ANALYTICAL SUMMARY REPORT

February 24, 2022

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

Work Order: B22010148 Quote ID: 5912

Project Name: CV18F0126, 60571032.02.46.01

Energy Laboratories Inc Billings MT received the following 5 samples from AECOM - Honolulu on 1/4/2022 for analysis.

Lab ID	Client Sample ID	Collect Date	Received Date	Matrix	Test
B22010148-001	ERH2305 (OWDFMW08A)	12/31/21 20:05	01/04/2022	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
B22010148-002	ERH2304 (Trip Blank) 14525	12/31/21 20:05	01/04/2022	Trip Blank	8260-Volatile Organic Compounds-Short List SW8260B
B22010148-003	ERH2304 (Trip Blank) 14575	12/31/21 20:05	01/04/2022	Trip Blank	Gasoline Range Organics SW8015C
B22010148-004	ERH2304 (Trip Blank) 14575	12/31/21 20:05	01/04/2022	Trip Blank	EDB in Water by ECD SW8011 SW8011 Microextraction

ANALYTICAL SUMMARY REPORT

B22010148-005	ERH2304 (Trip Blank) 14575	12/31/21 20:05	01/04/2022	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: 2022.02.24 20:21:02 -07:00

CLIENT: AECOM - Honolulu
Project: CV18F0126, 60571032.02.46.01
Work Order: B22010148

Report Date: 2/24/2022

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).

Chain of Custody & Analytical Request Record – DoD Project

ENERGY LABORATORIES — Trust our People. Trust our Data. www.energylab.com

COC#202112-83NOI 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	JW, FS, AE, MME
Sampler Phone	808-987-3201
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	ERH2305 (OWDFMW08A)	12/31/21	16:05	22	GW	X	X	X	X	X	X	X	X	X		✓	B220/0148
2	ERH2304 (Trip Blank)	12/31/21	16:00	8	WQ	X	X	X	X							✓	
3	~~TB 14525 (8260)~~			1													
4	TB 14525 (8260)			1													
5	~~TB 14525 (GRO)~~ 14575			cut													
6	~~TB 14525 (8011)~~ 14575 THF 1-4-22			12/31/21													
7	~~TB 14525 (Methane)~~ 14575																
8	TB 14653			1													
9	~~TB (CLEAR Vial)~~			1													
10	~~TB 14646~~			2													

Custody Record MUST be signed	Relinquished by (print)	Date/Time	Signature	Received by (print)	Date/Time	Signature
	CHRIS WOMACK	12/31/21 1500				
	Relinquished by (print)	Date/Time	Signature	Received by Laboratory (print)	Date/Time	Signature
					1/4/22 0900	

LABORATORY USE ONLY

Shipped By	Cooler ID(s)	Custody Seals Y N C B	Intact Y N	Receipt Temp	Temp Blank Y N	On Ice Y N	Payment Type CC Cash Check	Amount $	Receipt Number (cash/check only)
				0 °C					

ELI-COC-10/18 v 3

Work Order Receipt Checklist

AECOM - Honolulu

B22010148

Login completed by: Tabitha Edwards
Date Received: 1/4/2022

Reviewed by: BL2000\tburris
Received by: sme

Reviewed Date: 1/7/2022
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:	0.9°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.

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: ERH2305 (OWDFMW08A)
Project: CV18F0126, 60571032.02.46.01
Matrix: Ground Water

Lab ID: B22010148-001
Collection Date: 12/31/2021 20:05
Date Received: 01/04/2022
Report Date: 02/24/2022

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	0.050	0.020		SW8270CSIM	01/11/2022 08:04/jph	SV5975.I_220110B : 39	162701
2-Methylnaphthalene	ND	ug/L	1	U	0.10	0.050	0.017		SW8270CSIM	01/11/2022 08:04/jph	SV5975.I_220110B : 39	162701
Acenaphthene	ND	ug/L	1	U	0.10	0.050	0.031		SW8270CSIM	01/11/2022 08:04/jph	SV5975.I_220110B : 39	162701
Acenaphthylene	ND	ug/L	1	U	0.10	0.050	0.025		SW8270CSIM	01/11/2022 08:04/jph	SV5975.I_220110B : 39	162701
Anthracene	ND	ug/L	1	U	0.10	0.050	0.028		SW8270CSIM	01/11/2022 08:04/jph	SV5975.I_220110B : 39	162701
Benzo(a)anthracene	ND	ug/L	1	U	0.10	0.050	0.027		SW8270CSIM	01/11/2022 08:04/jph	SV5975.I_220110B : 39	162701
Benzo(a)pyrene	ND	ug/L	1	U	0.10	0.050	0.034		SW8270CSIM	01/11/2022 08:04/jph	SV5975.I_220110B : 39	162701
Benzo(b)fluoranthene	ND	ug/L	1	U	0.10	0.050	0.022		SW8270CSIM	01/11/2022 08:04/jph	SV5975.I_220110B : 39	162701
Benzo(g,h,i)perylene	ND	ug/L	1	U	0.10	0.050	0.026		SW8270CSIM	01/11/2022 08:04/jph	SV5975.I_220110B : 39	162701
Benzo(k)fluoranthene	ND	ug/L	1	U	0.10	0.050	0.029		SW8270CSIM	01/11/2022 08:04/jph	SV5975.I_220110B : 39	162701
Chrysene	ND	ug/L	1	U	0.10	0.050	0.045		SW8270CSIM	01/11/2022 08:04/jph	SV5975.I_220110B : 39	162701
Dibenzo(a,h)anthracene	ND	ug/L	1	U	0.10	0.050	0.036		SW8270CSIM	01/11/2022 08:04/jph	SV5975.I_220110B : 39	162701
Fluoranthene	ND	ug/L	1	U	0.10	0.050	0.023		SW8270CSIM	01/11/2022 08:04/jph	SV5975.I_220110B : 39	162701
Fluorene	ND	ug/L	1	U	0.10	0.050	0.022		SW8270CSIM	01/11/2022 08:04/jph	SV5975.I_220110B : 39	162701
Indeno(1,2,3-cd)pyrene	ND	ug/L	1	U	0.10	0.050	0.049		SW8270CSIM	01/11/2022 08:04/jph	SV5975.I_220110B : 39	162701
Naphthalene	ND	ug/L	1	U	0.10	0.050	0.029		SW8270CSIM	01/11/2022 08:04/jph	SV5975.I_220110B : 39	162701
Phenanthrene	ND	ug/L	1	U	0.10	0.050	0.029		SW8270CSIM	01/11/2022 08:04/jph	SV5975.I_220110B : 39	162701
Pyrene	ND	ug/L	1	U	0.10	0.050	0.024		SW8270CSIM	01/11/2022 08:04/jph	SV5975.I_220110B : 39	162701
AGGREGATE ORGANICS												
Organic Carbon, Total (TOC) - TOC Range is 0.7 to 0.7	0.65	mg/L	1		0.50	0.50	0.17		SW9060A	01/7/2022 23:43/eli-ca	SUB-C278588 : 15	C_R278588
METALS, DISSOLVED												
Lead	ND	mg/L	1	U	0.001	0.0001	0.00006		SW6020	01/7/2022 00:59/srh	ICPMS207-B_220106A : 133	R372863
METALS, TOTAL												
Lead	0.00008	mg/L	1	J	0.001	0.0001	0.00008		SW6020	01/7/2022 01:05/srh	ICPMS207-B_220106A : 134	162708
VOLATILE ORGANIC COMPOUNDS												
Benzene	ND	ug/L	1	U	1.0	0.20	0.091		SW8260B	01/6/2022 16:16/msc	VOA5975C.I_220106A : 13	R372994
Bromobenzene	ND	ug/L	1	U	1.0	0.20	0.083		SW8260B	01/6/2022 16:16/msc	VOA5975C.I_220106A : 13	R372994
Bromochloromethane	ND	ug/L	1	U	1.0	0.50	0.14		SW8260B	01/6/2022 16:16/msc	VOA5975C.I_220106A : 13	R372994
Bromodichloromethane	ND	ug/L	1	U	1.0	0.25	0.12		SW8260B	01/6/2022 16:16/msc	VOA5975C.I_220106A : 13	R372994
Bromoform	ND	ug/L	1	U	1.0	0.25	0.12		SW8260B	01/6/2022 16:16/msc	VOA5975C.I_220106A : 13	R372994
Carbon tetrachloride	ND	ug/L	1	U	1.0	0.50	0.14		SW8260B	01/6/2022 16:16/msc	VOA5975C.I_220106A : 13	R372994
Chlorobenzene	ND	ug/L	1	U	1.0	0.20	0.091		SW8260B	01/6/2022 16:16/msc	VOA5975C.I_220106A : 13	R372994
Chlorodibromomethane	ND	ug/L	1	U	1.0	0.20	0.084		SW8260B	01/6/2022 16:16/msc	VOA5975C.I_220106A : 13	R372994
Chloroethane	ND	ug/L	1	U	1.0	0.50	0.17		SW8260B	01/6/2022 16:16/msc	VOA5975C.I_220106A : 13	R372994
Chloroform	0.085	ug/L	1	J	1.0	0.20	0.079		SW8260B	01/6/2022 16:16/msc	VOA5975C.I_220106A : 13	R372994
Chloromethane	ND	ug/L	1	U	1.0	0.50	0.16		SW8260B	01/6/2022 16:16/msc	VOA5975C.I_220106A : 13	R372994

LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Client Sample ID: ERH2305 (OWDFMW08A)
Project: CV18F0126, 60571032.02.46.01
Matrix: Ground Water

Lab ID: B22010148-001
Collection Date: 12/31/2021 20:05
Date Received: 01/04/2022
Report Date: 02/24/2022

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	01/6/2022 16:16/msc	VOA5975C.I_220106A : 13	R372994
2-Chlorotoluene	ND	ug/L	1	U	1.0	0.20	0.088		SW8260B	01/6/2022 16:16/msc	VOA5975C.I_220106A : 13	R372994
4-Chlorotoluene	ND	ug/L	1	U	1.0	0.20	0.073		SW8260B	01/6/2022 16:16/msc	VOA5975C.I_220106A : 13	R372994
Dibromomethane	ND	ug/L	1	U	1.0	0.50	0.15		SW8260B	01/6/2022 16:16/msc	VOA5975C.I_220106A : 13	R372994
1,2-Dichlorobenzene	ND	ug/L	1	U	1.0	0.20	0.075		SW8260B	01/6/2022 16:16/msc	VOA5975C.I_220106A : 13	R372994
1,3-Dichlorobenzene	ND	ug/L	1	U	1.0	0.20	0.080		SW8260B	01/6/2022 16:16/msc	VOA5975C.I_220106A : 13	R372994
1,4-Dichlorobenzene	ND	ug/L	1	U	1.0	0.20	0.086		SW8260B	01/6/2022 16:16/msc	VOA5975C.I_220106A : 13	R372994
Dichlorodifluoromethane	ND	ug/L	1	U	1.0	0.50	0.18		SW8260B	01/6/2022 16:16/msc	VOA5975C.I_220106A : 13	R372994
1,1-Dichloroethane	ND	ug/L	1	U	1.0	0.50	0.14		SW8260B	01/6/2022 16:16/msc	VOA5975C.I_220106A : 13	R372994
1,2-Dichloroethane	ND	ug/L	1	U	1.0	0.25	0.12		SW8260B	01/6/2022 16:16/msc	VOA5975C.I_220106A : 13	R372994
1,1-Dichloroethene	ND	ug/L	1	U	1.0	0.50	0.14		SW8260B	01/6/2022 16:16/msc	VOA5975C.I_220106A : 13	R372994
cis-1,2-Dichloroethene	ND	ug/L	1	U	1.0	0.25	0.11		SW8260B	01/6/2022 16:16/msc	VOA5975C.I_220106A : 13	R372994
trans-1,2-Dichloroethene	ND	ug/L	1	U	1.0	0.25	0.12		SW8260B	01/6/2022 16:16/msc	VOA5975C.I_220106A : 13	R372994
1,2-Dichloropropane	ND	ug/L	1	U	1.0	0.20	0.085		SW8260B	01/6/2022 16:16/msc	VOA5975C.I_220106A : 13	R372994
1,3-Dichloropropane	ND	ug/L	1	U	1.0	0.20	0.079		SW8260B	01/6/2022 16:16/msc	VOA5975C.I_220106A : 13	R372994
2,2-Dichloropropane	ND	ug/L	1	U	1.0	0.50	0.19		SW8260B	01/6/2022 16:16/msc	VOA5975C.I_220106A : 13	R372994
1,1-Dichloropropene	ND	ug/L	1	U	1.0	0.20	0.083		SW8260B	01/6/2022 16:16/msc	VOA5975C.I_220106A : 13	R372994
cis-1,3-Dichloropropene	ND	ug/L	1	U	1.0	0.20	0.073		SW8260B	01/6/2022 16:16/msc	VOA5975C.I_220106A : 13	R372994
trans-1,3-Dichloropropene	ND	ug/L	1	U	1.0	0.20	0.085		SW8260B	01/6/2022 16:16/msc	VOA5975C.I_220106A : 13	R372994
Ethylbenzene	ND	ug/L	1	U	1.0	0.20	0.084		SW8260B	01/6/2022 16:16/msc	VOA5975C.I_220106A : 13	R372994
Methyl ethyl ketone	ND	ug/L	1	U	20	5.0	1.8		SW8260B	01/6/2022 16:16/msc	VOA5975C.I_220106A : 13	R372994
Methyl tert-butyl ether (MTBE)	ND	ug/L	1	U	1.0	0.25	0.10		SW8260B	01/6/2022 16:16/msc	VOA5975C.I_220106A : 13	R372994
Methylene chloride	ND	ug/L	1	U	1.0	0.50	0.34		SW8260B	01/6/2022 16:16/msc	VOA5975C.I_220106A : 13	R372994
Styrene	ND	ug/L	1	U	1.0	0.20	0.067		SW8260B	01/6/2022 16:16/msc	VOA5975C.I_220106A : 13	R372994
1,1,1,2-Tetrachloroethane	ND	ug/L	1	U	1.0	0.25	0.10		SW8260B	01/6/2022 16:16/msc	VOA5975C.I_220106A : 13	R372994
1,1,2,2-Tetrachloroethane	ND	ug/L	1	U	1.0	0.20	0.087		SW8260B	01/6/2022 16:16/msc	VOA5975C.I_220106A : 13	R372994
Tetrachloroethene	ND	ug/L	1	U	1.0	0.20	0.067		SW8260B	01/6/2022 16:16/msc	VOA5975C.I_220106A : 13	R372994
Toluene	ND	ug/L	1	U	1.0	0.20	0.068		SW8260B	01/6/2022 16:16/msc	VOA5975C.I_220106A : 13	R372994
1,1,1-Trichloroethane	ND	ug/L	1	U	1.0	0.50	0.13		SW8260B	01/6/2022 16:16/msc	VOA5975C.I_220106A : 13	R372994
1,1,2-Trichloroethane	ND	ug/L	1	U	1.0	0.25	0.11		SW8260B	01/6/2022 16:16/msc	VOA5975C.I_220106A : 13	R372994
Trichloroethene	ND	ug/L	1	U	1.0	0.20	0.099		SW8260B	01/6/2022 16:16/msc	VOA5975C.I_220106A : 13	R372994
Trichlorofluoromethane	ND	ug/L	1	U	1.0	0.50	0.13		SW8260B	01/6/2022 16:16/msc	VOA5975C.I_220106A : 13	R372994
1,2,3-Trichloropropane	ND	ug/L	1	U	1.0	0.50	0.24		SW8260B	01/6/2022 16:16/msc	VOA5975C.I_220106A : 13	R372994
Vinyl chloride	ND	ug/L	1	U	1.0	0.50	0.15		SW8260B	01/6/2022 16:16/msc	VOA5975C.I_220106A : 13	R372994
m+p-Xylenes	ND	ug/L	1	U	1.0	0.50	0.15		SW8260B	01/6/2022 16:16/msc	VOA5975C.I_220106A : 13	R372994
o-Xylene	ND	ug/L	1	U	1.0	0.20	0.060		SW8260B	01/6/2022 16:16/msc	VOA5975C.I_220106A : 13	R372994
Xylenes, Total	ND	ug/L	1	U	1.0	0.50	0.15		SW8260B	01/6/2022 16:16/msc	VOA5975C.I_220106A : 13	R372994
Surr: Dibromofluoromethane	113.0	%REC	1		80-119				SW8260B	01/6/2022 16:16/msc	VOA5975C.I_220106A : 13	R372994
Surr: 1,2-Dichloroethane-d4	114.0	%REC	1		81-118				SW8260B	01/6/2022 16:16/msc	VOA5975C.I_220106A : 13	R372994

LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Client Sample ID: ERH2305 (OWDFMW08A)
Project: CV18F0126, 60571032.02.46.01
Matrix: Ground Water

Lab ID: B22010148-001
Collection Date: 12/31/2021 20:05
Date Received: 01/04/2022
Report Date: 02/24/2022

Analyses	Result	Units	DF	Qual	LOQ	LOD	DL	MCL	Method	Analysis Date / By	RunID : Run Order	BatchID
VOLATILE ORGANIC COMPOUNDS												
Surr: Toluene-d8	106.0	%REC	1		89-112				SW8260B	01/6/2022 16:16/msc	VOA5975C.I_220106A : 13	R372994
Surr: p-Bromofluorobenzene	109.0	%REC	1		85-114				SW8260B	01/6/2022 16:16/msc	VOA5975C.I_220106A : 13	R372994
VOCS BY MICROEXTRACTION-ECD												
1,2-Dibromoethane	ND	ug/L	1	U	0.010	0.0048	0.0025		SW8011	01/6/2022 19:11/clt	GECD.I_220106A : 21	162706
Surr: 1,1,1,2-Tetrachloroethane	88.0	%REC	1		70-130				SW8011	01/6/2022 19:11/clt	GECD.I_220106A : 21	162706
PETROLEUM HYDROCARBONS-VOLATILE												
C6 to C10	ND	ug/L	1	U	20	8.7	2.3		SW8015C	01/6/2022 06:20/jp	PE 1_220104A : 54	R372703
Total Purgeable Hydrocarbons	ND	ug/L	1	U	20	10	3.6		SW8015C	01/6/2022 06:20/jp	PE 1_220104A : 54	R372703
Surr: Trifluorotoluene	73.0	%REC	1		70-130				SW8015C	01/6/2022 06:20/jp	PE 1_220104A : 54	R372703
- Note 1: C6 to C10 is defined as all hydrocarbons eluting between 2-Methylpentane and 1,2,4-Trimethylbenzene.												
- Note 2: Total Purgeable Hydrocarbons are defined as the total hydrocarbon response regardless of elution time.												
PETROLEUM HYDROCARBONS-SEMI-VOLATILE												
Diesel Range Organics (C10 to C24)	0.10	mg/L	1	J	0.30	0.14	0.037		SW8015C	01/6/2022 17:53/amn	GCFID-HP5-B_220106A : 10	162703
Diesel Range Organics (SGT-C10 to C24)	ND	mg/L	1	U	0.30	0.12	0.037		SW8015C	01/8/2022 02:50/amn	GCFID-HP5-B_220106B : 10	162703
Oil Range Hydrocarbons (C24 to C40)	0.27	mg/L	1	J	0.30	0.14	0.085		SW8015C	01/6/2022 17:53/amn	GCFID-HP5-B_220106A : 10	162703
Oil Range Hydrocarbons (SGT-C24 to C40)	ND	mg/L	1	U	0.30	0.14	0.085		SW8015C	01/8/2022 02:50/amn	GCFID-HP5-B_220106B : 10	162703
Total Extractable Hydrocarbons	0.48	mg/L	1		0.30	0.14	0.072		SW8015C	01/6/2022 17:53/amn	GCFID-HP5-B_220106A : 10	162703
Total Extractable Hydrocarbons (SGT)	0.040	mg/L	1	J	0.30	0.12	0.032		SW8015C	01/8/2022 02:50/amn	GCFID-HP5-B_220106B : 10	162703
Surr: o-Terphenyl	109.0	%REC	1		56-125				SW8015C	01/6/2022 17:53/amn	GCFID-HP5-B_220106A : 10	162703
Surr: o-Terphenyl (SGT)	106.0	%REC	1		56-125				SW8015C	01/8/2022 02:50/amn	GCFID-HP5-B_220106B : 10	162703
Surr: n-Triacontane	127.0	%REC	1		50-150				SW8015C	01/6/2022 17:53/amn	GCFID-HP5-B_220106A : 10	162703
Surr: n-Triacontane (SGT)	122.0	%REC	1		50-150				SW8015C	01/8/2022 02:50/amn	GCFID-HP5-B_220106B : 10	162703
- Note: Total Extractable Hydrocarbons are defined as the total hydrocarbon responses regardless of elution time.												
ORGANIC CHARACTERISTICS												
Methane	ND	mg/L	1	U	0.0020	0.0012	0.00070		SW8015M	01/5/2022 12:23/jdw	FID-HEADSPACE_220105A : 20	R372735
SEMI-VOLATILE ORGANIC COMPOUNDS												
1,2,4-Trichlorobenzene	ND	ug/L	1	U	10	5.0	1.9		SW8270C	01/14/2022 20:34/dsm	SV5973N.I_220114A : 15	162701
1,2-Dichlorobenzene	ND	ug/L	1	U	10	5.0	2.0		SW8270C	01/14/2022 20:34/dsm	SV5973N.I_220114A : 15	162701
1,3-Dichlorobenzene	ND	ug/L	1	U	10	5.0	2.1		SW8270C	01/14/2022 20:34/dsm	SV5973N.I_220114A : 15	162701
1,4-Dichlorobenzene	ND	ug/L	1	U	10	5.0	2.0		SW8270C	01/14/2022 20:34/dsm	SV5973N.I_220114A : 15	162701
2,4,5-Trichlorophenol	ND	ug/L	1	U	10	5.0	2.2		SW8270C	01/14/2022 20:34/dsm	SV5973N.I_220114A : 15	162701
2,4,6-Trichlorophenol	ND	ug/L	1	U	10	5.0	2.6		SW8270C	01/14/2022 20:34/dsm	SV5973N.I_220114A : 15	162701
2,4-Dichlorophenol	ND	ug/L	1	U	10	5.0	1.7		SW8270C	01/14/2022 20:34/dsm	SV5973N.I_220114A : 15	162701
2,4-Dimethylphenol	ND	ug/L	1	U	10	5.0	1.7		SW8270C	01/14/2022 20:34/dsm	SV5973N.I_220114A : 15	162701
2,4-Dinitrophenol	ND	ug/L	1	U	10	9.9	4.2		SW8270C	01/14/2022 20:34/dsm	SV5973N.I_220114A : 15	162701
2,4-Dinitrotoluene	ND	ug/L	1	U	10	5.0	3.0		SW8270C	01/14/2022 20:34/dsm	SV5973N.I_220114A : 15	162701

LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Client Sample ID: ERH2305 (OWDFMW08A)
Project: CV18F0126, 60571032.02.46.01
Matrix: Ground Water

Lab ID: B22010148-001
Collection Date: 12/31/2021 20:05
Date Received: 01/04/2022
Report Date: 02/24/2022

Analyses	Result	Units	DF	Qual	LOQ	LOD	DL	MCL	Method	Analysis Date / By	RunID : Run Order	BatchID
SEMI-VOLATILE ORGANIC COMPOUNDS												
2,6-Dinitrotoluene	ND	ug/L	1	U	10	5.0	3.2		SW8270C	01/14/2022 20:34/dsm	SV5973N.I_220114A : 15	162701
2-Chloronaphthalene	ND	ug/L	1	U	10	5.0	2.1		SW8270C	01/14/2022 20:34/dsm	SV5973N.I_220114A : 15	162701
2-Chlorophenol	ND	ug/L	1	U	10	5.0	2.5		SW8270C	01/14/2022 20:34/dsm	SV5973N.I_220114A : 15	162701
2-Nitrophenol	ND	ug/L	1	U	10	5.0	2.3		SW8270C	01/14/2022 20:34/dsm	SV5973N.I_220114A : 15	162701
3,3´-Dichlorobenzidine	ND	ug/L	1	U	10	5.0	2.1		SW8270C	01/14/2022 20:34/dsm	SV5973N.I_220114A : 15	162701
4,6-Dinitro-2-methylphenol	ND	ug/L	1	U	10	9.9	2.3		SW8270C	01/14/2022 20:34/dsm	SV5973N.I_220114A : 15	162701
4-Bromophenyl phenyl ether	ND	ug/L	1	U	10	5.0	1.7		SW8270C	01/14/2022 20:34/dsm	SV5973N.I_220114A : 15	162701
4-Chloro-3-methylphenol	ND	ug/L	1	U	10	5.0	1.4		SW8270C	01/14/2022 20:34/dsm	SV5973N.I_220114A : 15	162701
4-Chlorophenol	ND	ug/L	1	U	10	5.0	2.6		SW8270C	01/14/2022 20:34/dsm	SV5973N.I_220114A : 15	162701
4-Chlorophenyl phenyl ether	ND	ug/L	1	U	10	5.0	2.0		SW8270C	01/14/2022 20:34/dsm	SV5973N.I_220114A : 15	162701
4-Nitrophenol	ND	ug/L	1	U	10	9.9	2.5		SW8270C	01/14/2022 20:34/dsm	SV5973N.I_220114A : 15	162701
Azobenzene	ND	ug/L	1	U	10	5.0	1.1		SW8270C	01/14/2022 20:34/dsm	SV5973N.I_220114A : 15	162701
bis(-2-chloroethoxy)Methane	ND	ug/L	1	U	10	5.0	1.3		SW8270C	01/14/2022 20:34/dsm	SV5973N.I_220114A : 15	162701
bis(-2-chloroethyl)Ether	ND	ug/L	1	U	10	5.0	2.5		SW8270C	01/14/2022 20:34/dsm	SV5973N.I_220114A : 15	162701
bis(2-chloroisopropyl)Ether	ND	ug/L	1	U	10	5.0	1.5		SW8270C	01/14/2022 20:34/dsm	SV5973N.I_220114A : 15	162701
bis(2-ethylhexyl)Phthalate	ND	ug/L	1	U	10	5.0	1.9		SW8270C	01/14/2022 20:34/dsm	SV5973N.I_220114A : 15	162701
Butylbenzylphthalate	ND	ug/L	1	U	10	5.0	1.6		SW8270C	01/14/2022 20:34/dsm	SV5973N.I_220114A : 15	162701
Di-n-butyl phthalate	ND	ug/L	1	U	10	5.0	0.92		SW8270C	01/14/2022 20:34/dsm	SV5973N.I_220114A : 15	162701
Di-n-octyl phthalate	ND	ug/L	1	U	10	5.0	1.3		SW8270C	01/14/2022 20:34/dsm	SV5973N.I_220114A : 15	162701
Diethyl phthalate	ND	ug/L	1	U	10	5.0	2.2		SW8270C	01/14/2022 20:34/dsm	SV5973N.I_220114A : 15	162701
Dimethyl phthalate	ND	ug/L	1	U	10	5.0	1.7		SW8270C	01/14/2022 20:34/dsm	SV5973N.I_220114A : 15	162701
Hexachlorobenzene	ND	ug/L	1	U	10	5.0	1.3		SW8270C	01/14/2022 20:34/dsm	SV5973N.I_220114A : 15	162701
Hexachlorobutadiene	ND	ug/L	1	U	10	5.0	2.3		SW8270C	01/14/2022 20:34/dsm	SV5973N.I_220114A : 15	162701
Hexachlorocyclopentadiene	ND	ug/L	1	U	10	5.0	2.9		SW8270C	01/14/2022 20:34/dsm	SV5973N.I_220114A : 15	162701
Hexachloroethane	ND	ug/L	1	U	10	5.0	1.8		SW8270C	01/14/2022 20:34/dsm	SV5973N.I_220114A : 15	162701
Isophorone	ND	ug/L	1	U	10	5.0	1.7		SW8270C	01/14/2022 20:34/dsm	SV5973N.I_220114A : 15	162701
m+p-Cresols	ND	ug/L	1	U	10	5.0	1.8		SW8270C	01/14/2022 20:34/dsm	SV5973N.I_220114A : 15	162701
n-Nitroso-di-n-propylamine	ND	ug/L	1	U	10	5.0	1.5		SW8270C	01/14/2022 20:34/dsm	SV5973N.I_220114A : 15	162701
n-Nitrosodimethylamine	ND	ug/L	1	U	10	5.0	1.5		SW8270C	01/14/2022 20:34/dsm	SV5973N.I_220114A : 15	162701
n-Nitrosodiphenylamine	ND	ug/L	1	U	10	5.0	1.1		SW8270C	01/14/2022 20:34/dsm	SV5973N.I_220114A : 15	162701
Nitrobenzene	ND	ug/L	1	U	10	5.0	2.3		SW8270C	01/14/2022 20:34/dsm	SV5973N.I_220114A : 15	162701
o-Cresol	ND	ug/L	1	U	10	5.0	1.8		SW8270C	01/14/2022 20:34/dsm	SV5973N.I_220114A : 15	162701
Pentachlorophenol	ND	ug/L	1	U	10	9.9	4.2		SW8270C	01/14/2022 20:34/dsm	SV5973N.I_220114A : 15	162701
Phenol	ND	ug/L	1	U	10	5.0	1.4		SW8270C	01/14/2022 20:34/dsm	SV5973N.I_220114A : 15	162701
Pyridine	ND	ug/L	1	U	10	5.0	3.2		SW8270C	01/14/2022 20:34/dsm	SV5973N.I_220114A : 15	162701
Surr: 2,4,6-Tribromophenol	71.0	%REC	1		43-140				SW8270C	01/14/2022 20:34/dsm	SV5973N.I_220114A : 15	162701
Surr: 2-Fluorobiphenyl	67.0	%REC	1		44-119				SW8270C	01/14/2022 20:34/dsm	SV5973N.I_220114A : 15	162701
Surr: 2-Fluorophenol	36.0	%REC	1		19-119				SW8270C	01/14/2022 20:34/dsm	SV5973N.I_220114A : 15	162701
Surr: Nitrobenzene-d5	71.0	%REC	1		44-120				SW8270C	01/14/2022 20:34/dsm	SV5973N.I_220114A : 15	162701

LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Lab ID: B22010148-001
Client: AECOM - Honolulu
Collection Date: 12/31/2021 20:05
Client Sample ID: ERH2305 (OWDFMW08A)
Date Received: 01/04/2022
Project: CV18F0126, 60571032.02.46.01
Report Date: 02/24/2022
Matrix: Ground Water

Analyses	Result	Units	DF	Qual	LOQ	LOD	DL	MCL	Method	Analysis Date / By	RunID : Run Order	BatchID
SEMI-VOLATILE ORGANIC COMPOUNDS												
Surr: Phenol-d5	41.0	%REC	1		10-65				SW8270C	01/14/2022 20:34/dsm	SV5973N.I_220114A : 15	162701
Surr: Terphenyl-d14	101.0	%REC	1		50-134				SW8270C	01/14/2022 20:34/dsm	SV5973N.I_220114A : 15	162701

LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Client Sample ID: ERH2304 (Trip Blank) 14525
Project: CV18F0126, 60571032.02.46.01
Matrix: Trip Blank

Lab ID: B22010148-002
Collection Date: 12/31/2021 20:05
Date Received: 01/04/2022
Report Date: 02/24/2022

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	01/6/2022 13:33/msc	VOA5975C.I_220106A : 7	R372994
Bromobenzene	ND	ug/L	1	U	1.0	0.20	0.083		SW8260B	01/6/2022 13:33/msc	VOA5975C.I_220106A : 7	R372994
Bromochloromethane	ND	ug/L	1	U	1.0	0.50	0.14		SW8260B	01/6/2022 13:33/msc	VOA5975C.I_220106A : 7	R372994
Bromodichloromethane	ND	ug/L	1	U	1.0	0.25	0.12		SW8260B	01/6/2022 13:33/msc	VOA5975C.I_220106A : 7	R372994
Bromoform	ND	ug/L	1	U	1.0	0.25	0.12		SW8260B	01/6/2022 13:33/msc	VOA5975C.I_220106A : 7	R372994
Carbon tetrachloride	ND	ug/L	1	U	1.0	0.50	0.14		SW8260B	01/6/2022 13:33/msc	VOA5975C.I_220106A : 7	R372994
Chlorobenzene	ND	ug/L	1	U	1.0	0.20	0.091		SW8260B	01/6/2022 13:33/msc	VOA5975C.I_220106A : 7	R372994
Chlorodibromomethane	ND	ug/L	1	U	1.0	0.20	0.084		SW8260B	01/6/2022 13:33/msc	VOA5975C.I_220106A : 7	R372994
Chloroethane	ND	ug/L	1	U	1.0	0.50	0.17		SW8260B	01/6/2022 13:33/msc	VOA5975C.I_220106A : 7	R372994
Chloroform	ND	ug/L	1	U	1.0	0.20	0.079		SW8260B	01/6/2022 13:33/msc	VOA5975C.I_220106A : 7	R372994
Chloromethane	ND	ug/L	1	U	1.0	0.50	0.16		SW8260B	01/6/2022 13:33/msc	VOA5975C.I_220106A : 7	R372994
1,2-Dibromoethane	ND	ug/L	1	U	1.0	0.20	0.092		SW8260B	01/6/2022 13:33/msc	VOA5975C.I_220106A : 7	R372994
2-Chlorotoluene	ND	ug/L	1	U	1.0	0.20	0.088		SW8260B	01/6/2022 13:33/msc	VOA5975C.I_220106A : 7	R372994
4-Chlorotoluene	ND	ug/L	1	U	1.0	0.20	0.073		SW8260B	01/6/2022 13:33/msc	VOA5975C.I_220106A : 7	R372994
Dibromomethane	ND	ug/L	1	U	1.0	0.50	0.15		SW8260B	01/6/2022 13:33/msc	VOA5975C.I_220106A : 7	R372994
1,2-Dichlorobenzene	ND	ug/L	1	U	1.0	0.20	0.075		SW8260B	01/6/2022 13:33/msc	VOA5975C.I_220106A : 7	R372994
1,3-Dichlorobenzene	ND	ug/L	1	U	1.0	0.20	0.080		SW8260B	01/6/2022 13:33/msc	VOA5975C.I_220106A : 7	R372994
1,4-Dichlorobenzene	ND	ug/L	1	U	1.0	0.20	0.086		SW8260B	01/6/2022 13:33/msc	VOA5975C.I_220106A : 7	R372994
Dichlorodifluoromethane	ND	ug/L	1	U	1.0	0.50	0.18		SW8260B	01/6/2022 13:33/msc	VOA5975C.I_220106A : 7	R372994
1,1-Dichloroethane	ND	ug/L	1	U	1.0	0.50	0.14		SW8260B	01/6/2022 13:33/msc	VOA5975C.I_220106A : 7	R372994
1,2-Dichloroethane	ND	ug/L	1	U	1.0	0.25	0.12		SW8260B	01/6/2022 13:33/msc	VOA5975C.I_220106A : 7	R372994
1,1-Dichloroethene	ND	ug/L	1	U	1.0	0.50	0.14		SW8260B	01/6/2022 13:33/msc	VOA5975C.I_220106A : 7	R372994
cis-1,2-Dichloroethene	ND	ug/L	1	U	1.0	0.25	0.11		SW8260B	01/6/2022 13:33/msc	VOA5975C.I_220106A : 7	R372994
trans-1,2-Dichloroethene	ND	ug/L	1	U	1.0	0.25	0.12		SW8260B	01/6/2022 13:33/msc	VOA5975C.I_220106A : 7	R372994
1,2-Dichloropropane	ND	ug/L	1	U	1.0	0.20	0.085		SW8260B	01/6/2022 13:33/msc	VOA5975C.I_220106A : 7	R372994
1,3-Dichloropropane	ND	ug/L	1	U	1.0	0.20	0.079		SW8260B	01/6/2022 13:33/msc	VOA5975C.I_220106A : 7	R372994
2,2-Dichloropropane	ND	ug/L	1	U	1.0	0.50	0.19		SW8260B	01/6/2022 13:33/msc	VOA5975C.I_220106A : 7	R372994
1,1-Dichloropropene	ND	ug/L	1	U	1.0	0.20	0.083		SW8260B	01/6/2022 13:33/msc	VOA5975C.I_220106A : 7	R372994
cis-1,3-Dichloropropene	ND	ug/L	1	U	1.0	0.20	0.073		SW8260B	01/6/2022 13:33/msc	VOA5975C.I_220106A : 7	R372994
trans-1,3-Dichloropropene	ND	ug/L	1	U	1.0	0.20	0.085		SW8260B	01/6/2022 13:33/msc	VOA5975C.I_220106A : 7	R372994
Ethylbenzene	ND	ug/L	1	U	1.0	0.20	0.084		SW8260B	01/6/2022 13:33/msc	VOA5975C.I_220106A : 7	R372994
Methyl ethyl ketone	ND	ug/L	1	U	20	5.0	1.8		SW8260B	01/6/2022 13:33/msc	VOA5975C.I_220106A : 7	R372994
Methyl tert-butyl ether (MTBE)	ND	ug/L	1	U	1.0	0.25	0.10		SW8260B	01/6/2022 13:33/msc	VOA5975C.I_220106A : 7	R372994
Methylene chloride	ND	ug/L	1	U	1.0	0.50	0.34		SW8260B	01/6/2022 13:33/msc	VOA5975C.I_220106A : 7	R372994
Styrene	ND	ug/L	1	U	1.0	0.20	0.067		SW8260B	01/6/2022 13:33/msc	VOA5975C.I_220106A : 7	R372994
1,1,1,2-Tetrachloroethane	ND	ug/L	1	U	1.0	0.25	0.10		SW8260B	01/6/2022 13:33/msc	VOA5975C.I_220106A : 7	R372994
1,1,2,2-Tetrachloroethane	ND	ug/L	1	U	1.0	0.20	0.087		SW8260B	01/6/2022 13:33/msc	VOA5975C.I_220106A : 7	R372994
Tetrachloroethene	ND	ug/L	1	U	1.0	0.20	0.067		SW8260B	01/6/2022 13:33/msc	VOA5975C.I_220106A : 7	R372994
Toluene	ND	ug/L	1	U	1.0	0.20	0.068		SW8260B	01/6/2022 13:33/msc	VOA5975C.I_220106A : 7	R372994

LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Lab ID: B22010148-002
Client: AECOM - Honolulu
Collection Date: 12/31/2021 20:05
Client Sample ID: ERH2304 (Trip Blank) 14525
Date Received: 01/04/2022
Project: CV18F0126, 60571032.02.46.01
Report Date: 02/24/2022
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	01/6/2022 13:33/msc	VOA5975C.I_220106A : 7	R372994
1,1,2-Trichloroethane	ND	ug/L	1	U	1.0	0.25	0.11		SW8260B	01/6/2022 13:33/msc	VOA5975C.I_220106A : 7	R372994
Trichloroethene	ND	ug/L	1	U	1.0	0.20	0.099		SW8260B	01/6/2022 13:33/msc	VOA5975C.I_220106A : 7	R372994
Trichlorofluoromethane	ND	ug/L	1	U	1.0	0.50	0.13		SW8260B	01/6/2022 13:33/msc	VOA5975C.I_220106A : 7	R372994
1,2,3-Trichloropropane	ND	ug/L	1	U	1.0	0.50	0.24		SW8260B	01/6/2022 13:33/msc	VOA5975C.I_220106A : 7	R372994
Vinyl chloride	ND	ug/L	1	U	1.0	0.50	0.15		SW8260B	01/6/2022 13:33/msc	VOA5975C.I_220106A : 7	R372994
m+p-Xylenes	ND	ug/L	1	U	1.0	0.50	0.15		SW8260B	01/6/2022 13:33/msc	VOA5975C.I_220106A : 7	R372994
o-Xylene	ND	ug/L	1	U	1.0	0.20	0.060		SW8260B	01/6/2022 13:33/msc	VOA5975C.I_220106A : 7	R372994
Xylenes, Total	ND	ug/L	1	U	1.0	0.20	0.060		SW8260B	01/6/2022 13:33/msc	VOA5975C.I_220106A : 7	R372994
Surr: Dibromofluoromethane	111.0	%REC	1		80-119				SW8260B	01/6/2022 13:33/msc	VOA5975C.I_220106A : 7	R372994
Surr: 1,2-Dichloroethane-d4	115.0	%REC	1		81-118				SW8260B	01/6/2022 13:33/msc	VOA5975C.I_220106A : 7	R372994
Surr: Toluene-d8	105.0	%REC	1		89-112				SW8260B	01/6/2022 13:33/msc	VOA5975C.I_220106A : 7	R372994
Surr: p-Bromofluorobenzene	108.0	%REC	1		85-114				SW8260B	01/6/2022 13:33/msc	VOA5975C.I_220106A : 7	R372994

LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Lab ID: B22010148-003
Client: AECOM - Honolulu
Collection Date: 12/31/2021 20:05
Client Sample ID: ERH2304 (Trip Blank) 14575
Date Received: 01/04/2022
Project: CV18F0126, 60571032.02.46.01
Report Date: 02/24/2022
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	01/6/2022 13:11/jp	PE 1_220104A : 64	R372703
Total Purgeable Hydrocarbons	ND	ug/L	1	U	20	10	3.6		SW8015C	01/6/2022 13:11/jp	PE 1_220104A : 64	R372703
Surr: Trifluorotoluene	73.0	%REC	1		70-130				SW8015C	01/6/2022 13:11/jp	PE 1_220104A : 64	R372703

- 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: B22010148-004
Client: AECOM - Honolulu
Collection Date: 12/31/2021 20:05
Client Sample ID: ERH2304 (Trip Blank) 14575
Date Received: 01/04/2022
Project: CV18F0126, 60571032.02.46.01
Report Date: 02/24/2022
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	01/6/2022 23:12/clt	GECD.I_220106A : 31	162706
Surr: 1,1,1,2-Tetrachloroethane	91.0	%REC	1		70-130				SW8011	01/6/2022 23:12/clt	GECD.I_220106A : 31	162706

LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Client Sample ID: ERH2304 (Trip Blank) 14575
Project: CV18F0126, 60571032.02.46.01
Matrix: Trip Blank

Lab ID: B22010148-005
Collection Date: 12/31/2021 20:05
Date Received: 01/04/2022
Report Date: 02/24/2022

Analyses	Result	Units	DF	Qual	LOQ	LOD	DL	MCL	Method	Analysis Date / By	RunID : Run Order	BatchID
ORGANIC CHARACTERISTICS												
Methane	ND	mg/L	1	U	0.0020	0.0012	0.00070		SW8015M	01/5/2022 12:29/jdw	FID-HEADSPACE_220105A : 21	R372735

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010148
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/24/2022

Run ID: Run Order: SV5975.I_220110A: 39 **SampType:** Method Blank **Batch ID:** 162701
Method: SW8270CSIM **Analysis Date:** 01/10/2022 19:49 **Prep Date:** 01/04/2022 15:47
Lab ID: MB-162701 **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: **B22010148-001C**

Run ID: Run Order: SV5975.I_220110A: 41 **SampType:** Laboratory Control Sample **Batch ID:** 162701
Method: SW8270CSIM **Analysis Date:** 01/10/2022 20:53 **Prep Date:** 01/04/2022 15:48
Lab ID: LLCS-162701 **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1-Methylnaphthalene	3.8	0.10	5.0		77.0	41	115				

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010148
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/24/2022

Run ID: Run Order: SV5975.I_220110A: 41 **SampType:** Laboratory Control Sample **Batch ID:** 162701
Method: SW8270CSIM **Analysis Date:** 01/10/2022 20:53 **Prep Date:** 01/04/2022 15:48
Lab ID: LLCS-162701 **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
2-Methylnaphthalene	3.6	0.10	5.0		72.0	39	114				
Acenaphthene	3.6	0.10	5.0		71.0	48	114				
Acenaphthylene	3.8	0.10	5.0		75.0	35	121				
Anthracene	4.5	0.10	5.0		89.0	53	119				
Benzo(a)anthracene	4.4	0.10	5.0		88.0	59	120				
Benzo(a)pyrene	4.0	0.10	5.0		80.0	53	120				
Benzo(b)fluoranthene	4.0	0.10	5.0		81.0	53	126				
Benzo(g,h,i)perylene	4.2	0.10	5.0		85.0	44	128				
Benzo(k)fluoranthene	4.2	0.10	5.0		83.0	54	125				
Chrysene	4.5	0.10	5.0		90.0	57	120				
Dibenzo(a,h)anthracene	4.2	0.10	5.0		84.0	44	141				
Fluoranthene	4.0	0.10	5.0		81.0	58	120				
Fluorene	4.1	0.10	5.0		81.0	50	118				
Indeno(1,2,3-cd)pyrene	4.0	0.10	5.0		80.0	48	130				
Naphthalene	3.4	0.10	5.0		69.0	43	114				
Phenanthrene	4.2	0.10	5.0		84.0	53	115				
Pyrene	4.0	0.10	5.0		81.0	53	121				

Associated Samples: **B22010148-001C**

Run ID: Run Order: SV5975.I_220110A: 42 **SampType:** Laboratory Control Sample Duplicate **Batch ID:** 162701
Method: SW8270CSIM **Analysis Date:** 01/10/2022 21:26 **Prep Date:** 01/04/2022 15:48
Lab ID: LLCSD-162701 **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1-Methylnaphthalene	3.9	0.10	5.0		78.0	41	115	3.8	1.5	40.0	
2-Methylnaphthalene	3.7	0.10	5.0		74.0	39	114	3.6	2.1	40.0	

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010148
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/24/2022

Run ID: Run Order: SV5975.I_220110A: 42 **SampType:** Laboratory Control Sample Duplicate **Batch ID:** 162701
Method: SW8270CSIM **Analysis Date:** 01/10/2022 21:26 **Prep Date:** 01/04/2022 15:48
Lab ID: LLCSD-162701 **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Acenaphthene	3.8	0.10	5.0		76.0	48	114	3.6	6.5	40.0	
Acenaphthylene	4.0	0.10	5.0		79.0	35	121	3.8	4.9	40.0	
Anthracene	4.5	0.10	5.0		91.0	53	119	4.5	1.5	40.0	
Benzo(a)anthracene	4.5	0.10	5.0		90.0	59	120	4.4	2.1	40.0	
Benzo(a)pyrene	4.0	0.10	5.0		80.0	53	120	4.0	0.6	40.0	
Benzo(b)fluoranthene	3.9	0.10	5.0		79.0	53	126	4.0	2.5	40.0	
Benzo(g,h,i)perylene	4.2	0.10	5.0		83.0	44	128	4.2	2.0	40.0	
Benzo(k)fluoranthene	4.0	0.10	5.0		81.0	54	125	4.2	2.9	40.0	
Chrysene	4.5	0.10	5.0		90.0	57	120	4.5	0.1	40.0	
Dibenzo(a,h)anthracene	4.2	0.10	5.0		85.0	44	141	4.2	1.6	40.0	
Fluoranthene	4.2	0.10	5.0		85.0	58	120	4.0	5.3	40.0	
Fluorene	4.1	0.10	5.0		83.0	50	118	4.1	1.9	40.0	
Indeno(1,2,3-cd)pyrene	4.0	0.10	5.0		81.0	48	130	4.0	0.3	40.0	
Naphthalene	3.4	0.10	5.0		69.0	43	114	3.4	0.0	40.0	
Phenanthrene	4.2	0.10	5.0		85.0	53	115	4.2	0.9	40.0	
Pyrene	4.1	0.10	5.0		82.0	53	121	4.0	2.4	40.0	

Associated Samples: **B22010148-001C**

- 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_220110B: 32 **SampType:** Sample Matrix Spike **Batch ID:** 162701
Method: SW8270CSIM **Analysis Date:** 01/11/2022 04:18 **Prep Date:** 01/05/2022 08:09
Lab ID: B22010141-001CLMS **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1-Methylnaphthalene	4.0	0.10	5.0	0.0	80.0	41	115				
2-Methylnaphthalene	3.9	0.10	5.0	0.0	77.0	39	114				
Acenaphthene	4.2	0.10	5.0	0.0	84.0	48	114				

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010148
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/24/2022

Run ID: Run Order: SV5975.I_220110B: 32 **SampType:** Sample Matrix Spike **Batch ID:** 162701
Method: SW8270CSIM **Analysis Date:** 01/11/2022 04:18 **Prep Date:** 01/05/2022 08:09
Lab ID: B22010141-001CLMS **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Acenaphthylene	4.5	0.10	5.0	0.0	89.0	35	121				
Anthracene	5.1	0.10	5.0	0.0	102.0	53	119				
Benzo(a)anthracene	5.1	0.10	5.0	0.0	102.0	59	120				
Benzo(a)pyrene	4.6	0.10	5.0	0.0	90.0	53	120				
Benzo(b)fluoranthene	4.6	0.10	5.0	0.0	90.0	53	126				
Benzo(g,h,i)perylene	4.8	0.10	5.0	0.0	96.0	44	128				
Benzo(k)fluoranthene	4.5	0.10	5.0	0.0	90.0	54	125				
Chrysene	5.1	0.10	5.0	0.0	101.0	57	120				
Dibenzo(a,h)anthracene	4.8	0.10	5.0	0.0	94.0	44	141				
Fluoranthene	4.9	0.10	5.0	0.0	97.0	58	120				
Fluorene	4.8	0.10	5.0	0.0	96.0	50	118				
Indeno(1,2,3-cd)pyrene	4.7	0.10	5.0	0.0	93.0	48	130				
Naphthalene	3.7	0.10	5.0	0.0	73.0	43	114				
Phenanthrene	4.8	0.10	5.0	0.0	96.0	53	115				
Pyrene	4.7	0.10	5.0	0.0	93.0	53	121				

Associated Samples: **B22010148-001C**

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010148
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/24/2022

Run ID: Run Order: SV5975.I_220110B: 24 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R372988
Method: SW8270CSIM **Analysis Date:** 01/10/2022 23:59 **Prep Date:**
Lab ID: 10-Jan-22_CCV_25 **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1-Methylnaphthalene	2.4	0.10	2.0		118.0	80	120				
2-Methylnaphthalene	2.1	0.10	2.0		105.0	80	120				
Acenaphthene	1.7	0.10	2.0		86.0	80	120				
Acenaphthylene	1.9	0.10	2.0		96.0	80	120				
Anthracene	2.1	0.10	2.0		103.0	80	120				
Benzo(a)anthracene	1.9	0.10	2.0		96.0	80	120				
Benzo(a)pyrene	1.9	0.10	2.0		94.0	80	120				
Benzo(b)fluoranthene	1.7	0.10	2.0		85.0	80	120				
Benzo(g,h,i)perylene	1.9	0.10	2.0		97.0	80	120				
Benzo(k)fluoranthene	2.0	0.10	2.0		100.0	80	120				
Chrysene	2.0	0.10	2.0		100.0	80	120				
Dibenzo(a,h)anthracene	1.8	0.10	2.0		90.0	80	120				
Fluoranthene	1.9	0.10	2.0		96.0	80	120				
Fluorene	2.0	0.10	2.0		101.0	80	120				
Indeno(1,2,3-cd)pyrene	1.7	0.10	2.0		84.0	80	120				
Naphthalene	1.9	0.10	2.0		97.0	80	120				
Phenanthrene	2.0	0.10	2.0		100.0	80	120				
Pyrene	1.8	0.10	2.0		92.0	80	120				

Associated Samples: **B22010148-001C**

Run ID: Run Order: SV5975.I_220110B: 45 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R372988
Method: SW8270CSIM **Analysis Date:** 01/11/2022 11:19 **Prep Date:**
Lab ID: 10-Jan-22_CCV_46 **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1-Methylnaphthalene	2.3	0.10	2.0		113.0	50	150				

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010148
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/24/2022

Run ID: Run Order: SV5975.I_220110B: 45 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R372988
Method: SW8270CSIM **Analysis Date:** 01/11/2022 11:19 **Prep Date:**
Lab ID: 10-Jan-22_CCV_46 **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
2-Methylnaphthalene	2.0	0.10	2.0		98.0	50	150				
Acenaphthene	1.7	0.10	2.0		86.0	50	150				
Acenaphthylene	1.9	0.10	2.0		96.0	50	150				
Anthracene	2.1	0.10	2.0		106.0	50	150				
Benzo(a)anthracene	1.9	0.10	2.0		96.0	50	150				
Benzo(a)pyrene	1.9	0.10	2.0		93.0	50	150				
Benzo(b)fluoranthene	1.8	0.10	2.0		90.0	50	150				
Benzo(g,h,i)perylene	2.0	0.10	2.0		102.0	50	150				
Benzo(k)fluoranthene	1.9	0.10	2.0		94.0	50	150				
Chrysene	2.1	0.10	2.0		103.0	50	150				
Dibenzo(a,h)anthracene	1.9	0.10	2.0		93.0	50	150				
Fluoranthene	1.9	0.10	2.0		94.0	50	150				
Fluorene	2.0	0.10	2.0		102.0	50	150				
Indeno(1,2,3-cd)pyrene	1.8	0.10	2.0		90.0	50	150				
Naphthalene	1.9	0.10	2.0		95.0	50	150				
Phenanthrene	2.0	0.10	2.0		101.0	50	150				
Pyrene	1.9	0.10	2.0		95.0	50	150				

Associated Samples: **B22010148-001C**

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010148
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/24/2022

Run ID: Run Order: SUB-C278588: 2 **SampType:** Method Blank **Batch ID:** C_R278588
Method: SW9060A **Analysis Date:** 01/07/2022 16:18 **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: **B22010148-001E**
- TOC Range is 0.0 to 0.0

Run ID: Run Order: SUB-C278588: 1 **SampType:** Laboratory Control Sample **Batch ID:** C_R278588
Method: SW9060A **Analysis Date:** 01/07/2022 15:37 **Prep Date:**
Lab ID: LCS **Units:** mg/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	5.1	0.50	5.0		101.0	91	111				

Associated Samples: **B22010148-001E**
- TOC Range is 5.0 to 5.1

Run ID: Run Order: SUB-C278588: 5 **SampType:** Sample Matrix Spike **Batch ID:** C_R278588
Method: SW9060A **Analysis Date:** 01/07/2022 18:16 **Prep Date:**
Lab ID: C22010116-001EMS **Units:** mg/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	5.4	0.50	5.0	0.25	103.0	91	111				

Associated Samples: **B22010148-001E**
- TOC Range is 5.3 to 5.4

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010148
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/24/2022

Run ID: Run Order: SUB-C278588: 6 **SampType:** Sample Matrix Spike Duplicate **Batch ID:** C_R278588
Method: SW9060A **Analysis Date:** 01/07/2022 18:57 **Prep Date:**
Lab ID: C22010116-001EMSD **Units:** mg/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	5.4	0.50	5.0	0.25	103.0	91	111	5.4	0.4	10.0	

Associated Samples: **B22010148-001E**
- TOC Range is 5.3 to 5.4

Run ID: Run Order: SUB-C278588: 3 **SampType:** Continuing Calibration Verification Standard **Batch ID:** C_R278588
Method: SW9060A **Analysis Date:** 01/07/2022 16:56 **Prep Date:**
Lab ID: CCV **Units:** mg/L **Prep Method:**

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

Associated Samples: **B22010148-001E**
- TOC Range is 5.1 to 5.1

Run ID: Run Order: SUB-C278588: 7 **SampType:** Continuing Calibration Verification Standard **Batch ID:** C_R278588
Method: SW9060A **Analysis Date:** 01/08/2022 01:51 **Prep Date:**
Lab ID: CCV **Units:** mg/L **Prep Method:**

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

Associated Samples: **B22010148-001E**
- TOC Range is 5.1 to 5.1

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010148
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/24/2022

Run ID: Run Order: ICPMS207-B_220106A: 20 **SampType:** Method Blank **Batch ID:** R372863
Method: SW6020 **Analysis Date:** 01/06/2022 13:32 **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: **B22010148-001A**

Run ID: Run Order: ICPMS207-B_220106A: 21 **SampType:** Laboratory Fortified Blank **Batch ID:** R372863
Method: SW6020 **Analysis Date:** 01/06/2022 13:38 **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		100.0	88	115				

Associated Samples: **B22010148-001A**

Run ID: Run Order: ICPMS207-B_220106A: 101 **SampType:** Sample Matrix Spike **Batch ID:** R372863
Method: SW6020 **Analysis Date:** 01/06/2022 21:45 **Prep Date:**
Lab ID: B22010096-001AMS **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				

Associated Samples: **B22010148-001A**

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010148
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/24/2022

Run ID: Run Order: ICPMS207-B_220106A: 102 **SampType:** Sample Matrix Spike Duplicate **Batch ID:** R372863
Method: SW6020 **Analysis Date:** 01/06/2022 21:51 **Prep Date:**
Lab ID: B22010096-001AMSD **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	0.049	0.4	20.0	

Associated Samples: **B22010148-001A**

Run ID: Run Order: ICPMS207-B_220106A: 100 **SampType:** Serial Dilution **Batch ID:** R372863
Method: SW6020 **Analysis Date:** 01/06/2022 21:38 **Prep Date:**
Lab ID: B22010096-001ADIL **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: **B22010148-001A**

Run ID: Run Order: ICPMS207-B_220106A: 32 **SampType:** Method Blank **Batch ID:** 162708
Method: SW6020 **Analysis Date:** 01/06/2022 14:46 **Prep Date:** 01/05/2022 08:36
Lab ID: MB-162708 **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: **B22010148-001B**

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010148
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/24/2022

Run ID: Run Order: ICPMS207-B_220106A: 37 **SampType:** Laboratory Control Sample **Batch ID:** 162708
Method: SW6020 **Analysis Date:** 01/06/2022 15:15 **Prep Date:** 01/05/2022 08:36
Lab ID: LCS4-162708 **Units:** mg/L **Prep Method:** SW3010A

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Lead	0.104	0.001	0.100		104.0	88	115				

Associated Samples: **B22010148-001B**

Run ID: Run Order: ICPMS207-B_220106A: 122 **SampType:** Sample Matrix Spike **Batch ID:** 162708
Method: SW6020 **Analysis Date:** 01/06/2022 23:52 **Prep Date:** 01/05/2022 08:37
Lab ID: B22010141-001BMS4 **Units:** mg/L **Prep Method:** SW3010A

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Lead	0.101	0.001	0.100	0	101.0	88	115				

Associated Samples: **B22010148-001B**

Run ID: Run Order: ICPMS207-B_220106A: 123 **SampType:** Sample Matrix Spike Duplicate **Batch ID:** 162708
Method: SW6020 **Analysis Date:** 01/06/2022 23:58 **Prep Date:** 01/05/2022 08:37
Lab ID: B22010141-001BMSD4 **Units:** mg/L **Prep Method:** SW3010A

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Lead	0.103	0.001	0.100	0	103.0	88	115	0.101	1.6	20.0	

Associated Samples: **B22010148-001B**

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010148
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/24/2022

Run ID: Run Order: ICPMS207-B_220106A: 121 **SampType:** Post Digestion/Distillation Spike **Batch ID:** 162708
Method: SW6020 **Analysis Date:** 01/06/2022 23:46 **Prep Date:** 01/05/2022 08:37
Lab ID: B22010141-001BPDS1 **Units:** mg/L **Prep Method:** SW3010A

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

Associated Samples: **B22010148-001B**

Run ID: Run Order: ICPMS207-B_220106A: 120 **SampType:** Serial Dilution **Batch ID:** 162708
Method: SW6020 **Analysis Date:** 01/06/2022 23:40 **Prep Date:** 01/05/2022 08:37
Lab ID: B22010141-001BDIL **Units:** mg/L **Prep Method:** SW3010A

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

Associated Samples: **B22010148-001B**

Run ID: Run Order: ICPMS207-B_220106A: 131 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R372863
Method: SW6020 **Analysis Date:** 01/07/2022 00:47 **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	0.051	0.001	0.050		103.0	90	110				

Associated Samples: **B22010148-001A, B22010148-001B**

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010148
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/24/2022

Run ID: Run Order: ICPMS207-B_220106A: 135 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R372863
Method: SW6020 **Analysis Date:** 01/07/2022 01:11 **Prep Date:**
Lab ID: CCV **Units:** mg/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Lead	0.052	0.001	0.050		104.0	90	110				

Associated Samples: **B22010148-001A, B22010148-001B**

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010148
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/24/2022

Run ID: Run Order: VOA5975C.I_220106A: 4 **SampType:** Method Blank **Batch ID:** R372994
Method: SW8260B **Analysis Date:** 01/06/2022 12:02 **Prep Date:**
Lab ID: MBLK010622_ **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: B22010148
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/24/2022

Run ID: Run Order: VOA5975C.I_220106A: 4 **SampType:** Method Blank **Batch ID:** R372994
Method: SW8260B **Analysis Date:** 01/06/2022 12:02 **Prep Date:**
Lab ID: MBLK010622_ **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		114.0	81	118				
Surr: Dibromofluoromethane	11	0.50	10		113.0	80	119				
Surr: p-Bromofluorobenzene	11	0.50	10		106.0	85	114				
Surr: Toluene-d8	11	0.50	10		107.0	89	112				

Associated Samples: **B22010148-001F, B22010148-002A**

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010148
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/24/2022

Run ID: Run Order: VOA5975C.I_220106A: 3 **SampType:** Laboratory Control Sample **Batch ID:** R372994
Method: SW8260B **Analysis Date:** 01/06/2022 11:07 **Prep Date:**
Lab ID: LCS010622_ **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Benzene	5.0	0.50	5.0		100.0	79	120				
Bromobenzene	5.3	0.50	5.0		106.0	80	120				
Bromochloromethane	5.2	0.50	5.0		104.0	78	123				
Bromodichloromethane	5.2	0.50	5.0		103.0	79	125				
Bromoform	5.3	0.50	5.0		106.0	66	130				
Carbon tetrachloride	4.7	0.50	5.0		94.0	72	136				
Chlorobenzene	5.0	0.50	5.0		101.0	82	118				
Chlorodibromomethane	5.0	0.50	5.0		99.0	74	126				
Chloroethane	4.4	0.50	5.0		88.0	60	138				
Chloroform	4.8	0.50	5.0		96.0	79	124				
Chloromethane	4.4	0.50	5.0		88.0	50	139				
1,2-Dibromoethane	5.1	0.50	5.0		101.0	78	122				
2-Chlorotoluene	5.2	0.50	5.0		103.0	79	122				
Dibromomethane	5.0	0.50	5.0		99.0	79	123				
1,2-Dichlorobenzene	5.1	0.50	5.0		102.0	80	119				
4-Chlorotoluene	5.3	0.50	5.0		106.0	78	122				
1,3-Dichlorobenzene	5.2	0.50	5.0		104.0	80	119				
1,4-Dichlorobenzene	5.0	0.50	5.0		101.0	79	118				
Dichlorodifluoromethane	4.1	0.50	5.0		83.0	32	152				
1,1-Dichloroethane	5.3	0.50	5.0		107.0	77	125				
1,2-Dichloroethane	4.9	0.50	5.0		99.0	73	128				
1,1-Dichloroethene	5.2	0.50	5.0		104.0	71	131				
cis-1,2-Dichloroethene	5.2	0.50	5.0		105.0	78	123				
trans-1,2-Dichloroethene	5.2	0.50	5.0		104.0	75	124				
1,2-Dichloropropane	4.8	0.50	5.0		97.0	78	122				
1,3-Dichloropropane	5.0	0.50	5.0		99.0	80	119				
2,2-Dichloropropane	5.2	0.50	5.0		104.0	60	139				

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010148
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/24/2022

Run ID: Run Order: VOA5975C.I_220106A: 3 **SampType:** Laboratory Control Sample **Batch ID:** R372994
Method: SW8260B **Analysis Date:** 01/06/2022 11:07 **Prep Date:**
Lab ID: LCS010622_ **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,1-Dichloropropene	4.7	0.50	5.0		93.0	79	125				
cis-1,3-Dichloropropene	4.8	0.50	5.0		96.0	75	124				
trans-1,3-Dichloropropene	5.2	0.50	5.0		104.0	73	127				
Ethylbenzene	4.9	0.50	5.0		98.0	79	121				
Methyl tert-butyl ether (MTBE)	5.2	0.50	5.0		105.0	71	124				
Methyl ethyl ketone	51	10	50		103.0	56	143				
Methylene chloride	4.9	0.50	5.0		98.0	74	124				
Styrene	5.2	0.50	5.0		104.0	78	123				
1,1,1,2-Tetrachloroethane	4.9	0.50	5.0		97.0	78	124				
1,1,2,2-Tetrachloroethane	5.2	0.50	5.0		104.0	71	121				
Tetrachloroethene	4.8	0.50	5.0		96.0	74	129				
Toluene	5.0	0.50	5.0		100.0	80	121				
1,1,1-Trichloroethane	4.9	0.50	5.0		97.0	74	131				
1,1,2-Trichloroethane	5.0	0.50	5.0		99.0	80	119				
Trichloroethene	5.0	0.50	5.0		100.0	79	123				
Trichlorofluoromethane	4.4	0.50	5.0		89.0	65	141				
1,2,3-Trichloropropane	4.8	0.50	5.0		97.0	73	125				
Vinyl chloride	4.7	0.50	5.0		94.0	58	137				
m+p-Xylenes	9.9	0.50	10		99.0	80	121				
o-Xylene	5.1	0.50	5.0		102.0	78	122				
Xylenes, Total	15	0.50	15		100.0	79	121				
Surr: 1,2-Dichloroethane-d4	12	0.50	10		116.0	81	118				
Surr: Dibromofluoromethane	11	0.50	10		113.0	80	119				
Surr: p-Bromofluorobenzene	11	0.50	10		106.0	85	114				
Surr: Toluene-d8	11	0.50	10		107.0	89	112				

Associated Samples: **B22010148-001F, B22010148-002A**

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010148
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/24/2022

Run ID: Run Order: VOA5975C.I_220106A: 21 **SampType:** Sample Matrix Spike **Batch ID:** R372994
Method: SW8260B **Analysis Date:** 01/06/2022 19:54 **Prep Date:**
Lab ID: B22010145-001FMS **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Benzene	5.2	0.50	5.0	0.0	104.0	79	120				
Bromobenzene	5.6	0.50	5.0	0.0	112.0	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	106.0	66	130				
Carbon tetrachloride	4.9	0.50	5.0	0.0	99.0	72	136				
Chlorobenzene	5.2	0.50	5.0	0.0	104.0	82	118				
Chlorodibromomethane	4.9	0.50	5.0	0.0	98.0	74	126				
Chloroethane	5.1	0.50	5.0	0.0	103.0	60	138				
Chloroform	4.9	0.50	5.0	0.0	98.0	79	124				
Chloromethane	4.2	0.50	5.0	0.0	84.0	50	139				
1,2-Dibromoethane	5.0	0.50	5.0	0.0	100.0	78	122				
2-Chlorotoluene	5.6	0.50	5.0	0.0	112.0	79	122				
Dibromomethane	4.9	0.50	5.0	0.0	98.0	79	123				
1,2-Dichlorobenzene	5.2	0.50	5.0	0.0	104.0	80	119				
4-Chlorotoluene	5.7	0.50	5.0	0.0	114.0	78	122				
1,3-Dichlorobenzene	5.3	0.50	5.0	0.0	107.0	80	119				
1,4-Dichlorobenzene	5.3	0.50	5.0	0.0	105.0	79	118				
Dichlorodifluoromethane	4.2	0.50	5.0	0.0	83.0	32	152				
1,1-Dichloroethane	5.5	0.50	5.0	0.0	109.0	77	125				
1,2-Dichloroethane	4.8	0.50	5.0	0.0	95.0	73	128				
1,1-Dichloroethene	5.3	0.50	5.0	0.0	106.0	71	131				
cis-1,2-Dichloroethene	5.3	0.50	5.0	0.0	106.0	78	123				
trans-1,2-Dichloroethene	5.3	0.50	5.0	0.0	107.0	75	124				
1,2-Dichloropropane	5.1	0.50	5.0	0.0	102.0	78	122				
1,3-Dichloropropane	5.0	0.50	5.0	0.0	100.0	80	119				
2,2-Dichloropropane	5.0	0.50	5.0	0.0	100.0	60	139				

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010148
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/24/2022

Run ID: Run Order: VOA5975C.I_220106A: 21 **SampType:** Sample Matrix Spike **Batch ID:** R372994
Method: SW8260B **Analysis Date:** 01/06/2022 19:54 **Prep Date:**
Lab ID: B22010145-001FMS **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				
cis-1,3-Dichloropropene	4.8	0.50	5.0	0.0	97.0	75	124				
trans-1,3-Dichloropropene	5.2	0.50	5.0	0.0	104.0	73	127				
Ethylbenzene	5.3	0.50	5.0	0.0	106.0	79	121				
Methyl tert-butyl ether (MTBE)	5.0	0.50	5.0	0.0	100.0	71	124				
Methyl ethyl ketone	45	10	50	0.0	90.0	56	143				
Methylene chloride	4.8	0.50	5.0	0.0	96.0	74	124				
Styrene	5.5	0.50	5.0	0.0	110.0	78	123				
1,1,1,2-Tetrachloroethane	5.0	0.50	5.0	0.0	101.0	78	124				
1,1,2,2-Tetrachloroethane	5.2	0.50	5.0	0.0	104.0	71	121				
Tetrachloroethene	5.1	0.50	5.0	0.0	102.0	74	129				
Toluene	5.3	0.50	5.0	0.0	107.0	80	121				
1,1,1-Trichloroethane	5.0	0.50	5.0	0.0	101.0	74	131				
1,1,2-Trichloroethane	5.1	0.50	5.0	0.0	102.0	80	119				
Trichloroethene	5.1	0.50	5.0	0.0	103.0	79	123				
Trichlorofluoromethane	4.7	0.50	5.0	0.0	93.0	65	141				
1,2,3-Trichloropropane	5.0	0.50	5.0	0.0	99.0	73	125				
Vinyl chloride	4.6	0.50	5.0	0.0	92.0	58	137				
m+p-Xylenes	10	0.50	10	0.0	104.0	80	121				
o-Xylene	5.4	0.50	5.0	0.0	109.0	78	122				
Xylenes, Total	16	0.50	15	0.0	105.0	79	121				
Surr: 1,2-Dichloroethane-d4	11	0.50	10	0.0	109.0	81	118				
Surr: Dibromofluoromethane	11	0.50	10	0.0	106.0	80	119				
Surr: p-Bromofluorobenzene	11	0.50	10	0.0	111.0	85	114				
Surr: Toluene-d8	11	0.50	10	0.0	109.0	89	112				

Associated Samples: **B22010148-001F, B22010148-002A**

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010148
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/24/2022

Run ID: Run Order: VOA5975C.I_220106A: 22 **SampType:** Sample Matrix Spike Duplicate **Batch ID:** R372994
Method: SW8260B **Analysis Date:** 01/06/2022 20:22 **Prep Date:**
Lab ID: B22010145-001FMSD **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Benzene	5.4	0.50	5.0	0.0	108.0	79	120	5.2	4.3	20.0	
Bromobenzene	5.8	0.50	5.0	0.0	116.0	80	120	5.6	3.8	20.0	
Bromochloromethane	5.3	0.50	5.0	0.0	106.0	78	123	4.9	7.9	20.0	
Bromodichloromethane	5.3	0.50	5.0	0.0	107.0	79	125	5.2	3.2	20.0	
Bromoform	5.5	0.50	5.0	0.0	110.0	66	130	5.3	3.5	20.0	
Carbon tetrachloride	5.3	0.50	5.0	0.0	106.0	72	136	4.9	6.7	20.0	
Chlorobenzene	5.6	0.50	5.0	0.0	111.0	82	118	5.2	6.5	20.0	
Chlorodibromomethane	5.1	0.50	5.0	0.0	102.0	74	126	4.9	3.8	20.0	
Chloroethane	5.4	0.50	5.0	0.0	109.0	60	138	5.1	5.3	20.0	
Chloroform	5.0	0.50	5.0	0.0	101.0	79	124	4.9	2.9	20.0	
Chloromethane	4.4	0.50	5.0	0.0	87.0	50	139	4.2	4.0	20.0	
1,2-Dibromoethane	5.2	0.50	5.0	0.0	105.0	78	122	5.0	4.4	20.0	
2-Chlorotoluene	5.8	0.50	5.0	0.0	116.0	79	122	5.6	3.9	20.0	
Dibromomethane	5.3	0.50	5.0	0.0	106.0	79	123	4.9	7.2	20.0	
1,2-Dichlorobenzene	5.5	0.50	5.0	0.0	109.0	80	119	5.2	4.3	20.0	
4-Chlorotoluene	5.9	0.50	5.0	0.0	118.0	78	122	5.7	4.1	20.0	
1,3-Dichlorobenzene	5.7	0.50	5.0	0.0	113.0	80	119	5.3	5.8	20.0	
1,4-Dichlorobenzene	5.5	0.50	5.0	0.0	109.0	79	118	5.3	3.8	20.0	
Dichlorodifluoromethane	4.4	0.50	5.0	0.0	88.0	32	152	4.2	5.7	20.0	
1,1-Dichloroethane	5.7	0.50	5.0	0.0	114.0	77	125	5.5	4.2	20.0	
1,2-Dichloroethane	4.9	0.50	5.0	0.0	98.0	73	128	4.8	3.1	20.0	
1,1-Dichloroethene	5.6	0.50	5.0	0.0	113.0	71	131	5.3	6.1	20.0	
cis-1,2-Dichloroethene	5.6	0.50	5.0	0.0	112.0	78	123	5.3	5.6	20.0	
trans-1,2-Dichloroethene	5.5	0.50	5.0	0.0	110.0	75	124	5.3	3.0	20.0	
1,2-Dichloropropane	5.5	0.50	5.0	0.0	110.0	78	122	5.1	6.8	20.0	
1,3-Dichloropropane	5.3	0.50	5.0	0.0	105.0	80	119	5.0	4.9	20.0	
2,2-Dichloropropane	5.3	0.50	5.0	0.0	105.0	60	139	5.0	5.1	20.0	

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010148
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/24/2022

Run ID: Run Order: VOA5975C.I_220106A: 22 **SampType:** Sample Matrix Spike Duplicate **Batch ID:** R372994
Method: SW8260B **Analysis Date:** 01/06/2022 20:22 **Prep Date:**
Lab ID: B22010145-001FMSD **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,1-Dichloropropene	5.2	0.50	5.0	0.0	103.0	79	125	5.0	3.7	20.0	
cis-1,3-Dichloropropene	5.1	0.50	5.0	0.0	102.0	75	124	4.8	4.6	20.0	
trans-1,3-Dichloropropene	5.5	0.50	5.0	0.0	110.0	73	127	5.2	6.0	20.0	
Ethylbenzene	5.6	0.50	5.0	0.0	112.0	79	121	5.3	5.9	20.0	
Methyl tert-butyl ether (MTBE)	5.6	0.50	5.0	0.0	112.0	71	124	5.0	12.0	20.0	
Methyl ethyl ketone	48	10	50	0.0	96.0	56	143	45	6.5	20.0	
Methylene chloride	5.0	0.50	5.0	0.0	100.0	74	124	4.8	4.8	20.0	
Styrene	5.8	0.50	5.0	0.0	116.0	78	123	5.5	5.4	20.0	
1,1,1,2-Tetrachloroethane	5.3	0.50	5.0	0.0	105.0	78	124	5.0	4.3	20.0	
1,1,2,2-Tetrachloroethane	5.5	0.50	5.0	0.0	110.0	71	121	5.2	5.7	20.0	
Tetrachloroethene	5.3	0.50	5.0	0.0	106.0	74	129	5.1	3.8	20.0	
Toluene	5.6	0.50	5.0	0.0	113.0	80	121	5.3	5.4	20.0	
1,1,1-Trichloroethane	5.3	0.50	5.0	0.0	107.0	74	131	5.0	6.2	20.0	
1,1,2-Trichloroethane	5.1	0.50	5.0	0.0	102.0	80	119	5.1	0.1	20.0	
Trichloroethene	5.3	0.50	5.0	0.0	107.0	79	123	5.1	4.0	20.0	
Trichlorofluoromethane	4.8	0.50	5.0	0.0	95.0	65	141	4.7	2.4	20.0	
1,2,3-Trichloropropane	5.4	0.50	5.0	0.0	107.0	73	125	5.0	8.0	20.0	
Vinyl chloride	4.9	0.50	5.0	0.0	97.0	58	137	4.6	5.2	20.0	
m+p-Xylenes	11	0.50	10	0.0	110.0	80	121	10	6.3	20.0	
o-Xylene	5.6	0.50	5.0	0.0	113.0	78	122	5.4	3.6	20.0	
Xylenes, Total	17	0.50	15	0.0	111.0	79	121	16	5.3	20.0	
Surr: 1,2-Dichloroethane-d4	11	0.50	10	0.0	108.0	81	118	0.0			
Surr: Dibromofluoromethane	11	0.50	10	0.0	105.0	80	119	0.0			
Surr: p-Bromofluorobenzene	11	0.50	10	0.0	111.0	85	114	0.0			
Surr: Toluene-d8	11	0.50	10	0.0	110.0	89	112	0.0			

Associated Samples: **B22010148-001F, B22010148-002A**

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010148
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/24/2022

Run ID: Run Order: VOA5975C.I_220106A: 2 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R372994
Method: SW8260B **Analysis Date:** 01/06/2022 10:27 **Prep Date:**
Lab ID: CCV010622_ **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Benzene	4.9	0.50	5.0		97.0	80	120				
Bromobenzene	4.9	0.50	5.0		99.0	80	120				
Bromochloromethane	5.0	0.50	5.0		100.0	80	120				
Bromodichloromethane	4.8	0.50	5.0		96.0	80	120				
Bromoform	4.9	0.50	5.0		97.0	80	120				
Carbon tetrachloride	4.6	0.50	5.0		93.0	80	120				
Chlorobenzene	4.9	0.50	5.0		98.0	80	120				
Chlorodibromomethane	4.9	0.50	5.0		99.0	80	120				
Chloroethane	5.2	0.50	5.0		103.0	80	120				
Chloroform	4.7	0.50	5.0		93.0	80	120				
Chloromethane	5.1	0.50	5.0		101.0	80	120				
1,2-Dibromoethane	5.0	0.50	5.0		99.0	80	120				
2-Chlorotoluene	5.0	0.50	5.0		100.0	80	120				
Dibromomethane	4.8	0.50	5.0		96.0	80	120				
1,2-Dichlorobenzene	4.8	0.50	5.0		95.0	80	120				
4-Chlorotoluene	4.9	0.50	5.0		99.0	80	120				
1,3-Dichlorobenzene	4.9	0.50	5.0		97.0	80	120				
1,4-Dichlorobenzene	4.7	0.50	5.0		94.0	80	120				
Dichlorodifluoromethane	5.1	0.50	5.0		102.0	80	120				
1,1-Dichloroethane	4.9	0.50	5.0		97.0	80	120				
1,2-Dichloroethane	4.8	0.50	5.0		97.0	80	120				
1,1-Dichloroethene	4.7	0.50	5.0		95.0	80	120				
cis-1,2-Dichloroethene	5.0	0.50	5.0		100.0	80	120				
trans-1,2-Dichloroethene	4.9	0.50	5.0		97.0	80	120				
1,2-Dichloropropane	4.8	0.50	5.0		97.0	80	120				
1,3-Dichloropropane	5.0	0.50	5.0		101.0	80	120				
2,2-Dichloropropane	4.7	0.50	5.0		95.0	80	120				

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010148
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/24/2022

Run ID: Run Order: VOA5975C.I_220106A: 2 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R372994
Method: SW8260B **Analysis Date:** 01/06/2022 10:27 **Prep Date:**
Lab ID: CCV010622_ **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,1-Dichloropropene	4.8	0.50	5.0		96.0	80	120				
cis-1,3-Dichloropropene	4.8	0.50	5.0		95.0	80	120				
trans-1,3-Dichloropropene	5.1	0.50	5.0		102.0	80	120				
Ethylbenzene	4.9	0.50	5.0		98.0	80	120				
Methyl tert-butyl ether (MTBE)	5.1	0.50	5.0		103.0	80	120				
Methyl ethyl ketone	48	10	50		97.0	80	120				
Methylene chloride	4.6	0.50	5.0		92.0	80	120				
Styrene	5.1	0.50	5.0		102.0	80	120				
1,1,1,2-Tetrachloroethane	4.9	0.50	5.0		99.0	80	120				
1,1,2,2-Tetrachloroethane	5.0	0.50	5.0		99.0	80	120				
Tetrachloroethene	4.8	0.50	5.0		95.0	80	120				
Toluene	4.9	0.50	5.0		99.0	80	120				
1,1,1-Trichloroethane	4.8	0.50	5.0		96.0	80	120				
1,1,2-Trichloroethane	4.7	0.50	5.0		95.0	80	120				
Trichloroethene	4.8	0.50	5.0		96.0	80	120				
Trichlorofluoromethane	4.9	0.50	5.0		99.0	80	120				
1,2,3-Trichloropropane	5.0	0.50	5.0		100.0	80	120				
Vinyl chloride	5.1	0.50	5.0		102.0	80	120				
m+p-Xylenes	10	0.50	10		100.0	80	120				
o-Xylene	4.9	0.50	5.0		98.0	80	120				
Xylenes, Total	15	0.50	15		99.0	80	120				
Surr: 1,2-Dichloroethane-d4	11	0.50	10		114.0	80	120				
Surr: Dibromofluoromethane	11	0.50	10		108.0	80	120				
Surr: p-Bromofluorobenzene	11	0.50	10		106.0	80	120				
Surr: Toluene-d8	11	0.50	10		111.0	80	120				

Associated Samples: **B22010148-001F, B22010148-002A**

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010148
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/24/2022

Run ID: Run Order: VOA5975C.I_220106A: 23 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R372994
Method: SW8260B **Analysis Date:** 01/06/2022 21:16 **Prep Date:**
Lab ID: CCV010622_Closing **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Benzene	5.4	0.50	5.0		108.0	50	150				
Bromobenzene	5.5	0.50	5.0		111.0	50	150				
Bromochloromethane	5.1	0.50	5.0		102.0	50	150				
Bromodichloromethane	5.4	0.50	5.0		108.0	50	150				
Bromoform	5.2	0.50	5.0		103.0	50	150				
Carbon tetrachloride	5.2	0.50	5.0		104.0	50	150				
Chlorobenzene	5.3	0.50	5.0		106.0	50	150				
Chlorodibromomethane	5.2	0.50	5.0		104.0	50	150				
Chloroethane	5.4	0.50	5.0		108.0	50	150				
Chloroform	5.2	0.50	5.0		105.0	50	150				
Chloromethane	4.7	0.50	5.0		95.0	50	150				
1,2-Dibromoethane	5.3	0.50	5.0		105.0	50	150				
2-Chlorotoluene	5.5	0.50	5.0		111.0	50	150				
Dibromomethane	5.2	0.50	5.0		104.0	50	150				
1,2-Dichlorobenzene	5.3	0.50	5.0		105.0	50	150				
4-Chlorotoluene	5.7	0.50	5.0		113.0	50	150				
1,3-Dichlorobenzene	5.4	0.50	5.0		108.0	50	150				
1,4-Dichlorobenzene	5.2	0.50	5.0		105.0	50	150				
Dichlorodifluoromethane	5.0	0.50	5.0		99.0	50	150				
1,1-Dichloroethane	5.3	0.50	5.0		106.0	50	150				
1,2-Dichloroethane	5.1	0.50	5.0		103.0	50	150				
1,1-Dichloroethene	5.2	0.50	5.0		105.0	50	150				
cis-1,2-Dichloroethene	5.4	0.50	5.0		107.0	50	150				
trans-1,2-Dichloroethene	5.3	0.50	5.0		106.0	50	150				
1,2-Dichloropropane	5.5	0.50	5.0		109.0	50	150				
1,3-Dichloropropane	5.4	0.50	5.0		108.0	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: B22010148
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/24/2022

Run ID: Run Order: VOA5975C.I_220106A: 23 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R372994
Method: SW8260B **Analysis Date:** 01/06/2022 21:16 **Prep Date:**
Lab ID: CCV010622_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		107.0	50	150				
cis-1,3-Dichloropropene	5.2	0.50	5.0		105.0	50	150				
trans-1,3-Dichloropropene	5.4	0.50	5.0		108.0	50	150				
Ethylbenzene	5.4	0.50	5.0		108.0	50	150				
Methyl tert-butyl ether (MTBE)	5.0	0.50	5.0		99.0	50	150				
Methyl ethyl ketone	52	10	50		104.0	50	150				
Methylene chloride	4.8	0.50	5.0		96.0	50	150				
Styrene	5.6	0.50	5.0		112.0	50	150				
1,1,1,2-Tetrachloroethane	5.2	0.50	5.0		104.0	50	150				
1,1,2,2-Tetrachloroethane	5.4	0.50	5.0		109.0	50	150				
Tetrachloroethene	5.2	0.50	5.0		103.0	50	150				
Toluene	5.4	0.50	5.0		109.0	50	150				
1,1,1-Trichloroethane	5.3	0.50	5.0		106.0	50	150				
1,1,2-Trichloroethane	5.2	0.50	5.0		103.0	50	150				
Trichloroethene	5.3	0.50	5.0		106.0	50	150				
Trichlorofluoromethane	4.9	0.50	5.0		97.0	50	150				
1,2,3-Trichloropropane	5.1	0.50	5.0		102.0	50	150				
Vinyl chloride	5.0	0.50	5.0		100.0	50	150				
m+p-Xylenes	11	0.50	10		111.0	50	150				
o-Xylene	5.5	0.50	5.0		109.0	50	150				
Xylenes, Total	17	0.50	15		110.0	50	150				
Surr: 1,2-Dichloroethane-d4	11	0.50	10		108.0	50	150				
Surr: Dibromofluoromethane	11	0.50	10		107.0	50	150				
Surr: p-Bromofluorobenzene	11	0.50	10		107.0	50	150				
Surr: Toluene-d8	11	0.50	10		110.0	50	150				

Associated Samples: **B22010148-001F, B22010148-002A**

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010148
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/24/2022

Run ID: Run Order: GECD.I_220106A: 10 **SampType:** Method Blank **Batch ID:** 162706
Method: SW8011 **Analysis Date:** 01/06/2022 15:12 **Prep Date:** 01/05/2022 08:19
Lab ID: MB-162706 **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	0.083	0.020	0.10		83.0	70	130				

Associated Samples: **B22010148-001H, B22010148-004A**

Run ID: Run Order: GECD.I_220106A: 11 **SampType:** Laboratory Control Sample **Batch ID:** 162706
Method: SW8011 **Analysis Date:** 01/06/2022 15:31 **Prep Date:** 01/05/2022 08:19
Lab ID: LCS-162706 **Units:** ug/L **Prep Method:** SW8011

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.26	0.010	0.25		104.0	60	140				
Surr: 1,1,1,2-Tetrachloroethane	0.085	0.020	0.10		85.0	70	130				

Associated Samples: **B22010148-001H, B22010148-004A**

Run ID: Run Order: GECD.I_220106A: 12 **SampType:** Laboratory Control Sample **Batch ID:** 162706
Method: SW8011 **Analysis Date:** 01/06/2022 15:51 **Prep Date:** 01/05/2022 08:19
Lab ID: LCS1-162706 **Units:** ug/L **Prep Method:** SW8011

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.097	0.010	0.10		97.0	60	140				
Surr: 1,1,1,2-Tetrachloroethane	0.085	0.020	0.10		85.0	70	130				

Associated Samples: **B22010148-001H, B22010148-004A**

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010148
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/24/2022

Run ID: Run Order: GECD.I_220106A: 22 **SampType:** Sample Matrix Spike **Batch ID:** 162706
Method: SW8011 **Analysis Date:** 01/06/2022 19:31 **Prep Date:** 01/05/2022 08:20
Lab ID: B22010148-001HMS **Units:** ug/L **Prep Method:** SW8011

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

Associated Samples: **B22010148-001H, B22010148-004A**

Run ID: Run Order: GECD.I_220106A: 23 **SampType:** Sample Matrix Spike Duplicate **Batch ID:** 162706
Method: SW8011 **Analysis Date:** 01/06/2022 19:51 **Prep Date:** 01/05/2022 08:20
Lab ID: B22010148-001HMSD **Units:** ug/L **Prep Method:** SW8011

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.26	0.010	0.24	0.0	107.0	60	140	0.26	1.0	20.0	
Surr: 1,1,1,2-Tetrachloroethane	0.095	0.020	0.097	0.0	98.0	70	130	0.0			

Associated Samples: **B22010148-001H, B22010148-004A**

Run ID: Run Order: GECD.I_220106A: 9 **SampType:** Continuing Calibration Verification Standard **Batch ID:** 162706
Method: SW8011 **Analysis Date:** 01/06/2022 14:51 **Prep Date:** 01/05/2022 08:19
Lab ID: CK3-162706 **Units:** ug/L **Prep Method:** SW8011

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.11	0.010	0.10		109.0	80	120				
Surr: 1,1,1,2-Tetrachloroethane	0.096	0.020	0.10		96.0	80	120				

Associated Samples: **B22010148-001H, B22010148-004A**

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010148
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/24/2022

Run ID: Run Order: GECD.I_220106A: 24 **SampType:** Continuing Calibration Verification Standard **Batch ID:** 162706
Method: SW8011 **Analysis Date:** 01/06/2022 20:31 **Prep Date:** 01/05/2022 08:20
Lab ID: CK5-162706 **Units:** ug/L **Prep Method:** SW8011

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.45	0.010	0.40		112.0	80	120				
Surr: 1,1,1,2-Tetrachloroethane	0.48	0.020	0.40		119.0	80	120				

Associated Samples: **B22010148-001H, B22010148-004A**

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010148
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/24/2022

Run ID: Run Order: PE 1_220104A: 47 **SampType:** Method Blank **Batch ID:** R372703
Method: SW8015C **Analysis Date:** 01/05/2022 22:55 **Prep Date:**
Lab ID: MBLK_0104PE164r **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	18	1.0	25		74.0	70	130				

Associated Samples: **B22010148-001G, B22010148-003A**

Run ID: Run Order: PE 1_220104A: 58 **SampType:** Method Blank **Batch ID:** R372703
Method: SW8015C **Analysis Date:** 01/06/2022 09:45 **Prep Date:**
Lab ID: MBLK_0104PE183r **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	18	1.0	25		73.0	70	130				

Associated Samples: **B22010148-001G, B22010148-003A**

Run ID: Run Order: PE 1_220104A: 46 **SampType:** Laboratory Control Sample **Batch ID:** R372703
Method: SW8015C **Analysis Date:** 01/05/2022 22:21 **Prep Date:**
Lab ID: LCS_0104PE163r **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
C6 to C10	168	20	170		99.0	78	122				
Total Purgeable Hydrocarbons	201	20	200		100.0	70	130				
Surr: Trifluorotoluene	21	1.0	25		85.0	70	130				

Associated Samples: **B22010148-001G, B22010148-003A**

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010148
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/24/2022

Run ID: Run Order: PE 1_220104A: 57 **SampType:** Laboratory Control Sample **Batch ID:** R372703
Method: SW8015C **Analysis Date:** 01/06/2022 09:11 **Prep Date:**
Lab ID: LCS_0104PE182r **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
C6 to C10	159	20	170		94.0	78	122				
Total Purgeable Hydrocarbons	190	20	200		95.0	70	130				
Surr: Trifluorotoluene	21	1.0	25		85.0	70	130				

Associated Samples: **B22010148-001G, B22010148-003A**

Run ID: Run Order: PE 1_220104A: 42 **SampType:** Sample Matrix Spike **Batch ID:** R372703
Method: SW8015C **Analysis Date:** 01/05/2022 20:05 **Prep Date:**
Lab ID: B22010096-001GMS **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
C6 to C10	163	20	170	0.0	96.0	78	122				
Total Purgeable Hydrocarbons	195	20	200	0.0	98.0	70	130				
Surr: Trifluorotoluene	21	1.0	25	0.0	85.0	70	130				

Associated Samples: **B22010148-001G, B22010148-003A**

Run ID: Run Order: PE 1_220104A: 43 **SampType:** Sample Matrix Spike Duplicate **Batch ID:** R372703
Method: SW8015C **Analysis Date:** 01/05/2022 20:39 **Prep Date:**
Lab ID: B22010096-001GMSD **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
C6 to C10	165	20	170	0.0	97.0	78	122	163	0.9	20.0	
Total Purgeable Hydrocarbons	198	20	200	0.0	99.0	70	130	195	1.1	20.0	
Surr: Trifluorotoluene	22	1.0	25	0.0	86.0	70	130	0.0			

Associated Samples: **B22010148-001G, B22010148-003A**

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010148
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/24/2022

Run ID: Run Order: GCFID-HP5-B_220106A: 5 **SampType:** Method Blank **Batch ID:** 162703
Method: SW8015C **Analysis Date:** 01/06/2022 13:32 **Prep Date:** 01/04/2022 16:45
Lab ID: MB-162703 **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	0.23	0.0020	0.20		114.0	56	125				
Surr: n-Triacontane	0.13	0.0020	0.10		129.0	50	150				

Associated Samples: **B22010148-001D**

Run ID: Run Order: GCFID-HP5-B_220106B: 5 **SampType:** Method Blank **Batch ID:** 162703
Method: SW8015C **Analysis Date:** 01/07/2022 22:27 **Prep Date:** 01/04/2022 16:45
Lab ID: MB-162703 **Units:** mg/L **Prep Method:** SW3520C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Diesel Range Organics (SGT-C10 to C24)	ND	0.15									
Oil Range Hydrocarbons (SGT-C24 to C40)	ND	0.15									
Total Extractable Hydrocarbons (SGT)	ND	0.15									
Surr: o-Terphenyl (SGT)	0.24	0.0020	0.20		122.0	56	125				
Surr: n-Triacontane (SGT)	0.13	0.0020	0.10		132.0	50	150				

Associated Samples: **B22010148-001D**

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010148
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/24/2022

Run ID: Run Order: GCFID-HP5-B_220106A: 3 **SampType:** Laboratory Control Sample **Batch ID:** 162703
Method: SW8015C **Analysis Date:** 01/06/2022 12:06 **Prep Date:** 01/04/2022 16:45
Lab ID: LCS-162703 **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)	17	0.30	15		116.0	36	132				
Total Extractable Hydrocarbons	19	0.30	15		124.0	60	132				
Surr: o-Terphenyl	0.24	0.0020	0.20		119.0	56	125				

Associated Samples: **B22010148-001D**

Run ID: Run Order: GCFID-HP5-B_220106A: 4 **SampType:** Laboratory Control Sample Duplicate **Batch ID:** 162703
Method: SW8015C **Analysis Date:** 01/06/2022 12:49 **Prep Date:** 01/04/2022 16:45
Lab ID: LCSD-162703 **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)	16	0.30	15		108.0	36	132	17	7.3	20.0	
Total Extractable Hydrocarbons	17	0.30	15		115.0	60	132	19	7.3	20.0	
Surr: o-Terphenyl	0.23	0.0020	0.20		114.0	56	125	0.0			

Associated Samples: **B22010148-001D**

Run ID: Run Order: GCFID-HP5-B_220106A: 28 **SampType:** Laboratory Control Sample **Batch ID:** 162703
Method: SW8015C **Analysis Date:** 01/07/2022 12:16 **Prep Date:** 01/04/2022 16:45
Lab ID: LCS-162703-RRO **Units:** mg/L **Prep Method:** SW3520C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
TEH(Oil Range)	5.5	0.30	5.0		110.0	41	113				
Surr: n-Triacontane	0.11	0.0020	0.10		110.0	50	150				

Associated Samples: **B22010148-001D**

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010148
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/24/2022

Run ID: Run Order: GCFID-HP5-B_220106A: 29 **SampType:** Laboratory Control Sample Duplicate **Batch ID:** 162703
Method: SW8015C **Analysis Date:** 01/07/2022 13:01 **Prep Date:** 01/04/2022 16:45
Lab ID: LCSD-162703-RRO **Units:** mg/L **Prep Method:** SW3520C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
TEH(Oil Range)	5.7	0.30	5.0		113.0	41	113	5.5	2.7	20.0	
Surr: n-Triacontane	0.11	0.0020	0.10		114.0	50	150	0.0			

Associated Samples: **B22010148-001D**

Run ID: Run Order: GCFID-HP5-B_220106B: 3 **SampType:** Laboratory Control Sample **Batch ID:** 162703
Method: SW8015C **Analysis Date:** 01/07/2022 21:00 **Prep Date:** 01/04/2022 16:45
Lab ID: LCS-162703 **Units:** mg/L **Prep Method:** SW3520C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Diesel Range Organics (SGT-C10 to C24)	17	0.30	15		116.0	36	132				
Total Extractable Hydrocarbons (SGT)	18	0.30	15		123.0	60	132				
Surr: o-Terphenyl (SGT)	0.25	0.0020	0.20		123.0	56	125				

Associated Samples: **B22010148-001D**

Run ID: Run Order: GCFID-HP5-B_220106B: 4 **SampType:** Laboratory Control Sample Duplicate **Batch ID:** 162703
Method: SW8015C **Analysis Date:** 01/07/2022 21:44 **Prep Date:** 01/04/2022 16:45
Lab ID: LCSD-162703 **Units:** mg/L **Prep Method:** SW3520C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Diesel Range Organics (SGT-C10 to C24)	16	0.30	15		105.0	36	132	17	10.0	20.0	
Total Extractable Hydrocarbons (SGT)	17	0.30	15		112.0	60	132	18	10.0	20.0	
Surr: o-Terphenyl (SGT)	0.23	0.0020	0.20		115.0	56	125	0.0			

Associated Samples: **B22010148-001D**

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010148
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/24/2022

Run ID: Run Order: GCFID-HP5-B_220106B: 22 **SampType:** Laboratory Control Sample **Batch ID:** 162703
Method: SW8015C **Analysis Date:** 01/08/2022 13:42 **Prep Date:** 01/04/2022 16:45
Lab ID: LCS-162703-RRO **Units:** mg/L **Prep Method:** SW3520C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
TEH (SGT-Oil Range)	4.9	0.30	5.0		97.0	41	113				
Surr: n-Triacontane (SGT)	0.094	0.0020	0.10		94.0	50	150				

Associated Samples: **B22010148-001D**

Run ID: Run Order: GCFID-HP5-B_220106B: 23 **SampType:** Laboratory Control Sample Duplicate **Batch ID:** 162703
Method: SW8015C **Analysis Date:** 01/08/2022 15:08 **Prep Date:** 01/04/2022 16:45
Lab ID: LCSD-162703-RRO **Units:** mg/L **Prep Method:** SW3520C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
TEH (SGT-Oil Range)	5.1	0.30	5.0		102.0	41	113	4.9	4.8	20.0	
Surr: n-Triacontane (SGT)	0.098	0.0020	0.10		98.0	50	150	0.0			

Associated Samples: **B22010148-001D**

Run ID: Run Order: GCFID-HP5-B_220106A: 8 **SampType:** Sample Matrix Spike **Batch ID:** 162703
Method: SW8015C **Analysis Date:** 01/06/2022 15:42 **Prep Date:** 01/04/2022 16:45
Lab ID: B22010096-001DMS **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)	16	0.30	15	0.0	110.0	36	132				
Total Extractable Hydrocarbons	17	0.30	15	0.0	119.0	60	132				
Surr: o-Terphenyl	0.22	0.0020	0.19	0.0	113.0	56	125				

Associated Samples: **B22010148-001D**

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010148
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/24/2022

Run ID: Run Order: GCFID-HP5-B_220106A: 30 **SampType:** Sample Matrix Spike **Batch ID:** 162703
Method: SW8015C **Analysis Date:** 01/07/2022 13:44 **Prep Date:** 01/04/2022 16:45
Lab ID: B22010120-001DMS-RRO **Units:** mg/L **Prep Method:** SW3520C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
TEH(Oil Range)	5.8	0.30	4.9	0.80	103.0	41	113				
Surr: n-Triacontane	0.11	0.0020	0.097	0.0	111.0	50	150				

Associated Samples: **B22010148-001D**

Run ID: Run Order: GCFID-HP5-B_220106B: 8 **SampType:** Sample Matrix Spike **Batch ID:** 162703
Method: SW8015C **Analysis Date:** 01/08/2022 00:39 **Prep Date:** 01/04/2022 16:45
Lab ID: B22010096-001DMS **Units:** mg/L **Prep Method:** SW3520C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Diesel Range Organics (SGT-C10 to C24)	15	0.30	15	0.0	105.0	36	132				
Total Extractable Hydrocarbons (SGT)	16	0.30	15	0.0	111.0	60	132				
Surr: o-Terphenyl (SGT)	0.23	0.0020	0.19	0.0	117.0	56	125				

Associated Samples: **B22010148-001D**

Run ID: Run Order: GCFID-HP5-B_220106B: 24 **SampType:** Sample Matrix Spike **Batch ID:** 162703
Method: SW8015C **Analysis Date:** 01/08/2022 16:34 **Prep Date:** 01/04/2022 16:45
Lab ID: B22010120-001DMS-RRO **Units:** mg/L **Prep Method:** SW3520C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
TEH (SGT-Oil Range)	5.1	0.30	4.9	0.0	105.0	41	113				
Surr: n-Triacontane (SGT)	0.10	0.0020	0.097	0.0	104.0	50	150				

Associated Samples: **B22010148-001D**

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010148
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/24/2022

Run ID: Run Order: PE 1_220104A: 45 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R372703
Method: SW8015C **Analysis Date:** 01/05/2022 21:47 **Prep Date:**
Lab ID: CCV_0104PE162r **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
C6 to C10	177	20	168		105.0	80	120				
Total Purgeable Hydrocarbons	212	20	200		106.0	80	120				
Surr: Trifluorotoluene	21	1.0	25		85.0	80	120				

Associated Samples: **B22010148-001G, B22010148-003A**

Run ID: Run Order: PE 1_220104A: 56 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R372703
Method: SW8015C **Analysis Date:** 01/06/2022 08:37 **Prep Date:**
Lab ID: CCV_0104PE181r **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
C6 to C10	168	20	168		100.0	80	120				
Total Purgeable Hydrocarbons	203	20	200		101.0	80	120				
Surr: Trifluorotoluene	21	1.0	25		84.0	80	120				

Associated Samples: **B22010148-001G, B22010148-003A**

Run ID: Run Order: PE 1_220104A: 67 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R372703
Method: SW8015C **Analysis Date:** 01/06/2022 14:53 **Prep Date:**
Lab ID: CCV_0104PE192r **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
C6 to C10	183	20	168		109.0	80	120				
Total Purgeable Hydrocarbons	219	20	200		110.0	80	120				
Surr: Trifluorotoluene	22	1.0	25		87.0	80	120				

Associated Samples: **B22010148-001G, B22010148-003A**

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010148
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/24/2022

Run ID: Run Order: GCFID-HP5-B_220106A: 1 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R372834
Method: SW8015C **Analysis Date:** 01/06/2022 09:56 **Prep Date:**
Lab ID: CCV_0106HP504r-W **Units:** mg/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
TEH(Oil Range)	4.5	0.30	5.0		90.0	80	120				
Surr: n-Triacontane	0.21	0.0020	0.20		103.0	80	120				

Associated Samples: **B22010148-001D**

Run ID: Run Order: GCFID-HP5-B_220106A: 2 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R372834
Method: SW8015C **Analysis Date:** 01/06/2022 10:40 **Prep Date:**
Lab ID: CCV_0106HP505r **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)	17	0.30	15		111.0	80	120				
Total Extractable Hydrocarbons	17	0.30	15		115.0	80	120				
Surr: o-Terphenyl	0.22	0.0020	0.20		110.0	80	120				

Associated Samples: **B22010148-001D**

Run ID: Run Order: GCFID-HP5-B_220106A: 12 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R372834
Method: SW8015C **Analysis Date:** 01/06/2022 20:03 **Prep Date:**
Lab ID: CCV_0106HP518r-W **Units:** mg/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
TEH(Oil Range)	4.9	0.30	5.0		97.0	80	120				
Surr: n-Triacontane	0.21	0.0020	0.20		103.0	80	120				

Associated Samples: **B22010148-001D**

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010148
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/24/2022

Run ID: Run Order: GCFID-HP5-B_220106A: 13 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R372834
Method: SW8015C **Analysis Date:** 01/06/2022 20:47 **Prep Date:**
Lab ID: CCV_0106HP519r **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		102.0	80	120				
Total Extractable Hydrocarbons	16	0.30	15		106.0	80	120				
Surr: o-Terphenyl	0.20	0.0020	0.20		101.0	80	120				

Associated Samples: **B22010148-001D**

Run ID: Run Order: GCFID-HP5-B_220106B: 1 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R372779
Method: SW8015C **Analysis Date:** 01/07/2022 18:48 **Prep Date:**
Lab ID: CCV_0106HP549r-W **Units:** mg/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
TEH(Oil Range)	5.2	0.30	5.0		104.0	80	120				
Surr: n-Triacontane	0.22	0.0020	0.20		110.0	80	120				

Associated Samples: **B22010148-001D**

Run ID: Run Order: GCFID-HP5-B_220106B: 2 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R372779
Method: SW8015C **Analysis Date:** 01/07/2022 19:32 **Prep Date:**
Lab ID: CCV_0106HP550r **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)	16	0.30	15		106.0	80	120				
Total Extractable Hydrocarbons	16	0.30	15		110.0	80	120				
Surr: o-Terphenyl	0.21	0.0020	0.20		105.0	80	120				

Associated Samples: **B22010148-001D**

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010148
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/24/2022

Run ID: Run Order: GCFID-HP5-B_220106B: 14 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R372779
Method: SW8015C **Analysis Date:** 01/08/2022 06:28 **Prep Date:**
Lab ID: CCV_0106HP565r-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	0.21	0.0020	0.20		104.0	80	120				

Associated Samples: **B22010148-001D**

Run ID: Run Order: GCFID-HP5-B_220106B: 15 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R372779
Method: SW8015C **Analysis Date:** 01/08/2022 07:12 **Prep Date:**
Lab ID: CCV_0106HP566r **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)	16	0.30	15		107.0	80	120				
Total Extractable Hydrocarbons	17	0.30	15		111.0	80	120				
Surr: o-Terphenyl	0.21	0.0020	0.20		106.0	80	120				

Associated Samples: **B22010148-001D**

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010148
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/24/2022

Run ID: Run Order: FID-HEADSPACE_220105A: 4 **SampType:** Method Blank **Batch ID:** R372735
Method: SW8015M **Analysis Date:** 01/05/2022 10:31 **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: **B22010148-001I, B22010148-005A**

Run ID: Run Order: FID-HEADSPACE_220105A: 2 **SampType:** Laboratory Control Sample **Batch ID:** R372735
Method: SW8015M **Analysis Date:** 01/05/2022 09:01 **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	99	2.0	100		99.0	85	115				

Associated Samples: **B22010148-001I, B22010148-005A**

Run ID: Run Order: FID-HEADSPACE_220105A: 3 **SampType:** Laboratory Control Sample Duplicate **Batch ID:** R372735
Method: SW8015M **Analysis Date:** 01/05/2022 09:07 **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	99	1.4	20.0	

Associated Samples: **B22010148-001I, B22010148-005A**

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010148
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/24/2022

Run ID: Run Order: FID-HEADSPACE_220105A: 10 **SampType:** Sample Duplicate **Batch ID:** R372735
Method: SW8015M **Analysis Date:** 01/05/2022 11:09 **Prep Date:**
Lab ID: B22010134-001IDUP **Units:** mg/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Methane	0.015	0.0020			0.0			0.015	0.7	20.0	

Associated Samples: **B22010148-001I, B22010148-005A**

Run ID: Run Order: FID-HEADSPACE_220105A: 1 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R372735
Method: SW8015M **Analysis Date:** 01/05/2022 08:57 **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	100	2.0	100		100.0	85	115				

Associated Samples: **B22010148-001I, B22010148-005A**

Run ID: Run Order: FID-HEADSPACE_220105A: 22 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R372735
Method: SW8015M **Analysis Date:** 01/05/2022 12:35 **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	100	2.0	100		100.0	85	115				

Associated Samples: **B22010148-001I, B22010148-005A**

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010148
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/24/2022

Run ID: Run Order: SV5973N.I_220114A: 4 **SampType:** Method Blank **Batch ID:** 162701
Method: SW8270C **Analysis Date:** 01/14/2022 14:40 **Prep Date:** 01/04/2022 15:47
Lab ID: MB-162701 **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	ND	5.0									
1,2-Dichlorobenzene	ND	5.0									
1,3-Dichlorobenzene	ND	5.0									
1,4-Dichlorobenzene	ND	5.0									
1-Methylnaphthalene	ND	5.0									
2,4,5-Trichlorophenol	ND	5.0									
2,4,6-Trichlorophenol	ND	5.0									
2,4-Dichlorophenol	ND	5.0									
2,4-Dimethylphenol	ND	5.0									
2,4-Dinitrophenol	ND	10									
2,4-Dinitrotoluene	ND	5.0									
2,6-Dinitrotoluene	ND	5.0									
2-Chloronaphthalene	ND	5.0									
2-Chlorophenol	ND	5.0									
2-Methylnaphthalene	ND	5.0									
2-Nitrophenol	ND	5.0									
3,3´-Dichlorobenzidine	ND	10									
4,6-Dinitro-2-methylphenol	ND	10									
4-Bromophenyl phenyl ether	ND	5.0									
4-Chloro-3-methylphenol	ND	5.0									
4-Chlorophenol	ND	5.0									
4-Chlorophenyl phenyl ether	ND	5.0									
4-Nitrophenol	ND	10									
Acenaphthene	ND	5.0									
Acenaphthylene	ND	5.0									
Anthracene	ND	5.0									
Azobenzene	ND	5.0									

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010148
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/24/2022

Run ID: Run Order: SV5973N.I_220114A: 4 **SampType:** Method Blank **Batch ID:** 162701
Method: SW8270C **Analysis Date:** 01/14/2022 14:40 **Prep Date:** 01/04/2022 15:47
Lab ID: MB-162701 **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Benzo(a)anthracene	ND	5.0									
Benzo(a)pyrene	ND	5.0									
Benzo(b)fluoranthene	ND	5.0									
Benzo(g,h,i)perylene	ND	5.0									
Benzo(k)fluoranthene	ND	5.0									
bis(-2-chloroethoxy)Methane	ND	5.0									
bis(-2-chloroethyl)Ether	ND	5.0									
bis(2-chloroisopropyl)Ether	ND	5.0									
bis(2-ethylhexyl)Phthalate	ND	5.0									
Butylbenzylphthalate	ND	5.0									
Chrysene	ND	5.0									
Dibenzo(a,h)anthracene	ND	5.0									
Diethyl phthalate	ND	5.0									
Dimethyl phthalate	ND	5.0									
Di-n-butyl phthalate	ND	5.0									
Di-n-octyl phthalate	ND	5.0									
Fluoranthene	ND	5.0									
Fluorene	ND	5.0									
Hexachlorobenzene	ND	5.0									
Hexachlorobutadiene	ND	5.0									
Hexachlorocyclopentadiene	ND	5.0									
Hexachloroethane	ND	5.0									
Indeno(1,2,3-cd)pyrene	ND	5.0									
Isophorone	ND	5.0									
m+p-Cresols	ND	5.0									
Naphthalene	ND	5.0									
Nitrobenzene	ND	5.0									

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010148
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/24/2022

Run ID: Run Order: SV5973N.I_220114A: 4 **SampType:** Method Blank **Batch ID:** 162701
Method: SW8270C **Analysis Date:** 01/14/2022 14:40 **Prep Date:** 01/04/2022 15:47
Lab ID: MB-162701 **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
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									
Phenanthrene	ND	5.0									
Phenol	ND	5.0									
Pyrene	ND	5.0									
Pyridine	ND	5.0									
Surr: 2,4,6-Tribromophenol	149	5.0	200		74.0	43	140				
Surr: 2-Fluorobiphenyl	61	5.0	100		61.0	44	119				
Surr: 2-Fluorophenol	68	5.0	200		34.0	19	119				
Surr: Nitrobenzene-d5	73	5.0	100		73.0	44	120				
Surr: Phenol-d5	77	5.0	200		38.0	10	65				
Surr: Terphenyl-d14	92	5.0	100		92.0	50	134				

Associated Samples: **B22010148-001C**

Run ID: Run Order: SV5973N.I_220114A: 5 **SampType:** Laboratory Control Sample **Batch ID:** 162701
Method: SW8270C **Analysis Date:** 01/14/2022 15:13 **Prep Date:** 01/04/2022 15:47
Lab ID: LCS-162701 **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	67	10	100		67.0	29	116				
1,2-Dichlorobenzene	64	10	100		64.0	32	111				
1,3-Dichlorobenzene	62	10	100		62.0	28	110				
1,4-Dichlorobenzene	60	10	100		60.0	29	112				

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010148
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/24/2022

Run ID: Run Order: SV5973N.I_220114A: 5 **SampType:** Laboratory Control Sample **Batch ID:** 162701
Method: SW8270C **Analysis Date:** 01/14/2022 15:13 **Prep Date:** 01/04/2022 15:47
Lab ID: LCS-162701 **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1-Methylnaphthalene	77	10	100		77.0	41	119				
2,4,5-Trichlorophenol	70	10	100		70.0	53	123				
2,4,6-Trichlorophenol	77	10	100		77.0	50	125				
2,4-Dichlorophenol	71	10	100		71.0	47	121				
2,4-Dimethylphenol	67	10	100		67.0	31	124				
2,4-Dinitrophenol	75	10	100		75.0	23	142				
2,4-Dinitrotoluene	84	10	100		84.0	57	128				
2,6-Dinitrotoluene	75	10	100		75.0	50	118				
2-Chloronaphthalene	72	10	100		72.0	40	116				
2-Chlorophenol	69	10	100		69.0	38	117				
2-Methylnaphthalene	83	10	100		83.0	40	121				
2-Nitrophenol	76	10	100		76.0	47	123				
3,3´-Dichlorobenzidine	69	10	100		69.0	27	129				
4,6-Dinitro-2-methylphenol	75	10	100		75.0	44	137				
4-Bromophenyl phenyl ether	84	10	100		84.0	55	124				
4-Chloro-3-methylphenol	84	10	100		84.0	52	119				
4-Chlorophenol	74	10	100		74.0	41	81				
4-Chlorophenyl phenyl ether	79	10	100		79.0	53	121				
4-Nitrophenol	33	10	100		33.0	15	36				
Acenaphthene	85	10	100		85.0	47	122				
Acenaphthylene	75	10	100		75.0	41	130				
Anthracene	87	10	100		87.0	57	123				
Azobenzene	77	10	100		77.0	61	116				
Benzo(a)anthracene	97	10	100		97.0	58	125				
Benzo(a)pyrene	91	10	100		91.0	54	128				
Benzo(b)fluoranthene	92	10	100		92.0	53	131				
Benzo(g,h,i)perylene	90	10	100		90.0	50	134				

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010148
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/24/2022

Run ID: Run Order: SV5973N.I_220114A: 5 **SampType:** Laboratory Control Sample **Batch ID:** 162701
Method: SW8270C **Analysis Date:** 01/14/2022 15:13 **Prep Date:** 01/04/2022 15:47
Lab ID: LCS-162701 **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Benzo(k)fluoranthene	90	10	100		90.0	57	129				
bis(-2-chloroethoxy)Methane	92	10	100		92.0	48	120				
bis(-2-chloroethyl)Ether	82	10	100		82.0	43	118				
bis(2-chloroisopropyl)Ether	64	10	100		64.0	37	130				
bis(2-ethylhexyl)Phthalate	90	10	100		90.0	55	135				
Butylbenzylphthalate	93	10	100		93.0	53	134				
Chrysene	95	10	100		95.0	59	123				
Dibenzo(a,h)anthracene	86	10	100		86.0	51	134				
Diethyl phthalate	87	10	100		87.0	56	125				
Dimethyl phthalate	87	10	100		87.0	45	127				
Di-n-butyl phthalate	86	10	100		86.0	59	127				
Di-n-octyl phthalate	94	10	100		94.0	51	140				
Fluoranthene	88	10	100		88.0	57	128				
Fluorene	81	10	100		81.0	52	124				
Hexachlorobenzene	81	10	100		81.0	53	125				
Hexachlorobutadiene	58	10	100		58.0	22	124				
Hexachlorocyclopentadiene	61	10	100		61.0	39	91				
Hexachloroethane	51	10	100		51.0	21	115				
Indeno(1,2,3-cd)pyrene	85	10	100		85.0	52	134				
Isophorone	90	10	100		90.0	42	124				
m+p-Cresols	77	10	100		77.0	29	110				
Naphthalene	81	10	100		81.0	40	121				
Nitrobenzene	70	10	100		70.0	45	121				
n-Nitrosodimethylamine	42	10	100		42.0	20	45				
n-Nitroso-di-n-propylamine	86	10	100		86.0	49	119				
n-Nitrosodiphenylamine	95	10	100		95.0	51	123				
o-Cresol	77	10	100		77.0	30	117				

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010148
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/24/2022

Run ID: Run Order: SV5973N.I_220114A: 5 **SampType:** Laboratory Control Sample **Batch ID:** 162701
Method: SW8270C **Analysis Date:** 01/14/2022 15:13 **Prep Date:** 01/04/2022 15:47
Lab ID: LCS-162701 **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Pentachlorophenol	84	10	100		84.0	35	138				
Phenanthrene	86	10	100		86.0	59	120				
Phenol	53	10	100		53.0	37	75				
Pyrene	86	10	100		86.0	57	126				
Pyridine	36	10	100		36.0	16	45				
Surr: 2,4,6-Tribromophenol	149	10	200		74.0	43	140				
Surr: 2-Fluorobiphenyl	69	10	100		69.0	44	119				
Surr: 2-Fluorophenol	83	10	200		42.0	19	119				
Surr: Nitrobenzene-d5	69	10	100		69.0	44	120				
Surr: Phenol-d5	95	10	200		48.0	10	65				
Surr: Terphenyl-d14	91	10	100		91.0	50	134				

Associated Samples: **B22010148-001C**

Run ID: Run Order: SV5973N.I_220114A: 6 **SampType:** Laboratory Control Sample Duplicate **Batch ID:** 162701
Method: SW8270C **Analysis Date:** 01/14/2022 15:45 **Prep Date:** 01/04/2022 15:47
Lab ID: LCSD-162701 **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	67	9.7	20.0	
1,2-Dichlorobenzene	67	10	100		67.0	32	111	64	5.0	20.0	
1,3-Dichlorobenzene	66	10	100		66.0	28	110	62	7.1	20.0	
1,4-Dichlorobenzene	62	10	100		62.0	29	112	60	4.0	20.0	
1-Methylnaphthalene	77	10	100		77.0	41	119	77	0.2	20.0	
2,4,5-Trichlorophenol	77	10	100		77.0	53	123	70	8.4	20.0	
2,4,6-Trichlorophenol	79	10	100		79.0	50	125	77	2.6	20.0	
2,4-Dichlorophenol	78	10	100		78.0	47	121	71	8.7	20.0	

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010148
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/24/2022

Run ID: Run Order: SV5973N.I_220114A: 6 **SampType:** Laboratory Control Sample Duplicate **Batch ID:** 162701
Method: SW8270C **Analysis Date:** 01/14/2022 15:45 **Prep Date:** 01/04/2022 15:47
Lab ID: LCSD-162701 **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
2,4-Dimethylphenol	71	10	100		71.0	31	124	67	6.4	20.0	
2,4-Dinitrophenol	79	10	100		79.0	23	142	75	5.3	20.0	
2,4-Dinitrotoluene	88	10	100		88.0	57	128	84	5.3	20.0	
2,6-Dinitrotoluene	82	10	100		82.0	50	118	75	8.6	20.0	
2-Chloronaphthalene	79	10	100		79.0	40	116	72	9.3	20.0	
2-Chlorophenol	72	10	100		72.0	38	117	69	4.2	20.0	
2-Methylnaphthalene	86	10	100		86.0	40	121	83	3.6	20.0	
2-Nitrophenol	82	10	100		82.0	47	123	76	7.7	20.0	
3,3´-Dichlorobenzidine	70	10	100		70.0	27	129	69	1.3	20.0	
4,6-Dinitro-2-methylphenol	83	10	100		83.0	44	137	75	9.9	20.0	
4-Bromophenyl phenyl ether	92	10	100		92.0	55	124	84	9.7	20.0	
4-Chloro-3-methylphenol	88	10	100		88.0	52	119	84	4.7	20.0	
4-Chlorophenol	76	10	100		76.0	41	81	74	3.7	20.0	
4-Chlorophenyl phenyl ether	85	10	100		85.0	53	121	79	7.7	20.0	
4-Nitrophenol	36	10	100		36.0	15	36	33	6.0	20.0	
Acenaphthene	90	10	100		90.0	47	122	85	6.0	20.0	
Acenaphthylene	81	10	100		81.0	41	130	75	8.0	20.0	
Anthracene	93	10	100		93.0	57	123	87	7.2	20.0	
Azobenzene	83	10	100		83.0	61	116	77	8.0	20.0	
Benzo(a)anthracene	100	10	100		100.0	58	125	97	3.8	20.0	
Benzo(a)pyrene	90	10	100		90.0	54	128	91	1.3	20.0	
Benzo(b)fluoranthene	95	10	100		95.0	53	131	92	4.0	20.0	
Benzo(g,h,i)perylene	92	10	100		92.0	50	134	90	2.1	20.0	
Benzo(k)fluoranthene	93	10	100		93.0	57	129	90	2.6	20.0	
bis(-2-chloroethoxy)Methane	100	10	100		100.0	48	120	92	8.2	20.0	
bis(-2-chloroethyl)Ether	83	10	100		83.0	43	118	82	1.8	20.0	
bis(2-chloroisopropyl)Ether	66	10	100		66.0	37	130	64	3.4	20.0	

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010148
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/24/2022

Run ID: Run Order: SV5973N.I_220114A: 6 **SampType:** Laboratory Control Sample Duplicate **Batch ID:** 162701
Method: SW8270C **Analysis Date:** 01/14/2022 15:45 **Prep Date:** 01/04/2022 15:47
Lab ID: LCSD-162701 **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
bis(2-ethylhexyl)Phthalate	97	10	100		97.0	55	135	90	7.6	20.0	
Butylbenzylphthalate	97	10	100		97.0	53	134	93	5.1	20.0	
Chrysene	99	10	100		99.0	59	123	95	4.4	20.0	
Dibenzo(a,h)anthracene	87	10	100		87.0	51	134	86	0.7	20.0	
Diethyl phthalate	92	10	100		92.0	56	125	87	5.2	20.0	
Dimethyl phthalate	91	10	100		91.0	45	127	87	4.6	20.0	
Di-n-butyl phthalate	93	10	100		93.0	59	127	86	7.2	20.0	
Di-n-octyl phthalate	96	10	100		96.0	51	140	94	1.7	20.0	
Fluoranthene	93	10	100		93.0	57	128	88	5.5	20.0	
Fluorene	86	10	100		86.0	52	124	81	5.0	20.0	
Hexachlorobenzene	82	10	100		82.0	53	125	81	1.4	20.0	
Hexachlorobutadiene	62	10	100		62.0	22	124	58	5.5	20.0	
Hexachlorocyclopentadiene	64	10	100		64.0	39	91	61	4.2	20.0	
Hexachloroethane	54	10	100		54.0	21	115	51	6.5	20.0	
Indeno(1,2,3-cd)pyrene	87	10	100		87.0	52	134	85	3.0	20.0	
Isophorone	95	10	100		95.0	42	124	90	5.1	20.0	
m+p-Cresols	80	10	100		80.0	29	110	77	3.9	20.0	
Naphthalene	89	10	100		89.0	40	121	81	9.4	20.0	
Nitrobenzene	77	10	100		77.0	45	121	70	9.3	20.0	
n-Nitrosodimethylamine	45	10	100		45.0	20	45	42	7.8	20.0	
n-Nitroso-di-n-propylamine	92	10	100		92.0	49	119	86	6.7	20.0	
n-Nitrosodiphenylamine	98	10	100		98.0	51	123	95	3.6	20.0	
o-Cresol	81	10	100		81.0	30	117	77	5.1	20.0	
Pentachlorophenol	90	10	100		90.0	35	138	84	6.9	20.0	
Phenanthrene	88	10	100		88.0	59	120	86	1.8	20.0	
Phenol	55	10	100		55.0	37	75	53	3.2	20.0	
Pyrene	91	10	100		91.0	57	126	86	5.9	20.0	

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010148
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/24/2022

Run ID: Run Order: SV5973N.I_220114A: 6 **SampType:** Laboratory Control Sample Duplicate **Batch ID:** 162701
Method: SW8270C **Analysis Date:** 01/14/2022 15:45 **Prep Date:** 01/04/2022 15:47
Lab ID: LCSD-162701 **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Pyridine	38	10	100		38.0	16	45	36	7.0	20.0	
Surr: 2,4,6-Tribromophenol	159	10	200		79.0	43	140	0.0	0.0		
Surr: 2-Fluorobiphenyl	76	10	100		76.0	44	119	0.0	0.0		
Surr: 2-Fluorophenol	89	10	200		45.0	19	119	0.0	0.0		
Surr: Nitrobenzene-d5	71	10	100		71.0	44	120	0.0	0.0		
Surr: Phenol-d5	97	10	200		49.0	10	65	0.0	0.0		
Surr: Terphenyl-d14	95	10	100		95.0	50	134	0.0	0.0		

Associated Samples: **B22010148-001C**

- 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: SV5973N.I_220114A: 10 **SampType:** Sample Matrix Spike **Batch ID:** 162701
Method: SW8270C **Analysis Date:** 01/14/2022 17:53 **Prep Date:** 01/05/2022 08:09
Lab ID: B22010134-001CMS **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	78	10	103	0.0	76.0	29	116				
1,2-Dichlorobenzene	72	10	103	0.0	70.0	32	111				
1,3-Dichlorobenzene	67	10	103	0.0	66.0	28	110				
1,4-Dichlorobenzene	69	10	103	0.0	67.0	29	112				
1-Methylnaphthalene	88	10	103	0.0	86.0	41	119				
2,4,5-Trichlorophenol	92	10	103	0.0	89.0	53	123				
2,4,6-Trichlorophenol	102	10	103	0.0	99.0	50	125				
2,4-Dichlorophenol	84	10	103	0.0	82.0	47	121				
2,4-Dimethylphenol	96	10	103	0.0	93.0	31	124				
2,4-Dinitrophenol	93	10	103	0.0	90.0	23	142				
2,4-Dinitrotoluene	92	10	103	34	57.0	57	128				
2,6-Dinitrotoluene	102	10	103	0.0	99.0	50	118				

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010148
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/24/2022

Run ID: Run Order: SV5973N.I_220114A: 10 **SampType:** Sample Matrix Spike **Batch ID:** 162701
Method: SW8270C **Analysis Date:** 01/14/2022 17:53 **Prep Date:** 01/05/2022 08:09
Lab ID: B22010134-001CMS **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
2-Chloronaphthalene	98	10	103	0.0	95.0	40	116				
2-Chlorophenol	71	10	103	0.0	68.0	38	117				
2-Methylnaphthalene	93	10	103	0.0	90.0	40	121				
2-Nitrophenol	88	10	103	0.0	85.0	47	123				
3,3´-Dichlorobenzidine	81	10	103	0.0	79.0	27	129				
4,6-Dinitro-2-methylphenol	100	10	103	0.0	97.0	44	137				
4-Bromophenyl phenyl ether	106	10	103	0.0	103.0	55	124				
4-Chloro-3-methylphenol	97	10	103	0.0	94.0	52	119				
4-Chlorophenol	72	10	103	0.0	70.0	41	81				
4-Chlorophenyl phenyl ether	101	10	103	0.0	98.0	53	121				
4-Nitrophenol	44	10	103	0.0	43.0	15	36				S
Acenaphthene	98	10	103	0.0	96.0	47	122				
Acenaphthylene	88	10	103	0.0	85.0	41	130				
Anthracene	110	10	103	0.0	107.0	57	123				
Azobenzene	94	10	103	0.0	92.0	61	116				
Benzo(a)anthracene	116	10	103	0.0	112.0	58	125				
Benzo(a)pyrene	104	10	103	0.0	101.0	54	128				
Benzo(b)fluoranthene	110	10	103	0.0	107.0	53	131				
Benzo(g,h,i)perylene	104	10	103	0.0	100.0	50	134				
Benzo(k)fluoranthene	106	10	103	0.0	103.0	57	129				
bis(-2-chloroethoxy)Methane	101	10	103	0.0	98.0	48	120				
bis(-2-chloroethyl)Ether	88	10	103	0.0	85.0	43	118				
bis(2-chloroisopropyl)Ether	68	10	103	0.0	66.0	37	130				
bis(2-ethylhexyl)Phthalate	109	10	103	0.0	106.0	55	135				
Butylbenzylphthalate	112	10	103	0.0	109.0	53	134				
Chrysene	111	10	103	0.0	108.0	59	123				
Dibenzo(a,h)anthracene	104	10	103	0.0	101.0	51	134				

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010148
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/24/2022

Run ID: Run Order: SV5973N.I_220114A: 10 **SampType:** Sample Matrix Spike **Batch ID:** 162701
Method: SW8270C **Analysis Date:** 01/14/2022 17:53 **Prep Date:** 01/05/2022 08:09
Lab ID: B22010134-001CMS **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Diethyl phthalate	102	10	103	0.0	99.0	56	125				
Dimethyl phthalate	107	10	103	0.0	104.0	45	127				
Di-n-butyl phthalate	111	10	103	0.0	108.0	59	127				
Di-n-octyl phthalate	108	10	103	0.0	104.0	51	140				
Fluoranthene	107	10	103	0.0	104.0	57	128				
Fluorene	96	10	103	0.0	93.0	52	124				
Hexachlorobenzene	91	10	103	0.0	88.0	53	125				
Hexachlorobutadiene	74	10	103	0.0	71.0	22	124				
Hexachlorocyclopentadiene	74	10	103	0.0	72.0	39	91				
Hexachloroethane	61	10	103	0.0	60.0	21	115				
Indeno(1,2,3-cd)pyrene	102	10	103	0.0	99.0	52	134				
Isophorone	106	10	103	0.0	103.0	42	124				
m+p-Cresols	83	10	103	0.0	80.0	29	110				
Naphthalene	90	10	103	0.0	88.0	40	121				
Nitrobenzene	94	10	103	0.0	91.0	45	121				
n-Nitrosodimethylamine	47	10	103	0.0	46.0	20	45				S
n-Nitroso-di-n-propylamine	101	10	103	0.0	98.0	49	119				
n-Nitrosodiphenylamine	106	10	103	0.0	103.0	51	123				
o-Cresol	85	10	103	0.0	83.0	30	117				
Pentachlorophenol	112	10	103	0.0	109.0	35	138				
Phenanthrene	108	10	103	0.0	105.0	59	120				
Phenol	51	10	103	0.0	50.0	37	75				
Pyrene	102	10	103	0.0	99.0	57	126				
Pyridine	34	10	103	0.0	33.0	16	45				
Surr: 2,4,6-Tribromophenol	202	10	206	0.0	98.0	43	140				
Surr: 2-Fluorobiphenyl	88	10	103	0.0	85.0	44	119				
Surr: 2-Fluorophenol	83	10	206	0.0	40.0	19	119				

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010148
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/24/2022

Run ID: Run Order: SV5973N.I_220114A: 10 **SampType:** Sample Matrix Spike **Batch ID:** 162701
Method: SW8270C **Analysis Date:** 01/14/2022 17:53 **Prep Date:** 01/05/2022 08:09
Lab ID: B22010134-001CMS **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Surr: Nitrobenzene-d5	80	10	103	0.0	78.0	44	120				
Surr: Phenol-d5	92	10	206	0.0	45.0	10	65				
Surr: Terphenyl-d14	105	10	103	0.0	102.0	50	134				

Associated Samples: **B22010148-001C**

Run ID: Run Order: SV5973N.I_220114A: 2 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R373202
Method: SW8270C **Analysis Date:** 01/14/2022 13:36 **Prep Date:**
Lab ID: 14-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	70	10	75		93.0	80	120				
1,2-Dichlorobenzene	70	10	75		93.0	80	120				
1,3-Dichlorobenzene	69	10	75		92.0	80	120				
1,4-Dichlorobenzene	65	10	75		87.0	80	120				
2,4,5-Trichlorophenol	60	10	75		80.0	80	120				
2,4,6-Trichlorophenol	65	10	75		86.0	80	120				
2,4-Dichlorophenol	61	10	75		82.0	80	120				
2,4-Dimethylphenol	72	10	75		95.0	80	120				
2,4-Dinitrophenol	73	10	75		98.0	80	120				
2,4-Dinitrotoluene	64	10	75		85.0	80	120				
2,6-Dinitrotoluene	68	10	75		91.0	80	120				
2-Chloronaphthalene	65	10	75		86.0	80	120				
2-Chlorophenol	61	10	75		81.0	80	120				
2-Nitrophenol	73	10	75		97.0	80	120				
3,3´-Dichlorobenzidine	63	10	75		84.0	80	120				
4,6-Dinitro-2-methylphenol	74	10	75		99.0	80	120				

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010148
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/24/2022

Run ID: Run Order: SV5973N.I_220114A: 2 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R373202
Method: SW8270C **Analysis Date:** 01/14/2022 13:36 **Prep Date:**
Lab ID: 14-Jan-22_CCV_2 **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
4-Bromophenyl phenyl ether	65	10	75		86.0	80	120				
4-Chloro-3-methylphenol	62	10	75		83.0	80	120				
4-Chlorophenol	72	10	75		96.0	80	120				
4-Chlorophenyl phenyl ether	62	10	75		83.0	80	120				
4-Nitrophenol	67	10	75		89.0	80	120				
Azobenzene	70	10	75		94.0	80	120				
bis(-2-chloroethoxy)Methane	75	10	75		101.0	80	120				
bis(-2-chloroethyl)Ether	72	10	75		96.0	80	120				
bis(2-chloroisopropyl)Ether	71	10	75		95.0	80	120				
bis(2-ethylhexyl)Phthalate	68	10	75		91.0	80	120				
Butylbenzylphthalate	67	10	75		90.0	80	120				
Diethyl phthalate	67	10	75		90.0	80	120				
Dimethyl phthalate	61	10	75		81.0	80	120				
Di-n-butyl phthalate	64	10	75		85.0	80	120				
Di-n-octyl phthalate	69	10	75		91.0	80	120				
Hexachlorobenzene	72	10	75		96.0	80	120				
Hexachlorobutadiene	67	10	75		89.0	80	120				
Hexachlorocyclopentadiene	66	10	75		89.0	80	120				
Hexachloroethane	63	10	75		84.0	80	120				
Isophorone	78	10	75		104.0	80	120				
m+p-Cresols	69	10	75		92.0	80	120				
Nitrobenzene	62	10	75		82.0	80	120				
n-Nitrosodimethylamine	61	10	75		81.0	80	120				
n-Nitroso-di-n-propylamine	70	10	75		94.0	80	120				
n-Nitrosodiphenylamine	71	10	75		95.0	80	120				
o-Cresol	67	10	75		90.0	80	120				
Pentachlorophenol	64	10	75		86.0	80	120				

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010148
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/24/2022

Run ID: Run Order: SV5973N.I_220114A: 2 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R373202
Method: SW8270C **Analysis Date:** 01/14/2022 13:36 **Prep Date:**
Lab ID: 14-Jan-22_CCV_2 **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Phenol	71	10	75		95.0	80	120				
Pyridine	65	10	75		87.0	80	120				
Surr: 2,4,6-Tribromophenol	61	10	75		81.0	80	120				
Surr: 2-Fluorobiphenyl	65	10	75		87.0	80	120				
Surr: 2-Fluorophenol	65	10	75		86.0	80	120				
Surr: Nitrobenzene-d5	67	10	75		90.0	80	120				
Surr: Phenol-d5	67	10	75		90.0	80	120				
Surr: Terphenyl-d14	68	10	75		91.0	80	120				

Associated Samples: **B22010148-001C**

Run ID: Run Order: SV5973N.I_220114A: 24 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R373202
Method: SW8270C **Analysis Date:** 01/15/2022 01:24 **Prep Date:**
Lab ID: 14-Jan-22_CCV_24 **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	75	10	75		100.0	50	150				
1,2-Dichlorobenzene	77	10	75		102.0	50	150				
1,3-Dichlorobenzene	78	10	75		104.0	50	150				
1,4-Dichlorobenzene	77	10	75		103.0	50	150				
2,4,5-Trichlorophenol	83	10	75		111.0	50	150				
2,4,6-Trichlorophenol	80	10	75		107.0	50	150				
2,4-Dichlorophenol	84	10	75		111.0	50	150				
2,4-Dimethylphenol	80	10	75		106.0	50	150				
2,4-Dinitrophenol	70	10	75		94.0	50	150				
2,4-Dinitrotoluene	78	10	75		105.0	50	150				
2,6-Dinitrotoluene	63	10	75		85.0	50	150				

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010148
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/24/2022

Run ID: Run Order: SV5973N.I_220114A: 24 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R373202
Method: SW8270C **Analysis Date:** 01/15/2022 01:24 **Prep Date:**
Lab ID: 14-Jan-22_CCV_24 **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
2-Chloronaphthalene	75	10	75		99.0	50	150				
2-Chlorophenol	79	10	75		106.0	50	150				
2-Nitrophenol	74	10	75		99.0	50	150				
3,3´-Dichlorobenzidine	79	10	75		105.0	50	150				
4,6-Dinitro-2-methylphenol	69	10	75		92.0	50	150				
4-Bromophenyl phenyl ether	77	10	75		103.0	50	150				
4-Chloro-3-methylphenol	82	10	75		109.0	50	150				
4-Chlorophenol	85	10	75		113.0	50	150				
4-Chlorophenyl phenyl ether	74	10	75		98.0	50	150				
4-Nitrophenol	76	10	75		102.0	50	150				
Azobenzene	77	10	75		102.0	50	150				
bis(-2-chloroethoxy)Methane	82	10	75		109.0	50	150				
bis(-2-chloroethyl)Ether	75	10	75		100.0	50	150				
bis(2-chloroisopropyl)Ether	72	10	75		95.0	50	150				
bis(2-ethylhexyl)Phthalate	78	10	75		104.0	50	150				
Butylbenzylphthalate	80	10	75		107.0	50	150				
Diethyl phthalate	79	10	75		105.0	50	150				
Dimethyl phthalate	77	10	75		103.0	50	150				
Di-n-butyl phthalate	79	10	75		105.0	50	150				
Di-n-octyl phthalate	80	10	75		106.0	50	150				
Hexachlorobenzene	75	10	75		99.0	50	150				
Hexachlorobutadiene	78	10	75		105.0	50	150				
Hexachlorocyclopentadiene	66	10	75		87.0	50	150				
Hexachloroethane	75	10	75		100.0	50	150				
Isophorone	83	10	75		111.0	50	150				
m+p-Cresols	79	10	75		105.0	50	150				
Nitrobenzene	79	10	75		105.0	50	150				

Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010148
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/24/2022

Run ID: Run Order: SV5973N.I_220114A: 24 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R373202
Method: SW8270C **Analysis Date:** 01/15/2022 01:24 **Prep Date:**
Lab ID: 14-Jan-22_CCV_24 **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
n-Nitrosodimethylamine	63	10	75		84.0	50	150				
n-Nitroso-di-n-propylamine	71	10	75		94.0	50	150				
n-Nitrosodiphenylamine	82	10	75		109.0	50	150				
o-Cresol	79	10	75		105.0	50	150				
Pentachlorophenol	80	10	75		107.0	50	150				
Phenol	81	10	75		107.0	50	150				
Pyridine	60	10	75		80.0	50	150				
Surr: 2,4,6-Tribromophenol	76	10	75		102.0	50	150				
Surr: 2-Fluorobiphenyl	80	10	75		106.0	50	150				
Surr: 2-Fluorophenol	82	10	75		109.0	50	150				
Surr: Nitrobenzene-d5	74	10	75		98.0	50	150				
Surr: Phenol-d5	79	10	75		106.0	50	150				
Surr: Terphenyl-d14	74	10	75		99.0	50	150				

Associated Samples: **B22010148-001C**

Analytical QC Exceptions Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010148
Project: CV18F0126, 60571032.02.46.01

Report Date: 02/24/2022

Analysis Method	Analysis	Batch ID	Associated Samples	Sample Type	Lab ID	Analysis Date	Analysis Time	Analyte	%REC	Low Limit	High Limit	% RPD	RPD Limit	Qual
SW8270C	Semi-Volatile Organic Compounds, Extended List	162701	001C	MS-DOD	B22010134-001CMS	1/14/2022	17:53	4-Nitrophenol	43.0	15	36			S
								n-Nitrosodimethylamine	46.0	20	45			S

Preparation and Analysis Dates Report

Work Order: B22010148
Client: AECOM - Honolulu
Project Name: CV18F0126, 60571032.02.46.01
Report Date: 2/24/2022

Lab ID	Client Sample ID	Collection Date	Matrix	Test Name	TCLP Date	Prep Method	Prep Date	Prep Batch	Analysis Method	Analysis Date
001B	ERH2305 (OWDFMW08A)	12/31/2021 20:05	Ground Water	Metals by ICP-MS, Total		SW3010A	01/05/2022 08:37	162708	SW6020	01/07/2022 01:05
001C	ERH2305 (OWDFMW08A)	12/31/2021 20:05	Ground Water	Low Level PAH by 8270C SIM		SW3510C	01/05/2022 08:06	162701	SW8270CSIM	01/11/2022 08:04
						SW3510C	01/05/2022 08:06	162701	SW8270CSIM	01/11/2022 08:37
				Semi-Volatile Organic Compounds, Extended List		SW3510C	01/05/2022 08:06	162701	SW8270C	01/14/2022 20:34
001D	ERH2305 (OWDFMW08A)	12/31/2021 20:05	Ground Water	Diesel Range Organics		SW3520C	01/04/2022 16:47	162703	SW8015C	01/06/2022 17:53
						SW3520C	01/04/2022 16:47	162703	SW8015C	01/08/2022 02:50
001H	ERH2305 (OWDFMW08A)	12/31/2021 20:05	Ground Water	EDB in Water by ECD		SW8011	01/05/2022 08:20	162706	SW8011	01/06/2022 19:11
004A	ERH2304 (Trip Blank) 14575	12/31/2021 20:05	Trip Blank	EDB in Water by ECD		SW8011	01/05/2022 08:21	162706	SW8011	01/06/2022 23:12

Chemical Abstracts Service (CAS) Registry Numbers

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010148
Project: CV18F0126, 60571032.02.46.01 **Report Date:** 02/24/2022

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)

Diesel Range Organics (SGT-C10 to C24)

Oil Range Hydrocarbons (C24 to C40)

Oil Range Hydrocarbons (SGT-C24 to C40)

Total Extractable Hydrocarbons

Total Extractable Hydrocarbons (SGT)

ORGANIC CHARACTERISTICS

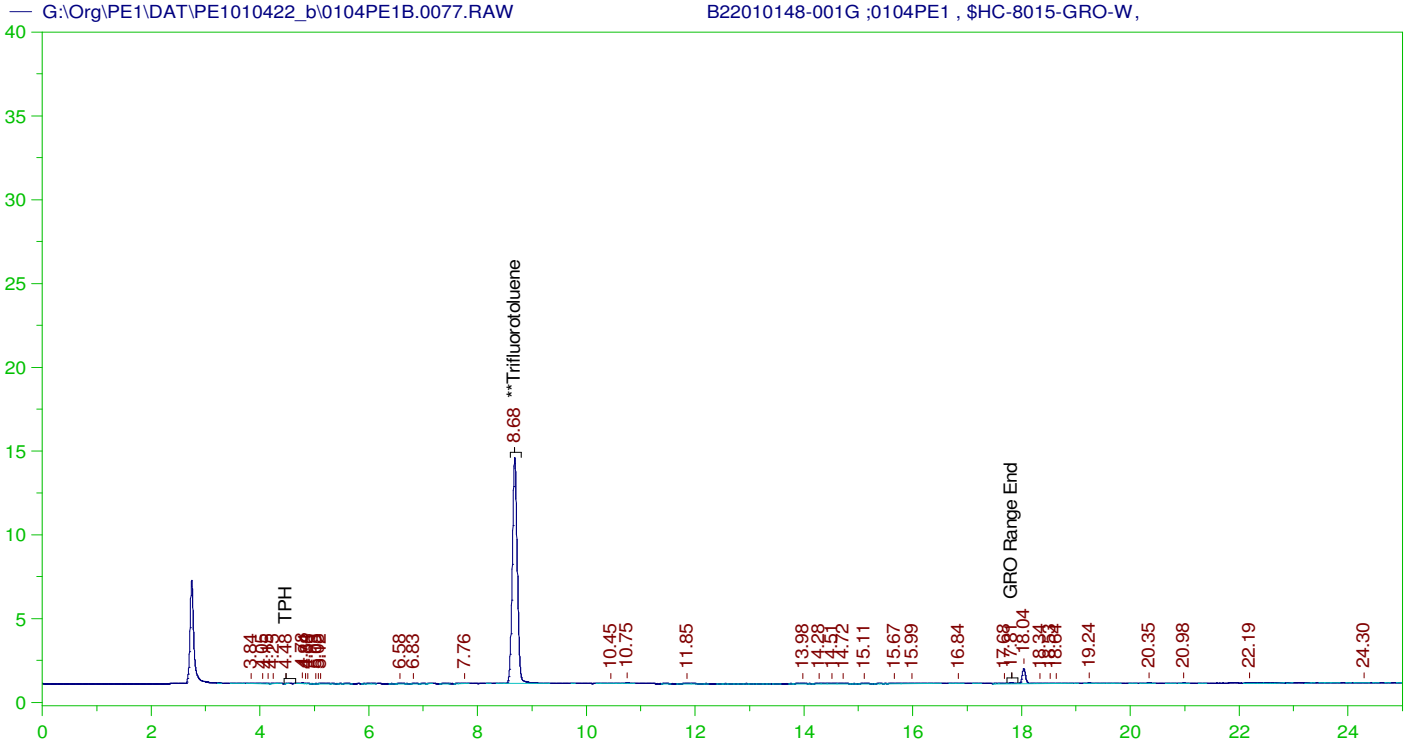
Methane	74-82-8

SEMI-VOLATILE ORGANIC COMPOUNDS

1,2,4-Trichlorobenzene	120-82-1
1,2-Dichlorobenzene	95-50-1
1,3-Dichlorobenzene	541-73-1
1,4-Dichlorobenzene	106-46-7
2,4,5-Trichlorophenol	95-95-4
2,4,6-Trichlorophenol	88-06-2
2,4-Dichlorophenol	120-83-2
2,4-Dimethylphenol	105-67-9
2,4-Dinitrophenol	51-28-5
2,4-Dinitrotoluene	121-14-2
2,6-Dinitrotoluene	606-20-2
2-Chloronaphthalene	91-58-7
2-Chlorophenol	95-57-8
2-Nitrophenol	88-75-5
3,3´-Dichlorobenzidine	91-94-1
4,6-Dinitro-2-methylphenol	534-52-1
4-Bromophenyl phenyl ether	101-55-3
4-Chloro-3-methylphenol	59-50-7
4-Chlorophenol	106-48-9
4-Chlorophenyl phenyl ether	7005-72-3
4-Nitrophenol	100-02-7
Azobenzene	103-33-3
bis(-2-chloroethoxy)Methane	111-91-1
bis(-2-chloroethyl)Ether	111-44-4
bis(2-chloroisopropyl)Ether	108-60-1
bis(2-ethylhexyl)Phthalate	117-81-7
Butylbenzylphthalate	85-68-7
Di-n-butyl phthalate	84-74-2
Di-n-octyl phthalate	117-84-0
Diethyl phthalate	84-66-2
Dimethyl phthalate	131-11-3
Hexachlorobenzene	118-74-1
Hexachlorobutadiene	87-68-3
Hexachlorocyclopentadiene	77-47-4
Hexachloroethane	67-72-1
Isophorone	78-59-1
m+p-Cresols	15831-10-4
n-Nitroso-di-n-propylamine	621-64-7
n-Nitrosodimethylamine	62-75-9
n-Nitrosodiphenylamine	86-30-6
Nitrobenzene	98-95-3
o-Cresol	95-48-7
Pentachlorophenol	87-86-5
Phenol	108-95-2
Pyridine	110-86-1

ERH2305 (OWDFMW08A)

G:\Org\PE1\DAT\PE1010422_b\0104PE1B.0077.RAW B22010148-001G ;0104PE1 , $HC-8015-GRO-W,



GASOLINE RANGE ORGANICS CHROMATOGRAM REPORT

Sample Name: B22010148-001G ;0104PE1 , $HC-8015-GRO-W,
Raw File: G:\Org\PE1\DAT\PE1010422_b\0104PE1B.0077.RAW
Date & Time Acquired: 1/6/2022 6:20:36 AM
Method File: G:\Org\PE1\Methods\211208GROB%.MET
Calibration File: G:\Org\PE1\Cals\211208GRO8015CB.CAL
Sample Weight: 5 Dilution: 1 S.A.: 1

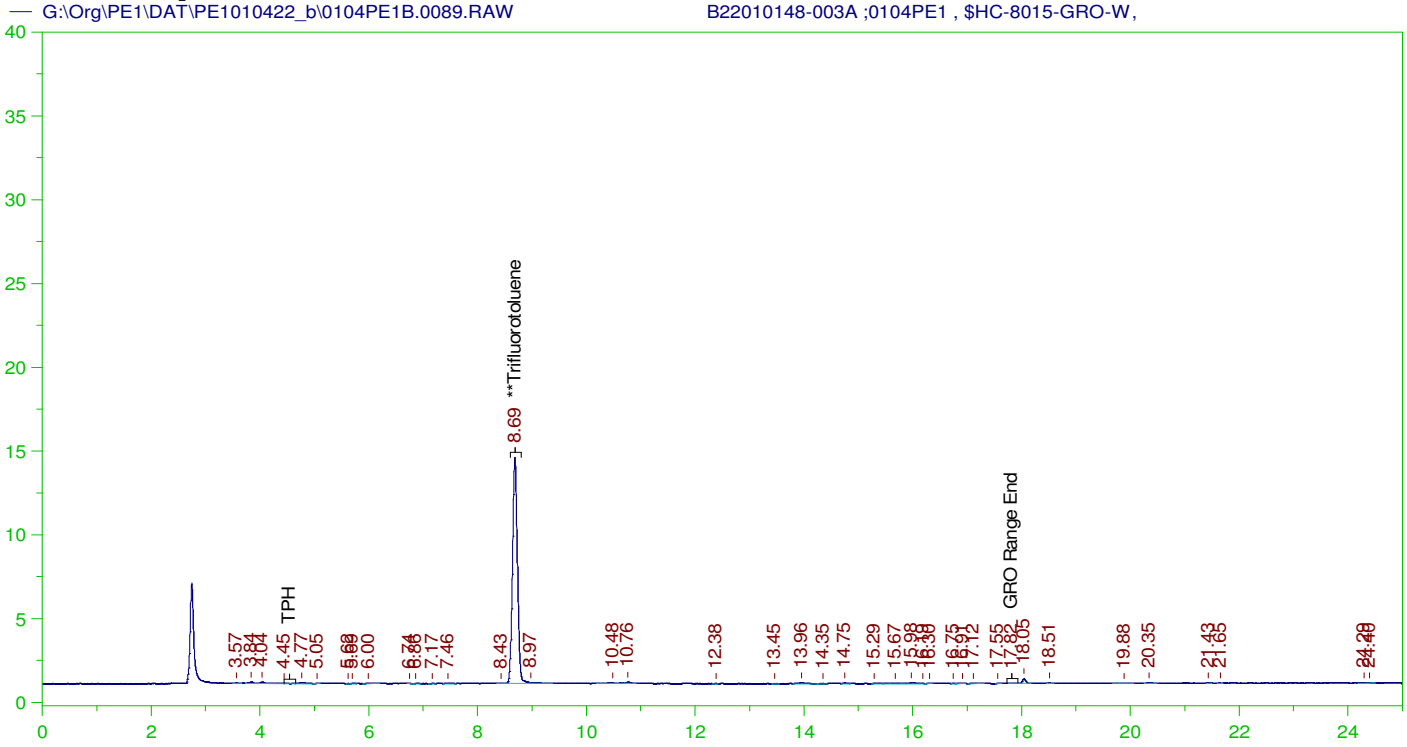
Mean RF for GRO: 945.9678
Mean RF for TPH: 909.3915
Rt range for Gasoline Range Organics: 4.45 to 17.93

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	
**Trifluorotoluene	8.684	25.	18.326	73.3	-

GRO Area:4257.464 GRO Amount: 0.9001288
TPH Area:10037.9 TPH Amount: 2.207608

ERH2304 (Trip Blank) 14575

G:\Org\PE1\DAT\PE1010422_b\0104PE1B.0089.RAW B22010148-003A ;0104PE1 , $HC-8015-GRO-W,



GASOLINE RANGE ORGANICS CHROMATOGRAM REPORT

Sample Name: B22010148-003A ;0104PE1 , $HC-8015-GRO-W,
Raw File: G:\Org\PE1\DAT\PE1010422_b\0104PE1B.0089.RAW
Date & Time Acquired: 1/6/2022 1:11:09 PM
Method File: G:\Org\PE1\Methods\211208G148-3B%.MET
Calibration File: G:\Org\PE1\Cals\211208GRO8015CB.CAL
Sample Weight: 5 Dilution: 1 S.A.: 1

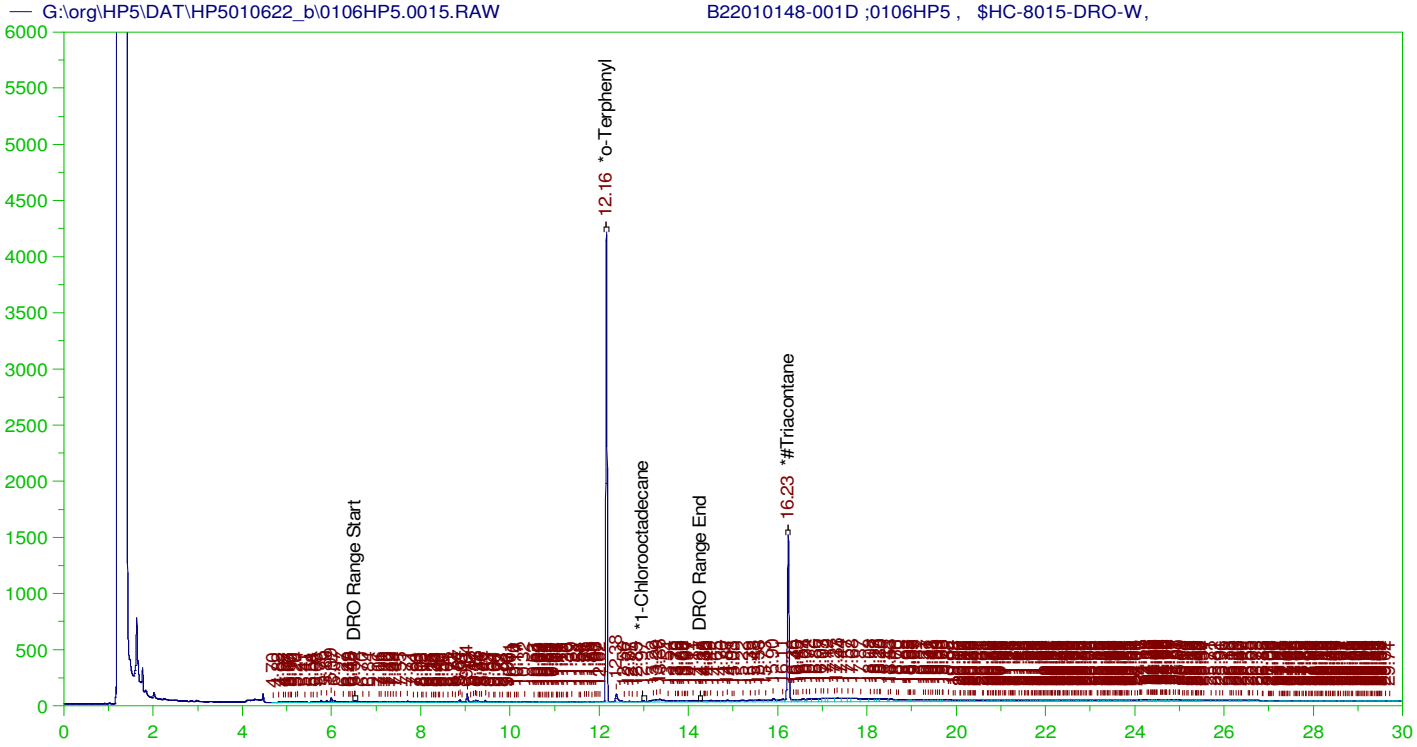
Mean RF for GRO: 945.9678
Mean RF for TPH: 909.3915
Rt range for Gasoline Range Organics: 4.45 to 17.93

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	
**Trifluorotoluene	8.687	25.	18.158	72.63	-

GRO Area:7042.534 GRO Amount: 1.488958
TPH Area:10912.22 TPH Amount: 2.399894

ERH2305 (OWDFMW08A) Batch ID: 162703

G:\org\HP5\DAT\HP5010622_b\0106HP5.0015.RAW B22010148-001D ;0106HP5 , $HC-8015-DRO-W,



DIESEL RANGE ORGANICS CHROMATOGRAM REPORT

Sample Name: B22010148-001D ;0106HP5 , $HC-8015-DRO-W,
Raw File: G:\org\HP5\DAT\HP5010622_b\0106HP5.0015.RAW
Date & Time Acquired: 1/6/2022 5:53:59 PM
Method File: G:\Org\HP5\Methods\DR_8015-010615-IN-L%.met
Calibration File: G:\Org\HP5\Cals\SW8015C_DRO211102IN-24-Tri.CAL
Sample Weight: 1040 Dilution: 1 S.A.: 1

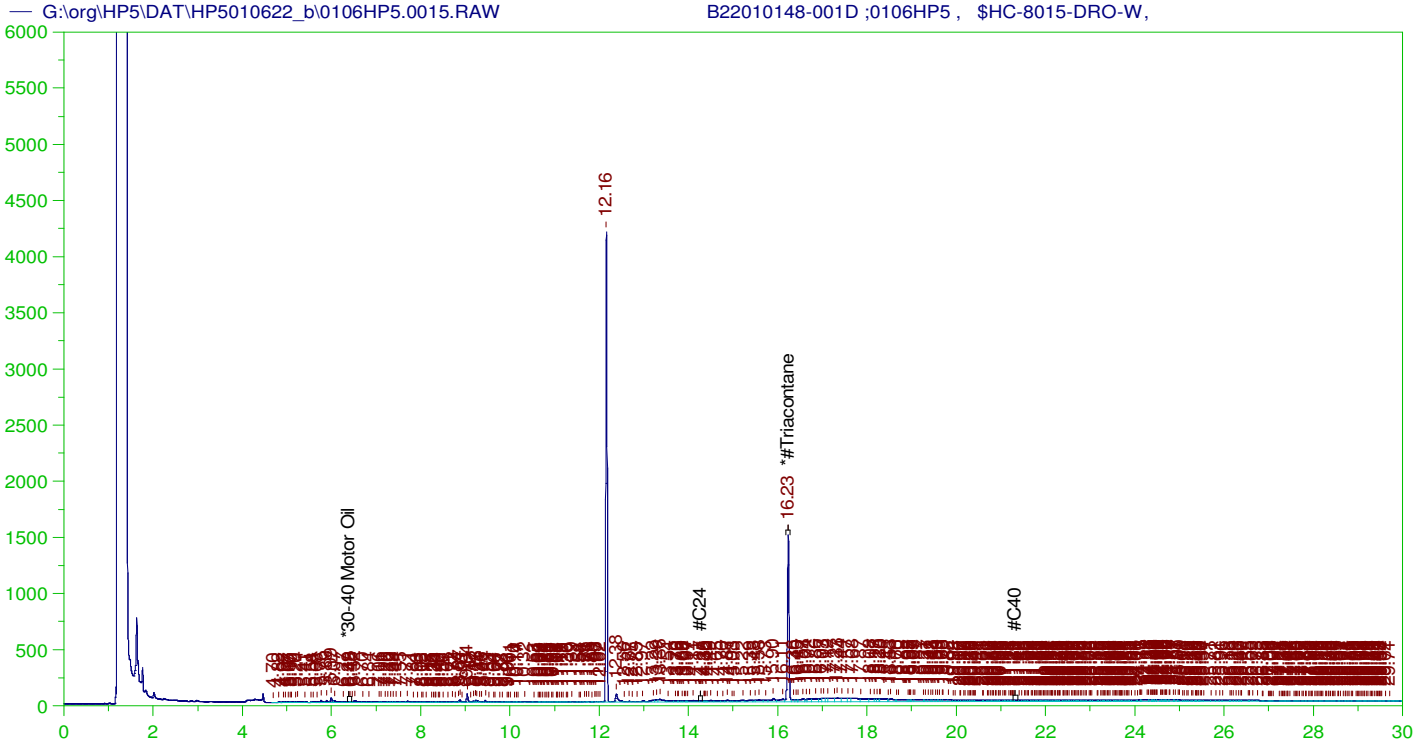
Mean RF for TEH: 31353.19
Rt range for Diesel Range Organics: 6.48 to 14.32

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	
*o-Terphenyl	12.162	.192	.212	110.19	-
*1-Chlorooctadecane	12.973	.192	.002	1.07	-
*#Triacontane	16.231	.192	.128	66.8	-

DRO Area:3341707 DRO Amount: 0.1024833
TEH Area:1.577211E+07 TEH Amount: 0.4836984

ERH2305 (OWDFMW08A) Batch ID: 162703

G:\org\HP5\DAT\HP5010622_b\0106HP5.0015.RAW B22010148-001D ;0106HP5 , $HC-8015-DRO-W,



RESIDUAL RANGE ORGANICS CHROMATOGRAM

Sample Name: B22010148-001D ;0106HP5 , $HC-8015-DRO-W,
Raw File: G:\org\HP5\DAT\HP5010622_b\0106HP5.0015.RAW
Date & Time Acquired: 1/6/2022 5:53:59 PM
Method File: G:\Org\HP5\Methods\DR_OROS-010615-AN-L%.MET
Calibration File: G:\Org\HP5\Cals\SW8015C_ORO211017AN-SAMP.CAL
Sample Weight: 1040 Dilution: 1 S.A.: 1

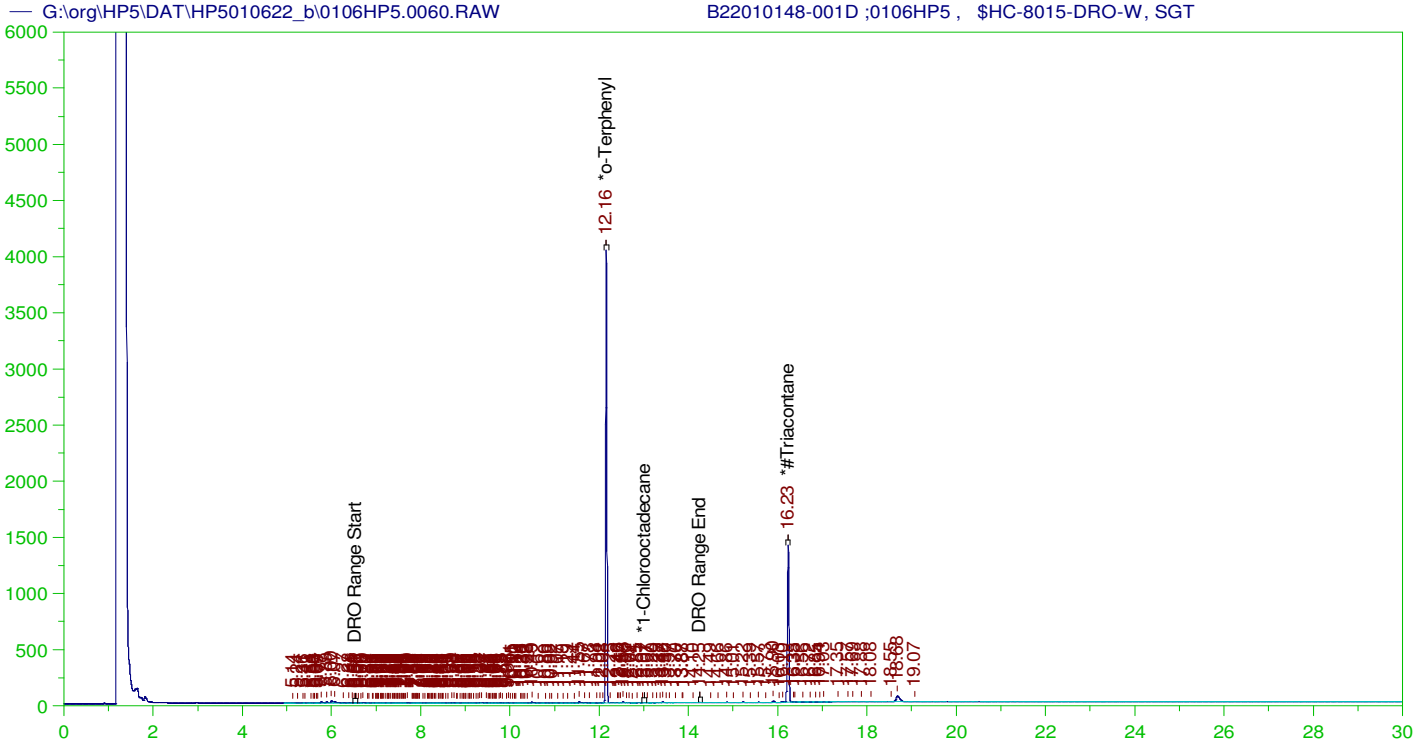
Mean RF for for Residual Range Organics Calculations: 28542.41
Rt range for Residual Range Organics: 14.22 to 21.38

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	
*#Triacontane	16.231	.481	.128	26.72	-

RRO Area:7903455 RRO AMOUNT: 0.2662521

ERH2305 (OWDFMW08A) Batch ID: 162703

G:\org\HP5\DAT\HP5010622_b\0106HP5.0060.RAW B22010148-001D ;0106HP5 , $HC-8015-DRO-W, SGT



DIESEL RANGE ORGANICS CHROMATOGRAM REPORT

Sample Name: B22010148-001D ;0106HP5 , $HC-8015-DRO-W, SGT
Raw File: G:\org\HP5\DAT\HP5010622_b\0106HP5.0060.RAW
Date & Time Acquired: 1/8/2022 2:50:20 AM
Method File: G:\Org\HP5\Methods\DR_8015-C24T-IN-L%.met
Calibration File: G:\Org\HP5\Cals\SW8015C_DRO211102IN-24-Tri.CAL
Sample Weight: 1040 Dilution: 1 S.A.: 1

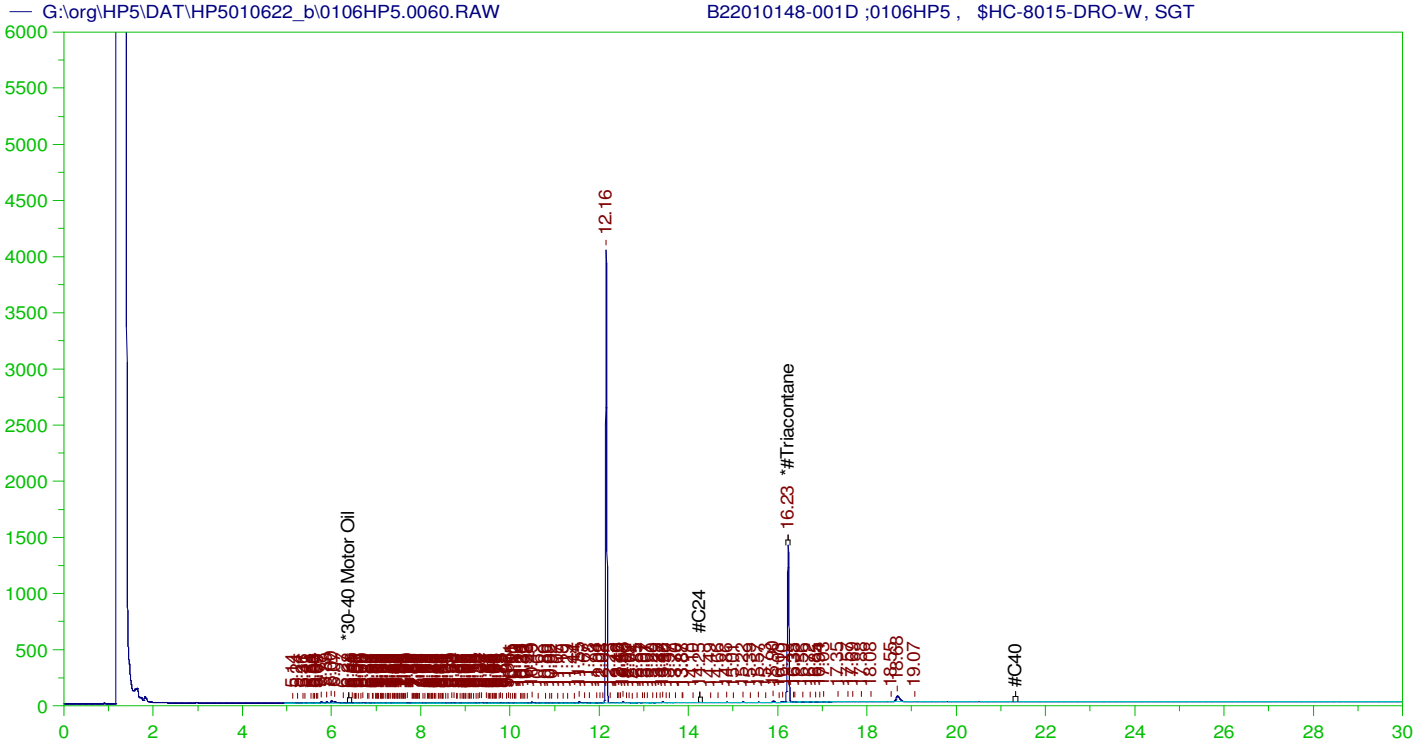
Mean RF for TEH: 31353.19
Rt range for Diesel Range Organics: 6.48 to 14.32

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	
*o-Terphenyl	12.157	.192	.204	106.08	-
*1-Chlorooctadecane	13.007	.192	.03		-
*#Triacontane	16.23	.192	.118	61.18	-

DRO Area:501596.6 DRO Amount: 1.538294E-02
TEH Area:1305977 TEH Amount: 4.005166E-02

ERH2305 (OWDFMW08A) Batch ID: 162703

G:\org\HP5\DAT\HP5010622_b\0106HP5.0060.RAW B22010148-001D ;0106HP5 , $HC-8015-DRO-W, SGT



RESIDUAL RANGE ORGANICS CHROMATOGRAM

Sample Name: B22010148-001D ;0106HP5 , $HC-8015-DRO-W, SGT
Raw File: G:\org\HP5\DAT\HP5010622_b\0106HP5.0060.RAW
Date & Time Acquired: 1/8/2022 2:50:20 AM
Method File: G:\Org\HP5\Methods\DR_OROS-AN-L%.MET
Calibration File: G:\Org\HP5\Cals\SW8015C_ORO211017AN-SAMP.CAL
Sample Weight: 1040 Dilution: 1 S.A.: 1

Mean RF for for Residual Range Organics Calculations: 28542.41
Rt range for Residual Range Organics: 14.22 to 21.38

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	
*#Triacontane	16.23	.481	.118	24.47	-

RRO Area:503804.6 RRO AMOUNT: 0.0169722

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

Categories: Must Attend

Hi Tabitha,

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

Thank you,

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

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

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,

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

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

Imagine it. Delivered.

LinkedIn | Twitter | Facebook | Instagram

Fortune World's Most Admired Companies 2020