amn	GCFID-HP4-B_220106A : 11	162648
Total Extractable Hydrocarbons	0.52	mg/L	1		0.30	0.15	0.076		SW8015C	01/5/2022 17:36/amn	GCFID-HP4-B_220105A : 11	162648
Total Extractable Hydrocarbons	0.42	mg/L	1		0.30	0.15	0.075		SW8015C	12/30/2021 03:41/amn	GCFID-HP5-B_211228B : 20	162502
Total Extractable Hydrocarbons (SGT)	ND	mg/L	1	U	0.30	0.15	0.076		SW8015C	01/7/2022 04:46/amn	GCFID-HP4-B_220106A : 11	162648
Surr: o-Terphenyl	75.0	%REC	1		56-125				SW8015C	01/5/2022 17:36/amn	GCFID-HP4-B_220105A : 11	162648
Surr: o-Terphenyl	52.0	%REC	1	S	56-125				SW8015C	12/30/2021 03:41/amn	GCFID-HP5-B_211228B : 20	162502
Surr: o-Terphenyl (SGT)	67.0	%REC	1		56-125				SW8015C	01/7/2022 04:46/amn	GCFID-HP4-B_220106A : 11	162648
Surr: n-Triacontane	120.0	%REC	1		50-150				SW8015C	01/5/2022 17:36/amn	GCFID-HP4-B_220105A : 11	162648
Surr: n-Triacontane	105.0	%REC	1		50-150				SW8015C	12/30/2021 03:41/amn	GCFID-HP5-B_211228B : 20	162502
Surr: n-Triacontane (SGT)	115.0	%REC	1		50-150				SW8015C	01/7/2022 04:46/amn	GCFID-HP4-B_220106A : 11	162648
- Note: Total Extractable Hydrocarbons are defined as the total hydrocarbon responses regardless of elution time.												
- Due to low surrogate recovery of o-Terphenyl, the sample was re-extracted and re-analyzed. Silica gel treatment was performed on the re-extracted sample.												
ORGANIC CHARACTERISTICS												
Methane	ND	mg/L	1	U	0.0020	0.0012	0.00070		SW8015M	12/28/2021 12:25/jdw	FID-HEADSPACE_211228A : 12	R372437
SEMI-VOLATILE ORGANIC COMPOUNDS												
1,2,4-Trichlorobenzene	ND	ug/L	1	U	10	5.0	1.9		SW8270C	01/10/2022 21:20/dsm	SV5973N.I_220110A : 7	162528
1,2-Dichlorobenzene	ND	ug/L	1	U	10	5.0	2.0		SW8270C	01/10/2022 21:20/dsm	SV5973N.I_220110A : 7	162528
1,3-Dichlorobenzene	ND	ug/L	1	U	10	5.0	2.1		SW8270C	01/10/2022 21:20/dsm	SV5973N.I_220110A : 7	162528
1,4-Dichlorobenzene	ND	ug/L	1	U	10	5.0	2.0		SW8270C	01/10/2022 21:20/dsm	SV5973N.I_220110A : 7	162528
1-Methylnaphthalene	ND	ug/L	1	U	10	5.0	2.4		SW8270C	01/10/2022 21:20/dsm	SV5973N.I_220110A : 7	162528
2,4,5-Trichlorophenol	ND	ug/L	1	U	10	5.0	2.2		SW8270C	01/10/2022 21:20/dsm	SV5973N.I_220110A : 7	162528
2,4,6-Trichlorophenol	ND	ug/L	1	U	10	5.0	2.6		SW8270C	01/10/2022 21:20/dsm	SV5973N.I_220110A : 7	162528
2,4-Dichlorophenol	ND	ug/L	1	U	10	5.0	1.7		SW8270C	01/10/2022 21:20/dsm	SV5973N.I_220110A : 7	162528



LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Lab ID: B21121965-001

Collection Date: 12/20/2021 18:10

Date Received: 12/27/2021

Report Date: 02/14/2022

Client: AECOM - Honolulu
Client Sample ID: ERH2238 (RHMW03)
Project: CV18F0126/60571032.02.46.01
Matrix: Ground Water

Analyses	Result	Units	DF	Qual	LOQ	LOD	DL	MCL	Method	Analysis Date / By	RunID : Run Order	BatchID
SEMI-VOLATILE ORGANIC COMPOUNDS												
2,4-Dimethylphenol	ND	ug/L	1	U	10	5.0	1.7		SW8270C	01/10/2022 21:20/dsm	SV5973N.I_220110A : 7	162528
2,4-Dinitrophenol	ND	ug/L	1	U	10	9.9	4.2		SW8270C	01/10/2022 21:20/dsm	SV5973N.I_220110A : 7	162528
2,4-Dinitrotoluene	ND	ug/L	1	U	10	5.0	3.0		SW8270C	01/10/2022 21:20/dsm	SV5973N.I_220110A : 7	162528
2,6-Dinitrotoluene	ND	ug/L	1	U	10	5.0	3.2		SW8270C	01/10/2022 21:20/dsm	SV5973N.I_220110A : 7	162528
2-Chloronaphthalene	ND	ug/L	1	U	10	5.0	2.1		SW8270C	01/10/2022 21:20/dsm	SV5973N.I_220110A : 7	162528
2-Chlorophenol	ND	ug/L	1	U	10	5.0	2.5		SW8270C	01/10/2022 21:20/dsm	SV5973N.I_220110A : 7	162528
2-Methylnaphthalene	ND	ug/L	1	U	10	5.0	1.9		SW8270C	01/10/2022 21:20/dsm	SV5973N.I_220110A : 7	162528
2-Nitrophenol	ND	ug/L	1	U	10	5.0	2.3		SW8270C	01/10/2022 21:20/dsm	SV5973N.I_220110A : 7	162528
3,3'-Dichlorobenzidine	ND	ug/L	1	U	10	5.0	2.1		SW8270C	01/10/2022 21:20/dsm	SV5973N.I_220110A : 7	162528
4,6-Dinitro-2-methylphenol	ND	ug/L	1	U	10	9.9	2.3		SW8270C	01/10/2022 21:20/dsm	SV5973N.I_220110A : 7	162528
4-Bromophenyl phenyl ether	ND	ug/L	1	U	10	5.0	1.7		SW8270C	01/10/2022 21:20/dsm	SV5973N.I_220110A : 7	162528
4-Chloro-3-methylphenol	ND	ug/L	1	U	10	5.0	1.4		SW8270C	01/10/2022 21:20/dsm	SV5973N.I_220110A : 7	162528
4-Chlorophenol	ND	ug/L	1	U	10	5.0	2.6		SW8270C	01/10/2022 21:20/dsm	SV5973N.I_220110A : 7	162528
4-Chlorophenyl phenyl ether	ND	ug/L	1	U	10	5.0	2.0		SW8270C	01/10/2022 21:20/dsm	SV5973N.I_220110A : 7	162528
4-Nitrophenol	ND	ug/L	1	U	10	9.9	2.5		SW8270C	01/10/2022 21:20/dsm	SV5973N.I_220110A : 7	162528
Acenaphthene	ND	ug/L	1	U	10	5.0	1.9		SW8270C	01/10/2022 21:20/dsm	SV5973N.I_220110A : 7	162528
Acenaphthylene	ND	ug/L	1	U	10	5.0	1.6		SW8270C	01/10/2022 21:20/dsm	SV5973N.I_220110A : 7	162528
Anthracene	ND	ug/L	1	U	10	5.0	1.2		SW8270C	01/10/2022 21:20/dsm	SV5973N.I_220110A : 7	162528
Azobenzene	ND	ug/L	1	U	10	5.0	1.1		SW8270C	01/10/2022 21:20/dsm	SV5973N.I_220110A : 7	162528
Benzidine	ND	ug/L	1	U	10	9.9	6.7		SW8270C	01/10/2022 21:20/dsm	SV5973N.I_220110A : 7	162528
Benzo(a)anthracene	ND	ug/L	1	U	10	5.0	0.85		SW8270C	01/10/2022 21:20/dsm	SV5973N.I_220110A : 7	162528
Benzo(a)pyrene	ND	ug/L	1	U	10	5.0	1.2		SW8270C	01/10/2022 21:20/dsm	SV5973N.I_220110A : 7	162528
Benzo(b)fluoranthene	ND	ug/L	1	U	10	5.0	0.89		SW8270C	01/10/2022 21:20/dsm	SV5973N.I_220110A : 7	162528
Benzo(g,h,i)perylene	ND	ug/L	1	U	10	5.0	1.0		SW8270C	01/10/2022 21:20/dsm	SV5973N.I_220110A : 7	162528
Benzo(k)fluoranthene	ND	ug/L	1	U	10	5.0	0.96		SW8270C	01/10/2022 21:20/dsm	SV5973N.I_220110A : 7	162528
bis(-2-chloroethoxy)Methane	ND	ug/L	1	U	10	5.0	1.3		SW8270C	01/10/2022 21:20/dsm	SV5973N.I_220110A : 7	162528
bis(-2-chloroethyl)Ether	ND	ug/L	1	U	10	5.0	2.5		SW8270C	01/10/2022 21:20/dsm	SV5973N.I_220110A : 7	162528
bis(2-chloroisopropyl)Ether	ND	ug/L	1	U	10	5.0	1.5		SW8270C	01/10/2022 21:20/dsm	SV5973N.I_220110A : 7	162528
bis(2-ethylhexyl)Phthalate	ND	ug/L	1	U	10	5.0	1.9		SW8270C	01/10/2022 21:20/dsm	SV5973N.I_220110A : 7	162528
Butylbenzylphthalate	ND	ug/L	1	U	10	5.0	1.6		SW8270C	01/10/2022 21:20/dsm	SV5973N.I_220110A : 7	162528
Chrysene	ND	ug/L	1	U	10	5.0	1.2		SW8270C	01/10/2022 21:20/dsm	SV5973N.I_220110A : 7	162528
Di-n-butyl phthalate	ND	ug/L	1	U	10	5.0	0.92		SW8270C	01/10/2022 21:20/dsm	SV5973N.I_220110A : 7	162528
Di-n-octyl phthalate	ND	ug/L	1	U	10	5.0	1.3		SW8270C	01/10/2022 21:20/dsm	SV5973N.I_220110A : 7	162528
Dibenzo(a,h)anthracene	ND	ug/L	1	U	10	5.0	1.2		SW8270C	01/10/2022 21:20/dsm	SV5973N.I_220110A : 7	162528
Diethyl phthalate	ND	ug/L	1	U	10	5.0	2.2		SW8270C	01/10/2022 21:20/dsm	SV5973N.I_220110A : 7	162528
Dimethyl phthalate	ND	ug/L	1	U	10	5.0	1.7		SW8270C	01/10/2022 21:20/dsm	SV5973N.I_220110A : 7	162528
Fluoranthene	ND	ug/L	1	U	10	5.0	0.87		SW8270C	01/10/2022 21:20/dsm	SV5973N.I_220110A : 7	162528
Fluorene	ND	ug/L	1	U	10	5.0	1.8		SW8270C	01/10/2022 21:20/dsm	SV5973N.I_220110A : 7	162528
Hexachlorobenzene	ND	ug/L	1	U	10	5.0	1.3		SW8270C	01/10/2022 21:20/dsm	SV5973N.I_220110A : 7	162528



LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Lab ID: B21121965-001

Collection Date: 12/20/2021 18:10

Date Received: 12/27/2021

Report Date: 02/14/2022

Client: AECOM - Honolulu
Client Sample ID: ERH2238 (RHMW03)
Project: CV18F0126/60571032.02.46.01
Matrix: Ground Water

Analyses	Result	Units	DF	Qual	LOQ	LOD	DL	MCL	Method	Analysis Date / By	RunID : Run Order	BatchID
SEMI-VOLATILE ORGANIC COMPOUNDS												
Hexachlorobutadiene	ND	ug/L	1	U	10	5.0	2.3		SW8270C	01/10/2022 21:20/dsm	SV5973N.I_220110A : 7	162528
Hexachlorocyclopentadiene	ND	ug/L	1	U	10	5.0	2.9		SW8270C	01/10/2022 21:20/dsm	SV5973N.I_220110A : 7	162528
Hexachloroethane	ND	ug/L	1	U	10	5.0	1.8		SW8270C	01/10/2022 21:20/dsm	SV5973N.I_220110A : 7	162528
Indeno(1,2,3-cd)pyrene	ND	ug/L	1	U	10	5.0	1.2		SW8270C	01/10/2022 21:20/dsm	SV5973N.I_220110A : 7	162528
Isophorone	ND	ug/L	1	U	10	5.0	1.7		SW8270C	01/10/2022 21:20/dsm	SV5973N.I_220110A : 7	162528
m+p-Cresols	ND	ug/L	1	U	10	5.0	1.8		SW8270C	01/10/2022 21:20/dsm	SV5973N.I_220110A : 7	162528
n-Nitroso-di-n-propylamine	ND	ug/L	1	U	10	5.0	1.5		SW8270C	01/10/2022 21:20/dsm	SV5973N.I_220110A : 7	162528
n-Nitrosodimethylamine	ND	ug/L	1	U	10	5.0	1.5		SW8270C	01/10/2022 21:20/dsm	SV5973N.I_220110A : 7	162528
n-Nitrosodiphenylamine	ND	ug/L	1	U	10	5.0	1.1		SW8270C	01/10/2022 21:20/dsm	SV5973N.I_220110A : 7	162528
Naphthalene	ND	ug/L	1	U	10	5.0	1.7		SW8270C	01/10/2022 21:20/dsm	SV5973N.I_220110A : 7	162528
Nitrobenzene	ND	ug/L	1	U	10	5.0	2.3		SW8270C	01/10/2022 21:20/dsm	SV5973N.I_220110A : 7	162528
o-Cresol	ND	ug/L	1	U	10	5.0	1.8		SW8270C	01/10/2022 21:20/dsm	SV5973N.I_220110A : 7	162528
Pentachlorophenol	ND	ug/L	1	U	10	9.9	4.2		SW8270C	01/10/2022 21:20/dsm	SV5973N.I_220110A : 7	162528
Phenanthrene	ND	ug/L	1	U	10	5.0	0.78		SW8270C	01/10/2022 21:20/dsm	SV5973N.I_220110A : 7	162528
Phenol	ND	ug/L	1	U	10	5.0	1.4		SW8270C	01/10/2022 21:20/dsm	SV5973N.I_220110A : 7	162528
Pyrene	ND	ug/L	1	U	10	5.0	0.91		SW8270C	01/10/2022 21:20/dsm	SV5973N.I_220110A : 7	162528
Pyridine	ND	ug/L	1	U	10	5.0	3.2		SW8270C	01/10/2022 21:20/dsm	SV5973N.I_220110A : 7	162528
Surr: 2,4,6-Tribromophenol	74.0	%REC	1		43-140				SW8270C	01/10/2022 21:20/dsm	SV5973N.I_220110A : 7	162528
Surr: 2-Fluorobiphenyl	69.0	%REC	1		44-119				SW8270C	01/10/2022 21:20/dsm	SV5973N.I_220110A : 7	162528
Surr: 2-Fluorophenol	42.0	%REC	1		19-119				SW8270C	01/10/2022 21:20/dsm	SV5973N.I_220110A : 7	162528
Surr: Nitrobenzene-d5	62.0	%REC	1		44-120				SW8270C	01/10/2022 21:20/dsm	SV5973N.I_220110A : 7	162528
Surr: Phenol-d5	37.0	%REC	1		10-65				SW8270C	01/10/2022 21:20/dsm	SV5973N.I_220110A : 7	162528
Surr: Terphenyl-d14	78.0	%REC	1		50-134				SW8270C	01/10/2022 21:20/dsm	SV5973N.I_220110A : 7	162528
SEMI-VOLATILE ORGANIC COMPOUNDS (LOW LEVEL) BY SIM												
1-Methylnaphthalene	ND	ug/L	1	U	0.10	0.099	0.020		SW8270C	01/4/2022 22:54/jph	SV5975.I_220104A : 19	162528
2-Methylnaphthalene	ND	ug/L	1	U	0.10	0.099	0.017		SW8270C	01/4/2022 22:54/jph	SV5975.I_220104A : 19	162528
Naphthalene	ND	ug/L	1	U	0.10	0.099	0.029		SW8270C	01/4/2022 22:54/jph	SV5975.I_220104A : 19	162528



LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Client Sample ID: ERH2237 Trip Blank-14575
Project: CV18F0126/60571032.02.46.01
Matrix: Trip Blank

Lab ID: B21121965-002
Collection Date: 12/20/2021 18:10
Date Received: 12/27/2021
Report Date: 02/14/2022

Analyses	Result	Units	DF	Qual	LOQ	LOD	DL	MCL	Method	Analysis Date / By	RunID : Run Order	BatchID
PETROLEUM HYDROCARBONS-VOLATILE												
C6 to C10	ND	ug/L	1	U	20	8.7	2.3		SW8015C	12/29/2021 09:58/jp	PE 1_211228A : 32	R372468
Total Purgeable Hydrocarbons	ND	ug/L	1	U	20	10	3.6		SW8015C	12/29/2021 09:58/jp	PE 1_211228A : 32	R372468
Surr: Trifluorotoluene	83.0	%REC	1		70-130				SW8015C	12/29/2021 09:58/jp	PE 1_211228A : 32	R372468
- Note 1: C6 to C10 is defined as all hydrocarbons eluting between 2-Methylpentane and 1,2,4-Trimethylbenzene.												
- Note 2: Total Purgeable Hydrocarbons are defined as the total hydrocarbon response regardless of elution time.												



LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Lab ID: B21121965-003

Collection Date: 12/20/2021 18:10

Date Received: 12/27/2021

Report Date: 02/14/2022

Client: AECOM - Honolulu
Client Sample ID: ERH2237 Trip Blank-14575
Project: CV18F0126/60571032.02.46.01
Matrix: Trip Blank

Analyses	Result	Units	DF	Qual	LOQ	LOD	DL	MCL	Method	Analysis Date / By	RunID : Run Order	BatchID
VOLATILE ORGANIC COMPOUNDS												
Benzene	ND	ug/L	1	U	1.0	0.25	0.12		SW8260B	12/27/2021 14:13/msc	VOA5975C.I_211227A : 10	R372727
Bromobenzene	ND	ug/L	1	U	1.0	0.25	0.12		SW8260B	12/27/2021 14:13/msc	VOA5975C.I_211227A : 10	R372727
Bromochloromethane	ND	ug/L	1	U	1.0	0.50	0.18		SW8260B	12/27/2021 14:13/msc	VOA5975C.I_211227A : 10	R372727
Bromodichloromethane	ND	ug/L	1	U	1.0	0.50	0.16		SW8260B	12/27/2021 14:13/msc	VOA5975C.I_211227A : 10	R372727
Bromoform	ND	ug/L	1	U	1.0	0.25	0.12		SW8260B	12/27/2021 14:13/msc	VOA5975C.I_211227A : 10	R372727
Bromomethane	ND	ug/L	1	U	1.0	0.50	0.25		SW8260B	12/27/2021 14:13/msc	VOA5975C.I_211227A : 10	R372727
Carbon tetrachloride	ND	ug/L	1	U	1.0	0.50	0.16		SW8260B	12/27/2021 14:13/msc	VOA5975C.I_211227A : 10	R372727
Chlorobenzene	ND	ug/L	1	U	1.0	0.25	0.12		SW8260B	12/27/2021 14:13/msc	VOA5975C.I_211227A : 10	R372727
Chlorodibromomethane	ND	ug/L	1	U	1.0	0.25	0.084		SW8260B	12/27/2021 14:13/msc	VOA5975C.I_211227A : 10	R372727
Chloroethane	ND	ug/L	1	U	1.0	0.50	0.17		SW8260B	12/27/2021 14:13/msc	VOA5975C.I_211227A : 10	R372727
Chloroform	ND	ug/L	1	U	1.0	0.25	0.079		SW8260B	12/27/2021 14:13/msc	VOA5975C.I_211227A : 10	R372727
Chloromethane	ND	ug/L	1	U	1.0	0.50	0.19		SW8260B	12/27/2021 14:13/msc	VOA5975C.I_211227A : 10	R372727
1,2-Dibromoethane	ND	ug/L	1	U	1.0	0.50	0.14		SW8260B	12/27/2021 14:13/msc	VOA5975C.I_211227A : 10	R372727
2-Chlorotoluene	ND	ug/L	1	U	1.0	0.25	0.088		SW8260B	12/27/2021 14:13/msc	VOA5975C.I_211227A : 10	R372727
4-Chlorotoluene	ND	ug/L	1	U	1.0	0.25	0.091		SW8260B	12/27/2021 14:13/msc	VOA5975C.I_211227A : 10	R372727
Dibromomethane	ND	ug/L	1	U	1.0	0.50	0.16		SW8260B	12/27/2021 14:13/msc	VOA5975C.I_211227A : 10	R372727
1,2-Dichlorobenzene	ND	ug/L	1	U	1.0	0.25	0.086		SW8260B	12/27/2021 14:13/msc	VOA5975C.I_211227A : 10	R372727
1,3-Dichlorobenzene	ND	ug/L	1	U	1.0	0.25	0.10		SW8260B	12/27/2021 14:13/msc	VOA5975C.I_211227A : 10	R372727
1,4-Dichlorobenzene	ND	ug/L	1	U	1.0	0.25	0.086		SW8260B	12/27/2021 14:13/msc	VOA5975C.I_211227A : 10	R372727
Dichlorodifluoromethane	ND	ug/L	1	U	1.0	0.50	0.18		SW8260B	12/27/2021 14:13/msc	VOA5975C.I_211227A : 10	R372727
1,1-Dichloroethane	ND	ug/L	1	U	1.0	0.50	0.18		SW8260B	12/27/2021 14:13/msc	VOA5975C.I_211227A : 10	R372727
1,2-Dichloroethane	ND	ug/L	1	U	1.0	0.50	0.16		SW8260B	12/27/2021 14:13/msc	VOA5975C.I_211227A : 10	R372727
1,1-Dichloroethene	ND	ug/L	1	U	1.0	0.50	0.14		SW8260B	12/27/2021 14:13/msc	VOA5975C.I_211227A : 10	R372727
cis-1,2-Dichloroethene	ND	ug/L	1	U	1.0	0.50	0.17		SW8260B	12/27/2021 14:13/msc	VOA5975C.I_211227A : 10	R372727
trans-1,2-Dichloroethene	ND	ug/L	1	U	1.0	0.50	0.15		SW8260B	12/27/2021 14:13/msc	VOA5975C.I_211227A : 10	R372727
1,2-Dichloropropane	ND	ug/L	1	U	1.0	0.25	0.089		SW8260B	12/27/2021 14:13/msc	VOA5975C.I_211227A : 10	R372727
1,3-Dichloropropane	ND	ug/L	1	U	1.0	0.25	0.11		SW8260B	12/27/2021 14:13/msc	VOA5975C.I_211227A : 10	R372727
2,2-Dichloropropane	ND	ug/L	1	U	1.0	0.50	0.20		SW8260B	12/27/2021 14:13/msc	VOA5975C.I_211227A : 10	R372727
1,1-Dichloropropene	ND	ug/L	1	U	1.0	0.25	0.083		SW8260B	12/27/2021 14:13/msc	VOA5975C.I_211227A : 10	R372727
cis-1,3-Dichloropropene	ND	ug/L	1	U	1.0	0.25	0.094		SW8260B	12/27/2021 14:13/msc	VOA5975C.I_211227A : 10	R372727
trans-1,3-Dichloropropene	ND	ug/L	1	U	1.0	0.25	0.085		SW8260B	12/27/2021 14:13/msc	VOA5975C.I_211227A : 10	R372727
Ethylbenzene	ND	ug/L	1	U	1.0	0.25	0.091		SW8260B	12/27/2021 14:13/msc	VOA5975C.I_211227A : 10	R372727
Methyl ethyl ketone	ND	ug/L	1	U	20	5.0	2.2		SW8260B	12/27/2021 14:13/msc	VOA5975C.I_211227A : 10	R372727
Methyl tert-butyl ether (MTBE)	ND	ug/L	1	U	1.0	0.25	0.12		SW8260B	12/27/2021 14:13/msc	VOA5975C.I_211227A : 10	R372727
Methylene chloride	ND	ug/L	1	U	1.0	0.50	0.13		SW8260B	12/27/2021 14:13/msc	VOA5975C.I_211227A : 10	R372727
Styrene	ND	ug/L	1	U	1.0	0.25	0.067		SW8260B	12/27/2021 14:13/msc	VOA5975C.I_211227A : 10	R372727
1,1,1,2-Tetrachloroethane	ND	ug/L	1	U	1.0	0.25	0.11		SW8260B	12/27/2021 14:13/msc	VOA5975C.I_211227A : 10	R372727
1,1,2,2-Tetrachloroethane	ND	ug/L	1	U	1.0	0.25	0.087		SW8260B	12/27/2021 14:13/msc	VOA5975C.I_211227A : 10	R372727
Tetrachloroethene	ND	ug/L	1	U	1.0	0.25	0.067		SW8260B	12/27/2021 14:13/msc	VOA5975C.I_211227A : 10	R372727



LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Lab ID: B21121965-003

Collection Date: 12/20/2021 18:10

Date Received: 12/27/2021

Report Date: 02/14/2022

Client: AECOM - Honolulu
Client Sample ID: ERH2237 Trip Blank-14575
Project: CV18F0126/60571032.02.46.01
Matrix: Trip Blank

Analyses	Result	Units	DF	Qual	LOQ	LOD	DL	MCL	Method	Analysis Date / By	RunID : Run Order	BatchID
VOLATILE ORGANIC COMPOUNDS												
Toluene	ND	ug/L	1	U	1.0	0.25	0.075		SW8260B	12/27/2021 14:13/msc	VOA5975C.I_211227A : 10	R372727
1,1,1-Trichloroethane	ND	ug/L	1	U	1.0	0.50	0.13		SW8260B	12/27/2021 14:13/msc	VOA5975C.I_211227A : 10	R372727
1,1,2-Trichloroethane	ND	ug/L	1	U	1.0	0.25	0.11		SW8260B	12/27/2021 14:13/msc	VOA5975C.I_211227A : 10	R372727
Trichloroethene	ND	ug/L	1	U	1.0	0.25	0.099		SW8260B	12/27/2021 14:13/msc	VOA5975C.I_211227A : 10	R372727
Trichlorofluoromethane	ND	ug/L	1	U	1.0	0.50	0.13		SW8260B	12/27/2021 14:13/msc	VOA5975C.I_211227A : 10	R372727
1,2,3-Trichloropropane	ND	ug/L	1	U	1.0	0.50	0.38		SW8260B	12/27/2021 14:13/msc	VOA5975C.I_211227A : 10	R372727
Vinyl chloride	ND	ug/L	1	U	1.0	0.50	0.15		SW8260B	12/27/2021 14:13/msc	VOA5975C.I_211227A : 10	R372727
m+p-Xylenes	ND	ug/L	1	U	1.0	0.50	0.16		SW8260B	12/27/2021 14:13/msc	VOA5975C.I_211227A : 10	R372727
o-Xylene	ND	ug/L	1	U	1.0	0.20	0.060		SW8260B	12/27/2021 14:13/msc	VOA5975C.I_211227A : 10	R372727
Xylenes, Total	ND	ug/L	1	U	1.0	0.20	0.060		SW8260B	12/27/2021 14:13/msc	VOA5975C.I_211227A : 10	R372727
Surr: Dibromofluoromethane	102.0	%REC	1		80-119				SW8260B	12/27/2021 14:13/msc	VOA5975C.I_211227A : 10	R372727
Surr: 1,2-Dichloroethane-d4	101.0	%REC	1		81-118				SW8260B	12/27/2021 14:13/msc	VOA5975C.I_211227A : 10	R372727
Surr: Toluene-d8	102.0	%REC	1		89-112				SW8260B	12/27/2021 14:13/msc	VOA5975C.I_211227A : 10	R372727
Surr: p-Bromofluorobenzene	103.0	%REC	1		85-114				SW8260B	12/27/2021 14:13/msc	VOA5975C.I_211227A : 10	R372727



LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Client Sample ID: ERH2237 Trip Blank-14451
Project: CV18F0126/60571032.02.46.01
Matrix: Trip Blank

Lab ID: B21121965-005
Collection Date: 12/20/2021 18:10
Date Received: 12/27/2021
Report Date: 02/14/2022

Analyses	Result	Units	DF	Qual	LOQ	LOD	DL	MCL	Method	Analysis Date / By	RunID : Run Order	BatchID
VOCS BY MICROEXTRACTION-ECD												
1,2-Dibromoethane	ND	ug/L	1	U	0.010	0.0052	0.0027		SW8011	12/28/2021 19:29/ct	GECD.I_211228A : 19	162519
Surr: 1,1,1,2-Tetrachloroethane	86.0	%REC	1		70-130				SW8011	12/28/2021 19:29/ct	GECD.I_211228A : 19	162519



LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Client Sample ID: ERH2237 Trip Blank-14457
Project: CV18F0126/60571032.02.46.01
Matrix: Trip Blank

Lab ID: B21121965-006
Collection Date: 12/20/2021 18:10
Date Received: 12/27/2021
Report Date: 02/14/2022

Analyses	Result	Units	DF	Qual	LOQ	LOD	DL	MCL	Method	Analysis Date / By	RunID : Run Order	BatchID
ORGANIC CHARACTERISTICS												
Methane	ND	mg/L	1	U	0.0020	0.0012	0.00070		SW8015M	12/28/2021 12:31/jdw	FID-HEADSPACE_211228A : 13	R372437



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121965
Project: CV18F0126/60571032.02.46.01

Report Date: 02/14/2022

Run ID: Run Order: SUB-C278345: 2 **SampType:** Method Blank **Batch ID:** C_R278345
Method: SW9060A **Analysis Date:** 12/29/2021 16:01 **Prep Date:**
Lab ID: MBLK **Units:** mg/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	ND	0.20									

Associated Samples: **B21121965-001E**
- TOC Range is 0.1 to 0.3

Run ID: Run Order: SUB-C278345: 1 **SampType:** Laboratory Control Sample **Batch ID:** C_R278345
Method: SW9060A **Analysis Date:** 12/29/2021 15:21 **Prep Date:**
Lab ID: LCS **Units:** mg/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	5.1	0.50	5.0		102.0	91	111				

Associated Samples: **B21121965-001E**
- TOC Range is 5.1 to 5.2

Run ID: Run Order: SUB-C278345: 7 **SampType:** Sample Matrix Spike **Batch ID:** C_R278345
Method: SW9060A **Analysis Date:** 12/29/2021 19:25 **Prep Date:**
Lab ID: C21120782-004GMS **Units:** mg/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	5.4	0.50	5.0	0.39	100.0	91	111				

Associated Samples: **B21121965-001E**
- TOC Range is 5.3 to 5.4



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121965
Project: CV18F0126/60571032.02.46.01

Report Date: 02/14/2022

Run ID: Run Order: SUB-C278345: 8 **SampType:** Sample Matrix Spike Duplicate **Batch ID:** C_R278345
Method: SW9060A **Analysis Date:** 12/29/2021 20:06 **Prep Date:**
Lab ID: C21120782-004GMSD **Units:** mg/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	5.4	0.50	5.0	0.39	101.0	91	111	5.4	0.7	10.0	

Associated Samples: **B21121965-001E**
- TOC Range is 5.4 to 5.4

Run ID: Run Order: SUB-C278345: 3 **SampType:** Continuing Calibration Verification Standard **Batch ID:** C_R278345
Method: SW9060A **Analysis Date:** 12/29/2021 16:40 **Prep Date:**
Lab ID: CCV **Units:** mg/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	5.1	0.50	5.0		102.0	90	110				

Associated Samples: **B21121965-001E**
- TOC Range is 5.0 to 5.1

Run ID: Run Order: SUB-C278345: 9 **SampType:** Continuing Calibration Verification Standard **Batch ID:** C_R278345
Method: SW9060A **Analysis Date:** 12/30/2021 01:37 **Prep Date:**
Lab ID: CCV **Units:** mg/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	5.0	0.50	5.0		101.0	90	110				

Associated Samples: **B21121965-001E**
- TOC Range is 5.0 to 5.1



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121965
Project: CV18F0126/60571032.02.46.01

Report Date: 02/14/2022

Run ID: Run Order: ICPMS206-B_220118A: 47 **SampType:** Method Blank **Batch ID:** R373351
Method: SW6020 **Analysis Date:** 01/18/2022 23:03 **Prep Date:**
Lab ID: LRB **Units:** mg/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Lead	ND	0.0005									

Associated Samples: **B21121965-001A**

Run ID: Run Order: ICPMS206-B_220118A: 48 **SampType:** Laboratory Fortified Blank **Batch ID:** R373351
Method: SW6020 **Analysis Date:** 01/18/2022 23:09 **Prep Date:**
Lab ID: LFB **Units:** mg/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Lead	0.045	0.001	0.050		90.0	88	115				

Associated Samples: **B21121965-001A**

Run ID: Run Order: ICPMS206-B_220118A: 87 **SampType:** Sample Matrix Spike **Batch ID:** R373351
Method: SW6020 **Analysis Date:** 01/19/2022 02:51 **Prep Date:**
Lab ID: B21121957-001IMS **Units:** mg/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Lead	0.047	0.001	0.050	0.00	94.0	88	115				

Associated Samples: **B21121965-001A**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121965
Project: CV18F0126/60571032.02.46.01

Report Date: 02/14/2022

Run ID: Run Order: ICPMS206-B_220118A: 88 **SampType:** Sample Matrix Spike Duplicate **Batch ID:** R373351
Method: SW6020 **Analysis Date:** 01/19/2022 02:57 **Prep Date:**
Lab ID: B21121957-001IMSD **Units:** mg/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Lead	0.047	0.001	0.050	0.00	94.0	88	115	0.047	0.4	20.0	

Associated Samples: **B21121965-001A**

Run ID: Run Order: ICPMS206-B_220118A: 86 **SampType:** Serial Dilution **Batch ID:** R373351
Method: SW6020 **Analysis Date:** 01/19/2022 02:46 **Prep Date:**
Lab ID: B21121957-001IDIL **Units:** mg/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Lead	ND	0.001						0.00		10.0	

Associated Samples: **B21121965-001A**

Run ID: Run Order: ICPMS206-B_220118A: 56 **SampType:** Method Blank **Batch ID:** 162497
Method: SW6020 **Analysis Date:** 01/18/2022 23:55 **Prep Date:** 12/27/2021 13:36
Lab ID: MB-162497 **Units:** mg/L **Prep Method:** SW3010A

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Lead	ND	0.0005									

Associated Samples: **B21121965-001B**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121965
Project: CV18F0126/60571032.02.46.01

Report Date: 02/14/2022

Run ID: Run Order: ICPMS206-B_220118A: 59 **SampType:** Laboratory Control Sample **Batch ID:** 162497
Method: SW6020 **Analysis Date:** 01/19/2022 00:12 **Prep Date:** 12/27/2021 13:36
Lab ID: LCS4-162497 **Units:** mg/L **Prep Method:** SW3010A

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Lead	0.099	0.001	0.100		99.0	88	115				

Associated Samples: **B21121965-001B**

Run ID: Run Order: ICPMS206-B_220118A: 82 **SampType:** Sample Matrix Spike **Batch ID:** 162497
Method: SW6020 **Analysis Date:** 01/19/2022 02:23 **Prep Date:** 12/27/2021 13:40
Lab ID: B21121957-001HMS4 **Units:** mg/L **Prep Method:** SW3010A

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Lead	0.100	0.001	0.100	0	99.0	88	115				

Associated Samples: **B21121965-001B**

Run ID: Run Order: ICPMS206-B_220118A: 83 **SampType:** Sample Matrix Spike Duplicate **Batch ID:** 162497
Method: SW6020 **Analysis Date:** 01/19/2022 02:29 **Prep Date:** 12/27/2021 13:40
Lab ID: B21121957-001HMSD4 **Units:** mg/L **Prep Method:** SW3010A

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Lead	0.096	0.001	0.100	0	96.0	88	115	0.100	3.5	20.0	

Associated Samples: **B21121965-001B**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121965
Project: CV18F0126/60571032.02.46.01

Report Date: 02/14/2022

Run ID: Run Order: ICPMS206-B_220118A: 81 **SampType:** Post Digestion/Distillation Spike **Batch ID:** 162497
Method: SW6020 **Analysis Date:** 01/19/2022 02:17 **Prep Date:** 12/27/2021 13:40
Lab ID: B21121957-001HPDS1 **Units:** mg/L **Prep Method:** SW3010A

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Lead	0.048	0.001	0.052	0	93.0	80	120				

Associated Samples: **B21121965-001B**

Run ID: Run Order: ICPMS206-B_220118A: 78 **SampType:** Serial Dilution **Batch ID:** 162497
Method: SW6020 **Analysis Date:** 01/19/2022 02:00 **Prep Date:** 12/27/2021 13:40
Lab ID: B21121957-001HDIL **Units:** mg/L **Prep Method:** SW3010A

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Lead	ND	0.001						0		10.0	

Associated Samples: **B21121965-001B**

Run ID: Run Order: ICPMS206-B_220118A: 93 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R373351
Method: SW6020 **Analysis Date:** 01/19/2022 03:26 **Prep Date:**
Lab ID: CCV **Units:** mg/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Lead	0.049	0.001	0.050		97.0	90	110				

Associated Samples: **B21121965-001A, B21121965-001B**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121965
Project: CV18F0126/60571032.02.46.01

Report Date: 02/14/2022

Run ID: Run Order: ICPMS206-B_220118A: 102
Method: SW6020
Lab ID: CCV

SampType: Continuing Calibration Verification Standard
Analysis Date: 01/19/2022 04:17
Units: mg/L

Batch ID: R373351
Prep Date:
Prep Method:

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Lead	0.048	0.001	0.050		95.0	90	110				

Associated Samples: **B21121965-001A, B21121965-001B**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121965
Project: CV18F0126/60571032.02.46.01

Report Date: 02/14/2022

Run ID: Run Order: VOA5975C.I_211227A: 4
Method: SW8260B
Lab ID: MBLK122721_

SampType: Method Blank
Analysis Date: 12/27/2021 11:30
Units: ug/L

Batch ID: R372727
Prep Date:
Prep Method:

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Benzene	ND	0.50									
Bromobenzene	ND	0.50									
Bromochloromethane	ND	0.50									
Bromodichloromethane	ND	0.50									
Bromoform	ND	0.50									
Bromomethane	ND	0.50									
Carbon tetrachloride	ND	0.50									
Chlorobenzene	ND	0.50									
Chlorodibromomethane	ND	0.50									
Chloroethane	ND	0.50									
Chloroform	ND	0.50									
Chloromethane	ND	0.50									
1,2-Dibromoethane	ND	0.50									
2-Chlorotoluene	ND	0.50									
Dibromomethane	ND	0.50									
1,2-Dichlorobenzene	ND	0.50									
4-Chlorotoluene	ND	0.50									
1,3-Dichlorobenzene	ND	0.50									
1,4-Dichlorobenzene	ND	0.50									
Dichlorodifluoromethane	ND	0.50									
1,1-Dichloroethane	ND	0.50									
1,2-Dichloroethane	ND	0.50									
1,1-Dichloroethene	ND	0.50									
cis-1,2-Dichloroethene	ND	0.50									
trans-1,2-Dichloroethene	ND	0.50									
1,2-Dichloropropane	ND	0.50									
1,3-Dichloropropane	ND	0.50									



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121965
Project: CV18F0126/60571032.02.46.01

Report Date: 02/14/2022

Run ID: Run Order: VOA5975C.I_211227A: 4 **SampType:** Method Blank **Batch ID:** R372727
Method: SW8260B **Analysis Date:** 12/27/2021 11:30 **Prep Date:**
Lab ID: MBLK122721_ **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
2,2-Dichloropropane	ND	0.50									
1,1-Dichloropropene	ND	0.50									
cis-1,3-Dichloropropene	ND	0.50									
trans-1,3-Dichloropropene	ND	0.50									
Ethylbenzene	ND	0.50									
Methyl tert-butyl ether (MTBE)	ND	0.50									
Methyl ethyl ketone	ND	10									
Methylene chloride	ND	0.50									
Styrene	ND	0.50									
1,1,1,2-Tetrachloroethane	ND	0.50									
1,1,2,2-Tetrachloroethane	ND	0.50									
Tetrachloroethene	ND	0.50									
Toluene	ND	0.50									
1,1,1-Trichloroethane	ND	0.50									
1,1,2-Trichloroethane	ND	0.50									
Trichloroethene	ND	0.50									
Trichlorofluoromethane	ND	0.50									
1,2,3-Trichloropropane	ND	0.50									
Vinyl chloride	ND	0.50									
m+p-Xylenes	ND	0.50									
o-Xylene	ND	0.50									
Xylenes, Total	ND	0.50									
Surr: 1,2-Dichloroethane-d4	10	0.50	10		105.0	81	118				
Surr: Dibromofluoromethane	10	0.50	10		105.0	80	119				
Surr: p-Bromofluorobenzene	10	0.50	10		103.0	85	114				



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121965
Project: CV18F0126/60571032.02.46.01

Report Date: 02/14/2022

Run ID: Run Order: VOA5975C.I_211227A: 4 **SampType:** Method Blank **Batch ID:** R372727
Method: SW8260B **Analysis Date:** 12/27/2021 11:30 **Prep Date:**
Lab ID: MBLK122721_ **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Surr: Toluene-d8	10	0.50	10		103.0	89	112				

Associated Samples: **B21121965-001G, B21121965-003A**

Run ID: Run Order: VOA5975C.I_211227A: 3 **SampType:** Laboratory Control Sample **Batch ID:** R372727
Method: SW8260B **Analysis Date:** 12/27/2021 10:35 **Prep Date:**
Lab ID: LCS122721_ **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Benzene	5.5	0.50	5.0		109.0	79	120				
Bromobenzene	5.6	0.50	5.0		112.0	80	120				
Bromochloromethane	5.9	0.50	5.0		118.0	78	123				
Bromodichloromethane	5.6	0.50	5.0		111.0	79	125				
Bromoform	5.8	0.50	5.0		117.0	66	130				
Bromomethane	4.4	0.50	5.0		88.0	53	141				
Carbon tetrachloride	5.0	0.50	5.0		101.0	72	136				
Chlorobenzene	5.5	0.50	5.0		111.0	82	118				
Chlorodibromomethane	5.7	0.50	5.0		114.0	74	126				
Chloroethane	4.3	0.50	5.0		85.0	60	138				
Chloroform	5.1	0.50	5.0		103.0	79	124				
Chloromethane	4.7	0.50	5.0		94.0	50	139				
1,2-Dibromoethane	5.8	0.50	5.0		115.0	78	122				
2-Chlorotoluene	5.2	0.50	5.0		104.0	79	122				
Dibromomethane	5.7	0.50	5.0		114.0	79	123				
1,2-Dichlorobenzene	5.4	0.50	5.0		109.0	80	119				



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121965
Project: CV18F0126/60571032.02.46.01

Report Date: 02/14/2022

Run ID: Run Order: VOA5975C.I_211227A: 3 **SampType:** Laboratory Control Sample **Batch ID:** R372727
Method: SW8260B **Analysis Date:** 12/27/2021 10:35 **Prep Date:**
Lab ID: LCS122721_ **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
4-Chlorotoluene	5.5	0.50	5.0		109.0	78	122				
1,3-Dichlorobenzene	5.5	0.50	5.0		110.0	80	119				
1,4-Dichlorobenzene	5.3	0.50	5.0		106.0	79	118				
Dichlorodifluoromethane	4.3	0.50	5.0		85.0	32	152				
1,1-Dichloroethane	5.7	0.50	5.0		114.0	77	125				
1,2-Dichloroethane	5.4	0.50	5.0		107.0	73	128				
1,1-Dichloroethene	5.4	0.50	5.0		108.0	71	131				
cis-1,2-Dichloroethene	5.6	0.50	5.0		113.0	78	123				
trans-1,2-Dichloroethene	5.6	0.50	5.0		112.0	75	124				
1,2-Dichloropropane	5.6	0.50	5.0		112.0	78	122				
1,3-Dichloropropane	5.5	0.50	5.0		110.0	80	119				
2,2-Dichloropropane	5.8	0.50	5.0		115.0	60	139				
1,1-Dichloropropene	5.0	0.50	5.0		99.0	79	125				
cis-1,3-Dichloropropene	5.5	0.50	5.0		111.0	75	124				
trans-1,3-Dichloropropene	6.0	0.50	5.0		119.0	73	127				
Ethylbenzene	5.3	0.50	5.0		106.0	79	121				
Methyl tert-butyl ether (MTBE)	5.7	0.50	5.0		113.0	71	124				
Methyl ethyl ketone	60	10	50		119.0	56	143				
Methylene chloride	5.5	0.50	5.0		110.0	74	124				
Styrene	5.8	0.50	5.0		116.0	78	123				
1,1,1,2-Tetrachloroethane	5.5	0.50	5.0		110.0	78	124				
1,1,2,2-Tetrachloroethane	5.7	0.50	5.0		114.0	71	121				
Tetrachloroethene	5.2	0.50	5.0		104.0	74	129				
Toluene	5.5	0.50	5.0		110.0	80	121				
1,1,1-Trichloroethane	5.2	0.50	5.0		103.0	74	131				
1,1,2-Trichloroethane	5.6	0.50	5.0		112.0	80	119				
Trichloroethene	5.1	0.50	5.0		102.0	79	123				



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121965
Project: CV18F0126/60571032.02.46.01

Report Date: 02/14/2022

Run ID: Run Order: VOA5975C.I_211227A: 3 **SampType:** Laboratory Control Sample **Batch ID:** R372727
Method: SW8260B **Analysis Date:** 12/27/2021 10:35 **Prep Date:**
Lab ID: LCS122721_ **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Trichlorofluoromethane	4.4	0.50	5.0		88.0	65	141				
1,2,3-Trichloropropane	5.7	0.50	5.0		115.0	73	125				
Vinyl chloride	4.7	0.50	5.0		95.0	58	137				
m+p-Xylenes	11	0.50	10		106.0	80	121				
o-Xylene	5.6	0.50	5.0		113.0	78	122				
Xylenes, Total	16	0.50	15		108.0	79	121				
Surr: 1,2-Dichloroethane-d4	10	0.50	10		103.0	81	118				
Surr: Dibromofluoromethane	10	0.50	10		105.0	80	119				
Surr: p-Bromofluorobenzene	10	0.50	10		103.0	85	114				
Surr: Toluene-d8	10	0.50	10		105.0	89	112				

Associated Samples: B21121965-001G, B21121965-003A

Run ID: Run Order: VOA5975C.I_211227A: 20 **SampType:** Sample Matrix Spike **Batch ID:** R372727
Method: SW8260B **Analysis Date:** 12/27/2021 18:45 **Prep Date:**
Lab ID: B21121841-001CMS **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Benzene	5.4	0.50	5.0	0.0	107.0	79	120				
Bromobenzene	5.5	0.50	5.0	0.0	109.0	80	120				
Bromochloromethane	5.8	0.50	5.0	0.0	116.0	78	123				
Bromodichloromethane	5.5	0.50	5.0	0.0	110.0	79	125				
Bromoform	6.3	0.50	5.0	0.0	126.0	66	130				
Bromomethane	1.3	0.50	5.0	0.0	26.0	53	141				S
Carbon tetrachloride	5.2	0.50	5.0	0.0	103.0	72	136				
Chlorobenzene	5.4	0.50	5.0	0.0	107.0	82	118				
Chlorodibromomethane	5.7	0.50	5.0	0.0	114.0	74	126				



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121965
Project: CV18F0126/60571032.02.46.01

Report Date: 02/14/2022

Run ID: Run Order: VOA5975C.I_211227A: 20

SampType: Sample Matrix Spike

Batch ID: R372727

Method: SW8260B

Analysis Date: 12/27/2021 18:45

Prep Date:

Lab ID: B21121841-001CMS

Units: ug/L

Prep Method:

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Chloroethane	4.7	0.50	5.0	0.0	95.0	60	138				
Chloroform	5.0	0.50	5.0	0.0	100.0	79	124				
Chloromethane	4.5	0.50	5.0	0.0	90.0	50	139				
1,2-Dibromoethane	5.9	0.50	5.0	0.0	118.0	78	122				
2-Chlorotoluene	5.1	0.50	5.0	0.0	103.0	79	122				
Dibromomethane	5.9	0.50	5.0	0.0	117.0	79	123				
1,2-Dichlorobenzene	5.1	0.50	5.0	0.0	102.0	80	119				
4-Chlorotoluene	5.3	0.50	5.0	0.0	106.0	78	122				
1,3-Dichlorobenzene	5.3	0.50	5.0	0.0	105.0	80	119				
1,4-Dichlorobenzene	5.1	0.50	5.0	0.0	101.0	79	118				
Dichlorodifluoromethane	4.3	0.50	5.0	0.0	86.0	32	152				
1,1-Dichloroethane	5.5	0.50	5.0	0.0	109.0	77	125				
1,2-Dichloroethane	5.3	0.50	5.0	0.0	107.0	73	128				
1,1-Dichloroethene	5.2	0.50	5.0	0.0	105.0	71	131				
cis-1,2-Dichloroethene	5.3	0.50	5.0	0.0	107.0	78	123				
trans-1,2-Dichloroethene	5.5	0.50	5.0	0.0	110.0	75	124				
1,2-Dichloropropane	5.3	0.50	5.0	0.0	106.0	78	122				
1,3-Dichloropropane	5.6	0.50	5.0	0.0	111.0	80	119				
2,2-Dichloropropane	5.5	0.50	5.0	0.0	110.0	60	139				
1,1-Dichloropropene	4.9	0.50	5.0	0.0	99.0	79	125				
cis-1,3-Dichloropropene	5.1	0.50	5.0	0.0	103.0	75	124				
trans-1,3-Dichloropropene	5.6	0.50	5.0	0.0	112.0	73	127				
Ethylbenzene	5.1	0.50	5.0	0.0	102.0	79	121				
Methyl tert-butyl ether (MTBE)	5.2	0.50	5.0	0.0	104.0	71	124				
Methyl ethyl ketone	59	10	50	0.0	119.0	56	143				
Methylene chloride	5.2	0.50	5.0	0.0	104.0	74	124				
Styrene	5.1	0.50	5.0	0.0	103.0	78	123				



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121965
Project: CV18F0126/60571032.02.46.01

Report Date: 02/14/2022

Run ID: Run Order: VOA5975C.I_211227A: 20 **SampType:** Sample Matrix Spike **Batch ID:** R372727
Method: SW8260B **Analysis Date:** 12/27/2021 18:45 **Prep Date:**
Lab ID: B21121841-001CMS **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	5.3	0.50	5.0	0.0	105.0	78	124				
1,1,2,2-Tetrachloroethane	6.2	0.50	5.0	0.0	123.0	71	121				S
Tetrachloroethene	5.2	0.50	5.0	0.0	104.0	74	129				
Toluene	5.4	0.50	5.0	0.0	108.0	80	121				
1,1,1-Trichloroethane	5.3	0.50	5.0	0.0	106.0	74	131				
1,1,2-Trichloroethane	5.8	0.50	5.0	0.0	116.0	80	119				
Trichloroethene	5.1	0.50	5.0	0.0	102.0	79	123				
Trichlorofluoromethane	4.1	0.50	5.0	0.0	83.0	65	141				
1,2,3-Trichloropropane	6.1	0.50	5.0	0.0	121.0	73	125				
Vinyl chloride	4.4	0.50	5.0	0.0	89.0	58	137				
m+p-Xylenes	10	0.50	10	0.0	103.0	80	121				
o-Xylene	5.3	0.50	5.0	0.0	105.0	78	122				
Xylenes, Total	16	0.50	15	0.0	104.0	79	121				
Surr: 1,2-Dichloroethane-d4	11	0.50	10	0.0	108.0	81	118				
Surr: Dibromofluoromethane	10	0.50	10	0.0	104.0	80	119				
Surr: p-Bromofluorobenzene	10	0.50	10	0.0	104.0	85	114				
Surr: Toluene-d8	11	0.50	10	0.0	105.0	89	112				

Associated Samples: **B21121965-001G, B21121965-003A**

Run ID: Run Order: VOA5975C.I_211227A: 21 **SampType:** Sample Matrix Spike Duplicate **Batch ID:** R372727
Method: SW8260B **Analysis Date:** 12/27/2021 19:12 **Prep Date:**
Lab ID: B21121841-001CMSD **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Benzene	5.5	0.50	5.0	0.0	109.0	79	120	5.4	1.9	20.0	
Bromobenzene	5.8	0.50	5.0	0.0	116.0	80	120	5.5	5.9	20.0	



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121965
Project: CV18F0126/60571032.02.46.01

Report Date: 02/14/2022

Run ID: Run Order: VOA5975C.I_211227A: 21 **SampType:** Sample Matrix Spike Duplicate **Batch ID:** R372727
Method: SW8260B **Analysis Date:** 12/27/2021 19:12 **Prep Date:**
Lab ID: B21121841-001CMSD **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Bromochloromethane	5.6	0.50	5.0	0.0	111.0	78	123	5.8	4.6	20.0	
Bromodichloromethane	5.5	0.50	5.0	0.0	111.0	79	125	5.5	0.7	20.0	
Bromoform	6.1	0.50	5.0	0.0	122.0	66	130	6.3	3.5	20.0	
Bromomethane	2.1	0.50	5.0	0.0	42.0	53	141	1.3	46.0	20.0	SR
Carbon tetrachloride	5.4	0.50	5.0	0.0	108.0	72	136	5.2	4.7	20.0	
Chlorobenzene	5.5	0.50	5.0	0.0	109.0	82	118	5.4	2.0	20.0	
Chlorodibromomethane	5.9	0.50	5.0	0.0	118.0	74	126	5.7	3.7	20.0	
Chloroethane	4.9	0.50	5.0	0.0	97.0	60	138	4.7	2.7	20.0	
Chloroform	5.1	0.50	5.0	0.0	102.0	79	124	5.0	2.0	20.0	
Chloromethane	4.7	0.50	5.0	0.0	94.0	50	139	4.5	4.7	20.0	
1,2-Dibromoethane	6.0	0.50	5.0	0.0	120.0	78	122	5.9	2.0	20.0	
2-Chlorotoluene	5.3	0.50	5.0	0.0	107.0	79	122	5.1	3.9	20.0	
Dibromomethane	5.8	0.50	5.0	0.0	116.0	79	123	5.9	1.5	20.0	
1,2-Dichlorobenzene	5.4	0.50	5.0	0.0	108.0	80	119	5.1	5.8	20.0	
4-Chlorotoluene	5.5	0.50	5.0	0.0	110.0	78	122	5.3	3.4	20.0	
1,3-Dichlorobenzene	5.5	0.50	5.0	0.0	110.0	80	119	5.3	4.2	20.0	
1,4-Dichlorobenzene	5.3	0.50	5.0	0.0	107.0	79	118	5.1	5.5	20.0	
Dichlorodifluoromethane	4.6	0.50	5.0	0.0	91.0	32	152	4.3	6.1	20.0	
1,1-Dichloroethane	5.6	0.50	5.0	0.0	113.0	77	125	5.5	3.0	20.0	
1,2-Dichloroethane	5.5	0.50	5.0	0.0	109.0	73	128	5.3	2.4	20.0	
1,1-Dichloroethene	5.8	0.50	5.0	0.0	116.0	71	131	5.2	10.0	20.0	
cis-1,2-Dichloroethene	5.4	0.50	5.0	0.0	109.0	78	123	5.3	1.9	20.0	
trans-1,2-Dichloroethene	5.6	0.50	5.0	0.0	113.0	75	124	5.5	2.3	20.0	
1,2-Dichloropropane	5.4	0.50	5.0	0.0	108.0	78	122	5.3	1.7	20.0	
1,3-Dichloropropane	5.6	0.50	5.0	0.0	112.0	80	119	5.6	0.6	20.0	
2,2-Dichloropropane	5.6	0.50	5.0	0.0	112.0	60	139	5.5	1.7	20.0	
1,1-Dichloropropene	5.1	0.50	5.0	0.0	102.0	79	125	4.9	3.3	20.0	



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121965
Project: CV18F0126/60571032.02.46.01

Report Date: 02/14/2022

Run ID: Run Order: VOA5975C.I_211227A: 21 **SampType:** Sample Matrix Spike Duplicate **Batch ID:** R372727
Method: SW8260B **Analysis Date:** 12/27/2021 19:12 **Prep Date:**
Lab ID: B21121841-001CMSD **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
cis-1,3-Dichloropropene	5.4	0.50	5.0	0.0	109.0	75	124	5.1	5.5	20.0	
trans-1,3-Dichloropropene	5.9	0.50	5.0	0.0	118.0	73	127	5.6	5.5	20.0	
Ethylbenzene	5.3	0.50	5.0	0.0	107.0	79	121	5.1	4.9	20.0	
Methyl tert-butyl ether (MTBE)	5.4	0.50	5.0	0.0	109.0	71	124	5.2	4.4	20.0	
Methyl ethyl ketone	59	10	50	0.0	119.0	56	143	59	0.0	20.0	
Methylene chloride	5.3	0.50	5.0	0.0	107.0	74	124	5.2	2.8	20.0	
Styrene	5.5	0.50	5.0	0.0	109.0	78	123	5.1	6.1	20.0	
1,1,1,2-Tetrachloroethane	5.5	0.50	5.0	0.0	109.0	78	124	5.3	3.8	20.0	
1,1,2,2-Tetrachloroethane	6.0	0.50	5.0	0.0	121.0	71	121	6.2	2.1	20.0	
Tetrachloroethene	5.4	0.50	5.0	0.0	109.0	74	129	5.2	4.3	20.0	
Toluene	5.6	0.50	5.0	0.0	111.0	80	121	5.4	3.3	20.0	
1,1,1-Trichloroethane	5.3	0.50	5.0	0.0	106.0	74	131	5.3	0.3	20.0	
1,1,2-Trichloroethane	5.7	0.50	5.0	0.0	114.0	80	119	5.8	1.2	20.0	
Trichloroethene	5.4	0.50	5.0	0.0	108.0	79	123	5.1	5.4	20.0	
Trichlorofluoromethane	4.6	0.50	5.0	0.0	92.0	65	141	4.1	10.0	20.0	
1,2,3-Trichloropropane	6.0	0.50	5.0	0.0	120.0	73	125	6.1	1.3	20.0	
Vinyl chloride	4.7	0.50	5.0	0.0	94.0	58	137	4.4	5.7	20.0	
m+p-Xylenes	11	0.50	10	0.0	108.0	80	121	10	4.7	20.0	
o-Xylene	5.4	0.50	5.0	0.0	107.0	78	122	5.3	2.0	20.0	
Xylenes, Total	16	0.50	15	0.0	108.0	79	121	16	3.8	20.0	
Surr: 1,2-Dichloroethane-d4	10	0.50	10	0.0	104.0	81	118	0.0			
Surr: Dibromofluoromethane	10	0.50	10	0.0	102.0	80	119	0.0			
Surr: p-Bromofluorobenzene	10	0.50	10	0.0	104.0	85	114	0.0			
Surr: Toluene-d8	10	0.50	10	0.0	104.0	89	112	0.0			

Associated Samples: **B21121965-001G, B21121965-003A**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121965
Project: CV18F0126/60571032.02.46.01

Report Date: 02/14/2022

Run ID: Run Order: VOA5975C.I_211228A: 4
Method: SW8260B
Lab ID: MBLK122821_

SampType: Method Blank
Analysis Date: 12/28/2021 12:19
Units: ug/L

Batch ID: R372824
Prep Date:
Prep Method:

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Benzene	ND	0.50									
Bromobenzene	ND	0.50									
Bromochloromethane	ND	0.50									
Bromodichloromethane	ND	0.50									
Bromoform	ND	0.50									
Bromomethane	ND	0.50									
Carbon tetrachloride	ND	0.50									
Chlorobenzene	ND	0.50									
Chlorodibromomethane	ND	0.50									
Chloroethane	ND	0.50									
Chloroform	ND	0.50									
Chloromethane	ND	0.50									
1,2-Dibromoethane	ND	0.50									
2-Chlorotoluene	ND	0.50									
Dibromomethane	ND	0.50									
1,2-Dichlorobenzene	ND	0.50									
4-Chlorotoluene	ND	0.50									
1,3-Dichlorobenzene	ND	0.50									
1,4-Dichlorobenzene	ND	0.50									
Dichlorodifluoromethane	ND	0.50									
1,1-Dichloroethane	ND	0.50									
1,2-Dichloroethane	ND	0.50									
1,1-Dichloroethene	ND	0.50									
cis-1,2-Dichloroethene	ND	0.50									
trans-1,2-Dichloroethene	ND	0.50									
1,2-Dichloropropane	ND	0.50									
1,3-Dichloropropane	ND	0.50									



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121965
Project: CV18F0126/60571032.02.46.01

Report Date: 02/14/2022

Run ID: Run Order: VOA5975C.I_211228A: 4 **SampType:** Method Blank **Batch ID:** R372824
Method: SW8260B **Analysis Date:** 12/28/2021 12:19 **Prep Date:**
Lab ID: MBLK122821_ **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
2,2-Dichloropropane	ND	0.50									
1,1-Dichloropropene	ND	0.50									
cis-1,3-Dichloropropene	ND	0.50									
trans-1,3-Dichloropropene	ND	0.50									
Ethylbenzene	ND	0.50									
Methyl tert-butyl ether (MTBE)	ND	0.50									
Methyl ethyl ketone	ND	10									
Methylene chloride	ND	0.50									
Styrene	ND	0.50									
1,1,1,2-Tetrachloroethane	ND	0.50									
1,1,1,2,2-Tetrachloroethane	ND	0.50									
Tetrachloroethene	ND	0.50									
Toluene	ND	0.50									
1,1,1-Trichloroethane	ND	0.50									
1,1,2-Trichloroethane	ND	0.50									
Trichloroethene	ND	0.50									
Trichlorofluoromethane	ND	0.50									
1,2,3-Trichloropropane	ND	0.50									
Vinyl chloride	ND	0.50									
m+p-Xylenes	ND	0.50									
o-Xylene	ND	0.50									
Xylenes, Total	ND	0.50									
Surr: 1,2-Dichloroethane-d4	10	0.50	10		102.0	81	118				
Surr: Dibromofluoromethane	10	0.50	10		102.0	80	119				
Surr: p-Bromofluorobenzene	10	0.50	10		102.0	85	114				



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121965
Project: CV18F0126/60571032.02.46.01

Report Date: 02/14/2022

Run ID: Run Order: VOA5975C.I_211228A: 4 **SampType:** Method Blank **Batch ID:** R372824
Method: SW8260B **Analysis Date:** 12/28/2021 12:19 **Prep Date:**
Lab ID: MBLK122821_ **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Surr: Toluene-d8	10	0.50	10		103.0	89	112				

Associated Samples: **B21121965-001G**

Run ID: Run Order: VOA5975C.I_211228A: 3 **SampType:** Laboratory Control Sample **Batch ID:** R372824
Method: SW8260B **Analysis Date:** 12/28/2021 11:24 **Prep Date:**
Lab ID: LCS122821_ **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Benzene	5.3	0.50	5.0		106.0	79	120				
Bromobenzene	5.4	0.50	5.0		108.0	80	120				
Bromochloromethane	5.3	0.50	5.0		106.0	78	123				
Bromodichloromethane	5.4	0.50	5.0		107.0	79	125				
Bromoform	5.5	0.50	5.0		109.0	66	130				
Bromomethane	4.8	0.50	5.0		96.0	53	141				
Carbon tetrachloride	5.1	0.50	5.0		101.0	72	136				
Chlorobenzene	5.5	0.50	5.0		109.0	82	118				
Chlorodibromomethane	5.4	0.50	5.0		108.0	74	126				
Chloroethane	4.0	0.50	5.0		80.0	60	138				
Chloroform	5.0	0.50	5.0		100.0	79	124				
Chloromethane	4.6	0.50	5.0		92.0	50	139				
1,2-Dibromoethane	5.4	0.50	5.0		107.0	78	122				
2-Chlorotoluene	5.2	0.50	5.0		105.0	79	122				
Dibromomethane	5.3	0.50	5.0		107.0	79	123				
1,2-Dichlorobenzene	5.3	0.50	5.0		105.0	80	119				



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121965
Project: CV18F0126/60571032.02.46.01

Report Date: 02/14/2022

Run ID: Run Order: VOA5975C.I_211228A: 3 **SampType:** Laboratory Control Sample **Batch ID:** R372824
Method: SW8260B **Analysis Date:** 12/28/2021 11:24 **Prep Date:**
Lab ID: LCS122821_ **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
4-Chlorotoluene	5.4	0.50	5.0		109.0	78	122				
1,3-Dichlorobenzene	5.4	0.50	5.0		109.0	80	119				
1,4-Dichlorobenzene	5.2	0.50	5.0		104.0	79	118				
Dichlorodifluoromethane	4.3	0.50	5.0		86.0	32	152				
1,1-Dichloroethane	5.4	0.50	5.0		108.0	77	125				
1,2-Dichloroethane	5.1	0.50	5.0		103.0	73	128				
1,1-Dichloroethene	4.6	0.50	5.0		93.0	71	131				
cis-1,2-Dichloroethene	5.3	0.50	5.0		106.0	78	123				
trans-1,2-Dichloroethene	5.5	0.50	5.0		110.0	75	124				
1,2-Dichloropropane	5.3	0.50	5.0		106.0	78	122				
1,3-Dichloropropane	5.2	0.50	5.0		105.0	80	119				
2,2-Dichloropropane	5.6	0.50	5.0		112.0	60	139				
1,1-Dichloropropene	4.9	0.50	5.0		98.0	79	125				
cis-1,3-Dichloropropene	5.2	0.50	5.0		104.0	75	124				
trans-1,3-Dichloropropene	5.5	0.50	5.0		111.0	73	127				
Ethylbenzene	5.3	0.50	5.0		106.0	79	121				
Methyl tert-butyl ether (MTBE)	4.9	0.50	5.0		99.0	71	124				
Methyl ethyl ketone	53	10	50		107.0	56	143				
Methylene chloride	5.1	0.50	5.0		102.0	74	124				
Styrene	5.6	0.50	5.0		113.0	78	123				
1,1,1,2-Tetrachloroethane	5.3	0.50	5.0		107.0	78	124				
1,1,2,2-Tetrachloroethane	5.2	0.50	5.0		104.0	71	121				
Tetrachloroethene	5.5	0.50	5.0		109.0	74	129				
Toluene	5.4	0.50	5.0		107.0	80	121				
1,1,1-Trichloroethane	5.2	0.50	5.0		105.0	74	131				
1,1,2-Trichloroethane	5.3	0.50	5.0		105.0	80	119				
Trichloroethene	5.1	0.50	5.0		103.0	79	123				



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121965
Project: CV18F0126/60571032.02.46.01

Report Date: 02/14/2022

Run ID: Run Order: VOA5975C.I_211228A: 3 **SampType:** Laboratory Control Sample **Batch ID:** R372824
Method: SW8260B **Analysis Date:** 12/28/2021 11:24 **Prep Date:**
Lab ID: LCS122821_ **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Trichlorofluoromethane	4.3	0.50	5.0		86.0	65	141				
1,2,3-Trichloropropane	4.9	0.50	5.0		99.0	73	125				
Vinyl chloride	4.8	0.50	5.0		95.0	58	137				
m+p-Xylenes	11	0.50	10		109.0	80	121				
o-Xylene	5.6	0.50	5.0		112.0	78	122				
Xylenes, Total	17	0.50	15		110.0	79	121				
Surr: 1,2-Dichloroethane-d4	10	0.50	10		101.0	81	118				
Surr: Dibromofluoromethane	10	0.50	10		104.0	80	119				
Surr: p-Bromofluorobenzene	10	0.50	10		102.0	85	114				
Surr: Toluene-d8	11	0.50	10		106.0	89	112				

Associated Samples: **B21121965-001G**

Run ID: Run Order: VOA5975C.I_211228A: 19 **SampType:** Sample Matrix Spike **Batch ID:** R372824
Method: SW8260B **Analysis Date:** 12/28/2021 19:09 **Prep Date:**
Lab ID: B21121841-001CMS **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Benzene	5.2	0.50	5.0	0.0	104.0	79	120				
Bromobenzene	5.4	0.50	5.0	0.0	108.0	80	120				
Bromochloromethane	5.2	0.50	5.0	0.0	104.0	78	123				
Bromodichloromethane	5.3	0.50	5.0	0.0	106.0	79	125				
Bromoform	5.5	0.50	5.0	0.0	110.0	66	130				
Bromomethane	1.0	0.50	5.0	0.0	20.0	53	141				S
Carbon tetrachloride	5.2	0.50	5.0	0.0	103.0	72	136				
Chlorobenzene	5.3	0.50	5.0	0.0	106.0	82	118				
Chlorodibromomethane	5.3	0.50	5.0	0.0	106.0	74	126				



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121965
Project: CV18F0126/60571032.02.46.01

Report Date: 02/14/2022

Run ID: Run Order: VOA5975C.I_211228A: 19 **SampType:** Sample Matrix Spike **Batch ID:** R372824
Method: SW8260B **Analysis Date:** 12/28/2021 19:09 **Prep Date:**
Lab ID: B21121841-001CMS **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Chloroethane	4.4	0.50	5.0	0.0	89.0	60	138				
Chloroform	4.8	0.50	5.0	0.0	97.0	79	124				
Chloromethane	4.1	0.50	5.0	0.0	83.0	50	139				
1,2-Dibromoethane	5.2	0.50	5.0	0.0	103.0	78	122				
2-Chlorotoluene	5.1	0.50	5.0	0.0	102.0	79	122				
Dibromomethane	5.2	0.50	5.0	0.0	104.0	79	123				
1,2-Dichlorobenzene	5.1	0.50	5.0	0.0	102.0	80	119				
4-Chlorotoluene	5.4	0.50	5.0	0.0	107.0	78	122				
1,3-Dichlorobenzene	5.3	0.50	5.0	0.0	106.0	80	119				
1,4-Dichlorobenzene	5.1	0.50	5.0	0.0	103.0	79	118				
Dichlorodifluoromethane	4.0	0.50	5.0	0.0	80.0	32	152				
1,1-Dichloroethane	5.3	0.50	5.0	0.0	106.0	77	125				
1,2-Dichloroethane	5.0	0.50	5.0	0.0	100.0	73	128				
1,1-Dichloroethene	4.4	0.50	5.0	0.0	88.0	71	131				
cis-1,2-Dichloroethene	5.0	0.50	5.0	0.0	101.0	78	123				
trans-1,2-Dichloroethene	4.5	0.50	5.0	0.0	90.0	75	124				
1,2-Dichloropropane	5.1	0.50	5.0	0.0	102.0	78	122				
1,3-Dichloropropane	5.1	0.50	5.0	0.0	102.0	80	119				
2,2-Dichloropropane	5.2	0.50	5.0	0.0	103.0	60	139				
1,1-Dichloropropene	5.0	0.50	5.0	0.0	99.0	79	125				
cis-1,3-Dichloropropene	4.9	0.50	5.0	0.0	99.0	75	124				
trans-1,3-Dichloropropene	5.3	0.50	5.0	0.0	105.0	73	127				
Ethylbenzene	5.2	0.50	5.0	0.0	104.0	79	121				
Methyl tert-butyl ether (MTBE)	4.1	0.50	5.0	0.0	82.0	71	124				
Methyl ethyl ketone	51	10	50	0.0	101.0	56	143				
Methylene chloride	4.1	0.50	5.0	0.0	83.0	74	124				
Styrene	5.4	0.50	5.0	0.0	109.0	78	123				



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121965
Project: CV18F0126/60571032.02.46.01

Report Date: 02/14/2022

Run ID: Run Order: VOA5975C.I_211228A: 19 **SampType:** Sample Matrix Spike **Batch ID:** R372824
Method: SW8260B **Analysis Date:** 12/28/2021 19:09 **Prep Date:**
Lab ID: B21121841-001CMS **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	5.3	0.50	5.0	0.0	105.0	78	124				
1,1,2,2-Tetrachloroethane	5.2	0.50	5.0	0.0	105.0	71	121				
Tetrachloroethene	5.4	0.50	5.0	0.0	108.0	74	129				
Toluene	5.3	0.50	5.0	0.0	106.0	80	121				
1,1,1-Trichloroethane	5.2	0.50	5.0	0.0	103.0	74	131				
1,1,2-Trichloroethane	5.1	0.50	5.0	0.0	103.0	80	119				
Trichloroethene	5.1	0.50	5.0	0.0	101.0	79	123				
Trichlorofluoromethane	4.1	0.50	5.0	0.0	81.0	65	141				
1,2,3-Trichloropropane	5.1	0.50	5.0	0.0	103.0	73	125				
Vinyl chloride	4.0	0.50	5.0	0.0	81.0	58	137				
m+p-Xylenes	11	0.50	10	0.0	105.0	80	121				
o-Xylene	5.3	0.50	5.0	0.0	106.0	78	122				
Xylenes, Total	16	0.50	15	0.0	105.0	79	121				
Surr: 1,2-Dichloroethane-d4	10	0.50	10	0.0	101.0	81	118				
Surr: Dibromofluoromethane	10	0.50	10	0.0	102.0	80	119				
Surr: p-Bromofluorobenzene	10	0.50	10	0.0	104.0	85	114				
Surr: Toluene-d8	11	0.50	10	0.0	105.0	89	112				

Associated Samples: **B21121965-001G**

Run ID: Run Order: VOA5975C.I_211228A: 20 **SampType:** Sample Matrix Spike Duplicate **Batch ID:** R372824
Method: SW8260B **Analysis Date:** 12/28/2021 19:36 **Prep Date:**
Lab ID: B21121841-001CMSD **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Benzene	5.3	0.50	5.0	0.0	106.0	79	120	5.2	2.4	20.0	
Bromobenzene	5.3	0.50	5.0	0.0	107.0	80	120	5.4	0.9	20.0	



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121965
Project: CV18F0126/60571032.02.46.01

Report Date: 02/14/2022

Run ID: Run Order: VOA5975C.I_211228A: 20 **SampType:** Sample Matrix Spike Duplicate **Batch ID:** R372824
Method: SW8260B **Analysis Date:** 12/28/2021 19:36 **Prep Date:**
Lab ID: B21121841-001CMSD **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Bromochloromethane	5.2	0.50	5.0	0.0	104.0	78	123	5.2	0.1	20.0	
Bromodichloromethane	5.3	0.50	5.0	0.0	106.0	79	125	5.3	0.6	20.0	
Bromoform	5.5	0.50	5.0	0.0	109.0	66	130	5.5	1.0	20.0	
Bromomethane	1.9	0.50	5.0	0.0	38.0	53	141	1.0	61.0	20.0	SR
Carbon tetrachloride	5.3	0.50	5.0	0.0	105.0	72	136	5.2	1.7	20.0	
Chlorobenzene	5.3	0.50	5.0	0.0	106.0	82	118	5.3	0.0	20.0	
Chlorodibromomethane	5.3	0.50	5.0	0.0	106.0	74	126	5.3	0.4	20.0	
Chloroethane	4.1	0.50	5.0	0.0	83.0	60	138	4.4	7.3	20.0	
Chloroform	4.9	0.50	5.0	0.0	98.0	79	124	4.8	1.5	20.0	
Chloromethane	4.6	0.50	5.0	0.0	93.0	50	139	4.1	11.0	20.0	
1,2-Dibromoethane	5.2	0.50	5.0	0.0	104.0	78	122	5.2	0.3	20.0	
2-Chlorotoluene	5.2	0.50	5.0	0.0	103.0	79	122	5.1	1.2	20.0	
Dibromomethane	5.2	0.50	5.0	0.0	105.0	79	123	5.2	1.1	20.0	
1,2-Dichlorobenzene	5.3	0.50	5.0	0.0	107.0	80	119	5.1	4.5	20.0	
4-Chlorotoluene	5.4	0.50	5.0	0.0	109.0	78	122	5.4	1.2	20.0	
1,3-Dichlorobenzene	5.4	0.50	5.0	0.0	107.0	80	119	5.3	0.8	20.0	
1,4-Dichlorobenzene	5.1	0.50	5.0	0.0	102.0	79	118	5.1	0.6	20.0	
Dichlorodifluoromethane	4.4	0.50	5.0	0.0	88.0	32	152	4.0	9.1	20.0	
1,1-Dichloroethane	5.4	0.50	5.0	0.0	108.0	77	125	5.3	1.4	20.0	
1,2-Dichloroethane	5.1	0.50	5.0	0.0	102.0	73	128	5.0	1.6	20.0	
1,1-Dichloroethene	5.6	0.50	5.0	0.0	111.0	71	131	4.4	23.0	20.0	R
cis-1,2-Dichloroethene	5.2	0.50	5.0	0.0	104.0	78	123	5.0	3.5	20.0	
trans-1,2-Dichloroethene	5.5	0.50	5.0	0.0	110.0	75	124	4.5	20.0	20.0	
1,2-Dichloropropane	5.2	0.50	5.0	0.0	103.0	78	122	5.1	1.4	20.0	
1,3-Dichloropropane	4.9	0.50	5.0	0.0	98.0	80	119	5.1	3.7	20.0	
2,2-Dichloropropane	5.2	0.50	5.0	0.0	104.0	60	139	5.2	0.9	20.0	
1,1-Dichloropropene	4.9	0.50	5.0	0.0	99.0	79	125	5.0	0.1	20.0	



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121965
Project: CV18F0126/60571032.02.46.01

Report Date: 02/14/2022

Run ID: Run Order: VOA5975C.I_211228A: 20 **SampType:** Sample Matrix Spike Duplicate **Batch ID:** R372824
Method: SW8260B **Analysis Date:** 12/28/2021 19:36 **Prep Date:**
Lab ID: B21121841-001CMSD **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
cis-1,3-Dichloropropene	4.9	0.50	5.0	0.0	97.0	75	124	4.9	1.2	20.0	
trans-1,3-Dichloropropene	5.3	0.50	5.0	0.0	105.0	73	127	5.3	0.1	20.0	
Ethylbenzene	5.3	0.50	5.0	0.0	105.0	79	121	5.2	1.1	20.0	
Methyl tert-butyl ether (MTBE)	5.0	0.50	5.0	0.0	99.0	71	124	4.1	19.0	20.0	
Methyl ethyl ketone	52	10	50	0.0	105.0	56	143	51	3.2	20.0	
Methylene chloride	5.0	0.50	5.0	0.0	101.0	74	124	4.1	19.0	20.0	
Styrene	5.4	0.50	5.0	0.0	109.0	78	123	5.4	0.2	20.0	
1,1,1,2-Tetrachloroethane	5.3	0.50	5.0	0.0	105.0	78	124	5.3	0.3	20.0	
1,1,2,2-Tetrachloroethane	5.3	0.50	5.0	0.0	107.0	71	121	5.2	1.7	20.0	
Tetrachloroethene	5.4	0.50	5.0	0.0	108.0	74	129	5.4	0.1	20.0	
Toluene	5.4	0.50	5.0	0.0	107.0	80	121	5.3	1.4	20.0	
1,1,1-Trichloroethane	5.2	0.50	5.0	0.0	103.0	74	131	5.2	0.1	20.0	
1,1,2-Trichloroethane	5.4	0.50	5.0	0.0	107.0	80	119	5.1	4.4	20.0	
Trichloroethene	5.0	0.50	5.0	0.0	101.0	79	123	5.1	0.5	20.0	
Trichlorofluoromethane	4.6	0.50	5.0	0.0	92.0	65	141	4.1	12.0	20.0	
1,2,3-Trichloropropane	5.1	0.50	5.0	0.0	101.0	73	125	5.1	1.8	20.0	
Vinyl chloride	4.6	0.50	5.0	0.0	92.0	58	137	4.0	13.0	20.0	
m+p-Xylenes	11	0.50	10	0.0	105.0	80	121	11	0.3	20.0	
o-Xylene	5.5	0.50	5.0	0.0	109.0	78	122	5.3	3.3	20.0	
Xylenes, Total	16	0.50	15	0.0	107.0	79	121	16	1.3	20.0	
Surr: 1,2-Dichloroethane-d4	10	0.50	10	0.0	100.0	81	118	0.0			
Surr: Dibromofluoromethane	10	0.50	10	0.0	104.0	80	119	0.0			
Surr: p-Bromofluorobenzene	10	0.50	10	0.0	103.0	85	114	0.0			
Surr: Toluene-d8	11	0.50	10	0.0	106.0	89	112	0.0			

Associated Samples: **B21121965-001G**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121965
Project: CV18F0126/60571032.02.46.01

Report Date: 02/14/2022

Run ID: Run Order: VOA5975C.I_211227A: 2 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R372727
Method: SW8260B **Analysis Date:** 12/27/2021 09:55 **Prep Date:**
Lab ID: CCV122721_ **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Benzene	5.2	0.50	5.0		103.0	80	120				
Bromobenzene	5.1	0.50	5.0		103.0	80	120				
Bromochloromethane	5.4	0.50	5.0		107.0	80	120				
Bromodichloromethane	5.3	0.50	5.0		106.0	80	120				
Bromoform	5.4	0.50	5.0		108.0	80	120				
Bromomethane	4.9	0.50	5.0		99.0	80	120				
Carbon tetrachloride	5.0	0.50	5.0		99.0	80	120				
Chlorobenzene	5.3	0.50	5.0		105.0	80	120				
Chlorodibromomethane	5.5	0.50	5.0		110.0	80	120				
Chloroethane	4.1	0.50	5.0		82.0	80	120				
Chloroform	5.1	0.50	5.0		101.0	80	120				
Chloromethane	4.8	0.50	5.0		97.0	80	120				
1,2-Dibromoethane	5.5	0.50	5.0		109.0	80	120				
2-Chlorotoluene	5.0	0.50	5.0		100.0	80	120				
Dibromomethane	5.3	0.50	5.0		106.0	80	120				
1,2-Dichlorobenzene	5.1	0.50	5.0		102.0	80	120				
4-Chlorotoluene	5.1	0.50	5.0		102.0	80	120				
1,3-Dichlorobenzene	5.0	0.50	5.0		101.0	80	120				
1,4-Dichlorobenzene	5.0	0.50	5.0		101.0	80	120				
Dichlorodifluoromethane	4.0	0.50	5.0		81.0	80	120				
1,1-Dichloroethane	5.0	0.50	5.0		101.0	80	120				
1,2-Dichloroethane	5.4	0.50	5.0		108.0	80	120				
1,1-Dichloroethene	4.5	0.50	5.0		89.0	80	120				
cis-1,2-Dichloroethene	5.4	0.50	5.0		108.0	80	120				
trans-1,2-Dichloroethene	4.8	0.50	5.0		95.0	80	120				
1,2-Dichloropropane	5.2	0.50	5.0		105.0	80	120				
1,3-Dichloropropane	5.5	0.50	5.0		109.0	80	120				



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121965
Project: CV18F0126/60571032.02.46.01

Report Date: 02/14/2022

Run ID: Run Order: VOA5975C.I_211227A: 2 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R372727
Method: SW8260B **Analysis Date:** 12/27/2021 09:55 **Prep Date:**
Lab ID: CCV122721_ **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
2,2-Dichloropropane	5.7	0.50	5.0		114.0	80	120				
1,1-Dichloropropene	4.9	0.50	5.0		98.0	80	120				
cis-1,3-Dichloropropene	5.5	0.50	5.0		110.0	80	120				
trans-1,3-Dichloropropene	5.6	0.50	5.0		111.0	80	120				
Ethylbenzene	5.1	0.50	5.0		102.0	80	120				
Methyl tert-butyl ether (MTBE)	5.1	0.50	5.0		103.0	80	120				
Methyl ethyl ketone	60	10	50		119.0	80	120				
Methylene chloride	4.5	0.50	5.0		91.0	80	120				
Styrene	5.5	0.50	5.0		109.0	80	120				
1,1,1,2-Tetrachloroethane	5.4	0.50	5.0		107.0	80	120				
1,1,2,2-Tetrachloroethane	5.3	0.50	5.0		106.0	80	120				
Tetrachloroethene	4.9	0.50	5.0		99.0	80	120				
Toluene	5.3	0.50	5.0		105.0	80	120				
1,1,1-Trichloroethane	5.0	0.50	5.0		100.0	80	120				
1,1,2-Trichloroethane	5.4	0.50	5.0		108.0	80	120				
Trichloroethene	5.0	0.50	5.0		100.0	80	120				
Trichlorofluoromethane	4.1	0.50	5.0		82.0	80	120				
1,2,3-Trichloropropane	5.3	0.50	5.0		107.0	80	120				
Vinyl chloride	4.6	0.50	5.0		92.0	80	120				
m+p-Xylenes	11	0.50	10		106.0	80	120				
o-Xylene	5.3	0.50	5.0		106.0	80	120				
Xylenes, Total	16	0.50	15		106.0	80	120				
Surr: 1,2-Dichloroethane-d4	10	0.50	10		102.0	80	120				
Surr: Dibromofluoromethane	10	0.50	10		103.0	80	120				
Surr: p-Bromofluorobenzene	10	0.50	10		102.0	80	120				



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121965
Project: CV18F0126/60571032.02.46.01

Report Date: 02/14/2022

Run ID: Run Order: VOA5975C.I_211227A: 2 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R372727
Method: SW8260B **Analysis Date:** 12/27/2021 09:55 **Prep Date:**
Lab ID: CCV122721_ **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Surr: Toluene-d8	10	0.50	10		102.0	80	120				

Associated Samples: **B21121965-001G, B21121965-003A**

Run ID: Run Order: VOA5975C.I_211227A: 22 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R372727
Method: SW8260B **Analysis Date:** 12/27/2021 20:07 **Prep Date:**
Lab ID: CCV122721_Closing **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Benzene	4.9	0.50	5.0		98.0	50	150				
Bromobenzene	5.0	0.50	5.0		100.0	50	150				
Bromochloromethane	5.2	0.50	5.0		104.0	50	150				
Bromodichloromethane	5.0	0.50	5.0		101.0	50	150				
Bromoform	5.0	0.50	5.0		100.0	50	150				
Bromomethane	2.4	0.50	5.0		47.0	50	150				S
Carbon tetrachloride	4.9	0.50	5.0		97.0	50	150				
Chlorobenzene	4.9	0.50	5.0		99.0	50	150				
Chlorodibromomethane	5.0	0.50	5.0		100.0	50	150				
Chloroethane	4.0	0.50	5.0		79.0	50	150				
Chloroform	4.8	0.50	5.0		96.0	50	150				
Chloromethane	4.4	0.50	5.0		89.0	50	150				
1,2-Dibromoethane	5.0	0.50	5.0		101.0	50	150				
2-Chlorotoluene	4.9	0.50	5.0		99.0	50	150				
Dibromomethane	5.1	0.50	5.0		101.0	50	150				
1,2-Dichlorobenzene	4.9	0.50	5.0		98.0	50	150				



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121965
Project: CV18F0126/60571032.02.46.01

Report Date: 02/14/2022

Run ID: Run Order: VOA5975C.I_211227A: 22 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R372727
Method: SW8260B **Analysis Date:** 12/27/2021 20:07 **Prep Date:**
Lab ID: CCV122721_Closing **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
4-Chlorotoluene	5.1	0.50	5.0		101.0	50	150				
1,3-Dichlorobenzene	5.0	0.50	5.0		100.0	50	150				
1,4-Dichlorobenzene	4.8	0.50	5.0		95.0	50	150				
Dichlorodifluoromethane	4.2	0.50	5.0		84.0	50	150				
1,1-Dichloroethane	4.9	0.50	5.0		98.0	50	150				
1,2-Dichloroethane	5.0	0.50	5.0		99.0	50	150				
1,1-Dichloroethene	5.0	0.50	5.0		100.0	50	150				
cis-1,2-Dichloroethene	4.9	0.50	5.0		97.0	50	150				
trans-1,2-Dichloroethene	4.9	0.50	5.0		98.0	50	150				
1,2-Dichloropropane	5.1	0.50	5.0		101.0	50	150				
1,3-Dichloropropane	5.0	0.50	5.0		100.0	50	150				
2,2-Dichloropropane	4.9	0.50	5.0		97.0	50	150				
1,1-Dichloropropene	4.7	0.50	5.0		94.0	50	150				
cis-1,3-Dichloropropene	5.0	0.50	5.0		101.0	50	150				
trans-1,3-Dichloropropene	5.0	0.50	5.0		100.0	50	150				
Ethylbenzene	4.9	0.50	5.0		99.0	50	150				
Methyl tert-butyl ether (MTBE)	4.7	0.50	5.0		95.0	50	150				
Methyl ethyl ketone	51	10	50		103.0	50	150				
Methylene chloride	4.7	0.50	5.0		94.0	50	150				
Styrene	5.2	0.50	5.0		104.0	50	150				
1,1,1,2-Tetrachloroethane	5.0	0.50	5.0		100.0	50	150				
1,1,2,2-Tetrachloroethane	5.1	0.50	5.0		102.0	50	150				
Tetrachloroethene	5.1	0.50	5.0		102.0	50	150				
Toluene	5.2	0.50	5.0		104.0	50	150				
1,1,1-Trichloroethane	4.8	0.50	5.0		95.0	50	150				
1,1,2-Trichloroethane	4.8	0.50	5.0		97.0	50	150				
Trichloroethene	4.9	0.50	5.0		98.0	50	150				



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121965
Project: CV18F0126/60571032.02.46.01

Report Date: 02/14/2022

Run ID: Run Order: VOA5975C.I_211227A: 22 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R372727
Method: SW8260B **Analysis Date:** 12/27/2021 20:07 **Prep Date:**
Lab ID: CCV122721_Closing **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Trichlorofluoromethane	4.2	0.50	5.0		84.0	50	150				
1,2,3-Trichloropropane	4.7	0.50	5.0		95.0	50	150				
Vinyl chloride	4.2	0.50	5.0		84.0	50	150				
m+p-Xylenes	10	0.50	10		101.0	50	150				
o-Xylene	5.1	0.50	5.0		103.0	50	150				
Xylenes, Total	15	0.50	15		102.0	50	150				
Surr: 1,2-Dichloroethane-d4	9.8	0.50	10		98.0	50	150				
Surr: Dibromofluoromethane	10	0.50	10		102.0	50	150				
Surr: p-Bromofluorobenzene	10	0.50	10		102.0	50	150				
Surr: Toluene-d8	11	0.50	10		106.0	50	150				

Associated Samples: **B21121965-001G, B21121965-003A**

Run ID: Run Order: VOA5975C.I_211228A: 2 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R372824
Method: SW8260B **Analysis Date:** 12/28/2021 10:48 **Prep Date:**
Lab ID: CCV122821_ **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Benzene	5.0	0.50	5.0		100.0	80	120				
Bromobenzene	5.3	0.50	5.0		105.0	80	120				
Bromochloromethane	5.2	0.50	5.0		104.0	80	120				
Bromodichloromethane	5.1	0.50	5.0		102.0	80	120				
Bromoform	5.4	0.50	5.0		108.0	80	120				
Bromomethane	4.9	0.50	5.0		97.0	80	120				
Carbon tetrachloride	4.8	0.50	5.0		96.0	80	120				
Chlorobenzene	5.1	0.50	5.0		102.0	80	120				
Chlorodibromomethane	5.2	0.50	5.0		105.0	80	120				



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121965
Project: CV18F0126/60571032.02.46.01

Report Date: 02/14/2022

Run ID: Run Order: VOA5975C.I_211228A: 2 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R372824
Method: SW8260B **Analysis Date:** 12/28/2021 10:48 **Prep Date:**
Lab ID: CCV122821_ **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Chloroethane	4.4	0.50	5.0		88.0	80	120				
Chloroform	4.8	0.50	5.0		96.0	80	120				
Chloromethane	4.5	0.50	5.0		89.0	80	120				
1,2-Dibromoethane	5.2	0.50	5.0		103.0	80	120				
2-Chlorotoluene	5.1	0.50	5.0		101.0	80	120				
Dibromomethane	5.1	0.50	5.0		102.0	80	120				
1,2-Dichlorobenzene	5.0	0.50	5.0		100.0	80	120				
4-Chlorotoluene	5.1	0.50	5.0		102.0	80	120				
1,3-Dichlorobenzene	5.0	0.50	5.0		101.0	80	120				
1,4-Dichlorobenzene	5.0	0.50	5.0		99.0	80	120				
Dichlorodifluoromethane	4.1	0.50	5.0		82.0	80	120				
1,1-Dichloroethane	5.0	0.50	5.0		99.0	80	120				
1,2-Dichloroethane	5.1	0.50	5.0		102.0	80	120				
1,1-Dichloroethene	5.0	0.50	5.0		99.0	80	120				
cis-1,2-Dichloroethene	5.0	0.50	5.0		100.0	80	120				
trans-1,2-Dichloroethene	4.9	0.50	5.0		98.0	80	120				
1,2-Dichloropropane	5.3	0.50	5.0		107.0	80	120				
1,3-Dichloropropane	5.2	0.50	5.0		105.0	80	120				
2,2-Dichloropropane	5.2	0.50	5.0		103.0	80	120				
1,1-Dichloropropene	4.8	0.50	5.0		95.0	80	120				
cis-1,3-Dichloropropene	5.3	0.50	5.0		106.0	80	120				
trans-1,3-Dichloropropene	5.4	0.50	5.0		107.0	80	120				
Ethylbenzene	5.0	0.50	5.0		101.0	80	120				
Methyl tert-butyl ether (MTBE)	5.0	0.50	5.0		99.0	80	120				
Methyl ethyl ketone	50	10	50		101.0	80	120				
Methylene chloride	4.7	0.50	5.0		95.0	80	120				
Styrene	5.3	0.50	5.0		107.0	80	120				



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121965
Project: CV18F0126/60571032.02.46.01

Report Date: 02/14/2022

Run ID: Run Order: VOA5975C.I_211228A: 2 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R372824
Method: SW8260B **Analysis Date:** 12/28/2021 10:48 **Prep Date:**
Lab ID: CCV122821_ **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	5.2	0.50	5.0		105.0	80	120				
1,1,2,2-Tetrachloroethane	5.3	0.50	5.0		105.0	80	120				
Tetrachloroethene	5.0	0.50	5.0		100.0	80	120				
Toluene	5.3	0.50	5.0		105.0	80	120				
1,1,1-Trichloroethane	4.9	0.50	5.0		99.0	80	120				
1,1,2-Trichloroethane	5.1	0.50	5.0		103.0	80	120				
Trichloroethene	5.0	0.50	5.0		99.0	80	120				
Trichlorofluoromethane	4.3	0.50	5.0		86.0	80	120				
1,2,3-Trichloropropane	5.1	0.50	5.0		101.0	80	120				
Vinyl chloride	4.4	0.50	5.0		89.0	80	120				
m+p-Xylenes	10	0.50	10		105.0	80	120				
o-Xylene	5.3	0.50	5.0		105.0	80	120				
Xylenes, Total	16	0.50	15		105.0	80	120				
Surr: 1,2-Dichloroethane-d4	10	0.50	10		100.0	80	120				
Surr: Dibromofluoromethane	10	0.50	10		102.0	80	120				
Surr: p-Bromofluorobenzene	10	0.50	10		105.0	80	120				
Surr: Toluene-d8	11	0.50	10		108.0	80	120				

Associated Samples: **B21121965-001G**

Run ID: Run Order: VOA5975C.I_211228A: 21 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R372824
Method: SW8260B **Analysis Date:** 12/28/2021 20:31 **Prep Date:**
Lab ID: CCV122821_Closing **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Benzene	4.9	0.50	5.0		98.0	50	150				
Bromobenzene	4.9	0.50	5.0		98.0	50	150				



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121965
Project: CV18F0126/60571032.02.46.01

Report Date: 02/14/2022

Run ID: Run Order: VOA5975C.I_211228A: 21 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R372824
Method: SW8260B **Analysis Date:** 12/28/2021 20:31 **Prep Date:**
Lab ID: CCV122821_Closing **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Bromochloromethane	4.9	0.50	5.0		98.0	50	150				
Bromodichloromethane	5.0	0.50	5.0		99.0	50	150				
Bromoform	4.8	0.50	5.0		96.0	50	150				
Bromomethane	2.4	0.50	5.0		47.0	50	150				S
Carbon tetrachloride	4.9	0.50	5.0		98.0	50	150				
Chlorobenzene	5.0	0.50	5.0		99.0	50	150				
Chlorodibromomethane	5.0	0.50	5.0		99.0	50	150				
Chloroethane	4.2	0.50	5.0		84.0	50	150				
Chloroform	4.6	0.50	5.0		92.0	50	150				
Chloromethane	4.2	0.50	5.0		84.0	50	150				
1,2-Dibromoethane	5.0	0.50	5.0		99.0	50	150				
2-Chlorotoluene	4.6	0.50	5.0		93.0	50	150				
Dibromomethane	4.8	0.50	5.0		95.0	50	150				
1,2-Dichlorobenzene	4.7	0.50	5.0		93.0	50	150				
4-Chlorotoluene	4.9	0.50	5.0		98.0	50	150				
1,3-Dichlorobenzene	4.8	0.50	5.0		95.0	50	150				
1,4-Dichlorobenzene	4.6	0.50	5.0		93.0	50	150				
Dichlorodifluoromethane	4.0	0.50	5.0		79.0	50	150				
1,1-Dichloroethane	4.7	0.50	5.0		94.0	50	150				
1,2-Dichloroethane	4.9	0.50	5.0		98.0	50	150				
1,1-Dichloroethene	4.8	0.50	5.0		96.0	50	150				
cis-1,2-Dichloroethene	4.7	0.50	5.0		94.0	50	150				
trans-1,2-Dichloroethene	4.8	0.50	5.0		95.0	50	150				
1,2-Dichloropropane	5.0	0.50	5.0		100.0	50	150				
1,3-Dichloropropane	4.8	0.50	5.0		97.0	50	150				
2,2-Dichloropropane	4.7	0.50	5.0		94.0	50	150				
1,1-Dichloropropene	4.7	0.50	5.0		94.0	50	150				



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121965
Project: CV18F0126/60571032.02.46.01

Report Date: 02/14/2022

Run ID: Run Order: VOA5975C.I_211228A: 21 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R372824
Method: SW8260B **Analysis Date:** 12/28/2021 20:31 **Prep Date:**
Lab ID: CCV122821_Closing **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
cis-1,3-Dichloropropene	4.8	0.50	5.0		95.0	50	150				
trans-1,3-Dichloropropene	5.0	0.50	5.0		100.0	50	150				
Ethylbenzene	4.9	0.50	5.0		98.0	50	150				
Methyl tert-butyl ether (MTBE)	4.5	0.50	5.0		91.0	50	150				
Methyl ethyl ketone	48	10	50		96.0	50	150				
Methylene chloride	4.7	0.50	5.0		95.0	50	150				
Styrene	5.2	0.50	5.0		103.0	50	150				
1,1,1,2-Tetrachloroethane	4.9	0.50	5.0		99.0	50	150				
1,1,2,2-Tetrachloroethane	4.9	0.50	5.0		98.0	50	150				
Tetrachloroethene	5.2	0.50	5.0		104.0	50	150				
Toluene	5.0	0.50	5.0		100.0	50	150				
1,1,1-Trichloroethane	4.8	0.50	5.0		97.0	50	150				
1,1,2-Trichloroethane	4.9	0.50	5.0		98.0	50	150				
Trichloroethene	4.8	0.50	5.0		96.0	50	150				
Trichlorofluoromethane	4.1	0.50	5.0		81.0	50	150				
1,2,3-Trichloropropane	4.6	0.50	5.0		93.0	50	150				
Vinyl chloride	4.0	0.50	5.0		81.0	50	150				
m+p-Xylenes	10	0.50	10		102.0	50	150				
o-Xylene	5.2	0.50	5.0		103.0	50	150				
Xylenes, Total	15	0.50	15		103.0	50	150				
Surr: 1,2-Dichloroethane-d4	9.9	0.50	10		99.0	50	150				
Surr: Dibromofluoromethane	10	0.50	10		103.0	50	150				
Surr: p-Bromofluorobenzene	10	0.50	10		102.0	50	150				
Surr: Toluene-d8	11	0.50	10		106.0	50	150				

Associated Samples: **B21121965-001G**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121965
Project: CV18F0126/60571032.02.46.01

Report Date: 02/14/2022

Run ID: Run Order: GECD.I_211228A: 10 **SampType:** Method Blank **Batch ID:** 162519
Method: SW8011 **Analysis Date:** 12/28/2021 16:10 **Prep Date:** 12/28/2021 09:04
Lab ID: MB-162519 **Units:** ug/L **Prep Method:** SW8011

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,2-Dibromoethane	ND	0.0050									
Surr: 1,1,1,2-Tetrachloroethane	0.086	0.020	0.10		86.0	70	130				

Associated Samples: **B21121965-001H, B21121965-005A**

Run ID: Run Order: GECD.I_211228A: 11 **SampType:** Laboratory Control Sample **Batch ID:** 162519
Method: SW8011 **Analysis Date:** 12/28/2021 16:30 **Prep Date:** 12/28/2021 09:04
Lab ID: LCS-162519 **Units:** ug/L **Prep Method:** SW8011

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.24	0.010	0.25		96.0	60	140				
Surr: 1,1,1,2-Tetrachloroethane	0.084	0.020	0.10		84.0	70	130				

Associated Samples: **B21121965-001H, B21121965-005A**

Run ID: Run Order: GECD.I_211228A: 12 **SampType:** Laboratory Control Sample **Batch ID:** 162519
Method: SW8011 **Analysis Date:** 12/28/2021 16:50 **Prep Date:** 12/28/2021 09:05
Lab ID: LCS1-162519 **Units:** ug/L **Prep Method:** SW8011

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.095	0.010	0.10		95.0	60	140				
Surr: 1,1,1,2-Tetrachloroethane	0.084	0.020	0.10		84.0	70	130				

Associated Samples: **B21121965-001H, B21121965-005A**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121965
Project: CV18F0126/60571032.02.46.01

Report Date: 02/14/2022

Run ID: Run Order: GECD.I_211228A: 26 **SampType:** Sample Matrix Spike **Batch ID:** 162519
Method: SW8011 **Analysis Date:** 12/28/2021 22:29 **Prep Date:** 12/28/2021 09:08
Lab ID: B21121957-001EMS **Units:** ug/L **Prep Method:** SW8011

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.23	0.010	0.25	0.0	94.0	60	140				
Surr: 1,1,1,2-Tetrachloroethane	0.082	0.020	0.099	0.0	83.0	70	130				

Associated Samples: **B21121965-001H, B21121965-005A**

Run ID: Run Order: GECD.I_211228A: 27 **SampType:** Sample Matrix Spike Duplicate **Batch ID:** 162519
Method: SW8011 **Analysis Date:** 12/28/2021 22:49 **Prep Date:** 12/28/2021 09:08
Lab ID: B21121957-001EMSD **Units:** ug/L **Prep Method:** SW8011

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.24	0.010	0.25	0.0	96.0	60	140	0.23	3.4	20.0	
Surr: 1,1,1,2-Tetrachloroethane	0.086	0.020	0.10	0.0	86.0	70	130	0.0			

Associated Samples: **B21121965-001H, B21121965-005A**

Run ID: Run Order: GECD.I_211228A: 9 **SampType:** Continuing Calibration Verification Standard **Batch ID:** 162519
Method: SW8011 **Analysis Date:** 12/28/2021 15:51 **Prep Date:** 12/28/2021 09:05
Lab ID: CAL3-162519 **Units:** ug/L **Prep Method:** SW8011

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.10	0.010	0.10		103.0	80	120				
Surr: 1,1,1,2-Tetrachloroethane	0.095	0.020	0.10		95.0	80	120				

Associated Samples: **B21121965-001H, B21121965-005A**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121965
Project: CV18F0126/60571032.02.46.01

Report Date: 02/14/2022

Run ID: Run Order: GECD.I_211228A: 22 **SampType:** Continuing Calibration Verification Standard **Batch ID:** 162519
Method: SW8011 **Analysis Date:** 12/28/2021 20:49 **Prep Date:** 12/28/2021 09:05
Lab ID: CAL5-162519 **Units:** ug/L **Prep Method:** SW8011

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.41	0.010	0.40		102.0	80	120				
Surr: 1,1,1,2-Tetrachloroethane	0.44	0.020	0.40		110.0	80	120				

Associated Samples: **B21121965-001H, B21121965-005A**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121965
Project: CV18F0126/60571032.02.46.01

Report Date: 02/14/2022

Run ID: Run Order: PE 1_211228A: 19 **SampType:** Method Blank **Batch ID:** R372468
Method: SW8015C **Analysis Date:** 12/28/2021 21:57 **Prep Date:**
Lab ID: MBLK_1228PE126r **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
C6 to C10	ND	10									
Total Purgeable Hydrocarbons	ND	10									
Surr: Trifluorotoluene	21	1.0	25		83.0	70	130				

Associated Samples: **B21121965-001F, B21121965-002A**

Run ID: Run Order: PE 1_211228A: 31 **SampType:** Method Blank **Batch ID:** R372468
Method: SW8015C **Analysis Date:** 12/29/2021 09:24 **Prep Date:**
Lab ID: MBLK_1228PE146r **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
C6 to C10	ND	10									
Total Purgeable Hydrocarbons	ND	10									
Surr: Trifluorotoluene	21	1.0	25		84.0	70	130				

Associated Samples: **B21121965-001F, B21121965-002A**

Run ID: Run Order: PE 1_211228A: 18 **SampType:** Laboratory Control Sample **Batch ID:** R372468
Method: SW8015C **Analysis Date:** 12/28/2021 21:23 **Prep Date:**
Lab ID: LCS_1228PE125r **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
C6 to C10	165	20	170		97.0	78	122				
Total Purgeable Hydrocarbons	198	20	200		99.0	70	130				
Surr: Trifluorotoluene	24	1.0	25		94.0	70	130				

Associated Samples: **B21121965-001F, B21121965-002A**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121965
Project: CV18F0126/60571032.02.46.01

Report Date: 02/14/2022

Run ID: Run Order: PE 1_211228A: 30 **SampType:** Laboratory Control Sample **Batch ID:** R372468
Method: SW8015C **Analysis Date:** 12/29/2021 08:49 **Prep Date:**
Lab ID: LCS_1228PE145r **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
C6 to C10	174	20	170		102.0	78	122				
Total Purgeable Hydrocarbons	209	20	200		105.0	70	130				
Surr: Trifluorotoluene	23	1.0	25		93.0	70	130				

Associated Samples: **B21121965-001F, B21121965-002A**

Run ID: Run Order: PE 1_211228A: 41 **SampType:** Sample Matrix Spike **Batch ID:** R372468
Method: SW8015C **Analysis Date:** 12/29/2021 15:41 **Prep Date:**
Lab ID: B21121981-001FMS **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
C6 to C10	169	20	170	0.0	100.0	78	122				
Total Purgeable Hydrocarbons	203	20	200	0.0	102.0	70	130				
Surr: Trifluorotoluene	23	1.0	25	0.0	90.0	70	130				

Associated Samples: **B21121965-001F, B21121965-002A**

Run ID: Run Order: PE 1_211228A: 42 **SampType:** Sample Matrix Spike Duplicate **Batch ID:** R372468
Method: SW8015C **Analysis Date:** 12/29/2021 16:15 **Prep Date:**
Lab ID: B21121981-001FMDS **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
C6 to C10	177	20	170	0.0	104.0	78	122	169	4.5	20.0	
Total Purgeable Hydrocarbons	213	20	200	0.0	107.0	70	130	203	5.0	20.0	
Surr: Trifluorotoluene	23	1.0	25	0.0	94.0	70	130	0.0			

Associated Samples: **B21121965-001F, B21121965-002A**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121965
Project: CV18F0126/60571032.02.46.01

Report Date: 02/14/2022

Run ID: Run Order: GCFID-HP5-B_211228B: 5 **SampType:** Method Blank **Batch ID:** 162502
Method: SW8015C **Analysis Date:** 12/29/2021 11:57 **Prep Date:** 12/27/2021 14:11
Lab ID: MB-162502 **Units:** mg/L **Prep Method:** SW3520C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Diesel Range Organics (C10 to C24)	ND	0.15									
Oil Range Hydrocarbons (C24 to C40)	ND	0.15									
Total Extractable Hydrocarbons	ND	0.15									
Surr: o-Terphenyl	0.20	0.0020	0.20		100.0	56	125				
Surr: n-Triacontane	0.10	0.0020	0.10		105.0	50	150				

Associated Samples: **B21121965-001D**

Run ID: Run Order: GCFID-HP5-B_211228B: 4 **SampType:** Laboratory Control Sample **Batch ID:** 162502
Method: SW8015C **Analysis Date:** 12/29/2021 11:14 **Prep Date:** 12/27/2021 14:11
Lab ID: LCS-162502 **Units:** mg/L **Prep Method:** SW3520C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Diesel Range Organics (C10 to C24)	13	0.30	15		84.0	36	132				
Total Extractable Hydrocarbons	14	0.30	15		90.0	60	132				
Surr: o-Terphenyl	0.19	0.0020	0.20		97.0	56	125				

Associated Samples: **B21121965-001D**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121965
Project: CV18F0126/60571032.02.46.01

Report Date: 02/14/2022

Run ID: Run Order: GCFID-HP5-B_211228B: 30 **SampType:** Laboratory Control Sample **Batch ID:** 162502
Method: SW8015C **Analysis Date:** 12/30/2021 14:55 **Prep Date:** 12/27/2021 14:11
Lab ID: LCS-162502-RRO **Units:** mg/L **Prep Method:** SW3520C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
TEH(Oil Range)	5.0	0.30	5.0		99.0	60	140				
Surr: n-Triacontane	0.11	0.0020	0.10		108.0	50	150				

Associated Samples: **B21121965-001D**

Run ID: Run Order: GCFID-HP5-B_211228B: 13 **SampType:** Sample Matrix Spike **Batch ID:** 162502
Method: SW8015C **Analysis Date:** 12/29/2021 19:47 **Prep Date:** 12/27/2021 18:24
Lab ID: B21121981-001DMS **Units:** mg/L **Prep Method:** SW3520C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Diesel Range Organics (C10 to C24)	12	0.30	14	0.060	84.0	36	132				
Total Extractable Hydrocarbons	13	0.30	14	0.30	89.0	60	132				
Surr: o-Terphenyl	0.18	0.0020	0.19	0.0	95.0	56	125				

Associated Samples: **B21121965-001D**

Run ID: Run Order: GCFID-HP5-B_211228B: 14 **SampType:** Sample Matrix Spike Duplicate **Batch ID:** 162502
Method: SW8015C **Analysis Date:** 12/29/2021 20:30 **Prep Date:** 12/27/2021 18:24
Lab ID: B21121981-001DMSD **Units:** mg/L **Prep Method:** SW3520C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Diesel Range Organics (C10 to C24)	12	0.30	14	0.060	84.0	36	132	12	0.5	20.0	
Total Extractable Hydrocarbons	14	0.30	14	0.30	92.0	60	132	13	3.5	20.0	
Surr: o-Terphenyl	0.16	0.0020	0.19	0.0	84.0	56	125	0.0			

Associated Samples: **B21121965-001D**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121965
Project: CV18F0126/60571032.02.46.01

Report Date: 02/14/2022

Run ID: Run Order: GCFID-HP5-B_211228B: 31 **SampType:** Sample Matrix Spike **Batch ID:** 162502
Method: SW8015C **Analysis Date:** 12/30/2021 15:37 **Prep Date:** 12/27/2021 18:24
Lab ID: B21121981-001DMS-RRO **Units:** mg/L **Prep Method:** SW3520C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
TEH(Oil Range)	5.0	0.30	4.8	0.22	100.0	41	113				
Surr: n-Triacontane	0.10	0.0020	0.096	0.0	107.0	50	150				

Associated Samples: **B21121965-001D**

Run ID: Run Order: GCFID-HP5-B_211228B: 32 **SampType:** Sample Matrix Spike Duplicate **Batch ID:** 162502
Method: SW8015C **Analysis Date:** 12/30/2021 16:20 **Prep Date:** 12/27/2021 18:24
Lab ID: B21121981-001DMSD-RRO **Units:** mg/L **Prep Method:** SW3520C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
TEH(Oil Range)	4.9	0.30	4.8	0.22	97.0	41	113	5.0	2.6	20.0	
Surr: n-Triacontane	0.10	0.0020	0.096	0.0	105.0	50	150	0.0			

Associated Samples: **B21121965-001D**

Run ID: Run Order: GCFID-HP4-B_220105A: 4 **SampType:** Method Blank **Batch ID:** 162648
Method: SW8015C **Analysis Date:** 01/05/2022 10:47 **Prep Date:** 01/03/2022 12:05
Lab ID: MB-162648 **Units:** mg/L **Prep Method:** SW3520C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Diesel Range Organics (C10 to C24)	ND	0.15									
Oil Range Hydrocarbons (C24 to C40)	ND	0.15									
Total Extractable Hydrocarbons	ND	0.15									
Surr: o-Terphenyl	0.18	0.0020	0.20		91.0	56	125				
Surr: n-Triacontane	0.11	0.0020	0.10		114.0	50	150				

Associated Samples: **B21121965-001D**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121965
Project: CV18F0126/60571032.02.46.01

Report Date: 02/14/2022

Run ID: Run Order: GCFID-HP4-B_220106A: 4 **SampType:** Method Blank **Batch ID:** 162648
Method: SW8015C **Analysis Date:** 01/06/2022 21:58 **Prep Date:** 01/03/2022 12:05
Lab ID: MB-162648 **Units:** mg/L **Prep Method:** SW3520C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Diesel Range Organics (SGT-C10 to C24)	ND	0.15									
Oil Range Hydrocarbons (SGT-C24 to C40)	ND	0.15									
Total Extractable Hydrocarbons (SGT)	ND	0.15									
Surr: o-Terphenyl (SGT)	0.22	0.0020	0.20		110.0	56	125				
Surr: n-Triacontane (SGT)	0.13	0.0020	0.10		127.0	50	150				

Associated Samples: **B21121965-001D**

Run ID: Run Order: GCFID-HP4-B_220105A: 3 **SampType:** Laboratory Control Sample **Batch ID:** 162648
Method: SW8015C **Analysis Date:** 01/05/2022 10:02 **Prep Date:** 01/03/2022 12:05
Lab ID: LCS-162648 **Units:** mg/L **Prep Method:** SW3520C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Diesel Range Organics (C10 to C24)	14	0.30	15		92.0	36	132				
Total Extractable Hydrocarbons	15	0.30	15		99.0	60	132				
Surr: o-Terphenyl	0.18	0.0020	0.20		89.0	56	125				

Associated Samples: **B21121965-001D**

Run ID: Run Order: GCFID-HP4-B_220105A: 24 **SampType:** Laboratory Control Sample **Batch ID:** 162648
Method: SW8015C **Analysis Date:** 01/06/2022 08:36 **Prep Date:** 01/03/2022 12:06
Lab ID: LCS-162648-RRO **Units:** mg/L **Prep Method:** SW3520C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
TEH(Oil Range)	4.7	0.30	5.0		93.0	41	113				



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121965
Project: CV18F0126/60571032.02.46.01

Report Date: 02/14/2022

Run ID: Run Order: GCFID-HP4-B_220105A: 24 **SampType:** Laboratory Control Sample **Batch ID:** 162648
Method: SW8015C **Analysis Date:** 01/06/2022 08:36 **Prep Date:** 01/03/2022 12:06
Lab ID: LCS-162648-RRO **Units:** mg/L **Prep Method:** SW3520C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Surr: n-Triacontane	0.11	0.0020	0.10		115.0	50	150				

Associated Samples: **B21121965-001D**

Run ID: Run Order: GCFID-HP4-B_220106A: 3 **SampType:** Laboratory Control Sample **Batch ID:** 162648
Method: SW8015C **Analysis Date:** 01/06/2022 21:13 **Prep Date:** 01/03/2022 12:05
Lab ID: LCS-162648 **Units:** mg/L **Prep Method:** SW3520C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Diesel Range Organics (SGT-C10 to C24)	11	0.30	15		70.0	36	132				
Total Extractable Hydrocarbons (SGT)	11	0.30	15		75.0	60	132				
Surr: o-Terphenyl (SGT)	0.14	0.0020	0.20		72.0	56	125				

Associated Samples: **B21121965-001D**

Run ID: Run Order: GCFID-HP4-B_220106A: 24 **SampType:** Laboratory Control Sample **Batch ID:** 162648
Method: SW8015C **Analysis Date:** 01/07/2022 18:16 **Prep Date:** 01/03/2022 12:06
Lab ID: LCS-162648-RRO **Units:** mg/L **Prep Method:** SW3520C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
TEH (SGT-Oil Range)	4.5	0.30	5.0		89.0	41	113				
Surr: n-Triacontane (SGT)	0.11	0.0020	0.10		105.0	50	150				

Associated Samples: **B21121965-001D**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121965
Project: CV18F0126/60571032.02.46.01

Report Date: 02/14/2022

Run ID: Run Order: GCFID-HP4-B_220105A: 18 **SampType:** Sample Matrix Spike **Batch ID:** 162648
Method: SW8015C **Analysis Date:** 01/06/2022 01:06 **Prep Date:** 01/03/2022 12:06
Lab ID: B21122168-001DMS **Units:** mg/L **Prep Method:** SW3520C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Diesel Range Organics (C10 to C24)	14	0.30	15	0.063	99.0	36	132				
Total Extractable Hydrocarbons	16	0.30	15	0.23	106.0	60	132				
Surr: o-Terphenyl	0.15	0.0020	0.19	0.0	78.0	56	125				

Associated Samples: **B21121965-001D**

Run ID: Run Order: GCFID-HP4-B_220105A: 19 **SampType:** Sample Matrix Spike Duplicate **Batch ID:** 162648
Method: SW8015C **Analysis Date:** 01/06/2022 01:51 **Prep Date:** 01/03/2022 12:06
Lab ID: B21122168-001DMSD **Units:** mg/L **Prep Method:** SW3520C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Diesel Range Organics (C10 to C24)	15	0.30	14	0.063	103.0	36	132	14	3.1	20.0	
Total Extractable Hydrocarbons	16	0.30	14	0.23	110.0	60	132	16	2.8	20.0	
Surr: o-Terphenyl	0.16	0.0020	0.19	0.0	83.0	56	125	0.0			

Associated Samples: **B21121965-001D**

Run ID: Run Order: GCFID-HP4-B_220105A: 25 **SampType:** Sample Matrix Spike **Batch ID:** 162648
Method: SW8015C **Analysis Date:** 01/06/2022 10:06 **Prep Date:** 01/03/2022 12:06
Lab ID: B21122168-001DMS-RRO **Units:** mg/L **Prep Method:** SW3520C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
TEH(Oil Range)	4.7	0.30	4.9	0.22	92.0	41	113				
Surr: n-Triacontane	0.11	0.0020	0.098	0.0	116.0	50	150				

Associated Samples: **B21121965-001D**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121965
Project: CV18F0126/60571032.02.46.01

Report Date: 02/14/2022

Run ID: Run Order: GCFID-HP4-B_220105A: 26 **SampType:** Sample Matrix Spike Duplicate **Batch ID:** 162648
Method: SW8015C **Analysis Date:** 01/06/2022 11:37 **Prep Date:** 01/03/2022 12:06
Lab ID: B21122168-001DMSD-RRO **Units:** mg/L **Prep Method:** SW3520C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
TEH(Oil Range)	5.5	0.30	4.8	0.22	111.0	41	113	4.7	16.0	20.0	
Surr: n-Triacontane	0.14	0.0020	0.095	0.0	143.0	50	150	0.0			

Associated Samples: **B21121965-001D**

Run ID: Run Order: GCFID-HP4-B_220106A: 20 **SampType:** Sample Matrix Spike **Batch ID:** 162648
Method: SW8015C **Analysis Date:** 01/07/2022 13:46 **Prep Date:** 01/03/2022 12:06
Lab ID: B21122168-001DMS **Units:** mg/L **Prep Method:** SW3520C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Diesel Range Organics (SGT-C10 to C24)	12	0.30	15	0.0	82.0	36	132				
Total Extractable Hydrocarbons (SGT)	13	0.30	15	0.0	88.0	60	132				
Surr: o-Terphenyl (SGT)	0.13	0.0020	0.19	0.0	69.0	56	125				

Associated Samples: **B21121965-001D**

Run ID: Run Order: GCFID-HP4-B_220106A: 21 **SampType:** Sample Matrix Spike Duplicate **Batch ID:** 162648
Method: SW8015C **Analysis Date:** 01/07/2022 14:31 **Prep Date:** 01/03/2022 12:06
Lab ID: B21122168-001DMSD **Units:** mg/L **Prep Method:** SW3520C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Diesel Range Organics (SGT-C10 to C24)	13	0.30	14	0.0	89.0	36	132	12	7.0	20.0	
Total Extractable Hydrocarbons (SGT)	14	0.30	14	0.0	95.0	60	132	13	6.7	20.0	
Surr: o-Terphenyl (SGT)	0.14	0.0020	0.19	0.0	75.0	56	125	0.0			

Associated Samples: **B21121965-001D**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121965
Project: CV18F0126/60571032.02.46.01

Report Date: 02/14/2022

Run ID: Run Order: GCFID-HP4-B_220106A: 25 **SampType:** Sample Matrix Spike **Batch ID:** 162648
Method: SW8015C **Analysis Date:** 01/07/2022 19:46 **Prep Date:** 01/03/2022 12:06
Lab ID: B21122168-001DMS-RRO **Units:** mg/L **Prep Method:** SW3520C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
TEH (SGT-Oil Range)	4.6	0.30	4.9	0.0	94.0	41	113				
Surr: n-Triacontane (SGT)	0.11	0.0020	0.098	0.0	111.0	50	150				

Associated Samples: **B21121965-001D**

Run ID: Run Order: GCFID-HP4-B_220106A: 26 **SampType:** Sample Matrix Spike Duplicate **Batch ID:** 162648
Method: SW8015C **Analysis Date:** 01/07/2022 21:16 **Prep Date:** 01/03/2022 12:06
Lab ID: B21122168-001DMSD-RRO **Units:** mg/L **Prep Method:** SW3520C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
TEH (SGT-Oil Range)	4.3	0.30	4.8	0.0	90.0	41	113	4.6	6.7	20.0	
Surr: n-Triacontane (SGT)	0.099	0.0020	0.095	0.0	104.0	50	150	0.0			

Associated Samples: **B21121965-001D**

Run ID: Run Order: PE 1_211228A: 17 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R372468
Method: SW8015C **Analysis Date:** 12/28/2021 20:49 **Prep Date:**
Lab ID: CCV_1228PE124r **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
C6 to C10	170	20	168		101.0	80	120				
Total Purgeable Hydrocarbons	203	20	200		101.0	80	120				
Surr: Trifluorotoluene	24	1.0	25		96.0	80	120				

Associated Samples: **B21121965-001F, B21121965-002A**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121965
Project: CV18F0126/60571032.02.46.01

Report Date: 02/14/2022

Run ID: Run Order: PE 1_211228A: 29 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R372468
Method: SW8015C **Analysis Date:** 12/29/2021 08:15 **Prep Date:**
Lab ID: CCV_1228PE144r **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
C6 to C10	157	20	168		93.0	80	120				
Total Purgeable Hydrocarbons	188	20	200		94.0	80	120				
Surr: Trifluorotoluene	23	1.0	25		92.0	80	120				

Associated Samples: **B21121965-001F, B21121965-002A**

Run ID: Run Order: GCFID-HP5-B_211228B: 17 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R372550
Method: SW8015C **Analysis Date:** 12/30/2021 00:49 **Prep Date:**
Lab ID: CCV_1228HP551r-W **Units:** mg/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
TEH(Oil Range)	4.7	0.30	5.0		94.0	80	120				
Surr: n-Triacontane	0.21	0.0020	0.20		106.0	80	120				

Associated Samples: **B21121965-001D**

Run ID: Run Order: GCFID-HP5-B_211228B: 18 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R372550
Method: SW8015C **Analysis Date:** 12/30/2021 01:32 **Prep Date:**
Lab ID: CCV_1228HP536r **Units:** mg/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Diesel Range Organics (C10 to C24)	15	0.30	15		100.0	80	120				
Total Extractable Hydrocarbons	16	0.30	15		103.0	80	120				
Surr: o-Terphenyl	0.20	0.0020	0.20		100.0	80	120				

Associated Samples: **B21121965-001D**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121965
Project: CV18F0126/60571032.02.46.01

Report Date: 02/14/2022

Run ID: Run Order: GCFID-HP5-B_211228B: 28 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R372550
Method: SW8015C **Analysis Date:** 12/30/2021 12:46 **Prep Date:**
Lab ID: CCV_1228HP567r-W **Units:** mg/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
TEH(Oil Range)	4.7	0.30	5.0		94.0	80	120				
Surr: n-Triacontane	0.20	0.0020	0.20		102.0	80	120				

Associated Samples: **B21121965-001D**

Run ID: Run Order: GCFID-HP5-B_211228B: 29 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R372550
Method: SW8015C **Analysis Date:** 12/30/2021 13:29 **Prep Date:**
Lab ID: CCV_1228HP568r **Units:** mg/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Diesel Range Organics (C10 to C24)	15	0.30	15		97.0	80	120				
Total Extractable Hydrocarbons	15	0.30	15		101.0	80	120				
Surr: o-Terphenyl	0.19	0.0020	0.20		97.0	80	120				

Associated Samples: **B21121965-001D**

Run ID: Run Order: GCFID-HP4-B_220105A: 1 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R372780
Method: SW8015C **Analysis Date:** 01/05/2022 07:47 **Prep Date:**
Lab ID: CCV_0105HP402r-W **Units:** mg/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
TEH(Oil Range)	4.5	0.30	5.0		90.0	80	120				
Surr: n-Triacontane	0.23	0.0020	0.20		115.0	80	120				

Associated Samples: **B21121965-001D**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121965
Project: CV18F0126/60571032.02.46.01

Report Date: 02/14/2022

Run ID: Run Order: GCFID-HP4-B_220105A: 2 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R372780
Method: SW8015C **Analysis Date:** 01/05/2022 08:32 **Prep Date:**
Lab ID: CCV_0105HP403r **Units:** mg/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Diesel Range Organics (C10 to C24)	15	0.30	15		99.0	80	120				
Total Extractable Hydrocarbons	15	0.30	15		103.0	80	120				
Surr: o-Terphenyl	0.21	0.0020	0.20		107.0	80	120				

Associated Samples: **B21121965-001D**

Run ID: Run Order: GCFID-HP4-B_220105A: 12 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R372780
Method: SW8015C **Analysis Date:** 01/05/2022 19:07 **Prep Date:**
Lab ID: CCV_0105HP417r-W **Units:** mg/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
TEH(Oil Range)	4.7	0.30	5.0		93.0	80	120				
Surr: n-Triacontane	0.23	0.0020	0.20		116.0	80	120				

Associated Samples: **B21121965-001D**

Run ID: Run Order: GCFID-HP4-B_220105A: 13 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R372780
Method: SW8015C **Analysis Date:** 01/05/2022 19:51 **Prep Date:**
Lab ID: CCV_0105HP418r **Units:** mg/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Diesel Range Organics (C10 to C24)	14	0.30	15		97.0	80	120				
Total Extractable Hydrocarbons	15	0.30	15		100.0	80	120				
Surr: o-Terphenyl	0.21	0.0020	0.20		103.0	80	120				

Associated Samples: **B21121965-001D**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121965
Project: CV18F0126/60571032.02.46.01

Report Date: 02/14/2022

Run ID: Run Order: GCFID-HP4-B_220106A: 1 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R372868
Method: SW8015C **Analysis Date:** 01/06/2022 18:57 **Prep Date:**
Lab ID: CCV_0106HP404r-W **Units:** mg/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
TEH(Oil Range)	4.4	0.30	5.0		88.0	80	120				
Surr: n-Triacontane	0.20	0.0020	0.20		101.0	80	120				

Associated Samples: **B21121965-001D**

Run ID: Run Order: GCFID-HP4-B_220106A: 2 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R372868
Method: SW8015C **Analysis Date:** 01/06/2022 19:43 **Prep Date:**
Lab ID: CCV_0106HP405r **Units:** mg/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Diesel Range Organics (C10 to C24)	14	0.30	15		94.0	80	120				
Total Extractable Hydrocarbons	15	0.30	15		97.0	80	120				
Surr: o-Terphenyl	0.19	0.0020	0.20		97.0	80	120				

Associated Samples: **B21121965-001D**

Run ID: Run Order: GCFID-HP4-B_220106A: 12 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R372868
Method: SW8015C **Analysis Date:** 01/07/2022 06:16 **Prep Date:**
Lab ID: CCV_0106HP419r-W **Units:** mg/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
TEH(Oil Range)	4.4	0.30	5.0		89.0	80	120				
Surr: n-Triacontane	0.20	0.0020	0.20		99.0	80	120				

Associated Samples: **B21121965-001D**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121965
Project: CV18F0126/60571032.02.46.01

Report Date: 02/14/2022

Run ID: Run Order: GCFID-HP4-B_220106A: 13 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R372868
Method: SW8015C **Analysis Date:** 01/07/2022 07:01 **Prep Date:**
Lab ID: CCV_0106HP420r **Units:** mg/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Diesel Range Organics (C10 to C24)	14	0.30	15		96.0	80	120				
Total Extractable Hydrocarbons	15	0.30	15		100.0	80	120				
Surr: o-Terphenyl	0.20	0.0020	0.20		100.0	80	120				

Associated Samples: **B21121965-001D**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121965
Project: CV18F0126/60571032.02.46.01

Report Date: 02/14/2022

Run ID: Run Order: FID-HEADSPACE_211228A: 4 **SampType:** Method Blank **Batch ID:** R372437
Method: SW8015M **Analysis Date:** 12/28/2021 10:48 **Prep Date:**
Lab ID: MBLK **Units:** mg/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Methane	ND	0.0010			0.0						

Associated Samples: B21121965-001I, B21121965-006A

Run ID: Run Order: FID-HEADSPACE_211228A: 2 **SampType:** Laboratory Control Sample **Batch ID:** R372437
Method: SW8015M **Analysis Date:** 12/28/2021 09:09 **Prep Date:**
Lab ID: LCS **Units:** ppm **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Methane	96	2.0	100		96.0	85	115				

Associated Samples: B21121965-001I, B21121965-006A

Run ID: Run Order: FID-HEADSPACE_211228A: 3 **SampType:** Laboratory Control Sample Duplicate **Batch ID:** R372437
Method: SW8015M **Analysis Date:** 12/28/2021 10:40 **Prep Date:**
Lab ID: LCSD **Units:** ppm **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Methane	95	2.0	100		95.0	85	115	96	0.6	20.0	

Associated Samples: B21121965-001I, B21121965-006A



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121965
Project: CV18F0126/60571032.02.46.01

Report Date: 02/14/2022

Run ID: Run Order: FID-HEADSPACE_211228A: 8
Method: SW8015M
Lab ID: B21121959-001IDUP
SampType: Sample Duplicate
Analysis Date: 12/28/2021 11:28
Units: mg/L

Batch ID: R372437
Prep Date:
Prep Method:

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Methane	2.8	0.15			0.0			2.9	0.4	20.0	

Associated Samples: B21121965-001I, B21121965-006A

Run ID: Run Order: FID-HEADSPACE_211228A: 15
Method: SW8015M
Lab ID: B21121981-001IDUP
SampType: Sample Duplicate
Analysis Date: 12/28/2021 12:42
Units: mg/L

Batch ID: R372437
Prep Date:
Prep Method:

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Methane	ND	0.0020			0.0			0.0		20.0	

Associated Samples: B21121965-001I, B21121965-006A

Run ID: Run Order: FID-HEADSPACE_211228A: 1
Method: SW8015M
Lab ID: CCV
SampType: Continuing Calibration Verification Standard
Analysis Date: 12/28/2021 09:04
Units: ppm

Batch ID: R372437
Prep Date:
Prep Method:

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Methane	97	2.0	100		97.0	85	115				

Associated Samples: B21121965-001I, B21121965-006A



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121965
Project: CV18F0126/60571032.02.46.01

Report Date: 02/14/2022

Run ID: Run Order: FID-HEADSPACE_211228A: 20 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R372437
Method: SW8015M **Analysis Date:** 12/28/2021 13:20 **Prep Date:**
Lab ID: CCV **Units:** ppm **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Methane	97	2.0	100		97.0	85	115				

Associated Samples: B21121965-001I, B21121965-006A



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121965
Project: CV18F0126/60571032.02.46.01

Report Date: 02/14/2022

Run ID: Run Order: SV5975.I_220104A: 15 **SampType:** Method Blank **Batch ID:** 162528
Method: SW8270C **Analysis Date:** 01/04/2022 20:45 **Prep Date:** 12/28/2021 10:00
Lab ID: MB-162528 **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1-Methylnaphthalene	ND	0.10									
2-Methylnaphthalene	ND	0.10									
Naphthalene	ND	0.10									

Associated Samples: **B21121965-001C**

Run ID: Run Order: SV5975.I_220104A: 16 **SampType:** Method Blank **Batch ID:** 162528
Method: SW8270C **Analysis Date:** 01/04/2022 21:17 **Prep Date:** 12/28/2021 10:00
Lab ID: MB-162528 **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Surr: 2-Fluorobiphenyl	61	2.0	100		61.0	53	106				
Surr: Nitrobenzene-d5	63	2.0	100		63.0	55	111				
Surr: Terphenyl-d14	107	2.0	100		107.0	58	132				

Associated Samples: **B21121965-001C**

Run ID: Run Order: SV5973N.I_220110A: 4 **SampType:** Method Blank **Batch ID:** 162528
Method: SW8270C **Analysis Date:** 01/10/2022 19:43 **Prep Date:** 12/28/2021 10:00
Lab ID: MB-162528 **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	ND	5.0									
1,2-Dichlorobenzene	ND	5.0									
1,3-Dichlorobenzene	ND	5.0									
1,4-Dichlorobenzene	ND	5.0									
1-Methylnaphthalene	ND	5.0									
2,4,5-Trichlorophenol	ND	5.0									



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121965
Project: CV18F0126/60571032.02.46.01

Report Date: 02/14/2022

Run ID: Run Order: SV5973N.I_220110A: 4
Method: SW8270C
Lab ID: MB-162528

SampType: Method Blank
Analysis Date: 01/10/2022 19:43
Units: ug/L

Batch ID: 162528
Prep Date: 12/28/2021 10:00
Prep Method: SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
2,4,6-Trichlorophenol	ND	5.0									
2,4-Dichlorophenol	ND	5.0									
2,4-Dimethylphenol	ND	5.0									
2,4-Dinitrophenol	ND	10									
2,4-Dinitrotoluene	ND	5.0									
2,6-Dinitrotoluene	ND	5.0									
2-Chloronaphthalene	ND	5.0									
2-Chlorophenol	ND	5.0									
2-Methylnaphthalene	ND	5.0									
2-Nitrophenol	ND	5.0									
3,3'-Dichlorobenzidine	ND	10									
4,6-Dinitro-2-methylphenol	ND	10									
4-Bromophenyl phenyl ether	ND	5.0									
4-Chloro-3-methylphenol	ND	5.0									
4-Chlorophenol	ND	5.0									
4-Chlorophenyl phenyl ether	ND	5.0									
4-Nitrophenol	ND	10									
Acenaphthene	ND	5.0									
Acenaphthylene	ND	5.0									
Anthracene	ND	5.0									
Azobenzene	ND	5.0									
Benzidine	ND	10									
Benzo(a)anthracene	ND	5.0									
Benzo(a)pyrene	ND	5.0									
Benzo(b)fluoranthene	ND	5.0									
Benzo(g,h,i)perylene	ND	5.0									
Benzo(k)fluoranthene	ND	5.0									



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121965
Project: CV18F0126/60571032.02.46.01

Report Date: 02/14/2022

Run ID: Run Order: SV5973N.I_220110A: 4 **SampType:** Method Blank **Batch ID:** 162528
Method: SW8270C **Analysis Date:** 01/10/2022 19:43 **Prep Date:** 12/28/2021 10:00
Lab ID: MB-162528 **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
bis(-2-chloroethoxy)Methane	ND	5.0									
bis(-2-chloroethyl)Ether	ND	5.0									
bis(2-chloroisopropyl)Ether	ND	5.0									
bis(2-ethylhexyl)Phthalate	ND	5.0									
Butylbenzylphthalate	ND	5.0									
Chrysene	ND	5.0									
Dibenzo(a,h)anthracene	ND	5.0									
Diethyl phthalate	ND	5.0									
Dimethyl phthalate	ND	5.0									
Di-n-butyl phthalate	ND	5.0									
Di-n-octyl phthalate	ND	5.0									
Fluoranthene	ND	5.0									
Fluorene	ND	5.0									
Hexachlorobenzene	ND	5.0									
Hexachlorobutadiene	ND	5.0									
Hexachlorocyclopentadiene	ND	5.0									
Hexachloroethane	ND	5.0									
Indeno(1,2,3-cd)pyrene	ND	5.0									
Isophorone	ND	5.0									
m+p-Cresols	ND	5.0									
Naphthalene	ND	5.0									
Nitrobenzene	ND	5.0									
n-Nitrosodimethylamine	ND	5.0									
n-Nitroso-di-n-propylamine	ND	5.0									
n-Nitrosodiphenylamine	ND	10									
o-Cresol	ND	5.0									
Pentachlorophenol	ND	10									



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121965
Project: CV18F0126/60571032.02.46.01

Report Date: 02/14/2022

Run ID: Run Order: SV5973N.I_220110A: 4 **SampType:** Method Blank **Batch ID:** 162528
Method: SW8270C **Analysis Date:** 01/10/2022 19:43 **Prep Date:** 12/28/2021 10:00
Lab ID: MB-162528 **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Phenanthrene	ND	5.0									
Phenol	ND	5.0									
Pyrene	ND	5.0									
Pyridine	ND	5.0									
Surr: 2,4,6-Tribromophenol	158	5.0	200		79.0	43	140				
Surr: 2-Fluorobiphenyl	65	5.0	100		65.0	44	119				
Surr: 2-Fluorophenol	80	5.0	200		40.0	19	119				
Surr: Nitrobenzene-d5	73	5.0	100		73.0	44	120				
Surr: Phenol-d5	87	5.0	200		43.0	10	65				
Surr: Terphenyl-d14	106	5.0	100		106.0	50	134				

Associated Samples: **B21121965-001C**

Run ID: Run Order: SV5975.I_220104A: 17 **SampType:** Laboratory Control Sample **Batch ID:** 162528
Method: SW8270C **Analysis Date:** 01/04/2022 21:50 **Prep Date:** 12/28/2021 10:00
Lab ID: LLCS-162528 **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1-Methylnaphthalene	3.7	0.10	5.0		74.0	41	115				
2-Methylnaphthalene	3.3	0.10	5.0		66.0	39	114				
Naphthalene	3.0	0.10	5.0		59.0	43	114				
Surr: 2-Fluorobiphenyl	3.8	0.10	5.0		76.0	53	106				
Surr: Nitrobenzene-d5	4.0	0.10	5.0		81.0	55	111				
Surr: Terphenyl-d14	5.3	0.10	5.0		105.0	58	132				

Associated Samples: **B21121965-001C**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121965
Project: CV18F0126/60571032.02.46.01

Report Date: 02/14/2022

Run ID: Run Order: SV5975.I_220104A: 18 **SampType:** Laboratory Control Sample Duplicate **Batch ID:** 162528
Method: SW8270C **Analysis Date:** 01/04/2022 22:22 **Prep Date:** 12/28/2021 10:00
Lab ID: LLCSD-162528 **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1-Methylnaphthalene	3.1	0.10	5.0		63.0	41	115	3.7	17.0	40.0	
2-Methylnaphthalene	2.8	0.10	5.0		56.0	39	114	3.3	17.0	40.0	
Naphthalene	2.6	0.10	5.0		52.0	43	114	3.0	14.0	40.0	
Surr: 2-Fluorobiphenyl	3.8	0.10	5.0		76.0	53	106	0.0	0.0		
Surr: Nitrobenzene-d5	3.1	0.10	5.0		61.0	55	111	0.0	0.0		
Surr: Terphenyl-d14	5.3	0.10	5.0		107.0	58	132	0.0	0.0		

Associated Samples: **B21121965-001C**

Run ID: Run Order: SV5973N.I_220110A: 5 **SampType:** Laboratory Control Sample **Batch ID:** 162528
Method: SW8270C **Analysis Date:** 01/10/2022 20:15 **Prep Date:** 12/28/2021 10:00
Lab ID: LCS-162528 **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	73	10	100		73.0	29	116				
1,2-Dichlorobenzene	71	10	100		71.0	32	111				
1,3-Dichlorobenzene	66	10	100		66.0	28	110				
1,4-Dichlorobenzene	67	10	100		67.0	29	112				
1-Methylnaphthalene	90	10	100		90.0	41	119				
2,4,5-Trichlorophenol	79	10	100		79.0	53	123				
2,4,6-Trichlorophenol	81	10	100		81.0	50	125				
2,4-Dichlorophenol	75	10	100		75.0	47	121				
2,4-Dimethylphenol	64	10	100		64.0	31	124				
2,4-Dinitrophenol	85	10	100		85.0	23	142				
2,4-Dinitrotoluene	93	10	100		93.0	57	128				
2,6-Dinitrotoluene	103	10	100		103.0	50	118				
2-Chloronaphthalene	96	10	100		96.0	40	116				



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121965
Project: CV18F0126/60571032.02.46.01

Report Date: 02/14/2022

Run ID: Run Order: SV5973N.I_220110A: 5 **SampType:** Laboratory Control Sample **Batch ID:** 162528
Method: SW8270C **Analysis Date:** 01/10/2022 20:15 **Prep Date:** 12/28/2021 10:00
Lab ID: LCS-162528 **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
2-Chlorophenol	66	10	100		66.0	38	117				
2-Methylnaphthalene	96	10	100		96.0	40	121				
2-Nitrophenol	83	10	100		83.0	47	123				
3,3'-Dichlorobenzidine	70	10	100		70.0	27	129				
4,6-Dinitro-2-methylphenol	90	10	100		90.0	44	137				
4-Bromophenyl phenyl ether	100	10	100		100.0	55	124				
4-Chloro-3-methylphenol	92	10	100		92.0	52	119				
4-Chlorophenol	80	10	100		80.0	41	81				
4-Chlorophenyl phenyl ether	101	10	100		101.0	53	121				
4-Nitrophenol	37	10	100		37.0	15	36				S
Acenaphthene	102	10	100		102.0	47	122				
Acenaphthylene	91	10	100		91.0	41	130				
Anthracene	106	10	100		106.0	57	123				
Azobenzene	82	10	100		82.0	61	116				
Benzidine	ND	10	100		8.0	10	100				S
Benzo(a)anthracene	106	10	100		106.0	58	125				
Benzo(a)pyrene	100	10	100		100.0	54	128				
Benzo(b)fluoranthene	106	10	100		106.0	53	131				
Benzo(g,h,i)perylene	105	10	100		105.0	50	134				
Benzo(k)fluoranthene	103	10	100		103.0	57	129				
bis(-2-chloroethoxy)Methane	103	10	100		103.0	48	120				
bis(-2-chloroethyl)Ether	85	10	100		85.0	43	118				
bis(2-chloroisopropyl)Ether	66	10	100		66.0	37	130				
bis(2-ethylhexyl)Phthalate	99	10	100		99.0	55	135				
Butylbenzylphthalate	102	10	100		102.0	53	134				
Chrysene	106	10	100		106.0	59	123				
Dibenzo(a,h)anthracene	101	10	100		101.0	51	134				



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121965
Project: CV18F0126/60571032.02.46.01

Report Date: 02/14/2022

Run ID: Run Order: SV5973N.I_220110A: 5 **SampType:** Laboratory Control Sample **Batch ID:** 162528
Method: SW8270C **Analysis Date:** 01/10/2022 20:15 **Prep Date:** 12/28/2021 10:00
Lab ID: LCS-162528 **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Diethyl phthalate	102	10	100		102.0	56	125				
Dimethyl phthalate	100	10	100		100.0	45	127				
Di-n-butyl phthalate	99	10	100		99.0	59	127				
Di-n-octyl phthalate	105	10	100		105.0	51	140				
Fluoranthene	100	10	100		100.0	57	128				
Fluorene	101	10	100		101.0	52	124				
Hexachlorobenzene	90	10	100		90.0	53	125				
Hexachlorobutadiene	66	10	100		66.0	22	124				
Hexachlorocyclopentadiene	76	10	100		76.0	39	91				
Hexachloroethane	54	10	100		54.0	21	115				
Indeno(1,2,3-cd)pyrene	96	10	100		96.0	52	134				
Isophorone	98	10	100		98.0	42	124				
m+p-Cresols	78	10	100		78.0	29	110				
Naphthalene	92	10	100		92.0	40	121				
Nitrobenzene	75	10	100		75.0	45	121				
n-Nitrosodimethylamine	42	10	100		42.0	20	45				
n-Nitroso-di-n-propylamine	97	10	100		97.0	49	119				
n-Nitrosodiphenylamine	105	10	100		105.0	51	123				
o-Cresol	79	10	100		79.0	30	117				
Pentachlorophenol	96	10	100		96.0	35	138				
Phenanthrene	100	10	100		100.0	59	120				
Phenol	56	10	100		56.0	37	75				
Pyrene	98	10	100		98.0	57	126				
Pyridine	31	10	100		31.0	16	45				
Surr: 2,4,6-Tribromophenol	185	10	200		93.0	43	140				
Surr: 2-Fluorobiphenyl	94	10	100		94.0	44	119				
Surr: 2-Fluorophenol	83	10	200		42.0	19	119				



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121965
Project: CV18F0126/60571032.02.46.01

Report Date: 02/14/2022

Run ID: Run Order: SV5973N.I_220110A: 5 **SampType:** Laboratory Control Sample **Batch ID:** 162528
Method: SW8270C **Analysis Date:** 01/10/2022 20:15 **Prep Date:** 12/28/2021 10:00
Lab ID: LCS-162528 **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Surr: Nitrobenzene-d5	79	10	100		79.0	44	120				
Surr: Phenol-d5	97	10	200		49.0	10	65				
Surr: Terphenyl-d14	105	10	100		105.0	50	134				

Associated Samples: **B21121965-001C**

Run ID: Run Order: SV5973N.I_220110A: 6 **SampType:** Laboratory Control Sample Duplicate **Batch ID:** 162528
Method: SW8270C **Analysis Date:** 01/10/2022 20:48 **Prep Date:** 12/28/2021 10:00
Lab ID: LCSD-162528 **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	73	10	100		73.0	29	116	73	0.8	20.0	
1,2-Dichlorobenzene	67	10	100		67.0	32	111	71	6.6	20.0	
1,3-Dichlorobenzene	61	10	100		61.0	28	110	66	7.6	20.0	
1,4-Dichlorobenzene	63	10	100		63.0	29	112	67	5.5	20.0	
1-Methylnaphthalene	89	10	100		89.0	41	119	90	1.2	20.0	
2,4,5-Trichlorophenol	83	10	100		83.0	53	123	79	4.6	20.0	
2,4,6-Trichlorophenol	86	10	100		86.0	50	125	81	5.4	20.0	
2,4-Dichlorophenol	74	10	100		74.0	47	121	75	1.5	20.0	
2,4-Dimethylphenol	50	10	100		50.0	31	124	64	26.0	20.0	R
2,4-Dinitrophenol	84	10	100		84.0	23	142	85	2.1	20.0	
2,4-Dinitrotoluene	90	10	100		90.0	57	128	93	4.0	20.0	
2,6-Dinitrotoluene	105	10	100		105.0	50	118	103	1.5	20.0	
2-Chloronaphthalene	93	10	100		93.0	40	116	96	3.3	20.0	
2-Chlorophenol	64	10	100		64.0	38	117	66	2.5	20.0	
2-Methylnaphthalene	95	10	100		95.0	40	121	96	0.4	20.0	
2-Nitrophenol	81	10	100		81.0	47	123	83	2.5	20.0	

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121965
Project: CV18F0126/60571032.02.46.01

Report Date: 02/14/2022

Run ID: Run Order: SV5973N.I_220110A: 6 **SampType:** Laboratory Control Sample Duplicate **Batch ID:** 162528
Method: SW8270C **Analysis Date:** 01/10/2022 20:48 **Prep Date:** 12/28/2021 10:00
Lab ID: LCSD-162528 **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
3,3'-Dichlorobenzidine	70	10	100		70.0	27	129	70	0.3	20.0	
4,6-Dinitro-2-methylphenol	88	10	100		88.0	44	137	90	1.8	20.0	
4-Bromophenyl phenyl ether	99	10	100		99.0	55	124	100	0.2	20.0	
4-Chloro-3-methylphenol	90	10	100		90.0	52	119	92	3.0	20.0	
4-Chlorophenol	75	10	100		75.0	41	81	80	6.7	20.0	
4-Chlorophenyl phenyl ether	101	10	100		101.0	53	121	101	0.4	20.0	
4-Nitrophenol	38	10	100		38.0	15	36	37	2.7	20.0	S
Acenaphthene	101	10	100		101.0	47	122	102	0.9	20.0	
Acenaphthylene	92	10	100		92.0	41	130	91	0.3	20.0	
Anthracene	105	10	100		105.0	57	123	106	1.0	20.0	
Azobenzene	82	10	100		82.0	61	116	82	0.5	20.0	
Benzidine	ND	10	100		5.0	10	100	7.6		20.0	S
Benzo(a)anthracene	103	10	100		103.0	58	125	106	2.4	20.0	
Benzo(a)pyrene	99	10	100		99.0	54	128	100	1.6	20.0	
Benzo(b)fluoranthene	102	10	100		102.0	53	131	106	3.9	20.0	
Benzo(g,h,i)perylene	100	10	100		100.0	50	134	105	4.9	20.0	
Benzo(k)fluoranthene	99	10	100		99.0	57	129	103	4.2	20.0	
bis(-2-chloroethoxy)Methane	101	10	100		101.0	48	120	103	1.3	20.0	
bis(-2-chloroethyl)Ether	80	10	100		80.0	43	118	85	5.3	20.0	
bis(2-chloroisopropyl)Ether	66	10	100		66.0	37	130	66	0.1	20.0	
bis(2-ethylhexyl)Phthalate	99	10	100		99.0	55	135	99	0.4	20.0	
Butylbenzylphthalate	100	10	100		100.0	53	134	102	1.8	20.0	
Chrysene	100	10	100		100.0	59	123	106	5.8	20.0	
Dibenzo(a,h)anthracene	101	10	100		101.0	51	134	101	0.2	20.0	
Diethyl phthalate	101	10	100		101.0	56	125	102	1.4	20.0	
Dimethyl phthalate	98	10	100		98.0	45	127	100	2.4	20.0	
Di-n-butyl phthalate	99	10	100		99.0	59	127	99	0.4	20.0	



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121965
Project: CV18F0126/60571032.02.46.01

Report Date: 02/14/2022

Run ID: Run Order: SV5973N.I_220110A: 6 **SampType:** Laboratory Control Sample Duplicate **Batch ID:** 162528
Method: SW8270C **Analysis Date:** 01/10/2022 20:48 **Prep Date:** 12/28/2021 10:00
Lab ID: LCSD-162528 **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Di-n-octyl phthalate	102	10	100		102.0	51	140	105	2.7	20.0	
Fluoranthene	97	10	100		97.0	57	128	100	3.4	20.0	
Fluorene	96	10	100		96.0	52	124	101	5.2	20.0	
Hexachlorobenzene	87	10	100		87.0	53	125	90	3.4	20.0	
Hexachlorobutadiene	62	10	100		62.0	22	124	66	6.4	20.0	
Hexachlorocyclopentadiene	74	10	100		74.0	39	91	76	2.1	20.0	
Hexachloroethane	52	10	100		52.0	21	115	54	3.5	20.0	
Indeno(1,2,3-cd)pyrene	93	10	100		93.0	52	134	96	2.4	20.0	
Isophorone	100	10	100		100.0	42	124	98	2.2	20.0	
m+p-Cresols	75	10	100		75.0	29	110	78	3.9	20.0	
Naphthalene	90	10	100		90.0	40	121	92	2.8	20.0	
Nitrobenzene	77	10	100		77.0	45	121	75	2.0	20.0	
n-Nitrosodimethylamine	43	10	100		43.0	20	45	42	2.1	20.0	
n-Nitroso-di-n-propylamine	98	10	100		98.0	49	119	97	0.4	20.0	
n-Nitrosodiphenylamine	99	10	100		99.0	51	123	105	5.8	20.0	
o-Cresol	76	10	100		76.0	30	117	79	3.2	20.0	
Pentachlorophenol	96	10	100		96.0	35	138	96	0.8	20.0	
Phenanthrene	100	10	100		100.0	59	120	100	0.1	20.0	
Phenol	52	10	100		52.0	37	75	56	7.3	20.0	
Pyrene	95	10	100		95.0	57	126	98	3.8	20.0	
Pyridine	34	10	100		34.0	16	45	31	11.0	20.0	
Surr: 2,4,6-Tribromophenol	178	10	200		89.0	43	140	0.0	0.0		
Surr: 2-Fluorobiphenyl	88	10	100		88.0	44	119	0.0	0.0		
Surr: 2-Fluorophenol	80	10	200		40.0	19	119	0.0	0.0		
Surr: Nitrobenzene-d5	77	10	100		77.0	44	120	0.0	0.0		
Surr: Phenol-d5	93	10	200		47.0	10	65	0.0	0.0		



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121965
Project: CV18F0126/60571032.02.46.01

Report Date: 02/14/2022

Run ID: Run Order: SV5973N.I_220110A: 6 **SampType:** Laboratory Control Sample Duplicate **Batch ID:** 162528
Method: SW8270C **Analysis Date:** 01/10/2022 20:48 **Prep Date:** 12/28/2021 10:00
Lab ID: LCSD-162528 **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Surr: Terphenyl-d14	103	10	100		103.0	50	134	0.0	0.0		

Associated Samples: **B21121965-001C**

Run ID: Run Order: SV5975.I_220105A: 18 **SampType:** Sample Matrix Spike **Batch ID:** 162528
Method: SW8270C **Analysis Date:** 01/05/2022 20:27 **Prep Date:** 12/28/2021 10:01
Lab ID: B21121981-001CLMS **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1-Methylnaphthalene	3.8	0.10	5.0	0.0	76.0	41	115				
2-Methylnaphthalene	3.8	0.10	5.0	0.0	76.0	39	114				
Naphthalene	3.8	0.10	5.0	0.0	76.0	43	114				
Surr: 2-Fluorobiphenyl	4.0	0.10	5.0	0.0	79.0	53	106				
Surr: Nitrobenzene-d5	3.6	0.10	5.0	0.0	72.0	55	111				
Surr: Terphenyl-d14	4.8	0.10	5.0	0.0	95.0	58	132				

Associated Samples: **B21121965-001C**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121965
Project: CV18F0126/60571032.02.46.01

Report Date: 02/14/2022

Run ID: Run Order: SV5975.I_220105A: 19 **SampType:** Sample Matrix Spike Duplicate **Batch ID:** 162528
Method: SW8270C **Analysis Date:** 01/05/2022 20:59 **Prep Date:** 12/28/2021 10:01
Lab ID: B21121981-001CLMSD **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1-Methylnaphthalene	3.5	0.10	5.2	0.0	66.0	41	115	3.8	11.0	40.0	
2-Methylnaphthalene	3.3	0.10	5.2	0.0	64.0	39	114	3.8	14.0	40.0	
Naphthalene	3.4	0.10	5.2	0.0	65.0	43	114	3.8	12.0	40.0	
Surr: 2-Fluorobiphenyl	3.9	0.10	5.2	0.0	73.0	53	106	0.0	0.0		
Surr: Nitrobenzene-d5	3.4	0.10	5.2	0.0	64.0	55	111	0.0	0.0		
Surr: Terphenyl-d14	5.0	0.10	5.2	0.0	96.0	58	132	0.0	0.0		

Associated Samples: **B21121965-001C**

Run ID: Run Order: SV5973N.I_220110A: 16 **SampType:** Sample Matrix Spike **Batch ID:** 162528
Method: SW8270C **Analysis Date:** 01/11/2022 02:09 **Prep Date:** 12/28/2021 10:01
Lab ID: B21121981-001CMS **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	75	10	97	0.0	77.0	29	116				
1,2-Dichlorobenzene	68	10	97	0.0	70.0	32	111				
1,3-Dichlorobenzene	66	10	97	0.0	68.0	28	110				
1,4-Dichlorobenzene	66	10	97	0.0	68.0	29	112				
1-Methylnaphthalene	79	10	97	0.0	81.0	41	119				
2,4,5-Trichlorophenol	81	10	97	0.0	83.0	53	123				
2,4,6-Trichlorophenol	90	10	97	0.0	92.0	50	125				
2,4-Dichlorophenol	72	10	97	0.0	74.0	47	121				
2,4-Dimethylphenol	58	10	97	0.0	60.0	31	124				
2,4-Dinitrophenol	77	10	97	0.0	79.0	23	142				
2,4-Dinitrotoluene	94	10	97	0.0	97.0	57	128				
2,6-Dinitrotoluene	88	10	97	0.0	91.0	50	118				
2-Chloronaphthalene	85	10	97	0.0	87.0	40	116				



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121965
Project: CV18F0126/60571032.02.46.01

Report Date: 02/14/2022

Run ID: Run Order: SV5973N.I_220110A: 16 **SampType:** Sample Matrix Spike **Batch ID:** 162528
Method: SW8270C **Analysis Date:** 01/11/2022 02:09 **Prep Date:** 12/28/2021 10:01
Lab ID: B21121981-001CMS **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
2-Chlorophenol	65	10	97	0.0	67.0	38	117				
2-Methylnaphthalene	87	10	97	0.0	90.0	40	121				
2-Nitrophenol	83	10	97	0.0	86.0	47	123				
3,3'-Dichlorobenzidine	61	10	97	0.0	62.0	27	129				
4,6-Dinitro-2-methylphenol	82	10	97	0.0	85.0	44	137				
4-Bromophenyl phenyl ether	92	10	97	0.0	95.0	55	124				
4-Chloro-3-methylphenol	85	10	97	0.0	88.0	52	119				
4-Chlorophenol	80	10	97	0.0	82.0	41	81				S
4-Chlorophenyl phenyl ether	87	10	97	0.0	90.0	53	121				
4-Nitrophenol	34	10	97	0.0	35.0	15	36				
Acenaphthene	102	10	97	0.0	105.0	47	122				
Acenaphthylene	87	10	97	0.0	90.0	41	130				
Anthracene	94	10	97	0.0	97.0	57	123				
Azobenzene	88	10	97	0.0	91.0	61	116				
Benzidine	ND	10	97	0.0	3.0	10	100				S
Benzo(a)anthracene	100	10	97	0.0	103.0	58	125				
Benzo(a)pyrene	93	10	97	0.0	95.0	54	128				
Benzo(b)fluoranthene	94	10	97	0.0	97.0	53	131				
Benzo(g,h,i)perylene	99	10	97	0.0	101.0	50	134				
Benzo(k)fluoranthene	92	10	97	0.0	94.0	57	129				
bis(-2-chloroethoxy)Methane	85	10	97	0.0	87.0	48	120				
bis(-2-chloroethyl)Ether	86	10	97	0.0	88.0	43	118				
bis(2-chloroisopropyl)Ether	66	10	97	0.0	68.0	37	130				
bis(2-ethylhexyl)Phthalate	95	10	97	0.0	98.0	55	135				
Butylbenzylphthalate	100	10	97	0.0	103.0	53	134				
Chrysene	100	10	97	0.0	103.0	59	123				
Dibenzo(a,h)anthracene	96	10	97	0.0	99.0	51	134				



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121965
Project: CV18F0126/60571032.02.46.01

Report Date: 02/14/2022

Run ID: Run Order: SV5973N.I_220110A: 16 **SampType:** Sample Matrix Spike **Batch ID:** 162528
Method: SW8270C **Analysis Date:** 01/11/2022 02:09 **Prep Date:** 12/28/2021 10:01
Lab ID: B21121981-001CMS **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Diethyl phthalate	103	10	97	0.0	106.0	56	125				
Dimethyl phthalate	103	10	97	0.0	106.0	45	127				
Di-n-butyl phthalate	101	10	97	0.0	104.0	59	127				
Di-n-octyl phthalate	90	10	97	0.0	93.0	51	140				
Fluoranthene	96	10	97	0.0	99.0	57	128				
Fluorene	95	10	97	0.0	97.0	52	124				
Hexachlorobenzene	92	10	97	0.0	95.0	53	125				
Hexachlorobutadiene	63	10	97	0.0	65.0	22	124				
Hexachlorocyclopentadiene	63	10	97	0.0	65.0	39	91				
Hexachloroethane	57	10	97	0.0	58.0	21	115				
Indeno(1,2,3-cd)pyrene	90	10	97	0.0	93.0	52	134				
Isophorone	90	10	97	0.0	92.0	42	124				
m+p-Cresols	69	10	97	0.0	71.0	29	110				
Naphthalene	85	10	97	0.0	87.0	40	121				
Nitrobenzene	80	10	97	0.0	82.0	45	121				
n-Nitrosodimethylamine	41	10	97	0.0	42.0	20	45				
n-Nitroso-di-n-propylamine	90	10	97	0.0	92.0	49	119				
n-Nitrosodiphenylamine	96	10	97	0.0	99.0	51	123				
o-Cresol	71	10	97	0.0	73.0	30	117				
Pentachlorophenol	102	10	97	0.0	105.0	35	138				
Phenanthrene	101	10	97	0.0	104.0	59	120				
Phenol	47	10	97	0.0	48.0	37	75				
Pyrene	92	10	97	0.0	95.0	57	126				
Pyridine	25	10	97	0.0	26.0	16	45				
Surr: 2,4,6-Tribromophenol	189	10	194	0.0	97.0	43	140				
Surr: 2-Fluorobiphenyl	86	10	97	0.0	88.0	44	119				
Surr: 2-Fluorophenol	80	10	194	0.0	41.0	19	119				



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121965
Project: CV18F0126/60571032.02.46.01

Report Date: 02/14/2022

Run ID: Run Order: SV5973N.I_220110A: 16 **SampType:** Sample Matrix Spike **Batch ID:** 162528
Method: SW8270C **Analysis Date:** 01/11/2022 02:09 **Prep Date:** 12/28/2021 10:01
Lab ID: B21121981-001CMS **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Surr: Nitrobenzene-d5	74	10	97	0.0	76.0	44	120				
Surr: Phenol-d5	85	10	194	0.0	44.0	10	65				
Surr: Terphenyl-d14	102	10	97	0.0	105.0	50	134				

Associated Samples: **B21121965-001C**

Run ID: Run Order: SV5973N.I_220110A: 17 **SampType:** Sample Matrix Spike Duplicate **Batch ID:** 162528
Method: SW8270C **Analysis Date:** 01/11/2022 02:41 **Prep Date:** 12/28/2021 10:01
Lab ID: B21121981-001CMSD **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	69	10	98	0.0	70.0	29	116	75	7.8	20.0	
1,2-Dichlorobenzene	61	10	98	0.0	62.0	32	111	68	11.0	20.0	
1,3-Dichlorobenzene	59	10	98	0.0	60.0	28	110	66	11.0	20.0	
1,4-Dichlorobenzene	60	10	98	0.0	62.0	29	112	66	9.4	20.0	
1-Methylnaphthalene	73	10	98	0.0	75.0	41	119	79	7.5	20.0	
2,4,5-Trichlorophenol	92	10	98	0.0	94.0	53	123	81	13.0	20.0	
2,4,6-Trichlorophenol	99	10	98	0.0	101.0	50	125	90	9.6	20.0	
2,4-Dichlorophenol	78	10	98	0.0	80.0	47	121	72	9.0	20.0	
2,4-Dimethylphenol	57	10	98	0.0	58.0	31	124	58	2.1	20.0	
2,4-Dinitrophenol	86	10	98	0.0	88.0	23	142	77	12.0	20.0	
2,4-Dinitrotoluene	91	10	98	0.0	93.0	57	128	94	3.7	20.0	
2,6-Dinitrotoluene	82	10	98	0.0	84.0	50	118	88	7.0	20.0	
2-Chloronaphthalene	82	10	98	0.0	84.0	40	116	85	3.6	20.0	
2-Chlorophenol	69	10	98	0.0	71.0	38	117	65	6.1	20.0	
2-Methylnaphthalene	79	10	98	0.0	81.0	40	121	87	9.5	20.0	
2-Nitrophenol	88	10	98	0.0	89.0	47	123	83	5.4	20.0	



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121965
Project: CV18F0126/60571032.02.46.01

Report Date: 02/14/2022

Run ID: Run Order: SV5973N.I_220110A: 17 **SampType:** Sample Matrix Spike Duplicate **Batch ID:** 162528
Method: SW8270C **Analysis Date:** 01/11/2022 02:41 **Prep Date:** 12/28/2021 10:01
Lab ID: B21121981-001CMSD **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
3,3'-Dichlorobenzidine	78	10	98	0.0	79.0	27	129	61	24.0	20.0	R
4,6-Dinitro-2-methylphenol	85	10	98	0.0	87.0	44	137	82	3.0	20.0	
4-Bromophenyl phenyl ether	91	10	98	0.0	92.0	55	124	92	2.0	20.0	
4-Chloro-3-methylphenol	87	10	98	0.0	89.0	52	119	85	1.9	20.0	
4-Chlorophenol	82	10	98	0.0	84.0	41	81	80	3.3	20.0	S
4-Chlorophenyl phenyl ether	89	10	98	0.0	91.0	53	121	87	2.2	20.0	
4-Nitrophenol	40	10	98	0.0	41.0	15	36	34	15.0	20.0	S
Acenaphthene	98	10	98	0.0	100.0	47	122	102	4.1	20.0	
Acenaphthylene	86	10	98	0.0	87.0	41	130	87	1.7	20.0	
Anthracene	93	10	98	0.0	95.0	57	123	94	0.5	20.0	
Azobenzene	83	10	98	0.0	85.0	61	116	88	5.8	20.0	
Benzidine	ND	10	98	0.0	4.0	10	100	3.1		20.0	S
Benzo(a)anthracene	108	10	98	0.0	110.0	58	125	100	7.2	20.0	
Benzo(a)pyrene	101	10	98	0.0	103.0	54	128	93	8.5	20.0	
Benzo(b)fluoranthene	102	10	98	0.0	104.0	53	131	94	8.1	20.0	
Benzo(g,h,i)perylene	104	10	98	0.0	106.0	50	134	99	5.5	20.0	
Benzo(k)fluoranthene	99	10	98	0.0	101.0	57	129	92	7.5	20.0	
bis(-2-chloroethoxy)Methane	86	10	98	0.0	88.0	48	120	85	1.7	20.0	
bis(-2-chloroethyl)Ether	82	10	98	0.0	84.0	43	118	86	3.7	20.0	
bis(2-chloroisopropyl)Ether	62	10	98	0.0	63.0	37	130	66	6.7	20.0	
bis(2-ethylhexyl)Phthalate	101	10	98	0.0	103.0	55	135	95	6.3	20.0	
Butylbenzylphthalate	110	10	98	0.0	112.0	53	134	100	9.4	20.0	
Chrysene	104	10	98	0.0	106.0	59	123	100	3.1	20.0	
Dibenzo(a,h)anthracene	102	10	98	0.0	104.0	51	134	96	5.7	20.0	
Diethyl phthalate	103	10	98	0.0	105.0	56	125	103	0.3	20.0	
Dimethyl phthalate	107	10	98	0.0	109.0	45	127	103	3.5	20.0	
Di-n-butyl phthalate	105	10	98	0.0	107.0	59	127	101	3.7	20.0	



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121965
Project: CV18F0126/60571032.02.46.01

Report Date: 02/14/2022

Run ID: Run Order: SV5973N.I_220110A: 17 **SampType:** Sample Matrix Spike Duplicate **Batch ID:** 162528
Method: SW8270C **Analysis Date:** 01/11/2022 02:41 **Prep Date:** 12/28/2021 10:01
Lab ID: B21121981-001CMSD **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Di-n-octyl phthalate	101	10	98	0.0	103.0	51	140	90	12.0	20.0	
Fluoranthene	98	10	98	0.0	100.0	57	128	96	1.9	20.0	
Fluorene	91	10	98	0.0	93.0	52	124	95	3.4	20.0	
Hexachlorobenzene	93	10	98	0.0	95.0	53	125	92	1.4	20.0	
Hexachlorobutadiene	65	10	98	0.0	66.0	22	124	63	2.6	20.0	
Hexachlorocyclopentadiene	69	10	98	0.0	70.0	39	91	63	8.9	20.0	
Hexachloroethane	53	10	98	0.0	54.0	21	115	57	7.0	20.0	
Indeno(1,2,3-cd)pyrene	99	10	98	0.0	101.0	52	134	90	9.0	20.0	
Isophorone	90	10	98	0.0	92.0	42	124	90	0.3	20.0	
m+p-Cresols	70	10	98	0.0	72.0	29	110	69	2.1	20.0	
Naphthalene	80	10	98	0.0	81.0	40	121	85	6.2	20.0	
Nitrobenzene	76	10	98	0.0	78.0	45	121	80	4.7	20.0	
n-Nitrosodimethylamine	40	10	98	0.0	41.0	20	45	41	2.1	20.0	
n-Nitroso-di-n-propylamine	93	10	98	0.0	95.0	49	119	90	3.8	20.0	
n-Nitrosodiphenylamine	102	10	98	0.0	105.0	51	123	96	6.4	20.0	
o-Cresol	74	10	98	0.0	75.0	30	117	71	3.4	20.0	
Pentachlorophenol	103	10	98	0.0	106.0	35	138	102	1.6	20.0	
Phenanthrene	97	10	98	0.0	99.0	59	120	101	3.3	20.0	
Phenol	45	10	98	0.0	46.0	37	75	47	2.8	20.0	
Pyrene	95	10	98	0.0	97.0	57	126	92	3.8	20.0	
Pyridine	26	10	98	0.0	27.0	16	45	25	4.6	20.0	
Surr: 2,4,6-Tribromophenol	185	10	196	0.0	94.0	43	140	0.0	0.0		
Surr: 2-Fluorobiphenyl	77	10	98	0.0	79.0	44	119	0.0	0.0		
Surr: 2-Fluorophenol	78	10	196	0.0	40.0	19	119	0.0	0.0		
Surr: Nitrobenzene-d5	71	10	98	0.0	73.0	44	120	0.0	0.0		
Surr: Phenol-d5	82	10	196	0.0	42.0	10	65	0.0	0.0		



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121965
Project: CV18F0126/60571032.02.46.01

Report Date: 02/14/2022

Run ID: Run Order: SV5973N.I_220110A: 17 **SampType:** Sample Matrix Spike Duplicate **Batch ID:** 162528
Method: SW8270C **Analysis Date:** 01/11/2022 02:41 **Prep Date:** 12/28/2021 10:01
Lab ID: B21121981-001CMSD **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Surr: Terphenyl-d14	104	10	98	0.0	106.0	50	134	0.0	0.0		

Associated Samples: **B21121965-001C**

Run ID: Run Order: SV5975.I_220104A: 2 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R372716
Method: SW8270C **Analysis Date:** 01/04/2022 13:43 **Prep Date:**
Lab ID: 04-Jan-22_CCV_2 **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1-Methylnaphthalene	1.9	0.10	2.0		95.0	80	120				
2-Methylnaphthalene	1.8	0.10	2.0		89.0	80	120				
Naphthalene	1.7	0.10	2.0		84.0	80	120				
Surr: 2-Fluorobiphenyl	2.0	0.10	2.0		102.0	80	120				
Surr: Nitrobenzene-d5	1.8	0.10	2.0		91.0	80	120				
Surr: Terphenyl-d14	2.2	0.10	2.0		109.0	80	120				

Associated Samples: **B21121965-001C**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121965
Project: CV18F0126/60571032.02.46.01

Report Date: 02/14/2022

Run ID: Run Order: SV5975.I_220104A: 23 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R372716
Method: SW8270C **Analysis Date:** 01/05/2022 02:00 **Prep Date:**
Lab ID: 04-Jan-22_CCX_25 **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1-Methylnaphthalene	2.3	0.10	2.0		117.0	50	150				
2-Methylnaphthalene	2.1	0.10	2.0		104.0	50	150				
Naphthalene	2.0	0.10	2.0		100.0	50	150				
Surr: 2-Fluorobiphenyl	1.9	0.10	2.0		96.0	50	150				
Surr: Nitrobenzene-d5	1.7	0.10	2.0		85.0	50	150				
Surr: Terphenyl-d14	2.2	0.10	2.0		112.0	50	150				

Associated Samples: **B21121965-001C**

Run ID: Run Order: SV5973N.I_220110A: 22 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R373011
Method: SW8270C **Analysis Date:** 01/10/2022 18:39 **Prep Date:**
Lab ID: 10-Jan-22_CCX_2 **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	69	10	75		92.0	80	120				
1,2-Dichlorobenzene	74	10	75		99.0	80	120				
1,3-Dichlorobenzene	74	10	75		98.0	80	120				
1,4-Dichlorobenzene	70	10	75		93.0	80	120				
1-Methylnaphthalene	73	10	75		97.0	80	120				
2,4,5-Trichlorophenol	65	10	75		87.0	80	120				
2,4,6-Trichlorophenol	66	10	75		88.0	80	120				
2,4-Dichlorophenol	62	10	75		83.0	80	120				
2,4-Dimethylphenol	76	10	75		102.0	80	120				
2,4-Dinitrophenol	81	10	75		107.0	80	120				
2,4-Dinitrotoluene	76	10	75		102.0	80	120				
2,6-Dinitrotoluene	66	10	75		87.0	80	120				
2-Chloronaphthalene	75	10	75		100.0	80	120				



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121965
Project: CV18F0126/60571032.02.46.01

Report Date: 02/14/2022

Run ID: Run Order: SV5973N.I_220110A: 22 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R373011
Method: SW8270C **Analysis Date:** 01/10/2022 18:39 **Prep Date:**
Lab ID: 10-Jan-22_CCV_2 **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
2-Chlorophenol	63	10	75		84.0	80	120				
2-Methylnaphthalene	73	10	75		98.0	80	120				
2-Nitrophenol	72	10	75		96.0	80	120				
3,3'-Dichlorobenzidine	69	10	75		92.0	80	120				
4,6-Dinitro-2-methylphenol	73	10	75		97.0	80	120				
4-Bromophenyl phenyl ether	76	10	75		101.0	80	120				
4-Chloro-3-methylphenol	68	10	75		90.0	80	120				
4-Chlorophenol	68	10	75		91.0	80	120				
4-Chlorophenyl phenyl ether	73	10	75		97.0	80	120				
4-Nitrophenol	66	10	75		88.0	80	120				
Acenaphthene	73	10	75		98.0	80	120				
Acenaphthylene	73	10	75		97.0	80	120				
Anthracene	74	10	75		99.0	80	120				
Azobenzene	70	10	75		93.0	80	120				
Benzidine	79	10	75		106.0	80	120				
Benzo(a)anthracene	76	10	75		101.0	80	120				
Benzo(a)pyrene	74	10	75		99.0	80	120				
Benzo(b)fluoranthene	76	10	75		101.0	80	120				
Benzo(g,h,i)perylene	73	10	75		98.0	80	120				
Benzo(k)fluoranthene	78	10	75		105.0	80	120				
bis(-2-chloroethoxy)Methane	76	10	75		102.0	80	120				
bis(-2-chloroethyl)Ether	76	10	75		102.0	80	120				
bis(2-chloroisopropyl)Ether	73	10	75		98.0	80	120				
bis(2-ethylhexyl)Phthalate	73	10	75		97.0	80	120				
Butylbenzylphthalate	73	10	75		97.0	80	120				
Chrysene	77	10	75		102.0	80	120				
Dibenzo(a,h)anthracene	69	10	75		92.0	80	120				



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121965
Project: CV18F0126/60571032.02.46.01

Report Date: 02/14/2022

Run ID: Run Order: SV5973N.I_220110A: 22 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R373011
Method: SW8270C **Analysis Date:** 01/10/2022 18:39 **Prep Date:**
Lab ID: 10-Jan-22_CCV_2 **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Diethyl phthalate	69	10	75		91.0	80	120				
Dimethyl phthalate	72	10	75		96.0	80	120				
Di-n-butyl phthalate	69	10	75		92.0	80	120				
Di-n-octyl phthalate	75	10	75		101.0	80	120				
Fluoranthene	76	10	75		102.0	80	120				
Fluorene	73	10	75		97.0	80	120				
Hexachlorobenzene	75	10	75		100.0	80	120				
Hexachlorobutadiene	70	10	75		93.0	80	120				
Hexachlorocyclopentadiene	69	10	75		92.0	80	120				
Hexachloroethane	66	10	75		88.0	80	120				
Indeno(1,2,3-cd)pyrene	69	10	75		92.0	80	120				
Isophorone	80	10	75		107.0	80	120				
m+p-Cresols	73	10	75		97.0	80	120				
Naphthalene	74	10	75		99.0	80	120				
Nitrobenzene	74	10	75		99.0	80	120				
n-Nitrosodimethylamine	65	10	75		87.0	80	120				
n-Nitroso-di-n-propylamine	79	10	75		105.0	80	120				
n-Nitrosodiphenylamine	77	10	75		103.0	80	120				
o-Cresol	75	10	75		100.0	80	120				
Pentachlorophenol	70	10	75		93.0	80	120				
Phenanthrene	76	10	75		101.0	80	120				
Phenol	73	10	75		97.0	80	120				
Pyrene	75	10	75		99.0	80	120				
Pyridine	67	10	75		89.0	80	120				
Surr: 2,4,6-Tribromophenol	64	10	75		86.0	80	120				
Surr: 2-Fluorobiphenyl	81	10	75		107.0	80	120				
Surr: 2-Fluorophenol	66	10	75		88.0	80	120				



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121965
Project: CV18F0126/60571032.02.46.01

Report Date: 02/14/2022

Run ID: Run Order: SV5973N.I_220110A: 22 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R373011
Method: SW8270C **Analysis Date:** 01/10/2022 18:39 **Prep Date:**
Lab ID: 10-Jan-22_CCV_2 **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Surr: Nitrobenzene-d5	70	10	75		93.0	80	120				
Surr: Phenol-d5	75	10	75		100.0	80	120				
Surr: Terphenyl-d14	74	10	75		99.0	80	120				

Associated Samples: **B21121965-001C**

Run ID: Run Order: SV5973N.I_220110A: 21 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R373011
Method: SW8270C **Analysis Date:** 01/11/2022 04:50 **Prep Date:**
Lab ID: 10-Jan-22_CCV_21 **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	76	10	75		101.0	50	150				
1,2-Dichlorobenzene	74	10	75		99.0	50	150				
1,3-Dichlorobenzene	77	10	75		102.0	50	150				
1,4-Dichlorobenzene	73	10	75		98.0	50	150				
1-Methylnaphthalene	75	10	75		100.0	50	150				
2,4,5-Trichlorophenol	88	10	75		117.0	50	150				
2,4,6-Trichlorophenol	89	10	75		118.0	50	150				
2,4-Dichlorophenol	82	10	75		109.0	50	150				
2,4-Dimethylphenol	84	10	75		112.0	50	150				
2,4-Dinitrophenol	77	10	75		103.0	50	150				
2,4-Dinitrotoluene	81	10	75		108.0	50	150				
2,6-Dinitrotoluene	73	10	75		98.0	50	150				
2-Chloronaphthalene	75	10	75		100.0	50	150				
2-Chlorophenol	80	10	75		107.0	50	150				
2-Methylnaphthalene	74	10	75		99.0	50	150				
2-Nitrophenol	81	10	75		108.0	50	150				



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121965
Project: CV18F0126/60571032.02.46.01

Report Date: 02/14/2022

Run ID: Run Order: SV5973N.I_220110A: 21 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R373011
Method: SW8270C **Analysis Date:** 01/11/2022 04:50 **Prep Date:**
Lab ID: 10-Jan-22_CCv_21 **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
3,3'-Dichlorobenzidine	80	10	75		106.0	50	150				
4,6-Dinitro-2-methylphenol	72	10	75		96.0	50	150				
4-Bromophenyl phenyl ether	72	10	75		96.0	50	150				
4-Chloro-3-methylphenol	78	10	75		105.0	50	150				
4-Chlorophenol	77	10	75		103.0	50	150				
4-Chlorophenyl phenyl ether	75	10	75		101.0	50	150				
4-Nitrophenol	81	10	75		108.0	50	150				
Acenaphthene	83	10	75		111.0	50	150				
Acenaphthylene	80	10	75		106.0	50	150				
Anthracene	75	10	75		100.0	50	150				
Azobenzene	72	10	75		96.0	50	150				
Benzidine	68	10	75		90.0	50	150				
Benzo(a)anthracene	80	10	75		106.0	50	150				
Benzo(a)pyrene	79	10	75		105.0	50	150				
Benzo(b)fluoranthene	81	10	75		107.0	50	150				
Benzo(g,h,i)perylene	81	10	75		108.0	50	150				
Benzo(k)fluoranthene	81	10	75		108.0	50	150				
bis(-2-chloroethoxy)Methane	79	10	75		106.0	50	150				
bis(-2-chloroethyl)Ether	85	10	75		114.0	50	150				
bis(2-chloroisopropyl)Ether	72	10	75		97.0	50	150				
bis(2-ethylhexyl)Phthalate	81	10	75		108.0	50	150				
Butylbenzylphthalate	83	10	75		111.0	50	150				
Chrysene	81	10	75		108.0	50	150				
Dibenzo(a,h)anthracene	77	10	75		102.0	50	150				
Diethyl phthalate	89	10	75		118.0	50	150				
Dimethyl phthalate	82	10	75		109.0	50	150				
Di-n-butyl phthalate	82	10	75		109.0	50	150				



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121965
Project: CV18F0126/60571032.02.46.01

Report Date: 02/14/2022

Run ID: Run Order: SV5973N.I_220110A: 21 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R373011
Method: SW8270C **Analysis Date:** 01/11/2022 04:50 **Prep Date:**
Lab ID: 10-Jan-22_CCv_21 **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Di-n-octyl phthalate	80	10	75		107.0	50	150				
Fluoranthene	77	10	75		103.0	50	150				
Fluorene	84	10	75		112.0	50	150				
Hexachlorobenzene	78	10	75		105.0	50	150				
Hexachlorobutadiene	79	10	75		105.0	50	150				
Hexachlorocyclopentadiene	75	10	75		101.0	50	150				
Hexachloroethane	74	10	75		99.0	50	150				
Indeno(1,2,3-cd)pyrene	80	10	75		106.0	50	150				
Isophorone	86	10	75		115.0	50	150				
m+p-Cresols	77	10	75		103.0	50	150				
Naphthalene	78	10	75		104.0	50	150				
Nitrobenzene	71	10	75		95.0	50	150				
n-Nitrosodimethylamine	66	10	75		88.0	50	150				
n-Nitroso-di-n-propylamine	78	10	75		104.0	50	150				
n-Nitrosodiphenylamine	80	10	75		106.0	50	150				
o-Cresol	78	10	75		104.0	50	150				
Pentachlorophenol	81	10	75		108.0	50	150				
Phenanthrene	80	10	75		107.0	50	150				
Phenol	82	10	75		110.0	50	150				
Pyrene	76	10	75		102.0	50	150				
Pyridine	75	10	75		100.0	50	150				
Surr: 2,4,6-Tribromophenol	79	10	75		105.0	50	150				
Surr: 2-Fluorobiphenyl	77	10	75		102.0	50	150				
Surr: 2-Fluorophenol	80	10	75		106.0	50	150				
Surr: Nitrobenzene-d5	74	10	75		99.0	50	150				
Surr: Phenol-d5	85	10	75		113.0	50	150				



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121965
Project: CV18F0126/60571032.02.46.01

Report Date: 02/14/2022

Run ID: Run Order: SV5973N.I_220110A: 21 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R373011
Method: SW8270C **Analysis Date:** 01/11/2022 04:50 **Prep Date:**
Lab ID: 10-Jan-22_CCv_21 **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Surr: Terphenyl-d14	76	10	75		101.0	50	150				

Associated Samples: **B21121965-001C**

Analytical QC Exceptions Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121965
Project: CV18F0126/60571032.02.46.01

Report Date: 02/14/2022

Analysis Method	Analysis	Batch ID	Associated Samples	Sample Type	Lab ID	Analysis Date	Analysis Time	Analyte	%REC	Low Limit	High Limit	% RPD	RPD Limit	Qual	
SW8260B	8260-Volatile Organic Compounds QC Samples	R372727	001G, 003A	MS-DOD	B21121841-001CMS	12/27/2021	18:45	1,1,2,2-Tetrachloroethane	123.0	71	121			S	
				Bromomethane	26.0	53	141			S					
				MSD-DOD	B21121841-001CMSD	12/27/2021	19:12	Bromomethane	42.0	53	141	46	20.0	SR	
		CCV	CCV122721_Closing	12/27/2021	20:07	Bromomethane	47.0	50	150			S			
		R372824	001G	MS-DOD	B21121841-001CMS	12/28/2021	19:09	Bromomethane	20.0	53	141				S
				MSD-DOD	B21121841-001CMSD	12/28/2021	19:36	1,1-Dichloroethene	111.0	71	131	23	20.0	R	
Bromomethane	38.0			53	141	61	20.0	SR							
CCV	CCV122821_Closing	12/28/2021	20:31	Bromomethane	47.0	50	150			S					
SW8270C	Semi-Volatile Organic Compounds, Extended List	162528	001C	LCS-DOD	LCS-162528	1/10/2022	20:15	4-Nitrophenol	37.0	15	36			S	
				Benzidine	8.0	10	100			1S					
				LCS-DOD	LCSD-162528	1/10/2022	20:48	2,4-Dimethylphenol	50.0	31	124	26	20.0	R	
				4-Nitrophenol	38.0	15	36	2.7	20.0	S					
				Benzidine	5.0	10	100		20.0	1S					
				MS-DOD	B21121981-001CMS	1/11/2022	02:09	4-Chlorophenol	82.0	41	81			S	
		Benzidine	3.0	10	100			S							
		MSD-DOD	B21121981-001CMSD	1/11/2022	02:41	3,3'-Dichlorobenzidine	79.0	27	129	24	20.0	R			
4-Chlorophenol	84.0					41	81	3.3	20.0	S					
4-Nitrophenol	41.0	15	36	15	20.0	S									
Benzidine	4.0	10	100		20.0	S									



Preparation and Analysis Dates Report

Work Order: B21121965

Client: AECOM - Honolulu

Project Name: CV18F0126/60571032.02.46.01

Report Date: 2/14/2022

Lab ID	Client Sample ID	Collection Date	Matrix	Test Name	TCLP Date	Prep Method	Prep Date	Prep Batch	Analysis Method	Analysis Date
001B	ERH2238 (RHMW03)	12/20/2021 18:10	Ground Water	Metals by ICP-MS, Total		SW3010A	12/27/2021 13:40	162497	SW6020	12/28/2021 14:27
						SW3010A	12/27/2021 13:40	162497	SW6020	01/19/2022 03:49
001C	ERH2238 (RHMW03)	12/20/2021 18:10	Ground Water	Low Level PAH		SW3510C	12/28/2021 10:01	162528	SW8270C	01/04/2022 22:54
						SW3510C	12/28/2021 10:01	162528	SW8270C	01/04/2022 23:27
					SW3510C	12/28/2021 10:01	162528	SW8270C	01/10/2022 21:20	
001D	ERH2238 (RHMW03)	12/20/2021 18:10	Ground Water	Diesel Range Organics		SW3520C	12/27/2021 14:13	162502	SW8015C	12/30/2021 03:41
						SW3520C	01/03/2022 12:09	162648	SW8015C	01/05/2022 17:36
						SW3520C	01/03/2022 12:09	162648	SW8015C	01/07/2022 04:46
001H	ERH2238 (RHMW03)	12/20/2021 18:10	Ground Water	EDB in Water by ECD		SW8011	12/28/2021 09:08	162519	SW8011	12/28/2021 19:09
005A	ERH2237 Trip Blank-14451	12/20/2021 18:10	Trip Blank	EDB in Water by ECD		SW8011	12/28/2021 09:08	162519	SW8011	12/28/2021 19:29



Chemical Abstracts Service (CAS) Registry Numbers

Prepared by Billings, MT Branch

Client: AECOM - Honolulu

Workorder: B21121965

Project: CV18F0126/60571032.02.46.01

Report Date: 02/14/2022

Analyses	CAS No
AGGREGATE ORGANICS	
Organic Carbon, Total (TOC)	7440-44-0
METALS, TOTAL	
Lead	7439-92-1
METALS, DISSOLVED	
Lead	7439-92-1
VOLATILE ORGANIC COMPOUNDS	
Benzene	71-43-2
Bromobenzene	108-86-1
Bromochloromethane	74-97-5
Bromodichloromethane	75-27-4
Bromoform	75-25-2
Bromomethane	74-83-9
Carbon tetrachloride	56-23-5
Chlorobenzene	108-90-7
Chlorodibromomethane	124-48-1
Chloroethane	75-00-3
Chloroform	67-66-3
Chloromethane	74-87-3
1,2-Dibromoethane	106-93-4
2-Chlorotoluene	95-49-8
4-Chlorotoluene	106-43-4
Dibromomethane	74-95-3
1,2-Dichlorobenzene	95-50-1
1,3-Dichlorobenzene	541-73-1
1,4-Dichlorobenzene	106-46-7
Dichlorodifluoromethane	75-71-8
1,1-Dichloroethane	75-34-3
1,2-Dichloroethane	107-06-2
1,1-Dichloroethene	75-35-4
cis-1,2-Dichloroethene	156-59-2
trans-1,2-Dichloroethene	156-60-5
1,2-Dichloropropane	78-87-5
1,3-Dichloropropane	142-28-9
2,2-Dichloropropane	594-20-7
1,1-Dichloropropene	563-58-6
cis-1,3-Dichloropropene	10061-01-5
trans-1,3-Dichloropropene	10061-02-6

Ethylbenzene	100-41-4
Methyl ethyl ketone	78-93-3
Methyl tert-butyl ether (MTBE)	1634-04-4
Methylene chloride	75-09-2
Styrene	100-42-5
1,1,1,2-Tetrachloroethane	630-20-6
1,1,2,2-Tetrachloroethane	79-34-5
Tetrachloroethene	127-18-4
Toluene	108-88-3
1,1,1-Trichloroethane	71-55-6
1,1,2-Trichloroethane	79-00-5
Trichloroethene	79-01-6
Trichlorofluoromethane	75-69-4
1,2,3-Trichloropropane	96-18-4
Vinyl chloride	75-01-4
m+p-Xylenes	179601-23-1
o-Xylene	95-47-6
Xylenes, Total	1330-20-7

VOCS BY MICROEXTRACTION-ECD

1,2-Dibromoethane	106-93-4
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PETROLEUM HYDROCARBONS-VOLATILE

C6 to C10
Total Purgeable Hydrocarbons

PETROLEUM HYDROCARBONS-SEMI-VOLATILE

Diesel Range Organics (C10 to C24)
Diesel Range Organics (SGT-C10 to C24)
Oil Range Hydrocarbons (C24 to C40)
Oil Range Hydrocarbons (SGT-C24 to C40)
Total Extractable Hydrocarbons
Total Extractable Hydrocarbons (SGT)

ORGANIC CHARACTERISTICS

Methane	74-82-8
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SEMI-VOLATILE ORGANIC COMPOUNDS

1,2,4-Trichlorobenzene	120-82-1
1,2-Dichlorobenzene	95-50-1
1,3-Dichlorobenzene	541-73-1
1,4-Dichlorobenzene	106-46-7
1-Methylnaphthalene	90-12-0
2,4,5-Trichlorophenol	95-95-4
2,4,6-Trichlorophenol	88-06-2
2,4-Dichlorophenol	120-83-2
2,4-Dimethylphenol	105-67-9
2,4-Dinitrophenol	51-28-5
2,4-Dinitrotoluene	121-14-2
2,6-Dinitrotoluene	606-20-2
2-Chloronaphthalene	91-58-7

2-Chlorophenol	95-57-8
2-Methylnaphthalene	91-57-6
2-Nitrophenol	88-75-5
3,3'-Dichlorobenzidine	91-94-1
4,6-Dinitro-2-methylphenol	534-52-1
4-Bromophenyl phenyl ether	101-55-3
4-Chloro-3-methylphenol	59-50-7
4-Chlorophenol	106-48-9
4-Chlorophenyl phenyl ether	7005-72-3
4-Nitrophenol	100-02-7
Acenaphthene	83-32-9
Acenaphthylene	208-96-8
Anthracene	120-12-7
Azobenzene	103-33-3
Benzidine	92-87-5
Benzo(a)anthracene	56-55-3
Benzo(a)pyrene	50-32-8
Benzo(b)fluoranthene	205-99-2
Benzo(g,h,i)perylene	191-24-2
Benzo(k)fluoranthene	207-08-9
bis(-2-chloroethoxy)Methane	111-91-1
bis(-2-chloroethyl)Ether	111-44-4
bis(2-chloroisopropyl)Ether	108-60-1
bis(2-ethylhexyl)Phthalate	117-81-7
Butylbenzylphthalate	85-68-7
Chrysene	218-01-9
Di-n-butyl phthalate	84-74-2
Di-n-octyl phthalate	117-84-0
Dibenzo(a,h)anthracene	53-70-3
Diethyl phthalate	84-66-2
Dimethyl phthalate	131-11-3
Fluoranthene	206-44-0
Fluorene	86-73-7
Hexachlorobenzene	118-74-1
Hexachlorobutadiene	87-68-3
Hexachlorocyclopentadiene	77-47-4
Hexachloroethane	67-72-1
Indeno(1,2,3-cd)pyrene	193-39-5
Isophorone	78-59-1
m+p-Cresols	15831-10-4
n-Nitroso-di-n-propylamine	621-64-7
n-Nitrosodimethylamine	62-75-9
n-Nitrosodiphenylamine	86-30-6
Naphthalene	91-20-3
Nitrobenzene	98-95-3
o-Cresol	95-48-7
Pentachlorophenol	87-86-5
Phenanthrene	85-01-8
Phenol	108-95-2
Pyrene	129-00-0

Pyridine

110-86-1

SEMI-VOLATILE ORGANIC COMPOUNDS (LOW LEVEL) BY SIM

1-Methylnaphthalene

90-12-0

2-Methylnaphthalene

91-57-6

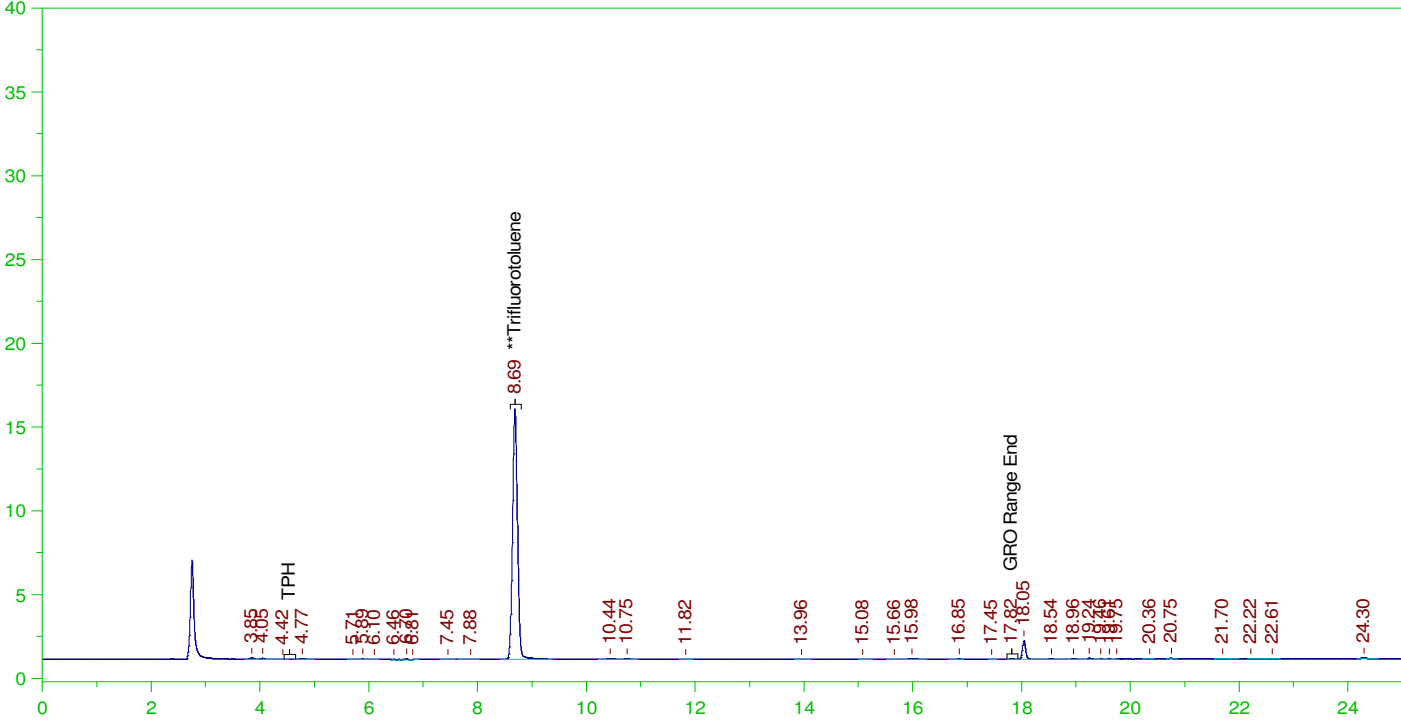
Naphthalene

91-20-3

ERH2238 (RHMW03)

G:\Org\PE1\DAT\PE1122821_b\1228PE1B.0033.RAW

B21121965-001F ;1228PE1 , \$HC-8015-GRO-W,



GASOLINE RANGE ORGANICS CHROMATOGRAM REPORT

Sample Name: B21121965-001F ;1228PE1 , \$HC-8015-GRO-W,
Raw File: G:\Org\PE1\DAT\PE1122821_b\1228PE1B.0033.RAW
Date & Time Acquired: 12/29/2021 1:58:01 AM
Method File: G:\Org\PE1\Methods\211208G1965-1B%.MET
Calibration File: G:\Org\PE1\Cals\211208GRO8015CB.CAL
Sample Weight: 5 Dilution: 1 S.A.: 1

Mean RF for GRO: 945.9678
Mean RF for TPH: 909.3915
Rt range for Gasoline Range Organics: 4.45 to 17.93

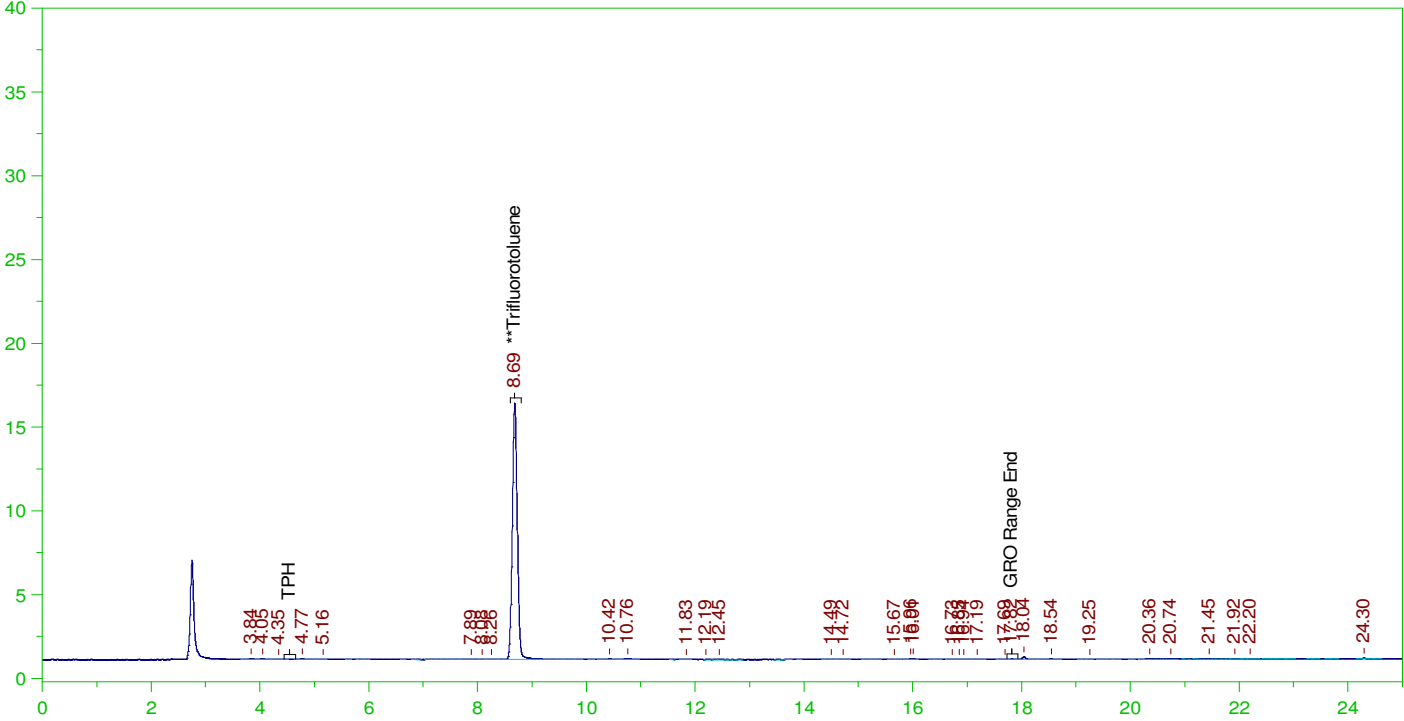
SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC
**Trifluorotoluene	8.689	25.	20.273	81.09

GRO Area:3553.514 GRO Amount: 0.751297
TPH Area:11487.78 TPH Amount: 2.526477

ERH2237 Trip Blank-14575

G:\Org\PE1\DAT\PE1122821_b\1228PE1B.0047.RAW

B21121965-002A ;1228PE1 , \$HC-8015-GRO-W,



GASOLINE RANGE ORGANICS CHROMATOGRAM REPORT

Sample Name: B21121965-002A ;1228PE1 , \$HC-8015-GRO-W,
Raw File: G:\Org\PE1\DAT\PE1122821_b\1228PE1B.0047.RAW
Date & Time Acquired: 12/29/2021 9:58:35 AM
Method File: G:\Org\PE1\Methods\211208GROB%.MET
Calibration File: G:\Org\PE1\Cals\211208GRO8015CB.CAL
Sample Weight: 5 Dilution: 1 S.A.: 1

Mean RF for GRO: 945.9678
Mean RF for TPH: 909.3915
Rt range for Gasoline Range Organics: 4.45 to 17.93

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC
**Trifluorotoluene	8.685	25.	20.851	83.41

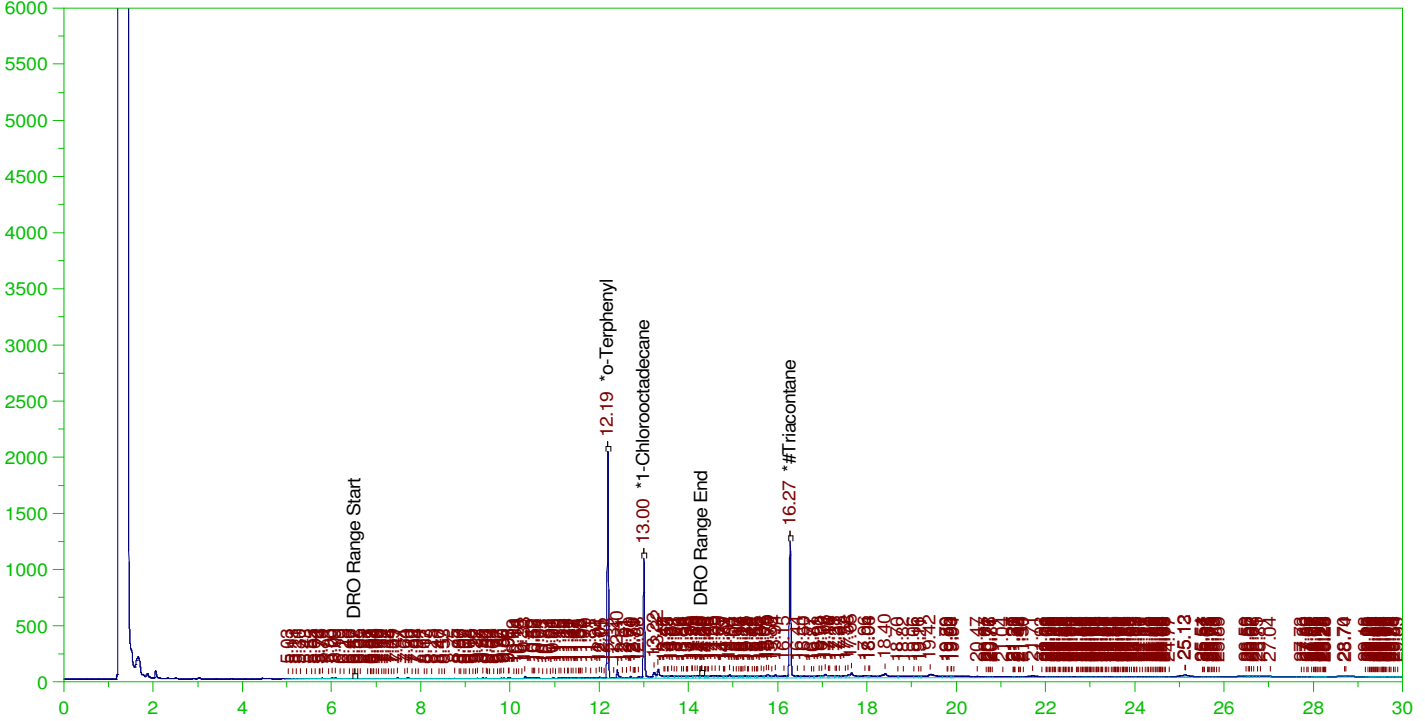
GRO Area:3392.001 GRO Amount: 0.7171493
TPH Area:6348.654 TPH Amount: 1.396242

ERH2238 (RHMW03)

G:\org\HP5\DAT\HP5122821_b\1228HP5.0055.RAW

Batch ID: 162502

B21121965-001D ;1228HP5 , \$HC-8015-DRO-W,



DIESEL RANGE ORGANICS CHROMATOGRAM REPORT

Sample Name: B21121965-001D ;1228HP5 , \$HC-8015-DRO-W,
Raw File: G:\org\HP5\DAT\HP5122821_b\1228HP5.0055.RAW
Date & Time Acquired: 12/30/2021 3:41:56 AM
Method File: G:\Org\HP5\Methods\D3_8015-C24T-IM-L%.met
Calibration File: G:\Org\HP5\Cals\SW8015C_DRO211102IM-24-Tri.CAL
Sample Weight: 1000 Dilution: 1 S.A.: 1

Mean RF for TEH: 31353.19

Rt range for Diesel Range Organics: 6.48 to 14.36

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	
*o-Terphenyl	12.19	.2	.105	52.73	-
*1-Chlorooctadecane	13.002	.2	.066	32.89	-
*#Triacontane	16.274	.2	.113	56.29	-

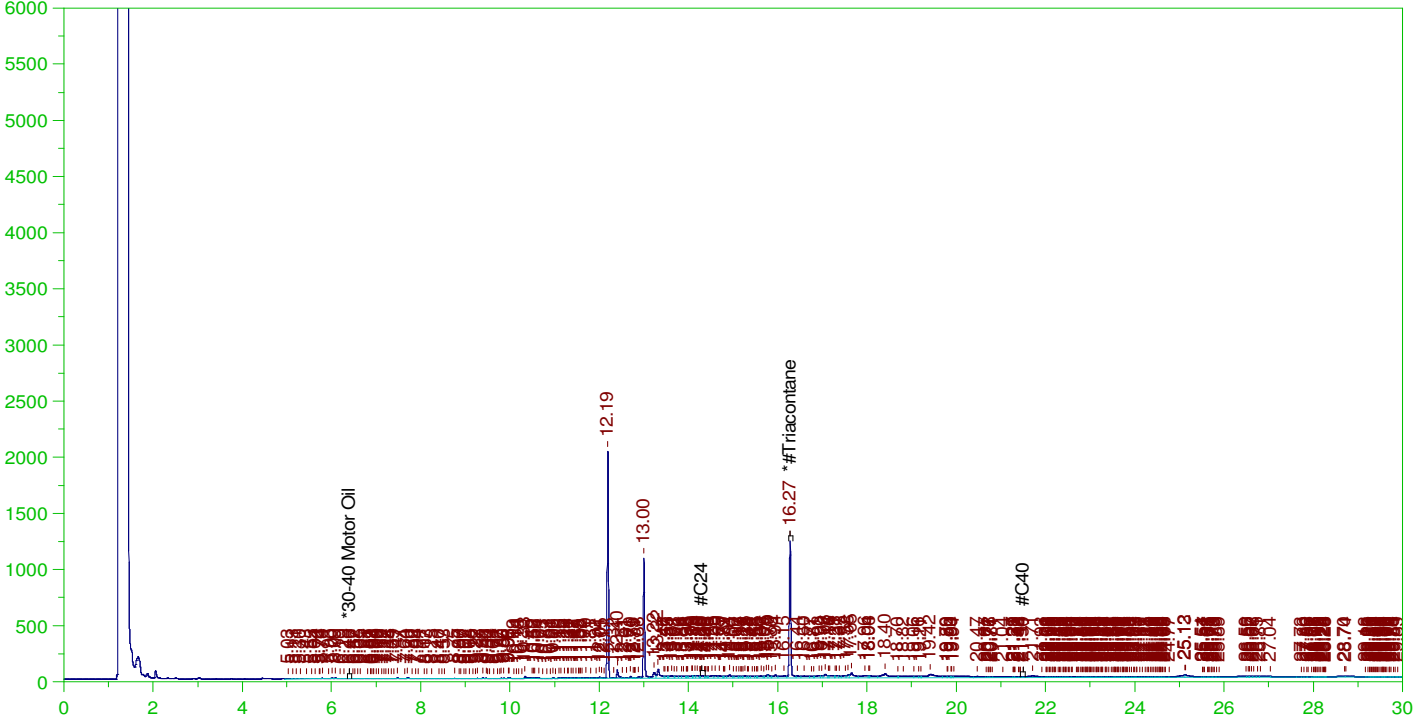
DRO Area:2996021 DRO Amount: 9.555712E-02
TEH Area:1.322932E+07 TEH Amount: 0.4219448

ERH2238 (RHMW03)

Batch ID: 162502

G:\org\HP5\DAT\HP5122821_b\1228HP5.0055.RAW

B21121965-001D ;1228HP5 , \$HC-8015-DRO-W,



RESIDUAL RANGE ORGANICS CHROMATOGRAM

Sample Name: B21121965-001D ;1228HP5 , \$HC-8015-DRO-W,
Raw File: G:\org\HP5\DAT\HP5122821_b\1228HP5.0055.RAW
Date & Time Acquired: 12/30/2021 3:41:56 AM
Method File: G:\Org\HP5\Methods\D3_OROS-AL-L%.MET
Calibration File: G:\Org\HP5\Cals\SW8015C_ORO211017AL-SAMP.CAL
Sample Weight: 1000 Dilution: 1 S.A.: 1

Mean RF for for Residual Range Organics Calculations: 28542.41
Rt range for Residual Range Organics: 14.27 to 21.54

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC
*#Triacontane	16.274	.5	.113	22.52

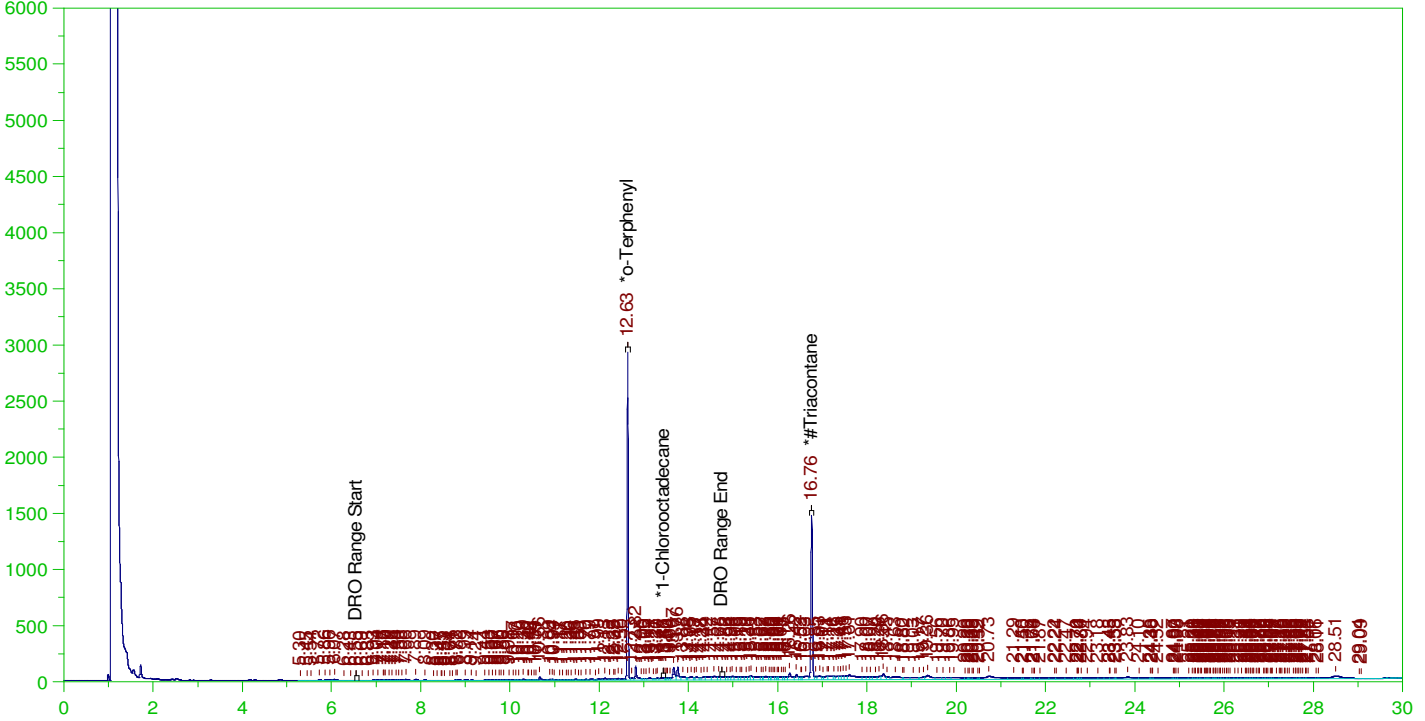
RRO Area:7226144 RRO AMOUNT: 0.2531722

ERH2238 (RHMW03)

Batch ID: 162502

G:\org\HP4\DAT\HP4010522_b\0105HP4.0015.RAW

B21121965-001D ;0105HP4 , \$HC-8015-DRO-W, RX



DIESEL RANGE ORGANICS CHROMATOGRAM REPORT

Sample Name: B21121965-001D ;0105HP4 , \$HC-8015-DRO-W, RX
 Raw File: G:\org\HP4\DAT\HP4010522_b\0105HP4.0015.RAW
 Date & Time Acquired: 1/5/2022 5:36:53 PM
 Method File: G:\Org\HP4\methods\D3_8015-C24T-OI-L%.met
 Calibration File: G:\Org\HP4\Cals\SW8015C_DRO211102OI-C24-TRI.CAL
 Sample Weight: 1030 Dilution: 1 S.A.: 1

Mean RF for TEH: 29373.28

Rt range for Diesel Range Organics: 6.52 to 14.81

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	
*o-Terphenyl	12.635	.194	.148	76.3	-
*1-Chlorooctadecane	13.433	.194	.003	1.75	-
*#Triacontane	16.759	.194	.124	63.83	-

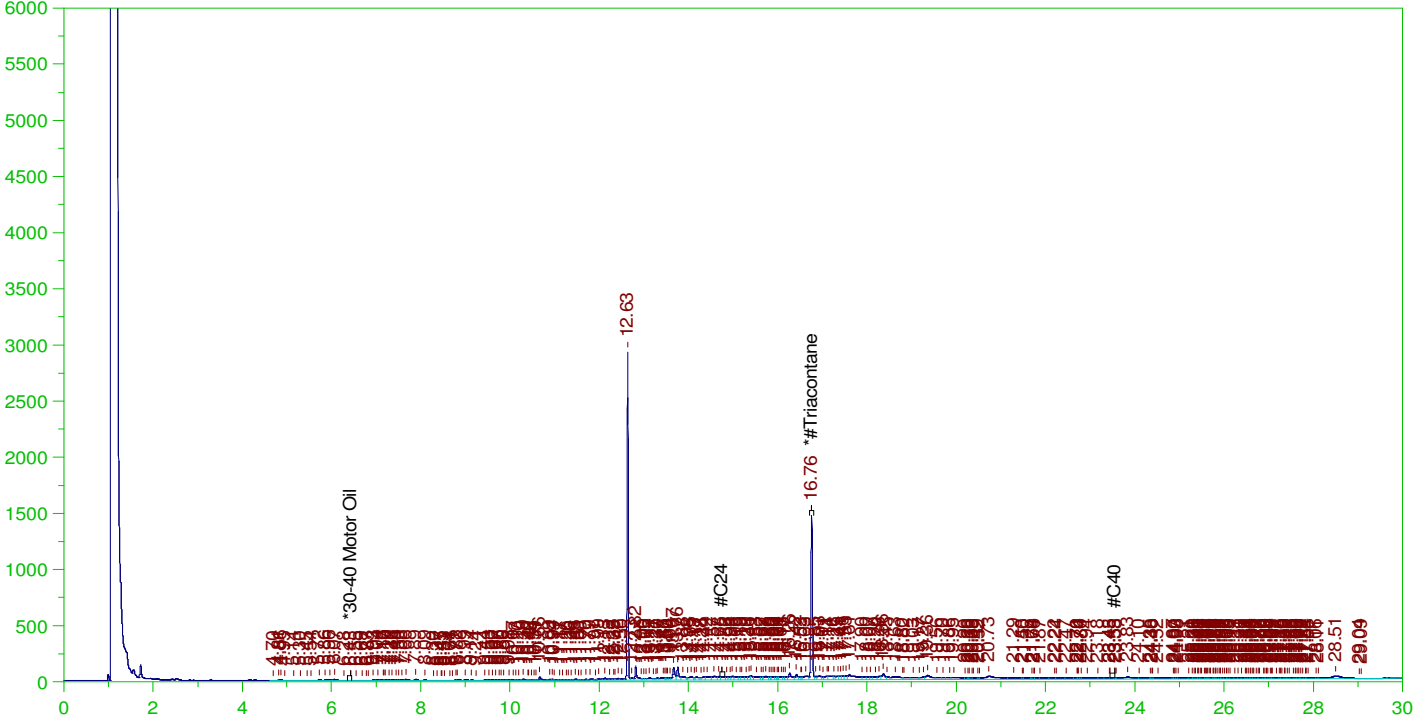
DRO Area:4084940 DRO Amount: 0.1350194
 TEH Area:1.574077E+07 TEH Amount: 0.520279

ERH2238 (RHMW03)

Batch ID: 162502

G:\org\HP4\DAT\HP4010522_b\0105HP4.0015.RAW

B21121965-001D ;0105HP4 , \$HC-8015-DRO-W, RX



RESIDUAL RANGE ORGANICS CHROMATOGRAM

Sample Name: B21121965-001D ;0105HP4 , \$HC-8015-DRO-W, RX
 Raw File: G:\org\HP4\DAT\HP4010522_b\0105HP4.0015.RAW
 Date & Time Acquired: 1/5/2022 5:36:53 PM
 Method File: G:\Org\HP4\Methods\D3_ORO-S-AC-L%.met
 Calibration File: G:\Org\HP4\Cals\SW8015C_ORO211007AC-SAMPLE.CAL
 Sample Weight: 1030 Dilution: 1 S.A.: 1

Mean RF for for Residual Range Organics Calculations: 24529.56
 Rt range for Residual Range Organics: 14.71 to 23.55

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	
*#Triacontane	16.759	.485	.124	25.53	-

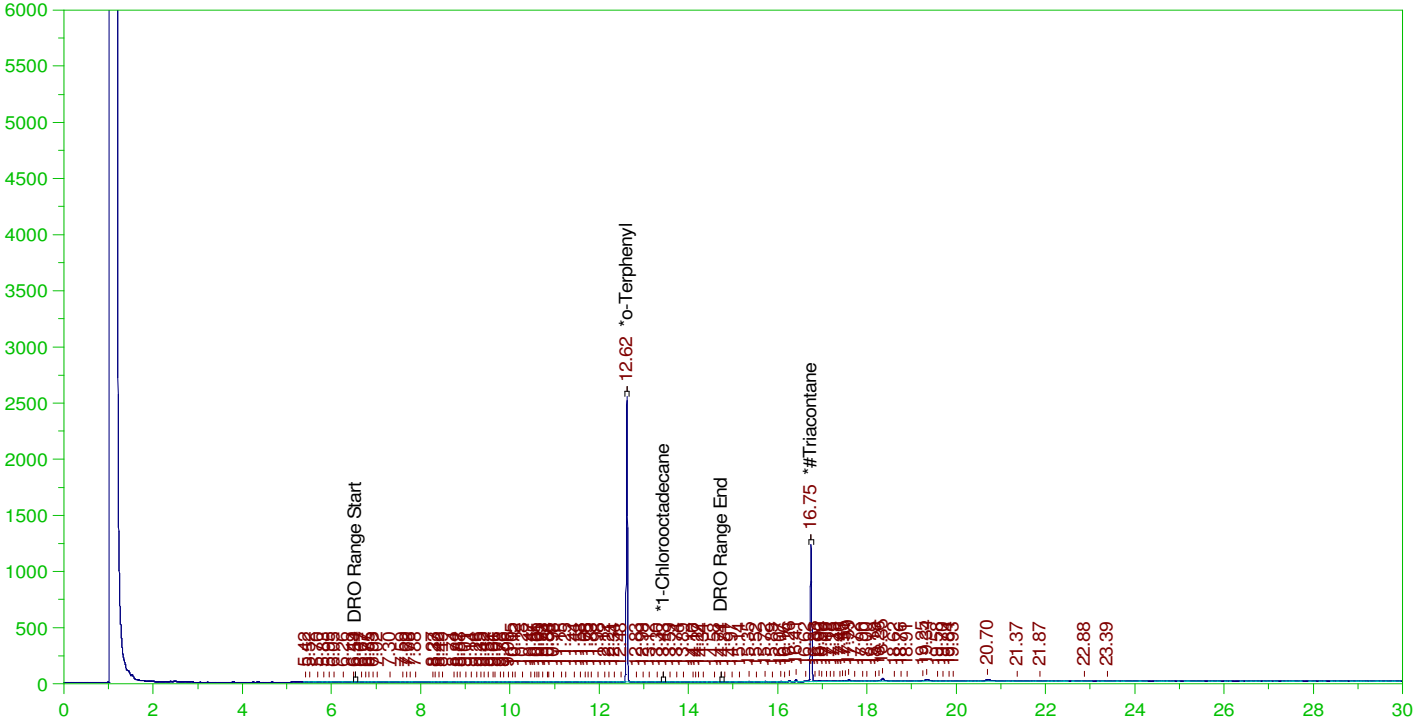
RRO Area:1.009989E+07 RRO AMOUNT: 0.3997511

ERH2238 (RHMW03)

Batch ID: 162502

G:\org\HP4\DAT\HP4010622_b\0106HP4.0017.RAW

B21121965-001D ;0106HP4 , \$HC-8015-DRO-W, RX-SGT



DIESEL RANGE ORGANICS CHROMATOGRAM REPORT

Sample Name: B21121965-001D ;0106HP4 , \$HC-8015-DRO-W, RX-SGT
 Raw File: G:\org\HP4\DAT\HP4010622_b\0106HP4.0017.RAW
 Date & Time Acquired: 1/7/2022 4:46:07 AM
 Method File: G:\Org\HP4\methods\DR_8015-010617-OJ-L%.met
 Calibration File: G:\Org\HP4\Cals\SW8015C_DRO211102OJ-C24-TRI.CAL
 Sample Weight: 1030 Dilution: 1 S.A.: 1

Mean RF for TEH: 29373.28
 Rt range for Diesel Range Organics: 6.49 to 14.8

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	
*o-Terphenyl	12.615	.194	.131	67.29	-
*1-Chlorooctadecane	13.43	.194	.	.14	-
*#Triacontane	16.746	.194	.1	51.42	-

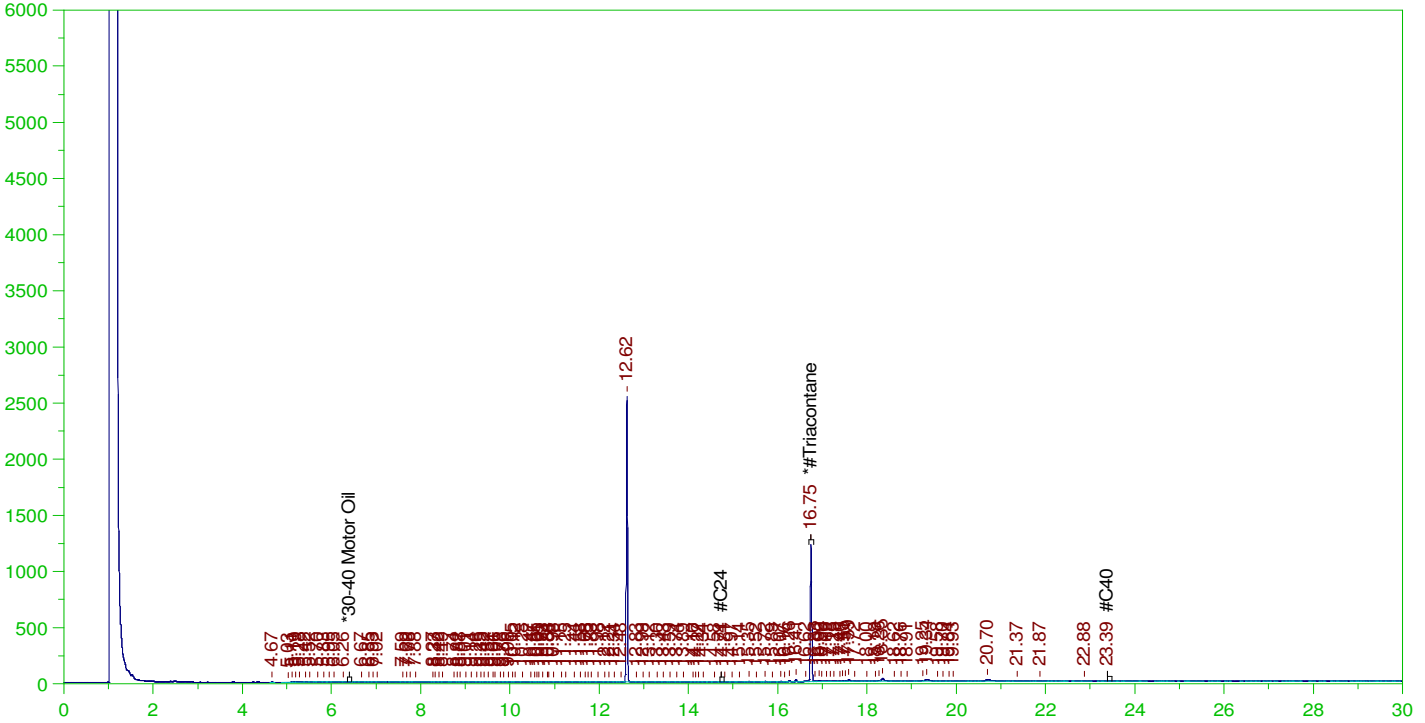
DRO Area:225342.7 DRO Amount: 7.448243E-03
 TEH Area:1053063 TEH Amount: 3.480686E-02

ERH2238 (RHMW03)

Batch ID: 162502

G:\org\HP4\DAT\HP4010622_b\0106HP4.0017.RAW

B21121965-001D ;0106HP4 , \$HC-8015-DRO-W, RX-SGT



RESIDUAL RANGE ORGANICS CHROMATOGRAM

Sample Name: B21121965-001D ;0106HP4 , \$HC-8015-DRO-W, RX-SGT
 Raw File: G:\org\HP4\DAT\HP4010622_b\0106HP4.0017.RAW
 Date & Time Acquired: 1/7/2022 4:46:07 AM
 Method File: G:\Org\HP4\Methods\DR_ORO-010617-ACA-L%.met
 Calibration File: G:\Org\HP4\Cals\SW8015C_ORO211007ACA-SAMPLE.CAL
 Sample Weight: 1030 Dilution: 1 S.A.: 1

Mean RF for for Residual Range Organics Calculations: 24529.56
 Rt range for Residual Range Organics: 14.7 to 23.49

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC
*#Triacontane	16.746	.485	.1	20.57

RRO Area:758869.8 RRO AMOUNT: 3.003587E-02

From: Ramos, Alethea <alethea.ramos@aecom.com>
Sent: Monday, December 13, 2021 3:11 PM
To: Tabitha Edwards
Cc: Pascua, Margie; billingsPM@energylab.com
Subject: RE: [EXTERNAL] FW: CV18F0126: Expedited NOI Groundwater Samples, Saturday 12/12 Submission

Categories: Must Attend

Hi Tabitha,

I believe Casper WY is DoD ELAP accredited in the TOC 9060 method. I spoke to Shari and she indicated there is a daily courier between Billings and Casper, and would be appx. a day delay. Under those stipulations, please subcontract these samples and inform on expedited TAT.

Thank you,

Alethea Ramos, CIH
Environmental Scientist, Environmental Health & Science, Environment
D +1-808-529-7283
M +1-808-389-5383
alethea.ramos@aecom.com

AECOM
1001 Bishop Street
Suite 1600
Honolulu, HI 96813, United States of America
aecom.com

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[Fortune World's Most Admired Companies 2020](#)

From: Tabitha Edwards <tedwards@energylab.com>
Sent: Monday, December 13, 2021 7:05 AM
To: Ramos, Alethea <alethea.ramos@aecom.com>
Cc: Pascua, Margie <Margie.Pascua@aecom.com>; billingsPM@energylab.com
Subject: [EXTERNAL] FW: CV18F0126: Expedited NOI Groundwater Samples, Saturday 12/12 Submission
Importance: High

Alethea,

The TOC by 9060 must be subcontracted to our office in Casper, WY. I need authorization from you to subcontract these. Once that has been received we will discuss the TAT with them and let you know what is achievable.

Thank you,

Energy Laboratories, Inc.

Trust our People. Trust our Data.

Tabitha Edwards | Office Manager | Billings, MT

O: 406-869-6286 | tedwards@energylab.com | www.energylab.com

This transmission may contain confidential information and is for the use of the intended recipient(s). If you received this in error, please contact the sender and delete this email and all copies.

***We want to help you ship successfully!** Please plan ahead and allow extra time to receive supplies from the lab and for the lab to receive your samples. All carriers are in full-swing holiday peak season operating with double the volume and limited capacity. We appreciate your business so please contact your local branch or Project Manager to discuss adjustments to your shipping schedule or to ask questions.*

From: Ramos, Alethea [<mailto:alethea.ramos@aecom.com>]

Sent: Saturday, December 11, 2021 3:20 AM

To: Shari Endy; billingsPM@energylab.com

Cc: Jillian Miller; Pascua, Margie; KaaihiliChoy, Terri Ann

Subject: CV18F0126: Expedited NOI Groundwater Samples, Saturday 12/12 Submission

Importance: High

Hi Shari and Billings PM,

You will be receiving a Saturday shipment (12/12) of groundwater samples indicated in the attached COCs. We will need results by **Wednesday, December 15th**, and will pay any fees incurred for an expedited TAT. Please proceed with analysis without preservation traceability. Please see below tracking information links:

<https://www.fedex.com/fedextrack/?trknbr=287337969629&trkqual=2459558000~287337969629~FX>

<https://www.fedex.com/fedextrack/?trknbr=287343101019&trkqual=2459559000~287343101019~FX>

Thank you,

Alethea Ramos, CIH

Environmental Scientist, Environmental Health & Science, Environment

D +1-808-529-7283

M +1-808-389-5383

alethea.ramos@aecom.com

AECOM

1001 Bishop Street
Suite 1600
Honolulu, HI 96813, United States of America
aecom.com

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