



# ANALYTICAL SUMMARY REPORT

March 09, 2022

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

Work Order: B22011717 Quote ID: 5912

Project Name: CV18F0126, 60571032.02.46.01

Energy Laboratories Inc Billings MT received the following 5 samples from AECOM - Honolulu on 1/27/2022 for analysis.

Lab ID	Client Sample ID	Collect Date	Received Date	Matrix	Test
B22011717-001	ERH2478 (RHMW19)	01/25/22 12:45	01/27/2022	Ground Water	Metals Digestion by SW3010A DRO-Liquid-Liquid Extraction SW3520C Low Level PAH by 8270C SIM SW8270CSIM 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, Extended List SW8270C SW8011 Microextraction
B22011717-002	ERH2477 (Trip Blank) 14694	01/25/22 12:45	01/27/2022	Trip Blank	8260-Volatile Organic Compounds-Short List SW8260B
B22011717-003	ERH2477 (Trip Blank) 14733	01/25/22 12:45	01/27/2022	Trip Blank	Gasoline Range Organics SW8015C
B22011717-004	ERH2477 (Trip Blank) 14733	01/25/22 12:45	01/27/2022	Trip Blank	EDB in Water by ECD SW8011 SW8011 Microextraction



## ANALYTICAL SUMMARY REPORT

B22011717-005    ERH2477 (Trip Blank)    01/25/22 12:45    01/27/2022    Trip Blank    Headspace Gas Analysis  
14732    SW8015M

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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:** B22011717

**Revised Date:** 3/9/2022  
**Report Date:** 3/4/2022

## CASE NARRATIVE

Revised Date: 3/9/2022

On 3/4/2022 a request was received from Cathy Larson at AECOM to revise this workorder by correcting the sample ID for the Trip Blanks from ERH2478 (Trip Blank) to ERH2477 (Trip Blank). The report has been revised and replaces the previously issued report dated 3/4/2022 in its entirety.

### General Comments:

For any question please contact your Project Manager at (406) 252-6325 or [billingspm@energylab.com](mailto: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 SW060A 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 Stage 4 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. Where qualified, an analyte exceeded quality control limits, but was not detected in the associated sample(s).



# Chain of Custody & Analytical Request Record – DoD Project

www.energylab.com

COC#202201-75NOI 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  Quote  Bottle Order  
 N/A N/A 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 **Ryan Shinmoto** 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* [40ml VOA w/HCL]	8015 TPH-g [40ml VOA w/HCL]	RSK175 Methane [40ml VOA w/H2SO4]	8011 EDB [40ml VOA w/HCL]	SVOCs (full suite+Nap, 1-2-Methylnap) by 8270DSIM*	EPA 3630/8015 TPH-d/o +SGC [1-L AG w/H2SO4]	EPA 9060 TOC [250ml AG w/H3PO4]	EPA 8020 Total Lead [250ml HDPE w/HNO3]	EPA 8020 Diss. Lead [250ml HDPE w/HNO3] (field Filtered)
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	ELI LAB ID Laboratory Use Only
	Date	Time			8260 VOC's (Full Suite) + DCA* [40ml VOA w/HCL]	8015 TPH-g [40ml VOA w/HCL]	RSK175 Methane [40ml VOA w/H2SO4]	8011 EDB [40ml VOA w/HCL]	SVOCs (full suite+Nap, 1-2-Methylnap) by 8270DSIM*	EPA 3630/8015 TPH-d/o +SGC [1-L AG w/H2SO4]	EPA 9060 TOC [250ml AG w/H3PO4]	EPA 8020 Total Lead [250ml HDPE w/HNO3]	EPA 8020 Diss. Lead [250ml HDPE w/HNO3] (field Filtered)			
1 ERH2478 (RHMW19)	01/25/22	08:45	19	GW	X	X	X	X	X	X	X	X	X	✓	B2701717-001	
2 ERH2477 (Trip Blank)	01/25/22	08:30	8	WQ	X	X	X	X						✓	-002-003-004-005-006	
3 TB-14694 (8260)			2												-002	
4 TB-14733 (680)			1												-003	
5 TB-14733 (8011)			1												-004	
6 TB-14733 (Methane)			2												-005	
7 TB-14705	NA 1/27/22	AM 01/25/22	3												-006	
8																
9																
10																

Custody Record MUST be signed: Relinquished by (print) **Alex Edwards** Date/Time **01/25/22** Signature *[Signature]*  
 Received by Laboratory (print) **Richard S. [Signature]** Date/Time **1/27/22 09:10** Signature *[Signature]*

### LABORATORY USE ONLY

Shipped By	Cooler ID(s)	Custody Seals Y N C B	Intact Y N	Receipt Temp °C	Temp Blank Y N	On Ice Y N	Payment Type CC Cash Check	Amount \$	Receipt Number (cash/check only)
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Work Order Receipt Checklist

AECOM - Honolulu

B22011717

Login completed by: Richard L. Shular
Reviewed by: BL2000\tedwards
Reviewed Date: 1/28/2022

Date Received: 1/27/2022
Received by: rs4
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: 1.0°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.

## 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: B22011717-001

Collection Date: 01/25/2022 12:45

Date Received: 01/27/2022

Report Date: 03/04/2022

Revised Date: 03/09/2022

**Client:** AECOM - Honolulu  
**Client Sample ID:** ERH2478 (RHMW19)  
**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
<b>LOW LEVEL PAH BY 8270C SIM</b>												
1-Methylnaphthalene	ND	ug/L	1	U	0.10	0.050	0.021		SW8270CSIM	02/8/2022 03:04/jph	SV5975.I_220207A : 23	163333
2-Methylnaphthalene	ND	ug/L	1	U	0.10	0.050	0.018		SW8270CSIM	02/8/2022 03:04/jph	SV5975.I_220207A : 23	163333
Acenaphthene	ND	ug/L	1	U	0.10	0.050	0.032		SW8270CSIM	02/8/2022 03:04/jph	SV5975.I_220207A : 23	163333
Acenaphthylene	ND	ug/L	1	U	0.10	0.050	0.025		SW8270CSIM	02/8/2022 03:04/jph	SV5975.I_220207A : 23	163333
Anthracene	ND	ug/L	1	U	0.10	0.050	0.028		SW8270CSIM	02/8/2022 03:04/jph	SV5975.I_220207A : 23	163333
Benzo(a)anthracene	ND	ug/L	1	U	0.10	0.050	0.027		SW8270CSIM	02/8/2022 03:04/jph	SV5975.I_220207A : 23	163333
Benzo(a)pyrene	ND	ug/L	1	U	0.10	0.050	0.035		SW8270CSIM	02/8/2022 03:04/jph	SV5975.I_220207A : 23	163333
Benzo(b)fluoranthene	ND	ug/L	1	U	0.10	0.050	0.023		SW8270CSIM	02/8/2022 03:04/jph	SV5975.I_220207A : 23	163333
Benzo(g,h,i)perylene	ND	ug/L	1	U	0.10	0.050	0.027		SW8270CSIM	02/8/2022 03:04/jph	SV5975.I_220207A : 23	163333
Benzo(k)fluoranthene	ND	ug/L	1	U	0.10	0.050	0.030		SW8270CSIM	02/8/2022 03:04/jph	SV5975.I_220207A : 23	163333
Chrysene	ND	ug/L	1	U	0.10	0.050	0.046		SW8270CSIM	02/8/2022 03:04/jph	SV5975.I_220207A : 23	163333
Dibenzo(a,h)anthracene	ND	ug/L	1	U	0.10	0.050	0.037		SW8270CSIM	02/8/2022 03:04/jph	SV5975.I_220207A : 23	163333
Fluoranthene	ND	ug/L	1	U	0.10	0.050	0.023		SW8270CSIM	02/8/2022 03:04/jph	SV5975.I_220207A : 23	163333
Fluorene	ND	ug/L	1	U	0.10	0.050	0.022		SW8270CSIM	02/8/2022 03:04/jph	SV5975.I_220207A : 23	163333
Indeno(1,2,3-cd)pyrene	ND	ug/L	1	U	0.10	0.050	0.049		SW8270CSIM	02/8/2022 03:04/jph	SV5975.I_220207A : 23	163333
Naphthalene	ND	ug/L	1	U	0.10	0.050	0.029		SW8270CSIM	02/8/2022 03:04/jph	SV5975.I_220207A : 23	163333
Phenanthrene	ND	ug/L	1	U	0.10	0.050	0.030		SW8270CSIM	02/8/2022 03:04/jph	SV5975.I_220207A : 23	163333
Pyrene	ND	ug/L	1	U	0.10	0.050	0.024		SW8270CSIM	02/8/2022 03:04/jph	SV5975.I_220207A : 23	163333
<b>AGGREGATE ORGANICS</b>												
Organic Carbon, Total (TOC)	2.2	mg/L	1		0.50	0.50	0.17		SW9060A	02/1/2022 15:15/eli-ca	SUB-C279254 : 4	C_R279254
- TOC Range is 1.9 to 2.6												
<b>METALS, DISSOLVED</b>												
Lead	ND	mg/L	1	U	0.001	0.0001	0.00006		SW6020	01/31/2022 21:46/srh	ICPMS207-B_220131A : 91	R373996
<b>METALS, TOTAL</b>												
Lead	0.00025	mg/L	1	J	0.001	0.0001	0.00008		SW6020	01/31/2022 21:53/srh	ICPMS207-B_220131A : 92	163315
<b>VOLATILE ORGANIC COMPOUNDS</b>												
Benzene	ND	ug/L	1	U	1.0	0.20	0.091		SW8260B	01/27/2022 13:51/msc	VOA5975C.I_220127A : 6	R374120
Bromobenzene	ND	ug/L	1	U	1.0	0.20	0.083		SW8260B	01/27/2022 13:51/msc	VOA5975C.I_220127A : 6	R374120
Bromochloromethane	ND	ug/L	1	U	1.0	0.50	0.14		SW8260B	01/27/2022 13:51/msc	VOA5975C.I_220127A : 6	R374120
Bromodichloromethane	ND	ug/L	1	U	1.0	0.25	0.12		SW8260B	01/27/2022 13:51/msc	VOA5975C.I_220127A : 6	R374120
Bromoform	ND	ug/L	1	U	1.0	0.25	0.12		SW8260B	01/27/2022 13:51/msc	VOA5975C.I_220127A : 6	R374120
Carbon tetrachloride	ND	ug/L	1	U	1.0	0.50	0.14		SW8260B	01/27/2022 13:51/msc	VOA5975C.I_220127A : 6	R374120
Chlorobenzene	ND	ug/L	1	U	1.0	0.20	0.091		SW8260B	01/27/2022 13:51/msc	VOA5975C.I_220127A : 6	R374120
Chlorodibromomethane	ND	ug/L	1	U	1.0	0.20	0.084		SW8260B	01/27/2022 13:51/msc	VOA5975C.I_220127A : 6	R374120
Chloroethane	ND	ug/L	1	U	1.0	0.50	0.17		SW8260B	01/27/2022 13:51/msc	VOA5975C.I_220127A : 6	R374120
Chloroform	ND	ug/L	1	U	1.0	0.20	0.079		SW8260B	01/27/2022 13:51/msc	VOA5975C.I_220127A : 6	R374120
Chloromethane	ND	ug/L	1	U	1.0	0.50	0.16		SW8260B	01/27/2022 13:51/msc	VOA5975C.I_220127A : 6	R374120





**LABORATORY ANALYTICAL REPORT**

Prepared by Billings, MT Branch

Lab ID: B22011717-001

Collection Date: 01/25/2022 12:45

Date Received: 01/27/2022

Report Date: 03/04/2022

Revised Date: 03/09/2022

**Client:** AECOM - Honolulu  
**Client Sample ID:** ERH2478 (RHMW19)  
**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
<b>VOLATILE ORGANIC COMPOUNDS</b>												
1,2-Dibromoethane	ND	ug/L	1	U	1.0	0.20	0.092		SW8260B	01/27/2022 13:51/msc	VOA5975C.I_220127A : 6	R374120
2-Chlorotoluene	ND	ug/L	1	U	1.0	0.20	0.088		SW8260B	01/27/2022 13:51/msc	VOA5975C.I_220127A : 6	R374120
4-Chlorotoluene	ND	ug/L	1	U	1.0	0.20	0.073		SW8260B	01/27/2022 13:51/msc	VOA5975C.I_220127A : 6	R374120
Dibromomethane	ND	ug/L	1	U	1.0	0.50	0.15		SW8260B	01/27/2022 13:51/msc	VOA5975C.I_220127A : 6	R374120
1,2-Dichlorobenzene	ND	ug/L	1	U	1.0	0.20	0.075		SW8260B	01/27/2022 13:51/msc	VOA5975C.I_220127A : 6	R374120
1,3-Dichlorobenzene	ND	ug/L	1	U	1.0	0.20	0.080		SW8260B	01/27/2022 13:51/msc	VOA5975C.I_220127A : 6	R374120
1,4-Dichlorobenzene	ND	ug/L	1	U	1.0	0.20	0.086		SW8260B	01/27/2022 13:51/msc	VOA5975C.I_220127A : 6	R374120
Dichlorodifluoromethane	ND	ug/L	1	U	1.0	0.50	0.18		SW8260B	01/27/2022 13:51/msc	VOA5975C.I_220127A : 6	R374120
1,1-Dichloroethane	ND	ug/L	1	U	1.0	0.50	0.14		SW8260B	01/27/2022 13:51/msc	VOA5975C.I_220127A : 6	R374120
1,2-Dichloroethane	ND	ug/L	1	U	1.0	0.25	0.12		SW8260B	01/27/2022 13:51/msc	VOA5975C.I_220127A : 6	R374120
1,1-Dichloroethene	ND	ug/L	1	U	1.0	0.50	0.14		SW8260B	01/27/2022 13:51/msc	VOA5975C.I_220127A : 6	R374120
cis-1,2-Dichloroethene	ND	ug/L	1	U	1.0	0.25	0.11		SW8260B	01/27/2022 13:51/msc	VOA5975C.I_220127A : 6	R374120
trans-1,2-Dichloroethene	ND	ug/L	1	U	1.0	0.25	0.12		SW8260B	01/27/2022 13:51/msc	VOA5975C.I_220127A : 6	R374120
1,2-Dichloropropane	ND	ug/L	1	U	1.0	0.20	0.085		SW8260B	01/27/2022 13:51/msc	VOA5975C.I_220127A : 6	R374120
1,3-Dichloropropane	ND	ug/L	1	U	1.0	0.20	0.079		SW8260B	01/27/2022 13:51/msc	VOA5975C.I_220127A : 6	R374120
2,2-Dichloropropane	ND	ug/L	1	U	1.0	0.50	0.19		SW8260B	01/27/2022 13:51/msc	VOA5975C.I_220127A : 6	R374120
1,1-Dichloropropene	ND	ug/L	1	U	1.0	0.20	0.083		SW8260B	01/27/2022 13:51/msc	VOA5975C.I_220127A : 6	R374120
cis-1,3-Dichloropropene	ND	ug/L	1	U	1.0	0.20	0.073		SW8260B	01/27/2022 13:51/msc	VOA5975C.I_220127A : 6	R374120
trans-1,3-Dichloropropene	ND	ug/L	1	U	1.0	0.20	0.085		SW8260B	01/27/2022 13:51/msc	VOA5975C.I_220127A : 6	R374120
Ethylbenzene	ND	ug/L	1	U	1.0	0.20	0.084		SW8260B	01/27/2022 13:51/msc	VOA5975C.I_220127A : 6	R374120
Methyl ethyl ketone	ND	ug/L	1	U	20	5.0	1.8		SW8260B	01/27/2022 13:51/msc	VOA5975C.I_220127A : 6	R374120
Methyl tert-butyl ether (MTBE)	ND	ug/L	1	U	1.0	0.25	0.10		SW8260B	01/27/2022 13:51/msc	VOA5975C.I_220127A : 6	R374120
Methylene chloride	ND	ug/L	1	U	1.0	0.50	0.34		SW8260B	01/27/2022 13:51/msc	VOA5975C.I_220127A : 6	R374120
Styrene	ND	ug/L	1	U	1.0	0.20	0.067		SW8260B	01/27/2022 13:51/msc	VOA5975C.I_220127A : 6	R374120
1,1,1,2-Tetrachloroethane	ND	ug/L	1	U	1.0	0.25	0.10		SW8260B	01/27/2022 13:51/msc	VOA5975C.I_220127A : 6	R374120
1,1,2,2-Tetrachloroethane	ND	ug/L	1	U	1.0	0.20	0.087		SW8260B	01/27/2022 13:51/msc	VOA5975C.I_220127A : 6	R374120
Tetrachloroethene	ND	ug/L	1	U	1.0	0.20	0.067		SW8260B	01/27/2022 13:51/msc	VOA5975C.I_220127A : 6	R374120
Toluene	ND	ug/L	1	UT	1.0	0.20	0.068		SW8260B	01/27/2022 13:51/msc	VOA5975C.I_220127A : 6	R374120
1,1,1-Trichloroethane	ND	ug/L	1	U	1.0	0.50	0.13		SW8260B	01/27/2022 13:51/msc	VOA5975C.I_220127A : 6	R374120
1,1,2-Trichloroethane	ND	ug/L	1	U	1.0	0.25	0.11		SW8260B	01/27/2022 13:51/msc	VOA5975C.I_220127A : 6	R374120
Trichloroethene	ND	ug/L	1	U	1.0	0.20	0.099		SW8260B	01/27/2022 13:51/msc	VOA5975C.I_220127A : 6	R374120
Trichlorofluoromethane	ND	ug/L	1	U	1.0	0.50	0.13		SW8260B	01/27/2022 13:51/msc	VOA5975C.I_220127A : 6	R374120
1,2,3-Trichloropropane	ND	ug/L	1	U	1.0	0.50	0.24		SW8260B	01/27/2022 13:51/msc	VOA5975C.I_220127A : 6	R374120
Vinyl chloride	ND	ug/L	1	U	1.0	0.50	0.15		SW8260B	01/27/2022 13:51/msc	VOA5975C.I_220127A : 6	R374120
m+p-Xylenes	ND	ug/L	1	U	1.0	0.50	0.15		SW8260B	01/27/2022 13:51/msc	VOA5975C.I_220127A : 6	R374120
o-Xylene	ND	ug/L	1	U	1.0	0.20	0.060		SW8260B	01/27/2022 13:51/msc	VOA5975C.I_220127A : 6	R374120
Xylenes, Total	ND	ug/L	1	U	1.0	0.20	0.060		SW8260B	01/27/2022 13:51/msc	VOA5975C.I_220127A : 6	R374120
Surr: Dibromofluoromethane	104.0	%REC	1		80-119				SW8260B	01/27/2022 13:51/msc	VOA5975C.I_220127A : 6	R374120
Surr: 1,2-Dichloroethane-d4	107.0	%REC	1		81-118				SW8260B	01/27/2022 13:51/msc	VOA5975C.I_220127A : 6	R374120



**LABORATORY ANALYTICAL REPORT**

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu  
**Client Sample ID:** ERH2478 (RHMW19)  
**Project:** CV18F0126, 60571032.02.46.01  
**Matrix:** Ground Water

**Lab ID:** B22011717-001  
**Collection Date:** 01/25/2022 12:45  
**Date Received:** 01/27/2022  
**Report Date:** 03/04/2022  
**Revised Date:** 03/09/2022

Analyses	Result	Units	DF	Qual	LOQ	LOD	DL	MCL	Method	Analysis Date / By	RunID : Run Order	BatchID
<b>VOLATILE ORGANIC COMPOUNDS</b>												
Surr: Toluene-d8	101.0	%REC	1		89-112				SW8260B	01/27/2022 13:51/msc	VOA5975C.I_220127A : 6	R374120
Surr: p-Bromofluorobenzene	107.0	%REC	1		85-114				SW8260B	01/27/2022 13:51/msc	VOA5975C.I_220127A : 6	R374120
<b>VOCS BY MICROEXTRACTION-ECD</b>												
1,2-Dibromoethane	ND	ug/L	1	U	0.010	0.0049	0.0025		SW8011	01/28/2022 22:16/clt	GECD.I_220128A : 28	163331
Surr: 1,1,1,2-Tetrachloroethane	99.0	%REC	1		70-130				SW8011	01/28/2022 22:16/clt	GECD.I_220128A : 28	163331
<b>PETROLEUM HYDROCARBONS-VOLATILE</b>												
C6 to C10	ND	ug/L	1	U T	20	8.7	2.0		SW8015C	01/31/2022 07:12/jp	VARIAN1_220130A : 25	R373955
Total Purgeable Hydrocarbons	ND	ug/L	1	U T	20	10	3.1		SW8015C	01/31/2022 07:12/jp	VARIAN1_220130A : 25	R373955
Surr: Trifluorotoluene	75.0	%REC	1		70-130				SW8015C	01/31/2022 07:12/jp	VARIAN1_220130A : 25	R373955
- 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.												
<b>PETROLEUM HYDROCARBONS-SEMI-VOLATILE</b>												
Diesel Range Organics (C10 to C24)	0.043	mg/L	1	J	0.31	0.16	0.040		SW8015C	01/29/2022 02:34/amn	GCFID-HP5-B_220128A : 15	163307
Diesel Range Organics (SGT-C10 to C24)	ND	mg/L	1	U	0.31	0.12	0.040		SW8015C	01/31/2022 22:59/amn	GCFID-HP5-B_220131A : 12	163307
Oil Range Hydrocarbons (C24 to C40)	0.17	mg/L	1	J	0.31	0.16	0.091		SW8015C	01/29/2022 02:34/amn	GCFID-HP5-B_220128A : 15	163307
Oil Range Hydrocarbons (SGT-C24 to C40)	0.13	mg/L	1	J	0.31	0.16	0.091		SW8015C	01/31/2022 22:59/amn	GCFID-HP5-B_220131A : 12	163307
Total Extractable Hydrocarbons	0.30	mg/L	1	J	0.31	0.16	0.078		SW8015C	01/29/2022 02:34/amn	GCFID-HP5-B_220128A : 15	163307
Total Extractable Hydrocarbons (SGT)	0.17	mg/L	1	J	0.31	0.12	0.034		SW8015C	01/31/2022 22:59/amn	GCFID-HP5-B_220131A : 12	163307
Surr: o-Terphenyl	87.0	%REC	1		56-125				SW8015C	01/29/2022 02:34/amn	GCFID-HP5-B_220128A : 15	163307
Surr: o-Terphenyl (SGT)	96.0	%REC	1		56-125				SW8015C	01/31/2022 22:59/amn	GCFID-HP5-B_220131A : 12	163307
Surr: n-Triacontane	92.0	%REC	1		50-150				SW8015C	01/29/2022 02:34/amn	GCFID-HP5-B_220128A : 15	163307
Surr: n-Triacontane (SGT)	103.0	%REC	1		50-150				SW8015C	01/31/2022 22:59/amn	GCFID-HP5-B_220131A : 12	163307
- Note: Total Extractable Hydrocarbons are defined as the total hydrocarbon responses regardless of elution time.												
<b>ORGANIC CHARACTERISTICS</b>												
Methane	ND	mg/L	1	U	0.0020	0.0012	0.00070		SW8015M	01/31/2022 10:13/jdw	FID-HEADSPACE_220131A : 5	R373954
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>												
1,2,4-Trichlorobenzene	ND	ug/L	1	U	10	5.0	1.9		SW8270C	02/4/2022 05:02/dsm	SV5973N.I_220203A : 23	163333
1,2-Dichlorobenzene	ND	ug/L	1	U	10	5.0	2.0		SW8270C	02/4/2022 05:02/dsm	SV5973N.I_220203A : 23	163333
1,3-Dichlorobenzene	ND	ug/L	1	U	10	5.0	2.1		SW8270C	02/4/2022 05:02/dsm	SV5973N.I_220203A : 23	163333
1,4-Dichlorobenzene	ND	ug/L	1	U	10	5.0	2.0		SW8270C	02/4/2022 05:02/dsm	SV5973N.I_220203A : 23	163333
2,4,5-Trichlorophenol	ND	ug/L	1	U	10	5.0	2.2		SW8270C	02/4/2022 05:02/dsm	SV5973N.I_220203A : 23	163333
2,4,6-Trichlorophenol	ND	ug/L	1	U	10	5.0	2.6		SW8270C	02/4/2022 05:02/dsm	SV5973N.I_220203A : 23	163333
2,4-Dichlorophenol	ND	ug/L	1	U	10	5.0	1.7		SW8270C	02/4/2022 05:02/dsm	SV5973N.I_220203A : 23	163333
2,4-Dimethylphenol	ND	ug/L	1	U	10	5.0	1.7		SW8270C	02/4/2022 05:02/dsm	SV5973N.I_220203A : 23	163333
2,4-Dinitrophenol	ND	ug/L	1	U	10	10	4.3		SW8270C	02/4/2022 05:02/dsm	SV5973N.I_220203A : 23	163333
2,4-Dinitrotoluene	ND	ug/L	1	U	10	5.0	3.0		SW8270C	02/4/2022 05:02/dsm	SV5973N.I_220203A : 23	163333



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Lab ID: B22011717-001

Collection Date: 01/25/2022 12:45

Date Received: 01/27/2022

Report Date: 03/04/2022

Revised Date: 03/09/2022

**Client:** AECOM - Honolulu  
**Client Sample ID:** ERH2478 (RHMW19)  
**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
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>												
2,6-Dinitrotoluene	ND	ug/L	1	U	10	5.0	3.2		SW8270C	02/4/2022 05:02/dsm	SV5973N.I_220203A : 23	163333
2-Chloronaphthalene	ND	ug/L	1	U	10	5.0	2.1		SW8270C	02/4/2022 05:02/dsm	SV5973N.I_220203A : 23	163333
2-Chlorophenol	ND	ug/L	1	U	10	5.0	2.5		SW8270C	02/4/2022 05:02/dsm	SV5973N.I_220203A : 23	163333
2-Nitrophenol	ND	ug/L	1	U	10	5.0	2.4		SW8270C	02/4/2022 05:02/dsm	SV5973N.I_220203A : 23	163333
3,3'-Dichlorobenzidine	ND	ug/L	1	U	10	5.0	2.1		SW8270C	02/4/2022 05:02/dsm	SV5973N.I_220203A : 23	163333
4,6-Dinitro-2-methylphenol	ND	ug/L	1	U	10	10	2.3		SW8270C	02/4/2022 05:02/dsm	SV5973N.I_220203A : 23	163333
4-Bromophenyl phenyl ether	ND	ug/L	1	U	10	5.0	1.7		SW8270C	02/4/2022 05:02/dsm	SV5973N.I_220203A : 23	163333
4-Chloro-3-methylphenol	ND	ug/L	1	U	10	5.0	1.5		SW8270C	02/4/2022 05:02/dsm	SV5973N.I_220203A : 23	163333
4-Chlorophenol	ND	ug/L	1	U	10	5.0	2.6		SW8270C	02/4/2022 05:02/dsm	SV5973N.I_220203A : 23	163333
4-Chlorophenyl phenyl ether	ND	ug/L	1	U	10	5.0	2.0		SW8270C	02/4/2022 05:02/dsm	SV5973N.I_220203A : 23	163333
4-Nitrophenol	ND	ug/L	1	U	10	10	2.5		SW8270C	02/4/2022 05:02/dsm	SV5973N.I_220203A : 23	163333
Azobenzene	ND	ug/L	1	U	10	5.0	1.1		SW8270C	02/4/2022 05:02/dsm	SV5973N.I_220203A : 23	163333
bis(-2-chloroethoxy)Methane	ND	ug/L	1	U	10	5.0	1.4		SW8270C	02/4/2022 05:02/dsm	SV5973N.I_220203A : 23	163333
bis(-2-chloroethyl)Ether	ND	ug/L	1	U	10	5.0	2.6		SW8270C	02/4/2022 05:02/dsm	SV5973N.I_220203A : 23	163333
bis(2-chloroisopropyl)Ether	ND	ug/L	1	U	10	5.0	1.5		SW8270C	02/4/2022 05:02/dsm	SV5973N.I_220203A : 23	163333
bis(2-ethylhexyl)Phthalate	ND	ug/L	1	U	10	5.0	1.9		SW8270C	02/4/2022 05:02/dsm	SV5973N.I_220203A : 23	163333
Butylbenzylphthalate	ND	ug/L	1	U	10	5.0	1.6		SW8270C	02/4/2022 05:02/dsm	SV5973N.I_220203A : 23	163333
Di-n-butyl phthalate	ND	ug/L	1	U	10	5.0	0.93		SW8270C	02/4/2022 05:02/dsm	SV5973N.I_220203A : 23	163333
Di-n-octyl phthalate	ND	ug/L	1	U	10	5.0	1.3		SW8270C	02/4/2022 05:02/dsm	SV5973N.I_220203A : 23	163333
Diethyl phthalate	ND	ug/L	1	U	10	5.0	2.2		SW8270C	02/4/2022 05:02/dsm	SV5973N.I_220203A : 23	163333
Dimethyl phthalate	ND	ug/L	1	U	10	5.0	1.7		SW8270C	02/4/2022 05:02/dsm	SV5973N.I_220203A : 23	163333
Hexachlorobenzene	ND	ug/L	1	U	10	5.0	1.3		SW8270C	02/4/2022 05:02/dsm	SV5973N.I_220203A : 23	163333
Hexachlorobutadiene	ND	ug/L	1	U	10	5.0	2.3		SW8270C	02/4/2022 05:02/dsm	SV5973N.I_220203A : 23	163333
Hexachlorocyclopentadiene	ND	ug/L	1	U	10	5.0	3.0		SW8270C	02/4/2022 05:02/dsm	SV5973N.I_220203A : 23	163333
Hexachloroethane	ND	ug/L	1	U	10	5.0	1.8		SW8270C	02/4/2022 05:02/dsm	SV5973N.I_220203A : 23	163333
Isophorone	ND	ug/L	1	U	10	5.0	1.7		SW8270C	02/4/2022 05:02/dsm	SV5973N.I_220203A : 23	163333
m+p-Cresols	ND	ug/L	1	U	10	5.0	1.8		SW8270C	02/4/2022 05:02/dsm	SV5973N.I_220203A : 23	163333
n-Nitroso-di-n-propylamine	ND	ug/L	1	U	10	5.0	1.5		SW8270C	02/4/2022 05:02/dsm	SV5973N.I_220203A : 23	163333
n-Nitrosodimethylamine	ND	ug/L	1	U	10	5.0	1.5		SW8270C	02/4/2022 05:02/dsm	SV5973N.I_220203A : 23	163333
n-Nitrosodiphenylamine	ND	ug/L	1	U	10	5.0	1.2		SW8270C	02/4/2022 05:02/dsm	SV5973N.I_220203A : 23	163333
Nitrobenzene	ND	ug/L	1	U	10	5.0	2.3		SW8270C	02/4/2022 05:02/dsm	SV5973N.I_220203A : 23	163333
o-Cresol	ND	ug/L	1	U	10	5.0	1.8		SW8270C	02/4/2022 05:02/dsm	SV5973N.I_220203A : 23	163333
Pentachlorophenol	ND	ug/L	1	U	10	10	4.2		SW8270C	02/4/2022 05:02/dsm	SV5973N.I_220203A : 23	163333
Phenol	ND	ug/L	1	U	10	5.0	1.5		SW8270C	02/4/2022 05:02/dsm	SV5973N.I_220203A : 23	163333
Pyridine	ND	ug/L	1	U	10	5.0	3.2		SW8270C	02/4/2022 05:02/dsm	SV5973N.I_220203A : 23	163333
Surr: 2,4,6-Tribromophenol	96.0	%REC	1		43-140				SW8270C	02/4/2022 05:02/dsm	SV5973N.I_220203A : 23	163333
Surr: 2-Fluorobiphenyl	63.0	%REC	1		44-119				SW8270C	02/4/2022 05:02/dsm	SV5973N.I_220203A : 23	163333
Surr: 2-Fluorophenol	31.0	%REC	1		19-119				SW8270C	02/4/2022 05:02/dsm	SV5973N.I_220203A : 23	163333
Surr: Nitrobenzene-d5	63.0	%REC	1		44-120				SW8270C	02/4/2022 05:02/dsm	SV5973N.I_220203A : 23	163333



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu  
**Client Sample ID:** ERH2478 (RHMW19)  
**Project:** CV18F0126, 60571032.02.46.01  
**Matrix:** Ground Water

**Lab ID:** B22011717-001  
**Collection Date:** 01/25/2022 12:45  
**Date Received:** 01/27/2022  
**Report Date:** 03/04/2022  
**Revised Date:** 03/09/2022

Analyses	Result	Units	DF	Qual	LOQ	LOD	DL	MCL	Method	Analysis Date / By	RunID : Run Order	BatchID
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>												
Surr: Phenol-d5	29.0	%REC	1		10-65				SW8270C	02/4/2022 05:02/dsm	SV5973N.I_220203A : 23	163333
Surr: Terphenyl-d14	91.0	%REC	1		50-134				SW8270C	02/4/2022 05:02/dsm	SV5973N.I_220203A : 23	163333



**LABORATORY ANALYTICAL REPORT**

Prepared by Billings, MT Branch

Lab ID: B22011717-002

Collection Date: 01/25/2022 12:45

Date Received: 01/27/2022

Report Date: 03/04/2022

Revised Date: 03/09/2022

**Client:** AECOM - Honolulu  
**Client Sample ID:** ERH2477 (Trip Blank) 14694  
**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
<b>VOLATILE ORGANIC COMPOUNDS</b>												
Benzene	ND	ug/L	1	U	1.0	0.20	0.091		SW8260B	01/27/2022 13:23/msc	VOA5975C.I_220127A : 5	R374120
Bromobenzene	ND	ug/L	1	U	1.0	0.20	0.083		SW8260B	01/27/2022 13:23/msc	VOA5975C.I_220127A : 5	R374120
Bromochloromethane	ND	ug/L	1	U	1.0	0.50	0.14		SW8260B	01/27/2022 13:23/msc	VOA5975C.I_220127A : 5	R374120
Bromodichloromethane	ND	ug/L	1	U	1.0	0.25	0.12		SW8260B	01/27/2022 13:23/msc	VOA5975C.I_220127A : 5	R374120
Bromoform	ND	ug/L	1	U	1.0	0.25	0.12		SW8260B	01/27/2022 13:23/msc	VOA5975C.I_220127A : 5	R374120
Carbon tetrachloride	ND	ug/L	1	U	1.0	0.50	0.14		SW8260B	01/27/2022 13:23/msc	VOA5975C.I_220127A : 5	R374120
Chlorobenzene	ND	ug/L	1	U	1.0	0.20	0.091		SW8260B	01/27/2022 13:23/msc	VOA5975C.I_220127A : 5	R374120
Chlorodibromomethane	ND	ug/L	1	U	1.0	0.20	0.084		SW8260B	01/27/2022 13:23/msc	VOA5975C.I_220127A : 5	R374120
Chloroethane	ND	ug/L	1	U	1.0	0.50	0.17		SW8260B	01/27/2022 13:23/msc	VOA5975C.I_220127A : 5	R374120
Chloroform	ND	ug/L	1	U	1.0	0.20	0.079		SW8260B	01/27/2022 13:23/msc	VOA5975C.I_220127A : 5	R374120
Chloromethane	ND	ug/L	1	U	1.0	0.50	0.16		SW8260B	01/27/2022 13:23/msc	VOA5975C.I_220127A : 5	R374120
1,2-Dibromoethane	ND	ug/L	1	U	1.0	0.20	0.092		SW8260B	01/27/2022 13:23/msc	VOA5975C.I_220127A : 5	R374120
2-Chlorotoluene	ND	ug/L	1	U	1.0	0.20	0.088		SW8260B	01/27/2022 13:23/msc	VOA5975C.I_220127A : 5	R374120
4-Chlorotoluene	ND	ug/L	1	U	1.0	0.20	0.073		SW8260B	01/27/2022 13:23/msc	VOA5975C.I_220127A : 5	R374120
Dibromomethane	ND	ug/L	1	U	1.0	0.50	0.15		SW8260B	01/27/2022 13:23/msc	VOA5975C.I_220127A : 5	R374120
1,2-Dichlorobenzene	ND	ug/L	1	U	1.0	0.20	0.075		SW8260B	01/27/2022 13:23/msc	VOA5975C.I_220127A : 5	R374120
1,3-Dichlorobenzene	ND	ug/L	1	U	1.0	0.20	0.080		SW8260B	01/27/2022 13:23/msc	VOA5975C.I_220127A : 5	R374120
1,4-Dichlorobenzene	ND	ug/L	1	U	1.0	0.20	0.086		SW8260B	01/27/2022 13:23/msc	VOA5975C.I_220127A : 5	R374120
Dichlorodifluoromethane	ND	ug/L	1	U	1.0	0.50	0.18		SW8260B	01/27/2022 13:23/msc	VOA5975C.I_220127A : 5	R374120
1,1-Dichloroethane	ND	ug/L	1	U	1.0	0.50	0.14		SW8260B	01/27/2022 13:23/msc	VOA5975C.I_220127A : 5	R374120
1,2-Dichloroethane	ND	ug/L	1	U	1.0	0.25	0.12		SW8260B	01/27/2022 13:23/msc	VOA5975C.I_220127A : 5	R374120
1,1-Dichloroethene	ND	ug/L	1	U	1.0	0.50	0.14		SW8260B	01/27/2022 13:23/msc	VOA5975C.I_220127A : 5	R374120
cis-1,2-Dichloroethene	ND	ug/L	1	U	1.0	0.25	0.11		SW8260B	01/27/2022 13:23/msc	VOA5975C.I_220127A : 5	R374120
trans-1,2-Dichloroethene	ND	ug/L	1	U	1.0	0.25	0.12		SW8260B	01/27/2022 13:23/msc	VOA5975C.I_220127A : 5	R374120
1,2-Dichloropropane	ND	ug/L	1	U	1.0	0.20	0.085		SW8260B	01/27/2022 13:23/msc	VOA5975C.I_220127A : 5	R374120
1,3-Dichloropropane	ND	ug/L	1	U	1.0	0.20	0.079		SW8260B	01/27/2022 13:23/msc	VOA5975C.I_220127A : 5	R374120
2,2-Dichloropropane	ND	ug/L	1	U	1.0	0.50	0.19		SW8260B	01/27/2022 13:23/msc	VOA5975C.I_220127A : 5	R374120
1,1-Dichloropropene	ND	ug/L	1	U	1.0	0.20	0.083		SW8260B	01/27/2022 13:23/msc	VOA5975C.I_220127A : 5	R374120
cis-1,3-Dichloropropene	ND	ug/L	1	U	1.0	0.20	0.073		SW8260B	01/27/2022 13:23/msc	VOA5975C.I_220127A : 5	R374120
trans-1,3-Dichloropropene	ND	ug/L	1	U	1.0	0.20	0.085		SW8260B	01/27/2022 13:23/msc	VOA5975C.I_220127A : 5	R374120
Ethylbenzene	ND	ug/L	1	U	1.0	0.20	0.084		SW8260B	01/27/2022 13:23/msc	VOA5975C.I_220127A : 5	R374120
Methyl ethyl ketone	ND	ug/L	1	U	20	5.0	1.8		SW8260B	01/27/2022 13:23/msc	VOA5975C.I_220127A : 5	R374120
Methyl tert-butyl ether (MTBE)	ND	ug/L	1	U	1.0	0.25	0.10		SW8260B	01/27/2022 13:23/msc	VOA5975C.I_220127A : 5	R374120
Methylene chloride	ND	ug/L	1	U	1.0	0.50	0.34		SW8260B	01/27/2022 13:23/msc	VOA5975C.I_220127A : 5	R374120
Styrene	ND	ug/L	1	U	1.0	0.20	0.067		SW8260B	01/27/2022 13:23/msc	VOA5975C.I_220127A : 5	R374120
1,1,1,2-Tetrachloroethane	ND	ug/L	1	U	1.0	0.25	0.10		SW8260B	01/27/2022 13:23/msc	VOA5975C.I_220127A : 5	R374120
1,1,2,2-Tetrachloroethane	ND	ug/L	1	U	1.0	0.20	0.087		SW8260B	01/27/2022 13:23/msc	VOA5975C.I_220127A : 5	R374120
Tetrachloroethene	ND	ug/L	1	U	1.0	0.20	0.067		SW8260B	01/27/2022 13:23/msc	VOA5975C.I_220127A : 5	R374120
Toluene	0.17	ug/L	1	J	1.0	0.20	0.068		SW8260B	01/27/2022 13:23/msc	VOA5975C.I_220127A : 5	R374120



**LABORATORY ANALYTICAL REPORT**

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu  
**Client Sample ID:** ERH2477 (Trip Blank) 14694  
**Project:** CV18F0126, 60571032.02.46.01  
**Matrix:** Trip Blank

**Lab ID:** B22011717-002  
**Collection Date:** 01/25/2022 12:45  
**Date Received:** 01/27/2022  
**Report Date:** 03/04/2022  
**Revised Date:** 03/09/2022

Analyses	Result	Units	DF	Qual	LOQ	LOD	DL	MCL	Method	Analysis Date / By	RunID : Run Order	BatchID
<b>VOLATILE ORGANIC COMPOUNDS</b>												
1,1,1-Trichloroethane	ND	ug/L	1	U	1.0	0.50	0.13		SW8260B	01/27/2022 13:23/msc	VOA5975C.I_220127A : 5	R374120
1,1,2-Trichloroethane	ND	ug/L	1	U	1.0	0.25	0.11		SW8260B	01/27/2022 13:23/msc	VOA5975C.I_220127A : 5	R374120
Trichloroethene	ND	ug/L	1	U	1.0	0.20	0.099		SW8260B	01/27/2022 13:23/msc	VOA5975C.I_220127A : 5	R374120
Trichlorofluoromethane	ND	ug/L	1	U	1.0	0.50	0.13		SW8260B	01/27/2022 13:23/msc	VOA5975C.I_220127A : 5	R374120
1,2,3-Trichloropropane	ND	ug/L	1	U	1.0	0.50	0.24		SW8260B	01/27/2022 13:23/msc	VOA5975C.I_220127A : 5	R374120
Vinyl chloride	ND	ug/L	1	U	1.0	0.50	0.15		SW8260B	01/27/2022 13:23/msc	VOA5975C.I_220127A : 5	R374120
m+p-Xylenes	ND	ug/L	1	U	1.0	0.50	0.15		SW8260B	01/27/2022 13:23/msc	VOA5975C.I_220127A : 5	R374120
o-Xylene	ND	ug/L	1	U	1.0	0.20	0.060		SW8260B	01/27/2022 13:23/msc	VOA5975C.I_220127A : 5	R374120
Xylenes, Total	ND	ug/L	1	U	1.0	0.20	0.060		SW8260B	01/27/2022 13:23/msc	VOA5975C.I_220127A : 5	R374120
Surr: Dibromofluoromethane	108.0	%REC	1		80-119				SW8260B	01/27/2022 13:23/msc	VOA5975C.I_220127A : 5	R374120
Surr: 1,2-Dichloroethane-d4	113.0	%REC	1		81-118				SW8260B	01/27/2022 13:23/msc	VOA5975C.I_220127A : 5	R374120
Surr: Toluene-d8	101.0	%REC	1		89-112				SW8260B	01/27/2022 13:23/msc	VOA5975C.I_220127A : 5	R374120
Surr: p-Bromofluorobenzene	106.0	%REC	1		85-114				SW8260B	01/27/2022 13:23/msc	VOA5975C.I_220127A : 5	R374120



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu  
**Client Sample ID:** ERH2477 (Trip Blank) 14733  
**Project:** CV18F0126, 60571032.02.46.01  
**Matrix:** Trip Blank

**Lab ID:** B22011717-003  
**Collection Date:** 01/25/2022 12:45  
**Date Received:** 01/27/2022  
**Report Date:** 03/04/2022  
**Revised Date:** 03/09/2022

Analyses	Result	Units	DF	Qual	LOQ	LOD	DL	MCL	Method	Analysis Date / By	RunID : Run Order	BatchID
<b>PETROLEUM HYDROCARBONS-VOLATILE</b>												
C6 to C10	2.3	ug/L	1	J	20	8.7	2.0		SW8015C	01/30/2022 19:49/jp	VARIAN1_220130A : 12	R373955
Total Purgeable Hydrocarbons	4.5	ug/L	1	J	20	10	3.1		SW8015C	01/30/2022 19:49/jp	VARIAN1_220130A : 12	R373955
Surr: Trifluorotoluene	76.0	%REC	1		70-130				SW8015C	01/30/2022 19:49/jp	VARIAN1_220130A : 12	R373955
- 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

**Client:** AECOM - Honolulu  
**Client Sample ID:** ERH2477 (Trip Blank) 14733  
**Project:** CV18F0126, 60571032.02.46.01  
**Matrix:** Trip Blank

**Lab ID:** B22011717-004  
**Collection Date:** 01/25/2022 12:45  
**Date Received:** 01/27/2022  
**Report Date:** 03/04/2022  
**Revised Date:** 03/09/2022

Analyses	Result	Units	DF	Qual	LOQ	LOD	DL	MCL	Method	Analysis Date / By	RunID : Run Order	BatchID
<b>VOCS BY MICROEXTRACTION-ECD</b>												
1,2-Dibromoethane	ND	ug/L	1	U	0.010	0.0049	0.0025		SW8011	01/28/2022 22:36/clt	GECD.I_220128A : 29	163331
Surr: 1,1,1,2-Tetrachloroethane	99.0	%REC	1		70-130				SW8011	01/28/2022 22:36/clt	GECD.I_220128A : 29	163331





### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu  
**Client Sample ID:** ERH2477 (Trip Blank) 14732  
**Project:** CV18F0126, 60571032.02.46.01  
**Matrix:** Trip Blank

**Lab ID:** B22011717-005  
**Collection Date:** 01/25/2022 12:45  
**Date Received:** 01/27/2022  
**Report Date:** 03/04/2022  
**Revised Date:** 03/09/2022

Analyses	Result	Units	DF	Qual	LOQ	LOD	DL	MCL	Method	Analysis Date / By	RunID : Run Order	BatchID
<b>ORGANIC CHARACTERISTICS</b>												
Methane	ND	mg/L	1	U	0.0020	0.0012	0.00070		SW8015M	01/31/2022 10:25/jdw	FID-HEADSPACE_220131A : 7	R373954



### Analytical QC Summary Report

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu  
**Workorder:** B22011717  
**Project:** CV18F0126, 60571032.02.46.01

**Revised Date:** 03/09/2022

**Report Date:** 03/04/2022

**Run ID: Run Order:** SV5975.I\_220207A: 11      **SampType:** Method Blank      **Batch ID:** 163333  
**Method:** SW8270CSIM      **Analysis Date:** 02/07/2022 20:34      **Prep Date:** 01/28/2022 09:32  
**Lab ID:** MB-163333      **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									
Acenaphthene	ND	0.10									
Acenaphthylene	ND	0.10									
Anthracene	ND	0.10									
Benzo(a)anthracene	ND	0.10									
Benzo(a)pyrene	ND	0.10									
Benzo(b)fluoranthene	ND	0.10									
Benzo(g,h,i)perylene	ND	0.10									
Benzo(k)fluoranthene	ND	0.10									
Chrysene	ND	0.10									
Dibenzo(a,h)anthracene	ND	0.10									
Fluoranthene	ND	0.10									
Fluorene	ND	0.10									
Indeno(1,2,3-cd)pyrene	ND	0.10									
Naphthalene	ND	0.10									
Phenanthrene	ND	0.10									
Pyrene	ND	0.10									

Associated Samples: **B22011717-001C**

**Run ID: Run Order:** SV5975.I\_220207A: 12      **SampType:** Laboratory Control Sample      **Batch ID:** 163333  
**Method:** SW8270CSIM      **Analysis Date:** 02/07/2022 21:07      **Prep Date:** 01/28/2022 09:33  
**Lab ID:** LLCS-163333      **Units:** ug/L      **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1-Methylnaphthalene	6.1	0.10	10		61.0	41	115				



### Analytical QC Summary Report

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu  
**Workorder:** B22011717  
**Project:** CV18F0126, 60571032.02.46.01

**Revised Date:** 03/09/2022

**Report Date:** 03/04/2022

**Run ID: Run Order:** SV5975.I\_220207A: 12      **SampType:** Laboratory Control Sample      **Batch ID:** 163333  
**Method:** SW8270CSIM      **Analysis Date:** 02/07/2022 21:07      **Prep Date:** 01/28/2022 09:33  
**Lab ID:** LLCS-163333      **Units:** ug/L      **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
2-Methylnaphthalene	5.9	0.10	10		59.0	39	114				
Acenaphthene	8.0	0.10	10		80.0	48	114				
Acenaphthylene	7.3	0.10	10		73.0	35	121				
Anthracene	7.9	0.10	10		79.0	53	119				
Benzo(a)anthracene	8.9	0.10	10		89.0	59	120				
Benzo(a)pyrene	8.6	0.10	10		86.0	53	120				
Benzo(b)fluoranthene	9.4	0.10	10		94.0	53	126				
Benzo(g,h,i)perylene	9.1	0.10	10		91.0	44	128				
Benzo(k)fluoranthene	9.1	0.10	10		91.0	54	125				
Chrysene	8.9	0.10	10		89.0	57	120				
Dibenzo(a,h)anthracene	9.1	0.10	10		91.0	44	141				
Fluoranthene	8.6	0.10	10		86.0	58	120				
Fluorene	8.3	0.10	10		83.0	50	118				
Indeno(1,2,3-cd)pyrene	8.8	0.10	10		88.0	48	130				
Naphthalene	5.9	0.10	10		59.0	43	114				
Phenanthrene	7.5	0.10	10		75.0	53	115				
Pyrene	8.8	0.10	10		88.0	53	121				

Associated Samples: **B22011717-001C**

**Run ID: Run Order:** SV5975.I\_220207A: 13      **SampType:** Laboratory Control Sample Duplicate      **Batch ID:** 163333  
**Method:** SW8270CSIM      **Analysis Date:** 02/07/2022 21:39      **Prep Date:** 01/28/2022 09:33  
**Lab ID:** LLCSD-163333      **Units:** ug/L      **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1-Methylnaphthalene	5.6	0.10	10		56.0	41	115	6.1	7.9	40.0	
2-Methylnaphthalene	5.5	0.10	10		55.0	39	114	5.9	7.7	40.0	



### Analytical QC Summary Report

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu  
**Workorder:** B22011717  
**Project:** CV18F0126, 60571032.02.46.01

**Revised Date:** 03/09/2022

**Report Date:** 03/04/2022

**Run ID: Run Order:** SV5975.I\_220207A: 13      **SampType:** Laboratory Control Sample Duplicate      **Batch ID:** 163333  
**Method:** SW8270CSIM      **Analysis Date:** 02/07/2022 21:39      **Prep Date:** 01/28/2022 09:33  
**Lab ID:** LLCSD-163333      **Units:** ug/L      **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Acenaphthene	7.7	0.10	10		77.0	48	114	8.0	3.5	40.0	
Acenaphthylene	6.9	0.10	10		69.0	35	121	7.3	6.3	40.0	
Anthracene	7.9	0.10	10		79.0	53	119	7.9	0.3	40.0	
Benzo(a)anthracene	8.7	0.10	10		87.0	59	120	8.9	1.3	40.0	
Benzo(a)pyrene	8.3	0.10	10		83.0	53	120	8.6	3.6	40.0	
Benzo(b)fluoranthene	9.3	0.10	10		93.0	53	126	9.4	1.6	40.0	
Benzo(g,h,i)perylene	9.0	0.10	10		90.0	44	128	9.1	0.8	40.0	
Benzo(k)fluoranthene	9.1	0.10	10		91.0	54	125	9.1	0.4	40.0	
Chrysene	8.8	0.10	10		88.0	57	120	8.9	1.2	40.0	
Dibenzo(a,h)anthracene	9.1	0.10	10		91.0	44	141	9.1	0.4	40.0	
Fluoranthene	8.9	0.10	10		89.0	58	120	8.6	2.7	40.0	
Fluorene	7.9	0.10	10		79.0	50	118	8.3	5.8	40.0	
Indeno(1,2,3-cd)pyrene	8.6	0.10	10		86.0	48	130	8.8	2.4	40.0	
Naphthalene	5.3	0.10	10		53.0	43	114	5.9	11.0	40.0	
Phenanthrene	7.8	0.10	10		78.0	53	115	7.5	3.8	40.0	
Pyrene	9.0	0.10	10		90.0	53	121	8.8	2.1	40.0	

Associated Samples: **B22011717-001C**

**Run ID: Run Order:** SV5975.I\_220207A: 15      **SampType:** Sample Matrix Spike      **Batch ID:** 163333  
**Method:** SW8270CSIM      **Analysis Date:** 02/07/2022 22:44      **Prep Date:** 01/28/2022 09:33  
**Lab ID:** B22011592-001CLMS      **Units:** ug/L      **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1-Methylnaphthalene	2.7	0.10	4.8	0.0	56.0	41	115				
2-Methylnaphthalene	2.8	0.10	4.8	0.0	58.0	39	114				
Acenaphthene	3.7	0.10	4.8	0.0	76.0	48	114				



### Analytical QC Summary Report

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu  
**Workorder:** B22011717  
**Project:** CV18F0126, 60571032.02.46.01

**Revised Date:** 03/09/2022

**Report Date:** 03/04/2022

**Run ID: Run Order:** SV5975.I\_220207A: 15  
**Method:** SW8270CSIM  
**Lab ID:** B22011592-001CLMS

**SampType:** Sample Matrix Spike  
**Analysis Date:** 02/07/2022 22:44  
**Units:** ug/L

**Batch ID:** 163333  
**Prep Date:** 01/28/2022 09:33  
**Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Acenaphthylene	3.4	0.10	4.8	0.0	70.0	35	121				
Anthracene	4.2	0.10	4.8	0.0	87.0	53	119				
Benzo(a)anthracene	4.3	0.10	4.8	0.10	88.0	59	120				
Benzo(a)pyrene	4.0	0.10	4.8	0.0	84.0	53	120				
Benzo(b)fluoranthene	4.6	0.10	4.8	0.17	92.0	53	126				
Benzo(g,h,i)perylene	4.5	0.10	4.8	0.070	93.0	44	128				
Benzo(k)fluoranthene	4.2	0.10	4.8	0.12	85.0	54	125				
Chrysene	4.4	0.10	4.8	0.11	89.0	57	120				
Dibenzo(a,h)anthracene	4.6	0.10	4.8	0.037	94.0	44	141				
Fluoranthene	4.7	0.10	4.8	0.043	96.0	58	120				
Fluorene	3.8	0.10	4.8	0.0	79.0	50	118				
Indeno(1,2,3-cd)pyrene	4.4	0.10	4.8	0.11	89.0	48	130				
Naphthalene	2.7	0.10	4.8	0.0	56.0	43	114				
Phenanthrene	4.1	0.10	4.8	0.0	84.0	53	115				
Pyrene	4.5	0.10	4.8	0.032	92.0	53	121				

Associated Samples: **B22011717-001C**



### Analytical QC Summary Report

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu  
**Workorder:** B22011717  
**Project:** CV18F0126, 60571032.02.46.01

**Revised Date:** 03/09/2022

**Report Date:** 03/04/2022

**Run ID: Run Order:** SV5975.I\_220207A: 17  
**Method:** SW8270CSIM  
**Lab ID:** B22011592-006CLMS

**SampType:** Sample Matrix Spike  
**Analysis Date:** 02/07/2022 23:49  
**Units:** ug/L

**Batch ID:** 163333  
**Prep Date:** 01/28/2022 09:34  
**Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1-Methylnaphthalene	3.3	0.10	5.1	0.0	65.0	41	115				
2-Methylnaphthalene	3.3	0.10	5.1	0.0	64.0	39	114				
Acenaphthene	4.5	0.10	5.1	0.0	89.0	48	114				
Acenaphthylene	4.1	0.10	5.1	0.0	81.0	35	121				
Anthracene	4.6	0.10	5.1	0.0	90.0	53	119				
Benzo(a)anthracene	4.8	0.10	5.1	0.0	94.0	59	120				
Benzo(a)pyrene	4.1	0.10	5.1	0.0	81.0	53	120				
Benzo(b)fluoranthene	4.9	0.10	5.1	0.0	96.0	53	126				
Benzo(g,h,i)perylene	4.7	0.10	5.1	0.0	93.0	44	128				
Benzo(k)fluoranthene	4.5	0.10	5.1	0.0	89.0	54	125				
Chrysene	4.5	0.10	5.1	0.0	89.0	57	120				
Dibenzo(a,h)anthracene	5.0	0.10	5.1	0.0	97.0	44	141				
Fluoranthene	4.9	0.10	5.1	0.0	96.0	58	120				
Fluorene	4.6	0.10	5.1	0.0	90.0	50	118				
Indeno(1,2,3-cd)pyrene	4.5	0.10	5.1	0.0	89.0	48	130				
Naphthalene	3.5	0.10	5.1	0.0	68.0	43	114				
Phenanthrene	4.5	0.10	5.1	0.0	88.0	53	115				
Pyrene	4.7	0.10	5.1	0.0	91.0	53	121				

Associated Samples: **B22011717-001C**



### Analytical QC Summary Report

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu  
**Workorder:** B22011717  
**Project:** CV18F0126, 60571032.02.46.01

**Revised Date:** 03/09/2022

**Report Date:** 03/04/2022

**Run ID: Run Order:** SV5975.I\_220207A: 25      **SampType:** Continuing Calibration Verification Standard      **Batch ID:** R374346  
**Method:** SW8270CSIM      **Analysis Date:** 02/07/2022 19:29      **Prep Date:**  
**Lab ID:** 07-Feb-22\_CCv\_9      **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	2.3	0.10	2.0		114.0	80	120				
Acenaphthene	2.2	0.10	2.0		111.0	80	120				
Acenaphthylene	2.0	0.10	2.0		101.0	80	120				
Anthracene	2.2	0.10	2.0		109.0	80	120				
Benzo(a)anthracene	2.2	0.10	2.0		111.0	80	120				
Benzo(a)pyrene	2.1	0.10	2.0		105.0	80	120				
Benzo(b)fluoranthene	2.2	0.10	2.0		108.0	80	120				
Benzo(g,h,i)perylene	2.2	0.10	2.0		108.0	80	120				
Benzo(k)fluoranthene	2.2	0.10	2.0		112.0	80	120				
Chrysene	2.2	0.10	2.0		110.0	80	120				
Dibenzo(a,h)anthracene	2.2	0.10	2.0		109.0	80	120				
Fluoranthene	2.1	0.10	2.0		103.0	80	120				
Fluorene	2.0	0.10	2.0		99.0	80	120				
Indeno(1,2,3-cd)pyrene	2.1	0.10	2.0		105.0	80	120				
Naphthalene	2.2	0.10	2.0		109.0	80	120				
Phenanthrene	2.0	0.10	2.0		100.0	80	120				
Pyrene	2.1	0.10	2.0		104.0	80	120				

Associated Samples: **B22011717-001C**

**Run ID: Run Order:** SV5975.I\_220207A: 25      **SampType:** Continuing Calibration Verification Standard      **Batch ID:** R374346  
**Method:** SW8270CSIM      **Analysis Date:** 02/08/2022 03:37      **Prep Date:**  
**Lab ID:** 07-Feb-22\_CCv\_24      **Units:** ug/L      **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1-Methylnaphthalene	1.7	0.10	2.0		84.0	50	150				



### Analytical QC Summary Report

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu  
**Workorder:** B22011717  
**Project:** CV18F0126, 60571032.02.46.01

**Revised Date:** 03/09/2022

**Report Date:** 03/04/2022

**Run ID: Run Order:** SV5975.I\_220207A: 25  
**Method:** SW8270CSIM  
**Lab ID:** 07-Feb-22\_CCV\_24

**SampType:** Continuing Calibration Verification Standard  
**Analysis Date:** 02/08/2022 03:37  
**Units:** ug/L

**Batch ID:** R374346  
**Prep Date:**  
**Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
2-Methylnaphthalene	1.9	0.10	2.0		97.0	50	150				
Acenaphthene	1.8	0.10	2.0		91.0	50	150				
Acenaphthylene	1.8	0.10	2.0		90.0	50	150				
Anthracene	1.9	0.10	2.0		95.0	50	150				
Benzo(a)anthracene	1.8	0.10	2.0		92.0	50	150				
Benzo(a)pyrene	1.9	0.10	2.0		93.0	50	150				
Benzo(b)fluoranthene	1.9	0.10	2.0		95.0	50	150				
Benzo(g,h,i)perylene	1.9	0.10	2.0		95.0	50	150				
Benzo(k)fluoranthene	1.9	0.10	2.0		96.0	50	150				
Chrysene	1.9	0.10	2.0		96.0	50	150				
Dibenzo(a,h)anthracene	2.0	0.10	2.0		98.0	50	150				
Fluoranthene	1.9	0.10	2.0		93.0	50	150				
Fluorene	1.8	0.10	2.0		88.0	50	150				
Indeno(1,2,3-cd)pyrene	2.0	0.10	2.0		98.0	50	150				
Naphthalene	1.8	0.10	2.0		91.0	50	150				
Phenanthrene	1.8	0.10	2.0		91.0	50	150				
Pyrene	1.9	0.10	2.0		95.0	50	150				

Associated Samples: **B22011717-001C**





### Analytical QC Summary Report

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu  
**Workorder:** B22011717  
**Project:** CV18F0126, 60571032.02.46.01

**Revised Date:** 03/09/2022

**Report Date:** 03/04/2022

**Run ID: Run Order:** SUB-C279254: 2      **SampType:** Method Blank      **Batch ID:** C\_R279254  
**Method:** SW9060A      **Analysis Date:** 02/01/2022 13:55      **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: **B22011717-001E**  
- TOC Range is 0.1 to 0.1

**Run ID: Run Order:** SUB-C279254: 1      **SampType:** Laboratory Control Sample      **Batch ID:** C\_R279254  
**Method:** SW9060A      **Analysis Date:** 02/01/2022 13:14      **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)	4.8	0.50	5.0		95.0	91	111				

Associated Samples: **B22011717-001E**  
- TOC Range is 4.7 to 4.8

**Run ID: Run Order:** SUB-C279254: 5      **SampType:** Sample Matrix Spike      **Batch ID:** C\_R279254  
**Method:** SW9060A      **Analysis Date:** 02/01/2022 15:58      **Prep Date:**  
**Lab ID:** B22011717-001E      **Units:** mg/L      **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	7.2	0.50	5.0	2.2	98.0	91	111				

Associated Samples: **B22011717-001E**  
- TOC Range is 6.9 to 7.4



### Analytical QC Summary Report

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu  
**Workorder:** B22011717  
**Project:** CV18F0126, 60571032.02.46.01

**Revised Date:** 03/09/2022

**Report Date:** 03/04/2022

**Run ID: Run Order:** SUB-C279254: 6      **SampType:** Sample Matrix Spike Duplicate      **Batch ID:** C\_R279254  
**Method:** SW9060A      **Analysis Date:** 02/01/2022 16:47      **Prep Date:**  
**Lab ID:** B22011717-001E      **Units:** mg/L      **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	7.1	0.50	5.0	2.2	97.0	91	111	7.2	0.7	10.0	

Associated Samples: **B22011717-001E**  
- TOC Range is 7.0 to 7.3

**Run ID: Run Order:** SUB-C279254: 3      **SampType:** Continuing Calibration Verification Standard      **Batch ID:** C\_R279254  
**Method:** SW9060A      **Analysis Date:** 02/01/2022 14:34      **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)	4.7	0.50	5.0		94.0	90	110				

Associated Samples: **B22011717-001E**  
- TOC Range is 4.7 to 4.7

**Run ID: Run Order:** SUB-C279254: 7      **SampType:** Continuing Calibration Verification Standard      **Batch ID:** C\_R279254  
**Method:** SW9060A      **Analysis Date:** 02/01/2022 18:50      **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)	4.7	0.50	5.0		94.0	90	110				

Associated Samples: **B22011717-001E**  
- TOC Range is 4.7 to 4.7



### Analytical QC Summary Report

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu  
**Workorder:** B22011717  
**Project:** CV18F0126, 60571032.02.46.01

**Revised Date:** 03/09/2022

**Report Date:** 03/04/2022

**Run ID: Run Order:** ICPMS207-B\_220131A: 23      **SampType:** Method Blank      **Batch ID:** R373996  
**Method:** SW6020      **Analysis Date:** 01/31/2022 14:42      **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: **B22011717-001A**

**Run ID: Run Order:** ICPMS207-B\_220131A: 24      **SampType:** Laboratory Fortified Blank      **Batch ID:** R373996  
**Method:** SW6020      **Analysis Date:** 01/31/2022 14:49      **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	0.048	0.001	0.050		95.0	88	115				

Associated Samples: **B22011717-001A**

**Run ID: Run Order:** ICPMS207-B\_220131A: 41      **SampType:** Sample Matrix Spike      **Batch ID:** R373996  
**Method:** SW6020      **Analysis Date:** 01/31/2022 16:35      **Prep Date:**  
**Lab ID:** B22011446-001AMS      **Units:** mg/L      **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Lead	0.052	0.001	0.050	0.00	105.0	88	115				

Associated Samples: **B22011717-001A**



### Analytical QC Summary Report

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu  
**Workorder:** B22011717  
**Project:** CV18F0126, 60571032.02.46.01

**Revised Date:** 03/09/2022

**Report Date:** 03/04/2022

**Run ID: Run Order:** ICPMS207-B\_220131A: 42      **SampType:** Sample Matrix Spike Duplicate      **Batch ID:** R373996  
**Method:** SW6020      **Analysis Date:** 01/31/2022 16:41      **Prep Date:**  
**Lab ID:** B22011446-001AMSD      **Units:** mg/L      **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Lead	0.052	0.001	0.050	0.00	103.0	88	115	0.052	1.5	20.0	

Associated Samples: **B22011717-001A**

**Run ID: Run Order:** ICPMS207-B\_220131A: 79      **SampType:** Sample Matrix Spike      **Batch ID:** R373996  
**Method:** SW6020      **Analysis Date:** 01/31/2022 20:31      **Prep Date:**  
**Lab ID:** B22011592-012AMS      **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	0.00	97.0	88	115				

Associated Samples: **B22011717-001A**

**Run ID: Run Order:** ICPMS207-B\_220131A: 80      **SampType:** Sample Matrix Spike Duplicate      **Batch ID:** R373996  
**Method:** SW6020      **Analysis Date:** 01/31/2022 20:38      **Prep Date:**  
**Lab ID:** B22011592-012AMSD      **Units:** mg/L      **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Lead	0.050	0.001	0.050	0.00	99.0	88	115	0.049	2.2	20.0	

Associated Samples: **B22011717-001A**



### Analytical QC Summary Report

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu  
**Workorder:** B22011717  
**Project:** CV18F0126, 60571032.02.46.01

**Revised Date:** 03/09/2022

**Report Date:** 03/04/2022

**Run ID: Run Order:** ICPMS207-B\_220131A: 40      **SampType:** Serial Dilution      **Batch ID:** R373996  
**Method:** SW6020      **Analysis Date:** 01/31/2022 16:28      **Prep Date:**  
**Lab ID:** B22011446-001ADIL      **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: **B22011717-001A**

**Run ID: Run Order:** ICPMS207-B\_220131A: 78      **SampType:** Serial Dilution      **Batch ID:** R373996  
**Method:** SW6020      **Analysis Date:** 01/31/2022 20:25      **Prep Date:**  
**Lab ID:** B22011592-012ADIL      **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: **B22011717-001A**

**Run ID: Run Order:** ICPMS207-B\_220131A: 34      **SampType:** Method Blank      **Batch ID:** 163315  
**Method:** SW6020      **Analysis Date:** 01/31/2022 15:51      **Prep Date:** 01/27/2022 13:46  
**Lab ID:** MB-163315      **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: **B22011717-001B**



### Analytical QC Summary Report

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu  
**Workorder:** B22011717  
**Project:** CV18F0126, 60571032.02.46.01

**Revised Date:** 03/09/2022

**Report Date:** 03/04/2022

**Run ID: Run Order:** ICPMS207-B\_220131A: 35      **SampType:** Laboratory Control Sample      **Batch ID:** 163315  
**Method:** SW6020      **Analysis Date:** 01/31/2022 15:57      **Prep Date:** 01/27/2022 13:46  
**Lab ID:** LCS4-163315      **Units:** mg/L      **Prep Method:** SW3010A

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Lead	0.098	0.001	0.100		98.0	88	115				

Associated Samples: **B22011717-001B**

**Run ID: Run Order:** ICPMS207-B\_220131A: 97      **SampType:** Sample Matrix Spike      **Batch ID:** 163315  
**Method:** SW6020      **Analysis Date:** 01/31/2022 22:24      **Prep Date:** 01/27/2022 13:52  
**Lab ID:** B22011717-001BMS4      **Units:** mg/L      **Prep Method:** SW3010A

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Lead	0.102	0.001	0.100	0	101.0	88	115				

Associated Samples: **B22011717-001B**

**Run ID: Run Order:** ICPMS207-B\_220131A: 98      **SampType:** Sample Matrix Spike Duplicate      **Batch ID:** 163315  
**Method:** SW6020      **Analysis Date:** 01/31/2022 22:30      **Prep Date:** 01/27/2022 13:52  
**Lab ID:** B22011717-001BMSD4      **Units:** mg/L      **Prep Method:** SW3010A

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Lead	0.102	0.001	0.100	0	102.0	88	115	0.102	0.2	20.0	

Associated Samples: **B22011717-001B**



### Analytical QC Summary Report

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu  
**Workorder:** B22011717  
**Project:** CV18F0126, 60571032.02.46.01

**Revised Date:** 03/09/2022

**Report Date:** 03/04/2022

**Run ID: Run Order:** ICPMS207-B\_220131A: 94      **SampType:** Post Digestion/Distillation Spike      **Batch ID:** 163315  
**Method:** SW6020      **Analysis Date:** 01/31/2022 22:05      **Prep Date:** 01/27/2022 13:52  
**Lab ID:** B22011717-001BPDS1      **Units:** mg/L      **Prep Method:** SW3010A

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Lead	0.049	0.001	0.052	0	95.0	80	120				

Associated Samples: **B22011717-001B**

**Run ID: Run Order:** ICPMS207-B\_220131A: 93      **SampType:** Serial Dilution      **Batch ID:** 163315  
**Method:** SW6020      **Analysis Date:** 01/31/2022 21:59      **Prep Date:** 01/27/2022 13:52  
**Lab ID:** B22011717-001BDIL      **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: **B22011717-001B**

**Run ID: Run Order:** ICPMS207-B\_220131A: 83      **SampType:** Continuing Calibration Verification Standard      **Batch ID:** R373996  
**Method:** SW6020      **Analysis Date:** 01/31/2022 20:56      **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	0.053	0.001	0.050		106.0	90	110				

Associated Samples: **B22011717-001A, B22011717-001B**



### Analytical QC Summary Report

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu  
**Workorder:** B22011717  
**Project:** CV18F0126, 60571032.02.46.01

**Revised Date:** 03/09/2022

**Report Date:** 03/04/2022

**Run ID: Run Order:** ICPMS207-B\_220131A: 95

**SampType:** Continuing Calibration Verification Standard

**Batch ID:** R373996

**Method:** SW6020

**Analysis Date:** 01/31/2022 22:11

**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	0.053	0.001	0.050		107.0	90	110				

Associated Samples: **B22011717-001A, B22011717-001B**





### Analytical QC Summary Report

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu  
**Workorder:** B22011717  
**Project:** CV18F0126, 60571032.02.46.01

**Revised Date:** 03/09/2022

**Report Date:** 03/04/2022

**Run ID: Run Order:** VOA5975C.I\_220127A: 4  
**Method:** SW8260B  
**Lab ID:** MBLK012722\_

**SampType:** Method Blank  
**Analysis Date:** 01/27/2022 12:37  
**Units:** ug/L

**Batch ID:** R374120  
**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									
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									
2,2-Dichloropropane	ND	0.50									



### Analytical QC Summary Report

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu  
**Workorder:** B22011717  
**Project:** CV18F0126, 60571032.02.46.01

**Revised Date:** 03/09/2022

**Report Date:** 03/04/2022

**Run ID: Run Order:** VOA5975C.I\_220127A: 4  
**Method:** SW8260B  
**Lab ID:** MBLK012722\_

**SampType:** Method Blank  
**Analysis Date:** 01/27/2022 12:37  
**Units:** ug/L

**Batch ID:** R374120  
**Prep Date:**  
**Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
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	11	0.50	10		107.0	81	118				
Surr: Dibromofluoromethane	10	0.50	10		105.0	80	119				
Surr: p-Bromofluorobenzene	11	0.50	10		106.0	85	114				
Surr: Toluene-d8	10	0.50	10		102.0	89	112				

Associated Samples: B22011717-001F, B22011717-002A



### Analytical QC Summary Report

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu  
**Workorder:** B22011717  
**Project:** CV18F0126, 60571032.02.46.01

**Revised Date:** 03/09/2022

**Report Date:** 03/04/2022

**Run ID: Run Order:** VOA5975C.I\_220127A: 3      **SampType:** Laboratory Control Sample      **Batch ID:** R374120  
**Method:** SW8260B      **Analysis Date:** 01/27/2022 11:13      **Prep Date:**  
**Lab ID:** LCS012722\_      **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	79	120				
Bromobenzene	5.1	0.50	5.0		103.0	80	120				
Bromochloromethane	5.0	0.50	5.0		100.0	78	123				
Bromodichloromethane	5.2	0.50	5.0		104.0	79	125				
Bromoform	5.0	0.50	5.0		100.0	66	130				
Carbon tetrachloride	4.8	0.50	5.0		95.0	72	136				
Chlorobenzene	5.1	0.50	5.0		103.0	82	118				
Chlorodibromomethane	5.0	0.50	5.0		100.0	74	126				
Chloroethane	6.0	0.50	5.0		120.0	60	138				
Chloroform	4.8	0.50	5.0		95.0	79	124				
Chloromethane	4.8	0.50	5.0		96.0	50	139				
1,2-Dibromoethane	5.1	0.50	5.0		103.0	78	122				
2-Chlorotoluene	5.2	0.50	5.0		103.0	79	122				
Dibromomethane	5.1	0.50	5.0		102.0	79	123				
1,2-Dichlorobenzene	5.1	0.50	5.0		102.0	80	119				
4-Chlorotoluene	5.2	0.50	5.0		105.0	78	122				
1,3-Dichlorobenzene	5.2	0.50	5.0		105.0	80	119				
1,4-Dichlorobenzene	5.1	0.50	5.0		102.0	79	118				
Dichlorodifluoromethane	4.8	0.50	5.0		97.0	32	152				
1,1-Dichloroethane	5.1	0.50	5.0		102.0	77	125				
1,2-Dichloroethane	4.8	0.50	5.0		96.0	73	128				
1,1-Dichloroethene	4.9	0.50	5.0		98.0	71	131				
cis-1,2-Dichloroethene	5.0	0.50	5.0		100.0	78	123				
trans-1,2-Dichloroethene	4.9	0.50	5.0		99.0	75	124				
1,2-Dichloropropane	5.0	0.50	5.0		99.0	78	122				
1,3-Dichloropropane	4.9	0.50	5.0		98.0	80	119				
2,2-Dichloropropane	5.0	0.50	5.0		99.0	60	139				



### Analytical QC Summary Report

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu  
**Workorder:** B22011717  
**Project:** CV18F0126, 60571032.02.46.01

**Revised Date:** 03/09/2022

**Report Date:** 03/04/2022

**Run ID: Run Order:** VOA5975C.I\_220127A: 3      **SampType:** Laboratory Control Sample      **Batch ID:** R374120  
**Method:** SW8260B      **Analysis Date:** 01/27/2022 11:13      **Prep Date:**  
**Lab ID:** LCS012722\_      **Units:** ug/L      **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,1-Dichloropropene	4.8	0.50	5.0		95.0	79	125				
cis-1,3-Dichloropropene	4.8	0.50	5.0		96.0	75	124				
trans-1,3-Dichloropropene	5.2	0.50	5.0		105.0	73	127				
Ethylbenzene	5.0	0.50	5.0		100.0	79	121				
Methyl tert-butyl ether (MTBE)	4.9	0.50	5.0		97.0	71	124				
Methyl ethyl ketone	55	10	50		111.0	56	143				
Methylene chloride	4.9	0.50	5.0		98.0	74	124				
Styrene	5.1	0.50	5.0		101.0	78	123				
1,1,1,2-Tetrachloroethane	5.0	0.50	5.0		99.0	78	124				
1,1,2,2-Tetrachloroethane	5.0	0.50	5.0		101.0	71	121				
Tetrachloroethene	4.9	0.50	5.0		98.0	74	129				
Toluene	5.1	0.50	5.0		102.0	80	121				
1,1,1-Trichloroethane	4.9	0.50	5.0		98.0	74	131				
1,1,2-Trichloroethane	5.2	0.50	5.0		103.0	80	119				
Trichloroethene	5.0	0.50	5.0		101.0	79	123				
Trichlorofluoromethane	5.0	0.50	5.0		101.0	65	141				
1,2,3-Trichloropropane	5.0	0.50	5.0		100.0	73	125				
Vinyl chloride	5.1	0.50	5.0		102.0	58	137				
m+p-Xylenes	9.9	0.50	10		99.0	80	121				
o-Xylene	5.0	0.50	5.0		100.0	78	122				
Xylenes, Total	15	0.50	15		99.0	79	121				
Surr: 1,2-Dichloroethane-d4	11	0.50	10		107.0	81	118				
Surr: Dibromofluoromethane	10	0.50	10		103.0	80	119				
Surr: p-Bromofluorobenzene	10	0.50	10		105.0	85	114				
Surr: Toluene-d8	11	0.50	10		105.0	89	112				

Associated Samples: **B22011717-001F, B22011717-002A**



### Analytical QC Summary Report

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu  
**Workorder:** B22011717  
**Project:** CV18F0126, 60571032.02.46.01

**Revised Date:** 03/09/2022

**Report Date:** 03/04/2022

**Run ID: Run Order:** VOA5975C.I\_220127A: 8  
**Method:** SW8260B  
**Lab ID:** B22011717-001FMS

**SampType:** Sample Matrix Spike  
**Analysis Date:** 01/27/2022 15:11  
**Units:** ug/L

**Batch ID:** R374120  
**Prep Date:**  
**Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Benzene	5.0	0.50	5.0	0.0	99.0	79	120				
Bromobenzene	5.0	0.50	5.0	0.0	100.0	80	120				
Bromochloromethane	4.9	0.50	5.0	0.0	98.0	78	123				
Bromodichloromethane	5.2	0.50	5.0	0.0	103.0	79	125				
Bromoform	4.9	0.50	5.0	0.0	98.0	66	130				
Carbon tetrachloride	4.8	0.50	5.0	0.0	96.0	72	136				
Chlorobenzene	5.0	0.50	5.0	0.0	100.0	82	118				
Chlorodibromomethane	4.9	0.50	5.0	0.0	98.0	74	126				
Chloroethane	5.5	0.50	5.0	0.0	109.0	60	138				
Chloroform	4.7	0.50	5.0	0.0	93.0	79	124				
Chloromethane	4.5	0.50	5.0	0.0	90.0	50	139				
1,2-Dibromoethane	4.9	0.50	5.0	0.0	98.0	78	122				
2-Chlorotoluene	5.0	0.50	5.0	0.0	101.0	79	122				
Dibromomethane	4.9	0.50	5.0	0.0	98.0	79	123				
1,2-Dichlorobenzene	5.0	0.50	5.0	0.0	101.0	80	119				
4-Chlorotoluene	5.3	0.50	5.0	0.0	106.0	78	122				
1,3-Dichlorobenzene	5.0	0.50	5.0	0.0	101.0	80	119				
1,4-Dichlorobenzene	5.0	0.50	5.0	0.0	100.0	79	118				
Dichlorodifluoromethane	4.4	0.50	5.0	0.0	88.0	32	152				
1,1-Dichloroethane	5.0	0.50	5.0	0.0	100.0	77	125				
1,2-Dichloroethane	4.8	0.50	5.0	0.0	96.0	73	128				
1,1-Dichloroethene	4.8	0.50	5.0	0.0	97.0	71	131				
cis-1,2-Dichloroethene	5.0	0.50	5.0	0.0	100.0	78	123				
trans-1,2-Dichloroethene	4.9	0.50	5.0	0.0	98.0	75	124				
1,2-Dichloropropane	4.9	0.50	5.0	0.0	98.0	78	122				
1,3-Dichloropropane	4.8	0.50	5.0	0.0	96.0	80	119				
2,2-Dichloropropane	5.1	0.50	5.0	0.0	102.0	60	139				



### Analytical QC Summary Report

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu  
**Workorder:** B22011717  
**Project:** CV18F0126, 60571032.02.46.01

**Revised Date:** 03/09/2022

**Report Date:** 03/04/2022

**Run ID: Run Order:** VOA5975C.I\_220127A: 8  
**Method:** SW8260B  
**Lab ID:** B22011717-001FMS

**SampType:** Sample Matrix Spike  
**Analysis Date:** 01/27/2022 15:11  
**Units:** ug/L

**Batch ID:** R374120  
**Prep Date:**  
**Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,1-Dichloropropene	4.7	0.50	5.0	0.0	94.0	79	125				
cis-1,3-Dichloropropene	4.7	0.50	5.0	0.0	93.0	75	124				
trans-1,3-Dichloropropene	5.1	0.50	5.0	0.0	102.0	73	127				
Ethylbenzene	4.9	0.50	5.0	0.0	99.0	79	121				
Methyl tert-butyl ether (MTBE)	4.8	0.50	5.0	0.0	96.0	71	124				
Methyl ethyl ketone	50	10	50	0.0	100.0	56	143				
Methylene chloride	4.7	0.50	5.0	0.0	94.0	74	124				
Styrene	4.9	0.50	5.0	0.0	98.0	78	123				
1,1,1,2-Tetrachloroethane	4.9	0.50	5.0	0.0	97.0	78	124				
1,1,2,2-Tetrachloroethane	5.1	0.50	5.0	0.0	102.0	71	121				
Tetrachloroethene	4.7	0.50	5.0	0.0	94.0	74	129				
Toluene	5.1	0.50	5.0	0.0	102.0	80	121				
1,1,1-Trichloroethane	4.9	0.50	5.0	0.0	98.0	74	131				
1,1,2-Trichloroethane	4.9	0.50	5.0	0.0	98.0	80	119				
Trichloroethene	5.0	0.50	5.0	0.0	99.0	79	123				
Trichlorofluoromethane	4.5	0.50	5.0	0.0	90.0	65	141				
1,2,3-Trichloropropane	4.7	0.50	5.0	0.0	94.0	73	125				
Vinyl chloride	4.8	0.50	5.0	0.0	95.0	58	137				
m+p-Xylenes	9.6	0.50	10	0.0	96.0	80	121				
o-Xylene	5.0	0.50	5.0	0.0	101.0	78	122				
Xylenes, Total	15	0.50	15	0.0	97.0	79	121				
Surr: 1,2-Dichloroethane-d4	10	0.50	10	0.0	104.0	81	118				
Surr: Dibromofluoromethane	10	0.50	10	0.0	103.0	80	119				
Surr: p-Bromofluorobenzene	10	0.50	10	0.0	104.0	85	114				
Surr: Toluene-d8	10	0.50	10	0.0	105.0	89	112				

Associated Samples: **B22011717-001F, B22011717-002A**



### Analytical QC Summary Report

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu  
**Workorder:** B22011717  
**Project:** CV18F0126, 60571032.02.46.01

**Revised Date:** 03/09/2022

**Report Date:** 03/04/2022

**Run ID: Run Order:** VOA5975C.I\_220127A: 9      **SampType:** Sample Matrix Spike Duplicate      **Batch ID:** R374120  
**Method:** SW8260B      **Analysis Date:** 01/27/2022 15:38      **Prep Date:**  
**Lab ID:** B22011717-001FMSD      **Units:** ug/L      **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Benzene	5.1	0.50	5.0	0.0	102.0	79	120	5.0	2.8	20.0	
Bromobenzene	5.4	0.50	5.0	0.0	108.0	80	120	5.0	6.8	20.0	
Bromochloromethane	5.1	0.50	5.0	0.0	101.0	78	123	4.9	3.2	20.0	
Bromodichloromethane	5.3	0.50	5.0	0.0	106.0	79	125	5.2	2.2	20.0	
Bromoform	5.2	0.50	5.0	0.0	104.0	66	130	4.9	6.3	20.0	
Carbon tetrachloride	5.1	0.50	5.0	0.0	103.0	72	136	4.8	7.1	20.0	
Chlorobenzene	5.3	0.50	5.0	0.0	106.0	82	118	5.0	6.0	20.0	
Chlorodibromomethane	5.1	0.50	5.0	0.0	103.0	74	126	4.9	4.6	20.0	
Chloroethane	5.9	0.50	5.0	0.0	119.0	60	138	5.5	8.2	20.0	
Chloroform	4.8	0.50	5.0	0.0	97.0	79	124	4.7	3.7	20.0	
Chloromethane	4.7	0.50	5.0	0.0	94.0	50	139	4.5	4.5	20.0	
1,2-Dibromoethane	5.2	0.50	5.0	0.0	104.0	78	122	4.9	5.9	20.0	
2-Chlorotoluene	5.5	0.50	5.0	0.0	110.0	79	122	5.0	8.7	20.0	
Dibromomethane	5.0	0.50	5.0	0.0	101.0	79	123	4.9	2.4	20.0	
1,2-Dichlorobenzene	5.4	0.50	5.0	0.0	109.0	80	119	5.0	7.6	20.0	
4-Chlorotoluene	5.6	0.50	5.0	0.0	112.0	78	122	5.3	6.2	20.0	
1,3-Dichlorobenzene	5.5	0.50	5.0	0.0	111.0	80	119	5.0	9.5	20.0	
1,4-Dichlorobenzene	5.3	0.50	5.0	0.0	107.0	79	118	5.0	6.8	20.0	
Dichlorodifluoromethane	5.0	0.50	5.0	0.0	100.0	32	152	4.4	13.0	20.0	
1,1-Dichloroethane	5.4	0.50	5.0	0.0	107.0	77	125	5.0	6.7	20.0	
1,2-Dichloroethane	4.8	0.50	5.0	0.0	96.0	73	128	4.8	0.4	20.0	
1,1-Dichloroethene	5.1	0.50	5.0	0.0	101.0	71	131	4.8	4.6	20.0	
cis-1,2-Dichloroethene	5.2	0.50	5.0	0.0	105.0	78	123	5.0	4.0	20.0	
trans-1,2-Dichloroethene	5.0	0.50	5.0	0.0	101.0	75	124	4.9	2.2	20.0	
1,2-Dichloropropane	5.2	0.50	5.0	0.0	103.0	78	122	4.9	4.9	20.0	
1,3-Dichloropropane	5.0	0.50	5.0	0.0	100.0	80	119	4.8	4.8	20.0	
2,2-Dichloropropane	5.3	0.50	5.0	0.0	106.0	60	139	5.1	3.8	20.0	



### Analytical QC Summary Report

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu  
**Workorder:** B22011717  
**Project:** CV18F0126, 60571032.02.46.01

**Revised Date:** 03/09/2022

**Report Date:** 03/04/2022

**Run ID: Run Order:** VOA5975C.I\_220127A: 9

**SampType:** Sample Matrix Spike Duplicate

**Batch ID:** R374120

**Method:** SW8260B

**Analysis Date:** 01/27/2022 15:38

**Prep Date:**

**Lab ID:** B22011717-001FMSD

**Units:** ug/L

**Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,1-Dichloropropene	4.9	0.50	5.0	0.0	99.0	79	125	4.7	5.4	20.0	
cis-1,3-Dichloropropene	4.9	0.50	5.0	0.0	98.0	75	124	4.7	5.0	20.0	
trans-1,3-Dichloropropene	5.4	0.50	5.0	0.0	108.0	73	127	5.1	5.9	20.0	
Ethylbenzene	5.3	0.50	5.0	0.0	105.0	79	121	4.9	6.4	20.0	
Methyl tert-butyl ether (MTBE)	5.3	0.50	5.0	0.0	105.0	71	124	4.8	8.5	20.0	
Methyl ethyl ketone	51	10	50	0.0	103.0	56	143	50	2.5	20.0	
Methylene chloride	4.9	0.50	5.0	0.0	97.0	74	124	4.7	3.8	20.0	
Styrene	5.3	0.50	5.0	0.0	107.0	78	123	4.9	9.1	20.0	
1,1,1,2-Tetrachloroethane	5.2	0.50	5.0	0.0	104.0	78	124	4.9	6.5	20.0	
1,1,2,2-Tetrachloroethane	5.4	0.50	5.0	0.0	107.0	71	121	5.1	5.5	20.0	
Tetrachloroethene	5.2	0.50	5.0	0.0	105.0	74	129	4.7	11.0	20.0	
Toluene	5.5	0.50	5.0	0.0	109.0	80	121	5.1	6.6	20.0	
1,1,1-Trichloroethane	5.1	0.50	5.0	0.0	102.0	74	131	4.9	3.9	20.0	
1,1,2-Trichloroethane	5.2	0.50	5.0	0.0	105.0	80	119	4.9	6.4	20.0	
Trichloroethene	5.3	0.50	5.0	0.0	106.0	79	123	5.0	6.5	20.0	
Trichlorofluoromethane	5.0	0.50	5.0	0.0	99.0	65	141	4.5	9.1	20.0	
1,2,3-Trichloropropane	5.2	0.50	5.0	0.0	103.0	73	125	4.7	9.7	20.0	
Vinyl chloride	5.0	0.50	5.0	0.0	100.0	58	137	4.8	4.4	20.0	
m+p-Xylenes	10	0.50	10	0.0	103.0	80	121	9.6	7.4	20.0	
o-Xylene	5.3	0.50	5.0	0.0	105.0	78	122	5.0	4.3	20.0	
Xylenes, Total	16	0.50	15	0.0	104.0	79	121	15	6.3	20.0	
Surr: 1,2-Dichloroethane-d4	10	0.50	10	0.0	102.0	81	118	0.0			
Surr: Dibromofluoromethane	10	0.50	10	0.0	101.0	80	119	0.0			
Surr: p-Bromofluorobenzene	10	0.50	10	0.0	104.0	85	114	0.0			
Surr: Toluene-d8	11	0.50	10	0.0	107.0	89	112	0.0			

Associated Samples: **B22011717-001F, B22011717-002A**





### Analytical QC Summary Report

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu  
**Workorder:** B22011717  
**Project:** CV18F0126, 60571032.02.46.01

**Revised Date:** 03/09/2022

**Report Date:** 03/04/2022

**Run ID: Run Order:** VOA5975C.I\_220127A: 2

**SampType:** Continuing Calibration Verification Standard

**Batch ID:** R374120

**Method:** SW8260B

**Analysis Date:** 01/27/2022 10:28

**Prep Date:**

**Lab ID:** CCV012722\_

**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		101.0	80	120				
Bromobenzene	5.0	0.50	5.0		101.0	80	120				
Bromochloromethane	4.8	0.50	5.0		97.0	80	120				
Bromodichloromethane	5.0	0.50	5.0		100.0	80	120				
Bromoform	4.8	0.50	5.0		96.0	80	120				
Carbon tetrachloride	4.9	0.50	5.0		99.0	80	120				
Chlorobenzene	5.0	0.50	5.0		99.0	80	120				
Chlorodibromomethane	4.9	0.50	5.0		99.0	80	120				
Chloroethane	5.8	0.50	5.0		115.0	80	120				
Chloroform	4.8	0.50	5.0		97.0	80	120				
Chloromethane	5.0	0.50	5.0		99.0	80	120				
1,2-Dibromoethane	5.1	0.50	5.0		102.0	80	120				
2-Chlorotoluene	5.0	0.50	5.0		99.0	80	120				
Dibromomethane	4.9	0.50	5.0		98.0	80	120				
1,2-Dichlorobenzene	4.9	0.50	5.0		97.0	80	120				
4-Chlorotoluene	5.1	0.50	5.0		101.0	80	120				
1,3-Dichlorobenzene	4.9	0.50	5.0		97.0	80	120				
1,4-Dichlorobenzene	5.0	0.50	5.0		99.0	80	120				
Dichlorodifluoromethane	5.1	0.50	5.0		102.0	80	120				
1,1-Dichloroethane	5.0	0.50	5.0		99.0	80	120				
1,2-Dichloroethane	5.0	0.50	5.0		101.0	80	120				
1,1-Dichloroethene	4.9	0.50	5.0		98.0	80	120				
cis-1,2-Dichloroethene	5.0	0.50	5.0		100.0	80	120				
trans-1,2-Dichloroethene	4.7	0.50	5.0		95.0	80	120				
1,2-Dichloropropane	5.0	0.50	5.0		100.0	80	120				
1,3-Dichloropropane	5.0	0.50	5.0		100.0	80	120				
2,2-Dichloropropane	5.1	0.50	5.0		103.0	80	120				



### Analytical QC Summary Report

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu  
**Workorder:** B22011717  
**Project:** CV18F0126, 60571032.02.46.01

**Revised Date:** 03/09/2022

**Report Date:** 03/04/2022

**Run ID: Run Order:** VOA5975C.I\_220127A: 2      **SampType:** Continuing Calibration Verification Standard      **Batch ID:** R374120  
**Method:** SW8260B      **Analysis Date:** 01/27/2022 10:28      **Prep Date:**  
**Lab ID:** CCV012722\_      **Units:** ug/L      **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,1-Dichloropropene	4.9	0.50	5.0		98.0	80	120				
cis-1,3-Dichloropropene	5.0	0.50	5.0		100.0	80	120				
trans-1,3-Dichloropropene	5.1	0.50	5.0		102.0	80	120				
Ethylbenzene	4.9	0.50	5.0		98.0	80	120				
Methyl tert-butyl ether (MTBE)	5.1	0.50	5.0		102.0	80	120				
Methyl ethyl ketone	47	10	50		93.0	80	120				
Methylene chloride	4.8	0.50	5.0		95.0	80	120				
Styrene	5.0	0.50	5.0		100.0	80	120				
1,1,1,2-Tetrachloroethane	4.9	0.50	5.0		97.0	80	120				
1,1,2,2-Tetrachloroethane	4.9	0.50	5.0		99.0	80	120				
Tetrachloroethene	5.0	0.50	5.0		99.0	80	120				
Toluene	5.1	0.50	5.0		102.0	80	120				
1,1,1-Trichloroethane	4.9	0.50	5.0		99.0	80	120				
1,1,2-Trichloroethane	5.2	0.50	5.0		104.0	80	120				
Trichloroethene	5.0	0.50	5.0		100.0	80	120				
Trichlorofluoromethane	4.7	0.50	5.0		94.0	80	120				
1,2,3-Trichloropropane	4.8	0.50	5.0		95.0	80	120				
Vinyl chloride	5.0	0.50	5.0		100.0	80	120				
m+p-Xylenes	9.9	0.50	10		99.0	80	120				
o-Xylene	4.9	0.50	5.0		99.0	80	120				
Xylenes, Total	15	0.50	15		99.0	80	120				
Surr: 1,2-Dichloroethane-d4	11	0.50	10		109.0	80	120				
Surr: Dibromofluoromethane	10	0.50	10		103.0	80	120				
Surr: p-Bromofluorobenzene	10	0.50	10		103.0	80	120				
Surr: Toluene-d8	11	0.50	10		105.0	80	120				

Associated Samples: B22011717-001F, B22011717-002A



### Analytical QC Summary Report

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu  
**Workorder:** B22011717  
**Project:** CV18F0126, 60571032.02.46.01

**Revised Date:** 03/09/2022

**Report Date:** 03/04/2022

**Run ID: Run Order:** VOA5975C.I\_220127A: 10      **SampType:** Continuing Calibration Verification Standard      **Batch ID:** R374120  
**Method:** SW8260B      **Analysis Date:** 01/27/2022 16:32      **Prep Date:**  
**Lab ID:** CCV012722\_Closing      **Units:** ug/L      **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Benzene	4.8	0.50	5.0		95.0	50	150				
Bromobenzene	4.9	0.50	5.0		98.0	50	150				
Bromochloromethane	4.8	0.50	5.0		96.0	50	150				
Bromodichloromethane	4.8	0.50	5.0		97.0	50	150				
Bromoform	4.7	0.50	5.0		94.0	50	150				
Carbon tetrachloride	4.8	0.50	5.0		96.0	50	150				
Chlorobenzene	5.0	0.50	5.0		99.0	50	150				
Chlorodibromomethane	4.8	0.50	5.0		96.0	50	150				
Chloroethane	5.7	0.50	5.0		114.0	50	150				
Chloroform	4.6	0.50	5.0		93.0	50	150				
Chloromethane	5.0	0.50	5.0		100.0	50	150				
1,2-Dibromoethane	4.9	0.50	5.0		99.0	50	150				
2-Chlorotoluene	4.9	0.50	5.0		98.0	50	150				
Dibromomethane	4.9	0.50	5.0		99.0	50	150				
1,2-Dichlorobenzene	4.8	0.50	5.0		95.0	50	150				
4-Chlorotoluene	5.1	0.50	5.0		101.0	50	150				
1,3-Dichlorobenzene	4.8	0.50	5.0		96.0	50	150				
1,4-Dichlorobenzene	4.8	0.50	5.0		96.0	50	150				
Dichlorodifluoromethane	5.2	0.50	5.0		104.0	50	150				
1,1-Dichloroethane	4.9	0.50	5.0		98.0	50	150				
1,2-Dichloroethane	4.6	0.50	5.0		92.0	50	150				
1,1-Dichloroethene	4.8	0.50	5.0		95.0	50	150				
cis-1,2-Dichloroethene	4.9	0.50	5.0		97.0	50	150				
trans-1,2-Dichloroethene	4.7	0.50	5.0		93.0	50	150				
1,2-Dichloropropane	5.0	0.50	5.0		100.0	50	150				
1,3-Dichloropropane	4.9	0.50	5.0		98.0	50	150				
2,2-Dichloropropane	5.0	0.50	5.0		100.0	50	150				



### Analytical QC Summary Report

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu  
**Workorder:** B22011717  
**Project:** CV18F0126, 60571032.02.46.01

**Revised Date:** 03/09/2022

**Report Date:** 03/04/2022

**Run ID: Run Order:** VOA5975C.I\_220127A: 10      **SampType:** Continuing Calibration Verification Standard      **Batch ID:** R374120  
**Method:** SW8260B      **Analysis Date:** 01/27/2022 16:32      **Prep Date:**  
**Lab ID:** CCV012722\_Closing      **Units:** ug/L      **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,1-Dichloropropene	5.0	0.50	5.0		100.0	50	150				
cis-1,3-Dichloropropene	4.8	0.50	5.0		96.0	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)	4.8	0.50	5.0		97.0	50	150				
Methyl ethyl ketone	46	10	50		92.0	50	150				
Methylene chloride	4.7	0.50	5.0		94.0	50	150				
Styrene	4.9	0.50	5.0		99.0	50	150				
1,1,1,2-Tetrachloroethane	4.9	0.50	5.0		98.0	50	150				
1,1,2,2-Tetrachloroethane	4.7	0.50	5.0		95.0	50	150				
Tetrachloroethene	4.8	0.50	5.0		95.0	50	150				
Toluene	5.0	0.50	5.0		100.0	50	150				
1,1,1-Trichloroethane	4.8	0.50	5.0		96.0	50	150				
1,1,2-Trichloroethane	4.8	0.50	5.0		96.0	50	150				
Trichloroethene	5.1	0.50	5.0		101.0	50	150				
Trichlorofluoromethane	5.1	0.50	5.0		103.0	50	150				
1,2,3-Trichloropropane	4.7	0.50	5.0		94.0	50	150				
Vinyl chloride	5.0	0.50	5.0		101.0	50	150				
m+p-Xylenes	9.8	0.50	10		98.0	50	150				
o-Xylene	4.9	0.50	5.0		98.0	50	150				
Xylenes, Total	15	0.50	15		98.0	50	150				
Surr: 1,2-Dichloroethane-d4	10	0.50	10		103.0	50	150				
Surr: Dibromofluoromethane	10	0.50	10		101.0	50	150				
Surr: p-Bromofluorobenzene	10	0.50	10		103.0	50	150				
Surr: Toluene-d8	11	0.50	10		105.0	50	150				

Associated Samples: **B22011717-001F, B22011717-002A**



### Analytical QC Summary Report

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu  
**Workorder:** B22011717  
**Project:** CV18F0126, 60571032.02.46.01

**Revised Date:** 03/09/2022

**Report Date:** 03/04/2022

**Run ID: Run Order:** GECD.I\_220128A: 10      **SampType:** Method Blank      **Batch ID:** 163331  
**Method:** SW8011      **Analysis Date:** 01/28/2022 15:21      **Prep Date:** 01/28/2022 08:52  
**Lab ID:** MB-163331      **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	0.097	0.020	0.10		97.0	70	130				

Associated Samples: **B22011717-001H, B22011717-004A**

**Run ID: Run Order:** GECD.I\_220128A: 11      **SampType:** Laboratory Control Sample      **Batch ID:** 163331  
**Method:** SW8011      **Analysis Date:** 01/28/2022 15:41      **Prep Date:** 01/28/2022 08:52  
**Lab ID:** LCS-163331      **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		97.0	60	140				
Surr: 1,1,1,2-Tetrachloroethane	0.095	0.020	0.10		95.0	70	130				

Associated Samples: **B22011717-001H, B22011717-004A**

**Run ID: Run Order:** GECD.I\_220128A: 12      **SampType:** Laboratory Control Sample      **Batch ID:** 163331  
**Method:** SW8011      **Analysis Date:** 01/28/2022 16:00      **Prep Date:** 01/28/2022 08:53  
**Lab ID:** LCS1-163331      **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	60	140				
Surr: 1,1,1,2-Tetrachloroethane	0.094	0.020	0.10		94.0	70	130				

Associated Samples: **B22011717-001H, B22011717-004A**



### Analytical QC Summary Report

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu  
**Workorder:** B22011717  
**Project:** CV18F0126, 60571032.02.46.01

**Revised Date:** 03/09/2022

**Report Date:** 03/04/2022

**Run ID: Run Order:** GECD.I\_220128A: 21      **SampType:** Sample Matrix Spike      **Batch ID:** 163331  
**Method:** SW8011      **Analysis Date:** 01/28/2022 19:18      **Prep Date:** 01/28/2022 08:54  
**Lab ID:** B22011592-001HMS      **Units:** ug/L      **Prep Method:** SW8011

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.26	0.010	0.24	0.0	107.0	60	140				
Surr: 1,1,1,2-Tetrachloroethane	0.095	0.020	0.098	0.0	97.0	70	130				

Associated Samples: **B22011717-001H, B22011717-004A**

**Run ID: Run Order:** GECD.I\_220128A: 22      **SampType:** Sample Matrix Spike Duplicate      **Batch ID:** 163331  
**Method:** SW8011      **Analysis Date:** 01/28/2022 19:38      **Prep Date:** 01/28/2022 08:54  
**Lab ID:** B22011592-001HMSD      **Units:** ug/L      **Prep Method:** SW8011

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.27	0.010	0.24	0.0	112.0	60	140	0.26	3.5	20.0	
Surr: 1,1,1,2-Tetrachloroethane	0.10	0.020	0.097	0.0	103.0	70	130	0.0			

Associated Samples: **B22011717-001H, B22011717-004A**

**Run ID: Run Order:** GECD.I\_220128A: 23      **SampType:** Continuing Calibration Verification Standard      **Batch ID:** 163331  
**Method:** SW8011      **Analysis Date:** 01/28/2022 20:18      **Prep Date:** 01/28/2022 08:53  
**Lab ID:** CAL5-163331      **Units:** ug/L      **Prep Method:** SW8011

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.42	0.010	0.40		105.0	80	120				
Surr: 1,1,1,2-Tetrachloroethane	0.44	0.020	0.40		109.0	80	120				

Associated Samples: **B22011717-001H, B22011717-004A**



### Analytical QC Summary Report

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu  
**Workorder:** B22011717  
**Project:** CV18F0126, 60571032.02.46.01

**Revised Date:** 03/09/2022

**Report Date:** 03/04/2022

**Run ID: Run Order:** GECD.I\_220128A: 30

**SampType:** Continuing Calibration Verification Standard

**Batch ID:** 163331

**Method:** SW8011

**Analysis Date:** 01/28/2022 23:16

**Prep Date:** 01/28/2022 08:53

**Lab ID:** CAL3-163331

**Units:** ug/L

**Prep Method:** SW8011

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.11	0.010	0.10		106.0	80	120				
Surr: 1,1,1,2-Tetrachloroethane	0.10	0.020	0.10		101.0	80	120				

Associated Samples: **B22011717-001H, B22011717-004A**



### Analytical QC Summary Report

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu  
**Workorder:** B22011717  
**Project:** CV18F0126, 60571032.02.46.01

**Revised Date:** 03/09/2022

**Report Date:** 03/04/2022

**Run ID: Run Order:** GCFID-HP5-B\_220128A: 5      **SampType:** Method Blank      **Batch ID:** 163307  
**Method:** SW8015C      **Analysis Date:** 01/28/2022 15:52      **Prep Date:** 01/27/2022 12:44  
**Lab ID:** MB-163307      **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	0.095	0.0020	0.10		95.0	50	150				

Associated Samples: **B22011717-001D**

**Run ID: Run Order:** GCFID-HP5-B\_220131A: 5      **SampType:** Method Blank      **Batch ID:** 163307  
**Method:** SW8015C      **Analysis Date:** 01/31/2022 16:32      **Prep Date:** 01/27/2022 12:44  
**Lab ID:** MB-163307      **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)	0.18	0.0020	0.20		89.0	56	125				
Surr: n-Triacontane (SGT)	0.094	0.0020	0.10		94.0	50	150				

Associated Samples: **B22011717-001D**





### Analytical QC Summary Report

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu  
**Workorder:** B22011717  
**Project:** CV18F0126, 60571032.02.46.01

**Revised Date:** 03/09/2022

**Report Date:** 03/04/2022

**Run ID: Run Order:** GCFID-HP5-B\_220128A: 3      **SampType:** Laboratory Control Sample      **Batch ID:** 163307  
**Method:** SW8015C      **Analysis Date:** 01/28/2022 14:27      **Prep Date:** 01/27/2022 12:44  
**Lab ID:** LCS-163307      **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	15		78.0	36	132				
Total Extractable Hydrocarbons	12	0.30	15		83.0	60	132				
Surr: o-Terphenyl	0.18	0.0020	0.20		92.0	56	125				

Associated Samples: **B22011717-001D**

**Run ID: Run Order:** GCFID-HP5-B\_220128A: 4      **SampType:** Laboratory Control Sample Duplicate      **Batch ID:** 163307  
**Method:** SW8015C      **Analysis Date:** 01/28/2022 15:10      **Prep Date:** 01/27/2022 12:44  
**Lab ID:** LCSD-163307      **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	15		81.0	36	132	12	3.7	20.0	
Total Extractable Hydrocarbons	13	0.30	15		86.0	60	132	12	3.6	20.0	
Surr: o-Terphenyl	0.19	0.0020	0.20		95.0	56	125	0.0			

Associated Samples: **B22011717-001D**

**Run ID: Run Order:** GCFID-HP5-B\_220128A: 20      **SampType:** Laboratory Control Sample      **Batch ID:** 163307  
**Method:** SW8015C      **Analysis Date:** 01/29/2022 08:15      **Prep Date:** 01/27/2022 12:44  
**Lab ID:** LCS-163307-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)	4.6	0.30	5.0		92.0	41	113				
Surr: n-Triacontane	0.095	0.0020	0.10		95.0	50	150				

Associated Samples: **B22011717-001D**



### Analytical QC Summary Report

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu  
**Workorder:** B22011717  
**Project:** CV18F0126, 60571032.02.46.01

**Revised Date:** 03/09/2022

**Report Date:** 03/04/2022

**Run ID: Run Order:** GCFID-HP5-B\_220128A: 21      **SampType:** Laboratory Control Sample Duplicate      **Batch ID:** 163307  
**Method:** SW8015C      **Analysis Date:** 01/29/2022 09:40      **Prep Date:** 01/27/2022 12:44  
**Lab ID:** LCSD-163307-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)	5.1	0.30	5.0		102.0	41	113	4.6	9.5	20.0	
Surr: n-Triacontane	0.10	0.0020	0.10		101.0	50	150	0.0			

Associated Samples: **B22011717-001D**

**Run ID: Run Order:** GCFID-HP5-B\_220131A: 3      **SampType:** Laboratory Control Sample      **Batch ID:** 163307  
**Method:** SW8015C      **Analysis Date:** 01/31/2022 15:06      **Prep Date:** 01/27/2022 12:44  
**Lab ID:** LCS-163307      **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		80.0	36	132				
Total Extractable Hydrocarbons (SGT)	13	0.30	15		85.0	60	132				
Surr: o-Terphenyl (SGT)	0.19	0.0020	0.20		97.0	56	125				

Associated Samples: **B22011717-001D**

**Run ID: Run Order:** GCFID-HP5-B\_220131A: 4      **SampType:** Laboratory Control Sample Duplicate      **Batch ID:** 163307  
**Method:** SW8015C      **Analysis Date:** 01/31/2022 15:49      **Prep Date:** 01/27/2022 12:44  
**Lab ID:** LCSD-163307      **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		76.0	36	132	12	5.1	20.0	
Total Extractable Hydrocarbons (SGT)	12	0.30	15		81.0	60	132	13	5.0	20.0	
Surr: o-Terphenyl (SGT)	0.19	0.0020	0.20		93.0	56	125	0.0			

Associated Samples: **B22011717-001D**



### Analytical QC Summary Report

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu  
**Workorder:** B22011717  
**Project:** CV18F0126, 60571032.02.46.01

**Revised Date:** 03/09/2022

**Report Date:** 03/04/2022

**Run ID: Run Order:** GCFID-HP5-B\_220131A: 18      **SampType:** Laboratory Control Sample      **Batch ID:** 163307  
**Method:** SW8015C      **Analysis Date:** 02/01/2022 06:07      **Prep Date:** 01/27/2022 12:44  
**Lab ID:** LCS-163307-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		91.0	41	113				
Surr: n-Triacontane (SGT)	0.086	0.0020	0.10		86.0	50	150				

Associated Samples: **B22011717-001D**

**Run ID: Run Order:** GCFID-HP5-B\_220131A: 19      **SampType:** Laboratory Control Sample Duplicate      **Batch ID:** 163307  
**Method:** SW8015C      **Analysis Date:** 02/01/2022 07:33      **Prep Date:** 01/27/2022 12:44  
**Lab ID:** LCSD-163307-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	5.0		92.0	41	113	4.5	1.9	20.0	
Surr: n-Triacontane (SGT)	0.088	0.0020	0.10		88.0	50	150	0.0			

Associated Samples: **B22011717-001D**

**Run ID: Run Order:** GCFID-HP5-B\_220128A: 7      **SampType:** Sample Matrix Spike      **Batch ID:** 163307  
**Method:** SW8015C      **Analysis Date:** 01/28/2022 17:18      **Prep Date:** 01/27/2022 12:44  
**Lab ID:** B22011592-001DMS      **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)	11	0.30	14	0.091	77.0	36	132				
Total Extractable Hydrocarbons	12	0.30	14	0.15	83.0	60	132				
Surr: o-Terphenyl	0.17	0.0020	0.19	0.0	91.0	56	125				

Associated Samples: **B22011717-001D**



### Analytical QC Summary Report

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu  
**Workorder:** B22011717  
**Project:** CV18F0126, 60571032.02.46.01

**Revised Date:** 03/09/2022

**Report Date:** 03/04/2022

**Run ID: Run Order:** GCFID-HP5-B\_220128A: 12      **SampType:** Sample Matrix Spike      **Batch ID:** 163307  
**Method:** SW8015C      **Analysis Date:** 01/28/2022 22:17      **Prep Date:** 01/27/2022 12:45  
**Lab ID:** B22011592-006DMS-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	0.25	96.0	41	113				
Surr: n-Triacontane	0.098	0.0020	0.10	0.0	98.0	50	150				

Associated Samples: **B22011717-001D**

**Run ID: Run Order:** GCFID-HP5-B\_220131A: 7      **SampType:** Sample Matrix Spike      **Batch ID:** 163307  
**Method:** SW8015C      **Analysis Date:** 01/31/2022 17:58      **Prep Date:** 01/27/2022 12:44  
**Lab ID:** B22011592-001DMS      **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)	11	0.30	14	0.0	77.0	36	132				
Total Extractable Hydrocarbons (SGT)	12	0.30	14	0.0	82.0	60	132				
Surr: o-Terphenyl (SGT)	0.17	0.0020	0.19	0.0	92.0	56	125				

Associated Samples: **B22011717-001D**

**Run ID: Run Order:** GCFID-HP5-B\_220131A: 17      **SampType:** Sample Matrix Spike      **Batch ID:** 163307  
**Method:** SW8015C      **Analysis Date:** 02/01/2022 04:42      **Prep Date:** 01/27/2022 12:45  
**Lab ID:** B22011592-006DMS-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)	5.3	0.30	5.0	0.0	105.0	41	113				
Surr: n-Triacontane (SGT)	0.10	0.0020	0.10	0.0	101.0	50	150				

Associated Samples: **B22011717-001D**



### Analytical QC Summary Report

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu  
**Workorder:** B22011717  
**Project:** CV18F0126, 60571032.02.46.01

**Revised Date:** 03/09/2022

**Report Date:** 03/04/2022

**Run ID: Run Order:** VARIAN1\_220130A: 4      **SampType:** Method Blank      **Batch ID:** R373955  
**Method:** SW8015C      **Analysis Date:** 01/30/2022 14:07      **Prep Date:**  
**Lab ID:** MBLK\_0130VAR08r      **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	19	1.0	25		77.0	70	130				

Associated Samples: **B22011717-001G, B22011717-003A**

**Run ID: Run Order:** VARIAN1\_220130A: 19      **SampType:** Method Blank      **Batch ID:** R373955  
**Method:** SW8015C      **Analysis Date:** 01/31/2022 00:22      **Prep Date:**  
**Lab ID:** MBLK\_0130VAR26r      **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	19	1.0	25		75.0	70	130				

Associated Samples: **B22011717-001G, B22011717-003A**

**Run ID: Run Order:** VARIAN1\_220130A: 3      **SampType:** Laboratory Control Sample      **Batch ID:** R373955  
**Method:** SW8015C      **Analysis Date:** 01/30/2022 13:33      **Prep Date:**  
**Lab ID:** LCS\_0130VAR07r      **Units:** ug/L      **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
C6 to C10	145	20	170		85.0	78	122				
Total Purgeable Hydrocarbons	170	20	200		85.0	70	130				
Surr: Trifluorotoluene	21	1.0	25		85.0	70	130				

Associated Samples: **B22011717-001G, B22011717-003A**



### Analytical QC Summary Report

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu  
**Workorder:** B22011717  
**Project:** CV18F0126, 60571032.02.46.01

**Revised Date:** 03/09/2022

**Report Date:** 03/04/2022

**Run ID: Run Order:** VARIAN1\_220130A: 18      **SampType:** Laboratory Control Sample      **Batch ID:** R373955  
**Method:** SW8015C      **Analysis Date:** 01/30/2022 23:48      **Prep Date:**  
**Lab ID:** LCS\_0130VAR25r      **Units:** ug/L      **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
C6 to C10	140	20	170		83.0	78	122				
Total Purgeable Hydrocarbons	163	20	200		82.0	70	130				
Surr: Trifluorotoluene	21	1.0	25		84.0	70	130				

Associated Samples: **B22011717-001G, B22011717-003A**

**Run ID: Run Order:** VARIAN1\_220130A: 26      **SampType:** Sample Matrix Spike      **Batch ID:** R373955  
**Method:** SW8015C      **Analysis Date:** 01/31/2022 08:20      **Prep Date:**  
**Lab ID:** B22011592-001GMS      **Units:** ug/L      **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
C6 to C10	142	20	170	0.0	83.0	78	122				
Total Purgeable Hydrocarbons	170	20	200	3.2	83.0	70	130				
Surr: Trifluorotoluene	21	1.0	25	0.0	85.0	70	130				

Associated Samples: **B22011717-001G, B22011717-003A**

**Run ID: Run Order:** VARIAN1\_220130A: 27      **SampType:** Sample Matrix Spike Duplicate      **Batch ID:** R373955  
**Method:** SW8015C      **Analysis Date:** 01/31/2022 08:54      **Prep Date:**  
**Lab ID:** B22011592-001GMSD      **Units:** ug/L      **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
C6 to C10	148	20	170	0.0	87.0	78	122	142	4.4	20.0	
Total Purgeable Hydrocarbons	178	20	200	3.2	87.0	70	130	170	4.6	20.0	
Surr: Trifluorotoluene	21	1.0	25	0.0	86.0	70	130	0.0			

Associated Samples: **B22011717-001G, B22011717-003A**



### Analytical QC Summary Report

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu  
**Workorder:** B22011717  
**Project:** CV18F0126, 60571032.02.46.01

**Revised Date:** 03/09/2022

**Report Date:** 03/04/2022

**Run ID: Run Order:** GCFID-HP5-B\_220128A: 13      **SampType:** Continuing Calibration Verification Standard      **Batch ID:** R373923  
**Method:** SW8015C      **Analysis Date:** 01/28/2022 23:43      **Prep Date:**  
**Lab ID:** CCV\_0128HP519r-W      **Units:** mg/L      **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
TEH(Oil Range)	4.8	0.30	5.0		96.0	80	120				
Surr: n-Triacontane	0.21	0.0020	0.20		106.0	80	120				

Associated Samples: **B22011717-001D**

**Run ID: Run Order:** GCFID-HP5-B\_220128A: 14      **SampType:** Continuing Calibration Verification Standard      **Batch ID:** R373923  
**Method:** SW8015C      **Analysis Date:** 01/29/2022 00:25      **Prep Date:**  
**Lab ID:** CCV\_0128HP520r      **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		92.0	80	120				
Total Extractable Hydrocarbons	14	0.30	15		96.0	80	120				
Surr: o-Terphenyl	0.19	0.0020	0.20		95.0	80	120				

Associated Samples: **B22011717-001D**

**Run ID: Run Order:** GCFID-HP5-B\_220128A: 22      **SampType:** Continuing Calibration Verification Standard      **Batch ID:** R373923  
**Method:** SW8015C      **Analysis Date:** 01/29/2022 11:52      **Prep Date:**  
**Lab ID:** CCV\_0128HP535r-W      **Units:** mg/L      **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
TEH(Oil Range)	4.9	0.30	5.0		99.0	80	120				
Surr: n-Triacontane	0.21	0.0020	0.20		106.0	80	120				

Associated Samples: **B22011717-001D**



### Analytical QC Summary Report

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu  
**Workorder:** B22011717  
**Project:** CV18F0126, 60571032.02.46.01

**Revised Date:** 03/09/2022

**Report Date:** 03/04/2022

**Run ID: Run Order:** GCFID-HP5-B\_220128A: 23      **SampType:** Continuing Calibration Verification Standard      **Batch ID:** R373923  
**Method:** SW8015C      **Analysis Date:** 01/29/2022 12:34      **Prep Date:**  
**Lab ID:** CCV\_0128HP536r      **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		95.0	80	120				
Total Extractable Hydrocarbons	15	0.30	15		98.0	80	120				
Surr: o-Terphenyl	0.20	0.0020	0.20		98.0	80	120				

Associated Samples: **B22011717-001D**

**Run ID: Run Order:** VARIAN1\_220130A: 2      **SampType:** Continuing Calibration Verification Standard      **Batch ID:** R373955  
**Method:** SW8015C      **Analysis Date:** 01/30/2022 12:59      **Prep Date:**  
**Lab ID:** CCV\_0130VAR06r      **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	168		106.0	80	120				
Total Purgeable Hydrocarbons	211	20	200		105.0	80	120				
Surr: Trifluorotoluene	22	1.0	25		89.0	80	120				

Associated Samples: **B22011717-001G, B22011717-003A**

**Run ID: Run Order:** VARIAN1\_220130A: 17      **SampType:** Continuing Calibration Verification Standard      **Batch ID:** R373955  
**Method:** SW8015C      **Analysis Date:** 01/30/2022 23:14      **Prep Date:**  
**Lab ID:** CCV\_0130VAR24r      **Units:** ug/L      **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
C6 to C10	175	20	168		104.0	80	120				
Total Purgeable Hydrocarbons	210	20	200		105.0	80	120				
Surr: Trifluorotoluene	22	1.0	25		88.0	80	120				

Associated Samples: **B22011717-001G, B22011717-003A**





### Analytical QC Summary Report

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu  
**Workorder:** B22011717  
**Project:** CV18F0126, 60571032.02.46.01

**Revised Date:** 03/09/2022

**Report Date:** 03/04/2022

**Run ID: Run Order:** VARIAN1\_220130A: 29      **SampType:** Continuing Calibration Verification Standard      **Batch ID:** R373955  
**Method:** SW8015C      **Analysis Date:** 01/31/2022 10:37      **Prep Date:**  
**Lab ID:** CCV\_0130VAR44r      **Units:** ug/L      **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
C6 to C10	168	20	168		100.0	80	120				
Total Purgeable Hydrocarbons	202	20	200		101.0	80	120				
Surr: Trifluorotoluene	21	1.0	25		85.0	80	120				

Associated Samples: **B22011717-001G, B22011717-003A**

**Run ID: Run Order:** GCFID-HP5-B\_220131A: 1      **SampType:** Continuing Calibration Verification Standard      **Batch ID:** R373995  
**Method:** SW8015C      **Analysis Date:** 01/31/2022 12:58      **Prep Date:**  
**Lab ID:** CCV\_0131HP504r-W      **Units:** mg/L      **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
TEH(Oil Range)	4.9	0.30	5.0		97.0	80	120				
Surr: n-Triacontane	0.22	0.0020	0.20		110.0	80	120				

Associated Samples: **B22011717-001D**

**Run ID: Run Order:** GCFID-HP5-B\_220131A: 2      **SampType:** Continuing Calibration Verification Standard      **Batch ID:** R373995  
**Method:** SW8015C      **Analysis Date:** 01/31/2022 13:40      **Prep Date:**  
**Lab ID:** CCV\_0131HP505r      **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		99.0	80	120				

Associated Samples: **B22011717-001D**



### Analytical QC Summary Report

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu  
**Workorder:** B22011717  
**Project:** CV18F0126, 60571032.02.46.01

**Revised Date:** 03/09/2022

**Report Date:** 03/04/2022

**Run ID: Run Order:** GCFID-HP5-B\_220131A: 13      **SampType:** Continuing Calibration Verification Standard      **Batch ID:** R373995  
**Method:** SW8015C      **Analysis Date:** 02/01/2022 00:25      **Prep Date:**  
**Lab ID:** CCV\_0131HP520r-W      **Units:** mg/L      **Prep Method:**

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	80	120				
Surr: n-Triacontane	0.22	0.0020	0.20		112.0	80	120				

Associated Samples: **B22011717-001D**

**Run ID: Run Order:** GCFID-HP5-B\_220131A: 14      **SampType:** Continuing Calibration Verification Standard      **Batch ID:** R373995  
**Method:** SW8015C      **Analysis Date:** 02/01/2022 01:08      **Prep Date:**  
**Lab ID:** CCV\_0131HP521r      **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	15	0.30	15		103.0	80	120				
Surr: o-Terphenyl	0.20	0.0020	0.20		102.0	80	120				

Associated Samples: **B22011717-001D**



### Analytical QC Summary Report

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu  
**Workorder:** B22011717  
**Project:** CV18F0126, 60571032.02.46.01

**Revised Date:** 03/09/2022

**Report Date:** 03/04/2022

**Run ID: Run Order:** FID-HEADSPACE\_220131A: 4      **SampType:** Method Blank      **Batch ID:** R373954  
**Method:** SW8015M      **Analysis Date:** 01/31/2022 10:07      **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: B22011717-001I, B22011717-005A

**Run ID: Run Order:** FID-HEADSPACE\_220131A: 2      **SampType:** Laboratory Control Sample      **Batch ID:** R373954  
**Method:** SW8015M      **Analysis Date:** 01/31/2022 09:06      **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	100	2.0	100		100.0	85	115				

Associated Samples: B22011717-001I, B22011717-005A

**Run ID: Run Order:** FID-HEADSPACE\_220131A: 3      **SampType:** Laboratory Control Sample Duplicate      **Batch ID:** R373954  
**Method:** SW8015M      **Analysis Date:** 01/31/2022 09:12      **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	100	2.0	100		100.0	85	115	100	0.3	20.0	

Associated Samples: B22011717-001I, B22011717-005A



### Analytical QC Summary Report

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu  
**Workorder:** B22011717  
**Project:** CV18F0126, 60571032.02.46.01

**Revised Date:** 03/09/2022

**Report Date:** 03/04/2022

**Run ID: Run Order:** FID-HEADSPACE\_220131A: 6  
**Method:** SW8015M  
**Lab ID:** B22011717-001IDUP  
**SampType:** Sample Duplicate  
**Analysis Date:** 01/31/2022 10:18  
**Units:** mg/L

**Batch ID:** R373954  
**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: B22011717-001I, B22011717-005A

**Run ID: Run Order:** FID-HEADSPACE\_220131A: 1  
**Method:** SW8015M  
**Lab ID:** CCV  
**SampType:** Continuing Calibration Verification Standard  
**Analysis Date:** 01/31/2022 09:00  
**Units:** ppm

**Batch ID:** R373954  
**Prep Date:**  
**Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Methane	100	2.0	100		101.0	85	115				

Associated Samples: B22011717-001I, B22011717-005A

**Run ID: Run Order:** FID-HEADSPACE\_220131A: 8  
**Method:** SW8015M  
**Lab ID:** CCV  
**SampType:** Continuing Calibration Verification Standard  
**Analysis Date:** 01/31/2022 10:29  
**Units:** ppm

**Batch ID:** R373954  
**Prep Date:**  
**Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Methane	100	2.0	100		102.0	85	115				

Associated Samples: B22011717-001I, B22011717-005A



### Analytical QC Summary Report

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu  
**Workorder:** B22011717  
**Project:** CV18F0126, 60571032.02.46.01

**Revised Date:** 03/09/2022

**Report Date:** 03/04/2022

**Run ID: Run Order:** SV5973N.I\_220203A: 8  
**Method:** SW8270C  
**Lab ID:** MB-163333

**SampType:** Method Blank  
**Analysis Date:** 02/03/2022 21:00  
**Units:** ug/L

**Batch ID:** 163333  
**Prep Date:** 01/28/2022 09:32  
**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									
2,4,5-Trichlorophenol	ND	5.0									
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-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									
Azobenzene	ND	5.0									
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									



### Analytical QC Summary Report

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu  
**Workorder:** B22011717  
**Project:** CV18F0126, 60571032.02.46.01

**Revised Date:** 03/09/2022

**Report Date:** 03/04/2022

**Run ID: Run Order:** SV5973N.I\_220203A: 8

**SampType:** Method Blank

**Batch ID:** 163333

**Method:** SW8270C

**Analysis Date:** 02/03/2022 21:00

**Prep Date:** 01/28/2022 09:32

**Lab ID:** MB-163333

**Units:** ug/L

**Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Diethyl phthalate	ND	5.0									
Dimethyl phthalate	ND	5.0									
Di-n-butyl phthalate	ND	5.0									
Di-n-octyl phthalate	ND	5.0									
Hexachlorobenzene	ND	5.0									
Hexachlorobutadiene	ND	5.0									
Hexachlorocyclopentadiene	ND	5.0									
Hexachloroethane	ND	5.0									
Isophorone	ND	5.0									
m+p-Cresols	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									
Phenol	ND	5.0									
Pyridine	ND	5.0									
Surr: 2,4,6-Tribromophenol	178	5.0	200		89.0	43	140				
Surr: 2-Fluorobiphenyl	49	5.0	100		49.0	44	119				
Surr: 2-Fluorophenol	73	5.0	200		37.0	19	119				
Surr: Nitrobenzene-d5	60	5.0	100		60.0	44	120				
Surr: Phenol-d5	76	5.0	200		38.0	10	65				
Surr: Terphenyl-d14	94	5.0	100		94.0	50	134				

Associated Samples: **B22011717-001C**



### Analytical QC Summary Report

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu  
**Workorder:** B22011717  
**Project:** CV18F0126, 60571032.02.46.01

**Revised Date:** 03/09/2022

**Report Date:** 03/04/2022

**Run ID: Run Order:** SV5973N.I\_220203A: 9      **SampType:** Laboratory Control Sample      **Batch ID:** 163333  
**Method:** SW8270C      **Analysis Date:** 02/03/2022 21:32      **Prep Date:** 01/28/2022 09:32  
**Lab ID:** LCS-163333      **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	66	10	100		66.0	29	116				
1,2-Dichlorobenzene	66	10	100		66.0	32	111				
1,3-Dichlorobenzene	68	10	100		68.0	28	110				
1,4-Dichlorobenzene	65	10	100		65.0	29	112				
2,4,5-Trichlorophenol	95	10	100		95.0	53	123				
2,4,6-Trichlorophenol	102	10	100		102.0	50	125				
2,4-Dichlorophenol	78	10	100		78.0	47	121				
2,4-Dimethylphenol	67	10	100		67.0	31	124				
2,4-Dinitrophenol	81	10	100		81.0	23	142				
2,4-Dinitrotoluene	98	10	100		98.0	57	128				
2,6-Dinitrotoluene	86	10	100		86.0	50	118				
2-Chloronaphthalene	92	10	100		92.0	40	116				
2-Chlorophenol	82	10	100		82.0	38	117				
2-Nitrophenol	79	10	100		79.0	47	123				
3,3'-Dichlorobenzidine	75	10	100		75.0	27	129				
4,6-Dinitro-2-methylphenol	80	10	100		80.0	44	137				
4-Bromophenyl phenyl ether	93	10	100		93.0	55	124				
4-Chloro-3-methylphenol	89	10	100		89.0	52	119				
4-Chlorophenol	70	10	100		70.0	41	81				
4-Chlorophenyl phenyl ether	93	10	100		93.0	53	121				
4-Nitrophenol	48	10	100		48.0	15	36				S
Azobenzene	86	10	100		86.0	61	116				
bis(-2-chloroethoxy)Methane	80	10	100		80.0	48	120				
bis(-2-chloroethyl)Ether	90	10	100		90.0	43	118				
bis(2-chloroisopropyl)Ether	69	10	100		69.0	37	130				
bis(2-ethylhexyl)Phthalate	99	10	100		99.0	55	135				
Butylbenzylphthalate	98	10	100		98.0	53	134				



### Analytical QC Summary Report

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu  
**Workorder:** B22011717  
**Project:** CV18F0126, 60571032.02.46.01

**Revised Date:** 03/09/2022

**Report Date:** 03/04/2022

**Run ID: Run Order:** SV5973N.I\_220203A: 9      **SampType:** Laboratory Control Sample      **Batch ID:** 163333  
**Method:** SW8270C      **Analysis Date:** 02/03/2022 21:32      **Prep Date:** 01/28/2022 09:32  
**Lab ID:** LCS-163333      **Units:** ug/L      **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Diethyl phthalate	96	10	100		96.0	56	125				
Dimethyl phthalate	106	10	100		106.0	45	127				
Di-n-butyl phthalate	97	10	100		97.0	59	127				
Di-n-octyl phthalate	99	10	100		99.0	51	140				
Hexachlorobenzene	80	10	100		80.0	53	125				
Hexachlorobutadiene	63	10	100		63.0	22	124				
Hexachlorocyclopentadiene	64	10	100		64.0	39	91				
Hexachloroethane	63	10	100		63.0	21	115				
Isophorone	81	10	100		81.0	42	124				
m+p-Cresols	73	10	100		73.0	29	110				
Nitrobenzene	93	10	100		93.0	45	121				
n-Nitrosodimethylamine	62	10	100		62.0	20	45				S
n-Nitroso-di-n-propylamine	94	10	100		94.0	49	119				
n-Nitrosodiphenylamine	96	10	100		96.0	51	123				
o-Cresol	82	10	100		82.0	30	117				
Pentachlorophenol	101	10	100		101.0	35	138				
Phenol	51	10	100		51.0	37	75				
Pyridine	37	10	100		37.0	16	45				
Surr: 2,4,6-Tribromophenol	192	10	200		96.0	43	140				
Surr: 2-Fluorobiphenyl	90	10	100		90.0	44	119				
Surr: 2-Fluorophenol	99	10	200		49.0	19	119				
Surr: Nitrobenzene-d5	82	10	100		82.0	44	120				
Surr: Phenol-d5	100	10	200		50.0	10	65				
Surr: Terphenyl-d14	95	10	100		95.0	50	134				

Associated Samples: **B22011717-001C**





### Analytical QC Summary Report

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu  
**Workorder:** B22011717  
**Project:** CV18F0126, 60571032.02.46.01

**Revised Date:** 03/09/2022

**Report Date:** 03/04/2022

**Run ID: Run Order:** SV5973N.I\_220203A: 10      **SampType:** Laboratory Control Sample Duplicate      **Batch ID:** 163333  
**Method:** SW8270C      **Analysis Date:** 02/03/2022 22:04      **Prep Date:** 01/28/2022 09:33  
**Lab ID:** LCSD-163333      **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	71	10	100		71.0	29	116	66	7.4	20.0	
1,2-Dichlorobenzene	67	10	100		67.0	32	111	66	1.5	20.0	
1,3-Dichlorobenzene	67	10	100		67.0	28	110	68	2.0	20.0	
1,4-Dichlorobenzene	62	10	100		62.0	29	112	65	4.3	20.0	
2,4,5-Trichlorophenol	93	10	100		93.0	53	123	95	2.1	20.0	
2,4,6-Trichlorophenol	104	10	100		104.0	50	125	102	1.9	20.0	
2,4-Dichlorophenol	78	10	100		78.0	47	121	78	0.1	20.0	
2,4-Dimethylphenol	69	10	100		69.0	31	124	67	3.5	20.0	
2,4-Dinitrophenol	83	10	100		83.0	23	142	81	1.4	20.0	
2,4-Dinitrotoluene	96	10	100		96.0	57	128	98	1.7	20.0	
2,6-Dinitrotoluene	90	10	100		90.0	50	118	86	4.7	20.0	
2-Chloronaphthalene	93	10	100		93.0	40	116	92	0.6	20.0	
2-Chlorophenol	74	10	100		74.0	38	117	82	9.2	20.0	
2-Nitrophenol	82	10	100		82.0	47	123	79	3.3	20.0	
3,3'-Dichlorobenzidine	86	10	100		86.0	27	129	75	14.0	20.0	
4,6-Dinitro-2-methylphenol	90	10	100		90.0	44	137	80	13.0	20.0	
4-Bromophenyl phenyl ether	100	10	100		100.0	55	124	93	7.4	20.0	
4-Chloro-3-methylphenol	91	10	100		91.0	52	119	89	2.4	20.0	
4-Chlorophenol	71	10	100		71.0	41	81	70	2.2	20.0	
4-Chlorophenyl phenyl ether	100	10	100		100.0	53	121	93	6.3	20.0	
4-Nitrophenol	48	10	100		48.0	15	36	48	0.2	20.0	S
Azobenzene	87	10	100		87.0	61	116	86	0.5	20.0	
bis(-2-chloroethoxy)Methane	87	10	100		87.0	48	120	80	8.8	20.0	
bis(-2-chloroethyl)Ether	85	10	100		85.0	43	118	90	5.5	20.0	
bis(2-chloroisopropyl)Ether	70	10	100		70.0	37	130	69	1.0	20.0	
bis(2-ethylhexyl)Phthalate	107	10	100		107.0	55	135	99	7.7	20.0	
Butylbenzylphthalate	112	10	100		112.0	53	134	98	13.0	20.0	



### Analytical QC Summary Report

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu  
**Workorder:** B22011717  
**Project:** CV18F0126, 60571032.02.46.01

**Revised Date:** 03/09/2022

**Report Date:** 03/04/2022

**Run ID: Run Order:** SV5973N.I\_220203A: 10      **SampType:** Laboratory Control Sample Duplicate      **Batch ID:** 163333  
**Method:** SW8270C      **Analysis Date:** 02/03/2022 22:04      **Prep Date:** 01/28/2022 09:33  
**Lab ID:** LCSD-163333      **Units:** ug/L      **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Diethyl phthalate	100	10	100		100.0	56	125	96	4.0	20.0	
Dimethyl phthalate	106	10	100		106.0	45	127	106	0.7	20.0	
Di-n-butyl phthalate	104	10	100		104.0	59	127	97	7.5	20.0	
Di-n-octyl phthalate	106	10	100		106.0	51	140	99	6.8	20.0	
Hexachlorobenzene	82	10	100		82.0	53	125	80	1.7	20.0	
Hexachlorobutadiene	67	10	100		67.0	22	124	63	6.3	20.0	
Hexachlorocyclopentadiene	64	10	100		64.0	39	91	64	0.3	20.0	
Hexachloroethane	65	10	100		65.0	21	115	63	3.0	20.0	
Isophorone	84	10	100		84.0	42	124	81	3.8	20.0	
m+p-Cresols	72	10	100		72.0	29	110	73	0.7	20.0	
Nitrobenzene	89	10	100		89.0	45	121	93	3.6	20.0	
n-Nitrosodimethylamine	48	10	100		48.0	20	45	62	25.0	20.0	SR
n-Nitroso-di-n-propylamine	98	10	100		98.0	49	119	94	4.0	20.0	
n-Nitrosodiphenylamine	102	10	100		102.0	51	123	96	6.2	20.0	
o-Cresol	81	10	100		81.0	30	117	82	2.0	20.0	
Pentachlorophenol	108	10	100		108.0	35	138	101	5.9	20.0	
Phenol	49	10	100		49.0	37	75	51	3.6	20.0	
Pyridine	39	10	100		39.0	16	45	37	5.5	20.0	
Surr: 2,4,6-Tribromophenol	200	10	200		100.0	43	140	0.0	0.0		
Surr: 2-Fluorobiphenyl	89	10	100		89.0	44	119	0.0	0.0		
Surr: 2-Fluorophenol	91	10	200		46.0	19	119	0.0	0.0		
Surr: Nitrobenzene-d5	83	10	100		83.0	44	120	0.0	0.0		
Surr: Phenol-d5	95	10	200		47.0	10	65	0.0	0.0		
Surr: Terphenyl-d14	100	10	100		100.0	50	134	0.0	0.0		

Associated Samples: **B22011717-001C**

- Insufficient sample was submitted to perform a Matrix Spike/Duplicate, so a Laboratory Control Sample Duplicate is included in the reporting package to assess precision.



### Analytical QC Summary Report

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu  
**Workorder:** B22011717  
**Project:** CV18F0126, 60571032.02.46.01

**Revised Date:** 03/09/2022

**Report Date:** 03/04/2022

**Run ID: Run Order:** SV5973N.I\_220203A: 17

**SampType:** Sample Matrix Spike

**Batch ID:** 163333

**Method:** SW8270C

**Analysis Date:** 02/04/2022 01:49

**Prep Date:** 01/28/2022 09:34

**Lab ID:** B22011592-007AMS

**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	62	10	95	0.0	65.0	29	116				
1,2-Dichlorobenzene	58	10	95	0.0	61.0	32	111				
1,3-Dichlorobenzene	58	10	95	0.0	61.0	28	110				
1,4-Dichlorobenzene	54	10	95	0.0	57.0	29	112				
2,4,5-Trichlorophenol	70	10	95	0.0	74.0	53	123				
2,4,6-Trichlorophenol	74	10	95	0.0	78.0	50	125				
2,4-Dichlorophenol	61	10	95	0.0	64.0	47	121				
2,4-Dimethylphenol	54	10	95	0.0	57.0	31	124				
2,4-Dinitrophenol	63	10	95	0.0	66.0	23	142				
2,4-Dinitrotoluene	86	10	95	0.0	90.0	57	128				
2,6-Dinitrotoluene	75	10	95	0.0	78.0	50	118				
2-Chloronaphthalene	76	10	95	0.0	80.0	40	116				
2-Chlorophenol	58	10	95	0.0	61.0	38	117				
2-Nitrophenol	67	10	95	0.0	70.0	47	123				
3,3'-Dichlorobenzidine	52	10	95	0.0	55.0	27	129				
4,6-Dinitro-2-methylphenol	66	10	95	0.0	69.0	44	137				
4-Bromophenyl phenyl ether	85	10	95	0.0	89.0	55	124				
4-Chloro-3-methylphenol	78	10	95	0.0	82.0	52	119				
4-Chlorophenol	55	10	95	0.0	58.0	41	81				
4-Chlorophenyl phenyl ether	76	10	95	0.0	80.0	53	121				
4-Nitrophenol	42	10	95	0.0	45.0	15	36				S
Azobenzene	77	10	95	0.0	80.0	61	116				
bis(-2-chloroethoxy)Methane	76	10	95	0.0	80.0	48	120				
bis(-2-chloroethyl)Ether	73	10	95	0.0	77.0	43	118				
bis(2-chloroisopropyl)Ether	58	10	95	0.0	61.0	37	130				
bis(2-ethylhexyl)Phthalate	86	10	95	0.0	90.0	55	135				
Butylbenzylphthalate	90	10	95	0.0	94.0	53	134				



### Analytical QC Summary Report

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu  
**Workorder:** B22011717  
**Project:** CV18F0126, 60571032.02.46.01

**Revised Date:** 03/09/2022

**Report Date:** 03/04/2022

**Run ID: Run Order:** SV5973N.I\_220203A: 17

**SampType:** Sample Matrix Spike

**Batch ID:** 163333

**Method:** SW8270C

**Analysis Date:** 02/04/2022 01:49

**Prep Date:** 01/28/2022 09:34

**Lab ID:** B22011592-007AMS

**Units:** ug/L

**Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Diethyl phthalate	87	10	95	0.0	91.0	56	125				
Dimethyl phthalate	88	10	95	0.0	93.0	45	127				
Di-n-butyl phthalate	91	10	95	0.0	95.0	59	127				
Di-n-octyl phthalate	87	10	95	0.0	91.0	51	140				
Hexachlorobenzene	75	10	95	0.0	78.0	53	125				
Hexachlorobutadiene	58	10	95	0.0	61.0	22	124				
Hexachlorocyclopentadiene	49	10	95	0.0	52.0	39	91				
Hexachloroethane	55	10	95	0.0	58.0	21	115				
Isophorone	67	10	95	0.0	70.0	42	124				
m+p-Cresols	56	10	95	0.0	59.0	29	110				
Nitrobenzene	79	10	95	0.0	83.0	45	121				
n-Nitrosodimethylamine	37	10	95	0.0	39.0	20	45				
n-Nitroso-di-n-propylamine	77	10	95	0.0	80.0	49	119				
n-Nitrosodiphenylamine	81	10	95	0.0	85.0	51	123				
o-Cresol	62	10	95	0.0	65.0	30	117				
Pentachlorophenol	94	10	95	0.0	98.0	35	138				
Phenol	37	10	95	0.0	39.0	37	75				
Pyridine	25	10	95	0.0	26.0	16	45				
Surr: 2,4,6-Tribromophenol	166	10	190	0.0	87.0	43	140				
Surr: 2-Fluorobiphenyl	74	10	95	0.0	78.0	44	119				
Surr: 2-Fluorophenol	64	10	190	0.0	33.0	19	119				
Surr: Nitrobenzene-d5	69	10	95	0.0	72.0	44	120				
Surr: Phenol-d5	72	10	190	0.0	38.0	10	65				
Surr: Terphenyl-d14	86	10	95	0.0	90.0	50	134				

Associated Samples: **B22011717-001C**



### Analytical QC Summary Report

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu  
**Workorder:** B22011717  
**Project:** CV18F0126, 60571032.02.46.01

**Revised Date:** 03/09/2022

**Report Date:** 03/04/2022

**Run ID: Run Order:** SV5973N.I\_220203A: 2

**SampType:** Continuing Calibration Verification Standard

**Batch ID:** R374228

**Method:** SW8270C

**Analysis Date:** 02/03/2022 17:46

**Prep Date:**

**Lab ID:** 03-Feb-22\_CCV\_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	76	10	75		102.0	80	120				
1,2-Dichlorobenzene	77	10	75		102.0	80	120				
1,3-Dichlorobenzene	81	10	75		108.0	80	120				
1,4-Dichlorobenzene	79	10	75		105.0	80	120				
2,4,5-Trichlorophenol	75	10	75		100.0	80	120				
2,4,6-Trichlorophenol	77	10	75		103.0	80	120				
2,4-Dichlorophenol	67	10	75		89.0	80	120				
2,4-Dimethylphenol	78	10	75		104.0	80	120				
2,4-Dinitrophenol	76	10	75		102.0	80	120				
2,4-Dinitrotoluene	81	10	75		108.0	80	120				
2,6-Dinitrotoluene	74	10	75		99.0	80	120				
2-Chloronaphthalene	83	10	75		110.0	80	120				
2-Chlorophenol	68	10	75		90.0	80	120				
2-Nitrophenol	78	10	75		104.0	80	120				
3,3'-Dichlorobenzidine	77	10	75		103.0	80	120				
4,6-Dinitro-2-methylphenol	72	10	75		96.0	80	120				
4-Bromophenyl phenyl ether	76	10	75		101.0	80	120				
4-Chloro-3-methylphenol	71	10	75		95.0	80	120				
4-Chlorophenol	74	10	75		98.0	80	120				
4-Chlorophenyl phenyl ether	80	10	75		106.0	80	120				
4-Nitrophenol	80	10	75		107.0	80	120				
Azobenzene	78	10	75		105.0	80	120				
bis(-2-chloroethoxy)Methane	77	10	75		102.0	80	120				
bis(-2-chloroethyl)Ether	84	10	75		112.0	80	120				
bis(2-chloroisopropyl)Ether	80	10	75		106.0	80	120				
bis(2-ethylhexyl)Phthalate	76	10	75		101.0	80	120				
Butylbenzylphthalate	76	10	75		101.0	80	120				



### Analytical QC Summary Report

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu  
**Workorder:** B22011717  
**Project:** CV18F0126, 60571032.02.46.01

**Revised Date:** 03/09/2022

**Report Date:** 03/04/2022

**Run ID: Run Order:** SV5973N.I\_220203A: 2

**SampType:** Continuing Calibration Verification Standard

**Batch ID:** R374228

**Method:** SW8270C

**Analysis Date:** 02/03/2022 17:46

**Prep Date:**

**Lab ID:** 03-Feb-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	72	10	75		96.0	80	120				
Dimethyl phthalate	81	10	75		108.0	80	120				
Di-n-butyl phthalate	74	10	75		99.0	80	120				
Di-n-octyl phthalate	81	10	75		108.0	80	120				
Hexachlorobenzene	77	10	75		102.0	80	120				
Hexachlorobutadiene	84	10	75		112.0	80	120				
Hexachlorocyclopentadiene	71	10	75		94.0	80	120				
Hexachloroethane	85	10	75		113.0	80	120				
Isophorone	78	10	75		104.0	80	120				
m+p-Cresols	73	10	75		98.0	80	120				
Nitrobenzene	84	10	75		113.0	80	120				
n-Nitrosodimethylamine	87	10	75		116.0	80	120				
n-Nitroso-di-n-propylamine	78	10	75		104.0	80	120				
n-Nitrosodiphenylamine	81	10	75		108.0	80	120				
o-Cresol	81	10	75		108.0	80	120				
Pentachlorophenol	71	10	75		95.0	80	120				
Phenol	77	10	75		103.0	80	120				
Pyridine	88	10	75		118.0	80	120				
Surr: 2,4,6-Tribromophenol	72	10	75		96.0	80	120				
Surr: 2-Fluorobiphenyl	85	10	75		113.0	80	120				
Surr: 2-Fluorophenol	79	10	75		105.0	80	120				
Surr: Nitrobenzene-d5	82	10	75		110.0	80	120				
Surr: Phenol-d5	80	10	75		107.0	80	120				
Surr: Terphenyl-d14	79	10	75		106.0	80	120				

Associated Samples: **B22011717-001C**



### Analytical QC Summary Report

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu  
**Workorder:** B22011717  
**Project:** CV18F0126, 60571032.02.46.01

**Revised Date:** 03/09/2022

**Report Date:** 03/04/2022

**Run ID: Run Order:** SV5973N.I\_220203A: 24

**SampType:** Continuing Calibration Verification Standard

**Batch ID:** R374228

**Method:** SW8270C

**Analysis Date:** 02/04/2022 05:34

**Prep Date:**

**Lab ID:** 03-Feb-22\_CCV\_24

**Units:** ug/L

**Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	77	10	75		102.0	50	150				
1,2-Dichlorobenzene	80	10	75		107.0	50	150				
1,3-Dichlorobenzene	84	10	75		112.0	50	150				
1,4-Dichlorobenzene	81	10	75		108.0	50	150				
2,4,5-Trichlorophenol	86	10	75		115.0	50	150				
2,4,6-Trichlorophenol	91	10	75		122.0	50	150				
2,4-Dichlorophenol	86	10	75		115.0	50	150				
2,4-Dimethylphenol	78	10	75		103.0	50	150				
2,4-Dinitrophenol	69	10	75		92.0	50	150				
2,4-Dinitrotoluene	82	10	75		110.0	50	150				
2,6-Dinitrotoluene	72	10	75		96.0	50	150				
2-Chloronaphthalene	81	10	75		107.0	50	150				
2-Chlorophenol	87	10	75		116.0	50	150				
2-Nitrophenol	80	10	75		107.0	50	150				
3,3'-Dichlorobenzidine	88	10	75		117.0	50	150				
4,6-Dinitro-2-methylphenol	77	10	75		102.0	50	150				
4-Bromophenyl phenyl ether	79	10	75		105.0	50	150				
4-Chloro-3-methylphenol	85	10	75		113.0	50	150				
4-Chlorophenol	84	10	75		112.0	50	150				
4-Chlorophenyl phenyl ether	78	10	75		104.0	50	150				
4-Nitrophenol	96	10	75		128.0	50	150				
Azobenzene	86	10	75		115.0	50	150				
bis(-2-chloroethoxy)Methane	79	10	75		106.0	50	150				
bis(-2-chloroethyl)Ether	87	10	75		116.0	50	150				
bis(2-chloroisopropyl)Ether	82	10	75		109.0	50	150				
bis(2-ethylhexyl)Phthalate	85	10	75		114.0	50	150				
Butylbenzylphthalate	87	10	75		115.0	50	150				



### Analytical QC Summary Report

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu  
**Workorder:** B22011717  
**Project:** CV18F0126, 60571032.02.46.01

**Revised Date:** 03/09/2022

**Report Date:** 03/04/2022

**Run ID: Run Order:** SV5973N.I\_220203A: 24

**SampType:** Continuing Calibration Verification Standard

**Batch ID:** R374228

**Method:** SW8270C

**Analysis Date:** 02/04/2022 05:34

**Prep Date:**

**Lab ID:** 03-Feb-22\_CCV\_24

**Units:** ug/L

**Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Diethyl phthalate	78	10	75		104.0	50	150				
Dimethyl phthalate	85	10	75		114.0	50	150				
Di-n-butyl phthalate	87	10	75		115.0	50	150				
Di-n-octyl phthalate	84	10	75		112.0	50	150				
Hexachlorobenzene	73	10	75		98.0	50	150				
Hexachlorobutadiene	81	10	75		107.0	50	150				
Hexachlorocyclopentadiene	69	10	75		92.0	50	150				
Hexachloroethane	88	10	75		117.0	50	150				
Isophorone	80	10	75		106.0	50	150				
m+p-Cresols	81	10	75		108.0	50	150				
Nitrobenzene	89	10	75		119.0	50	150				
n-Nitrosodimethylamine	90	10	75		120.0	50	150				
n-Nitroso-di-n-propylamine	87	10	75		116.0	50	150				
n-Nitrosodiphenylamine	82	10	75		109.0	50	150				
o-Cresol	84	10	75		112.0	50	150				
Pentachlorophenol	88	10	75		117.0	50	150				
Phenol	86	10	75		114.0	50	150				
Pyridine	82	10	75		109.0	50	150				
Surr: 2,4,6-Tribromophenol	88	10	75		118.0	50	150				
Surr: 2-Fluorobiphenyl	87	10	75		115.0	50	150				
Surr: 2-Fluorophenol	86	10	75		114.0	50	150				
Surr: Nitrobenzene-d5	84	10	75		112.0	50	150				
Surr: Phenol-d5	86	10	75		114.0	50	150				
Surr: Terphenyl-d14	80	10	75		106.0	50	150				

Associated Samples: **B22011717-001C**





### Analytical QC Exceptions Report

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu  
**Workorder:** B22011717  
**Project:** CV18F0126, 60571032.02.46.01

**Revised Date:** 03/09/2022

**Report Date:** 03/04/2022

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		
SW8270C	Semi-Volatile Organic Compounds, Extended List	163333	001C	LCS-DOD	LCS-163333	2/3/2022	21:32	4-Nitrophenol	48.0	15	36			S		
										n-Nitrosodimethylamine	62.0	20	45			S
				LCSD-DOD	LCSD-163333	2/3/2022	22:04	4-Nitrophenol	48.0	15	36	0.2	20.0			S
											n-Nitrosodimethylamine	48.0	20	45	25	20.0
				MS-DOD	B22011592-007AMS	2/4/2022	01:49	4-Nitrophenol	45.0	15	36			S		



## Preparation and Analysis Dates Report

**Work Order:** B22011717

**Client:** AECOM - Honolulu

**Project Name:** CV18F0126, 60571032.02.46.01

**Date Revised:** 3/09/2022

**Report Date:** 3/04/2022

Lab ID	Client Sample ID	Collection Date	Matrix	Test Name	TCLP Date	Prep Method	Prep Date	Prep Batch	Analysis Method	Analysis Date
001B	ERH2478 (RHMW19)	01/25/2022 12:45	Ground Water	Metals by ICP-MS, Total		SW3010A	01/27/2022 13:52	163315	SW6020	01/31/2022 21:53
001C	ERH2478 (RHMW19)	01/25/2022 12:45	Ground Water	Low Level PAH by 8270C SIM		SW3510C	01/28/2022 09:33	163333	SW8270CSIM	02/08/2022 03:04
				Semi-Volatile Organic Compounds, Extended List		SW3510C	01/28/2022 09:33	163333	SW8270C	02/04/2022 05:02
001D	ERH2478 (RHMW19)	01/25/2022 12:45	Ground Water	Diesel Range Organics		SW3520C	01/27/2022 12:45	163307	SW8015C	01/29/2022 02:34
						SW3520C	01/27/2022 12:45	163307	SW8015C	01/31/2022 22:59
001H	ERH2478 (RHMW19)	01/25/2022 12:45	Ground Water	EDB in Water by ECD		SW8011	01/28/2022 08:54	163331	SW8011	01/28/2022 22:16
004A	ERH2477 (Trip Blank) 14733	01/25/2022 12:45	Trip Blank	EDB in Water by ECD		SW8011	01/28/2022 08:54	163331	SW8011	01/28/2022 22:36



## Chemical Abstracts Service (CAS) Registry Numbers

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu

**Workorder:** B22011717

**Project:** CV18F0126, 60571032.02.46.01

**Revised Date:** 03/09/2022

**Report Date:** 03/04/2022

Analyses	CAS No
<b>LOW LEVEL PAH BY 8270C SIM</b>	
1-Methylnaphthalene	90-12-0
2-Methylnaphthalene	91-57-6
Acenaphthene	83-32-9
Acenaphthylene	208-96-8
Anthracene	120-12-7
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
Chrysene	218-01-9
Dibenzo(a,h)anthracene	53-70-3
Fluoranthene	206-44-0
Fluorene	86-73-7
Indeno(1,2,3-cd)pyrene	193-39-5
Naphthalene	91-20-3
Phenanthrene	85-01-8
Pyrene	129-00-0
<b>AGGREGATE ORGANICS</b>	
Organic Carbon, Total (TOC)	7440-44-0
<b>METALS, TOTAL</b>	
Lead	7439-92-1
<b>METALS, DISSOLVED</b>	
Lead	7439-92-1
<b>VOLATILE ORGANIC COMPOUNDS</b>	
Benzene	71-43-2
Bromobenzene	108-86-1
Bromochloromethane	74-97-5
Bromodichloromethane	75-27-4
Bromoform	75-25-2
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

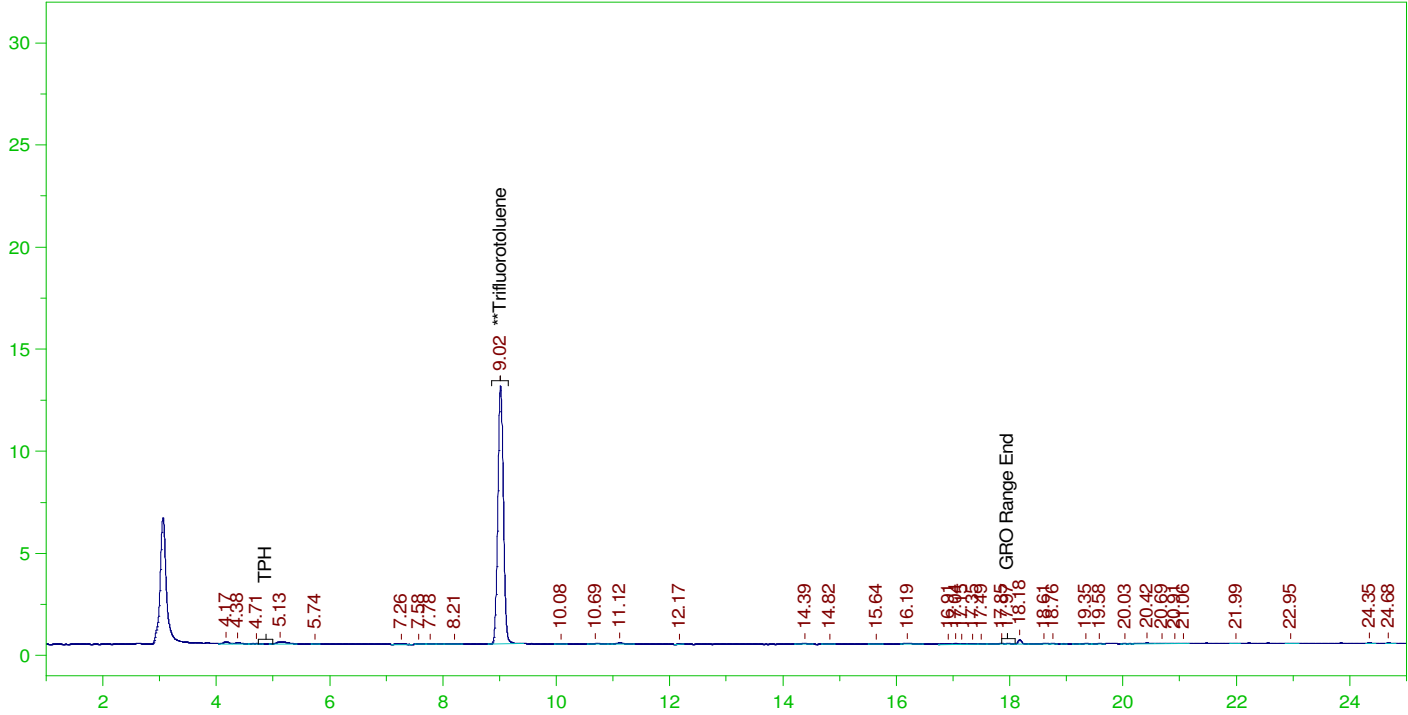
## SEMI-VOLATILE ORGANIC COMPOUNDS

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
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-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
Azobenzene	103-33-3
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
Di-n-butyl phthalate	84-74-2
Di-n-octyl phthalate	117-84-0
Diethyl phthalate	84-66-2
Dimethyl phthalate	131-11-3
Hexachlorobenzene	118-74-1
Hexachlorobutadiene	87-68-3
Hexachlorocyclopentadiene	77-47-4
Hexachloroethane	67-72-1
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
Nitrobenzene	98-95-3
o-Cresol	95-48-7
Pentachlorophenol	87-86-5
Phenol	108-95-2
Pyridine	110-86-1

ERH2478 (RHMW19)

G:\Org\VAR\DAT\VAR013022\_b\0130VARB.0038.RAW

B22011717-001G ;0130VAR , \$HC-8015-GRO-W,



**GASOLINE RANGE ORGANICS CHROMATOGRAM REPORT**

Sample Name: B22011717-001G ;0130VAR , \$HC-8015-GRO-W,  
Raw File: G:\Org\VAR\DAT\VAR013022\_b\0130VARB.0038.RAW  
Date & Time Acquired: 1/31/2022 7:12:24 AM  
Method File: G:\Org\VAR\Methods\211208G1717-1DoDB%.MET  
Calibration File: G:\Org\VAR\Cals\211208GRO8015CB.CAL  
Sample Weight: 5 Dilution: 1 S.A.: 1

Mean RF for C6 to C10: 979.9788  
Mean RF for TPH: 955.6747  
Rt range for Gasoline Range Organics: 4.75 to 18.09

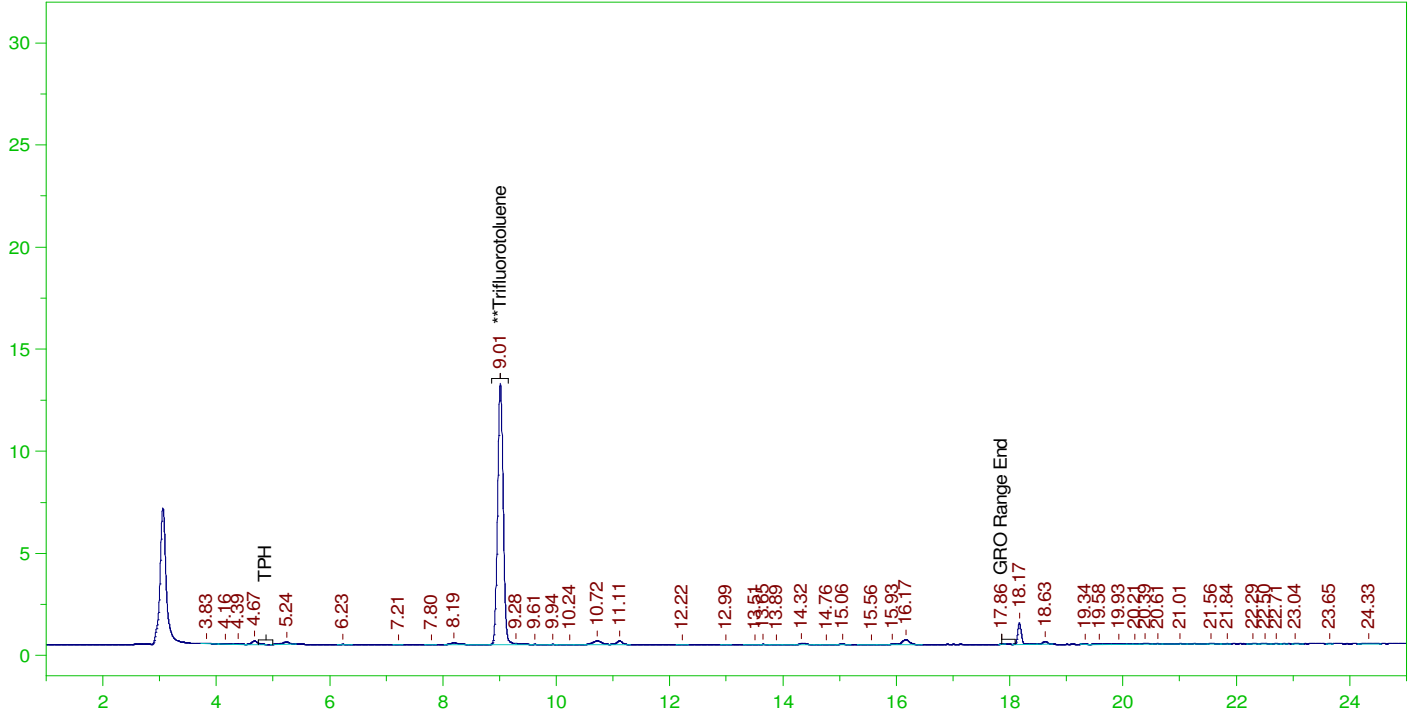
SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC
**Trifluorotoluene	9.016	25.	18.684	74.74

C6 to C10 Area:5203.976 C6 to C10 Amount: 1.062059  
TPH Area:9507.203 TPH Amount: 1.989632

ERH2478 (Trip Blank) 14733

G:\Org\VAR\DAT\VAR013022\_b\0130VARB.0018.RAW

B22011717-003A ;0130VAR , \$HC-8015-GRO-W,



**GASOLINE RANGE ORGANICS CHROMATOGRAM REPORT**

Sample Name: B22011717-003A ;0130VAR , \$HC-8015-GRO-W,  
Raw File: G:\Org\VAR\DAT\VAR013022\_b\0130VARB.0018.RAW  
Date & Time Acquired: 1/30/2022 7:49:01 PM  
Method File: G:\Org\VAR\Methods\211208G1717-3DoDB%.MET  
Calibration File: G:\Org\VAR\Cals\211208GRO8015CB.CAL  
Sample Weight: 5 Dilution: 1 S.A.: 1

Mean RF for C6 to C10: 979.9788  
Mean RF for TPH: 955.6747  
Rt range for Gasoline Range Organics: 4.75 to 18.09

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC
**Trifluorotoluene	9.012	25.	18.991	75.96

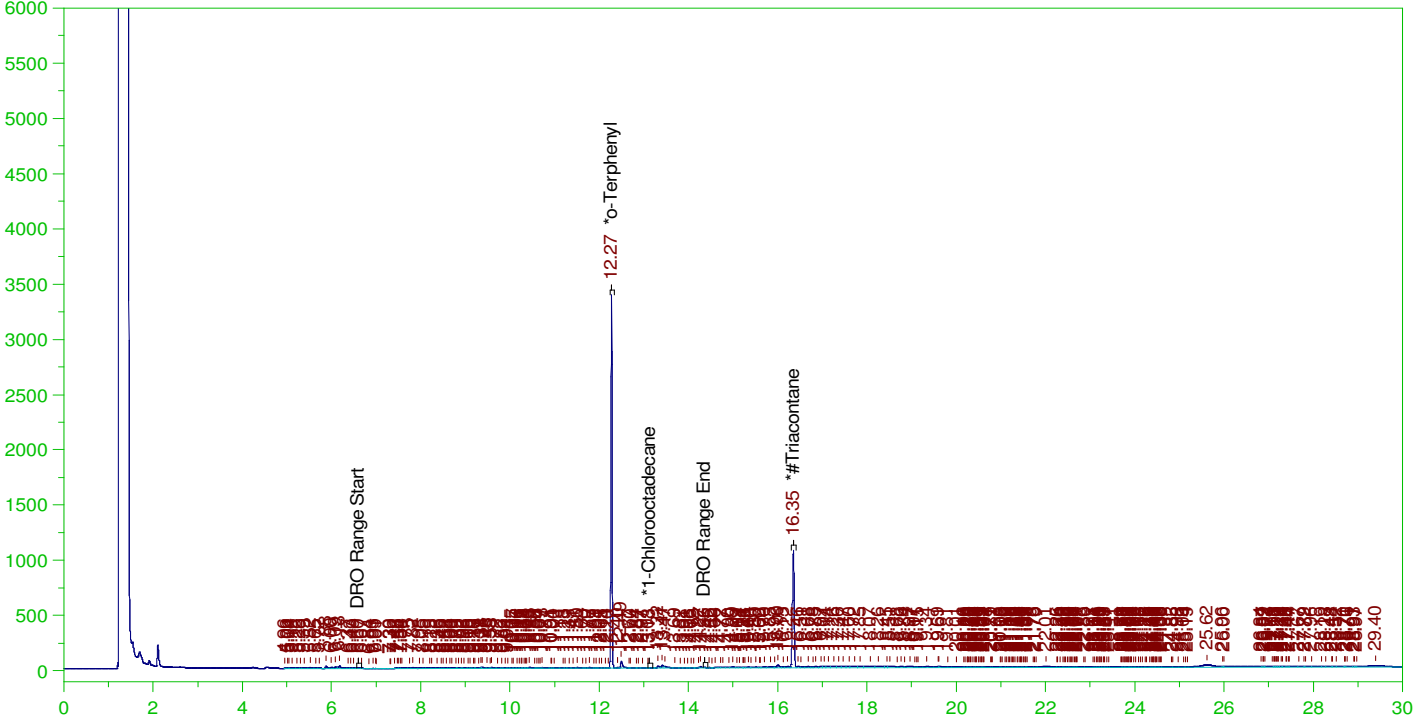
C6 to C10 Area:11265.84 C6 to C10 Amount: 2.299201  
TPH Area:21441.5 TPH Amount: 4.487197

ERH2478 (RHMW19)

Batch ID: 163307

G:\org\HP5\DAT\HP5012822\_b\0128HP5.0023.RAW

B22011717-001D ;0128HP5 , \$HC-8015-DRO-W,



**DIESEL RANGE ORGANICS CHROMATOGRAM REPORT**

Sample Name: B22011717-001D ;0128HP5 , \$HC-8015-DRO-W,  
Raw File: G:\org\HP5\DAT\HP5012822\_b\0128HP5.0023.RAW  
Date & Time Acquired: 1/29/2022 2:34:13 AM  
Method File: G:\Org\HP5\Methods\D3\_8015-C24T-JD-L%.met  
Calibration File: G:\Org\HP5\Cals\SW8015C\_DRO220111JD-C24-T.CAL  
Sample Weight: 960 Dilution: 1 S.A.: 1

Mean RF for TEH: 32675.36

Rt range for Diesel Range Organics: 6.57 to 14.43

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	
*o-Terphenyl	12.274	.208	.181	86.79	-
*1-Chlorooctadecane	13.125	.208	.	.04	-
*#Triacontane	16.346	.208	.1	47.85	-

DRO Area:1337563 DRO Amount: 4.264052E-02  
TEH Area:9378989 TEH Amount: 0.2989953

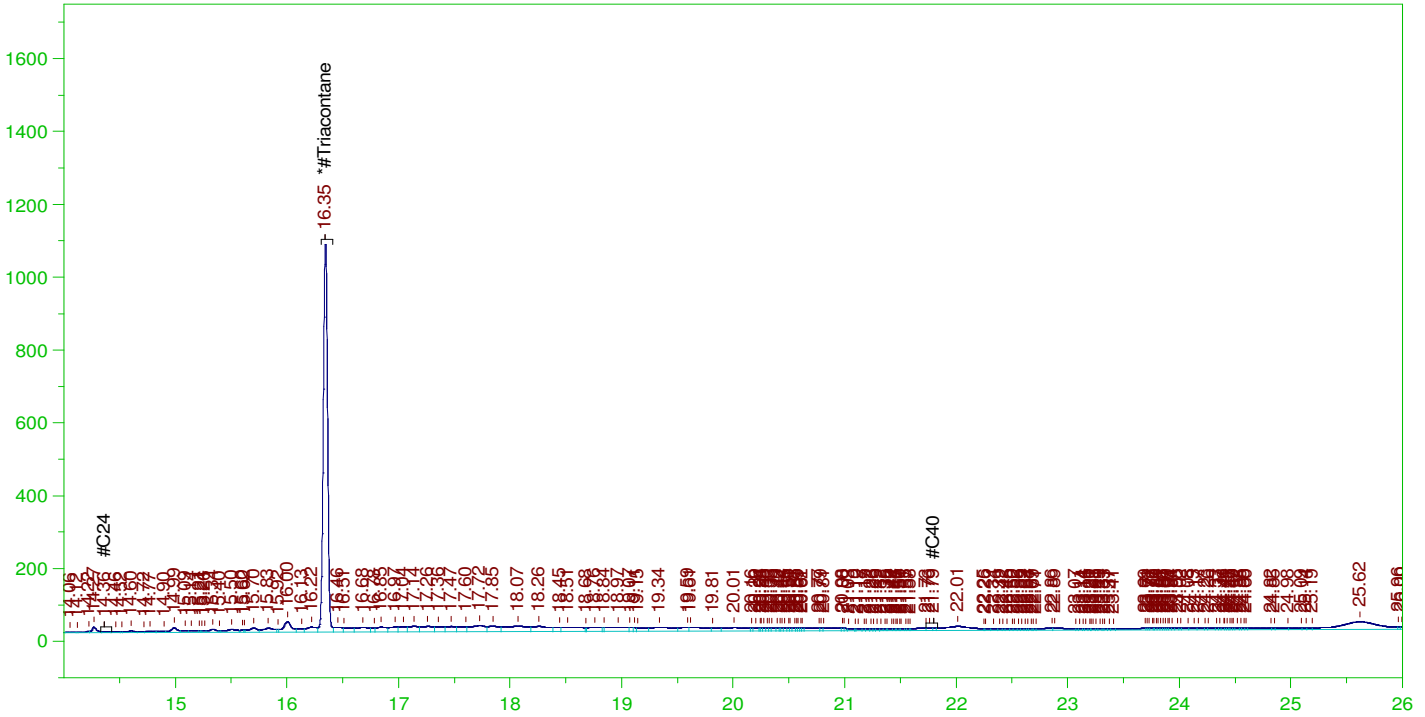


ERH2478 (RHMW19)

Batch ID: 163307

G:\org\HP5\DAT\HP5012822\_b\0128HP5.0023.RAW

B22011717-001D ;0128HP5 , \$HC-8015-DRO-W,



**RESIDUAL RANGE ORGANICS CHROMATOGRAM**

Sample Name: B22011717-001D ;0128HP5 , \$HC-8015-DRO-W,  
Raw File: G:\org\HP5\DAT\HP5012822\_b\0128HP5.0023.RAW  
Date & Time Acquired: 1/29/2022 2:34:13 AM  
Method File: G:\Org\HP5\Methods\D3\_OROS-BD-L%.MET  
Calibration File: G:\Org\HP5\Cals\SW8015C\_ORO220111BD\_SAMP.CAL  
Sample Weight: 960 Dilution: 1 S.A.: 1

Mean RF for for Residual Range Organics Calculations: 26424.55  
Rt range for Residual Range Organics: 14.33 to 21.83

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC
*#Triacontane_____	16.346	.521	.1	19.14

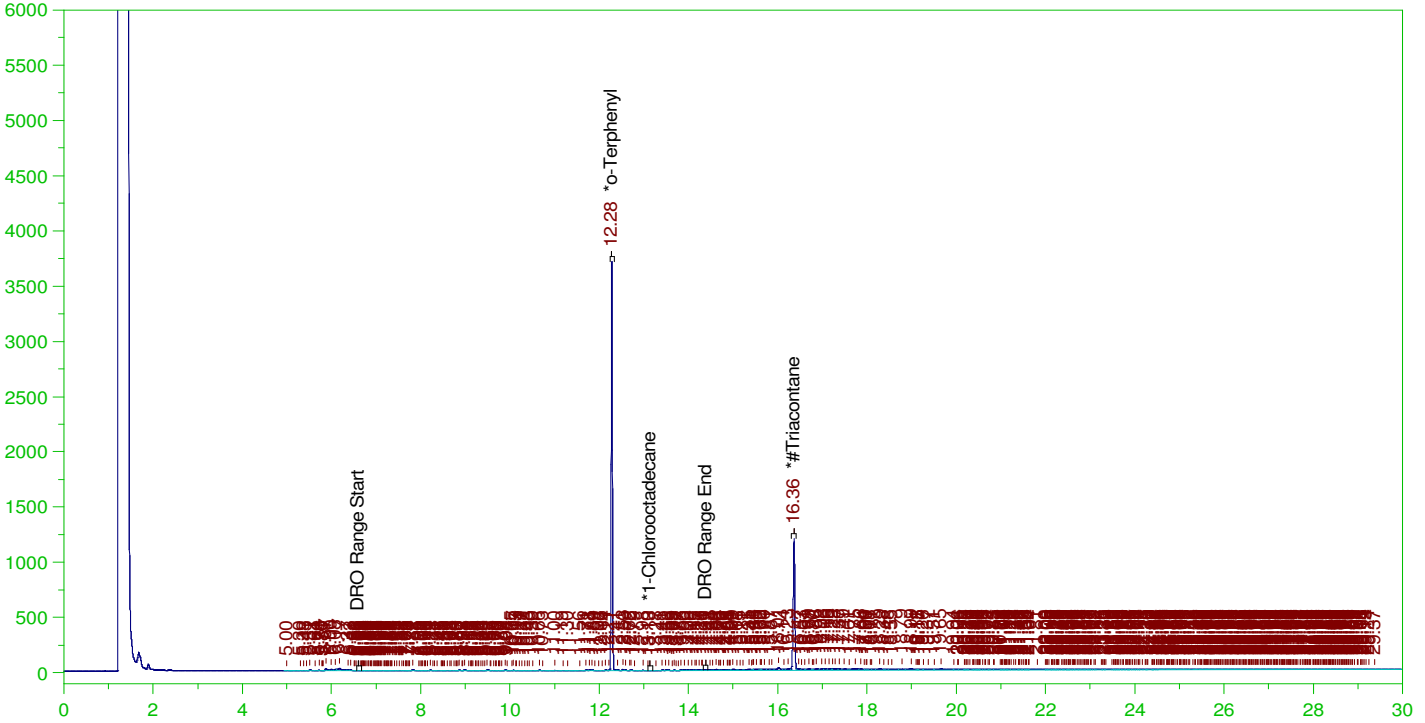
RRO Area:4325242 RRO AMOUNT: 0.1705028

ERH2478 (RHMW19)

Batch ID: 163307

G:\org\HP5\DAT\HP5013122\_b\0131HP5.0018.RAW

B22011717-001D ;0131HP5 , \$HC-8015-DRO-W, SGT



**DIESEL RANGE ORGANICS CHROMATOGRAM REPORT**

Sample Name: B22011717-001D ;0131HP5 , \$HC-8015-DRO-W, SGT  
 Raw File: G:\org\HP5\DAT\HP5013122\_b\0131HP5.0018.RAW  
 Date & Time Acquired: 1/31/2022 10:59:21 PM  
 Method File: G:\Org\HP5\Methods\D3\_8015-C24T-JD-L%.met  
 Calibration File: G:\Org\HP5\Cals\SW8015C\_DRO220111JD-C24-T.CAL  
 Sample Weight: 960 Dilution: 1 S.A.: 1

Mean RF for TEH: 32675.36

Rt range for Diesel Range Organics: 6.57 to 14.43

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	
*o-Terphenyl	12.281	.208	.2	96.04	-
*1-Chlorooctadecane	13.133	.208	.	.02	-
*#Triacontane	16.36	.208	.11	52.67	-

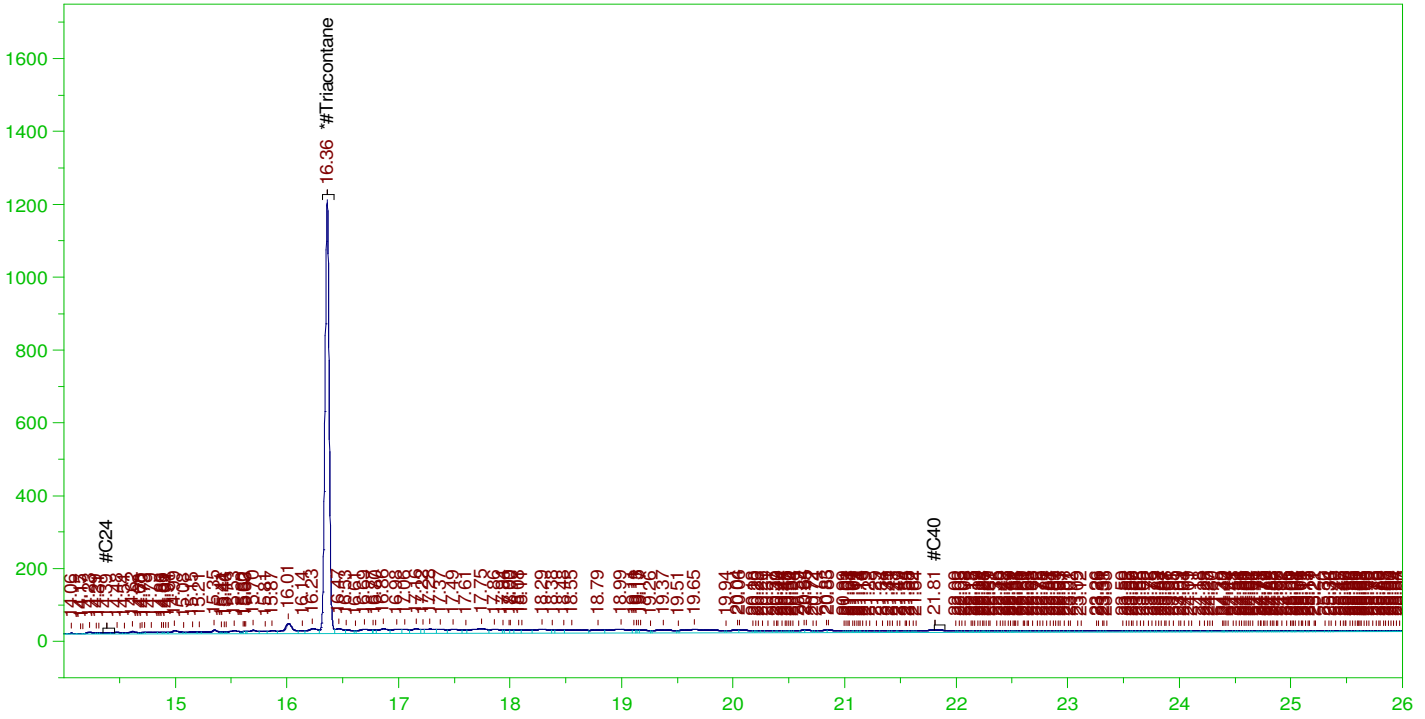
DRO Area:471383.7 DRO Amount: 1.502737E-02  
 TEH Area:5256116 TEH Amount: 0.1675611

ERH2478 (RHMW19)

Batch ID: 163307

G:\org\HP5\DAT\HP5013122\_b\0131HP5.0018.RAW

B22011717-001D ;0131HP5 , \$HC-8015-DRO-W, SGT



**RESIDUAL RANGE ORGANICS CHROMATOGRAM**

Sample Name: B22011717-001D ;0131HP5 , \$HC-8015-DRO-W, SGT  
 Raw File: G:\org\HP5\DAT\HP5013122\_b\0131HP5.0018.RAW  
 Date & Time Acquired: 1/31/2022 10:59:21 PM  
 Method File: G:\Org\HP5\Methods\D3\_OROS-BDa-L%.MET  
 Calibration File: G:\Org\HP5\Cals\SW8015C\_ORO220111BDa\_SAMP.CAL  
 Sample Weight: 960 Dilution: 1 S.A.: 1

Mean RF for for Residual Range Organics Calculations: 26424.55  
 Rt range for Residual Range Organics: 14.35 to 21.9

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC
*#Triacontane	16.36	.521	.11	21.07

RRO Area:3336877 RRO AMOUNT: 0.1315411

---

**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](mailto:alethea.ramos@aecom.com)

**AECOM**  
1001 Bishop Street  
Suite 1600  
Honolulu, HI 96813, United States of America  
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**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](mailto:tedwards@energylab.com) | [www.energylab.com](http://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](mailto: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 15<sup>th</sup>**, 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](mailto:alethea.ramos@aecom.com)

**AECOM**

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

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