



ANALYTICAL SUMMARY REPORT

B22010755-005 ERH2395 (Trip Blank) 01/11/22 13:20 01/13/2022 Trip Blank Headspace Gas Analysis
14709 SW8015M

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

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

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

Report Approved By:



CLIENT: AECOM - Honolulu
Project: CV18F0126, 60571032.02.46.01
Work Order: B22010755

Revised Date: 3/11/2022
Report Date: 3/1/2022

CASE NARRATIVE

Revised Date: 3/11/2022

On 3/7/2022 a request was received from Cathy Larson at AECOM to re-extract and re-analyze sample ERH2396 (RHMW15 zone5), B22010755-001, for di-n-butyl phthalate by SW8270C. Both the original and re-extracted results are included in the analytical report. The prep re-extraction hold time was exceeded by 47.8 days. The result of the re-extraction and re-analysis did not confirm the original result for this sample. Re-analysis of the original extract confirmed di-n-butyl phthalate was present at the reported concentration. The report has been revised and replaces the previously issued report dated 3/1/22 in its entirety.

General Comments:

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

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

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

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

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

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

Analysis Specific Comments:

An Analytical QC Exceptions Report has been attached, summarizing all qualified QC results. Where qualified, an analyte exceeded quality control limits, but was not detected in the associated sample(s).



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Chain of Custody & Analytical Request Record – DoD Project

www.energylab.com

COC#202201-45NOI Page 1 of 1

Account Information (Billing information)

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

Report Information (if different than Account Information)

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

Comments

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

Project Information

Project Name, PWSID, Permit, etc.	CV18F0126, 60571032.02.46.01		
Sampler Name	GM, CB, MO, TN	Sampler Phone	808-987-3201
Sample Origin State	Hawaii	EPA/State Compliance	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
The following tests will be subcontracted to other certified laboratories as shown. Signing this COC is authorization to subcontract the analyses as indicated.			
Analysis	Subcontract Lab		
TOC	Energy Laboratories Inc., Casper		

Matrix Codes

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

Analysis Requested

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

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

Sample Identification (Name, Location, Interval, etc.)	Collection		Number of Containers	Matrix (See Codes Above)	Analysis Requested									See Attached	RUSH TAT	ELI LAB ID Laboratory Use Only
	Date	Time			8260 VOC's (Full Suite) + DCA* [40ml VOA w/HCL]	8015 TPH-g [40ml VOA w/HCL]	RSK175 Methane [40ml VOA w/H2SO4]	8011 EDB [40ml VOA w/HCL]	SVOCs (full suite+Nap, 1-2-Methylnap) by 8270DSIM*	EPA 3630/8015 TPH-d/o +SGC [1-L AG w/H2SO4]	EPA 9060 TOC [250ml AG w/H3PO4]	EPA 6020 Total Lead [250ml HDPE w/HNO3]	EPA 6020 Diss. Lead [250ml HDPE w/HNO3] (field Filtered)			
1 ERH2396 (RHMW15 zone5)	01/11/22	0920	19	GW	X	X	X	X	X	X	X	X	X		✓	672010755
2 ERH2395 (Trip Blank)	01/11/22	0855	8	WQ	X	X	X	X							✓	
3																
4 TB - 14694 (8260)			2													
5 TB - 14694 (600)			1													
6 TB - 14694 (8011)			2													
7 TB - 14709 (Methane)			2													
8 TB - 14576			2													
9																
10																

Custody Record MUST be signed	Relinquished by (print)	Date/Time	Signature	Received by (print)	Date/Time	Signature
	Tianzhen Nie	1/11/22 15:00	[Signature]	FEDEX	01/11/22 15:00	[Signature]
	Relinquished by (print)	Date/Time	Signature	Received by Laboratory (print)	Date/Time	Signature
				Tianzhen Casper	1/11/22 10:15	[Signature]

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



Work Order Receipt Checklist

AECOM - Honolulu

B22010755

Login completed by:

Date Received: 1/13/2022

Reviewed by: BL2000\gmccartney

Received by: tjg

Reviewed Date: 1/17/2022

Carrier name: FedEx

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

Standard Reporting Procedures:

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

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

Contact and Corrective Action Comments:

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

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: B22010755-001

Collection Date: 01/11/2022 13:20

Date Received: 01/13/2022

Report Date: 03/01/2022

Revised Date: 03/11/2022

Client: AECOM - Honolulu
Client Sample ID: ERH2396 (RHMW15 zone5)
Project: CV18F0126, 60571032.02.46.01
Matrix: Ground Water

Analyses	Result	Units	DF	Qual	LOQ	LOD	DL	MCL	Method	Analysis Date / By	RunID : Run Order	BatchID
LOW LEVEL PAH BY 8270C SIM												
1-Methylnaphthalene	ND	ug/L	1	U	0.10	0.050	0.020		SW8270CSIM	01/19/2022 15:30/jph	SV5975.I_220119A : 10	162956
2-Methylnaphthalene	ND	ug/L	1	U	0.10	0.050	0.017		SW8270CSIM	01/19/2022 15:30/jph	SV5975.I_220119A : 10	162956
Acenaphthene	ND	ug/L	1	U	0.10	0.050	0.031		SW8270CSIM	01/19/2022 15:30/jph	SV5975.I_220119A : 10	162956
Acenaphthylene	ND	ug/L	1	U	0.10	0.050	0.025		SW8270CSIM	01/19/2022 15:30/jph	SV5975.I_220119A : 10	162956
Anthracene	ND	ug/L	1	U	0.10	0.050	0.028		SW8270CSIM	01/19/2022 15:30/jph	SV5975.I_220119A : 10	162956
Benzo(a)anthracene	ND	ug/L	1	U	0.10	0.050	0.027		SW8270CSIM	01/19/2022 15:30/jph	SV5975.I_220119A : 10	162956
Benzo(a)pyrene	ND	ug/L	1	U	0.10	0.050	0.034		SW8270CSIM	01/19/2022 15:30/jph	SV5975.I_220119A : 10	162956
Benzo(b)fluoranthene	ND	ug/L	1	U	0.10	0.050	0.022		SW8270CSIM	01/19/2022 15:30/jph	SV5975.I_220119A : 10	162956
Benzo(g,h,i)perylene	ND	ug/L	1	U	0.10	0.050	0.026		SW8270CSIM	01/19/2022 15:30/jph	SV5975.I_220119A : 10	162956
Benzo(k)fluoranthene	ND	ug/L	1	U	0.10	0.050	0.029		SW8270CSIM	01/19/2022 15:30/jph	SV5975.I_220119A : 10	162956
Chrysene	ND	ug/L	1	U	0.10	0.050	0.045		SW8270CSIM	01/19/2022 15:30/jph	SV5975.I_220119A : 10	162956
Dibenzo(a,h)anthracene	ND	ug/L	1	U	0.10	0.050	0.036		SW8270CSIM	01/19/2022 15:30/jph	SV5975.I_220119A : 10	162956
Fluoranthene	ND	ug/L	1	U	0.10	0.050	0.023		SW8270CSIM	01/19/2022 15:30/jph	SV5975.I_220119A : 10	162956
Fluorene	ND	ug/L	1	U	0.10	0.050	0.022		SW8270CSIM	01/19/2022 15:30/jph	SV5975.I_220119A : 10	162956
Indeno(1,2,3-cd)pyrene	ND	ug/L	1	U	0.10	0.050	0.049		SW8270CSIM	01/19/2022 15:30/jph	SV5975.I_220119A : 10	162956
Naphthalene	ND	ug/L	1	U	0.10	0.050	0.029		SW8270CSIM	01/19/2022 15:30/jph	SV5975.I_220119A : 10	162956
Phenanthrene	ND	ug/L	1	U	0.10	0.050	0.029		SW8270CSIM	01/19/2022 15:30/jph	SV5975.I_220119A : 10	162956
Pyrene	ND	ug/L	1	U	0.10	0.050	0.024		SW8270CSIM	01/19/2022 15:30/jph	SV5975.I_220119A : 10	162956
AGGREGATE ORGANICS												
Organic Carbon, Total (TOC)	1.4	mg/L	1		0.50	0.50	0.17		SW9060A	01/14/2022 21:12/eli-ca	SUB-C278777 : 11	C_R278777
- TOC Range is 1.4 to 1.4												
METALS, DISSOLVED												
Lead	ND	mg/L	1	U	0.001	0.0001	0.00006		SW6020	01/17/2022 17:09/car	ICPMS207-B_220117A : 63	R373277
METALS, TOTAL												
Lead	0.00010	mg/L	1	J	0.001	0.0001	0.00008		SW6020	01/17/2022 17:15/car	ICPMS207-B_220117A : 64	162926
VOLATILE ORGANIC COMPOUNDS												
Benzene	ND	ug/L	1	U	1.0	0.20	0.091		SW8260B	01/14/2022 14:07/msc	VOA5975C.I_220114A : 8	R373352
Bromobenzene	ND	ug/L	1	U	1.0	0.20	0.083		SW8260B	01/14/2022 14:07/msc	VOA5975C.I_220114A : 8	R373352
Bromochloromethane	ND	ug/L	1	U	1.0	0.50	0.14		SW8260B	01/14/2022 14:07/msc	VOA5975C.I_220114A : 8	R373352
Bromodichloromethane	ND	ug/L	1	U	1.0	0.25	0.12		SW8260B	01/14/2022 14:07/msc	VOA5975C.I_220114A : 8	R373352
Bromoform	ND	ug/L	1	U	1.0	0.25	0.12		SW8260B	01/14/2022 14:07/msc	VOA5975C.I_220114A : 8	R373352
Carbon tetrachloride	ND	ug/L	1	U	1.0	0.50	0.14		SW8260B	01/14/2022 14:07/msc	VOA5975C.I_220114A : 8	R373352
Chlorobenzene	ND	ug/L	1	U	1.0	0.20	0.091		SW8260B	01/14/2022 14:07/msc	VOA5975C.I_220114A : 8	R373352
Chlorodibromomethane	ND	ug/L	1	U	1.0	0.20	0.084		SW8260B	01/14/2022 14:07/msc	VOA5975C.I_220114A : 8	R373352
Chloroethane	ND	ug/L	1	U	1.0	0.50	0.17		SW8260B	01/14/2022 14:07/msc	VOA5975C.I_220114A : 8	R373352
Chloroform	ND	ug/L	1	U	1.0	0.20	0.079		SW8260B	01/14/2022 14:07/msc	VOA5975C.I_220114A : 8	R373352
Chloromethane	ND	ug/L	1	U	1.0	0.50	0.16		SW8260B	01/14/2022 14:07/msc	VOA5975C.I_220114A : 8	R373352



LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Lab ID: B22010755-001

Collection Date: 01/11/2022 13:20

Date Received: 01/13/2022

Report Date: 03/01/2022

Revised Date: 03/11/2022

Client: AECOM - Honolulu
Client Sample ID: ERH2396 (RHMW15 zone5)
Project: CV18F0126, 60571032.02.46.01
Matrix: Ground Water

Analyses	Result	Units	DF	Qual	LOQ	LOD	DL	MCL	Method	Analysis Date / By	RunID : Run Order	BatchID
VOLATILE ORGANIC COMPOUNDS												
1,2-Dibromoethane	ND	ug/L	1	U	1.0	0.20	0.092		SW8260B	01/14/2022 14:07/msc	VOA5975C.I_220114A : 8	R373352
2-Chlorotoluene	ND	ug/L	1	U	1.0	0.20	0.088		SW8260B	01/14/2022 14:07/msc	VOA5975C.I_220114A : 8	R373352
4-Chlorotoluene	ND	ug/L	1	U	1.0	0.20	0.073		SW8260B	01/14/2022 14:07/msc	VOA5975C.I_220114A : 8	R373352
Dibromomethane	ND	ug/L	1	U	1.0	0.50	0.15		SW8260B	01/14/2022 14:07/msc	VOA5975C.I_220114A : 8	R373352
1,2-Dichlorobenzene	ND	ug/L	1	U	1.0	0.20	0.075		SW8260B	01/14/2022 14:07/msc	VOA5975C.I_220114A : 8	R373352
1,3-Dichlorobenzene	ND	ug/L	1	U	1.0	0.20	0.080		SW8260B	01/14/2022 14:07/msc	VOA5975C.I_220114A : 8	R373352
1,4-Dichlorobenzene	ND	ug/L	1	U	1.0	0.20	0.086		SW8260B	01/14/2022 14:07/msc	VOA5975C.I_220114A : 8	R373352
Dichlorodifluoromethane	ND	ug/L	1	U	1.0	0.50	0.18		SW8260B	01/14/2022 14:07/msc	VOA5975C.I_220114A : 8	R373352
1,1-Dichloroethane	ND	ug/L	1	U	1.0	0.50	0.14		SW8260B	01/14/2022 14:07/msc	VOA5975C.I_220114A : 8	R373352
1,2-Dichloroethane	ND	ug/L	1	U	1.0	0.25	0.12		SW8260B	01/14/2022 14:07/msc	VOA5975C.I_220114A : 8	R373352
1,1-Dichloroethene	ND	ug/L	1	U	1.0	0.50	0.14		SW8260B	01/14/2022 14:07/msc	VOA5975C.I_220114A : 8	R373352
cis-1,2-Dichloroethene	ND	ug/L	1	U	1.0	0.25	0.11		SW8260B	01/14/2022 14:07/msc	VOA5975C.I_220114A : 8	R373352
trans-1,2-Dichloroethene	ND	ug/L	1	U	1.0	0.25	0.12		SW8260B	01/14/2022 14:07/msc	VOA5975C.I_220114A : 8	R373352
1,2-Dichloropropane	ND	ug/L	1	U	1.0	0.20	0.085		SW8260B	01/14/2022 14:07/msc	VOA5975C.I_220114A : 8	R373352
1,3-Dichloropropane	ND	ug/L	1	U	1.0	0.20	0.079		SW8260B	01/14/2022 14:07/msc	VOA5975C.I_220114A : 8	R373352
2,2-Dichloropropane	ND	ug/L	1	U	1.0	0.50	0.19		SW8260B	01/14/2022 14:07/msc	VOA5975C.I_220114A : 8	R373352
1,1-Dichloropropene	ND	ug/L	1	U	1.0	0.20	0.083		SW8260B	01/14/2022 14:07/msc	VOA5975C.I_220114A : 8	R373352
cis-1,3-Dichloropropene	ND	ug/L	1	U	1.0	0.20	0.073		SW8260B	01/14/2022 14:07/msc	VOA5975C.I_220114A : 8	R373352
trans-1,3-Dichloropropene	ND	ug/L	1	U	1.0	0.20	0.085		SW8260B	01/14/2022 14:07/msc	VOA5975C.I_220114A : 8	R373352
Ethylbenzene	ND	ug/L	1	U	1.0	0.20	0.084		SW8260B	01/14/2022 14:07/msc	VOA5975C.I_220114A : 8	R373352
Methyl ethyl ketone	ND	ug/L	1	U	20	5.0	1.8		SW8260B	01/14/2022 14:07/msc	VOA5975C.I_220114A : 8	R373352
Methyl tert-butyl ether (MTBE)	ND	ug/L	1	U	1.0	0.25	0.10		SW8260B	01/14/2022 14:07/msc	VOA5975C.I_220114A : 8	R373352
Methylene chloride	ND	ug/L	1	U	1.0	0.50	0.34		SW8260B	01/14/2022 14:07/msc	VOA5975C.I_220114A : 8	R373352
Styrene	ND	ug/L	1	U	1.0	0.20	0.067		SW8260B	01/14/2022 14:07/msc	VOA5975C.I_220114A : 8	R373352
1,1,1,2-Tetrachloroethane	ND	ug/L	1	U	1.0	0.25	0.10		SW8260B	01/14/2022 14:07/msc	VOA5975C.I_220114A : 8	R373352
1,1,2,2-Tetrachloroethane	ND	ug/L	1	U	1.0	0.20	0.087		SW8260B	01/14/2022 14:07/msc	VOA5975C.I_220114A : 8	R373352
Tetrachloroethene	ND	ug/L	1	U	1.0	0.20	0.067		SW8260B	01/14/2022 14:07/msc	VOA5975C.I_220114A : 8	R373352
Toluene	ND	ug/L	1	UT	1.0	0.20	0.068		SW8260B	01/14/2022 14:07/msc	VOA5975C.I_220114A : 8	R373352
1,1,1-Trichloroethane	ND	ug/L	1	U	1.0	0.50	0.13		SW8260B	01/14/2022 14:07/msc	VOA5975C.I_220114A : 8	R373352
1,1,2-Trichloroethane	ND	ug/L	1	U	1.0	0.25	0.11		SW8260B	01/14/2022 14:07/msc	VOA5975C.I_220114A : 8	R373352
Trichloroethene	ND	ug/L	1	U	1.0	0.20	0.099		SW8260B	01/14/2022 14:07/msc	VOA5975C.I_220114A : 8	R373352
Trichlorofluoromethane	ND	ug/L	1	U	1.0	0.50	0.13		SW8260B	01/14/2022 14:07/msc	VOA5975C.I_220114A : 8	R373352
1,2,3-Trichloropropane	ND	ug/L	1	U	1.0	0.50	0.24		SW8260B	01/14/2022 14:07/msc	VOA5975C.I_220114A : 8	R373352
Vinyl chloride	ND	ug/L	1	U	1.0	0.50	0.15		SW8260B	01/14/2022 14:07/msc	VOA5975C.I_220114A : 8	R373352
m+p-Xylenes	ND	ug/L	1	U	1.0	0.50	0.15		SW8260B	01/14/2022 14:07/msc	VOA5975C.I_220114A : 8	R373352
o-Xylene	ND	ug/L	1	U	1.0	0.20	0.060		SW8260B	01/14/2022 14:07/msc	VOA5975C.I_220114A : 8	R373352
Xylenes, Total	ND	ug/L	1	U	1.0	0.20	0.060		SW8260B	01/14/2022 14:07/msc	VOA5975C.I_220114A : 8	R373352
Surr: Dibromofluoromethane	113.0	%REC	1			80-119			SW8260B	01/14/2022 14:07/msc	VOA5975C.I_220114A : 8	R373352
Surr: 1,2-Dichloroethane-d4	117.0	%REC	1			81-118			SW8260B	01/14/2022 14:07/msc	VOA5975C.I_220114A : 8	R373352



LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Lab ID: B22010755-001

Collection Date: 01/11/2022 13:20

Date Received: 01/13/2022

Report Date: 03/01/2022

Revised Date: 03/11/2022

Client: AECOM - Honolulu
Client Sample ID: ERH2396 (RHMW15 zone5)
Project: CV18F0126, 60571032.02.46.01
Matrix: Ground Water

Analyses	Result	Units	DF	Qual	LOQ	LOD	DL	MCL	Method	Analysis Date / By	RunID : Run Order	BatchID
VOLATILE ORGANIC COMPOUNDS												
Surr: Toluene-d8	107.0	%REC	1		89-112				SW8260B	01/14/2022 14:07/msc	VOA5975C.I_220114A : 8	R373352
Surr: p-Bromofluorobenzene	108.0	%REC	1		85-114				SW8260B	01/14/2022 14:07/msc	VOA5975C.I_220114A : 8	R373352
VOCS BY MICROEXTRACTION-ECD												
1,2-Dibromoethane	ND	ug/L	1	U	0.010	0.0049	0.0025		SW8011	01/17/2022 16:24/clt	GECD.I_220114B : 25	162935
Surr: 1,1,1,2-Tetrachloroethane	94.0	%REC	1		70-130				SW8011	01/17/2022 16:24/clt	GECD.I_220114B : 25	162935
PETROLEUM HYDROCARBONS-VOLATILE												
C6 to C10	ND	ug/L	1	U	20	8.7	2.3		SW8015C	01/14/2022 23:41/jp	PE 1_220113A : 54	R373161
Total Purgeable Hydrocarbons	ND	ug/L	1	U	20	10	3.6		SW8015C	01/14/2022 23:41/jp	PE 1_220113A : 54	R373161
Surr: Trifluorotoluene	79.0	%REC	1		70-130				SW8015C	01/14/2022 23:41/jp	PE 1_220113A : 54	R373161
- Note 1: C6 to C10 is defined as all hydrocarbons eluting between 2-Methylpentane and 1,2,4-Trimethylbenzene.												
- Note 2: Total Purgeable Hydrocarbons are defined as the total hydrocarbon response regardless of elution time.												
PETROLEUM HYDROCARBONS-SEMI-VOLATILE												
Diesel Range Organics (C10 to C24)	ND	mg/L	1	U	0.30	0.15	0.039		SW8015C	01/15/2022 09:47/amn	GCFID-HP5-B_220114A : 18	162917
Diesel Range Organics (SGT-C10 to C24)	ND	mg/L	1	U	0.30	0.12	0.039		SW8015C	01/18/2022 16:04/amn	GCFID-HP5-B_220118A : 8	162917
Oil Range Hydrocarbons (C24 to C40)	0.098	mg/L	1	J	0.30	0.15	0.088		SW8015C	01/15/2022 09:47/amn	GCFID-HP5-B_220114A : 18	162917
Oil Range Hydrocarbons (SGT-C24 to C40)	ND	mg/L	1	U	0.30	0.15	0.088		SW8015C	01/18/2022 16:04/amn	GCFID-HP5-B_220118A : 8	162917
Total Extractable Hydrocarbons	0.14	mg/L	1	J	0.30	0.15	0.075		SW8015C	01/15/2022 09:47/amn	GCFID-HP5-B_220114A : 18	162917
Total Extractable Hydrocarbons (SGT)	ND	mg/L	1	U	0.30	0.12	0.033		SW8015C	01/18/2022 16:04/amn	GCFID-HP5-B_220118A : 8	162917
Surr: o-Terphenyl	87.0	%REC	1		56-125				SW8015C	01/15/2022 09:47/amn	GCFID-HP5-B_220114A : 18	162917
Surr: o-Terphenyl (SGT)	71.0	%REC	1		56-125				SW8015C	01/18/2022 16:04/amn	GCFID-HP5-B_220118A : 8	162917
Surr: n-Triacontane	97.0	%REC	1		50-150				SW8015C	01/15/2022 09:47/amn	GCFID-HP5-B_220114A : 18	162917
Surr: n-Triacontane (SGT)	83.0	%REC	1		50-150				SW8015C	01/18/2022 16:04/amn	GCFID-HP5-B_220118A : 8	162917
- Note: Total Extractable Hydrocarbons are defined as the total hydrocarbon responses regardless of elution time.												
ORGANIC CHARACTERISTICS												
Methane	ND	mg/L	1	U	0.0020	0.0012	0.00070		SW8015M	01/14/2022 11:26/jdw	FID-HEADSPACE_220114A : 12	R373199
SEMI-VOLATILE ORGANIC COMPOUNDS												
1,2,4-Trichlorobenzene	ND	ug/L	1	U	10	5.0	1.9		SW8270C	01/28/2022 23:06/dsm	SV5973N.I_220128A : 11	162956
1,2-Dichlorobenzene	ND	ug/L	1	U	10	5.0	2.0		SW8270C	01/28/2022 23:06/dsm	SV5973N.I_220128A : 11	162956
1,3-Dichlorobenzene	ND	ug/L	1	U	10	5.0	2.1		SW8270C	01/28/2022 23:06/dsm	SV5973N.I_220128A : 11	162956
1,4-Dichlorobenzene	ND	ug/L	1	U	10	5.0	2.0		SW8270C	01/28/2022 23:06/dsm	SV5973N.I_220128A : 11	162956
2,4,5-Trichlorophenol	ND	ug/L	1	U	10	5.0	2.2		SW8270C	01/28/2022 23:06/dsm	SV5973N.I_220128A : 11	162956
2,4,6-Trichlorophenol	ND	ug/L	1	U	10	5.0	2.6		SW8270C	01/28/2022 23:06/dsm	SV5973N.I_220128A : 11	162956
2,4-Dichlorophenol	ND	ug/L	1	U	10	5.0	1.7		SW8270C	01/28/2022 23:06/dsm	SV5973N.I_220128A : 11	162956
2,4-Dimethylphenol	ND	ug/L	1	U	10	5.0	1.7		SW8270C	01/28/2022 23:06/dsm	SV5973N.I_220128A : 11	162956
2,4-Dinitrophenol	ND	ug/L	1	U	10	9.9	4.2		SW8270C	01/28/2022 23:06/dsm	SV5973N.I_220128A : 11	162956
2,4-Dinitrotoluene	ND	ug/L	1	U	10	5.0	3.0		SW8270C	01/28/2022 23:06/dsm	SV5973N.I_220128A : 11	162956



LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Lab ID: B22010755-001

Collection Date: 01/11/2022 13:20

Date Received: 01/13/2022

Report Date: 03/01/2022

Revised Date: 03/11/2022

Client: AECOM - Honolulu
Client Sample ID: ERH2396 (RHMW15 zone5)
Project: CV18F0126, 60571032.02.46.01
Matrix: Ground Water

Analyses	Result	Units	DF	Qual	LOQ	LOD	DL	MCL	Method	Analysis Date / By	RunID : Run Order	BatchID
SEMI-VOLATILE ORGANIC COMPOUNDS												
2,6-Dinitrotoluene	ND	ug/L	1	U	10	5.0	3.2		SW8270C	01/28/2022 23:06/dsm	SV5973N.I_220128A : 11	162956
2-Chloronaphthalene	ND	ug/L	1	U	10	5.0	2.1		SW8270C	01/28/2022 23:06/dsm	SV5973N.I_220128A : 11	162956
2-Chlorophenol	ND	ug/L	1	U	10	5.0	2.5		SW8270C	01/28/2022 23:06/dsm	SV5973N.I_220128A : 11	162956
2-Nitrophenol	ND	ug/L	1	U	10	5.0	2.3		SW8270C	01/28/2022 23:06/dsm	SV5973N.I_220128A : 11	162956
3,3'-Dichlorobenzidine	ND	ug/L	1	U	10	5.0	2.1		SW8270C	01/28/2022 23:06/dsm	SV5973N.I_220128A : 11	162956
4,6-Dinitro-2-methylphenol	ND	ug/L	1	U	10	9.9	2.3		SW8270C	01/28/2022 23:06/dsm	SV5973N.I_220128A : 11	162956
4-Bromophenyl phenyl ether	ND	ug/L	1	U	10	5.0	1.7		SW8270C	01/28/2022 23:06/dsm	SV5973N.I_220128A : 11	162956
4-Chloro-3-methylphenol	ND	ug/L	1	U	10	5.0	1.4		SW8270C	01/28/2022 23:06/dsm	SV5973N.I_220128A : 11	162956
4-Chlorophenol	ND	ug/L	1	U	10	5.0	2.6		SW8270C	01/28/2022 23:06/dsm	SV5973N.I_220128A : 11	162956
4-Chlorophenyl phenyl ether	ND	ug/L	1	U	10	5.0	2.0		SW8270C	01/28/2022 23:06/dsm	SV5973N.I_220128A : 11	162956
4-Nitrophenol	ND	ug/L	1	U	10	9.9	2.5		SW8270C	01/28/2022 23:06/dsm	SV5973N.I_220128A : 11	162956
Azobenzene	ND	ug/L	1	U	10	5.0	1.1		SW8270C	01/28/2022 23:06/dsm	SV5973N.I_220128A : 11	162956
bis(-2-chloroethoxy)Methane	ND	ug/L	1	U	10	5.0	1.3		SW8270C	01/28/2022 23:06/dsm	SV5973N.I_220128A : 11	162956
bis(-2-chloroethyl)Ether	ND	ug/L	1	U	10	5.0	2.5		SW8270C	01/28/2022 23:06/dsm	SV5973N.I_220128A : 11	162956
bis(2-chloroisopropyl)Ether	ND	ug/L	1	U	10	5.0	1.5		SW8270C	01/28/2022 23:06/dsm	SV5973N.I_220128A : 11	162956
bis(2-ethylhexyl)Phthalate	ND	ug/L	1	U	10	5.0	1.9		SW8270C	01/28/2022 23:06/dsm	SV5973N.I_220128A : 11	162956
Butylbenzylphthalate	ND	ug/L	1	U	10	5.0	1.6		SW8270C	01/28/2022 23:06/dsm	SV5973N.I_220128A : 11	162956
Di-n-butyl phthalate	38	ug/L	1		10	5.0	0.92		SW8270C	01/28/2022 23:06/dsm	SV5973N.I_220128A : 11	162956
Di-n-butyl phthalate	ND	ug/L	1	U	10	5.0	0.93		SW8270C	03/8/2022 21:07/dsm	SV5973N.I_220308A : 8	164261
Di-n-octyl phthalate	ND	ug/L	1	U	10	5.0	1.3		SW8270C	01/28/2022 23:06/dsm	SV5973N.I_220128A : 11	162956
Diethyl phthalate	ND	ug/L	1	U	10	5.0	2.2		SW8270C	01/28/2022 23:06/dsm	SV5973N.I_220128A : 11	162956
Dimethyl phthalate	ND	ug/L	1	U	10	5.0	1.7		SW8270C	01/28/2022 23:06/dsm	SV5973N.I_220128A : 11	162956
Hexachlorobenzene	ND	ug/L	1	U	10	5.0	1.3		SW8270C	01/28/2022 23:06/dsm	SV5973N.I_220128A : 11	162956
Hexachlorobutadiene	ND	ug/L	1	U	10	5.0	2.3		SW8270C	01/28/2022 23:06/dsm	SV5973N.I_220128A : 11	162956
Hexachlorocyclopentadiene	ND	ug/L	1	U	10	5.0	2.9		SW8270C	01/28/2022 23:06/dsm	SV5973N.I_220128A : 11	162956
Hexachloroethane	ND	ug/L	1	U	10	5.0	1.8		SW8270C	01/28/2022 23:06/dsm	SV5973N.I_220128A : 11	162956
Isophorone	ND	ug/L	1	U	10	5.0	1.7		SW8270C	01/28/2022 23:06/dsm	SV5973N.I_220128A : 11	162956
m+p-Cresols	ND	ug/L	1	U	10	5.0	1.8		SW8270C	01/28/2022 23:06/dsm	SV5973N.I_220128A : 11	162956
n-Nitroso-di-n-propylamine	ND	ug/L	1	U	10	5.0	1.5		SW8270C	01/28/2022 23:06/dsm	SV5973N.I_220128A : 11	162956
n-Nitrosodimethylamine	ND	ug/L	1	U	10	5.0	1.5		SW8270C	01/28/2022 23:06/dsm	SV5973N.I_220128A : 11	162956
n-Nitrosodiphenylamine	ND	ug/L	1	U	10	5.0	1.1		SW8270C	01/28/2022 23:06/dsm	SV5973N.I_220128A : 11	162956
Nitrobenzene	ND	ug/L	1	U	10	5.0	2.3		SW8270C	01/28/2022 23:06/dsm	SV5973N.I_220128A : 11	162956
o-Cresol	ND	ug/L	1	U	10	5.0	1.8		SW8270C	01/28/2022 23:06/dsm	SV5973N.I_220128A : 11	162956
Pentachlorophenol	ND	ug/L	1	U	10	9.9	4.2		SW8270C	01/28/2022 23:06/dsm	SV5973N.I_220128A : 11	162956
Phenol	ND	ug/L	1	U	10	5.0	1.4		SW8270C	01/28/2022 23:06/dsm	SV5973N.I_220128A : 11	162956
Pyridine	ND	ug/L	1	U	10	5.0	3.2		SW8270C	01/28/2022 23:06/dsm	SV5973N.I_220128A : 11	162956
Surr: 2,4,6-Tribromophenol	84.0	%REC	1		43-140				SW8270C	01/28/2022 23:06/dsm	SV5973N.I_220128A : 11	162956
Surr: 2-Fluorobiphenyl	61.0	%REC	1		44-119				SW8270C	03/8/2022 21:07/dsm	SV5973N.I_220308A : 8	164261
Surr: 2-Fluorobiphenyl	64.0	%REC	1		44-119				SW8270C	01/28/2022 23:06/dsm	SV5973N.I_220128A : 11	162956



LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Lab ID: B22010755-001

Collection Date: 01/11/2022 13:20

Date Received: 01/13/2022

Report Date: 03/01/2022

Revised Date: 03/11/2022

Client: AECOM - Honolulu
Client Sample ID: ERH2396 (RHMW15 zone5)
Project: CV18F0126, 60571032.02.46.01
Matrix: Ground Water

Analyses	Result	Units	DF	Qual	LOQ	LOD	DL	MCL	Method	Analysis Date / By	RunID : Run Order	BatchID
SEMI-VOLATILE ORGANIC COMPOUNDS												
Surr: 2-Fluorophenol	32.0	%REC	1		19-119				SW8270C	01/28/2022 23:06/dsm	SV5973N.I_220128A : 11	162956
Surr: Nitrobenzene-d5	47.0	%REC	1		44-120				SW8270C	03/8/2022 21:07/dsm	SV5973N.I_220308A : 8	164261
Surr: Nitrobenzene-d5	62.0	%REC	1		44-120				SW8270C	01/28/2022 23:06/dsm	SV5973N.I_220128A : 11	162956
Surr: Phenol-d5	32.0	%REC	1		10-65				SW8270C	01/28/2022 23:06/dsm	SV5973N.I_220128A : 11	162956
Surr: Terphenyl-d14	90.0	%REC	1		50-134				SW8270C	03/8/2022 21:07/dsm	SV5973N.I_220308A : 8	164261
Surr: Terphenyl-d14	95.0	%REC	1		50-134				SW8270C	01/28/2022 23:06/dsm	SV5973N.I_220128A : 11	162956



LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Lab ID: B22010755-002

Collection Date: 01/11/2022 13:20

Date Received: 01/13/2022

Report Date: 03/01/2022

Revised Date: 03/11/2022

Client: AECOM - Honolulu
Client Sample ID: ERH2395 (Trip Blank) 14694
Project: CV18F0126, 60571032.02.46.01
Matrix: Trip Blank

Analyses	Result	Units	DF	Qual	LOQ	LOD	DL	MCL	Method	Analysis Date / By	RunID : Run Order	BatchID
VOLATILE ORGANIC COMPOUNDS												
Benzene	ND	ug/L	1	U	1.0	0.20	0.091		SW8260B	01/14/2022 17:46/msc	VOA5975C.I_220114A : 16	R373352
Bromobenzene	ND	ug/L	1	U	1.0	0.20	0.083		SW8260B	01/14/2022 17:46/msc	VOA5975C.I_220114A : 16	R373352
Bromochloromethane	ND	ug/L	1	U	1.0	0.50	0.14		SW8260B	01/14/2022 17:46/msc	VOA5975C.I_220114A : 16	R373352
Bromodichloromethane	ND	ug/L	1	U	1.0	0.25	0.12		SW8260B	01/14/2022 17:46/msc	VOA5975C.I_220114A : 16	R373352
Bromoform	ND	ug/L	1	U	1.0	0.25	0.12		SW8260B	01/14/2022 17:46/msc	VOA5975C.I_220114A : 16	R373352
Carbon tetrachloride	ND	ug/L	1	U	1.0	0.50	0.14		SW8260B	01/14/2022 17:46/msc	VOA5975C.I_220114A : 16	R373352
Chlorobenzene	ND	ug/L	1	U	1.0	0.20	0.091		SW8260B	01/14/2022 17:46/msc	VOA5975C.I_220114A : 16	R373352
Chlorodibromomethane	ND	ug/L	1	U	1.0	0.20	0.084		SW8260B	01/14/2022 17:46/msc	VOA5975C.I_220114A : 16	R373352
Chloroethane	ND	ug/L	1	U	1.0	0.50	0.17		SW8260B	01/14/2022 17:46/msc	VOA5975C.I_220114A : 16	R373352
Chloroform	ND	ug/L	1	U	1.0	0.20	0.079		SW8260B	01/14/2022 17:46/msc	VOA5975C.I_220114A : 16	R373352
Chloromethane	ND	ug/L	1	U	1.0	0.50	0.16		SW8260B	01/14/2022 17:46/msc	VOA5975C.I_220114A : 16	R373352
1,2-Dibromoethane	ND	ug/L	1	U	1.0	0.20	0.092		SW8260B	01/14/2022 17:46/msc	VOA5975C.I_220114A : 16	R373352
2-Chlorotoluene	ND	ug/L	1	U	1.0	0.20	0.088		SW8260B	01/14/2022 17:46/msc	VOA5975C.I_220114A : 16	R373352
4-Chlorotoluene	ND	ug/L	1	U	1.0	0.20	0.073		SW8260B	01/14/2022 17:46/msc	VOA5975C.I_220114A : 16	R373352
Dibromomethane	ND	ug/L	1	U	1.0	0.50	0.15		SW8260B	01/14/2022 17:46/msc	VOA5975C.I_220114A : 16	R373352
1,2-Dichlorobenzene	ND	ug/L	1	U	1.0	0.20	0.075		SW8260B	01/14/2022 17:46/msc	VOA5975C.I_220114A : 16	R373352
1,3-Dichlorobenzene	ND	ug/L	1	U	1.0	0.20	0.080		SW8260B	01/14/2022 17:46/msc	VOA5975C.I_220114A : 16	R373352
1,4-Dichlorobenzene	ND	ug/L	1	U	1.0	0.20	0.086		SW8260B	01/14/2022 17:46/msc	VOA5975C.I_220114A : 16	R373352
Dichlorodifluoromethane	ND	ug/L	1	U	1.0	0.50	0.18		SW8260B	01/14/2022 17:46/msc	VOA5975C.I_220114A : 16	R373352
1,1-Dichloroethane	ND	ug/L	1	U	1.0	0.50	0.14		SW8260B	01/14/2022 17:46/msc	VOA5975C.I_220114A : 16	R373352
1,2-Dichloroethane	ND	ug/L	1	U	1.0	0.25	0.12		SW8260B	01/14/2022 17:46/msc	VOA5975C.I_220114A : 16	R373352
1,1-Dichloroethene	ND	ug/L	1	U	1.0	0.50	0.14		SW8260B	01/14/2022 17:46/msc	VOA5975C.I_220114A : 16	R373352
cis-1,2-Dichloroethene	ND	ug/L	1	U	1.0	0.25	0.11		SW8260B	01/14/2022 17:46/msc	VOA5975C.I_220114A : 16	R373352
trans-1,2-Dichloroethene	ND	ug/L	1	U	1.0	0.25	0.12		SW8260B	01/14/2022 17:46/msc	VOA5975C.I_220114A : 16	R373352
1,2-Dichloropropane	ND	ug/L	1	U	1.0	0.20	0.085		SW8260B	01/14/2022 17:46/msc	VOA5975C.I_220114A : 16	R373352
1,3-Dichloropropane	ND	ug/L	1	U	1.0	0.20	0.079		SW8260B	01/14/2022 17:46/msc	VOA5975C.I_220114A : 16	R373352
2,2-Dichloropropane	ND	ug/L	1	U	1.0	0.50	0.19		SW8260B	01/14/2022 17:46/msc	VOA5975C.I_220114A : 16	R373352
1,1-Dichloropropene	ND	ug/L	1	U	1.0	0.20	0.083		SW8260B	01/14/2022 17:46/msc	VOA5975C.I_220114A : 16	R373352
cis-1,3-Dichloropropene	ND	ug/L	1	U	1.0	0.20	0.073		SW8260B	01/14/2022 17:46/msc	VOA5975C.I_220114A : 16	R373352
trans-1,3-Dichloropropene	ND	ug/L	1	U	1.0	0.20	0.085		SW8260B	01/14/2022 17:46/msc	VOA5975C.I_220114A : 16	R373352
Ethylbenzene	ND	ug/L	1	U	1.0	0.20	0.084		SW8260B	01/14/2022 17:46/msc	VOA5975C.I_220114A : 16	R373352
Methyl ethyl ketone	ND	ug/L	1	U	20	5.0	1.8		SW8260B	01/14/2022 17:46/msc	VOA5975C.I_220114A : 16	R373352
Methyl tert-butyl ether (MTBE)	ND	ug/L	1	U	1.0	0.25	0.10		SW8260B	01/14/2022 17:46/msc	VOA5975C.I_220114A : 16	R373352
Methylene chloride	ND	ug/L	1	U	1.0	0.50	0.34		SW8260B	01/14/2022 17:46/msc	VOA5975C.I_220114A : 16	R373352
Styrene	ND	ug/L	1	U	1.0	0.20	0.067		SW8260B	01/14/2022 17:46/msc	VOA5975C.I_220114A : 16	R373352
1,1,1,2-Tetrachloroethane	ND	ug/L	1	U	1.0	0.25	0.10		SW8260B	01/14/2022 17:46/msc	VOA5975C.I_220114A : 16	R373352
1,1,2,2-Tetrachloroethane	ND	ug/L	1	U	1.0	0.20	0.087		SW8260B	01/14/2022 17:46/msc	VOA5975C.I_220114A : 16	R373352
Tetrachloroethene	ND	ug/L	1	U	1.0	0.20	0.067		SW8260B	01/14/2022 17:46/msc	VOA5975C.I_220114A : 16	R373352
Toluene	0.19	ug/L	1	J	1.0	0.20	0.068		SW8260B	01/14/2022 17:46/msc	VOA5975C.I_220114A : 16	R373352



LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Client Sample ID: ERH2395 (Trip Blank) 14694
Project: CV18F0126, 60571032.02.46.01
Matrix: Trip Blank

Lab ID: B22010755-002
Collection Date: 01/11/2022 13:20
Date Received: 01/13/2022
Report Date: 03/01/2022
Revised Date: 03/11/2022

Analyses	Result	Units	DF	Qual	LOQ	LOD	DL	MCL	Method	Analysis Date / By	RunID : Run Order	BatchID
VOLATILE ORGANIC COMPOUNDS												
1,1,1-Trichloroethane	ND	ug/L	1	U	1.0	0.50	0.13		SW8260B	01/14/2022 17:46/msc	VOA5975C.I_220114A : 16	R373352
1,1,2-Trichloroethane	ND	ug/L	1	U	1.0	0.25	0.11		SW8260B	01/14/2022 17:46/msc	VOA5975C.I_220114A : 16	R373352
Trichloroethene	ND	ug/L	1	U	1.0	0.20	0.099		SW8260B	01/14/2022 17:46/msc	VOA5975C.I_220114A : 16	R373352
Trichlorofluoromethane	ND	ug/L	1	U	1.0	0.50	0.13		SW8260B	01/14/2022 17:46/msc	VOA5975C.I_220114A : 16	R373352
1,2,3-Trichloropropane	ND	ug/L	1	U	1.0	0.50	0.24		SW8260B	01/14/2022 17:46/msc	VOA5975C.I_220114A : 16	R373352
Vinyl chloride	ND	ug/L	1	U	1.0	0.50	0.15		SW8260B	01/14/2022 17:46/msc	VOA5975C.I_220114A : 16	R373352
m+p-Xylenes	ND	ug/L	1	U	1.0	0.50	0.15		SW8260B	01/14/2022 17:46/msc	VOA5975C.I_220114A : 16	R373352
o-Xylene	ND	ug/L	1	U	1.0	0.20	0.060		SW8260B	01/14/2022 17:46/msc	VOA5975C.I_220114A : 16	R373352
Xylenes, Total	ND	ug/L	1	U	1.0	0.20	0.060		SW8260B	01/14/2022 17:46/msc	VOA5975C.I_220114A : 16	R373352
Surr: Dibromofluoromethane	114.0	%REC	1		80-119				SW8260B	01/14/2022 17:46/msc	VOA5975C.I_220114A : 16	R373352
Surr: 1,2-Dichloroethane-d4	114.0	%REC	1		81-118				SW8260B	01/14/2022 17:46/msc	VOA5975C.I_220114A : 16	R373352
Surr: Toluene-d8	108.0	%REC	1		89-112				SW8260B	01/14/2022 17:46/msc	VOA5975C.I_220114A : 16	R373352
Surr: p-Bromofluorobenzene	109.0	%REC	1		85-114				SW8260B	01/14/2022 17:46/msc	VOA5975C.I_220114A : 16	R373352



LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Client Sample ID: ERH2395 (Trip Blank) 14694
Project: CV18F0126, 60571032.02.46.01
Matrix: Trip Blank

Lab ID: B22010755-003
Collection Date: 01/11/2022 13:20
Date Received: 01/13/2022
Report Date: 03/01/2022
Revised Date: 03/11/2022

Analyses	Result	Units	DF	Qual	LOQ	LOD	DL	MCL	Method	Analysis Date / By	RunID : Run Order	BatchID
PETROLEUM HYDROCARBONS-VOLATILE												
C6 to C10	ND	ug/L	1	U	20	8.7	2.3		SW8015C	01/14/2022 13:24/jp	PE 1_220113A : 40	R373161
Total Purgeable Hydrocarbons	ND	ug/L	1	U	20	10	3.6		SW8015C	01/14/2022 13:24/jp	PE 1_220113A : 40	R373161
Surr: Trifluorotoluene	77.0	%REC	1		70-130				SW8015C	01/14/2022 13:24/jp	PE 1_220113A : 40	R373161
- Note 1: C6 to C10 is defined as all hydrocarbons eluting between 2-Methylpentane and 1,2,4-Trimethylbenzene.												
- Note 2: Total Purgeable Hydrocarbons are defined as the total hydrocarbon response regardless of elution time.												



LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Client Sample ID: ERH2395 (Trip Blank) 14694
Project: CV18F0126, 60571032.02.46.01
Matrix: Trip Blank

Lab ID: B22010755-004
Collection Date: 01/11/2022 13:20
Date Received: 01/13/2022
Report Date: 03/01/2022
Revised Date: 03/11/2022

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	01/17/2022 16:45/clt	GECD.I_220114B : 26	162935
Surr: 1,1,1,2-Tetrachloroethane	86.0	%REC	1		70-130				SW8011	01/17/2022 16:45/clt	GECD.I_220114B : 26	162935



LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Client Sample ID: ERH2395 (Trip Blank) 14709
Project: CV18F0126, 60571032.02.46.01
Matrix: Trip Blank

Lab ID: B22010755-005
Collection Date: 01/11/2022 13:20
Date Received: 01/13/2022
Report Date: 03/01/2022
Revised Date: 03/11/2022

Analyses	Result	Units	DF	Qual	LOQ	LOD	DL	MCL	Method	Analysis Date / By	RunID : Run Order	BatchID
ORGANIC CHARACTERISTICS												
Methane	ND	mg/L	1	U	0.0020	0.0012	0.00070		SW8015M	01/14/2022 11:32/jdw	FID-HEADSPACE_220114A : 13	R373199



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010755
Project: CV18F0126, 60571032.02.46.01

Revised Date: 03/11/2022

Report Date: 03/01/2022

Run ID: Run Order: SV5975.I_220119A: 4 **SampType:** Method Blank **Batch ID:** 162956
Method: SW8270CSIM **Analysis Date:** 01/19/2022 12:16 **Prep Date:** 01/14/2022 14:01
Lab ID: MB-162956 **Units:** ug/L **Prep Method:** SW3510C

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

Associated Samples: **B22010755-001C**

Run ID: Run Order: SV5975.I_220119A: 5 **SampType:** Laboratory Control Sample **Batch ID:** 162956
Method: SW8270CSIM **Analysis Date:** 01/19/2022 12:48 **Prep Date:** 01/14/2022 14:01
Lab ID: LLCS-162956 **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1-Methylnaphthalene	1.9	0.10	5.0		38.0	41	115				S



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010755
Project: CV18F0126, 60571032.02.46.01

Revised Date: 03/11/2022

Report Date: 03/01/2022

Run ID: Run Order: SV5975.I_220119A: 5 **SampType:** Laboratory Control Sample **Batch ID:** 162956
Method: SW8270CSIM **Analysis Date:** 01/19/2022 12:48 **Prep Date:** 01/14/2022 14:01
Lab ID: LLCS-162956 **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
2-Methylnaphthalene	2.1	0.10	5.0		43.0	39	114				
Acenaphthene	2.5	0.10	5.0		49.0	48	114				
Acenaphthylene	2.4	0.10	5.0		49.0	35	121				
Anthracene	5.0	0.10	5.0		101.0	53	119				
Benzo(a)anthracene	5.5	0.10	5.0		109.0	59	120				
Benzo(a)pyrene	5.1	0.10	5.0		102.0	53	120				
Benzo(b)fluoranthene	5.1	0.10	5.0		103.0	53	126				
Benzo(g,h,i)perylene	4.9	0.10	5.0		99.0	44	128				
Benzo(k)fluoranthene	4.6	0.10	5.0		92.0	54	125				
Chrysene	4.9	0.10	5.0		98.0	57	120				
Dibenzo(a,h)anthracene	4.9	0.10	5.0		98.0	44	141				
Fluoranthene	4.9	0.10	5.0		98.0	58	120				
Fluorene	3.3	0.10	5.0		65.0	50	118				
Indeno(1,2,3-cd)pyrene	5.1	0.10	5.0		102.0	48	130				
Naphthalene	2.0	0.10	5.0		40.0	43	114				S
Phenanthrene	4.9	0.10	5.0		98.0	53	115				
Pyrene	4.8	0.10	5.0		96.0	53	121				

Associated Samples: **B22010755-001C**

Run ID: Run Order: SV5975.I_220119A: 6 **SampType:** Laboratory Control Sample Duplicate **Batch ID:** 162956
Method: SW8270CSIM **Analysis Date:** 01/19/2022 13:20 **Prep Date:** 01/14/2022 14:01
Lab ID: LLCSD-162956 **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1-Methylnaphthalene	2.5	0.10	5.0		50.0	41	115	1.9	27.0	40.0	
2-Methylnaphthalene	3.0	0.10	5.0		59.0	39	114	2.1	32.0	40.0	



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010755
Project: CV18F0126, 60571032.02.46.01

Revised Date: 03/11/2022

Report Date: 03/01/2022

Run ID: Run Order: SV5975.I_220119A: 6 **SampType:** Laboratory Control Sample Duplicate **Batch ID:** 162956
Method: SW8270CSIM **Analysis Date:** 01/19/2022 13:20 **Prep Date:** 01/14/2022 14:01
Lab ID: LLCSD-162956 **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Acenaphthene	3.1	0.10	5.0		62.0	48	114	2.5	22.0	40.0	
Acenaphthylene	2.9	0.10	5.0		58.0	35	121	2.4	16.0	40.0	
Anthracene	4.8	0.10	5.0		97.0	53	119	5.0	4.1	40.0	
Benzo(a)anthracene	5.1	0.10	5.0		102.0	59	120	5.5	6.4	40.0	
Benzo(a)pyrene	4.6	0.10	5.0		93.0	53	120	5.1	9.1	40.0	
Benzo(b)fluoranthene	4.9	0.10	5.0		98.0	53	126	5.1	5.2	40.0	
Benzo(g,h,i)perylene	4.5	0.10	5.0		90.0	44	128	4.9	9.0	40.0	
Benzo(k)fluoranthene	4.4	0.10	5.0		88.0	54	125	4.6	4.7	40.0	
Chrysene	4.7	0.10	5.0		93.0	57	120	4.9	5.4	40.0	
Dibenzo(a,h)anthracene	4.5	0.10	5.0		90.0	44	141	4.9	8.8	40.0	
Fluoranthene	4.6	0.10	5.0		92.0	58	120	4.9	6.3	40.0	
Fluorene	3.8	0.10	5.0		77.0	50	118	3.3	17.0	40.0	
Indeno(1,2,3-cd)pyrene	4.5	0.10	5.0		91.0	48	130	5.1	12.0	40.0	
Naphthalene	2.4	0.10	5.0		48.0	43	114	2.0	18.0	40.0	
Phenanthrene	4.8	0.10	5.0		96.0	53	115	4.9	1.7	40.0	
Pyrene	4.6	0.10	5.0		92.0	53	121	4.8	3.9	40.0	

Associated Samples: **B22010755-001C**

Run ID: Run Order: SV5975.I_220119A: 16 **SampType:** Sample Matrix Spike **Batch ID:** 162956
Method: SW8270CSIM **Analysis Date:** 01/19/2022 18:44 **Prep Date:** 01/14/2022 14:02
Lab ID: B22010759-001CLMS **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1-Methylnaphthalene	2.9	0.10	4.9	0.0	58.0	41	115				
2-Methylnaphthalene	3.6	0.10	4.9	0.0	73.0	39	114				
Acenaphthene	3.4	0.10	4.9	0.0	70.0	48	114				



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010755
Project: CV18F0126, 60571032.02.46.01

Revised Date: 03/11/2022

Report Date: 03/01/2022

Run ID: Run Order: SV5975.I_220119A: 16
Method: SW8270CSIM
Lab ID: B22010759-001CLMS

SampType: Sample Matrix Spike
Analysis Date: 01/19/2022 18:44
Units: ug/L

Batch ID: 162956
Prep Date: 01/14/2022 14:02
Prep Method: SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Acenaphthylene	2.8	0.10	4.9	0.0	57.0	35	121				
Anthracene	4.4	0.10	4.9	0.0	89.0	53	119				
Benzo(a)anthracene	4.5	0.10	4.9	0.0	91.0	59	120				
Benzo(a)pyrene	4.1	0.10	4.9	0.0	84.0	53	120				
Benzo(b)fluoranthene	4.2	0.10	4.9	0.0	86.0	53	126				
Benzo(g,h,i)perylene	4.3	0.10	4.9	0.0	88.0	44	128				
Benzo(k)fluoranthene	4.0	0.10	4.9	0.0	81.0	54	125				
Chrysene	3.9	0.10	4.9	0.0	80.0	57	120				
Dibenzo(a,h)anthracene	4.5	0.10	4.9	0.0	92.0	44	141				
Fluoranthene	4.0	0.10	4.9	0.0	82.0	58	120				
Fluorene	3.8	0.10	4.9	0.0	78.0	50	118				
Indeno(1,2,3-cd)pyrene	4.3	0.10	4.9	0.0	89.0	48	130				
Naphthalene	2.8	0.10	4.9	0.0	57.0	43	114				
Phenanthrene	4.4	0.10	4.9	0.0	89.0	53	115				
Pyrene	4.0	0.10	4.9	0.0	82.0	53	121				

Associated Samples: **B22010755-001C**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010755
Project: CV18F0126, 60571032.02.46.01

Revised Date: 03/11/2022

Report Date: 03/01/2022

Run ID: Run Order: SV5975.I_220119A: 17 **SampType:** Sample Matrix Spike Duplicate **Batch ID:** 162956
Method: SW8270CSIM **Analysis Date:** 01/19/2022 19:16 **Prep Date:** 01/14/2022 14:02
Lab ID: B22010759-001CLMSD **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1-Methylnaphthalene	3.2	0.10	4.9	0.0	65.0	41	115	2.9	11.0	40.0	
2-Methylnaphthalene	4.0	0.10	4.9	0.0	83.0	39	114	3.6	12.0	40.0	
Acenaphthene	3.4	0.10	4.9	0.0	70.0	48	114	3.4	0.8	40.0	
Acenaphthylene	3.3	0.10	4.9	0.0	69.0	35	121	2.8	18.0	40.0	
Anthracene	4.2	0.10	4.9	0.0	87.0	53	119	4.4	3.5	40.0	
Benzo(a)anthracene	4.1	0.10	4.9	0.0	84.0	59	120	4.5	9.3	40.0	
Benzo(a)pyrene	3.7	0.10	4.9	0.0	75.0	53	120	4.1	11.0	40.0	
Benzo(b)fluoranthene	3.8	0.10	4.9	0.0	79.0	53	126	4.2	8.9	40.0	
Benzo(g,h,i)perylene	3.6	0.10	4.9	0.0	74.0	44	128	4.3	18.0	40.0	
Benzo(k)fluoranthene	3.5	0.10	4.9	0.0	71.0	54	125	4.0	14.0	40.0	
Chrysene	3.6	0.10	4.9	0.0	74.0	57	120	3.9	8.8	40.0	
Dibenzo(a,h)anthracene	3.7	0.10	4.9	0.0	77.0	44	141	4.5	19.0	40.0	
Fluoranthene	3.9	0.10	4.9	0.0	80.0	58	120	4.0	3.5	40.0	
Fluorene	3.8	0.10	4.9	0.0	79.0	50	118	3.8	0.9	40.0	
Indeno(1,2,3-cd)pyrene	3.7	0.10	4.9	0.0	76.0	48	130	4.3	17.0	40.0	
Naphthalene	3.2	0.10	4.9	0.0	65.0	43	114	2.8	13.0	40.0	
Phenanthrene	4.4	0.10	4.9	0.0	90.0	53	115	4.4	0.8	40.0	
Pyrene	3.7	0.10	4.9	0.0	77.0	53	121	4.0	6.9	40.0	

Associated Samples: **B22010755-001C**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010755
Project: CV18F0126, 60571032.02.46.01

Revised Date: 03/11/2022

Report Date: 03/01/2022

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

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

Associated Samples: **B22010755-001C**

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

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1-Methylnaphthalene	1.9	0.10	2.0		94.0	50	150				



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010755
Project: CV18F0126, 60571032.02.46.01

Revised Date: 03/11/2022

Report Date: 03/01/2022

Run ID: Run Order: SV5975.I_220119A: 18

SampType: Continuing Calibration Verification Standard

Batch ID: R373423

Method: SW8270CSIM

Analysis Date: 01/19/2022 19:48

Prep Date:

Lab ID: 19-Jan-22_CCV_18

Units: ug/L

Prep Method:

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
2-Methylnaphthalene	1.9	0.10	2.0		97.0	50	150				
Acenaphthene	1.7	0.10	2.0		84.0	50	150				
Acenaphthylene	1.7	0.10	2.0		87.0	50	150				
Anthracene	2.1	0.10	2.0		104.0	50	150				
Benzo(a)anthracene	2.1	0.10	2.0		106.0	50	150				
Benzo(a)pyrene	2.2	0.10	2.0		108.0	50	150				
Benzo(b)fluoranthene	2.0	0.10	2.0		101.0	50	150				
Benzo(g,h,i)perylene	2.2	0.10	2.0		109.0	50	150				
Benzo(k)fluoranthene	2.0	0.10	2.0		101.0	50	150				
Chrysene	2.0	0.10	2.0		99.0	50	150				
Dibenzo(a,h)anthracene	1.9	0.10	2.0		97.0	50	150				
Fluoranthene	1.9	0.10	2.0		96.0	50	150				
Fluorene	1.9	0.10	2.0		94.0	50	150				
Indeno(1,2,3-cd)pyrene	2.2	0.10	2.0		109.0	50	150				
Naphthalene	1.8	0.10	2.0		89.0	50	150				
Phenanthrene	2.0	0.10	2.0		101.0	50	150				
Pyrene	2.0	0.10	2.0		100.0	50	150				

Associated Samples: **B22010755-001C**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010755
Project: CV18F0126, 60571032.02.46.01

Revised Date: 03/11/2022

Report Date: 03/01/2022

Run ID: Run Order: SUB-C278777: 2 **SampType:** Method Blank **Batch ID:** C_R278777
Method: SW9060A **Analysis Date:** 01/14/2022 15:17 **Prep Date:**
Lab ID: MBLK **Units:** mg/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	ND	0.20									

Associated Samples: **B22010755-001E**
- TOC Range is 0.0 to 0.0

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

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

Associated Samples: **B22010755-001E**
- TOC Range is 5.2 to 5.4

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

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

Associated Samples: **B22010755-001E**
- TOC Range is 5.2 to 5.3



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010755
Project: CV18F0126, 60571032.02.46.01

Revised Date: 03/11/2022

Report Date: 03/01/2022

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

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

Associated Samples: **B22010755-001E**
- TOC Range is 5.2 to 5.3

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

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

Associated Samples: **B22010755-001E**
- TOC Range is 5.2 to 5.3

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

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

Associated Samples: **B22010755-001E**
- TOC Range is 5.2 to 5.3



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010755
Project: CV18F0126, 60571032.02.46.01

Revised Date: 03/11/2022

Report Date: 03/01/2022

Run ID: Run Order: ICPMS207-B_220117A: 29 **SampType:** Method Blank **Batch ID:** R373277
Method: SW6020 **Analysis Date:** 01/17/2022 13:35 **Prep Date:**
Lab ID: LRB **Units:** mg/L **Prep Method:**

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

Associated Samples: **B22010755-001A**

Run ID: Run Order: ICPMS207-B_220117A: 30 **SampType:** Laboratory Fortified Blank **Batch ID:** R373277
Method: SW6020 **Analysis Date:** 01/17/2022 13:41 **Prep Date:**
Lab ID: LFB **Units:** mg/L **Prep Method:**

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

Associated Samples: **B22010755-001A**

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

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

Associated Samples: **B22010755-001A**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010755
Project: CV18F0126, 60571032.02.46.01

Revised Date: 03/11/2022

Report Date: 03/01/2022

Run ID: Run Order: ICPMS207-B_220117A: 43
Method: SW6020
Lab ID: B22010750-001AMSD
SampType: Sample Matrix Spike Duplicate
Analysis Date: 01/17/2022 15:03
Units: mg/L

Batch ID: R373277
Prep Date:
Prep Method:

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Lead	0.049	0.001	0.050	0.00	98.0	88	115	0.047	2.9	20.0	

Associated Samples: **B22010755-001A**

Run ID: Run Order: ICPMS207-B_220117A: 41
Method: SW6020
Lab ID: B22010750-001ADIL
SampType: Serial Dilution
Analysis Date: 01/17/2022 14:50
Units: mg/L

Batch ID: R373277
Prep Date:
Prep Method:

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

Associated Samples: **B22010755-001A**

Run ID: Run Order: ICPMS207-B_220117A: 37
Method: SW6020
Lab ID: MB-162926
SampType: Method Blank
Analysis Date: 01/17/2022 14:25
Units: mg/L

Batch ID: 162926
Prep Date: 01/14/2022 08:11
Prep Method: SW3010A

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

Associated Samples: **B22010755-001B**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010755
Project: CV18F0126, 60571032.02.46.01

Revised Date: 03/11/2022

Report Date: 03/01/2022

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

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

Associated Samples: **B22010755-001B**

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

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

Associated Samples: **B22010755-001B**

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

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

Associated Samples: **B22010755-001B**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010755
Project: CV18F0126, 60571032.02.46.01

Revised Date: 03/11/2022

Report Date: 03/01/2022

Run ID: Run Order: ICPMS207-B_220117A: 52 **SampType:** Post Digestion/Distillation Spike **Batch ID:** 162926
Method: SW6020 **Analysis Date:** 01/17/2022 16:00 **Prep Date:** 01/14/2022 08:16
Lab ID: B22010751-001BPDS1 **Units:** mg/L **Prep Method:** SW3010A

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Lead	0.049	0.001	0.052	0.001	93.0	80	120				

Associated Samples: **B22010755-001B**

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

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

Associated Samples: **B22010755-001B**

Run ID: Run Order: ICPMS207-B_220117A: 50 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R373277
Method: SW6020 **Analysis Date:** 01/17/2022 15:48 **Prep Date:**
Lab ID: CCV **Units:** mg/L **Prep Method:**

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

Associated Samples: **B22010755-001A, B22010755-001B**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010755
Project: CV18F0126, 60571032.02.46.01

Revised Date: 03/11/2022

Report Date: 03/01/2022

Run ID: Run Order: ICPMS207-B_220117A: 67

SampType: Continuing Calibration Verification Standard

Batch ID: R373277

Method: SW6020

Analysis Date: 01/17/2022 17:34

Prep Date:

Lab ID: CCV

Units: mg/L

Prep Method:

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Lead	0.046	0.001	0.050		93.0	90	110				

Associated Samples: **B22010755-001A, B22010755-001B**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010755
Project: CV18F0126, 60571032.02.46.01

Revised Date: 03/11/2022

Report Date: 03/01/2022

Run ID: Run Order: VOA5975C.I_220114A: 4
Method: SW8260B
Lab ID: MBLK011422_

SampType: Method Blank
Analysis Date: 01/14/2022 12:01
Units: ug/L

Batch ID: R373352
Prep Date:
Prep Method:

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



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010755
Project: CV18F0126, 60571032.02.46.01

Revised Date: 03/11/2022

Report Date: 03/01/2022

Run ID: Run Order: VOA5975C.I._220114A: 4
Method: SW8260B
Lab ID: MBLK011422_

SampType: Method Blank
Analysis Date: 01/14/2022 12:01
Units: ug/L

Batch ID: R373352
Prep Date:
Prep Method:

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,1-Dichloropropene	ND	0.50									
cis-1,3-Dichloropropene	ND	0.50									
trans-1,3-Dichloropropene	ND	0.50									
Ethylbenzene	ND	0.50									
Methyl tert-butyl ether (MTBE)	ND	0.50									
Methyl ethyl ketone	ND	10									
Methylene chloride	ND	0.50									
Styrene	ND	0.50									
1,1,1,2-Tetrachloroethane	ND	0.50									
1,1,2,2-Tetrachloroethane	ND	0.50									
Tetrachloroethene	ND	0.50									
Toluene	ND	0.50									
1,1,1-Trichloroethane	ND	0.50									
1,1,2-Trichloroethane	ND	0.50									
Trichloroethene	ND	0.50									
Trichlorofluoromethane	ND	0.50									
1,2,3-Trichloropropane	ND	0.50									
Vinyl chloride	ND	0.50									
m+p-Xylenes	ND	0.50									
o-Xylene	ND	0.50									
Xylenes, Total	ND	0.50									
Surr: 1,2-Dichloroethane-d4	11	0.50	10		111.0	81	118				
Surr: Dibromofluoromethane	11	0.50	10		109.0	80	119				
Surr: p-Bromofluorobenzene	11	0.50	10		107.0	85	114				
Surr: Toluene-d8	11	0.50	10		106.0	89	112				

Associated Samples: B22010755-001F, B22010755-002A



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010755
Project: CV18F0126, 60571032.02.46.01

Revised Date: 03/11/2022

Report Date: 03/01/2022

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

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Benzene	5.1	0.50	5.0		103.0	79	120				
Bromobenzene	5.4	0.50	5.0		108.0	80	120				
Bromochloromethane	5.1	0.50	5.0		102.0	78	123				
Bromodichloromethane	5.3	0.50	5.0		106.0	79	125				
Bromoform	5.7	0.50	5.0		114.0	66	130				
Carbon tetrachloride	5.8	0.50	5.0		115.0	72	136				
Chlorobenzene	5.4	0.50	5.0		108.0	82	118				
Chlorodibromomethane	5.2	0.50	5.0		104.0	74	126				
Chloroethane	6.7	0.50	5.0		134.0	60	138				
Chloroform	5.1	0.50	5.0		102.0	79	124				
Chloromethane	5.9	0.50	5.0		119.0	50	139				
1,2-Dibromoethane	5.0	0.50	5.0		100.0	78	122				
2-Chlorotoluene	5.2	0.50	5.0		105.0	79	122				
Dibromomethane	4.9	0.50	5.0		99.0	79	123				
1,2-Dichlorobenzene	5.5	0.50	5.0		109.0	80	119				
4-Chlorotoluene	5.4	0.50	5.0		108.0	78	122				
1,3-Dichlorobenzene	5.5	0.50	5.0		109.0	80	119				
1,4-Dichlorobenzene	5.4	0.50	5.0		107.0	79	118				
Dichlorodifluoromethane	6.2	0.50	5.0		125.0	32	152				
1,1-Dichloroethane	5.4	0.50	5.0		108.0	77	125				
1,2-Dichloroethane	5.2	0.50	5.0		104.0	73	128				
1,1-Dichloroethene	5.3	0.50	5.0		107.0	71	131				
cis-1,2-Dichloroethene	5.3	0.50	5.0		106.0	78	123				
trans-1,2-Dichloroethene	5.3	0.50	5.0		106.0	75	124				
1,2-Dichloropropane	4.8	0.50	5.0		95.0	78	122				
1,3-Dichloropropane	4.9	0.50	5.0		98.0	80	119				
2,2-Dichloropropane	5.7	0.50	5.0		115.0	60	139				



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010755
Project: CV18F0126, 60571032.02.46.01

Revised Date: 03/11/2022

Report Date: 03/01/2022

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

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

Associated Samples: B22010755-001F, B22010755-002A



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010755
Project: CV18F0126, 60571032.02.46.01

Revised Date: 03/11/2022

Report Date: 03/01/2022

Run ID: Run Order: VOA5975C.I_220114A: 22

SampType: Sample Matrix Spike

Batch ID: R373352

Method: SW8260B

Analysis Date: 01/14/2022 20:03

Prep Date:

Lab ID: B22010759-001FMS

Units: ug/L

Prep Method:

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Benzene	5.0	0.50	5.0	0.0	101.0	79	120				
Bromobenzene	5.4	0.50	5.0	0.0	108.0	80	120				
Bromochloromethane	4.9	0.50	5.0	0.0	98.0	78	123				
Bromodichloromethane	5.2	0.50	5.0	0.0	104.0	79	125				
Bromoform	5.3	0.50	5.0	0.0	105.0	66	130				
Carbon tetrachloride	5.1	0.50	5.0	0.0	102.0	72	136				
Chlorobenzene	5.1	0.50	5.0	0.0	102.0	82	118				
Chlorodibromomethane	5.0	0.50	5.0	0.0	100.0	74	126				
Chloroethane	5.5	0.50	5.0	0.0	109.0	60	138				
Chloroform	4.8	0.50	5.0	0.0	96.0	79	124				
Chloromethane	4.6	0.50	5.0	0.0	92.0	50	139				
1,2-Dibromoethane	4.9	0.50	5.0	0.0	98.0	78	122				
2-Chlorotoluene	5.4	0.50	5.0	0.0	108.0	79	122				
Dibromomethane	5.1	0.50	5.0	0.0	102.0	79	123				
1,2-Dichlorobenzene	5.2	0.50	5.0	0.0	104.0	80	119				
4-Chlorotoluene	5.4	0.50	5.0	0.0	108.0	78	122				
1,3-Dichlorobenzene	5.3	0.50	5.0	0.0	105.0	80	119				
1,4-Dichlorobenzene	5.2	0.50	5.0	0.0	103.0	79	118				
Dichlorodifluoromethane	4.9	0.50	5.0	0.0	97.0	32	152				
1,1-Dichloroethane	5.3	0.50	5.0	0.0	106.0	77	125				
1,2-Dichloroethane	5.2	0.50	5.0	0.22	100.0	73	128				
1,1-Dichloroethene	5.4	0.50	5.0	0.0	109.0	71	131				
cis-1,2-Dichloroethene	5.2	0.50	5.0	0.0	105.0	78	123				
trans-1,2-Dichloroethene	5.1	0.50	5.0	0.0	102.0	75	124				
1,2-Dichloropropane	5.0	0.50	5.0	0.0	101.0	78	122				
1,3-Dichloropropane	4.9	0.50	5.0	0.0	97.0	80	119				
2,2-Dichloropropane	5.1	0.50	5.0	0.0	103.0	60	139				



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010755
Project: CV18F0126, 60571032.02.46.01

Revised Date: 03/11/2022

Report Date: 03/01/2022

Run ID: Run Order: VOA5975C.I_220114A: 22

SampType: Sample Matrix Spike

Batch ID: R373352

Method: SW8260B

Analysis Date: 01/14/2022 20:03

Prep Date:

Lab ID: B22010759-001FMS

Units: ug/L

Prep Method:

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,1-Dichloropropene	4.9	0.50	5.0	0.0	97.0	79	125				
cis-1,3-Dichloropropene	4.7	0.50	5.0	0.0	94.0	75	124				
trans-1,3-Dichloropropene	5.1	0.50	5.0	0.0	102.0	73	127				
Ethylbenzene	5.1	0.50	5.0	0.0	102.0	79	121				
Methyl tert-butyl ether (MTBE)	4.8	0.50	5.0	0.0	95.0	71	124				
Methyl ethyl ketone	53	10	50	0.0	106.0	56	143				
Methylene chloride	4.7	0.50	5.0	0.0	95.0	74	124				
Styrene	5.1	0.50	5.0	0.0	102.0	78	123				
1,1,1,2-Tetrachloroethane	5.2	0.50	5.0	0.0	103.0	78	124				
1,1,2,2-Tetrachloroethane	5.1	0.50	5.0	0.0	103.0	71	121				
Tetrachloroethene	5.1	0.50	5.0	0.0	101.0	74	129				
Toluene	5.3	0.50	5.0	0.0	105.0	80	121				
1,1,1-Trichloroethane	5.1	0.50	5.0	0.0	102.0	74	131				
1,1,2-Trichloroethane	5.0	0.50	5.0	0.0	99.0	80	119				
Trichloroethene	5.2	0.50	5.0	0.0	104.0	79	123				
Trichlorofluoromethane	5.5	0.50	5.0	0.0	110.0	65	141				
1,2,3-Trichloropropane	5.1	0.50	5.0	0.0	102.0	73	125				
Vinyl chloride	4.9	0.50	5.0	0.0	97.0	58	137				
m+p-Xylenes	10	0.50	10	0.0	101.0	80	121				
o-Xylene	5.1	0.50	5.0	0.0	103.0	78	122				
Xylenes, Total	15	0.50	15	0.0	102.0	79	121				
Surr: 1,2-Dichloroethane-d4	11	0.50	10	0.0	110.0	81	118				
Surr: Dibromofluoromethane	11	0.50	10	0.0	110.0	80	119				
Surr: p-Bromofluorobenzene	11	0.50	10	0.0	108.0	85	114				
Surr: Toluene-d8	11	0.50	10	0.0	112.0	89	112				

Associated Samples: B22010755-001F, B22010755-002A



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010755
Project: CV18F0126, 60571032.02.46.01

Revised Date: 03/11/2022

Report Date: 03/01/2022

Run ID: Run Order: VOA5975C.I_220114A: 23

SampType: Sample Matrix Spike Duplicate

Batch ID: R373352

Method: SW8260B

Analysis Date: 01/14/2022 20:30

Prep Date:

Lab ID: B22010759-001FMSD

Units: ug/L

Prep Method:

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



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010755
Project: CV18F0126, 60571032.02.46.01

Revised Date: 03/11/2022

Report Date: 03/01/2022

Run ID: Run Order: VOA5975C.I_220114A: 23

SampType: Sample Matrix Spike Duplicate

Batch ID: R373352

Method: SW8260B

Analysis Date: 01/14/2022 20:30

Prep Date:

Lab ID: B22010759-001FMSD

Units: ug/L

Prep Method:

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,1-Dichloropropene	5.0	0.50	5.0	0.0	100.0	79	125	4.9	3.1	20.0	
cis-1,3-Dichloropropene	4.9	0.50	5.0	0.0	99.0	75	124	4.7	4.6	20.0	
trans-1,3-Dichloropropene	5.2	0.50	5.0	0.0	105.0	73	127	5.1	2.3	20.0	
Ethylbenzene	5.3	0.50	5.0	0.0	106.0	79	121	5.1	3.6	20.0	
Methyl tert-butyl ether (MTBE)	5.3	0.50	5.0	0.0	107.0	71	124	4.8	11.0	20.0	
Methyl ethyl ketone	59	10	50	0.0	118.0	56	143	53	10.0	20.0	
Methylene chloride	4.9	0.50	5.0	0.0	98.0	74	124	4.7	3.1	20.0	
Styrene	5.3	0.50	5.0	0.0	107.0	78	123	5.1	4.3	20.0	
1,1,1,2-Tetrachloroethane	5.2	0.50	5.0	0.0	104.0	78	124	5.2	0.7	20.0	
1,1,2,2-Tetrachloroethane	5.5	0.50	5.0	0.0	110.0	71	121	5.1	7.3	20.0	
Tetrachloroethene	5.3	0.50	5.0	0.0	105.0	74	129	5.1	4.1	20.0	
Toluene	5.4	0.50	5.0	0.0	108.0	80	121	5.3	2.8	20.0	
1,1,1-Trichloroethane	5.3	0.50	5.0	0.0	106.0	74	131	5.1	4.2	20.0	
1,1,2-Trichloroethane	5.3	0.50	5.0	0.0	106.0	80	119	5.0	6.3	20.0	
Trichloroethene	5.2	0.50	5.0	0.0	104.0	79	123	5.2	0.1	20.0	
Trichlorofluoromethane	5.1	0.50	5.0	0.0	101.0	65	141	5.5	8.8	20.0	
1,2,3-Trichloropropane	5.1	0.50	5.0	0.0	103.0	73	125	5.1	0.5	20.0	
Vinyl chloride	5.1	0.50	5.0	0.0	101.0	58	137	4.9	4.0	20.0	
m+p-Xylenes	11	0.50	10	0.0	105.0	80	121	10	3.9	20.0	
o-Xylene	5.3	0.50	5.0	0.0	107.0	78	122	5.1	3.8	20.0	
Xylenes, Total	16	0.50	15	0.0	106.0	79	121	15	3.9	20.0	
Surr: 1,2-Dichloroethane-d4	11	0.50	10	0.0	112.0	81	118	0.0			
Surr: Dibromofluoromethane	11	0.50	10	0.0	109.0	80	119	0.0			
Surr: p-Bromofluorobenzene	11	0.50	10	0.0	108.0	85	114	0.0			
Surr: Toluene-d8	11	0.50	10	0.0	110.0	89	112	0.0			

Associated Samples: **B22010755-001F, B22010755-002A**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010755
Project: CV18F0126, 60571032.02.46.01

Revised Date: 03/11/2022

Report Date: 03/01/2022

Run ID: Run Order: VOA5975C.I_220114A: 2

SampType: Continuing Calibration Verification Standard

Batch ID: R373352

Method: SW8260B

Analysis Date: 01/14/2022 10:39

Prep Date:

Lab ID: CCV011422_

Units: ug/L

Prep Method:

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



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010755
Project: CV18F0126, 60571032.02.46.01

Revised Date: 03/11/2022

Report Date: 03/01/2022

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

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,1-Dichloropropene	5.0	0.50	5.0		101.0	80	120				
cis-1,3-Dichloropropene	5.1	0.50	5.0		101.0	80	120				
trans-1,3-Dichloropropene	5.5	0.50	5.0		110.0	80	120				
Ethylbenzene	5.1	0.50	5.0		103.0	80	120				
Methyl tert-butyl ether (MTBE)	5.1	0.50	5.0		103.0	80	120				
Methyl ethyl ketone	42	10	50		84.0	80	120				
Methylene chloride	5.0	0.50	5.0		100.0	80	120				
Styrene	5.4	0.50	5.0		108.0	80	120				
1,1,1,2-Tetrachloroethane	5.3	0.50	5.0		105.0	80	120				
1,1,2,2-Tetrachloroethane	5.2	0.50	5.0		104.0	80	120				
Tetrachloroethene	5.0	0.50	5.0		101.0	80	120				
Toluene	5.2	0.50	5.0		103.0	80	120				
1,1,1-Trichloroethane	5.1	0.50	5.0		102.0	80	120				
1,1,2-Trichloroethane	5.2	0.50	5.0		105.0	80	120				
Trichloroethene	5.1	0.50	5.0		102.0	80	120				
Trichlorofluoromethane	4.9	0.50	5.0		98.0	80	120				
1,2,3-Trichloropropane	5.2	0.50	5.0		104.0	80	120				
Vinyl chloride	4.8	0.50	5.0		97.0	80	120				
m+p-Xylenes	10	0.50	10		105.0	80	120				
o-Xylene	5.2	0.50	5.0		104.0	80	120				
Xylenes, Total	16	0.50	15		104.0	80	120				
Surr: 1,2-Dichloroethane-d4	11	0.50	10		113.0	80	120				
Surr: Dibromofluoromethane	11	0.50	10		109.0	80	120				
Surr: p-Bromofluorobenzene	11	0.50	10		106.0	80	120				
Surr: Toluene-d8	11	0.50	10		109.0	80	120				

Associated Samples: B22010755-001F, B22010755-002A



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010755
Project: CV18F0126, 60571032.02.46.01

Revised Date: 03/11/2022

Report Date: 03/01/2022

Run ID: Run Order: VOA5975C.I_220114A: 24

SampType: Continuing Calibration Verification Standard

Batch ID: R373352

Method: SW8260B

Analysis Date: 01/14/2022 21:25

Prep Date:

Lab ID: CCV011422_Closing

Units: ug/L

Prep Method:

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



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010755
Project: CV18F0126, 60571032.02.46.01

Revised Date: 03/11/2022

Report Date: 03/01/2022

Run ID: Run Order: VOA5975C.I_220114A: 24

SampType: Continuing Calibration Verification Standard

Batch ID: R373352

Method: SW8260B

Analysis Date: 01/14/2022 21:25

Prep Date:

Lab ID: CCV011422_Closing

Units: ug/L

Prep Method:

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

Associated Samples: B22010755-001F, B22010755-002A



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010755
Project: CV18F0126, 60571032.02.46.01

Revised Date: 03/11/2022

Report Date: 03/01/2022

Run ID: Run Order: GECD.I_220114B: 10 **SampType:** Method Blank **Batch ID:** 162935
Method: SW8011 **Analysis Date:** 01/17/2022 10:23 **Prep Date:** 01/14/2022 08:52
Lab ID: MB-162935 **Units:** ug/L **Prep Method:** SW8011

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,2-Dibromoethane	ND	0.0050									
Surr: 1,1,1,2-Tetrachloroethane	0.084	0.020	0.10		84.0	70	130				

Associated Samples: **B22010755-001H, B22010755-004A**

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

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

Associated Samples: **B22010755-001H, B22010755-004A**

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

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

Associated Samples: **B22010755-001H, B22010755-004A**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010755
Project: CV18F0126, 60571032.02.46.01

Revised Date: 03/11/2022

Report Date: 03/01/2022

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

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

Associated Samples: **B22010755-001H, B22010755-004A**

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

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

Associated Samples: **B22010755-001H, B22010755-004A**

Run ID: Run Order: GECD.I_220114B: 24 **SampType:** Continuing Calibration Verification Standard **Batch ID:** 162935
Method: SW8011 **Analysis Date:** 01/17/2022 15:44 **Prep Date:** 01/14/2022 08:53
Lab ID: CK5-162935 **Units:** ug/L **Prep Method:** SW8011

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.42	0.010	0.40		105.0	80	120				
Surr: 1,1,1,2-Tetrachloroethane	0.45	0.020	0.40		112.0	80	120				

Associated Samples: **B22010755-001H, B22010755-004A**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010755
Project: CV18F0126, 60571032.02.46.01

Revised Date: 03/11/2022

Report Date: 03/01/2022

Run ID: Run Order: GECD.I_220114B: 35

SampType: Continuing Calibration Verification Standard

Batch ID: 162935

Method: SW8011

Analysis Date: 01/17/2022 20:07

Prep Date: 01/14/2022 08:53

Lab ID: CK3-162935

Units: ug/L

Prep Method: SW8011

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.11	0.010	0.10		114.0	80	120				
Surr: 1,1,1,2-Tetrachloroethane	0.11	0.020	0.10		108.0	80	120				

Associated Samples: **B22010755-001H, B22010755-004A**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010755
Project: CV18F0126, 60571032.02.46.01

Revised Date: 03/11/2022

Report Date: 03/01/2022

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

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

Associated Samples: **B22010755-001G, B22010755-003A**

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

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

Associated Samples: **B22010755-001G, B22010755-003A**

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

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

Associated Samples: **B22010755-001G, B22010755-003A**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010755
Project: CV18F0126, 60571032.02.46.01

Revised Date: 03/11/2022

Report Date: 03/01/2022

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

Batch ID: R373161
Prep Date:
Prep Method:

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

Associated Samples: **B22010755-001G, B22010755-003A**

Run ID: Run Order: GCFID-HP5-B_220114A: 4
Method: SW8015C
Lab ID: MB-162917
SampType: Method Blank
Analysis Date: 01/14/2022 16:42
Units: mg/L

Batch ID: 162917
Prep Date: 01/13/2022 15:39
Prep Method: SW3520C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Diesel Range Organics (C10 to C24)	ND	0.15									
Oil Range Hydrocarbons (C24 to C40)	ND	0.15									
Total Extractable Hydrocarbons	ND	0.15									
Surr: o-Terphenyl	0.18	0.0020	0.20		90.0	56	125				
Surr: n-Triacontane	0.10	0.0020	0.10		100.0	50	150				

Associated Samples: **B22010755-001D**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010755
Project: CV18F0126, 60571032.02.46.01

Revised Date: 03/11/2022

Report Date: 03/01/2022

Run ID: Run Order: GCFID-HP5-B_220118A: 6 **SampType:** Method Blank **Batch ID:** 162917
Method: SW8015C **Analysis Date:** 01/18/2022 14:39 **Prep Date:** 01/13/2022 15:39
Lab ID: MB-162917 **Units:** mg/L **Prep Method:** SW3520C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Diesel Range Organics (SGT-C10 to C24)	ND	0.15									
Oil Range Hydrocarbons (SGT-C24 to C40)	ND	0.15									
Total Extractable Hydrocarbons (SGT)	ND	0.15									
Surr: o-Terphenyl (SGT)	0.19	0.0020	0.20		94.0	56	125				
Surr: n-Triacontane (SGT)	0.099	0.0020	0.10		99.0	50	150				

Associated Samples: **B22010755-001D**

Run ID: Run Order: GCFID-HP5-B_220114A: 3 **SampType:** Laboratory Control Sample **Batch ID:** 162917
Method: SW8015C **Analysis Date:** 01/14/2022 15:59 **Prep Date:** 01/13/2022 15:39
Lab ID: LCS-162917 **Units:** mg/L **Prep Method:** SW3520C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Diesel Range Organics (C10 to C24)	12	0.30	15		81.0	36	132				
Total Extractable Hydrocarbons	13	0.30	15		87.0	60	132				
Surr: o-Terphenyl	0.19	0.0020	0.20		94.0	56	125				

Associated Samples: **B22010755-001D**

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

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
TEH(Oil Range)	4.7	0.30	5.0		95.0	41	113				



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010755
Project: CV18F0126, 60571032.02.46.01

Revised Date: 03/11/2022

Report Date: 03/01/2022

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

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Surr: n-Triacontane	0.098	0.0020	0.10		98.0	50	150				

Associated Samples: **B22010755-001D**

Run ID: Run Order: GCFID-HP5-B_220118A: 5 **SampType:** Laboratory Control Sample **Batch ID:** 162917
Method: SW8015C **Analysis Date:** 01/18/2022 13:56 **Prep Date:** 01/13/2022 15:39
Lab ID: LCS-162917 **Units:** mg/L **Prep Method:** SW3520C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Diesel Range Organics (SGT-C10 to C24)	12	0.30	15		78.0	36	132				
Total Extractable Hydrocarbons (SGT)	13	0.30	15		83.0	60	132				
Surr: o-Terphenyl (SGT)	0.18	0.0020	0.20		92.0	56	125				

Associated Samples: **B22010755-001D**

Run ID: Run Order: GCFID-HP5-B_220118A: 21 **SampType:** Laboratory Control Sample **Batch ID:** 162917
Method: SW8015C **Analysis Date:** 01/19/2022 04:51 **Prep Date:** 01/13/2022 15:39
Lab ID: LCS-162917-RRO **Units:** mg/L **Prep Method:** SW3520C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
TEH (SGT-Oil Range)	4.2	0.30	5.0		83.0	41	113				
Surr: n-Triacontane (SGT)	0.080	0.0020	0.10		80.0	50	150				

Associated Samples: **B22010755-001D**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010755
Project: CV18F0126, 60571032.02.46.01

Revised Date: 03/11/2022

Report Date: 03/01/2022

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

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

Associated Samples: **B22010755-001D**

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

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

Associated Samples: **B22010755-001D**

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

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

Associated Samples: **B22010755-001D**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010755
Project: CV18F0126, 60571032.02.46.01

Revised Date: 03/11/2022

Report Date: 03/01/2022

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

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

Associated Samples: **B22010755-001D**

Run ID: Run Order: GCFID-HP5-B_220118A: 11 **SampType:** Sample Matrix Spike **Batch ID:** 162917
Method: SW8015C **Analysis Date:** 01/18/2022 18:12 **Prep Date:** 01/13/2022 15:39
Lab ID: B22010759-001DMS **Units:** mg/L **Prep Method:** SW3520C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Diesel Range Organics (SGT-C10 to C24)	11	0.30	15	0.0	73.0	36	132				
Total Extractable Hydrocarbons (SGT)	11	0.30	15	0.0	77.0	60	132				
Surr: o-Terphenyl (SGT)	0.16	0.0020	0.20	0.0	83.0	56	125				

Associated Samples: **B22010755-001D**

Run ID: Run Order: GCFID-HP5-B_220118A: 12 **SampType:** Sample Matrix Spike Duplicate **Batch ID:** 162917
Method: SW8015C **Analysis Date:** 01/18/2022 18:55 **Prep Date:** 01/13/2022 15:39
Lab ID: B22010759-001DMSD **Units:** mg/L **Prep Method:** SW3520C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Diesel Range Organics (SGT-C10 to C24)	10	0.30	14	0.0	72.0	36	132	11	2.1	20.0	
Total Extractable Hydrocarbons (SGT)	11	0.30	14	0.0	77.0	60	132	11	2.0	20.0	
Surr: o-Terphenyl (SGT)	0.14	0.0020	0.19	0.0	74.0	56	125	0.0			

Associated Samples: **B22010755-001D**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010755
Project: CV18F0126, 60571032.02.46.01

Revised Date: 03/11/2022

Report Date: 03/01/2022

Run ID: Run Order: GCFID-HP5-B_220118A: 19 **SampType:** Sample Matrix Spike **Batch ID:** 162917
Method: SW8015C **Analysis Date:** 01/19/2022 02:01 **Prep Date:** 01/13/2022 15:39
Lab ID: B22010759-001DMS-RRO **Units:** mg/L **Prep Method:** SW3520C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
TEH (SGT-Oil Range)	3.8	0.30	4.9	0.0	78.0	41	113				
Surr: n-Triacontane (SGT)	0.072	0.0020	0.098	0.0	74.0	50	150				

Associated Samples: **B22010755-001D**

Run ID: Run Order: GCFID-HP5-B_220118A: 20 **SampType:** Sample Matrix Spike Duplicate **Batch ID:** 162917
Method: SW8015C **Analysis Date:** 01/19/2022 03:26 **Prep Date:** 01/13/2022 15:39
Lab ID: B22010759-001DMSD-RRO **Units:** mg/L **Prep Method:** SW3520C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
TEH (SGT-Oil Range)	3.5	0.30	4.8	0.0	73.0	41	113	3.8	7.5	20.0	
Surr: n-Triacontane (SGT)	0.067	0.0020	0.096	0.0	70.0	50	150	0.0			

Associated Samples: **B22010755-001D**

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

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

Associated Samples: **B22010755-001G, B22010755-003A**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010755
Project: CV18F0126, 60571032.02.46.01

Revised Date: 03/11/2022

Report Date: 03/01/2022

Run ID: Run Order: PE 1_220113A: 47 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R373161
Method: SW8015C **Analysis Date:** 01/14/2022 18:32 **Prep Date:**
Lab ID: CCV_0113PE162r **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
C6 to C10	175	20	168		104.0	80	120				
Total Purgeable Hydrocarbons	210	20	200		105.0	80	120				
Surr: Trifluorotoluene	22	1.0	25		88.0	80	120				

Associated Samples: **B22010755-001G, B22010755-003A**

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

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

Associated Samples: **B22010755-001G, B22010755-003A**

Run ID: Run Order: GCFID-HP5-B_220114A: 12 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R373250
Method: SW8015C **Analysis Date:** 01/15/2022 00:32 **Prep Date:**
Lab ID: CCV_0114HP504r-W **Units:** mg/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
TEH(Oil Range)	4.9	0.30	5.0		98.0	80	120				
Surr: n-Triacontane	0.19	0.0020	0.20		94.0	80	120				

Associated Samples: **B22010755-001D**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010755
Project: CV18F0126, 60571032.02.46.01

Revised Date: 03/11/2022

Report Date: 03/01/2022

Run ID: Run Order: GCFID-HP5-B_220114A: 13 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R373250
Method: SW8015C **Analysis Date:** 01/15/2022 01:15 **Prep Date:**
Lab ID: CCV_0114HP505r **Units:** mg/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Diesel Range Organics (C10 to C24)	15	0.30	15		98.0	80	120				
Total Extractable Hydrocarbons	15	0.30	15		102.0	80	120				
Surr: o-Terphenyl	0.19	0.0020	0.20		97.0	80	120				

Associated Samples: **B22010755-001D**

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

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

Associated Samples: **B22010755-001D**

Run ID: Run Order: GCFID-HP5-B_220114A: 20 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R373250
Method: SW8015C **Analysis Date:** 01/15/2022 11:55 **Prep Date:**
Lab ID: CCV_0114HP536r **Units:** mg/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Diesel Range Organics (C10 to C24)	13	0.30	15		88.0	80	120				
Total Extractable Hydrocarbons	14	0.30	15		91.0	80	120				
Surr: o-Terphenyl	0.19	0.0020	0.20		95.0	80	120				

Associated Samples: **B22010755-001D**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010755
Project: CV18F0126, 60571032.02.46.01

Revised Date: 03/11/2022

Report Date: 03/01/2022

Run ID: Run Order: GCFID-HP5-B_220118A: 1 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R373364
Method: SW8015C **Analysis Date:** 01/18/2022 08:54 **Prep Date:**
Lab ID: CCV_0118HP503r-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		95.0	80	120				
Surr: n-Triacontane	0.19	0.0020	0.20		94.0	80	120				

Associated Samples: **B22010755-001D**

Run ID: Run Order: GCFID-HP5-B_220118A: 2 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R373364
Method: SW8015C **Analysis Date:** 01/18/2022 09:36 **Prep Date:**
Lab ID: CCV_0118HP504r **Units:** mg/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Diesel Range Organics (C10 to C24)	13	0.30	15		87.0	80	120				
Total Extractable Hydrocarbons	14	0.30	15		91.0	80	120				
Surr: o-Terphenyl	0.19	0.0020	0.20		94.0	80	120				

Associated Samples: **B22010755-001D**

Run ID: Run Order: GCFID-HP5-B_220118A: 13 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R373364
Method: SW8015C **Analysis Date:** 01/18/2022 20:20 **Prep Date:**
Lab ID: CCV_0118HP519r-W **Units:** mg/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
TEH(Oil Range)	5.0	0.30	5.0		99.0	80	120				
Surr: n-Triacontane	0.19	0.0020	0.20		97.0	80	120				

Associated Samples: **B22010755-001D**



Analytical QC Summary Report

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Client: AECOM - Honolulu
Workorder: B22010755
Project: CV18F0126, 60571032.02.46.01

Revised Date: 03/11/2022

Report Date: 03/01/2022

Run ID: Run Order: GCFID-HP5-B_220118A: 14
Method: SW8015C
Lab ID: CCV_0118HP520r

SampType: Continuing Calibration Verification Standard
Analysis Date: 01/18/2022 21:03
Units: mg/L

Batch ID: R373364
Prep Date:
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	14	0.30	15		96.0	80	120				
Surr: o-Terphenyl	0.20	0.0020	0.20		100.0	80	120				

Associated Samples: **B22010755-001D**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010755
Project: CV18F0126, 60571032.02.46.01

Revised Date: 03/11/2022

Report Date: 03/01/2022

Run ID: Run Order: FID-HEADSPACE_220114A: 4 **SampType:** Method Blank **Batch ID:** R373199
Method: SW8015M **Analysis Date:** 01/14/2022 09:40 **Prep Date:**
Lab ID: MBLK **Units:** mg/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Methane	ND	0.0010			0.0						

Associated Samples: **B22010755-001I, B22010755-005A**

Run ID: Run Order: FID-HEADSPACE_220114A: 2 **SampType:** Laboratory Control Sample **Batch ID:** R373199
Method: SW8015M **Analysis Date:** 01/14/2022 08:37 **Prep Date:**
Lab ID: LCS **Units:** ppm **Prep Method:**

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

Associated Samples: **B22010755-001I, B22010755-005A**

Run ID: Run Order: FID-HEADSPACE_220114A: 3 **SampType:** Laboratory Control Sample Duplicate **Batch ID:** R373199
Method: SW8015M **Analysis Date:** 01/14/2022 08:41 **Prep Date:**
Lab ID: LCSD **Units:** ppm **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Methane	98	2.0	100		98.0	85	115	97	0.4	20.0	

Associated Samples: **B22010755-001I, B22010755-005A**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010755
Project: CV18F0126, 60571032.02.46.01

Revised Date: 03/11/2022

Report Date: 03/01/2022

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

Batch ID: R373199
Prep Date:
Prep Method:

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

Associated Samples: B22010755-001I, B22010755-005A

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

Batch ID: R373199
Prep Date:
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: B22010755-001I, B22010755-005A

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

Batch ID: R373199
Prep Date:
Prep Method:

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

Associated Samples: B22010755-001I, B22010755-005A



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010755
Project: CV18F0126, 60571032.02.46.01

Revised Date: 03/11/2022

Report Date: 03/01/2022

Run ID: Run Order: SV5973N.I_220128A: 7

SampType: Method Blank

Batch ID: 162956

Method: SW8270C

Analysis Date: 01/28/2022 20:57

Prep Date: 01/14/2022 14:01

Lab ID: MB-162956

Units: ug/L

Prep Method: SW3510C

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



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010755
Project: CV18F0126, 60571032.02.46.01

Revised Date: 03/11/2022

Report Date: 03/01/2022

Run ID: Run Order: SV5973N.I_220128A: 7

SampType: Method Blank

Batch ID: 162956

Method: SW8270C

Analysis Date: 01/28/2022 20:57

Prep Date: 01/14/2022 14:01

Lab ID: MB-162956

Units: ug/L

Prep Method: SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Diethyl phthalate	ND	5.0									
Dimethyl phthalate	ND	5.0									
Di-n-butyl phthalate	ND	5.0									
Di-n-octyl phthalate	ND	5.0									
Hexachlorobenzene	ND	5.0									
Hexachlorobutadiene	ND	5.0									
Hexachlorocyclopentadiene	ND	5.0									
Hexachloroethane	ND	5.0									
Isophorone	ND	5.0									
m+p-Cresols	ND	5.0									
Nitrobenzene	ND	5.0									
n-Nitrosodimethylamine	ND	5.0									
n-Nitroso-di-n-propylamine	ND	5.0									
n-Nitrosodiphenylamine	ND	10									
o-Cresol	ND	5.0									
Pentachlorophenol	ND	10									
Phenol	ND	5.0									
Pyridine	ND	5.0									
Surr: 2,4,6-Tribromophenol	195	5.0	200		98.0	43	140				
Surr: 2-Fluorobiphenyl	47	5.0	100		47.0	44	119				
Surr: 2-Fluorophenol	75	5.0	200		38.0	19	119				
Surr: Nitrobenzene-d5	73	5.0	100		73.0	44	120				
Surr: Phenol-d5	78	5.0	200		39.0	10	65				
Surr: Terphenyl-d14	94	5.0	100		94.0	50	134				

Associated Samples: **B22010755-001C**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010755
Project: CV18F0126, 60571032.02.46.01

Revised Date: 03/11/2022

Report Date: 03/01/2022

Run ID: Run Order: SV5973N.I_220128A: 8 **SampType:** Laboratory Control Sample **Batch ID:** 162956
Method: SW8270C **Analysis Date:** 01/28/2022 21:29 **Prep Date:** 01/14/2022 14:01
Lab ID: LCS-162956 **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	83	10	100		83.0	29	116				
1,2-Dichlorobenzene	75	10	100		75.0	32	111				
1,3-Dichlorobenzene	77	10	100		77.0	28	110				
1,4-Dichlorobenzene	71	10	100		71.0	29	112				
2,4,5-Trichlorophenol	97	10	100		97.0	53	123				
2,4,6-Trichlorophenol	108	10	100		108.0	50	125				
2,4-Dichlorophenol	100	10	100		100.0	47	121				
2,4-Dimethylphenol	77	10	100		77.0	31	124				
2,4-Dinitrophenol	97	10	100		97.0	23	142				
2,4-Dinitrotoluene	111	10	100		111.0	57	128				
2,6-Dinitrotoluene	103	10	100		103.0	50	118				
2-Chloronaphthalene	94	10	100		94.0	40	116				
2-Chlorophenol	87	10	100		87.0	38	117				
2-Nitrophenol	88	10	100		88.0	47	123				
3,3'-Dichlorobenzidine	85	10	100		85.0	27	129				
4,6-Dinitro-2-methylphenol	106	10	100		106.0	44	137				
4-Bromophenyl phenyl ether	106	10	100		106.0	55	124				
4-Chloro-3-methylphenol	106	10	100		106.0	52	119				
4-Chlorophenol	86	10	100		86.0	41	81				S
4-Chlorophenyl phenyl ether	98	10	100		98.0	53	121				
4-Nitrophenol	52	10	100		52.0	15	36				S
Azobenzene	101	10	100		101.0	61	116				
bis(-2-chloroethoxy)Methane	103	10	100		103.0	48	120				
bis(-2-chloroethyl)Ether	95	10	100		95.0	43	118				
bis(2-chloroisopropyl)Ether	79	10	100		79.0	37	130				
bis(2-ethylhexyl)Phthalate	112	10	100		112.0	55	135				
Butylbenzylphthalate	112	10	100		112.0	53	134				



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010755
Project: CV18F0126, 60571032.02.46.01

Revised Date: 03/11/2022

Report Date: 03/01/2022

Run ID: Run Order: SV5973N.I_220128A: 8 **SampType:** Laboratory Control Sample **Batch ID:** 162956
Method: SW8270C **Analysis Date:** 01/28/2022 21:29 **Prep Date:** 01/14/2022 14:01
Lab ID: LCS-162956 **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Diethyl phthalate	106	10	100		106.0	56	125				
Dimethyl phthalate	104	10	100		104.0	45	127				
Di-n-butyl phthalate	109	10	100		109.0	59	127				
Di-n-octyl phthalate	109	10	100		109.0	51	140				
Hexachlorobenzene	90	10	100		90.0	53	125				
Hexachlorobutadiene	73	10	100		73.0	22	124				
Hexachlorocyclopentadiene	69	10	100		69.0	39	91				
Hexachloroethane	81	10	100		81.0	21	115				
Isophorone	90	10	100		90.0	42	124				
m+p-Cresols	92	10	100		92.0	29	110				
Nitrobenzene	107	10	100		107.0	45	121				
n-Nitrosodimethylamine	55	10	100		55.0	20	45				S
n-Nitroso-di-n-propylamine	107	10	100		107.0	49	119				
n-Nitrosodiphenylamine	102	10	100		102.0	51	123				
o-Cresol	87	10	100		87.0	30	117				
Pentachlorophenol	113	10	100		113.0	35	138				
Phenol	60	10	100		60.0	37	75				
Pyridine	39	10	100		39.0	16	45				
Surr: 2,4,6-Tribromophenol	226	10	200		113.0	43	140				
Surr: 2-Fluorobiphenyl	87	10	100		87.0	44	119				
Surr: 2-Fluorophenol	101	10	200		50.0	19	119				
Surr: Nitrobenzene-d5	91	10	100		91.0	44	120				
Surr: Phenol-d5	107	10	200		54.0	10	65				
Surr: Terphenyl-d14	102	10	100		102.0	50	134				

Associated Samples: **B22010755-001C**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010755
Project: CV18F0126, 60571032.02.46.01

Revised Date: 03/11/2022

Report Date: 03/01/2022

Run ID: Run Order: SV5973N.I_220128A: 9

SampType: Laboratory Control Sample Duplicate

Batch ID: 162956

Method: SW8270C

Analysis Date: 01/28/2022 22:02

Prep Date: 01/14/2022 14:01

Lab ID: LCSD-162956

Units: ug/L

Prep Method: SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	62	10	100		62.0	29	116	83	30.0	20.0	R
1,2-Dichlorobenzene	62	10	100		62.0	32	111	75	19.0	20.0	
1,3-Dichlorobenzene	59	10	100		59.0	28	110	77	27.0	20.0	R
1,4-Dichlorobenzene	56	10	100		56.0	29	112	71	23.0	20.0	R
2,4,5-Trichlorophenol	90	10	100		90.0	53	123	97	7.1	20.0	
2,4,6-Trichlorophenol	100	10	100		100.0	50	125	108	8.0	20.0	
2,4-Dichlorophenol	81	10	100		81.0	47	121	100	22.0	20.0	R
2,4-Dimethylphenol	75	10	100		75.0	31	124	77	2.8	20.0	
2,4-Dinitrophenol	96	10	100		96.0	23	142	97	0.9	20.0	
2,4-Dinitrotoluene	95	10	100		95.0	57	128	111	16.0	20.0	
2,6-Dinitrotoluene	117	10	100		117.0	50	118	103	12.0	20.0	
2-Chloronaphthalene	78	10	100		78.0	40	116	94	18.0	20.0	
2-Chlorophenol	77	10	100		77.0	38	117	87	12.0	20.0	
2-Nitrophenol	87	10	100		87.0	47	123	88	2.2	20.0	
3,3'-Dichlorobenzidine	87	10	100		87.0	27	129	85	2.1	20.0	
4,6-Dinitro-2-methylphenol	94	10	100		94.0	44	137	106	12.0	20.0	
4-Bromophenyl phenyl ether	96	10	100		96.0	55	124	106	9.7	20.0	
4-Chloro-3-methylphenol	96	10	100		96.0	52	119	106	10.0	20.0	
4-Chlorophenol	80	10	100		80.0	41	81	86	7.1	20.0	
4-Chlorophenyl phenyl ether	85	10	100		85.0	53	121	98	13.0	20.0	
4-Nitrophenol	49	10	100		49.0	15	36	52	4.9	20.0	S
Azobenzene	105	10	100		105.0	61	116	101	4.1	20.0	
bis(-2-chloroethoxy)Methane	99	10	100		99.0	48	120	103	3.9	20.0	
bis(-2-chloroethyl)Ether	89	10	100		89.0	43	118	95	6.9	20.0	
bis(2-chloroisopropyl)Ether	74	10	100		74.0	37	130	79	5.5	20.0	
bis(2-ethylhexyl)Phthalate	110	10	100		110.0	55	135	112	1.1	20.0	
Butylbenzylphthalate	113	10	100		113.0	53	134	112	1.2	20.0	



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010755
Project: CV18F0126, 60571032.02.46.01

Revised Date: 03/11/2022

Report Date: 03/01/2022

Run ID: Run Order: SV5973N.I_220128A: 9 **SampType:** Laboratory Control Sample Duplicate **Batch ID:** 162956
Method: SW8270C **Analysis Date:** 01/28/2022 22:02 **Prep Date:** 01/14/2022 14:01
Lab ID: LCSD-162956 **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Diethyl phthalate	110	10	100		110.0	56	125	106	2.9	20.0	
Dimethyl phthalate	99	10	100		99.0	45	127	104	5.0	20.0	
Di-n-butyl phthalate	114	10	100		114.0	59	127	109	4.3	20.0	
Di-n-octyl phthalate	107	10	100		107.0	51	140	109	2.2	20.0	
Hexachlorobenzene	89	10	100		89.0	53	125	90	1.5	20.0	
Hexachlorobutadiene	53	10	100		53.0	22	124	73	32.0	20.0	R
Hexachlorocyclopentadiene	60	10	100		60.0	39	91	69	15.0	20.0	
Hexachloroethane	59	10	100		59.0	21	115	81	32.0	20.0	R
Isophorone	89	10	100		89.0	42	124	90	1.0	20.0	
m+p-Cresols	83	10	100		83.0	29	110	92	10.0	20.0	
Nitrobenzene	90	10	100		90.0	45	121	107	17.0	20.0	
n-Nitrosodimethylamine	53	10	100		53.0	20	45	55	2.6	20.0	S
n-Nitroso-di-n-propylamine	97	10	100		97.0	49	119	107	9.5	20.0	
n-Nitrosodiphenylamine	115	10	100		115.0	51	123	102	12.0	20.0	
o-Cresol	83	10	100		83.0	30	117	87	4.1	20.0	
Pentachlorophenol	113	10	100		113.0	35	138	113	0.4	20.0	
Phenol	52	10	100		52.0	37	75	60	15.0	20.0	
Pyridine	41	10	100		41.0	16	45	39	3.7	20.0	
Surr: 2,4,6-Tribromophenol	194	10	200		97.0	43	140	0.0	0.0		
Surr: 2-Fluorobiphenyl	72	10	100		72.0	44	119	0.0	0.0		
Surr: 2-Fluorophenol	87	10	200		43.0	19	119	0.0	0.0		
Surr: Nitrobenzene-d5	86	10	100		86.0	44	120	0.0	0.0		
Surr: Phenol-d5	95	10	200		48.0	10	65	0.0	0.0		
Surr: Terphenyl-d14	100	10	100		100.0	50	134	0.0	0.0		

Associated Samples: **B22010755-001C**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010755
Project: CV18F0126, 60571032.02.46.01

Revised Date: 03/11/2022

Report Date: 03/01/2022

Run ID: Run Order: SV5973N.I_220128A: 17

SampType: Sample Matrix Spike

Batch ID: 162956

Method: SW8270C

Analysis Date: 01/29/2022 02:19

Prep Date: 01/14/2022 14:02

Lab ID: B22010759-001CMS

Units: ug/L

Prep Method: SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	62	10	97	0.0	64.0	29	116				
1,2-Dichlorobenzene	63	10	97	0.0	65.0	32	111				
1,3-Dichlorobenzene	59	10	97	0.0	61.0	28	110				
1,4-Dichlorobenzene	57	10	97	0.0	59.0	29	112				
2,4,5-Trichlorophenol	76	10	97	0.0	78.0	53	123				
2,4,6-Trichlorophenol	68	10	97	0.0	71.0	50	125				
2,4-Dichlorophenol	72	10	97	0.0	74.0	47	121				
2,4-Dimethylphenol	71	10	97	0.0	73.0	31	124				
2,4-Dinitrophenol	79	10	97	0.0	81.0	23	142				
2,4-Dinitrotoluene	85	10	97	0.0	87.0	57	128				
2,6-Dinitrotoluene	72	10	97	0.0	74.0	50	118				
2-Chloronaphthalene	66	10	97	0.0	68.0	40	116				
2-Chlorophenol	70	10	97	0.0	72.0	38	117				
2-Nitrophenol	77	10	97	0.0	80.0	47	123				
3,3'-Dichlorobenzidine	58	10	97	0.0	60.0	27	129				
4,6-Dinitro-2-methylphenol	63	10	97	0.0	65.0	44	137				
4-Bromophenyl phenyl ether	63	10	97	0.0	65.0	55	124				
4-Chloro-3-methylphenol	88	10	97	0.0	91.0	52	119				
4-Chlorophenol	73	10	97	0.0	75.0	41	81				
4-Chlorophenyl phenyl ether	64	10	97	0.0	66.0	53	121				
4-Nitrophenol	43	10	97	0.0	44.0	15	36				S
Azobenzene	79	10	97	0.0	81.0	61	116				
bis(-2-chloroethoxy)Methane	76	10	97	0.0	79.0	48	120				
bis(-2-chloroethyl)Ether	78	10	97	0.0	80.0	43	118				
bis(2-chloroisopropyl)Ether	62	10	97	0.0	63.0	37	130				
bis(2-ethylhexyl)Phthalate	55	10	97	0.0	56.0	55	135				
Butylbenzylphthalate	74	10	97	0.0	76.0	53	134				



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010755
Project: CV18F0126, 60571032.02.46.01

Revised Date: 03/11/2022

Report Date: 03/01/2022

Run ID: Run Order: SV5973N.I_220128A: 17 **SampType:** Sample Matrix Spike **Batch ID:** 162956
Method: SW8270C **Analysis Date:** 01/29/2022 02:19 **Prep Date:** 01/14/2022 14:02
Lab ID: B22010759-001CMS **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Diethyl phthalate	79	10	97	0.0	81.0	56	125				
Dimethyl phthalate	86	10	97	0.0	88.0	45	127				
Di-n-butyl phthalate	78	10	97	0.0	80.0	59	127				
Di-n-octyl phthalate	56	10	97	0.0	58.0	51	140				
Hexachlorobenzene	62	10	97	0.0	64.0	53	125				
Hexachlorobutadiene	49	10	97	0.0	51.0	22	124				
Hexachlorocyclopentadiene	53	10	97	0.0	54.0	39	91				
Hexachloroethane	62	10	97	0.0	63.0	21	115				
Isophorone	76	10	97	0.0	79.0	42	124				
m+p-Cresols	70	10	97	0.0	72.0	29	110				
Nitrobenzene	81	10	97	0.0	83.0	45	121				
n-Nitrosodimethylamine	41	10	97	0.0	43.0	20	45				
n-Nitroso-di-n-propylamine	88	10	97	0.0	91.0	49	119				
n-Nitrosodiphenylamine	81	10	97	0.0	83.0	51	123				
o-Cresol	72	10	97	0.0	74.0	30	117				
Pentachlorophenol	66	10	97	0.0	68.0	35	138				
Phenol	44	10	97	0.0	45.0	37	75				
Pyridine	32	10	97	0.0	33.0	16	45				
Surr: 2,4,6-Tribromophenol	129	10	194	0.0	67.0	43	140				
Surr: 2-Fluorobiphenyl	66	10	97	0.0	68.0	44	119				
Surr: 2-Fluorophenol	75	10	194	0.0	39.0	19	119				
Surr: Nitrobenzene-d5	76	10	97	0.0	79.0	44	120				
Surr: Phenol-d5	81	10	194	0.0	42.0	10	65				
Surr: Terphenyl-d14	75	10	97	0.0	78.0	50	134				

Associated Samples: **B22010755-001C**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010755
Project: CV18F0126, 60571032.02.46.01

Revised Date: 03/11/2022

Report Date: 03/01/2022

Run ID: Run Order: SV5973N.I_220128A: 18 **SampType:** Sample Matrix Spike Duplicate **Batch ID:** 162956
Method: SW8270C **Analysis Date:** 01/29/2022 02:51 **Prep Date:** 01/14/2022 14:02
Lab ID: B22010759-001CMSD **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	58	10	99	0.0	58.0	29	116	62	7.8	20.0	
1,2-Dichlorobenzene	61	10	99	0.0	61.0	32	111	63	3.6	20.0	
1,3-Dichlorobenzene	56	10	99	0.0	56.0	28	110	59	6.4	20.0	
1,4-Dichlorobenzene	56	10	99	0.0	56.0	29	112	57	2.2	20.0	
2,4,5-Trichlorophenol	75	10	99	0.0	76.0	53	123	76	1.0	20.0	
2,4,6-Trichlorophenol	64	10	99	0.0	64.0	50	125	68	7.4	20.0	
2,4-Dichlorophenol	69	10	99	0.0	70.0	47	121	72	4.1	20.0	
2,4-Dimethylphenol	65	10	99	0.0	66.0	31	124	71	8.6	20.0	
2,4-Dinitrophenol	79	10	99	0.0	80.0	23	142	79	0.2	20.0	
2,4-Dinitrotoluene	95	10	99	0.0	96.0	57	128	85	12.0	20.0	
2,6-Dinitrotoluene	80	10	99	0.0	81.0	50	118	72	11.0	20.0	
2-Chloronaphthalene	71	10	99	0.0	72.0	40	116	66	7.3	20.0	
2-Chlorophenol	66	10	99	0.0	66.0	38	117	70	5.6	20.0	
2-Nitrophenol	70	10	99	0.0	71.0	47	123	77	9.4	20.0	
3,3'-Dichlorobenzidine	64	10	99	0.0	65.0	27	129	58	9.7	20.0	
4,6-Dinitro-2-methylphenol	63	10	99	0.0	64.0	44	137	63	0.0	20.0	
4-Bromophenyl phenyl ether	66	10	99	0.0	66.0	55	124	63	3.4	20.0	
4-Chloro-3-methylphenol	85	10	99	0.0	86.0	52	119	88	3.9	20.0	
4-Chlorophenol	65	10	99	0.0	66.0	41	81	73	11.0	20.0	
4-Chlorophenyl phenyl ether	70	10	99	0.0	71.0	53	121	64	8.7	20.0	
4-Nitrophenol	42	10	99	0.0	43.0	15	36	43	1.7	20.0	S
Azobenzene	83	10	99	0.0	84.0	61	116	79	5.7	20.0	
bis(-2-chloroethoxy)Methane	75	10	99	0.0	76.0	48	120	76	1.6	20.0	
bis(-2-chloroethyl)Ether	79	10	99	0.0	80.0	43	118	78	1.5	20.0	
bis(2-chloroisopropyl)Ether	58	10	99	0.0	58.0	37	130	62	6.4	20.0	
bis(2-ethylhexyl)Phthalate	51	10	99	0.0	52.0	55	135	55	6.1	20.0	S
Butylbenzylphthalate	75	10	99	0.0	76.0	53	134	74	1.8	20.0	



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010755
Project: CV18F0126, 60571032.02.46.01

Revised Date: 03/11/2022

Report Date: 03/01/2022

Run ID: Run Order: SV5973N.I_220128A: 18 **SampType:** Sample Matrix Spike Duplicate **Batch ID:** 162956
Method: SW8270C **Analysis Date:** 01/29/2022 02:51 **Prep Date:** 01/14/2022 14:02
Lab ID: B22010759-001CMSD **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	99	0.0	88.0	56	125	79	10.0	20.0	
Dimethyl phthalate	93	10	99	0.0	94.0	45	127	86	7.9	20.0	
Di-n-butyl phthalate	75	10	99	0.0	76.0	59	127	78	3.6	20.0	
Di-n-octyl phthalate	54	10	99	0.0	55.0	51	140	56	3.8	20.0	
Hexachlorobenzene	59	10	99	0.0	60.0	53	125	62	4.8	20.0	
Hexachlorobutadiene	44	10	99	0.0	44.0	22	124	49	11.0	20.0	
Hexachlorocyclopentadiene	50	10	99	0.0	51.0	39	91	53	4.9	20.0	
Hexachloroethane	57	10	99	0.0	57.0	21	115	62	8.3	20.0	
Isophorone	76	10	99	0.0	76.0	42	124	76	1.0	20.0	
m+p-Cresols	67	10	99	0.0	67.0	29	110	70	4.8	20.0	
Nitrobenzene	89	10	99	0.0	90.0	45	121	81	9.8	20.0	
n-Nitrosodimethylamine	39	10	99	0.0	40.0	20	45	41	4.9	20.0	
n-Nitroso-di-n-propylamine	86	10	99	0.0	87.0	49	119	88	2.6	20.0	
n-Nitrosodiphenylamine	79	10	99	0.0	80.0	51	123	81	2.1	20.0	
o-Cresol	72	10	99	0.0	73.0	30	117	72	0.5	20.0	
Pentachlorophenol	59	10	99	0.0	59.0	35	138	66	12.0	20.0	
Phenol	44	10	99	0.0	45.0	37	75	44	0.6	20.0	
Pyridine	28	10	99	0.0	28.0	16	45	32	15.0	20.0	
Surr: 2,4,6-Tribromophenol	108	10	198	0.0	55.0	43	140	0.0	0.0		
Surr: 2-Fluorobiphenyl	63	10	99	0.0	64.0	44	119	0.0	0.0		
Surr: 2-Fluorophenol	71	10	198	0.0	36.0	19	119	0.0	0.0		
Surr: Nitrobenzene-d5	78	10	99	0.0	79.0	44	120	0.0	0.0		
Surr: Phenol-d5	78	10	198	0.0	39.0	10	65	0.0	0.0		
Surr: Terphenyl-d14	76	10	99	0.0	77.0	50	134	0.0	0.0		

Associated Samples: **B22010755-001C**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010755
Project: CV18F0126, 60571032.02.46.01

Revised Date: 03/11/2022

Report Date: 03/01/2022

Run ID: Run Order: SV5973N.I_220308A: 4 **SampType:** Method Blank **Batch ID:** 164261
Method: SW8270C **Analysis Date:** 03/08/2022 18:58 **Prep Date:** 03/07/2022 09:14
Lab ID: MB-164261 **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Di-n-butyl phthalate	ND	5.0									
Surr: 2-Fluorobiphenyl	57	5.0	100		57.0	44	119				
Surr: Nitrobenzene-d5	49	5.0	100		49.0	44	120				
Surr: Terphenyl-d14	96	5.0	100		96.0	50	134				

Associated Samples: **B22010755-001C**

Run ID: Run Order: SV5973N.I_220308A: 5 **SampType:** Laboratory Control Sample **Batch ID:** 164261
Method: SW8270C **Analysis Date:** 03/08/2022 19:30 **Prep Date:** 03/07/2022 09:14
Lab ID: LCS-164261 **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Di-n-butyl phthalate	92	10	100		92.0	59	127				
Surr: 2-Fluorobiphenyl	72	10	100		72.0	44	119				
Surr: Nitrobenzene-d5	64	10	100		64.0	44	120				
Surr: Terphenyl-d14	91	10	100		91.0	50	134				

Associated Samples: **B22010755-001C**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010755
Project: CV18F0126, 60571032.02.46.01

Revised Date: 03/11/2022

Report Date: 03/01/2022

Run ID: Run Order: SV5973N.I_220308A: 6 **SampType:** Laboratory Control Sample Duplicate **Batch ID:** 164261
Method: SW8270C **Analysis Date:** 03/08/2022 20:02 **Prep Date:** 03/07/2022 09:17
Lab ID: LCSD-164261 **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Di-n-butyl phthalate	98	10	100		98.0	59	127	92	6.6	20.0	
Surr: 2-Fluorobiphenyl	75	10	100		75.0	44	119	0.0	0.0		
Surr: Nitrobenzene-d5	71	10	100		71.0	44	120	0.0	0.0		
Surr: Terphenyl-d14	93	10	100		93.0	50	134	0.0	0.0		

Associated Samples: **B22010755-001C**

Run ID: Run Order: SV5973N.I_220308A: 11 **SampType:** Sample Matrix Spike **Batch ID:** 164261
Method: SW8270C **Analysis Date:** 03/08/2022 23:48 **Prep Date:** 03/07/2022 13:05
Lab ID: B22030375-001DMS **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Di-n-butyl phthalate	ND	100	100	0.0	94.0	59	127				
Surr: 2-Fluorobiphenyl	ND	100	100	0.0	74.0	44	119				
Surr: Nitrobenzene-d5	ND	100	100	0.0	67.0	44	120				
Surr: Terphenyl-d14	ND	100	100	0.0	87.0	50	134				

Associated Samples: **B22010755-001C**

- The sample extract was diluted 10 times at analysis due to non-target compound sample matrix interference. The Reporting Limit reflects this dilution.



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010755
Project: CV18F0126, 60571032.02.46.01

Revised Date: 03/11/2022

Report Date: 03/01/2022

Run ID: Run Order: SV5973N.I_220308A: 13 **SampType:** Sample Matrix Spike **Batch ID:** 164261
Method: SW8270C **Analysis Date:** 03/09/2022 01:56 **Prep Date:** 03/07/2022 13:05
Lab ID: B22030375-002DMS **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Di-n-butyl phthalate	ND	100	100	0.0	87.0	59	127				
Surr: 2-Fluorobiphenyl	ND	100	100	0.0	55.0	44	119				
Surr: Nitrobenzene-d5	ND	100	100	0.0	65.0	44	120				
Surr: Terphenyl-d14	ND	100	100	0.0	80.0	50	134				

Associated Samples: **B22010755-001C**

- The sample extract was diluted 10 times at analysis due to non-target compound sample matrix interference. The Reporting Limit reflects this dilution.

Run ID: Run Order: SV5973N.I_220128A: 2 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R373901
Method: SW8270C **Analysis Date:** 01/28/2022 18:17 **Prep Date:**
Lab ID: 28-Jan-22_CCv_2 **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	71	10	75		95.0	80	120				
1,2-Dichlorobenzene	74	10	75		99.0	80	120				
1,3-Dichlorobenzene	69	10	75		93.0	80	120				
1,4-Dichlorobenzene	72	10	75		96.0	80	120				
2,4,5-Trichlorophenol	64	10	75		85.0	80	120				
2,4,6-Trichlorophenol	61	10	75		81.0	80	120				
2,4-Dichlorophenol	60	10	75		80.0	80	120				
2,4-Dimethylphenol	68	10	75		90.0	80	120				
2,4-Dinitrophenol	62	10	75		83.0	80	120				
2,4-Dinitrotoluene	74	10	75		98.0	80	120				
2,6-Dinitrotoluene	72	10	75		95.0	80	120				
2-Chloronaphthalene	65	10	75		87.0	80	120				
2-Chlorophenol	63	10	75		84.0	80	120				
2-Nitrophenol	73	10	75		97.0	80	120				
3,3'-Dichlorobenzidine	70	10	75		94.0	80	120				



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010755
Project: CV18F0126, 60571032.02.46.01

Revised Date: 03/11/2022

Report Date: 03/01/2022

Run ID: Run Order: SV5973N.I_220128A: 2

SampType: Continuing Calibration Verification Standard

Batch ID: R373901

Method: SW8270C

Analysis Date: 01/28/2022 18:17

Prep Date:

Lab ID: 28-Jan-22_CCV_2

Units: ug/L

Prep Method:

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
4,6-Dinitro-2-methylphenol	69	10	75		92.0	80	120				
4-Bromophenyl phenyl ether	69	10	75		92.0	80	120				
4-Chloro-3-methylphenol	72	10	75		96.0	80	120				
4-Chlorophenol	71	10	75		95.0	80	120				
4-Chlorophenyl phenyl ether	61	10	75		81.0	80	120				
4-Nitrophenol	68	10	75		90.0	80	120				
Azobenzene	72	10	75		97.0	80	120				
bis(-2-chloroethoxy)Methane	71	10	75		94.0	80	120				
bis(-2-chloroethyl)Ether	77	10	75		102.0	80	120				
bis(2-chloroisopropyl)Ether	75	10	75		101.0	80	120				
bis(2-ethylhexyl)Phthalate	73	10	75		97.0	80	120				
Butylbenzylphthalate	76	10	75		101.0	80	120				
Diethyl phthalate	63	10	75		84.0	80	120				
Dimethyl phthalate	66	10	75		88.0	80	120				
Di-n-butyl phthalate	69	10	75		92.0	80	120				
Di-n-octyl phthalate	75	10	75		100.0	80	120				
Hexachlorobenzene	70	10	75		94.0	80	120				
Hexachlorobutadiene	71	10	75		95.0	80	120				
Hexachlorocyclopentadiene	63	10	75		84.0	80	120				
Hexachloroethane	80	10	75		107.0	80	120				
Isophorone	75	10	75		100.0	80	120				
m+p-Cresols	68	10	75		91.0	80	120				
Nitrobenzene	80	10	75		107.0	80	120				
n-Nitrosodimethylamine	71	10	75		94.0	80	120				
n-Nitroso-di-n-propylamine	71	10	75		95.0	80	120				
n-Nitrosodiphenylamine	70	10	75		94.0	80	120				
o-Cresol	73	10	75		98.0	80	120				



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010755
Project: CV18F0126, 60571032.02.46.01

Revised Date: 03/11/2022

Report Date: 03/01/2022

Run ID: Run Order: SV5973N.I_220128A: 2 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R373901
Method: SW8270C **Analysis Date:** 01/28/2022 18:17 **Prep Date:**
Lab ID: 28-Jan-22_CCv_2 **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Pentachlorophenol	65	10	75		87.0	80	120				
Phenol	71	10	75		94.0	80	120				
Pyridine	72	10	75		96.0	80	120				
Surr: 2,4,6-Tribromophenol	60	10	75		81.0	80	120				
Surr: 2-Fluorobiphenyl	67	10	75		89.0	80	120				
Surr: 2-Fluorophenol	66	10	75		88.0	80	120				
Surr: Nitrobenzene-d5	74	10	75		99.0	80	120				
Surr: Phenol-d5	75	10	75		99.0	80	120				
Surr: Terphenyl-d14	68	10	75		91.0	80	120				

Associated Samples: **B22010755-001C**

Run ID: Run Order: SV5973N.I_220128A: 19 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R373901
Method: SW8270C **Analysis Date:** 01/29/2022 03:23 **Prep Date:**
Lab ID: 28-Jan-22_CCv_19 **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	75	10	75		100.0	50	150				
1,2-Dichlorobenzene	84	10	75		112.0	50	150				
1,3-Dichlorobenzene	82	10	75		109.0	50	150				
1,4-Dichlorobenzene	79	10	75		105.0	50	150				
2,4,5-Trichlorophenol	82	10	75		109.0	50	150				
2,4,6-Trichlorophenol	74	10	75		98.0	50	150				
2,4-Dichlorophenol	81	10	75		108.0	50	150				
2,4-Dimethylphenol	71	10	75		94.0	50	150				
2,4-Dinitrophenol	71	10	75		94.0	50	150				
2,4-Dinitrotoluene	75	10	75		100.0	50	150				



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010755
Project: CV18F0126, 60571032.02.46.01

Revised Date: 03/11/2022

Report Date: 03/01/2022

Run ID: Run Order: SV5973N.I_220128A: 19

SampType: Continuing Calibration Verification Standard

Batch ID: R373901

Method: SW8270C

Analysis Date: 01/29/2022 03:23

Prep Date:

Lab ID: 28-Jan-22_CCv_19

Units: ug/L

Prep Method:

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
2,6-Dinitrotoluene	78	10	75		104.0	50	150				
2-Chloronaphthalene	73	10	75		97.0	50	150				
2-Chlorophenol	80	10	75		107.0	50	150				
2-Nitrophenol	75	10	75		100.0	50	150				
3,3'-Dichlorobenzidine	77	10	75		103.0	50	150				
4,6-Dinitro-2-methylphenol	77	10	75		103.0	50	150				
4-Bromophenyl phenyl ether	75	10	75		100.0	50	150				
4-Chloro-3-methylphenol	83	10	75		110.0	50	150				
4-Chlorophenol	81	10	75		108.0	50	150				
4-Chlorophenyl phenyl ether	71	10	75		94.0	50	150				
4-Nitrophenol	81	10	75		108.0	50	150				
Azobenzene	87	10	75		115.0	50	150				
bis(-2-chloroethoxy)Methane	76	10	75		101.0	50	150				
bis(-2-chloroethyl)Ether	83	10	75		110.0	50	150				
bis(2-chloroisopropyl)Ether	82	10	75		109.0	50	150				
bis(2-ethylhexyl)Phthalate	74	10	75		99.0	50	150				
Butylbenzylphthalate	78	10	75		104.0	50	150				
Diethyl phthalate	79	10	75		105.0	50	150				
Dimethyl phthalate	76	10	75		102.0	50	150				
Di-n-butyl phthalate	77	10	75		103.0	50	150				
Di-n-octyl phthalate	79	10	75		106.0	50	150				
Hexachlorobenzene	75	10	75		100.0	50	150				
Hexachlorobutadiene	76	10	75		102.0	50	150				
Hexachlorocyclopentadiene	72	10	75		96.0	50	150				
Hexachloroethane	93	10	75		123.0	50	150				
Isophorone	78	10	75		104.0	50	150				
m+p-Cresols	79	10	75		105.0	50	150				



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010755
Project: CV18F0126, 60571032.02.46.01

Revised Date: 03/11/2022

Report Date: 03/01/2022

Run ID: Run Order: SV5973N.I_220128A: 19

SampType: Continuing Calibration Verification Standard

Batch ID: R373901

Method: SW8270C

Analysis Date: 01/29/2022 03:23

Prep Date:

Lab ID: 28-Jan-22_CCv_19

Units: ug/L

Prep Method:

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Nitrobenzene	94	10	75		126.0	50	150				
n-Nitrosodimethylamine	54	10	75		72.0	50	150				
n-Nitroso-di-n-propylamine	78	10	75		104.0	50	150				
n-Nitrosodiphenylamine	78	10	75		104.0	50	150				
o-Cresol	78	10	75		103.0	50	150				
Pentachlorophenol	84	10	75		112.0	50	150				
Phenol	75	10	75		100.0	50	150				
Pyridine	72	10	75		96.0	50	150				
Surr: 2,4,6-Tribromophenol	74	10	75		98.0	50	150				
Surr: 2-Fluorobiphenyl	74	10	75		99.0	50	150				
Surr: 2-Fluorophenol	81	10	75		109.0	50	150				
Surr: Nitrobenzene-d5	85	10	75		113.0	50	150				
Surr: Phenol-d5	81	10	75		108.0	50	150				
Surr: Terphenyl-d14	74	10	75		98.0	50	150				

Associated Samples: **B22010755-001C**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010755
Project: CV18F0126, 60571032.02.46.01

Revised Date: 03/11/2022

Report Date: 03/01/2022

Run ID: Run Order: SV5973N.I_220308A: 2 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R375794
Method: SW8270C **Analysis Date:** 03/08/2022 17:53 **Prep Date:**
Lab ID: 08-Mar-22_CCV_2 **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Di-n-butyl phthalate	63	10	75		84.0	80	120				
Surr: 2-Fluorobiphenyl	72	10	75		96.0	80	120				
Surr: Nitrobenzene-d5	65	10	75		87.0	80	120				
Surr: Terphenyl-d14	68	10	75		91.0	80	120				

Associated Samples: **B22010755-001C**

Run ID: Run Order: SV5973N.I_220308A: 14 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R375794
Method: SW8270C **Analysis Date:** 03/09/2022 03:00 **Prep Date:**
Lab ID: 08-Mar-22_CCV_19 **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Di-n-butyl phthalate	79	10	75		105.0	50	150				
Surr: 2-Fluorobiphenyl	73	10	75		97.0	50	150				
Surr: Nitrobenzene-d5	69	10	75		92.0	50	150				
Surr: Terphenyl-d14	73	10	75		98.0	50	150				

Associated Samples: **B22010755-001C**

Analytical QC Exceptions Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B22010755
Project: CV18F0126, 60571032.02.46.01

Revised Date: 03/11/2022

Report Date: 03/01/2022

Analysis Method	Analysis	Batch ID	Associated Samples	Sample Type	Lab ID	Analysis Date	Analysis Time	Analyte	%REC	Low Limit	High Limit	% RPD	RPD Limit	Qual
SW6020	Metals by ICP-MS, Total	162926	001B	SD	B22010751-001BDIL	1/17/2022	15:42	Lead					10.0	N
SW8270C	Semi-Volatile Organic Compounds, Extended List	162956	001C	LCS-DOD	LCS-162956	1/28/2022	21:29	4-Chlorophenol	86.0	41	81			S
								4-Nitrophenol	52.0	15	36			S
								n-Nitrosodimethylamine	55.0	20	45			S
				LCSD-DOD	LCSD-162956	1/28/2022	22:02	1,2,4-Trichlorobenzene	62.0	29	116	30	20.0	R
								1,3-Dichlorobenzene	59.0	28	110	27	20.0	R
								1,4-Dichlorobenzene	56.0	29	112	23	20.0	R
								2,4-Dichlorophenol	81.0	47	121	22	20.0	R
								4-Nitrophenol	49.0	15	36	4.9	20.0	S
								Hexachlorobutadiene	53.0	22	124	32	20.0	R
								Hexachloroethane	59.0	21	115	32	20.0	R
MS-DOD	B22010759-001CMS	1/29/2022	02:19	4-Nitrophenol	44.0	15	36			S				
MSD-DOD	B22010759-001CMSD	1/29/2022	02:51	4-Nitrophenol	43.0	15	36	1.7	20.0	S				
								bis(2-ethylhexyl)Phthalate	52.0	55	135	6.1	20.0	S
SW8270C SIM	Low Level PAH by 8270C SIM	162956	001C	LCS-DOD	LLCS-162956	1/19/2022	12:48	1-Methylnaphthalene	38.0	41	115			S
								Naphthalene	40.0	43	114			S



Preparation and Analysis Dates Report

Work Order: B22010755
Client: AECOM - Honolulu
Project Name: CV18F0126, 60571032.02.46.01

Date Revised: 3/11/2022
Report Date: 3/01/2022

Lab ID	Client Sample ID	Collection Date	Matrix	Test Name	TCLP Date	Prep Method	Prep Date	Prep Batch	Analysis Method	Analysis Date
001B	ERH2396 (RHMW15 zone5)	01/11/2022 13:20	Ground Water	Metals by ICP-MS, Total		SW3010A	01/14/2022 08:16	162926	SW6020	01/15/2022 00:16
						SW3010A	01/14/2022 08:16	162926	SW6020	01/17/2022 17:15
001C	ERH2396 (RHMW15 zone5)	01/11/2022 13:20	Ground Water	Semi-Volatile Organic Compounds, Extended List		SW3510C	01/14/2022 14:02	162956	SW8270CSIM	01/19/2022 15:30
						SW3510C	01/14/2022 14:02	162956	SW8270C	01/28/2022 23:06
						SW3510C	01/14/2022 14:02	162956	SW8270C	03/07/2022 21:22
001D	ERH2396 (RHMW15 zone5)	01/11/2022 13:20	Ground Water	Diesel Range Organics		SW3520C	03/07/2022 09:15	164261	SW8270C	03/08/2022 21:07
						SW3520C	01/13/2022 15:40	162917	SW8015C	01/15/2022 09:47
						SW3520C	01/13/2022 15:40	162917	SW8015C	01/18/2022 16:04
001H	ERH2396 (RHMW15 zone5)	01/11/2022 13:20	Ground Water	EDB in Water by ECD		SW8011	01/14/2022 08:56	162935	SW8011	01/17/2022 16:24
004A	ERH2395 (Trip Blank) 14694	01/11/2022 13:20	Trip Blank	EDB in Water by ECD		SW8011	01/14/2022 08:56	162935	SW8011	01/17/2022 16:45



Chemical Abstracts Service (CAS) Registry Numbers

Prepared by Billings, MT Branch

Client: AECOM - Honolulu

Workorder: B22010755

Project: CV18F0126, 60571032.02.46.01

Revised Date: 03/11/2022

Report Date: 03/01/2022

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

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

VOCS BY MICROEXTRACTION-ECD

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

C6 to C10
Total Purgeable Hydrocarbons

PETROLEUM HYDROCARBONS-SEMI-VOLATILE

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

ORGANIC CHARACTERISTICS

Methane 74-82-8

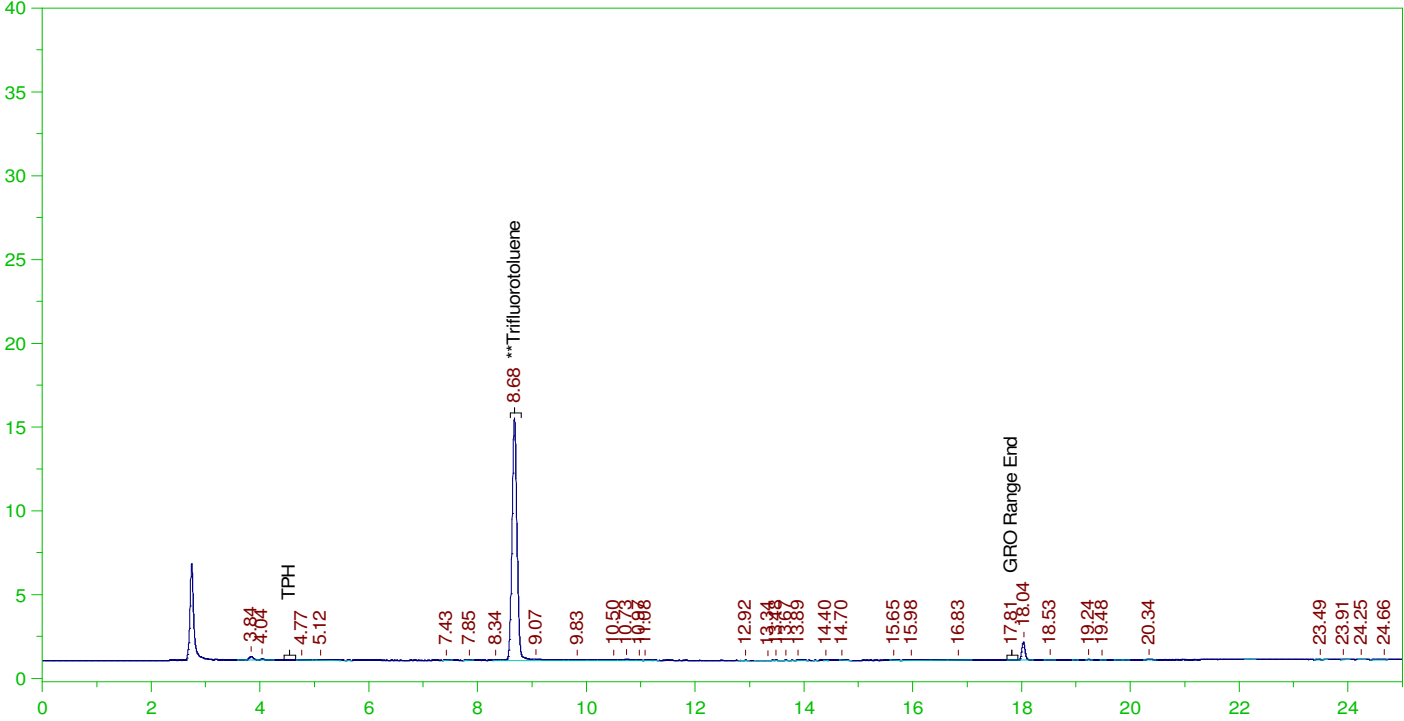
SEMI-VOLATILE ORGANIC COMPOUNDS

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

ERH2396 (RHME15 zone5)

G:\Org\PE1\DAT\PE1011322_b\0113PE1B.0071.RAW

B22010755-001G ;0113PE1 , \$HC-8015-GRO-W,



GASOLINE RANGE ORGANICS CHROMATOGRAM REPORT

Sample Name: B22010755-001G ;0113PE1 , \$HC-8015-GRO-W,
Raw File: G:\Org\PE1\DAT\PE1011322_b\0113PE1B.0071.RAW
Date & Time Acquired: 1/14/2022 11:41:47 PM
Method File: G:\Org\PE1\Methods\211208G755-1B%.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

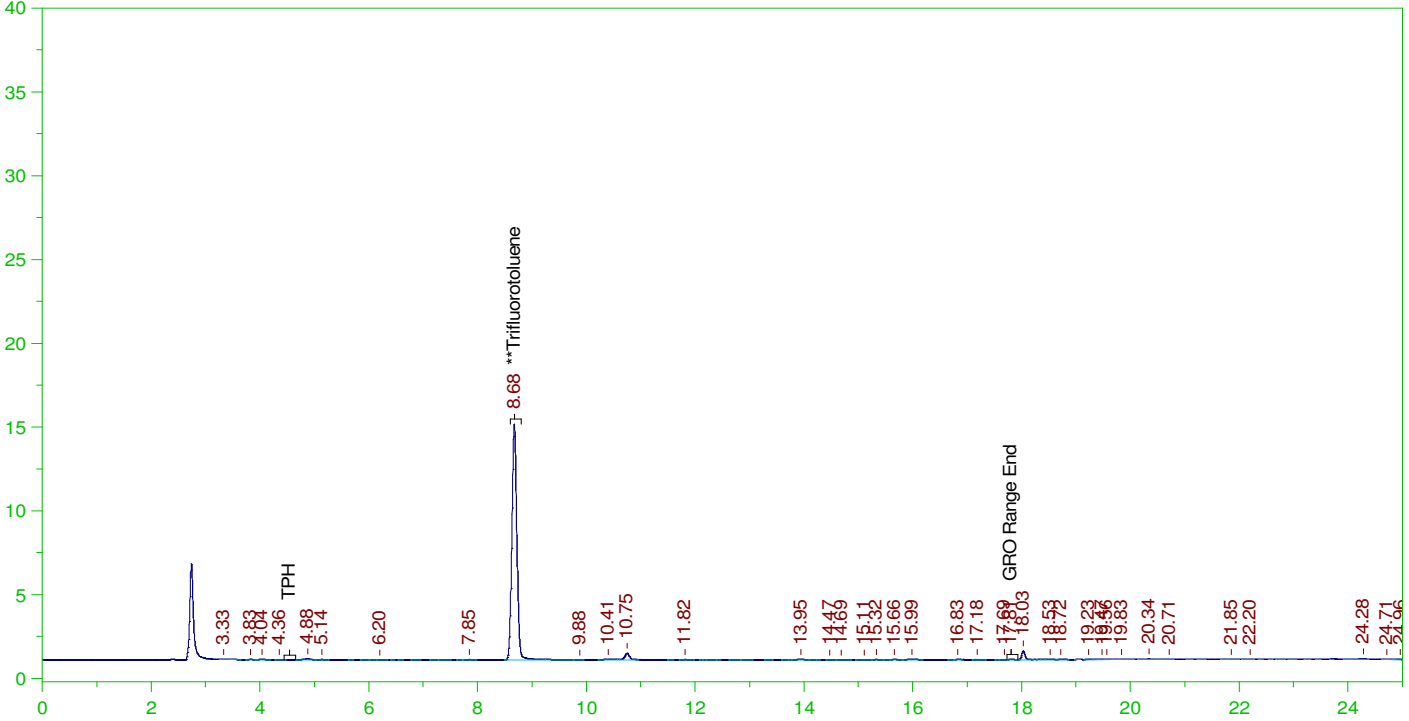
SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC
**Trifluorotoluene	8.679	25.	19.695	78.78

GRO Area:5885.934 GRO Amount: 1.244426
TPH Area:13203.55 TPH Amount: 2.903821

ERH2395 (Trip Blank)

G:\Org\PE1\DAT\PE1011322_b\0113PE1B.0053.RAW

B22010755-003A ;0113PE1 , \$HC-8015-GRO-W,



GASOLINE RANGE ORGANICS CHROMATOGRAM REPORT

Sample Name: B22010755-003A ;0113PE1 , \$HC-8015-GRO-W,
 Raw File: G:\Org\PE1\DAT\PE1011322_b\0113PE1B.0053.RAW
 Date & Time Acquired: 1/14/2022 1:24:04 PM
 Method File: G:\Org\PE1\Methods\211208GROB%.MET
 Calibration File: G:\Org\PE1\Cals\211208GRO8015CB.CAL
 Sample Weight: 5 Dilution: 1 S.A.: 1

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

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC
**Trifluorotoluene	8.677	25.	19.164	76.65

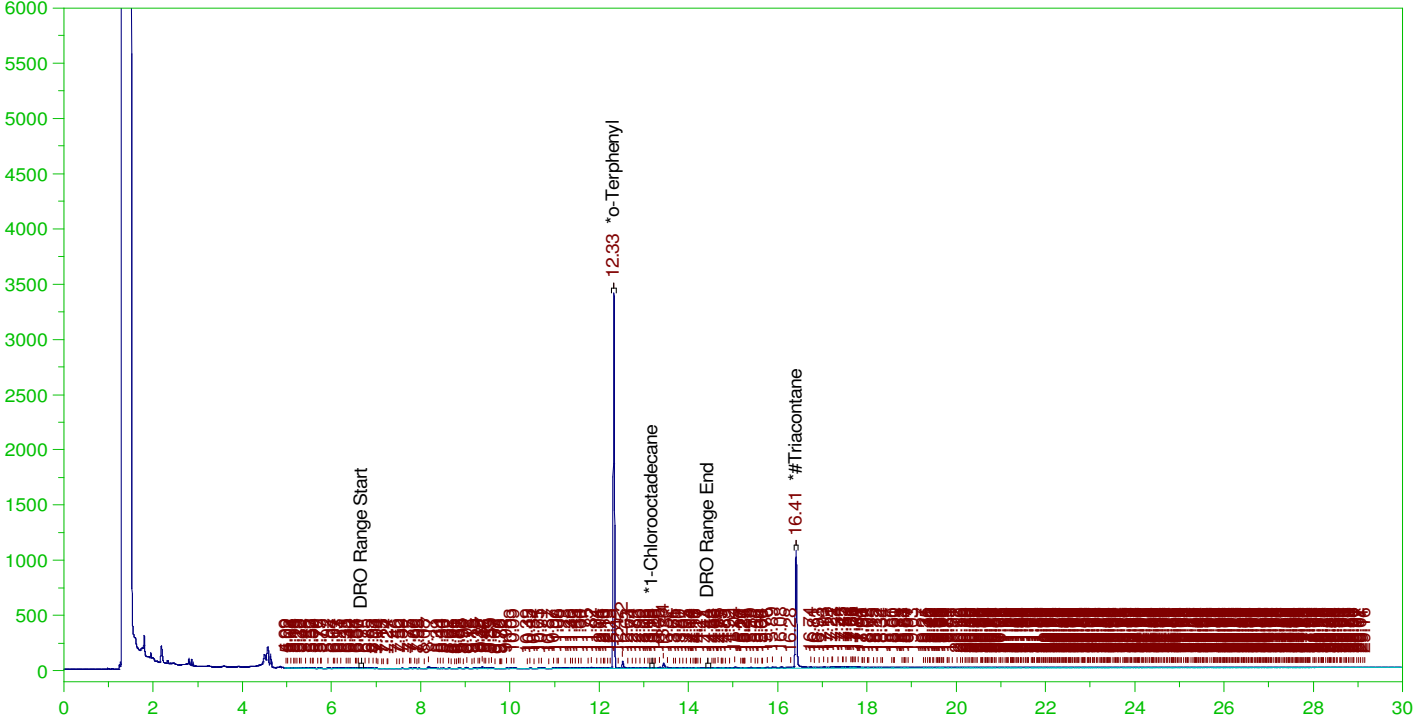
GRO Area:5881.822 GRO Amount: 1.243557
 TPH Area:10766.72 TPH Amount: 2.367896

ERH2396 (RHME15 zone5)

Batch ID: 162917

G:\org\HP5\DAT\HP5011422_b\0114HP5.0033.RAW

B22010755-001D ;0114HP5 , \$HC-8015-DRO-W,



DIESEL RANGE ORGANICS CHROMATOGRAM REPORT

Sample Name: B22010755-001D ;0114HP5 , \$HC-8015-DRO-W,
Raw File: G:\org\HP5\DAT\HP5011422_b\0114HP5.0033.RAW
Date & Time Acquired: 1/15/2022 9:47:37 AM
Method File: G:\Org\HP5\Methods\D3_8015-C24T-JB-L%.met
Calibration File: G:\Org\HP5\Cals\SW8015C_DRO220111JB-C24-T.CAL
Sample Weight: 1000 Dilution: 1 S.A.: 1

Mean RF for TEH: 32675.36

Rt range for Diesel Range Organics: 6.62 to 14.49

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	
*o-Terphenyl	12.325	.2	.174	87.03	-
*1-Chlorooctadecane	13.177	.2	.	.1	-
*#Triacontane	16.408	.2	.102	50.93	-

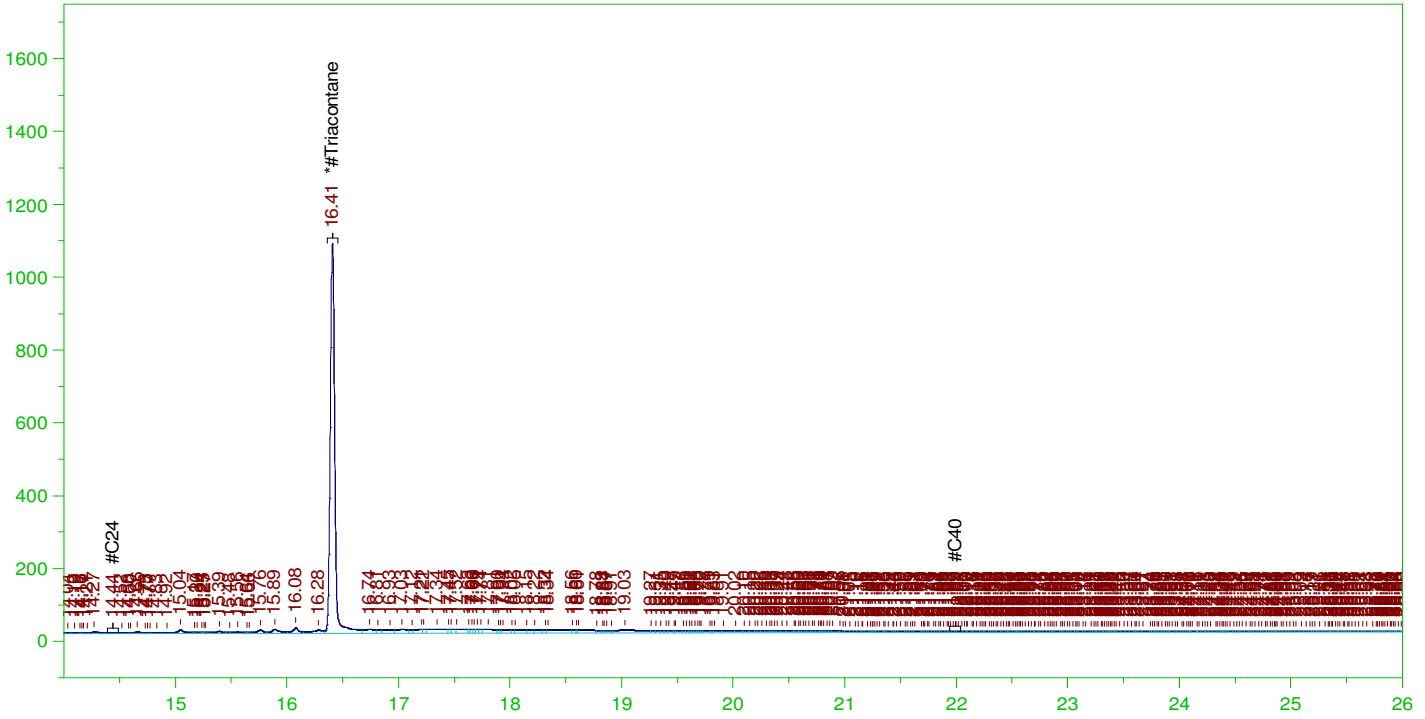
DRO Area:953884 DRO Amount: 2.919276E-02
TEH Area:4511052 TEH Amount: 0.1380567

ERH2396 (RHME15 zone5)

Batch ID: 162917

G:\org\HP5\DAT\HP5011422_b\0114HP5.0033.RAW

B22010755-001D ;0114HP5 , \$HC-8015-DRO-W,



RESIDUAL RANGE ORGANICS CHROMATOGRAM

Sample Name: B22010755-001D ;0114HP5 , \$HC-8015-DRO-W,
Raw File: G:\org\HP5\DAT\HP5011422_b\0114HP5.0033.RAW
Date & Time Acquired: 1/15/2022 9:47:37 AM
Method File: G:\Org\HP5\Methods\D3_OROS-BB-L%.MET
Calibration File: G:\Org\HP5\Cals\SW8015C_ORO220111BB_SAMP.CAL
Sample Weight: 1000 Dilution: 1 S.A.: 1

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

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC
*#Triacontane_____	16.408	.5	.102	20.37 -

RRO Area:2587517

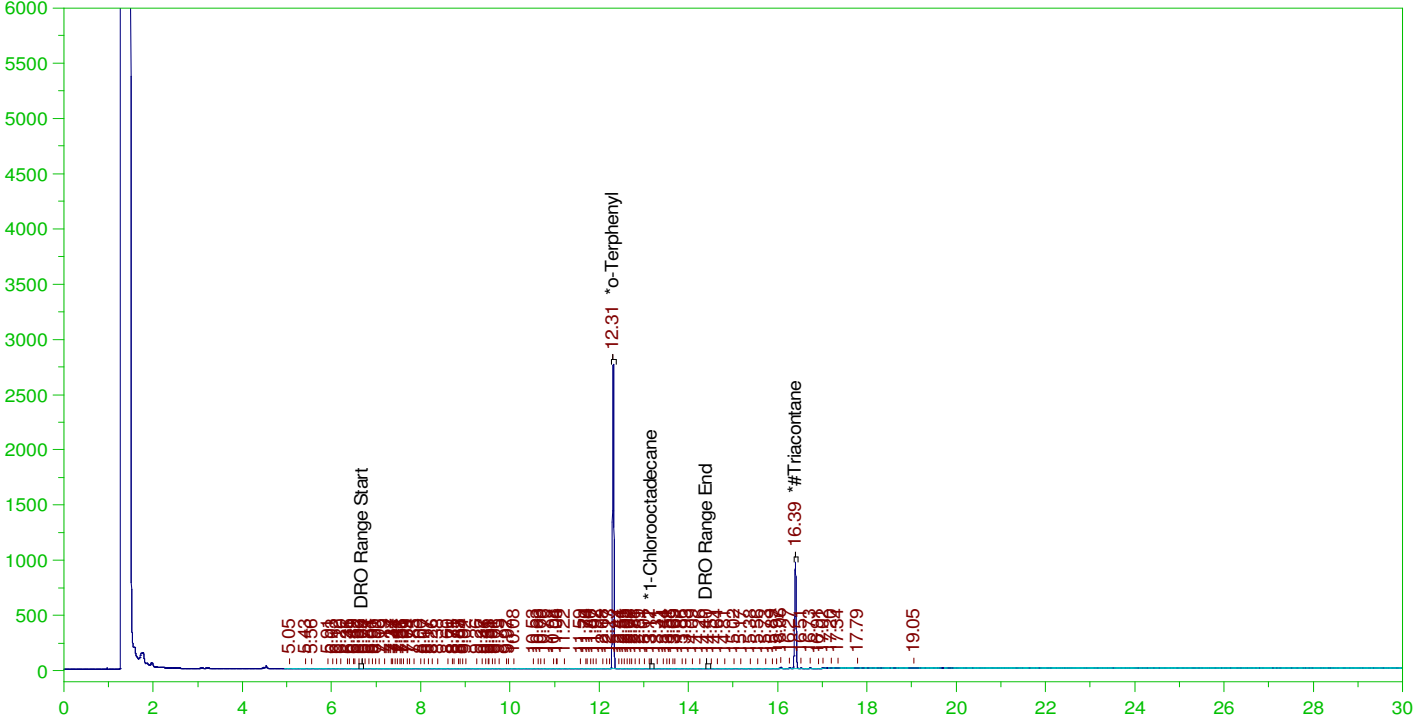
RRO AMOUNT: 9.792092E-02

ERH2396 (RHMW15 zone5)

Batch ID: 162917

G:\org\HP5\DAT\HP5011822_b\0118HP5.0013.RAW

B22010755-001D ;0118HP5 , \$HC-8015-DRO-W, SGT



DIESEL RANGE ORGANICS CHROMATOGRAM REPORT

Sample Name: B22010755-001D ;0118HP5 , \$HC-8015-DRO-W, SGT
 Raw File: G:\org\HP5\DAT\HP5011822_b\0118HP5.0013.RAW
 Date & Time Acquired: 1/18/2022 4:04:31 PM
 Method File: G:\Org\HP5\Methods\DR_8015-C24T-JB-L%.met
 Calibration File: G:\Org\HP5\Cals\SW8015C_DRO220111JB-C24-T.CAL
 Sample Weight: 1000 Dilution: 1 S.A.: 1

Mean RF for TEH: 32675.36

Rt range for Diesel Range Organics: 6.62 to 14.49

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	
*o-Terphenyl	12.311	.2	.142	71.1	-
*1-Chlorooctadecane	13.166	.2	.	.02	-
*#Triacontane	16.393	.2	.083	41.72	-

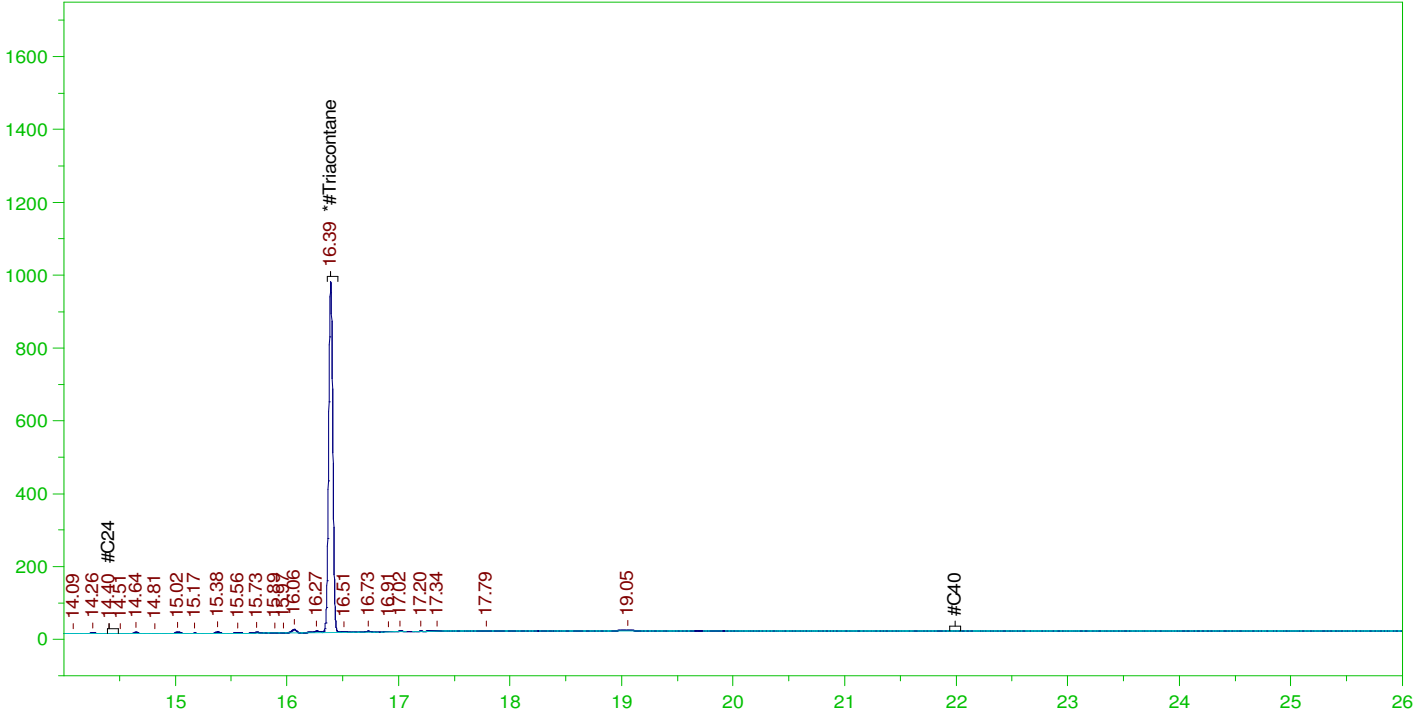
DRO Area:183518.4 DRO Amount: 5.616416E-03
 TEH Area:387568.3 TEH Amount: 1.186118E-02

ERH2396 (RHMW15 zone5)

Batch ID: 162917

G:\org\HP5\DAT\HP5011822_b\0118HP5.0013.RAW

B22010755-001D ;0118HP5 , \$HC-8015-DRO-W, SGT



RESIDUAL RANGE ORGANICS CHROMATOGRAM

Sample Name: B22010755-001D ;0118HP5 , \$HC-8015-DRO-W, SGT
 Raw File: G:\org\HP5\DAT\HP5011822_b\0118HP5.0013.RAW
 Date & Time Acquired: 1/18/2022 4:04:31 PM
 Method File: G:\Org\HP5\Methods\DR_OROS-BB-L%.MET
 Calibration File: G:\Org\HP5\Cals\SW8015C_ORO220111BB_SAMP.CAL
 Sample Weight: 1000 Dilution: 1 S.A.: 1

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

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC
*#Triacontane_____	16.393	.5	.083	16.69 -

RRO Area:124295.3 RRO AMOUNT: 4.703779E-03

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

Categories: Must Attend

Hi Tabitha,

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

Thank you,

Alethea Ramos, CIH
Environmental Scientist, Environmental Health & Science, Environment
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M +1-808-389-5383
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[Fortune World's Most Admired Companies 2020](#)

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

Alethea,

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

Thank you,

Energy Laboratories, Inc.

Trust our People. Trust our Data.

Tabitha Edwards | Office Manager | Billings, MT

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

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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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