



ANALYTICAL SUMMARY REPORT

March 08, 2022

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

Work Order: B22010971 Quote ID: 5912

Project Name: CV18F0126, 60571032.02.46.01

Energy Laboratories Inc Billings MT received the following 5 samples from AECOM - Honolulu on 1/15/2022 for analysis.

Lab ID	Client Sample ID	Collect Date	Received Date	Matrix	Test
B22010971-001	ERH2410 (RHMW12A)	01/12/22 17:35	01/15/2022	Ground Water	Metals Digestion by SW3010A DRO-Liquid-Liquid Extraction SW3520C DRO-Liquid-Liquid Extraction SW3520C Low Level PAH by 8270C SIM SW8270CSIM Separatory Funnel SW3510C Liquid-Liquid Ext. Carbon, Total Organic SW9060A Metals by ICP-MS, Dissolved SW6020 Metals by ICP-MS, Total SW6020 8260-Volatile Organic Compounds-Short List SW8260B EDB in Water by ECD SW8011 Gasoline Range Organics SW8015C Diesel Range Organics SW8015C Diesel Range Organics SW8015C Headspace Gas Analysis SW8015M Semi-Volatile Organic Compounds, Extended List SW8270C SW8011 Microextraction
B22010971-002	ERH2409 (Trip Blank) 14653	01/12/22 17:35	01/15/2022	Trip Blank	8260-Volatile Organic Compounds-Short List SW8260B
B22010971-003	ERH2409 (Trip Blank) 14653	01/12/22 17:35	01/15/2022	Trip Blank	Gasoline Range Organics SW8015C
B22010971-004	ERH2409 (Trip Blank) 14653	01/12/22 17:35	01/15/2022	Trip Blank	EDB in Water by ECD SW8011 SW8011 Microextraction



ANALYTICAL SUMMARY REPORT

B22010971-005 ERH2409 (Trip Blank) 01/12/22 17:35 01/15/2022 Trip Blank Headspace Gas Analysis
14663 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: B22010971

Report Date: 3/8/2022

CASE NARRATIVE

General Comments:

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

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

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

Tests for Total Organic Carbon by SW060A associated with analyst identified as ELI-CA were subcontracted to Energy Laboratories, PO Box 247, Casper, WY, EPA Number WY00002.

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

The Stage 4 Validation Package includes data reports for all analyses associated with the instrument calibration, quality control (QC) sample analysis, and sample analysis. All analytical data is within method specifications except as noted in the Analytical QC Exceptions report or the Analysis Specific Comments below. The analytical report identifies preparation batch and analytical run IDs associated with each result for a sample. Only the raw data associated with the parameters listed on this report should be validated.

Analysis Specific Comments:

An Analytical QC Exceptions Report has been attached, summarizing all qualified QC results. Where qualified, an analyte exceeded quality control limits, but was not detected in the associated sample(s). Discussion regarding samples for Diesel Range Organics by SW8015C analysis is summarized below.

Method SW8015C DRO:

B22010971-001: On 2/23/2022 a request was received from Alethea Ramos at AECOM to re-extract and re-analyze sample ERH2410 (RHMW12A), (B22010971-001) for EPA 8015C DRO. Both the original and re-analysis results are included in the analytical report. The prep re-extraction hold time was exceeded by 33.9 days.



Chain of Custody & Analytical Request Record – DoD Project

www.energylab.com

COC#202201-49NOI Page 1 of 1

Account Information (Billing information)

Company/Name	AECOM	
Contact	Alethea Ramos / Margie Pascua	
Phone	808-529-7283 / 808-356-5373	
Mailing Address	1001 Bishop St., Suite 1600	
City, State, Zip	Honolulu, HI 96813	
Email	alethea.ramos@aecom.com / margie.pascua@aecom.com	
Receive Invoice	<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 type="checkbox"/> Email	
Special Report/Formats	<input checked="" type="checkbox"/> LEVEL IV <input type="checkbox"/> NELAC <input checked="" 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 1) in 1-2 business days, Level IV report in 10 working days.
- 4 Note NOI log is separate from other COC's.
- 5 *SVOC/VOC (full suite), PAH SIM (naphthalene, 1-methylnaphthalene, 2-methylnaphthalene)

Project Information

Project Name, PWSID, Permit, etc.	CV18F0126, 60571032.02 46 01		
Sampler Name	RS, JV, AE	Sampler Phone	808-393-6007
Sample Origin State	Hawaii	EPA/State Compliance	<input type="checkbox"/> Yes <input 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., Casper		

Matrix Codes

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

Analysis Requested

8260 VOC's (Full Suite) + DCA* [40ml VOA w/HCL]	8015 TPH-g [40ml VOA w/HCL]	RSK175 Methane [40ml VOA w/H2SO4]	8011 EDB [40ml VOA w/HCL]	SVOCs (full suite+Nap, 1-2-Methylnap) by 8270DSIM*	EPA 3630/8015 TPH-d/o +SGC [1-L AG w/H2SO4]	EPA 9060 TOC [250ml AG w/H3PO4]	EPA 6020 Total Lead [250ml HDPE w/HNO3]	EPA 6020 Diss. Lead [250ml HDPE w/HNO3] (field Filtered)	See Attached
X	X	X	X	X	X	X	X	X	
X	X	X	X	X	X	X	X	X	

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

Sample Identification (Name, Location, Interval, etc.)	Collection		Number of Containers	Matrix (See Codes Above)	Analysis Requested									RUSH TAT	*ELI LAB ID Laboratory Use Only
	Date	Time			8260 VOC's (Full Suite) + DCA* [40ml VOA w/HCL]	8015 TPH-g [40ml VOA w/HCL]	RSK175 Methane [40ml VOA w/H2SO4]	8011 EDB [40ml VOA w/HCL]	SVOCs (full suite+Nap, 1-2-Methylnap) by 8270DSIM*	EPA 3630/8015 TPH-d/o +SGC [1-L AG w/H2SO4]	EPA 9060 TOC [250ml AG w/H3PO4]	EPA 6020 Total Lead [250ml HDPE w/HNO3]	EPA 6020 Diss. Lead [250ml HDPE w/HNO3] (field Filtered)		
1 ERH2410 (RHMW12A)	01/12/22	1339	19	GW	X	X	X	X	X	X	X	X	X	✓	822010971
2 ERH2409 (Trip Blank)	01/12/22	1300	8	WQ	X	X	X	X						✓	
3															
4 TB (8260) 14653	2														
5 TB (8180) 14653	1														
6 TB (8011) 14653	1														
7 TB (Methane) 14603	2	1/13/22													
8 TB 14705	2														
9															
10															

Custody Record MUST be signed	Relinquished by (print) Tianzhuan Nie	Date/Time 1/13/22 15:00	Signature <i>Tianzhuan Nie</i>	Received by (print) Margie Pascua	Date/Time 1/13/22 11:00	Signature <i>Margie Pascua</i>
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Shipped By	Cooler ID(s)	Custody Seals N C B	Intact N	Receipt Temp 38 °C	Temp Blank Y(N)	Amplifier Y(N)	Payment Type CC Cash Check	Amount \$	Receipt Number (cash/check only)
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Work Order Receipt Checklist

AECOM - Honolulu

B22010971

Login completed by: Tabitha Edwards
Reviewed by: BL2000\darcy
Reviewed Date: 1/20/2022

Date Received: 1/15/2022
Received by: kmt
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 [] No [x] 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 [] No [x] Not Applicable []
Container/Temp Blank temperature: 3.8°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 collection time indicated on the Chain of Custody for all samples is in Hawaii-Aleutian Standard Time. The collection time has been converted (+4 Hours) to Mountain Standard Time.

The 250mL Plastic non filtered nitric preserved container for Total Lead was not received with a Custody Seal. All other containers had a Custody Seal.

Re-extract and re-analyze sample ERH2410 (RHMW12A) for Diesel Range Organics per email from Alethea Ramos on 2/23/22.

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: B22010971-001

Collection Date: 01/12/2022 17:35

Date Received: 01/15/2022

Report Date: 03/08/2022

Client: AECOM - Honolulu
Client Sample ID: ERH2410 (RHMW12A)
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
LOW LEVEL PAH BY 8270C SIM												
1-Methylnaphthalene	ND	ug/L	1	U	0.10	0.049	0.020		SW8270CSIM	01/25/2022 16:29/jph	SV5975.I_220125A : 10	162980
2-Methylnaphthalene	ND	ug/L	1	U	0.10	0.049	0.017		SW8270CSIM	01/25/2022 16:29/jph	SV5975.I_220125A : 10	162980
Acenaphthene	ND	ug/L	1	U	0.10	0.049	0.031		SW8270CSIM	01/25/2022 16:29/jph	SV5975.I_220125A : 10	162980
Acenaphthylene	ND	ug/L	1	U	0.10	0.049	0.024		SW8270CSIM	01/25/2022 16:29/jph	SV5975.I_220125A : 10	162980
Anthracene	ND	ug/L	1	U	0.10	0.049	0.028		SW8270CSIM	01/25/2022 16:29/jph	SV5975.I_220125A : 10	162980
Benzo(a)anthracene	ND	ug/L	1	U	0.10	0.049	0.027		SW8270CSIM	01/25/2022 16:29/jph	SV5975.I_220125A : 10	162980
Benzo(a)pyrene	ND	ug/L	1	U	0.10	0.049	0.034		SW8270CSIM	01/25/2022 16:29/jph	SV5975.I_220125A : 10	162980
Benzo(b)fluoranthene	0.031	ug/L	1	J	0.10	0.049	0.022		SW8270CSIM	01/25/2022 16:29/jph	SV5975.I_220125A : 10	162980
Benzo(g,h,i)perylene	ND	ug/L	1	U	0.10	0.049	0.026		SW8270CSIM	01/25/2022 16:29/jph	SV5975.I_220125A : 10	162980
Benzo(k)fluoranthene	0.029	ug/L	1	J	0.10	0.049	0.029		SW8270CSIM	01/25/2022 16:29/jph	SV5975.I_220125A : 10	162980
Chrysene	ND	ug/L	1	U	0.10	0.049	0.045		SW8270CSIM	01/25/2022 16:29/jph	SV5975.I_220125A : 10	162980
Dibenzo(a,h)anthracene	ND	ug/L	1	U	0.10	0.049	0.036		SW8270CSIM	01/25/2022 16:29/jph	SV5975.I_220125A : 10	162980
Fluoranthene	ND	ug/L	1	U	0.10	0.049	0.023		SW8270CSIM	01/25/2022 16:29/jph	SV5975.I_220125A : 10	162980
Fluorene	ND	ug/L	1	U	0.10	0.049	0.022		SW8270CSIM	01/25/2022 16:29/jph	SV5975.I_220125A : 10	162980
Indeno(1,2,3-cd)pyrene	ND	ug/L	1	U	0.10	0.049	0.048		SW8270CSIM	01/25/2022 16:29/jph	SV5975.I_220125A : 10	162980
Naphthalene	ND	ug/L	1	U	0.10	0.049	0.028		SW8270CSIM	01/25/2022 16:29/jph	SV5975.I_220125A : 10	162980
Phenanthrene	ND	ug/L	1	U	0.10	0.049	0.029		SW8270CSIM	01/25/2022 16:29/jph	SV5975.I_220125A : 10	162980
Pyrene	ND	ug/L	1	U	0.10	0.049	0.023		SW8270CSIM	01/25/2022 16:29/jph	SV5975.I_220125A : 10	162980
AGGREGATE ORGANICS												
Organic Carbon, Total (TOC)	0.39	mg/L	1	J	0.50	0.50	0.17		SW9060A	01/18/2022 15:11/eli-ca	SUB-C278828 : 4	C_R278828
- TOC Range is 0.4 to 0.4												
METALS, DISSOLVED												
Lead	0.00012	mg/L	1	J	0.001	0.0001	0.00006		SW6020	01/19/2022 06:19/car	ICPMS206-B_220118A : 123	R373351
METALS, TOTAL												
Lead	ND	mg/L	1	U	0.001	0.0001	0.00008		SW6020	01/19/2022 06:25/car	ICPMS206-B_220118A : 124	162992
VOLATILE ORGANIC COMPOUNDS												
Benzene	ND	ug/L	1	U	1.0	0.20	0.091		SW8260B	01/20/2022 15:56/msc	VOA5975C.I_220120A : 11	R373592
Bromobenzene	ND	ug/L	1	U	1.0	0.20	0.083		SW8260B	01/20/2022 15:56/msc	VOA5975C.I_220120A : 11	R373592
Bromochloromethane	ND	ug/L	1	U	1.0	0.50	0.14		SW8260B	01/20/2022 15:56/msc	VOA5975C.I_220120A : 11	R373592
Bromodichloromethane	ND	ug/L	1	U	1.0	0.25	0.12		SW8260B	01/20/2022 15:56/msc	VOA5975C.I_220120A : 11	R373592
Bromoform	ND	ug/L	1	U	1.0	0.25	0.12		SW8260B	01/20/2022 15:56/msc	VOA5975C.I_220120A : 11	R373592
Carbon tetrachloride	ND	ug/L	1	U	1.0	0.50	0.14		SW8260B	01/20/2022 15:56/msc	VOA5975C.I_220120A : 11	R373592
Chlorobenzene	ND	ug/L	1	U	1.0	0.20	0.091		SW8260B	01/20/2022 15:56/msc	VOA5975C.I_220120A : 11	R373592
Chlorodibromomethane	ND	ug/L	1	U	1.0	0.20	0.084		SW8260B	01/20/2022 15:56/msc	VOA5975C.I_220120A : 11	R373592
Chloroethane	ND	ug/L	1	U	1.0	0.50	0.17		SW8260B	01/20/2022 15:56/msc	VOA5975C.I_220120A : 11	R373592
Chloroform	ND	ug/L	1	U	1.0	0.20	0.079		SW8260B	01/20/2022 15:56/msc	VOA5975C.I_220120A : 11	R373592
Chloromethane	ND	ug/L	1	U	1.0	0.50	0.16		SW8260B	01/20/2022 15:56/msc	VOA5975C.I_220120A : 11	R373592



LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Lab ID: B22010971-001

Collection Date: 01/12/2022 17:35

Date Received: 01/15/2022

Report Date: 03/08/2022

Client: AECOM - Honolulu
Client Sample ID: ERH2410 (RHMW12A)
Project: CV18F0126, 60571032.02.46.01
Matrix: Ground Water

Analyses	Result	Units	DF	Qual	LOQ	LOD	DL	MCL	Method	Analysis Date / By	RunID : Run Order	BatchID
VOLATILE ORGANIC COMPOUNDS												
1,2-Dibromoethane	ND	ug/L	1	U	1.0	0.20	0.092		SW8260B	01/20/2022 15:56/msc	VOA5975C.I_220120A : 11	R373592
2-Chlorotoluene	ND	ug/L	1	U	1.0	0.20	0.088		SW8260B	01/20/2022 15:56/msc	VOA5975C.I_220120A : 11	R373592
4-Chlorotoluene	ND	ug/L	1	U	1.0	0.20	0.073		SW8260B	01/20/2022 15:56/msc	VOA5975C.I_220120A : 11	R373592
Dibromomethane	ND	ug/L	1	U	1.0	0.50	0.15		SW8260B	01/20/2022 15:56/msc	VOA5975C.I_220120A : 11	R373592
1,2-Dichlorobenzene	ND	ug/L	1	U	1.0	0.20	0.075		SW8260B	01/20/2022 15:56/msc	VOA5975C.I_220120A : 11	R373592
1,3-Dichlorobenzene	ND	ug/L	1	U	1.0	0.20	0.080		SW8260B	01/20/2022 15:56/msc	VOA5975C.I_220120A : 11	R373592
1,4-Dichlorobenzene	ND	ug/L	1	U	1.0	0.20	0.086		SW8260B	01/20/2022 15:56/msc	VOA5975C.I_220120A : 11	R373592
Dichlorodifluoromethane	ND	ug/L	1	U	1.0	0.50	0.18		SW8260B	01/20/2022 15:56/msc	VOA5975C.I_220120A : 11	R373592
1,1-Dichloroethane	ND	ug/L	1	U	1.0	0.50	0.14		SW8260B	01/20/2022 15:56/msc	VOA5975C.I_220120A : 11	R373592
1,2-Dichloroethane	ND	ug/L	1	U	1.0	0.25	0.12		SW8260B	01/20/2022 15:56/msc	VOA5975C.I_220120A : 11	R373592
1,1-Dichloroethene	ND	ug/L	1	U	1.0	0.50	0.14		SW8260B	01/20/2022 15:56/msc	VOA5975C.I_220120A : 11	R373592
cis-1,2-Dichloroethene	ND	ug/L	1	U	1.0	0.25	0.11		SW8260B	01/20/2022 15:56/msc	VOA5975C.I_220120A : 11	R373592
trans-1,2-Dichloroethene	ND	ug/L	1	U	1.0	0.25	0.12		SW8260B	01/20/2022 15:56/msc	VOA5975C.I_220120A : 11	R373592
1,2-Dichloropropane	ND	ug/L	1	U	1.0	0.20	0.085		SW8260B	01/20/2022 15:56/msc	VOA5975C.I_220120A : 11	R373592
1,3-Dichloropropane	ND	ug/L	1	U	1.0	0.20	0.079		SW8260B	01/20/2022 15:56/msc	VOA5975C.I_220120A : 11	R373592
2,2-Dichloropropane	ND	ug/L	1	U	1.0	0.50	0.19		SW8260B	01/20/2022 15:56/msc	VOA5975C.I_220120A : 11	R373592
1,1-Dichloropropene	ND	ug/L	1	U	1.0	0.20	0.083		SW8260B	01/20/2022 15:56/msc	VOA5975C.I_220120A : 11	R373592
cis-1,3-Dichloropropene	ND	ug/L	1	U	1.0	0.20	0.073		SW8260B	01/20/2022 15:56/msc	VOA5975C.I_220120A : 11	R373592
trans-1,3-Dichloropropene	ND	ug/L	1	U	1.0	0.20	0.085		SW8260B	01/20/2022 15:56/msc	VOA5975C.I_220120A : 11	R373592
Ethylbenzene	ND	ug/L	1	U	1.0	0.20	0.084		SW8260B	01/20/2022 15:56/msc	VOA5975C.I_220120A : 11	R373592
Methyl ethyl ketone	ND	ug/L	1	U	20	5.0	1.8		SW8260B	01/20/2022 15:56/msc	VOA5975C.I_220120A : 11	R373592
Methyl tert-butyl ether (MTBE)	ND	ug/L	1	U	1.0	0.25	0.10		SW8260B	01/20/2022 15:56/msc	VOA5975C.I_220120A : 11	R373592
Methylene chloride	ND	ug/L	1	U	1.0	0.50	0.34		SW8260B	01/20/2022 15:56/msc	VOA5975C.I_220120A : 11	R373592
Styrene	ND	ug/L	1	U	1.0	0.20	0.067		SW8260B	01/20/2022 15:56/msc	VOA5975C.I_220120A : 11	R373592
1,1,1,2-Tetrachloroethane	ND	ug/L	1	U	1.0	0.25	0.10		SW8260B	01/20/2022 15:56/msc	VOA5975C.I_220120A : 11	R373592
1,1,2,2-Tetrachloroethane	ND	ug/L	1	U	1.0	0.20	0.087		SW8260B	01/20/2022 15:56/msc	VOA5975C.I_220120A : 11	R373592
Tetrachloroethene	ND	ug/L	1	U	1.0	0.20	0.067		SW8260B	01/20/2022 15:56/msc	VOA5975C.I_220120A : 11	R373592
Toluene	ND	ug/L	1	UT	1.0	0.20	0.068		SW8260B	01/20/2022 15:56/msc	VOA5975C.I_220120A : 11	R373592
1,1,1-Trichloroethane	ND	ug/L	1	U	1.0	0.50	0.13		SW8260B	01/20/2022 15:56/msc	VOA5975C.I_220120A : 11	R373592
1,1,2-Trichloroethane	ND	ug/L	1	U	1.0	0.25	0.11		SW8260B	01/20/2022 15:56/msc	VOA5975C.I_220120A : 11	R373592
Trichloroethene	ND	ug/L	1	U	1.0	0.20	0.099		SW8260B	01/20/2022 15:56/msc	VOA5975C.I_220120A : 11	R373592
Trichlorofluoromethane	ND	ug/L	1	U	1.0	0.50	0.13		SW8260B	01/20/2022 15:56/msc	VOA5975C.I_220120A : 11	R373592
1,2,3-Trichloropropane	ND	ug/L	1	U	1.0	0.50	0.24		SW8260B	01/20/2022 15:56/msc	VOA5975C.I_220120A : 11	R373592
Vinyl chloride	ND	ug/L	1	U	1.0	0.50	0.15		SW8260B	01/20/2022 15:56/msc	VOA5975C.I_220120A : 11	R373592
m+p-Xylenes	ND	ug/L	1	U	1.0	0.50	0.15		SW8260B	01/20/2022 15:56/msc	VOA5975C.I_220120A : 11	R373592
o-Xylene	ND	ug/L	1	U	1.0	0.20	0.060		SW8260B	01/20/2022 15:56/msc	VOA5975C.I_220120A : 11	R373592
Xylenes, Total	ND	ug/L	1	U	1.0	0.20	0.060		SW8260B	01/20/2022 15:56/msc	VOA5975C.I_220120A : 11	R373592
Surr: Dibromofluoromethane	109.0	%REC	1		80-119				SW8260B	01/20/2022 15:56/msc	VOA5975C.I_220120A : 11	R373592
Surr: 1,2-Dichloroethane-d4	112.0	%REC	1		81-118				SW8260B	01/20/2022 15:56/msc	VOA5975C.I_220120A : 11	R373592



LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Lab ID: B22010971-001

Collection Date: 01/12/2022 17:35

Date Received: 01/15/2022

Report Date: 03/08/2022

Client: AECOM - Honolulu
Client Sample ID: ERH2410 (RHMW12A)
Project: CV18F0126, 60571032.02.46.01
Matrix: Ground Water

Analyses	Result	Units	DF	Qual	LOQ	LOD	DL	MCL	Method	Analysis Date / By	RunID : Run Order	BatchID
VOLATILE ORGANIC COMPOUNDS												
Surr: Toluene-d8	105.0	%REC	1		89-112				SW8260B	01/20/2022 15:56/msc	VOA5975C.I_220120A : 11	R373592
Surr: p-Bromofluorobenzene	107.0	%REC	1		85-114				SW8260B	01/20/2022 15:56/msc	VOA5975C.I_220120A : 11	R373592
VOCS BY MICROEXTRACTION-ECD												
1,2-Dibromoethane	ND	ug/L	1	U	0.010	0.0050	0.0026		SW8011	01/19/2022 18:32/clt	GECD.I_220119B : 21	163023
Surr: 1,1,1,2-Tetrachloroethane	87.0	%REC	1		70-130				SW8011	01/19/2022 18:32/clt	GECD.I_220119B : 21	163023
PETROLEUM HYDROCARBONS-VOLATILE												
C6 to C10	ND	ug/L	1	U	20	8.7	2.3		SW8015C	01/17/2022 13:16/jp	PE 1_220117A : 5	R373334
Total Purgeable Hydrocarbons	ND	ug/L	1	U	20	10	3.6		SW8015C	01/17/2022 13:16/jp	PE 1_220117A : 5	R373334
Surr: Trifluorotoluene	78.0	%REC	1		70-130				SW8015C	01/17/2022 13:16/jp	PE 1_220117A : 5	R373334
- Note 1: C6 to C10 is defined as all hydrocarbons eluting between 2-Methylpentane and 1,2,4-Trimethylbenzene.												
- Note 2: Total Purgeable Hydrocarbons are defined as the total hydrocarbon response regardless of elution time.												
PETROLEUM HYDROCARBONS-SEMI-VOLATILE												
Diesel Range Organics (C10 to C24)	ND	mg/L	1	U	0.30	0.15	0.039		SW8015C	02/24/2022 19:49/amn	GCFID-HP5-B_220223A : 25	163927
Diesel Range Organics (C10 to C24)	0.51	mg/L	1		0.30	0.15	0.036		SW8015C	01/19/2022 06:14/amn	GCFID-HP4-B_220118A : 12	162993
Diesel Range Organics (SGT-C10 to C24)	ND	mg/L	1	U	0.30	0.15	0.036		SW8015C	01/20/2022 21:28/amn	GCFID-HP4-B_220120A : 12	162993
Oil Range Hydrocarbons (C24 to C40)	0.62	mg/L	1		0.30	0.15	0.051		SW8015C	01/19/2022 06:14/amn	GCFID-HP4-B_220118A : 12	162993
Oil Range Hydrocarbons (C24 to C40)	ND	mg/L	1	U	0.30	0.15	0.089		SW8015C	02/24/2022 19:49/amn	GCFID-HP5-B_220223A : 25	163927
Oil Range Hydrocarbons (SGT-C24 to C40)	ND	mg/L	1	U	0.30	0.15	0.051		SW8015C	01/20/2022 21:28/amn	GCFID-HP4-B_220120A : 12	162993
Total Extractable Hydrocarbons	1.1	mg/L	1		0.30	0.15	0.078		SW8015C	01/19/2022 06:14/amn	GCFID-HP4-B_220118A : 12	162993
Total Extractable Hydrocarbons	ND	mg/L	1	U	0.30	0.15	0.076		SW8015C	02/24/2022 19:49/amn	GCFID-HP5-B_220223A : 25	163927
Total Extractable Hydrocarbons (SGT)	ND	mg/L	1	U	0.30	0.15	0.078		SW8015C	01/20/2022 21:28/amn	GCFID-HP4-B_220120A : 12	162993
Surr: o-Terphenyl	95.0	%REC	1		56-125				SW8015C	01/19/2022 06:14/amn	GCFID-HP4-B_220118A : 12	162993
Surr: o-Terphenyl	92.0	%REC	1		56-125				SW8015C	02/24/2022 19:49/amn	GCFID-HP5-B_220223A : 25	163927
Surr: o-Terphenyl (SGT)	91.0	%REC	1		56-125				SW8015C	01/20/2022 21:28/amn	GCFID-HP4-B_220120A : 12	162993
Surr: n-Triacontane	114.0	%REC	1		50-150				SW8015C	01/19/2022 06:14/amn	GCFID-HP4-B_220118A : 12	162993
Surr: n-Triacontane	86.0	%REC	1		50-150				SW8015C	02/24/2022 19:49/amn	GCFID-HP5-B_220223A : 25	163927
Surr: n-Triacontane (SGT)	103.0	%REC	1		50-150				SW8015C	01/20/2022 21:28/amn	GCFID-HP4-B_220120A : 12	162993
- Note: Total Extractable Hydrocarbons are defined as the total hydrocarbon responses regardless of elution time.												
ORGANIC CHARACTERISTICS												
Methane	ND	mg/L	1	U	0.0020	0.0012	0.00070		SW8015M	01/18/2022 09:53/jdw	FID-HEADSPACE_220118A : 5	R373380
SEMI-VOLATILE ORGANIC COMPOUNDS												
1,2,4-Trichlorobenzene	ND	ug/L	1	U	10	4.9	1.9		SW8270C	01/29/2022 11:14/dsm	SV5973N.I_220128C : 9	162980
1,2-Dichlorobenzene	ND	ug/L	1	U	10	4.9	1.9		SW8270C	01/29/2022 11:14/dsm	SV5973N.I_220128C : 9	162980
1,3-Dichlorobenzene	ND	ug/L	1	U	10	4.9	2.1		SW8270C	01/29/2022 11:14/dsm	SV5973N.I_220128C : 9	162980
1,4-Dichlorobenzene	ND	ug/L	1	U	10	4.9	2.0		SW8270C	01/29/2022 11:14/dsm	SV5973N.I_220128C : 9	162980
2,4,5-Trichlorophenol	ND	ug/L	1	U	10	4.9	2.2		SW8270C	01/29/2022 11:14/dsm	SV5973N.I_220128C : 9	162980



LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Lab ID: B22010971-001

Collection Date: 01/12/2022 17:35

Date Received: 01/15/2022

Report Date: 03/08/2022

Client: AECOM - Honolulu
Client Sample ID: ERH2410 (RHMW12A)
Project: CV18F0126, 60571032.02.46.01
Matrix: Ground Water

Analyses	Result	Units	DF	Qual	LOQ	LOD	DL	MCL	Method	Analysis Date / By	RunID : Run Order	BatchID
SEMI-VOLATILE ORGANIC COMPOUNDS												
2,4,6-Trichlorophenol	ND	ug/L	1	U	10	4.9	2.6		SW8270C	01/29/2022 11:14/dsm	SV5973N.I_220128C : 9	162980
2,4-Dichlorophenol	ND	ug/L	1	U	10	4.9	1.7		SW8270C	01/29/2022 11:14/dsm	SV5973N.I_220128C : 9	162980
2,4-Dimethylphenol	ND	ug/L	1	U	10	4.9	1.7		SW8270C	01/29/2022 11:14/dsm	SV5973N.I_220128C : 9	162980
2,4-Dinitrophenol	ND	ug/L	1	U	10	9.8	4.2		SW8270C	01/29/2022 11:14/dsm	SV5973N.I_220128C : 9	162980
2,4-Dinitrotoluene	ND	ug/L	1	U	10	4.9	3.0		SW8270C	01/29/2022 11:14/dsm	SV5973N.I_220128C : 9	162980
2,6-Dinitrotoluene	ND	ug/L	1	U	10	4.9	3.1		SW8270C	01/29/2022 11:14/dsm	SV5973N.I_220128C : 9	162980
2-Chloronaphthalene	ND	ug/L	1	U	10	4.9	2.1		SW8270C	01/29/2022 11:14/dsm	SV5973N.I_220128C : 9	162980
2-Chlorophenol	ND	ug/L	1	U	10	4.9	2.4		SW8270C	01/29/2022 11:14/dsm	SV5973N.I_220128C : 9	162980
2-Nitrophenol	ND	ug/L	1	U	10	4.9	2.3		SW8270C	01/29/2022 11:14/dsm	SV5973N.I_220128C : 9	162980
3,3'-Dichlorobenzidine	ND	ug/L	1	U	10	4.9	2.1		SW8270C	01/29/2022 11:14/dsm	SV5973N.I_220128C : 9	162980
4,6-Dinitro-2-methylphenol	ND	ug/L	1	U	10	9.8	2.3		SW8270C	01/29/2022 11:14/dsm	SV5973N.I_220128C : 9	162980
4-Bromophenyl phenyl ether	ND	ug/L	1	U	10	4.9	1.7		SW8270C	01/29/2022 11:14/dsm	SV5973N.I_220128C : 9	162980
4-Chloro-3-methylphenol	ND	ug/L	1	U	10	4.9	1.4		SW8270C	01/29/2022 11:14/dsm	SV5973N.I_220128C : 9	162980
4-Chlorophenol	ND	ug/L	1	U	10	4.9	2.6		SW8270C	01/29/2022 11:14/dsm	SV5973N.I_220128C : 9	162980
4-Chlorophenyl phenyl ether	ND	ug/L	1	U	10	4.9	2.0		SW8270C	01/29/2022 11:14/dsm	SV5973N.I_220128C : 9	162980
4-Nitrophenol	ND	ug/L	1	U	10	9.8	2.4		SW8270C	01/29/2022 11:14/dsm	SV5973N.I_220128C : 9	162980
Azobenzene	ND	ug/L	1	U	10	4.9	1.1		SW8270C	01/29/2022 11:14/dsm	SV5973N.I_220128C : 9	162980
bis(-2-chloroethoxy)Methane	ND	ug/L	1	U	10	4.9	1.3		SW8270C	01/29/2022 11:14/dsm	SV5973N.I_220128C : 9	162980
bis(-2-chloroethyl)Ether	ND	ug/L	1	U	10	4.9	2.5		SW8270C	01/29/2022 11:14/dsm	SV5973N.I_220128C : 9	162980
bis(2-chloroisopropyl)Ether	ND	ug/L	1	U	10	4.9	1.5		SW8270C	01/29/2022 11:14/dsm	SV5973N.I_220128C : 9	162980
bis(2-ethylhexyl)Phthalate	ND	ug/L	1	U	10	4.9	1.9		SW8270C	01/29/2022 11:14/dsm	SV5973N.I_220128C : 9	162980
Butylbenzylphthalate	ND	ug/L	1	U	10	4.9	1.5		SW8270C	01/29/2022 11:14/dsm	SV5973N.I_220128C : 9	162980
Di-n-butyl phthalate	ND	ug/L	1	U	10	4.9	0.91		SW8270C	01/29/2022 11:14/dsm	SV5973N.I_220128C : 9	162980
Di-n-octyl phthalate	ND	ug/L	1	U	10	4.9	1.3		SW8270C	01/29/2022 11:14/dsm	SV5973N.I_220128C : 9	162980
Diethyl phthalate	ND	ug/L	1	U	10	4.9	2.1		SW8270C	01/29/2022 11:14/dsm	SV5973N.I_220128C : 9	162980
Dimethyl phthalate	ND	ug/L	1	U	10	4.9	1.7		SW8270C	01/29/2022 11:14/dsm	SV5973N.I_220128C : 9	162980
Hexachlorobenzene	ND	ug/L	1	U	10	4.9	1.3		SW8270C	01/29/2022 11:14/dsm	SV5973N.I_220128C : 9	162980
Hexachlorobutadiene	ND	ug/L	1	U	10	4.9	2.3		SW8270C	01/29/2022 11:14/dsm	SV5973N.I_220128C : 9	162980
Hexachlorocyclopentadiene	ND	ug/L	1	U	10	4.9	2.9		SW8270C	01/29/2022 11:14/dsm	SV5973N.I_220128C : 9	162980
Hexachloroethane	ND	ug/L	1	U	10	4.9	1.8		SW8270C	01/29/2022 11:14/dsm	SV5973N.I_220128C : 9	162980
Isophorone	ND	ug/L	1	U	10	4.9	1.6		SW8270C	01/29/2022 11:14/dsm	SV5973N.I_220128C : 9	162980
m+p-Cresols	ND	ug/L	1	U	10	4.9	1.7		SW8270C	01/29/2022 11:14/dsm	SV5973N.I_220128C : 9	162980
n-Nitroso-di-n-propylamine	ND	ug/L	1	U	10	4.9	1.5		SW8270C	01/29/2022 11:14/dsm	SV5973N.I_220128C : 9	162980
n-Nitrosodimethylamine	ND	ug/L	1	U	10	4.9	1.5		SW8270C	01/29/2022 11:14/dsm	SV5973N.I_220128C : 9	162980
n-Nitrosodiphenylamine	ND	ug/L	1	U	10	4.9	1.1		SW8270C	01/29/2022 11:14/dsm	SV5973N.I_220128C : 9	162980
Nitrobenzene	ND	ug/L	1	U	10	4.9	2.3		SW8270C	01/29/2022 11:14/dsm	SV5973N.I_220128C : 9	162980
o-Cresol	ND	ug/L	1	U	10	4.9	1.8		SW8270C	01/29/2022 11:14/dsm	SV5973N.I_220128C : 9	162980
Pentachlorophenol	ND	ug/L	1	U	10	9.8	4.2		SW8270C	01/29/2022 11:14/dsm	SV5973N.I_220128C : 9	162980
Phenol	ND	ug/L	1	U	10	4.9	1.4		SW8270C	01/29/2022 11:14/dsm	SV5973N.I_220128C : 9	162980



LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Client Sample ID: ERH2410 (RHMW12A)
Project: CV18F0126, 60571032.02.46.01
Matrix: Ground Water

Lab ID: B22010971-001
Collection Date: 01/12/2022 17:35
Date Received: 01/15/2022
Report Date: 03/08/2022

Analyses	Result	Units	DF	Qual	LOQ	LOD	DL	MCL	Method	Analysis Date / By	RunID : Run Order	BatchID
SEMI-VOLATILE ORGANIC COMPOUNDS												
Pyridine	ND	ug/L	1	U	10	4.9	3.2		SW8270C	01/29/2022 11:14/dsm	SV5973N.I_220128C : 9	162980
Surr: 2,4,6-Tribromophenol	87.0	%REC	1		43-140				SW8270C	01/29/2022 11:14/dsm	SV5973N.I_220128C : 9	162980
Surr: 2-Fluorobiphenyl	56.0	%REC	1		44-119				SW8270C	01/29/2022 11:14/dsm	SV5973N.I_220128C : 9	162980
Surr: 2-Fluorophenol	34.0	%REC	1		19-119				SW8270C	01/29/2022 11:14/dsm	SV5973N.I_220128C : 9	162980
Surr: Nitrobenzene-d5	64.0	%REC	1		44-120				SW8270C	01/29/2022 11:14/dsm	SV5973N.I_220128C : 9	162980
Surr: Phenol-d5	29.0	%REC	1		10-65				SW8270C	01/29/2022 11:14/dsm	SV5973N.I_220128C : 9	162980
Surr: Terphenyl-d14	92.0	%REC	1		50-134				SW8270C	01/29/2022 11:14/dsm	SV5973N.I_220128C : 9	162980



LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Lab ID: B22010971-002

Collection Date: 01/12/2022 17:35

Date Received: 01/15/2022

Report Date: 03/08/2022

Client: AECOM - Honolulu
Client Sample ID: ERH2409 (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
VOLATILE ORGANIC COMPOUNDS												
Benzene	ND	ug/L	1	U	1.0	0.20	0.091		SW8260B	01/17/2022 17:16/msc	VOA5975C.I_220117A : 12	R373560
Bromobenzene	ND	ug/L	1	U	1.0	0.20	0.083		SW8260B	01/17/2022 17:16/msc	VOA5975C.I_220117A : 12	R373560
Bromochloromethane	ND	ug/L	1	U	1.0	0.50	0.14		SW8260B	01/17/2022 17:16/msc	VOA5975C.I_220117A : 12	R373560
Bromodichloromethane	ND	ug/L	1	U	1.0	0.25	0.12		SW8260B	01/17/2022 17:16/msc	VOA5975C.I_220117A : 12	R373560
Bromoform	ND	ug/L	1	U	1.0	0.25	0.12		SW8260B	01/17/2022 17:16/msc	VOA5975C.I_220117A : 12	R373560
Carbon tetrachloride	ND	ug/L	1	U	1.0	0.50	0.14		SW8260B	01/17/2022 17:16/msc	VOA5975C.I_220117A : 12	R373560
Chlorobenzene	ND	ug/L	1	U	1.0	0.20	0.091		SW8260B	01/17/2022 17:16/msc	VOA5975C.I_220117A : 12	R373560
Chlorodibromomethane	ND	ug/L	1	U	1.0	0.20	0.084		SW8260B	01/17/2022 17:16/msc	VOA5975C.I_220117A : 12	R373560
Chloroethane	ND	ug/L	1	U	1.0	0.50	0.17		SW8260B	01/17/2022 17:16/msc	VOA5975C.I_220117A : 12	R373560
Chloroform	ND	ug/L	1	U	1.0	0.20	0.079		SW8260B	01/17/2022 17:16/msc	VOA5975C.I_220117A : 12	R373560
Chloromethane	ND	ug/L	1	U	1.0	0.50	0.16		SW8260B	01/17/2022 17:16/msc	VOA5975C.I_220117A : 12	R373560
1,2-Dibromoethane	ND	ug/L	1	U	1.0	0.20	0.092		SW8260B	01/17/2022 17:16/msc	VOA5975C.I_220117A : 12	R373560
2-Chlorotoluene	ND	ug/L	1	U	1.0	0.20	0.088		SW8260B	01/17/2022 17:16/msc	VOA5975C.I_220117A : 12	R373560
4-Chlorotoluene	ND	ug/L	1	U	1.0	0.20	0.073		SW8260B	01/17/2022 17:16/msc	VOA5975C.I_220117A : 12	R373560
Dibromomethane	ND	ug/L	1	U	1.0	0.50	0.15		SW8260B	01/17/2022 17:16/msc	VOA5975C.I_220117A : 12	R373560
1,2-Dichlorobenzene	ND	ug/L	1	U	1.0	0.20	0.075		SW8260B	01/17/2022 17:16/msc	VOA5975C.I_220117A : 12	R373560
1,3-Dichlorobenzene	ND	ug/L	1	U	1.0	0.20	0.080		SW8260B	01/17/2022 17:16/msc	VOA5975C.I_220117A : 12	R373560
1,4-Dichlorobenzene	ND	ug/L	1	U	1.0	0.20	0.086		SW8260B	01/17/2022 17:16/msc	VOA5975C.I_220117A : 12	R373560
Dichlorodifluoromethane	ND	ug/L	1	U	1.0	0.50	0.18		SW8260B	01/17/2022 17:16/msc	VOA5975C.I_220117A : 12	R373560
1,1-Dichloroethane	ND	ug/L	1	U	1.0	0.50	0.14		SW8260B	01/17/2022 17:16/msc	VOA5975C.I_220117A : 12	R373560
1,2-Dichloroethane	ND	ug/L	1	U	1.0	0.25	0.12		SW8260B	01/17/2022 17:16/msc	VOA5975C.I_220117A : 12	R373560
1,1-Dichloroethene	ND	ug/L	1	U	1.0	0.50	0.14		SW8260B	01/17/2022 17:16/msc	VOA5975C.I_220117A : 12	R373560
cis-1,2-Dichloroethene	ND	ug/L	1	U	1.0	0.25	0.11		SW8260B	01/17/2022 17:16/msc	VOA5975C.I_220117A : 12	R373560
trans-1,2-Dichloroethene	ND	ug/L	1	U	1.0	0.25	0.12		SW8260B	01/17/2022 17:16/msc	VOA5975C.I_220117A : 12	R373560
1,2-Dichloropropane	ND	ug/L	1	U	1.0	0.20	0.085		SW8260B	01/17/2022 17:16/msc	VOA5975C.I_220117A : 12	R373560
1,3-Dichloropropane	ND	ug/L	1	U	1.0	0.20	0.079		SW8260B	01/17/2022 17:16/msc	VOA5975C.I_220117A : 12	R373560
2,2-Dichloropropane	ND	ug/L	1	U	1.0	0.50	0.19		SW8260B	01/17/2022 17:16/msc	VOA5975C.I_220117A : 12	R373560
1,1-Dichloropropene	ND	ug/L	1	U	1.0	0.20	0.083		SW8260B	01/17/2022 17:16/msc	VOA5975C.I_220117A : 12	R373560
cis-1,3-Dichloropropene	ND	ug/L	1	U	1.0	0.20	0.073		SW8260B	01/17/2022 17:16/msc	VOA5975C.I_220117A : 12	R373560
trans-1,3-Dichloropropene	ND	ug/L	1	U	1.0	0.20	0.085		SW8260B	01/17/2022 17:16/msc	VOA5975C.I_220117A : 12	R373560
Ethylbenzene	ND	ug/L	1	U	1.0	0.20	0.084		SW8260B	01/17/2022 17:16/msc	VOA5975C.I_220117A : 12	R373560
Methyl ethyl ketone	ND	ug/L	1	U	20	5.0	1.8		SW8260B	01/17/2022 17:16/msc	VOA5975C.I_220117A : 12	R373560
Methyl tert-butyl ether (MTBE)	ND	ug/L	1	U	1.0	0.25	0.10		SW8260B	01/17/2022 17:16/msc	VOA5975C.I_220117A : 12	R373560
Methylene chloride	ND	ug/L	1	U	1.0	0.50	0.34		SW8260B	01/17/2022 17:16/msc	VOA5975C.I_220117A : 12	R373560
Styrene	ND	ug/L	1	U	1.0	0.20	0.067		SW8260B	01/17/2022 17:16/msc	VOA5975C.I_220117A : 12	R373560
1,1,1,2-Tetrachloroethane	ND	ug/L	1	U	1.0	0.25	0.10		SW8260B	01/17/2022 17:16/msc	VOA5975C.I_220117A : 12	R373560
1,1,2,2-Tetrachloroethane	ND	ug/L	1	U	1.0	0.20	0.087		SW8260B	01/17/2022 17:16/msc	VOA5975C.I_220117A : 12	R373560
Tetrachloroethene	ND	ug/L	1	U	1.0	0.20	0.067		SW8260B	01/17/2022 17:16/msc	VOA5975C.I_220117A : 12	R373560
Toluene	0.15	ug/L	1	J	1.0	0.20	0.068		SW8260B	01/17/2022 17:16/msc	VOA5975C.I_220117A : 12	R373560



LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Lab ID: B22010971-002

Collection Date: 01/12/2022 17:35

Date Received: 01/15/2022

Report Date: 03/08/2022

Client: AECOM - Honolulu
Client Sample ID: ERH2409 (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
VOLATILE ORGANIC COMPOUNDS												
1,1,1-Trichloroethane	ND	ug/L	1	U	1.0	0.50	0.13		SW8260B	01/17/2022 17:16/msc	VOA5975C.I_220117A : 12	R373560
1,1,2-Trichloroethane	ND	ug/L	1	U	1.0	0.25	0.11		SW8260B	01/17/2022 17:16/msc	VOA5975C.I_220117A : 12	R373560
Trichloroethene	ND	ug/L	1	U	1.0	0.20	0.099		SW8260B	01/17/2022 17:16/msc	VOA5975C.I_220117A : 12	R373560
Trichlorofluoromethane	ND	ug/L	1	U	1.0	0.50	0.13		SW8260B	01/17/2022 17:16/msc	VOA5975C.I_220117A : 12	R373560
1,2,3-Trichloropropane	ND	ug/L	1	U	1.0	0.50	0.24		SW8260B	01/17/2022 17:16/msc	VOA5975C.I_220117A : 12	R373560
Vinyl chloride	ND	ug/L	1	U	1.0	0.50	0.15		SW8260B	01/17/2022 17:16/msc	VOA5975C.I_220117A : 12	R373560
m+p-Xylenes	ND	ug/L	1	U	1.0	0.50	0.15		SW8260B	01/17/2022 17:16/msc	VOA5975C.I_220117A : 12	R373560
o-Xylene	ND	ug/L	1	U	1.0	0.20	0.060		SW8260B	01/17/2022 17:16/msc	VOA5975C.I_220117A : 12	R373560
Xylenes, Total	ND	ug/L	1	U	1.0	0.20	0.060		SW8260B	01/17/2022 17:16/msc	VOA5975C.I_220117A : 12	R373560
Surr: Dibromofluoromethane	114.0	%REC	1		80-119				SW8260B	01/17/2022 17:16/msc	VOA5975C.I_220117A : 12	R373560
Surr: 1,2-Dichloroethane-d4	116.0	%REC	1		81-118				SW8260B	01/17/2022 17:16/msc	VOA5975C.I_220117A : 12	R373560
Surr: Toluene-d8	108.0	%REC	1		89-112				SW8260B	01/17/2022 17:16/msc	VOA5975C.I_220117A : 12	R373560
Surr: p-Bromofluorobenzene	104.0	%REC	1		85-114				SW8260B	01/17/2022 17:16/msc	VOA5975C.I_220117A : 12	R373560



LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Lab ID: B22010971-003

Collection Date: 01/12/2022 17:35

Date Received: 01/15/2022

Report Date: 03/08/2022

Client: AECOM - Honolulu
Client Sample ID: ERH2409 (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
PETROLEUM HYDROCARBONS-VOLATILE												
C6 to C10	ND	ug/L	1	U	20	8.7	2.3		SW8015C	01/17/2022 14:24/jp	PE 1_220117A : 6	R373334
Total Purgeable Hydrocarbons	ND	ug/L	1	U	20	10	3.6		SW8015C	01/17/2022 14:24/jp	PE 1_220117A : 6	R373334
Surr: Trifluorotoluene	75.0	%REC	1		70-130				SW8015C	01/17/2022 14:24/jp	PE 1_220117A : 6	R373334

- 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: ERH2409 (Trip Blank) 14653
Project: CV18F0126, 60571032.02.46.01
Matrix: Trip Blank

Lab ID: B22010971-004
Collection Date: 01/12/2022 17:35
Date Received: 01/15/2022
Report Date: 03/08/2022

Analyses	Result	Units	DF	Qual	LOQ	LOD	DL	MCL	Method	Analysis Date / By	RunID : Run Order	BatchID
VOCS BY MICROEXTRACTION-ECD												
1,2-Dibromoethane	ND	ug/L	1	U	0.010	0.0050	0.0026		SW8011	01/19/2022 16:14/clt	GECD.I_220119B : 14	163023
Surr: 1,1,1,2-Tetrachloroethane	88.0	%REC	1		70-130				SW8011	01/19/2022 16:14/clt	GECD.I_220119B : 14	163023



LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Client Sample ID: ERH2409 (Trip Blank) 14663
Project: CV18F0126, 60571032.02.46.01
Matrix: Trip Blank

Lab ID: B22010971-005
Collection Date: 01/12/2022 17:35
Date Received: 01/15/2022
Report Date: 03/08/2022

Analyses	Result	Units	DF	Qual	LOQ	LOD	DL	MCL	Method	Analysis Date / By	RunID : Run Order	BatchID
ORGANIC CHARACTERISTICS												
Methane	ND	mg/L	1	U	0.0020	0.0012	0.00070		SW8015M	01/18/2022 09:58/jdw	FID-HEADSPACE_220118A : 6	R373380



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010971
Project: CV18F0126, 60571032.02.46.01

Report Date: 03/08/2022

Run ID: Run Order: SV5975.I_220125A: 7 **SampType:** Method Blank **Batch ID:** 162980
Method: SW8270CSIM **Analysis Date:** 01/25/2022 14:51 **Prep Date:** 01/17/2022 10:29
Lab ID: MB-162980 **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1-Methylnaphthalene	ND	0.10									
2-Methylnaphthalene	ND	0.10									
Acenaphthene	ND	0.10									
Acenaphthylene	ND	0.10									
Anthracene	ND	0.10									
Benzo(a)anthracene	ND	0.10									
Benzo(a)pyrene	ND	0.10									
Benzo(b)fluoranthene	ND	0.10									
Benzo(g,h,i)perylene	ND	0.10									
Benzo(k)fluoranthene	ND	0.10									
Chrysene	ND	0.10									
Dibenzo(a,h)anthracene	ND	0.10									
Fluoranthene	ND	0.10									
Fluorene	ND	0.10									
Indeno(1,2,3-cd)pyrene	ND	0.10									
Naphthalene	ND	0.10									
Phenanthrene	ND	0.10									
Pyrene	ND	0.10									

Associated Samples: **B22010971-001C**

Run ID: Run Order: SV5975.I_220125A: 8 **SampType:** Laboratory Control Sample **Batch ID:** 162980
Method: SW8270CSIM **Analysis Date:** 01/25/2022 15:24 **Prep Date:** 01/17/2022 10:30
Lab ID: LLCS-162980 **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1-Methylnaphthalene	3.3	0.10	5.0		66.0	41	115				



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010971
Project: CV18F0126, 60571032.02.46.01

Report Date: 03/08/2022

Run ID: Run Order: SV5975.I_220125A: 8 **SampType:** Laboratory Control Sample **Batch ID:** 162980
Method: SW8270CSIM **Analysis Date:** 01/25/2022 15:24 **Prep Date:** 01/17/2022 10:30
Lab ID: LLCS-162980 **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
2-Methylnaphthalene	4.0	0.10	5.0		79.0	39	114				
Acenaphthene	3.7	0.10	5.0		73.0	48	114				
Acenaphthylene	3.5	0.10	5.0		70.0	35	121				
Anthracene	4.7	0.10	5.0		94.0	53	119				
Benzo(a)anthracene	5.0	0.10	5.0		99.0	59	120				
Benzo(a)pyrene	4.8	0.10	5.0		96.0	53	120				
Benzo(b)fluoranthene	4.7	0.10	5.0		93.0	53	126				
Benzo(g,h,i)perylene	5.3	0.10	5.0		106.0	44	128				
Benzo(k)fluoranthene	4.4	0.10	5.0		87.0	54	125				
Chrysene	4.5	0.10	5.0		90.0	57	120				
Dibenzo(a,h)anthracene	5.2	0.10	5.0		105.0	44	141				
Fluoranthene	4.4	0.10	5.0		87.0	58	120				
Fluorene	4.0	0.10	5.0		80.0	50	118				
Indeno(1,2,3-cd)pyrene	5.2	0.10	5.0		104.0	48	130				
Naphthalene	3.8	0.10	5.0		77.0	43	114				
Phenanthrene	4.6	0.10	5.0		92.0	53	115				
Pyrene	4.5	0.10	5.0		91.0	53	121				

Associated Samples: **B22010971-001C**

Run ID: Run Order: SV5975.I_220125A: 9 **SampType:** Laboratory Control Sample Duplicate **Batch ID:** 162980
Method: SW8270CSIM **Analysis Date:** 01/25/2022 15:56 **Prep Date:** 01/17/2022 10:30
Lab ID: LLCSD-162980 **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1-Methylnaphthalene	2.6	0.10	5.0		53.0	41	115	3.3	22.0	40.0	
2-Methylnaphthalene	2.8	0.10	5.0		57.0	39	114	4.0	33.0	40.0	



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010971
Project: CV18F0126, 60571032.02.46.01

Report Date: 03/08/2022

Run ID: Run Order: SV5975.I_220125A: 9 **SampType:** Laboratory Control Sample Duplicate **Batch ID:** 162980
Method: SW8270CSIM **Analysis Date:** 01/25/2022 15:56 **Prep Date:** 01/17/2022 10:30
Lab ID: LLCSD-162980 **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Acenaphthene	3.1	0.10	5.0		62.0	48	114	3.7	16.0	40.0	
Acenaphthylene	3.1	0.10	5.0		61.0	35	121	3.5	14.0	40.0	
Anthracene	4.3	0.10	5.0		85.0	53	119	4.7	10.0	40.0	
Benzo(a)anthracene	5.0	0.10	5.0		101.0	59	120	5.0	1.5	40.0	
Benzo(a)pyrene	4.8	0.10	5.0		97.0	53	120	4.8	1.3	40.0	
Benzo(b)fluoranthene	5.0	0.10	5.0		100.0	53	126	4.7	6.9	40.0	
Benzo(g,h,i)perylene	5.4	0.10	5.0		108.0	44	128	5.3	1.2	40.0	
Benzo(k)fluoranthene	4.7	0.10	5.0		93.0	54	125	4.4	6.7	40.0	
Chrysene	4.7	0.10	5.0		94.0	57	120	4.5	4.0	40.0	
Dibenzo(a,h)anthracene	5.3	0.10	5.0		106.0	44	141	5.2	1.5	40.0	
Fluoranthene	4.4	0.10	5.0		89.0	58	120	4.4	1.3	40.0	
Fluorene	3.7	0.10	5.0		74.0	50	118	4.0	8.1	40.0	
Indeno(1,2,3-cd)pyrene	5.2	0.10	5.0		105.0	48	130	5.2	0.4	40.0	
Naphthalene	3.0	0.10	5.0		60.0	43	114	3.8	24.0	40.0	
Phenanthrene	4.1	0.10	5.0		82.0	53	115	4.6	12.0	40.0	
Pyrene	4.6	0.10	5.0		92.0	53	121	4.5	1.1	40.0	

Associated Samples: **B22010971-001C**

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

Run ID: Run Order: SV5975.I_220125A: 12 **SampType:** Sample Matrix Spike **Batch ID:** 162980
Method: SW8270CSIM **Analysis Date:** 01/25/2022 17:34 **Prep Date:** 01/17/2022 10:34
Lab ID: B22010972-001CLMS **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1-Methylnaphthalene	2.8	0.10	4.9	0.0	58.0	41	115				
2-Methylnaphthalene	3.4	0.10	4.9	0.0	69.0	39	114				
Acenaphthene	3.1	0.10	4.9	0.0	63.0	48	114				



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010971
Project: CV18F0126, 60571032.02.46.01

Report Date: 03/08/2022

Run ID: Run Order: SV5975.I_220125A: 12
Method: SW8270CSIM
Lab ID: B22010972-001CLMS

SampType: Sample Matrix Spike
Analysis Date: 01/25/2022 17:34
Units: ug/L

Batch ID: 162980
Prep Date: 01/17/2022 10:34
Prep Method: SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Acenaphthylene	2.9	0.10	4.9	0.0	59.0	35	121				
Anthracene	4.3	0.10	4.9	0.0	89.0	53	119				
Benzo(a)anthracene	4.1	0.10	4.9	0.0	84.0	59	120				
Benzo(a)pyrene	3.5	0.10	4.9	0.0	72.0	53	120				
Benzo(b)fluoranthene	3.6	0.10	4.9	0.0	75.0	53	126				
Benzo(g,h,i)perylene	3.9	0.10	4.9	0.0	80.0	44	128				
Benzo(k)fluoranthene	3.4	0.10	4.9	0.0	71.0	54	125				
Chrysene	3.8	0.10	4.9	0.0	78.0	57	120				
Dibenzo(a,h)anthracene	3.7	0.10	4.9	0.0	77.0	44	141				
Fluoranthene	3.9	0.10	4.9	0.0	79.0	58	120				
Fluorene	3.5	0.10	4.9	0.0	73.0	50	118				
Indeno(1,2,3-cd)pyrene	3.4	0.10	4.9	0.0	71.0	48	130				
Naphthalene	3.2	0.10	4.9	0.0	66.0	43	114				
Phenanthrene	4.2	0.10	4.9	0.0	87.0	53	115				
Pyrene	3.8	0.10	4.9	0.0	79.0	53	121				

Associated Samples: **B22010971-001C**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010971
Project: CV18F0126, 60571032.02.46.01

Report Date: 03/08/2022

Run ID: Run Order: SV5975.I_220125A: 21 **SampType:** Sample Matrix Spike **Batch ID:** 162980
Method: SW8270CSIM **Analysis Date:** 01/25/2022 22:27 **Prep Date:** 01/18/2022 12:22
Lab ID: B22010980-001CLMS **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1-Methylnaphthalene	2.3	0.10	4.8	0.0	49.0	41	115				
2-Methylnaphthalene	2.8	0.10	4.8	0.0	58.0	39	114				
Acenaphthene	3.0	0.10	4.8	0.0	63.0	48	114				
Acenaphthylene	2.8	0.10	4.8	0.0	59.0	35	121				
Anthracene	4.3	0.10	4.8	0.0	89.0	53	119				
Benzo(a)anthracene	4.7	0.10	4.8	0.0	99.0	59	120				
Benzo(a)pyrene	4.1	0.10	4.8	0.0	86.0	53	120				
Benzo(b)fluoranthene	4.1	0.10	4.8	0.0	87.0	53	126				
Benzo(g,h,i)perylene	4.7	0.10	4.8	0.0	98.0	44	128				
Benzo(k)fluoranthene	3.9	0.10	4.8	0.0	81.0	54	125				
Chrysene	4.2	0.10	4.8	0.0	88.0	57	120				
Dibenzo(a,h)anthracene	4.7	0.10	4.8	0.0	99.0	44	141				
Fluoranthene	4.1	0.10	4.8	0.0	86.0	58	120				
Fluorene	3.5	0.10	4.8	0.0	73.0	50	118				
Indeno(1,2,3-cd)pyrene	4.4	0.10	4.8	0.0	92.0	48	130				
Naphthalene	2.6	0.10	4.8	0.0	55.0	43	114				
Phenanthrene	4.2	0.10	4.8	0.0	89.0	53	115				
Pyrene	4.2	0.10	4.8	0.0	88.0	53	121				

Associated Samples: **B22010971-001C**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010971
Project: CV18F0126, 60571032.02.46.01

Report Date: 03/08/2022

Run ID: Run Order: SV5975.I_220125A: 2 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R373709
Method: SW8270CSIM **Analysis Date:** 01/25/2022 11:03 **Prep Date:**
Lab ID: 25-Jan-22_CCV_2 **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1-Methylnaphthalene	1.8	0.10	2.0		91.0	80	120				
2-Methylnaphthalene	1.9	0.10	2.0		93.0	80	120				
Acenaphthene	1.6	0.10	2.0		80.0	80	120				
Acenaphthylene	1.8	0.10	2.0		90.0	80	120				
Anthracene	2.0	0.10	2.0		102.0	80	120				
Benzo(a)anthracene	2.2	0.10	2.0		108.0	80	120				
Benzo(a)pyrene	2.2	0.10	2.0		111.0	80	120				
Benzo(b)fluoranthene	1.8	0.10	2.0		90.0	80	120				
Benzo(g,h,i)perylene	2.1	0.10	2.0		105.0	80	120				
Benzo(k)fluoranthene	1.9	0.10	2.0		96.0	80	120				
Chrysene	1.8	0.10	2.0		91.0	80	120				
Dibenzo(a,h)anthracene	2.0	0.10	2.0		101.0	80	120				
Fluoranthene	1.8	0.10	2.0		89.0	80	120				
Fluorene	1.9	0.10	2.0		93.0	80	120				
Indeno(1,2,3-cd)pyrene	2.1	0.10	2.0		107.0	80	120				
Naphthalene	1.8	0.10	2.0		90.0	80	120				
Phenanthrene	1.9	0.10	2.0		97.0	80	120				
Pyrene	2.0	0.10	2.0		98.0	80	120				

Associated Samples: **B22010971-001C**

Run ID: Run Order: SV5975.I_220125A: 22 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R373709
Method: SW8270CSIM **Analysis Date:** 01/25/2022 23:00 **Prep Date:**
Lab ID: 25-Jan-22_CCV_24 **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1-Methylnaphthalene	1.7	0.10	2.0		86.0	50	150				



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010971
Project: CV18F0126, 60571032.02.46.01

Report Date: 03/08/2022

Run ID: Run Order: SV5975.I_220125A: 22 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R373709
Method: SW8270CSIM **Analysis Date:** 01/25/2022 23:00 **Prep Date:**
Lab ID: 25-Jan-22_CCV_24 **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
2-Methylnaphthalene	1.9	0.10	2.0		97.0	50	150				
Acenaphthene	1.7	0.10	2.0		85.0	50	150				
Acenaphthylene	1.4	0.10	2.0		68.0	50	150				
Anthracene	2.0	0.10	2.0		98.0	50	150				
Benzo(a)anthracene	2.0	0.10	2.0		99.0	50	150				
Benzo(a)pyrene	2.0	0.10	2.0		101.0	50	150				
Benzo(b)fluoranthene	1.8	0.10	2.0		92.0	50	150				
Benzo(g,h,i)perylene	2.2	0.10	2.0		109.0	50	150				
Benzo(k)fluoranthene	1.9	0.10	2.0		95.0	50	150				
Chrysene	1.8	0.10	2.0		90.0	50	150				
Dibenzo(a,h)anthracene	2.0	0.10	2.0		99.0	50	150				
Fluoranthene	1.8	0.10	2.0		89.0	50	150				
Fluorene	1.8	0.10	2.0		91.0	50	150				
Indeno(1,2,3-cd)pyrene	2.1	0.10	2.0		105.0	50	150				
Naphthalene	1.9	0.10	2.0		97.0	50	150				
Phenanthrene	2.0	0.10	2.0		100.0	50	150				
Pyrene	1.9	0.10	2.0		94.0	50	150				

Associated Samples: **B22010971-001C**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010971
Project: CV18F0126, 60571032.02.46.01

Report Date: 03/08/2022

Run ID: Run Order: SUB-C278828: 2 **SampType:** Method Blank **Batch ID:** C_R278828
Method: SW9060A **Analysis Date:** 01/18/2022 13:51 **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: **B22010971-001E**
- TOC Range is 0.0 to 0.2

Run ID: Run Order: SUB-C278828: 1 **SampType:** Laboratory Control Sample **Batch ID:** C_R278828
Method: SW9060A **Analysis Date:** 01/18/2022 13:11 **Prep Date:**
Lab ID: LCS **Units:** mg/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	5.2	0.50	5.0		104.0	91	111				

Associated Samples: **B22010971-001E**
- TOC Range is 5.0 to 5.3

Run ID: Run Order: SUB-C278828: 5 **SampType:** Sample Matrix Spike **Batch ID:** C_R278828
Method: SW9060A **Analysis Date:** 01/18/2022 15:51 **Prep Date:**
Lab ID: C22010504-001EMS **Units:** mg/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	5.6	0.50	5.0	0.39	105.0	91	111				

Associated Samples: **B22010971-001E**
- TOC Range is 5.6 to 5.7



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010971
Project: CV18F0126, 60571032.02.46.01

Report Date: 03/08/2022

Run ID: Run Order: SUB-C278828: 6 **SampType:** Sample Matrix Spike Duplicate **Batch ID:** C_R278828
Method: SW9060A **Analysis Date:** 01/18/2022 16:33 **Prep Date:**
Lab ID: C22010504-001EMSD **Units:** mg/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	5.7	0.50	5.0	0.39	107.0	91	111	5.6	1.4	10.0	

Associated Samples: **B22010971-001E**
- TOC Range is 5.7 to 5.8

Run ID: Run Order: SUB-C278828: 3 **SampType:** Continuing Calibration Verification Standard **Batch ID:** C_R278828
Method: SW9060A **Analysis Date:** 01/18/2022 14:30 **Prep Date:**
Lab ID: CCV **Units:** mg/L **Prep Method:**

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

Associated Samples: **B22010971-001E**
- TOC Range is 5.1 to 5.1

Run ID: Run Order: SUB-C278828: 7 **SampType:** Continuing Calibration Verification Standard **Batch ID:** C_R278828
Method: SW9060A **Analysis Date:** 01/18/2022 23:24 **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)	5.0	0.50	5.0		99.0	90	110				

Associated Samples: **B22010971-001E**
- TOC Range is 4.8 to 5.2



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010971
Project: CV18F0126, 60571032.02.46.01

Report Date: 03/08/2022

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

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

Associated Samples: **B22010971-001A**

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

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

Associated Samples: **B22010971-001A**

Run ID: Run Order: ICPMS206-B_220118A: 136 **SampType:** Sample Matrix Spike **Batch ID:** R373351
Method: SW6020 **Analysis Date:** 01/19/2022 07:34 **Prep Date:**
Lab ID: B22010973-001AMS **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	0.00	95.0	88	115				

Associated Samples: **B22010971-001A**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010971
Project: CV18F0126, 60571032.02.46.01

Report Date: 03/08/2022

Run ID: Run Order: ICPMS206-B_220118A: 137 **SampType:** Sample Matrix Spike Duplicate **Batch ID:** R373351
Method: SW6020 **Analysis Date:** 01/19/2022 07:39 **Prep Date:**
Lab ID: B22010973-001AMSD **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	0.00	92.0	88	115	0.048	3.3	20.0	

Associated Samples: **B22010971-001A**

Run ID: Run Order: ICPMS206-B_220118A: 135 **SampType:** Serial Dilution **Batch ID:** R373351
Method: SW6020 **Analysis Date:** 01/19/2022 07:28 **Prep Date:**
Lab ID: B22010973-001ADIL **Units:** mg/L **Prep Method:**

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

Associated Samples: **B22010971-001A**

Run ID: Run Order: ICPMS206-B_220118A: 57 **SampType:** Method Blank **Batch ID:** 162992
Method: SW6020 **Analysis Date:** 01/19/2022 00:01 **Prep Date:** 01/17/2022 13:21
Lab ID: MB-162992 **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: **B22010971-001B**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010971
Project: CV18F0126, 60571032.02.46.01

Report Date: 03/08/2022

Run ID: Run Order: ICPMS206-B_220118A: 60 **SampType:** Laboratory Control Sample **Batch ID:** 162992
Method: SW6020 **Analysis Date:** 01/19/2022 00:18 **Prep Date:** 01/17/2022 13:21
Lab ID: LCS4-162992 **Units:** mg/L **Prep Method:** SW3010A

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

Associated Samples: **B22010971-001B**

Run ID: Run Order: ICPMS206-B_220118A: 127 **SampType:** Sample Matrix Spike **Batch ID:** 162992
Method: SW6020 **Analysis Date:** 01/19/2022 06:42 **Prep Date:** 01/17/2022 13:38
Lab ID: B22010971-001BMS4 **Units:** mg/L **Prep Method:** SW3010A

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Lead	0.100	0.001	0.100	0.00	100.0	88	115				

Associated Samples: **B22010971-001B**

Run ID: Run Order: ICPMS206-B_220118A: 128 **SampType:** Sample Matrix Spike Duplicate **Batch ID:** 162992
Method: SW6020 **Analysis Date:** 01/19/2022 06:47 **Prep Date:** 01/17/2022 13:38
Lab ID: B22010971-001BMSD4 **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	0.00	96.0	88	115	0.100	3.8	20.0	

Associated Samples: **B22010971-001B**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010971
Project: CV18F0126, 60571032.02.46.01

Report Date: 03/08/2022

Run ID: Run Order: ICPMS206-B_220118A: 126 **SampType:** Post Digestion/Distillation Spike **Batch ID:** 162992
Method: SW6020 **Analysis Date:** 01/19/2022 06:36 **Prep Date:** 01/17/2022 13:38
Lab ID: B22010971-001BPDS1 **Units:** mg/L **Prep Method:** SW3010A

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Lead	0.048	0.001	0.052	0.00	92.0	80	120				

Associated Samples: **B22010971-001B**

Run ID: Run Order: ICPMS206-B_220118A: 125 **SampType:** Serial Dilution **Batch ID:** 162992
Method: SW6020 **Analysis Date:** 01/19/2022 06:30 **Prep Date:** 01/17/2022 13:38
Lab ID: B22010971-001BDIL **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						0.00		10.0	

Associated Samples: **B22010971-001B**

Run ID: Run Order: ICPMS206-B_220118A: 120 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R373351
Method: SW6020 **Analysis Date:** 01/19/2022 06:01 **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
Lead	0.048	0.001	0.050		97.0	90	110				

Associated Samples: **B22010971-001A, B22010971-001B**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010971
Project: CV18F0126, 60571032.02.46.01

Report Date: 03/08/2022

Run ID: Run Order: ICPMS206-B_220118A: 133
Method: SW6020
Lab ID: CCV

SampType: Continuing Calibration Verification Standard
Analysis Date: 01/19/2022 07:17
Units: mg/L

Batch ID: R373351
Prep Date:
Prep Method:

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Lead	0.048	0.001	0.050		97.0	90	110				

Associated Samples: **B22010971-001A, B22010971-001B**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010971
Project: CV18F0126, 60571032.02.46.01

Report Date: 03/08/2022

Run ID: Run Order: VOA5975C.I_220117A: 5 **SampType:** Method Blank **Batch ID:** R373560
Method: SW8260B **Analysis Date:** 01/17/2022 13:01 **Prep Date:**
Lab ID: MBLK011722_ **Units:** ug/L **Prep Method:**

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



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010971
Project: CV18F0126, 60571032.02.46.01

Report Date: 03/08/2022

Run ID: Run Order: VOA5975C.I._220117A: 5 **SampType:** Method Blank **Batch ID:** R373560
Method: SW8260B **Analysis Date:** 01/17/2022 13:01 **Prep Date:**
Lab ID: MBLK011722_ **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		112.0	81	118				
Surr: Dibromofluoromethane	11	0.50	10		108.0	80	119				
Surr: p-Bromofluorobenzene	10	0.50	10		104.0	85	114				
Surr: Toluene-d8	11	0.50	10		107.0	89	112				

Associated Samples: B22010971-001F, B22010971-002A



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010971
Project: CV18F0126, 60571032.02.46.01

Report Date: 03/08/2022

Run ID: Run Order: VOA5975C.I_220117A: 4 **SampType:** Laboratory Control Sample **Batch ID:** R373560
Method: SW8260B **Analysis Date:** 01/17/2022 12:06 **Prep Date:**
Lab ID: LCS011722_ **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Benzene	5.1	0.50	5.0		102.0	79	120				
Bromobenzene	5.3	0.50	5.0		106.0	80	120				
Bromochloromethane	4.8	0.50	5.0		96.0	78	123				
Bromodichloromethane	5.1	0.50	5.0		103.0	79	125				
Bromoform	5.2	0.50	5.0		103.0	66	130				
Carbon tetrachloride	4.9	0.50	5.0		99.0	72	136				
Chlorobenzene	5.2	0.50	5.0		104.0	82	118				
Chlorodibromomethane	4.9	0.50	5.0		98.0	74	126				
Chloroethane	5.3	0.50	5.0		106.0	60	138				
Chloroform	4.8	0.50	5.0		95.0	79	124				
Chloromethane	4.6	0.50	5.0		91.0	50	139				
1,2-Dibromoethane	4.9	0.50	5.0		98.0	78	122				
2-Chlorotoluene	5.3	0.50	5.0		106.0	79	122				
Dibromomethane	4.9	0.50	5.0		98.0	79	123				
1,2-Dichlorobenzene	5.1	0.50	5.0		102.0	80	119				
4-Chlorotoluene	5.4	0.50	5.0		109.0	78	122				
1,3-Dichlorobenzene	5.3	0.50	5.0		105.0	80	119				
1,4-Dichlorobenzene	5.3	0.50	5.0		105.0	79	118				
Dichlorodifluoromethane	4.8	0.50	5.0		96.0	32	152				
1,1-Dichloroethane	5.3	0.50	5.0		106.0	77	125				
1,2-Dichloroethane	4.9	0.50	5.0		98.0	73	128				
1,1-Dichloroethene	5.1	0.50	5.0		102.0	71	131				
cis-1,2-Dichloroethene	5.2	0.50	5.0		105.0	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		101.0	78	122				
1,3-Dichloropropane	4.9	0.50	5.0		98.0	80	119				
2,2-Dichloropropane	5.3	0.50	5.0		106.0	60	139				



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010971
Project: CV18F0126, 60571032.02.46.01

Report Date: 03/08/2022

Run ID: Run Order: VOA5975C.I_220117A: 4 **SampType:** Laboratory Control Sample **Batch ID:** R373560
Method: SW8260B **Analysis Date:** 01/17/2022 12:06 **Prep Date:**
Lab ID: LCS011722_ **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	79	125				
cis-1,3-Dichloropropene	4.7	0.50	5.0		95.0	75	124				
trans-1,3-Dichloropropene	5.2	0.50	5.0		104.0	73	127				
Ethylbenzene	5.2	0.50	5.0		104.0	79	121				
Methyl tert-butyl ether (MTBE)	5.1	0.50	5.0		103.0	71	124				
Methyl ethyl ketone	57	10	50		115.0	56	143				
Methylene chloride	4.8	0.50	5.0		95.0	74	124				
Styrene	5.4	0.50	5.0		108.0	78	123				
1,1,1,2-Tetrachloroethane	5.0	0.50	5.0		99.0	78	124				
1,1,2,2-Tetrachloroethane	5.0	0.50	5.0		100.0	71	121				
Tetrachloroethene	5.0	0.50	5.0		99.0	74	129				
Toluene	5.2	0.50	5.0		105.0	80	121				
1,1,1-Trichloroethane	5.1	0.50	5.0		102.0	74	131				
1,1,2-Trichloroethane	4.8	0.50	5.0		96.0	80	119				
Trichloroethene	5.2	0.50	5.0		103.0	79	123				
Trichlorofluoromethane	5.5	0.50	5.0		111.0	65	141				
1,2,3-Trichloropropane	4.7	0.50	5.0		93.0	73	125				
Vinyl chloride	4.9	0.50	5.0		97.0	58	137				
m+p-Xylenes	10	0.50	10		103.0	80	121				
o-Xylene	5.1	0.50	5.0		102.0	78	122				
Xylenes, Total	15	0.50	15		103.0	79	121				
Surr: 1,2-Dichloroethane-d4	11	0.50	10		111.0	81	118				
Surr: Dibromofluoromethane	11	0.50	10		111.0	80	119				
Surr: p-Bromofluorobenzene	11	0.50	10		105.0	85	114				
Surr: Toluene-d8	11	0.50	10		110.0	89	112				

Associated Samples: B22010971-001F, B22010971-002A



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010971
Project: CV18F0126, 60571032.02.46.01

Report Date: 03/08/2022

Run ID: Run Order: VOA5975C.I_220117A: 18 **SampType:** Sample Matrix Spike **Batch ID:** R373560
Method: SW8260B **Analysis Date:** 01/17/2022 19:33 **Prep Date:**
Lab ID: B22010972-001FMS **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Benzene	5.2	0.50	5.0	0.0	103.0	79	120				
Bromobenzene	5.4	0.50	5.0	0.0	107.0	80	120				
Bromochloromethane	5.2	0.50	5.0	0.0	105.0	78	123				
Bromodichloromethane	5.4	0.50	5.0	0.0	107.0	79	125				
Bromoform	5.3	0.50	5.0	0.0	106.0	66	130				
Carbon tetrachloride	5.8	0.50	5.0	0.0	115.0	72	136				
Chlorobenzene	5.4	0.50	5.0	0.0	109.0	82	118				
Chlorodibromomethane	5.4	0.50	5.0	0.0	107.0	74	126				
Chloroethane	5.1	0.50	5.0	0.0	101.0	60	138				
Chloroform	5.2	0.50	5.0	0.0	104.0	79	124				
Chloromethane	4.3	0.50	5.0	0.0	87.0	50	139				
1,2-Dibromoethane	5.1	0.50	5.0	0.0	103.0	78	122				
2-Chlorotoluene	5.2	0.50	5.0	0.0	105.0	79	122				
Dibromomethane	5.0	0.50	5.0	0.0	100.0	79	123				
1,2-Dichlorobenzene	5.2	0.50	5.0	0.0	104.0	80	119				
4-Chlorotoluene	5.5	0.50	5.0	0.0	110.0	78	122				
1,3-Dichlorobenzene	5.6	0.50	5.0	0.0	112.0	80	119				
1,4-Dichlorobenzene	5.3	0.50	5.0	0.0	105.0	79	118				
Dichlorodifluoromethane	5.2	0.50	5.0	0.0	103.0	32	152				
1,1-Dichloroethane	5.3	0.50	5.0	0.0	107.0	77	125				
1,2-Dichloroethane	5.5	0.50	5.0	0.0	109.0	73	128				
1,1-Dichloroethene	5.3	0.50	5.0	0.0	106.0	71	131				
cis-1,2-Dichloroethene	5.2	0.50	5.0	0.0	105.0	78	123				
trans-1,2-Dichloroethene	5.4	0.50	5.0	0.0	108.0	75	124				
1,2-Dichloropropane	4.9	0.50	5.0	0.0	97.0	78	122				
1,3-Dichloropropane	4.9	0.50	5.0	0.0	97.0	80	119				
2,2-Dichloropropane	5.6	0.50	5.0	0.0	113.0	60	139				



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010971
Project: CV18F0126, 60571032.02.46.01

Report Date: 03/08/2022

Run ID: Run Order: VOA5975C.I_220117A: 18 **SampType:** Sample Matrix Spike **Batch ID:** R373560
Method: SW8260B **Analysis Date:** 01/17/2022 19:33 **Prep Date:**
Lab ID: B22010972-001FMS **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,1-Dichloropropene	4.8	0.50	5.0	0.0	97.0	79	125				
cis-1,3-Dichloropropene	4.7	0.50	5.0	0.0	95.0	75	124				
trans-1,3-Dichloropropene	5.3	0.50	5.0	0.0	106.0	73	127				
Ethylbenzene	5.4	0.50	5.0	0.0	107.0	79	121				
Methyl tert-butyl ether (MTBE)	5.3	0.50	5.0	0.0	105.0	71	124				
Methyl ethyl ketone	52	10	50	0.0	103.0	56	143				
Methylene chloride	4.7	0.50	5.0	0.0	94.0	74	124				
Styrene	5.6	0.50	5.0	0.0	113.0	78	123				
1,1,1,2-Tetrachloroethane	5.5	0.50	5.0	0.0	109.0	78	124				
1,1,2,2-Tetrachloroethane	4.6	0.50	5.0	0.0	91.0	71	121				
Tetrachloroethene	5.6	0.50	5.0	0.0	112.0	74	129				
Toluene	5.4	0.50	5.0	0.0	107.0	80	121				
1,1,1-Trichloroethane	5.8	0.50	5.0	0.0	117.0	74	131				
1,1,2-Trichloroethane	4.9	0.50	5.0	0.0	98.0	80	119				
Trichloroethene	5.2	0.50	5.0	0.0	104.0	79	123				
Trichlorofluoromethane	6.2	0.50	5.0	0.0	124.0	65	141				
1,2,3-Trichloropropane	5.0	0.50	5.0	0.0	99.0	73	125				
Vinyl chloride	4.5	0.50	5.0	0.0	90.0	58	137				
m+p-Xylenes	11	0.50	10	0.0	107.0	80	121				
o-Xylene	5.4	0.50	5.0	0.0	108.0	78	122				
Xylenes, Total	16	0.50	15	0.0	107.0	79	121				
Surr: 1,2-Dichloroethane-d4	12	0.50	10	0.0	117.0	81	118				
Surr: Dibromofluoromethane	11	0.50	10	0.0	111.0	80	119				
Surr: p-Bromofluorobenzene	10	0.50	10	0.0	102.0	85	114				
Surr: Toluene-d8	11	0.50	10	0.0	111.0	89	112				

Associated Samples: B22010971-001F, B22010971-002A



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010971
Project: CV18F0126, 60571032.02.46.01

Report Date: 03/08/2022

Run ID: Run Order: VOA5975C.I_220117A: 19 **SampType:** Sample Matrix Spike Duplicate **Batch ID:** R373560
Method: SW8260B **Analysis Date:** 01/17/2022 20:00 **Prep Date:**
Lab ID: B22010972-001FMSD **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Benzene	5.4	0.50	5.0	0.0	107.0	79	120	5.2	3.8	20.0	
Bromobenzene	5.8	0.50	5.0	0.0	116.0	80	120	5.4	7.7	20.0	
Bromochloromethane	5.2	0.50	5.0	0.0	104.0	78	123	5.2	1.2	20.0	
Bromodichloromethane	5.6	0.50	5.0	0.0	113.0	79	125	5.4	5.1	20.0	
Bromoform	5.9	0.50	5.0	0.0	117.0	66	130	5.3	10.0	20.0	
Carbon tetrachloride	5.8	0.50	5.0	0.0	117.0	72	136	5.8	1.3	20.0	
Chlorobenzene	5.6	0.50	5.0	0.0	113.0	82	118	5.4	3.5	20.0	
Chlorodibromomethane	5.5	0.50	5.0	0.0	111.0	74	126	5.4	3.5	20.0	
Chloroethane	5.1	0.50	5.0	0.0	103.0	60	138	5.1	1.3	20.0	
Chloroform	5.2	0.50	5.0	0.0	105.0	79	124	5.2	1.3	20.0	
Chloromethane	4.5	0.50	5.0	0.0	90.0	50	139	4.3	3.3	20.0	
1,2-Dibromoethane	5.4	0.50	5.0	0.0	108.0	78	122	5.1	5.3	20.0	
2-Chlorotoluene	5.6	0.50	5.0	0.0	112.0	79	122	5.2	6.5	20.0	
Dibromomethane	5.2	0.50	5.0	0.0	104.0	79	123	5.0	3.4	20.0	
1,2-Dichlorobenzene	5.5	0.50	5.0	0.0	111.0	80	119	5.2	5.9	20.0	
4-Chlorotoluene	5.6	0.50	5.0	0.0	112.0	78	122	5.5	2.2	20.0	
1,3-Dichlorobenzene	5.6	0.50	5.0	0.0	111.0	80	119	5.6	0.1	20.0	
1,4-Dichlorobenzene	5.5	0.50	5.0	0.0	110.0	79	118	5.3	4.5	20.0	
Dichlorodifluoromethane	5.1	0.50	5.0	0.0	101.0	32	152	5.2	1.7	20.0	
1,1-Dichloroethane	5.5	0.50	5.0	0.0	111.0	77	125	5.3	3.8	20.0	
1,2-Dichloroethane	5.4	0.50	5.0	0.0	108.0	73	128	5.5	0.6	20.0	
1,1-Dichloroethene	5.5	0.50	5.0	0.0	109.0	71	131	5.3	2.7	20.0	
cis-1,2-Dichloroethene	5.6	0.50	5.0	0.0	112.0	78	123	5.2	6.2	20.0	
trans-1,2-Dichloroethene	5.6	0.50	5.0	0.0	111.0	75	124	5.4	3.2	20.0	
1,2-Dichloropropane	5.1	0.50	5.0	0.0	101.0	78	122	4.9	4.0	20.0	
1,3-Dichloropropane	5.1	0.50	5.0	0.0	101.0	80	119	4.9	3.7	20.0	
2,2-Dichloropropane	5.7	0.50	5.0	0.0	114.0	60	139	5.6	1.3	20.0	



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010971
Project: CV18F0126, 60571032.02.46.01

Report Date: 03/08/2022

Run ID: Run Order: VOA5975C.I_220117A: 19 **SampType:** Sample Matrix Spike Duplicate **Batch ID:** R373560
Method: SW8260B **Analysis Date:** 01/17/2022 20:00 **Prep Date:**
Lab ID: B22010972-001FMSD **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,1-Dichloropropene	5.1	0.50	5.0	0.0	101.0	79	125	4.8	4.7	20.0	
cis-1,3-Dichloropropene	5.0	0.50	5.0	0.0	101.0	75	124	4.7	6.4	20.0	
trans-1,3-Dichloropropene	5.7	0.50	5.0	0.0	113.0	73	127	5.3	6.2	20.0	
Ethylbenzene	5.6	0.50	5.0	0.0	113.0	79	121	5.4	4.9	20.0	
Methyl tert-butyl ether (MTBE)	5.6	0.50	5.0	0.0	113.0	71	124	5.3	7.0	20.0	
Methyl ethyl ketone	53	10	50	0.0	106.0	56	143	52	2.9	20.0	
Methylene chloride	4.8	0.50	5.0	0.0	97.0	74	124	4.7	3.0	20.0	
Styrene	5.8	0.50	5.0	0.0	117.0	78	123	5.6	3.5	20.0	
1,1,1,2-Tetrachloroethane	5.6	0.50	5.0	0.0	112.0	78	124	5.5	3.0	20.0	
1,1,2,2-Tetrachloroethane	4.9	0.50	5.0	0.0	98.0	71	121	4.6	7.4	20.0	
Tetrachloroethene	5.5	0.50	5.0	0.0	110.0	74	129	5.6	2.2	20.0	
Toluene	5.6	0.50	5.0	0.0	111.0	80	121	5.4	4.0	20.0	
1,1,1-Trichloroethane	5.9	0.50	5.0	0.0	118.0	74	131	5.8	1.5	20.0	
1,1,2-Trichloroethane	5.1	0.50	5.0	0.0	102.0	80	119	4.9	3.6	20.0	
Trichloroethene	5.3	0.50	5.0	0.0	106.0	79	123	5.2	2.2	20.0	
Trichlorofluoromethane	6.0	0.50	5.0	0.0	121.0	65	141	6.2	2.3	20.0	
1,2,3-Trichloropropane	5.2	0.50	5.0	0.0	105.0	73	125	5.0	5.4	20.0	
Vinyl chloride	4.6	0.50	5.0	0.0	91.0	58	137	4.5	1.5	20.0	
m+p-Xylenes	11	0.50	10	0.0	113.0	80	121	11	5.5	20.0	
o-Xylene	5.8	0.50	5.0	0.0	116.0	78	122	5.4	6.9	20.0	
Xylenes, Total	17	0.50	15	0.0	114.0	79	121	16	6.0	20.0	
Surr: 1,2-Dichloroethane-d4	12	0.50	10	0.0	116.0	81	118	0.0			
Surr: Dibromofluoromethane	11	0.50	10	0.0	112.0	80	119	0.0			
Surr: p-Bromofluorobenzene	10	0.50	10	0.0	103.0	85	114	0.0			
Surr: Toluene-d8	11	0.50	10	0.0	110.0	89	112	0.0			

Associated Samples: B22010971-001F, B22010971-002A



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010971
Project: CV18F0126, 60571032.02.46.01

Report Date: 03/08/2022

Run ID: Run Order: VOA5975C.I_220120A: 4 **SampType:** Method Blank **Batch ID:** R373592
Method: SW8260B **Analysis Date:** 01/20/2022 12:19 **Prep Date:**
Lab ID: MBLK012022_ **Units:** ug/L **Prep Method:**

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



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010971
Project: CV18F0126, 60571032.02.46.01

Report Date: 03/08/2022

Run ID: Run Order: VOA5975C.I_220120A: 4 **SampType:** Method Blank **Batch ID:** R373592
Method: SW8260B **Analysis Date:** 01/20/2022 12:19 **Prep Date:**
Lab ID: MBLK012022_ **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		110.0	81	118				
Surr: Dibromofluoromethane	10	0.50	10		102.0	80	119				
Surr: p-Bromofluorobenzene	9.6	0.50	10		96.0	85	114				
Surr: Toluene-d8	9.6	0.50	10		96.0	89	112				

Associated Samples: **B22010971-001F**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010971
Project: CV18F0126, 60571032.02.46.01

Report Date: 03/08/2022

Run ID: Run Order: VOA5975C.I_220120A: 3 **SampType:** Laboratory Control Sample **Batch ID:** R373592
Method: SW8260B **Analysis Date:** 01/20/2022 10:43 **Prep Date:**
Lab ID: LCS012022_ **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Benzene	4.8	0.50	5.0		95.0	79	120				
Bromobenzene	5.0	0.50	5.0		101.0	80	120				
Bromochloromethane	4.6	0.50	5.0		91.0	78	123				
Bromodichloromethane	4.8	0.50	5.0		96.0	79	125				
Bromoform	4.8	0.50	5.0		96.0	66	130				
Carbon tetrachloride	4.6	0.50	5.0		91.0	72	136				
Chlorobenzene	4.7	0.50	5.0		95.0	82	118				
Chlorodibromomethane	4.6	0.50	5.0		93.0	74	126				
Chloroethane	5.4	0.50	5.0		109.0	60	138				
Chloroform	4.3	0.50	5.0		87.0	79	124				
Chloromethane	4.6	0.50	5.0		91.0	50	139				
1,2-Dibromoethane	4.7	0.50	5.0		95.0	78	122				
2-Chlorotoluene	4.8	0.50	5.0		96.0	79	122				
Dibromomethane	4.8	0.50	5.0		95.0	79	123				
1,2-Dichlorobenzene	4.8	0.50	5.0		97.0	80	119				
4-Chlorotoluene	5.0	0.50	5.0		100.0	78	122				
1,3-Dichlorobenzene	4.9	0.50	5.0		97.0	80	119				
1,4-Dichlorobenzene	4.8	0.50	5.0		96.0	79	118				
Dichlorodifluoromethane	4.3	0.50	5.0		86.0	32	152				
1,1-Dichloroethane	4.9	0.50	5.0		98.0	77	125				
1,2-Dichloroethane	4.4	0.50	5.0		88.0	73	128				
1,1-Dichloroethene	4.8	0.50	5.0		95.0	71	131				
cis-1,2-Dichloroethene	4.9	0.50	5.0		98.0	78	123				
trans-1,2-Dichloroethene	4.8	0.50	5.0		95.0	75	124				
1,2-Dichloropropane	4.7	0.50	5.0		95.0	78	122				
1,3-Dichloropropane	4.6	0.50	5.0		92.0	80	119				
2,2-Dichloropropane	4.8	0.50	5.0		95.0	60	139				



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010971
Project: CV18F0126, 60571032.02.46.01

Report Date: 03/08/2022

Run ID: Run Order: VOA5975C.I_220120A: 3 **SampType:** Laboratory Control Sample **Batch ID:** R373592
Method: SW8260B **Analysis Date:** 01/20/2022 10:43 **Prep Date:**
Lab ID: LCS012022_ **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		88.0	79	125				
cis-1,3-Dichloropropene	4.5	0.50	5.0		90.0	75	124				
trans-1,3-Dichloropropene	4.8	0.50	5.0		96.0	73	127				
Ethylbenzene	4.7	0.50	5.0		93.0	79	121				
Methyl tert-butyl ether (MTBE)	4.9	0.50	5.0		99.0	71	124				
Methyl ethyl ketone	49	10	50		97.0	56	143				
Methylene chloride	4.6	0.50	5.0		91.0	74	124				
Styrene	4.8	0.50	5.0		97.0	78	123				
1,1,1,2-Tetrachloroethane	4.7	0.50	5.0		93.0	78	124				
1,1,2,2-Tetrachloroethane	4.9	0.50	5.0		97.0	71	121				
Tetrachloroethene	4.6	0.50	5.0		93.0	74	129				
Toluene	4.8	0.50	5.0		96.0	80	121				
1,1,1-Trichloroethane	4.6	0.50	5.0		93.0	74	131				
1,1,2-Trichloroethane	4.7	0.50	5.0		95.0	80	119				
Trichloroethene	4.7	0.50	5.0		94.0	79	123				
Trichlorofluoromethane	4.8	0.50	5.0		96.0	65	141				
1,2,3-Trichloropropane	4.7	0.50	5.0		95.0	73	125				
Vinyl chloride	4.8	0.50	5.0		96.0	58	137				
m+p-Xylenes	9.4	0.50	10		94.0	80	121				
o-Xylene	4.8	0.50	5.0		96.0	78	122				
Xylenes, Total	14	0.50	15		94.0	79	121				
Surr: 1,2-Dichloroethane-d4	11	0.50	10		109.0	81	118				
Surr: Dibromofluoromethane	9.3	0.50	10		93.0	80	119				
Surr: p-Bromofluorobenzene	10	0.50	10		104.0	85	114				
Surr: Toluene-d8	11	0.50	10		109.0	89	112				

Associated Samples: **B22010971-001F**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010971
Project: CV18F0126, 60571032.02.46.01

Report Date: 03/08/2022

Run ID: Run Order: VOA5975C.I_220120A: 20 **SampType:** Sample Matrix Spike **Batch ID:** R373592
Method: SW8260B **Analysis Date:** 01/20/2022 19:35 **Prep Date:**
Lab ID: B22010977-001FMS **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Benzene	4.9	0.50	5.0	0.0	98.0	79	120				
Bromobenzene	5.1	0.50	5.0	0.0	102.0	80	120				
Bromochloromethane	4.9	0.50	5.0	0.0	98.0	78	123				
Bromodichloromethane	4.1	0.50	5.0	0.0	83.0	79	125				
Bromoform	4.9	0.50	5.0	0.0	97.0	66	130				
Carbon tetrachloride	5.5	0.50	5.0	0.0	109.0	72	136				
Chlorobenzene	5.1	0.50	5.0	0.0	103.0	82	118				
Chlorodibromomethane	4.9	0.50	5.0	0.0	99.0	74	126				
Chloroethane	6.0	0.50	5.0	0.0	119.0	60	138				
Chloroform	4.7	0.50	5.0	0.0	95.0	79	124				
Chloromethane	5.9	0.50	5.0	0.0	118.0	50	139				
1,2-Dibromoethane	4.8	0.50	5.0	0.0	97.0	78	122				
2-Chlorotoluene	5.1	0.50	5.0	0.0	101.0	79	122				
Dibromomethane	4.0	0.50	5.0	0.0	79.0	79	123				
1,2-Dichlorobenzene	5.1	0.50	5.0	0.0	102.0	80	119				
4-Chlorotoluene	5.2	0.50	5.0	0.0	105.0	78	122				
1,3-Dichlorobenzene	5.2	0.50	5.0	0.0	103.0	80	119				
1,4-Dichlorobenzene	5.1	0.50	5.0	0.0	101.0	79	118				
Dichlorodifluoromethane	5.9	0.50	5.0	0.0	119.0	32	152				
1,1-Dichloroethane	5.0	0.50	5.0	0.0	100.0	77	125				
1,2-Dichloroethane	5.1	0.50	5.0	0.0	102.0	73	128				
1,1-Dichloroethene	5.1	0.50	5.0	0.0	103.0	71	131				
cis-1,2-Dichloroethene	5.0	0.50	5.0	0.0	99.0	78	123				
trans-1,2-Dichloroethene	4.9	0.50	5.0	0.0	99.0	75	124				
1,2-Dichloropropane	3.8	0.50	5.0	0.0	75.0	78	122				S
1,3-Dichloropropane	4.9	0.50	5.0	0.0	97.0	80	119				
2,2-Dichloropropane	5.2	0.50	5.0	0.0	103.0	60	139				



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010971
Project: CV18F0126, 60571032.02.46.01

Report Date: 03/08/2022

Run ID: Run Order: VOA5975C.I_220120A: 20 **SampType:** Sample Matrix Spike **Batch ID:** R373592
Method: SW8260B **Analysis Date:** 01/20/2022 19:35 **Prep Date:**
Lab ID: B22010977-001FMS **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,1-Dichloropropene	4.9	0.50	5.0	0.0	98.0	79	125				
cis-1,3-Dichloropropene	3.8	0.50	5.0	0.0	76.0	75	124				
trans-1,3-Dichloropropene	4.5	0.50	5.0	0.0	91.0	73	127				
Ethylbenzene	5.0	0.50	5.0	0.0	100.0	79	121				
Methyl tert-butyl ether (MTBE)	5.3	0.50	5.0	0.0	106.0	71	124				
Methyl ethyl ketone	48	10	50	0.0	96.0	56	143				
Methylene chloride	4.5	0.50	5.0	0.0	90.0	74	124				
Styrene	5.1	0.50	5.0	0.0	102.0	78	123				
1,1,1,2-Tetrachloroethane	4.9	0.50	5.0	0.0	98.0	78	124				
1,1,2,2-Tetrachloroethane	5.1	0.50	5.0	0.0	101.0	71	121				
Tetrachloroethene	5.0	0.50	5.0	0.0	99.0	74	129				
Toluene	4.2	0.50	5.0	0.0	85.0	80	121				
1,1,1-Trichloroethane	5.2	0.50	5.0	0.0	104.0	74	131				
1,1,2-Trichloroethane	5.2	0.50	5.0	0.0	103.0	80	119				
Trichloroethene	4.0	0.50	5.0	0.0	81.0	79	123				
Trichlorofluoromethane	6.0	0.50	5.0	0.0	119.0	65	141				
1,2,3-Trichloropropane	4.7	0.50	5.0	0.0	94.0	73	125				
Vinyl chloride	6.2	0.50	5.0	0.0	123.0	58	137				
m+p-Xylenes	9.8	0.50	10	0.0	98.0	80	121				
o-Xylene	5.0	0.50	5.0	0.0	101.0	78	122				
Xylenes, Total	15	0.50	15	0.0	99.0	79	121				
Surr: 1,2-Dichloroethane-d4	11	0.50	10	0.0	105.0	81	118				
Surr: Dibromofluoromethane	10	0.50	10	0.0	103.0	80	119				
Surr: p-Bromofluorobenzene	9.8	0.50	10	0.0	98.0	85	114				
Surr: Toluene-d8	8.5	0.50	10	0.0	85.0	89	112				S

Associated Samples: **B22010971-001F**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010971
Project: CV18F0126, 60571032.02.46.01

Report Date: 03/08/2022

Run ID: Run Order: VOA5975C.I_220120A: 21 **SampType:** Sample Matrix Spike Duplicate **Batch ID:** R373592
Method: SW8260B **Analysis Date:** 01/20/2022 20:02 **Prep Date:**
Lab ID: B22010977-001FMSD **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Benzene	5.4	0.50	5.0	0.0	107.0	79	120	4.9	8.9	20.0	
Bromobenzene	5.5	0.50	5.0	0.0	110.0	80	120	5.1	7.0	20.0	
Bromochloromethane	5.0	0.50	5.0	0.0	101.0	78	123	4.9	2.8	20.0	
Bromodichloromethane	5.4	0.50	5.0	0.0	108.0	79	125	4.1	26.0	20.0	R
Bromoform	5.0	0.50	5.0	0.0	100.0	66	130	4.9	2.7	20.0	
Carbon tetrachloride	5.4	0.50	5.0	0.0	108.0	72	136	5.5	1.0	20.0	
Chlorobenzene	5.5	0.50	5.0	0.0	111.0	82	118	5.1	7.3	20.0	
Chlorodibromomethane	5.4	0.50	5.0	0.0	108.0	74	126	4.9	8.9	20.0	
Chloroethane	6.0	0.50	5.0	0.0	120.0	60	138	6.0	0.2	20.0	
Chloroform	4.9	0.50	5.0	0.0	99.0	79	124	4.7	4.1	20.0	
Chloromethane	4.9	0.50	5.0	0.0	97.0	50	139	5.9	19.0	20.0	
1,2-Dibromoethane	5.4	0.50	5.0	0.0	108.0	78	122	4.8	11.0	20.0	
2-Chlorotoluene	5.6	0.50	5.0	0.0	111.0	79	122	5.1	9.1	20.0	
Dibromomethane	5.4	0.50	5.0	0.0	108.0	79	123	4.0	30.0	20.0	R
1,2-Dichlorobenzene	5.4	0.50	5.0	0.0	108.0	80	119	5.1	6.1	20.0	
4-Chlorotoluene	5.5	0.50	5.0	0.0	110.0	78	122	5.2	5.4	20.0	
1,3-Dichlorobenzene	5.5	0.50	5.0	0.0	110.0	80	119	5.2	6.1	20.0	
1,4-Dichlorobenzene	5.3	0.50	5.0	0.0	107.0	79	118	5.1	5.4	20.0	
Dichlorodifluoromethane	4.9	0.50	5.0	0.0	98.0	32	152	5.9	19.0	20.0	
1,1-Dichloroethane	5.5	0.50	5.0	0.0	109.0	77	125	5.0	9.0	20.0	
1,2-Dichloroethane	5.0	0.50	5.0	0.0	100.0	73	128	5.1	1.6	20.0	
1,1-Dichloroethene	5.6	0.50	5.0	0.0	112.0	71	131	5.1	8.7	20.0	
cis-1,2-Dichloroethene	5.3	0.50	5.0	0.0	107.0	78	123	5.0	7.6	20.0	
trans-1,2-Dichloroethene	5.3	0.50	5.0	0.0	106.0	75	124	4.9	7.3	20.0	
1,2-Dichloropropane	5.3	0.50	5.0	0.0	107.0	78	122	3.8	34.0	20.0	R
1,3-Dichloropropane	5.2	0.50	5.0	0.0	104.0	80	119	4.9	6.9	20.0	
2,2-Dichloropropane	5.2	0.50	5.0	0.0	105.0	60	139	5.2	1.6	20.0	



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010971
Project: CV18F0126, 60571032.02.46.01

Report Date: 03/08/2022

Run ID: Run Order: VOA5975C.I_220120A: 21 **SampType:** Sample Matrix Spike Duplicate **Batch ID:** R373592
Method: SW8260B **Analysis Date:** 01/20/2022 20:02 **Prep Date:**
Lab ID: B22010977-001FMSD **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,1-Dichloropropene	5.2	0.50	5.0	0.0	104.0	79	125	4.9	6.4	20.0	
cis-1,3-Dichloropropene	4.9	0.50	5.0	0.0	99.0	75	124	3.8	26.0	20.0	R
trans-1,3-Dichloropropene	5.4	0.50	5.0	0.0	108.0	73	127	4.5	18.0	20.0	
Ethylbenzene	5.3	0.50	5.0	0.0	107.0	79	121	5.0	6.1	20.0	
Methyl tert-butyl ether (MTBE)	5.4	0.50	5.0	0.0	107.0	71	124	5.3	1.1	20.0	
Methyl ethyl ketone	50	10	50	0.0	100.0	56	143	48	4.6	20.0	
Methylene chloride	5.0	0.50	5.0	0.0	100.0	74	124	4.5	11.0	20.0	
Styrene	5.4	0.50	5.0	0.0	108.0	78	123	5.1	5.3	20.0	
1,1,1,2-Tetrachloroethane	5.4	0.50	5.0	0.0	108.0	78	124	4.9	9.2	20.0	
1,1,2,2-Tetrachloroethane	5.4	0.50	5.0	0.0	107.0	71	121	5.1	6.0	20.0	
Tetrachloroethene	5.3	0.50	5.0	0.0	106.0	74	129	5.0	6.2	20.0	
Toluene	5.5	0.50	5.0	0.0	110.0	80	121	4.2	26.0	20.0	R
1,1,1-Trichloroethane	5.3	0.50	5.0	0.0	106.0	74	131	5.2	1.4	20.0	
1,1,2-Trichloroethane	5.5	0.50	5.0	0.0	109.0	80	119	5.2	5.6	20.0	
Trichloroethene	5.3	0.50	5.0	0.0	106.0	79	123	4.0	27.0	20.0	R
Trichlorofluoromethane	5.4	0.50	5.0	0.0	109.0	65	141	6.0	9.4	20.0	
1,2,3-Trichloropropane	5.1	0.50	5.0	0.0	103.0	73	125	4.7	8.9	20.0	
Vinyl chloride	5.2	0.50	5.0	0.0	103.0	58	137	6.2	18.0	20.0	
m+p-Xylenes	11	0.50	10	0.0	105.0	80	121	9.8	6.4	20.0	
o-Xylene	5.4	0.50	5.0	0.0	108.0	78	122	5.0	6.5	20.0	
Xylenes, Total	16	0.50	15	0.0	106.0	79	121	15	6.4	20.0	
Surr: 1,2-Dichloroethane-d4	11	0.50	10	0.0	108.0	81	118	0.0			
Surr: Dibromofluoromethane	11	0.50	10	0.0	106.0	80	119	0.0			
Surr: p-Bromofluorobenzene	10	0.50	10	0.0	102.0	85	114	0.0			
Surr: Toluene-d8	11	0.50	10	0.0	110.0	89	112	0.0			

Associated Samples: **B22010971-001F**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010971
Project: CV18F0126, 60571032.02.46.01

Report Date: 03/08/2022

Run ID: Run Order: VOA5975C.I_220117A: 2 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R373560
Method: SW8260B **Analysis Date:** 01/17/2022 11:11 **Prep Date:**
Lab ID: CCV011722_A **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	5.2	0.50	5.0		105.0	80	120				
Bromochloromethane	5.2	0.50	5.0		104.0	80	120				
Bromodichloromethane	5.2	0.50	5.0		104.0	80	120				
Bromoform	5.5	0.50	5.0		109.0	80	120				
Carbon tetrachloride	4.7	0.50	5.0		94.0	80	120				
Chlorobenzene	5.1	0.50	5.0		101.0	80	120				
Chlorodibromomethane	5.2	0.50	5.0		104.0	80	120				
Chloroethane	5.2	0.50	5.0		103.0	80	120				
Chloroform	4.9	0.50	5.0		98.0	80	120				
Chloromethane	4.6	0.50	5.0		91.0	80	120				
1,2-Dibromoethane	5.2	0.50	5.0		104.0	80	120				
2-Chlorotoluene	5.0	0.50	5.0		99.0	80	120				
Dibromomethane	5.1	0.50	5.0		103.0	80	120				
1,2-Dichlorobenzene	4.9	0.50	5.0		98.0	80	120				
4-Chlorotoluene	5.1	0.50	5.0		102.0	80	120				
1,3-Dichlorobenzene	4.9	0.50	5.0		99.0	80	120				
1,4-Dichlorobenzene	5.0	0.50	5.0		99.0	80	120				
Dichlorodifluoromethane	4.4	0.50	5.0		87.0	80	120				
1,1-Dichloroethane	5.2	0.50	5.0		104.0	80	120				
1,2-Dichloroethane	5.2	0.50	5.0		104.0	80	120				
1,1-Dichloroethene	4.9	0.50	5.0		97.0	80	120				
cis-1,2-Dichloroethene	5.1	0.50	5.0		102.0	80	120				
trans-1,2-Dichloroethene	5.0	0.50	5.0		101.0	80	120				
1,2-Dichloropropane	5.2	0.50	5.0		104.0	80	120				
1,3-Dichloropropane	5.4	0.50	5.0		107.0	80	120				
2,2-Dichloropropane	5.2	0.50	5.0		105.0	80	120				



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010971
Project: CV18F0126, 60571032.02.46.01

Report Date: 03/08/2022

Run ID: Run Order: VOA5975C.I_220117A: 2 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R373560
Method: SW8260B **Analysis Date:** 01/17/2022 11:11 **Prep Date:**
Lab ID: CCV011722_A **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		97.0	80	120				
cis-1,3-Dichloropropene	5.1	0.50	5.0		102.0	80	120				
trans-1,3-Dichloropropene	5.5	0.50	5.0		110.0	80	120				
Ethylbenzene	4.9	0.50	5.0		99.0	80	120				
Methyl tert-butyl ether (MTBE)	5.1	0.50	5.0		102.0	80	120				
Methyl ethyl ketone	53	10	50		106.0	80	120				
Methylene chloride	4.8	0.50	5.0		96.0	80	120				
Styrene	5.2	0.50	5.0		105.0	80	120				
1,1,1,2-Tetrachloroethane	5.0	0.50	5.0		100.0	80	120				
1,1,2,2-Tetrachloroethane	5.2	0.50	5.0		105.0	80	120				
Tetrachloroethene	4.7	0.50	5.0		94.0	80	120				
Toluene	5.1	0.50	5.0		101.0	80	120				
1,1,1-Trichloroethane	5.0	0.50	5.0		99.0	80	120				
1,1,2-Trichloroethane	5.1	0.50	5.0		101.0	80	120				
Trichloroethene	5.0	0.50	5.0		100.0	80	120				
Trichlorofluoromethane	5.0	0.50	5.0		101.0	80	120				
1,2,3-Trichloropropane	5.3	0.50	5.0		106.0	80	120				
Vinyl chloride	4.7	0.50	5.0		94.0	80	120				
m+p-Xylenes	10	0.50	10		100.0	80	120				
o-Xylene	5.0	0.50	5.0		100.0	80	120				
Xylenes, Total	15	0.50	15		100.0	80	120				
Surr: 1,2-Dichloroethane-d4	11	0.50	10		114.0	80	120				
Surr: Dibromofluoromethane	11	0.50	10		109.0	80	120				
Surr: p-Bromofluorobenzene	11	0.50	10		108.0	80	120				
Surr: Toluene-d8	11	0.50	10		110.0	80	120				

Associated Samples: B22010971-001F, B22010971-002A



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010971
Project: CV18F0126, 60571032.02.46.01

Report Date: 03/08/2022

Run ID: Run Order: VOA5975C.I_220117A: 3 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R373560
Method: SW8260B **Analysis Date:** 01/17/2022 11:39 **Prep Date:**
Lab ID: CCV011722_B **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Benzene	5.3	0.50	5.0		106.0	80	120				
Bromobenzene	5.3	0.50	5.0		106.0	80	120				
Bromochloromethane	5.1	0.50	5.0		101.0	80	120				
Bromodichloromethane	5.3	0.50	5.0		106.0	80	120				
Bromoform	5.3	0.50	5.0		105.0	80	120				
Carbon tetrachloride	5.2	0.50	5.0		104.0	80	120				
Chlorobenzene	5.2	0.50	5.0		104.0	80	120				
Chlorodibromomethane	5.2	0.50	5.0		104.0	80	120				
Chloroethane	5.3	0.50	5.0		107.0	80	120				
Chloroform	5.1	0.50	5.0		103.0	80	120				
Chloromethane	4.8	0.50	5.0		96.0	80	120				
1,2-Dibromoethane	5.1	0.50	5.0		101.0	80	120				
2-Chlorotoluene	5.4	0.50	5.0		107.0	80	120				
Dibromomethane	5.1	0.50	5.0		102.0	80	120				
1,2-Dichlorobenzene	5.1	0.50	5.0		103.0	80	120				
4-Chlorotoluene	5.5	0.50	5.0		110.0	80	120				
1,3-Dichlorobenzene	5.2	0.50	5.0		105.0	80	120				
1,4-Dichlorobenzene	5.2	0.50	5.0		104.0	80	120				
Dichlorodifluoromethane	4.9	0.50	5.0		98.0	80	120				
1,1-Dichloroethane	5.3	0.50	5.0		107.0	80	120				
1,2-Dichloroethane	5.0	0.50	5.0		101.0	80	120				
1,1-Dichloroethene	5.2	0.50	5.0		105.0	80	120				
cis-1,2-Dichloroethene	5.2	0.50	5.0		104.0	80	120				
trans-1,2-Dichloroethene	5.2	0.50	5.0		105.0	80	120				
1,2-Dichloropropane	5.3	0.50	5.0		106.0	80	120				
1,3-Dichloropropane	5.3	0.50	5.0		106.0	80	120				
2,2-Dichloropropane	5.6	0.50	5.0		113.0	80	120				



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010971
Project: CV18F0126, 60571032.02.46.01

Report Date: 03/08/2022

Run ID: Run Order: VOA5975C.I_220117A: 3 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R373560
Method: SW8260B **Analysis Date:** 01/17/2022 11:39 **Prep Date:**
Lab ID: CCV011722_B **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,1-Dichloropropene	5.2	0.50	5.0		104.0	80	120				
cis-1,3-Dichloropropene	5.2	0.50	5.0		104.0	80	120				
trans-1,3-Dichloropropene	5.5	0.50	5.0		110.0	80	120				
Ethylbenzene	5.3	0.50	5.0		106.0	80	120				
Methyl tert-butyl ether (MTBE)	5.1	0.50	5.0		102.0	80	120				
Methyl ethyl ketone	55	10	50		111.0	80	120				
Methylene chloride	5.0	0.50	5.0		100.0	80	120				
Styrene	5.5	0.50	5.0		110.0	80	120				
1,1,1,2-Tetrachloroethane	5.2	0.50	5.0		105.0	80	120				
1,1,2,2-Tetrachloroethane	5.3	0.50	5.0		106.0	80	120				
Tetrachloroethene	5.3	0.50	5.0		105.0	80	120				
Toluene	5.4	0.50	5.0		107.0	80	120				
1,1,1-Trichloroethane	5.2	0.50	5.0		104.0	80	120				
1,1,2-Trichloroethane	5.1	0.50	5.0		102.0	80	120				
Trichloroethene	5.4	0.50	5.0		108.0	80	120				
Trichlorofluoromethane	4.7	0.50	5.0		94.0	80	120				
1,2,3-Trichloropropane	5.2	0.50	5.0		104.0	80	120				
Vinyl chloride	4.9	0.50	5.0		98.0	80	120				
m+p-Xylenes	11	0.50	10		109.0	80	120				
o-Xylene	5.4	0.50	5.0		108.0	80	120				
Xylenes, Total	16	0.50	15		108.0	80	120				
Surr: 1,2-Dichloroethane-d4	11	0.50	10		110.0	80	120				
Surr: Dibromofluoromethane	11	0.50	10		110.0	80	120				
Surr: p-Bromofluorobenzene	11	0.50	10		107.0	80	120				
Surr: Toluene-d8	11	0.50	10		111.0	80	120				

Associated Samples: B22010971-001F, B22010971-002A



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010971
Project: CV18F0126, 60571032.02.46.01

Report Date: 03/08/2022

Run ID: Run Order: VOA5975C.I_220117A: 20 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R373560
Method: SW8260B **Analysis Date:** 01/17/2022 20:54 **Prep Date:**
Lab ID: CCV011722_Closing **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Benzene	5.2	0.50	5.0		104.0	50	150				
Bromobenzene	5.5	0.50	5.0		109.0	50	150				
Bromochloromethane	5.3	0.50	5.0		106.0	50	150				
Bromodichloromethane	5.4	0.50	5.0		108.0	50	150				
Bromoform	5.5	0.50	5.0		110.0	50	150				
Carbon tetrachloride	5.7	0.50	5.0		114.0	50	150				
Chlorobenzene	5.2	0.50	5.0		105.0	50	150				
Chlorodibromomethane	5.5	0.50	5.0		109.0	50	150				
Chloroethane	4.8	0.50	5.0		97.0	50	150				
Chloroform	5.2	0.50	5.0		103.0	50	150				
Chloromethane	4.4	0.50	5.0		89.0	50	150				
1,2-Dibromoethane	5.0	0.50	5.0		101.0	50	150				
2-Chlorotoluene	5.5	0.50	5.0		109.0	50	150				
Dibromomethane	5.2	0.50	5.0		103.0	50	150				
1,2-Dichlorobenzene	5.3	0.50	5.0		106.0	50	150				
4-Chlorotoluene	5.4	0.50	5.0		108.0	50	150				
1,3-Dichlorobenzene	5.4	0.50	5.0		107.0	50	150				
1,4-Dichlorobenzene	5.4	0.50	5.0		107.0	50	150				
Dichlorodifluoromethane	5.1	0.50	5.0		101.0	50	150				
1,1-Dichloroethane	5.1	0.50	5.0		102.0	50	150				
1,2-Dichloroethane	5.6	0.50	5.0		111.0	50	150				
1,1-Dichloroethene	5.3	0.50	5.0		106.0	50	150				
cis-1,2-Dichloroethene	5.3	0.50	5.0		106.0	50	150				
trans-1,2-Dichloroethene	5.1	0.50	5.0		102.0	50	150				
1,2-Dichloropropane	4.9	0.50	5.0		98.0	50	150				
1,3-Dichloropropane	5.0	0.50	5.0		100.0	50	150				
2,2-Dichloropropane	5.4	0.50	5.0		109.0	50	150				



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010971
Project: CV18F0126, 60571032.02.46.01

Report Date: 03/08/2022

Run ID: Run Order: VOA5975C.I_220117A: 20 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R373560
Method: SW8260B **Analysis Date:** 01/17/2022 20:54 **Prep Date:**
Lab ID: CCV011722_Closing **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,1-Dichloropropene	5.2	0.50	5.0		104.0	50	150				
cis-1,3-Dichloropropene	5.0	0.50	5.0		99.0	50	150				
trans-1,3-Dichloropropene	5.4	0.50	5.0		108.0	50	150				
Ethylbenzene	5.3	0.50	5.0		107.0	50	150				
Methyl tert-butyl ether (MTBE)	5.1	0.50	5.0		102.0	50	150				
Methyl ethyl ketone	52	10	50		103.0	50	150				
Methylene chloride	4.7	0.50	5.0		94.0	50	150				
Styrene	5.6	0.50	5.0		111.0	50	150				
1,1,1,2-Tetrachloroethane	5.5	0.50	5.0		111.0	50	150				
1,1,2,2-Tetrachloroethane	4.8	0.50	5.0		97.0	50	150				
Tetrachloroethene	5.4	0.50	5.0		109.0	50	150				
Toluene	5.3	0.50	5.0		106.0	50	150				
1,1,1-Trichloroethane	5.7	0.50	5.0		113.0	50	150				
1,1,2-Trichloroethane	4.8	0.50	5.0		96.0	50	150				
Trichloroethene	5.2	0.50	5.0		104.0	50	150				
Trichlorofluoromethane	6.0	0.50	5.0		120.0	50	150				
1,2,3-Trichloropropane	5.1	0.50	5.0		103.0	50	150				
Vinyl chloride	4.4	0.50	5.0		87.0	50	150				
m+p-Xylenes	11	0.50	10		109.0	50	150				
o-Xylene	5.4	0.50	5.0		109.0	50	150				
Xylenes, Total	16	0.50	15		109.0	50	150				
Surr: 1,2-Dichloroethane-d4	12	0.50	10		116.0	50	150				
Surr: Dibromofluoromethane	11	0.50	10		110.0	50	150				
Surr: p-Bromofluorobenzene	10	0.50	10		104.0	50	150				
Surr: Toluene-d8	11	0.50	10		109.0	50	150				

Associated Samples: B22010971-001F, B22010971-002A



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010971
Project: CV18F0126, 60571032.02.46.01

Report Date: 03/08/2022

Run ID: Run Order: VOA5975C.I_220120A: 2 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R373592
Method: SW8260B **Analysis Date:** 01/20/2022 10:06 **Prep Date:**
Lab ID: CCV012022_ **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Benzene	5.0	0.50	5.0		100.0	80	120				
Bromobenzene	5.1	0.50	5.0		101.0	80	120				
Bromochloromethane	5.0	0.50	5.0		101.0	80	120				
Bromodichloromethane	4.9	0.50	5.0		98.0	80	120				
Bromoform	4.9	0.50	5.0		99.0	80	120				
Carbon tetrachloride	4.9	0.50	5.0		97.0	80	120				
Chlorobenzene	5.0	0.50	5.0		99.0	80	120				
Chlorodibromomethane	5.1	0.50	5.0		102.0	80	120				
Chloroethane	5.6	0.50	5.0		113.0	80	120				
Chloroform	4.8	0.50	5.0		95.0	80	120				
Chloromethane	5.0	0.50	5.0		100.0	80	120				
1,2-Dibromoethane	5.1	0.50	5.0		102.0	80	120				
2-Chlorotoluene	5.0	0.50	5.0		100.0	80	120				
Dibromomethane	5.1	0.50	5.0		103.0	80	120				
1,2-Dichlorobenzene	5.0	0.50	5.0		100.0	80	120				
4-Chlorotoluene	5.1	0.50	5.0		103.0	80	120				
1,3-Dichlorobenzene	5.0	0.50	5.0		100.0	80	120				
1,4-Dichlorobenzene	4.9	0.50	5.0		98.0	80	120				
Dichlorodifluoromethane	4.8	0.50	5.0		96.0	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	4.8	0.50	5.0		96.0	80	120				
cis-1,2-Dichloroethene	5.1	0.50	5.0		101.0	80	120				
trans-1,2-Dichloroethene	4.9	0.50	5.0		98.0	80	120				
1,2-Dichloropropane	4.9	0.50	5.0		98.0	80	120				
1,3-Dichloropropane	5.0	0.50	5.0		100.0	80	120				
2,2-Dichloropropane	5.0	0.50	5.0		100.0	80	120				



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010971
Project: CV18F0126, 60571032.02.46.01

Report Date: 03/08/2022

Run ID: Run Order: VOA5975C.I_220120A: 2 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R373592
Method: SW8260B **Analysis Date:** 01/20/2022 10:06 **Prep Date:**
Lab ID: CCV012022_ **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,1-Dichloropropene	5.0	0.50	5.0		101.0	80	120				
cis-1,3-Dichloropropene	4.9	0.50	5.0		98.0	80	120				
trans-1,3-Dichloropropene	5.1	0.50	5.0		102.0	80	120				
Ethylbenzene	4.9	0.50	5.0		97.0	80	120				
Methyl tert-butyl ether (MTBE)	5.3	0.50	5.0		105.0	80	120				
Methyl ethyl ketone	51	10	50		102.0	80	120				
Methylene chloride	4.8	0.50	5.0		96.0	80	120				
Styrene	4.9	0.50	5.0		99.0	80	120				
1,1,1,2-Tetrachloroethane	4.9	0.50	5.0		98.0	80	120				
1,1,2,2-Tetrachloroethane	5.1	0.50	5.0		102.0	80	120				
Tetrachloroethene	4.9	0.50	5.0		98.0	80	120				
Toluene	5.0	0.50	5.0		99.0	80	120				
1,1,1-Trichloroethane	5.0	0.50	5.0		100.0	80	120				
1,1,2-Trichloroethane	5.1	0.50	5.0		101.0	80	120				
Trichloroethene	5.0	0.50	5.0		99.0	80	120				
Trichlorofluoromethane	4.7	0.50	5.0		95.0	80	120				
1,2,3-Trichloropropane	5.1	0.50	5.0		103.0	80	120				
Vinyl chloride	5.1	0.50	5.0		102.0	80	120				
m+p-Xylenes	9.9	0.50	10		99.0	80	120				
o-Xylene	4.9	0.50	5.0		98.0	80	120				
Xylenes, Total	15	0.50	15		99.0	80	120				
Surr: 1,2-Dichloroethane-d4	11	0.50	10		112.0	80	120				
Surr: Dibromofluoromethane	9.5	0.50	10		95.0	80	120				
Surr: p-Bromofluorobenzene	11	0.50	10		107.0	80	120				
Surr: Toluene-d8	11	0.50	10		108.0	80	120				

Associated Samples: **B22010971-001F**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010971
Project: CV18F0126, 60571032.02.46.01

Report Date: 03/08/2022

Run ID: Run Order: VOA5975C.I_220120A: 22 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R373592
Method: SW8260B **Analysis Date:** 01/20/2022 20:57 **Prep Date:**
Lab ID: CCV012022_Closing **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Benzene	5.1	0.50	5.0		101.0	50	150				
Bromobenzene	5.0	0.50	5.0		101.0	50	150				
Bromochloromethane	4.8	0.50	5.0		97.0	50	150				
Bromodichloromethane	5.1	0.50	5.0		102.0	50	150				
Bromoform	4.7	0.50	5.0		93.0	50	150				
Carbon tetrachloride	5.2	0.50	5.0		103.0	50	150				
Chlorobenzene	5.0	0.50	5.0		100.0	50	150				
Chlorodibromomethane	4.8	0.50	5.0		97.0	50	150				
Chloroethane	5.5	0.50	5.0		109.0	50	150				
Chloroform	4.8	0.50	5.0		96.0	50	150				
Chloromethane	4.8	0.50	5.0		96.0	50	150				
1,2-Dibromoethane	4.9	0.50	5.0		98.0	50	150				
2-Chlorotoluene	5.1	0.50	5.0		103.0	50	150				
Dibromomethane	5.2	0.50	5.0		103.0	50	150				
1,2-Dichlorobenzene	4.9	0.50	5.0		98.0	50	150				
4-Chlorotoluene	5.2	0.50	5.0		104.0	50	150				
1,3-Dichlorobenzene	5.0	0.50	5.0		100.0	50	150				
1,4-Dichlorobenzene	5.0	0.50	5.0		100.0	50	150				
Dichlorodifluoromethane	4.9	0.50	5.0		97.0	50	150				
1,1-Dichloroethane	5.0	0.50	5.0		100.0	50	150				
1,2-Dichloroethane	4.6	0.50	5.0		92.0	50	150				
1,1-Dichloroethene	5.0	0.50	5.0		100.0	50	150				
cis-1,2-Dichloroethene	5.0	0.50	5.0		99.0	50	150				
trans-1,2-Dichloroethene	4.8	0.50	5.0		97.0	50	150				
1,2-Dichloropropane	5.0	0.50	5.0		100.0	50	150				
1,3-Dichloropropane	4.9	0.50	5.0		99.0	50	150				
2,2-Dichloropropane	4.8	0.50	5.0		96.0	50	150				



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010971
Project: CV18F0126, 60571032.02.46.01

Report Date: 03/08/2022

Run ID: Run Order: VOA5975C.I_220120A: 22 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R373592
Method: SW8260B **Analysis Date:** 01/20/2022 20:57 **Prep Date:**
Lab ID: CCV012022_Closing **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,1-Dichloropropene	5.2	0.50	5.0		103.0	50	150				
cis-1,3-Dichloropropene	4.8	0.50	5.0		96.0	50	150				
trans-1,3-Dichloropropene	4.8	0.50	5.0		96.0	50	150				
Ethylbenzene	5.0	0.50	5.0		100.0	50	150				
Methyl tert-butyl ether (MTBE)	4.5	0.50	5.0		91.0	50	150				
Methyl ethyl ketone	46	10	50		91.0	50	150				
Methylene chloride	4.7	0.50	5.0		94.0	50	150				
Styrene	5.1	0.50	5.0		102.0	50	150				
1,1,1,2-Tetrachloroethane	4.9	0.50	5.0		98.0	50	150				
1,1,2,2-Tetrachloroethane	4.8	0.50	5.0		97.0	50	150				
Tetrachloroethene	5.0	0.50	5.0		101.0	50	150				
Toluene	5.1	0.50	5.0		103.0	50	150				
1,1,1-Trichloroethane	5.0	0.50	5.0		101.0	50	150				
1,1,2-Trichloroethane	5.0	0.50	5.0		100.0	50	150				
Trichloroethene	5.1	0.50	5.0		102.0	50	150				
Trichlorofluoromethane	5.0	0.50	5.0		100.0	50	150				
1,2,3-Trichloropropane	5.1	0.50	5.0		103.0	50	150				
Vinyl chloride	4.8	0.50	5.0		97.0	50	150				
m+p-Xylenes	10	0.50	10		102.0	50	150				
o-Xylene	5.0	0.50	5.0		100.0	50	150				
Xylenes, Total	15	0.50	15		101.0	50	150				
Surr: 1,2-Dichloroethane-d4	11	0.50	10		108.0	50	150				
Surr: Dibromofluoromethane	11	0.50	10		105.0	50	150				
Surr: p-Bromofluorobenzene	10	0.50	10		104.0	50	150				
Surr: Toluene-d8	11	0.50	10		111.0	50	150				

Associated Samples: **B22010971-001F**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010971
Project: CV18F0126, 60571032.02.46.01

Report Date: 03/08/2022

Run ID: Run Order: GECD.I_220119B: 10 **SampType:** Method Blank **Batch ID:** 163023
Method: SW8011 **Analysis Date:** 01/19/2022 14:35 **Prep Date:** 01/18/2022 09:43
Lab ID: MB-163023 **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	0.087	0.020	0.10		87.0	70	130				

Associated Samples: **B22010971-001H, B22010971-004A**

Run ID: Run Order: GECD.I_220119B: 11 **SampType:** Laboratory Control Sample **Batch ID:** 163023
Method: SW8011 **Analysis Date:** 01/19/2022 14:54 **Prep Date:** 01/18/2022 09:43
Lab ID: LCS-163023 **Units:** ug/L **Prep Method:** SW8011

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.24	0.010	0.25		95.0	60	140				
Surr: 1,1,1,2-Tetrachloroethane	0.087	0.020	0.10		87.0	70	130				

Associated Samples: **B22010971-001H, B22010971-004A**

Run ID: Run Order: GECD.I_220119B: 12 **SampType:** Laboratory Control Sample **Batch ID:** 163023
Method: SW8011 **Analysis Date:** 01/19/2022 15:15 **Prep Date:** 01/18/2022 09:44
Lab ID: LCS1-163023 **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		104.0	60	140				
Surr: 1,1,1,2-Tetrachloroethane	0.087	0.020	0.10		87.0	70	130				

Associated Samples: **B22010971-001H, B22010971-004A**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010971
Project: CV18F0126, 60571032.02.46.01

Report Date: 03/08/2022

Run ID: Run Order: GECD.I_220119B: 22 **SampType:** Sample Matrix Spike **Batch ID:** 163023
Method: SW8011 **Analysis Date:** 01/19/2022 18:52 **Prep Date:** 01/18/2022 09:44
Lab ID: B22010971-001HMS **Units:** ug/L **Prep Method:** SW8011

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.24	0.010	0.25	0.0	99.0	60	140				
Surr: 1,1,1,2-Tetrachloroethane	0.087	0.020	0.099	0.0	88.0	70	130				

Associated Samples: **B22010971-001H, B22010971-004A**

Run ID: Run Order: GECD.I_220119B: 23 **SampType:** Sample Matrix Spike Duplicate **Batch ID:** 163023
Method: SW8011 **Analysis Date:** 01/19/2022 19:12 **Prep Date:** 01/18/2022 09:44
Lab ID: B22010971-001HMSD **Units:** ug/L **Prep Method:** SW8011

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.25	0.010	0.25	0.0	100.0	60	140	0.24	1.3	20.0	
Surr: 1,1,1,2-Tetrachloroethane	0.089	0.020	0.099	0.0	90.0	70	130	0.0			

Associated Samples: **B22010971-001H, B22010971-004A**

Run ID: Run Order: GECD.I_220119B: 9 **SampType:** Continuing Calibration Verification Standard **Batch ID:** 163023
Method: SW8011 **Analysis Date:** 01/19/2022 14:15 **Prep Date:** 01/18/2022 09:44
Lab ID: CK3-163023 **Units:** ug/L **Prep Method:** SW8011

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.11	0.010	0.10		108.0	80	120				
Surr: 1,1,1,2-Tetrachloroethane	0.098	0.020	0.10		98.0	80	120				

Associated Samples: **B22010971-001H, B22010971-004A**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010971
Project: CV18F0126, 60571032.02.46.01

Report Date: 03/08/2022

Run ID: Run Order: GECD.I_220119B: 24
Method: SW8011
Lab ID: CK5-163023

SampType: Continuing Calibration Verification Standard
Analysis Date: 01/19/2022 19:51
Units: ug/L

Batch ID: 163023
Prep Date: 01/18/2022 09:44
Prep Method: SW8011

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.44	0.010	0.40		109.0	80	120				
Surr: 1,1,1,2-Tetrachloroethane	0.47	0.020	0.40		116.0	80	120				

Associated Samples: **B22010971-001H, B22010971-004A**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010971
Project: CV18F0126, 60571032.02.46.01

Report Date: 03/08/2022

Run ID: Run Order: PE 1_220117A: 4 **SampType:** Method Blank **Batch ID:** R373334
Method: SW8015C **Analysis Date:** 01/17/2022 11:33 **Prep Date:**
Lab ID: MBLK_0117PE108r **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
C6 to C10	ND	10									
Total Purgeable Hydrocarbons	ND	10									
Surr: Trifluorotoluene	19	1.0	25		77.0	70	130				

Associated Samples: **B22010971-001G, B22010971-003A**

Run ID: Run Order: PE 1_220117A: 20 **SampType:** Method Blank **Batch ID:** R373334
Method: SW8015C **Analysis Date:** 01/17/2022 22:59 **Prep Date:**
Lab ID: MBLK_0117PE128r **Units:** ug/L **Prep Method:**

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

Associated Samples: **B22010971-001G, B22010971-003A**

Run ID: Run Order: PE 1_220117A: 3 **SampType:** Laboratory Control Sample **Batch ID:** R373334
Method: SW8015C **Analysis Date:** 01/17/2022 10:58 **Prep Date:**
Lab ID: LCS_0117PE107r **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
C6 to C10	162	20	170		95.0	78	122				
Total Purgeable Hydrocarbons	192	20	200		96.0	70	130				
Surr: Trifluorotoluene	22	1.0	25		87.0	70	130				

Associated Samples: **B22010971-001G, B22010971-003A**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010971
Project: CV18F0126, 60571032.02.46.01

Report Date: 03/08/2022

Run ID: Run Order: PE 1_220117A: 19 **SampType:** Laboratory Control Sample **Batch ID:** R373334
Method: SW8015C **Analysis Date:** 01/17/2022 22:24 **Prep Date:**
Lab ID: LCS_0117PE127r **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
C6 to C10	152	20	170		89.0	78	122				
Total Purgeable Hydrocarbons	179	20	200		90.0	70	130				
Surr: Trifluorotoluene	23	1.0	25		91.0	70	130				

Associated Samples: **B22010971-001G, B22010971-003A**

Run ID: Run Order: PE 1_220117A: 15 **SampType:** Sample Matrix Spike **Batch ID:** R373334
Method: SW8015C **Analysis Date:** 01/17/2022 19:33 **Prep Date:**
Lab ID: B22010971-001GMS **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
C6 to C10	156	20	170	0.0	92.0	78	122				
Total Purgeable Hydrocarbons	186	20	200	0.0	93.0	70	130				
Surr: Trifluorotoluene	23	1.0	25	0.0	93.0	70	130				

Associated Samples: **B22010971-001G, B22010971-003A**

Run ID: Run Order: PE 1_220117A: 16 **SampType:** Sample Matrix Spike Duplicate **Batch ID:** R373334
Method: SW8015C **Analysis Date:** 01/17/2022 20:07 **Prep Date:**
Lab ID: B22010971-001GMSD **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
C6 to C10	161	20	170	0.0	95.0	78	122	156	2.7	20.0	
Total Purgeable Hydrocarbons	190	20	200	0.0	95.0	70	130	186	2.6	20.0	
Surr: Trifluorotoluene	23	1.0	25	0.0	94.0	70	130	0.0			

Associated Samples: **B22010971-001G, B22010971-003A**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010971
Project: CV18F0126, 60571032.02.46.01

Report Date: 03/08/2022

Run ID: Run Order: GCFID-HP4-B_220118A: 5 **SampType:** Method Blank **Batch ID:** 162993
Method: SW8015C **Analysis Date:** 01/18/2022 22:02 **Prep Date:** 01/17/2022 13:44
Lab ID: MB-162993 **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	0.19	0.0020	0.20		97.0	56	125				
Surr: n-Triacontane	0.12	0.0020	0.10		116.0	50	150				

Associated Samples: **B22010971-001D**

Run ID: Run Order: GCFID-HP4-B_220120A: 5 **SampType:** Method Blank **Batch ID:** 162993
Method: SW8015C **Analysis Date:** 01/20/2022 15:27 **Prep Date:** 01/17/2022 13:44
Lab ID: MB-162993 **Units:** mg/L **Prep Method:** SW3520C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Diesel Range Organics (SGT-C10 to C24)	ND	0.15									
Oil Range Hydrocarbons (SGT-C24 to C40)	ND	0.15									
Total Extractable Hydrocarbons (SGT)	ND	0.15									
Surr: o-Terphenyl (SGT)	0.19	0.0020	0.20		97.0	56	125				
Surr: n-Triacontane (SGT)	0.11	0.0020	0.10		112.0	50	150				

Associated Samples: **B22010971-001D**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010971
Project: CV18F0126, 60571032.02.46.01

Report Date: 03/08/2022

Run ID: Run Order: GCFID-HP4-B_220118A: 3 **SampType:** Laboratory Control Sample **Batch ID:** 162993
Method: SW8015C **Analysis Date:** 01/18/2022 20:32 **Prep Date:** 01/17/2022 13:44
Lab ID: LCS-162993 **Units:** mg/L **Prep Method:** SW3520C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Diesel Range Organics (C10 to C24)	12	0.30	15		82.0	36	132				
Total Extractable Hydrocarbons	13	0.30	15		87.0	60	132				
Surr: o-Terphenyl	0.18	0.0020	0.20		89.0	56	125				

Associated Samples: **B22010971-001D**

Run ID: Run Order: GCFID-HP4-B_220118A: 4 **SampType:** Laboratory Control Sample Duplicate **Batch ID:** 162993
Method: SW8015C **Analysis Date:** 01/18/2022 21:17 **Prep Date:** 01/17/2022 13:45
Lab ID: LCSD-162993 **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	12	6.4	20.0	
Total Extractable Hydrocarbons	14	0.30	15		93.0	60	132	13	6.4	20.0	
Surr: o-Terphenyl	0.19	0.0020	0.20		93.0	56	125	0.0			

Associated Samples: **B22010971-001D**

Run ID: Run Order: GCFID-HP4-B_220118A: 22 **SampType:** Laboratory Control Sample **Batch ID:** 162993
Method: SW8015C **Analysis Date:** 01/19/2022 19:40 **Prep Date:** 01/17/2022 13:45
Lab ID: LCS-162993-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)	4.8	0.30	5.0		96.0	41	113				
Surr: n-Triacontane	0.12	0.0020	0.10		119.0	50	150				

Associated Samples: **B22010971-001D**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010971
Project: CV18F0126, 60571032.02.46.01

Report Date: 03/08/2022

Run ID: Run Order: GCFID-HP4-B_220118A: 23 **SampType:** Laboratory Control Sample Duplicate **Batch ID:** 162993
Method: SW8015C **Analysis Date:** 01/19/2022 21:09 **Prep Date:** 01/17/2022 13:45
Lab ID: LCSD-162993-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	5.0		91.0	41	113	4.8	5.9	20.0	
Surr: n-Triacontane	0.11	0.0020	0.10		110.0	50	150	0.0			

Associated Samples: **B22010971-001D**

Run ID: Run Order: GCFID-HP4-B_220120A: 3 **SampType:** Laboratory Control Sample **Batch ID:** 162993
Method: SW8015C **Analysis Date:** 01/20/2022 13:57 **Prep Date:** 01/17/2022 13:44
Lab ID: LCS-162993 **Units:** mg/L **Prep Method:** SW3520C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Diesel Range Organics (SGT-C10 to C24)	12	0.30	15		79.0	36	132				
Total Extractable Hydrocarbons (SGT)	13	0.30	15		84.0	60	132				
Surr: o-Terphenyl (SGT)	0.18	0.0020	0.20		90.0	56	125				

Associated Samples: **B22010971-001D**

Run ID: Run Order: GCFID-HP4-B_220120A: 4 **SampType:** Laboratory Control Sample Duplicate **Batch ID:** 162993
Method: SW8015C **Analysis Date:** 01/20/2022 14:42 **Prep Date:** 01/17/2022 13:45
Lab ID: LCSD-162993 **Units:** mg/L **Prep Method:** SW3520C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Diesel Range Organics (SGT-C10 to C24)	12	0.30	15		78.0	36	132	12	1.2	20.0	
Total Extractable Hydrocarbons (SGT)	12	0.30	15		82.0	60	132	13	1.4	20.0	
Surr: o-Terphenyl (SGT)	0.18	0.0020	0.20		88.0	56	125	0.0			

Associated Samples: **B22010971-001D**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010971
Project: CV18F0126, 60571032.02.46.01

Report Date: 03/08/2022

Run ID: Run Order: GCFID-HP4-B_220120A: 19 **SampType:** Laboratory Control Sample **Batch ID:** 162993
Method: SW8015C **Analysis Date:** 01/21/2022 14:19 **Prep Date:** 01/17/2022 13:45
Lab ID: LCS-162993-RRO **Units:** mg/L **Prep Method:** SW3520C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
TEH (SGT-Oil Range)	4.8	0.30	5.0		96.0	41	113				
Surr: n-Triacontane (SGT)	0.11	0.0020	0.10		111.0	50	150				

Associated Samples: **B22010971-001D**

Run ID: Run Order: GCFID-HP4-B_220120A: 20 **SampType:** Laboratory Control Sample Duplicate **Batch ID:** 162993
Method: SW8015C **Analysis Date:** 01/21/2022 15:49 **Prep Date:** 01/17/2022 13:45
Lab ID: LCSD-162993-RRO **Units:** mg/L **Prep Method:** SW3520C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
TEH (SGT-Oil Range)	4.5	0.30	5.0		90.0	41	113	4.8	5.6	20.0	
Surr: n-Triacontane (SGT)	0.10	0.0020	0.10		103.0	50	150	0.0			

Associated Samples: **B22010971-001D**

Run ID: Run Order: GCFID-HP4-B_220118A: 7 **SampType:** Sample Matrix Spike **Batch ID:** 162993
Method: SW8015C **Analysis Date:** 01/18/2022 23:31 **Prep Date:** 01/17/2022 13:46
Lab ID: B22010978-001DMS **Units:** mg/L **Prep Method:** SW3520C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Diesel Range Organics (C10 to C24)	13	0.30	15	0.10	87.0	36	132				
Total Extractable Hydrocarbons	14	0.30	15	0.37	92.0	60	132				
Surr: o-Terphenyl	0.18	0.0020	0.19	0.0	93.0	56	125				

Associated Samples: **B22010971-001D**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010971
Project: CV18F0126, 60571032.02.46.01

Report Date: 03/08/2022

Run ID: Run Order: GCFID-HP4-B_220118A: 9 **SampType:** Sample Matrix Spike **Batch ID:** 162993
Method: SW8015C **Analysis Date:** 01/19/2022 01:45 **Prep Date:** 01/17/2022 13:46
Lab ID: B22010980-001DMS-RRO **Units:** mg/L **Prep Method:** SW3520C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
TEH(Oil Range)	4.5	0.30	4.8	0.0	94.0	41	113				
Surr: n-Triacontane	0.11	0.0020	0.096	0.0	116.0	50	150				

Associated Samples: **B22010971-001D**

Run ID: Run Order: GCFID-HP4-B_220120A: 17 **SampType:** Sample Matrix Spike **Batch ID:** 162993
Method: SW8015C **Analysis Date:** 01/21/2022 12:04 **Prep Date:** 01/17/2022 13:46
Lab ID: B22010978-001DMS **Units:** mg/L **Prep Method:** SW3520C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Diesel Range Organics (SGT-C10 to C24)	12	0.30	15	0.0	84.0	36	132				
Total Extractable Hydrocarbons (SGT)	13	0.30	15	0.0	89.0	60	132				
Surr: o-Terphenyl (SGT)	0.18	0.0020	0.19	0.0	93.0	56	125				

Associated Samples: **B22010971-001D**

Run ID: Run Order: GCFID-HP4-B_220120A: 18 **SampType:** Sample Matrix Spike **Batch ID:** 162993
Method: SW8015C **Analysis Date:** 01/21/2022 12:49 **Prep Date:** 01/17/2022 13:46
Lab ID: B22010980-001DMS-RRO **Units:** mg/L **Prep Method:** SW3520C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
TEH (SGT-Oil Range)	4.4	0.30	4.8	0.0	91.0	41	113				
Surr: n-Triacontane (SGT)	0.099	0.0020	0.096	0.0	103.0	50	150				

Associated Samples: **B22010971-001D**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010971
Project: CV18F0126, 60571032.02.46.01

Report Date: 03/08/2022

Run ID: Run Order: GCFID-HP5-B_220223A: 5 **SampType:** Method Blank **Batch ID:** 163927
Method: SW8015C **Analysis Date:** 02/23/2022 15:48 **Prep Date:** 02/22/2022 12:25
Lab ID: MB-163927 **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	0.19	0.0020	0.20		93.0	56	125				
Surr: n-Triacontane	0.085	0.0020	0.10		85.0	50	150				

Associated Samples: **B22010971-001J**

Run ID: Run Order: GCFID-HP5-B_220223A: 3 **SampType:** Laboratory Control Sample **Batch ID:** 163927
Method: SW8015C **Analysis Date:** 02/23/2022 14:22 **Prep Date:** 02/22/2022 12:25
Lab ID: LCS-163927 **Units:** mg/L **Prep Method:** SW3520C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Diesel Range Organics (C10 to C24)	12	0.30	15		81.0	36	132				
Total Extractable Hydrocarbons	13	0.30	15		86.0	60	132				
Surr: o-Terphenyl	0.18	0.0020	0.20		92.0	56	125				

Associated Samples: **B22010971-001J**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010971
Project: CV18F0126, 60571032.02.46.01

Report Date: 03/08/2022

Run ID: Run Order: GCFID-HP5-B_220223A: 4 **SampType:** Laboratory Control Sample Duplicate **Batch ID:** 163927
Method: SW8015C **Analysis Date:** 02/23/2022 15:05 **Prep Date:** 02/22/2022 12:25
Lab ID: LCSD-163927 **Units:** mg/L **Prep Method:** SW3520C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Diesel Range Organics (C10 to C24)	13	0.30	15		84.0	36	132	12	3.4	20.0	
Total Extractable Hydrocarbons	13	0.30	15		89.0	60	132	13	3.4	20.0	
Surr: o-Terphenyl	0.19	0.0020	0.20		95.0	56	125	0.0			

Associated Samples: **B22010971-001J**

Run ID: Run Order: GCFID-HP5-B_220223A: 21 **SampType:** Laboratory Control Sample **Batch ID:** 163927
Method: SW8015C **Analysis Date:** 02/24/2022 14:02 **Prep Date:** 02/22/2022 12:25
Lab ID: LCS-RRO-163927 **Units:** mg/L **Prep Method:** SW3520C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
TEH(Oil Range)	5.2	0.30	5.0		104.0	41	113				
Surr: n-Triacontane	0.091	0.0020	0.10		91.0	50	150				

Associated Samples: **B22010971-001J**

Run ID: Run Order: GCFID-HP5-B_220223A: 22 **SampType:** Laboratory Control Sample Duplicate **Batch ID:** 163927
Method: SW8015C **Analysis Date:** 02/24/2022 14:45 **Prep Date:** 02/22/2022 12:25
Lab ID: LCSD-RRO-163927 **Units:** mg/L **Prep Method:** SW3520C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
TEH(Oil Range)	5.1	0.30	5.0		103.0	41	113	5.2	0.8	20.0	
Surr: n-Triacontane	0.087	0.0020	0.10		87.0	50	150	0.0			

Associated Samples: **B22010971-001J**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010971
Project: CV18F0126, 60571032.02.46.01

Report Date: 03/08/2022

Run ID: Run Order: GCFID-HP5-B_220223A: 11 **SampType:** Sample Matrix Spike **Batch ID:** 163927
Method: SW8015C **Analysis Date:** 02/23/2022 20:49 **Prep Date:** 02/22/2022 12:25
Lab ID: B22021435-012DMS **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	85.0	36	132				
Total Extractable Hydrocarbons	13	0.30	14	0.15	91.0	60	132				
Surr: o-Terphenyl	0.18	0.0020	0.19	0.0	95.0	56	125				

Associated Samples: **B22010971-001J**

Run ID: Run Order: GCFID-HP5-B_220223A: 18 **SampType:** Sample Matrix Spike **Batch ID:** 163927
Method: SW8015C **Analysis Date:** 02/24/2022 07:34 **Prep Date:** 02/22/2022 12:26
Lab ID: B22021435-017DMS-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)	4.8	0.30	4.7	0.42	94.0	41	113				
Surr: n-Triacontane	0.078	0.0020	0.094	0.0	83.0	50	150				

Associated Samples: **B22010971-001J**

Run ID: Run Order: PE 1_220117A: 2 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R373334
Method: SW8015C **Analysis Date:** 01/17/2022 10:24 **Prep Date:**
Lab ID: CCV_0117PE106r **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
C6 to C10	182	20	168		109.0	80	120				
Total Purgeable Hydrocarbons	219	20	200		109.0	80	120				
Surr: Trifluorotoluene	23	1.0	25		91.0	80	120				

Associated Samples: **B22010971-001G, B22010971-003A**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010971
Project: CV18F0126, 60571032.02.46.01

Report Date: 03/08/2022

Run ID: Run Order: PE 1_220117A: 18 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R373334
Method: SW8015C **Analysis Date:** 01/17/2022 21:50 **Prep Date:**
Lab ID: CCV_0117PE126r **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
C6 to C10	181	20	168		108.0	80	120				
Total Purgeable Hydrocarbons	217	20	200		108.0	80	120				
Surr: Trifluorotoluene	24	1.0	25		96.0	80	120				

Associated Samples: **B22010971-001G, B22010971-003A**

Run ID: Run Order: GCFID-HP4-B_220118A: 10 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R373422
Method: SW8015C **Analysis Date:** 01/19/2022 03:14 **Prep Date:**
Lab ID: CCV_0118HP419r-W **Units:** mg/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
TEH(Oil Range)	4.9	0.30	5.0		98.0	80	120				
Surr: n-Triacontane	0.21	0.0020	0.20		105.0	80	120				

Associated Samples: **B22010971-001D**

Run ID: Run Order: GCFID-HP4-B_220118A: 11 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R373422
Method: SW8015C **Analysis Date:** 01/19/2022 03:59 **Prep Date:**
Lab ID: CCV_0118HP420r **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	0.21	0.0020	0.20		106.0	80	120				

Associated Samples: **B22010971-001D**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010971
Project: CV18F0126, 60571032.02.46.01

Report Date: 03/08/2022

Run ID: Run Order: GCFID-HP4-B_220118A: 17 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R373422
Method: SW8015C **Analysis Date:** 01/19/2022 13:41 **Prep Date:**
Lab ID: CCV_0118HP433r-W **Units:** mg/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
TEH(Oil Range)	4.5	0.30	5.0		91.0	80	120				
Surr: n-Triacontane	0.23	0.0020	0.20		114.0	80	120				

Associated Samples: **B22010971-001D**

Run ID: Run Order: GCFID-HP4-B_220118A: 18 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R373422
Method: SW8015C **Analysis Date:** 01/19/2022 14:26 **Prep Date:**
Lab ID: CCV_0118HP434r **Units:** mg/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Diesel Range Organics (C10 to C24)	15	0.30	15		98.0	80	120				
Total Extractable Hydrocarbons	15	0.30	15		102.0	80	120				
Surr: o-Terphenyl	0.22	0.0020	0.20		112.0	80	120				

Associated Samples: **B22010971-001D**

Run ID: Run Order: GCFID-HP4-B_220120A: 1 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R373573
Method: SW8015C **Analysis Date:** 01/20/2022 11:43 **Prep Date:**
Lab ID: CCV_0120HP404r-W **Units:** mg/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
TEH(Oil Range)	4.5	0.30	5.0		91.0	80	120				
Surr: n-Triacontane	0.23	0.0020	0.20		115.0	80	120				

Associated Samples: **B22010971-001D**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010971
Project: CV18F0126, 60571032.02.46.01

Report Date: 03/08/2022

Run ID: Run Order: GCFID-HP4-B_220120A: 2 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R373573
Method: SW8015C **Analysis Date:** 01/20/2022 12:27 **Prep Date:**
Lab ID: CCV_0120HP405r **Units:** mg/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Diesel Range Organics (C10 to C24)	15	0.30	15		99.0	80	120				
Total Extractable Hydrocarbons	15	0.30	15		102.0	80	120				
Surr: o-Terphenyl	0.23	0.0020	0.20		114.0	80	120				

Associated Samples: **B22010971-001D**

Run ID: Run Order: GCFID-HP4-B_220120A: 13 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R373573
Method: SW8015C **Analysis Date:** 01/20/2022 22:58 **Prep Date:**
Lab ID: CCV_0120HP419r-W **Units:** mg/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
TEH(Oil Range)	4.6	0.30	5.0		93.0	80	120				
Surr: n-Triacontane	0.24	0.0020	0.20		118.0	80	120				

Associated Samples: **B22010971-001D**

Run ID: Run Order: GCFID-HP4-B_220120A: 14 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R373573
Method: SW8015C **Analysis Date:** 01/20/2022 23:43 **Prep Date:**
Lab ID: CCV_0120HP420r **Units:** mg/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Diesel Range Organics (C10 to C24)	15	0.30	15		101.0	80	120				
Total Extractable Hydrocarbons	16	0.30	15		105.0	80	120				
Surr: o-Terphenyl	0.23	0.0020	0.20		116.0	80	120				

Associated Samples: **B22010971-001D**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010971
Project: CV18F0126, 60571032.02.46.01

Report Date: 03/08/2022

Run ID: Run Order: GCFID-HP5-B_220223A: 23 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R375155
Method: SW8015C **Analysis Date:** 02/24/2022 16:14 **Prep Date:**
Lab ID: CCV_0223HP544r-W **Units:** mg/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
TEH(Oil Range)	5.5	0.30	5.0		109.0	80	120				
Surr: n-Triacontane	0.20	0.0020	0.20		100.0	80	120				

Associated Samples: **B22010971-001J**

Run ID: Run Order: GCFID-HP5-B_220223A: 24 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R375155
Method: SW8015C **Analysis Date:** 02/24/2022 16:57 **Prep Date:**
Lab ID: CCV_0223HP545r **Units:** mg/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Diesel Range Organics (C10 to C24)	15	0.30	15		97.0	80	120				
Total Extractable Hydrocarbons	15	0.30	15		101.0	80	120				
Surr: o-Terphenyl	0.18	0.0020	0.20		92.0	80	120				

Associated Samples: **B22010971-001J**

Run ID: Run Order: GCFID-HP5-B_220223A: 28 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R375155
Method: SW8015C **Analysis Date:** 02/25/2022 00:06 **Prep Date:**
Lab ID: CCV_0223HP555r-W **Units:** mg/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
TEH(Oil Range)	5.2	0.30	5.0		103.0	80	120				
Surr: n-Triacontane	0.19	0.0020	0.20		96.0	80	120				

Associated Samples: **B22010971-001J**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010971
Project: CV18F0126, 60571032.02.46.01

Report Date: 03/08/2022

Run ID: Run Order: GCFID-HP5-B_220223A: 29 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R375155
Method: SW8015C **Analysis Date:** 02/25/2022 00:49 **Prep Date:**
Lab ID: CCV_0223HP556r **Units:** mg/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Diesel Range Organics (C10 to C24)	15	0.30	15		101.0	80	120				
Total Extractable Hydrocarbons	16	0.30	15		105.0	80	120				
Surr: o-Terphenyl	0.19	0.0020	0.20		96.0	80	120				

Associated Samples: **B22010971-001J**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010971
Project: CV18F0126, 60571032.02.46.01

Report Date: 03/08/2022

Run ID: Run Order: FID-HEADSPACE_220118A: 4 **SampType:** Method Blank **Batch ID:** R373380
Method: SW8015M **Analysis Date:** 01/18/2022 09:47 **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: B22010971-001I, B22010971-005A

Run ID: Run Order: FID-HEADSPACE_220118A: 2 **SampType:** Laboratory Control Sample **Batch ID:** R373380
Method: SW8015M **Analysis Date:** 01/18/2022 08:44 **Prep Date:**
Lab ID: LCS **Units:** ppm **Prep Method:**

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

Associated Samples: B22010971-001I, B22010971-005A

Run ID: Run Order: FID-HEADSPACE_220118A: 3 **SampType:** Laboratory Control Sample Duplicate **Batch ID:** R373380
Method: SW8015M **Analysis Date:** 01/18/2022 08:48 **Prep Date:**
Lab ID: LCSD **Units:** ppm **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Methane	98	2.0	100		98.0	85	115	96	2.0	20.0	

Associated Samples: B22010971-001I, B22010971-005A



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010971
Project: CV18F0126, 60571032.02.46.01

Report Date: 03/08/2022

Run ID: Run Order: FID-HEADSPACE_220118A: 18 **SampType:** Sample Duplicate **Batch ID:** R373380
Method: SW8015M **Analysis Date:** 01/18/2022 11:23 **Prep Date:**
Lab ID: B22010977-001IDUP **Units:** mg/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Methane	0.0098	0.0020			0.0			0.0099	1.8	20.0	

Associated Samples: B22010971-001I, B22010971-005A

Run ID: Run Order: FID-HEADSPACE_220118A: 1 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R373380
Method: SW8015M **Analysis Date:** 01/18/2022 08:39 **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: B22010971-001I, B22010971-005A

Run ID: Run Order: FID-HEADSPACE_220118A: 26 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R373380
Method: SW8015M **Analysis Date:** 01/18/2022 12:10 **Prep Date:**
Lab ID: CCV **Units:** ppm **Prep Method:**

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

Associated Samples: B22010971-001I, B22010971-005A



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010971
Project: CV18F0126, 60571032.02.46.01

Report Date: 03/08/2022

Run ID: Run Order: SV5973N.I_220128C: 4 **SampType:** Method Blank **Batch ID:** 162980
Method: SW8270C **Analysis Date:** 01/29/2022 08:33 **Prep Date:** 01/17/2022 10:29
Lab ID: MB-162980 **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	ND	5.0									
1,2-Dichlorobenzene	ND	5.0									
1,3-Dichlorobenzene	ND	5.0									
1,4-Dichlorobenzene	ND	5.0									
2,4,5-Trichlorophenol	ND	5.0									
2,4,6-Trichlorophenol	ND	5.0									
2,4-Dichlorophenol	ND	5.0									
2,4-Dimethylphenol	ND	5.0									
2,4-Dinitrophenol	ND	10									
2,4-Dinitrotoluene	ND	5.0									
2,6-Dinitrotoluene	ND	5.0									
2-Chloronaphthalene	ND	5.0									
2-Chlorophenol	ND	5.0									
2-Nitrophenol	ND	5.0									
3,3'-Dichlorobenzidine	ND	10									
4,6-Dinitro-2-methylphenol	ND	10									
4-Bromophenyl phenyl ether	ND	5.0									
4-Chloro-3-methylphenol	ND	5.0									
4-Chlorophenol	ND	5.0									
4-Chlorophenyl phenyl ether	ND	5.0									
4-Nitrophenol	ND	10									
Azobenzene	ND	5.0									
bis(-2-chloroethoxy)Methane	ND	5.0									
bis(-2-chloroethyl)Ether	ND	5.0									
bis(2-chloroisopropyl)Ether	ND	5.0									
bis(2-ethylhexyl)Phthalate	ND	5.0									
Butylbenzylphthalate	ND	5.0									



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010971
Project: CV18F0126, 60571032.02.46.01

Report Date: 03/08/2022

Run ID: Run Order: SV5973N.I_220128C: 4 **SampType:** Method Blank **Batch ID:** 162980
Method: SW8270C **Analysis Date:** 01/29/2022 08:33 **Prep Date:** 01/17/2022 10:29
Lab ID: MB-162980 **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Diethyl phthalate	ND	5.0									
Dimethyl phthalate	ND	5.0									
Di-n-butyl phthalate	ND	5.0									
Di-n-octyl phthalate	ND	5.0									
Hexachlorobenzene	ND	5.0									
Hexachlorobutadiene	ND	5.0									
Hexachlorocyclopentadiene	ND	5.0									
Hexachloroethane	ND	5.0									
Isophorone	ND	5.0									
m+p-Cresols	ND	5.0									
Nitrobenzene	ND	5.0									
n-Nitrosodimethylamine	ND	5.0									
n-Nitroso-di-n-propylamine	ND	5.0									
n-Nitrosodiphenylamine	ND	10									
o-Cresol	ND	5.0									
Pentachlorophenol	ND	10									
Phenol	ND	5.0									
Pyridine	ND	5.0									
Surr: 2,4,6-Tribromophenol	172	5.0	200		86.0	43	140				
Surr: 2-Fluorobiphenyl	39	5.0	100		39.0	44	119				S
Surr: 2-Fluorophenol	102	5.0	200		51.0	19	119				
Surr: Nitrobenzene-d5	62	5.0	100		62.0	44	120				
Surr: Phenol-d5	85	5.0	200		42.0	10	65				
Surr: Terphenyl-d14	92	5.0	100		92.0	50	134				

Associated Samples: **B22010971-001C**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010971
Project: CV18F0126, 60571032.02.46.01

Report Date: 03/08/2022

Run ID: Run Order: SV5973N.I_220128C: 5 **SampType:** Laboratory Control Sample **Batch ID:** 162980
Method: SW8270C **Analysis Date:** 01/29/2022 09:05 **Prep Date:** 01/17/2022 10:29
Lab ID: LCS-162980 **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	65	10	100		65.0	29	116				
1,2-Dichlorobenzene	56	10	100		56.0	32	111				
1,3-Dichlorobenzene	50	10	100		50.0	28	110				
1,4-Dichlorobenzene	54	10	100		54.0	29	112				
2,4,5-Trichlorophenol	93	10	100		93.0	53	123				
2,4,6-Trichlorophenol	89	10	100		89.0	50	125				
2,4-Dichlorophenol	97	10	100		97.0	47	121				
2,4-Dimethylphenol	67	10	100		67.0	31	124				
2,4-Dinitrophenol	79	10	100		79.0	23	142				
2,4-Dinitrotoluene	89	10	100		89.0	57	128				
2,6-Dinitrotoluene	93	10	100		93.0	50	118				
2-Chloronaphthalene	71	10	100		71.0	40	116				
2-Chlorophenol	70	10	100		70.0	38	117				
2-Nitrophenol	95	10	100		95.0	47	123				
3,3'-Dichlorobenzidine	80	10	100		80.0	27	129				
4,6-Dinitro-2-methylphenol	87	10	100		87.0	44	137				
4-Bromophenyl phenyl ether	96	10	100		96.0	55	124				
4-Chloro-3-methylphenol	105	10	100		105.0	52	119				
4-Chlorophenol	86	10	100		86.0	41	81				S
4-Chlorophenyl phenyl ether	95	10	100		95.0	53	121				
4-Nitrophenol	40	10	100		40.0	15	36				S
Azobenzene	103	10	100		103.0	61	116				
bis(-2-chloroethoxy)Methane	86	10	100		86.0	48	120				
bis(-2-chloroethyl)Ether	72	10	100		72.0	43	118				
bis(2-chloroisopropyl)Ether	71	10	100		71.0	37	130				
bis(2-ethylhexyl)Phthalate	105	10	100		105.0	55	135				
Butylbenzylphthalate	106	10	100		106.0	53	134				



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010971
Project: CV18F0126, 60571032.02.46.01

Report Date: 03/08/2022

Run ID: Run Order: SV5973N.I_220128C: 5 **SampType:** Laboratory Control Sample **Batch ID:** 162980
Method: SW8270C **Analysis Date:** 01/29/2022 09:05 **Prep Date:** 01/17/2022 10:29
Lab ID: LCS-162980 **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Diethyl phthalate	106	10	100		106.0	56	125				
Dimethyl phthalate	103	10	100		103.0	45	127				
Di-n-butyl phthalate	85	10	100		85.0	59	127				
Di-n-octyl phthalate	104	10	100		104.0	51	140				
Hexachlorobenzene	101	10	100		101.0	53	125				
Hexachlorobutadiene	54	10	100		54.0	22	124				
Hexachlorocyclopentadiene	64	10	100		64.0	39	91				
Hexachloroethane	53	10	100		53.0	21	115				
Isophorone	95	10	100		95.0	42	124				
m+p-Cresols	78	10	100		78.0	29	110				
Nitrobenzene	98	10	100		98.0	45	121				
n-Nitrosodimethylamine	46	10	100		46.0	20	45				S
n-Nitroso-di-n-propylamine	95	10	100		95.0	49	119				
n-Nitrosodiphenylamine	112	10	100		112.0	51	123				
o-Cresol	81	10	100		81.0	30	117				
Pentachlorophenol	115	10	100		115.0	35	138				
Phenol	55	10	100		55.0	37	75				
Pyridine	35	10	100		35.0	16	45				
Surr: 2,4,6-Tribromophenol	233	10	200		116.0	43	140				
Surr: 2-Fluorobiphenyl	63	10	100		63.0	44	119				
Surr: 2-Fluorophenol	113	10	200		56.0	19	119				
Surr: Nitrobenzene-d5	84	10	100		84.0	44	120				
Surr: Phenol-d5	96	10	200		48.0	10	65				
Surr: Terphenyl-d14	106	10	100		106.0	50	134				

Associated Samples: **B22010971-001C**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010971
Project: CV18F0126, 60571032.02.46.01

Report Date: 03/08/2022

Run ID: Run Order: SV5973N.I_220128C: 6 **SampType:** Laboratory Control Sample Duplicate **Batch ID:** 162980
Method: SW8270C **Analysis Date:** 01/29/2022 09:38 **Prep Date:** 01/17/2022 10:30
Lab ID: LCSD-162980 **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	67	10	100		67.0	29	116	65	3.9	20.0	
1,2-Dichlorobenzene	67	10	100		67.0	32	111	56	18.0	20.0	
1,3-Dichlorobenzene	63	10	100		63.0	28	110	50	22.0	20.0	R
1,4-Dichlorobenzene	65	10	100		65.0	29	112	54	19.0	20.0	
2,4,5-Trichlorophenol	91	10	100		91.0	53	123	93	2.5	20.0	
2,4,6-Trichlorophenol	93	10	100		93.0	50	125	89	4.4	20.0	
2,4-Dichlorophenol	88	10	100		88.0	47	121	97	9.1	20.0	
2,4-Dimethylphenol	56	10	100		56.0	31	124	67	18.0	20.0	
2,4-Dinitrophenol	74	10	100		74.0	23	142	79	6.7	20.0	
2,4-Dinitrotoluene	89	10	100		89.0	57	128	89	0.2	20.0	
2,6-Dinitrotoluene	89	10	100		89.0	50	118	93	4.9	20.0	
2-Chloronaphthalene	79	10	100		79.0	40	116	71	11.0	20.0	
2-Chlorophenol	82	10	100		82.0	38	117	70	15.0	20.0	
2-Nitrophenol	89	10	100		89.0	47	123	95	6.9	20.0	
3,3'-Dichlorobenzidine	75	10	100		75.0	27	129	80	7.4	20.0	
4,6-Dinitro-2-methylphenol	75	10	100		75.0	44	137	87	15.0	20.0	
4-Bromophenyl phenyl ether	86	10	100		86.0	55	124	96	11.0	20.0	
4-Chloro-3-methylphenol	92	10	100		92.0	52	119	105	13.0	20.0	
4-Chlorophenol	79	10	100		79.0	41	81	86	8.0	20.0	
4-Chlorophenyl phenyl ether	86	10	100		86.0	53	121	95	10.0	20.0	
4-Nitrophenol	50	10	100		50.0	15	36	40	21.0	20.0	SR
Azobenzene	93	10	100		93.0	61	116	103	10.0	20.0	
bis(-2-chloroethoxy)Methane	82	10	100		82.0	48	120	86	4.7	20.0	
bis(-2-chloroethyl)Ether	85	10	100		85.0	43	118	72	17.0	20.0	
bis(2-chloroisopropyl)Ether	69	10	100		69.0	37	130	71	3.5	20.0	
bis(2-ethylhexyl)Phthalate	101	10	100		101.0	55	135	105	3.3	20.0	
Butylbenzylphthalate	102	10	100		102.0	53	134	106	3.2	20.0	



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010971
Project: CV18F0126, 60571032.02.46.01

Report Date: 03/08/2022

Run ID: Run Order: SV5973N.I_220128C: 6 **SampType:** Laboratory Control Sample Duplicate **Batch ID:** 162980
Method: SW8270C **Analysis Date:** 01/29/2022 09:38 **Prep Date:** 01/17/2022 10:30
Lab ID: LCSD-162980 **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Diethyl phthalate	101	10	100		101.0	56	125	106	4.5	20.0	
Dimethyl phthalate	97	10	100		97.0	45	127	103	6.2	20.0	
Di-n-butyl phthalate	98	10	100		98.0	59	127	85	14.0	20.0	
Di-n-octyl phthalate	103	10	100		103.0	51	140	104	0.9	20.0	
Hexachlorobenzene	88	10	100		88.0	53	125	101	14.0	20.0	
Hexachlorobutadiene	57	10	100		57.0	22	124	54	5.1	20.0	
Hexachlorocyclopentadiene	57	10	100		57.0	39	91	64	12.0	20.0	
Hexachloroethane	67	10	100		67.0	21	115	53	23.0	20.0	R
Isophorone	84	10	100		84.0	42	124	95	12.0	20.0	
m+p-Cresols	76	10	100		76.0	29	110	78	3.2	20.0	
Nitrobenzene	94	10	100		94.0	45	121	98	3.4	20.0	
n-Nitrosodimethylamine	39	10	100		39.0	20	45	46	16.0	20.0	
n-Nitroso-di-n-propylamine	90	10	100		90.0	49	119	95	5.4	20.0	
n-Nitrosodiphenylamine	91	10	100		91.0	51	123	112	21.0	20.0	R
o-Cresol	79	10	100		79.0	30	117	81	2.8	20.0	
Pentachlorophenol	103	10	100		103.0	35	138	115	11.0	20.0	
Phenol	57	10	100		57.0	37	75	55	3.4	20.0	
Pyridine	37	10	100		37.0	16	45	35	5.7	20.0	
Surr: 2,4,6-Tribromophenol	193	10	200		97.0	43	140	0.0	0.0		
Surr: 2-Fluorobiphenyl	68	10	100		68.0	44	119	0.0	0.0		
Surr: 2-Fluorophenol	113	10	200		56.0	19	119	0.0	0.0		
Surr: Nitrobenzene-d5	78	10	100		78.0	44	120	0.0	0.0		
Surr: Phenol-d5	97	10	200		49.0	10	65	0.0	0.0		
Surr: Terphenyl-d14	89	10	100		89.0	50	134	0.0	0.0		

Associated Samples: **B22010971-001C**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010971
Project: CV18F0126, 60571032.02.46.01

Report Date: 03/08/2022

Run ID: Run Order: SV5973N.I_220128C: 8 **SampType:** Sample Matrix Spike **Batch ID:** 162980
Method: SW8270C **Analysis Date:** 01/29/2022 10:42 **Prep Date:** 01/17/2022 10:31
Lab ID: B22010872-001HMS **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	51	10	100	0.0	51.0	29	116				
1,2-Dichlorobenzene	47	10	100	0.0	47.0	32	111				
1,3-Dichlorobenzene	45	10	100	0.0	45.0	28	110				
1,4-Dichlorobenzene	46	10	100	0.0	46.0	29	112				
2,4,5-Trichlorophenol	69	10	100	0.0	69.0	53	123				
2,4,6-Trichlorophenol	69	10	100	0.0	69.0	50	125				
2,4-Dichlorophenol	67	10	100	0.0	67.0	47	121				
2,4-Dimethylphenol	56	10	100	0.0	56.0	31	124				
2,4-Dinitrophenol	56	20	100	0.0	56.0	23	142				
2,4-Dinitrotoluene	74	10	100	0.0	74.0	57	128				
2,6-Dinitrotoluene	71	10	100	0.0	71.0	50	118				
2-Chloronaphthalene	64	10	100	0.0	64.0	40	116				
2-Chlorophenol	58	10	100	0.0	58.0	38	117				
2-Nitrophenol	63	10	100	0.0	63.0	47	123				
3,3'-Dichlorobenzidine	73	20	100	0.0	73.0	27	129				
4,6-Dinitro-2-methylphenol	69	20	100	0.0	69.0	44	137				
4-Bromophenyl phenyl ether	81	10	100	0.0	81.0	55	124				
4-Chloro-3-methylphenol	82	10	100	0.0	82.0	52	119				
4-Chlorophenol	64	10	100	0.0	64.0	41	81				
4-Chlorophenyl phenyl ether	79	10	100	0.0	79.0	53	121				
4-Nitrophenol	39	20	100	0.0	39.0	15	36				S
Azobenzene	87	10	100	0.0	87.0	61	116				
bis(-2-chloroethoxy)Methane	70	10	100	0.0	70.0	48	120				
bis(-2-chloroethyl)Ether	68	10	100	0.0	68.0	43	118				
bis(2-chloroisopropyl)Ether	54	10	100	0.0	54.0	37	130				
bis(2-ethylhexyl)Phthalate	94	10	100	0.0	94.0	55	135				
Butylbenzylphthalate	94	10	100	0.0	94.0	53	134				



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010971
Project: CV18F0126, 60571032.02.46.01

Report Date: 03/08/2022

Run ID: Run Order: SV5973N.I_220128C: 8 **SampType:** Sample Matrix Spike **Batch ID:** 162980
Method: SW8270C **Analysis Date:** 01/29/2022 10:42 **Prep Date:** 01/17/2022 10:31
Lab ID: B22010872-001HMS **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Diethyl phthalate	85	10	100	0.0	85.0	56	125				
Dimethyl phthalate	86	10	100	0.0	86.0	45	127				
Di-n-butyl phthalate	96	10	100	0.0	96.0	59	127				
Di-n-octyl phthalate	93	10	100	0.0	93.0	51	140				
Hexachlorobenzene	77	10	100	0.0	77.0	53	125				
Hexachlorobutadiene	42	10	100	0.0	42.0	22	124				
Hexachlorocyclopentadiene	42	10	100	0.0	42.0	39	91				
Hexachloroethane	45	10	100	0.0	45.0	21	115				
Isophorone	64	10	100	0.0	64.0	42	124				
m+p-Cresols	62	10	100	0.0	62.0	29	110				
Nitrobenzene	61	10	100	0.0	61.0	45	121				
n-Nitrosodimethylamine	27	10	100	0.0	27.0	20	45				
n-Nitroso-di-n-propylamine	75	10	100	0.0	75.0	49	119				
n-Nitrosodiphenylamine	92	20	100	0.0	92.0	51	123				
o-Cresol	64	10	100	0.0	64.0	30	117				
Pentachlorophenol	84	20	100	0.0	84.0	35	138				
Phenol	42	10	100	0.0	42.0	37	75				
Pyridine	23	10	100	0.0	23.0	16	45				
Surr: 2,4,6-Tribromophenol	167	10	200	0.0	84.0	43	140				
Surr: 2-Fluorobiphenyl	67	10	100	0.0	67.0	44	119				
Surr: 2-Fluorophenol	72	10	200	0.0	36.0	19	119				
Surr: Nitrobenzene-d5	65	10	100	0.0	65.0	44	120				
Surr: Phenol-d5	77	10	200	0.0	39.0	10	65				
Surr: Terphenyl-d14	95	10	100	0.0	95.0	50	134				

Associated Samples: **B22010971-001C**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010971
Project: CV18F0126, 60571032.02.46.01

Report Date: 03/08/2022

Run ID: Run Order: SV5973N.I_220128C: 10 **SampType:** Sample Matrix Spike **Batch ID:** 162980
Method: SW8270C **Analysis Date:** 01/29/2022 11:46 **Prep Date:** 01/17/2022 10:34
Lab ID: B22010971-001CMS **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	71	10	101	0.0	71.0	29	116				
1,2-Dichlorobenzene	74	10	101	0.0	73.0	32	111				
1,3-Dichlorobenzene	68	10	101	0.0	68.0	28	110				
1,4-Dichlorobenzene	68	10	101	0.0	68.0	29	112				
2,4,5-Trichlorophenol	88	10	101	0.0	87.0	53	123				
2,4,6-Trichlorophenol	87	10	101	0.0	86.0	50	125				
2,4-Dichlorophenol	80	10	101	0.0	80.0	47	121				
2,4-Dimethylphenol	71	10	101	0.0	70.0	31	124				
2,4-Dinitrophenol	74	10	101	0.0	74.0	23	142				
2,4-Dinitrotoluene	92	10	101	0.0	91.0	57	128				
2,6-Dinitrotoluene	83	10	101	0.0	82.0	50	118				
2-Chloronaphthalene	83	10	101	0.0	82.0	40	116				
2-Chlorophenol	72	10	101	0.0	71.0	38	117				
2-Nitrophenol	84	10	101	0.0	83.0	47	123				
3,3'-Dichlorobenzidine	76	10	101	0.0	75.0	27	129				
4,6-Dinitro-2-methylphenol	77	10	101	0.0	76.0	44	137				
4-Bromophenyl phenyl ether	83	10	101	0.0	82.0	55	124				
4-Chloro-3-methylphenol	90	10	101	0.0	89.0	52	119				
4-Chlorophenol	64	10	101	0.0	63.0	41	81				
4-Chlorophenyl phenyl ether	86	10	101	0.0	86.0	53	121				
4-Nitrophenol	45	10	101	0.0	45.0	15	36				S
Azobenzene	93	10	101	0.0	92.0	61	116				
bis(-2-chloroethoxy)Methane	80	10	101	0.0	79.0	48	120				
bis(-2-chloroethyl)Ether	86	10	101	0.0	85.0	43	118				
bis(2-chloroisopropyl)Ether	73	10	101	0.0	72.0	37	130				
bis(2-ethylhexyl)Phthalate	99	10	101	0.0	98.0	55	135				
Butylbenzylphthalate	102	10	101	0.0	101.0	53	134				



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010971
Project: CV18F0126, 60571032.02.46.01

Report Date: 03/08/2022

Run ID: Run Order: SV5973N.I_220128C: 20 **SampType:** Sample Matrix Spike **Batch ID:** 162980
Method: SW8270C **Analysis Date:** 01/29/2022 11:46 **Prep Date:** 01/17/2022 10:34
Lab ID: B22010971-001CMS **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Diethyl phthalate	101	10	101	0.0	100.0	56	125				
Dimethyl phthalate	96	10	101	0.0	96.0	45	127				
Di-n-butyl phthalate	99	10	101	0.0	98.0	59	127				
Di-n-octyl phthalate	103	10	101	0.0	102.0	51	140				
Hexachlorobenzene	81	10	101	0.0	80.0	53	125				
Hexachlorobutadiene	65	10	101	0.0	64.0	22	124				
Hexachlorocyclopentadiene	58	10	101	0.0	57.0	39	91				
Hexachloroethane	71	10	101	0.0	70.0	21	115				
Isophorone	84	10	101	0.0	83.0	42	124				
m+p-Cresols	75	10	101	0.0	74.0	29	110				
Nitrobenzene	97	10	101	0.0	96.0	45	121				
n-Nitrosodimethylamine	42	10	101	0.0	42.0	20	45				
n-Nitroso-di-n-propylamine	92	10	101	0.0	92.0	49	119				
n-Nitrosodiphenylamine	92	10	101	0.0	91.0	51	123				
o-Cresol	81	10	101	0.0	80.0	30	117				
Pentachlorophenol	106	10	101	0.0	105.0	35	138				
Phenol	45	10	101	0.0	45.0	37	75				
Pyridine	31	10	101	0.0	31.0	16	45				
Surr: 2,4,6-Tribromophenol	205	10	202	0.0	102.0	43	140				
Surr: 2-Fluorobiphenyl	70	10	101	0.0	70.0	44	119				
Surr: 2-Fluorophenol	84	10	202	0.0	42.0	19	119				
Surr: Nitrobenzene-d5	78	10	101	0.0	78.0	44	120				
Surr: Phenol-d5	84	10	202	0.0	42.0	10	65				
Surr: Terphenyl-d14	90	10	101	0.0	89.0	50	134				

Associated Samples: **B22010971-001C**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010971
Project: CV18F0126, 60571032.02.46.01

Report Date: 03/08/2022

Run ID: Run Order: SV5973N.I_220128C: 2 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R373960
Method: SW8270C **Analysis Date:** 01/29/2022 07:29 **Prep Date:**
Lab ID: 28-Jan-22_CCV_27 **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	73	10	75		98.0	80	120				
1,2-Dichlorobenzene	84	10	75		112.0	80	120				
1,3-Dichlorobenzene	83	10	75		111.0	80	120				
1,4-Dichlorobenzene	77	10	75		103.0	80	120				
2,4,5-Trichlorophenol	78	10	75		104.0	80	120				
2,4,6-Trichlorophenol	77	10	75		103.0	80	120				
2,4-Dichlorophenol	79	10	75		105.0	80	120				
2,4-Dimethylphenol	79	10	75		106.0	80	120				
2,4-Dinitrophenol	61	10	75		81.0	80	120				
2,4-Dinitrotoluene	77	10	75		103.0	80	120				
2,6-Dinitrotoluene	77	10	75		103.0	80	120				
2-Chloronaphthalene	71	10	75		94.0	80	120				
2-Chlorophenol	85	10	75		114.0	80	120				
2-Nitrophenol	74	10	75		99.0	80	120				
3,3'-Dichlorobenzidine	76	10	75		101.0	80	120				
4,6-Dinitro-2-methylphenol	70	10	75		93.0	80	120				
4-Bromophenyl phenyl ether	72	10	75		96.0	80	120				
4-Chloro-3-methylphenol	74	10	75		99.0	80	120				
4-Chlorophenol	80	10	75		106.0	80	120				
4-Chlorophenyl phenyl ether	73	10	75		97.0	80	120				
4-Nitrophenol	82	10	75		109.0	80	120				
Azobenzene	79	10	75		105.0	80	120				
bis(-2-chloroethoxy)Methane	73	10	75		97.0	80	120				
bis(-2-chloroethyl)Ether	84	10	75		112.0	80	120				
bis(2-chloroisopropyl)Ether	83	10	75		111.0	80	120				
bis(2-ethylhexyl)Phthalate	77	10	75		103.0	80	120				
Butylbenzylphthalate	78	10	75		104.0	80	120				



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010971
Project: CV18F0126, 60571032.02.46.01

Report Date: 03/08/2022

Run ID: Run Order: SV5973N.I_220128C: 2 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R373960
Method: SW8270C **Analysis Date:** 01/29/2022 07:29 **Prep Date:**
Lab ID: 28-Jan-22_CCv_27 **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Diethyl phthalate	84	10	75		112.0	80	120				
Dimethyl phthalate	70	10	75		93.0	80	120				
Di-n-butyl phthalate	76	10	75		102.0	80	120				
Di-n-octyl phthalate	79	10	75		105.0	80	120				
Hexachlorobenzene	71	10	75		95.0	80	120				
Hexachlorobutadiene	75	10	75		100.0	80	120				
Hexachlorocyclopentadiene	66	10	75		88.0	80	120				
Hexachloroethane	99	10	75		131.0	80	120				S
Isophorone	76	10	75		101.0	80	120				
m+p-Cresols	75	10	75		101.0	80	120				
Nitrobenzene	94	10	75		125.0	80	120				S
n-Nitrosodimethylamine	60	10	75		80.0	80	120				
n-Nitroso-di-n-propylamine	75	10	75		99.0	80	120				
n-Nitrosodiphenylamine	73	10	75		97.0	80	120				
o-Cresol	86	10	75		115.0	80	120				
Pentachlorophenol	82	10	75		109.0	80	120				
Phenol	79	10	75		105.0	80	120				
Pyridine	61	10	75		81.0	80	120				
Surr: 2,4,6-Tribromophenol	72	10	75		96.0	80	120				
Surr: 2-Fluorobiphenyl	69	10	75		92.0	80	120				
Surr: 2-Fluorophenol	85	10	75		113.0	80	120				
Surr: Nitrobenzene-d5	87	10	75		116.0	80	120				
Surr: Phenol-d5	86	10	75		115.0	80	120				
Surr: Terphenyl-d14	70	10	75		94.0	80	120				

Associated Samples: **B22010971-001C**



Analytical QC Summary Report

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Client: AECOM - Honolulu
Workorder: B22010971
Project: CV18F0126, 60571032.02.46.01

Report Date: 03/08/2022

Run ID: Run Order: SV5973N.I_220128C: 20 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R373960
Method: SW8270C **Analysis Date:** 01/29/2022 17:08 **Prep Date:**
Lab ID: 28-Jan-22_CCV_45 **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	71	10	75		95.0	50	150				
1,2-Dichlorobenzene	75	10	75		101.0	50	150				
1,3-Dichlorobenzene	73	10	75		98.0	50	150				
1,4-Dichlorobenzene	75	10	75		99.0	50	150				
2,4,5-Trichlorophenol	76	10	75		102.0	50	150				
2,4,6-Trichlorophenol	71	10	75		95.0	50	150				
2,4-Dichlorophenol	72	10	75		96.0	50	150				
2,4-Dimethylphenol	73	10	75		97.0	50	150				
2,4-Dinitrophenol	62	10	75		82.0	50	150				
2,4-Dinitrotoluene	69	10	75		92.0	50	150				
2,6-Dinitrotoluene	73	10	75		97.0	50	150				
2-Chloronaphthalene	72	10	75		97.0	50	150				
2-Chlorophenol	75	10	75		99.0	50	150				
2-Nitrophenol	71	10	75		95.0	50	150				
3,3'-Dichlorobenzidine	77	10	75		103.0	50	150				
4,6-Dinitro-2-methylphenol	68	10	75		90.0	50	150				
4-Bromophenyl phenyl ether	71	10	75		95.0	50	150				
4-Chloro-3-methylphenol	81	10	75		108.0	50	150				
4-Chlorophenol	75	10	75		100.0	50	150				
4-Chlorophenyl phenyl ether	68	10	75		90.0	50	150				
4-Nitrophenol	79	10	75		105.0	50	150				
Azobenzene	86	10	75		114.0	50	150				
bis(-2-chloroethoxy)Methane	72	10	75		95.0	50	150				
bis(-2-chloroethyl)Ether	76	10	75		101.0	50	150				
bis(2-chloroisopropyl)Ether	77	10	75		102.0	50	150				
bis(2-ethylhexyl)Phthalate	77	10	75		102.0	50	150				
Butylbenzylphthalate	78	10	75		104.0	50	150				



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010971
Project: CV18F0126, 60571032.02.46.01

Report Date: 03/08/2022

Run ID: Run Order: SV5973N.I_220128C: 20 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R373960
Method: SW8270C **Analysis Date:** 01/29/2022 17:08 **Prep Date:**
Lab ID: 28-Jan-22_CCV_45 **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Diethyl phthalate	77	10	75		102.0	50	150				
Dimethyl phthalate	72	10	75		96.0	50	150				
Di-n-butyl phthalate	79	10	75		105.0	50	150				
Di-n-octyl phthalate	82	10	75		110.0	50	150				
Hexachlorobenzene	72	10	75		97.0	50	150				
Hexachlorobutadiene	69	10	75		92.0	50	150				
Hexachlorocyclopentadiene	63	10	75		83.0	50	150				
Hexachloroethane	83	10	75		111.0	50	150				
Isophorone	77	10	75		102.0	50	150				
m+p-Cresols	80	10	75		106.0	50	150				
Nitrobenzene	81	10	75		108.0	50	150				
n-Nitrosodimethylamine	66	10	75		88.0	50	150				
n-Nitroso-di-n-propylamine	76	10	75		101.0	50	150				
n-Nitrosodiphenylamine	78	10	75		105.0	50	150				
o-Cresol	75	10	75		100.0	50	150				
Pentachlorophenol	79	10	75		105.0	50	150				
Phenol	75	10	75		100.0	50	150				
Pyridine	69	10	75		92.0	50	150				
Surr: 2,4,6-Tribromophenol	76	10	75		102.0	50	150				
Surr: 2-Fluorobiphenyl	70	10	75		93.0	50	150				
Surr: 2-Fluorophenol	74	10	75		99.0	50	150				
Surr: Nitrobenzene-d5	75	10	75		100.0	50	150				
Surr: Phenol-d5	83	10	75		110.0	50	150				
Surr: Terphenyl-d14	73	10	75		97.0	50	150				

Associated Samples: **B22010971-001C**

Analytical QC Exceptions Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010971
Project: CV18F0126, 60571032.02.46.01

Report Date: 03/08/2022

Analysis Method	Analysis	Batch ID	Associated Samples	Sample Type	Lab ID	Analysis Date	Analysis Time	Analyte	%REC	Low Limit	High Limit	% RPD	RPD Limit	Qual		
SW8260B	8260-Volatile Organic Compounds QC Samples	R373592	001F	MS-DOD	B22010977-001FMS	1/20/2022	19:35	Surr: Toluene-d8	85.0	89	112			S		
										1,2-Dichloropropane	75.0	78	122			S
										1,2-Dichloropropane	107.0	78	122	34	20.0	R
										Bromodichloromethane	108.0	79	125	26	20.0	R
										cis-1,3-Dichloropropene	99.0	75	124	26	20.0	R
										Dibromomethane	108.0	79	123	30	20.0	R
										Toluene	110.0	80	121	26	20.0	R
								Trichloroethene	106.0	79	123	27	20.0	R		
SW8270C	Semi-Volatile Organic Compounds, Extended List	162980	001C	MBLK	MB-162980	1/29/2022	08:33	Surr: 2-Fluorobiphenyl	39.0	44	119			S		
				LCS-DOD	LCS-162980	1/29/2022	09:05	4-Chlorophenol	86.0	41	81					S
								4-Nitrophenol	40.0	15	36					S
								n-Nitrosodimethylamine	46.0	20	45					S
				LCSD-DOD	LCSD-162980	1/29/2022	09:38	1,3-Dichlorobenzene	63.0	28	110	22	20.0	R		
								4-Nitrophenol	50.0	15	36	21	20.0	SR		
								Hexachloroethane	67.0	21	115	23	20.0	R		
								n-Nitrosodiphenylamine	91.0	51	123	21	20.0	R		
				MS-DOD	B22010872-001HMS	1/29/2022	10:42	4-Nitrophenol	39.0	15	36					S
				MS-DOD	B22010971-001CMS	1/29/2022	11:46	4-Nitrophenol	45.0	15	36					S
R373960	001C	CCV	28-Jan-22_CCV_27	1/29/2022	07:29	Hexachloroethane	131.0	80	120					S		
						Nitrobenzene	125.0	80	120					S		



Preparation and Analysis Dates Report

Work Order: B22010971

Client: AECOM - Honolulu

Project Name: CV18F0126, 60571032.02.46.01

Report Date: 3/08/2022

Lab ID	Client Sample ID	Collection Date	Matrix	Test Name	TCLP Date	Prep Method	Prep Date	Prep Batch	Analysis Method	Analysis Date
001B	ERH2410 (RHMW12A)	01/12/2022 17:35	Ground Water	Metals by ICP-MS, Total		SW3010A	01/17/2022 13:38	162992	SW6020	01/19/2022 06:25
001C	ERH2410 (RHMW12A)	01/12/2022 17:35	Ground Water	Low Level PAH by 8270C SIM		SW3510C	01/17/2022 10:32	162980	SW8270CSIM	01/25/2022 16:29
				Semi-Volatile Organic Compounds, Extended List		SW3510C	01/17/2022 10:32	162980	SW8270C	01/29/2022 11:14
001D	ERH2410 (RHMW12A)	01/12/2022 17:35	Ground Water	Diesel Range Organics		SW3520C	01/17/2022 13:47	162993	SW8015C	01/19/2022 06:14
						SW3520C	01/17/2022 13:47	162993	SW8015C	01/20/2022 21:28
001H	ERH2410 (RHMW12A)	01/12/2022 17:35	Ground Water	EDB in Water by ECD		SW8011	01/18/2022 09:44	163023	SW8011	01/19/2022 18:32
001J	ERH2410 (RHMW12A)	01/12/2022 17:35	Ground Water	Diesel Range Organics		SW3520C	02/22/2022 15:05	163927	SW8015C	02/24/2022 19:49
004A	ERH2409 (Trip Blank) 14653	01/12/2022 17:35	Trip Blank	EDB in Water by ECD		SW8011	01/18/2022 09:45	163023	SW8011	01/19/2022 16:14



Chemical Abstracts Service (CAS) Registry Numbers

Prepared by Billings, MT Branch

Client: AECOM - Honolulu

Workorder: B22010971

Project: CV18F0126, 60571032.02.46.01

Report Date: 03/08/2022

Analyses	CAS No
LOW LEVEL PAH BY 8270C SIM	
1-Methylnaphthalene	90-12-0
2-Methylnaphthalene	91-57-6
Acenaphthene	83-32-9
Acenaphthylene	208-96-8
Anthracene	120-12-7
Benzo(a)anthracene	56-55-3
Benzo(a)pyrene	50-32-8
Benzo(b)fluoranthene	205-99-2
Benzo(g,h,i)perylene	191-24-2
Benzo(k)fluoranthene	207-08-9
Chrysene	218-01-9
Dibenzo(a,h)anthracene	53-70-3
Fluoranthene	206-44-0
Fluorene	86-73-7
Indeno(1,2,3-cd)pyrene	193-39-5
Naphthalene	91-20-3
Phenanthrene	85-01-8
Pyrene	129-00-0
AGGREGATE ORGANICS	
Organic Carbon, Total (TOC)	7440-44-0
METALS, TOTAL	
Lead	7439-92-1
METALS, DISSOLVED	
Lead	7439-92-1
VOLATILE ORGANIC COMPOUNDS	
Benzene	71-43-2
Bromobenzene	108-86-1
Bromochloromethane	74-97-5
Bromodichloromethane	75-27-4
Bromoform	75-25-2
Carbon tetrachloride	56-23-5
Chlorobenzene	108-90-7
Chlorodibromomethane	124-48-1
Chloroethane	75-00-3
Chloroform	67-66-3
Chloromethane	74-87-3
1,2-Dibromoethane	106-93-4

2-Chlorotoluene	95-49-8
4-Chlorotoluene	106-43-4
Dibromomethane	74-95-3
1,2-Dichlorobenzene	95-50-1
1,3-Dichlorobenzene	541-73-1
1,4-Dichlorobenzene	106-46-7
Dichlorodifluoromethane	75-71-8
1,1-Dichloroethane	75-34-3
1,2-Dichloroethane	107-06-2
1,1-Dichloroethene	75-35-4
cis-1,2-Dichloroethene	156-59-2
trans-1,2-Dichloroethene	156-60-5
1,2-Dichloropropane	78-87-5
1,3-Dichloropropane	142-28-9
2,2-Dichloropropane	594-20-7
1,1-Dichloropropene	563-58-6
cis-1,3-Dichloropropene	10061-01-5
trans-1,3-Dichloropropene	10061-02-6
Ethylbenzene	100-41-4
Methyl ethyl ketone	78-93-3
Methyl tert-butyl ether (MTBE)	1634-04-4
Methylene chloride	75-09-2
Styrene	100-42-5
1,1,1,2-Tetrachloroethane	630-20-6
1,1,2,2-Tetrachloroethane	79-34-5
Tetrachloroethene	127-18-4
Toluene	108-88-3
1,1,1-Trichloroethane	71-55-6
1,1,2-Trichloroethane	79-00-5
Trichloroethene	79-01-6
Trichlorofluoromethane	75-69-4
1,2,3-Trichloropropane	96-18-4
Vinyl chloride	75-01-4
m+p-Xylenes	179601-23-1
o-Xylene	95-47-6
Xylenes, Total	1330-20-7

VOCS BY MICROEXTRACTION-ECD

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

C6 to C10
Total Purgeable Hydrocarbons

PETROLEUM HYDROCARBONS-SEMI-VOLATILE

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

ORGANIC CHARACTERISTICS

Methane 74-82-8

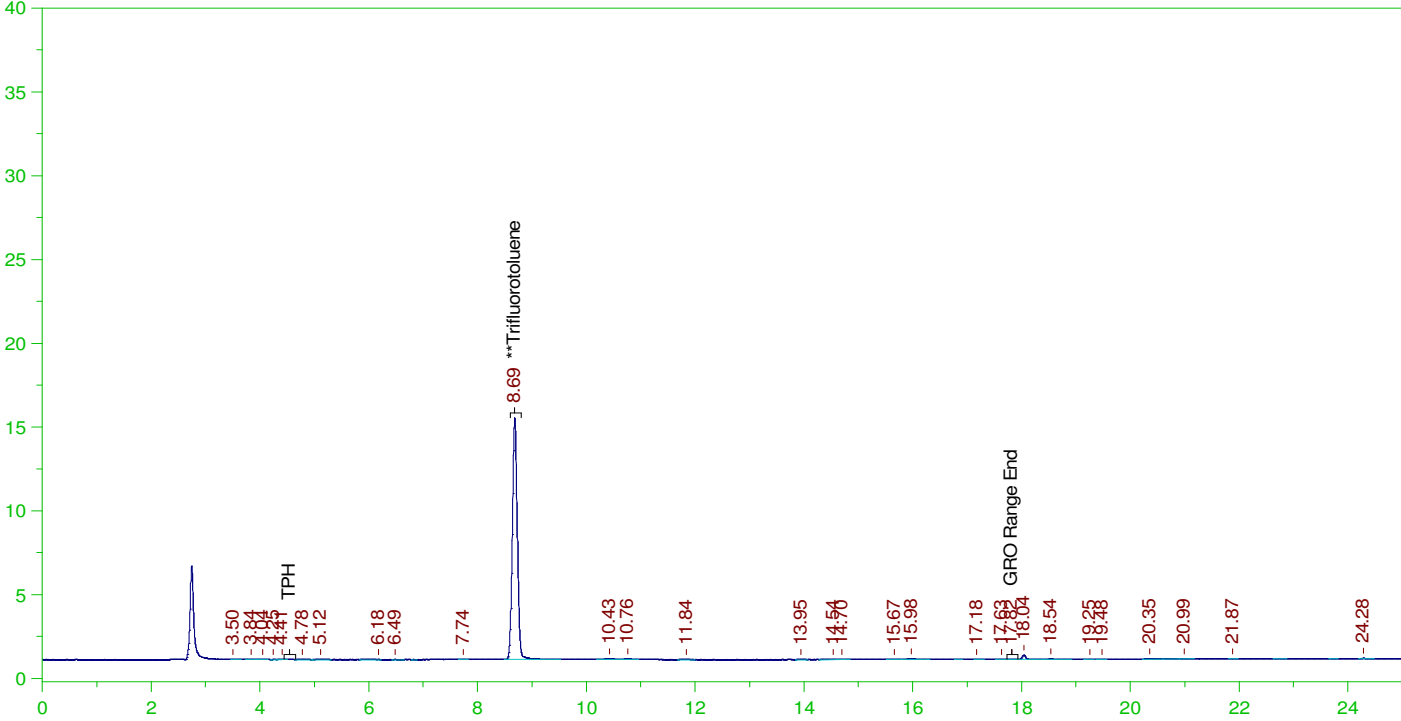
SEMI-VOLATILE ORGANIC COMPOUNDS

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

ERH2410 (RHMW12A)

G:\Org\PE1\DAT\PE1011722_b\0117PE1B.0011.RAW

B22010971-001G ;0117PE1 , \$HC-8015-GRO-W,



GASOLINE RANGE ORGANICS CHROMATOGRAM REPORT

Sample Name: B22010971-001G ;0117PE1 , \$HC-8015-GRO-W,
Raw File: G:\Org\PE1\DAT\PE1011722_b\0117PE1B.0011.RAW
Date & Time Acquired: 1/17/2022 1:16:15 PM
Method File: G:\Org\PE1\Methods\211208G971-1B%.MET
Calibration File: G:\Org\PE1\Cals\211208GRO8015CB.CAL
Sample Weight: 5 Dilution: 1 S.A.: 1

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

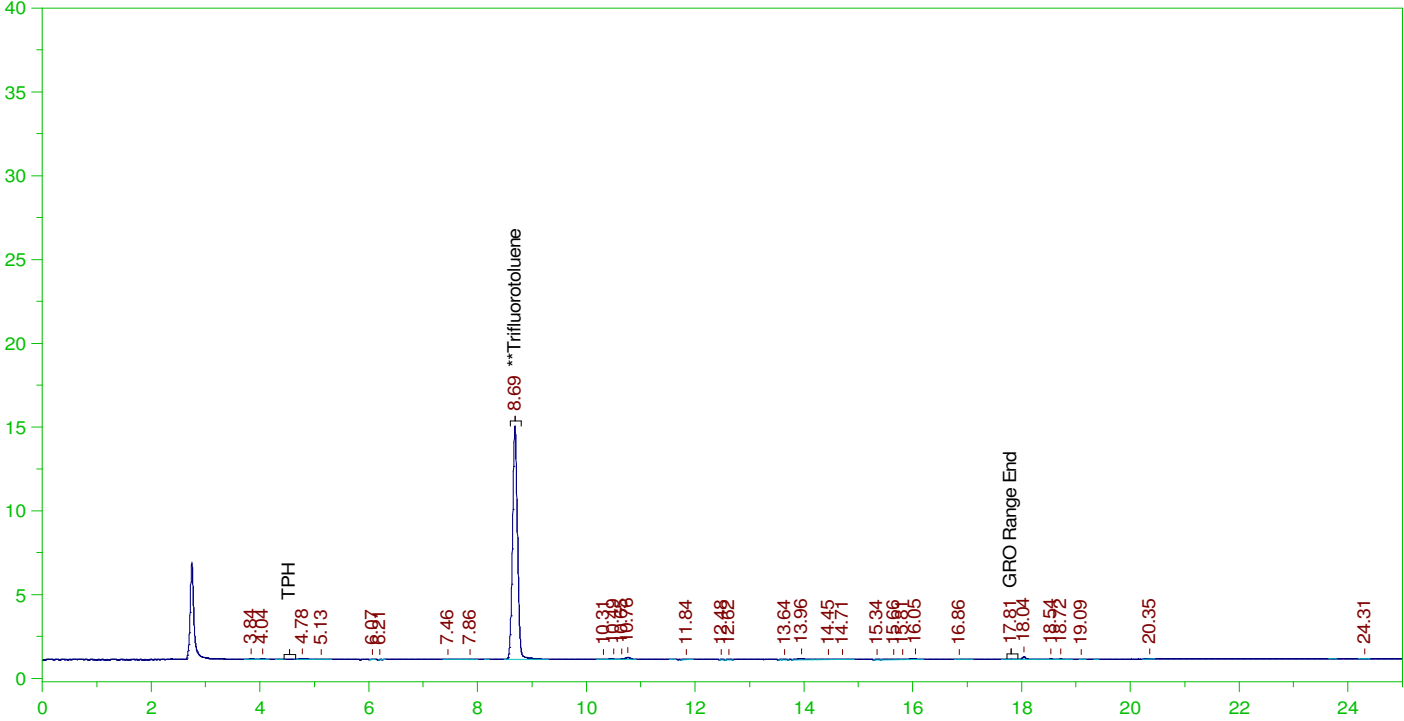
SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC
**Trifluorotoluene	8.685	25.	19.604	78.42

GRO Area:3824.157 GRO Amount: 0.8085173
TPH Area:6682.092 TPH Amount: 1.469574

ERH2409 (Trip Blank) 14653

G:\Org\PE1\DAT\PE1011722_b\0117PE1B.0013.RAW

B22010971-003A ;0117PE1 , \$HC-8015-GRO-W,



GASOLINE RANGE ORGANICS CHROMATOGRAM REPORT

Sample Name: B22010971-003A ;0117PE1 , \$HC-8015-GRO-W,
Raw File: G:\Org\PE1\DAT\PE1011722_b\0117PE1B.0013.RAW
Date & Time Acquired: 1/17/2022 2:24:42 PM
Method File: G:\Org\PE1\Methods\211208G971-3B%.MET
Calibration File: G:\Org\PE1\Cals\211208GRO8015CB.CAL
Sample Weight: 5 Dilution: 1 S.A.: 1

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

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC
**Trifluorotoluene	8.688	25.	18.844	75.38

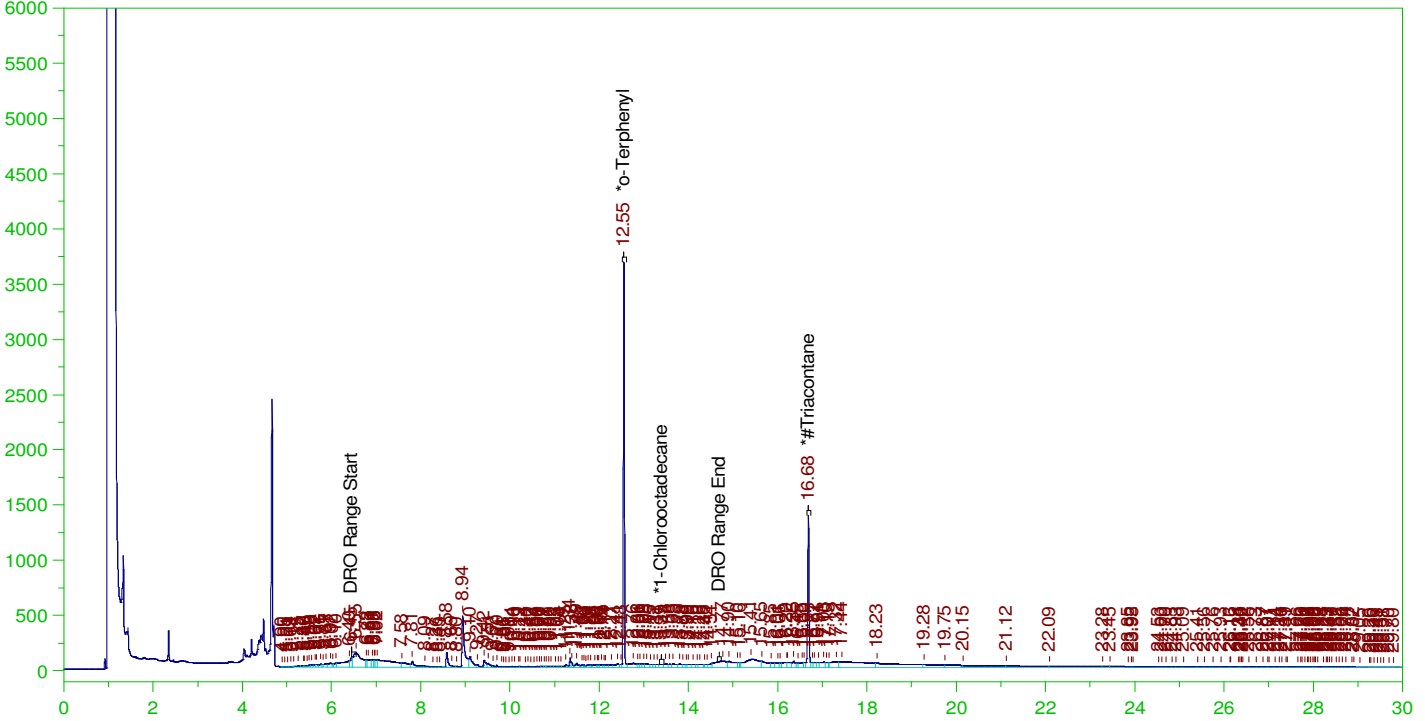
GRO Area:5425.706 GRO Amount: 1.147123
TPH Area:7711.83 TPH Amount: 1.696042

ERH2410 (RHMW12A)

G:\org\HP4\DAT\HP4011822_b\0118HP4.0023.RAW

Batch ID: 162993

B22010971-001D ;0118HP4 , \$HC-8015-DRO-W,



DIESEL RANGE ORGANICS CHROMATOGRAM REPORT

Sample Name: B22010971-001D ;0118HP4 , \$HC-8015-DRO-W,
Raw File: G:\org\HP4\DAT\HP4011822_b\0118HP4.0023.RAW
Date & Time Acquired: 1/19/2022 6:14:26 AM
Method File: G:\Org\HP4\methods\D3_8015-011823-OM-L%.met
Calibration File: G:\Org\HP4\Cals\SW8015C_DRO2111020M-C24-TRI.CAL
Sample Weight: 1000 Dilution: 1 S.A.: 1

Mean RF for TEH: 29373.28

Rt range for Diesel Range Organics: 6.45 to 14.74

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	
*o-Terphenyl	12.551	.2	.197	98.32	-
*1-Chlorooctadecane	13.388	.2	.006	2.84	-
*#Triacontane	16.683	.2	.126	63.24	-

DRO Area:1.502518E+07 DRO Amount: 0.5115255

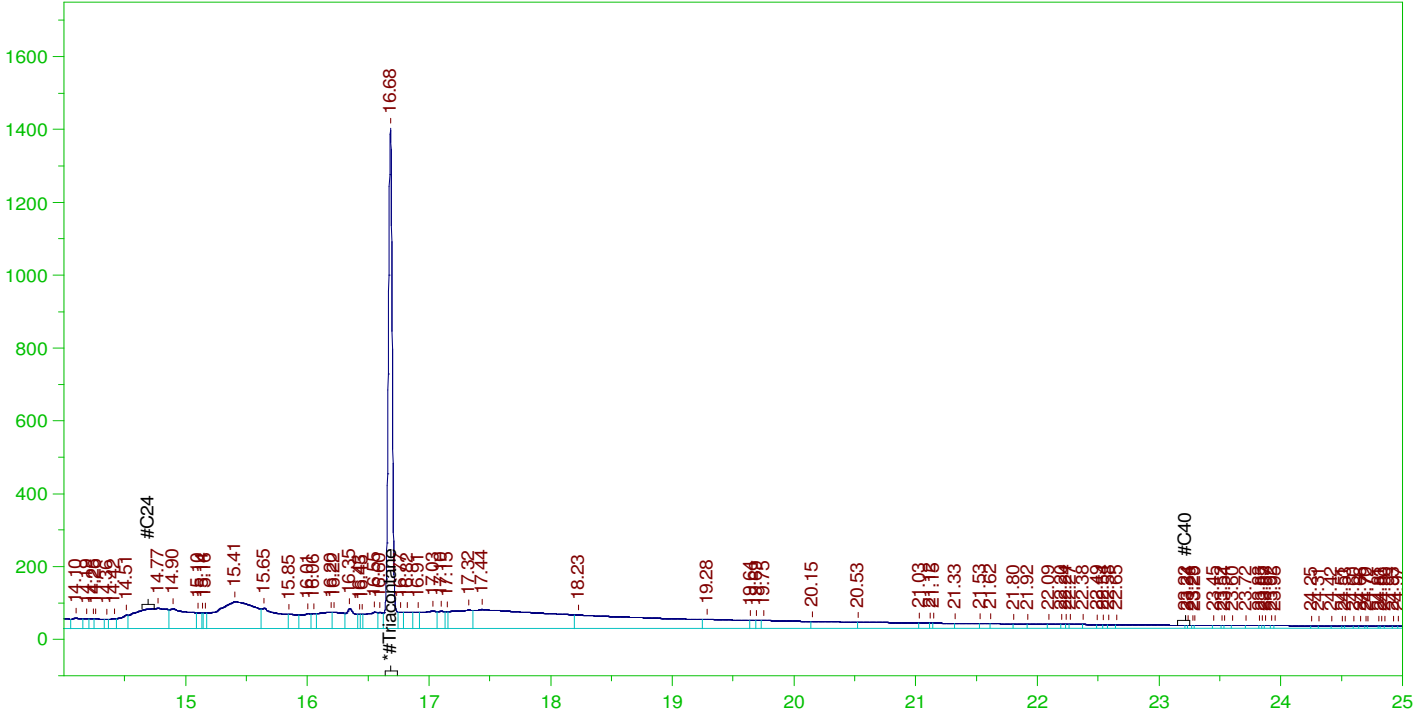
TEH Area:3.348316E+07 TEH Amount: 1.139919

ERH2410 (RHMW12A)

Batch ID: 162993

G:\Org\HP4\DAT\HP4011822_b\0118HP4.0023.RAW

B22010971-001D ;0118HP4 , \$HC-8015-DRO-W,



RESIDUAL RANGE ORGANICS CHROMATOGRAM

Sample Name: B22010971-001D ;0118HP4 , \$HC-8015-DRO-W,
Raw File: G:\Org\HP4\DAT\HP4011822_b\0118HP4.0023.RAW
Date & Time Acquired: 1/19/2022 6:14:26 AM
Method File: G:\Org\HP4\Methods\D3_ORO-011823-AFa-L%.met
Calibration File: G:\Org\HP4\Cals\SW8015C_ORO211007AFa-SAMPLE.CAL
Sample Weight: 1000 Dilution: 1 S.A.: 1

Mean RF for for Residual Range Organics Calculations: 24529.56
Rt range for Residual Range Organics: 14.64 to 23.25

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	
*#Triacontane	16.683	.5	.126	25.3	-

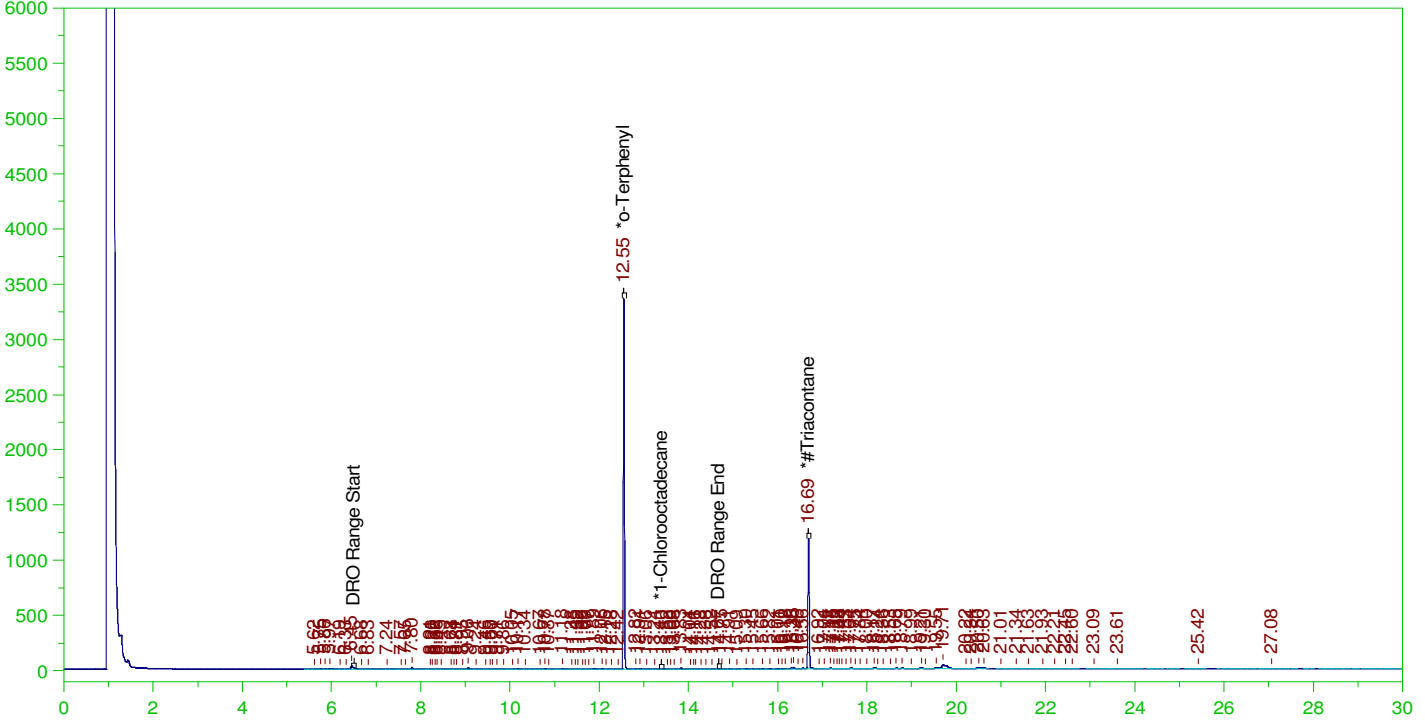
RRO Area:1.517664E+07 RRO AMOUNT: 0.618708

ERH2410 (RHMW12A)

Batch ID: 162993

G:\org\HP4\DAT\HP4012022_b\0120HP4.0017.RAW

B22010971-001D ;0120HP4 , \$HC-8015-DRO-W, SGT



DIESEL RANGE ORGANICS CHROMATOGRAM REPORT

Sample Name: B22010971-001D ;0120HP4 , \$HC-8015-DRO-W, SGT
 Raw File: G:\org\HP4\DAT\HP4012022_b\0120HP4.0017.RAW
 Date & Time Acquired: 1/20/2022 9:28:34 PM
 Method File: G:\Org\HP4\methods\DR_8015-C24T-OM-L%.met
 Calibration File: G:\Org\HP4\Cals\SW8015C_DRO2111020M-C24-TRI.CAL
 Sample Weight: 1000 Dilution: 1 S.A.: 1

Mean RF for TEH: 29373.28

Rt range for Diesel Range Organics: 6.45 to 14.74

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	
*o-Terphenyl	12.551	.2	.182	91.09	-
*1-Chlorooctadecane	13.399	.2	.03	-	-
*#Triacontane	16.689	.2	.104	52.16	-

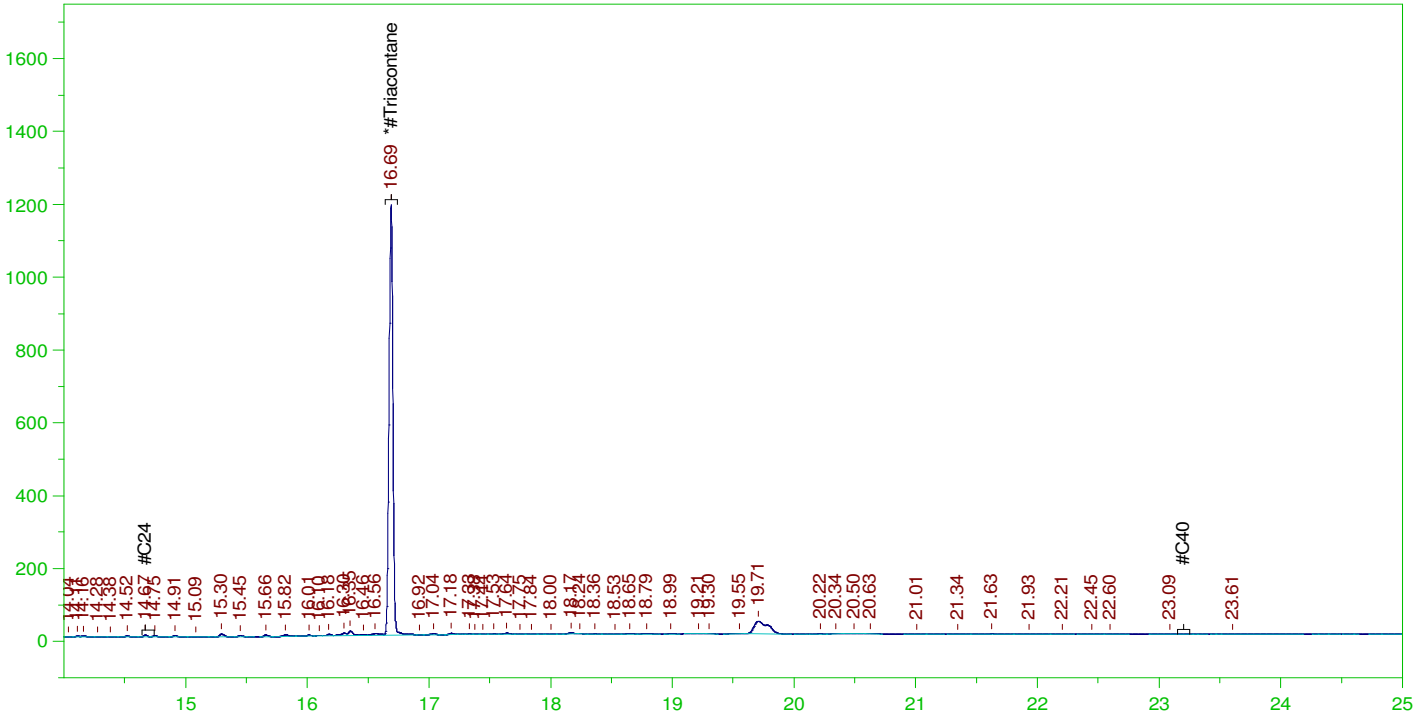
DRO Area:390043.5 DRO Amount: 1.327885E-02
 TEH Area:1235592 TEH Amount: 4.206517E-02

ERH2410 (RHMW12A)

Batch ID: 162993

G:\org\HP4\DAT\HP4012022_b\0120HP4.0017.RAW

B22010971-001D ;0120HP4 , \$HC-8015-DRO-W, SGT



RESIDUAL RANGE ORGANICS CHROMATOGRAM

Sample Name: B22010971-001D ;0120HP4 , \$HC-8015-DRO-W, SGT
 Raw File: G:\org\HP4\DAT\HP4012022_b\0120HP4.0017.RAW
 Date & Time Acquired: 1/20/2022 9:28:34 PM
 Method File: G:\Org\HP4\Methods\DR_ORO-S-AFa-L%.met
 Calibration File: G:\Org\HP4\Cals\SW8015C_ORO211007AFa-SAMPLE.CAL
 Sample Weight: 1000 Dilution: 1 S.A.: 1

Mean RF for for Residual Range Organics Calculations: 24529.56
 Rt range for Residual Range Organics: 14.64 to 23.25

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC
*#Triacontane_____	16.689	.5	.104	20.84

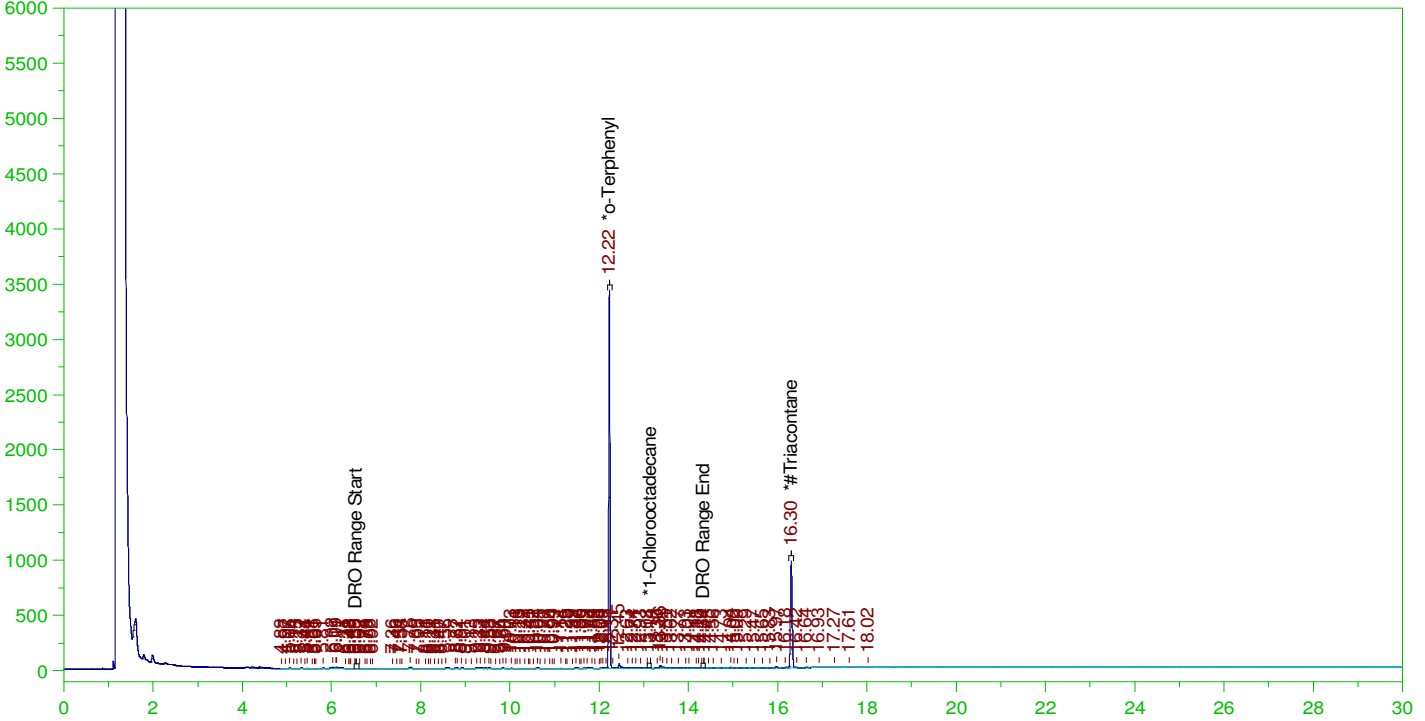
RRO Area:587857.9 RRO AMOUNT: 2.396528E-02

ERH2410 (RHMW12A)

Batch ID: 163927

G:\Org\HP5\DAT\HP5022322_b\0223HP5.0049.RAW

B22010971-001J ;0223HP5 , \$HC-8015-DRO-W, RR-RX



DIESEL RANGE ORGANICS CHROMATOGRAM REPORT

Sample Name: B22010971-001J ;0223HP5 , \$HC-8015-DRO-W, RR-RX
 Raw File: G:\org\HP5\DAT\HP5022322_b\0223HP5.0049.RAW
 Date & Time Acquired: 2/24/2022 7:49:05 PM
 Method File: G:\Org\HP5\Methods\DR_8015-C24T-JFb-L%.met
 Calibration File: G:\Org\HP5\Cals\SW8015C_DRO220111JFb-C24-T.CAL
 Sample Weight: 990 Dilution: 1 S.A.: 1

Mean RF for TEH: 32675.36

Rt range for Diesel Range Organics: 6.51 to 14.38

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	
*o-Terphenyl	12.223	.202	.187	92.33	-
*1-Chlorooctadecane	13.144	.202	.	.02	-
*#Triacontane	16.302	.202	.088	43.54	-

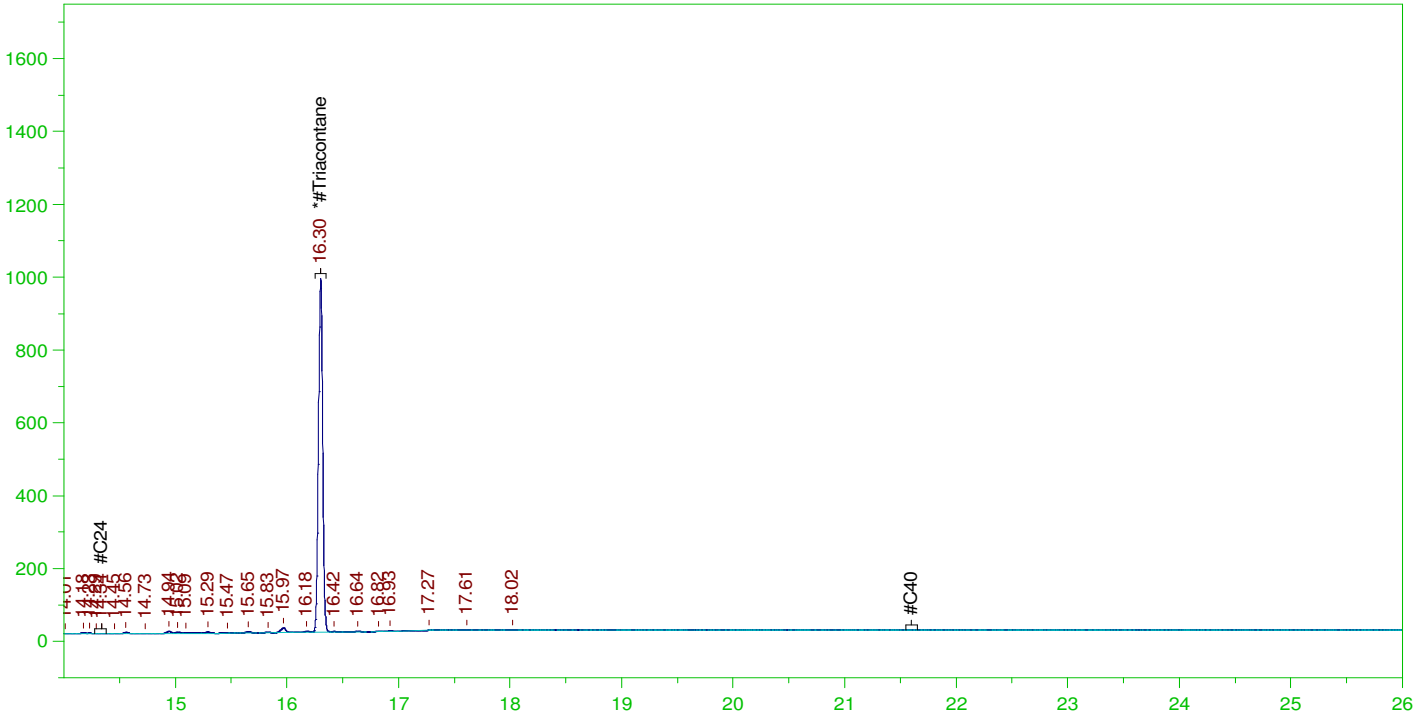
DRO Area:755762.1 DRO Amount: 2.336305E-02
 TEH Area:1112435 TEH Amount: 3.438895E-02

ERH2410 (RHMW12A)

Batch ID: 163927

G:\org\HP5\DAT\HP5022322_b\0223HP5.0049.RAW

B22010971-001J ;0223HP5 , \$HC-8015-DRO-W, RR-RX



RESIDUAL RANGE ORGANICS CHROMATOGRAM

Sample Name: B22010971-001J ;0223HP5 , \$HC-8015-DRO-W, RR-RX
 Raw File: G:\org\HP5\DAT\HP5022322_b\0223HP5.0049.RAW
 Date & Time Acquired: 2/24/2022 7:49:05 PM
 Method File: G:\Org\HP5\Methods\DR_OROS-BF-L%.MET
 Calibration File: G:\Org\HP5\Cals\SW8015C_ORO220111BF_SAMP.CAL
 Sample Weight: 990 Dilution: 1 S.A.: 1

Mean RF for for Residual Range Organics Calculations: 26424.55
 Rt range for Residual Range Organics: 14.28 to 21.65

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC
*#Triacontane_____	16.302	.505	.088	17.42

RRO Area:167473.6 RRO AMOUNT: 6.401821E-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
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[Fortune World's Most Admired Companies 2020](#)

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

Alethea,

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

Thank you,

Energy Laboratories, Inc.

Trust our People. Trust our Data.

Tabitha Edwards | Office Manager | Billings, MT

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

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

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

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

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

To: Shari Endy; billingsPM@energylab.com

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

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

Importance: High

Hi Shari and Billings PM,

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

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

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

Thank you,

Alethea Ramos, CIH

Environmental Scientist, Environmental Health & Science, Environment

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M +1-808-389-5383

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