



CLIENT: AECOM - Honolulu
Project: CV18F0126/60571032.02.20.01
Work Order: B21121623

Report Date: 2/3/2022

CASE NARRATIVE

General Comments:

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

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

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

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

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

The Level IV 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. Corrective actions regarding Semi-Volatile Organic Compounds by EPA 8270C analysis are summarized below.

LCS-162392, LCSD-162392, and B21121605-001BMS

The analyte recoveries for 4-Nitrophenol, n-Nitrosodimethylamine, 4-Chlorophenol and Nitrobenzene were slightly above quality control limits. RPD values were slightly above the quality control limit for 1,2-Dichlorobenzene, 1,3-Dichlorobenzene, Benzidine, Nitrobenzene, and n-Nitroso-di-n-propylamine. The recovery of Pyridine was slightly below quality control limits. Benzidine is a known very reactive compound and often recovers poorly. These analytes were not detected in the associated samples.

B21121623-001

The surrogate additions were added at a lower concentration to recover within the calibrated range for Low Level 8270C SIM analysis. Because of this, the surrogates recovered at or slightly below the calibrated range by normal 8270C scan analysis.



Trust our People. Trust our Data.

Chain of Custody & Analytical Request Record

www.energylab.com

COC 202112-21-NOI

DoD Samples

Page 1 of 1

Account Information (Billing information)

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

Report Information (if different than Account Information)

Company/Name	AECOM	
Contact	see Account information	
Phone		
Mailing Address		
City, State, Zip		
Email	USAPimaging@aecom.com	
Receive Report	<input type="checkbox"/> Hard Copy <input checked="" type="checkbox"/> Email	
Special Report/Formats	<input checked="" type="checkbox"/> LEVEL IV <input type="checkbox"/> INELAC <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 COCs.
5. *SVOC/VOC (full suite); PAH SIM (naphthalene, 1-methylnaphthalene, 2-methylnaphthalene)

Project Information

Project Name, PWSID Permit, etc	CV18F0126/60571032.02.20.01		
Sampler Name	GM, NL, MY	Sampler Phone	808-393-6607
Sample Origin State	Hawaii	EPA/State Compliance	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
URANIUM MINING CLIENTS MUST indicate sample type			
<input type="checkbox"/> Unprocessed Ore			
<input type="checkbox"/> Processed Ore (Ground or Refined) **CALL BEFORE SENDING			
<input type="checkbox"/> 11(e)2 Byproduct Material (Can ONLY be Submitted to ELI Casper Location)			

Matrix Codes

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

Analysis Requested

	EPA 3630/8015 TPH-d/o	EPA 3630/8015 TPH-d/o w/ SGC	8260 VOCs (Full Suite) + DCA*	8015 TPH-g	8270D SVOC (Full Suite)* PAH 8270D SIM*	8011 EDB	EPA 9060 TOC	EPA 6020 Total Lead	RSK175 Methane	See Attached
1			✓	✓	✓	✓	✓	✓	✓	✓
2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3										
4										
5										
6										
7										
8										
9										

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			EPA 3630/8015 TPH-d/o	EPA 3630/8015 TPH-d/o w/ SGC	8260 VOCs (Full Suite) + DCA*	8015 TPH-g	8270D SVOC (Full Suite)* PAH 8270D SIM*	8011 EDB	EPA 9060 TOC	EPA 6020 Total Lead	RSK175 Methane	See Attached					
1 ERH2177(TB)	12/15/2021	1:10 pm	8	WQ			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	X	B21121623-002, 003, 004 -005	
2 ERH2178(RHMMW01R)	12/15/2021	1:15 pm	21	GW	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	X	-001	
3																			
4																			-002
5																			-003
6																			-004
7																			-005
8																			
9																			

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

Custody Record MUST be signed	Relinquished by (print) Jordan Heinlein	Date/Time 12/16/21 11:43	Signature <i>JH</i>	Received by (print)	Date/Time	Signature			
	Relinquished by (print)	Date/Time	Signature	Received by Laboratory (print) Margie Pascua	Date/Time 12/18/21 1400	Signature <i>MP</i>			
LABORATORY USE ONLY									
Shipped By	Cooler ID(s)	Custody Seals Y N C B	Intact Y N	Receipt Temp 2.4 °C	Temp Blank Y (N)	On Ice Y (N)	Payment Type CC Cash Check	Amount \$	Receipt Number (cash/check only)

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



Work Order Receipt Checklist

AECOM - Honolulu

B21121623

Login completed by: Taylor K. Burris
Reviewed by: BL2000\gmccartney
Reviewed Date: 12/21/2021

Date Received: 12/18/2021
Received by: kmt
Carrier name: FedEx

- Shipping container/cooler in good condition? Yes [checked] No [] Not Present []
Custody seals intact on all shipping container(s)/cooler(s)? Yes [checked] No [] Not Present []
Custody seals intact on all sample bottles? Yes [] No [] Not Present [checked]
Chain of custody present? Yes [checked] No []
Chain of custody signed when relinquished and received? Yes [checked] No []
Chain of custody agrees with sample labels? Yes [checked] No []
Samples in proper container/bottle? Yes [checked] No []
Sample containers intact? Yes [checked] No []
Sufficient sample volume for indicated test? Yes [checked] No []
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.) Yes [checked] No []
Temp Blank received in all shipping container(s)/cooler(s)? Yes [] No [checked] Not Applicable []
Container/Temp Blank temperature: -0.4°C On Ice
Water - VOA vials have zero headspace? Yes [checked] No [] Not Applicable []
Water - pH acceptable upon receipt? Yes [checked] No [] Not Applicable []

Standard Reporting Procedures:

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

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

Contact and Corrective Action Comments:

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

All containers except Diesel Range Organics were received without the preservative traceability bottle labels provided by Energy Laboratories.

The VOA vials were received without custody seals.

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: B21121623-001
Collection Date: 12/15/2021 17:15
Date Received: 12/18/2021
Report Date: 02/03/2022

Client: AECOM - Honolulu
Client Sample ID: ERH2178(RHMW01R)
Project: CV18F0126/60571032.02.20.01
Matrix: Ground Water

Analyses	Result	Units	DF	Qual	LOQ	LOD	DL	MCL	Method	Analysis Date / By	RunID : Run Order	BatchID
AGGREGATE ORGANICS												
Organic Carbon, Total (TOC) - TOC Range is 0.7 to 0.7	0.69	mg/L	1		0.50	0.50	0.17		SW9060A	12/23/2021 00:56/eli-ca	SUB-C278180 : 20	C_R278180
METALS, TOTAL												
Lead	ND	mg/L	1	U	0.001	0.0001	0.00008		SW6020	01/19/2022 01:49/car	ICPMS206-B_220118A : 76	162360
VOLATILE ORGANIC COMPOUNDS												
Benzene	ND	ug/L	1	U	1.0	0.25	0.12		SW8260B	12/22/2021 03:06/msc	VOA5975C.I_211221B : 8	R372445
Bromobenzene	ND	ug/L	1	U	1.0	0.25	0.12		SW8260B	12/22/2021 03:06/msc	VOA5975C.I_211221B : 8	R372445
Bromochloromethane	ND	ug/L	1	U	1.0	0.50	0.18		SW8260B	12/22/2021 03:06/msc	VOA5975C.I_211221B : 8	R372445
Bromodichloromethane	ND	ug/L	1	U	1.0	0.50	0.16		SW8260B	12/22/2021 03:06/msc	VOA5975C.I_211221B : 8	R372445
Bromoform	ND	ug/L	1	U	1.0	0.25	0.12		SW8260B	12/22/2021 03:06/msc	VOA5975C.I_211221B : 8	R372445
Bromomethane	ND	ug/L	1	U	1.0	0.50	0.25		SW8260B	12/22/2021 03:06/msc	VOA5975C.I_211221B : 8	R372445
Carbon tetrachloride	ND	ug/L	1	U	1.0	0.50	0.16		SW8260B	12/22/2021 03:06/msc	VOA5975C.I_211221B : 8	R372445
Chlorobenzene	ND	ug/L	1	U	1.0	0.25	0.12		SW8260B	12/22/2021 03:06/msc	VOA5975C.I_211221B : 8	R372445
Chlorodibromomethane	ND	ug/L	1	U	1.0	0.25	0.084		SW8260B	12/22/2021 03:06/msc	VOA5975C.I_211221B : 8	R372445
Chloroethane	ND	ug/L	1	U	1.0	0.50	0.17		SW8260B	12/22/2021 03:06/msc	VOA5975C.I_211221B : 8	R372445
Chloroform	ND	ug/L	1	U	1.0	0.25	0.079		SW8260B	12/22/2021 03:06/msc	VOA5975C.I_211221B : 8	R372445
Chloromethane	ND	ug/L	1	U	1.0	0.50	0.19		SW8260B	12/22/2021 03:06/msc	VOA5975C.I_211221B : 8	R372445
1,2-Dibromoethane	ND	ug/L	1	U	1.0	0.50	0.14		SW8260B	12/22/2021 03:06/msc	VOA5975C.I_211221B : 8	R372445
2-Chlorotoluene	ND	ug/L	1	U	1.0	0.25	0.088		SW8260B	12/22/2021 03:06/msc	VOA5975C.I_211221B : 8	R372445
4-Chlorotoluene	ND	ug/L	1	U	1.0	0.25	0.091		SW8260B	12/22/2021 03:06/msc	VOA5975C.I_211221B : 8	R372445
Dibromomethane	ND	ug/L	1	U	1.0	0.50	0.16		SW8260B	12/22/2021 03:06/msc	VOA5975C.I_211221B : 8	R372445
1,2-Dichlorobenzene	ND	ug/L	1	U	1.0	0.25	0.086		SW8260B	12/22/2021 03:06/msc	VOA5975C.I_211221B : 8	R372445
1,3-Dichlorobenzene	ND	ug/L	1	U	1.0	0.25	0.10		SW8260B	12/22/2021 03:06/msc	VOA5975C.I_211221B : 8	R372445
1,4-Dichlorobenzene	ND	ug/L	1	U	1.0	0.25	0.086		SW8260B	12/22/2021 03:06/msc	VOA5975C.I_211221B : 8	R372445
Dichlorodifluoromethane	ND	ug/L	1	U	1.0	0.50	0.18		SW8260B	12/22/2021 03:06/msc	VOA5975C.I_211221B : 8	R372445
1,1-Dichloroethane	ND	ug/L	1	U	1.0	0.50	0.18		SW8260B	12/22/2021 03:06/msc	VOA5975C.I_211221B : 8	R372445
1,2-Dichloroethane	ND	ug/L	1	U	1.0	0.50	0.16		SW8260B	12/22/2021 03:06/msc	VOA5975C.I_211221B : 8	R372445
1,1-Dichloroethene	ND	ug/L	1	U	1.0	0.50	0.14		SW8260B	12/22/2021 03:06/msc	VOA5975C.I_211221B : 8	R372445
cis-1,2-Dichloroethene	ND	ug/L	1	U	1.0	0.50	0.17		SW8260B	12/22/2021 03:06/msc	VOA5975C.I_211221B : 8	R372445
trans-1,2-Dichloroethene	ND	ug/L	1	U	1.0	0.50	0.15		SW8260B	12/22/2021 03:06/msc	VOA5975C.I_211221B : 8	R372445
1,2-Dichloropropane	ND	ug/L	1	U	1.0	0.25	0.089		SW8260B	12/22/2021 03:06/msc	VOA5975C.I_211221B : 8	R372445
1,3-Dichloropropane	ND	ug/L	1	U	1.0	0.25	0.11		SW8260B	12/22/2021 03:06/msc	VOA5975C.I_211221B : 8	R372445
2,2-Dichloropropane	ND	ug/L	1	U	1.0	0.50	0.20		SW8260B	12/22/2021 03:06/msc	VOA5975C.I_211221B : 8	R372445
1,1-Dichloropropene	ND	ug/L	1	U	1.0	0.25	0.083		SW8260B	12/22/2021 03:06/msc	VOA5975C.I_211221B : 8	R372445
cis-1,3-Dichloropropene	ND	ug/L	1	U	1.0	0.25	0.094		SW8260B	12/22/2021 03:06/msc	VOA5975C.I_211221B : 8	R372445
trans-1,3-Dichloropropene	ND	ug/L	1	U	1.0	0.25	0.085		SW8260B	12/22/2021 03:06/msc	VOA5975C.I_211221B : 8	R372445
Ethylbenzene	ND	ug/L	1	U	1.0	0.25	0.091		SW8260B	12/22/2021 03:06/msc	VOA5975C.I_211221B : 8	R372445
Methyl ethyl ketone	ND	ug/L	1	U	20	5.0	2.2		SW8260B	12/22/2021 03:06/msc	VOA5975C.I_211221B : 8	R372445



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Prepared by Billings, MT Branch

Lab ID: B21121623-001
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Client: AECOM - Honolulu
Client Sample ID: ERH2178(RHMW01R)
Project: CV18F0126/60571032.02.20.01
Matrix: Ground Water

Analyses	Result	Units	DF	Qual	LOQ	LOD	DL	MCL	Method	Analysis Date / By	RunID : Run Order	BatchID
VOLATILE ORGANIC COMPOUNDS												
Methyl tert-butyl ether (MTBE)	ND	ug/L	1	U	1.0	0.25	0.12		SW8260B	12/22/2021 03:06/msc	VOA5975C.I_211221B : 8	R372445
Methylene chloride	ND	ug/L	1	U	1.0	0.50	0.13		SW8260B	12/22/2021 03:06/msc	VOA5975C.I_211221B : 8	R372445
Styrene	ND	ug/L	1	U	1.0	0.25	0.067		SW8260B	12/22/2021 03:06/msc	VOA5975C.I_211221B : 8	R372445
1,1,1,2-Tetrachloroethane	ND	ug/L	1	U	1.0	0.25	0.11		SW8260B	12/22/2021 03:06/msc	VOA5975C.I_211221B : 8	R372445
1,1,2,2-Tetrachloroethane	ND	ug/L	1	U	1.0	0.25	0.087		SW8260B	12/22/2021 03:06/msc	VOA5975C.I_211221B : 8	R372445
Tetrachloroethene	ND	ug/L	1	U	1.0	0.25	0.067		SW8260B	12/22/2021 03:06/msc	VOA5975C.I_211221B : 8	R372445
Toluene	ND	ug/L	1	U	1.0	0.25	0.075		SW8260B	12/22/2021 03:06/msc	VOA5975C.I_211221B : 8	R372445
1,1,1-Trichloroethane	ND	ug/L	1	U	1.0	0.50	0.13		SW8260B	12/22/2021 03:06/msc	VOA5975C.I_211221B : 8	R372445
1,1,2-Trichloroethane	ND	ug/L	1	U	1.0	0.25	0.11		SW8260B	12/22/2021 03:06/msc	VOA5975C.I_211221B : 8	R372445
Trichloroethene	ND	ug/L	1	U	1.0	0.25	0.099		SW8260B	12/22/2021 03:06/msc	VOA5975C.I_211221B : 8	R372445
Trichlorofluoromethane	ND	ug/L	1	U	1.0	0.50	0.13		SW8260B	12/22/2021 03:06/msc	VOA5975C.I_211221B : 8	R372445
1,2,3-Trichloropropane	ND	ug/L	1	U	1.0	0.50	0.38		SW8260B	12/22/2021 03:06/msc	VOA5975C.I_211221B : 8	R372445
Vinyl chloride	ND	ug/L	1	U	1.0	0.50	0.15		SW8260B	12/22/2021 03:06/msc	VOA5975C.I_211221B : 8	R372445
m+p-Xylenes	ND	ug/L	1	U	1.0	0.50	0.16		SW8260B	12/22/2021 03:06/msc	VOA5975C.I_211221B : 8	R372445
o-Xylene	ND	ug/L	1	U	1.0	0.20	0.060		SW8260B	12/22/2021 03:06/msc	VOA5975C.I_211221B : 8	R372445
Xylenes, Total	ND	ug/L	1	U	1.0	0.20	0.060		SW8260B	12/22/2021 03:06/msc	VOA5975C.I_211221B : 8	R372445
Surr: Dibromofluoromethane	104.0	%REC	1		80-119				SW8260B	12/22/2021 03:06/msc	VOA5975C.I_211221B : 8	R372445
Surr: 1,2-Dichloroethane-d4	103.0	%REC	1		81-118				SW8260B	12/22/2021 03:06/msc	VOA5975C.I_211221B : 8	R372445
Surr: Toluene-d8	103.0	%REC	1		89-112				SW8260B	12/22/2021 03:06/msc	VOA5975C.I_211221B : 8	R372445
Surr: p-Bromofluorobenzene	101.0	%REC	1		85-114				SW8260B	12/22/2021 03:06/msc	VOA5975C.I_211221B : 8	R372445
VOCS BY MICROEXTRACTION-ECD												
1,2-Dibromoethane	ND	ug/L	1	U	0.010	0.0049	0.0025		SW8011	12/22/2021 15:30/src	GECD.I_211221A : 26	162394
Surr: 1,1,1,2-Tetrachloroethane	93.0	%REC	1		70-130				SW8011	12/22/2021 15:30/src	GECD.I_211221A : 26	162394
PETROLEUM HYDROCARBONS-VOLATILE												
C6 to C10	ND	ug/L	1	U	20	8.7	2.3		SW8015C	12/22/2021 11:51/jp	PE 1_211221A : 32	R372185
Total Purgeable Hydrocarbons	37	ug/L	1		20	10	3.6		SW8015C	12/22/2021 11:51/jp	PE 1_211221A : 32	R372185
Surr: Trifluorotoluene	79.0	%REC	1		70-130				SW8015C	12/22/2021 11:51/jp	PE 1_211221A : 32	R372185
- Note 1: C6 to C10 is defined as all hydrocarbons eluting between 2-Methylpentane and 1,2,4-Trimethylbenzene.												
- Note 2: Total Purgeable Hydrocarbons are defined as the total hydrocarbon response regardless of elution time.												
PETROLEUM HYDROCARBONS-SEMI-VOLATILE												
Diesel Range Organics (C10 to C24)	0.19	mg/L	1	J	0.30	0.15	0.038		SW8015C	12/22/2021 07:44/amn	GCFID-HP5-B_211221A : 14	162352
Diesel Range Organics (SGT-C10 to C24)	0.058	mg/L	1	J	0.30	0.12	0.038		SW8015C	12/26/2021 21:17/amn	GCFID-HP5-B_211226A : 9	162352
Oil Range Hydrocarbons (C24 to C40)	ND	mg/L	1	U	0.30	0.15	0.086		SW8015C	12/22/2021 07:44/amn	GCFID-HP5-B_211221A : 14	162352
Oil Range Hydrocarbons (SGT-C24 to C40)	ND	mg/L	1	U	0.30	0.15	0.086		SW8015C	12/26/2021 21:17/amn	GCFID-HP5-B_211226A : 9	162352
Total Extractable Hydrocarbons	0.36	mg/L	1		0.30	0.15	0.073		SW8015C	12/22/2021 07:44/amn	GCFID-HP5-B_211221A : 14	162352
Total Extractable Hydrocarbons (SGT)	0.066	mg/L	1	J	0.30	0.12	0.032		SW8015C	12/26/2021 21:17/amn	GCFID-HP5-B_211226A : 9	162352
Surr: p-Terphenyl	86.0	%REC	1		56-125				SW8015C	12/22/2021 07:44/amn	GCFID-HP5-B_211221A : 14	162352



LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Lab ID: B21121623-001

Collection Date: 12/15/2021 17:15

Date Received: 12/18/2021

Report Date: 02/03/2022

Client: AECOM - Honolulu
Client Sample ID: ERH2178(RHMW01R)
Project: CV18F0126/60571032.02.20.01
Matrix: Ground Water

Analyses	Result	Units	DF	Qual	LOQ	LOD	DL	MCL	Method	Analysis Date / By	RunID : Run Order	BatchID
PETROLEUM HYDROCARBONS-SEMI-VOLATILE												
Surr: o-Terphenyl (SGT)	98.0	%REC	1		56-125				SW8015C	12/26/2021 21:17/amn	GCFID-HP5-B_211226A : 9	162352
Surr: n-Triacontane	98.0	%REC	1		50-150				SW8015C	12/22/2021 07:44/amn	GCFID-HP5-B_211221A : 14	162352
Surr: n-Triacontane (SGT)	114.0	%REC	1		50-150				SW8015C	12/26/2021 21:17/amn	GCFID-HP5-B_211226A : 9	162352
- Note: Total Extractable Hydrocarbons are defined as the total hydrocarbon responses regardless of elution time.												
ORGANIC CHARACTERISTICS												
Methane	0.55	mg/L	78		0.16	0.090	0.055		SW8015M	12/21/2021 14:39/jdw	FID-HEADSPACE_211221A : 21	R372153
SEMI-VOLATILE ORGANIC COMPOUNDS												
1,2,4-Trichlorobenzene	ND	ug/L	1	U	10	4.8	1.8		SW8270C	12/31/2021 00:39/dsm	SV5973N.I_211230A : 24	162392
1,2-Dichlorobenzene	ND	ug/L	1	U	10	4.8	1.9		SW8270C	12/31/2021 00:39/dsm	SV5973N.I_211230A : 24	162392
1,3-Dichlorobenzene	ND	ug/L	1	U	10	4.8	2.0		SW8270C	12/31/2021 00:39/dsm	SV5973N.I_211230A : 24	162392
1,4-Dichlorobenzene	ND	ug/L	1	U	10	4.8	1.9		SW8270C	12/31/2021 00:39/dsm	SV5973N.I_211230A : 24	162392
1-Methylnaphthalene	ND	ug/L	1	U	10	4.8	2.3		SW8270C	12/31/2021 00:39/dsm	SV5973N.I_211230A : 24	162392
2,4,5-Trichlorophenol	ND	ug/L	1	U	10	4.8	2.1		SW8270C	12/31/2021 00:39/dsm	SV5973N.I_211230A : 24	162392
2,4,6-Trichlorophenol	ND	ug/L	1	U	10	4.8	2.5		SW8270C	12/31/2021 00:39/dsm	SV5973N.I_211230A : 24	162392
2,4-Dichlorophenol	ND	ug/L	1	U	10	4.8	1.6		SW8270C	12/31/2021 00:39/dsm	SV5973N.I_211230A : 24	162392
2,4-Dimethylphenol	ND	ug/L	1	U	10	4.8	1.6		SW8270C	12/31/2021 00:39/dsm	SV5973N.I_211230A : 24	162392
2,4-Dinitrophenol	ND	ug/L	1	U	10	9.5	4.1		SW8270C	12/31/2021 00:39/dsm	SV5973N.I_211230A : 24	162392
2,4-Dinitrotoluene	ND	ug/L	1	U	10	4.8	2.9		SW8270C	12/31/2021 00:39/dsm	SV5973N.I_211230A : 24	162392
2,6-Dinitrotoluene	ND	ug/L	1	U	10	4.8	3.0		SW8270C	12/31/2021 00:39/dsm	SV5973N.I_211230A : 24	162392
2-Chloronaphthalene	ND	ug/L	1	U	10	4.8	2.0		SW8270C	12/31/2021 00:39/dsm	SV5973N.I_211230A : 24	162392
2-Chlorophenol	ND	ug/L	1	U	10	4.8	2.4		SW8270C	12/31/2021 00:39/dsm	SV5973N.I_211230A : 24	162392
2-Methylnaphthalene	ND	ug/L	1	U	10	4.8	1.8		SW8270C	12/31/2021 00:39/dsm	SV5973N.I_211230A : 24	162392
2-Nitrophenol	ND	ug/L	1	U	10	4.8	2.2		SW8270C	12/31/2021 00:39/dsm	SV5973N.I_211230A : 24	162392
3,3'-Dichlorobenzidine	ND	ug/L	1	U	10	4.8	2.0		SW8270C	12/31/2021 00:39/dsm	SV5973N.I_211230A : 24	162392
4,6-Dinitro-2-methylphenol	ND	ug/L	1	U	10	9.5	2.2		SW8270C	12/31/2021 00:39/dsm	SV5973N.I_211230A : 24	162392
4-Bromophenyl phenyl ether	ND	ug/L	1	U	10	4.8	1.7		SW8270C	12/31/2021 00:39/dsm	SV5973N.I_211230A : 24	162392
4-Chloro-3-methylphenol	ND	ug/L	1	U	10	4.8	1.4		SW8270C	12/31/2021 00:39/dsm	SV5973N.I_211230A : 24	162392
4-Chlorophenol	ND	ug/L	1	U	10	4.8	2.5		SW8270C	12/31/2021 00:39/dsm	SV5973N.I_211230A : 24	162392
4-Chlorophenyl phenyl ether	ND	ug/L	1	U	10	4.8	1.9		SW8270C	12/31/2021 00:39/dsm	SV5973N.I_211230A : 24	162392
4-Nitrophenol	ND	ug/L	1	U	10	9.5	2.4		SW8270C	12/31/2021 00:39/dsm	SV5973N.I_211230A : 24	162392
Acenaphthene	ND	ug/L	1	U	10	4.8	1.8		SW8270C	12/31/2021 00:39/dsm	SV5973N.I_211230A : 24	162392
Acenaphthylene	ND	ug/L	1	U	10	4.8	1.5		SW8270C	12/31/2021 00:39/dsm	SV5973N.I_211230A : 24	162392
Anthracene	ND	ug/L	1	U	10	4.8	1.2		SW8270C	12/31/2021 00:39/dsm	SV5973N.I_211230A : 24	162392
Azobenzene	ND	ug/L	1	U	10	4.8	1.0		SW8270C	12/31/2021 00:39/dsm	SV5973N.I_211230A : 24	162392
Benzidine	ND	ug/L	1	U	10	9.5	6.4		SW8270C	12/31/2021 00:39/dsm	SV5973N.I_211230A : 24	162392
Benzo(a)anthracene	ND	ug/L	1	U	10	4.8	0.81		SW8270C	12/31/2021 00:39/dsm	SV5973N.I_211230A : 24	162392
Benzo(a)pyrene	ND	ug/L	1	U	10	4.8	1.2		SW8270C	12/31/2021 00:39/dsm	SV5973N.I_211230A : 24	162392
Benzo(b)fluoranthene	ND	ug/L	1	U	10	4.8	0.86		SW8270C	12/31/2021 00:39/dsm	SV5973N.I_211230A : 24	162392



LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Lab ID: B21121623-001

Collection Date: 12/15/2021 17:15

Date Received: 12/18/2021

Report Date: 02/03/2022

Client: AECOM - Honolulu
Client Sample ID: ERH2178(RHMW01R)
Project: CV18F0126/60571032.02.20.01
Matrix: Ground Water

Analyses	Result	Units	DF	Qual	LOQ	LOD	DL	MCL	Method	Analysis Date / By	RunID : Run Order	BatchID
SEMI-VOLATILE ORGANIC COMPOUNDS												
Benzo(g,h,i)perylene	ND	ug/L	1	U	10	4.8	0.96		SW8270C	12/31/2021 00:39/dsm	SV5973N.I_211230A : 24	162392
Benzo(k)fluoranthene	ND	ug/L	1	U	10	4.8	0.92		SW8270C	12/31/2021 00:39/dsm	SV5973N.I_211230A : 24	162392
bis(-2-chloroethoxy)Methane	ND	ug/L	1	U	10	4.8	1.3		SW8270C	12/31/2021 00:39/dsm	SV5973N.I_211230A : 24	162392
bis(-2-chloroethyl)Ether	ND	ug/L	1	U	10	4.8	2.4		SW8270C	12/31/2021 00:39/dsm	SV5973N.I_211230A : 24	162392
bis(2-chloroisopropyl)Ether	ND	ug/L	1	U	10	4.8	1.4		SW8270C	12/31/2021 00:39/dsm	SV5973N.I_211230A : 24	162392
bis(2-ethylhexyl)Phthalate	ND	ug/L	1	U	10	4.8	1.8		SW8270C	12/31/2021 00:39/dsm	SV5973N.I_211230A : 24	162392
Butylbenzylphthalate	ND	ug/L	1	U	10	4.8	1.5		SW8270C	12/31/2021 00:39/dsm	SV5973N.I_211230A : 24	162392
Chrysene	ND	ug/L	1	U	10	4.8	1.1		SW8270C	12/31/2021 00:39/dsm	SV5973N.I_211230A : 24	162392
Di-n-butyl phthalate	ND	ug/L	1	U	10	4.8	0.89		SW8270C	12/31/2021 00:39/dsm	SV5973N.I_211230A : 24	162392
Di-n-octyl phthalate	ND	ug/L	1	U	10	4.8	1.3		SW8270C	12/31/2021 00:39/dsm	SV5973N.I_211230A : 24	162392
Dibenzo(a,h)anthracene	ND	ug/L	1	U	10	4.8	1.1		SW8270C	12/31/2021 00:39/dsm	SV5973N.I_211230A : 24	162392
Diethyl phthalate	ND	ug/L	1	U	10	4.8	2.1		SW8270C	12/31/2021 00:39/dsm	SV5973N.I_211230A : 24	162392
Dimethyl phthalate	ND	ug/L	1	U	10	4.8	1.6		SW8270C	12/31/2021 00:39/dsm	SV5973N.I_211230A : 24	162392
Fluoranthene	ND	ug/L	1	U	10	4.8	0.84		SW8270C	12/31/2021 00:39/dsm	SV5973N.I_211230A : 24	162392
Fluorene	ND	ug/L	1	U	10	4.8	1.7		SW8270C	12/31/2021 00:39/dsm	SV5973N.I_211230A : 24	162392
Hexachlorobenzene	ND	ug/L	1	U	10	4.8	1.3		SW8270C	12/31/2021 00:39/dsm	SV5973N.I_211230A : 24	162392
Hexachlorobutadiene	ND	ug/L	1	U	10	4.8	2.2		SW8270C	12/31/2021 00:39/dsm	SV5973N.I_211230A : 24	162392
Hexachlorocyclopentadiene	ND	ug/L	1	U	10	4.8	2.8		SW8270C	12/31/2021 00:39/dsm	SV5973N.I_211230A : 24	162392
Hexachloroethane	ND	ug/L	1	U	10	4.8	1.7		SW8270C	12/31/2021 00:39/dsm	SV5973N.I_211230A : 24	162392
Indeno(1,2,3-cd)pyrene	ND	ug/L	1	U	10	4.8	1.2		SW8270C	12/31/2021 00:39/dsm	SV5973N.I_211230A : 24	162392
Isophorone	ND	ug/L	1	U	10	4.8	1.6		SW8270C	12/31/2021 00:39/dsm	SV5973N.I_211230A : 24	162392
m+p-Cresols	ND	ug/L	1	U	10	4.8	1.7		SW8270C	12/31/2021 00:39/dsm	SV5973N.I_211230A : 24	162392
n-Nitroso-di-n-propylamine	ND	ug/L	1	U	10	4.8	1.5		SW8270C	12/31/2021 00:39/dsm	SV5973N.I_211230A : 24	162392
n-Nitrosodimethylamine	ND	ug/L	1	U	10	4.8	1.5		SW8270C	12/31/2021 00:39/dsm	SV5973N.I_211230A : 24	162392
n-Nitrosodiphenylamine	ND	ug/L	1	U	10	4.8	1.1		SW8270C	12/31/2021 00:39/dsm	SV5973N.I_211230A : 24	162392
Naphthalene	ND	ug/L	1	U	10	4.8	1.7		SW8270C	12/31/2021 00:39/dsm	SV5973N.I_211230A : 24	162392
Nitrobenzene	ND	ug/L	1	U	10	4.8	2.2		SW8270C	12/31/2021 00:39/dsm	SV5973N.I_211230A : 24	162392
o-Cresol	ND	ug/L	1	U	10	4.8	1.7		SW8270C	12/31/2021 00:39/dsm	SV5973N.I_211230A : 24	162392
Pentachlorophenol	ND	ug/L	1	U	10	9.5	4.0		SW8270C	12/31/2021 00:39/dsm	SV5973N.I_211230A : 24	162392
Phenanthrene	ND	ug/L	1	U	10	4.8	0.75		SW8270C	12/31/2021 00:39/dsm	SV5973N.I_211230A : 24	162392
Phenol	ND	ug/L	1	U	10	4.8	1.4		SW8270C	12/31/2021 00:39/dsm	SV5973N.I_211230A : 24	162392
Pyrene	ND	ug/L	1	U	10	4.8	0.88		SW8270C	12/31/2021 00:39/dsm	SV5973N.I_211230A : 24	162392
Pyridine	ND	ug/L	1	U	10	4.8	3.1		SW8270C	12/31/2021 00:39/dsm	SV5973N.I_211230A : 24	162392
Surr: 2,4,6-Tribromophenol	94.0	%REC	1	J	43-140				SW8270C	12/31/2021 00:39/dsm	SV5973N.I_211230A : 24	162392
Surr: 2-Fluorophenol	51.0	%REC	1	J	19-119				SW8270C	12/31/2021 00:39/dsm	SV5973N.I_211230A : 24	162392
Surr: Phenol-d5	42.0	%REC	1	J	10-65				SW8270C	12/31/2021 00:39/dsm	SV5973N.I_211230A : 24	162392

- The surrogate additions were added at a lower concentration to recover within the calibrated range for Low Level 8270C SIM analysis. Because of this, the surrogates recovered at or slightly below the calibrated range by normal 8270C scan analysis.



LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Lab ID: B21121623-001

Collection Date: 12/15/2021 17:15

Date Received: 12/18/2021

Report Date: 02/03/2022

Client: AECOM - Honolulu
Client Sample ID: ERH2178(RHMW01R)
Project: CV18F0126/60571032.02.20.01
Matrix: Ground Water

Analyses	Result	Units	DF	Qual	LOQ	LOD	DL	MCL	Method	Analysis Date / By	RunID : Run Order	BatchID
SEMI-VOLATILE ORGANIC COMPOUNDS (LOW LEVEL) BY SIM												
1-Methylnaphthalene	ND	ug/L	1	U	0.10	0.095	0.020		SW8270C	12/29/2021 04:55/jph	SV5975.I_211228A : 23	162392
2-Methylnaphthalene	ND	ug/L	1	U	0.10	0.095	0.017		SW8270C	12/29/2021 04:55/jph	SV5975.I_211228A : 23	162392
Naphthalene	ND	ug/L	1	U	0.10	0.095	0.028		SW8270C	12/29/2021 04:55/jph	SV5975.I_211228A : 23	162392
Surr: 2-Fluorobiphenyl	66.0	%REC	1		53-106				SW8270C	12/29/2021 04:55/jph	SV5975.I_211228A : 23	162392
Surr: Nitrobenzene-d5	72.0	%REC	1		55-111				SW8270C	12/29/2021 04:55/jph	SV5975.I_211228A : 23	162392
Surr: Terphenyl-d14	101.0	%REC	1		58-132				SW8270C	12/29/2021 04:55/jph	SV5975.I_211228A : 23	162392



LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Lab ID: B21121623-002

Collection Date: 12/15/2021 17:10

Date Received: 12/18/2021

Report Date: 02/03/2022

Client: AECOM - Honolulu
Client Sample ID: ERH2177(TB)-Client
Project: CV18F0126/60571032.02.20.01
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	0.25	0.12		SW8260B	12/22/2021 09:34/msc	VOA5975C.I_211221B : 11	R372445
Bromobenzene	ND	ug/L	1	U	1.0	0.25	0.12		SW8260B	12/22/2021 09:34/msc	VOA5975C.I_211221B : 11	R372445
Bromochloromethane	ND	ug/L	1	U	1.0	0.50	0.18		SW8260B	12/22/2021 09:34/msc	VOA5975C.I_211221B : 11	R372445
Bromodichloromethane	ND	ug/L	1	U	1.0	0.50	0.16		SW8260B	12/22/2021 09:34/msc	VOA5975C.I_211221B : 11	R372445
Bromoform	ND	ug/L	1	U	1.0	0.25	0.12		SW8260B	12/22/2021 09:34/msc	VOA5975C.I_211221B : 11	R372445
Bromomethane	ND	ug/L	1	U	1.0	0.50	0.25		SW8260B	12/22/2021 09:34/msc	VOA5975C.I_211221B : 11	R372445
Carbon tetrachloride	ND	ug/L	1	U	1.0	0.50	0.16		SW8260B	12/22/2021 09:34/msc	VOA5975C.I_211221B : 11	R372445
Chlorobenzene	ND	ug/L	1	U	1.0	0.25	0.12		SW8260B	12/22/2021 09:34/msc	VOA5975C.I_211221B : 11	R372445
Chlorodibromomethane	ND	ug/L	1	U	1.0	0.25	0.084		SW8260B	12/22/2021 09:34/msc	VOA5975C.I_211221B : 11	R372445
Chloroethane	ND	ug/L	1	U	1.0	0.50	0.17		SW8260B	12/22/2021 09:34/msc	VOA5975C.I_211221B : 11	R372445
Chloroform	ND	ug/L	1	U	1.0	0.25	0.079		SW8260B	12/22/2021 09:34/msc	VOA5975C.I_211221B : 11	R372445
Chloromethane	ND	ug/L	1	U	1.0	0.50	0.19		SW8260B	12/22/2021 09:34/msc	VOA5975C.I_211221B : 11	R372445
1,2-Dibromoethane	ND	ug/L	1	U	1.0	0.50	0.14		SW8260B	12/22/2021 09:34/msc	VOA5975C.I_211221B : 11	R372445
2-Chlorotoluene	ND	ug/L	1	U	1.0	0.25	0.088		SW8260B	12/22/2021 09:34/msc	VOA5975C.I_211221B : 11	R372445
4-Chlorotoluene	ND	ug/L	1	U	1.0	0.25	0.091		SW8260B	12/22/2021 09:34/msc	VOA5975C.I_211221B : 11	R372445
Dibromomethane	ND	ug/L	1	U	1.0	0.50	0.16		SW8260B	12/22/2021 09:34/msc	VOA5975C.I_211221B : 11	R372445
1,2-Dichlorobenzene	ND	ug/L	1	U	1.0	0.25	0.086		SW8260B	12/22/2021 09:34/msc	VOA5975C.I_211221B : 11	R372445
1,3-Dichlorobenzene	ND	ug/L	1	U	1.0	0.25	0.10		SW8260B	12/22/2021 09:34/msc	VOA5975C.I_211221B : 11	R372445
1,4-Dichlorobenzene	ND	ug/L	1	U	1.0	0.25	0.086		SW8260B	12/22/2021 09:34/msc	VOA5975C.I_211221B : 11	R372445
Dichlorodifluoromethane	ND	ug/L	1	U	1.0	0.50	0.18		SW8260B	12/22/2021 09:34/msc	VOA5975C.I_211221B : 11	R372445
1,1-Dichloroethane	ND	ug/L	1	U	1.0	0.50	0.18		SW8260B	12/22/2021 09:34/msc	VOA5975C.I_211221B : 11	R372445
1,2-Dichloroethane	ND	ug/L	1	U	1.0	0.50	0.16		SW8260B	12/22/2021 09:34/msc	VOA5975C.I_211221B : 11	R372445
1,1-Dichloroethene	ND	ug/L	1	U	1.0	0.50	0.14		SW8260B	12/22/2021 09:34/msc	VOA5975C.I_211221B : 11	R372445
cis-1,2-Dichloroethene	ND	ug/L	1	U	1.0	0.50	0.17		SW8260B	12/22/2021 09:34/msc	VOA5975C.I_211221B : 11	R372445
trans-1,2-Dichloroethene	ND	ug/L	1	U	1.0	0.50	0.15		SW8260B	12/22/2021 09:34/msc	VOA5975C.I_211221B : 11	R372445
1,2-Dichloropropane	ND	ug/L	1	U	1.0	0.25	0.089		SW8260B	12/22/2021 09:34/msc	VOA5975C.I_211221B : 11	R372445
1,3-Dichloropropane	ND	ug/L	1	U	1.0	0.25	0.11		SW8260B	12/22/2021 09:34/msc	VOA5975C.I_211221B : 11	R372445
2,2-Dichloropropane	ND	ug/L	1	U	1.0	0.50	0.20		SW8260B	12/22/2021 09:34/msc	VOA5975C.I_211221B : 11	R372445
1,1-Dichloropropene	ND	ug/L	1	U	1.0	0.25	0.083		SW8260B	12/22/2021 09:34/msc	VOA5975C.I_211221B : 11	R372445
cis-1,3-Dichloropropene	ND	ug/L	1	U	1.0	0.25	0.094		SW8260B	12/22/2021 09:34/msc	VOA5975C.I_211221B : 11	R372445
trans-1,3-Dichloropropene	ND	ug/L	1	U	1.0	0.25	0.085		SW8260B	12/22/2021 09:34/msc	VOA5975C.I_211221B : 11	R372445
Ethylbenzene	ND	ug/L	1	U	1.0	0.25	0.091		SW8260B	12/22/2021 09:34/msc	VOA5975C.I_211221B : 11	R372445
Methyl ethyl ketone	ND	ug/L	1	U	20	5.0	2.2		SW8260B	12/22/2021 09:34/msc	VOA5975C.I_211221B : 11	R372445
Methyl tert-butyl ether (MTBE)	ND	ug/L	1	U	1.0	0.25	0.12		SW8260B	12/22/2021 09:34/msc	VOA5975C.I_211221B : 11	R372445
Methylene chloride	ND	ug/L	1	U	1.0	0.50	0.13		SW8260B	12/22/2021 09:34/msc	VOA5975C.I_211221B : 11	R372445
Styrene	ND	ug/L	1	U	1.0	0.25	0.067		SW8260B	12/22/2021 09:34/msc	VOA5975C.I_211221B : 11	R372445
1,1,1,2-Tetrachloroethane	ND	ug/L	1	U	1.0	0.25	0.11		SW8260B	12/22/2021 09:34/msc	VOA5975C.I_211221B : 11	R372445
1,1,2,2-Tetrachloroethane	ND	ug/L	1	U	1.0	0.25	0.087		SW8260B	12/22/2021 09:34/msc	VOA5975C.I_211221B : 11	R372445
Tetrachloroethene	ND	ug/L	1	U	1.0	0.25	0.067		SW8260B	12/22/2021 09:34/msc	VOA5975C.I_211221B : 11	R372445



LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Lab ID: B21121623-002

Collection Date: 12/15/2021 17:10

Date Received: 12/18/2021

Report Date: 02/03/2022

Client: AECOM - Honolulu
Client Sample ID: ERH2177(TB)-Client
Project: CV18F0126/60571032.02.20.01
Matrix: Trip Blank

Analyses	Result	Units	DF	Qual	LOQ	LOD	DL	MCL	Method	Analysis Date / By	RunID : Run Order	BatchID
VOLATILE ORGANIC COMPOUNDS												
Toluene	ND	ug/L	1	U	1.0	0.25	0.075		SW8260B	12/22/2021 09:34/msc	VOA5975C.I_211221B : 11	R372445
1,1,1-Trichloroethane	ND	ug/L	1	U	1.0	0.50	0.13		SW8260B	12/22/2021 09:34/msc	VOA5975C.I_211221B : 11	R372445
1,1,2-Trichloroethane	ND	ug/L	1	U	1.0	0.25	0.11		SW8260B	12/22/2021 09:34/msc	VOA5975C.I_211221B : 11	R372445
Trichloroethene	ND	ug/L	1	U	1.0	0.25	0.099		SW8260B	12/22/2021 09:34/msc	VOA5975C.I_211221B : 11	R372445
Trichlorofluoromethane	ND	ug/L	1	U	1.0	0.50	0.13		SW8260B	12/22/2021 09:34/msc	VOA5975C.I_211221B : 11	R372445
1,2,3-Trichloropropane	ND	ug/L	1	U	1.0	0.50	0.38		SW8260B	12/22/2021 09:34/msc	VOA5975C.I_211221B : 11	R372445
Vinyl chloride	ND	ug/L	1	U	1.0	0.50	0.15		SW8260B	12/22/2021 09:34/msc	VOA5975C.I_211221B : 11	R372445
m+p-Xylenes	ND	ug/L	1	U	1.0	0.50	0.16		SW8260B	12/22/2021 09:34/msc	VOA5975C.I_211221B : 11	R372445
o-Xylene	ND	ug/L	1	U	1.0	0.20	0.060		SW8260B	12/22/2021 09:34/msc	VOA5975C.I_211221B : 11	R372445
Xylenes, Total	ND	ug/L	1	U	1.0	0.20	0.060		SW8260B	12/22/2021 09:34/msc	VOA5975C.I_211221B : 11	R372445
Surr: Dibromofluoromethane	104.0	%REC	1		80-119				SW8260B	12/22/2021 09:34/msc	VOA5975C.I_211221B : 11	R372445
Surr: 1,2-Dichloroethane-d4	101.0	%REC	1		81-118				SW8260B	12/22/2021 09:34/msc	VOA5975C.I_211221B : 11	R372445
Surr: Toluene-d8	105.0	%REC	1		89-112				SW8260B	12/22/2021 09:34/msc	VOA5975C.I_211221B : 11	R372445
Surr: p-Bromofluorobenzene	103.0	%REC	1		85-114				SW8260B	12/22/2021 09:34/msc	VOA5975C.I_211221B : 11	R372445



LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Lab ID: B21121623-003

Collection Date: 12/15/2021 17:10

Date Received: 12/18/2021

Report Date: 02/03/2022

Client: AECOM - Honolulu
Client Sample ID: ERH2177(TB)-Client
Project: CV18F0126/60571032.02.20.01
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	12/21/2021 17:33/jp	PE 1_211221A : 14	R372185
Total Purgeable Hydrocarbons	ND	ug/L	1	U	20	10	3.6		SW8015C	12/21/2021 17:33/jp	PE 1_211221A : 14	R372185
Surr: Trifluorotoluene	79.0	%REC	1		70-130				SW8015C	12/21/2021 17:33/jp	PE 1_211221A : 14	R372185
- 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: ERH2177(TB)-Client
Project: CV18F0126/60571032.02.20.01
Matrix: Trip Blank

Lab ID: B21121623-004
Collection Date: 12/15/2021 17:10
Date Received: 12/18/2021
Report Date: 02/03/2022

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	0.0049	0.0025		SW8011	12/22/2021 15:50/src	GECD.I_211221A : 27	162394
Surr: 1,1,1,2-Tetrachloroethane	93.0	%REC	1		70-130				SW8011	12/22/2021 15:50/src	GECD.I_211221A : 27	162394



LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Client Sample ID: ERH2177(TB)-Client
Project: CV18F0126/60571032.02.20.01
Matrix: Trip Blank

Lab ID: B21121623-005
Collection Date: 12/15/2021 17:10
Date Received: 12/18/2021
Report Date: 02/03/2022

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	12/21/2021 14:49/jdw	FID-HEADSPACE_211221A : 22	R372153



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121623
Project: CV18F0126/60571032.02.20.01

Report Date: 02/03/2022

Run ID: Run Order: SUB-C278180: 3 **SampType:** Method Blank **Batch ID:** C_R278180
Method: SW9060A **Analysis Date:** 12/22/2021 17:32 **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: **B21121623-001D**
- TOC Range is 0.1 to 0.1

Run ID: Run Order: SUB-C278180: 1 **SampType:** Laboratory Control Sample **Batch ID:** C_R278180
Method: SW9060A **Analysis Date:** 12/22/2021 16:10 **Prep Date:**
Lab ID: LCS **Units:** mg/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	5.1	0.50	5.0		102.0	91	111				

Associated Samples: **B21121623-001D**
- TOC Range is 5.0 to 5.2

Run ID: Run Order: SUB-C278180: 2 **SampType:** Laboratory Control Sample Duplicate **Batch ID:** C_R278180
Method: SW9060A **Analysis Date:** 12/22/2021 16:52 **Prep Date:**
Lab ID: LCSD **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	91	111	5.1	0.4	10.0	

Associated Samples: **B21121623-001D**
- TOC Range is 5.1 to 5.2



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121623
Project: CV18F0126/60571032.02.20.01

Report Date: 02/03/2022

Run ID: Run Order: SUB-C278180: 4 **SampType:** Continuing Calibration Verification Standard **Batch ID:** C_R278180
Method: SW9060A **Analysis Date:** 12/22/2021 18:11 **Prep Date:**
Lab ID: CCV **Units:** mg/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	5.2	0.50	5.0		103.0	90	110				

Associated Samples: **B21121623-001D**
- TOC Range is 5.1 to 5.2

Run ID: Run Order: SUB-C278180: 8 **SampType:** Continuing Calibration Verification Standard **Batch ID:** C_R278180
Method: SW9060A **Analysis Date:** 12/23/2021 01:38 **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		101.0	90	110				

Associated Samples: **B21121623-001D**
- TOC Range is 5.1 to 5.1



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121623
Project: CV18F0126/60571032.02.20.01

Report Date: 02/03/2022

Run ID: Run Order: ICPMS206-B_220118A: 55 **SampType:** Method Blank **Batch ID:** 162360
Method: SW6020 **Analysis Date:** 01/18/2022 23:49 **Prep Date:** 12/20/2021 13:29
Lab ID: MB-162360 **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: **B21121623-001A**

Run ID: Run Order: ICPMS206-B_220118A: 58 **SampType:** Laboratory Control Sample **Batch ID:** 162360
Method: SW6020 **Analysis Date:** 01/19/2022 00:06 **Prep Date:** 12/20/2021 13:29
Lab ID: LCS4-162360 **Units:** mg/L **Prep Method:** SW3010A

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

Associated Samples: **B21121623-001A**

Run ID: Run Order: ICPMS206-B_220118A: 69 **SampType:** Sample Matrix Spike **Batch ID:** 162360
Method: SW6020 **Analysis Date:** 01/19/2022 01:09 **Prep Date:** 12/20/2021 14:11
Lab ID: B21121613-001AMS4 **Units:** mg/L **Prep Method:** SW3010A

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Lead	0.097	0.001	0.100	0	96.0	88	115				

Associated Samples: **B21121623-001A**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121623
Project: CV18F0126/60571032.02.20.01

Report Date: 02/03/2022

Run ID: Run Order: ICPMS206-B_220118A: 70 **SampType:** Sample Matrix Spike Duplicate **Batch ID:** 162360
Method: SW6020 **Analysis Date:** 01/19/2022 01:14 **Prep Date:** 12/20/2021 14:11
Lab ID: B21121613-001AMSD4 **Units:** mg/L **Prep Method:** SW3010A

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Lead	0.097	0.001	0.100	0	97.0	88	115	0.097	0.1	20.0	

Associated Samples: **B21121623-001A**

Run ID: Run Order: ICPMS206-B_220118A: 68 **SampType:** Post Digestion/Distillation Spike **Batch ID:** 162360
Method: SW6020 **Analysis Date:** 01/19/2022 01:03 **Prep Date:** 12/20/2021 14:11
Lab ID: B21121613-001APDS1 **Units:** mg/L **Prep Method:** SW3010A

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Lead	0.046	0.001	0.052	0	88.0	80	120				

Associated Samples: **B21121623-001A**

Run ID: Run Order: ICPMS206-B_220118A: 65 **SampType:** Serial Dilution **Batch ID:** 162360
Method: SW6020 **Analysis Date:** 01/19/2022 00:46 **Prep Date:** 12/20/2021 14:11
Lab ID: B21121613-001ADIL **Units:** mg/L **Prep Method:** SW3010A

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

Associated Samples: **B21121623-001A**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121623
Project: CV18F0126/60571032.02.20.01

Report Date: 02/03/2022

Run ID: Run Order: ICPMS206-B_220118A: 66 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R373351
Method: SW6020 **Analysis Date:** 01/19/2022 00:52 **Prep Date:**
Lab ID: CCV **Units:** mg/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Lead	0.047	0.001	0.050		95.0	90	110				

Associated Samples: **B21121623-001A**

Run ID: Run Order: ICPMS206-B_220118A: 79 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R373351
Method: SW6020 **Analysis Date:** 01/19/2022 02:06 **Prep Date:**
Lab ID: CCV **Units:** mg/L **Prep Method:**

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

Associated Samples: **B21121623-001A**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121623
Project: CV18F0126/60571032.02.20.01

Report Date: 02/03/2022

Run ID: Run Order: VOA5975C.I_211221B: 4
Method: SW8260B
Lab ID: MBLK122121a

SampType: Method Blank
Analysis Date: 12/22/2021 01:44
Units: ug/L

Batch ID: R372445
Prep Date:
Prep Method:

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Benzene	ND	0.50									
Bromobenzene	ND	0.50									
Bromochloromethane	ND	0.50									
Bromodichloromethane	ND	0.50									
Bromoform	ND	0.50									
Bromomethane	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									



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121623
Project: CV18F0126/60571032.02.20.01

Report Date: 02/03/2022

Run ID: Run Order: VOA5975C.I_211221B: 4 **SampType:** Method Blank **Batch ID:** R372445
Method: SW8260B **Analysis Date:** 12/22/2021 01:44 **Prep Date:**
Lab ID: MBLK122121a **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
2,2-Dichloropropane	ND	0.50									
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	10	0.50	10		101.0	81	118				
Surr: Dibromofluoromethane	10	0.50	10		105.0	80	119				
Surr: p-Bromofluorobenzene	10	0.50	10		103.0	85	114				



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121623
Project: CV18F0126/60571032.02.20.01

Report Date: 02/03/2022

Run ID: Run Order: VOA5975C.I_211221B: 4 **SampType:** Method Blank **Batch ID:** R372445
Method: SW8260B **Analysis Date:** 12/22/2021 01:44 **Prep Date:**
Lab ID: MBLK122121a **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Surr: Toluene-d8	10	0.50	10		103.0	89	112				

Associated Samples: **B21121623-001E, B21121623-002A**

Run ID: Run Order: VOA5975C.I_211221B: 3 **SampType:** Laboratory Control Sample **Batch ID:** R372445
Method: SW8260B **Analysis Date:** 12/22/2021 00:50 **Prep Date:**
Lab ID: LCS122121a **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	5.1	0.50	5.0		101.0	80	120				
Bromochloromethane	5.1	0.50	5.0		103.0	78	123				
Bromodichloromethane	5.2	0.50	5.0		103.0	79	125				
Bromoform	5.0	0.50	5.0		99.0	66	130				
Bromomethane	5.0	0.50	5.0		100.0	53	141				
Carbon tetrachloride	4.8	0.50	5.0		96.0	72	136				
Chlorobenzene	5.3	0.50	5.0		105.0	82	118				
Chlorodibromomethane	5.1	0.50	5.0		101.0	74	126				
Chloroethane	4.6	0.50	5.0		92.0	60	138				
Chloroform	4.8	0.50	5.0		95.0	79	124				
Chloromethane	4.8	0.50	5.0		95.0	50	139				
1,2-Dibromoethane	5.2	0.50	5.0		105.0	78	122				
2-Chlorotoluene	5.2	0.50	5.0		103.0	79	122				
Dibromomethane	5.0	0.50	5.0		99.0	79	123				
1,2-Dichlorobenzene	5.2	0.50	5.0		104.0	80	119				



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121623
Project: CV18F0126/60571032.02.20.01

Report Date: 02/03/2022

Run ID: Run Order: VOA5975C.I_211221B: 3 **SampType:** Laboratory Control Sample **Batch ID:** R372445
Method: SW8260B **Analysis Date:** 12/22/2021 00:50 **Prep Date:**
Lab ID: LCS122121a **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
4-Chlorotoluene	5.3	0.50	5.0		105.0	78	122				
1,3-Dichlorobenzene	5.3	0.50	5.0		106.0	80	119				
1,4-Dichlorobenzene	5.1	0.50	5.0		102.0	79	118				
Dichlorodifluoromethane	4.5	0.50	5.0		89.0	32	152				
1,1-Dichloroethane	5.2	0.50	5.0		104.0	77	125				
1,2-Dichloroethane	4.8	0.50	5.0		96.0	73	128				
1,1-Dichloroethene	4.9	0.50	5.0		97.0	71	131				
cis-1,2-Dichloroethene	5.0	0.50	5.0		101.0	78	123				
trans-1,2-Dichloroethene	5.0	0.50	5.0		101.0	75	124				
1,2-Dichloropropane	5.1	0.50	5.0		102.0	78	122				
1,3-Dichloropropane	5.1	0.50	5.0		101.0	80	119				
2,2-Dichloropropane	4.5	0.50	5.0		91.0	60	139				
1,1-Dichloropropene	4.7	0.50	5.0		93.0	79	125				
cis-1,3-Dichloropropene	4.8	0.50	5.0		95.0	75	124				
trans-1,3-Dichloropropene	5.0	0.50	5.0		100.0	73	127				
Ethylbenzene	5.1	0.50	5.0		103.0	79	121				
Methyl tert-butyl ether (MTBE)	5.2	0.50	5.0		105.0	71	124				
Methyl ethyl ketone	57	10	50		113.0	56	143				
Methylene chloride	4.8	0.50	5.0		95.0	74	124				
Styrene	5.4	0.50	5.0		109.0	78	123				
1,1,1,2-Tetrachloroethane	5.1	0.50	5.0		102.0	78	124				
1,1,2,2-Tetrachloroethane	5.0	0.50	5.0		100.0	71	121				
Tetrachloroethene	5.2	0.50	5.0		104.0	74	129				
Toluene	5.3	0.50	5.0		106.0	80	121				
1,1,1-Trichloroethane	4.9	0.50	5.0		98.0	74	131				
1,1,2-Trichloroethane	5.2	0.50	5.0		104.0	80	119				
Trichloroethene	5.0	0.50	5.0		99.0	79	123				



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121623
Project: CV18F0126/60571032.02.20.01

Report Date: 02/03/2022

Run ID: Run Order: VOA5975C.I_211221B: 3 **SampType:** Laboratory Control Sample **Batch ID:** R372445
Method: SW8260B **Analysis Date:** 12/22/2021 00:50 **Prep Date:**
Lab ID: LCS122121a **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Trichlorofluoromethane	4.4	0.50	5.0		88.0	65	141				
1,2,3-Trichloropropane	5.0	0.50	5.0		100.0	73	125				
Vinyl chloride	4.7	0.50	5.0		95.0	58	137				
m+p-Xylenes	10	0.50	10		104.0	80	121				
o-Xylene	5.4	0.50	5.0		108.0	78	122				
Xylenes, Total	16	0.50	15		106.0	79	121				
Surr: 1,2-Dichloroethane-d4	10	0.50	10		100.0	81	118				
Surr: Dibromofluoromethane	10	0.50	10		102.0	80	119				
Surr: p-Bromofluorobenzene	10	0.50	10		100.0	85	114				
Surr: Toluene-d8	11	0.50	10		106.0	89	112				

Associated Samples: **B21121623-001E, B21121623-002A**

Run ID: Run Order: VOA5975C.I_211221B: 14 **SampType:** Sample Matrix Spike **Batch ID:** R372445
Method: SW8260B **Analysis Date:** 12/22/2021 10:56 **Prep Date:**
Lab ID: B21121611-001CMS **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	5.0	0.50	5.0	0.0	100.0	80	120				
Bromochloromethane	5.0	0.50	5.0	0.0	99.0	78	123				
Bromodichloromethane	4.9	0.50	5.0	0.0	99.0	79	125				
Bromoform	5.0	0.50	5.0	0.0	100.0	66	130				
Bromomethane	3.4	0.50	5.0	0.0	67.0	53	141				
Carbon tetrachloride	4.7	0.50	5.0	0.0	94.0	72	136				
Chlorobenzene	5.1	0.50	5.0	0.0	102.0	82	118				
Chlorodibromomethane	5.0	0.50	5.0	0.0	99.0	74	126				



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121623
Project: CV18F0126/60571032.02.20.01

Report Date: 02/03/2022

Run ID: Run Order: VOA5975C.I_211221B: 14 **SampType:** Sample Matrix Spike **Batch ID:** R372445
Method: SW8260B **Analysis Date:** 12/22/2021 10:56 **Prep Date:**
Lab ID: B21121611-001CMS **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Chloroethane	4.4	0.50	5.0	0.0	89.0	60	138				
Chloroform	4.5	0.50	5.0	0.0	90.0	79	124				
Chloromethane	4.3	0.50	5.0	0.0	85.0	50	139				
1,2-Dibromoethane	5.0	0.50	5.0	0.0	100.0	78	122				
2-Chlorotoluene	4.9	0.50	5.0	0.0	98.0	79	122				
Dibromomethane	4.9	0.50	5.0	0.0	99.0	79	123				
1,2-Dichlorobenzene	4.9	0.50	5.0	0.0	99.0	80	119				
4-Chlorotoluene	5.0	0.50	5.0	0.0	101.0	78	122				
1,3-Dichlorobenzene	5.0	0.50	5.0	0.0	101.0	80	119				
1,4-Dichlorobenzene	4.8	0.50	5.0	0.0	96.0	79	118				
Dichlorodifluoromethane	4.2	0.50	5.0	0.0	83.0	32	152				
1,1-Dichloroethane	4.9	0.50	5.0	0.0	97.0	77	125				
1,2-Dichloroethane	4.8	0.50	5.0	0.0	96.0	73	128				
1,1-Dichloroethene	4.7	0.50	5.0	0.0	93.0	71	131				
cis-1,2-Dichloroethene	4.7	0.50	5.0	0.0	95.0	78	123				
trans-1,2-Dichloroethene	4.7	0.50	5.0	0.0	94.0	75	124				
1,2-Dichloropropane	4.8	0.50	5.0	0.0	97.0	78	122				
1,3-Dichloropropane	4.9	0.50	5.0	0.0	99.0	80	119				
2,2-Dichloropropane	5.0	0.50	5.0	0.0	99.0	60	139				
1,1-Dichloropropene	4.5	0.50	5.0	0.0	90.0	79	125				
cis-1,3-Dichloropropene	4.6	0.50	5.0	0.0	92.0	75	124				
trans-1,3-Dichloropropene	5.1	0.50	5.0	0.0	101.0	73	127				
Ethylbenzene	5.0	0.50	5.0	0.0	100.0	79	121				
Methyl tert-butyl ether (MTBE)	4.9	0.50	5.0	0.0	97.0	71	124				
Methyl ethyl ketone	54	10	50	0.0	108.0	56	143				
Methylene chloride	4.5	0.50	5.0	0.0	89.0	74	124				
Styrene	5.2	0.50	5.0	0.0	104.0	78	123				



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121623
Project: CV18F0126/60571032.02.20.01

Report Date: 02/03/2022

Run ID: Run Order: VOA5975C.I_211221B: 14 **SampType:** Sample Matrix Spike **Batch ID:** R372445
Method: SW8260B **Analysis Date:** 12/22/2021 10:56 **Prep Date:**
Lab ID: B21121611-001CMS **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	5.0	0.50	5.0	0.0	100.0	78	124				
1,1,2,2-Tetrachloroethane	5.0	0.50	5.0	0.0	100.0	71	121				
Tetrachloroethene	4.9	0.50	5.0	0.0	98.0	74	129				
Toluene	5.0	0.50	5.0	0.0	100.0	80	121				
1,1,1-Trichloroethane	4.7	0.50	5.0	0.0	93.0	74	131				
1,1,2-Trichloroethane	5.0	0.50	5.0	0.0	99.0	80	119				
Trichloroethene	4.7	0.50	5.0	0.0	95.0	79	123				
Trichlorofluoromethane	4.4	0.50	5.0	0.0	88.0	65	141				
1,2,3-Trichloropropane	5.0	0.50	5.0	0.0	99.0	73	125				
Vinyl chloride	4.7	0.50	5.0	0.0	93.0	58	137				
m+p-Xylenes	10	0.50	10	0.0	101.0	80	121				
o-Xylene	5.3	0.50	5.0	0.0	106.0	78	122				
Xylenes, Total	15	0.50	15	0.0	103.0	79	121				
Surr: 1,2-Dichloroethane-d4	10	0.50	10	0.0	100.0	81	118				
Surr: Dibromofluoromethane	10	0.50	10	0.0	102.0	80	119				
Surr: p-Bromofluorobenzene	10	0.50	10	0.0	104.0	85	114				
Surr: Toluene-d8	11	0.50	10	0.0	106.0	89	112				

Associated Samples: **B21121623-001E, B21121623-002A**

Run ID: Run Order: VOA5975C.I_211221B: 15 **SampType:** Sample Matrix Spike Duplicate **Batch ID:** R372445
Method: SW8260B **Analysis Date:** 12/22/2021 11:23 **Prep Date:**
Lab ID: B21121611-001CMS **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Benzene	5.0	0.50	5.0	0.0	101.0	79	120	4.9	2.7	20.0	
Bromobenzene	5.2	0.50	5.0	0.0	104.0	80	120	5.0	4.0	20.0	



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121623
Project: CV18F0126/60571032.02.20.01

Report Date: 02/03/2022

Run ID: Run Order: VOA5975C.I_211221B: 15 **SampType:** Sample Matrix Spike Duplicate **Batch ID:** R372445
Method: SW8260B **Analysis Date:** 12/22/2021 11:23 **Prep Date:**
Lab ID: B21121611-001CMSD **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Bromochloromethane	5.0	0.50	5.0	0.0	100.0	78	123	5.0	0.6	20.0	
Bromodichloromethane	5.1	0.50	5.0	0.0	103.0	79	125	4.9	4.2	20.0	
Bromoform	5.1	0.50	5.0	0.0	103.0	66	130	5.0	3.2	20.0	
Bromomethane	3.4	0.50	5.0	0.0	69.0	53	141	3.4	2.3	20.0	
Carbon tetrachloride	4.8	0.50	5.0	0.0	95.0	72	136	4.7	1.6	20.0	
Chlorobenzene	5.2	0.50	5.0	0.0	103.0	82	118	5.1	1.4	20.0	
Chlorodibromomethane	5.1	0.50	5.0	0.0	101.0	74	126	5.0	1.9	20.0	
Chloroethane	4.2	0.50	5.0	0.0	83.0	60	138	4.4	6.5	20.0	
Chloroform	4.6	0.50	5.0	0.0	93.0	79	124	4.5	2.8	20.0	
Chloromethane	4.6	0.50	5.0	0.0	92.0	50	139	4.3	6.9	20.0	
1,2-Dibromoethane	5.1	0.50	5.0	0.0	102.0	78	122	5.0	2.0	20.0	
2-Chlorotoluene	5.1	0.50	5.0	0.0	102.0	79	122	4.9	4.5	20.0	
Dibromomethane	5.1	0.50	5.0	0.0	103.0	79	123	4.9	4.1	20.0	
1,2-Dichlorobenzene	5.1	0.50	5.0	0.0	101.0	80	119	4.9	2.9	20.0	
4-Chlorotoluene	5.3	0.50	5.0	0.0	105.0	78	122	5.0	4.2	20.0	
1,3-Dichlorobenzene	5.3	0.50	5.0	0.0	105.0	80	119	5.0	4.3	20.0	
1,4-Dichlorobenzene	5.0	0.50	5.0	0.0	101.0	79	118	4.8	4.6	20.0	
Dichlorodifluoromethane	4.5	0.50	5.0	0.0	90.0	32	152	4.2	8.4	20.0	
1,1-Dichloroethane	5.0	0.50	5.0	0.0	101.0	77	125	4.9	3.7	20.0	
1,2-Dichloroethane	4.9	0.50	5.0	0.0	99.0	73	128	4.8	3.1	20.0	
1,1-Dichloroethene	4.3	0.50	5.0	0.0	85.0	71	131	4.7	9.4	20.0	
cis-1,2-Dichloroethene	5.1	0.50	5.0	0.0	101.0	78	123	4.7	6.5	20.0	
trans-1,2-Dichloroethene	5.0	0.50	5.0	0.0	100.0	75	124	4.7	6.8	20.0	
1,2-Dichloropropane	5.1	0.50	5.0	0.0	102.0	78	122	4.8	5.1	20.0	
1,3-Dichloropropane	5.1	0.50	5.0	0.0	103.0	80	119	4.9	3.9	20.0	
2,2-Dichloropropane	5.1	0.50	5.0	0.0	103.0	60	139	5.0	3.6	20.0	
1,1-Dichloropropene	4.7	0.50	5.0	0.0	94.0	79	125	4.5	4.6	20.0	



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121623
Project: CV18F0126/60571032.02.20.01

Report Date: 02/03/2022

Run ID: Run Order: VOA5975C.I_211221B: 15 **SampType:** Sample Matrix Spike Duplicate **Batch ID:** R372445
Method: SW8260B **Analysis Date:** 12/22/2021 11:23 **Prep Date:**
Lab ID: B21121611-001CMSD **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
cis-1,3-Dichloropropene	4.9	0.50	5.0	0.0	98.0	75	124	4.6	5.5	20.0	
trans-1,3-Dichloropropene	5.4	0.50	5.0	0.0	107.0	73	127	5.1	5.8	20.0	
Ethylbenzene	5.1	0.50	5.0	0.0	102.0	79	121	5.0	1.9	20.0	
Methyl tert-butyl ether (MTBE)	5.3	0.50	5.0	0.0	105.0	71	124	4.9	8.3	20.0	
Methyl ethyl ketone	56	10	50	0.0	112.0	56	143	54	3.5	20.0	
Methylene chloride	4.7	0.50	5.0	0.0	94.0	74	124	4.5	4.5	20.0	
Styrene	5.4	0.50	5.0	0.0	107.0	78	123	5.2	3.3	20.0	
1,1,1,2-Tetrachloroethane	5.1	0.50	5.0	0.0	101.0	78	124	5.0	0.9	20.0	
1,1,2,2-Tetrachloroethane	5.2	0.50	5.0	0.0	104.0	71	121	5.0	3.4	20.0	
Tetrachloroethene	5.1	0.50	5.0	0.0	102.0	74	129	4.9	4.2	20.0	
Toluene	5.1	0.50	5.0	0.0	102.0	80	121	5.0	1.6	20.0	
1,1,1-Trichloroethane	4.9	0.50	5.0	0.0	98.0	74	131	4.7	4.9	20.0	
1,1,2-Trichloroethane	4.9	0.50	5.0	0.0	99.0	80	119	5.0	0.7	20.0	
Trichloroethene	4.9	0.50	5.0	0.0	98.0	79	123	4.7	3.5	20.0	
Trichlorofluoromethane	4.3	0.50	5.0	0.0	85.0	65	141	4.4	2.8	20.0	
1,2,3-Trichloropropane	5.2	0.50	5.0	0.0	103.0	73	125	5.0	4.2	20.0	
Vinyl chloride	4.8	0.50	5.0	0.0	97.0	58	137	4.7	3.5	20.0	
m+p-Xylenes	10	0.50	10	0.0	102.0	80	121	10	1.3	20.0	
o-Xylene	5.3	0.50	5.0	0.0	106.0	78	122	5.3	0.7	20.0	
Xylenes, Total	16	0.50	15	0.0	104.0	79	121	15	1.1	20.0	
Surr: 1,2-Dichloroethane-d4	10	0.50	10	0.0	100.0	81	118	0.0			
Surr: Dibromofluoromethane	10	0.50	10	0.0	102.0	80	119	0.0			
Surr: p-Bromofluorobenzene	10	0.50	10	0.0	103.0	85	114	0.0			
Surr: Toluene-d8	10	0.50	10	0.0	105.0	89	112	0.0			

Associated Samples: **B21121623-001E, B21121623-002A**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121623
Project: CV18F0126/60571032.02.20.01

Report Date: 02/03/2022

Run ID: Run Order: VOA5975C.I_211221B: 2 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R372445
Method: SW8260B **Analysis Date:** 12/22/2021 00:22 **Prep Date:**
Lab ID: CCV122121a **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	80	120				
Bromobenzene	5.1	0.50	5.0		102.0	80	120				
Bromochloromethane	5.1	0.50	5.0		103.0	80	120				
Bromodichloromethane	5.0	0.50	5.0		101.0	80	120				
Bromoform	5.0	0.50	5.0		99.0	80	120				
Bromomethane	5.4	0.50	5.0		107.0	80	120				
Carbon tetrachloride	5.0	0.50	5.0		100.0	80	120				
Chlorobenzene	5.2	0.50	5.0		105.0	80	120				
Chlorodibromomethane	5.0	0.50	5.0		101.0	80	120				
Chloroethane	4.6	0.50	5.0		92.0	80	120				
Chloroform	4.8	0.50	5.0		97.0	80	120				
Chloromethane	4.9	0.50	5.0		98.0	80	120				
1,2-Dibromoethane	5.3	0.50	5.0		107.0	80	120				
2-Chlorotoluene	5.0	0.50	5.0		101.0	80	120				
Dibromomethane	5.2	0.50	5.0		105.0	80	120				
1,2-Dichlorobenzene	5.0	0.50	5.0		100.0	80	120				
4-Chlorotoluene	5.2	0.50	5.0		103.0	80	120				
1,3-Dichlorobenzene	5.1	0.50	5.0		102.0	80	120				
1,4-Dichlorobenzene	5.1	0.50	5.0		101.0	80	120				
Dichlorodifluoromethane	4.6	0.50	5.0		91.0	80	120				
1,1-Dichloroethane	5.1	0.50	5.0		102.0	80	120				
1,2-Dichloroethane	5.0	0.50	5.0		99.0	80	120				
1,1-Dichloroethene	5.1	0.50	5.0		101.0	80	120				
cis-1,2-Dichloroethene	5.0	0.50	5.0		99.0	80	120				
trans-1,2-Dichloroethene	5.1	0.50	5.0		101.0	80	120				
1,2-Dichloropropane	5.3	0.50	5.0		106.0	80	120				
1,3-Dichloropropane	5.3	0.50	5.0		105.0	80	120				



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121623
Project: CV18F0126/60571032.02.20.01

Report Date: 02/03/2022

Run ID: Run Order: VOA5975C.I_211221B: 2 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R372445
Method: SW8260B **Analysis Date:** 12/22/2021 00:22 **Prep Date:**
Lab ID: CCV122121a **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
2,2-Dichloropropane	4.6	0.50	5.0		93.0	80	120				
1,1-Dichloropropene	5.0	0.50	5.0		99.0	80	120				
cis-1,3-Dichloropropene	5.0	0.50	5.0		100.0	80	120				
trans-1,3-Dichloropropene	5.1	0.50	5.0		103.0	80	120				
Ethylbenzene	5.2	0.50	5.0		105.0	80	120				
Methyl tert-butyl ether (MTBE)	4.9	0.50	5.0		97.0	80	120				
Methyl ethyl ketone	52	10	50		105.0	80	120				
Methylene chloride	4.8	0.50	5.0		97.0	80	120				
Styrene	5.5	0.50	5.0		109.0	80	120				
1,1,1,2-Tetrachloroethane	5.3	0.50	5.0		105.0	80	120				
1,1,2,2-Tetrachloroethane	5.0	0.50	5.0		101.0	80	120				
Tetrachloroethene	5.4	0.50	5.0		108.0	80	120				
Toluene	5.4	0.50	5.0		109.0	80	120				
1,1,1-Trichloroethane	5.1	0.50	5.0		101.0	80	120				
1,1,2-Trichloroethane	5.2	0.50	5.0		103.0	80	120				
Trichloroethene	5.1	0.50	5.0		102.0	80	120				
Trichlorofluoromethane	4.4	0.50	5.0		88.0	80	120				
1,2,3-Trichloropropane	5.0	0.50	5.0		100.0	80	120				
Vinyl chloride	4.7	0.50	5.0		95.0	80	120				
m+p-Xylenes	11	0.50	10		108.0	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	9.7	0.50	10		97.0	80	120				
Surr: Dibromofluoromethane	10	0.50	10		102.0	80	120				
Surr: p-Bromofluorobenzene	10	0.50	10		101.0	80	120				



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121623
Project: CV18F0126/60571032.02.20.01

Report Date: 02/03/2022

Run ID: Run Order: VOA5975C.I_211221B: 2 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R372445
Method: SW8260B **Analysis Date:** 12/22/2021 00:22 **Prep Date:**
Lab ID: CCV122121a **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Surr: Toluene-d8	11	0.50	10		108.0	80	120				

Associated Samples: **B21121623-001E, B21121623-002A**

Run ID: Run Order: VOA5975C.I_211221B: 16 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R372445
Method: SW8260B **Analysis Date:** 12/22/2021 12:18 **Prep Date:**
Lab ID: CCV122121a_Closing **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		98.0	50	150				
Bromobenzene	4.9	0.50	5.0		98.0	50	150				
Bromochloromethane	5.1	0.50	5.0		103.0	50	150				
Bromodichloromethane	4.8	0.50	5.0		96.0	50	150				
Bromoform	4.6	0.50	5.0		92.0	50	150				
Bromomethane	2.9	0.50	5.0		58.0	50	150				
Carbon tetrachloride	4.8	0.50	5.0		96.0	50	150				
Chlorobenzene	5.0	0.50	5.0		100.0	50	150				
Chlorodibromomethane	4.9	0.50	5.0		97.0	50	150				
Chloroethane	4.4	0.50	5.0		88.0	50	150				
Chloroform	4.6	0.50	5.0		92.0	50	150				
Chloromethane	4.5	0.50	5.0		89.0	50	150				
1,2-Dibromoethane	4.9	0.50	5.0		98.0	50	150				
2-Chlorotoluene	4.7	0.50	5.0		95.0	50	150				
Dibromomethane	4.9	0.50	5.0		97.0	50	150				
1,2-Dichlorobenzene	4.7	0.50	5.0		95.0	50	150				



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121623
Project: CV18F0126/60571032.02.20.01

Report Date: 02/03/2022

Run ID: Run Order: VOA5975C.I_211221B: 16 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R372445
Method: SW8260B **Analysis Date:** 12/22/2021 12:18 **Prep Date:**
Lab ID: CCV122121a_Closing **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
4-Chlorotoluene	5.0	0.50	5.0		100.0	50	150				
1,3-Dichlorobenzene	4.8	0.50	5.0		95.0	50	150				
1,4-Dichlorobenzene	4.7	0.50	5.0		94.0	50	150				
Dichlorodifluoromethane	4.2	0.50	5.0		85.0	50	150				
1,1-Dichloroethane	4.9	0.50	5.0		98.0	50	150				
1,2-Dichloroethane	4.7	0.50	5.0		94.0	50	150				
1,1-Dichloroethene	4.9	0.50	5.0		97.0	50	150				
cis-1,2-Dichloroethene	4.8	0.50	5.0		95.0	50	150				
trans-1,2-Dichloroethene	4.8	0.50	5.0		96.0	50	150				
1,2-Dichloropropane	4.9	0.50	5.0		98.0	50	150				
1,3-Dichloropropane	4.9	0.50	5.0		98.0	50	150				
2,2-Dichloropropane	4.9	0.50	5.0		98.0	50	150				
1,1-Dichloropropene	4.8	0.50	5.0		97.0	50	150				
cis-1,3-Dichloropropene	4.9	0.50	5.0		99.0	50	150				
trans-1,3-Dichloropropene	4.9	0.50	5.0		99.0	50	150				
Ethylbenzene	5.0	0.50	5.0		100.0	50	150				
Methyl tert-butyl ether (MTBE)	4.7	0.50	5.0		93.0	50	150				
Methyl ethyl ketone	51	10	50		101.0	50	150				
Methylene chloride	4.6	0.50	5.0		92.0	50	150				
Styrene	5.2	0.50	5.0		104.0	50	150				
1,1,1,2-Tetrachloroethane	4.9	0.50	5.0		99.0	50	150				
1,1,2,2-Tetrachloroethane	4.9	0.50	5.0		98.0	50	150				
Tetrachloroethene	5.0	0.50	5.0		101.0	50	150				
Toluene	5.0	0.50	5.0		101.0	50	150				
1,1,1-Trichloroethane	4.8	0.50	5.0		97.0	50	150				
1,1,2-Trichloroethane	4.8	0.50	5.0		97.0	50	150				
Trichloroethene	4.8	0.50	5.0		96.0	50	150				



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121623
Project: CV18F0126/60571032.02.20.01

Report Date: 02/03/2022

Run ID: Run Order: VOA5975C.I_211221B: 16 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R372445
Method: SW8260B **Analysis Date:** 12/22/2021 12:18 **Prep Date:**
Lab ID: CCV122121a_Closing **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Trichlorofluoromethane	4.1	0.50	5.0		82.0	50	150				
1,2,3-Trichloropropane	4.7	0.50	5.0		94.0	50	150				
Vinyl chloride	4.3	0.50	5.0		86.0	50	150				
m+p-Xylenes	10	0.50	10		102.0	50	150				
o-Xylene	5.2	0.50	5.0		104.0	50	150				
Xylenes, Total	15	0.50	15		103.0	50	150				
Surr: 1,2-Dichloroethane-d4	9.7	0.50	10		97.0	50	150				
Surr: Dibromofluoromethane	10	0.50	10		101.0	50	150				
Surr: p-Bromofluorobenzene	10	0.50	10		103.0	50	150				
Surr: Toluene-d8	11	0.50	10		106.0	50	150				

Associated Samples: **B21121623-001E, B21121623-002A**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121623
Project: CV18F0126/60571032.02.20.01

Report Date: 02/03/2022

Run ID: Run Order: GECD.I_211221A: 10 **SampType:** Method Blank **Batch ID:** 162394
Method: SW8011 **Analysis Date:** 12/22/2021 09:10 **Prep Date:** 12/21/2021 10:30
Lab ID: MB-162394 **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	0.093	0.020	0.10		93.0	70	130				

Associated Samples: **B21121623-001G, B21121623-004A**

Run ID: Run Order: GECD.I_211221A: 11 **SampType:** Laboratory Control Sample **Batch ID:** 162394
Method: SW8011 **Analysis Date:** 12/22/2021 09:29 **Prep Date:** 12/21/2021 10:30
Lab ID: LCS-162394 **Units:** ug/L **Prep Method:** SW8011

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.23	0.010	0.25		91.0	60	140				
Surr: 1,1,1,2-Tetrachloroethane	0.090	0.020	0.10		90.0	70	130				

Associated Samples: **B21121623-001G, B21121623-004A**

Run ID: Run Order: GECD.I_211221A: 12 **SampType:** Laboratory Control Sample **Batch ID:** 162394
Method: SW8011 **Analysis Date:** 12/22/2021 09:49 **Prep Date:** 12/21/2021 10:31
Lab ID: LCS1-162394 **Units:** ug/L **Prep Method:** SW8011

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.094	0.010	0.10		94.0	60	140				
Surr: 1,1,1,2-Tetrachloroethane	0.089	0.020	0.10		89.0	70	130				

Associated Samples: **B21121623-001G, B21121623-004A**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121623
Project: CV18F0126/60571032.02.20.01

Report Date: 02/03/2022

Run ID: Run Order: GECD.I_211221A: 29 **SampType:** Sample Matrix Spike **Batch ID:** 162394
Method: SW8011 **Analysis Date:** 12/22/2021 16:30 **Prep Date:** 12/21/2021 10:32
Lab ID: B21121613-001GMS **Units:** ug/L **Prep Method:** SW8011

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.23	0.010	0.24	0.0	93.0	60	140				
Surr: 1,1,1,2-Tetrachloroethane	0.089	0.020	0.097	0.0	92.0	70	130				

Associated Samples: **B21121623-001G, B21121623-004A**

Run ID: Run Order: GECD.I_211221A: 30 **SampType:** Sample Matrix Spike Duplicate **Batch ID:** 162394
Method: SW8011 **Analysis Date:** 12/22/2021 16:50 **Prep Date:** 12/21/2021 10:32
Lab ID: B21121613-001GMSD **Units:** ug/L **Prep Method:** SW8011

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.22	0.010	0.24	0.0	90.0	60	140	0.23	2.4	20.0	
Surr: 1,1,1,2-Tetrachloroethane	0.087	0.020	0.098	0.0	89.0	70	130	0.0			

Associated Samples: **B21121623-001G, B21121623-004A**

Run ID: Run Order: GECD.I_211221A: 20 **SampType:** Continuing Calibration Verification Standard **Batch ID:** 162394
Method: SW8011 **Analysis Date:** 12/22/2021 13:09 **Prep Date:** 12/21/2021 10:32
Lab ID: CK5-162394 **Units:** ug/L **Prep Method:** SW8011

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.40	0.010	0.40		99.0	80	120				
Surr: 1,1,1,2-Tetrachloroethane	0.41	0.020	0.40		103.0	80	120				

Associated Samples: **B21121623-001G, B21121623-004A**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121623
Project: CV18F0126/60571032.02.20.01

Report Date: 02/03/2022

Run ID: Run Order: GECD.I_211221A: 31 **SampType:** Continuing Calibration Verification Standard **Batch ID:** 162394
Method: SW8011 **Analysis Date:** 12/22/2021 17:31 **Prep Date:** 12/21/2021 10:32
Lab ID: CK3-162394 **Units:** ug/L **Prep Method:** SW8011

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.099	0.010	0.10		99.0	80	120				
Surr: 1,1,1,2-Tetrachloroethane	0.090	0.020	0.10		90.0	80	120				

Associated Samples: **B21121623-001G, B21121623-004A**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121623
Project: CV18F0126/60571032.02.20.01

Report Date: 02/03/2022

Run ID: Run Order: PE 1_211221A: 4 **SampType:** Method Blank **Batch ID:** R372185
Method: SW8015C **Analysis Date:** 12/21/2021 11:16 **Prep Date:**
Lab ID: MBLK_1221PE106r **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
C6 to C10	ND	10									
Total Purgeable Hydrocarbons	ND	10									
Surr: Trifluorotoluene	19	1.0	25		75.0	70	130				

Associated Samples: **B21121623-001F, B21121623-003A**

Run ID: Run Order: PE 1_211221A: 20 **SampType:** Method Blank **Batch ID:** R372185
Method: SW8015C **Analysis Date:** 12/21/2021 21:33 **Prep Date:**
Lab ID: MBLK_1221PE124r **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	20	1.0	25		79.0	70	130				

Associated Samples: **B21121623-001F, B21121623-003A**

Run ID: Run Order: PE 1_211221A: 29 **SampType:** Method Blank **Batch ID:** R372185
Method: SW8015C **Analysis Date:** 12/22/2021 08:59 **Prep Date:**
Lab ID: MBLK_1221PE144r **Units:** ug/L **Prep Method:**

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

Associated Samples: **B21121623-001F, B21121623-003A**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121623
Project: CV18F0126/60571032.02.20.01

Report Date: 02/03/2022

Run ID: Run Order: PE 1_211221A: 3 **SampType:** Laboratory Control Sample **Batch ID:** R372185
Method: SW8015C **Analysis Date:** 12/21/2021 10:42 **Prep Date:**
Lab ID: LCS_1221PE105r **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
C6 to C10	174	20	170		102.0	78	122				
Total Purgeable Hydrocarbons	210	20	200		105.0	70	130				
Surr: Trifluorotoluene	23	1.0	25		92.0	70	130				

Associated Samples: **B21121623-001F, B21121623-003A**

Run ID: Run Order: PE 1_211221A: 19 **SampType:** Laboratory Control Sample **Batch ID:** R372185
Method: SW8015C **Analysis Date:** 12/21/2021 20:59 **Prep Date:**
Lab ID: LCS_1221PE123r **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
C6 to C10	172	20	170		101.0	78	122				
Total Purgeable Hydrocarbons	207	20	200		103.0	70	130				
Surr: Trifluorotoluene	22	1.0	25		90.0	70	130				

Associated Samples: **B21121623-001F, B21121623-003A**

Run ID: Run Order: PE 1_211221A: 28 **SampType:** Laboratory Control Sample **Batch ID:** R372185
Method: SW8015C **Analysis Date:** 12/22/2021 08:25 **Prep Date:**
Lab ID: LCS_1221PE143r **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
C6 to C10	173	20	170		102.0	78	122				
Total Purgeable Hydrocarbons	209	20	200		104.0	70	130				
Surr: Trifluorotoluene	23	1.0	25		92.0	70	130				

Associated Samples: **B21121623-001F, B21121623-003A**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121623
Project: CV18F0126/60571032.02.20.01

Report Date: 02/03/2022

Run ID: Run Order: PE 1_211221A: 15 **SampType:** Sample Matrix Spike **Batch ID:** R372185
Method: SW8015C **Analysis Date:** 12/21/2021 18:07 **Prep Date:**
Lab ID: B21121613-001FMS **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
C6 to C10	167	20	170	0.0	98.0	78	122				
Total Purgeable Hydrocarbons	201	20	200	0.0	101.0	70	130				
Surr: Trifluorotoluene	22	1.0	25	0.0	88.0	70	130				

Associated Samples: **B21121623-001F, B21121623-003A**

Run ID: Run Order: PE 1_211221A: 16 **SampType:** Sample Matrix Spike Duplicate **Batch ID:** R372185
Method: SW8015C **Analysis Date:** 12/21/2021 18:42 **Prep Date:**
Lab ID: B21121613-001FMSD **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
C6 to C10	174	20	170	0.0	103.0	78	122	167	4.5	20.0	
Total Purgeable Hydrocarbons	210	20	200	0.0	105.0	70	130	201	4.5	20.0	
Surr: Trifluorotoluene	22	1.0	25	0.0	90.0	70	130	0.0			

Associated Samples: **B21121623-001F, B21121623-003A**

Run ID: Run Order: PE 1_211221A: 36 **SampType:** Sample Matrix Spike **Batch ID:** R372185
Method: SW8015C **Analysis Date:** 12/22/2021 16:25 **Prep Date:**
Lab ID: B21121623-001FMS **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	0.0	95.0	78	122				
Total Purgeable Hydrocarbons	235	20	200	37	99.0	70	130				
Surr: Trifluorotoluene	22	1.0	25	0.0	87.0	70	130				

Associated Samples: **B21121623-001F, B21121623-003A**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121623
Project: CV18F0126/60571032.02.20.01

Report Date: 02/03/2022

Run ID: Run Order: PE 1_211221A: 37 **SampType:** Sample Matrix Spike Duplicate **Batch ID:** R372185
Method: SW8015C **Analysis Date:** 12/22/2021 17:00 **Prep Date:**
Lab ID: B21121623-001FMSD **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
C6 to C10	171	20	170	0.0	100.0	78	122	162	5.1	20.0	
Total Purgeable Hydrocarbons	243	20	200	37	103.0	70	130	235	3.4	20.0	
Surr: Trifluorotoluene	22	1.0	25	0.0	90.0	70	130	0.0			

Associated Samples: **B21121623-001F, B21121623-003A**

Run ID: Run Order: GCFID-HP5-B_211221A: 4 **SampType:** Method Blank **Batch ID:** 162352
Method: SW8015C **Analysis Date:** 12/21/2021 19:18 **Prep Date:** 12/20/2021 12:09
Lab ID: MB-162352 **Units:** mg/L **Prep Method:** SW3520C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Diesel Range Organics (C10 to C24)	ND	0.15									
Oil Range Hydrocarbons (C24 to C40)	ND	0.15									
Total Extractable Hydrocarbons	ND	0.15									
Surr: o-Terphenyl	0.18	0.0020	0.20		92.0	56	125				
Surr: n-Triacontane	0.094	0.0020	0.10		94.0	50	150				

Associated Samples: **B21121623-001C**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121623
Project: CV18F0126/60571032.02.20.01

Report Date: 02/03/2022

Run ID: Run Order: GCFID-HP5-B_211226A: 3 **SampType:** Method Blank **Batch ID:** 162352
Method: SW8015C **Analysis Date:** 12/26/2021 16:16 **Prep Date:** 12/20/2021 12:09
Lab ID: MB-162352 **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)	0.22	0.0020	0.20		109.0	56	125				
Surr: n-Triacontane (SGT)	0.12	0.0020	0.10		118.0	50	150				

Associated Samples: **B21121623-001C**

Run ID: Run Order: GCFID-HP5-B_211221A: 3 **SampType:** Laboratory Control Sample **Batch ID:** 162352
Method: SW8015C **Analysis Date:** 12/21/2021 18:35 **Prep Date:** 12/20/2021 12:09
Lab ID: LCS-162352 **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		89.0	36	132				
Total Extractable Hydrocarbons	14	0.30	15		95.0	60	132				
Surr: o-Terphenyl	0.19	0.0020	0.20		94.0	56	125				

Associated Samples: **B21121623-001C**

Run ID: Run Order: GCFID-HP5-B_211221A: 25 **SampType:** Laboratory Control Sample **Batch ID:** 162352
Method: SW8015C **Analysis Date:** 12/22/2021 22:49 **Prep Date:** 12/20/2021 12:09
Lab ID: LCS-162352-RRO **Units:** mg/L **Prep Method:** SW3520C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
TEH(Oil Range)	4.6	0.30	5.0		93.0	41	113				



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121623
Project: CV18F0126/60571032.02.20.01

Report Date: 02/03/2022

Run ID: Run Order: GCFID-HP5-B_211221A: 25 **SampType:** Laboratory Control Sample **Batch ID:** 162352
Method: SW8015C **Analysis Date:** 12/22/2021 22:49 **Prep Date:** 12/20/2021 12:09
Lab ID: LCS-162352-RRO **Units:** mg/L **Prep Method:** SW3520C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Surr: n-Triacontane	0.090	0.0020	0.10		90.0	50	150				

Associated Samples: **B21121623-001C**

Run ID: Run Order: GCFID-HP5-B_211226A: 19 **SampType:** Laboratory Control Sample **Batch ID:** 162352
Method: SW8015C **Analysis Date:** 12/27/2021 08:00 **Prep Date:** 12/20/2021 12:09
Lab ID: LCS-162352 **Units:** mg/L **Prep Method:** SW3520C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Diesel Range Organics (SGT-C10 to C24)	15	0.30	15		99.0	36	132				
Total Extractable Hydrocarbons (SGT)	16	0.30	15		106.0	60	132				
Surr: o-Terphenyl (SGT)	0.20	0.0020	0.20		101.0	56	125				

Associated Samples: **B21121623-001C**

Run ID: Run Order: GCFID-HP5-B_211226A: 25 **SampType:** Laboratory Control Sample **Batch ID:** 162352
Method: SW8015C **Analysis Date:** 12/28/2021 03:25 **Prep Date:** 12/20/2021 12:09
Lab ID: LCS-162352-RRO **Units:** mg/L **Prep Method:** SW3520C

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

Associated Samples: **B21121623-001C**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121623
Project: CV18F0126/60571032.02.20.01

Report Date: 02/03/2022

Run ID: Run Order: GCFID-HP5-B_211221A: 6 **SampType:** Sample Matrix Spike **Batch ID:** 162352
Method: SW8015C **Analysis Date:** 12/21/2021 20:44 **Prep Date:** 12/20/2021 12:09
Lab ID: B21121613-001BMS **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)	14	0.30	15	0.0	91.0	36	132				
Total Extractable Hydrocarbons	15	0.30	15	0.0	98.0	60	132				
Surr: o-Terphenyl	0.18	0.0020	0.20	0.0	91.0	56	125				

Associated Samples: **B21121623-001C**

Run ID: Run Order: GCFID-HP5-B_211221A: 7 **SampType:** Sample Matrix Spike Duplicate **Batch ID:** 162352
Method: SW8015C **Analysis Date:** 12/21/2021 21:28 **Prep Date:** 12/20/2021 12:09
Lab ID: B21121613-001BMSD **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	14	12.0	20.0	
Total Extractable Hydrocarbons	13	0.30	14	0.0	91.0	60	132	15	12.0	20.0	
Surr: o-Terphenyl	0.17	0.0020	0.19	0.0	88.0	56	125	0.0			

Associated Samples: **B21121623-001C**

Run ID: Run Order: GCFID-HP5-B_211221A: 23 **SampType:** Sample Matrix Spike **Batch ID:** 162352
Method: SW8015C **Analysis Date:** 12/22/2021 20:39 **Prep Date:** 12/20/2021 12:09
Lab ID: B21121613-001BMS-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	0.091	0.0020	0.096	0.0	95.0	50	150				

Associated Samples: **B21121623-001C**



Analytical QC Summary Report

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Client: AECOM - Honolulu
Workorder: B21121623
Project: CV18F0126/60571032.02.20.01

Report Date: 02/03/2022

Run ID: Run Order: GCFID-HP5-B_211221A: 24 **SampType:** Sample Matrix Spike Duplicate **Batch ID:** 162352
Method: SW8015C **Analysis Date:** 12/22/2021 22:06 **Prep Date:** 12/20/2021 12:09
Lab ID: B21121613-001BMSD-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	4.7	0.0	95.0	41	113	4.5	0.2	20.0	
Surr: n-Triacontane	0.090	0.0020	0.095	0.0	94.0	50	150	0.0			

Associated Samples: **B21121623-001C**

Run ID: Run Order: GCFID-HP5-B_211226A: 5 **SampType:** Sample Matrix Spike **Batch ID:** 162352
Method: SW8015C **Analysis Date:** 12/26/2021 17:42 **Prep Date:** 12/20/2021 12:09
Lab ID: B21121613-001BMS **Units:** mg/L **Prep Method:** SW3520C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Diesel Range Organics (SGT-C10 to C24)	16	0.30	15	0.0	105.0	36	132				
Total Extractable Hydrocarbons (SGT)	17	0.30	15	0.0	111.0	60	132				
Surr: o-Terphenyl (SGT)	0.22	0.0020	0.20	0.0	107.0	56	125				

Associated Samples: **B21121623-001C**

Run ID: Run Order: GCFID-HP5-B_211226A: 6 **SampType:** Sample Matrix Spike Duplicate **Batch ID:** 162352
Method: SW8015C **Analysis Date:** 12/26/2021 18:25 **Prep Date:** 12/20/2021 12:09
Lab ID: B21121613-001BMSD **Units:** mg/L **Prep Method:** SW3520C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Diesel Range Organics (SGT-C10 to C24)	15	0.30	14	0.0	101.0	36	132	16	8.2	20.0	
Total Extractable Hydrocarbons (SGT)	16	0.30	14	0.0	108.0	60	132	17	8.1	20.0	
Surr: o-Terphenyl (SGT)	0.21	0.0020	0.19	0.0	109.0	56	125	0.0			

Associated Samples: **B21121623-001C**



Analytical QC Summary Report

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Client: AECOM - Honolulu
Workorder: B21121623
Project: CV18F0126/60571032.02.20.01

Report Date: 02/03/2022

Run ID: Run Order: GCFID-HP5-B_211226A: 18 **SampType:** Sample Matrix Spike **Batch ID:** 162352
Method: SW8015C **Analysis Date:** 12/27/2021 06:34 **Prep Date:** 12/20/2021 12:09
Lab ID: B21121613-001BMS-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	4.8	0.0	100.0	41	113				
Surr: n-Triacontane (SGT)	0.092	0.0020	0.096	0.0	97.0	50	150				

Associated Samples: **B21121623-001C**

Run ID: Run Order: GCFID-HP5-B_211226A: 20 **SampType:** Sample Matrix Spike Duplicate **Batch ID:** 162352
Method: SW8015C **Analysis Date:** 12/27/2021 08:43 **Prep Date:** 12/20/2021 12:09
Lab ID: B21121613-001BMSD-RRO **Units:** mg/L **Prep Method:** SW3520C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
TEH (SGT-Oil Range)	4.9	0.30	4.7	0.0	103.0	41	113	4.8	2.0	20.0	
Surr: n-Triacontane (SGT)	0.094	0.0020	0.095	0.0	99.0	50	150	0.0			

Associated Samples: **B21121623-001C**

Run ID: Run Order: PE 1_211221A: 2 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R372185
Method: SW8015C **Analysis Date:** 12/21/2021 10:08 **Prep Date:**
Lab ID: CCV_1221PE104r **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
C6 to C10	167	20	168		100.0	80	120				
Total Purgeable Hydrocarbons	200	20	200		100.0	80	120				
Surr: Trifluorotoluene	23	1.0	25		91.0	80	120				

Associated Samples: **B21121623-001F, B21121623-003A**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121623
Project: CV18F0126/60571032.02.20.01

Report Date: 02/03/2022

Run ID: Run Order: PE 1_211221A: 18 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R372185
Method: SW8015C **Analysis Date:** 12/21/2021 20:25 **Prep Date:**
Lab ID: CCV_1221PE122r **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
C6 to C10	166	20	168		99.0	80	120				
Total Purgeable Hydrocarbons	198	20	200		99.0	80	120				
Surr: Trifluorotoluene	22	1.0	25		89.0	80	120				

Associated Samples: **B21121623-001F, B21121623-003A**

Run ID: Run Order: PE 1_211221A: 27 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R372185
Method: SW8015C **Analysis Date:** 12/22/2021 07:51 **Prep Date:**
Lab ID: CCV_1221PE142r **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
C6 to C10	157	20	168		93.0	80	120				
Total Purgeable Hydrocarbons	187	20	200		94.0	80	120				
Surr: Trifluorotoluene	22	1.0	25		86.0	80	120				

Associated Samples: **B21121623-001F, B21121623-003A**

Run ID: Run Order: PE 1_211221A: 39 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R372185
Method: SW8015C **Analysis Date:** 12/22/2021 18:43 **Prep Date:**
Lab ID: CCV_1221PE161r **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
C6 to C10	170	20	168		101.0	80	120				
Total Purgeable Hydrocarbons	204	20	200		102.0	80	120				
Surr: Trifluorotoluene	23	1.0	25		91.0	80	120				

Associated Samples: **B21121623-001F, B21121623-003A**



Analytical QC Summary Report

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Client: AECOM - Honolulu
Workorder: B21121623
Project: CV18F0126/60571032.02.20.01

Report Date: 02/03/2022

Run ID: Run Order: GCFID-HP5-B_211221A: 12 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R372230
Method: SW8015C **Analysis Date:** 12/22/2021 03:56 **Prep Date:**
Lab ID: CCV_1221HP520r-W **Units:** mg/L **Prep Method:**

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

Associated Samples: **B21121623-001C**

Run ID: Run Order: GCFID-HP5-B_211221A: 13 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R372230
Method: SW8015C **Analysis Date:** 12/22/2021 04:39 **Prep Date:**
Lab ID: CCV_1221HP521r **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		103.0	80	120				
Surr: o-Terphenyl	0.20	0.0020	0.20		99.0	80	120				

Associated Samples: **B21121623-001C**

Run ID: Run Order: GCFID-HP5-B_211221A: 19 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R372230
Method: SW8015C **Analysis Date:** 12/22/2021 15:35 **Prep Date:**
Lab ID: CCV_1221HP536r-W **Units:** mg/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
TEH(Oil Range)	4.7	0.30	5.0		94.0	80	120				
Surr: n-Triacontane	0.21	0.0020	0.20		105.0	80	120				

Associated Samples: **B21121623-001C**



Analytical QC Summary Report

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Client: AECOM - Honolulu
Workorder: B21121623
Project: CV18F0126/60571032.02.20.01

Report Date: 02/03/2022

Run ID: Run Order: GCFID-HP5-B_211221A: 20 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R372230
Method: SW8015C **Analysis Date:** 12/22/2021 16:18 **Prep Date:**
Lab ID: CCV_1221HP537r **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		93.0	80	120				
Total Extractable Hydrocarbons	15	0.30	15		97.0	80	120				
Surr: o-Terphenyl	0.19	0.0020	0.20		94.0	80	120				

Associated Samples: **B21121623-001C**

Run ID: Run Order: GCFID-HP5-B_211226A: 1 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R372351
Method: SW8015C **Analysis Date:** 12/26/2021 13:24 **Prep Date:**
Lab ID: CCV_1226HP504r-W **Units:** mg/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
TEH(Oil Range)	5.1	0.30	5.0		101.0	80	120				
Surr: n-Triacontane	0.23	0.0020	0.20		116.0	80	120				

Associated Samples: **B21121623-001C**

Run ID: Run Order: GCFID-HP5-B_211226A: 2 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R372351
Method: SW8015C **Analysis Date:** 12/26/2021 14:07 **Prep Date:**
Lab ID: CCV_1226HP505r **Units:** mg/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Diesel Range Organics (C10 to C24)	16	0.30	15		106.0	80	120				
Total Extractable Hydrocarbons	16	0.30	15		110.0	80	120				
Surr: o-Terphenyl	0.21	0.0020	0.20		107.0	80	120				

Associated Samples: **B21121623-001C**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121623
Project: CV18F0126/60571032.02.20.01

Report Date: 02/03/2022

Run ID: Run Order: GCFID-HP5-B_211226A: 12 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R372351
Method: SW8015C **Analysis Date:** 12/27/2021 00:51 **Prep Date:**
Lab ID: CCV_1226HP504r-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	0.22	0.0020	0.20		111.0	80	120				

Associated Samples: **B21121623-001C**

Run ID: Run Order: GCFID-HP5-B_211226A: 13 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R372351
Method: SW8015C **Analysis Date:** 12/27/2021 01:34 **Prep Date:**
Lab ID: CCV_1226HP505r **Units:** mg/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Diesel Range Organics (C10 to C24)	16	0.30	15		106.0	80	120				
Total Extractable Hydrocarbons	16	0.30	15		110.0	80	120				
Surr: o-Terphenyl	0.21	0.0020	0.20		106.0	80	120				

Associated Samples: **B21121623-001C**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121623
Project: CV18F0126/60571032.02.20.01

Report Date: 02/03/2022

Run ID: Run Order: FID-HEADSPACE_211221A: 4 **SampType:** Method Blank **Batch ID:** R372153
Method: SW8015M **Analysis Date:** 12/21/2021 10:38 **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: B21121623-001H, B21121623-005A

Run ID: Run Order: FID-HEADSPACE_211221A: 2 **SampType:** Laboratory Control Sample **Batch ID:** R372153
Method: SW8015M **Analysis Date:** 12/21/2021 09:34 **Prep Date:**
Lab ID: LCS **Units:** ppm **Prep Method:**

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

Associated Samples: B21121623-001H, B21121623-005A

Run ID: Run Order: FID-HEADSPACE_211221A: 3 **SampType:** Laboratory Control Sample Duplicate **Batch ID:** R372153
Method: SW8015M **Analysis Date:** 12/21/2021 09:39 **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	97	2.0	100		97.0	85	115	97	0.1	20.0	

Associated Samples: B21121623-001H, B21121623-005A



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121623
Project: CV18F0126/60571032.02.20.01

Report Date: 02/03/2022

Run ID: Run Order: FID-HEADSPACE_211221A: 9 **SampType:** Sample Duplicate **Batch ID:** R372153
Method: SW8015M **Analysis Date:** 12/21/2021 11:27 **Prep Date:**
Lab ID: B21121613-001HDUP **Units:** mg/L **Prep Method:**

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

Associated Samples: **B21121623-001H, B21121623-005A**

Run ID: Run Order: FID-HEADSPACE_211221A: 11 **SampType:** Sample Duplicate **Batch ID:** R372153
Method: SW8015M **Analysis Date:** 12/21/2021 11:50 **Prep Date:**
Lab ID: B21121613-002FDUP **Units:** mg/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Methane	0.095	0.0020			0.0			0.094	1.1	20.0	

Associated Samples: **B21121623-001H, B21121623-005A**

Run ID: Run Order: FID-HEADSPACE_211221A: 16 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R372153
Method: SW8015M **Analysis Date:** 12/21/2021 12:56 **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: **B21121623-001H, B21121623-005A**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121623
Project: CV18F0126/60571032.02.20.01

Report Date: 02/03/2022

Run ID: Run Order: FID-HEADSPACE_211221A: 23 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R372153
Method: SW8015M **Analysis Date:** 12/21/2021 14:56 **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: B21121623-001H, B21121623-005A



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121623
Project: CV18F0126/60571032.02.20.01

Report Date: 02/03/2022

Run ID: Run Order: SV5975.I_211223A: 4 **SampType:** Method Blank **Batch ID:** 162392
Method: SW8270C **Analysis Date:** 12/23/2021 11:56 **Prep Date:** 12/21/2021 10:16
Lab ID: MB-162392 **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									
Naphthalene	ND	0.10									

Associated Samples: **B21121623-001B**

Run ID: Run Order: SV5975.I_211223A: 5 **SampType:** Method Blank **Batch ID:** 162392
Method: SW8270C **Analysis Date:** 12/23/2021 12:29 **Prep Date:** 12/21/2021 10:16
Lab ID: MB-162392 **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Surr: 2-Fluorobiphenyl	56	2.0	100		56.0	53	106				
Surr: Nitrobenzene-d5	59	2.0	100		59.0	55	111				
Surr: Terphenyl-d14	116	2.0	100		116.0	58	132				

Associated Samples: **B21121623-001B**

Run ID: Run Order: SV5973N.I_211230A: 4 **SampType:** Method Blank **Batch ID:** 162392
Method: SW8270C **Analysis Date:** 12/30/2021 13:45 **Prep Date:** 12/21/2021 10:16
Lab ID: MB-162392 **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	ND	5.0									
1,2-Dichlorobenzene	ND	5.0									
1,3-Dichlorobenzene	ND	5.0									
1,4-Dichlorobenzene	ND	5.0									
1-Methylnaphthalene	ND	5.0									
2,4,5-Trichlorophenol	ND	5.0									



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121623
Project: CV18F0126/60571032.02.20.01

Report Date: 02/03/2022

Run ID: Run Order: SV5973N.I_211230A: 4
Method: SW8270C
Lab ID: MB-162392

SampType: Method Blank
Analysis Date: 12/30/2021 13:45
Units: ug/L

Batch ID: 162392
Prep Date: 12/21/2021 10:16
Prep Method: SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
2,4,6-Trichlorophenol	ND	5.0									
2,4-Dichlorophenol	ND	5.0									
2,4-Dimethylphenol	ND	5.0									
2,4-Dinitrophenol	ND	10									
2,4-Dinitrotoluene	ND	5.0									
2,6-Dinitrotoluene	ND	5.0									
2-Chloronaphthalene	ND	5.0									
2-Chlorophenol	ND	5.0									
2-Methylnaphthalene	ND	5.0									
2-Nitrophenol	ND	5.0									
3,3'-Dichlorobenzidine	ND	10									
4,6-Dinitro-2-methylphenol	ND	10									
4-Bromophenyl phenyl ether	ND	5.0									
4-Chloro-3-methylphenol	ND	5.0									
4-Chlorophenol	ND	5.0									
4-Chlorophenyl phenyl ether	ND	5.0									
4-Nitrophenol	ND	10									
Acenaphthene	ND	5.0									
Acenaphthylene	ND	5.0									
Anthracene	ND	5.0									
Azobenzene	ND	5.0									
Benzidine	ND	10									
Benzo(a)anthracene	ND	5.0									
Benzo(a)pyrene	ND	5.0									
Benzo(b)fluoranthene	ND	5.0									
Benzo(g,h,i)perylene	ND	5.0									
Benzo(k)fluoranthene	ND	5.0									



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121623
Project: CV18F0126/60571032.02.20.01

Report Date: 02/03/2022

Run ID: Run Order: SV5973N.I_211230A: 4 **SampType:** Method Blank **Batch ID:** 162392
Method: SW8270C **Analysis Date:** 12/30/2021 13:45 **Prep Date:** 12/21/2021 10:16
Lab ID: MB-162392 **Units:** ug/L **Prep Method:** SW3510C

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



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121623
Project: CV18F0126/60571032.02.20.01

Report Date: 02/03/2022

Run ID: Run Order: SV5973N.I_211230A: 4 **SampType:** Method Blank **Batch ID:** 162392
Method: SW8270C **Analysis Date:** 12/30/2021 13:45 **Prep Date:** 12/21/2021 10:16
Lab ID: MB-162392 **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Phenanthrene	ND	5.0									
Phenol	ND	5.0									
Pyrene	ND	5.0									
Pyridine	ND	5.0									
Surr: 2,4,6-Tribromophenol	191	5.0	200		95.0	43	140				
Surr: 2-Fluorobiphenyl	45	5.0	100		45.0	44	119				
Surr: 2-Fluorophenol	91	5.0	200		46.0	19	119				
Surr: Nitrobenzene-d5	54	5.0	100		54.0	44	120				
Surr: Phenol-d5	68	5.0	200		34.0	10	65				
Surr: Terphenyl-d14	100	5.0	100		100.0	50	134				

Associated Samples: **B21121623-001B**

Run ID: Run Order: SV5975.I_211223A: 6 **SampType:** Laboratory Control Sample **Batch ID:** 162392
Method: SW8270C **Analysis Date:** 12/23/2021 13:02 **Prep Date:** 12/21/2021 10:17
Lab ID: LLCS-162392 **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1-Methylnaphthalene	3.1	0.10	5.0		62.0	41	115				
2-Methylnaphthalene	3.1	0.10	5.0		62.0	39	114				
Naphthalene	3.0	0.10	5.0		60.0	43	114				
Surr: 2-Fluorobiphenyl	4.2	0.10	5.0		84.0	53	106				
Surr: Nitrobenzene-d5	4.0	0.10	5.0		79.0	55	111				
Surr: Terphenyl-d14	5.1	0.10	5.0		103.0	58	132				

Associated Samples: **B21121623-001B**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121623
Project: CV18F0126/60571032.02.20.01

Report Date: 02/03/2022

Run ID: Run Order: SV5975.I_211223A: 7 **SampType:** Laboratory Control Sample Duplicate **Batch ID:** 162392
Method: SW8270C **Analysis Date:** 12/23/2021 13:34 **Prep Date:** 12/21/2021 10:17
Lab ID: LLCSD-162392 **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1-Methylnaphthalene	3.0	0.10	5.0		60.0	41	115	3.1	2.8	40.0	
2-Methylnaphthalene	2.8	0.10	5.0		57.0	39	114	3.1	9.8	40.0	
Naphthalene	3.0	0.10	5.0		59.0	43	114	3.0	1.5	40.0	
Surr: 2-Fluorobiphenyl	4.3	0.10	5.0		87.0	53	106	0.0	0.0		
Surr: Nitrobenzene-d5	4.0	0.10	5.0		80.0	55	111	0.0	0.0		
Surr: Terphenyl-d14	5.5	0.10	5.0		109.0	58	132	0.0	0.0		

Associated Samples: **B21121623-001B**

Run ID: Run Order: SV5973N.I_211230A: 5 **SampType:** Laboratory Control Sample **Batch ID:** 162392
Method: SW8270C **Analysis Date:** 12/30/2021 14:18 **Prep Date:** 12/21/2021 10:16
Lab ID: LCS-162392 **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	57	10	100		57.0	29	116				
1,2-Dichlorobenzene	53	10	100		53.0	32	111				
1,3-Dichlorobenzene	53	10	100		53.0	28	110				
1,4-Dichlorobenzene	54	10	100		54.0	29	112				
1-Methylnaphthalene	69	10	100		69.0	41	119				
2,4,5-Trichlorophenol	77	10	100		77.0	53	123				
2,4,6-Trichlorophenol	85	10	100		85.0	50	125				
2,4-Dichlorophenol	71	10	100		71.0	47	121				
2,4-Dimethylphenol	64	10	100		64.0	31	124				
2,4-Dinitrophenol	87	10	100		87.0	23	142				
2,4-Dinitrotoluene	85	10	100		85.0	57	128				
2,6-Dinitrotoluene	78	10	100		78.0	50	118				
2-Chloronaphthalene	69	10	100		69.0	40	116				



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121623
Project: CV18F0126/60571032.02.20.01

Report Date: 02/03/2022

Run ID: Run Order: SV5973N.I_211230A: 5 **SampType:** Laboratory Control Sample **Batch ID:** 162392
Method: SW8270C **Analysis Date:** 12/30/2021 14:18 **Prep Date:** 12/21/2021 10:16
Lab ID: LCS-162392 **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
2-Chlorophenol	66	10	100		66.0	38	117				
2-Methylnaphthalene	74	10	100		74.0	40	121				
2-Nitrophenol	71	10	100		71.0	47	123				
3,3'-Dichlorobenzidine	77	10	100		77.0	27	129				
4,6-Dinitro-2-methylphenol	86	10	100		86.0	44	137				
4-Bromophenyl phenyl ether	83	10	100		83.0	55	124				
4-Chloro-3-methylphenol	86	10	100		86.0	52	119				
4-Chlorophenol	77	10	100		77.0	41	81				
4-Chlorophenyl phenyl ether	83	10	100		83.0	53	121				
4-Nitrophenol	37	10	100		37.0	15	36				S
Acenaphthene	92	10	100		92.0	47	122				
Acenaphthylene	80	10	100		80.0	41	130				
Anthracene	86	10	100		86.0	57	123				
Azobenzene	75	10	100		75.0	61	116				
Benzidine	25	10	100		25.0	10	100				
Benzo(a)anthracene	98	10	100		98.0	58	125				
Benzo(a)pyrene	93	10	100		93.0	54	128				
Benzo(b)fluoranthene	96	10	100		96.0	53	131				
Benzo(g,h,i)perylene	95	10	100		95.0	50	134				
Benzo(k)fluoranthene	89	10	100		89.0	57	129				
bis(-2-chloroethoxy)Methane	67	10	100		67.0	48	120				
bis(-2-chloroethyl)Ether	60	10	100		60.0	43	118				
bis(2-chloroisopropyl)Ether	54	10	100		54.0	37	130				
bis(2-ethylhexyl)Phthalate	95	10	100		95.0	55	135				
Butylbenzylphthalate	94	10	100		94.0	53	134				
Chrysene	94	10	100		94.0	59	123				
Dibenzo(a,h)anthracene	94	10	100		94.0	51	134				



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121623
Project: CV18F0126/60571032.02.20.01

Report Date: 02/03/2022

Run ID: Run Order: SV5973N.I_211230A: 5 **SampType:** Laboratory Control Sample **Batch ID:** 162392
Method: SW8270C **Analysis Date:** 12/30/2021 14:18 **Prep Date:** 12/21/2021 10:16
Lab ID: LCS-162392 **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Diethyl phthalate	87	10	100		87.0	56	125				
Dimethyl phthalate	88	10	100		88.0	45	127				
Di-n-butyl phthalate	89	10	100		89.0	59	127				
Di-n-octyl phthalate	92	10	100		92.0	51	140				
Fluoranthene	92	10	100		92.0	57	128				
Fluorene	87	10	100		87.0	52	124				
Hexachlorobenzene	87	10	100		87.0	53	125				
Hexachlorobutadiene	51	10	100		51.0	22	124				
Hexachlorocyclopentadiene	61	10	100		61.0	39	91				
Hexachloroethane	48	10	100		48.0	21	115				
Indeno(1,2,3-cd)pyrene	93	10	100		93.0	52	134				
Isophorone	72	10	100		72.0	42	124				
m+p-Cresols	68	10	100		68.0	29	110				
Naphthalene	64	10	100		64.0	40	121				
Nitrobenzene	65	10	100		65.0	45	121				
n-Nitrosodimethylamine	34	10	100		34.0	20	45				
n-Nitroso-di-n-propylamine	66	10	100		66.0	49	119				
n-Nitrosodiphenylamine	97	10	100		97.0	51	123				
o-Cresol	67	10	100		67.0	30	117				
Pentachlorophenol	99	10	100		99.0	35	138				
Phenanthrene	91	10	100		91.0	59	120				
Phenol	45	10	100		45.0	37	75				
Pyrene	87	10	100		87.0	57	126				
Pyridine	29	10	100		29.0	16	45				
Surr: 2,4,6-Tribromophenol	208	10	200		104.0	43	140				
Surr: 2-Fluorobiphenyl	60	10	100		60.0	44	119				
Surr: 2-Fluorophenol	101	10	200		51.0	19	119				



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121623
Project: CV18F0126/60571032.02.20.01

Report Date: 02/03/2022

Run ID: Run Order: SV5973N.I_211230A: 5 **SampType:** Laboratory Control Sample **Batch ID:** 162392
Method: SW8270C **Analysis Date:** 12/30/2021 14:18 **Prep Date:** 12/21/2021 10:16
Lab ID: LCS-162392 **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Surr: Nitrobenzene-d5	59	10	100		59.0	44	120				
Surr: Phenol-d5	83	10	200		42.0	10	65				
Surr: Terphenyl-d14	92	10	100		92.0	50	134				

Associated Samples: **B21121623-001B**

Run ID: Run Order: SV5973N.I_211230A: 6 **SampType:** Laboratory Control Sample Duplicate **Batch ID:** 162392
Method: SW8270C **Analysis Date:** 12/30/2021 14:51 **Prep Date:** 12/21/2021 10:17
Lab ID: LCSD-162392 **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	57	13.0	20.0	
1,2-Dichlorobenzene	65	10	100		65.0	32	111	53	21.0	20.0	R
1,3-Dichlorobenzene	66	10	100		66.0	28	110	53	21.0	20.0	R
1,4-Dichlorobenzene	62	10	100		62.0	29	112	54	15.0	20.0	
1-Methylnaphthalene	82	10	100		82.0	41	119	69	17.0	20.0	
2,4,5-Trichlorophenol	92	10	100		92.0	53	123	77	17.0	20.0	
2,4,6-Trichlorophenol	98	10	100		98.0	50	125	85	14.0	20.0	
2,4-Dichlorophenol	84	10	100		84.0	47	121	71	16.0	20.0	
2,4-Dimethylphenol	71	10	100		71.0	31	124	64	11.0	20.0	
2,4-Dinitrophenol	91	10	100		91.0	23	142	87	4.9	20.0	
2,4-Dinitrotoluene	97	10	100		97.0	57	128	85	14.0	20.0	
2,6-Dinitrotoluene	84	10	100		84.0	50	118	78	7.3	20.0	
2-Chloronaphthalene	82	10	100		82.0	40	116	69	17.0	20.0	
2-Chlorophenol	81	10	100		81.0	38	117	66	20.0	20.0	
2-Methylnaphthalene	83	10	100		83.0	40	121	74	11.0	20.0	
2-Nitrophenol	83	10	100		83.0	47	123	71	16.0	20.0	



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121623
Project: CV18F0126/60571032.02.20.01

Report Date: 02/03/2022

Run ID: Run Order: SV5973N.I_211230A: 6 **SampType:** Laboratory Control Sample Duplicate **Batch ID:** 162392
Method: SW8270C **Analysis Date:** 12/30/2021 14:51 **Prep Date:** 12/21/2021 10:17
Lab ID: LCSD-162392 **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
3,3'-Dichlorobenzidine	79	10	100		79.0	27	129	77	2.0	20.0	
4,6-Dinitro-2-methylphenol	90	10	100		90.0	44	137	86	4.5	20.0	
4-Bromophenyl phenyl ether	87	10	100		87.0	55	124	83	4.4	20.0	
4-Chloro-3-methylphenol	92	10	100		92.0	52	119	86	6.6	20.0	
4-Chlorophenol	83	10	100		83.0	41	81	77	7.4	20.0	S
4-Chlorophenyl phenyl ether	90	10	100		90.0	53	121	83	8.3	20.0	
4-Nitrophenol	45	10	100		45.0	15	36	37	20.0	20.0	S
Acenaphthene	98	10	100		98.0	47	122	92	5.9	20.0	
Acenaphthylene	87	10	100		87.0	41	130	80	8.6	20.0	
Anthracene	88	10	100		88.0	57	123	86	1.5	20.0	
Azobenzene	86	10	100		86.0	61	116	75	14.0	20.0	
Benzidine	36	10	100		36.0	10	100	25	34.0	20.0	R
Benzo(a)anthracene	97	10	100		97.0	58	125	98	0.5	20.0	
Benzo(a)pyrene	93	10	100		93.0	54	128	93	0.3	20.0	
Benzo(b)fluoranthene	101	10	100		101.0	53	131	96	5.2	20.0	
Benzo(g,h,i)perylene	96	10	100		96.0	50	134	95	0.9	20.0	
Benzo(k)fluoranthene	95	10	100		95.0	57	129	89	6.1	20.0	
bis(-2-chloroethoxy)Methane	77	10	100		77.0	48	120	67	13.0	20.0	
bis(-2-chloroethyl)Ether	69	10	100		69.0	43	118	60	13.0	20.0	
bis(2-chloroisopropyl)Ether	61	10	100		61.0	37	130	54	13.0	20.0	
bis(2-ethylhexyl)Phthalate	96	10	100		96.0	55	135	95	1.3	20.0	
Butylbenzylphthalate	97	10	100		97.0	53	134	94	3.6	20.0	
Chrysene	96	10	100		96.0	59	123	94	1.3	20.0	
Dibenzo(a,h)anthracene	99	10	100		99.0	51	134	94	5.2	20.0	
Diethyl phthalate	93	10	100		93.0	56	125	87	6.5	20.0	
Dimethyl phthalate	98	10	100		98.0	45	127	88	10.0	20.0	
Di-n-butyl phthalate	99	10	100		99.0	59	127	89	11.0	20.0	



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121623
Project: CV18F0126/60571032.02.20.01

Report Date: 02/03/2022

Run ID: Run Order: SV5973N.I_211230A: 6 **SampType:** Laboratory Control Sample Duplicate **Batch ID:** 162392
Method: SW8270C **Analysis Date:** 12/30/2021 14:51 **Prep Date:** 12/21/2021 10:17
Lab ID: LCSD-162392 **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Di-n-octyl phthalate	95	10	100		95.0	51	140	92	2.4	20.0	
Fluoranthene	97	10	100		97.0	57	128	92	6.2	20.0	
Fluorene	95	10	100		95.0	52	124	87	8.4	20.0	
Hexachlorobenzene	92	10	100		92.0	53	125	87	5.7	20.0	
Hexachlorobutadiene	59	10	100		59.0	22	124	51	14.0	20.0	
Hexachlorocyclopentadiene	70	10	100		70.0	39	91	61	14.0	20.0	
Hexachloroethane	57	10	100		57.0	21	115	48	18.0	20.0	
Indeno(1,2,3-cd)pyrene	99	10	100		99.0	52	134	93	5.3	20.0	
Isophorone	80	10	100		80.0	42	124	72	11.0	20.0	
m+p-Cresols	76	10	100		76.0	29	110	68	11.0	20.0	
Naphthalene	72	10	100		72.0	40	121	64	11.0	20.0	
Nitrobenzene	83	10	100		83.0	45	121	65	24.0	20.0	R
n-Nitrosodimethylamine	41	10	100		41.0	20	45	34	18.0	20.0	
n-Nitroso-di-n-propylamine	84	10	100		84.0	49	119	66	24.0	20.0	R
n-Nitrosodiphenylamine	100	10	100		100.0	51	123	97	3.0	20.0	
o-Cresol	73	10	100		73.0	30	117	67	9.1	20.0	
Pentachlorophenol	112	10	100		112.0	35	138	99	12.0	20.0	
Phenanthrene	98	10	100		98.0	59	120	91	7.6	20.0	
Phenol	53	10	100		53.0	37	75	45	16.0	20.0	
Pyrene	95	10	100		95.0	57	126	87	9.2	20.0	
Pyridine	33	10	100		33.0	16	45	29	13.0	20.0	
Surr: 2,4,6-Tribromophenol	217	10	200		109.0	43	140	0.0	0.0		
Surr: 2-Fluorobiphenyl	72	10	100		72.0	44	119	0.0	0.0		
Surr: 2-Fluorophenol	126	10	200		63.0	19	119	0.0	0.0		
Surr: Nitrobenzene-d5	71	10	100		71.0	44	120	0.0	0.0		
Surr: Phenol-d5	98	10	200		49.0	10	65	0.0	0.0		



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121623
Project: CV18F0126/60571032.02.20.01

Report Date: 02/03/2022

Run ID: Run Order: SV5973N.I_211230A: 6 **SampType:** Laboratory Control Sample Duplicate **Batch ID:** 162392
Method: SW8270C **Analysis Date:** 12/30/2021 14:51 **Prep Date:** 12/21/2021 10:17
Lab ID: LCSD-162392 **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Surr: Terphenyl-d14	97	10	100		97.0	50	134	0.0	0.0		

Associated Samples: **B21121623-001B**

- 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_211223A: 22 **SampType:** Sample Matrix Spike **Batch ID:** 162392
Method: SW8270C **Analysis Date:** 12/23/2021 21:45 **Prep Date:** 12/21/2021 10:17
Lab ID: B21121613-001CLMS **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1-Methylnaphthalene	3.5	0.10	5.0	0.0	71.0	41	115				
2-Methylnaphthalene	3.8	0.10	5.0	0.0	77.0	39	114				
Naphthalene	3.7	0.10	5.0	0.0	74.0	43	114				
Surr: 2-Fluorobiphenyl	4.9	0.10	5.0	0.0	100.0	53	106				
Surr: Nitrobenzene-d5	4.1	0.10	5.0	0.0	83.0	55	111				
Surr: Terphenyl-d14	5.3	0.10	5.0	0.0	107.0	58	132				

Associated Samples: **B21121623-001B**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121623
Project: CV18F0126/60571032.02.20.01

Report Date: 02/03/2022

Run ID: Run Order: SV5975.I_211223A: 23 **SampType:** Sample Matrix Spike Duplicate **Batch ID:** 162392
Method: SW8270C **Analysis Date:** 12/23/2021 22:18 **Prep Date:** 12/21/2021 10:17
Lab ID: B21121613-001CLMSD **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	0.0	67.0	41	115	3.5	5.1	40.0	
2-Methylnaphthalene	3.5	0.10	5.0	0.0	70.0	39	114	3.8	8.6	40.0	
Naphthalene	3.5	0.10	5.0	0.0	70.0	43	114	3.7	3.8	40.0	
Surr: 2-Fluorobiphenyl	4.8	0.10	5.0	0.0	95.0	53	106	0.0	0.0		
Surr: Nitrobenzene-d5	3.9	0.10	5.0	0.0	78.0	55	111	0.0	0.0		
Surr: Terphenyl-d14	5.3	0.10	5.0	0.0	105.0	58	132	0.0	0.0		

Associated Samples: **B21121623-001B**

Run ID: Run Order: SV5973N.I_211230A: 8 **SampType:** Sample Matrix Spike **Batch ID:** 162392
Method: SW8270C **Analysis Date:** 12/30/2021 15:56 **Prep Date:** 12/21/2021 12:07
Lab ID: B21121605-001BMS **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	53	10	97	0.0	55.0	29	116				
1,2-Dichlorobenzene	50	10	97	0.0	52.0	32	111				
1,3-Dichlorobenzene	49	10	97	0.0	51.0	28	110				
1,4-Dichlorobenzene	49	10	97	0.0	50.0	29	112				
1-Methylnaphthalene	62	10	97	0.0	63.0	41	119				
2,4,5-Trichlorophenol	69	10	97	0.0	71.0	53	123				
2,4,6-Trichlorophenol	75	10	97	0.0	77.0	50	125				
2,4-Dichlorophenol	61	10	97	0.0	62.0	47	121				
2,4-Dimethylphenol	62	10	97	0.0	64.0	31	124				
2,4-Dinitrophenol	70	10	97	0.0	72.0	23	142				
2,4-Dinitrotoluene	77	10	97	0.0	79.0	57	128				
2,6-Dinitrotoluene	66	10	97	0.0	68.0	50	118				
2-Chloronaphthalene	63	10	97	0.0	65.0	40	116				



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121623
Project: CV18F0126/60571032.02.20.01

Report Date: 02/03/2022

Run ID: Run Order: SV5973N.I_211230A: 8 **SampType:** Sample Matrix Spike **Batch ID:** 162392
Method: SW8270C **Analysis Date:** 12/30/2021 15:56 **Prep Date:** 12/21/2021 12:07
Lab ID: B21121605-001BMS **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
2-Chlorophenol	54	10	97	0.0	56.0	38	117				
2-Methylnaphthalene	66	10	97	0.0	68.0	40	121				
2-Nitrophenol	61	10	97	0.0	62.0	47	123				
3,3'-Dichlorobenzidine	45	10	97	0.0	47.0	27	129				
4,6-Dinitro-2-methylphenol	72	10	97	0.0	75.0	44	137				
4-Bromophenyl phenyl ether	71	10	97	0.0	73.0	55	124				
4-Chloro-3-methylphenol	72	10	97	0.0	74.0	52	119				
4-Chlorophenol	57	10	97	0.0	59.0	41	81				
4-Chlorophenyl phenyl ether	72	10	97	0.0	74.0	53	121				
4-Nitrophenol	31	10	97	0.0	32.0	15	36				
Acenaphthene	80	10	97	0.0	83.0	47	122				
Acenaphthylene	73	10	97	0.0	75.0	41	130				
Anthracene	76	10	97	0.0	78.0	57	123				
Azobenzene	64	10	97	0.0	66.0	61	116				
Benzidine	ND	10	97	0.0	0.0	10	100				S
Benzo(a)anthracene	82	10	97	0.0	85.0	58	125				
Benzo(a)pyrene	80	10	97	0.0	82.0	54	128				
Benzo(b)fluoranthene	83	10	97	0.0	86.0	53	131				
Benzo(g,h,i)perylene	82	10	97	0.0	84.0	50	134				
Benzo(k)fluoranthene	75	10	97	0.0	77.0	57	129				
bis(-2-chloroethoxy)Methane	57	10	97	0.0	59.0	48	120				
bis(-2-chloroethyl)Ether	53	10	97	0.0	55.0	43	118				
bis(2-chloroisopropyl)Ether	47	10	97	0.0	48.0	37	130				
bis(2-ethylhexyl)Phthalate	78	10	97	0.0	81.0	55	135				
Butylbenzylphthalate	78	10	97	0.0	81.0	53	134				
Chrysene	79	10	97	0.0	81.0	59	123				
Dibenzo(a,h)anthracene	79	10	97	0.0	81.0	51	134				



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121623
Project: CV18F0126/60571032.02.20.01

Report Date: 02/03/2022

Run ID: Run Order: SV5973N.I_211230A: 8 **SampType:** Sample Matrix Spike **Batch ID:** 162392
Method: SW8270C **Analysis Date:** 12/30/2021 15:56 **Prep Date:** 12/21/2021 12:07
Lab ID: B21121605-001BMS **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Diethyl phthalate	74	10	97	0.0	77.0	56	125				
Dimethyl phthalate	80	10	97	0.0	83.0	45	127				
Di-n-butyl phthalate	79	10	97	0.0	81.0	59	127				
Di-n-octyl phthalate	79	10	97	0.0	82.0	51	140				
Fluoranthene	78	10	97	0.0	80.0	57	128				
Fluorene	77	10	97	0.0	79.0	52	124				
Hexachlorobenzene	72	10	97	0.0	75.0	53	125				
Hexachlorobutadiene	48	10	97	0.0	49.0	22	124				
Hexachlorocyclopentadiene	50	10	97	0.0	51.0	39	91				
Hexachloroethane	43	10	97	0.0	45.0	21	115				
Indeno(1,2,3-cd)pyrene	80	10	97	0.0	82.0	52	134				
Isophorone	64	10	97	0.0	66.0	42	124				
m+p-Cresols	58	10	97	0.0	59.0	29	110				
Naphthalene	58	10	97	0.0	59.0	40	121				
Nitrobenzene	61	10	97	0.0	62.0	45	121				
n-Nitrosodimethylamine	30	10	97	0.0	31.0	20	45				
n-Nitroso-di-n-propylamine	62	10	97	0.0	64.0	49	119				
n-Nitrosodiphenylamine	81	10	97	0.0	83.0	51	123				
o-Cresol	57	10	97	0.0	58.0	30	117				
Pentachlorophenol	89	10	97	0.0	91.0	35	138				
Phenanthrene	81	10	97	0.0	83.0	59	120				
Phenol	37	10	97	0.0	38.0	37	75				
Pyrene	76	10	97	0.0	78.0	57	126				
Pyridine	11	10	97	0.0	11.0	16	45				S
Surr: 2,4,6-Tribromophenol	167	10	194	0.0	86.0	43	140				
Surr: 2-Fluorobiphenyl	54	10	97	0.0	55.0	44	119				
Surr: 2-Fluorophenol	69	10	194	0.0	36.0	19	119				



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121623
Project: CV18F0126/60571032.02.20.01

Report Date: 02/03/2022

Run ID: Run Order: SV5973N.I_211230A: 8 **SampType:** Sample Matrix Spike **Batch ID:** 162392
Method: SW8270C **Analysis Date:** 12/30/2021 15:56 **Prep Date:** 12/21/2021 12:07
Lab ID: B21121605-001BMS **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Surr: Nitrobenzene-d5	54	10	97	0.0	55.0	44	120				
Surr: Phenol-d5	65	10	194	0.0	34.0	10	65				
Surr: Terphenyl-d14	77	10	97	0.0	80.0	50	134				

Associated Samples: **B21121623-001B**

Run ID: Run Order: SV5975.I_211228A: 24 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R372497
Method: SW8270C **Analysis Date:** 12/29/2021 05:28 **Prep Date:**
Lab ID: 28-Dec-21_CCv_24 **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1-Methylnaphthalene	2.1	0.10	2.0		103.0	50	150				
2-Methylnaphthalene	1.8	0.10	2.0		90.0	50	150				
Naphthalene	1.6	0.10	2.0		78.0	50	150				
Surr: 2-Fluorobiphenyl	1.7	0.10	2.0		85.0	50	150				
Surr: Nitrobenzene-d5	2.1	0.10	2.0		105.0	50	150				
Surr: Terphenyl-d14	1.8	0.10	2.0		92.0	50	150				

Associated Samples: **B21121623-001B**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121623
Project: CV18F0126/60571032.02.20.01

Report Date: 02/03/2022

Run ID: Run Order: SV5975.I_211228A: 9 **SampType:** Initial Calibration Verification Standard **Batch ID:** R372497
Method: SW8270C **Analysis Date:** 12/28/2021 21:19 **Prep Date:**
Lab ID: 28-Dec-21_CCV_9 **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1-Methylnaphthalene	2.3	0.10	2.0		114.0	80	120				
2-Methylnaphthalene	2.1	0.10	2.0		105.0	80	120				
Naphthalene	2.1	0.10	2.0		103.0	80	120				
Surr: 2-Fluorobiphenyl	2.3	0.10	2.0		113.0	80	120				
Surr: Nitrobenzene-d5	2.4	0.10	2.0		119.0	80	120				
Surr: Terphenyl-d14	1.9	0.10	2.0		97.0	80	120				

Associated Samples: **B21121623-001B**

Run ID: Run Order: SV5973N.I_211230A: 2 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R372614
Method: SW8270C **Analysis Date:** 12/30/2021 12:34 **Prep Date:**
Lab ID: 30-Dec-21_CCV_2 **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	71	10	75		95.0	80	120				
1,2-Dichlorobenzene	69	10	75		93.0	80	120				
1,3-Dichlorobenzene	71	10	75		94.0	80	120				
1,4-Dichlorobenzene	71	10	75		95.0	80	120				
1-Methylnaphthalene	71	10	75		94.0	80	120				
2,4,5-Trichlorophenol	64	10	75		85.0	80	120				
2,4,6-Trichlorophenol	65	10	75		86.0	80	120				
2,4-Dichlorophenol	62	10	75		83.0	80	120				
2,4-Dimethylphenol	75	10	75		100.0	80	120				
2,4-Dinitrophenol	71	10	75		95.0	80	120				
2,4-Dinitrotoluene	76	10	75		101.0	80	120				
2,6-Dinitrotoluene	70	10	75		94.0	80	120				
2-Chloronaphthalene	67	10	75		89.0	80	120				



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121623
Project: CV18F0126/60571032.02.20.01

Report Date: 02/03/2022

Run ID: Run Order: SV5973N.I_211230A: 2 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R372614
Method: SW8270C **Analysis Date:** 12/30/2021 12:34 **Prep Date:**
Lab ID: 30-Dec-21_CCV_2 **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
2-Chlorophenol	61	10	75		81.0	80	120				
2-Methylnaphthalene	73	10	75		97.0	80	120				
2-Nitrophenol	74	10	75		98.0	80	120				
3,3'-Dichlorobenzidine	69	10	75		92.0	80	120				
4,6-Dinitro-2-methylphenol	77	10	75		102.0	80	120				
4-Bromophenyl phenyl ether	74	10	75		99.0	80	120				
4-Chloro-3-methylphenol	72	10	75		96.0	80	120				
4-Chlorophenol	69	10	75		91.0	80	120				
4-Chlorophenyl phenyl ether	73	10	75		98.0	80	120				
4-Nitrophenol	62	10	75		83.0	80	120				
Acenaphthene	74	10	75		98.0	80	120				
Acenaphthylene	77	10	75		102.0	80	120				
Anthracene	70	10	75		94.0	80	120				
Azobenzene	64	10	75		86.0	80	120				
Benzidine	78	10	75		104.0	80	120				
Benzo(a)anthracene	75	10	75		100.0	80	120				
Benzo(a)pyrene	77	10	75		103.0	80	120				
Benzo(b)fluoranthene	77	10	75		103.0	80	120				
Benzo(g,h,i)perylene	73	10	75		97.0	80	120				
Benzo(k)fluoranthene	72	10	75		96.0	80	120				
bis(-2-chloroethoxy)Methane	66	10	75		88.0	80	120				
bis(-2-chloroethyl)Ether	61	10	75		81.0	80	120				
bis(2-chloroisopropyl)Ether	68	10	75		90.0	80	120				
bis(2-ethylhexyl)Phthalate	72	10	75		95.0	80	120				
Butylbenzylphthalate	71	10	75		95.0	80	120				
Chrysene	72	10	75		96.0	80	120				
Dibenzo(a,h)anthracene	75	10	75		99.0	80	120				



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121623
Project: CV18F0126/60571032.02.20.01

Report Date: 02/03/2022

Run ID: Run Order: SV5973N.I_211230A: 2 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R372614
Method: SW8270C **Analysis Date:** 12/30/2021 12:34 **Prep Date:**
Lab ID: 30-Dec-21_CCV_2 **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Diethyl phthalate	62	10	75		83.0	80	120				
Dimethyl phthalate	69	10	75		92.0	80	120				
Di-n-butyl phthalate	63	10	75		84.0	80	120				
Di-n-octyl phthalate	73	10	75		98.0	80	120				
Fluoranthene	73	10	75		98.0	80	120				
Fluorene	74	10	75		98.0	80	120				
Hexachlorobenzene	78	10	75		105.0	80	120				
Hexachlorobutadiene	69	10	75		92.0	80	120				
Hexachlorocyclopentadiene	68	10	75		90.0	80	120				
Hexachloroethane	70	10	75		93.0	80	120				
Indeno(1,2,3-cd)pyrene	73	10	75		98.0	80	120				
Isophorone	72	10	75		96.0	80	120				
m+p-Cresols	68	10	75		90.0	80	120				
Naphthalene	72	10	75		96.0	80	120				
Nitrobenzene	62	10	75		83.0	80	120				
n-Nitrosodimethylamine	63	10	75		84.0	80	120				
n-Nitroso-di-n-propylamine	61	10	75		81.0	80	120				
n-Nitrosodiphenylamine	76	10	75		101.0	80	120				
o-Cresol	71	10	75		94.0	80	120				
Pentachlorophenol	69	10	75		92.0	80	120				
Phenanthrene	76	10	75		101.0	80	120				
Phenol	68	10	75		91.0	80	120				
Pyrene	73	10	75		98.0	80	120				
Pyridine	61	10	75		82.0	80	120				
Surr: 2,4,6-Tribromophenol	70	10	75		93.0	80	120				
Surr: 2-Fluorobiphenyl	67	10	75		90.0	80	120				
Surr: 2-Fluorophenol	72	10	75		96.0	80	120				



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121623
Project: CV18F0126/60571032.02.20.01

Report Date: 02/03/2022

Run ID: Run Order: SV5973N.I_211230A: 2 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R372614
Method: SW8270C **Analysis Date:** 12/30/2021 12:34 **Prep Date:**
Lab ID: 30-Dec-21_CCX_2 **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Surr: Nitrobenzene-d5	66	10	75		87.0	80	120				
Surr: Phenol-d5	68	10	75		91.0	80	120				
Surr: Terphenyl-d14	74	10	75		99.0	80	120				

Associated Samples: **B21121623-001B**

Run ID: Run Order: SV5973N.I_211230A: 25 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R372614
Method: SW8270C **Analysis Date:** 12/31/2021 01:11 **Prep Date:**
Lab ID: 30-Dec-21_CCX_25 **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	68	10	75		90.0	50	150				
1,2-Dichlorobenzene	72	10	75		96.0	50	150				
1,3-Dichlorobenzene	76	10	75		101.0	50	150				
1,4-Dichlorobenzene	73	10	75		98.0	50	150				
1-Methylnaphthalene	68	10	75		91.0	50	150				
2,4,5-Trichlorophenol	79	10	75		105.0	50	150				
2,4,6-Trichlorophenol	78	10	75		104.0	50	150				
2,4-Dichlorophenol	73	10	75		97.0	50	150				
2,4-Dimethylphenol	70	10	75		93.0	50	150				
2,4-Dinitrophenol	63	10	75		84.0	50	150				
2,4-Dinitrotoluene	76	10	75		101.0	50	150				
2,6-Dinitrotoluene	62	10	75		83.0	50	150				
2-Chloronaphthalene	68	10	75		91.0	50	150				
2-Chlorophenol	73	10	75		98.0	50	150				
2-Methylnaphthalene	71	10	75		95.0	50	150				
2-Nitrophenol	63	10	75		84.0	50	150				



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121623
Project: CV18F0126/60571032.02.20.01

Report Date: 02/03/2022

Run ID: Run Order: SV5973N.I_211230A: 25 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R372614
Method: SW8270C **Analysis Date:** 12/31/2021 01:11 **Prep Date:**
Lab ID: 30-Dec-21_CCV_25 **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
3,3'-Dichlorobenzidine	73	10	75		98.0	50	150				
4,6-Dinitro-2-methylphenol	67	10	75		89.0	50	150				
4-Bromophenyl phenyl ether	72	10	75		96.0	50	150				
4-Chloro-3-methylphenol	71	10	75		95.0	50	150				
4-Chlorophenol	76	10	75		101.0	50	150				
4-Chlorophenyl phenyl ether	71	10	75		95.0	50	150				
4-Nitrophenol	66	10	75		88.0	50	150				
Acenaphthene	76	10	75		101.0	50	150				
Acenaphthylene	75	10	75		100.0	50	150				
Anthracene	74	10	75		99.0	50	150				
Azobenzene	75	10	75		100.0	50	150				
Benzidine	73	10	75		97.0	50	150				
Benzo(a)anthracene	74	10	75		99.0	50	150				
Benzo(a)pyrene	80	10	75		106.0	50	150				
Benzo(b)fluoranthene	76	10	75		102.0	50	150				
Benzo(g,h,i)perylene	80	10	75		107.0	50	150				
Benzo(k)fluoranthene	74	10	75		99.0	50	150				
bis(-2-chloroethoxy)Methane	61	10	75		81.0	50	150				
bis(-2-chloroethyl)Ether	65	10	75		87.0	50	150				
bis(2-chloroisopropyl)Ether	66	10	75		88.0	50	150				
bis(2-ethylhexyl)Phthalate	69	10	75		92.0	50	150				
Butylbenzylphthalate	69	10	75		93.0	50	150				
Chrysene	72	10	75		96.0	50	150				
Di-n-butyl phthalate	69	10	75		92.0	50	150				
Di-n-octyl phthalate	74	10	75		98.0	50	150				
Dibenzo(a,h)anthracene	78	10	75		105.0	50	150				
Diethyl phthalate	69	10	75		92.0	50	150				



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121623
Project: CV18F0126/60571032.02.20.01

Report Date: 02/03/2022

Run ID: Run Order: SV5973N.I_211230A: 25 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R372614
Method: SW8270C **Analysis Date:** 12/31/2021 01:11 **Prep Date:**
Lab ID: 30-Dec-21_CCV_25 **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Dimethyl phthalate	72	10	75		95.0	50	150				
Fluoranthene	73	10	75		98.0	50	150				
Fluorene	77	10	75		102.0	50	150				
Hexachlorobenzene	79	10	75		105.0	50	150				
Hexachlorobutadiene	66	10	75		88.0	50	150				
Hexachlorocyclopentadiene	67	10	75		89.0	50	150				
Hexachloroethane	71	10	75		94.0	50	150				
Indeno(1,2,3-cd)pyrene	81	10	75		108.0	50	150				
Isophorone	68	10	75		91.0	50	150				
m+p-Cresols	69	10	75		92.0	50	150				
n-Nitroso-di-n-propylamine	63	10	75		84.0	50	150				
n-Nitrosodimethylamine	54	10	75		71.0	50	150				
n-Nitrosodiphenylamine	79	10	75		105.0	50	150				
Naphthalene	65	10	75		87.0	50	150				
Nitrobenzene	71	10	75		95.0	50	150				
o-Cresol	71	10	75		95.0	50	150				
Pentachlorophenol	82	10	75		109.0	50	150				
Phenanthrene	79	10	75		106.0	50	150				
Phenol	77	10	75		103.0	50	150				
Pyrene	75	10	75		100.0	50	150				
Pyridine	60	10	75		80.0	50	150				
Surr: 2,4,6-Tribromophenol	83	10	75		111.0	50	150				
Surr: 2-Fluorobiphenyl	71	10	75		95.0	50	150				
Surr: 2-Fluorophenol	81	10	75		109.0	50	150				
Surr: Nitrobenzene-d5	68	10	75		91.0	50	150				
Surr: Phenol-d5	77	10	75		102.0	50	150				



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121623
Project: CV18F0126/60571032.02.20.01

Report Date: 02/03/2022

Run ID: Run Order: SV5973N.I_211230A: 25 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R372614
Method: SW8270C **Analysis Date:** 12/31/2021 01:11 **Prep Date:**
Lab ID: 30-Dec-21_CCv_25 **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Surr: Terphenyl-d14	74	10	75		98.0	50	150				

Associated Samples: **B21121623-001B**



Analytical QC Exceptions Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121623
Project: CV18F0126/60571032.02.20.01

Report Date: 02/03/2022

Analysis Method	Analysis	Batch ID	Associated Samples	Sample Type	Lab ID	Analysis Date	Analysis Time	Analyte	%REC	Low Limit	High Limit	% RPD	RPD Limit	Qual
SW8270C	Semi-Volatile Organic Compounds, Extended List	162392	001B	LCS-DOD	LCS-162392	12/30/2021	14:18	4-Nitrophenol	37.0	15	36			S
				LCSD-DOD	LCSD-162392	12/30/2021	14:51	1,2-Dichlorobenzene	65.0	32	111	21	20.0	R
								1,3-Dichlorobenzene	66.0	28	110	21	20.0	R
								4-Chlorophenol	83.0	41	81	7.4	20.0	S
								4-Nitrophenol	45.0	15	36	20	20.0	S
								Benzidine	36.0	10	100	34	20.0	R
								Nitrobenzene	83.0	45	121	24	20.0	R
				n-Nitroso-di-n-propylamine	84.0	49	119	24	20.0	R				
				MS-DOD	B21121605-001BMS	12/30/2021	15:56	Benzidine	0.0	10	100			S
Pyridine	11.0	16	45							S				



Preparation and Analysis Dates Report

Work Order: B21121623

Client: AECOM - Honolulu

Project Name: CV18F0126/60571032.02.20.01

Report Date: 2/03/2022

Lab ID	Client Sample ID	Collection Date	Matrix	Test Name	TCLP Date	Prep Method	Prep Date	Prep Batch	Analysis Method	Analysis Date
001A	ERH2178(RHMW01R)	12/15/2021 17:15	Ground Water	Metals by ICP-MS, Total		SW3010A	12/20/2021 16:26	162360	SW6020	12/22/2021 08:07
						SW3010A	12/20/2021 16:26	162360	SW6020	01/19/2022 01:49
001B	ERH2178(RHMW01R)	12/15/2021 17:15	Ground Water	Low Level PAH		SW3510C	12/21/2021 10:17	162392	SW8270C	12/29/2021 04:55
				Semi-Volatile Organic Compounds		SW3510C	12/21/2021 10:17	162392	SW8270C	12/31/2021 00:39
001C	ERH2178(RHMW01R)	12/15/2021 17:15	Ground Water	Diesel Range Organics		SW3520C	12/20/2021 15:55	162352	SW8015C	12/22/2021 07:44
						SW3520C	12/20/2021 15:55	162352	SW8015C	12/26/2021 21:17
001G	ERH2178(RHMW01R)	12/15/2021 17:15	Ground Water	EDB in Water by ECD		SW8011	12/21/2021 10:32	162394	SW8011	12/22/2021 15:30
004A	ERH2177(TB)-Client	12/15/2021 17:10	Trip Blank	EDB in Water by ECD		SW8011	12/21/2021 10:32	162394	SW8011	12/22/2021 15:50



Chemical Abstracts Service (CAS) Registry Numbers

Prepared by Billings, MT Branch

Client: AECOM - Honolulu

Workorder: B21121623

Project: CV18F0126/60571032.02.20.01

Report Date: 02/03/2022

Analyses	CAS No
AGGREGATE ORGANICS	
Organic Carbon, Total (TOC)	7440-44-0
METALS, TOTAL	
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
Bromomethane	74-83-9
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
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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
1-Methylnaphthalene	90-12-0
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-Methylnaphthalene	91-57-6
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
Acenaphthene	83-32-9
Acenaphthylene	208-96-8
Anthracene	120-12-7
Azobenzene	103-33-3
Benzidine	92-87-5
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
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
Chrysene	218-01-9
Di-n-butyl phthalate	84-74-2
Di-n-octyl phthalate	117-84-0
Dibenzo(a,h)anthracene	53-70-3
Diethyl phthalate	84-66-2
Dimethyl phthalate	131-11-3
Fluoranthene	206-44-0
Fluorene	86-73-7
Hexachlorobenzene	118-74-1
Hexachlorobutadiene	87-68-3
Hexachlorocyclopentadiene	77-47-4
Hexachloroethane	67-72-1
Indeno(1,2,3-cd)pyrene	193-39-5
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
Naphthalene	91-20-3
Nitrobenzene	98-95-3
o-Cresol	95-48-7
Pentachlorophenol	87-86-5
Phenanthrene	85-01-8
Phenol	108-95-2
Pyrene	129-00-0
Pyridine	110-86-1

SEMI-VOLATILE ORGANIC COMPOUNDS (LOW LEVEL) BY SIM

1-Methylnaphthalene

90-12-0

2-Methylnaphthalene

91-57-6

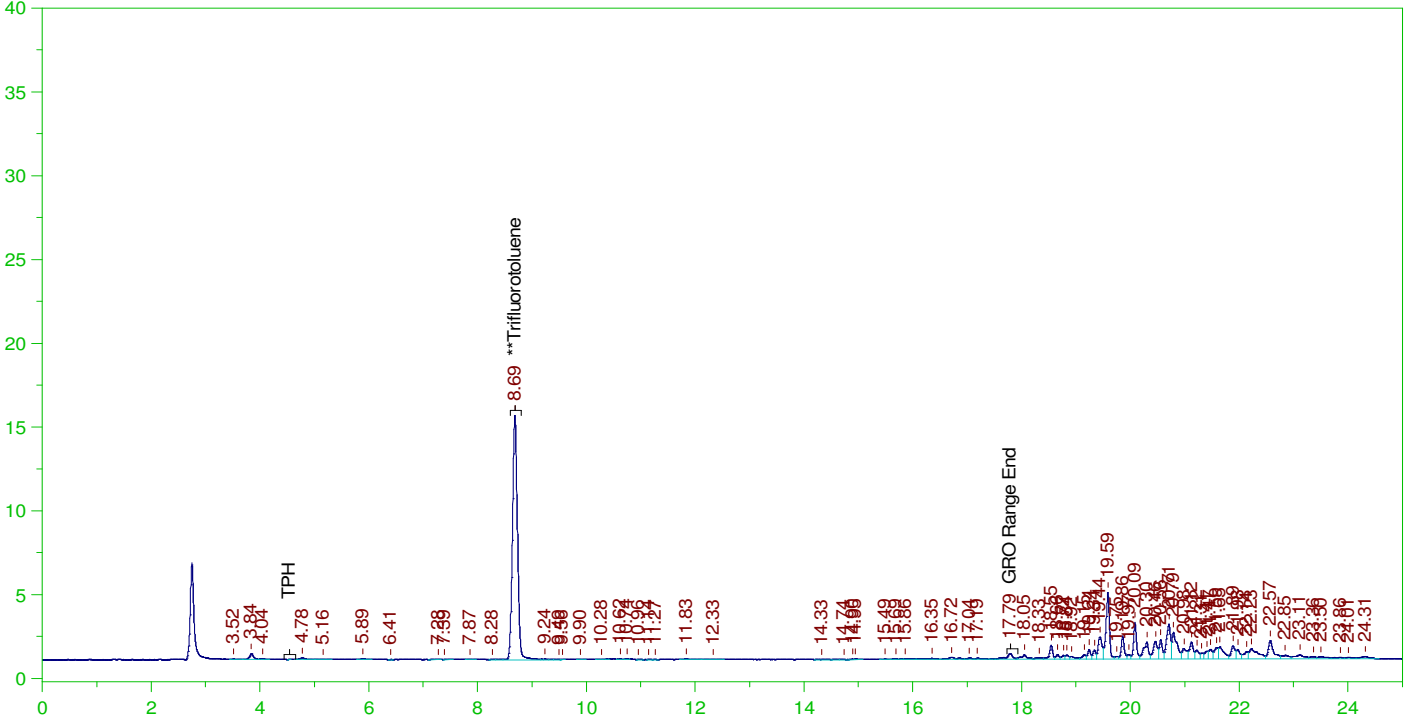
Naphthalene

91-20-3

ERH2178 (RHMW01R)

G:\Org\PE1\DAT\PE1122121_b\1221PE1B.0049.RAW

B21121623-001F ;1221PE1 , \$HC-8015-GRO-W,



GASOLINE RANGE ORGANICS CHROMATOGRAM REPORT

Sample Name: B21121623-001F ;1221PE1 , \$HC-8015-GRO-W,
Raw File: G:\Org\PE1\DAT\PE1122121_b\1221PE1B.0049.RAW
Date & Time Acquired: 12/22/2021 11:51:23 AM
Method File: G:\Org\PE1\Methods\211208G1623-1B%.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

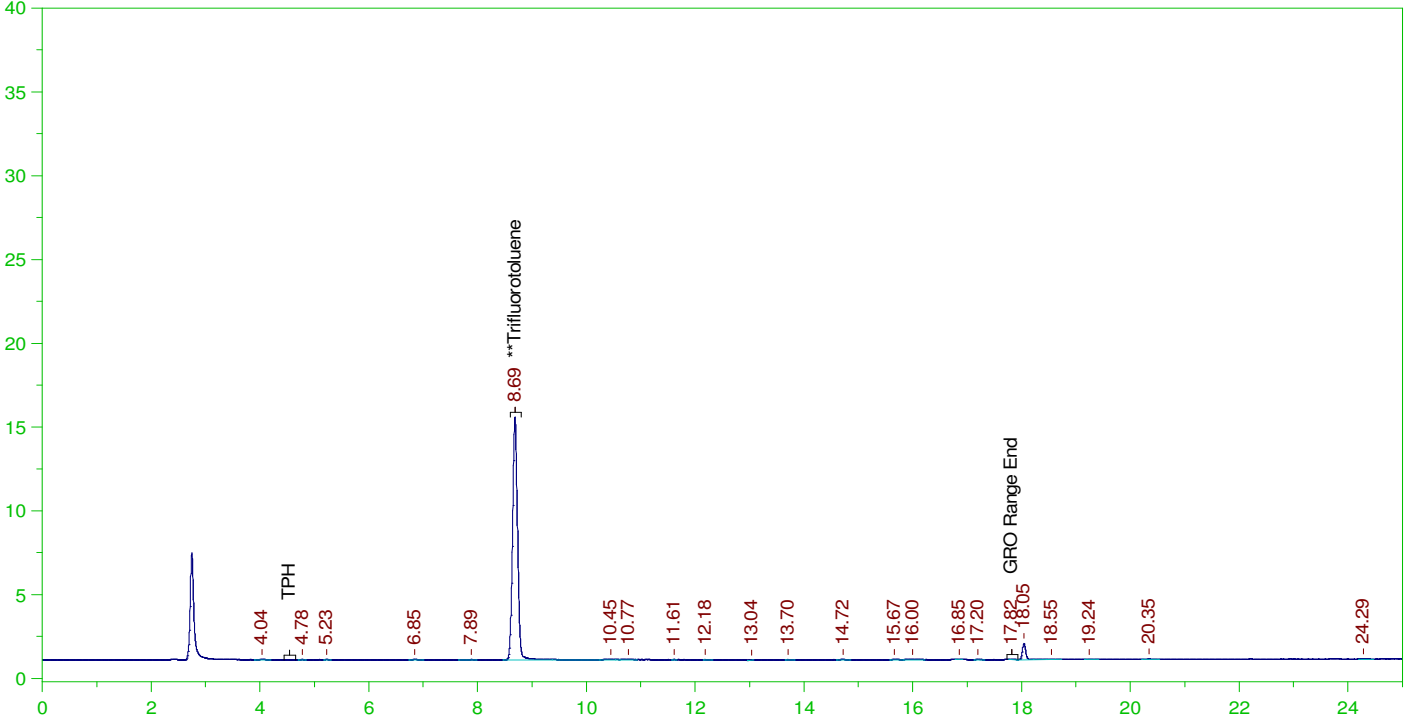
SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC
**Trifluorotoluene	8.687	25.	19.861	79.45

GRO Area:10755.42 GRO Amount: 2.273951
TPH Area:168959.9 TPH Amount: 37.15888

ERH2177 (TB) - Client

G:\Org\PE1\DAT\PE1122121_b\1221PE1B.0017.RAW

B21121623-003A ;1221PE1 , \$HC-8015-GRO-W,



GASOLINE RANGE ORGANICS CHROMATOGRAM REPORT

Sample Name: B21121623-003A ;1221PE1 , \$HC-8015-GRO-W,
Raw File: G:\Org\PE1\DAT\PE1122121_b\1221PE1B.0017.RAW
Date & Time Acquired: 12/21/2021 5:33:35 PM
Method File: G:\Org\PE1\Methods\211208G1623-3B%.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	8.689	25.	19.71	78.84

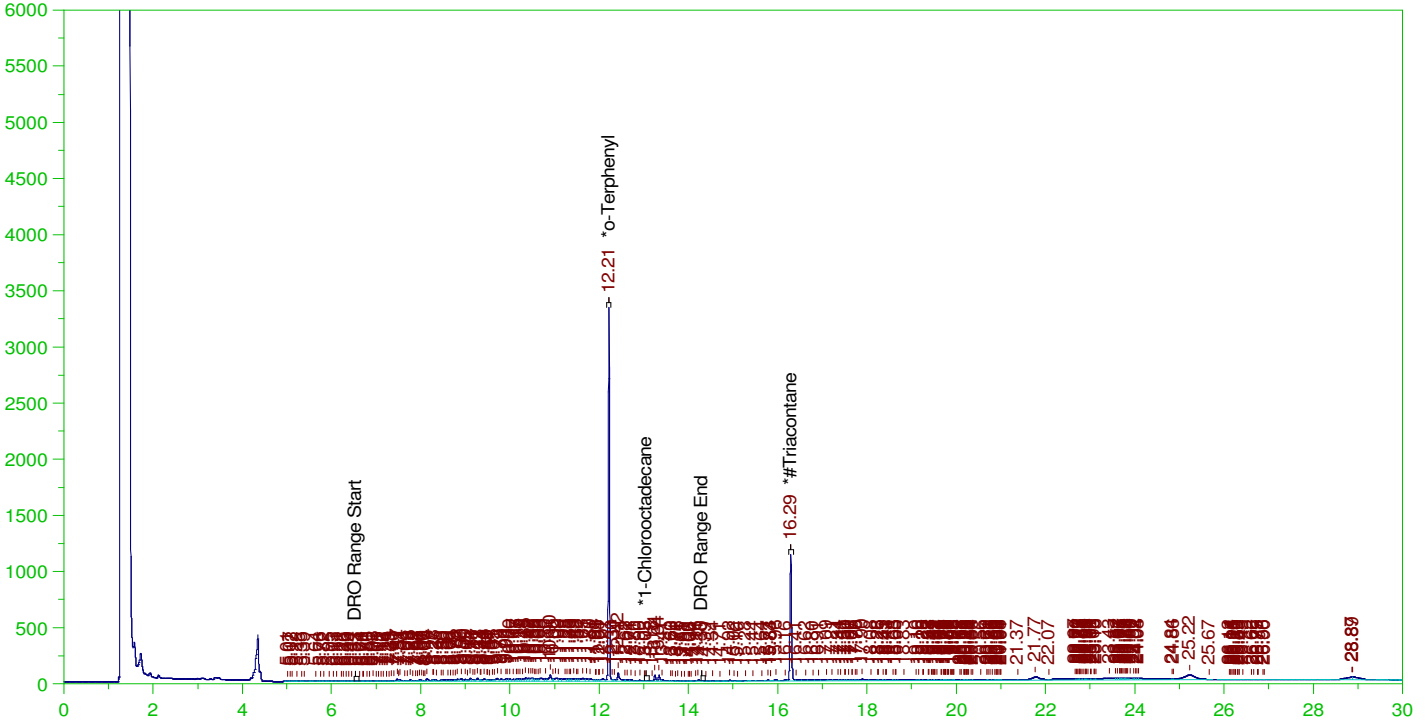
GRO Area: 2607.345 GRO Amount: 0.5512546
TPH Area: 7548.542 TPH Amount: 1.66013

ERH2178 (RHMW01R)

Batch ID: 162352

G:\org\HP5\DAT\HP5122121_b\1221HP5.0023.RAW

B21121623-001C ;1221HP5 , \$HC-8015-DRO-W,



DIESEL RANGE ORGANICS CHROMATOGRAM REPORT

Sample Name: B21121623-001C ;1221HP5 , \$HC-8015-DRO-W,
Raw File: G:\org\HP5\DAT\HP5122121_b\1221HP5.0023.RAW
Date & Time Acquired: 12/22/2021 7:44:43 AM
Method File: G:\Org\HP5\Methods\DR_8015-122123-IK-L%.met
Calibration File: G:\Org\HP5\Cals\SW8015C_DRO211102IK-24-Tri.CAL
Sample Weight: 1020 Dilution: 1 S.A.: 1

Mean RF for TEH: 31353.19

Rt range for Diesel Range Organics: 6.51 to 14.38

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	
*o-Terphenyl	12.214	.196	.172	87.6	-
*1-Chlorooctadecane	13.052	.196	.001	.33	-
*#Triacontane	16.29	.196	.099	50.26	-

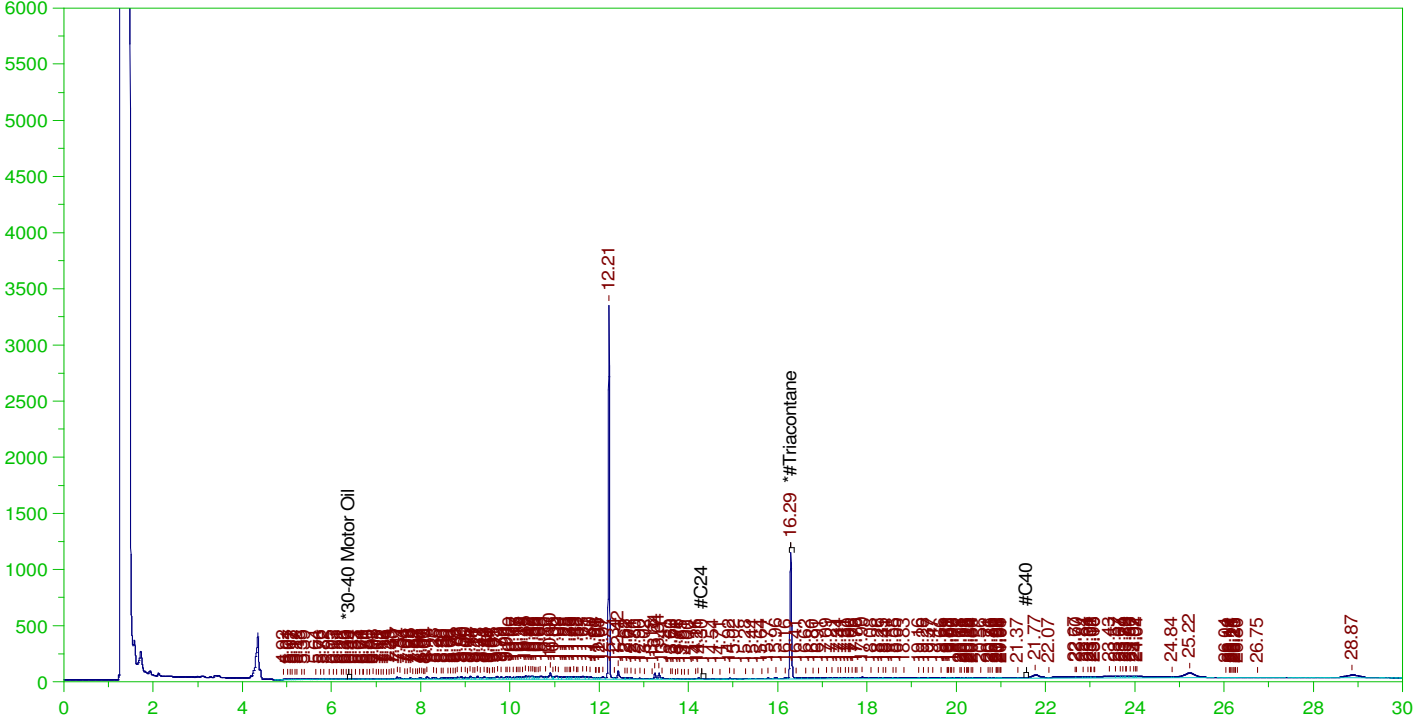
DRO Area: 6223481 DRO Amount: 0.1946039
TEH Area: 1.165042E+07 TEH Amount: 0.3643004

ERH2178 (RHMW01R)

G:\org\HP5\DAT\HP5122121_b\1221HP5.0023.RAW

Batch ID: 162352

B21121623-001C ;1221HP5 , \$HC-8015-DRO-W,



RESIDUAL RANGE ORGANICS CHROMATOGRAM

Sample Name: B21121623-001C ;1221HP5 , \$HC-8015-DRO-W,
Raw File: G:\org\HP5\DAT\HP5122121_b\1221HP5.0023.RAW
Date & Time Acquired: 12/22/2021 7:44:43 AM
Method File: G:\Org\HP5\Methods\D3_OROS-122123-AK-L%.MET
Calibration File: G:\Org\HP5\Cals\SW8015C_ORO211017AK-SAMP.CAL
Sample Weight: 1020 Dilution: 1 S.A.: 1

Mean RF for for Residual Range Organics Calculations: 28542.41
Rt range for Residual Range Organics: 14.29 to 21.62

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	
*#Triacontane	16.29	.49	.099	20.11	-

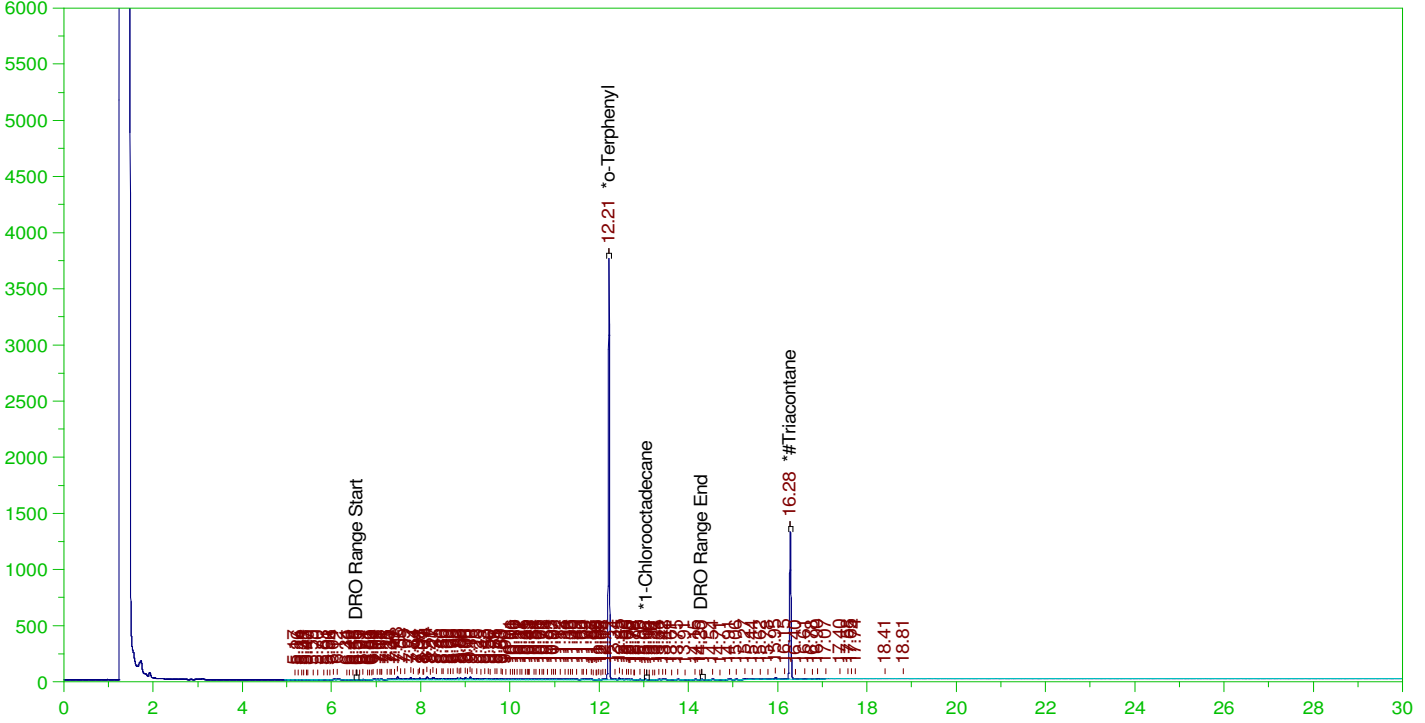
RRO Area:2271961 RRO AMOUNT: 7.803871E-02

ERH2178 (RHMW01R)

Batch ID: 162352

G:\org\HP5\DAT\HP5122621_b\1226HP5.0015.RAW

B21121623-001C ;1226HP5 , \$HC-8015-DRO-W,



DIESEL RANGE ORGANICS CHROMATOGRAM REPORT

Sample Name: B21121623-001C ;1226HP5 , \$HC-8015-DRO-W,
Raw File: G:\org\HP5\DAT\HP5122621_b\1226HP5.0015.RAW
Date & Time Acquired: 12/26/2021 9:17:18 PM
Method File: G:\Org\HP5\Methods\DR_8015-C24T-IL-L%.met
Calibration File: G:\Org\HP5\Cals\SW8015C_DRO211102IL-24-Tri.CAL
Sample Weight: 1020 Dilution: 1 S.A.: 1

Mean RF for TEH: 31353.19

Rt range for Diesel Range Organics: 6.51 to 14.37

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	
*o-Terphenyl	12.214	.196	.193	98.2	-
*1-Chlorooctadecane	13.056	.196	.	.04	-
*#Triacontane	16.279	.196	.112	57.05	-

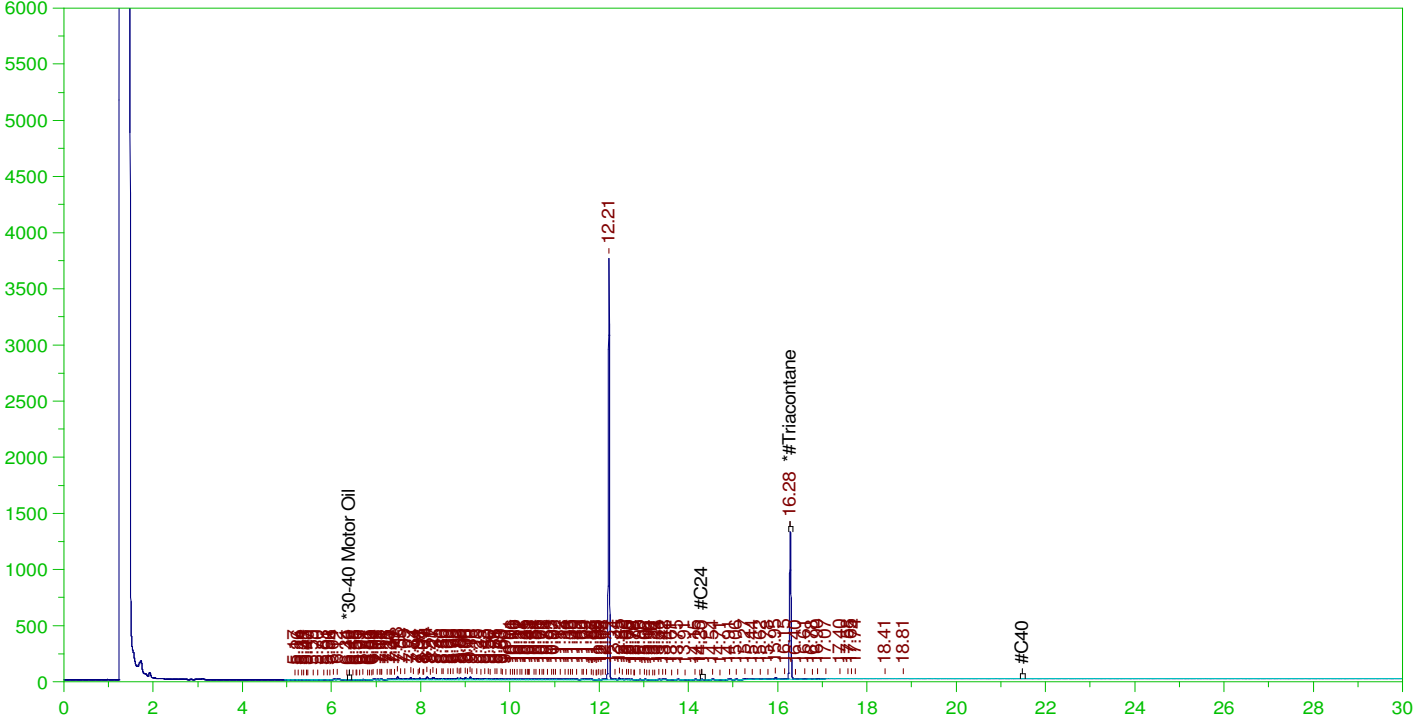
DRO Area:1858886 DRO Amount: 5.812604E-02
TEH Area:2119170 TEH Amount: 6.626495E-02

ERH2178 (RHMW01R)

Batch ID: 162352

G:\org\HP5\DAT\HP5122621_b\1226HP5.0015.RAW

B21121623-001C ;1226HP5 , \$HC-8015-DRO-W,



RESIDUAL RANGE ORGANICS CHROMATOGRAM

Sample Name: B21121623-001C ;1226HP5 , \$HC-8015-DRO-W,
Raw File: G:\org\HP5\DAT\HP5122621_b\1226HP5.0015.RAW
Date & Time Acquired: 12/26/2021 9:17:18 PM
Method File: G:\Org\HP5\Methods\DR_OROS-AL-L%.MET
Calibration File: G:\Org\HP5\Cals\SW8015C_ORO211017AL-SAMP.CAL
Sample Weight: 1020 Dilution: 1 S.A.: 1

Mean RF for for Residual Range Organics Calculations: 28542.41
Rt range for Residual Range Organics: 14.27 to 21.54

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	
*#Triacontane	16.279	.49	.112	22.82	-

RRO Area:179215.4 RRO AMOUNT: 0.0061558

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

Categories: Must Attend

Hi Tabitha,

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

Thank you,

Alethea Ramos, CIH
Environmental Scientist, Environmental Health & Science, Environment
D +1-808-529-7283
M +1-808-389-5383
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From: Tabitha Edwards <tedwards@energylab.com>
Sent: Monday, December 13, 2021 7:05 AM
To: Ramos, Alethea <alethea.ramos@aecom.com>
Cc: Pascua, Margie <Margie.Pascua@aecom.com>; billingsPM@energylab.com
Subject: [EXTERNAL] FW: CV18F0126: Expedited NOI Groundwater Samples, Saturday 12/12 Submission
Importance: High

Alethea,

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

Thank you,

Energy Laboratories, Inc.

Trust our People. Trust our Data.

Tabitha Edwards | Office Manager | Billings, MT

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