



# ANALYTICAL SUMMARY REPORT

March 16, 2022

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

Work Order: B22030586 Quote ID: 5912

Project Name: CV18F0126/60571032.02.46.01

Energy Laboratories Inc Billings MT received the following 11 samples from AECOM - Honolulu on 3/9/2022 for analysis.

Lab ID	Client Sample ID	Collect Date	Received Date	Matrix	Test
B22030586-001	ERH2697 (OWDFMW08A)	03/07/22 14:05	03/08/2022	Ground Water	Metals Digestion by SW3010A DRO-Liquid-Liquid Extraction SW3520C 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 SW8011 Microextraction
B22030586-002	ERH2698 (OWDFMW08A FD)	03/07/22 14:05	03/08/2022	Ground Water	DRO-Liquid-Liquid Extraction SW3520C 8260-Volatile Organic Compounds-Short List SW8260B Diesel Range Organics SW8015C
B22030586-003	ERH2696 (Trip Blank) 14833	03/07/22 14:05	03/08/2022	Trip Blank	8260-Volatile Organic Compounds-Short List SW8260B
B22030586-004	ERH2696 (Trip Blank) 14833	03/07/22 14:05	03/08/2022	Trip Blank	Gasoline Range Organics SW8015C
B22030586-005	ERH2696 (Trip Blank) 14894	03/07/22 14:05	03/08/2022	Trip Blank	EDB in Water by ECD SW8011 SW8011 Microextraction
B22030586-006	ERH2696 (Trip Blank) 14895	03/07/22 14:05	03/08/2022	Trip Blank	Headspace Gas Analysis SW8015M



## ANALYTICAL SUMMARY REPORT

B22030586-007	ERH2682 (RHMW15 Zone 03/07/22 11:55 5)	03/08/2022	Ground Water	Metals Digestion by SW3010A DRO-Liquid-Liquid Extraction SW3520C 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 SW8011 Microextraction	
B22030586-008	ERH2681 (Trip Blank) 14833	03/07/22 11:55	03/08/2022	Trip Blank	8260-Volatile Organic Compounds-Short List SW8260B
B22030586-009	ERH2681 (Trip Blank) 14653	03/07/22 11:55	03/08/2022	Trip Blank	Gasoline Range Organics SW8015C
B22030586-010	ERH2681 (Trip Blank) 14894	03/07/22 11:55	03/08/2022	Trip Blank	EDB in Water by ECD SW8011 SW8011 Microextraction
B22030586-011	ERH2681 (Trip Blank) 14895	03/07/22 11:55	03/08/2022	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:



**CLIENT:** AECOM - Honolulu  
**Project:** CV18F0126/60571032.02.46.01  
**Work Order:** B22030586

**Report Date:** 3/16/2022

## CASE NARRATIVE

### General Comments:

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

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

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

Tests for Total Organic Carbon by SW0060A 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. Instances where manual integrations were performed including the technical justification are included in the integration summary reports. 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. No further corrective action was required.



Trust our People. Trust our Data.

# Chain of Custody & Analytical Request Record

COC # 202203-21NOI

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DoD Samples Page 1 of 1

### Account Information (Billing Information)

Company Name	AECOM				
Contact	Alethea Ramos / Margie Pascua				
Phone	808-529-7283 / 808-358-5373				
Mailing Address	1001 Bishop St, Suite 1800				
City, State, Zip	Honolulu, Hawaii 96813				
Email	alethea.ramos / margie.pascua@aecom.com				
Receive Invoice	<input type="checkbox"/> Hard Copy	<input checked="" type="checkbox"/> Email	Receive Report	<input type="checkbox"/> Hard Copy	<input checked="" type="checkbox"/> Email
Purchase Order	Quote	Bottle Order			
N/A	N/A	N/A			

### Report Information (If different than Account Information)

Company Name	AECOM	
Contact	see Account Information	
Phone		
Mailing Address		
City, State, Zip		
Email	USAPimaging@aecom.com	
Receive Report	<input type="checkbox"/> Hard Copy	<input checked="" type="checkbox"/> Email
Special Report Format:	<input checked="" type="checkbox"/> LEVEL IV <input type="checkbox"/> NELAC <input checked="" type="checkbox"/> EDOEDT (contact laboratory) <input type="checkbox"/> Other	

### Comments

1. Project performed under DoD QSM.
2. TPH-d/o needs 3520 extraction.
3. Preliminary data (or Level II) in 7 business days.
4. Note: NOI log is separate from other COC's.

### Project Information

Project Name, PWSID, Permit, etc.	CV18F0126, 60571032.02.46.01		
Sampler Name	GN, RS, CP	Sampler Phone	808-293-6607
Sample Origin State	Hawaii	EPA/State Compliance	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
The following items will be subcontracted to other certified laboratories as shown below. This COC is not required for subcontracted analyses as indicated.			
Analysis	Subcontract Lab		
TDC	Energy Laboratories Inc., Casper		

### Matrix Codes

- A - Air
- W - Water
- S - Soils/Solids
- V - Vegetation
- B - Biosessory
- O - Oil
- DW - Drinking Water

### Analysis Requested

8260 VOC's (Full Suite) + DCA (40ml VOA w/HCL)	8016 TPH-g (40ml VOA w/HCL)	8017B Methane (40ml VOA w/H2SO4)	8011 EDB (40ml VOA w/HCL)	EPA 3630/8015 TPH-d/o +SGC [1-L AG w/H2SO4]	EPA 8020 Dis. Lead (280ml HDPE w/HNO3) (field Filtered)	EPA 8090 TOC (250ml AG w/H2PO4)	EPA 8020 Total Lead (280ml HDPE w/HNO3)	See Attached
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All turnaround times are standard unless marked as RUSH.

Energy Laboratories MUST be contacted prior to RUSH sample submittal for charges and scheduling - See Instructions Page

Sample Identification (Name, Location, Interval, etc.)	Collection		Number of Containers	Matrix Per Container	Analysis Requested								RUSH TAT	ELI LAB ID Laboratory Use Only	
	Date	Time			8260 VOC's (Full Suite) + DCA (40ml VOA w/HCL)	8016 TPH-g (40ml VOA w/HCL)	8017B Methane (40ml VOA w/H2SO4)	8011 EDB (40ml VOA w/HCL)	EPA 3630/8015 TPH-d/o +SGC [1-L AG w/H2SO4]	EPA 8020 Dis. Lead (280ml HDPE w/HNO3) (field Filtered)	EPA 8090 TOC (250ml AG w/H2PO4)	EPA 8020 Total Lead (280ml HDPE w/HNO3)			
1 ERH2697 (OWDFM08A)	3/1/22	1005	17	GW	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	RS22030586-001
2 ERH2696 (Trip Blank)	3/1/22	1000	8	WQ	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-003/-004/-005/-006
3 ERH2698 (OWDFM08A FD)	3/1/22	1005	8	GW	✓				✓						-002
4 TB 8260 - 14833			2												-003
5 TB 8260 - 14833			2												-004
6 TB 801 - 14894			2												-005
7 TB Methane - 14895			2												-006
8															
9															

ELI is REQUIRED to provide preservative traceability. If the preservatives supplied with the bottle order were NOT used, please attach your preservative information with this COC.

Custody Record MUST be signed	Relinquished by (print)	Date/Time	Signature	Received by (print)	Date/Time	Signature
	Margie Nutter	3/1/22 1430	Margie Nutter	See below	3/1/22 11:10	See below
LABORATORY USE ONLY						
Shipped By	Cooler ID(s)	Custody Seal Y N C B	Intact Y N	Receipt Temp	Temp Blank Y N	On Ice Y N
				3.4°C	Y	N
Payment Type			Amount \$	Receipt Number (see check only)		
CC Cash Check						

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All subcontracted data will be clearly notated on your analytical report.



# Chain of Custody & Analytical Request Record

www.energylab.com

COC # 202203-17NOI

DoD Samples 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, Hawaii 96813		
Email alethea.ramos / margie.pascua@aecom.com		
Receive Invoice <input type="checkbox"/> Hard Copy <input checked="" type="checkbox"/> Email <input type="checkbox"/> Receive Report <input type="checkbox"/> Hard Copy <input checked="" type="checkbox"/> Email		
Purchase Order	Quote	Invoice Order
N/A	N/A	N/A

### Report Information (if different than Account Information)

Company Name AECOM	
Contact see Account information	
Phone	
Mailing Address	
City, State, Zip	
Email USAPImaging@aecom.com	
Receive Report <input type="checkbox"/> Hard Copy <input checked="" type="checkbox"/> Email	
Special Report Format:	
<input checked="" type="checkbox"/> LEVEL IV <input checked="" type="checkbox"/> INELAC <input type="checkbox"/> EDD/EDT (contact laboratory) <input type="checkbox"/> Other	

### Comments

1. Project performed under DoD QSM.
2. TPH-d/o needs 3520 extraction.
3. Preliminary data (or Level II) in 7 business days.
4. Note: NOI log is separate from other COC's.

### Project Information

Project Name, PWSID, Permit, etc. CV18F0126, 60571032.02.46.01	
Sampler Name Sarah Walker	Sampler Phone 474934578
Sample Origin State Hawaii	EPA/State Compliance <input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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. Cooper

### Matrix Codes

- A - Air
- W - Water
- S - Solids
- V - Vegetation
- B - Biosolids
- O - Oil
- DW - Drinking Water

### Analysis Requested

8260 VOC's (Full Suite) + DCA* (40ml VOA w/HCL)	8015 TPH-g (40ml VOA w/HCL)	RSK178 Methane (40ml VOA w/H2SO4)	8011 EDB (40ml VOA w/HCL)	EPA 3630/8015 TPH-d/o + SOC [-L AG w/H2SO4]	EPA 8020 Dist. Lead (250ml HDPE w/HNO3) (field Flashed)	EPA 8000 TOC (250ml AG w/H2PO4)	EPA 8020 Total Lead (250ml HDPE w/HNO3)	See Attached
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	

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

Sample Identification (Name, Location, Interval, etc.)	Collection		Number of Containers	Matrix (See Codes Above)	Analysis Requested								See Attached	ELI LAB ID Laboratory Use Only
	Date	Time			8260 VOC's (Full Suite) + DCA* (40ml VOA w/HCL)	8015 TPH-g (40ml VOA w/HCL)	RSK178 Methane (40ml VOA w/H2SO4)	8011 EDB (40ml VOA w/HCL)	EPA 3630/8015 TPH-d/o + SOC [-L AG w/H2SO4]	EPA 8020 Dist. Lead (250ml HDPE w/HNO3) (field Flashed)	EPA 8000 TOC (250ml AG w/H2PO4)	EPA 8020 Total Lead (250ml HDPE w/HNO3)		
1 ERH2682 (RHMW15 Zone 5)	3/7/22	0755	17	GW	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	X B22050586-w7
2 ERH2681 (Trp Blank)	3/7/22	0740	8	WQ	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	X -cos/contoholal
<del>3</del>														
<del>4 TB8260-14833</del>			<del>2</del>											<del>-008</del>
<del>5 TB680-14653</del>			<del>2</del>											<del>-009</del>
<del>6 TB8011-14894</del>			<del>2</del>											<del>-010</del>
<del>7 TB methane-14895</del>														<del>-011</del>
8														
9														

ELI is REQUIRED to provide preservative traceability. If the preservatives supplied with the bottle order were NOT used, please attach your preservative information with this COC

Custody Record MUST be signed	Replenished by (print) Taylor Adams	Date/Time 03/07 14:20	Signature 	Received by (print)	Date/Time	Signature
	Replenished by (print)	Date/Time	Signature	Received by Laboratory (print) Sarah Walker	Date/Time 3/9/22 11:10	Signature 
LABORATORY USE ONLY						
Shipped By	Cooler ID(s)	Custody Seals Y N C B	Intact Y N	Receipt Temp 0.4 °C	Temp Blank Y N	Office Y N
Payment Type CC Cash Check			Amount \$	Receipt Number (cash/check only)		

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All subcontracted data will be clearly notated on your analytical report.

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# Work Order Receipt Checklist

AECOM - Honolulu

B22030586

Login completed by: Leslie S. Cadreau
Reviewed by: BL2000\rshular
Reviewed Date: 3/11/2022

Date Received: 3/9/2022
Received by: srg
Carrier name: FedEx

- Shipping container/cooler in good condition? Yes [x] No [ ] Not Present [ ]
Custody seals intact on all shipping container(s)/cooler(s)? Yes [x] No [ ] Not Present [ ]
Custody seals intact on all sample bottles? Yes [x] No [ ] Not Present [ ]
Chain of custody present? Yes [x] No [ ]
Chain of custody signed when relinquished and received? Yes [x] No [ ]
Chain of custody agrees with sample labels? Yes [x] No [ ]
Samples in proper container/bottle? Yes [x] No [ ]
Sample containers intact? Yes [x] No [ ]
Sufficient sample volume for indicated test? Yes [x] 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 [x] No [ ]
Temp Blank received in all shipping container(s)/cooler(s)? Yes [x] No [ ] Not Applicable [ ]
Container/Temp Blank temperature: °C On Ice
Water - VOA vials have zero headspace? Yes [x] No [ ] Not Applicable [ ]
Water - pH acceptable upon receipt? Yes [x] 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 Temperature Blank temperature for shipping container 1 was 0.4°C and shipping container 2 was 3.4°C.

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.

All samples for Methane analysis were received without preservative traceability. Proceed with Methane analysis without preservative traceability per email from Alethea Ramos on 03/09/22.

All VOA vials for sample ERH2682 (RHMW15 Zone 5) were received without a custody seal present on the sample containers.

## Qualifiers and Abbreviations

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

## Qualifiers and Abbreviations

### Abbreviation

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

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





### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Lab ID: B22030586-001

Collection Date: 03/07/2022 14:05

Date Received: 03/09/2022

Report Date: 03/16/2022

**Client:** AECOM - Honolulu  
**Client Sample ID:** ERH2697 (OWDFMW08A)  
**Project:** CV18F0126/60571032.02.46.01  
**Matrix:** Ground Water

Analyses	Result	Units	DF	Qual	LOQ	LOD	DL	MCL	Method	Analysis Date / By	RunID : Run Order	BatchID
<b>AGGREGATE ORGANICS</b>												
Organic Carbon, Total (TOC) - TOC Range is 0.4 to 0.4	0.36	mg/L	1	J	0.50	0.50	0.17		SW9060A	03/11/2022 00:39/eli-ca	SUB-C280416 : 14	C_R280416
<b>METALS, DISSOLVED</b>												
Lead	0.00010	mg/L	1	J	0.001	0.00005	0.00003		SW6020	03/12/2022 01:48/srh	ICPMS207-B_220311A : 57	R376031
<b>METALS, TOTAL</b>												
Lead	0.00024	mg/L	1	J	0.001	0.0001	0.00005		SW6020	03/12/2022 01:54/srh	ICPMS207-B_220311A : 58	164435
<b>VOLATILE ORGANIC COMPOUNDS</b>												
Benzene	ND	ug/L	1	U	1.0	0.20	0.091		SW8260B	03/11/2022 04:01/msc	VOA5975C.I_220310B : 6	R375959
Bromobenzene	ND	ug/L	1	U	1.0	0.20	0.083		SW8260B	03/11/2022 04:01/msc	VOA5975C.I_220310B : 6	R375959
Bromochloromethane	ND	ug/L	1	U	1.0	0.50	0.14		SW8260B	03/11/2022 04:01/msc	VOA5975C.I_220310B : 6	R375959
Bromodichloromethane	ND	ug/L	1	U	1.0	0.25	0.12		SW8260B	03/11/2022 04:01/msc	VOA5975C.I_220310B : 6	R375959
Bromoform	ND	ug/L	1	U	1.0	0.25	0.12		SW8260B	03/11/2022 04:01/msc	VOA5975C.I_220310B : 6	R375959
Carbon tetrachloride	ND	ug/L	1	U	1.0	0.50	0.14		SW8260B	03/11/2022 04:01/msc	VOA5975C.I_220310B : 6	R375959
Chlorobenzene	ND	ug/L	1	U	1.0	0.20	0.091		SW8260B	03/11/2022 04:01/msc	VOA5975C.I_220310B : 6	R375959
Chlorodibromomethane	ND	ug/L	1	U	1.0	0.20	0.084		SW8260B	03/11/2022 04:01/msc	VOA5975C.I_220310B : 6	R375959
Chloroethane	ND	ug/L	1	U	1.0	0.50	0.17		SW8260B	03/11/2022 04:01/msc	VOA5975C.I_220310B : 6	R375959
Chloroform	0.26	ug/L	1	J	1.0	0.20	0.079		SW8260B	03/11/2022 04:01/msc	VOA5975C.I_220310B : 6	R375959
Chloromethane	ND	ug/L	1	U	1.0	0.50	0.16		SW8260B	03/11/2022 04:01/msc	VOA5975C.I_220310B : 6	R375959
1,2-Dibromoethane	ND	ug/L	1	U	1.0	0.20	0.092		SW8260B	03/11/2022 04:01/msc	VOA5975C.I_220310B : 6	R375959
2-Chlorotoluene	ND	ug/L	1	U	1.0	0.20	0.088		SW8260B	03/11/2022 04:01/msc	VOA5975C.I_220310B : 6	R375959
4-Chlorotoluene	ND	ug/L	1	U	1.0	0.20	0.073		SW8260B	03/11/2022 04:01/msc	VOA5975C.I_220310B : 6	R375959
Dibromomethane	ND	ug/L	1	U	1.0	0.50	0.15		SW8260B	03/11/2022 04:01/msc	VOA5975C.I_220310B : 6	R375959
1,2-Dichlorobenzene	ND	ug/L	1	U	1.0	0.20	0.075		SW8260B	03/11/2022 04:01/msc	VOA5975C.I_220310B : 6	R375959
1,3-Dichlorobenzene	ND	ug/L	1	U	1.0	0.20	0.080		SW8260B	03/11/2022 04:01/msc	VOA5975C.I_220310B : 6	R375959
1,4-Dichlorobenzene	ND	ug/L	1	U	1.0	0.20	0.086		SW8260B	03/11/2022 04:01/msc	VOA5975C.I_220310B : 6	R375959
Dichlorodifluoromethane	ND	ug/L	1	U	1.0	0.50	0.18		SW8260B	03/11/2022 04:01/msc	VOA5975C.I_220310B : 6	R375959
1,1-Dichloroethane	ND	ug/L	1	U	1.0	0.50	0.14		SW8260B	03/11/2022 04:01/msc	VOA5975C.I_220310B : 6	R375959
1,2-Dichloroethane	ND	ug/L	1	U	1.0	0.25	0.12		SW8260B	03/11/2022 04:01/msc	VOA5975C.I_220310B : 6	R375959
1,1-Dichloroethene	ND	ug/L	1	U	1.0	0.50	0.14		SW8260B	03/11/2022 04:01/msc	VOA5975C.I_220310B : 6	R375959
cis-1,2-Dichloroethene	ND	ug/L	1	U	1.0	0.25	0.11		SW8260B	03/11/2022 04:01/msc	VOA5975C.I_220310B : 6	R375959
trans-1,2-Dichloroethene	ND	ug/L	1	U	1.0	0.25	0.12		SW8260B	03/11/2022 04:01/msc	VOA5975C.I_220310B : 6	R375959
1,2-Dichloropropane	ND	ug/L	1	U	1.0	0.20	0.085		SW8260B	03/11/2022 04:01/msc	VOA5975C.I_220310B : 6	R375959
1,3-Dichloropropane	ND	ug/L	1	U	1.0	0.20	0.079		SW8260B	03/11/2022 04:01/msc	VOA5975C.I_220310B : 6	R375959
2,2-Dichloropropane	ND	ug/L	1	U	1.0	0.50	0.19		SW8260B	03/11/2022 04:01/msc	VOA5975C.I_220310B : 6	R375959
1,1-Dichloropropene	ND	ug/L	1	U	1.0	0.20	0.083		SW8260B	03/11/2022 04:01/msc	VOA5975C.I_220310B : 6	R375959
cis-1,3-Dichloropropene	ND	ug/L	1	U	1.0	0.20	0.073		SW8260B	03/11/2022 04:01/msc	VOA5975C.I_220310B : 6	R375959
trans-1,3-Dichloropropene	ND	ug/L	1	U	1.0	0.20	0.085		SW8260B	03/11/2022 04:01/msc	VOA5975C.I_220310B : 6	R375959
Ethylbenzene	ND	ug/L	1	U	1.0	0.20	0.084		SW8260B	03/11/2022 04:01/msc	VOA5975C.I_220310B : 6	R375959



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Lab ID: B22030586-001

Collection Date: 03/07/2022 14:05

Date Received: 03/09/2022

Report Date: 03/16/2022

**Client:** AECOM - Honolulu  
**Client Sample ID:** ERH2697 (OWDFMW08A)  
**Project:** CV18F0126/60571032.02.46.01  
**Matrix:** Ground Water

Analyses	Result	Units	DF	Qual	LOQ	LOD	DL	MCL	Method	Analysis Date / By	RunID : Run Order	BatchID
<b>VOLATILE ORGANIC COMPOUNDS</b>												
Methyl ethyl ketone	ND	ug/L	1	U	20	5.0	1.8		SW8260B	03/11/2022 04:01/msc	VOA5975C.I_220310B : 6	R375959
Methyl tert-butyl ether (MTBE)	ND	ug/L	1	U	1.0	0.25	0.10		SW8260B	03/11/2022 04:01/msc	VOA5975C.I_220310B : 6	R375959
Methylene chloride	ND	ug/L	1	U	1.0	0.50	0.34		SW8260B	03/11/2022 04:01/msc	VOA5975C.I_220310B : 6	R375959
Styrene	ND	ug/L	1	U	1.0	0.20	0.067		SW8260B	03/11/2022 04:01/msc	VOA5975C.I_220310B : 6	R375959
1,1,1,2-Tetrachloroethane	ND	ug/L	1	U	1.0	0.25	0.10		SW8260B	03/11/2022 04:01/msc	VOA5975C.I_220310B : 6	R375959
1,1,2,2-Tetrachloroethane	ND	ug/L	1	U	1.0	0.20	0.087		SW8260B	03/11/2022 04:01/msc	VOA5975C.I_220310B : 6	R375959
Tetrachloroethene	ND	ug/L	1	U	1.0	0.20	0.067		SW8260B	03/11/2022 04:01/msc	VOA5975C.I_220310B : 6	R375959
Toluene	ND	ug/L	1	U	1.0	0.20	0.068		SW8260B	03/11/2022 04:01/msc	VOA5975C.I_220310B : 6	R375959
1,1,1-Trichloroethane	ND	ug/L	1	U	1.0	0.50	0.13		SW8260B	03/11/2022 04:01/msc	VOA5975C.I_220310B : 6	R375959
1,1,2-Trichloroethane	ND	ug/L	1	U	1.0	0.25	0.11		SW8260B	03/11/2022 04:01/msc	VOA5975C.I_220310B : 6	R375959
Trichloroethene	ND	ug/L	1	U	1.0	0.20	0.099		SW8260B	03/11/2022 04:01/msc	VOA5975C.I_220310B : 6	R375959
Trichlorofluoromethane	ND	ug/L	1	U	1.0	0.50	0.13		SW8260B	03/11/2022 04:01/msc	VOA5975C.I_220310B : 6	R375959
1,2,3-Trichloropropane	ND	ug/L	1	U	1.0	0.50	0.24		SW8260B	03/11/2022 04:01/msc	VOA5975C.I_220310B : 6	R375959
Vinyl chloride	ND	ug/L	1	U	1.0	0.50	0.15		SW8260B	03/11/2022 04:01/msc	VOA5975C.I_220310B : 6	R375959
m+p-Xylenes	ND	ug/L	1	U	1.0	0.50	0.15		SW8260B	03/11/2022 04:01/msc	VOA5975C.I_220310B : 6	R375959
o-Xylene	ND	ug/L	1	U	1.0	0.20	0.060		SW8260B	03/11/2022 04:01/msc	VOA5975C.I_220310B : 6	R375959
Xylenes, Total	ND	ug/L	1	U	1.0	0.20	0.060		SW8260B	03/11/2022 04:01/msc	VOA5975C.I_220310B : 6	R375959
Surr: Dibromofluoromethane	107.0	%REC	1		80-119				SW8260B	03/11/2022 04:01/msc	VOA5975C.I_220310B : 6	R375959
Surr: 1,2-Dichloroethane-d4	107.0	%REC	1		81-118				SW8260B	03/11/2022 04:01/msc	VOA5975C.I_220310B : 6	R375959
Surr: Toluene-d8	96.0	%REC	1		89-112				SW8260B	03/11/2022 04:01/msc	VOA5975C.I_220310B : 6	R375959
Surr: p-Bromofluorobenzene	107.0	%REC	1		85-114				SW8260B	03/11/2022 04:01/msc	VOA5975C.I_220310B : 6	R375959
<b>VOCS BY MICROEXTRACTION-ECD</b>												
1,2-Dibromoethane	ND	ug/L	1	U	0.010	0.0049	0.0025		SW8011	03/14/2022 23:20/clt	GECD.I_220314A : 20	164488
Surr: 1,1,1,2-Tetrachloroethane	91.0	%REC	1		70-130				SW8011	03/14/2022 23:20/clt	GECD.I_220314A : 20	164488
<b>PETROLEUM HYDROCARBONS-VOLATILE</b>												
C6 to C10	ND	ug/L	1	U	20	8.7	2.0		SW8015C	03/10/2022 23:16/jp	VARIAN1_220309A : 46	R375955
Total Purgeable Hydrocarbons	ND	ug/L	1	U	20	10	3.1		SW8015C	03/10/2022 23:16/jp	VARIAN1_220309A : 46	R375955
Surr: Trifluorotoluene	77.0	%REC	1		70-130				SW8015C	03/10/2022 23:16/jp	VARIAN1_220309A : 46	R375955
- Note 1: C6 to C10 is defined as all hydrocarbons eluting between 2-Methylpentane and 1,2,4-Trimethylbenzene.												
- Note 2: Total Purgeable Hydrocarbons are defined as the total hydrocarbon response regardless of elution time.												
<b>PETROLEUM HYDROCARBONS-SEMI-VOLATILE</b>												
Diesel Range Organics (C10 to C24)	ND	mg/L	1	U	0.30	0.14	0.037		SW8015C	03/11/2022 18:33/amn	GCFID-HP5-B_220311B : 6	164385
Oil Range Hydrocarbons (C24 to C40)	ND	mg/L	1	U	0.30	0.14	0.084		SW8015C	03/11/2022 18:33/amn	GCFID-HP5-B_220311B : 6	164385
Total Extractable Hydrocarbons	ND	mg/L	1	U	0.30	0.14	0.071		SW8015C	03/11/2022 18:33/amn	GCFID-HP5-B_220311B : 6	164385
Surr: o-Terphenyl	78.0	%REC	1		56-125				SW8015C	03/11/2022 18:33/amn	GCFID-HP5-B_220311B : 6	164385
Surr: n-Triacontane	74.0	%REC	1		50-150				SW8015C	03/11/2022 18:33/amn	GCFID-HP5-B_220311B : 6	164385
- Note: Total Extractable Hydrocarbons are defined as the total hydrocarbon responses regardless of elution time.												
- Since there were no detectable hydrocarbons, Silica Gel Treatment (SGT) results are equivalent to non-SGT results.												



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Lab ID: B22030586-001

Collection Date: 03/07/2022 14:05

Date Received: 03/09/2022

Report Date: 03/16/2022

**Client:** AECOM - Honolulu  
**Client Sample ID:** ERH2697 (OWDFMW08A)  
**Project:** CV18F0126/60571032.02.46.01  
**Matrix:** Ground Water

Analyses	Result	Units	DF	Qual	LOQ	LOD	DL	MCL	Method	Analysis Date / By	RunID : Run Order	BatchID
<b>ORGANIC CHARACTERISTICS</b>												
Methane	ND	mg/L	1	U	0.0020	0.0012	0.00070		SW8015M	03/11/2022 17:06/jdw	FID-HEADSPACE_220311B : 14	R376018



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Lab ID: B22030586-002

Collection Date: 03/07/2022 14:05

Date Received: 03/09/2022

Report Date: 03/16/2022

**Client:** AECOM - Honolulu  
**Client Sample ID:** ERH2698 (OWDFMW08A FD)  
**Project:** CV18F0126/60571032.02.46.01  
**Matrix:** Ground Water

Analyses	Result	Units	DF	Qual	LOQ	LOD	DL	MCL	Method	Analysis Date / By	RunID : Run Order	BatchID
<b>VOLATILE ORGANIC COMPOUNDS</b>												
Benzene	ND	ug/L	1	U	1.0	0.20	0.091		SW8260B	03/11/2022 04:28/msc	VOA5975C.I_220310B : 7	R375959
Bromobenzene	ND	ug/L	1	U	1.0	0.20	0.083		SW8260B	03/11/2022 04:28/msc	VOA5975C.I_220310B : 7	R375959
Bromochloromethane	ND	ug/L	1	U	1.0	0.50	0.14		SW8260B	03/11/2022 04:28/msc	VOA5975C.I_220310B : 7	R375959
Bromodichloromethane	ND	ug/L	1	U	1.0	0.25	0.12		SW8260B	03/11/2022 04:28/msc	VOA5975C.I_220310B : 7	R375959
Bromoform	ND	ug/L	1	U	1.0	0.25	0.12		SW8260B	03/11/2022 04:28/msc	VOA5975C.I_220310B : 7	R375959
Carbon tetrachloride	ND	ug/L	1	U	1.0	0.50	0.14		SW8260B	03/11/2022 04:28/msc	VOA5975C.I_220310B : 7	R375959
Chlorobenzene	ND	ug/L	1	U	1.0	0.20	0.091		SW8260B	03/11/2022 04:28/msc	VOA5975C.I_220310B : 7	R375959
Chlorodibromomethane	ND	ug/L	1	U	1.0	0.20	0.084		SW8260B	03/11/2022 04:28/msc	VOA5975C.I_220310B : 7	R375959
Chloroethane	ND	ug/L	1	U	1.0	0.50	0.17		SW8260B	03/11/2022 04:28/msc	VOA5975C.I_220310B : 7	R375959
Chloroform	0.27	ug/L	1	J	1.0	0.20	0.079		SW8260B	03/11/2022 04:28/msc	VOA5975C.I_220310B : 7	R375959
Chloromethane	ND	ug/L	1	U	1.0	0.50	0.16		SW8260B	03/11/2022 04:28/msc	VOA5975C.I_220310B : 7	R375959
1,2-Dibromoethane	ND	ug/L	1	U	1.0	0.20	0.092		SW8260B	03/11/2022 04:28/msc	VOA5975C.I_220310B : 7	R375959
2-Chlorotoluene	ND	ug/L	1	U	1.0	0.20	0.088		SW8260B	03/11/2022 04:28/msc	VOA5975C.I_220310B : 7	R375959
4-Chlorotoluene	ND	ug/L	1	U	1.0	0.20	0.073		SW8260B	03/11/2022 04:28/msc	VOA5975C.I_220310B : 7	R375959
Dibromomethane	ND	ug/L	1	U	1.0	0.50	0.15		SW8260B	03/11/2022 04:28/msc	VOA5975C.I_220310B : 7	R375959
1,2-Dichlorobenzene	ND	ug/L	1	U	1.0	0.20	0.075		SW8260B	03/11/2022 04:28/msc	VOA5975C.I_220310B : 7	R375959
1,3-Dichlorobenzene	ND	ug/L	1	U	1.0	0.20	0.080		SW8260B	03/11/2022 04:28/msc	VOA5975C.I_220310B : 7	R375959
1,4-Dichlorobenzene	ND	ug/L	1	U	1.0	0.20	0.086		SW8260B	03/11/2022 04:28/msc	VOA5975C.I_220310B : 7	R375959
Dichlorodifluoromethane	ND	ug/L	1	U	1.0	0.50	0.18		SW8260B	03/11/2022 04:28/msc	VOA5975C.I_220310B : 7	R375959
1,1-Dichloroethane	ND	ug/L	1	U	1.0	0.50	0.14		SW8260B	03/11/2022 04:28/msc	VOA5975C.I_220310B : 7	R375959
1,2-Dichloroethane	ND	ug/L	1	U	1.0	0.25	0.12		SW8260B	03/11/2022 04:28/msc	VOA5975C.I_220310B : 7	R375959
1,1-Dichloroethene	ND	ug/L	1	U	1.0	0.50	0.14		SW8260B	03/11/2022 04:28/msc	VOA5975C.I_220310B : 7	R375959
cis-1,2-Dichloroethene	ND	ug/L	1	U	1.0	0.25	0.11		SW8260B	03/11/2022 04:28/msc	VOA5975C.I_220310B : 7	R375959
trans-1,2-Dichloroethene	ND	ug/L	1	U	1.0	0.25	0.12		SW8260B	03/11/2022 04:28/msc	VOA5975C.I_220310B : 7	R375959
1,2-Dichloropropane	ND	ug/L	1	U	1.0	0.20	0.085		SW8260B	03/11/2022 04:28/msc	VOA5975C.I_220310B : 7	R375959
1,3-Dichloropropane	ND	ug/L	1	U	1.0	0.20	0.079		SW8260B	03/11/2022 04:28/msc	VOA5975C.I_220310B : 7	R375959
2,2-Dichloropropane	ND	ug/L	1	U	1.0	0.50	0.19		SW8260B	03/11/2022 04:28/msc	VOA5975C.I_220310B : 7	R375959
1,1-Dichloropropene	ND	ug/L	1	U	1.0	0.20	0.083		SW8260B	03/11/2022 04:28/msc	VOA5975C.I_220310B : 7	R375959
cis-1,3-Dichloropropene	ND	ug/L	1	U	1.0	0.20	0.073		SW8260B	03/11/2022 04:28/msc	VOA5975C.I_220310B : 7	R375959
trans-1,3-Dichloropropene	ND	ug/L	1	U	1.0	0.20	0.085		SW8260B	03/11/2022 04:28/msc	VOA5975C.I_220310B : 7	R375959
Ethylbenzene	ND	ug/L	1	U	1.0	0.20	0.084		SW8260B	03/11/2022 04:28/msc	VOA5975C.I_220310B : 7	R375959
Methyl ethyl ketone	ND	ug/L	1	U	20	5.0	1.8		SW8260B	03/11/2022 04:28/msc	VOA5975C.I_220310B : 7	R375959
Methyl tert-butyl ether (MTBE)	ND	ug/L	1	U	1.0	0.25	0.10		SW8260B	03/11/2022 04:28/msc	VOA5975C.I_220310B : 7	R375959
Methylene chloride	ND	ug/L	1	U	1.0	0.50	0.34		SW8260B	03/11/2022 04:28/msc	VOA5975C.I_220310B : 7	R375959
Styrene	ND	ug/L	1	U	1.0	0.20	0.067		SW8260B	03/11/2022 04:28/msc	VOA5975C.I_220310B : 7	R375959
1,1,1,2-Tetrachloroethane	ND	ug/L	1	U	1.0	0.25	0.10		SW8260B	03/11/2022 04:28/msc	VOA5975C.I_220310B : 7	R375959
1,1,2,2-Tetrachloroethane	ND	ug/L	1	U	1.0	0.20	0.087		SW8260B	03/11/2022 04:28/msc	VOA5975C.I_220310B : 7	R375959
Tetrachloroethene	ND	ug/L	1	U	1.0	0.20	0.067		SW8260B	03/11/2022 04:28/msc	VOA5975C.I_220310B : 7	R375959
Toluene	ND	ug/L	1	U	1.0	0.20	0.068		SW8260B	03/11/2022 04:28/msc	VOA5975C.I_220310B : 7	R375959



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Lab ID: B22030586-002

Collection Date: 03/07/2022 14:05

Date Received: 03/09/2022

Report Date: 03/16/2022

**Client:** AECOM - Honolulu  
**Client Sample ID:** ERH2698 (OWDFMW08A FD)  
**Project:** CV18F0126/60571032.02.46.01  
**Matrix:** Ground Water

Analyses	Result	Units	DF	Qual	LOQ	LOD	DL	MCL	Method	Analysis Date / By	RunID : Run Order	BatchID
<b>VOLATILE ORGANIC COMPOUNDS</b>												
1,1,1-Trichloroethane	ND	ug/L	1	U	1.0	0.50	0.13		SW8260B	03/11/2022 04:28/msc	VOA5975C.I_220310B : 7	R375959
1,1,2-Trichloroethane	ND	ug/L	1	U	1.0	0.25	0.11		SW8260B	03/11/2022 04:28/msc	VOA5975C.I_220310B : 7	R375959
Trichloroethene	ND	ug/L	1	U	1.0	0.20	0.099		SW8260B	03/11/2022 04:28/msc	VOA5975C.I_220310B : 7	R375959
Trichlorofluoromethane	ND	ug/L	1	U	1.0	0.50	0.13		SW8260B	03/11/2022 04:28/msc	VOA5975C.I_220310B : 7	R375959
1,2,3-Trichloropropane	ND	ug/L	1	U	1.0	0.50	0.24		SW8260B	03/11/2022 04:28/msc	VOA5975C.I_220310B : 7	R375959
Vinyl chloride	ND	ug/L	1	U	1.0	0.50	0.15		SW8260B	03/11/2022 04:28/msc	VOA5975C.I_220310B : 7	R375959
m+p-Xylenes	ND	ug/L	1	U	1.0	0.50	0.15		SW8260B	03/11/2022 04:28/msc	VOA5975C.I_220310B : 7	R375959
o-Xylene	ND	ug/L	1	U	1.0	0.20	0.060		SW8260B	03/11/2022 04:28/msc	VOA5975C.I_220310B : 7	R375959
Xylenes, Total	ND	ug/L	1	U	1.0	0.20	0.060		SW8260B	03/11/2022 04:28/msc	VOA5975C.I_220310B : 7	R375959
Surr: Dibromofluoromethane	108.0	%REC	1		80-119				SW8260B	03/11/2022 04:28/msc	VOA5975C.I_220310B : 7	R375959
Surr: 1,2-Dichloroethane-d4	109.0	%REC	1		81-118				SW8260B	03/11/2022 04:28/msc	VOA5975C.I_220310B : 7	R375959
Surr: Toluene-d8	95.0	%REC	1		89-112				SW8260B	03/11/2022 04:28/msc	VOA5975C.I_220310B : 7	R375959
Surr: p-Bromofluorobenzene	109.0	%REC	1		85-114				SW8260B	03/11/2022 04:28/msc	VOA5975C.I_220310B : 7	R375959
<b>PETROLEUM HYDROCARBONS-SEMI-VOLATILE</b>												
Diesel Range Organics (C10 to C24)	ND	mg/L	1	U	0.30	0.14	0.037		SW8015C	03/11/2022 19:16/amn	GCFID-HP5-B_220311B : 7	164385
Oil Range Hydrocarbons (C24 to C40)	ND	mg/L	1	U	0.30	0.14	0.084		SW8015C	03/11/2022 19:16/amn	GCFID-HP5-B_220311B : 7	164385
Total Extractable Hydrocarbons	ND	mg/L	1	U	0.30	0.14	0.071		SW8015C	03/11/2022 19:16/amn	GCFID-HP5-B_220311B : 7	164385
Surr: o-Terphenyl	82.0	%REC	1		56-125				SW8015C	03/11/2022 19:16/amn	GCFID-HP5-B_220311B : 7	164385
Surr: n-Triacontane	77.0	%REC	1		50-150				SW8015C	03/11/2022 19:16/amn	GCFID-HP5-B_220311B : 7	164385

- Note: Total Extractable Hydrocarbons are defined as the total hydrocarbon responses regardless of elution time.  
- Since there were no detectable hydrocarbons, Silica Gel Treatment (SGT) results are equivalent to non-SGT results.



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Lab ID: B22030586-003

Collection Date: 03/07/2022 14:05

Date Received: 03/09/2022

Report Date: 03/16/2022

**Client:** AECOM - Honolulu  
**Client Sample ID:** ERH2696 (Trip Blank) 14833  
**Project:** CV18F0126/60571032.02.46.01  
**Matrix:** Trip Blank

Analyses	Result	Units	DF	Qual	LOQ	LOD	DL	MCL	Method	Analysis Date / By	RunID : Run Order	BatchID
<b>VOLATILE ORGANIC COMPOUNDS</b>												
Benzene	ND	ug/L	1	U	1.0	0.20	0.091		SW8260B	03/11/2022 05:50/msc	VOA5975C.I_220310B : 9	R375959
Bromobenzene	ND	ug/L	1	U	1.0	0.20	0.083		SW8260B	03/11/2022 05:50/msc	VOA5975C.I_220310B : 9	R375959
Bromochloromethane	ND	ug/L	1	U	1.0	0.50	0.14		SW8260B	03/11/2022 05:50/msc	VOA5975C.I_220310B : 9	R375959
Bromodichloromethane	ND	ug/L	1	U	1.0	0.25	0.12		SW8260B	03/11/2022 05:50/msc	VOA5975C.I_220310B : 9	R375959
Bromoform	ND	ug/L	1	U	1.0	0.25	0.12		SW8260B	03/11/2022 05:50/msc	VOA5975C.I_220310B : 9	R375959
Carbon tetrachloride	ND	ug/L	1	U	1.0	0.50	0.14		SW8260B	03/11/2022 05:50/msc	VOA5975C.I_220310B : 9	R375959
Chlorobenzene	ND	ug/L	1	U	1.0	0.20	0.091		SW8260B	03/11/2022 05:50/msc	VOA5975C.I_220310B : 9	R375959
Chlorodibromomethane	ND	ug/L	1	U	1.0	0.20	0.084		SW8260B	03/11/2022 05:50/msc	VOA5975C.I_220310B : 9	R375959
Chloroethane	ND	ug/L	1	U	1.0	0.50	0.17		SW8260B	03/11/2022 05:50/msc	VOA5975C.I_220310B : 9	R375959
Chloroform	ND	ug/L	1	U	1.0	0.20	0.079		SW8260B	03/11/2022 05:50/msc	VOA5975C.I_220310B : 9	R375959
Chloromethane	ND	ug/L	1	U	1.0	0.50	0.16		SW8260B	03/11/2022 05:50/msc	VOA5975C.I_220310B : 9	R375959
1,2-Dibromoethane	ND	ug/L	1	U	1.0	0.20	0.092		SW8260B	03/11/2022 05:50/msc	VOA5975C.I_220310B : 9	R375959
2-Chlorotoluene	ND	ug/L	1	U	1.0	0.20	0.088		SW8260B	03/11/2022 05:50/msc	VOA5975C.I_220310B : 9	R375959
4-Chlorotoluene	ND	ug/L	1	U	1.0	0.20	0.073		SW8260B	03/11/2022 05:50/msc	VOA5975C.I_220310B : 9	R375959
Dibromomethane	ND	ug/L	1	U	1.0	0.50	0.15		SW8260B	03/11/2022 05:50/msc	VOA5975C.I_220310B : 9	R375959
1,2-Dichlorobenzene	ND	ug/L	1	U	1.0	0.20	0.075		SW8260B	03/11/2022 05:50/msc	VOA5975C.I_220310B : 9	R375959
1,3-Dichlorobenzene	ND	ug/L	1	U	1.0	0.20	0.080		SW8260B	03/11/2022 05:50/msc	VOA5975C.I_220310B : 9	R375959
1,4-Dichlorobenzene	ND	ug/L	1	U	1.0	0.20	0.086		SW8260B	03/11/2022 05:50/msc	VOA5975C.I_220310B : 9	R375959
Dichlorodifluoromethane	ND	ug/L	1	U	1.0	0.50	0.18		SW8260B	03/11/2022 05:50/msc	VOA5975C.I_220310B : 9	R375959
1,1-Dichloroethane	ND	ug/L	1	U	1.0	0.50	0.14		SW8260B	03/11/2022 05:50/msc	VOA5975C.I_220310B : 9	R375959
1,2-Dichloroethane	ND	ug/L	1	U	1.0	0.25	0.12		SW8260B	03/11/2022 05:50/msc	VOA5975C.I_220310B : 9	R375959
1,1-Dichloroethene	ND	ug/L	1	U	1.0	0.50	0.14		SW8260B	03/11/2022 05:50/msc	VOA5975C.I_220310B : 9	R375959
cis-1,2-Dichloroethene	ND	ug/L	1	U	1.0	0.25	0.11		SW8260B	03/11/2022 05:50/msc	VOA5975C.I_220310B : 9	R375959
trans-1,2-Dichloroethene	ND	ug/L	1	U	1.0	0.25	0.12		SW8260B	03/11/2022 05:50/msc	VOA5975C.I_220310B : 9	R375959
1,2-Dichloropropane	ND	ug/L	1	U	1.0	0.20	0.085		SW8260B	03/11/2022 05:50/msc	VOA5975C.I_220310B : 9	R375959
1,3-Dichloropropane	ND	ug/L	1	U	1.0	0.20	0.079		SW8260B	03/11/2022 05:50/msc	VOA5975C.I_220310B : 9	R375959
2,2-Dichloropropane	ND	ug/L	1	U	1.0	0.50	0.19		SW8260B	03/11/2022 05:50/msc	VOA5975C.I_220310B : 9	R375959
1,1-Dichloropropene	ND	ug/L	1	U	1.0	0.20	0.083		SW8260B	03/11/2022 05:50/msc	VOA5975C.I_220310B : 9	R375959
cis-1,3-Dichloropropene	ND	ug/L	1	U	1.0	0.20	0.073		SW8260B	03/11/2022 05:50/msc	VOA5975C.I_220310B : 9	R375959
trans-1,3-Dichloropropene	ND	ug/L	1	U	1.0	0.20	0.085		SW8260B	03/11/2022 05:50/msc	VOA5975C.I_220310B : 9	R375959
Ethylbenzene	ND	ug/L	1	U	1.0	0.20	0.084		SW8260B	03/11/2022 05:50/msc	VOA5975C.I_220310B : 9	R375959
Methyl ethyl ketone	ND	ug/L	1	U	20	5.0	1.8		SW8260B	03/11/2022 05:50/msc	VOA5975C.I_220310B : 9	R375959
Methyl tert-butyl ether (MTBE)	ND	ug/L	1	U	1.0	0.25	0.10		SW8260B	03/11/2022 05:50/msc	VOA5975C.I_220310B : 9	R375959
Methylene chloride	ND	ug/L	1	U	1.0	0.50	0.34		SW8260B	03/11/2022 05:50/msc	VOA5975C.I_220310B : 9	R375959
Styrene	ND	ug/L	1	U	1.0	0.20	0.067		SW8260B	03/11/2022 05:50/msc	VOA5975C.I_220310B : 9	R375959
1,1,1,2-Tetrachloroethane	ND	ug/L	1	U	1.0	0.25	0.10		SW8260B	03/11/2022 05:50/msc	VOA5975C.I_220310B : 9	R375959
1,1,2,2-Tetrachloroethane	ND	ug/L	1	U	1.0	0.20	0.087		SW8260B	03/11/2022 05:50/msc	VOA5975C.I_220310B : 9	R375959
Tetrachloroethene	ND	ug/L	1	U	1.0	0.20	0.067		SW8260B	03/11/2022 05:50/msc	VOA5975C.I_220310B : 9	R375959
Toluene	ND	ug/L	1	U	1.0	0.20	0.068		SW8260B	03/11/2022 05:50/msc	VOA5975C.I_220310B : 9	R375959



**LABORATORY ANALYTICAL REPORT**

Prepared by Billings, MT Branch

**Lab ID:** B22030586-003  
**Collection Date:** 03/07/2022 14:05  
**Date Received:** 03/09/2022  
**Report Date:** 03/16/2022

**Client:** AECOM - Honolulu  
**Client Sample ID:** ERH2696 (Trip Blank) 14833  
**Project:** CV18F0126/60571032.02.46.01  
**Matrix:** Trip Blank

Analyses	Result	Units	DF	Qual	LOQ	LOD	DL	MCL	Method	Analysis Date / By	RunID : Run Order	BatchID
<b>VOLATILE ORGANIC COMPOUNDS</b>												
1,1,1-Trichloroethane	ND	ug/L	1	U	1.0	0.50	0.13		SW8260B	03/11/2022 05:50/msc	VOA5975C.I_220310B : 9	R375959
1,1,2-Trichloroethane	ND	ug/L	1	U	1.0	0.25	0.11		SW8260B	03/11/2022 05:50/msc	VOA5975C.I_220310B : 9	R375959
Trichloroethene	ND	ug/L	1	U	1.0	0.20	0.099		SW8260B	03/11/2022 05:50/msc	VOA5975C.I_220310B : 9	R375959
Trichlorofluoromethane	ND	ug/L	1	U	1.0	0.50	0.13		SW8260B	03/11/2022 05:50/msc	VOA5975C.I_220310B : 9	R375959
1,2,3-Trichloropropane	ND	ug/L	1	U	1.0	0.50	0.24		SW8260B	03/11/2022 05:50/msc	VOA5975C.I_220310B : 9	R375959
Vinyl chloride	ND	ug/L	1	U	1.0	0.50	0.15		SW8260B	03/11/2022 05:50/msc	VOA5975C.I_220310B : 9	R375959
m+p-Xylenes	ND	ug/L	1	U	1.0	0.50	0.15		SW8260B	03/11/2022 05:50/msc	VOA5975C.I_220310B : 9	R375959
o-Xylene	ND	ug/L	1	U	1.0	0.20	0.060		SW8260B	03/11/2022 05:50/msc	VOA5975C.I_220310B : 9	R375959
Xylenes, Total	ND	ug/L	1	U	1.0	0.20	0.060		SW8260B	03/11/2022 05:50/msc	VOA5975C.I_220310B : 9	R375959
Surr: Dibromofluoromethane	109.0	%REC	1		80-119				SW8260B	03/11/2022 05:50/msc	VOA5975C.I_220310B : 9	R375959
Surr: 1,2-Dichloroethane-d4	108.0	%REC	1		81-118				SW8260B	03/11/2022 05:50/msc	VOA5975C.I_220310B : 9	R375959
Surr: Toluene-d8	96.0	%REC	1		89-112				SW8260B	03/11/2022 05:50/msc	VOA5975C.I_220310B : 9	R375959
Surr: p-Bromofluorobenzene	109.0	%REC	1		85-114				SW8260B	03/11/2022 05:50/msc	VOA5975C.I_220310B : 9	R375959



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu  
**Client Sample ID:** ERH2696 (Trip Blank) 14833  
**Project:** CV18F0126/60571032.02.46.01  
**Matrix:** Trip Blank

**Lab ID:** B22030586-004  
**Collection Date:** 03/07/2022 14:05  
**Date Received:** 03/09/2022  
**Report Date:** 03/16/2022

Analyses	Result	Units	DF	Qual	LOQ	LOD	DL	MCL	Method	Analysis Date / By	RunID : Run Order	BatchID
<b>PETROLEUM HYDROCARBONS-VOLATILE</b>												
C6 to C10	ND	ug/L	1	U	20	8.7	2.0		SW8015C	03/10/2022 12:59/jp	VARIAN1_220309A : 34	R375955
Total Purgeable Hydrocarbons	ND	ug/L	1	U	20	10	3.1		SW8015C	03/10/2022 12:59/jp	VARIAN1_220309A : 34	R375955
Surr: Trifluorotoluene	76.0	%REC	1		70-130				SW8015C	03/10/2022 12:59/jp	VARIAN1_220309A : 34	R375955
- Note 1: C6 to C10 is defined as all hydrocarbons eluting between 2-Methylpentane and 1,2,4-Trimethylbenzene.												
- Note 2: Total Purgeable Hydrocarbons are defined as the total hydrocarbon response regardless of elution time.												





### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu  
**Client Sample ID:** ERH2696 (Trip Blank) 14894  
**Project:** CV18F0126/60571032.02.46.01  
**Matrix:** Trip Blank

**Lab ID:** B22030586-005  
**Collection Date:** 03/07/2022 14:05  
**Date Received:** 03/09/2022  
**Report Date:** 03/16/2022

Analyses	Result	Units	DF	Qual	LOQ	LOD	DL	MCL	Method	Analysis Date / By	RunID : Run Order	BatchID
<b>VOCS BY MICROEXTRACTION-ECD</b>												
1,2-Dibromoethane	ND	ug/L	1	U	0.010	0.0050	0.0026		SW8011	03/14/2022 21:21/clt	GECD.I_220314A : 14	164488
Surr: 1,1,1,2-Tetrachloroethane	88.0	%REC	1		70-130				SW8011	03/14/2022 21:21/clt	GECD.I_220314A : 14	164488



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu  
**Client Sample ID:** ERH2696 (Trip Blank) 14895  
**Project:** CV18F0126/60571032.02.46.01  
**Matrix:** Trip Blank

**Lab ID:** B22030586-006  
**Collection Date:** 03/07/2022 14:05  
**Date Received:** 03/09/2022  
**Report Date:** 03/16/2022

Analyses	Result	Units	DF	Qual	LOQ	LOD	DL	MCL	Method	Analysis Date / By	RunID : Run Order	BatchID
<b>ORGANIC CHARACTERISTICS</b>												
Methane	ND	mg/L	1	U	0.0020	0.0012	0.00070		SW8015M	03/11/2022 17:11/jdw	FID-HEADSPACE_220311B : 15	R376018



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Lab ID: B22030586-007  
Collection Date: 03/07/2022 11:55  
Date Received: 03/09/2022  
Report Date: 03/16/2022

Client: AECOM - Honolulu  
Client Sample ID: ERH2682 (RHMW15 Zone 5)  
Project: CV18F0126/60571032.02.46.01  
Matrix: Ground Water

Analyses	Result	Units	DF	Qual	LOQ	LOD	DL	MCL	Method	Analysis Date / By	RunID : Run Order	BatchID
<b>AGGREGATE ORGANICS</b>												
Organic Carbon, Total (TOC) - TOC Range is 0.3 to 0.3	0.25	mg/L	1	J	0.50	0.50	0.17		SW9060A	03/11/2022 01:21/eli-ca	SUB-C280416 : 15	C_R280416
<b>METALS, DISSOLVED</b>												
Lead	ND	mg/L	1	U	0.001	0.00005	0.00003		SW6020	03/12/2022 13:07/srh	ICPMS207-B_220311A : 76	R376031
<b>METALS, TOTAL</b>												
Lead	ND	mg/L	1	U	0.001	0.0001	0.00005		SW6020	03/12/2022 13:14/srh	ICPMS207-B_220311A : 77	164435
<b>VOLATILE ORGANIC COMPOUNDS</b>												
Benzene	ND	ug/L	1	U	1.0	0.20	0.091		SW8260B	03/11/2022 04:56/msc	VOA5975C.I_220310B : 8	R375959
Bromobenzene	ND	ug/L	1	U	1.0	0.20	0.083		SW8260B	03/11/2022 04:56/msc	VOA5975C.I_220310B : 8	R375959
Bromochloromethane	ND	ug/L	1	U	1.0	0.50	0.14		SW8260B	03/11/2022 04:56/msc	VOA5975C.I_220310B : 8	R375959
Bromodichloromethane	ND	ug/L	1	U	1.0	0.25	0.12		SW8260B	03/11/2022 04:56/msc	VOA5975C.I_220310B : 8	R375959
Bromoform	ND	ug/L	1	U	1.0	0.25	0.12		SW8260B	03/11/2022 04:56/msc	VOA5975C.I_220310B : 8	R375959
Carbon tetrachloride	ND	ug/L	1	U	1.0	0.50	0.14		SW8260B	03/11/2022 04:56/msc	VOA5975C.I_220310B : 8	R375959
Chlorobenzene	ND	ug/L	1	U	1.0	0.20	0.091		SW8260B	03/11/2022 04:56/msc	VOA5975C.I_220310B : 8	R375959
Chlorodibromomethane	ND	ug/L	1	U	1.0	0.20	0.084		SW8260B	03/11/2022 04:56/msc	VOA5975C.I_220310B : 8	R375959
Chloroethane	ND	ug/L	1	U	1.0	0.50	0.17		SW8260B	03/11/2022 04:56/msc	VOA5975C.I_220310B : 8	R375959
Chloroform	ND	ug/L	1	U	1.0	0.20	0.079		SW8260B	03/11/2022 04:56/msc	VOA5975C.I_220310B : 8	R375959
Chloromethane	ND	ug/L	1	U	1.0	0.50	0.16		SW8260B	03/11/2022 04:56/msc	VOA5975C.I_220310B : 8	R375959
1,2-Dibromoethane	ND	ug/L	1	U	1.0	0.20	0.092		SW8260B	03/11/2022 04:56/msc	VOA5975C.I_220310B : 8	R375959
2-Chlorotoluene	ND	ug/L	1	U	1.0	0.20	0.088		SW8260B	03/11/2022 04:56/msc	VOA5975C.I_220310B : 8	R375959
4-Chlorotoluene	ND	ug/L	1	U	1.0	0.20	0.073		SW8260B	03/11/2022 04:56/msc	VOA5975C.I_220310B : 8	R375959
Dibromomethane	ND	ug/L	1	U	1.0	0.50	0.15		SW8260B	03/11/2022 04:56/msc	VOA5975C.I_220310B : 8	R375959
1,2-Dichlorobenzene	ND	ug/L	1	U	1.0	0.20	0.075		SW8260B	03/11/2022 04:56/msc	VOA5975C.I_220310B : 8	R375959
1,3-Dichlorobenzene	ND	ug/L	1	U	1.0	0.20	0.080		SW8260B	03/11/2022 04:56/msc	VOA5975C.I_220310B : 8	R375959
1,4-Dichlorobenzene	ND	ug/L	1	U	1.0	0.20	0.086		SW8260B	03/11/2022 04:56/msc	VOA5975C.I_220310B : 8	R375959
Dichlorodifluoromethane	ND	ug/L	1	U	1.0	0.50	0.18		SW8260B	03/11/2022 04:56/msc	VOA5975C.I_220310B : 8	R375959
1,1-Dichloroethane	ND	ug/L	1	U	1.0	0.50	0.14		SW8260B	03/11/2022 04:56/msc	VOA5975C.I_220310B : 8	R375959
1,2-Dichloroethane	ND	ug/L	1	U	1.0	0.25	0.12		SW8260B	03/11/2022 04:56/msc	VOA5975C.I_220310B : 8	R375959
1,1-Dichloroethene	ND	ug/L	1	U	1.0	0.50	0.14		SW8260B	03/11/2022 04:56/msc	VOA5975C.I_220310B : 8	R375959
cis-1,2-Dichloroethene	ND	ug/L	1	U	1.0	0.25	0.11		SW8260B	03/11/2022 04:56/msc	VOA5975C.I_220310B : 8	R375959
trans-1,2-Dichloroethene	ND	ug/L	1	U	1.0	0.25	0.12		SW8260B	03/11/2022 04:56/msc	VOA5975C.I_220310B : 8	R375959
1,2-Dichloropropane	ND	ug/L	1	U	1.0	0.20	0.085		SW8260B	03/11/2022 04:56/msc	VOA5975C.I_220310B : 8	R375959
1,3-Dichloropropane	ND	ug/L	1	U	1.0	0.20	0.079		SW8260B	03/11/2022 04:56/msc	VOA5975C.I_220310B : 8	R375959
2,2-Dichloropropane	ND	ug/L	1	U	1.0	0.50	0.19		SW8260B	03/11/2022 04:56/msc	VOA5975C.I_220310B : 8	R375959
1,1-Dichloropropene	ND	ug/L	1	U	1.0	0.20	0.083		SW8260B	03/11/2022 04:56/msc	VOA5975C.I_220310B : 8	R375959
cis-1,3-Dichloropropene	ND	ug/L	1	U	1.0	0.20	0.073		SW8260B	03/11/2022 04:56/msc	VOA5975C.I_220310B : 8	R375959
trans-1,3-Dichloropropene	ND	ug/L	1	U	1.0	0.20	0.085		SW8260B	03/11/2022 04:56/msc	VOA5975C.I_220310B : 8	R375959
Ethylbenzene	ND	ug/L	1	U	1.0	0.20	0.084		SW8260B	03/11/2022 04:56/msc	VOA5975C.I_220310B : 8	R375959



**LABORATORY ANALYTICAL REPORT**

Prepared by Billings, MT Branch

Lab ID: B22030586-007

Collection Date: 03/07/2022 11:55

Date Received: 03/09/2022

Report Date: 03/16/2022

**Client:** AECOM - Honolulu  
**Client Sample ID:** ERH2682 (RHMW15 Zone 5)  
**Project:** CV18F0126/60571032.02.46.01  
**Matrix:** Ground Water

Analyses	Result	Units	DF	Qual	LOQ	LOD	DL	MCL	Method	Analysis Date / By	RunID : Run Order	BatchID
<b>VOLATILE ORGANIC COMPOUNDS</b>												
Methyl ethyl ketone	ND	ug/L	1	U	20	5.0	1.8		SW8260B	03/11/2022 04:56/msc	VOA5975C.I_220310B : 8	R375959
Methyl tert-butyl ether (MTBE)	ND	ug/L	1	U	1.0	0.25	0.10		SW8260B	03/11/2022 04:56/msc	VOA5975C.I_220310B : 8	R375959
Methylene chloride	ND	ug/L	1	U	1.0	0.50	0.34		SW8260B	03/11/2022 04:56/msc	VOA5975C.I_220310B : 8	R375959
Styrene	ND	ug/L	1	U	1.0	0.20	0.067		SW8260B	03/11/2022 04:56/msc	VOA5975C.I_220310B : 8	R375959
1,1,1,2-Tetrachloroethane	ND	ug/L	1	U	1.0	0.25	0.10		SW8260B	03/11/2022 04:56/msc	VOA5975C.I_220310B : 8	R375959
1,1,2,2-Tetrachloroethane	ND	ug/L	1	U	1.0	0.20	0.087		SW8260B	03/11/2022 04:56/msc	VOA5975C.I_220310B : 8	R375959
Tetrachloroethene	ND	ug/L	1	U	1.0	0.20	0.067		SW8260B	03/11/2022 04:56/msc	VOA5975C.I_220310B : 8	R375959
Toluene	ND	ug/L	1	UT	1.0	0.20	0.068		SW8260B	03/11/2022 04:56/msc	VOA5975C.I_220310B : 8	R375959
1,1,1-Trichloroethane	ND	ug/L	1	U	1.0	0.50	0.13		SW8260B	03/11/2022 04:56/msc	VOA5975C.I_220310B : 8	R375959
1,1,2-Trichloroethane	ND	ug/L	1	U	1.0	0.25	0.11		SW8260B	03/11/2022 04:56/msc	VOA5975C.I_220310B : 8	R375959
Trichloroethene	ND	ug/L	1	U	1.0	0.20	0.099		SW8260B	03/11/2022 04:56/msc	VOA5975C.I_220310B : 8	R375959
Trichlorofluoromethane	ND	ug/L	1	U	1.0	0.50	0.13		SW8260B	03/11/2022 04:56/msc	VOA5975C.I_220310B : 8	R375959
1,2,3-Trichloropropane	ND	ug/L	1	U	1.0	0.50	0.24		SW8260B	03/11/2022 04:56/msc	VOA5975C.I_220310B : 8	R375959
Vinyl chloride	ND	ug/L	1	U	1.0	0.50	0.15		SW8260B	03/11/2022 04:56/msc	VOA5975C.I_220310B : 8	R375959
m+p-Xylenes	ND	ug/L	1	U	1.0	0.50	0.15		SW8260B	03/11/2022 04:56/msc	VOA5975C.I_220310B : 8	R375959
o-Xylene	ND	ug/L	1	U	1.0	0.20	0.060		SW8260B	03/11/2022 04:56/msc	VOA5975C.I_220310B : 8	R375959
Xylenes, Total	ND	ug/L	1	U	1.0	0.20	0.060		SW8260B	03/11/2022 04:56/msc	VOA5975C.I_220310B : 8	R375959
Surr: Dibromofluoromethane	110.0	%REC	1		80-119				SW8260B	03/11/2022 04:56/msc	VOA5975C.I_220310B : 8	R375959
Surr: 1,2-Dichloroethane-d4	113.0	%REC	1		81-118				SW8260B	03/11/2022 04:56/msc	VOA5975C.I_220310B : 8	R375959
Surr: Toluene-d8	96.0	%REC	1		89-112				SW8260B	03/11/2022 04:56/msc	VOA5975C.I_220310B : 8	R375959
Surr: p-Bromofluorobenzene	108.0	%REC	1		85-114				SW8260B	03/11/2022 04:56/msc	VOA5975C.I_220310B : 8	R375959
<b>VOCS BY MICROEXTRACTION-ECD</b>												
1,2-Dibromoethane	ND	ug/L	1	U	0.010	0.0049	0.0025		SW8011	03/14/2022 21:41/clt	GECD.I_220314A : 15	164488
Surr: 1,1,1,2-Tetrachloroethane	89.0	%REC	1		70-130				SW8011	03/14/2022 21:41/clt	GECD.I_220314A : 15	164488
<b>PETROLEUM HYDROCARBONS-VOLATILE</b>												
C6 to C10	ND	ug/L	1	UT	20	8.7	2.0		SW8015C	03/11/2022 00:25/jp	VARIAN1_220309A : 47	R375955
Total Purgeable Hydrocarbons	ND	ug/L	1	UT	20	10	3.1		SW8015C	03/11/2022 00:25/jp	VARIAN1_220309A : 47	R375955
Surr: Trifluorotoluene	77.0	%REC	1		70-130				SW8015C	03/11/2022 00:25/jp	VARIAN1_220309A : 47	R375955
- Note 1: C6 to C10 is defined as all hydrocarbons eluting between 2-Methylpentane and 1,2,4-Trimethylbenzene.												
- Note 2: Total Purgeable Hydrocarbons are defined as the total hydrocarbon response regardless of elution time.												
<b>PETROLEUM HYDROCARBONS-SEMI-VOLATILE</b>												
Diesel Range Organics (C10 to C24)	ND	mg/L	1	U	0.30	0.14	0.037		SW8015C	03/11/2022 19:59/amn	GCFID-HP5-B_220311B : 8	164385
Oil Range Hydrocarbons (C24 to C40)	ND	mg/L	1	U	0.30	0.14	0.084		SW8015C	03/11/2022 19:59/amn	GCFID-HP5-B_220311B : 8	164385
Total Extractable Hydrocarbons	ND	mg/L	1	U	0.30	0.14	0.071		SW8015C	03/11/2022 19:59/amn	GCFID-HP5-B_220311B : 8	164385
Surr: o-Terphenyl	96.0	%REC	1		56-125				SW8015C	03/11/2022 19:59/amn	GCFID-HP5-B_220311B : 8	164385
Surr: n-Triacontane	92.0	%REC	1		50-150				SW8015C	03/11/2022 19:59/amn	GCFID-HP5-B_220311B : 8	164385
- Note: Total Extractable Hydrocarbons are defined as the total hydrocarbon responses regardless of elution time.												
- Since there were no detectable hydrocarbons, Silica Gel Treatment (SGT) results are equivalent to non-SGT results.												



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu  
**Client Sample ID:** ERH2682 (RHMW15 Zone 5)  
**Project:** CV18F0126/60571032.02.46.01  
**Matrix:** Ground Water

**Lab ID:** B22030586-007  
**Collection Date:** 03/07/2022 11:55  
**Date Received:** 03/09/2022  
**Report Date:** 03/16/2022

Analyses	Result	Units	DF	Qual	LOQ	LOD	DL	MCL	Method	Analysis Date / By	RunID : Run Order	BatchID
<b>ORGANIC CHARACTERISTICS</b>												
Methane	ND	mg/L	1	U	0.0020	0.0012	0.00070		SW8015M	03/11/2022 17:16/jdw	FID-HEADSPACE_220311B : 16	R376018



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Lab ID: B22030586-008

Collection Date: 03/07/2022 11:55

Date Received: 03/09/2022

Report Date: 03/16/2022

**Client:** AECOM - Honolulu  
**Client Sample ID:** ERH2681 (Trip Blank) 14833  
**Project:** CV18F0126/60571032.02.46.01  
**Matrix:** Trip Blank

Analyses	Result	Units	DF	Qual	LOQ	LOD	DL	MCL	Method	Analysis Date / By	RunID : Run Order	BatchID
<b>VOLATILE ORGANIC COMPOUNDS</b>												
Benzene	ND	ug/L	1	U	1.0	0.20	0.091		SW8260B	03/11/2022 06:17/msc	VOA5975C.I_220310B : 10	R375959
Bromobenzene	ND	ug/L	1	U	1.0	0.20	0.083		SW8260B	03/11/2022 06:17/msc	VOA5975C.I_220310B : 10	R375959
Bromochloromethane	ND	ug/L	1	U	1.0	0.50	0.14		SW8260B	03/11/2022 06:17/msc	VOA5975C.I_220310B : 10	R375959
Bromodichloromethane	ND	ug/L	1	U	1.0	0.25	0.12		SW8260B	03/11/2022 06:17/msc	VOA5975C.I_220310B : 10	R375959
Bromoform	ND	ug/L	1	U	1.0	0.25	0.12		SW8260B	03/11/2022 06:17/msc	VOA5975C.I_220310B : 10	R375959
Carbon tetrachloride	ND	ug/L	1	U	1.0	0.50	0.14		SW8260B	03/11/2022 06:17/msc	VOA5975C.I_220310B : 10	R375959
Chlorobenzene	ND	ug/L	1	U	1.0	0.20	0.091		SW8260B	03/11/2022 06:17/msc	VOA5975C.I_220310B : 10	R375959
Chlorodibromomethane	ND	ug/L	1	U	1.0	0.20	0.084		SW8260B	03/11/2022 06:17/msc	VOA5975C.I_220310B : 10	R375959
Chloroethane	ND	ug/L	1	U	1.0	0.50	0.17		SW8260B	03/11/2022 06:17/msc	VOA5975C.I_220310B : 10	R375959
Chloroform	ND	ug/L	1	U	1.0	0.20	0.079		SW8260B	03/11/2022 06:17/msc	VOA5975C.I_220310B : 10	R375959
Chloromethane	ND	ug/L	1	U	1.0	0.50	0.16		SW8260B	03/11/2022 06:17/msc	VOA5975C.I_220310B : 10	R375959
1,2-Dibromoethane	ND	ug/L	1	U	1.0	0.20	0.092		SW8260B	03/11/2022 06:17/msc	VOA5975C.I_220310B : 10	R375959
2-Chlorotoluene	ND	ug/L	1	U	1.0	0.20	0.088		SW8260B	03/11/2022 06:17/msc	VOA5975C.I_220310B : 10	R375959
4-Chlorotoluene	ND	ug/L	1	U	1.0	0.20	0.073		SW8260B	03/11/2022 06:17/msc	VOA5975C.I_220310B : 10	R375959
Dibromomethane	ND	ug/L	1	U	1.0	0.50	0.15		SW8260B	03/11/2022 06:17/msc	VOA5975C.I_220310B : 10	R375959
1,2-Dichlorobenzene	ND	ug/L	1	U	1.0	0.20	0.075		SW8260B	03/11/2022 06:17/msc	VOA5975C.I_220310B : 10	R375959
1,3-Dichlorobenzene	ND	ug/L	1	U	1.0	0.20	0.080		SW8260B	03/11/2022 06:17/msc	VOA5975C.I_220310B : 10	R375959
1,4-Dichlorobenzene	ND	ug/L	1	U	1.0	0.20	0.086		SW8260B	03/11/2022 06:17/msc	VOA5975C.I_220310B : 10	R375959
Dichlorodifluoromethane	ND	ug/L	1	U	1.0	0.50	0.18		SW8260B	03/11/2022 06:17/msc	VOA5975C.I_220310B : 10	R375959
1,1-Dichloroethane	ND	ug/L	1	U	1.0	0.50	0.14		SW8260B	03/11/2022 06:17/msc	VOA5975C.I_220310B : 10	R375959
1,2-Dichloroethane	ND	ug/L	1	U	1.0	0.25	0.12		SW8260B	03/11/2022 06:17/msc	VOA5975C.I_220310B : 10	R375959
1,1-Dichloroethene	ND	ug/L	1	U	1.0	0.50	0.14		SW8260B	03/11/2022 06:17/msc	VOA5975C.I_220310B : 10	R375959
cis-1,2-Dichloroethene	ND	ug/L	1	U	1.0	0.25	0.11		SW8260B	03/11/2022 06:17/msc	VOA5975C.I_220310B : 10	R375959
trans-1,2-Dichloroethene	ND	ug/L	1	U	1.0	0.25	0.12		SW8260B	03/11/2022 06:17/msc	VOA5975C.I_220310B : 10	R375959
1,2-Dichloropropane	ND	ug/L	1	U	1.0	0.20	0.085		SW8260B	03/11/2022 06:17/msc	VOA5975C.I_220310B : 10	R375959
1,3-Dichloropropane	ND	ug/L	1	U	1.0	0.20	0.079		SW8260B	03/11/2022 06:17/msc	VOA5975C.I_220310B : 10	R375959
2,2-Dichloropropane	ND	ug/L	1	U	1.0	0.50	0.19		SW8260B	03/11/2022 06:17/msc	VOA5975C.I_220310B : 10	R375959
1,1-Dichloropropene	ND	ug/L	1	U	1.0	0.20	0.083		SW8260B	03/11/2022 06:17/msc	VOA5975C.I_220310B : 10	R375959
cis-1,3-Dichloropropene	ND	ug/L	1	U	1.0	0.20	0.073		SW8260B	03/11/2022 06:17/msc	VOA5975C.I_220310B : 10	R375959
trans-1,3-Dichloropropene	ND	ug/L	1	U	1.0	0.20	0.085		SW8260B	03/11/2022 06:17/msc	VOA5975C.I_220310B : 10	R375959
Ethylbenzene	ND	ug/L	1	U	1.0	0.20	0.084		SW8260B	03/11/2022 06:17/msc	VOA5975C.I_220310B : 10	R375959
Methyl ethyl ketone	ND	ug/L	1	U	20	5.0	1.8		SW8260B	03/11/2022 06:17/msc	VOA5975C.I_220310B : 10	R375959
Methyl tert-butyl ether (MTBE)	ND	ug/L	1	U	1.0	0.25	0.10		SW8260B	03/11/2022 06:17/msc	VOA5975C.I_220310B : 10	R375959
Methylene chloride	ND	ug/L	1	U	1.0	0.50	0.34		SW8260B	03/11/2022 06:17/msc	VOA5975C.I_220310B : 10	R375959
Styrene	ND	ug/L	1	U	1.0	0.20	0.067		SW8260B	03/11/2022 06:17/msc	VOA5975C.I_220310B : 10	R375959
1,1,1,2-Tetrachloroethane	ND	ug/L	1	U	1.0	0.25	0.10		SW8260B	03/11/2022 06:17/msc	VOA5975C.I_220310B : 10	R375959
1,1,2,2-Tetrachloroethane	ND	ug/L	1	U	1.0	0.20	0.087		SW8260B	03/11/2022 06:17/msc	VOA5975C.I_220310B : 10	R375959
Tetrachloroethene	ND	ug/L	1	U	1.0	0.20	0.067		SW8260B	03/11/2022 06:17/msc	VOA5975C.I_220310B : 10	R375959
Toluene	0.12	ug/L	1	J	1.0	0.20	0.068		SW8260B	03/11/2022 06:17/msc	VOA5975C.I_220310B : 10	R375959



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Lab ID: B22030586-008

Collection Date: 03/07/2022 11:55

Date Received: 03/09/2022

Report Date: 03/16/2022

**Client:** AECOM - Honolulu  
**Client Sample ID:** ERH2681 (Trip Blank) 14833  
**Project:** CV18F0126/60571032.02.46.01  
**Matrix:** Trip Blank

Analyses	Result	Units	DF	Qual	LOQ	LOD	DL	MCL	Method	Analysis Date / By	RunID : Run Order	BatchID
<b>VOLATILE ORGANIC COMPOUNDS</b>												
1,1,1-Trichloroethane	ND	ug/L	1	U	1.0	0.50	0.13		SW8260B	03/11/2022 06:17/msc	VOA5975C.I_220310B : 10	R375959
1,1,2-Trichloroethane	ND	ug/L	1	U	1.0	0.25	0.11		SW8260B	03/11/2022 06:17/msc	VOA5975C.I_220310B : 10	R375959
Trichloroethene	ND	ug/L	1	U	1.0	0.20	0.099		SW8260B	03/11/2022 06:17/msc	VOA5975C.I_220310B : 10	R375959
Trichlorofluoromethane	ND	ug/L	1	U	1.0	0.50	0.13		SW8260B	03/11/2022 06:17/msc	VOA5975C.I_220310B : 10	R375959
1,2,3-Trichloropropane	ND	ug/L	1	U	1.0	0.50	0.24		SW8260B	03/11/2022 06:17/msc	VOA5975C.I_220310B : 10	R375959
Vinyl chloride	ND	ug/L	1	U	1.0	0.50	0.15		SW8260B	03/11/2022 06:17/msc	VOA5975C.I_220310B : 10	R375959
m+p-Xylenes	ND	ug/L	1	U	1.0	0.50	0.15		SW8260B	03/11/2022 06:17/msc	VOA5975C.I_220310B : 10	R375959
o-Xylene	ND	ug/L	1	U	1.0	0.20	0.060		SW8260B	03/11/2022 06:17/msc	VOA5975C.I_220310B : 10	R375959
Xylenes, Total	ND	ug/L	1	U	1.0	0.20	0.060		SW8260B	03/11/2022 06:17/msc	VOA5975C.I_220310B : 10	R375959
Surr: Dibromofluoromethane	108.0	%REC	1		80-119				SW8260B	03/11/2022 06:17/msc	VOA5975C.I_220310B : 10	R375959
Surr: 1,2-Dichloroethane-d4	111.0	%REC	1		81-118				SW8260B	03/11/2022 06:17/msc	VOA5975C.I_220310B : 10	R375959
Surr: Toluene-d8	95.0	%REC	1		89-112				SW8260B	03/11/2022 06:17/msc	VOA5975C.I_220310B : 10	R375959
Surr: p-Bromofluorobenzene	108.0	%REC	1		85-114				SW8260B	03/11/2022 06:17/msc	VOA5975C.I_220310B : 10	R375959



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Lab ID: B22030586-009

Collection Date: 03/07/2022 11:55

Date Received: 03/09/2022

Report Date: 03/16/2022

**Client:** AECOM - Honolulu  
**Client Sample ID:** ERH2681 (Trip Blank) 14653  
**Project:** CV18F0126/60571032.02.46.01  
**Matrix:** Trip Blank

Analyses	Result	Units	DF	Qual	LOQ	LOD	DL	MCL	Method	Analysis Date / By	RunID : Run Order	BatchID
<b>PETROLEUM HYDROCARBONS-VOLATILE</b>												
C6 to C10	2.1	ug/L	1	J	20	8.7	2.0		SW8015C	03/10/2022 13:33/jp	VARIAN1_220309A : 35	R375955
Total Purgeable Hydrocarbons	3.1	ug/L	1	J	20	10	3.1		SW8015C	03/10/2022 13:33/jp	VARIAN1_220309A : 35	R375955
Surr: Trifluorotoluene	79.0	%REC	1		70-130				SW8015C	03/10/2022 13:33/jp	VARIAN1_220309A : 35	R375955
- Note 1: C6 to C10 is defined as all hydrocarbons eluting between 2-Methylpentane and 1,2,4-Trimethylbenzene.												
- Note 2: Total Purgeable Hydrocarbons are defined as the total hydrocarbon response regardless of elution time.												





### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu  
**Client Sample ID:** ERH2681 (Trip Blank) 14894  
**Project:** CV18F0126/60571032.02.46.01  
**Matrix:** Trip Blank

**Lab ID:** B22030586-010  
**Collection Date:** 03/07/2022 11:55  
**Date Received:** 03/09/2022  
**Report Date:** 03/16/2022

Analyses	Result	Units	DF	Qual	LOQ	LOD	DL	MCL	Method	Analysis Date / By	RunID : Run Order	BatchID
<b>VOCS BY MICROEXTRACTION-ECD</b>												
1,2-Dibromoethane	ND	ug/L	1	U	0.010	0.0050	0.0026		SW8011	03/14/2022 22:01/ct	GECD.I_220314A : 16	164488
Surr: 1,1,1,2-Tetrachloroethane	92.0	%REC	1		70-130				SW8011	03/14/2022 22:01/ct	GECD.I_220314A : 16	164488



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu  
**Client Sample ID:** ERH2681 (Trip Blank) 14895  
**Project:** CV18F0126/60571032.02.46.01  
**Matrix:** Trip Blank

**Lab ID:** B22030586-011  
**Collection Date:** 03/07/2022 11:55  
**Date Received:** 03/09/2022  
**Report Date:** 03/16/2022

Analyses	Result	Units	DF	Qual	LOQ	LOD	DL	MCL	Method	Analysis Date / By	RunID : Run Order	BatchID
<b>ORGANIC CHARACTERISTICS</b>												
Methane	ND	mg/L	1	U	0.0020	0.0012	0.00070		SW8015M	03/11/2022 17:20/jdw	FID-HEADSPACE_220311B : 17	R376018



### Analytical QC Summary Report

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu  
**Workorder:** B22030586  
**Project:** CV18F0126/60571032.02.46.01

**Report Date:** 03/16/2022

**Run ID: Run Order:** SUB-C280416: 2      **SampType:** Method Blank      **Batch ID:** C\_R280416  
**Method:** SW9060A      **Analysis Date:** 03/10/2022 16:45      **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: **B22030586-001D, B22030586-007D**  
- TOC Range is 0.0 to 0.1

**Run ID: Run Order:** SUB-C280416: 1      **SampType:** Laboratory Control Sample      **Batch ID:** C\_R280416  
**Method:** SW9060A      **Analysis Date:** 03/10/2022 16:04      **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)	5.0	0.50	5.0		101.0	91	111				

Associated Samples: **B22030586-001D, B22030586-007D**  
- TOC Range is 5.0 to 5.1

**Run ID: Run Order:** SUB-C280416: 5      **SampType:** Sample Matrix Spike      **Batch ID:** C\_R280416  
**Method:** SW9060A      **Analysis Date:** 03/10/2022 18:53      **Prep Date:**  
**Lab ID:** C22030334-001DMS      **Units:** mg/L      **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	4.8	0.50	5.0	0.32	90.0	91	111				S

Associated Samples: **B22030586-001D, B22030586-007D**  
- TOC Range is 4.7 to 4.8



### Analytical QC Summary Report

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu  
**Workorder:** B22030586  
**Project:** CV18F0126/60571032.02.46.01

**Report Date:** 03/16/2022

**Run ID: Run Order:** SUB-C280416: 6      **SampType:** Sample Matrix Spike Duplicate      **Batch ID:** C\_R280416  
**Method:** SW9060A      **Analysis Date:** 03/10/2022 19:45      **Prep Date:**  
**Lab ID:** C22030334-001DMSD      **Units:** mg/L      **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	4.9	0.50	5.0	0.32	91.0	91	111	4.8	1.5	10.0	

Associated Samples: **B22030586-001D, B22030586-007D**  
- TOC Range is 4.8 to 4.9

**Run ID: Run Order:** SUB-C280416: 3      **SampType:** Continuing Calibration Verification Standard      **Batch ID:** C\_R280416  
**Method:** SW9060A      **Analysis Date:** 03/10/2022 17:24      **Prep Date:**  
**Lab ID:** CCV      **Units:** mg/L      **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	4.9	0.50	5.0		98.0	90	110				

Associated Samples: **B22030586-001D, B22030586-007D**  
- TOC Range is 4.9 to 5.0

**Run ID: Run Order:** SUB-C280416: 13      **SampType:** Continuing Calibration Verification Standard      **Batch ID:** C\_R280416  
**Method:** SW9060A      **Analysis Date:** 03/11/2022 02:01      **Prep Date:**  
**Lab ID:** CCV      **Units:** mg/L      **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	4.7	0.50	5.0		94.0	90	110				

Associated Samples: **B22030586-001D, B22030586-007D**  
- TOC Range is 4.7 to 4.7



### Analytical QC Summary Report

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu  
**Workorder:** B22030586  
**Project:** CV18F0126/60571032.02.46.01

**Report Date:** 03/16/2022

**Run ID: Run Order:** ICPMS207-B\_220311A: 18      **SampType:** Laboratory Fortified Blank      **Batch ID:** R376031  
**Method:** SW6020      **Analysis Date:** 03/11/2022 21:45      **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	0.049	0.001	0.050		99.0	88	115				

Associated Samples: **B22030586-001A, B22030586-007A**

**Run ID: Run Order:** ICPMS207-B\_220311A: 17      **SampType:** Method Blank      **Batch ID:** R376031  
**Method:** SW6020      **Analysis Date:** 03/11/2022 21:38      **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: **B22030586-001A, B22030586-007A**

**Run ID: Run Order:** ICPMS207-B\_220311A: 32      **SampType:** Sample Matrix Spike      **Batch ID:** R376031  
**Method:** SW6020      **Analysis Date:** 03/11/2022 23:12      **Prep Date:**  
**Lab ID:** B22030502-001AMS      **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	0	101.0	88	115				

Associated Samples: **B22030586-001A, B22030586-007A**



### Analytical QC Summary Report

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu  
**Workorder:** B22030586  
**Project:** CV18F0126/60571032.02.46.01

**Report Date:** 03/16/2022

**Run ID: Run Order:** ICPMS207-B\_220311A: 33      **SampType:** Sample Matrix Spike Duplicate      **Batch ID:** R376031  
**Method:** SW6020      **Analysis Date:** 03/11/2022 23:18      **Prep Date:**  
**Lab ID:** B22030502-001AMSD      **Units:** mg/L      **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Lead	0.050	0.001	0.050	0	99.0	88	115	0.051	1.9	20.0	

Associated Samples: **B22030586-001A, B22030586-007A**

**Run ID: Run Order:** ICPMS207-B\_220311A: 31      **SampType:** Serial Dilution      **Batch ID:** R376031  
**Method:** SW6020      **Analysis Date:** 03/11/2022 23:06      **Prep Date:**  
**Lab ID:** B22030502-001ADIL      **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		10.0	

Associated Samples: **B22030586-001A, B22030586-007A**

**Run ID: Run Order:** ICPMS207-B\_220311A: 28      **SampType:** Laboratory Control Sample      **Batch ID:** 164435  
**Method:** SW6020      **Analysis Date:** 03/11/2022 22:47      **Prep Date:** 03/11/2022 08:27  
**Lab ID:** LCS4-164435      **Units:** mg/L      **Prep Method:** SW3010A

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Lead	0.093	0.001	0.100		93.0	88	115				

Associated Samples: **B22030586-001B, B22030586-007B**



### Analytical QC Summary Report

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu  
**Workorder:** B22030586  
**Project:** CV18F0126/60571032.02.46.01

**Report Date:** 03/16/2022

**Run ID: Run Order:** ICPMS207-B\_220311A: 60      **SampType:** Post Digestion/Distillation Spike      **Batch ID:** 164435  
**Method:** SW6020      **Analysis Date:** 03/12/2022 02:07      **Prep Date:** 03/11/2022 08:29  
**Lab ID:** B22030586-001BPDS1      **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	94.0	80	120				

Associated Samples: **B22030586-001B, B22030586-007B**

**Run ID: Run Order:** ICPMS207-B\_220311A: 61      **SampType:** Matrix Spike      **Batch ID:** 164435  
**Method:** SW6020      **Analysis Date:** 03/12/2022 02:13      **Prep Date:** 03/11/2022 08:29  
**Lab ID:** B22030586-001BMS4      **Units:** mg/L      **Prep Method:** SW3010A

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

Associated Samples: **B22030586-001B, B22030586-007B**

**Run ID: Run Order:** ICPMS207-B\_220311A: 64      **SampType:** Sample Matrix Spike Duplicate      **Batch ID:** 164435  
**Method:** SW6020      **Analysis Date:** 03/12/2022 02:32      **Prep Date:** 03/11/2022 08:29  
**Lab ID:** B22030586-001BMSD4      **Units:** mg/L      **Prep Method:** SW3010A

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Lead	0.094	0.001	0.100	0	94.0	88	115	0.096	2.0	20.0	

Associated Samples: **B22030586-001B, B22030586-007B**



### Analytical QC Summary Report

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu  
**Workorder:** B22030586  
**Project:** CV18F0126/60571032.02.46.01

**Report Date:** 03/16/2022

**Run ID: Run Order:** ICPMS207-B\_220311A: 26      **SampType:** Method Blank      **Batch ID:** 164435  
**Method:** SW6020      **Analysis Date:** 03/11/2022 22:35      **Prep Date:** 03/11/2022 08:27  
**Lab ID:** MB-164435      **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: **B22030586-001B, B22030586-007B**

**Run ID: Run Order:** ICPMS207-B\_220311A: 59      **SampType:** Serial Dilution      **Batch ID:** 164435  
**Method:** SW6020      **Analysis Date:** 03/12/2022 02:00      **Prep Date:** 03/11/2022 08:29  
**Lab ID:** B22030586-001BDIL      **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: **B22030586-001B, B22030586-007B**

**Run ID: Run Order:** ICPMS207-B\_220311A: 50      **SampType:** Continuing Calibration Verification Standard      **Batch ID:** R376031  
**Method:** SW6020      **Analysis Date:** 03/12/2022 01:04      **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	0.047	0.001	0.050		95.0	90	110				

Associated Samples: **B22030586-001A, B22030586-001B, B22030586-007A, B22030586-007B**





### Analytical QC Summary Report

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu  
**Workorder:** B22030586  
**Project:** CV18F0126/60571032.02.46.01

**Report Date:** 03/16/2022

**Run ID: Run Order:** ICPMS207-B\_220311A: 62      **SampType:** Continuing Calibration Verification Standard      **Batch ID:** R376031  
**Method:** SW6020      **Analysis Date:** 03/12/2022 02:19      **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	0.048	0.001	0.050		95.0	90	110				

Associated Samples: B22030586-001A, B22030586-001B, B22030586-007A, B22030586-007B

**Run ID: Run Order:** ICPMS207-B\_220311A: 74      **SampType:** Continuing Calibration Verification Standard      **Batch ID:** R376031  
**Method:** SW6020      **Analysis Date:** 03/12/2022 12:55      **Prep Date:**  
**Lab ID:** CCV      **Units:** mg/L      **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Lead	0.046	0.001	0.050		91.0	90	110				

Associated Samples: B22030586-001A, B22030586-001B, B22030586-007A, B22030586-007B

**Run ID: Run Order:** ICPMS207-B\_220311A: 78      **SampType:** Continuing Calibration Verification Standard      **Batch ID:** R376031  
**Method:** SW6020      **Analysis Date:** 03/12/2022 13:20      **Prep Date:**  
**Lab ID:** CCV      **Units:** mg/L      **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Lead	0.046	0.001	0.050		92.0	90	110				

Associated Samples: B22030586-001A, B22030586-001B, B22030586-007A, B22030586-007B



### Analytical QC Summary Report

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu  
**Workorder:** B22030586  
**Project:** CV18F0126/60571032.02.46.01

**Report Date:** 03/16/2022

**Run ID: Run Order:** VOA5975C.I\_220310B: 4  
**Method:** SW8260B  
**Lab ID:** MBLK031022a

**SampType:** Method Blank  
**Analysis Date:** 03/11/2022 03:34  
**Units:** ug/L

**Batch ID:** R375959  
**Prep Date:**  
**Prep Method:**

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



### Analytical QC Summary Report

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu  
**Workorder:** B22030586  
**Project:** CV18F0126/60571032.02.46.01

**Report Date:** 03/16/2022

**Run ID: Run Order:** VOA5975C.I.\_220310B: 4      **SampType:** Method Blank      **Batch ID:** R375959  
**Method:** SW8260B      **Analysis Date:** 03/11/2022 03:34      **Prep Date:**  
**Lab ID:** MBLK031022a      **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		107.0	81	118				
Surr: Dibromofluoromethane	11	0.50	10		107.0	80	119				
Surr: p-Bromofluorobenzene	11	0.50	10		107.0	85	114				
Surr: Toluene-d8	9.4	0.50	10		94.0	89	112				

Associated Samples: B22030586-001E, B22030586-002B, B22030586-003A, B22030586-007E, B22030586-008A



### Analytical QC Summary Report

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu  
**Workorder:** B22030586  
**Project:** CV18F0126/60571032.02.46.01

**Report Date:** 03/16/2022

**Run ID: Run Order:** VOA5975C.I\_220310B: 3      **SampType:** Laboratory Control Sample      **Batch ID:** R375959  
**Method:** SW8260B      **Analysis Date:** 03/11/2022 02:40      **Prep Date:**  
**Lab ID:** LCS031022a      **Units:** ug/L      **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Benzene	5.2	0.50	5.0		104.0	79	120				
Bromobenzene	5.3	0.50	5.0		105.0	80	120				
Bromochloromethane	4.9	0.50	5.0		99.0	78	123				
Bromodichloromethane	5.2	0.50	5.0		104.0	79	125				
Bromoform	5.1	0.50	5.0		103.0	66	130				
Carbon tetrachloride	4.9	0.50	5.0		99.0	72	136				
Chlorobenzene	5.3	0.50	5.0		106.0	82	118				
Chlorodibromomethane	5.0	0.50	5.0		99.0	74	126				
Chloroethane	4.6	0.50	5.0		93.0	60	138				
Chloroform	4.9	0.50	5.0		98.0	79	124				
Chloromethane	4.7	0.50	5.0		95.0	50	139				
1,2-Dibromoethane	5.0	0.50	5.0		100.0	78	122				
2-Chlorotoluene	5.4	0.50	5.0		107.0	79	122				
Dibromomethane	5.0	0.50	5.0		100.0	79	123				
1,2-Dichlorobenzene	5.4	0.50	5.0		108.0	80	119				
4-Chlorotoluene	5.7	0.50	5.0		113.0	78	122				
1,3-Dichlorobenzene	5.6	0.50	5.0		112.0	80	119				
1,4-Dichlorobenzene	5.3	0.50	5.0		107.0	79	118				
Dichlorodifluoromethane	4.4	0.50	5.0		89.0	32	152				
1,1-Dichloroethane	5.2	0.50	5.0		105.0	77	125				
1,2-Dichloroethane	5.2	0.50	5.0		103.0	73	128				
1,1-Dichloroethene	5.2	0.50	5.0		104.0	71	131				
cis-1,2-Dichloroethene	5.1	0.50	5.0		101.0	78	123				
trans-1,2-Dichloroethene	5.1	0.50	5.0		102.0	75	124				
1,2-Dichloropropane	5.1	0.50	5.0		102.0	78	122				
1,3-Dichloropropane	4.9	0.50	5.0		98.0	80	119				
2,2-Dichloropropane	4.4	0.50	5.0		87.0	60	139				



### Analytical QC Summary Report

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu  
**Workorder:** B22030586  
**Project:** CV18F0126/60571032.02.46.01

**Report Date:** 03/16/2022

**Run ID: Run Order:** VOA5975C.I\_220310B: 3      **SampType:** Laboratory Control Sample      **Batch ID:** R375959  
**Method:** SW8260B      **Analysis Date:** 03/11/2022 02:40      **Prep Date:**  
**Lab ID:** LCS031022a      **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	79	125				
cis-1,3-Dichloropropene	4.6	0.50	5.0		93.0	75	124				
trans-1,3-Dichloropropene	5.0	0.50	5.0		100.0	73	127				
Ethylbenzene	5.1	0.50	5.0		103.0	79	121				
Methyl tert-butyl ether (MTBE)	5.0	0.50	5.0		100.0	71	124				
Methyl ethyl ketone	52	10	50		105.0	56	143				
Methylene chloride	4.9	0.50	5.0		98.0	74	124				
Styrene	5.2	0.50	5.0		105.0	78	123				
1,1,1,2-Tetrachloroethane	5.2	0.50	5.0		103.0	78	124				
1,1,2,2-Tetrachloroethane	5.2	0.50	5.0		105.0	71	121				
Tetrachloroethene	4.9	0.50	5.0		98.0	74	129				
Toluene	5.3	0.50	5.0		107.0	80	121				
1,1,1-Trichloroethane	5.0	0.50	5.0		100.0	74	131				
1,1,2-Trichloroethane	5.3	0.50	5.0		107.0	80	119				
Trichloroethene	5.0	0.50	5.0		99.0	79	123				
Trichlorofluoromethane	4.8	0.50	5.0		96.0	65	141				
1,2,3-Trichloropropane	4.9	0.50	5.0		97.0	73	125				
Vinyl chloride	4.9	0.50	5.0		97.0	58	137				
m+p-Xylenes	10	0.50	10		102.0	80	121				
o-Xylene	5.2	0.50	5.0		104.0	78	122				
Xylenes, Total	15	0.50	15		103.0	79	121				
Surr: 1,2-Dichloroethane-d4	10	0.50	10		103.0	81	118				
Surr: Dibromofluoromethane	10	0.50	10		103.0	80	119				
Surr: p-Bromofluorobenzene	11	0.50	10		105.0	85	114				
Surr: Toluene-d8	10	0.50	10		100.0	89	112				

Associated Samples: B22030586-001E, B22030586-002B, B22030586-003A, B22030586-007E, B22030586-008A



### Analytical QC Summary Report

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu  
**Workorder:** B22030586  
**Project:** CV18F0126/60571032.02.46.01

**Report Date:** 03/16/2022

**Run ID: Run Order:** VOA5975C.I\_220310B: 11

**SampType:** Sample Matrix Spike

**Batch ID:** R375959

**Method:** SW8260B

**Analysis Date:** 03/11/2022 08:33

**Prep Date:**

**Lab ID:** B22030586-001EMS

**Units:** ug/L

**Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Benzene	5.0	0.50	5.0	0.0	100.0	79	120				
Bromobenzene	5.4	0.50	5.0	0.0	108.0	80	120				
Bromochloromethane	5.0	0.50	5.0	0.0	101.0	78	123				
Bromodichloromethane	5.1	0.50	5.0	0.0	102.0	79	125				
Bromoform	5.3	0.50	5.0	0.0	106.0	66	130				
Carbon tetrachloride	4.6	0.50	5.0	0.0	92.0	72	136				
Chlorobenzene	5.1	0.50	5.0	0.0	102.0	82	118				
Chlorodibromomethane	5.1	0.50	5.0	0.0	102.0	74	126				
Chloroethane	4.8	0.50	5.0	0.0	97.0	60	138				
Chloroform	5.0	0.50	5.0	0.26	95.0	79	124				
Chloromethane	4.6	0.50	5.0	0.0	92.0	50	139				
1,2-Dibromoethane	5.0	0.50	5.0	0.0	100.0	78	122				
2-Chlorotoluene	5.2	0.50	5.0	0.0	104.0	79	122				
Dibromomethane	4.9	0.50	5.0	0.0	97.0	79	123				
1,2-Dichlorobenzene	5.2	0.50	5.0	0.0	104.0	80	119				
4-Chlorotoluene	5.4	0.50	5.0	0.0	108.0	78	122				
1,3-Dichlorobenzene	5.4	0.50	5.0	0.0	107.0	80	119				
1,4-Dichlorobenzene	5.1	0.50	5.0	0.0	102.0	79	118				
Dichlorodifluoromethane	4.1	0.50	5.0	0.0	83.0	32	152				
1,1-Dichloroethane	5.1	0.50	5.0	0.0	102.0	77	125				
1,2-Dichloroethane	5.2	0.50	5.0	0.0	103.0	73	128				
1,1-Dichloroethene	4.8	0.50	5.0	0.0	96.0	71	131				
cis-1,2-Dichloroethene	4.9	0.50	5.0	0.0	98.0	78	123				
trans-1,2-Dichloroethene	4.8	0.50	5.0	0.0	95.0	75	124				
1,2-Dichloropropane	4.9	0.50	5.0	0.0	99.0	78	122				
1,3-Dichloropropane	4.9	0.50	5.0	0.0	98.0	80	119				
2,2-Dichloropropane	4.9	0.50	5.0	0.0	98.0	60	139				



### Analytical QC Summary Report

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu  
**Workorder:** B22030586  
**Project:** CV18F0126/60571032.02.46.01

**Report Date:** 03/16/2022

**Run ID: Run Order:** VOA5975C.I\_220310B: 11      **SampType:** Sample Matrix Spike      **Batch ID:** R375959  
**Method:** SW8260B      **Analysis Date:** 03/11/2022 08:33      **Prep Date:**  
**Lab ID:** B22030586-001EMS      **Units:** ug/L      **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,1-Dichloropropene	4.4	0.50	5.0	0.0	88.0	79	125				
cis-1,3-Dichloropropene	4.7	0.50	5.0	0.0	94.0	75	124				
trans-1,3-Dichloropropene	5.1	0.50	5.0	0.0	103.0	73	127				
Ethylbenzene	4.9	0.50	5.0	0.0	97.0	79	121				
Methyl tert-butyl ether (MTBE)	5.0	0.50	5.0	0.0	99.0	71	124				
Methyl ethyl ketone	52	10	50	0.0	105.0	56	143				
Methylene chloride	4.7	0.50	5.0	0.0	94.0	74	124				
Styrene	4.7	0.50	5.0	0.0	94.0	78	123				
1,1,1,2-Tetrachloroethane	5.0	0.50	5.0	0.0	99.0	78	124				
1,1,2,2-Tetrachloroethane	5.5	0.50	5.0	0.0	111.0	71	121				
Tetrachloroethene	4.7	0.50	5.0	0.0	93.0	74	129				
Toluene	5.2	0.50	5.0	0.0	105.0	80	121				
1,1,1-Trichloroethane	4.6	0.50	5.0	0.0	91.0	74	131				
1,1,2-Trichloroethane	5.3	0.50	5.0	0.0	105.0	80	119				
Trichloroethene	4.9	0.50	5.0	0.0	98.0	79	123				
Trichlorofluoromethane	4.4	0.50	5.0	0.0	88.0	65	141				
1,2,3-Trichloropropane	5.4	0.50	5.0	0.0	107.0	73	125				
Vinyl chloride	4.7	0.50	5.0	0.0	95.0	58	137				
m+p-Xylenes	9.7	0.50	10	0.0	97.0	80	121				
o-Xylene	5.0	0.50	5.0	0.0	100.0	78	122				
Xylenes, Total	15	0.50	15	0.0	98.0	79	121				
Surr: 1,2-Dichloroethane-d4	11	0.50	10	0.0	106.0	81	118				
Surr: Dibromofluoromethane	10	0.50	10	0.0	103.0	80	119				
Surr: p-Bromofluorobenzene	11	0.50	10	0.0	108.0	85	114				
Surr: Toluene-d8	10	0.50	10	0.0	101.0	89	112				

Associated Samples: B22030586-001E, B22030586-002B, B22030586-003A, B22030586-007E, B22030586-008A



### Analytical QC Summary Report

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu  
**Workorder:** B22030586  
**Project:** CV18F0126/60571032.02.46.01

**Report Date:** 03/16/2022

**Run ID: Run Order:** VOA5975C.I\_220310B: 12      **SampType:** Sample Matrix Spike Duplicate      **Batch ID:** R375959  
**Method:** SW8260B      **Analysis Date:** 03/11/2022 09:01      **Prep Date:**  
**Lab ID:** B22030586-001EMSD      **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	5.0	3.9	20.0	
Bromobenzene	5.4	0.50	5.0	0.0	107.0	80	120	5.4	0.7	20.0	
Bromochloromethane	4.9	0.50	5.0	0.0	99.0	78	123	5.0	1.9	20.0	
Bromodichloromethane	5.2	0.50	5.0	0.0	103.0	79	125	5.1	1.7	20.0	
Bromoform	5.3	0.50	5.0	0.0	106.0	66	130	5.3	0.0	20.0	
Carbon tetrachloride	4.7	0.50	5.0	0.0	94.0	72	136	4.6	2.0	20.0	
Chlorobenzene	5.3	0.50	5.0	0.0	105.0	82	118	5.1	3.6	20.0	
Chlorodibromomethane	5.0	0.50	5.0	0.0	99.0	74	126	5.1	2.4	20.0	
Chloroethane	4.9	0.50	5.0	0.0	98.0	60	138	4.8	1.5	20.0	
Chloroform	5.1	0.50	5.0	0.26	96.0	79	124	5.0	0.9	20.0	
Chloromethane	4.8	0.50	5.0	0.0	96.0	50	139	4.6	3.9	20.0	
1,2-Dibromoethane	5.2	0.50	5.0	0.0	104.0	78	122	5.0	3.2	20.0	
2-Chlorotoluene	5.4	0.50	5.0	0.0	108.0	79	122	5.2	3.3	20.0	
Dibromomethane	5.0	0.50	5.0	0.0	100.0	79	123	4.9	2.4	20.0	
1,2-Dichlorobenzene	5.4	0.50	5.0	0.0	107.0	80	119	5.2	3.3	20.0	
4-Chlorotoluene	5.6	0.50	5.0	0.0	111.0	78	122	5.4	3.2	20.0	
1,3-Dichlorobenzene	5.5	0.50	5.0	0.0	109.0	80	119	5.4	1.7	20.0	
1,4-Dichlorobenzene	5.3	0.50	5.0	0.0	107.0	79	118	5.1	4.4	20.0	
Dichlorodifluoromethane	4.3	0.50	5.0	0.0	87.0	32	152	4.1	4.9	20.0	
1,1-Dichloroethane	5.1	0.50	5.0	0.0	103.0	77	125	5.1	0.9	20.0	
1,2-Dichloroethane	5.2	0.50	5.0	0.0	105.0	73	128	5.2	1.3	20.0	
1,1-Dichloroethene	5.0	0.50	5.0	0.0	100.0	71	131	4.8	3.7	20.0	
cis-1,2-Dichloroethene	5.2	0.50	5.0	0.0	103.0	78	123	4.9	5.4	20.0	
trans-1,2-Dichloroethene	5.0	0.50	5.0	0.0	99.0	75	124	4.8	4.4	20.0	
1,2-Dichloropropane	5.1	0.50	5.0	0.0	103.0	78	122	4.9	4.1	20.0	
1,3-Dichloropropane	5.0	0.50	5.0	0.0	101.0	80	119	4.9	2.7	20.0	
2,2-Dichloropropane	5.1	0.50	5.0	0.0	102.0	60	139	4.9	3.7	20.0	





### Analytical QC Summary Report

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu  
**Workorder:** B22030586  
**Project:** CV18F0126/60571032.02.46.01

**Report Date:** 03/16/2022

**Run ID: Run Order:** VOA5975C.I\_220310B: 12      **SampType:** Sample Matrix Spike Duplicate      **Batch ID:** R375959  
**Method:** SW8260B      **Analysis Date:** 03/11/2022 09:01      **Prep Date:**  
**Lab ID:** B22030586-001EMSD      **Units:** ug/L      **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,1-Dichloropropene	4.5	0.50	5.0	0.0	90.0	79	125	4.4	2.6	20.0	
cis-1,3-Dichloropropene	4.9	0.50	5.0	0.0	97.0	75	124	4.7	3.1	20.0	
trans-1,3-Dichloropropene	5.3	0.50	5.0	0.0	106.0	73	127	5.1	2.8	20.0	
Ethylbenzene	5.1	0.50	5.0	0.0	102.0	79	121	4.9	5.0	20.0	
Methyl tert-butyl ether (MTBE)	5.1	0.50	5.0	0.0	102.0	71	124	5.0	3.1	20.0	
Methyl ethyl ketone	55	10	50	0.0	111.0	56	143	52	5.7	20.0	
Methylene chloride	4.8	0.50	5.0	0.0	96.0	74	124	4.7	1.9	20.0	
Styrene	4.9	0.50	5.0	0.0	99.0	78	123	4.7	5.0	20.0	
1,1,1,2-Tetrachloroethane	5.2	0.50	5.0	0.0	104.0	78	124	5.0	5.0	20.0	
1,1,2,2-Tetrachloroethane	5.6	0.50	5.0	0.0	112.0	71	121	5.5	1.0	20.0	
Tetrachloroethene	4.9	0.50	5.0	0.0	98.0	74	129	4.7	4.2	20.0	
Toluene	5.3	0.50	5.0	0.0	107.0	80	121	5.2	2.0	20.0	
1,1,1-Trichloroethane	5.0	0.50	5.0	0.0	99.0	74	131	4.6	8.5	20.0	
1,1,2-Trichloroethane	5.3	0.50	5.0	0.0	105.0	80	119	5.3	0.2	20.0	
Trichloroethene	5.0	0.50	5.0	0.0	99.0	79	123	4.9	1.1	20.0	
Trichlorofluoromethane	4.6	0.50	5.0	0.0	92.0	65	141	4.4	3.5	20.0	
1,2,3-Trichloropropane	5.1	0.50	5.0	0.0	101.0	73	125	5.4	5.9	20.0	
Vinyl chloride	4.8	0.50	5.0	0.0	95.0	58	137	4.7	0.2	20.0	
m+p-Xylenes	10	0.50	10	0.0	101.0	80	121	9.7	4.4	20.0	
o-Xylene	5.2	0.50	5.0	0.0	105.0	78	122	5.0	5.0	20.0	
Xylenes, Total	15	0.50	15	0.0	102.0	79	121	15	4.6	20.0	
Surr: 1,2-Dichloroethane-d4	10	0.50	10	0.0	103.0	81	118	0.0			
Surr: Dibromofluoromethane	10	0.50	10	0.0	103.0	80	119	0.0			
Surr: p-Bromofluorobenzene	11	0.50	10	0.0	106.0	85	114	0.0			
Surr: Toluene-d8	10	0.50	10	0.0	100.0	89	112	0.0			

Associated Samples: B22030586-001E, B22030586-002B, B22030586-003A, B22030586-007E, B22030586-008A



### Analytical QC Summary Report

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu  
**Workorder:** B22030586  
**Project:** CV18F0126/60571032.02.46.01

**Report Date:** 03/16/2022

**Run ID: Run Order:** VOA5975C.I\_220310B: 2      **SampType:** Continuing Calibration Verification Standard      **Batch ID:** R375959  
**Method:** SW8260B      **Analysis Date:** 03/11/2022 02:12      **Prep Date:**  
**Lab ID:** CCV031022a      **Units:** ug/L      **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Benzene	5.0	0.50	5.0		101.0	80	120				
Bromobenzene	5.1	0.50	5.0		101.0	80	120				
Bromochloromethane	5.0	0.50	5.0		100.0	80	120				
Bromodichloromethane	5.0	0.50	5.0		100.0	80	120				
Bromoform	4.8	0.50	5.0		97.0	80	120				
Carbon tetrachloride	4.9	0.50	5.0		97.0	80	120				
Chlorobenzene	4.9	0.50	5.0		98.0	80	120				
Chlorodibromomethane	5.0	0.50	5.0		99.0	80	120				
Chloroethane	4.6	0.50	5.0		91.0	80	120				
Chloroform	4.9	0.50	5.0		98.0	80	120				
Chloromethane	4.8	0.50	5.0		96.0	80	120				
1,2-Dibromoethane	4.9	0.50	5.0		97.0	80	120				
2-Chlorotoluene	5.1	0.50	5.0		102.0	80	120				
Dibromomethane	5.0	0.50	5.0		99.0	80	120				
1,2-Dichlorobenzene	4.9	0.50	5.0		98.0	80	120				
4-Chlorotoluene	5.2	0.50	5.0		105.0	80	120				
1,3-Dichlorobenzene	5.1	0.50	5.0		102.0	80	120				
1,4-Dichlorobenzene	4.9	0.50	5.0		99.0	80	120				
Dichlorodifluoromethane	4.9	0.50	5.0		98.0	80	120				
1,1-Dichloroethane	5.0	0.50	5.0		100.0	80	120				
1,2-Dichloroethane	5.0	0.50	5.0		100.0	80	120				
1,1-Dichloroethene	5.1	0.50	5.0		101.0	80	120				
cis-1,2-Dichloroethene	5.0	0.50	5.0		99.0	80	120				
trans-1,2-Dichloroethene	4.9	0.50	5.0		98.0	80	120				
1,2-Dichloropropane	4.8	0.50	5.0		97.0	80	120				
1,3-Dichloropropane	4.9	0.50	5.0		97.0	80	120				
2,2-Dichloropropane	4.2	0.50	5.0		85.0	80	120				



### Analytical QC Summary Report

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu  
**Workorder:** B22030586  
**Project:** CV18F0126/60571032.02.46.01

**Report Date:** 03/16/2022

**Run ID: Run Order:** VOA5975C.I\_220310B: 2      **SampType:** Continuing Calibration Verification Standard      **Batch ID:** R375959  
**Method:** SW8260B      **Analysis Date:** 03/11/2022 02:12      **Prep Date:**  
**Lab ID:** CCV031022a      **Units:** ug/L      **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,1-Dichloropropene	4.9	0.50	5.0		97.0	80	120				
cis-1,3-Dichloropropene	4.7	0.50	5.0		94.0	80	120				
trans-1,3-Dichloropropene	4.9	0.50	5.0		97.0	80	120				
Ethylbenzene	4.9	0.50	5.0		98.0	80	120				
Methyl tert-butyl ether (MTBE)	4.5	0.50	5.0		90.0	80	120				
Methyl ethyl ketone	45	10	50		90.0	80	120				
Methylene chloride	4.8	0.50	5.0		95.0	80	120				
Styrene	5.0	0.50	5.0		99.0	80	120				
1,1,1,2-Tetrachloroethane	5.0	0.50	5.0		101.0	80	120				
1,1,2,2-Tetrachloroethane	5.1	0.50	5.0		101.0	80	120				
Tetrachloroethene	4.9	0.50	5.0		98.0	80	120				
Toluene	5.1	0.50	5.0		102.0	80	120				
1,1,1-Trichloroethane	4.7	0.50	5.0		95.0	80	120				
1,1,2-Trichloroethane	4.9	0.50	5.0		99.0	80	120				
Trichloroethene	5.0	0.50	5.0		100.0	80	120				
Trichlorofluoromethane	4.8	0.50	5.0		96.0	80	120				
1,2,3-Trichloropropane	5.1	0.50	5.0		102.0	80	120				
Vinyl chloride	4.8	0.50	5.0		96.0	80	120				
m+p-Xylenes	9.9	0.50	10		99.0	80	120				
o-Xylene	5.0	0.50	5.0		100.0	80	120				
Xylenes, Total	15	0.50	15		99.0	80	120				
Surr: 1,2-Dichloroethane-d4	10	0.50	10		101.0	80	120				
Surr: Dibromofluoromethane	10	0.50	10		102.0	80	120				
Surr: p-Bromofluorobenzene	10	0.50	10		104.0	80	120				
Surr: Toluene-d8	10	0.50	10		100.0	80	120				

Associated Samples: B22030586-001E, B22030586-002B, B22030586-003A, B22030586-007E, B22030586-008A



### Analytical QC Summary Report

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu  
**Workorder:** B22030586  
**Project:** CV18F0126/60571032.02.46.01

**Report Date:** 03/16/2022

**Run ID: Run Order:** VOA5975C.I\_220310B: 13      **SampType:** Continuing Calibration Verification Standard      **Batch ID:** R375959  
**Method:** SW8260B      **Analysis Date:** 03/11/2022 09:55      **Prep Date:**  
**Lab ID:** CCV031022a\_Closing      **Units:** ug/L      **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Benzene	4.8	0.50	5.0		96.0	50	150				
Bromobenzene	4.7	0.50	5.0		95.0	50	150				
Bromochloromethane	4.8	0.50	5.0		97.0	50	150				
Bromodichloromethane	4.7	0.50	5.0		94.0	50	150				
Bromoform	4.7	0.50	5.0		95.0	50	150				
Carbon tetrachloride	4.5	0.50	5.0		90.0	50	150				
Chlorobenzene	4.7	0.50	5.0		93.0	50	150				
Chlorodibromomethane	4.7	0.50	5.0		94.0	50	150				
Chloroethane	4.8	0.50	5.0		96.0	50	150				
Chloroform	4.6	0.50	5.0		92.0	50	150				
Chloromethane	4.9	0.50	5.0		98.0	50	150				
1,2-Dibromoethane	4.6	0.50	5.0		91.0	50	150				
2-Chlorotoluene	4.8	0.50	5.0		96.0	50	150				
Dibromomethane	4.7	0.50	5.0		94.0	50	150				
1,2-Dichlorobenzene	4.7	0.50	5.0		94.0	50	150				
4-Chlorotoluene	4.9	0.50	5.0		98.0	50	150				
1,3-Dichlorobenzene	4.8	0.50	5.0		95.0	50	150				
1,4-Dichlorobenzene	4.7	0.50	5.0		93.0	50	150				
Dichlorodifluoromethane	5.0	0.50	5.0		100.0	50	150				
1,1-Dichloroethane	4.7	0.50	5.0		94.0	50	150				
1,2-Dichloroethane	4.7	0.50	5.0		95.0	50	150				
1,1-Dichloroethene	4.8	0.50	5.0		96.0	50	150				
cis-1,2-Dichloroethene	4.7	0.50	5.0		93.0	50	150				
trans-1,2-Dichloroethene	4.6	0.50	5.0		93.0	50	150				
1,2-Dichloropropane	4.6	0.50	5.0		91.0	50	150				
1,3-Dichloropropane	4.7	0.50	5.0		95.0	50	150				
2,2-Dichloropropane	4.7	0.50	5.0		93.0	50	150				



### Analytical QC Summary Report

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu  
**Workorder:** B22030586  
**Project:** CV18F0126/60571032.02.46.01

**Report Date:** 03/16/2022

**Run ID: Run Order:** VOA5975C.I\_220310B: 13      **SampType:** Continuing Calibration Verification Standard      **Batch ID:** R375959  
**Method:** SW8260B      **Analysis Date:** 03/11/2022 09:55      **Prep Date:**  
**Lab ID:** CCV031022a\_Closing      **Units:** ug/L      **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,1-Dichloropropene	4.6	0.50	5.0		92.0	50	150				
cis-1,3-Dichloropropene	4.4	0.50	5.0		89.0	50	150				
trans-1,3-Dichloropropene	4.6	0.50	5.0		92.0	50	150				
Ethylbenzene	4.6	0.50	5.0		92.0	50	150				
Methyl tert-butyl ether (MTBE)	4.6	0.50	5.0		92.0	50	150				
Methyl ethyl ketone	45	10	50		90.0	50	150				
Methylene chloride	4.6	0.50	5.0		92.0	50	150				
Styrene	4.7	0.50	5.0		94.0	50	150				
1,1,1,2-Tetrachloroethane	4.6	0.50	5.0		93.0	50	150				
1,1,2,2-Tetrachloroethane	4.7	0.50	5.0		94.0	50	150				
Tetrachloroethene	4.5	0.50	5.0		90.0	50	150				
Toluene	4.8	0.50	5.0		96.0	50	150				
1,1,1-Trichloroethane	4.6	0.50	5.0		92.0	50	150				
1,1,2-Trichloroethane	4.8	0.50	5.0		96.0	50	150				
Trichloroethene	4.7	0.50	5.0		93.0	50	150				
Trichlorofluoromethane	5.1	0.50	5.0		101.0	50	150				
1,2,3-Trichloropropane	4.6	0.50	5.0		92.0	50	150				
Vinyl chloride	4.8	0.50	5.0		97.0	50	150				
m+p-Xylenes	9.3	0.50	10		93.0	50	150				
o-Xylene	4.7	0.50	5.0		93.0	50	150				
Xylenes, Total	14	0.50	15		93.0	50	150				
Surr: 1,2-Dichloroethane-d4	10	0.50	10		103.0	50	150				
Surr: Dibromofluoromethane	10	0.50	10		102.0	50	150				
Surr: p-Bromofluorobenzene	11	0.50	10		105.0	50	150				
Surr: Toluene-d8	10	0.50	10		100.0	50	150				

Associated Samples: B22030586-001E, B22030586-002B, B22030586-003A, B22030586-007E, B22030586-008A



### Analytical QC Summary Report

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu  
**Workorder:** B22030586  
**Project:** CV18F0126/60571032.02.46.01

**Report Date:** 03/16/2022

**Run ID: Run Order:** GECD.I\_220314A: 10      **SampType:** Method Blank      **Batch ID:** 164488  
**Method:** SW8011      **Analysis Date:** 03/14/2022 19:42      **Prep Date:** 03/14/2022 10:10  
**Lab ID:** MB-164488      **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	0.092	0.020	0.10		92.0	70	130				

Associated Samples: **B22030586-001G, B22030586-005A, B22030586-007G, B22030586-010A**

**Run ID: Run Order:** GECD.I\_220314A: 11      **SampType:** Laboratory Control Sample      **Batch ID:** 164488  
**Method:** SW8011      **Analysis Date:** 03/14/2022 20:02      **Prep Date:** 03/14/2022 10:10  
**Lab ID:** LCS-164488      **Units:** ug/L      **Prep Method:** SW8011

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.23	0.010	0.25		92.0	60	140				
Surr: 1,1,1,2-Tetrachloroethane	0.089	0.020	0.10		89.0	70	130				

Associated Samples: **B22030586-001G, B22030586-005A, B22030586-007G, B22030586-010A**

**Run ID: Run Order:** GECD.I\_220314A: 12      **SampType:** Laboratory Control Sample      **Batch ID:** 164488  
**Method:** SW8011      **Analysis Date:** 03/14/2022 20:22      **Prep Date:** 03/14/2022 10:15  
**Lab ID:** LCS1-164488      **Units:** ug/L      **Prep Method:** SW8011

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.096	0.010	0.10		96.0	60	140				
Surr: 1,1,1,2-Tetrachloroethane	0.087	0.020	0.10		87.0	70	130				

Associated Samples: **B22030586-001G, B22030586-005A, B22030586-007G, B22030586-010A**



### Analytical QC Summary Report

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu  
**Workorder:** B22030586  
**Project:** CV18F0126/60571032.02.46.01

**Report Date:** 03/16/2022

**Run ID: Run Order:** GECD.I\_220314A: 21      **SampType:** Sample Matrix Spike      **Batch ID:** 164488  
**Method:** SW8011      **Analysis Date:** 03/14/2022 23:39      **Prep Date:** 03/14/2022 10:15  
**Lab ID:** B22030586-001GMS      **Units:** ug/L      **Prep Method:** SW8011

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.22	0.010	0.25	0.0	90.0	60	140				
Surr: 1,1,1,2-Tetrachloroethane	0.091	0.020	0.099	0.0	92.0	70	130				

Associated Samples: **B22030586-001G, B22030586-005A, B22030586-007G, B22030586-010A**

**Run ID: Run Order:** GECD.I\_220314A: 22      **SampType:** Sample Matrix Spike Duplicate      **Batch ID:** 164488  
**Method:** SW8011      **Analysis Date:** 03/14/2022 23:59      **Prep Date:** 03/14/2022 10:15  
**Lab ID:** B22030586-001GMSD      **Units:** ug/L      **Prep Method:** SW8011

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.23	0.010	0.25	0.0	91.0	60	140	0.22	0.6	20.0	
Surr: 1,1,1,2-Tetrachloroethane	0.086	0.020	0.099	0.0	87.0	70	130	0.0			

Associated Samples: **B22030586-001G, B22030586-005A, B22030586-007G, B22030586-010A**

**Run ID: Run Order:** GECD.I\_220314A: 9      **SampType:** Continuing Calibration Verification Standard      **Batch ID:** 164488  
**Method:** SW8011      **Analysis Date:** 03/14/2022 19:23      **Prep Date:** 03/14/2022 10:15  
**Lab ID:** CK3-164488      **Units:** ug/L      **Prep Method:** SW8011

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.10	0.010	0.10		103.0	80	120				
Surr: 1,1,1,2-Tetrachloroethane	0.091	0.020	0.10		91.0	80	120				

Associated Samples: **B22030586-001G, B22030586-005A, B22030586-007G, B22030586-010A**



### Analytical QC Summary Report

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu  
**Workorder:** B22030586  
**Project:** CV18F0126/60571032.02.46.01

**Report Date:** 03/16/2022

**Run ID: Run Order:** GECD.I\_220314A: 23      **SampType:** Continuing Calibration Verification Standard      **Batch ID:** 164488  
**Method:** SW8011      **Analysis Date:** 03/15/2022 00:38      **Prep Date:** 03/14/2022 10:15  
**Lab ID:** CK5-164488      **Units:** ug/L      **Prep Method:** SW8011

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.40	0.010	0.40		101.0	80	120				
Surr: 1,1,1,2-Tetrachloroethane	0.43	0.020	0.40		106.0	80	120				

Associated Samples: **B22030586-001G, B22030586-005A, B22030586-007G, B22030586-010A**





### Analytical QC Summary Report

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu  
**Workorder:** B22030586  
**Project:** CV18F0126/60571032.02.46.01

**Report Date:** 03/16/2022

**Run ID: Run Order:** VARIAN1\_220309A: 44      **SampType:** Method Blank      **Batch ID:** R375955  
**Method:** SW8015C      **Analysis Date:** 03/10/2022 21:33      **Prep Date:**  
**Lab ID:** MBLK\_0309VAR67r      **Units:** ug/L      **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
C6 to C10	ND	10									
Total Purgeable Hydrocarbons	ND	10									
Surr: Trifluorotoluene	19	1.0	25		78.0	70	130				

Associated Samples: B22030586-001F, B22030586-004A, B22030586-007F, B22030586-009A

**Run ID: Run Order:** VARIAN1\_220309A: 29      **SampType:** Laboratory Control Sample      **Batch ID:** R375955  
**Method:** SW8015C      **Analysis Date:** 03/10/2022 08:59      **Prep Date:**  
**Lab ID:** LCS\_0309VAR45r      **Units:** ug/L      **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
C6 to C10	174	20	170		103.0	78	122				
Total Purgeable Hydrocarbons	211	20	200		105.0	70	130				
Surr: Trifluorotoluene	23	1.0	25		91.0	70	130				

Associated Samples: B22030586-001F, B22030586-004A, B22030586-007F, B22030586-009A

**Run ID: Run Order:** VARIAN1\_220309A: 43      **SampType:** Laboratory Control Sample      **Batch ID:** R375955  
**Method:** SW8015C      **Analysis Date:** 03/10/2022 20:25      **Prep Date:**  
**Lab ID:** LCS\_0309VAR65r      **Units:** ug/L      **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
C6 to C10	171	20	170		101.0	78	122				
Total Purgeable Hydrocarbons	206	20	200		103.0	70	130				
Surr: Trifluorotoluene	22	1.0	25		90.0	70	130				

Associated Samples: B22030586-001F, B22030586-004A, B22030586-007F, B22030586-009A



### Analytical QC Summary Report

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu  
**Workorder:** B22030586  
**Project:** CV18F0126/60571032.02.46.01

**Report Date:** 03/16/2022

**Run ID: Run Order:** VARIAN1\_220309A: 39      **SampType:** Sample Matrix Spike      **Batch ID:** R375955  
**Method:** SW8015C      **Analysis Date:** 03/10/2022 17:33      **Prep Date:**  
**Lab ID:** B22030433-053FMS      **Units:** ug/L      **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
C6 to C10	171	20	170	0.0	101.0	78	122				
Total Purgeable Hydrocarbons	206	20	200	0.0	103.0	70	130				
Surr: Trifluorotoluene	23	1.0	25	0.0	90.0	70	130				

Associated Samples: **B22030586-001F, B22030586-004A, B22030586-007F, B22030586-009A**

**Run ID: Run Order:** VARIAN1\_220309A: 40      **SampType:** Sample Matrix Spike Duplicate      **Batch ID:** R375955  
**Method:** SW8015C      **Analysis Date:** 03/10/2022 18:07      **Prep Date:**  
**Lab ID:** B22030433-053FMDS      **Units:** ug/L      **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
C6 to C10	173	20	170	0.0	102.0	78	122	171	1.0	20.0	
Total Purgeable Hydrocarbons	208	20	200	0.0	104.0	70	130	206	1.1	20.0	
Surr: Trifluorotoluene	23	1.0	25	0.0	90.0	70	130	0.0			

Associated Samples: **B22030586-001F, B22030586-004A, B22030586-007F, B22030586-009A**



### Analytical QC Summary Report

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu  
**Workorder:** B22030586  
**Project:** CV18F0126/60571032.02.46.01

**Report Date:** 03/16/2022

**Run ID: Run Order:** GCFID-HP5-B\_220311B: 5      **SampType:** Method Blank      **Batch ID:** 164385  
**Method:** SW8015C      **Analysis Date:** 03/11/2022 17:50      **Prep Date:** 03/10/2022 09:13  
**Lab ID:** MB-164385      **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	0.16	0.0020	0.20		82.0	56	125				
Surr: n-Triacontane	0.078	0.0020	0.10		78.0	50	150				

Associated Samples: **B22030586-001C, B22030586-002A, B22030586-007C**

**Run ID: Run Order:** GCFID-HP5-B\_220311B: 3      **SampType:** Laboratory Control Sample      **Batch ID:** 164385  
**Method:** SW8015C      **Analysis Date:** 03/11/2022 16:24      **Prep Date:** 03/10/2022 09:13  
**Lab ID:** LCS-164385      **Units:** mg/L      **Prep Method:** SW3520C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Diesel Range Organics (C10 to C24)	13	0.30	15		85.0	36	132				
Total Extractable Hydrocarbons	14	0.30	15		91.0	60	132				
Surr: o-Terphenyl	0.19	0.0020	0.20		94.0	56	125				

Associated Samples: **B22030586-001C, B22030586-002A, B22030586-007C**



### Analytical QC Summary Report

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu  
**Workorder:** B22030586  
**Project:** CV18F0126/60571032.02.46.01

**Report Date:** 03/16/2022

**Run ID: Run Order:** GCFID-HP5-B\_220311B: 4      **SampType:** Laboratory Control Sample Duplicate      **Batch ID:** 164385  
**Method:** SW8015C      **Analysis Date:** 03/11/2022 17:07      **Prep Date:** 03/10/2022 09:13  
**Lab ID:** LCSD-164385      **Units:** mg/L      **Prep Method:** SW3520C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Diesel Range Organics (C10 to C24)	13	0.30	15		87.0	36	132	13	3.0	20.0	
Total Extractable Hydrocarbons	14	0.30	15		93.0	60	132	14	3.2	20.0	
Surr: o-Terphenyl	0.19	0.0020	0.20		95.0	56	125	0.0			

Associated Samples: **B22030586-001C, B22030586-002A, B22030586-007C**

**Run ID: Run Order:** GCFID-HP5-B\_220311B: 11      **SampType:** Laboratory Control Sample      **Batch ID:** 164385  
**Method:** SW8015C      **Analysis Date:** 03/11/2022 22:51      **Prep Date:** 03/10/2022 09:13  
**Lab ID:** LCS-164385-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)	5.6	0.30	5.0		113.0	41	113				
Surr: n-Triacontane	0.095	0.0020	0.10		95.0	50	150				

Associated Samples: **B22030586-001C, B22030586-002A, B22030586-007C**

**Run ID: Run Order:** GCFID-HP5-B\_220311B: 12      **SampType:** Laboratory Control Sample Duplicate      **Batch ID:** 164385  
**Method:** SW8015C      **Analysis Date:** 03/12/2022 00:16      **Prep Date:** 03/10/2022 09:13  
**Lab ID:** LCSD-164385-RRO      **Units:** mg/L      **Prep Method:** SW3520C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
TEH(Oil Range)	4.7	0.30	5.0		94.0	41	113	5.6	18.0	20.0	
Surr: n-Triacontane	0.079	0.0020	0.10		79.0	50	150	0.0			

Associated Samples: **B22030586-001C, B22030586-002A, B22030586-007C**



### Analytical QC Summary Report

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu  
**Workorder:** B22030586  
**Project:** CV18F0126/60571032.02.46.01

**Report Date:** 03/16/2022

**Run ID: Run Order:** GCFID-HP5-B\_220311B: 9      **SampType:** Sample Matrix Spike      **Batch ID:** 164385  
**Method:** SW8015C      **Analysis Date:** 03/11/2022 20:42      **Prep Date:** 03/10/2022 09:13  
**Lab ID:** B22030586-001CMS      **Units:** mg/L      **Prep Method:** SW3520C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Diesel Range Organics (C10 to C24)	12	0.30	14	0.0	86.0	36	132				
Total Extractable Hydrocarbons	13	0.30	14	0.0	92.0	60	132				
Surr: o-Terphenyl	0.18	0.0020	0.19	0.0	94.0	56	125				

Associated Samples: **B22030586-001C, B22030586-002A, B22030586-007C**

**Run ID: Run Order:** GCFID-HP5-B\_220311B: 10      **SampType:** Sample Matrix Spike      **Batch ID:** 164385  
**Method:** SW8015C      **Analysis Date:** 03/11/2022 21:25      **Prep Date:** 03/10/2022 09:13  
**Lab ID:** B22030586-002AMS-RRO      **Units:** mg/L      **Prep Method:** SW3520C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
TEH(Oil Range)	4.5	0.30	4.8	0.0	94.0	41	113				
Surr: n-Triacontane	0.077	0.0020	0.095	0.0	81.0	50	150				

Associated Samples: **B22030586-001C, B22030586-002A, B22030586-007C**

**Run ID: Run Order:** VARIAN1\_220309A: 28      **SampType:** Continuing Calibration Verification Standard      **Batch ID:** R375955  
**Method:** SW8015C      **Analysis Date:** 03/10/2022 08:25      **Prep Date:**  
**Lab ID:** CCV\_0309VAR44r      **Units:** ug/L      **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
C6 to C10	171	20	168		102.0	80	120				
Total Purgeable Hydrocarbons	206	20	200		103.0	80	120				
Surr: Trifluorotoluene	23	1.0	25		91.0	80	120				

Associated Samples: **B22030586-001F, B22030586-004A, B22030586-007F, B22030586-009A**



### Analytical QC Summary Report

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu  
**Workorder:** B22030586  
**Project:** CV18F0126/60571032.02.46.01

**Report Date:** 03/16/2022

**Run ID: Run Order:** VARIAN1\_220309A: 42      **SampType:** Continuing Calibration Verification Standard      **Batch ID:** R375955  
**Method:** SW8015C      **Analysis Date:** 03/10/2022 19:50      **Prep Date:**  
**Lab ID:** CCV\_0309VAR64r      **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	218	20	200		109.0	80	120				
Surr: Trifluorotoluene	23	1.0	25		93.0	80	120				

Associated Samples: **B22030586-001F, B22030586-004A, B22030586-007F, B22030586-009A**

**Run ID: Run Order:** VARIAN1\_220309A: 49      **SampType:** Continuing Calibration Verification Standard      **Batch ID:** R375955  
**Method:** SW8015C      **Analysis Date:** 03/11/2022 02:07      **Prep Date:**  
**Lab ID:** CCV\_0309VAR75r      **Units:** ug/L      **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
C6 to C10	170	20	168		101.0	80	120				
Total Purgeable Hydrocarbons	205	20	200		103.0	80	120				
Surr: Trifluorotoluene	23	1.0	25		90.0	80	120				

Associated Samples: **B22030586-001F, B22030586-004A, B22030586-007F, B22030586-009A**

**Run ID: Run Order:** GCFID-HP5-B\_220311B: 1      **SampType:** Continuing Calibration Verification Standard      **Batch ID:** R376080  
**Method:** SW8015C      **Analysis Date:** 03/11/2022 14:17      **Prep Date:**  
**Lab ID:** CCV\_0311HP504r-W      **Units:** mg/L      **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
TEH(Oil Range)	4.7	0.30	5.0		95.0	80	120				
Surr: n-Triacontane	0.18	0.0020	0.20		89.0	80	120				

Associated Samples: **B22030586-001C, B22030586-002A, B22030586-007C**



### Analytical QC Summary Report

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu  
**Workorder:** B22030586  
**Project:** CV18F0126/60571032.02.46.01

**Report Date:** 03/16/2022

**Run ID: Run Order:** GCFID-HP5-B\_220311B: 2      **SampType:** Continuing Calibration Verification Standard      **Batch ID:** R376080  
**Method:** SW8015C      **Analysis Date:** 03/11/2022 14:59      **Prep Date:**  
**Lab ID:** CCV\_0311HP505r      **Units:** mg/L      **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Diesel Range Organics (C10 to C24)	14	0.30	15		92.0	80	120				
Total Extractable Hydrocarbons	14	0.30	15		96.0	80	120				
Surr: o-Terphenyl	0.19	0.0020	0.20		97.0	80	120				

Associated Samples: **B22030586-001C, B22030586-002A, B22030586-007C**

**Run ID: Run Order:** GCFID-HP5-B\_220311B: 13      **SampType:** Continuing Calibration Verification Standard      **Batch ID:** R376080  
**Method:** SW8015C      **Analysis Date:** 03/12/2022 01:42      **Prep Date:**  
**Lab ID:** CCV\_0311HP520r-W      **Units:** mg/L      **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
TEH(Oil Range)	4.8	0.30	5.0		96.0	80	120				
Surr: n-Triacontane	0.18	0.0020	0.20		89.0	80	120				

Associated Samples: **B22030586-001C, B22030586-002A, B22030586-007C**

**Run ID: Run Order:** GCFID-HP5-B\_220311B: 14      **SampType:** Continuing Calibration Verification Standard      **Batch ID:** R376080  
**Method:** SW8015C      **Analysis Date:** 03/12/2022 02:25      **Prep Date:**  
**Lab ID:** CCV\_0311HP521r      **Units:** mg/L      **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Diesel Range Organics (C10 to C24)	14	0.30	15		96.0	80	120				
Total Extractable Hydrocarbons	15	0.30	15		100.0	80	120				
Surr: o-Terphenyl	0.20	0.0020	0.20		102.0	80	120				

Associated Samples: **B22030586-001C, B22030586-002A, B22030586-007C**



### Analytical QC Summary Report

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu  
**Workorder:** B22030586  
**Project:** CV18F0126/60571032.02.46.01

**Report Date:** 03/16/2022

**Run ID: Run Order:** FID-HEADSPACE\_220311B: 4      **SampType:** Method Blank      **Batch ID:** R376018  
**Method:** SW8015M      **Analysis Date:** 03/11/2022 15:58      **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: B22030586-001H, B22030586-006A, B22030586-007H, B22030586-011A

**Run ID: Run Order:** FID-HEADSPACE\_220311B: 2      **SampType:** Laboratory Control Sample      **Batch ID:** R376018  
**Method:** SW8015M      **Analysis Date:** 03/11/2022 15:40      **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	95	2.0	100		95.0	85	115				

Associated Samples: B22030586-001H, B22030586-006A, B22030586-007H, B22030586-011A

**Run ID: Run Order:** FID-HEADSPACE\_220311B: 3      **SampType:** Laboratory Control Sample Duplicate      **Batch ID:** R376018  
**Method:** SW8015M      **Analysis Date:** 03/11/2022 15:44      **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	94	2.0	100		94.0	85	115	95	0.9	20.0	

Associated Samples: B22030586-001H, B22030586-006A, B22030586-007H, B22030586-011A





### Analytical QC Summary Report

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu  
**Workorder:** B22030586  
**Project:** CV18F0126/60571032.02.46.01

**Report Date:** 03/16/2022

**Run ID: Run Order:** FID-HEADSPACE\_220311B: 8      **SampType:** Sample Duplicate      **Batch ID:** R376018  
**Method:** SW8015M      **Analysis Date:** 03/11/2022 16:31      **Prep Date:**  
**Lab ID:** B22030502-011HDUP      **Units:** mg/L      **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Methane	0.0021	0.0020			0.0			0.0020		20.0	

Associated Samples: B22030586-001H, B22030586-006A, B22030586-007H, B22030586-011A

**Run ID: Run Order:** FID-HEADSPACE\_220311B: 1      **SampType:** Continuing Calibration Verification Standard      **Batch ID:** R376018  
**Method:** SW8015M      **Analysis Date:** 03/11/2022 15:36      **Prep Date:**  
**Lab ID:** CCV      **Units:** ppm      **Prep Method:**

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

Associated Samples: B22030586-001H, B22030586-006A, B22030586-007H, B22030586-011A

**Run ID: Run Order:** FID-HEADSPACE\_220311B: 18      **SampType:** Continuing Calibration Verification Standard      **Batch ID:** R376018  
**Method:** SW8015M      **Analysis Date:** 03/11/2022 17:24      **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		102.0	85	115				

Associated Samples: B22030586-001H, B22030586-006A, B22030586-007H, B22030586-011A



### Analytical QC Exceptions Report

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu  
**Workorder:** B22030586  
**Project:** CV18F0126/60571032.02.46.01

**Report Date:** 03/16/2022

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
SW9060A	Carbon, Total Organic	C_R280 416	001D, 007D	MS	C22030334-001DMS	3/10/2022	18:53	Organic Carbon, Total (TOC)	90.0	91	111			S



## Preparation and Analysis Dates Report

Work Order: B22030586

Client: AECOM - Honolulu

Project Name: CV18F0126/60571032.02.46.01

Report Date: 3/16/2022

Lab ID	Client Sample ID	Collection Date	Matrix	Test Name	TCLP Date	Prep Method	Prep Date	Prep Batch	Analysis Method	Analysis Date
001B	ERH2697 (OWDFMW08A)	03/07/2022 14:05	Ground Water	Metals by ICP-MS, Total		SW3010A	03/11/2022 08:29	164435	SW6020	03/12/2022 01:54
001C	ERH2697 (OWDFMW08A)	03/07/2022 14:05	Ground Water	Diesel Range Organics		SW3520C	03/10/2022 09:13	164385	SW8015C	03/11/2022 18:33
001G	ERH2697 (OWDFMW08A)	03/07/2022 14:05	Ground Water	EDB in Water by ECD		SW8011	03/14/2022 10:15	164488	SW8011	03/14/2022 23:20
002A	ERH2698 (OWDFMW08A FD)	03/07/2022 14:05	Ground Water	Diesel Range Organics		SW3520C	03/10/2022 09:13	164385	SW8015C	03/11/2022 19:16
005A	ERH2696 (Trip Blank) 14894	03/07/2022 14:05	Trip Blank	EDB in Water by ECD		SW8011	03/14/2022 10:16	164488	SW8011	03/14/2022 21:21
007B	ERH2682 (RHMW15 Zone 5)	03/07/2022 11:55	Ground Water	Metals by ICP-MS, Total		SW3010A	03/11/2022 08:29	164435	SW6020	03/12/2022 13:14
007C	ERH2682 (RHMW15 Zone 5)	03/07/2022 11:55	Ground Water	Diesel Range Organics		SW3520C	03/10/2022 09:13	164385	SW8015C	03/11/2022 19:59
007G	ERH2682 (RHMW15 Zone 5)	03/07/2022 11:55	Ground Water	EDB in Water by ECD		SW8011	03/14/2022 10:16	164488	SW8011	03/14/2022 21:41
010A	ERH2681 (Trip Blank) 14894	03/07/2022 11:55	Trip Blank	EDB in Water by ECD		SW8011	03/14/2022 10:16	164488	SW8011	03/14/2022 22:01



## Chemical Abstracts Service (CAS) Registry Numbers

Prepared by Billings, MT Branch

**Client:** AECOM - Honolulu

**Workorder:** B22030586

**Project:** CV18F0126/60571032.02.46.01

**Report Date:** 03/16/2022

Analyses	CAS No
<b>AGGREGATE ORGANICS</b>	
Organic Carbon, Total (TOC)	7440-44-0
<b>METALS, TOTAL</b>	
Lead	7439-92-1
<b>METALS, DISSOLVED</b>	
Lead	7439-92-1
<b>VOLATILE ORGANIC COMPOUNDS</b>	
Benzene	71-43-2
Bromobenzene	108-86-1
Bromochloromethane	74-97-5
Bromodichloromethane	75-27-4
Bromoform	75-25-2
Carbon tetrachloride	56-23-5
Chlorobenzene	108-90-7
Chlorodibromomethane	124-48-1
Chloroethane	75-00-3
Chloroform	67-66-3
Chloromethane	74-87-3
1,2-Dibromoethane	106-93-4
2-Chlorotoluene	95-49-8
4-Chlorotoluene	106-43-4
Dibromomethane	74-95-3
1,2-Dichlorobenzene	95-50-1
1,3-Dichlorobenzene	541-73-1
1,4-Dichlorobenzene	106-46-7
Dichlorodifluoromethane	75-71-8
1,1-Dichloroethane	75-34-3
1,2-Dichloroethane	107-06-2
1,1-Dichloroethene	75-35-4
cis-1,2-Dichloroethene	156-59-2
trans-1,2-Dichloroethene	156-60-5
1,2-Dichloropropane	78-87-5
1,3-Dichloropropane	142-28-9
2,2-Dichloropropane	594-20-7
1,1-Dichloropropene	563-58-6
cis-1,3-Dichloropropene	10061-01-5
trans-1,3-Dichloropropene	10061-02-6
Ethylbenzene	100-41-4

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

#### **VOCS BY MICROEXTRACTION-ECD**

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

C6 to C10	
Total Purgeable Hydrocarbons	

#### **PETROLEUM HYDROCARBONS-SEMI-VOLATILE**

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

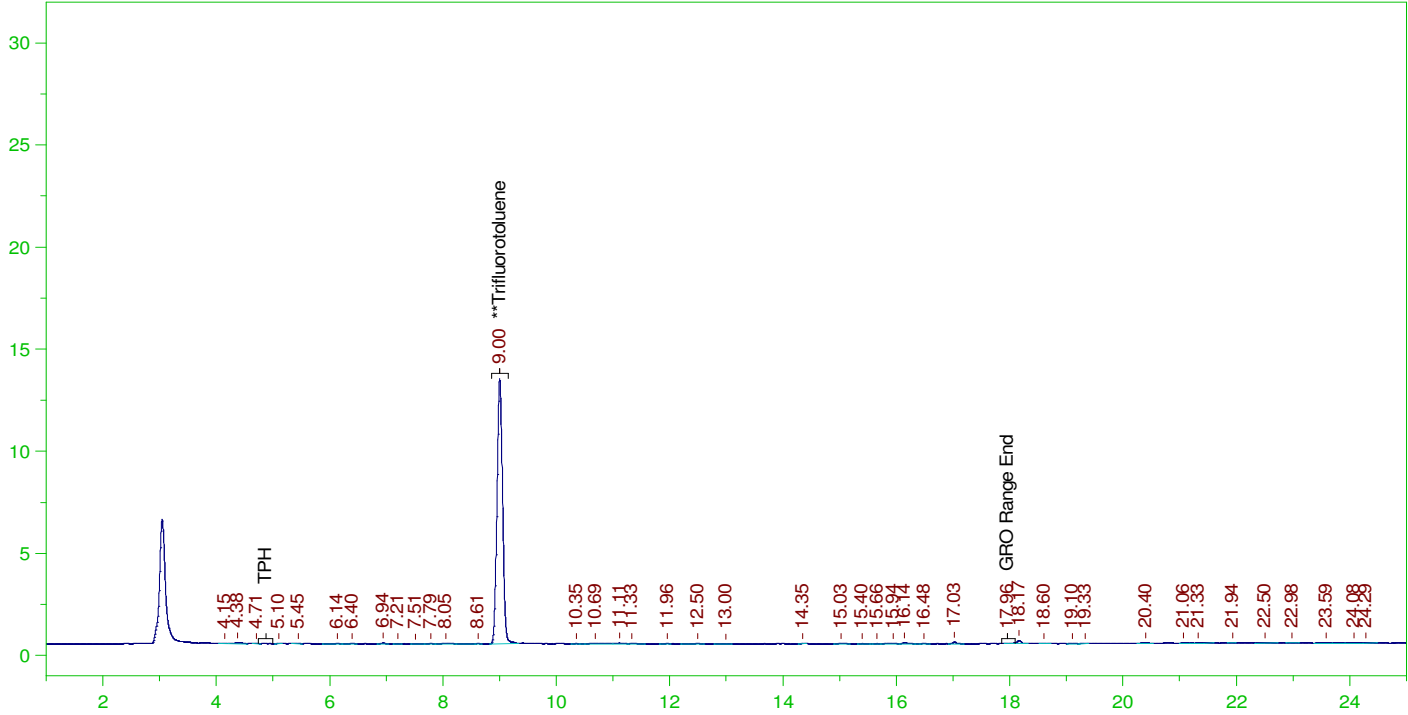
#### **ORGANIC CHARACTERISTICS**

Methane	74-82-8
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ERH2697 (OWDFMW08A)

G:\Org\VAR\DAT\VAR030922\_b\0309VARB.0070.RAW

B22030586-001F ;0309VAR , \$HC-8015-GRO-W,



**GASOLINE RANGE ORGANICS CHROMATOGRAM REPORT**

Sample Name: B22030586-001F ;0309VAR , \$HC-8015-GRO-W,  
Raw File: G:\Org\VAR\DAT\VAR030922\_b\0309VARB.0070.RAW  
Date & Time Acquired: 3/10/2022 11:16:29 PM  
Method File: G:\Org\VAR\Methods\211208G586-1DoDB%.MET  
Calibration File: G:\Org\VAR\Cals\211208GRO8015CB.CAL  
Sample Weight: 5 Dilution: 1 S.A.: 1

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

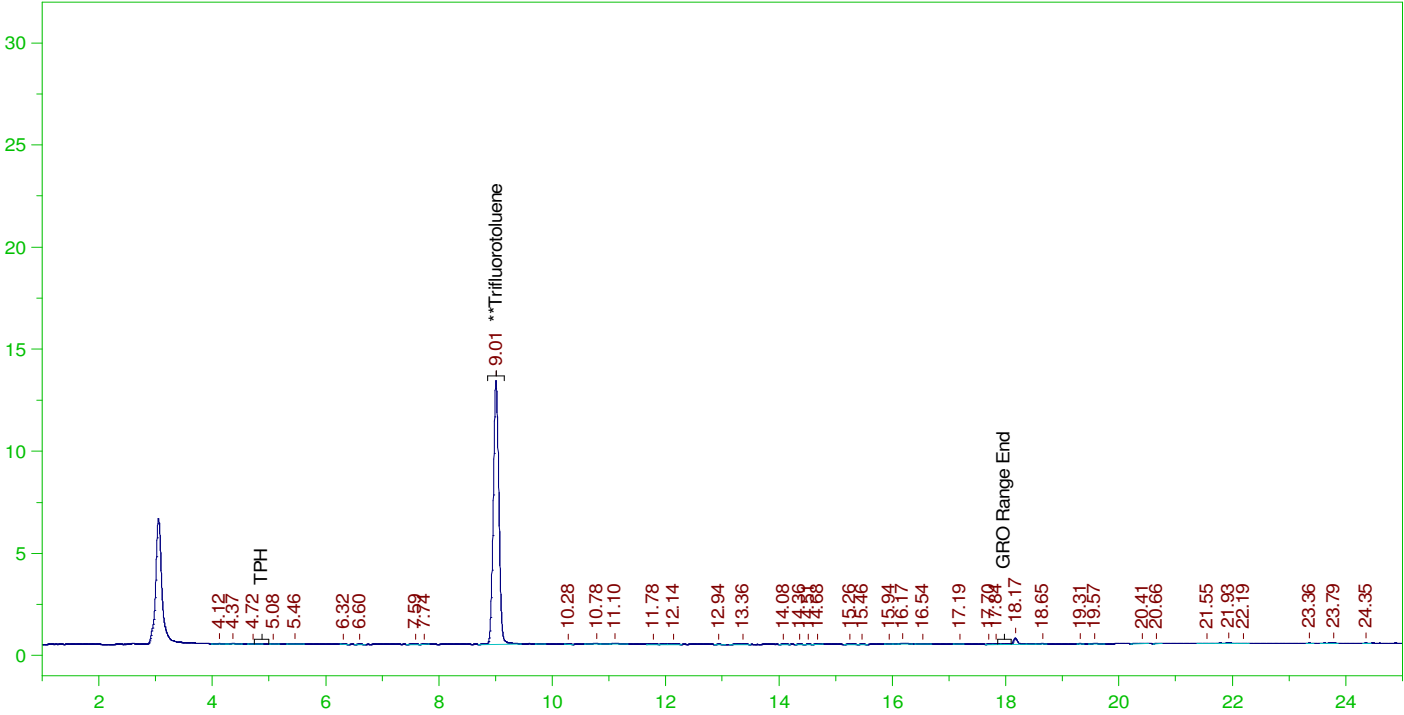
SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC
**Trifluorotoluene	9.001	25.	19.197	76.79

C6 to C10 Area:5660.641 C6 to C10 Amount: 1.155258  
TPH Area:9202.465 TPH Amount: 1.925857

ERH2696 (Trip Blank) 14833

G:\Org\VAR\DAT\VAR030922\_b\0309VARB.0052.RAW

B22030586-004A ;0309VAR , \$HC-8015-GRO-W,



**GASOLINE RANGE ORGANICS CHROMATOGRAM REPORT**

Sample Name: B22030586-004A ;0309VAR , \$HC-8015-GRO-W,  
Raw File: G:\Org\VAR\DAT\VAR030922\_b\0309VARB.0052.RAW  
Date & Time Acquired: 3/10/2022 12:59:19 PM  
Method File: G:\Org\VAR\Methods\211208G586-4DoDB%.MET  
Calibration File: G:\Org\VAR\Cals\211208GRO8015CB.CAL  
Sample Weight: 5 Dilution: 1 S.A.: 1

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

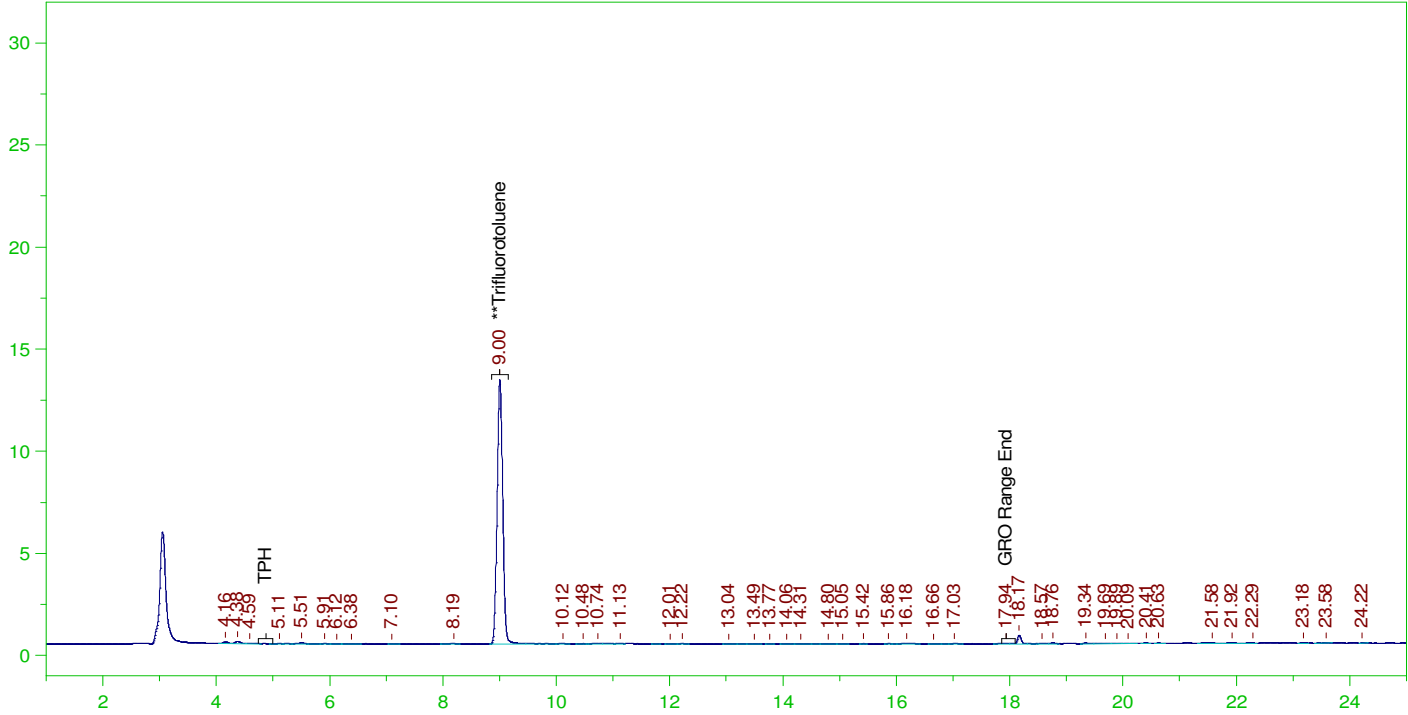
SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC
**Trifluorotoluene	9.006	25.	19.1	76.4

C6 to C10 Area:3400.438 C6 to C10 Amount: 0.6939818  
TPH Area:7283.66 TPH Amount: 1.524297

ERH2682 (RHMW15 Zone 5)

G:\Org\VAR\DAT\VAR030922\_b\0309VARB.0072.RAW

B22030586-007F ;0309VAR , \$HC-8015-GRO-W,



**GASOLINE RANGE ORGANICS CHROMATOGRAM REPORT**

Sample Name: B22030586-007F ;0309VAR , \$HC-8015-GRO-W,  
Raw File: G:\Org\VAR\DAT\VAR030922\_b\0309VARB.0072.RAW  
Date & Time Acquired: 3/11/2022 12:25:09 AM  
Method File: G:\Org\VAR\Methods\211208G586-7DoDB%.MET  
Calibration File: G:\Org\VAR\Cals\211208GRO8015CB.CAL  
Sample Weight: 5 Dilution: 1 S.A.: 1

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

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC
**Trifluorotoluene	9.004	25.	19.319	77.28

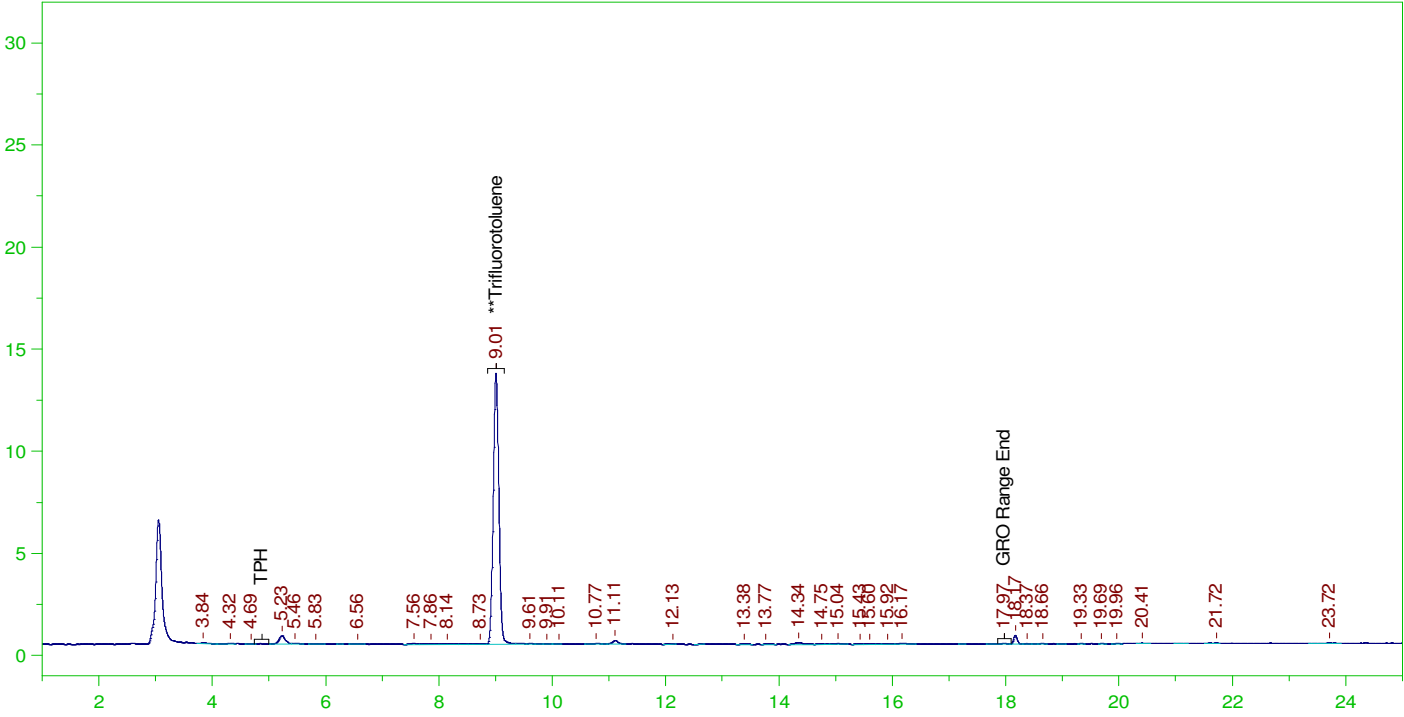
C6 to C10 Area:4891.463 C6 to C10 Amount: 0.9982794  
TPH Area:10668.71 TPH Amount: 2.232707



ERH2681 (Trip Blank) 14653

G:\Org\VAR\DAT\VAR030922\_b\0309VARB.0053.RAW

B22030586-009A ;0309VAR , \$HC-8015-GRO-W,



**GASOLINE RANGE ORGANICS CHROMATOGRAM REPORT**

Sample Name: B22030586-009A ;0309VAR , \$HC-8015-GRO-W,  
Raw File: G:\Org\VAR\DAT\VAR030922\_b\0309VARB.0053.RAW  
Date & Time Acquired: 3/10/2022 1:33:44 PM  
Method File: G:\Org\VAR\Methods\211208G586-9DoDB%.MET  
Calibration File: G:\Org\VAR\Cals\211208GRO8015CB.CAL  
Sample Weight: 5 Dilution: 1 S.A.: 1

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

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC
**Trifluorotoluene	9.006	25.	19.741	78.96

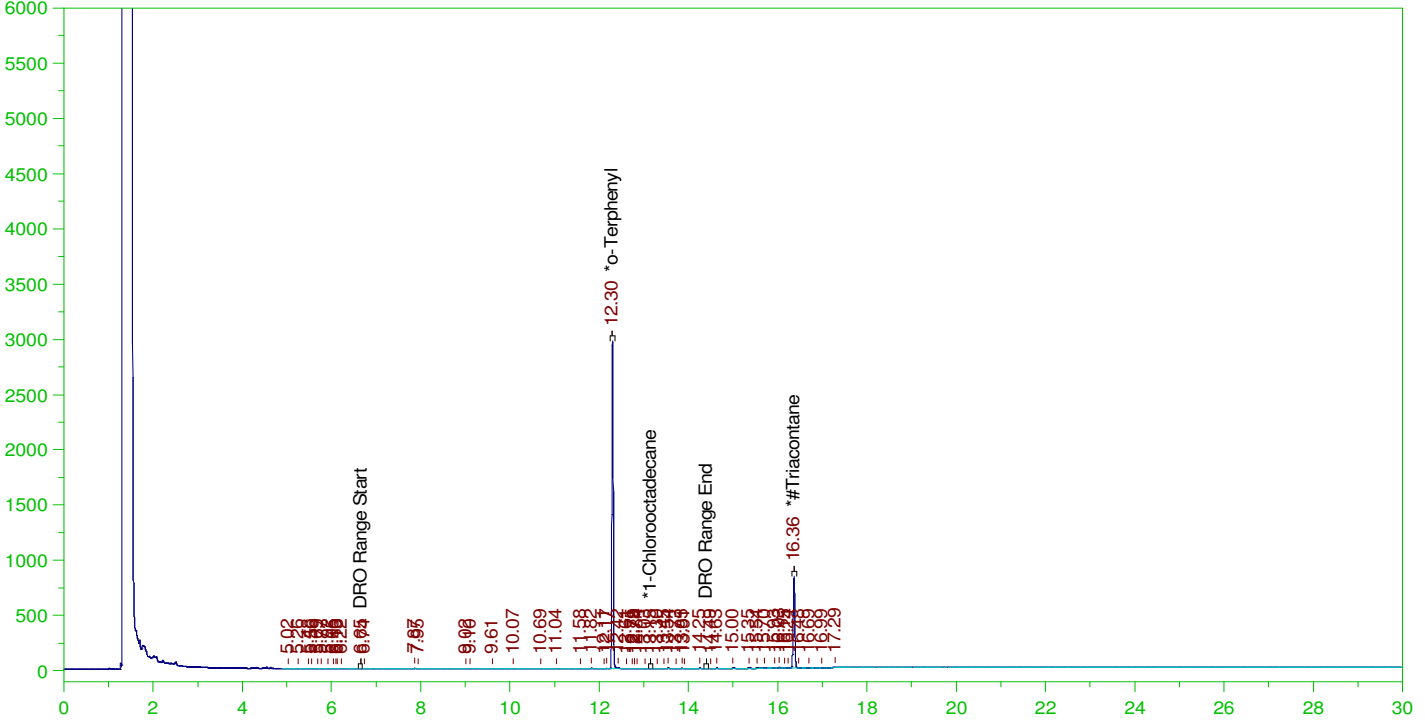
C6 to C10 Area:10312.19 C6 to C10 Amount: 2.104574  
TPH Area:14889.11 TPH Amount: 3.115936

ERH2697 (OWDFMW08A)

Batch ID: 164385

G:\org\HP5\DAT\HP5031122\_b\0311HP5.0010.RAW

B22030586-001C ;0311HP5 , \$HC-8015-DRO-W,



**DIESEL RANGE ORGANICS CHROMATOGRAM REPORT**

Sample Name: B22030586-001C ;0311HP5 , \$HC-8015-DRO-W,  
Raw File: G:\org\HP5\DAT\HP5031122\_b\0311HP5.0010.RAW  
Date & Time Acquired: 3/11/2022 6:33:50 PM  
Method File: G:\Org\HP5\Methods\DR\_8015-C24T-JJ-L%.met  
Calibration File: G:\Org\HP5\Cals\SW8015C\_DRO220111JJ-C24-T.CAL  
Sample Weight: 1050 Dilution: 1 S.A.: 1

Mean RF for TEH: 32675.36  
Rt range for Diesel Range Organics: 6.595 to 14.45

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	
*o-Terphenyl	12.297	.19	.15	78.62	-
*1-Chlorooctadecane	13.146	.19	.	.02	-
*#Triacontane	16.36	.19	.071	37.11	-

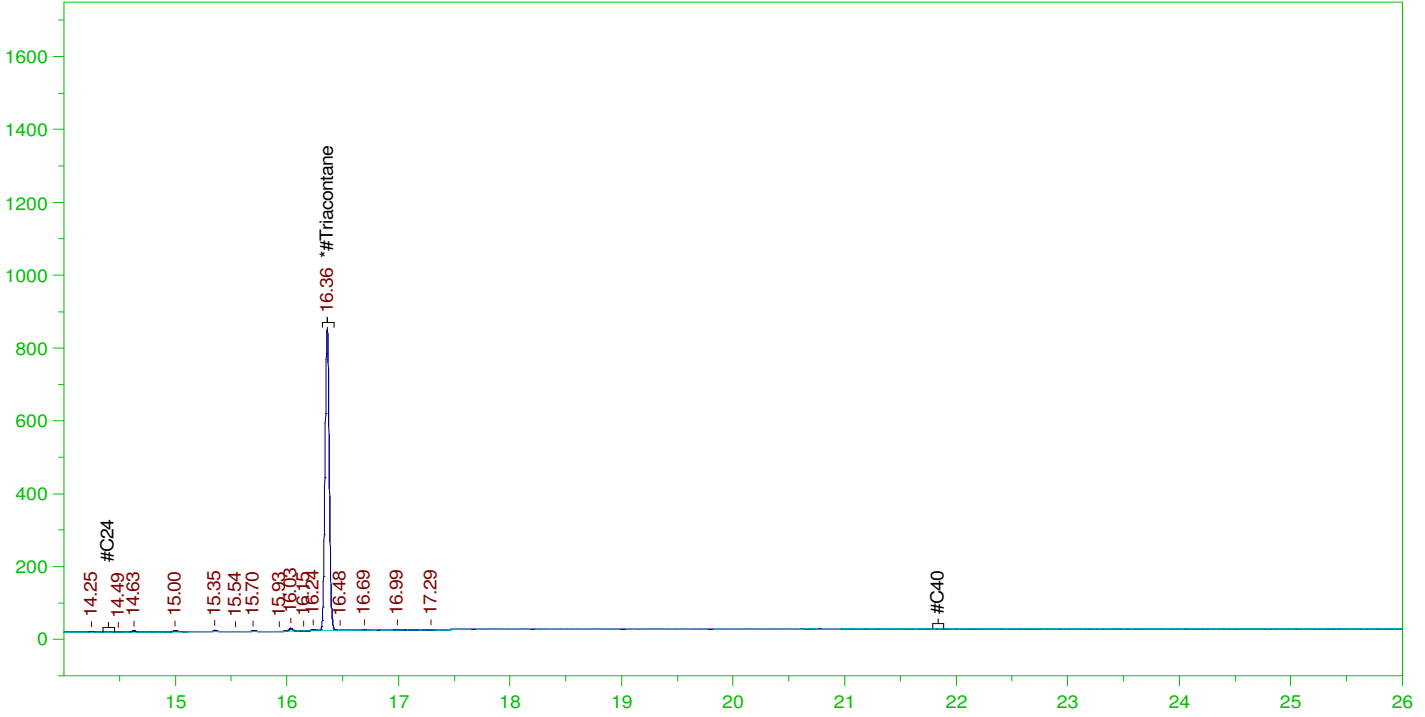
DRO Area:115530.9 DRO Amount: 3.36735E-03  
TEH Area:240428 TEH Amount: 7.007698E-03

ERH2697 (OWDFMW08A)

Batch ID: 164385

G:\org\HP5\DAT\HP5031122\_b\0311HP5.0010.RAW

B22030586-001C ;0311HP5 , \$HC-8015-DRO-W,



**RESIDUAL RANGE ORGANICS CHROMATOGRAM**

Sample Name: B22030586-001C ;0311HP5 , \$HC-8015-DRO-W,  
Raw File: G:\org\HP5\DAT\HP5031122\_b\0311HP5.0010.RAW  
Date & Time Acquired: 3/11/2022 6:33:50 PM  
Method File: G:\Org\HP5\Methods\DR\_OROS-BJ-L%.MET  
Calibration File: G:\Org\HP5\Cals\SW8015C\_ORO220111BJ\_SAMP.CAL  
Sample Weight: 1050 Dilution: 1 S.A.: 1

Mean RF for for Residual Range Organics Calculations: 26424.55  
Rt range for Residual Range Organics: 14.35 to 21.89

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC
*#Triacontane_____	16.36	.476	.071	14.85

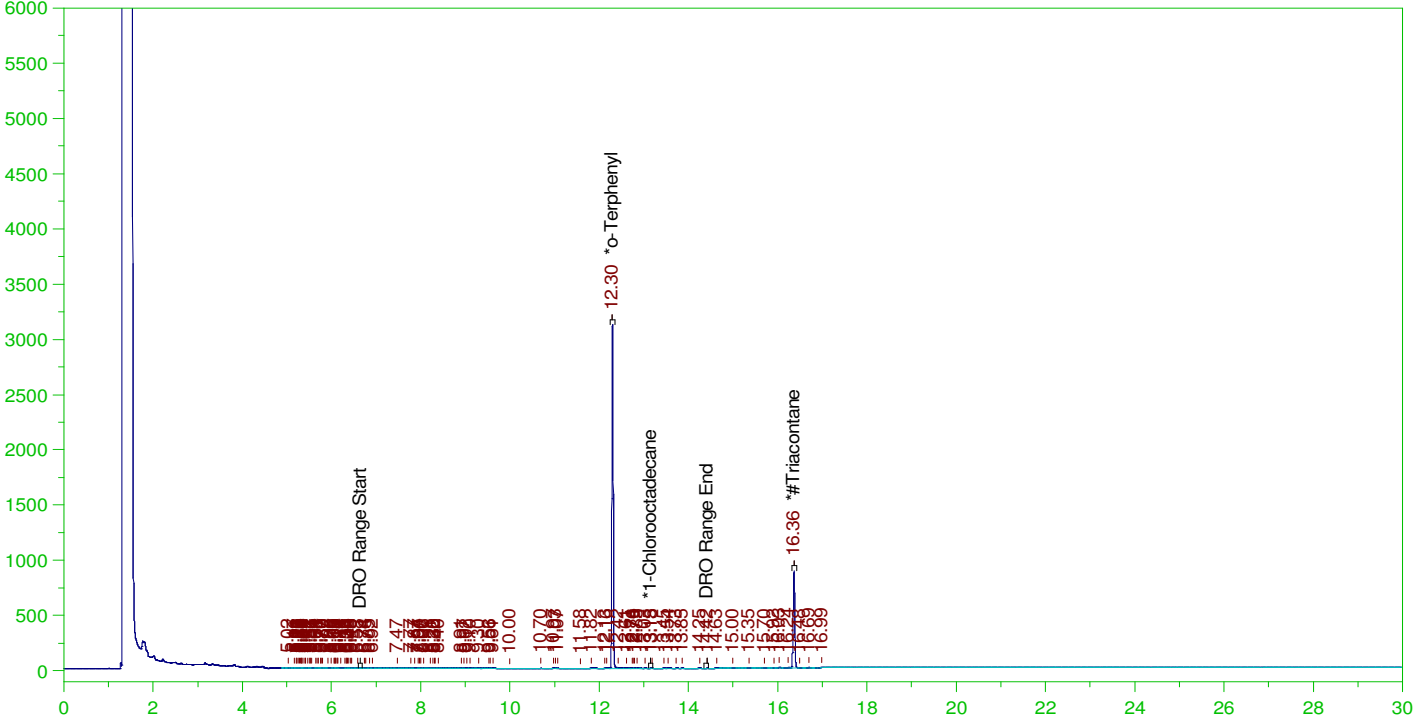
RRO Area:84903.16 RRO AMOUNT: 3.060039E-03

ERH2698 (OWDFMW08A FD)

Batch ID: 164385

G:\org\HP5\DAT\HP5031122\_b\0311HP5.0011.RAW

B22030586-002A ;0311HP5 , \$HC-8015-DRO-W,



**DIESEL RANGE ORGANICS CHROMATOGRAM REPORT**

Sample Name: B22030586-002A ;0311HP5 , \$HC-8015-DRO-W,  
Raw File: G:\org\HP5\DAT\HP5031122\_b\0311HP5.0011.RAW  
Date & Time Acquired: 3/11/2022 7:16:48 PM  
Method File: G:\Org\HP5\Methods\DR\_8015-C24T-JJ-L%.met  
Calibration File: G:\Org\HP5\Cals\SW8015C\_DRO220111JJ-C24-T.CAL  
Sample Weight: 1050 Dilution: 1 S.A.: 1

Mean RF for TEH: 32675.36

Rt range for Diesel Range Organics: 6.595 to 14.45

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	
*o-Terphenyl	12.296	.19	.157	82.24	-
*1-Chlorooctadecane	13.151	.19	.	.02	-
*#Triacontane	16.36	.19	.074	38.8	-

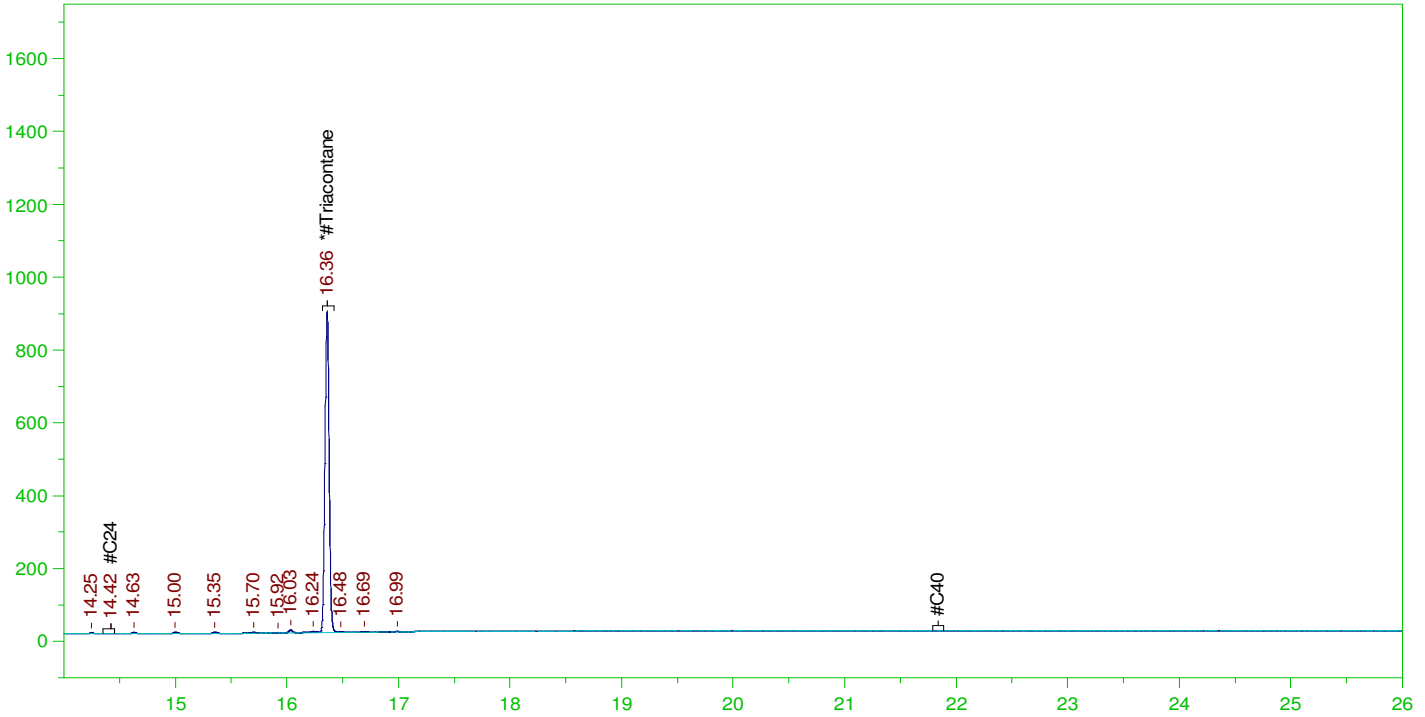
DRO Area:165875 DRO Amount: 4.83472E-03  
TEH Area:320137.4 TEH Amount: 9.330968E-03

ERH2698 (OWDFMW08A FD)

Batch ID: 164385

G:\org\HP5\DAT\HP5031122\_b\0311HP5.0011.RAW

B22030586-002A ;0311HP5 , \$HC-8015-DRO-W,



**RESIDUAL RANGE ORGANICS CHROMATOGRAM**

Sample Name: B22030586-002A ;0311HP5 , \$HC-8015-DRO-W,  
Raw File: G:\org\HP5\DAT\HP5031122\_b\0311HP5.0011.RAW  
Date & Time Acquired: 3/11/2022 7:16:48 PM  
Method File: G:\Org\HP5\Methods\DR\_OROS-BJ-L%.MET  
Calibration File: G:\Org\HP5\Cals\SW8015C\_ORO220111BJ\_SAMP.CAL  
Sample Weight: 1050 Dilution: 1 S.A.: 1

Mean RF for for Residual Range Organics Calculations: 26424.55  
Rt range for Residual Range Organics: 14.35 to 21.89

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC
*#Triacontane_____	16.36	.476	.074	15.52

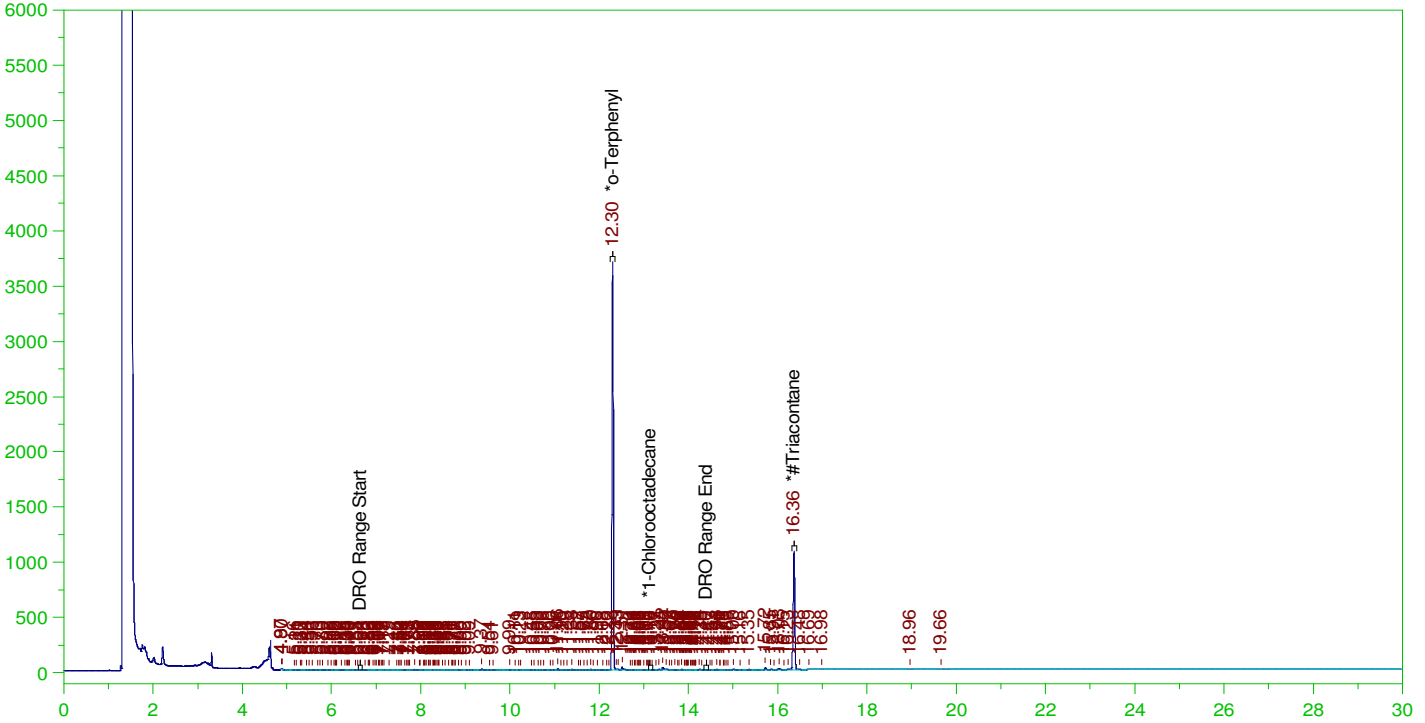
RRO Area:84412.92 RRO AMOUNT: 3.04237E-03

ERH2682 (RHMW15 Zone 5)

Batch ID: 164385

G:\Org\HP5\DAT\HP5031122\_b\0311HP5.0012.RAW

B22030586-007C ;0311HP5 , \$HC-8015-DRO-W,



**DIESEL RANGE ORGANICS CHROMATOGRAM REPORT**

Sample Name: B22030586-007C ;0311HP5 , \$HC-8015-DRO-W,  
Raw File: G:\Org\HP5\DAT\HP5031122\_b\0311HP5.0012.RAW  
Date & Time Acquired: 3/11/2022 7:59:38 PM  
Method File: G:\Org\HP5\Methods\DR\_8015-C24T-JJ-L%.met  
Calibration File: G:\Org\HP5\Cals\SW8015C\_DRO220111JJ-C24-T.CAL  
Sample Weight: 1050 Dilution: 1 S.A.: 1

Mean RF for TEH: 32675.36  
Rt range for Diesel Range Organics: 6.595 to 14.45

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	
*o-Terphenyl	12.299	.19	.183	95.99	-
*1-Chlorooctadecane	13.128	.19	.	.02	-
*#Triacontane	16.36	.19	.088	46.46	-

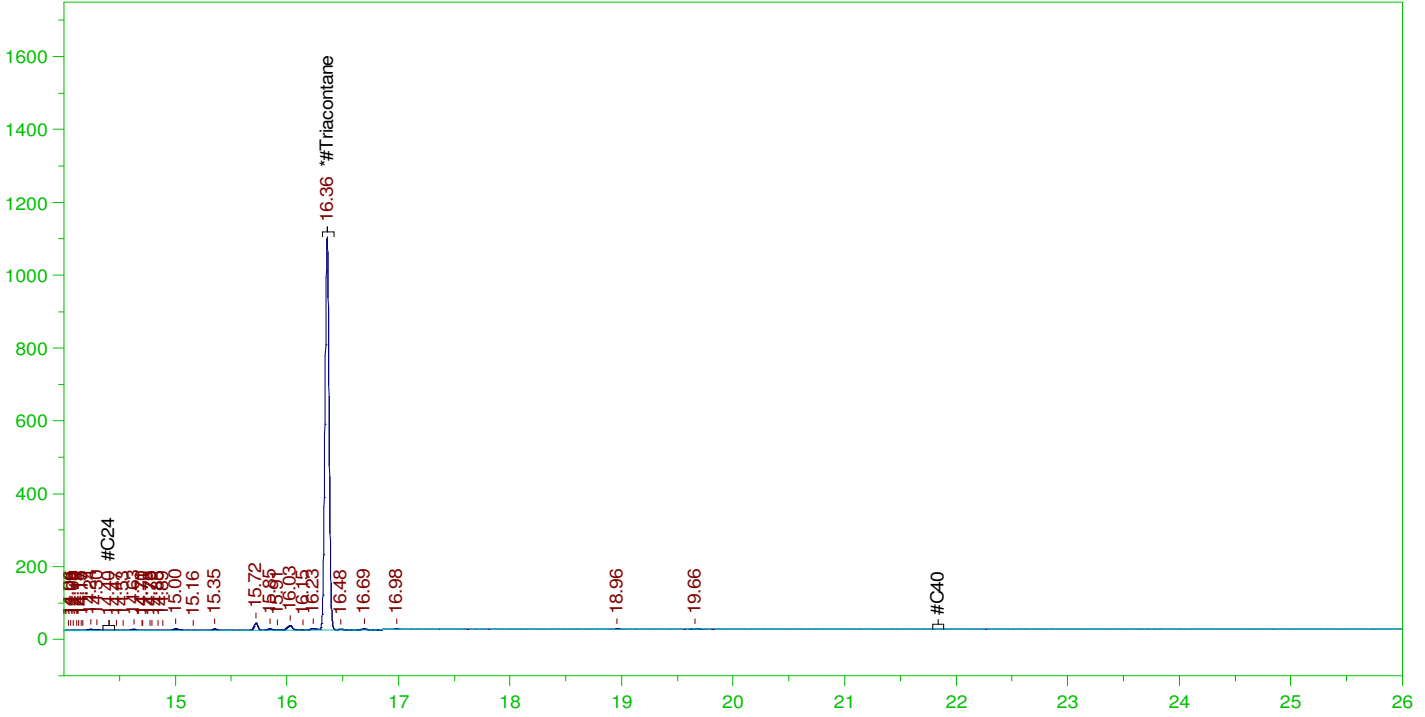
DRO Area:686750.6 DRO Amount: 2.001656E-02  
TEH Area:1019410 TEH Amount: 0.0297125

ERH2682 (RHMW15 Zone 5)

Batch ID: 164385

G:\org\HP5\DAT\HP5031122\_b\0311HP5.0012.RAW

B22030586-007C ;0311HP5 , \$HC-8015-DRO-W,



**RESIDUAL RANGE ORGANICS CHROMATOGRAM**

Sample Name: B22030586-007C ;0311HP5 , \$HC-8015-DRO-W,  
Raw File: G:\org\HP5\DAT\HP5031122\_b\0311HP5.0012.RAW  
Date & Time Acquired: 3/11/2022 7:59:38 PM  
Method File: G:\Org\HP5\Methods\DR\_OROS-BJ-L%.MET  
Calibration File: G:\Org\HP5\Cals\SW8015C\_ORO220111BJ\_SAMP.CAL  
Sample Weight: 1050 Dilution: 1 S.A.: 1

Mean RF for for Residual Range Organics Calculations: 26424.55  
Rt range for Residual Range Organics: 14.35 to 21.89

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC
*#Triacontane_____	16.36	.476	.088	18.58

RRO Area:207563

RRO AMOUNT: 7.480884E-03

---

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

**Categories:** Must Attend

Hi Tabitha,

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

Thank you,

**Alethea Ramos, CIH**  
Environmental Scientist, Environmental Health & Science, Environment  
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M +1-808-389-5383  
[alethea.ramos@aecom.com](mailto:alethea.ramos@aecom.com)

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

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



Alethea,

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

Thank you,

**Energy Laboratories, Inc.**

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**Tabitha Edwards** | Office Manager | Billings, MT

O: 406-869-6286 | [tedwards@energylab.com](mailto:tedwards@energylab.com) | [www.energylab.com](http://www.energylab.com)

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

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

**To:** Shari Endy; [billingsPM@energylab.com](mailto:billingsPM@energylab.com)

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

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

**Importance:** High

Hi Shari and Billings PM,

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

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

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

Thank you,

**Alethea Ramos, CIH**

Environmental Scientist, Environmental Health & Science, Environment

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M +1-808-389-5383

[alethea.amos@aecom.com](mailto:alethea.amos@aecom.com)

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**From:** Ramos, Alethea <alethea.ramos@aecom.com>  
**Sent:** Wednesday, March 09, 2022 2:02 PM  
**To:** Shari Endy; Larson, Cathy  
**Cc:** Rubio, Diana; Edmonds, Alexander  
**Subject:** RE: [EXTERNAL] Samples received today

Hi Shari,

Yes, please proceed. I have cc'd Shipping/Prep Team leads to inform staff to keep all labels with their respective vials.

Thank you,

**Alethea Ramos, CIH**  
Environmental Scientist, Environmental Health & Science, Environment  
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M +1-808-389-5383  
[alethea.ramos@aecom.com](mailto:alethea.ramos@aecom.com)

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**From:** Shari Endy <[sendy@energylab.com](mailto:sendy@energylab.com)>  
**Sent:** Wednesday, March 9, 2022 10:59 AM  
**To:** Ramos, Alethea <[alethea.ramos@aecom.com](mailto:alethea.ramos@aecom.com)>; Larson, Cathy <[Cathy.Larson@aecom.com](mailto:Cathy.Larson@aecom.com)>  
**Subject:** [EXTERNAL] Samples received today

Good afternoon –

The samples received today did not have preservative traceability for the methane samples. All the samples that contain VOA vials are shipped from the laboratory in bubble bags that are labelled with the Bottle Order number on the outside of the bag. This bottle order number is on a sticker on the side of the bubble bag. For

some reason, the labels were removed from the methane vials which removes the preservative traceability. Can we proceed with analysis of these methane samples without the preservative traceability?

**Energy Laboratories, Inc.**

Trust our People. Trust our Data.

**Shari Endy** | Sr. Project Manager | Billings, MT

O: 406-869-6253 | [sendy@energylab.com](mailto:sendy@energylab.com) | [www.energylab.com](http://www.energylab.com)

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