ANALYTICAL SUMMARY REPORT

February 27, 2022

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

Work Order: B22010754 Quote ID: 5912

Project Name: CV18F0126, 60571032.02.46.01

Energy Laboratories Inc Billings MT received the following 5 samples from AECOM - Honolulu on 1/13/2022 for analysis.

Lab ID	Client Sample ID	Collect Date	Received Date	Matrix	Test
B22010754-001	ERH2418 (RHMW06)	01/11/22 13:35	01/13/2022	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
B22010754-002	ERH2417 (Trip Blank) 14653	01/11/22 13:35	01/13/2022	Trip Blank	8260-Volatile Organic Compounds-Short List SW8260B
B22010754-003	ERH2417 (Trip Blank) 14653	01/11/22 13:35	01/13/2022	Trip Blank	Gasoline Range Organics SW8015C
B22010754-004	ERH2417 (Trip Blank) 14653	01/11/22 13:35	01/13/2022	Trip Blank	EDB in Water by ECD SW8011 SW8011 Microextraction

ANALYTICAL SUMMARY REPORT

B22010754-005	ERH2417 (Trip Blank) 14663	01/11/22 13:35	01/13/2022	Trip Blank	Headspace Gas Analysis SW8015M

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

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

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

Report Approved By:

Quality Assurance Manager

Digitally signed by
Leigh Ann. Wise
Date: 2022.02.27 20:53:27 -07:00

CLIENT: AECOM - Honolulu
Project: CV18F0126, 60571032.02.46.01
Work Order: B22010754

Report Date: 2/27/2022

CASE NARRATIVE

General Comments:

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

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

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

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

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

The 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).

ENERGY LAB
Trust our People. Trust our Data.

Chain of Custody & Analytical Request Record – DoD Project

www.energylab.com

COC#202201-43NOI Page 1 of 1

Account Information (Billing Information)

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

Report Information (If different than Account Information)

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

Comments

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

Project Information

Project Name, PWSID, Permit, etc.	CV18F0126, 60571032.02.46.01
Sampler Name	RS, MM, AE
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

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 Date	Collection Time	Number of Containers	Matrix (See Codes Above)	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 6020 Total Lead [250ml HDPE w/HNO3]	EPA 6020 Diss. Lead [250ml HDPE w/HNO3] (field Filtered)	See Attached	RUSH TAT	ELI LAB ID (Laboratory Use Only)
1 ERH2418 (RHMW06)	01/11/22	0925	19	GW	X	X	X	X	X	X	X	X	X		✓	B220107S4
2 ~~ERH2317 (Trip Blank)~~ ERH2417 (TB) MY 1/11/22	01/11/22	0930	8	WQ	X	X	X	X							✓	
3																
4 TB (8260) - 14653																
5 TB (GRO) - 14653																
6 TB (8011) - 14653																
7 TB (Methane) - 14653 MY 1/11/22																
8 TB - 14576 TB 1/13/22																
9																
10																

Custody Record MUST be signed	Relinquished by (print)	Date/Time	Signature	Received by (print)	Date/Time	Signature
	Matthew Yim	1/11/22 1800	Matthew Yim	FedEx	1/11/22 1800	
	Relinquished by (print)	Date/Time	Signature	Received by Laboratory (print)	Date/Time	Signature
				TRACY HOLBROOKS	1/13/22 1015	

LABORATORY USE ONLY

Shipped By	Cooler ID(s)	Custody Seals Y N C B	Intact Y N	Receipt Temp 0.4 °C	Temp Blank Y N	On Ice Y N	Payment Type CC Cash Check	Amount $	Receipt Number (cash/check only)

ELI-COC-10/18 v 3

Work Order Receipt Checklist

AECOM - Honolulu

B22010754

Login completed by: Taylor K. Burris
Date Received: 1/13/2022

Reviewed by: BL2000\gmccartney
Received by: tkb

Reviewed Date: 1/17/2022
Carrier name: FedEx

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on all shipping container(s)/cooler(s)?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on all sample bottles?	Yes ☑	No ☐	Not Present ☐
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	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 ☑	No ☐	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes ☑	No ☐	Not Applicable ☐
Container/Temp Blank temperature:	0.4°C On Ice		
Water - VOA vials have zero headspace?	Yes ☑	No ☐	Not Applicable ☐
Water - pH acceptable upon receipt?	Yes ☑	No ☐	Not Applicable ☐

Standard Reporting Procedures:

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

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

Contact and Corrective Action Comments:

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

The nine 40 mL Clear Glass Hydrochloric preserved containers for the 8260 VOC's, 8015 TPH-g and 8011 EDB requested analysis were not received with the bottle order labels on the containers. Preservative traceability is not available for these containers. Proceeded with the 8260 VOC's, 8015 TPH-g and 8011 EDB requested analysis per Shari Endy, Energy Laboratories Project Manager.

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 RPDLimit 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 Quantitaton (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

Client: AECOM - Honolulu
Client Sample ID: ERH2418 (RHMW06)
Project: CV18F0126, 60571032.02.46.01
Matrix: Ground Water

Lab ID: B22010754-001
Collection Date: 01/11/2022 13:35
Date Received: 01/13/2022
Report Date: 02/27/2022

Analyses	Result	Units	DF	Qual	LOQ	LOD	DL	MCL	Method	Analysis Date / By	RunID : Run Order	BatchID
LOW LEVEL PAH BY 8270C SIM												
1-Methylnaphthalene	ND	ug/L	1	U	0.10	0.052	0.021		SW8270CSIM	01/19/2022 14:25/jph	SV5975.I_220119A : 8	162889
2-Methylnaphthalene	ND	ug/L	1	U	0.10	0.052	0.018		SW8270CSIM	01/19/2022 14:25/jph	SV5975.I_220119A : 8	162889
Acenaphthene	ND	ug/L	1	U	0.10	0.052	0.033		SW8270CSIM	01/19/2022 14:25/jph	SV5975.I_220119A : 8	162889
Acenaphthylene	ND	ug/L	1	U	0.10	0.052	0.026		SW8270CSIM	01/19/2022 14:25/jph	SV5975.I_220119A : 8	162889
Anthracene	ND	ug/L	1	U	0.10	0.052	0.029		SW8270CSIM	01/19/2022 14:25/jph	SV5975.I_220119A : 8	162889
Benzo(a)anthracene	ND	ug/L	1	U	0.10	0.052	0.028		SW8270CSIM	01/19/2022 14:25/jph	SV5975.I_220119A : 8	162889
Benzo(a)pyrene	ND	ug/L	1	U	0.10	0.052	0.036		SW8270CSIM	01/19/2022 14:25/jph	SV5975.I_220119A : 8	162889
Benzo(b)fluoranthene	ND	ug/L	1	U	0.10	0.052	0.023		SW8270CSIM	01/19/2022 14:25/jph	SV5975.I_220119A : 8	162889
Benzo(g,h,i)perylene	ND	ug/L	1	U	0.10	0.052	0.028		SW8270CSIM	01/19/2022 14:25/jph	SV5975.I_220119A : 8	162889
Benzo(k)fluoranthene	ND	ug/L	1	U	0.10	0.052	0.030		SW8270CSIM	01/19/2022 14:25/jph	SV5975.I_220119A : 8	162889
Chrysene	ND	ug/L	1	U	0.10	0.052	0.047		SW8270CSIM	01/19/2022 14:25/jph	SV5975.I_220119A : 8	162889
Dibenzo(a,h)anthracene	ND	ug/L	1	U	0.10	0.052	0.038		SW8270CSIM	01/19/2022 14:25/jph	SV5975.I_220119A : 8	162889
Fluoranthene	ND	ug/L	1	U	0.10	0.052	0.024		SW8270CSIM	01/19/2022 14:25/jph	SV5975.I_220119A : 8	162889
Fluorene	ND	ug/L	1	U	0.10	0.052	0.023		SW8270CSIM	01/19/2022 14:25/jph	SV5975.I_220119A : 8	162889
Indeno(1,2,3-cd)pyrene	ND	ug/L	1	U	0.10	0.052	0.051		SW8270CSIM	01/19/2022 14:25/jph	SV5975.I_220119A : 8	162889
Naphthalene	ND	ug/L	1	U	0.10	0.052	0.030		SW8270CSIM	01/19/2022 14:25/jph	SV5975.I_220119A : 8	162889
Phenanthrene	ND	ug/L	1	U	0.10	0.052	0.030		SW8270CSIM	01/19/2022 14:25/jph	SV5975.I_220119A : 8	162889
Pyrene	ND	ug/L	1	U	0.10	0.052	0.025		SW8270CSIM	01/19/2022 14:25/jph	SV5975.I_220119A : 8	162889
AGGREGATE ORGANICS												
Organic Carbon, Total (TOC) - TOC Range is 0.4 to 0.5	0.42	mg/L	1	J	0.50	0.50	0.17		SW9060A	01/14/2022 20:29/eli-ca	SUB-C278777 : 10	C_R278777
METALS, DISSOLVED												
Lead	ND	mg/L	1	U	0.001	0.0001	0.00006		SW6020	01/17/2022 16:50/car	ICPMS207-B_220117A : 60	R373277
METALS, TOTAL												
Lead	0.00036	mg/L	1	J	0.001	0.0001	0.00008		SW6020	01/17/2022 16:56/car	ICPMS207-B_220117A : 61	162926
VOLATILE ORGANIC COMPOUNDS												
Benzene	ND	ug/L	1	U	1.0	0.20	0.091		SW8260B	01/14/2022 13:40/msc	VOA5975C.I_220114A : 7	R373352
Bromobenzene	ND	ug/L	1	U	1.0	0.20	0.083		SW8260B	01/14/2022 13:40/msc	VOA5975C.I_220114A : 7	R373352
Bromochloromethane	ND	ug/L	1	U	1.0	0.50	0.14		SW8260B	01/14/2022 13:40/msc	VOA5975C.I_220114A : 7	R373352
Bromodichloromethane	ND	ug/L	1	U	1.0	0.25	0.12		SW8260B	01/14/2022 13:40/msc	VOA5975C.I_220114A : 7	R373352
Bromoform	ND	ug/L	1	U	1.0	0.25	0.12		SW8260B	01/14/2022 13:40/msc	VOA5975C.I_220114A : 7	R373352
Carbon tetrachloride	ND	ug/L	1	U	1.0	0.50	0.14		SW8260B	01/14/2022 13:40/msc	VOA5975C.I_220114A : 7	R373352
Chlorobenzene	ND	ug/L	1	U	1.0	0.20	0.091		SW8260B	01/14/2022 13:40/msc	VOA5975C.I_220114A : 7	R373352
Chlorodibromomethane	ND	ug/L	1	U	1.0	0.20	0.084		SW8260B	01/14/2022 13:40/msc	VOA5975C.I_220114A : 7	R373352
Chloroethane	ND	ug/L	1	U	1.0	0.50	0.17		SW8260B	01/14/2022 13:40/msc	VOA5975C.I_220114A : 7	R373352
Chloroform	ND	ug/L	1	U	1.0	0.20	0.079		SW8260B	01/14/2022 13:40/msc	VOA5975C.I_220114A : 7	R373352
Chloromethane	ND	ug/L	1	U	1.0	0.50	0.16		SW8260B	01/14/2022 13:40/msc	VOA5975C.I_220114A : 7	R373352

LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Client Sample ID: ERH2418 (RHMW06)
Project: CV18F0126, 60571032.02.46.01
Matrix: Ground Water

Lab ID: B22010754-001
Collection Date: 01/11/2022 13:35
Date Received: 01/13/2022
Report Date: 02/27/2022

Analyses	Result	Units	DF	Qual	LOQ	LOD	DL	MCL	Method	Analysis Date / By	RunID : Run Order	BatchID
VOLATILE ORGANIC COMPOUNDS												
1,2-Dibromoethane	ND	ug/L	1	U	1.0	0.20	0.092		SW8260B	01/14/2022 13:40/msc	VOA5975C.I_220114A : 7	R373352
2-Chlorotoluene	ND	ug/L	1	U	1.0	0.20	0.088		SW8260B	01/14/2022 13:40/msc	VOA5975C.I_220114A : 7	R373352
4-Chlorotoluene	ND	ug/L	1	U	1.0	0.20	0.073		SW8260B	01/14/2022 13:40/msc	VOA5975C.I_220114A : 7	R373352
Dibromomethane	ND	ug/L	1	U	1.0	0.50	0.15		SW8260B	01/14/2022 13:40/msc	VOA5975C.I_220114A : 7	R373352
1,2-Dichlorobenzene	ND	ug/L	1	U	1.0	0.20	0.075		SW8260B	01/14/2022 13:40/msc	VOA5975C.I_220114A : 7	R373352
1,3-Dichlorobenzene	ND	ug/L	1	U	1.0	0.20	0.080		SW8260B	01/14/2022 13:40/msc	VOA5975C.I_220114A : 7	R373352
1,4-Dichlorobenzene	ND	ug/L	1	U	1.0	0.20	0.086		SW8260B	01/14/2022 13:40/msc	VOA5975C.I_220114A : 7	R373352
Dichlorodifluoromethane	ND	ug/L	1	U	1.0	0.50	0.18		SW8260B	01/14/2022 13:40/msc	VOA5975C.I_220114A : 7	R373352
1,1-Dichloroethane	ND	ug/L	1	U	1.0	0.50	0.14		SW8260B	01/14/2022 13:40/msc	VOA5975C.I_220114A : 7	R373352
1,2-Dichloroethane	ND	ug/L	1	U	1.0	0.25	0.12		SW8260B	01/14/2022 13:40/msc	VOA5975C.I_220114A : 7	R373352
1,1-Dichloroethene	ND	ug/L	1	U	1.0	0.50	0.14		SW8260B	01/14/2022 13:40/msc	VOA5975C.I_220114A : 7	R373352
cis-1,2-Dichloroethene	ND	ug/L	1	U	1.0	0.25	0.11		SW8260B	01/14/2022 13:40/msc	VOA5975C.I_220114A : 7	R373352
trans-1,2-Dichloroethene	ND	ug/L	1	U	1.0	0.25	0.12		SW8260B	01/14/2022 13:40/msc	VOA5975C.I_220114A : 7	R373352
1,2-Dichloropropane	ND	ug/L	1	U	1.0	0.20	0.085		SW8260B	01/14/2022 13:40/msc	VOA5975C.I_220114A : 7	R373352
1,3-Dichloropropane	ND	ug/L	1	U	1.0	0.20	0.079		SW8260B	01/14/2022 13:40/msc	VOA5975C.I_220114A : 7	R373352
2,2-Dichloropropane	ND	ug/L	1	U	1.0	0.50	0.19		SW8260B	01/14/2022 13:40/msc	VOA5975C.I_220114A : 7	R373352
1,1-Dichloropropene	ND	ug/L	1	U	1.0	0.20	0.083		SW8260B	01/14/2022 13:40/msc	VOA5975C.I_220114A : 7	R373352
cis-1,3-Dichloropropene	ND	ug/L	1	U	1.0	0.20	0.073		SW8260B	01/14/2022 13:40/msc	VOA5975C.I_220114A : 7	R373352
trans-1,3-Dichloropropene	ND	ug/L	1	U	1.0	0.20	0.085		SW8260B	01/14/2022 13:40/msc	VOA5975C.I_220114A : 7	R373352
Ethylbenzene	ND	ug/L	1	U	1.0	0.20	0.084		SW8260B	01/14/2022 13:40/msc	VOA5975C.I_220114A : 7	R373352
Methyl ethyl ketone	ND	ug/L	1	U	20	5.0	1.8		SW8260B	01/14/2022 13:40/msc	VOA5975C.I_220114A : 7	R373352
Methyl tert-butyl ether (MTBE)	ND	ug/L	1	U	1.0	0.25	0.10		SW8260B	01/14/2022 13:40/msc	VOA5975C.I_220114A : 7	R373352
Methylene chloride	ND	ug/L	1	U	1.0	0.50	0.34		SW8260B	01/14/2022 13:40/msc	VOA5975C.I_220114A : 7	R373352
Styrene	ND	ug/L	1	U	1.0	0.20	0.067		SW8260B	01/14/2022 13:40/msc	VOA5975C.I_220114A : 7	R373352
1,1,1,2-Tetrachloroethane	ND	ug/L	1	U	1.0	0.25	0.10		SW8260B	01/14/2022 13:40/msc	VOA5975C.I_220114A : 7	R373352
1,1,2,2-Tetrachloroethane	ND	ug/L	1	U	1.0	0.20	0.087		SW8260B	01/14/2022 13:40/msc	VOA5975C.I_220114A : 7	R373352
Tetrachloroethene	ND	ug/L	1	U	1.0	0.20	0.067		SW8260B	01/14/2022 13:40/msc	VOA5975C.I_220114A : 7	R373352
Toluene	ND	ug/L	1	UT	1.0	0.20	0.068		SW8260B	01/14/2022 13:40/msc	VOA5975C.I_220114A : 7	R373352
1,1,1-Trichloroethane	ND	ug/L	1	U	1.0	0.50	0.13		SW8260B	01/14/2022 13:40/msc	VOA5975C.I_220114A : 7	R373352
1,1,2-Trichloroethane	ND	ug/L	1	U	1.0	0.25	0.11		SW8260B	01/14/2022 13:40/msc	VOA5975C.I_220114A : 7	R373352
Trichloroethene	ND	ug/L	1	U	1.0	0.20	0.099		SW8260B	01/14/2022 13:40/msc	VOA5975C.I_220114A : 7	R373352
Trichlorofluoromethane	ND	ug/L	1	U	1.0	0.50	0.13		SW8260B	01/14/2022 13:40/msc	VOA5975C.I_220114A : 7	R373352
1,2,3-Trichloropropane	ND	ug/L	1	U	1.0	0.50	0.24		SW8260B	01/14/2022 13:40/msc	VOA5975C.I_220114A : 7	R373352
Vinyl chloride	ND	ug/L	1	U	1.0	0.50	0.15		SW8260B	01/14/2022 13:40/msc	VOA5975C.I_220114A : 7	R373352
m+p-Xylenes	ND	ug/L	1	U	1.0	0.50	0.15		SW8260B	01/14/2022 13:40/msc	VOA5975C.I_220114A : 7	R373352
o-Xylene	ND	ug/L	1	U	1.0	0.20	0.060		SW8260B	01/14/2022 13:40/msc	VOA5975C.I_220114A : 7	R373352
Xylenes, Total	ND	ug/L	1	U	1.0	0.20	0.060		SW8260B	01/14/2022 13:40/msc	VOA5975C.I_220114A : 7	R373352
Surr: Dibromofluoromethane	113.0	%REC	1		80-119				SW8260B	01/14/2022 13:40/msc	VOA5975C.I_220114A : 7	R373352
Surr: 1,2-Dichloroethane-d4	116.0	%REC	1		81-118				SW8260B	01/14/2022 13:40/msc	VOA5975C.I_220114A : 7	R373352

LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Lab ID: B22010754-001
Collection Date: 01/11/2022 13:35
Date Received: 01/13/2022
Report Date: 02/27/2022

Client: AECOM - Honolulu
Client Sample ID: ERH2418 (RHMW06)
Project: CV18F0126, 60571032.02.46.01
Matrix: Ground Water

Analyses	Result	Units	DF	Qual	LOQ	LOD	DL	MCL	Method	Analysis Date / By	RunID : Run Order	BatchID
VOLATILE ORGANIC COMPOUNDS												
Surr: Toluene-d8	107.0	%REC	1		89-112				SW8260B	01/14/2022 13:40/msc	VOA5975C.I_220114A : 7	R373352
Surr: p-Bromofluorobenzene	108.0	%REC	1		85-114				SW8260B	01/14/2022 13:40/msc	VOA5975C.I_220114A : 7	R373352
VOCS BY MICROEXTRACTION-ECD												
1,2-Dibromoethane	ND	ug/L	1	U	0.010	0.0049	0.0025		SW8011	01/17/2022 13:43/clt	GECD.I_220114B : 19	162935
Surr: 1,1,1,2-Tetrachloroethane	90.0	%REC	1		70-130				SW8011	01/17/2022 13:43/clt	GECD.I_220114B : 19	162935
PETROLEUM HYDROCARBONS-VOLATILE												
C6 to C10	ND	ug/L	1	U	20	8.7	2.3		SW8015C	01/14/2022 22:33/jp	PE 1_220113A : 53	R373161
Total Purgeable Hydrocarbons	ND	ug/L	1	U	20	10	3.6		SW8015C	01/14/2022 22:33/jp	PE 1_220113A : 53	R373161
Surr: Trifluorotoluene	77.0	%REC	1		70-130				SW8015C	01/14/2022 22:33/jp	PE 1_220113A : 53	R373161
- Note 1: C6 to C10 is defined as all hydrocarbons eluting between 2-Methylpentane and 1,2,4-Trimethylbenzene.												
- Note 2: Total Purgeable Hydrocarbons are defined as the total hydrocarbon response regardless of elution time.												
PETROLEUM HYDROCARBONS-SEMI-VOLATILE												
Diesel Range Organics (C10 to C24)	ND	mg/L	1	U	0.30	0.14	0.037		SW8015C	01/15/2022 07:39/amn	GCFID-HP5-B_220114A : 17	162917
Oil Range Hydrocarbons (C24 to C40)	ND	mg/L	1	U	0.30	0.14	0.084		SW8015C	01/15/2022 07:39/amn	GCFID-HP5-B_220114A : 17	162917
Total Extractable Hydrocarbons	ND	mg/L	1	U	0.30	0.14	0.071		SW8015C	01/15/2022 07:39/amn	GCFID-HP5-B_220114A : 17	162917
Surr: o-Terphenyl	91.0	%REC	1		56-125				SW8015C	01/15/2022 07:39/amn	GCFID-HP5-B_220114A : 17	162917
Surr: n-Triacontane	100.0	%REC	1		50-150				SW8015C	01/15/2022 07:39/amn	GCFID-HP5-B_220114A : 17	162917
- Note: Total Extractable Hydrocarbons are defined as the total hydrocarbon responses regardless of elution time.												
- Since there were no detectable hydrocarbons, Silica Gel Treatment (SGT) results are equivalent to non-SGT results.												
ORGANIC CHARACTERISTICS												
Methane	ND	mg/L	1	U	0.0020	0.0012	0.00070		SW8015M	01/14/2022 13:24/jdw	FID-HEADSPACE_220114A : 22	R373199
SEMI-VOLATILE ORGANIC COMPOUNDS												
1,2,4-Trichlorobenzene	ND	ug/L	1	U	10	5.2	2.0		SW8270C	01/28/2022 20:25/dsm	SV5973N.I_220128A : 6	162889
1,2-Dichlorobenzene	ND	ug/L	1	U	10	5.2	2.0		SW8270C	01/28/2022 20:25/dsm	SV5973N.I_220128A : 6	162889
1,3-Dichlorobenzene	ND	ug/L	1	U	10	5.2	2.2		SW8270C	01/28/2022 20:25/dsm	SV5973N.I_220128A : 6	162889
1,4-Dichlorobenzene	ND	ug/L	1	U	10	5.2	2.1		SW8270C	01/28/2022 20:25/dsm	SV5973N.I_220128A : 6	162889
2,4,5-Trichlorophenol	ND	ug/L	1	U	10	5.2	2.3		SW8270C	01/28/2022 20:25/dsm	SV5973N.I_220128A : 6	162889
2,4,6-Trichlorophenol	ND	ug/L	1	U	10	5.2	2.7		SW8270C	01/28/2022 20:25/dsm	SV5973N.I_220128A : 6	162889
2,4-Dichlorophenol	ND	ug/L	1	U	10	5.2	1.7		SW8270C	01/28/2022 20:25/dsm	SV5973N.I_220128A : 6	162889
2,4-Dimethylphenol	ND	ug/L	1	U	10	5.2	1.7		SW8270C	01/28/2022 20:25/dsm	SV5973N.I_220128A : 6	162889
2,4-Dinitrophenol	ND	ug/L	1	U	10	10	4.4		SW8270C	01/28/2022 20:25/dsm	SV5973N.I_220128A : 6	162889
2,4-Dinitrotoluene	ND	ug/L	1	U	10	5.2	3.1		SW8270C	01/28/2022 20:25/dsm	SV5973N.I_220128A : 6	162889
2,6-Dinitrotoluene	ND	ug/L	1	U	10	5.2	3.3		SW8270C	01/28/2022 20:25/dsm	SV5973N.I_220128A : 6	162889
2-Chloronaphthalene	ND	ug/L	1	U	10	5.2	2.2		SW8270C	01/28/2022 20:25/dsm	SV5973N.I_220128A : 6	162889
2-Chlorophenol	ND	ug/L	1	U	10	5.2	2.6		SW8270C	01/28/2022 20:25/dsm	SV5973N.I_220128A : 6	162889
2-Nitrophenol	ND	ug/L	1	U	10	5.2	2.4		SW8270C	01/28/2022 20:25/dsm	SV5973N.I_220128A : 6	162889
3,3´-Dichlorobenzidine	ND	ug/L	1	U	10	5.2	2.2		SW8270C	01/28/2022 20:25/dsm	SV5973N.I_220128A : 6	162889
4,6-Dinitro-2-methylphenol	ND	ug/L	1	U	10	10	2.4		SW8270C	01/28/2022 20:25/dsm	SV5973N.I_220128A : 6	162889

LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Client Sample ID: ERH2418 (RHMW06)
Project: CV18F0126, 60571032.02.46.01
Matrix: Ground Water

Lab ID: B22010754-001
Collection Date: 01/11/2022 13:35
Date Received: 01/13/2022
Report Date: 02/27/2022

Analyses	Result	Units	DF	Qual	LOQ	LOD	DL	MCL	Method	Analysis Date / By	RunID : Run Order	BatchID
SEMI-VOLATILE ORGANIC COMPOUNDS												
4-Bromophenyl phenyl ether	ND	ug/L	1	U	10	5.2	1.8		SW8270C	01/28/2022 20:25/dsm	SV5973N.I_220128A : 6	162889
4-Chloro-3-methylphenol	ND	ug/L	1	U	10	5.2	1.5		SW8270C	01/28/2022 20:25/dsm	SV5973N.I_220128A : 6	162889
4-Chlorophenol	ND	ug/L	1	U	10	5.2	2.7		SW8270C	01/28/2022 20:25/dsm	SV5973N.I_220128A : 6	162889
4-Chlorophenyl phenyl ether	ND	ug/L	1	U	10	5.2	2.1		SW8270C	01/28/2022 20:25/dsm	SV5973N.I_220128A : 6	162889
4-Nitrophenol	ND	ug/L	1	U	10	10	2.6		SW8270C	01/28/2022 20:25/dsm	SV5973N.I_220128A : 6	162889
Azobenzene	ND	ug/L	1	U	10	5.2	1.1		SW8270C	01/28/2022 20:25/dsm	SV5973N.I_220128A : 6	162889
bis(-2-chloroethoxy)Methane	ND	ug/L	1	U	10	5.2	1.4		SW8270C	01/28/2022 20:25/dsm	SV5973N.I_220128A : 6	162889
bis(-2-chloroethyl)Ether	ND	ug/L	1	U	10	5.2	2.6		SW8270C	01/28/2022 20:25/dsm	SV5973N.I_220128A : 6	162889
bis(2-chloroisopropyl)Ether	ND	ug/L	1	U	10	5.2	1.5		SW8270C	01/28/2022 20:25/dsm	SV5973N.I_220128A : 6	162889
bis(2-ethylhexyl)Phthalate	ND	ug/L	1	U	10	5.2	2.0		SW8270C	01/28/2022 20:25/dsm	SV5973N.I_220128A : 6	162889
Butylbenzylphthalate	ND	ug/L	1	U	10	5.2	1.6		SW8270C	01/28/2022 20:25/dsm	SV5973N.I_220128A : 6	162889
Di-n-butyl phthalate	ND	ug/L	1	U	10	5.2	0.96		SW8270C	01/28/2022 20:25/dsm	SV5973N.I_220128A : 6	162889
Di-n-octyl phthalate	ND	ug/L	1	U	10	5.2	1.4		SW8270C	01/28/2022 20:25/dsm	SV5973N.I_220128A : 6	162889
Diethyl phthalate	ND	ug/L	1	U	10	5.2	2.2		SW8270C	01/28/2022 20:25/dsm	SV5973N.I_220128A : 6	162889
Dimethyl phthalate	ND	ug/L	1	U	10	5.2	1.8		SW8270C	01/28/2022 20:25/dsm	SV5973N.I_220128A : 6	162889
Hexachlorobenzene	ND	ug/L	1	U	10	5.2	1.4		SW8270C	01/28/2022 20:25/dsm	SV5973N.I_220128A : 6	162889
Hexachlorobutadiene	ND	ug/L	1	U	10	5.2	2.4		SW8270C	01/28/2022 20:25/dsm	SV5973N.I_220128A : 6	162889
Hexachlorocyclopentadiene	ND	ug/L	1	U	10	5.2	3.1		SW8270C	01/28/2022 20:25/dsm	SV5973N.I_220128A : 6	162889
Hexachloroethane	ND	ug/L	1	U	10	5.2	1.8		SW8270C	01/28/2022 20:25/dsm	SV5973N.I_220128A : 6	162889
Isophorone	ND	ug/L	1	U	10	5.2	1.7		SW8270C	01/28/2022 20:25/dsm	SV5973N.I_220128A : 6	162889
m+p-Cresols	ND	ug/L	1	U	10	5.2	1.8		SW8270C	01/28/2022 20:25/dsm	SV5973N.I_220128A : 6	162889
n-Nitroso-di-n-propylamine	ND	ug/L	1	U	10	5.2	1.6		SW8270C	01/28/2022 20:25/dsm	SV5973N.I_220128A : 6	162889
n-Nitrosodimethylamine	ND	ug/L	1	U	10	5.2	1.6		SW8270C	01/28/2022 20:25/dsm	SV5973N.I_220128A : 6	162889
n-Nitrosodiphenylamine	ND	ug/L	1	U	10	5.2	1.2		SW8270C	01/28/2022 20:25/dsm	SV5973N.I_220128A : 6	162889
Nitrobenzene	ND	ug/L	1	U	10	5.2	2.4		SW8270C	01/28/2022 20:25/dsm	SV5973N.I_220128A : 6	162889
o-Cresol	ND	ug/L	1	U	10	5.2	1.9		SW8270C	01/28/2022 20:25/dsm	SV5973N.I_220128A : 6	162889
Pentachlorophenol	ND	ug/L	1	U	10	10	4.4		SW8270C	01/28/2022 20:25/dsm	SV5973N.I_220128A : 6	162889
Phenol	ND	ug/L	1	U	10	5.2	1.5		SW8270C	01/28/2022 20:25/dsm	SV5973N.I_220128A : 6	162889
Pyridine	ND	ug/L	1	U	10	5.2	3.3		SW8270C	01/28/2022 20:25/dsm	SV5973N.I_220128A : 6	162889
Surr: 2,4,6-Tribromophenol	95.0	%REC	1		43-140				SW8270C	01/28/2022 20:25/dsm	SV5973N.I_220128A : 6	162889
Surr: 2-Fluorobiphenyl	66.0	%REC	1		44-119				SW8270C	01/28/2022 20:25/dsm	SV5973N.I_220128A : 6	162889
Surr: 2-Fluorophenol	36.0	%REC	1		19-119				SW8270C	01/28/2022 20:25/dsm	SV5973N.I_220128A : 6	162889
Surr: Nitrobenzene-d5	71.0	%REC	1		44-120				SW8270C	01/28/2022 20:25/dsm	SV5973N.I_220128A : 6	162889
Surr: Phenol-d5	41.0	%REC	1		10-65				SW8270C	01/28/2022 20:25/dsm	SV5973N.I_220128A : 6	162889
Surr: Terphenyl-d14	92.0	%REC	1		50-134				SW8270C	01/28/2022 20:25/dsm	SV5973N.I_220128A : 6	162889

LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Client Sample ID: ERH2417 (Trip Blank) 14653
Project: CV18F0126, 60571032.02.46.01
Matrix: Trip Blank

Lab ID: B22010754-002
Collection Date: 01/11/2022 13:35
Date Received: 01/13/2022
Report Date: 02/27/2022

Analyses	Result	Units	DF	Qual	LOQ	LOD	DL	MCL	Method	Analysis Date / By	RunID : Run Order	BatchID
VOLATILE ORGANIC COMPOUNDS												
Benzene	ND	ug/L	1	U	1.0	0.20	0.091		SW8260B	01/14/2022 17:18/msc	VOA5975C.I_220114A : 15	R373352
Bromobenzene	ND	ug/L	1	U	1.0	0.20	0.083		SW8260B	01/14/2022 17:18/msc	VOA5975C.I_220114A : 15	R373352
Bromochloromethane	ND	ug/L	1	U	1.0	0.50	0.14		SW8260B	01/14/2022 17:18/msc	VOA5975C.I_220114A : 15	R373352
Bromodichloromethane	ND	ug/L	1	U	1.0	0.25	0.12		SW8260B	01/14/2022 17:18/msc	VOA5975C.I_220114A : 15	R373352
Bromoform	ND	ug/L	1	U	1.0	0.25	0.12		SW8260B	01/14/2022 17:18/msc	VOA5975C.I_220114A : 15	R373352
Carbon tetrachloride	ND	ug/L	1	U	1.0	0.50	0.14		SW8260B	01/14/2022 17:18/msc	VOA5975C.I_220114A : 15	R373352
Chlorobenzene	ND	ug/L	1	U	1.0	0.20	0.091		SW8260B	01/14/2022 17:18/msc	VOA5975C.I_220114A : 15	R373352
Chlorodibromomethane	ND	ug/L	1	U	1.0	0.20	0.084		SW8260B	01/14/2022 17:18/msc	VOA5975C.I_220114A : 15	R373352
Chloroethane	ND	ug/L	1	U	1.0	0.50	0.17		SW8260B	01/14/2022 17:18/msc	VOA5975C.I_220114A : 15	R373352
Chloroform	ND	ug/L	1	U	1.0	0.20	0.079		SW8260B	01/14/2022 17:18/msc	VOA5975C.I_220114A : 15	R373352
Chloromethane	ND	ug/L	1	U	1.0	0.50	0.16		SW8260B	01/14/2022 17:18/msc	VOA5975C.I_220114A : 15	R373352
1,2-Dibromoethane	ND	ug/L	1	U	1.0	0.20	0.092		SW8260B	01/14/2022 17:18/msc	VOA5975C.I_220114A : 15	R373352
2-Chlorotoluene	ND	ug/L	1	U	1.0	0.20	0.088		SW8260B	01/14/2022 17:18/msc	VOA5975C.I_220114A : 15	R373352
4-Chlorotoluene	ND	ug/L	1	U	1.0	0.20	0.073		SW8260B	01/14/2022 17:18/msc	VOA5975C.I_220114A : 15	R373352
Dibromomethane	ND	ug/L	1	U	1.0	0.50	0.15		SW8260B	01/14/2022 17:18/msc	VOA5975C.I_220114A : 15	R373352
1,2-Dichlorobenzene	ND	ug/L	1	U	1.0	0.20	0.075		SW8260B	01/14/2022 17:18/msc	VOA5975C.I_220114A : 15	R373352
1,3-Dichlorobenzene	ND	ug/L	1	U	1.0	0.20	0.080		SW8260B	01/14/2022 17:18/msc	VOA5975C.I_220114A : 15	R373352
1,4-Dichlorobenzene	ND	ug/L	1	U	1.0	0.20	0.086		SW8260B	01/14/2022 17:18/msc	VOA5975C.I_220114A : 15	R373352
Dichlorodifluoromethane	ND	ug/L	1	U	1.0	0.50	0.18		SW8260B	01/14/2022 17:18/msc	VOA5975C.I_220114A : 15	R373352
1,1-Dichloroethane	ND	ug/L	1	U	1.0	0.50	0.14		SW8260B	01/14/2022 17:18/msc	VOA5975C.I_220114A : 15	R373352
1,2-Dichloroethane	ND	ug/L	1	U	1.0	0.25	0.12		SW8260B	01/14/2022 17:18/msc	VOA5975C.I_220114A : 15	R373352
1,1-Dichloroethene	ND	ug/L	1	U	1.0	0.50	0.14		SW8260B	01/14/2022 17:18/msc	VOA5975C.I_220114A : 15	R373352
cis-1,2-Dichloroethene	ND	ug/L	1	U	1.0	0.25	0.11		SW8260B	01/14/2022 17:18/msc	VOA5975C.I_220114A : 15	R373352
trans-1,2-Dichloroethene	ND	ug/L	1	U	1.0	0.25	0.12		SW8260B	01/14/2022 17:18/msc	VOA5975C.I_220114A : 15	R373352
1,2-Dichloropropane	ND	ug/L	1	U	1.0	0.20	0.085		SW8260B	01/14/2022 17:18/msc	VOA5975C.I_220114A : 15	R373352
1,3-Dichloropropane	ND	ug/L	1	U	1.0	0.20	0.079		SW8260B	01/14/2022 17:18/msc	VOA5975C.I_220114A : 15	R373352
2,2-Dichloropropane	ND	ug/L	1	U	1.0	0.50	0.19		SW8260B	01/14/2022 17:18/msc	VOA5975C.I_220114A : 15	R373352
1,1-Dichloropropene	ND	ug/L	1	U	1.0	0.20	0.083		SW8260B	01/14/2022 17:18/msc	VOA5975C.I_220114A : 15	R373352
cis-1,3-Dichloropropene	ND	ug/L	1	U	1.0	0.20	0.073		SW8260B	01/14/2022 17:18/msc	VOA5975C.I_220114A : 15	R373352
trans-1,3-Dichloropropene	ND	ug/L	1	U	1.0	0.20	0.085		SW8260B	01/14/2022 17:18/msc	VOA5975C.I_220114A : 15	R373352
Ethylbenzene	ND	ug/L	1	U	1.0	0.20	0.084		SW8260B	01/14/2022 17:18/msc	VOA5975C.I_220114A : 15	R373352
Methyl ethyl ketone	ND	ug/L	1	U	20	5.0	1.8		SW8260B	01/14/2022 17:18/msc	VOA5975C.I_220114A : 15	R373352
Methyl tert-butyl ether (MTBE)	ND	ug/L	1	U	1.0	0.25	0.10		SW8260B	01/14/2022 17:18/msc	VOA5975C.I_220114A : 15	R373352
Methylene chloride	ND	ug/L	1	U	1.0	0.50	0.34		SW8260B	01/14/2022 17:18/msc	VOA5975C.I_220114A : 15	R373352
Styrene	ND	ug/L	1	U	1.0	0.20	0.067		SW8260B	01/14/2022 17:18/msc	VOA5975C.I_220114A : 15	R373352
1,1,1,2-Tetrachloroethane	ND	ug/L	1	U	1.0	0.25	0.10		SW8260B	01/14/2022 17:18/msc	VOA5975C.I_220114A : 15	R373352
1,1,2,2-Tetrachloroethane	ND	ug/L	1	U	1.0	0.20	0.087		SW8260B	01/14/2022 17:18/msc	VOA5975C.I_220114A : 15	R373352
Tetrachloroethene	ND	ug/L	1	U	1.0	0.20	0.067		SW8260B	01/14/2022 17:18/msc	VOA5975C.I_220114A : 15	R373352
Toluene	0.11	ug/L	1	J	1.0	0.20	0.068		SW8260B	01/14/2022 17:18/msc	VOA5975C.I_220114A : 15	R373352

LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Lab ID: B22010754-002
Client: AECOM - Honolulu
Collection Date: 01/11/2022 13:35
Client Sample ID: ERH2417 (Trip Blank) 14653
Date Received: 01/13/2022
Project: CV18F0126, 60571032.02.46.01
Report Date: 02/27/2022
Matrix: Trip Blank

Analyses	Result	Units	DF	Qual	LOQ	LOD	DL	MCL	Method	Analysis Date / By	RunID : Run Order	BatchID
VOLATILE ORGANIC COMPOUNDS												
1,1,1-Trichloroethane	ND	ug/L	1	U	1.0	0.50	0.13		SW8260B	01/14/2022 17:18/msc	VOA5975C.I_220114A : 15	R373352
1,1,2-Trichloroethane	ND	ug/L	1	U	1.0	0.25	0.11		SW8260B	01/14/2022 17:18/msc	VOA5975C.I_220114A : 15	R373352
Trichloroethene	ND	ug/L	1	U	1.0	0.20	0.099		SW8260B	01/14/2022 17:18/msc	VOA5975C.I_220114A : 15	R373352
Trichlorofluoromethane	ND	ug/L	1	U	1.0	0.50	0.13		SW8260B	01/14/2022 17:18/msc	VOA5975C.I_220114A : 15	R373352
1,2,3-Trichloropropane	ND	ug/L	1	U	1.0	0.50	0.24		SW8260B	01/14/2022 17:18/msc	VOA5975C.I_220114A : 15	R373352
Vinyl chloride	ND	ug/L	1	U	1.0	0.50	0.15		SW8260B	01/14/2022 17:18/msc	VOA5975C.I_220114A : 15	R373352
m+p-Xylenes	ND	ug/L	1	U	1.0	0.50	0.15		SW8260B	01/14/2022 17:18/msc	VOA5975C.I_220114A : 15	R373352
o-Xylene	ND	ug/L	1	U	1.0	0.20	0.060		SW8260B	01/14/2022 17:18/msc	VOA5975C.I_220114A : 15	R373352
Xylenes, Total	ND	ug/L	1	U	1.0	0.20	0.060		SW8260B	01/14/2022 17:18/msc	VOA5975C.I_220114A : 15	R373352
Surr: Dibromofluoromethane	87.0	%REC	1		80-119				SW8260B	01/14/2022 17:18/msc	VOA5975C.I_220114A : 15	R373352
Surr: 1,2-Dichloroethane-d4	89.0	%REC	1		81-118				SW8260B	01/14/2022 17:18/msc	VOA5975C.I_220114A : 15	R373352
Surr: Toluene-d8	108.0	%REC	1		89-112				SW8260B	01/14/2022 17:18/msc	VOA5975C.I_220114A : 15	R373352
Surr: p-Bromofluorobenzene	106.0	%REC	1		85-114				SW8260B	01/14/2022 17:18/msc	VOA5975C.I_220114A : 15	R373352

LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Lab ID: B22010754-003
Client: AECOM - Honolulu
Collection Date: 01/11/2022 13:35
Client Sample ID: ERH2417 (Trip Blank) 14653
Date Received: 01/13/2022
Project: CV18F0126, 60571032.02.46.01
Report Date: 02/27/2022
Matrix: Trip Blank

Analyses	Result	Units	DF	Qual	LOQ	LOD	DL	MCL	Method	Analysis Date / By	RunID : Run Order	BatchID
PETROLEUM HYDROCARBONS-VOLATILE												
C6 to C10	ND	ug/L	1	U	20	8.7	2.3		SW8015C	01/14/2022 12:49/jp	PE 1_220113A : 39	R373161
Total Purgeable Hydrocarbons	ND	ug/L	1	U	20	10	3.6		SW8015C	01/14/2022 12:49/jp	PE 1_220113A : 39	R373161
Surr: Trifluorotoluene	79.0	%REC	1		70-130				SW8015C	01/14/2022 12:49/jp	PE 1_220113A : 39	R373161

- Note 1: C6 to C10 is defined as all hydrocarbons eluting between 2-Methylpentane and 1,2,4-Trimethylbenzene.
- Note 2: Total Purgeable Hydrocarbons are defined as the total hydrocarbon response regardless of elution time.

LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Lab ID: B22010754-004
Client: AECOM - Honolulu
Collection Date: 01/11/2022 13:35
Client Sample ID: ERH2417 (Trip Blank) 14653
Date Received: 01/13/2022
Project: CV18F0126, 60571032.02.46.01
Report Date: 02/27/2022
Matrix: Trip Blank

Analyses	Result	Units	DF	Qual	LOQ	LOD	DL	MCL	Method	Analysis Date / By	RunID : Run Order	BatchID
VOCS BY MICROEXTRACTION-ECD												
1,2-Dibromoethane	ND	ug/L	1	U	0.010	0.0049	0.0025		SW8011	01/17/2022 14:03/clt	GECD.I_220114B : 20	162935
Surr: 1,1,1,2-Tetrachloroethane	90.0	%REC	1		70-130				SW8011	01/17/2022 14:03/clt	GECD.I_220114B : 20	162935

LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Lab ID: B22010754-005
Client: AECOM - Honolulu
Collection Date: 01/11/2022 13:35
Client Sample ID: ERH2417 (Trip Blank) 14663
Date Received: 01/13/2022
Project: CV18F0126, 60571032.02.46.01
Report Date: 02/27/2022
Matrix: Trip Blank

Analyses	Result	Units	DF	Qual	LOQ	LOD	DL	MCL	Method	Analysis Date / By	RunID : Run Order	BatchID
ORGANIC CHARACTERISTICS												
Methane	ND	mg/L	1	U	0.0020	0.0012	0.00070		SW8015M	01/14/2022 13:29/jdw	FID-HEADSPACE_220114A : 23	R373199

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010754
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/27/2022

Run ID: Run Order: SV5975.I_220118A: 10 **SampType:** Method Blank **Batch ID:** 162889
Method: SW8270CSIM **Analysis Date:** 01/18/2022 20:14 **Prep Date:** 01/12/2022 14:16
Lab ID: MB-162889 **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: **B22010754-001C**

Run ID: Run Order: SV5975.I_220118A: 8 **SampType:** Laboratory Control Sample **Batch ID:** 162889
Method: SW8270CSIM **Analysis Date:** 01/18/2022 19:09 **Prep Date:** 01/12/2022 14:16
Lab ID: LLCS-162889 **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1-Methylnaphthalene	2.9	0.10	5.0		59.0	41	115				

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010754
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/27/2022

Run ID: Run Order: SV5975.I_220118A: 8 **SampType:** Laboratory Control Sample **Batch ID:** 162889
Method: SW8270CSIM **Analysis Date:** 01/18/2022 19:09 **Prep Date:** 01/12/2022 14:16
Lab ID: LLCS-162889 **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
2-Methylnaphthalene	3.5	0.10	5.0		70.0	39	114				
Acenaphthene	3.3	0.10	5.0		67.0	48	114				
Acenaphthylene	3.2	0.10	5.0		65.0	35	121				
Anthracene	4.7	0.10	5.0		93.0	53	119				
Benzo(a)anthracene	5.0	0.10	5.0		101.0	59	120				
Benzo(a)pyrene	4.8	0.10	5.0		95.0	53	120				
Benzo(b)fluoranthene	4.9	0.10	5.0		98.0	53	126				
Benzo(g,h,i)perylene	4.7	0.10	5.0		94.0	44	128				
Benzo(k)fluoranthene	4.4	0.10	5.0		88.0	54	125				
Chrysene	4.7	0.10	5.0		94.0	57	120				
Dibenzo(a,h)anthracene	4.7	0.10	5.0		94.0	44	141				
Fluoranthene	4.5	0.10	5.0		90.0	58	120				
Fluorene	3.9	0.10	5.0		78.0	50	118				
Indeno(1,2,3-cd)pyrene	4.5	0.10	5.0		90.0	48	130				
Naphthalene	2.9	0.10	5.0		58.0	43	114				
Phenanthrene	4.6	0.10	5.0		92.0	53	115				
Pyrene	4.5	0.10	5.0		89.0	53	121				

Associated Samples: **B22010754-001C**

Run ID: Run Order: SV5975.I_220118A: 9 **SampType:** Laboratory Control Sample Duplicate **Batch ID:** 162889
Method: SW8270CSIM **Analysis Date:** 01/18/2022 19:42 **Prep Date:** 01/12/2022 14:16
Lab ID: LLCSD-162889 **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1-Methylnaphthalene	2.4	0.10	5.0		47.0	41	115	2.9	22.0	40.0	
2-Methylnaphthalene	2.7	0.10	5.0		55.0	39	114	3.5	25.0	40.0	

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010754
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/27/2022

Run ID: Run Order: SV5975.I_220118A: 9 **SampType:** Laboratory Control Sample Duplicate **Batch ID:** 162889
Method: SW8270CSIM **Analysis Date:** 01/18/2022 19:42 **Prep Date:** 01/12/2022 14:16
Lab ID: LLCSD-162889 **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Acenaphthene	2.8	0.10	5.0		56.0	48	114	3.3	18.0	40.0	
Acenaphthylene	2.8	0.10	5.0		56.0	35	121	3.2	14.0	40.0	
Anthracene	4.5	0.10	5.0		91.0	53	119	4.7	2.6	40.0	
Benzo(a)anthracene	5.1	0.10	5.0		103.0	59	120	5.0	2.1	40.0	
Benzo(a)pyrene	4.9	0.10	5.0		98.0	53	120	4.8	3.2	40.0	
Benzo(b)fluoranthene	5.1	0.10	5.0		102.0	53	126	4.9	4.2	40.0	
Benzo(g,h,i)perylene	4.8	0.10	5.0		95.0	44	128	4.7	2.0	40.0	
Benzo(k)fluoranthene	4.7	0.10	5.0		95.0	54	125	4.4	7.5	40.0	
Chrysene	4.8	0.10	5.0		96.0	57	120	4.7	1.7	40.0	
Dibenzo(a,h)anthracene	5.0	0.10	5.0		100.0	44	141	4.7	6.2	40.0	
Fluoranthene	4.4	0.10	5.0		88.0	58	120	4.5	1.4	40.0	
Fluorene	3.5	0.10	5.0		69.0	50	118	3.9	11.0	40.0	
Indeno(1,2,3-cd)pyrene	4.8	0.10	5.0		96.0	48	130	4.5	6.6	40.0	
Naphthalene	2.4	0.10	5.0		48.0	43	114	2.9	19.0	40.0	
Phenanthrene	4.3	0.10	5.0		87.0	53	115	4.6	5.5	40.0	
Pyrene	4.5	0.10	5.0		91.0	53	121	4.5	1.6	40.0	

Associated Samples: **B22010754-001C**

- 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.

Run ID: Run Order: SV5975.I_220118A: 18 **SampType:** Sample Matrix Spike **Batch ID:** 162889
Method: SW8270CSIM **Analysis Date:** 01/19/2022 00:32 **Prep Date:** 01/12/2022 14:18
Lab ID: B22010633-001CLMS **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	5.0	0.0	54.0	41	115				
2-Methylnaphthalene	3.4	0.10	5.0	0.0	68.0	39	114				
Acenaphthene	3.2	0.10	5.0	0.0	65.0	48	114				

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010754
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/27/2022

Run ID: Run Order: SV5975.I_220118A: 18 **SampType:** Sample Matrix Spike **Batch ID:** 162889
Method: SW8270CSIM **Analysis Date:** 01/19/2022 00:32 **Prep Date:** 01/12/2022 14:18
Lab ID: B22010633-001CLMS **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Acenaphthylene	3.1	0.10	5.0	0.0	62.0	35	121				
Anthracene	4.6	0.10	5.0	0.0	94.0	53	119				
Benzo(a)anthracene	5.1	0.10	5.0	0.0	103.0	59	120				
Benzo(a)pyrene	4.9	0.10	5.0	0.0	99.0	53	120				
Benzo(b)fluoranthene	5.2	0.10	5.0	0.0	106.0	53	126				
Benzo(g,h,i)perylene	4.8	0.10	5.0	0.0	97.0	44	128				
Benzo(k)fluoranthene	4.6	0.10	5.0	0.0	94.0	54	125				
Chrysene	4.7	0.10	5.0	0.0	95.0	57	120				
Dibenzo(a,h)anthracene	5.1	0.10	5.0	0.0	104.0	44	141				
Fluoranthene	4.4	0.10	5.0	0.051	88.0	58	120				
Fluorene	3.8	0.10	5.0	0.0	76.0	50	118				
Indeno(1,2,3-cd)pyrene	4.9	0.10	5.0	0.0	99.0	48	130				
Naphthalene	2.7	0.10	5.0	0.0	54.0	43	114				
Phenanthrene	4.5	0.10	5.0	0.0	91.0	53	115				
Pyrene	4.6	0.10	5.0	0.061	92.0	53	121				

Associated Samples: **B22010754-001C**

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010754
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/27/2022

Run ID: Run Order: SV5975.I_220119A: 2 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R373423
Method: SW8270CSIM **Analysis Date:** 01/19/2022 11:11 **Prep Date:**
Lab ID: 19-Jan-22_CCV_2 **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1-Methylnaphthalene	1.8	0.10	2.0		91.0	80	120				
2-Methylnaphthalene	1.8	0.10	2.0		92.0	80	120				
Acenaphthene	1.7	0.10	2.0		86.0	80	120				
Acenaphthylene	1.7	0.10	2.0		84.0	80	120				
Anthracene	2.1	0.10	2.0		104.0	80	120				
Benzo(a)anthracene	2.1	0.10	2.0		104.0	80	120				
Benzo(a)pyrene	2.1	0.10	2.0		105.0	80	120				
Benzo(b)fluoranthene	1.8	0.10	2.0		92.0	80	120				
Benzo(g,h,i)perylene	1.9	0.10	2.0		96.0	80	120				
Benzo(k)fluoranthene	2.0	0.10	2.0		98.0	80	120				
Chrysene	1.8	0.10	2.0		92.0	80	120				
Dibenzo(a,h)anthracene	1.8	0.10	2.0		89.0	80	120				
Fluoranthene	1.8	0.10	2.0		90.0	80	120				
Fluorene	1.8	0.10	2.0		92.0	80	120				
Indeno(1,2,3-cd)pyrene	2.0	0.10	2.0		99.0	80	120				
Naphthalene	1.6	0.10	2.0		81.0	80	120				
Phenanthrene	2.0	0.10	2.0		100.0	80	120				
Pyrene	2.0	0.10	2.0		98.0	80	120				

Associated Samples: **B22010754-001C**

Run ID: Run Order: SV5975.I_220119A: 18 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R373423
Method: SW8270CSIM **Analysis Date:** 01/19/2022 19:48 **Prep Date:**
Lab ID: 19-Jan-22_CCV_18 **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		94.0	50	150				

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010754
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/27/2022

Run ID: Run Order: SV5975.I_220119A: 18 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R373423
Method: SW8270CSIM **Analysis Date:** 01/19/2022 19:48 **Prep Date:**
Lab ID: 19-Jan-22_CCV_18 **Units:** ug/L **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	1.7	0.10	2.0		84.0	50	150				
Acenaphthylene	1.7	0.10	2.0		87.0	50	150				
Anthracene	2.1	0.10	2.0		104.0	50	150				
Benzo(a)anthracene	2.1	0.10	2.0		106.0	50	150				
Benzo(a)pyrene	2.2	0.10	2.0		108.0	50	150				
Benzo(b)fluoranthene	2.0	0.10	2.0		101.0	50	150				
Benzo(g,h,i)perylene	2.2	0.10	2.0		109.0	50	150				
Benzo(k)fluoranthene	2.0	0.10	2.0		101.0	50	150				
Chrysene	2.0	0.10	2.0		99.0	50	150				
Dibenzo(a,h)anthracene	1.9	0.10	2.0		97.0	50	150				
Fluoranthene	1.9	0.10	2.0		96.0	50	150				
Fluorene	1.9	0.10	2.0		94.0	50	150				
Indeno(1,2,3-cd)pyrene	2.2	0.10	2.0		109.0	50	150				
Naphthalene	1.8	0.10	2.0		89.0	50	150				
Phenanthrene	2.0	0.10	2.0		101.0	50	150				
Pyrene	2.0	0.10	2.0		100.0	50	150				

Associated Samples: **B22010754-001C**

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010754
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/27/2022

Run ID: Run Order: SUB-C278777: 2 **SampType:** Method Blank **Batch ID:** C_R278777
Method: SW9060A **Analysis Date:** 01/14/2022 15:17 **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: **B22010754-001E**
- TOC Range is 0.0 to 0.0

Run ID: Run Order: SUB-C278777: 1 **SampType:** Laboratory Control Sample **Batch ID:** C_R278777
Method: SW9060A **Analysis Date:** 01/14/2022 14:36 **Prep Date:**
Lab ID: LCS **Units:** mg/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	5.2	0.50	5.0		105.0	91	111				

Associated Samples: **B22010754-001E**
- TOC Range is 5.2 to 5.4

Run ID: Run Order: SUB-C278777: 5 **SampType:** Sample Matrix Spike **Batch ID:** C_R278777
Method: SW9060A **Analysis Date:** 01/14/2022 17:17 **Prep Date:**
Lab ID: C22010428-001EMS **Units:** mg/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	5.3	0.50	5.0	0.20	102.0	91	111				

Associated Samples: **B22010754-001E**
- TOC Range is 5.2 to 5.3

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010754
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/27/2022

Run ID: Run Order: SUB-C278777: 6 **SampType:** Sample Matrix Spike Duplicate **Batch ID:** C_R278777
Method: SW9060A **Analysis Date:** 01/14/2022 18:09 **Prep Date:**
Lab ID: C22010428-001EMSD **Units:** mg/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	5.3	0.50	5.0	0.20	102.0	91	111	5.3	0.2	10.0	

Associated Samples: **B22010754-001E**
- TOC Range is 5.2 to 5.3

Run ID: Run Order: SUB-C278777: 3 **SampType:** Continuing Calibration Verification Standard **Batch ID:** C_R278777
Method: SW9060A **Analysis Date:** 01/14/2022 15:55 **Prep Date:**
Lab ID: CCV **Units:** mg/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	5.2	0.50	5.0		105.0	90	110				

Associated Samples: **B22010754-001E**
- TOC Range is 5.2 to 5.3

Run ID: Run Order: SUB-C278777: 7 **SampType:** Continuing Calibration Verification Standard **Batch ID:** C_R278777
Method: SW9060A **Analysis Date:** 01/15/2022 00:42 **Prep Date:**
Lab ID: CCV **Units:** mg/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	5.2	0.50	5.0		105.0	90	110				

Associated Samples: **B22010754-001E**
- TOC Range is 5.2 to 5.3

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010754
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/27/2022

Run ID: Run Order: ICPMS207-B_220117A: 29 **SampType:** Method Blank **Batch ID:** R373277
Method: SW6020 **Analysis Date:** 01/17/2022 13:35 **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: **B22010754-001A**

Run ID: Run Order: ICPMS207-B_220117A: 30 **SampType:** Laboratory Fortified Blank **Batch ID:** R373277
Method: SW6020 **Analysis Date:** 01/17/2022 13:41 **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	0.050	0.001	0.050		99.0	88	115				

Associated Samples: **B22010754-001A**

Run ID: Run Order: ICPMS207-B_220117A: 42 **SampType:** Sample Matrix Spike **Batch ID:** R373277
Method: SW6020 **Analysis Date:** 01/17/2022 14:56 **Prep Date:**
Lab ID: B22010750-001AMS **Units:** mg/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Lead	0.047	0.001	0.050	0.00	95.0	88	115				

Associated Samples: **B22010754-001A**

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010754
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/27/2022

Run ID: Run Order: ICPMS207-B_220117A: 43 **SampType:** Sample Matrix Spike Duplicate **Batch ID:** R373277
Method: SW6020 **Analysis Date:** 01/17/2022 15:03 **Prep Date:**
Lab ID: B22010750-001AMSD **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	98.0	88	115	0.047	2.9	20.0	

Associated Samples: **B22010754-001A**

Run ID: Run Order: ICPMS207-B_220117A: 41 **SampType:** Serial Dilution **Batch ID:** R373277
Method: SW6020 **Analysis Date:** 01/17/2022 14:50 **Prep Date:**
Lab ID: B22010750-001ADIL **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: **B22010754-001A**

Run ID: Run Order: ICPMS207-B_220117A: 37 **SampType:** Method Blank **Batch ID:** 162926
Method: SW6020 **Analysis Date:** 01/17/2022 14:25 **Prep Date:** 01/14/2022 08:11
Lab ID: MB-162926 **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: **B22010754-001B**

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010754
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/27/2022

Run ID: Run Order: ICPMS207-B_220117A: 38 **SampType:** Laboratory Control Sample **Batch ID:** 162926
Method: SW6020 **Analysis Date:** 01/17/2022 14:31 **Prep Date:** 01/14/2022 08:11
Lab ID: LCS4-162926 **Units:** mg/L **Prep Method:** SW3010A

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Lead	0.097	0.001	0.100		97.0	88	115				

Associated Samples: **B22010754-001B**

Run ID: Run Order: ICPMS207-B_220117A: 54 **SampType:** Sample Matrix Spike **Batch ID:** 162926
Method: SW6020 **Analysis Date:** 01/17/2022 16:13 **Prep Date:** 01/14/2022 08:16
Lab ID: B22010751-001BMS4 **Units:** mg/L **Prep Method:** SW3010A

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Lead	0.097	0.001	0.100	0.001	95.0	88	115				

Associated Samples: **B22010754-001B**

Run ID: Run Order: ICPMS207-B_220117A: 55 **SampType:** Sample Matrix Spike Duplicate **Batch ID:** 162926
Method: SW6020 **Analysis Date:** 01/17/2022 16:19 **Prep Date:** 01/14/2022 08:16
Lab ID: B22010751-001BMSD4 **Units:** mg/L **Prep Method:** SW3010A

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Lead	0.095	0.001	0.100	0.001	94.0	88	115	0.097	1.7	20.0	

Associated Samples: **B22010754-001B**

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010754
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/27/2022

Run ID: Run Order: ICPMS207-B_220117A: 52 **SampType:** Post Digestion/Distillation Spike **Batch ID:** 162926
Method: SW6020 **Analysis Date:** 01/17/2022 16:00 **Prep Date:** 01/14/2022 08:16
Lab ID: B22010751-001BPDS1 **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	0.001	93.0	80	120				

Associated Samples: **B22010754-001B**

Run ID: Run Order: ICPMS207-B_220117A: 49 **SampType:** Serial Dilution **Batch ID:** 162926
Method: SW6020 **Analysis Date:** 01/17/2022 15:42 **Prep Date:** 01/14/2022 08:16
Lab ID: B22010751-001BDIL **Units:** mg/L **Prep Method:** SW3010A

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Lead	0.002	0.001						0.001		10.0	N

Associated Samples: **B22010754-001B**

Run ID: Run Order: ICPMS207-B_220117A: 50 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R373277
Method: SW6020 **Analysis Date:** 01/17/2022 15:48 **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	0.046	0.001	0.050		92.0	90	110				

Associated Samples: **B22010754-001A, B22010754-001B**

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010754
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/27/2022

Run ID: Run Order: ICPMS207-B_220117A: 67 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R373277
Method: SW6020 **Analysis Date:** 01/17/2022 17:34 **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
Lead	0.046	0.001	0.050		93.0	90	110				

Associated Samples: **B22010754-001A, B22010754-001B**

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010754
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/27/2022

Run ID: Run Order: VOA5975C.I_220114A: 4 **SampType:** Method Blank **Batch ID:** R373352
Method: SW8260B **Analysis Date:** 01/14/2022 12:01 **Prep Date:**
Lab ID: MBLK011422_ **Units:** ug/L **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: B22010754
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/27/2022

Run ID: Run Order: VOA5975C.I_220114A: 4 **SampType:** Method Blank **Batch ID:** R373352
Method: SW8260B **Analysis Date:** 01/14/2022 12:01 **Prep Date:**
Lab ID: MBLK011422_ **Units:** ug/L **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		111.0	81	118				
Surr: Dibromofluoromethane	11	0.50	10		109.0	80	119				
Surr: p-Bromofluorobenzene	11	0.50	10		107.0	85	114				
Surr: Toluene-d8	11	0.50	10		106.0	89	112				

Associated Samples: **B22010754-001F, B22010754-002A**

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010754
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/27/2022

Run ID: Run Order: VOA5975C.I_220114A: 3 **SampType:** Laboratory Control Sample **Batch ID:** R373352
Method: SW8260B **Analysis Date:** 01/14/2022 11:07 **Prep Date:**
Lab ID: LCS011422_ **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		103.0	79	120				
Bromobenzene	5.4	0.50	5.0		108.0	80	120				
Bromochloromethane	5.1	0.50	5.0		102.0	78	123				
Bromodichloromethane	5.3	0.50	5.0		106.0	79	125				
Bromoform	5.7	0.50	5.0		114.0	66	130				
Carbon tetrachloride	5.8	0.50	5.0		115.0	72	136				
Chlorobenzene	5.4	0.50	5.0		108.0	82	118				
Chlorodibromomethane	5.2	0.50	5.0		104.0	74	126				
Chloroethane	6.7	0.50	5.0		134.0	60	138				
Chloroform	5.1	0.50	5.0		102.0	79	124				
Chloromethane	5.9	0.50	5.0		119.0	50	139				
1,2-Dibromoethane	5.0	0.50	5.0		100.0	78	122				
2-Chlorotoluene	5.2	0.50	5.0		105.0	79	122				
Dibromomethane	4.9	0.50	5.0		99.0	79	123				
1,2-Dichlorobenzene	5.5	0.50	5.0		109.0	80	119				
4-Chlorotoluene	5.4	0.50	5.0		108.0	78	122				
1,3-Dichlorobenzene	5.5	0.50	5.0		109.0	80	119				
1,4-Dichlorobenzene	5.4	0.50	5.0		107.0	79	118				
Dichlorodifluoromethane	6.2	0.50	5.0		125.0	32	152				
1,1-Dichloroethane	5.4	0.50	5.0		108.0	77	125				
1,2-Dichloroethane	5.2	0.50	5.0		104.0	73	128				
1,1-Dichloroethene	5.3	0.50	5.0		107.0	71	131				
cis-1,2-Dichloroethene	5.3	0.50	5.0		106.0	78	123				
trans-1,2-Dichloroethene	5.3	0.50	5.0		106.0	75	124				
1,2-Dichloropropane	4.8	0.50	5.0		95.0	78	122				
1,3-Dichloropropane	4.9	0.50	5.0		98.0	80	119				
2,2-Dichloropropane	5.7	0.50	5.0		115.0	60	139				

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010754
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/27/2022

Run ID: Run Order: VOA5975C.I_220114A: 3 **SampType:** Laboratory Control Sample **Batch ID:** R373352
Method: SW8260B **Analysis Date:** 01/14/2022 11:07 **Prep Date:**
Lab ID: LCS011422_ **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,1-Dichloropropene	5.1	0.50	5.0		101.0	79	125				
cis-1,3-Dichloropropene	4.8	0.50	5.0		95.0	75	124				
trans-1,3-Dichloropropene	5.4	0.50	5.0		109.0	73	127				
Ethylbenzene	5.3	0.50	5.0		106.0	79	121				
Methyl tert-butyl ether (MTBE)	5.4	0.50	5.0		108.0	71	124				
Methyl ethyl ketone	53	10	50		105.0	56	143				
Methylene chloride	4.7	0.50	5.0		94.0	74	124				
Styrene	5.6	0.50	5.0		113.0	78	123				
1,1,1,2-Tetrachloroethane	5.4	0.50	5.0		109.0	78	124				
1,1,2,2-Tetrachloroethane	4.5	0.50	5.0		91.0	71	121				
Tetrachloroethene	5.5	0.50	5.0		109.0	74	129				
Toluene	5.3	0.50	5.0		106.0	80	121				
1,1,1-Trichloroethane	5.7	0.50	5.0		114.0	74	131				
1,1,2-Trichloroethane	4.7	0.50	5.0		94.0	80	119				
Trichloroethene	5.2	0.50	5.0		104.0	79	123				
Trichlorofluoromethane	6.2	0.50	5.0		124.0	65	141				
1,2,3-Trichloropropane	4.7	0.50	5.0		94.0	73	125				
Vinyl chloride	6.5	0.50	5.0		130.0	58	137				
m+p-Xylenes	11	0.50	10		107.0	80	121				
o-Xylene	5.5	0.50	5.0		111.0	78	122				
Xylenes, Total	16	0.50	15		108.0	79	121				
Surr: 1,2-Dichloroethane-d4	11	0.50	10		113.0	81	118				
Surr: Dibromofluoromethane	11	0.50	10		110.0	80	119				
Surr: p-Bromofluorobenzene	10	0.50	10		103.0	85	114				
Surr: Toluene-d8	11	0.50	10		108.0	89	112				

Associated Samples: **B22010754-001F, B22010754-002A**

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010754
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/27/2022

Run ID: Run Order: VOA5975C.I_220114A: 22 **SampType:** Sample Matrix Spike **Batch ID:** R373352
Method: SW8260B **Analysis Date:** 01/14/2022 20:03 **Prep Date:**
Lab ID: B22010759-001FMS **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	0.0	101.0	79	120				
Bromobenzene	5.4	0.50	5.0	0.0	108.0	80	120				
Bromochloromethane	4.9	0.50	5.0	0.0	98.0	78	123				
Bromodichloromethane	5.2	0.50	5.0	0.0	104.0	79	125				
Bromoform	5.3	0.50	5.0	0.0	105.0	66	130				
Carbon tetrachloride	5.1	0.50	5.0	0.0	102.0	72	136				
Chlorobenzene	5.1	0.50	5.0	0.0	102.0	82	118				
Chlorodibromomethane	5.0	0.50	5.0	0.0	100.0	74	126				
Chloroethane	5.5	0.50	5.0	0.0	109.0	60	138				
Chloroform	4.8	0.50	5.0	0.0	96.0	79	124				
Chloromethane	4.6	0.50	5.0	0.0	92.0	50	139				
1,2-Dibromoethane	4.9	0.50	5.0	0.0	98.0	78	122				
2-Chlorotoluene	5.4	0.50	5.0	0.0	108.0	79	122				
Dibromomethane	5.1	0.50	5.0	0.0	102.0	79	123				
1,2-Dichlorobenzene	5.2	0.50	5.0	0.0	104.0	80	119				
4-Chlorotoluene	5.4	0.50	5.0	0.0	108.0	78	122				
1,3-Dichlorobenzene	5.3	0.50	5.0	0.0	105.0	80	119				
1,4-Dichlorobenzene	5.2	0.50	5.0	0.0	103.0	79	118				
Dichlorodifluoromethane	4.9	0.50	5.0	0.0	97.0	32	152				
1,1-Dichloroethane	5.3	0.50	5.0	0.0	106.0	77	125				
1,2-Dichloroethane	5.2	0.50	5.0	0.22	100.0	73	128				
1,1-Dichloroethene	5.4	0.50	5.0	0.0	109.0	71	131				
cis-1,2-Dichloroethene	5.2	0.50	5.0	0.0	105.0	78	123				
trans-1,2-Dichloroethene	5.1	0.50	5.0	0.0	102.0	75	124				
1,2-Dichloropropane	5.0	0.50	5.0	0.0	101.0	78	122				
1,3-Dichloropropane	4.9	0.50	5.0	0.0	97.0	80	119				
2,2-Dichloropropane	5.1	0.50	5.0	0.0	103.0	60	139				

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010754
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/27/2022

Run ID: Run Order: VOA5975C.I_220114A: 22 **SampType:** Sample Matrix Spike **Batch ID:** R373352
Method: SW8260B **Analysis Date:** 01/14/2022 20:03 **Prep Date:**
Lab ID: B22010759-001FMS **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	97.0	79	125				
cis-1,3-Dichloropropene	4.7	0.50	5.0	0.0	94.0	75	124				
trans-1,3-Dichloropropene	5.1	0.50	5.0	0.0	102.0	73	127				
Ethylbenzene	5.1	0.50	5.0	0.0	102.0	79	121				
Methyl tert-butyl ether (MTBE)	4.8	0.50	5.0	0.0	95.0	71	124				
Methyl ethyl ketone	53	10	50	0.0	106.0	56	143				
Methylene chloride	4.7	0.50	5.0	0.0	95.0	74	124				
Styrene	5.1	0.50	5.0	0.0	102.0	78	123				
1,1,1,2-Tetrachloroethane	5.2	0.50	5.0	0.0	103.0	78	124				
1,1,2,2-Tetrachloroethane	5.1	0.50	5.0	0.0	103.0	71	121				
Tetrachloroethene	5.1	0.50	5.0	0.0	101.0	74	129				
Toluene	5.3	0.50	5.0	0.0	105.0	80	121				
1,1,1-Trichloroethane	5.1	0.50	5.0	0.0	102.0	74	131				
1,1,2-Trichloroethane	5.0	0.50	5.0	0.0	99.0	80	119				
Trichloroethene	5.2	0.50	5.0	0.0	104.0	79	123				
Trichlorofluoromethane	5.5	0.50	5.0	0.0	110.0	65	141				
1,2,3-Trichloropropane	5.1	0.50	5.0	0.0	102.0	73	125				
Vinyl chloride	4.9	0.50	5.0	0.0	97.0	58	137				
m+p-Xylenes	10	0.50	10	0.0	101.0	80	121				
o-Xylene	5.1	0.50	5.0	0.0	103.0	78	122				
Xylenes, Total	15	0.50	15	0.0	102.0	79	121				
Surr: 1,2-Dichloroethane-d4	11	0.50	10	0.0	110.0	81	118				
Surr: Dibromofluoromethane	11	0.50	10	0.0	110.0	80	119				
Surr: p-Bromofluorobenzene	11	0.50	10	0.0	108.0	85	114				
Surr: Toluene-d8	11	0.50	10	0.0	112.0	89	112				

Associated Samples: **B22010754-001F, B22010754-002A**

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010754
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/27/2022

Run ID: Run Order: VOA5975C.I_220114A: 23 **SampType:** Sample Matrix Spike Duplicate **Batch ID:** R373352
Method: SW8260B **Analysis Date:** 01/14/2022 20:30 **Prep Date:**
Lab ID: B22010759-001FMSD **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Benzene	5.2	0.50	5.0	0.0	105.0	79	120	5.0	3.7	20.0	
Bromobenzene	5.5	0.50	5.0	0.0	110.0	80	120	5.4	1.7	20.0	
Bromochloromethane	5.1	0.50	5.0	0.0	101.0	78	123	4.9	2.8	20.0	
Bromodichloromethane	5.4	0.50	5.0	0.0	108.0	79	125	5.2	3.8	20.0	
Bromoform	5.7	0.50	5.0	0.0	113.0	66	130	5.3	7.4	20.0	
Carbon tetrachloride	5.3	0.50	5.0	0.0	105.0	72	136	5.1	3.2	20.0	
Chlorobenzene	5.4	0.50	5.0	0.0	108.0	82	118	5.1	4.9	20.0	
Chlorodibromomethane	5.3	0.50	5.0	0.0	105.0	74	126	5.0	4.9	20.0	
Chloroethane	4.7	0.50	5.0	0.0	94.0	60	138	5.5	15.0	20.0	
Chloroform	4.8	0.50	5.0	0.0	97.0	79	124	4.8	0.7	20.0	
Chloromethane	4.8	0.50	5.0	0.0	96.0	50	139	4.6	3.8	20.0	
1,2-Dibromoethane	5.4	0.50	5.0	0.0	108.0	78	122	4.9	9.1	20.0	
2-Chlorotoluene	5.4	0.50	5.0	0.0	109.0	79	122	5.4	0.5	20.0	
Dibromomethane	5.2	0.50	5.0	0.0	103.0	79	123	5.1	0.8	20.0	
1,2-Dichlorobenzene	5.3	0.50	5.0	0.0	105.0	80	119	5.2	0.9	20.0	
4-Chlorotoluene	5.5	0.50	5.0	0.0	110.0	78	122	5.4	1.6	20.0	
1,3-Dichlorobenzene	5.4	0.50	5.0	0.0	107.0	80	119	5.3	2.0	20.0	
1,4-Dichlorobenzene	5.3	0.50	5.0	0.0	107.0	79	118	5.2	3.5	20.0	
Dichlorodifluoromethane	5.0	0.50	5.0	0.0	99.0	32	152	4.9	2.0	20.0	
1,1-Dichloroethane	5.5	0.50	5.0	0.0	109.0	77	125	5.3	3.1	20.0	
1,2-Dichloroethane	5.6	0.50	5.0	0.22	107.0	73	128	5.2	6.9	20.0	
1,1-Dichloroethene	5.5	0.50	5.0	0.0	110.0	71	131	5.4	1.5	20.0	
cis-1,2-Dichloroethene	5.3	0.50	5.0	0.0	107.0	78	123	5.2	2.0	20.0	
trans-1,2-Dichloroethene	5.3	0.50	5.0	0.0	105.0	75	124	5.1	3.0	20.0	
1,2-Dichloropropane	5.1	0.50	5.0	0.0	103.0	78	122	5.0	2.2	20.0	
1,3-Dichloropropane	5.1	0.50	5.0	0.0	102.0	80	119	4.9	5.0	20.0	
2,2-Dichloropropane	5.2	0.50	5.0	0.0	104.0	60	139	5.1	1.2	20.0	

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010754
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/27/2022

Run ID: Run Order: VOA5975C.I_220114A: 23 **SampType:** Sample Matrix Spike Duplicate **Batch ID:** R373352
Method: SW8260B **Analysis Date:** 01/14/2022 20:30 **Prep Date:**
Lab ID: B22010759-001FMSD **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	0.0	100.0	79	125	4.9	3.1	20.0	
cis-1,3-Dichloropropene	4.9	0.50	5.0	0.0	99.0	75	124	4.7	4.6	20.0	
trans-1,3-Dichloropropene	5.2	0.50	5.0	0.0	105.0	73	127	5.1	2.3	20.0	
Ethylbenzene	5.3	0.50	5.0	0.0	106.0	79	121	5.1	3.6	20.0	
Methyl tert-butyl ether (MTBE)	5.3	0.50	5.0	0.0	107.0	71	124	4.8	11.0	20.0	
Methyl ethyl ketone	59	10	50	0.0	118.0	56	143	53	10.0	20.0	
Methylene chloride	4.9	0.50	5.0	0.0	98.0	74	124	4.7	3.1	20.0	
Styrene	5.3	0.50	5.0	0.0	107.0	78	123	5.1	4.3	20.0	
1,1,1,2-Tetrachloroethane	5.2	0.50	5.0	0.0	104.0	78	124	5.2	0.7	20.0	
1,1,2,2-Tetrachloroethane	5.5	0.50	5.0	0.0	110.0	71	121	5.1	7.3	20.0	
Tetrachloroethene	5.3	0.50	5.0	0.0	105.0	74	129	5.1	4.1	20.0	
Toluene	5.4	0.50	5.0	0.0	108.0	80	121	5.3	2.8	20.0	
1,1,1-Trichloroethane	5.3	0.50	5.0	0.0	106.0	74	131	5.1	4.2	20.0	
1,1,2-Trichloroethane	5.3	0.50	5.0	0.0	106.0	80	119	5.0	6.3	20.0	
Trichloroethene	5.2	0.50	5.0	0.0	104.0	79	123	5.2	0.1	20.0	
Trichlorofluoromethane	5.1	0.50	5.0	0.0	101.0	65	141	5.5	8.8	20.0	
1,2,3-Trichloropropane	5.1	0.50	5.0	0.0	103.0	73	125	5.1	0.5	20.0	
Vinyl chloride	5.1	0.50	5.0	0.0	101.0	58	137	4.9	4.0	20.0	
m+p-Xylenes	11	0.50	10	0.0	105.0	80	121	10	3.9	20.0	
o-Xylene	5.3	0.50	5.0	0.0	107.0	78	122	5.1	3.8	20.0	
Xylenes, Total	16	0.50	15	0.0	106.0	79	121	15	3.9	20.0	
Surr: 1,2-Dichloroethane-d4	11	0.50	10	0.0	112.0	81	118	0.0			
Surr: Dibromofluoromethane	11	0.50	10	0.0	109.0	80	119	0.0			
Surr: p-Bromofluorobenzene	11	0.50	10	0.0	108.0	85	114	0.0			
Surr: Toluene-d8	11	0.50	10	0.0	110.0	89	112	0.0			

Associated Samples: **B22010754-001F, B22010754-002A**

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010754
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/27/2022

Run ID: Run Order: VOA5975C.I_220114A: 2 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R373352
Method: SW8260B **Analysis Date:** 01/14/2022 10:39 **Prep Date:**
Lab ID: CCV011422_ **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Benzene	5.2	0.50	5.0		104.0	80	120				
Bromobenzene	5.3	0.50	5.0		106.0	80	120				
Bromochloromethane	5.2	0.50	5.0		104.0	80	120				
Bromodichloromethane	5.3	0.50	5.0		106.0	80	120				
Bromoform	5.2	0.50	5.0		105.0	80	120				
Carbon tetrachloride	5.1	0.50	5.0		101.0	80	120				
Chlorobenzene	5.2	0.50	5.0		104.0	80	120				
Chlorodibromomethane	5.2	0.50	5.0		104.0	80	120				
Chloroethane	5.4	0.50	5.0		107.0	80	120				
Chloroform	5.1	0.50	5.0		101.0	80	120				
Chloromethane	4.8	0.50	5.0		96.0	80	120				
1,2-Dibromoethane	5.3	0.50	5.0		106.0	80	120				
2-Chlorotoluene	5.2	0.50	5.0		104.0	80	120				
Dibromomethane	5.2	0.50	5.0		104.0	80	120				
1,2-Dichlorobenzene	5.1	0.50	5.0		101.0	80	120				
4-Chlorotoluene	5.3	0.50	5.0		106.0	80	120				
1,3-Dichlorobenzene	5.1	0.50	5.0		103.0	80	120				
1,4-Dichlorobenzene	5.2	0.50	5.0		103.0	80	120				
Dichlorodifluoromethane	4.6	0.50	5.0		92.0	80	120				
1,1-Dichloroethane	5.4	0.50	5.0		108.0	80	120				
1,2-Dichloroethane	5.2	0.50	5.0		104.0	80	120				
1,1-Dichloroethene	5.0	0.50	5.0		99.0	80	120				
cis-1,2-Dichloroethene	5.4	0.50	5.0		107.0	80	120				
trans-1,2-Dichloroethene	5.2	0.50	5.0		103.0	80	120				
1,2-Dichloropropane	5.2	0.50	5.0		104.0	80	120				
1,3-Dichloropropane	5.3	0.50	5.0		106.0	80	120				
2,2-Dichloropropane	5.4	0.50	5.0		108.0	80	120				

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010754
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/27/2022

Run ID: Run Order: VOA5975C.I_220114A: 2 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R373352
Method: SW8260B **Analysis Date:** 01/14/2022 10:39 **Prep Date:**
Lab ID: CCV011422_ **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		101.0	80	120				
cis-1,3-Dichloropropene	5.1	0.50	5.0		101.0	80	120				
trans-1,3-Dichloropropene	5.5	0.50	5.0		110.0	80	120				
Ethylbenzene	5.1	0.50	5.0		103.0	80	120				
Methyl tert-butyl ether (MTBE)	5.1	0.50	5.0		103.0	80	120				
Methyl ethyl ketone	42	10	50		84.0	80	120				
Methylene chloride	5.0	0.50	5.0		100.0	80	120				
Styrene	5.4	0.50	5.0		108.0	80	120				
1,1,1,2-Tetrachloroethane	5.3	0.50	5.0		105.0	80	120				
1,1,2,2-Tetrachloroethane	5.2	0.50	5.0		104.0	80	120				
Tetrachloroethene	5.0	0.50	5.0		101.0	80	120				
Toluene	5.2	0.50	5.0		103.0	80	120				
1,1,1-Trichloroethane	5.1	0.50	5.0		102.0	80	120				
1,1,2-Trichloroethane	5.2	0.50	5.0		105.0	80	120				
Trichloroethene	5.1	0.50	5.0		102.0	80	120				
Trichlorofluoromethane	4.9	0.50	5.0		98.0	80	120				
1,2,3-Trichloropropane	5.2	0.50	5.0		104.0	80	120				
Vinyl chloride	4.8	0.50	5.0		97.0	80	120				
m+p-Xylenes	10	0.50	10		105.0	80	120				
o-Xylene	5.2	0.50	5.0		104.0	80	120				
Xylenes, Total	16	0.50	15		104.0	80	120				
Surr: 1,2-Dichloroethane-d4	11	0.50	10		113.0	80	120				
Surr: Dibromofluoromethane	11	0.50	10		109.0	80	120				
Surr: p-Bromofluorobenzene	11	0.50	10		106.0	80	120				
Surr: Toluene-d8	11	0.50	10		109.0	80	120				

Associated Samples: **B22010754-001F, B22010754-002A**

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010754
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/27/2022

Run ID: Run Order: VOA5975C.I_220114A: 24 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R373352
Method: SW8260B **Analysis Date:** 01/14/2022 21:25 **Prep Date:**
Lab ID: CCV011422_Closing **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Benzene	5.2	0.50	5.0		104.0	50	150				
Bromobenzene	5.1	0.50	5.0		101.0	50	150				
Bromochloromethane	5.0	0.50	5.0		100.0	50	150				
Bromodichloromethane	5.2	0.50	5.0		104.0	50	150				
Bromoform	5.1	0.50	5.0		101.0	50	150				
Carbon tetrachloride	5.4	0.50	5.0		109.0	50	150				
Chlorobenzene	5.2	0.50	5.0		104.0	50	150				
Chlorodibromomethane	5.2	0.50	5.0		104.0	50	150				
Chloroethane	5.3	0.50	5.0		106.0	50	150				
Chloroform	5.1	0.50	5.0		102.0	50	150				
Chloromethane	4.7	0.50	5.0		94.0	50	150				
1,2-Dibromoethane	5.1	0.50	5.0		101.0	50	150				
2-Chlorotoluene	5.3	0.50	5.0		106.0	50	150				
Dibromomethane	5.0	0.50	5.0		101.0	50	150				
1,2-Dichlorobenzene	5.1	0.50	5.0		102.0	50	150				
4-Chlorotoluene	5.3	0.50	5.0		107.0	50	150				
1,3-Dichlorobenzene	5.1	0.50	5.0		103.0	50	150				
1,4-Dichlorobenzene	5.1	0.50	5.0		102.0	50	150				
Dichlorodifluoromethane	4.7	0.50	5.0		94.0	50	150				
1,1-Dichloroethane	5.3	0.50	5.0		106.0	50	150				
1,2-Dichloroethane	5.2	0.50	5.0		105.0	50	150				
1,1-Dichloroethene	4.0	0.50	5.0		81.0	50	150				
cis-1,2-Dichloroethene	5.2	0.50	5.0		105.0	50	150				
trans-1,2-Dichloroethene	5.1	0.50	5.0		101.0	50	150				
1,2-Dichloropropane	5.1	0.50	5.0		103.0	50	150				
1,3-Dichloropropane	5.1	0.50	5.0		102.0	50	150				
2,2-Dichloropropane	5.0	0.50	5.0		101.0	50	150				

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010754
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/27/2022

Run ID: Run Order: VOA5975C.I_220114A: 24 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R373352
Method: SW8260B **Analysis Date:** 01/14/2022 21:25 **Prep Date:**
Lab ID: CCV011422_Closing **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,1-Dichloropropene	5.3	0.50	5.0		106.0	50	150				
cis-1,3-Dichloropropene	4.9	0.50	5.0		97.0	50	150				
trans-1,3-Dichloropropene	5.2	0.50	5.0		104.0	50	150				
Ethylbenzene	5.3	0.50	5.0		105.0	50	150				
Methyl tert-butyl ether (MTBE)	4.7	0.50	5.0		94.0	50	150				
Methyl ethyl ketone	37	10	50		74.0	50	150				
Methylene chloride	4.9	0.50	5.0		97.0	50	150				
Styrene	5.4	0.50	5.0		108.0	50	150				
1,1,1,2-Tetrachloroethane	5.1	0.50	5.0		102.0	50	150				
1,1,2,2-Tetrachloroethane	5.0	0.50	5.0		99.0	50	150				
Tetrachloroethene	5.3	0.50	5.0		106.0	50	150				
Toluene	5.4	0.50	5.0		107.0	50	150				
1,1,1-Trichloroethane	5.4	0.50	5.0		108.0	50	150				
1,1,2-Trichloroethane	5.0	0.50	5.0		100.0	50	150				
Trichloroethene	5.3	0.50	5.0		105.0	50	150				
Trichlorofluoromethane	4.4	0.50	5.0		88.0	50	150				
1,2,3-Trichloropropane	5.0	0.50	5.0		100.0	50	150				
Vinyl chloride	4.8	0.50	5.0		96.0	50	150				
m+p-Xylenes	11	0.50	10		109.0	50	150				
o-Xylene	5.3	0.50	5.0		106.0	50	150				
Xylenes, Total	16	0.50	15		108.0	50	150				
Surr: 1,2-Dichloroethane-d4	11	0.50	10		106.0	50	150				
Surr: Dibromofluoromethane	11	0.50	10		109.0	50	150				
Surr: p-Bromofluorobenzene	10	0.50	10		105.0	50	150				
Surr: Toluene-d8	11	0.50	10		110.0	50	150				

Associated Samples: **B22010754-001F, B22010754-002A**

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010754
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/27/2022

Run ID: Run Order: GECD.I_220114B: 10 **SampType:** Method Blank **Batch ID:** 162935
Method: SW8011 **Analysis Date:** 01/17/2022 10:23 **Prep Date:** 01/14/2022 08:52
Lab ID: MB-162935 **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	0.084	0.020	0.10		84.0	70	130				

Associated Samples: **B22010754-001H, B22010754-004A**

Run ID: Run Order: GECD.I_220114B: 11 **SampType:** Laboratory Control Sample **Batch ID:** 162935
Method: SW8011 **Analysis Date:** 01/17/2022 10:43 **Prep Date:** 01/14/2022 08:52
Lab ID: LCS-162935 **Units:** ug/L **Prep Method:** SW8011

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.21	0.010	0.25		85.0	60	140				
Surr: 1,1,1,2-Tetrachloroethane	0.086	0.020	0.10		86.0	70	130				

Associated Samples: **B22010754-001H, B22010754-004A**

Run ID: Run Order: GECD.I_220114B: 12 **SampType:** Laboratory Control Sample **Batch ID:** 162935
Method: SW8011 **Analysis Date:** 01/17/2022 11:03 **Prep Date:** 01/14/2022 08:53
Lab ID: LCS1-162935 **Units:** ug/L **Prep Method:** SW8011

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.093	0.010	0.10		93.0	60	140				
Surr: 1,1,1,2-Tetrachloroethane	0.084	0.020	0.10		84.0	70	130				

Associated Samples: **B22010754-001H, B22010754-004A**

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010754
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/27/2022

Run ID: Run Order: GECD.I_220114B: 22 **SampType:** Sample Matrix Spike **Batch ID:** 162935
Method: SW8011 **Analysis Date:** 01/17/2022 14:43 **Prep Date:** 01/14/2022 08:54
Lab ID: B22010750-001HMS **Units:** ug/L **Prep Method:** SW8011

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.25	0.010	0.24	0.0	101.0	60	140				
Surr: 1,1,1,2-Tetrachloroethane	0.090	0.020	0.098	0.0	92.0	70	130				

Associated Samples: **B22010754-001H, B22010754-004A**

Run ID: Run Order: GECD.I_220114B: 23 **SampType:** Sample Matrix Spike Duplicate **Batch ID:** 162935
Method: SW8011 **Analysis Date:** 01/17/2022 15:04 **Prep Date:** 01/14/2022 08:54
Lab ID: B22010750-001HMSD **Units:** ug/L **Prep Method:** SW8011

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.23	0.010	0.25	0.0	94.0	60	140	0.25	6.0	20.0	
Surr: 1,1,1,2-Tetrachloroethane	0.086	0.020	0.099	0.0	87.0	70	130	0.0			

Associated Samples: **B22010754-001H, B22010754-004A**

Run ID: Run Order: GECD.I_220114B: 9 **SampType:** Continuing Calibration Verification Standard **Batch ID:** 162935
Method: SW8011 **Analysis Date:** 01/17/2022 10:03 **Prep Date:** 01/14/2022 08:53
Lab ID: CK3-162935 **Units:** ug/L **Prep Method:** SW8011

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.093	0.010	0.10		93.0	80	120				
Surr: 1,1,1,2-Tetrachloroethane	0.093	0.020	0.10		93.0	80	120				

Associated Samples: **B22010754-001H, B22010754-004A**

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010754
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/27/2022

Run ID: Run Order: GECD.I_220114B: 24 **SampType:** Continuing Calibration Verification Standard **Batch ID:** 162935
Method: SW8011 **Analysis Date:** 01/17/2022 15:44 **Prep Date:** 01/14/2022 08:53
Lab ID: CK5-162935 **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	0.45	0.020	0.40		112.0	80	120				

Associated Samples: **B22010754-001H, B22010754-004A**

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010754
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/27/2022

Run ID: Run Order: PE 1_220113A: 49 **SampType:** Method Blank **Batch ID:** R373161
Method: SW8015C **Analysis Date:** 01/14/2022 19:41 **Prep Date:**
Lab ID: MBLK_0113PE164r **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		78.0	70	130				

Associated Samples: **B22010754-001G, B22010754-003A**

Run ID: Run Order: PE 1_220113A: 48 **SampType:** Laboratory Control Sample **Batch ID:** R373161
Method: SW8015C **Analysis Date:** 01/14/2022 19:06 **Prep Date:**
Lab ID: LCS_0113PE163r **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
C6 to C10	160	20	170		94.0	78	122				
Total Purgeable Hydrocarbons	190	20	200		95.0	70	130				
Surr: Trifluorotoluene	22	1.0	25		86.0	70	130				

Associated Samples: **B22010754-001G, B22010754-003A**

Run ID: Run Order: PE 1_220113A: 44 **SampType:** Sample Matrix Spike **Batch ID:** R373161
Method: SW8015C **Analysis Date:** 01/14/2022 16:15 **Prep Date:**
Lab ID: B22010759-001GMS **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
C6 to C10	153	20	170	4.0	88.0	78	122				
Total Purgeable Hydrocarbons	183	20	200	0.0	92.0	70	130				
Surr: Trifluorotoluene	22	1.0	25	0.0	87.0	70	130				

Associated Samples: **B22010754-001G, B22010754-003A**

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010754
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/27/2022

Run ID: Run Order: PE 1_220113A: 45 **SampType:** Sample Matrix Spike Duplicate **Batch ID:** R373161
Method: SW8015C **Analysis Date:** 01/14/2022 16:49 **Prep Date:**
Lab ID: B22010759-001GMSD **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
C6 to C10	158	20	170	4.0	90.0	78	122	153	2.8	20.0	
Total Purgeable Hydrocarbons	188	20	200	0.0	94.0	70	130	183	2.8	20.0	
Surr: Trifluorotoluene	22	1.0	25	0.0	89.0	70	130	0.0			

Associated Samples: **B22010754-001G, B22010754-003A**

Run ID: Run Order: GCFID-HP5-B_220114A: 4 **SampType:** Method Blank **Batch ID:** 162917
Method: SW8015C **Analysis Date:** 01/14/2022 16:42 **Prep Date:** 01/13/2022 15:39
Lab ID: MB-162917 **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		90.0	56	125				
Surr: n-Triacontane	0.10	0.0020	0.10		100.0	50	150				

Associated Samples: **B22010754-001D**

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010754
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/27/2022

Run ID: Run Order: GCFID-HP5-B_220114A: 3 **SampType:** Laboratory Control Sample **Batch ID:** 162917
Method: SW8015C **Analysis Date:** 01/14/2022 15:59 **Prep Date:** 01/13/2022 15:39
Lab ID: LCS-162917 **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				
Total Extractable Hydrocarbons	13	0.30	15		87.0	60	132				
Surr: o-Terphenyl	0.19	0.0020	0.20		94.0	56	125				

Associated Samples: **B22010754-001D**

Run ID: Run Order: GCFID-HP5-B_220114A: 24 **SampType:** Laboratory Control Sample **Batch ID:** 162917
Method: SW8015C **Analysis Date:** 01/16/2022 15:59 **Prep Date:** 01/13/2022 15:39
Lab ID: LCS-162917-RRO **Units:** mg/L **Prep Method:** SW3520C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
TEH(Oil Range)	4.7	0.30	5.0		95.0	41	113				
Surr: n-Triacontane	0.098	0.0020	0.10		98.0	50	150				

Associated Samples: **B22010754-001D**

Run ID: Run Order: GCFID-HP5-B_220114A: 6 **SampType:** Sample Matrix Spike **Batch ID:** 162917
Method: SW8015C **Analysis Date:** 01/14/2022 18:07 **Prep Date:** 01/13/2022 15:39
Lab ID: B22010759-001DMS **Units:** mg/L **Prep Method:** SW3520C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Diesel Range Organics (C10 to C24)	12	0.30	15	0.064	78.0	36	132				
Total Extractable Hydrocarbons	12	0.30	15	0.19	83.0	60	132				
Surr: o-Terphenyl	0.17	0.0020	0.20	0.0	85.0	56	125				

Associated Samples: **B22010754-001D**

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010754
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/27/2022

Run ID: Run Order: GCFID-HP5-B_220114A: 7 **SampType:** Sample Matrix Spike Duplicate **Batch ID:** 162917
Method: SW8015C **Analysis Date:** 01/14/2022 18:50 **Prep Date:** 01/13/2022 15:39
Lab ID: B22010759-001DMSD **Units:** mg/L **Prep Method:** SW3520C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Diesel Range Organics (C10 to C24)	11	0.30	14	0.064	76.0	36	132	12	4.3	20.0	
Total Extractable Hydrocarbons	12	0.30	14	0.19	81.0	60	132	12	4.5	20.0	
Surr: o-Terphenyl	0.14	0.0020	0.19	0.0	75.0	56	125	0.0			

Associated Samples: **B22010754-001D**

Run ID: Run Order: GCFID-HP5-B_220114A: 22 **SampType:** Sample Matrix Spike **Batch ID:** 162917
Method: SW8015C **Analysis Date:** 01/16/2022 13:09 **Prep Date:** 01/13/2022 15:39
Lab ID: B22010759-001DMS-RRO **Units:** mg/L **Prep Method:** SW3520C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
TEH(Oil Range)	4.6	0.30	4.9	0.18	91.0	41	113				
Surr: n-Triacontane	0.095	0.0020	0.098	0.0	97.0	50	150				

Associated Samples: **B22010754-001D**

Run ID: Run Order: GCFID-HP5-B_220114A: 23 **SampType:** Sample Matrix Spike Duplicate **Batch ID:** 162917
Method: SW8015C **Analysis Date:** 01/16/2022 14:34 **Prep Date:** 01/13/2022 15:39
Lab ID: B22010759-001DMSD-RRO **Units:** mg/L **Prep Method:** SW3520C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
TEH(Oil Range)	4.4	0.30	4.8	0.18	88.0	41	113	4.6	4.5	20.0	
Surr: n-Triacontane	0.092	0.0020	0.096	0.0	96.0	50	150	0.0			

Associated Samples: **B22010754-001D**

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010754
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/27/2022

Run ID: Run Order: PE 1_220113A: 31 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R373161
Method: SW8015C **Analysis Date:** 01/14/2022 07:40 **Prep Date:**
Lab ID: CCV_0113PE143r **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
C6 to C10	172	20	168		102.0	80	120				
Total Purgeable Hydrocarbons	207	20	200		103.0	80	120				
Surr: Trifluorotoluene	23	1.0	25		90.0	80	120				

Associated Samples: **B22010754-001G, B22010754-003A**

Run ID: Run Order: PE 1_220113A: 47 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R373161
Method: SW8015C **Analysis Date:** 01/14/2022 18:32 **Prep Date:**
Lab ID: CCV_0113PE162r **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: **B22010754-001G, B22010754-003A**

Run ID: Run Order: PE 1_220113A: 60 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R373161
Method: SW8015C **Analysis Date:** 01/15/2022 05:59 **Prep Date:**
Lab ID: CCV_0113PE182r **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
C6 to C10	174	20	168		104.0	80	120				
Total Purgeable Hydrocarbons	210	20	200		105.0	80	120				
Surr: Trifluorotoluene	22	1.0	25		90.0	80	120				

Associated Samples: **B22010754-001G, B22010754-003A**

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010754
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/27/2022

Run ID: Run Order: GCFID-HP5-B_220114A: 12 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R373250
Method: SW8015C **Analysis Date:** 01/15/2022 00:32 **Prep Date:**
Lab ID: CCV_0114HP504r-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		98.0	80	120				
Surr: n-Triacontane	0.19	0.0020	0.20		94.0	80	120				

Associated Samples: **B22010754-001D**

Run ID: Run Order: GCFID-HP5-B_220114A: 13 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R373250
Method: SW8015C **Analysis Date:** 01/15/2022 01:15 **Prep Date:**
Lab ID: CCV_0114HP505r **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		98.0	80	120				
Total Extractable Hydrocarbons	15	0.30	15		102.0	80	120				
Surr: o-Terphenyl	0.19	0.0020	0.20		97.0	80	120				

Associated Samples: **B22010754-001D**

Run ID: Run Order: GCFID-HP5-B_220114A: 19 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R373250
Method: SW8015C **Analysis Date:** 01/15/2022 11:12 **Prep Date:**
Lab ID: CCV_0114HP535r-W **Units:** mg/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
TEH(Oil Range)	4.7	0.30	5.0		94.0	80	120				
Surr: n-Triacontane	0.18	0.0020	0.20		92.0	80	120				

Associated Samples: **B22010754-001D**

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010754
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/27/2022

Run ID: Run Order: GCFID-HP5-B_220114A: 20 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R373250
Method: SW8015C **Analysis Date:** 01/15/2022 11:55 **Prep Date:**
Lab ID: CCV_0114HP536r **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)	13	0.30	15		88.0	80	120				
Total Extractable Hydrocarbons	14	0.30	15		91.0	80	120				
Surr: o-Terphenyl	0.19	0.0020	0.20		95.0	80	120				

Associated Samples: **B22010754-001D**

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010754
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/27/2022

Run ID: Run Order: FID-HEADSPACE_220114A: 4 **SampType:** Method Blank **Batch ID:** R373199
Method: SW8015M **Analysis Date:** 01/14/2022 09:40 **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: **B22010754-001I, B22010754-005A**

Run ID: Run Order: FID-HEADSPACE_220114A: 2 **SampType:** Laboratory Control Sample **Batch ID:** R373199
Method: SW8015M **Analysis Date:** 01/14/2022 08:37 **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	97	2.0	100		97.0	85	115				

Associated Samples: **B22010754-001I, B22010754-005A**

Run ID: Run Order: FID-HEADSPACE_220114A: 3 **SampType:** Laboratory Control Sample Duplicate **Batch ID:** R373199
Method: SW8015M **Analysis Date:** 01/14/2022 08:41 **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	98	2.0	100		98.0	85	115	97	0.4	20.0	

Associated Samples: **B22010754-001I, B22010754-005A**

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010754
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/27/2022

Run ID: Run Order: FID-HEADSPACE_220114A: 8 **SampType:** Sample Duplicate **Batch ID:** R373199
Method: SW8015M **Analysis Date:** 01/14/2022 10:12 **Prep Date:**
Lab ID: B22010751-001IDUP **Units:** mg/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Methane	0.0095	0.0020			0.0			0.0095	0.3	20.0	

Associated Samples: **B22010754-001I, B22010754-005A**

Run ID: Run Order: FID-HEADSPACE_220114A: 1 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R373199
Method: SW8015M **Analysis Date:** 01/14/2022 08:32 **Prep Date:**
Lab ID: CCV **Units:** ppm **Prep Method:**

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

Associated Samples: **B22010754-001I, B22010754-005A**

Run ID: Run Order: FID-HEADSPACE_220114A: 24 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R373199
Method: SW8015M **Analysis Date:** 01/14/2022 13:33 **Prep Date:**
Lab ID: CCV **Units:** ppm **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Methane	99	2.0	100		99.0	85	115				

Associated Samples: **B22010754-001I, B22010754-005A**

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010754
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/27/2022

Run ID: Run Order: SV5973N.I_220127B: 4 **SampType:** Method Blank **Batch ID:** 162889
Method: SW8270C **Analysis Date:** 01/27/2022 20:02 **Prep Date:** 01/12/2022 14:16
Lab ID: MB-162889 **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	ND	5.0									
1,2-Dichlorobenzene	ND	5.0									
1,3-Dichlorobenzene	ND	5.0									
1,4-Dichlorobenzene	ND	5.0									
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: B22010754
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/27/2022

Run ID: Run Order: SV5973N.I_220127B: 4 **SampType:** Method Blank **Batch ID:** 162889
Method: SW8270C **Analysis Date:** 01/27/2022 20:02 **Prep Date:** 01/12/2022 14:16
Lab ID: MB-162889 **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	160	5.0	200		80.0	43	140				
Surr: 2-Fluorobiphenyl	62	5.0	100		62.0	44	119				
Surr: 2-Fluorophenol	76	5.0	200		38.0	19	119				
Surr: Nitrobenzene-d5	69	5.0	100		69.0	44	120				
Surr: Phenol-d5	75	5.0	200		38.0	10	65				
Surr: Terphenyl-d14	100	5.0	100		100.0	50	134				

Associated Samples: **B22010754-001C**

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010754
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/27/2022

Run ID: Run Order: SV5973N.I_220127B: 5 **SampType:** Laboratory Control Sample **Batch ID:** 162889
Method: SW8270C **Analysis Date:** 01/27/2022 20:34 **Prep Date:** 01/12/2022 14:16
Lab ID: LCS-162889 **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	73	10	100		73.0	29	116				
1,2-Dichlorobenzene	67	10	100		67.0	32	111				
1,3-Dichlorobenzene	63	10	100		63.0	28	110				
1,4-Dichlorobenzene	66	10	100		66.0	29	112				
2,4,5-Trichlorophenol	80	10	100		80.0	53	123				
2,4,6-Trichlorophenol	82	10	100		82.0	50	125				
2,4-Dichlorophenol	72	10	100		72.0	47	121				
2,4-Dimethylphenol	66	10	100		66.0	31	124				
2,4-Dinitrophenol	51	10	100		51.0	23	142				
2,4-Dinitrotoluene	88	10	100		88.0	57	128				
2,6-Dinitrotoluene	96	10	100		96.0	50	118				
2-Chloronaphthalene	88	10	100		88.0	40	116				
2-Chlorophenol	71	10	100		71.0	38	117				
2-Nitrophenol	75	10	100		75.0	47	123				
3,3´-Dichlorobenzidine	75	10	100		75.0	27	129				
4,6-Dinitro-2-methylphenol	70	10	100		70.0	44	137				
4-Bromophenyl phenyl ether	98	10	100		98.0	55	124				
4-Chloro-3-methylphenol	86	10	100		86.0	52	119				
4-Chlorophenol	72	10	100		72.0	41	81				
4-Chlorophenyl phenyl ether	92	10	100		92.0	53	121				
4-Nitrophenol	33	10	100		33.0	15	36				
Azobenzene	90	10	100		90.0	61	116				
bis(-2-chloroethoxy)Methane	78	10	100		78.0	48	120				
bis(-2-chloroethyl)Ether	81	10	100		81.0	43	118				
bis(2-chloroisopropyl)Ether	68	10	100		68.0	37	130				
bis(2-ethylhexyl)Phthalate	101	10	100		101.0	55	135				
Butylbenzylphthalate	102	10	100		102.0	53	134				

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010754
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/27/2022

Run ID: Run Order: SV5973N.I_220127B: 5 **SampType:** Laboratory Control Sample **Batch ID:** 162889
Method: SW8270C **Analysis Date:** 01/27/2022 20:34 **Prep Date:** 01/12/2022 14:16
Lab ID: LCS-162889 **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Diethyl phthalate	106	10	100		106.0	56	125				
Dimethyl phthalate	95	10	100		95.0	45	127				
Di-n-butyl phthalate	102	10	100		102.0	59	127				
Di-n-octyl phthalate	101	10	100		101.0	51	140				
Hexachlorobenzene	86	10	100		86.0	53	125				
Hexachlorobutadiene	60	10	100		60.0	22	124				
Hexachlorocyclopentadiene	59	10	100		59.0	39	91				
Hexachloroethane	61	10	100		61.0	21	115				
Isophorone	87	10	100		87.0	42	124				
m+p-Cresols	71	10	100		71.0	29	110				
Nitrobenzene	82	10	100		82.0	45	121				
n-Nitrosodimethylamine	47	10	100		47.0	20	45				S
n-Nitroso-di-n-propylamine	93	10	100		93.0	49	119				
n-Nitrosodiphenylamine	103	10	100		103.0	51	123				
o-Cresol	77	10	100		77.0	30	117				
Pentachlorophenol	98	10	100		98.0	35	138				
Phenol	54	10	100		54.0	37	75				
Pyridine	39	10	100		39.0	16	45				
Surr: 2,4,6-Tribromophenol	182	10	200		91.0	43	140				
Surr: 2-Fluorobiphenyl	80	10	100		80.0	44	119				
Surr: 2-Fluorophenol	80	10	200		40.0	19	119				
Surr: Nitrobenzene-d5	76	10	100		76.0	44	120				
Surr: Phenol-d5	97	10	200		48.0	10	65				
Surr: Terphenyl-d14	95	10	100		95.0	50	134				

Associated Samples: **B22010754-001C**

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010754
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/27/2022

Run ID: Run Order: SV5973N.I_220127B: 6 **SampType:** Laboratory Control Sample Duplicate **Batch ID:** 162889
Method: SW8270C **Analysis Date:** 01/27/2022 21:06 **Prep Date:** 01/12/2022 14:16
Lab ID: LCSD-162889 **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	68	10	100		68.0	29	116	73	7.6	20.0	
1,2-Dichlorobenzene	66	10	100		66.0	32	111	67	0.7	20.0	
1,3-Dichlorobenzene	60	10	100		60.0	28	110	63	4.9	20.0	
1,4-Dichlorobenzene	62	10	100		62.0	29	112	66	6.5	20.0	
2,4,5-Trichlorophenol	91	10	100		91.0	53	123	80	13.0	20.0	
2,4,6-Trichlorophenol	91	10	100		91.0	50	125	82	10.0	20.0	
2,4-Dichlorophenol	81	10	100		81.0	47	121	72	12.0	20.0	
2,4-Dimethylphenol	55	10	100		55.0	31	124	66	19.0	20.0	
2,4-Dinitrophenol	67	10	100		67.0	23	142	51	28.0	20.0	R
2,4-Dinitrotoluene	92	10	100		92.0	57	128	88	5.1	20.0	
2,6-Dinitrotoluene	94	10	100		94.0	50	118	96	2.0	20.0	
2-Chloronaphthalene	85	10	100		85.0	40	116	88	3.7	20.0	
2-Chlorophenol	73	10	100		73.0	38	117	71	3.8	20.0	
2-Nitrophenol	79	10	100		79.0	47	123	75	5.1	20.0	
3,3´-Dichlorobenzidine	83	10	100		83.0	27	129	75	11.0	20.0	
4,6-Dinitro-2-methylphenol	81	10	100		81.0	44	137	70	15.0	20.0	
4-Bromophenyl phenyl ether	96	10	100		96.0	55	124	98	2.3	20.0	
4-Chloro-3-methylphenol	89	10	100		89.0	52	119	86	2.8	20.0	
4-Chlorophenol	76	10	100		76.0	41	81	72	5.2	20.0	
4-Chlorophenyl phenyl ether	89	10	100		89.0	53	121	92	3.5	20.0	
4-Nitrophenol	40	10	100		40.0	15	36	33	20.0	20.0	S
Azobenzene	91	10	100		91.0	61	116	90	1.0	20.0	
bis(-2-chloroethoxy)Methane	80	10	100		80.0	48	120	78	2.4	20.0	
bis(-2-chloroethyl)Ether	79	10	100		79.0	43	118	81	1.5	20.0	
bis(2-chloroisopropyl)Ether	65	10	100		65.0	37	130	68	4.9	20.0	
bis(2-ethylhexyl)Phthalate	102	10	100		102.0	55	135	101	1.3	20.0	
Butylbenzylphthalate	102	10	100		102.0	53	134	102	0.3	20.0	

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010754
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/27/2022

Run ID: Run Order: SV5973N.I_220127B: 6 **SampType:** Laboratory Control Sample Duplicate **Batch ID:** 162889
Method: SW8270C **Analysis Date:** 01/27/2022 21:06 **Prep Date:** 01/12/2022 14:16
Lab ID: LCSD-162889 **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Diethyl phthalate	106	10	100		106.0	56	125	106	0.4	20.0	
Dimethyl phthalate	96	10	100		96.0	45	127	95	1.4	20.0	
Di-n-butyl phthalate	103	10	100		103.0	59	127	102	1.7	20.0	
Di-n-octyl phthalate	105	10	100		105.0	51	140	101	4.4	20.0	
Hexachlorobenzene	84	10	100		84.0	53	125	86	2.3	20.0	
Hexachlorobutadiene	62	10	100		62.0	22	124	60	3.5	20.0	
Hexachlorocyclopentadiene	65	10	100		65.0	39	91	59	9.9	20.0	
Hexachloroethane	62	10	100		62.0	21	115	61	0.6	20.0	
Isophorone	82	10	100		82.0	42	124	87	5.6	20.0	
m+p-Cresols	75	10	100		75.0	29	110	71	5.7	20.0	
Nitrobenzene	80	10	100		80.0	45	121	82	2.7	20.0	
n-Nitrosodimethylamine	42	10	100		42.0	20	45	47	9.4	20.0	
n-Nitroso-di-n-propylamine	88	10	100		88.0	49	119	93	6.1	20.0	
n-Nitrosodiphenylamine	102	10	100		102.0	51	123	103	1.5	20.0	
o-Cresol	75	10	100		75.0	30	117	77	3.4	20.0	
Pentachlorophenol	105	10	100		105.0	35	138	98	6.3	20.0	
Phenol	55	10	100		55.0	37	75	54	1.4	20.0	
Pyridine	33	10	100		33.0	16	45	39	17.0	20.0	
Surr: 2,4,6-Tribromophenol	184	10	200		92.0	43	140	0.0	0.0		
Surr: 2-Fluorobiphenyl	71	10	100		71.0	44	119	0.0	0.0		
Surr: 2-Fluorophenol	80	10	200		40.0	19	119	0.0	0.0		
Surr: Nitrobenzene-d5	73	10	100		73.0	44	120	0.0	0.0		
Surr: Phenol-d5	91	10	200		46.0	10	65	0.0	0.0		
Surr: Terphenyl-d14	93	10	100		93.0	50	134	0.0	0.0		

Associated Samples: **B22010754-001C**

- 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: B22010754
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/27/2022

Run ID: Run Order: SV5973N.I_220127B: 8 **SampType:** Sample Matrix Spike **Batch ID:** 162889
Method: SW8270C **Analysis Date:** 01/27/2022 22:10 **Prep Date:** 01/12/2022 14:17
Lab ID: B22010626-001CMS **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	79	10	101	0.0	78.0	29	116				
1,2-Dichlorobenzene	72	10	101	0.0	71.0	32	111				
1,3-Dichlorobenzene	67	10	101	0.0	66.0	28	110				
1,4-Dichlorobenzene	69	10	101	0.0	68.0	29	112				
2,4,5-Trichlorophenol	76	10	101	0.0	76.0	53	123				
2,4,6-Trichlorophenol	79	10	101	0.0	78.0	50	125				
2,4-Dichlorophenol	72	10	101	0.0	72.0	47	121				
2,4-Dimethylphenol	55	10	101	0.0	55.0	31	124				
2,4-Dinitrophenol	57	10	101	0.0	56.0	23	142				
2,4-Dinitrotoluene	97	10	101	0.0	96.0	57	128				
2,6-Dinitrotoluene	89	10	101	0.0	88.0	50	118				
2-Chloronaphthalene	89	10	101	0.0	88.0	40	116				
2-Chlorophenol	65	10	101	0.0	64.0	38	117				
2-Nitrophenol	76	10	101	0.0	76.0	47	123				
3,3´-Dichlorobenzidine	76	10	101	0.0	76.0	27	129				
4,6-Dinitro-2-methylphenol	75	10	101	0.0	74.0	44	137				
4-Bromophenyl phenyl ether	94	10	101	0.0	94.0	55	124				
4-Chloro-3-methylphenol	88	10	101	0.0	88.0	52	119				
4-Chlorophenol	67	10	101	0.0	66.0	41	81				
4-Chlorophenyl phenyl ether	96	10	101	0.0	95.0	53	121				
4-Nitrophenol	38	10	101	0.0	38.0	15	36				S
Azobenzene	97	10	101	0.0	96.0	61	116				
bis(-2-chloroethoxy)Methane	87	10	101	0.0	86.0	48	120				
bis(-2-chloroethyl)Ether	86	10	101	0.0	85.0	43	118				
bis(2-chloroisopropyl)Ether	67	10	101	0.0	66.0	37	130				
bis(2-ethylhexyl)Phthalate	99	10	101	2.9	96.0	55	135				
Butylbenzylphthalate	109	10	101	0.0	107.0	53	134				

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010754
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/27/2022

Run ID: Run Order: SV5973N.I_220127B: 8 **SampType:** Sample Matrix Spike **Batch ID:** 162889
Method: SW8270C **Analysis Date:** 01/27/2022 22:10 **Prep Date:** 01/12/2022 14:17
Lab ID: B22010626-001CMS **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Diethyl phthalate	107	10	101	0.0	106.0	56	125				
Dimethyl phthalate	99	10	101	0.0	98.0	45	127				
Di-n-butyl phthalate	108	10	101	0.0	107.0	59	127				
Di-n-octyl phthalate	100	10	101	0.0	99.0	51	140				
Hexachlorobenzene	91	10	101	0.0	90.0	53	125				
Hexachlorobutadiene	67	10	101	0.0	66.0	22	124				
Hexachlorocyclopentadiene	64	10	101	0.0	63.0	39	91				
Hexachloroethane	66	10	101	0.0	65.0	21	115				
Isophorone	87	10	101	0.0	86.0	42	124				
m+p-Cresols	70	10	101	0.0	69.0	29	110				
Nitrobenzene	86	10	101	0.0	85.0	45	121				
n-Nitrosodimethylamine	45	10	101	0.0	44.0	20	45				
n-Nitroso-di-n-propylamine	91	10	101	0.0	90.0	49	119				
n-Nitrosodiphenylamine	100	10	101	0.0	99.0	51	123				
o-Cresol	72	10	101	0.0	72.0	30	117				
Pentachlorophenol	106	10	101	0.0	105.0	35	138				
Phenol	45	10	101	0.0	45.0	37	75				
Pyridine	32	10	101	0.0	31.0	16	45				
Surr: 2,4,6-Tribromophenol	204	10	202	0.0	101.0	43	140				
Surr: 2-Fluorobiphenyl	73	10	101	0.0	73.0	44	119				
Surr: 2-Fluorophenol	71	10	202	0.0	35.0	19	119				
Surr: Nitrobenzene-d5	81	10	101	0.0	80.0	44	120				
Surr: Phenol-d5	79	10	202	0.0	39.0	10	65				
Surr: Terphenyl-d14	98	10	101	0.0	97.0	50	134				

Associated Samples: **B22010754-001C**

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010754
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/27/2022

Run ID: Run Order: SV5973N.I_220127B: 10 **SampType:** Sample Matrix Spike **Batch ID:** 162889
Method: SW8270C **Analysis Date:** 01/27/2022 23:15 **Prep Date:** 01/12/2022 14:17
Lab ID: B22010629-001CMS **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	62	10	95	0.0	65.0	29	116				
1,2-Dichlorobenzene	61	10	95	0.0	65.0	32	111				
1,3-Dichlorobenzene	57	10	95	0.0	60.0	28	110				
1,4-Dichlorobenzene	58	10	95	0.0	61.0	29	112				
2,4,5-Trichlorophenol	79	10	95	0.0	83.0	53	123				
2,4,6-Trichlorophenol	79	10	95	0.0	83.0	50	125				
2,4-Dichlorophenol	68	10	95	0.0	72.0	47	121				
2,4-Dimethylphenol	62	10	95	0.0	65.0	31	124				
2,4-Dinitrophenol	60	10	95	0.0	63.0	23	142				
2,4-Dinitrotoluene	89	10	95	0.0	93.0	57	128				
2,6-Dinitrotoluene	84	10	95	0.0	88.0	50	118				
2-Chloronaphthalene	75	10	95	0.0	78.0	40	116				
2-Chlorophenol	60	10	95	0.0	63.0	38	117				
2-Nitrophenol	74	10	95	0.0	77.0	47	123				
3,3´-Dichlorobenzidine	65	10	95	0.0	68.0	27	129				
4,6-Dinitro-2-methylphenol	75	10	95	0.0	79.0	44	137				
4-Bromophenyl phenyl ether	86	10	95	0.0	90.0	55	124				
4-Chloro-3-methylphenol	82	10	95	0.0	86.0	52	119				
4-Chlorophenol	62	10	95	0.0	66.0	41	81				
4-Chlorophenyl phenyl ether	80	10	95	0.0	84.0	53	121				
4-Nitrophenol	36	10	95	0.0	38.0	15	36				S
Azobenzene	85	10	95	0.0	90.0	61	116				
bis(-2-chloroethoxy)Methane	73	10	95	0.0	76.0	48	120				
bis(-2-chloroethyl)Ether	75	10	95	0.0	79.0	43	118				
bis(2-chloroisopropyl)Ether	60	10	95	0.0	63.0	37	130				
bis(2-ethylhexyl)Phthalate	95	10	95	0.0	99.0	55	135				
Butylbenzylphthalate	96	10	95	0.0	101.0	53	134				

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010754
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/27/2022

Run ID: Run Order: SV5973N.I_220127B: 10 **SampType:** Sample Matrix Spike **Batch ID:** 162889
Method: SW8270C **Analysis Date:** 01/27/2022 23:15 **Prep Date:** 01/12/2022 14:17
Lab ID: B22010629-001CMS **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Diethyl phthalate	94	10	95	0.0	99.0	56	125				
Dimethyl phthalate	90	10	95	0.0	94.0	45	127				
Di-n-butyl phthalate	97	10	95	0.0	102.0	59	127				
Di-n-octyl phthalate	100	10	95	0.0	105.0	51	140				
Hexachlorobenzene	81	10	95	0.0	86.0	53	125				
Hexachlorobutadiene	56	10	95	0.0	59.0	22	124				
Hexachlorocyclopentadiene	59	10	95	0.0	62.0	39	91				
Hexachloroethane	60	10	95	0.0	63.0	21	115				
Isophorone	75	10	95	0.0	78.0	42	124				
m+p-Cresols	64	10	95	0.0	68.0	29	110				
Nitrobenzene	73	10	95	0.0	76.0	45	121				
n-Nitrosodimethylamine	35	10	95	0.0	37.0	20	45				
n-Nitroso-di-n-propylamine	83	10	95	0.0	87.0	49	119				
n-Nitrosodiphenylamine	87	10	95	0.0	92.0	51	123				
o-Cresol	67	10	95	0.0	71.0	30	117				
Pentachlorophenol	100	10	95	0.0	106.0	35	138				
Phenol	41	10	95	0.0	43.0	37	75				
Pyridine	28	10	95	0.0	30.0	16	45				
Surr: 2,4,6-Tribromophenol	190	10	190	0.0	100.0	43	140				
Surr: 2-Fluorobiphenyl	65	10	95	0.0	69.0	44	119				
Surr: 2-Fluorophenol	64	10	190	0.0	34.0	19	119				
Surr: Nitrobenzene-d5	70	10	95	0.0	73.0	44	120				
Surr: Phenol-d5	72	10	190	0.0	38.0	10	65				
Surr: Terphenyl-d14	89	10	95	0.0	93.0	50	134				

Associated Samples: **B22010754-001C**

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010754
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/27/2022

Run ID: Run Order: SV5973N.I_220128A: 2 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R373901
Method: SW8270C **Analysis Date:** 01/28/2022 18:17 **Prep Date:**
Lab ID: 28-Jan-22_CCV_2 **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	71	10	75		95.0	80	120				
1,2-Dichlorobenzene	74	10	75		99.0	80	120				
1,3-Dichlorobenzene	69	10	75		93.0	80	120				
1,4-Dichlorobenzene	72	10	75		96.0	80	120				
2,4,5-Trichlorophenol	64	10	75		85.0	80	120				
2,4,6-Trichlorophenol	61	10	75		81.0	80	120				
2,4-Dichlorophenol	60	10	75		80.0	80	120				
2,4-Dimethylphenol	68	10	75		90.0	80	120				
2,4-Dinitrophenol	62	10	75		83.0	80	120				
2,4-Dinitrotoluene	74	10	75		98.0	80	120				
2,6-Dinitrotoluene	72	10	75		95.0	80	120				
2-Chloronaphthalene	65	10	75		87.0	80	120				
2-Chlorophenol	63	10	75		84.0	80	120				
2-Nitrophenol	73	10	75		97.0	80	120				
3,3´-Dichlorobenzidine	70	10	75		94.0	80	120				
4,6-Dinitro-2-methylphenol	69	10	75		92.0	80	120				
4-Bromophenyl phenyl ether	69	10	75		92.0	80	120				
4-Chloro-3-methylphenol	72	10	75		96.0	80	120				
4-Chlorophenol	71	10	75		95.0	80	120				
4-Chlorophenyl phenyl ether	61	10	75		81.0	80	120				
4-Nitrophenol	68	10	75		90.0	80	120				
Azobenzene	72	10	75		97.0	80	120				
bis(-2-chloroethoxy)Methane	71	10	75		94.0	80	120				
bis(-2-chloroethyl)Ether	77	10	75		102.0	80	120				
bis(2-chloroisopropyl)Ether	75	10	75		101.0	80	120				
bis(2-ethylhexyl)Phthalate	73	10	75		97.0	80	120				
Butylbenzylphthalate	76	10	75		101.0	80	120				

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010754
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/27/2022

Run ID: Run Order: SV5973N.I_220128A: 2 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R373901
Method: SW8270C **Analysis Date:** 01/28/2022 18:17 **Prep Date:**
Lab ID: 28-Jan-22_CCV_2 **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Diethyl phthalate	63	10	75		84.0	80	120				
Dimethyl phthalate	66	10	75		88.0	80	120				
Di-n-butyl phthalate	69	10	75		92.0	80	120				
Di-n-octyl phthalate	75	10	75		100.0	80	120				
Hexachlorobenzene	70	10	75		94.0	80	120				
Hexachlorobutadiene	71	10	75		95.0	80	120				
Hexachlorocyclopentadiene	63	10	75		84.0	80	120				
Hexachloroethane	80	10	75		107.0	80	120				
Isophorone	75	10	75		100.0	80	120				
m+p-Cresols	68	10	75		91.0	80	120				
Nitrobenzene	80	10	75		107.0	80	120				
n-Nitrosodimethylamine	71	10	75		94.0	80	120				
n-Nitroso-di-n-propylamine	71	10	75		95.0	80	120				
n-Nitrosodiphenylamine	70	10	75		94.0	80	120				
o-Cresol	73	10	75		98.0	80	120				
Pentachlorophenol	65	10	75		87.0	80	120				
Phenol	71	10	75		94.0	80	120				
Pyridine	72	10	75		96.0	80	120				
Surr: 2,4,6-Tribromophenol	60	10	75		81.0	80	120				
Surr: 2-Fluorobiphenyl	67	10	75		89.0	80	120				
Surr: 2-Fluorophenol	66	10	75		88.0	80	120				
Surr: Nitrobenzene-d5	74	10	75		99.0	80	120				
Surr: Phenol-d5	75	10	75		99.0	80	120				
Surr: Terphenyl-d14	68	10	75		91.0	80	120				

Associated Samples: **B22010754-001C**

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010754
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/27/2022

Run ID: Run Order: SV5973N.I_220128A: 19 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R373901
Method: SW8270C **Analysis Date:** 01/29/2022 03:23 **Prep Date:**
Lab ID: 28-Jan-22_CCV_19 **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	75	10	75		100.0	50	150				
1,2-Dichlorobenzene	84	10	75		112.0	50	150				
1,3-Dichlorobenzene	82	10	75		109.0	50	150				
1,4-Dichlorobenzene	79	10	75		105.0	50	150				
2,4,5-Trichlorophenol	82	10	75		109.0	50	150				
2,4,6-Trichlorophenol	74	10	75		98.0	50	150				
2,4-Dichlorophenol	81	10	75		108.0	50	150				
2,4-Dimethylphenol	71	10	75		94.0	50	150				
2,4-Dinitrophenol	71	10	75		94.0	50	150				
2,4-Dinitrotoluene	75	10	75		100.0	50	150				
2,6-Dinitrotoluene	78	10	75		104.0	50	150				
2-Chloronaphthalene	73	10	75		97.0	50	150				
2-Chlorophenol	80	10	75		107.0	50	150				
2-Nitrophenol	75	10	75		100.0	50	150				
3,3´-Dichlorobenzidine	77	10	75		103.0	50	150				
4,6-Dinitro-2-methylphenol	77	10	75		103.0	50	150				
4-Bromophenyl phenyl ether	75	10	75		100.0	50	150				
4-Chloro-3-methylphenol	83	10	75		110.0	50	150				
4-Chlorophenol	81	10	75		108.0	50	150				
4-Chlorophenyl phenyl ether	71	10	75		94.0	50	150				
4-Nitrophenol	81	10	75		108.0	50	150				
Azobenzene	87	10	75		115.0	50	150				
bis(-2-chloroethoxy)Methane	76	10	75		101.0	50	150				
bis(-2-chloroethyl)Ether	83	10	75		110.0	50	150				
bis(2-chloroisopropyl)Ether	82	10	75		109.0	50	150				
bis(2-ethylhexyl)Phthalate	74	10	75		99.0	50	150				
Butylbenzylphthalate	78	10	75		104.0	50	150				

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010754
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/27/2022

Run ID: Run Order: SV5973N.I_220128A: 19 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R373901
Method: SW8270C **Analysis Date:** 01/29/2022 03:23 **Prep Date:**
Lab ID: 28-Jan-22_CCV_19 **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Diethyl phthalate	79	10	75		105.0	50	150				
Dimethyl phthalate	76	10	75		102.0	50	150				
Di-n-butyl phthalate	77	10	75		103.0	50	150				
Di-n-octyl phthalate	79	10	75		106.0	50	150				
Hexachlorobenzene	75	10	75		100.0	50	150				
Hexachlorobutadiene	76	10	75		102.0	50	150				
Hexachlorocyclopentadiene	72	10	75		96.0	50	150				
Hexachloroethane	93	10	75		123.0	50	150				
Isophorone	78	10	75		104.0	50	150				
m+p-Cresols	79	10	75		105.0	50	150				
Nitrobenzene	94	10	75		126.0	50	150				
n-Nitrosodimethylamine	54	10	75		72.0	50	150				
n-Nitroso-di-n-propylamine	78	10	75		104.0	50	150				
n-Nitrosodiphenylamine	78	10	75		104.0	50	150				
o-Cresol	78	10	75		103.0	50	150				
Pentachlorophenol	84	10	75		112.0	50	150				
Phenol	75	10	75		100.0	50	150				
Pyridine	72	10	75		96.0	50	150				
Surr: 2,4,6-Tribromophenol	74	10	75		98.0	50	150				
Surr: 2-Fluorobiphenyl	74	10	75		99.0	50	150				
Surr: 2-Fluorophenol	81	10	75		109.0	50	150				
Surr: Nitrobenzene-d5	85	10	75		113.0	50	150				
Surr: Phenol-d5	81	10	75		108.0	50	150				
Surr: Terphenyl-d14	74	10	75		98.0	50	150				

Associated Samples: **B22010754-001C**

Analytical QC Exceptions Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010754
Project: CV18F0126, 60571032.02.46.01

Report Date: 02/27/2022

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
SW6020	Metals by ICP-MS, Total	162926	001B	SD	B22010751-001BDIL	1/17/2022	15:42	Lead					10.0	N
SW8270C	Semi-Volatile Organic Compounds, Extended List	162889	001C	LCS-DOD	LCS-162889	1/27/2022	20:34	n-Nitrosodimethylamine	47.0	20	45			S
				LCSD-DOD	LCSD-162889	1/27/2022	21:06	2,4-Dinitrophenol	67.0	23	142	28	20.0	R
								4-Nitrophenol	40.0	15	36	20	20.0	S
				MS-DOD	B22010626-001CMS	1/27/2022	22:10	4-Nitrophenol	38.0	15	36			S
				MS-DOD	B22010629-001CMS	1/27/2022	23:15	4-Nitrophenol	38.0	15	36			S

Preparation and Analysis Dates Report

Work Order: B22010754
Client: AECOM - Honolulu
Project Name: CV18F0126, 60571032.02.46.01
Report Date: 2/27/2022

Lab ID	Client Sample ID	Collection Date	Matrix	Test Name	TCLP Date	Prep Method	Prep Date	Prep Batch	Analysis Method	Analysis Date
001B	ERH2418 (RHMW06)	01/11/2022 13:35	Ground Water	Metals by ICP-MS, Total		SW3010A	01/14/2022 08:16	162926	SW6020	01/14/2022 23:51
						SW3010A	01/14/2022 08:16	162926	SW6020	01/17/2022 16:56
001C	ERH2418 (RHMW06)	01/11/2022 13:35	Ground Water	Low Level PAH by 8270C SIM		SW3510C	01/13/2022 12:19	162889	SW8270CSIM	01/19/2022 14:25
				Semi-Volatile Organic Compounds, Extended List		SW3510C	01/13/2022 12:19	162889	SW8270C	01/28/2022 20:25
001D	ERH2418 (RHMW06)	01/11/2022 13:35	Ground Water	Diesel Range Organics		SW3520C	01/13/2022 15:40	162917	SW8015C	01/15/2022 07:39
001H	ERH2418 (RHMW06)	01/11/2022 13:35	Ground Water	EDB in Water by ECD		SW8011	01/14/2022 08:56	162935	SW8011	01/17/2022 13:43
004A	ERH2417 (Trip Blank) 14653	01/11/2022 13:35	Trip Blank	EDB in Water by ECD		SW8011	01/14/2022 08:56	162935	SW8011	01/17/2022 14:03

Chemical Abstracts Service (CAS) Registry Numbers

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010754
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/27/2022

Analyses	CAS No
LOW LEVEL PAH BY 8270C SIM	
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
AGGREGATE ORGANICS	
Organic Carbon, Total (TOC)	7440-44-0
METALS, TOTAL	
Lead	7439-92-1
METALS, DISSOLVED	
Lead	7439-92-1
VOLATILE ORGANIC COMPOUNDS	
Benzene	71-43-2
Bromobenzene	108-86-1
Bromochloromethane	74-97-5
Bromodichloromethane	75-27-4
Bromoform	75-25-2
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

PETROLEUM HYDROCARBONS-VOLATILE

C6 to C10
Total Purgeable Hydrocarbons

PETROLEUM HYDROCARBONS-SEMI-VOLATILE

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

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

ERH2418 (RHMW06)

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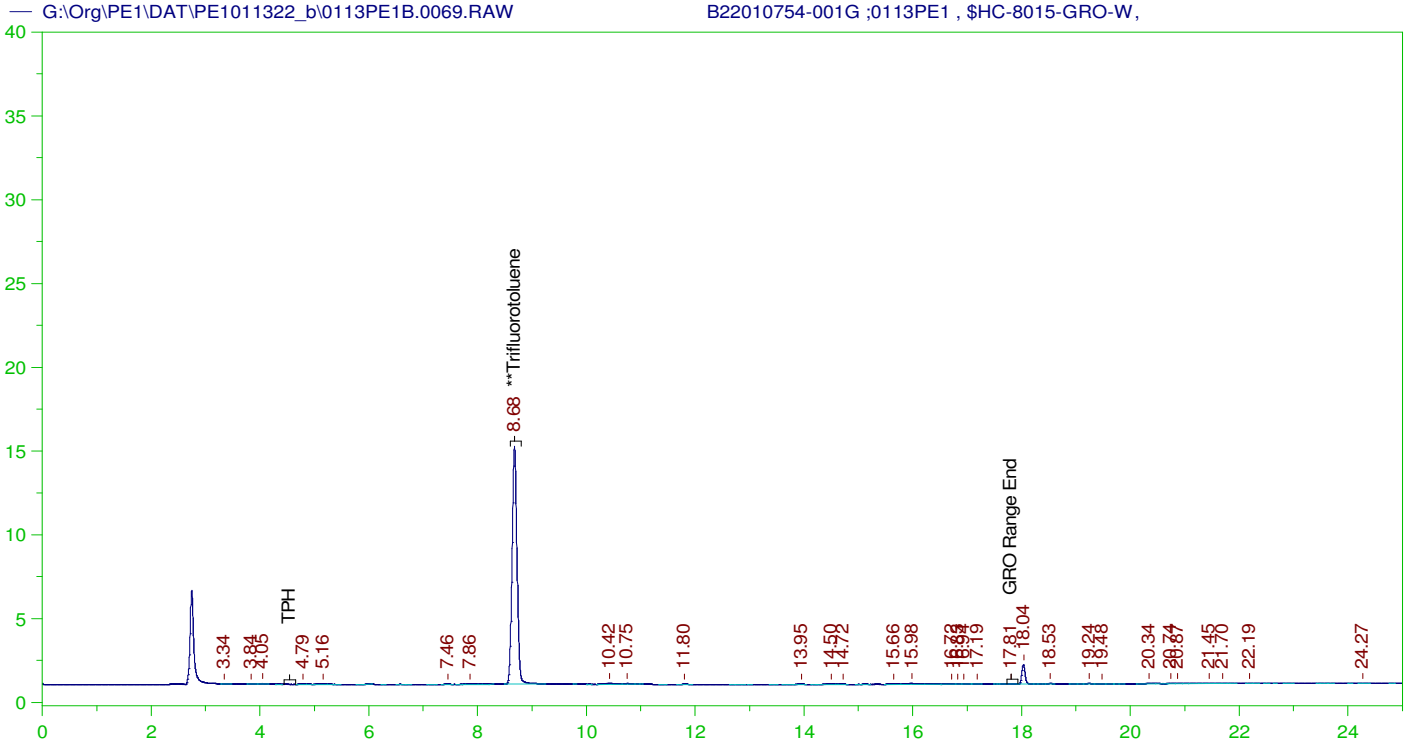


GASOLINE RANGE ORGANICS CHROMATOGRAM REPORT

Sample Name: B22010754-001G ;0113PE1 , $HC-8015-GRO-W,
Raw File: G:\Org\PE1\DAT\PE1011322_b\0113PE1B.0069.RAW
Date & Time Acquired: 1/14/2022 10:33:02 PM
Method File: G:\Org\PE1\Methods\211208GROB%.MET
Calibration File: G:\Org\PE1\Cals\211208GRO8015CB.CAL
Sample Weight: 5 Dilution: 1 S.A.: 1

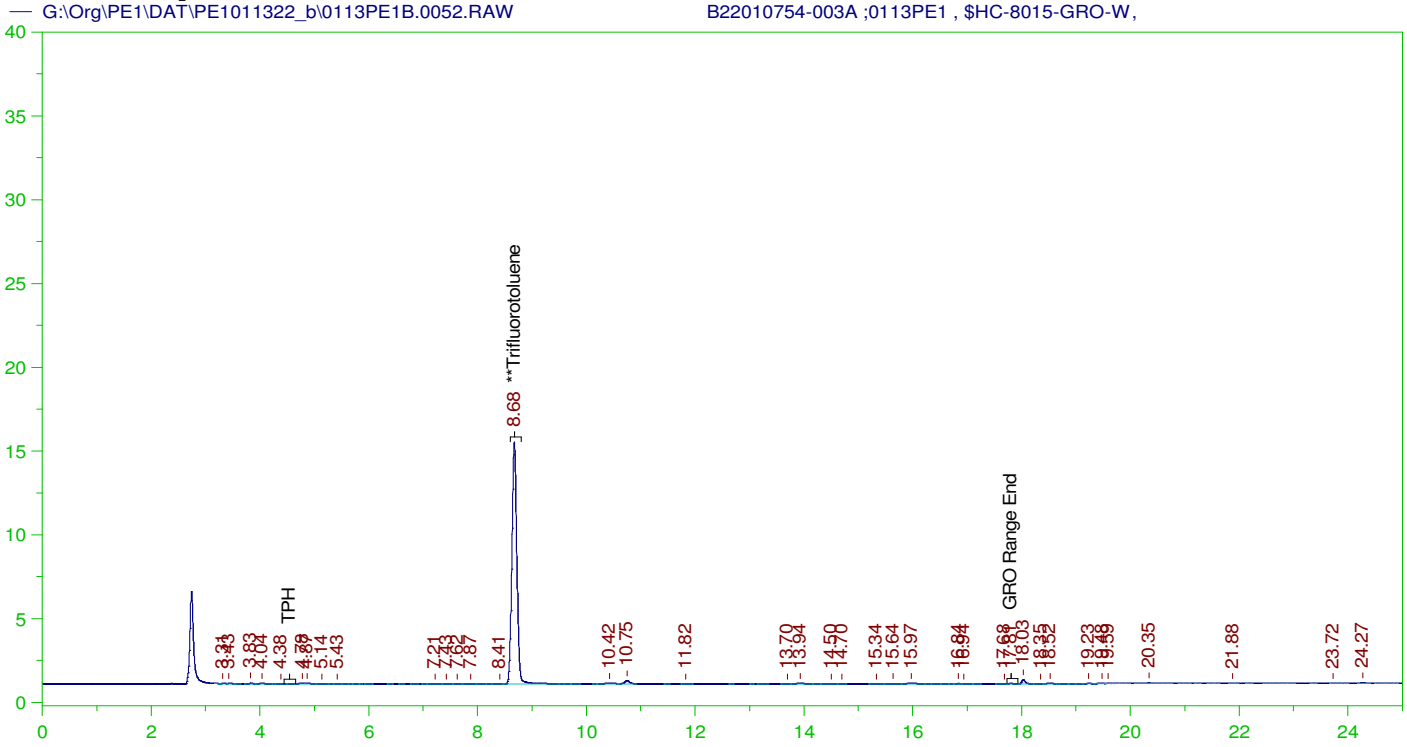
Mean RF for GRO: 945.9678
Mean RF for TPH: 909.3915
Rt range for Gasoline Range Organics: 4.45 to 17.93

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	
**Trifluorotoluene	8.68	25.	19.197	76.79	-

GRO Area:3734.396 GRO Amount: 0.7895398
TPH Area:10644.98 TPH Amount: 2.341121

ERH2417 (Trip Blank)

G:\Org\PE1\DAT\PE1011322_b\0113PE1B.0052.RAW B22010754-003A ;0113PE1 , $HC-8015-GRO-W,



GASOLINE RANGE ORGANICS CHROMATOGRAM REPORT

Sample Name: B22010754-003A ;0113PE1 , $HC-8015-GRO-W,
Raw File: G:\Org\PE1\DAT\PE1011322_b\0113PE1B.0052.RAW
Date & Time Acquired: 1/14/2022 12:49:47 PM
Method File: G:\Org\PE1\Methods\211208GROB%.MET
Calibration File: G:\Org\PE1\Cals\211208GRO8015CB.CAL
Sample Weight: 5 Dilution: 1 S.A.: 1

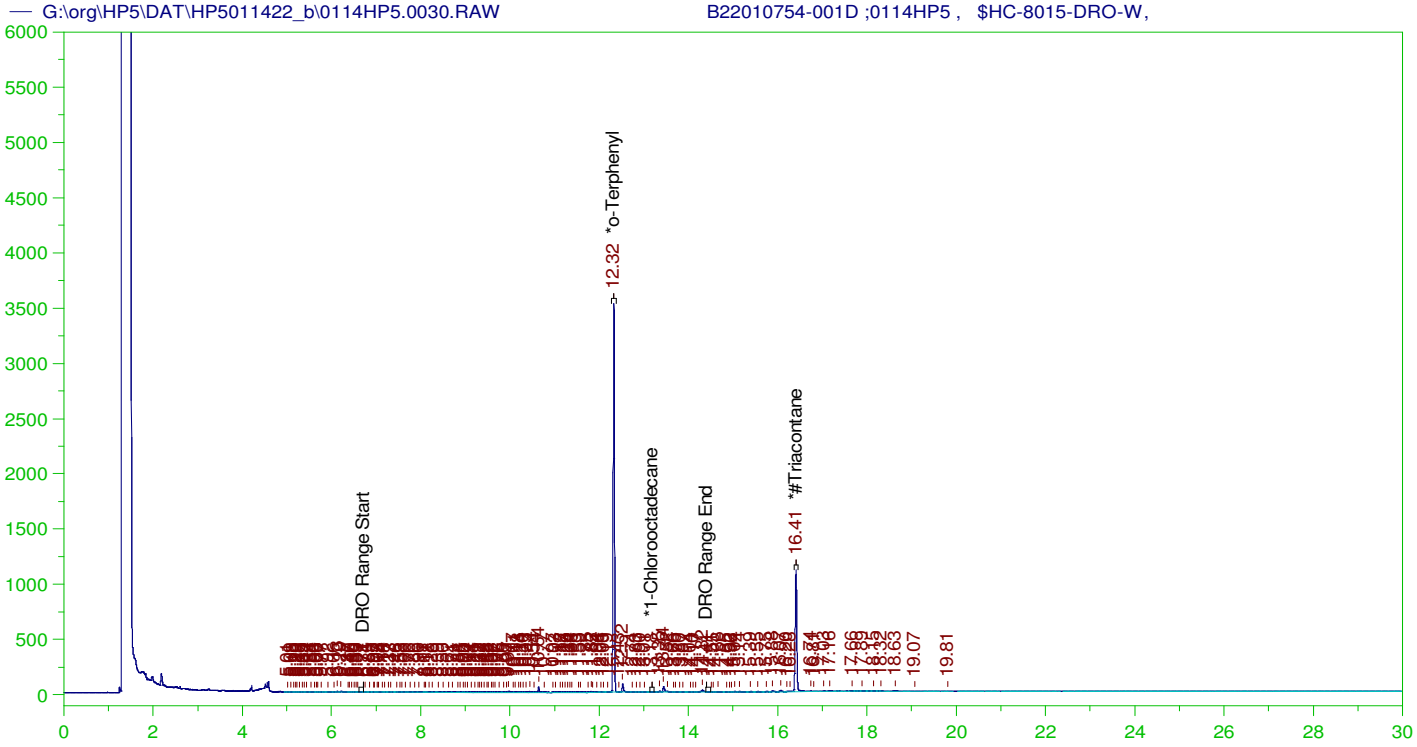
Mean RF for GRO: 945.9678
Mean RF for TPH: 909.3915
Rt range for Gasoline Range Organics: 4.45 to 17.93

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	
**Trifluorotoluene	8.677	25.	19.686	78.75	-

GRO Area:5748.222 GRO Amount: 1.21531
TPH Area:9587.378 TPH Amount: 2.108526

ERH2418 (RHMW06) Batch ID: 162917

G:\org\HP5\DAT\HP5011422_b\0114HP5.0030.RAW B22010754-001D ;0114HP5 , $HC-8015-DRO-W,



DIESEL RANGE ORGANICS CHROMATOGRAM REPORT

Sample Name: B22010754-001D ;0114HP5 , $HC-8015-DRO-W,
Raw File: G:\org\HP5\DAT\HP5011422_b\0114HP5.0030.RAW
Date & Time Acquired: 1/15/2022 7:39:42 AM
Method File: G:\Org\HP5\Methods\DR_8015-C24T-JB-L%.met
Calibration File: G:\Org\HP5\Cals\SW8015C_DRO220111JB-C24-T.CAL
Sample Weight: 1050 Dilution: 1 S.A.: 1

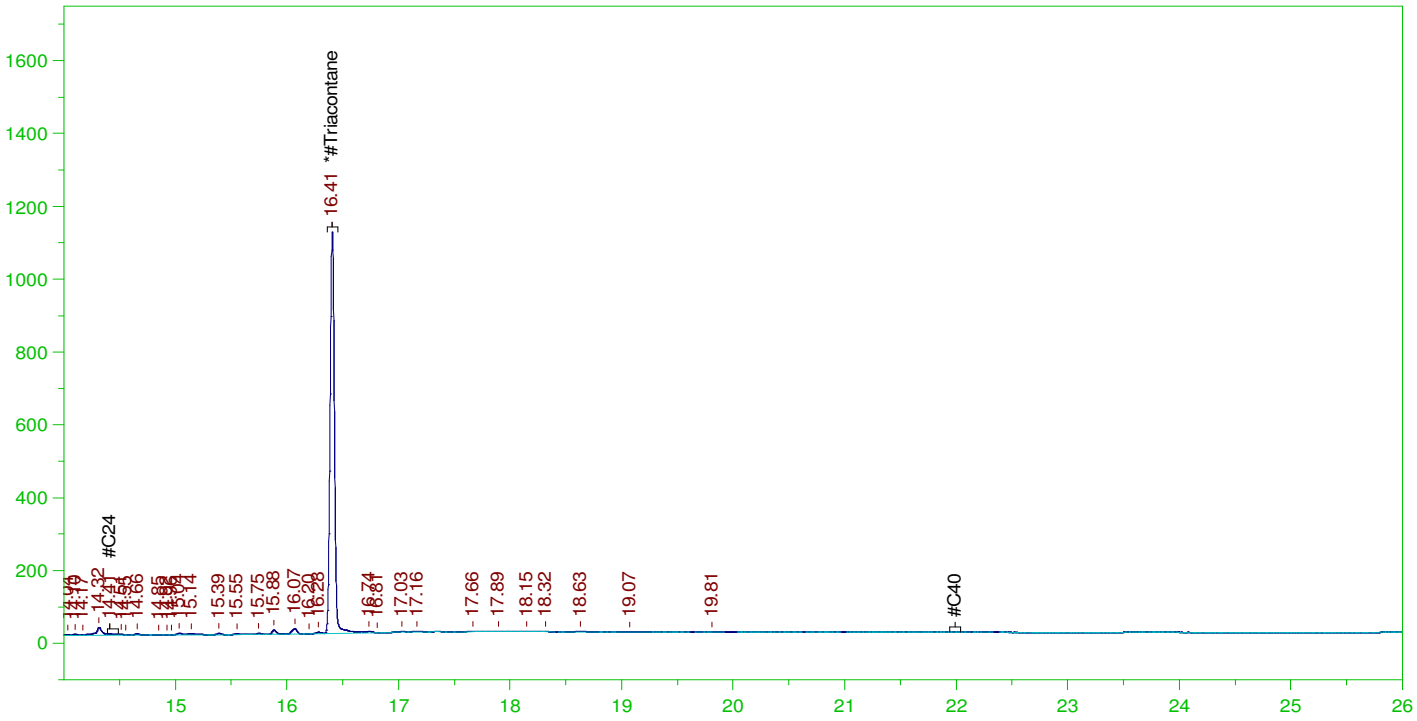
Mean RF for TEH: 32675.36
Rt range for Diesel Range Organics: 6.62 to 14.49

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	
*o-Terphenyl	12.324	.19	.174	91.6	-
*1-Chlorooctadecane	13.179	.19	. .1		-
*#Triacontane	16.406	.19	.096	50.47	-

DRO Area:969468.9 DRO Amount: 2.825688E-02
TEH Area:1378653 TEH Amount: 4.018326E-02

ERH2418 (RHMW06) Batch ID: 162917

G:\org\HP5\DAT\HP5011422_b\0114HP5.0030.RAW B22010754-001D ;0114HP5 , $HC-8015-DRO-W,



RESIDUAL RANGE ORGANICS CHROMATOGRAM

Sample Name: B22010754-001D ;0114HP5 , $HC-8015-DRO-W,
Raw File: G:\org\HP5\DAT\HP5011422_b\0114HP5.0030.RAW
Date & Time Acquired: 1/15/2022 7:39:42 AM
Method File: G:\Org\HP5\Methods\DR_OROS-BB-L%.MET
Calibration File: G:\Org\HP5\Cals\SW8015C_ORO220111BB_SAMP.CAL
Sample Weight: 1050 Dilution: 1 S.A.: 1

Mean RF for for Residual Range Organics Calculations: 26424.55
Rt range for Residual Range Organics: 14.39 to 22.04

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	
*#Triacontane	16.406	.476	.096	20.19	-

RRO Area:264425.3 RRO AMOUNT: 9.53029E-03

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

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

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

Alethea,

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

Thank you,

Energy Laboratories, Inc.
Trust our People. Trust our Data.

Tabitha Edwards | Office Manager | Billings, MT
O: 406-869-6286 | tedwards@energylab.com | www.energylab.com

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

From: Ramos, Alethea [mailto:alethea.ramos@aecom.com]
Sent: Saturday, December 11, 2021 3:20 AM
To: Shari Endy; billingsPM@energylab.com
Cc: Jillian Miller; Pascua, Margie; KaaihiliChoy, Terri Ann
Subject: CV18F0126: Expedited NOI Groundwater Samples, Saturday 12/12 Submission
Importance: High

Hi Shari and Billings PM,

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

https://www.fedex.com/fedextrack/?trknbr=287337969629&trkqual=2459558000~287337969629~FX
https://www.fedex.com/fedextrack/?trknbr=287343101019&trkqual=2459559000~287343101019~FX

Thank you,

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