



ANALYTICAL SUMMARY REPORT

January 20, 2022

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

Work Order: B21121019 Quote ID: 5912

Project Name: CV18F0126/60571032.02.20.01

Energy Laboratories Inc Billings MT received the following 8 samples from AECOM - Honolulu on 12/11/2021 for analysis.

Lab ID	Client Sample ID	Collect Date	Received Date	Matrix	Test
B21121019-001	ERH2217 (RHMW03)	12/08/21 17:35	12/11/2021	Ground Water	DRO-Liquid-Liquid Extraction SW3520C Separatory Funnel SW3510C Liquid-Liquid Ext. Carbon, Total Organic SW9060A 8260-Volatile Organic Compounds-BTEX SW8260B Gasoline Range Organics SW8015C Diesel Range Organics SW8015C Low Level PAH SW8270C
B21121019-002	ERH2219 (RHMW05)	12/08/21 13:45	12/11/2021	Ground Water	Same As Above
B21121019-003	ERH2220 (RHMW05)	12/08/21 13:45	12/11/2021	Ground Water	DRO-Liquid-Liquid Extraction SW3520C Separatory Funnel SW3510C Liquid-Liquid Ext. 8260-Volatile Organic Compounds-BTEX SW8260B Gasoline Range Organics SW8015C Diesel Range Organics SW8015C Low Level PAH SW8270C
B21121019-004	ERH2216 (Trip Blank)-14525	12/08/21 17:35	12/11/2021	Trip Blank	8260-Volatile Organic Compounds-BTEX SW8260B
B21121019-005	ERH2216 (Trip Blank)-14525	12/08/21 17:35	12/11/2021	Trip Blank	Gasoline Range Organics SW8015C
B21121019-006	ERH2218 (Trip Blank)-14525	12/08/21 13:45	12/11/2021	Trip Blank	8260-Volatile Organic Compounds-BTEX SW8260B
B21121019-007	ERH2218 (Trip Blank)-14525	12/08/21 13:45	12/11/2021	Trip Blank	Gasoline Range Organics SW8015C



ANALYTICAL SUMMARY REPORT

B21121019-008	ERH2218 (Trip Blank)- Client Provided	12/08/21 13:40	12/11/2021	Trip Blank	Same As Above
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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: CV18F0126/60571032.02.20.01
Work Order: B21121019

Report Date: 1/20/2022

CASE NARRATIVE

General Comments:

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

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

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

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

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

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

Analysis Specific Comments:

An Analytical QC Exceptions Report has been attached, summarizing all qualified QC results. Corrective actions regarding Semi-Volatile Petroleum Hydrocarbons by SW8015C and Semi-Volatile Organic Compounds by EPA8270C analysis are summarized below.

Method SW8015C:

ERH2217 (RHMW03), B21121019-001 SGT

The recovery for surrogate o-Terphenyl (SGT) was slightly below quality control limits. Additional sample was not available for re-extraction.

Method SW8270C:

MB-162126, LLCS-162126, B21121001-001ALMS

A documented laboratory error occurred during extraction, which contributed to low surrogate and analyte recoveries in these samples. The surrogate Nitrobenzene-d5 and analyte Naphthalene were not recovered in the MB-162126 and LLCS-162126. The associated LCSDuplicate sample, LLCSD-162126, had normal recoveries. Samples ERH2219 (RHMW05) and ERH2220 (RHMW05) associated with this preparation batch were re-extracted and re-analyzed. Both the original (162126) and re-extracted batch (162189, 162373) results are included in the analytical report. Target analytes were not detected in sample ERH2217 (RHMW03), B21121019-001.

B21121020-002ALMS

The recovery for Naphthalene was above the quality control limit in the matrix spike sample, which may indicate a non-homogenous sample matrix between the two bottles submitted.

ERH2219 (RHMW05) B21121019-002

A documented laboratory error occurred during extraction, which contributed to low surrogate recoveries in this sample. The sample was re-extracted using a H₂SO₄ preserved sample, which was neutralized prior to extraction. The re-extraction prep hold time was exceeded by 5.09 days. Both the original and re-extracted results are included in the analytical report. Target analytes were not detected in the sample.

ERH2220 (RHMW05), B21121019-003

A documented laboratory error occurred during extraction, which contributed to low surrogate recoveries in this sample. The sample was re-extracted and re-analyzed and both the original and re-extracted results are included in the analytical report. Target analytes were not detected in the sample.



Chain of Custody & Analytical Request Record

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Account Information (Billing information)

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

Report Information (# different than Account Information)

Company/Name **AECOM**
 Contact **see Account information**
 Phone
 Mailing Address
 City, State, Zip
 Email **USAPrimging@aecom.com**
 Receive Report Hard Copy Email
 Special Report/Format: LEVEL IV MELAC EDD/EDT (contact laboratory) Other

Comments

1. Project performed under DoD QSM.
 2. TPH-DRO/RRO needs 3520 extraction.
 3. Preliminary data (or Level 1) in 1-2 business days; Level IV report in 10 working days.
 4. Note: NOI log is separate from other COCs.
 5. *PAH 8270D SIM: 1-methylnaphthalene, 2-methylnaphthalene, naphthalene

Project Information

Project Name, PWSID, Permit, etc **CV18F0126/60571032.02.20.01**
 Sampler Name **GM, MY, NL, AM, DM, CF** Sampler Phone **808-987-3201**
 Sample Origin State **Hawaii** EPA/State Compliance Yes No
 URANIUM MINING CLIENTS MUST indicate sample type
 Unprocessed Ore
 Processed Ore (Ground or Refined) **CALL BEFORE SENDING
 11(e)2 Byproduct Material (Can ONLY be Submitted to ELC-seper Location)

Matrix Codes

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

Analysis Requested

TPH-g by 8015	<input checked="" type="checkbox"/>
BTEX by 8260	<input checked="" type="checkbox"/>
PAHs by 8270D SIM*	<input checked="" type="checkbox"/>
EPA 8015 TPH-DRO/	<input checked="" type="checkbox"/>
EPA 8015 TPH-DRO/	<input checked="" type="checkbox"/>
RRO w/ SGC	<input checked="" type="checkbox"/>
TOC by 9060	<input checked="" type="checkbox"/>

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

Sample Identification (Name, Location, Interval, etc.)	Collection Date	Time	Number of Containers	Matrix Code (see Matrix Codes)	EPA Method	Analysis Requested		ELI LAB ID Laboratory Use Only
						TPH-g by 8015	BTEX by 8260	
1 ERH2216 (Trip Blank)	12/09/2021	1:30 pm	0	WQ	GW	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	82-112-1019 COH -005
2 ERH2217 (RHMW03)	12/09/2021	1:35 pm	4	GW	GW	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	-001
3 ERH2218 (Trip Blank)	12/09/2021	9:40 am	0	WQ	GW	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	-006-007-008
4 ERH2219 (RHMW05)	12/09/2021	9:45 am	2	GW	GW	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	-002
5 ERH2220 (RHMW05)	12/09/2021	9:45 am	0	GW	GW	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	-003
6 ERH2210-8260-14525								-004
7 " 8015 - 14525								-005
8 PA 2248-8260-14525								-006
9 " 8015 - 14525								-007
10 " 8015 - 14525								-008

Signature: *[Signature]* Date/Time: 12/9/21
 Received by (print): *[Signature]* Date/Time: 12/14/21
 Payment Type: Cash Check
 Amount: \$
 Receipt Number (cash/check only):
 Laboratory Use Only: On Ice Temp Blank N Y
 Receipt Temp: 03 °C
 Intact: Y N
 Cooler ID(s): Y N C B
 Custody Seals: Y N C B
 Shipped By: *[Signature]*

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



Trust our People. Trust our Data.

Chain of Custody & Analytical Request Record

Account Information (Billing Information)

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

Report Information (if different than Account Information)

Company/Name: AECOM
 Contact: see Account Information
 Phone: -
 Mailing Address: -
 City, State, Zip: -
 Email: USAPIiming@aecom.com
 Receive Report Hard Copy Email
 Special Report/Comments: LEVEL IV INELAC EDD/EDT (contact laboratory) Other

Comments

1. Project performed under DoD QSM.
2. TPH-DRO/RRO needs 3520 extraction.
3. Preliminary data (or Level 1) in 1-2 business days; Level IV report in 10 working days.
4. Note: NOI log is separate from other COCs.
5. *PAH 8270D SIM: 1-methylnaphthalene, 2-methylnaphthalene, naphthalene

Project Information

Project Name, PWSID, Permit, etc: CV18F0126/60571032 02.20.01
 Sampler Name: GM, MY, NL, AM, DM, CF
 Sampler Phone: 808-987-3201
 Sample Origin: State Hawaii
 EPA/State Compliance: Yes No
 URANIUM MINING CLIENTS MUST indicate sample type
 Unprocessed Ore
 Processed Ore (Ground or Refined) **CALL BEFORE SENDING
 11(e) Byproduct Material (Can ONLY be Submitted to ELI Casper Location)

Matrix Codes

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

Sample Identification (Name, Location, Internal, etc.)	Collection		Matrix (See Codes Above)	Number of Containers	Analysis Requested	ELI LAB ID Laboratory Use Only
	Date	Time				
1 ERH2216 (Trip Blank)	12/08/2021	1:30 pm	WQ	0	TPH-g by 8015 PAHs by 8270D SIM* EPA 8015 TPH-DRO/ RRO EPA 8015 TPH-DRO/ RRO w/SGC TOC by 9060	B21121019-004-005
2 ERH2217 (RHMW03)	12/08/2021	1:35 pm	GW	0		-001
3 ERH2218 (Trip Blank)	12/08/2021	9:40 am	WQ	0		-006-007-008
4 ERH2219 (RHMW05)	12/08/2021	9:45 am	GW	2		-002
5 ERH2220 (RHMW05)	12/08/2021	9:45 am	GW	4		-003
6						
7						
8						
9						

Analysis Requested

- TPH-g by 8015
- PAHs by 8270D SIM*
- EPA 8015 TPH-DRO/
RRO
- EPA 8015 TPH-DRO/
RRO w/SGC
- TOC by 9060

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

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

Custody Received MUST be signed by: Alexander Edmonds
 Date/Time: 12/9/21
 Signature: [Signature]
 Received by (print): SGA Edmonds
 Date/Time: 12/9/21 09:50
 Signature: [Signature]
 Shipped By: [Blank]
 Cooler ID(s): Y N C B Y N
 Custody Seals: Y N C B Y N
 Receipt Temp: 7.6 °C
 Intact: Y N
 On Ice: Y N
 Blank: Y N
 Melted: [checked]

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Chain of Custody & Analytical Request Record

COC #: 202112-09-NOI Page 3 of 3

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Account Information (Billing information)

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

Report Information (if different than Account Information)

Company/Name AECOM
 Contact see Account information
 Phone
 Mailing Address
 City, State, Zip
 Email USAPImaging@aecom.com
 Receive Report Hard Copy Email
 Special Report/Format:
 LEVEL IV MELAC EDO/EDT (contact laboratory) Other

Comments

- Project performed under DoD QSM.
- TPH-DRO/RRO needs 3520 extraction.
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- V - Vegetation
- B - Biomass
- O - Oil
- DW - Drinking Water

Analysis Requested

TPH-g by 8015
 BTEX by 8260
 PAHs by 8270D SIM*
 EPA 8015 TPH-DRO/
 RRO
 EPA 8015 TPH-DRO/
 RRO w/SGC
 TOC by 9060
 8270D SVOC Full List

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.)	Number of Containers	Matrix Code (See Codes Above)	Collection		Date	Time	Signature	Date/Time	Received by (print)	Payment Type	Amount \$	Receipt Number (cash/check only)
			Date	Time								
1 ERH2216 (Trp Blank)	6	WQ	12/08/2021	1:30 pm								
2 ERH2217 (RHMW03)	8	GW	12/08/2021	1:35 pm								
3 ERH2218 (Trp Blank)	6	WQ	12/08/2021	9:40 am								
4 ERH2219 (RHMW05)	8	GW	12/08/2021	9:45 am								
5 ERH2220 (RHMW05)	6	GW	12/08/2021	9:45 am								
6												
7												
8												
9												

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

Custody Received MUST be signed
 Relinquished by (print) Alexander Edmonds
 Relinquished by (print)
 Signature
 Date/Time 12/8/21 12:30pm
 Signature
 Date/Time
 Shipped By
 Cooler ID(s)
 Custody Seals Y N C B
 Intact Y N
 Receipt Temp 0.4 °C
 Y N
 On be Y N
 LABORATORY USE ONLY
 Received by (print)
 Payment Type
 Amount \$
 Receipt Number (cash/check only)

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

Work Order Receipt Checklist

AECOM - Honolulu

B21121019

Login completed by: Taylor K. Burris
Reviewed by: BL2000\darcy
Reviewed Date: 12/15/2021

Date Received: 12/11/2021
Received by: leb
Carrier name: FedEx

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

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Standard Reporting Procedures:

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

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

Contact and Corrective Action Comments:

The Temperature Blank temperature for shipping container 1 was 0.4°C and shipping container 2 was 0.3°C.

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

The containers and preservative for Total Organic Carbon (TOC) by method 9060 were not provided by Energy Laboratories Inc. The VOA vials were received without the preservative traceability bottle label provided by Energy Laboratories. Proceed with analysis without preservative traceability per email from Alethea Ramos on 12/11/2021.

The following containers were received on 12/13/21 by Staci Gottlob at 7.6°C melted ice from Fedex Next Day Air.
ERH2219 (RHMW05): 2 One-Liter Amber Glass Unpreserved
ERH2220 (RHMW05): 2 One-Liter Amber Glass Unpreserved and 2 One-Liter Amber Glass Sulfuric Preserved.

Shari Endy, Energy Laboratories Project Manager, is contacting the client concerning temperature compliance.

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: B21121019-001
Collection Date: 12/08/2021 17:35
Date Received: 12/11/2021
Report Date: 01/20/2022

Client: AECOM - Honolulu
Client Sample ID: ERH2217 (RHMW03)
Project: CV18F0126/60571032.02.20.01
Matrix: Ground Water

Analyses	Result	Units	DF	Qual	LOQ	LOD	DL	MCL	Method	Analysis Date / By	RunID : Run Order	BatchID
AGGREGATE ORGANICS												
Organic Carbon, Total (TOC) - TOC Range is 1.8 to 1.9	1.8	mg/L	1		0.50	0.50	0.17		SW9060A	12/14/2021 21:42/eli-ca	SUB-C277842 : 8	C_R277842
VOLATILE ORGANIC COMPOUNDS												
Benzene	ND	ug/L	1	U	1.0	0.20	0.05		SW8260B	12/14/2021 14:13/sbd	SV5972.I_211214A : 9	R371802
Ethylbenzene	ND	ug/L	1	U	1.0	0.20	0.05		SW8260B	12/14/2021 14:13/sbd	SV5972.I_211214A : 9	R371802
Toluene	ND	ug/L	1	U	1.0	0.20	0.06		SW8260B	12/14/2021 14:13/sbd	SV5972.I_211214A : 9	R371802
m+p-Xylenes	ND	ug/L	1	U	1.0	0.20	0.07		SW8260B	12/14/2021 14:13/sbd	SV5972.I_211214A : 9	R371802
o-Xylene	ND	ug/L	1	U	1.0	0.20	0.04		SW8260B	12/14/2021 14:13/sbd	SV5972.I_211214A : 9	R371802
Xylenes, Total	ND	ug/L	1	U	1.0	0.20	0.04		SW8260B	12/14/2021 14:13/sbd	SV5972.I_211214A : 9	R371802
Surr: 1,2-Dichloroethane-d4	98.0	%REC	1		81-118				SW8260B	12/14/2021 14:13/sbd	SV5972.I_211214A : 9	R371802
Surr: Dibromofluoromethane	98.0	%REC	1		80-119				SW8260B	12/14/2021 14:13/sbd	SV5972.I_211214A : 9	R371802
Surr: p-Bromofluorobenzene	100.0	%REC	1		85-114				SW8260B	12/14/2021 14:13/sbd	SV5972.I_211214A : 9	R371802
Surr: Toluene-d8	92.0	%REC	1		89-112				SW8260B	12/14/2021 14:13/sbd	SV5972.I_211214A : 9	R371802
PETROLEUM HYDROCARBONS-VOLATILE												
C6 to C10	ND	ug/L	1	U	20	8.7	2.3		SW8015C	12/15/2021 02:31/jp	PE 1_211214A : 24	R371801
Total Purgeable Hydrocarbons	ND	ug/L	1	U	20	10	3.6		SW8015C	12/15/2021 02:31/jp	PE 1_211214A : 24	R371801
Surr: Trifluorotoluene	80.0	%REC	1		70-130				SW8015C	12/15/2021 02:31/jp	PE 1_211214A : 24	R371801
- Note 1: C6 to C10 is defined as all hydrocarbons eluting between 2-Methylpentane and 1,2,4-Trimethylbenzene.												
- Note 2: Total Purgeable Hydrocarbons are defined as the total hydrocarbon response regardless of elution time.												
PETROLEUM HYDROCARBONS-SEMI-VOLATILE												
Diesel Range Organics (C10 to C24)	0.12	mg/L	1	J	0.30	0.15	0.038		SW8015C	12/15/2021 11:49/amn	GCFID-HP5-B_211214A : 21	162151
Diesel Range Organics (SGT-C10 to C24)	ND	mg/L	1	U	0.30	0.12	0.038		SW8015C	12/15/2021 22:40/amn	GCFID-HP5-B_211214B : 6	162151
Oil Range Hydrocarbons (C24 to C40)	0.24	mg/L	1	J	0.30	0.15	0.086		SW8015C	12/15/2021 11:49/amn	GCFID-HP5-B_211214A : 21	162151
Oil Range Hydrocarbons (SGT-C24 to C40)	ND	mg/L	1	U	0.30	0.15	0.086		SW8015C	12/15/2021 22:40/amn	GCFID-HP5-B_211214B : 6	162151
Total Extractable Hydrocarbons	0.41	mg/L	1		0.30	0.15	0.073		SW8015C	12/15/2021 11:49/amn	GCFID-HP5-B_211214A : 21	162151
Total Extractable Hydrocarbons (SGT)	ND	mg/L	1	U	0.30	0.12	0.032		SW8015C	12/15/2021 22:40/amn	GCFID-HP5-B_211214B : 6	162151
Surr: o-Terphenyl	62.0	%REC	1		56-125				SW8015C	12/15/2021 11:49/amn	GCFID-HP5-B_211214A : 21	162151
Surr: o-Terphenyl (SGT)	54.0	%REC	1	S	56-125				SW8015C	12/15/2021 22:40/amn	GCFID-HP5-B_211214B : 6	162151
Surr: n-Triacontane	94.0	%REC	1		50-150				SW8015C	12/15/2021 11:49/amn	GCFID-HP5-B_211214A : 21	162151
Surr: n-Triacontane (SGT)	73.0	%REC	1		50-150				SW8015C	12/15/2021 22:40/amn	GCFID-HP5-B_211214B : 6	162151
- Note: Total Extractable Hydrocarbons are defined as the total hydrocarbon responses regardless of elution time.												
- The recovery for surrogate o-Terphenyl (SGT) was slightly below quality control limits. Additional sample was not available for re-extraction.												
SEMI-VOLATILE ORGANIC COMPOUNDS (LOW LEVEL) BY SIM												
1-Methylnaphthalene	ND	ug/L	1	U	0.10	0.10	0.022		SW8270C	12/15/2021 03:49/jph	SV5975.I_211214A : 20	162126
2-Methylnaphthalene	ND	ug/L	1	U	0.10	0.10	0.018		SW8270C	12/15/2021 03:49/jph	SV5975.I_211214A : 20	162126
Naphthalene	ND	ug/L	1	U	0.10	0.10	0.030		SW8270C	12/15/2021 03:49/jph	SV5975.I_211214A : 20	162126
Surr: 2-Fluorobiphenyl	69.0	%REC	1		53-106				SW8270C	12/15/2021 03:49/jph	SV5975.I_211214A : 20	162126
Surr: Nitrobenzene-d5	55.0	%REC	1		55-111				SW8270C	12/15/2021 03:49/jph	SV5975.I_211214A : 20	162126



LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Lab ID: B21121019-001

Collection Date: 12/08/2021 17:35

Date Received: 12/11/2021

Report Date: 01/20/2022

Client: AECOM - Honolulu
Client Sample ID: ERH2217 (RHMW03)
Project: CV18F0126/60571032.02.20.01
Matrix: Ground Water

Analyses	Result	Units	DF	Qual	LOQ	LOD	DL	MCL	Method	Analysis Date / By	RunID : Run Order	BatchID
SEMI-VOLATILE ORGANIC COMPOUNDS (LOW LEVEL) BY SIM												
Surr: Terphenyl-d14	83.0	%REC	1		58-132				SW8270C	12/15/2021 03:49/jph	SV5975.L_211214A : 20	162126



LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Lab ID: B21121019-002
Collection Date: 12/08/2021 13:45
Date Received: 12/11/2021
Report Date: 01/20/2022

Client: AECOM - Honolulu
Client Sample ID: ERH2219 (RHMW05)
Project: CV18F0126/60571032.02.20.01
Matrix: Ground Water

Analyses	Result	Units	DF	Qual	LOQ	LOD	DL	MCL	Method	Analysis Date / By	RunID : Run Order	BatchID
AGGREGATE ORGANICS												
Organic Carbon, Total (TOC) - TOC Range is 0.4 to 4.3	2.4	mg/L	1		0.50	0.50	0.17		SW9060A	12/14/2021 22:23/eli-ca	SUB-C277842 : 9	C_R277842
VOLATILE ORGANIC COMPOUNDS												
Benzene	ND	ug/L	1	U	1.0	0.20	0.05		SW8260B	12/14/2021 14:38/sbd	SV5972.I_211214A : 10	R371802
Ethylbenzene	ND	ug/L	1	U	1.0	0.20	0.05		SW8260B	12/14/2021 14:38/sbd	SV5972.I_211214A : 10	R371802
Toluene	ND	ug/L	1	U	1.0	0.20	0.06		SW8260B	12/14/2021 14:38/sbd	SV5972.I_211214A : 10	R371802
m+p-Xylenes	ND	ug/L	1	U	1.0	0.20	0.07		SW8260B	12/14/2021 14:38/sbd	SV5972.I_211214A : 10	R371802
o-Xylene	ND	ug/L	1	U	1.0	0.20	0.04		SW8260B	12/14/2021 14:38/sbd	SV5972.I_211214A : 10	R371802
Xylenes, Total	ND	ug/L	1	U	1.0	0.20	0.04		SW8260B	12/14/2021 14:38/sbd	SV5972.I_211214A : 10	R371802
Surr: 1,2-Dichloroethane-d4	96.0	%REC	1		81-118				SW8260B	12/14/2021 14:38/sbd	SV5972.I_211214A : 10	R371802
Surr: Dibromofluoromethane	100.0	%REC	1		80-119				SW8260B	12/14/2021 14:38/sbd	SV5972.I_211214A : 10	R371802
Surr: p-Bromofluorobenzene	103.0	%REC	1		85-114				SW8260B	12/14/2021 14:38/sbd	SV5972.I_211214A : 10	R371802
Surr: Toluene-d8	92.0	%REC	1		89-112				SW8260B	12/14/2021 14:38/sbd	SV5972.I_211214A : 10	R371802
PETROLEUM HYDROCARBONS-VOLATILE												
C6 to C10	ND	ug/L	1	U	20	8.7	2.3		SW8015C	12/15/2021 03:40/jp	PE 1_211214A : 25	R371801
Total Purgeable Hydrocarbons	ND	ug/L	1	U	20	10	3.6		SW8015C	12/15/2021 03:40/jp	PE 1_211214A : 25	R371801
Surr: Trifluorotoluene	80.0	%REC	1		70-130				SW8015C	12/15/2021 03:40/jp	PE 1_211214A : 25	R371801
- Note 1: C6 to C10 is defined as all hydrocarbons eluting between 2-Methylpentane and 1,2,4-Trimethylbenzene.												
- Note 2: Total Purgeable Hydrocarbons are defined as the total hydrocarbon response regardless of elution time.												
PETROLEUM HYDROCARBONS-SEMI-VOLATILE												
Diesel Range Organics (C10 to C24)	0.039	mg/L	1	J	0.30	0.14	0.037		SW8015C	12/14/2021 17:48/amn	GCFID-HP5-B_211214A : 8	162151
Diesel Range Organics (SGT-C10 to C24)	ND	mg/L	1	U	0.30	0.12	0.037		SW8015C	12/16/2021 00:49/amn	GCFID-HP5-B_211214B : 8	162151
Oil Range Hydrocarbons (C24 to C40)	0.17	mg/L	1	J	0.30	0.14	0.085		SW8015C	12/14/2021 17:48/amn	GCFID-HP5-B_211214A : 8	162151
Oil Range Hydrocarbons (SGT-C24 to C40)	ND	mg/L	1	U	0.30	0.14	0.085		SW8015C	12/16/2021 00:49/amn	GCFID-HP5-B_211214B : 8	162151
Total Extractable Hydrocarbons	0.24	mg/L	1	J	0.30	0.14	0.072		SW8015C	12/14/2021 17:48/amn	GCFID-HP5-B_211214A : 8	162151
Total Extractable Hydrocarbons (SGT)	ND	mg/L	1	U	0.30	0.12	0.032		SW8015C	12/16/2021 00:49/amn	GCFID-HP5-B_211214B : 8	162151
Surr: o-Terphenyl	92.0	%REC	1		56-125				SW8015C	12/14/2021 17:48/amn	GCFID-HP5-B_211214A : 8	162151
Surr: o-Terphenyl (SGT)	88.0	%REC	1		56-125				SW8015C	12/16/2021 00:49/amn	GCFID-HP5-B_211214B : 8	162151
Surr: n-Triacontane	98.0	%REC	1		50-150				SW8015C	12/14/2021 17:48/amn	GCFID-HP5-B_211214A : 8	162151
Surr: n-Triacontane (SGT)	88.0	%REC	1		50-150				SW8015C	12/16/2021 00:49/amn	GCFID-HP5-B_211214B : 8	162151
- Note: Total Extractable Hydrocarbons are defined as the total hydrocarbon responses regardless of elution time.												
SEMI-VOLATILE ORGANIC COMPOUNDS (LOW LEVEL) BY SIM												
1-Methylnaphthalene	ND	ug/L	1	U	0.10	0.10	0.021		SW8270C	12/21/2021 04:02/jph	SV5975.I_211220A : 24	162373
1-Methylnaphthalene	ND	ug/L	1	U	0.10	0.10	0.021		SW8270C	12/15/2021 04:21/jph	SV5975.I_211214A : 21	162126
2-Methylnaphthalene	ND	ug/L	1	U	0.10	0.10	0.018		SW8270C	12/21/2021 04:02/jph	SV5975.I_211220A : 24	162373
2-Methylnaphthalene	ND	ug/L	1	U	0.10	0.10	0.018		SW8270C	12/15/2021 04:21/jph	SV5975.I_211214A : 21	162126
Naphthalene	ND	ug/L	1	U	0.10	0.10	0.029		SW8270C	12/21/2021 04:02/jph	SV5975.I_211220A : 24	162373



LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Client Sample ID: ERH2219 (RHMW05)
Project: CV18F0126/60571032.02.20.01
Matrix: Ground Water

Lab ID: B21121019-002
Collection Date: 12/08/2021 13:45
Date Received: 12/11/2021
Report Date: 01/20/2022

Analyses	Result	Units	DF	Qual	LOQ	LOD	DL	MCL	Method	Analysis Date / By	RunID : Run Order	BatchID
SEMI-VOLATILE ORGANIC COMPOUNDS (LOW LEVEL) BY SIM												
Naphthalene	ND	ug/L	1	U	0.10	0.10	0.029		SW8270C	12/15/2021 04:21/jph	SV5975.I_211214A : 21	162126
Surr: 2-Fluorobiphenyl	85.0	%REC	1		25-94				SW8270C	12/21/2021 04:02/jph	SV5975.I_211220A : 24	162373
Surr: 2-Fluorobiphenyl	50.0	%REC	1	S	53-106				SW8270C	12/15/2021 04:21/jph	SV5975.I_211214A : 21	162126
Surr: Nitrobenzene-d5	61.0	%REC	1		19-102				SW8270C	12/21/2021 04:02/jph	SV5975.I_211220A : 24	162373
Surr: Nitrobenzene-d5	39.0	%REC	1	S	55-111				SW8270C	12/15/2021 04:21/jph	SV5975.I_211214A : 21	162126
Surr: Terphenyl-d14	92.0	%REC	1		39-106				SW8270C	12/21/2021 04:02/jph	SV5975.I_211220A : 24	162373
Surr: Terphenyl-d14	50.0	%REC	1	S	58-132				SW8270C	12/15/2021 04:21/jph	SV5975.I_211214A : 21	162126

- A documented laboratory error occurred during extraction, therefore the sample was re-extracted and re-analyzed. The re-extraction prep hold time was exceeded by 5.09 days.



LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Lab ID: B21121019-003
Collection Date: 12/08/2021 13:45
Date Received: 12/11/2021
Report Date: 01/20/2022

Client: AECOM - Honolulu
Client Sample ID: ERH2220 (RHMW05)
Project: CV18F0126/60571032.02.20.01
Matrix: Ground Water

Analyses	Result	Units	DF	Qual	LOQ	LOD	DL	MCL	Method	Analysis Date / By	RunID : Run Order	BatchID
VOLATILE ORGANIC COMPOUNDS												
Benzene	ND	ug/L	1	U	1.0	0.20	0.05		SW8260B	12/14/2021 15:03/sbd	SV5972.I_211214A : 11	R371802
Ethylbenzene	ND	ug/L	1	U	1.0	0.20	0.05		SW8260B	12/14/2021 15:03/sbd	SV5972.I_211214A : 11	R371802
Toluene	ND	ug/L	1	U	1.0	0.20	0.06		SW8260B	12/14/2021 15:03/sbd	SV5972.I_211214A : 11	R371802
m+p-Xylenes	ND	ug/L	1	U	1.0	0.20	0.07		SW8260B	12/14/2021 15:03/sbd	SV5972.I_211214A : 11	R371802
o-Xylene	ND	ug/L	1	U	1.0	0.20	0.04		SW8260B	12/14/2021 15:03/sbd	SV5972.I_211214A : 11	R371802
Xylenes, Total	ND	ug/L	1	U	1.0	0.20	0.04		SW8260B	12/14/2021 15:03/sbd	SV5972.I_211214A : 11	R371802
Surr: 1,2-Dichloroethane-d4	97.0	%REC	1		81-118				SW8260B	12/14/2021 15:03/sbd	SV5972.I_211214A : 11	R371802
Surr: Dibromofluoromethane	99.0	%REC	1		80-119				SW8260B	12/14/2021 15:03/sbd	SV5972.I_211214A : 11	R371802
Surr: p-Bromofluorobenzene	102.0	%REC	1		85-114				SW8260B	12/14/2021 15:03/sbd	SV5972.I_211214A : 11	R371802
Surr: Toluene-d8	94.0	%REC	1		89-112				SW8260B	12/14/2021 15:03/sbd	SV5972.I_211214A : 11	R371802
PETROLEUM HYDROCARBONS-VOLATILE												
C6 to C10	ND	ug/L	1	U	20	8.7	2.3		SW8015C	12/15/2021 04:49/jp	PE 1_211214A : 26	R371801
Total Purgeable Hydrocarbons	ND	ug/L	1	U	20	10	3.6		SW8015C	12/15/2021 04:49/jp	PE 1_211214A : 26	R371801
Surr: Trifluorotoluene	83.0	%REC	1		70-130				SW8015C	12/15/2021 04:49/jp	PE 1_211214A : 26	R371801
- Note 1: C6 to C10 is defined as all hydrocarbons eluting between 2-Methylpentane and 1,2,4-Trimethylbenzene.												
- Note 2: Total Purgeable Hydrocarbons are defined as the total hydrocarbon response regardless of elution time.												
PETROLEUM HYDROCARBONS-SEMI-VOLATILE												
Diesel Range Organics (C10 to C24)	0.25	mg/L	1	J	0.30	0.14	0.037		SW8015C	12/14/2021 16:17/amn	GCFID-HP5-B_211214A : 7	162151
Diesel Range Organics (SGT-C10 to C24)	ND	mg/L	1	U	0.30	0.12	0.037		SW8015C	12/16/2021 01:32/amn	GCFID-HP5-B_211214B : 9	162151
Oil Range Hydrocarbons (C24 to C40)	0.45	mg/L	1		0.30	0.14	0.085		SW8015C	12/14/2021 16:17/amn	GCFID-HP5-B_211214A : 7	162151
Oil Range Hydrocarbons (SGT-C24 to C40)	ND	mg/L	1	U	0.30	0.14	0.085		SW8015C	12/16/2021 01:32/amn	GCFID-HP5-B_211214B : 9	162151
Total Extractable Hydrocarbons	0.81	mg/L	1		0.30	0.14	0.072		SW8015C	12/14/2021 16:17/amn	GCFID-HP5-B_211214A : 7	162151
Total Extractable Hydrocarbons (SGT)	ND	mg/L	1	U	0.30	0.12	0.032		SW8015C	12/16/2021 01:32/amn	GCFID-HP5-B_211214B : 9	162151
Surr: o-Terphenyl	87.0	%REC	1		56-125				SW8015C	12/14/2021 16:17/amn	GCFID-HP5-B_211214A : 7	162151
Surr: o-Terphenyl (SGT)	83.0	%REC	1		56-125				SW8015C	12/16/2021 01:32/amn	GCFID-HP5-B_211214B : 9	162151
Surr: n-Triacontane	100.0	%REC	1		50-150				SW8015C	12/14/2021 16:17/amn	GCFID-HP5-B_211214A : 7	162151
Surr: n-Triacontane (SGT)	87.0	%REC	1		50-150				SW8015C	12/16/2021 01:32/amn	GCFID-HP5-B_211214B : 9	162151
- Note: Total Extractable Hydrocarbons are defined as the total hydrocarbon responses regardless of elution time.												
SEMI-VOLATILE ORGANIC COMPOUNDS (LOW LEVEL) BY SIM												
1-Methylnaphthalene	ND	ug/L	1	U	0.10	0.097	0.020		SW8270C	12/15/2021 11:16/jph	SV5975.I_211214B : 11	162189
1-Methylnaphthalene	ND	ug/L	1	U	0.10	0.097	0.020		SW8270C	12/15/2021 04:54/jph	SV5975.I_211214A : 22	162126
2-Methylnaphthalene	ND	ug/L	1	U	0.10	0.097	0.017		SW8270C	12/15/2021 11:16/jph	SV5975.I_211214B : 11	162189
2-Methylnaphthalene	ND	ug/L	1	U	0.10	0.097	0.017		SW8270C	12/15/2021 04:54/jph	SV5975.I_211214A : 22	162126
Naphthalene	ND	ug/L	1	U	0.10	0.097	0.028		SW8270C	12/15/2021 11:16/jph	SV5975.I_211214B : 11	162189
Naphthalene	ND	ug/L	1	U	0.10	0.097	0.028		SW8270C	12/15/2021 04:54/jph	SV5975.I_211214A : 22	162126
Surr: 2-Fluorobiphenyl	66.0	%REC	1		53-106				SW8270C	12/15/2021 11:16/jph	SV5975.I_211214B : 11	162189
Surr: 2-Fluorobiphenyl	0.0	%REC	1	US	53-106				SW8270C	12/15/2021 04:54/jph	SV5975.I_211214A : 22	162126



LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Lab ID: B21121019-003

Collection Date: 12/08/2021 13:45

Date Received: 12/11/2021

Report Date: 01/20/2022

Client: AECOM - Honolulu
Client Sample ID: ERH2220 (RHMW05)
Project: CV18F0126/60571032.02.20.01
Matrix: Ground Water

Analyses	Result	Units	DF	Qual	LOQ	LOD	DL	MCL	Method	Analysis Date / By	RunID : Run Order	BatchID
SEMI-VOLATILE ORGANIC COMPOUNDS (LOW LEVEL) BY SIM												
Surr: Nitrobenzene-d5	67.0	%REC	1		55-111				SW8270C	12/15/2021 11:16/jph	SV5975.I_211214B : 11	162189
Surr: Nitrobenzene-d5	3.0	%REC	1	S	55-111				SW8270C	12/15/2021 04:54/jph	SV5975.I_211214A : 22	162126
Surr: Terphenyl-d14	62.0	%REC	1		58-132				SW8270C	12/15/2021 11:16/jph	SV5975.I_211214B : 11	162189
Surr: Terphenyl-d14	62.0	%REC	1		58-132				SW8270C	12/15/2021 04:54/jph	SV5975.I_211214A : 22	162126

- A documented laboratory error occurred during extraction, therefore the sample was re-extracted and re-analyzed.



LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Lab ID: B21121019-004

Collection Date: 12/08/2021 17:35

Date Received: 12/11/2021

Report Date: 01/20/2022

Client: AECOM - Honolulu
Client Sample ID: ERH2216 (Trip Blank)-14525
Project: CV18F0126/60571032.02.20.01
Matrix: Trip Blank

Analyses	Result	Units	DF	Qual	LOQ	LOD	DL	MCL	Method	Analysis Date / By	RunID : Run Order	BatchID
VOLATILE ORGANIC COMPOUNDS												
Benzene	ND	ug/L	1	U	1.0	0.20	0.05		SW8260B	12/14/2021 18:24/sbd	SV5972.I_211214A : 18	R371802
Ethylbenzene	ND	ug/L	1	U	1.0	0.20	0.05		SW8260B	12/14/2021 18:24/sbd	SV5972.I_211214A : 18	R371802
Toluene	ND	ug/L	1	U	1.0	0.20	0.06		SW8260B	12/14/2021 18:24/sbd	SV5972.I_211214A : 18	R371802
m+p-Xylenes	ND	ug/L	1	U	1.0	0.20	0.07		SW8260B	12/14/2021 18:24/sbd	SV5972.I_211214A : 18	R371802
o-Xylene	ND	ug/L	1	U	1.0	0.20	0.04		SW8260B	12/14/2021 18:24/sbd	SV5972.I_211214A : 18	R371802
Xylenes, Total	ND	ug/L	1	U	1.0	0.20	0.04		SW8260B	12/14/2021 18:24/sbd	SV5972.I_211214A : 18	R371802
Surr: 1,2-Dichloroethane-d4	100.0	%REC	1		81-118				SW8260B	12/14/2021 18:24/sbd	SV5972.I_211214A : 18	R371802
Surr: Dibromofluoromethane	100.0	%REC	1		80-119				SW8260B	12/14/2021 18:24/sbd	SV5972.I_211214A : 18	R371802
Surr: p-Bromofluorobenzene	102.0	%REC	1		85-114				SW8260B	12/14/2021 18:24/sbd	SV5972.I_211214A : 18	R371802
Surr: Toluene-d8	93.0	%REC	1		89-112				SW8260B	12/14/2021 18:24/sbd	SV5972.I_211214A : 18	R371802



LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Lab ID: B21121019-005

Collection Date: 12/08/2021 17:35

Date Received: 12/11/2021

Report Date: 01/20/2022

Client: AECOM - Honolulu
Client Sample ID: ERH2216 (Trip Blank)-14525
Project: CV18F0126/60571032.02.20.01
Matrix: Trip Blank

Analyses	Result	Units	DF	Qual	LOQ	LOD	DL	MCL	Method	Analysis Date / By	RunID : Run Order	BatchID
PETROLEUM HYDROCARBONS-VOLATILE												
C6 to C10	ND	ug/L	1	U	20	8.7	2.3		SW8015C	12/14/2021 16:13/jp	PE 1_211214A : 10	R371801
Total Purgeable Hydrocarbons	ND	ug/L	1	U	20	10	3.6		SW8015C	12/14/2021 16:13/jp	PE 1_211214A : 10	R371801
Surr: Trifluorotoluene	83.0	%REC	1		70-130				SW8015C	12/14/2021 16:13/jp	PE 1_211214A : 10	R371801
- Note 1: C6 to C10 is defined as all hydrocarbons eluting between 2-Methylpentane and 1,2,4-Trimethylbenzene.												
- Note 2: Total Purgeable Hydrocarbons are defined as the total hydrocarbon response regardless of elution time.												



LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Lab ID: B21121019-006
Collection Date: 12/08/2021 13:45
Date Received: 12/11/2021
Report Date: 01/20/2022

Client: AECOM - Honolulu
Client Sample ID: ERH2218 (Trip Blank)-14525
Project: CV18F0126/60571032.02.20.01
Matrix: Trip Blank

Analyses	Result	Units	DF	Qual	LOQ	LOD	DL	MCL	Method	Analysis Date / By	RunID : Run Order	BatchID
VOLATILE ORGANIC COMPOUNDS												
Benzene	ND	ug/L	1	U	1.0	0.20	0.05		SW8260B	12/14/2021 18:50/sbd	SV5972.I_211214A : 19	R371802
Ethylbenzene	ND	ug/L	1	U	1.0	0.20	0.05		SW8260B	12/14/2021 18:50/sbd	SV5972.I_211214A : 19	R371802
Toluene	ND	ug/L	1	U	1.0	0.20	0.06		SW8260B	12/14/2021 18:50/sbd	SV5972.I_211214A : 19	R371802
m+p-Xylenes	ND	ug/L	1	U	1.0	0.20	0.07		SW8260B	12/14/2021 18:50/sbd	SV5972.I_211214A : 19	R371802
o-Xylene	ND	ug/L	1	U	1.0	0.20	0.04		SW8260B	12/14/2021 18:50/sbd	SV5972.I_211214A : 19	R371802
Xylenes, Total	ND	ug/L	1	U	1.0	0.20	0.04		SW8260B	12/14/2021 18:50/sbd	SV5972.I_211214A : 19	R371802
Surr: 1,2-Dichloroethane-d4	98.0	%REC	1		81-118				SW8260B	12/14/2021 18:50/sbd	SV5972.I_211214A : 19	R371802
Surr: Dibromofluoromethane	100.0	%REC	1		80-119				SW8260B	12/14/2021 18:50/sbd	SV5972.I_211214A : 19	R371802
Surr: p-Bromofluorobenzene	101.0	%REC	1		85-114				SW8260B	12/14/2021 18:50/sbd	SV5972.I_211214A : 19	R371802
Surr: Toluene-d8	93.0	%REC	1		89-112				SW8260B	12/14/2021 18:50/sbd	SV5972.I_211214A : 19	R371802



LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Lab ID: B21121019-007

Collection Date: 12/08/2021 13:45

Date Received: 12/11/2021

Report Date: 01/20/2022

Client: AECOM - Honolulu
Client Sample ID: ERH2218 (Trip Blank)-14525
Project: CV18F0126/60571032.02.20.01
Matrix: Trip Blank

Analyses	Result	Units	DF	Qual	LOQ	LOD	DL	MCL	Method	Analysis Date / By	RunID : Run Order	BatchID
PETROLEUM HYDROCARBONS-VOLATILE												
C6 to C10	ND	ug/L	1	U	20	8.7	2.3		SW8015C	12/14/2021 16:48/jp	PE 1_211214A : 11	R371801
Total Purgeable Hydrocarbons	ND	ug/L	1	U	20	10	3.6		SW8015C	12/14/2021 16:48/jp	PE 1_211214A : 11	R371801
Surr: Trifluorotoluene	84.0	%REC	1		70-130				SW8015C	12/14/2021 16:48/jp	PE 1_211214A : 11	R371801
- Note 1: C6 to C10 is defined as all hydrocarbons eluting between 2-Methylpentane and 1,2,4-Trimethylbenzene.												
- Note 2: Total Purgeable Hydrocarbons are defined as the total hydrocarbon response regardless of elution time.												



LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Lab ID: B21121019-008

Collection Date: 12/08/2021 13:40

Date Received: 12/11/2021

Report Date: 01/20/2022

Client: AECOM - Honolulu
Client Sample ID: ERH2218 (Trip Blank)-Client Provided
Project: CV18F0126/60571032.02.20.01
Matrix: Trip Blank

Analyses	Result	Units	DF	Qual	LOQ	LOD	DL	MCL	Method	Analysis Date / By	RunID : Run Order	BatchID
PETROLEUM HYDROCARBONS-VOLATILE												
C6 to C10	ND	ug/L	1	U	20	8.7	2.3		SW8015C	12/14/2021 17:22/jp	PE 1_211214A : 12	R371801
Total Purgeable Hydrocarbons	ND	ug/L	1	U	20	10	3.6		SW8015C	12/14/2021 17:22/jp	PE 1_211214A : 12	R371801
Surr: Trifluorotoluene	85.0	%REC	1		70-130				SW8015C	12/14/2021 17:22/jp	PE 1_211214A : 12	R371801
- 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.												



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121019
Project: CV18F0126/60571032.02.20.01

Report Date: 01/20/2022

Run ID: Run Order: SUB-C277842: 2 **SampType:** Method Blank **Batch ID:** C_R277842
Method: SW9060A **Analysis Date:** 12/14/2021 17:32 **Prep Date:**
Lab ID: MBLK **Units:** mg/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	ND	0.25									

Associated Samples: **B21121019-001E, B21121019-002E**
- TOC Range is 0.1 to 0.2

Run ID: Run Order: SUB-C277842: 1 **SampType:** Laboratory Control Sample **Batch ID:** C_R277842
Method: SW9060A **Analysis Date:** 12/14/2021 16:11 **Prep Date:**
Lab ID: LCS **Units:** mg/L **Prep Method:**

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

Associated Samples: **B21121019-001E, B21121019-002E**
- TOC Range is 5.0 to 5.1

Run ID: Run Order: SUB-C277842: 3 **SampType:** Continuing Calibration Verification Standard **Batch ID:** C_R277842
Method: SW9060A **Analysis Date:** 12/14/2021 18:11 **Prep Date:**
Lab ID: CCV **Units:** mg/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	5.0	0.50	5.0		100.0	90	110				

Associated Samples: **B21121019-001E, B21121019-002E**
- TOC Range is 5.0 to 5.0



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121019
Project: CV18F0126/60571032.02.20.01

Report Date: 01/20/2022

Run ID: Run Order: SV5972.I_211214A: 4 **SampType:** Method Blank **Batch ID:** R371802
Method: SW8260B **Analysis Date:** 12/14/2021 12:04 **Prep Date:**
Lab ID: MBLK121421 **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Benzene	ND	0.50									
Ethylbenzene	ND	0.50									
Toluene	ND	0.50									
m+p-Xylenes	ND	0.50									
o-Xylene	ND	0.50									
Xylenes, Total	ND	0.50									
Surr: 1,2-Dichloroethane-d4	9.7	0.50	10		97.0	81	118				
Surr: Dibromofluoromethane	9.9	0.50	10		99.0	80	119				
Surr: p-Bromofluorobenzene	9.9	0.50	10		99.0	85	114				
Surr: Toluene-d8	9.2	0.50	10		92.0	89	112				

Associated Samples: B21121019-001D, B21121019-002D, B21121019-003D, B21121019-004A, B21121019-006A



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121019
Project: CV18F0126/60571032.02.20.01

Report Date: 01/20/2022

Run ID: Run Order: SV5972.I_211214A: 3 **SampType:** Laboratory Control Sample **Batch ID:** R371802
Method: SW8260B **Analysis Date:** 12/14/2021 11:14 **Prep Date:**
Lab ID: LCS121421 **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Benzene	4.6	0.50	5.0		93.0	79	120				
Ethylbenzene	4.5	0.50	5.0		90.0	79	121				
Toluene	4.5	0.50	5.0		90.0	80	121				
m+p-Xylenes	8.7	0.50	10		87.0	80	121				
o-Xylene	4.5	0.50	5.0		89.0	78	122				
Xylenes, Total	13	0.50	15		88.0	79	121				
Surr: 1,2-Dichloroethane-d4	9.7	0.50	10		97.0	81	118				
Surr: Dibromofluoromethane	9.9	0.50	10		99.0	80	119				
Surr: p-Bromofluorobenzene	10	0.50	10		101.0	85	114				
Surr: Toluene-d8	9.1	0.50	10		91.0	89	112				

Associated Samples: **B21121019-001D, B21121019-002D, B21121019-003D, B21121019-004A, B21121019-006A**

Run ID: Run Order: SV5972.I_211214A: 23 **SampType:** Sample Matrix Spike **Batch ID:** R371802
Method: SW8260B **Analysis Date:** 12/14/2021 20:05 **Prep Date:**
Lab ID: B21121012-001DMS **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Benzene	4.6	0.50	5.0	0.0	92.0	79	120				
Ethylbenzene	4.5	0.50	5.0	0.0	91.0	79	121				
Toluene	4.6	0.50	5.0	0.0	92.0	80	121				
m+p-Xylenes	8.7	0.50	10	0.0	87.0	80	121				
o-Xylene	4.5	0.50	5.0	0.0	89.0	78	122				
Xylenes, Total	13	0.50	15	0.0	88.0	79	121				
Surr: 1,2-Dichloroethane-d4	9.7	0.50	10	0.0	97.0	81	118				
Surr: Dibromofluoromethane	10	0.50	10	0.0	100.0	80	119				
Surr: p-Bromofluorobenzene	9.9	0.50	10	0.0	99.0	85	114				



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121019
Project: CV18F0126/60571032.02.20.01

Report Date: 01/20/2022

Run ID: Run Order: SV5972.I_211214A: 23 **SampType:** Sample Matrix Spike **Batch ID:** R371802
Method: SW8260B **Analysis Date:** 12/14/2021 20:05 **Prep Date:**
Lab ID: B21121012-001DMS **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Surr: Toluene-d8	9.3	0.50	10	0.0	93.0	89	112				

Associated Samples: B21121019-001D, B21121019-002D, B21121019-003D, B21121019-004A, B21121019-006A

Run ID: Run Order: SV5972.I_211214A: 24 **SampType:** Sample Matrix Spike Duplicate **Batch ID:** R371802
Method: SW8260B **Analysis Date:** 12/14/2021 20:31 **Prep Date:**
Lab ID: B21121012-001DMSD **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Benzene	4.3	0.50	5.0	0.0	86.0	79	120	4.6	6.9	20.0	
Ethylbenzene	4.2	0.50	5.0	0.0	84.0	79	121	4.5	7.3	20.0	
Toluene	4.3	0.50	5.0	0.0	86.0	80	121	4.6	6.6	20.0	
m+p-Xylenes	8.1	0.50	10	0.0	81.0	80	121	8.7	6.7	20.0	
o-Xylene	4.2	0.50	5.0	0.0	83.0	78	122	4.5	6.9	20.0	
Xylenes, Total	12	0.50	15	0.0	82.0	79	121	13	6.8	20.0	
Surr: 1,2-Dichloroethane-d4	9.8	0.50	10	0.0	98.0	81	118	0.0			
Surr: Dibromofluoromethane	9.9	0.50	10	0.0	99.0	80	119	0.0			
Surr: p-Bromofluorobenzene	9.7	0.50	10	0.0	97.0	85	114	0.0			
Surr: Toluene-d8	9.5	0.50	10	0.0	95.0	89	112	0.0			

Associated Samples: B21121019-001D, B21121019-002D, B21121019-003D, B21121019-004A, B21121019-006A



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121019
Project: CV18F0126/60571032.02.20.01

Report Date: 01/20/2022

Run ID: Run Order: SV5972.I_211214A: 2 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R371802
Method: SW8260B **Analysis Date:** 12/14/2021 10:49 **Prep Date:**
Lab ID: CCV121421 **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Benzene	4.9	0.50	5.0		98.0	80	120				
Ethylbenzene	4.6	0.50	5.0		92.0	80	120				
Toluene	4.6	0.50	5.0		92.0	80	120				
m+p-Xylenes	9.1	0.50	10		91.0	80	120				
o-Xylene	4.5	0.50	5.0		89.0	80	120				
Xylenes, Total	14	0.50	15		90.0	80	120				
Surr: 1,2-Dichloroethane-d4	9.4	0.50	10		94.0	80	120				
Surr: Dibromofluoromethane	9.9	0.50	10		99.0	80	120				
Surr: p-Bromofluorobenzene	9.8	0.50	10		98.0	80	120				
Surr: Toluene-d8	9.2	0.50	10		92.0	80	120				

Associated Samples: B21121019-001D, B21121019-002D, B21121019-003D, B21121019-004A, B21121019-006A



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121019
Project: CV18F0126/60571032.02.20.01

Report Date: 01/20/2022

Run ID: Run Order: SV5972.I_211214A: 25 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R371802
Method: SW8260B **Analysis Date:** 12/14/2021 20:56 **Prep Date:**
Lab ID: CCV_CLOSING_121421 **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Benzene	5.1	0.50	5.0		102.0	50	150				
Ethylbenzene	4.9	0.50	5.0		99.0	50	150				
Toluene	5.1	0.50	5.0		101.0	50	150				
m+p-Xylenes	9.7	0.50	10		97.0	50	150				
o-Xylene	4.9	0.50	5.0		97.0	50	150				
Xylenes, Total	15	0.50	15		97.0	50	150				
Surr: 1,2-Dichloroethane-d4	9.6	0.50	10		96.0	50	150				
Surr: Dibromofluoromethane	9.8	0.50	10		98.0	50	150				
Surr: p-Bromofluorobenzene	9.8	0.50	10		98.0	50	150				
Surr: Toluene-d8	9.5	0.50	10		95.0	50	150				

Associated Samples: B21121019-001D, B21121019-002D, B21121019-003D, B21121019-004A, B21121019-006A



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121019
Project: CV18F0126/60571032.02.20.01

Report Date: 01/20/2022

Run ID: Run Order: PE 1_211214A: 4 **SampType:** Method Blank **Batch ID:** R371801
Method: SW8015C **Analysis Date:** 12/14/2021 12:14 **Prep Date:**
Lab ID: MBLK_1214PE105r **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
C6 to C10	ND	10									
Total Purgeable Hydrocarbons	ND	10									
Surr: Trifluorotoluene	21	1.0	25		85.0	70	130				

Associated Samples: B21121019-001C, B21121019-002C, B21121019-003C, B21121019-005A, B21121019-007A, B21121019-008A

Run ID: Run Order: PE 1_211214A: 20 **SampType:** Method Blank **Batch ID:** R371801
Method: SW8015C **Analysis Date:** 12/14/2021 22:31 **Prep Date:**
Lab ID: MBLK_1214PE123r **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
C6 to C10	ND	10									
Total Purgeable Hydrocarbons	ND	10									
Surr: Trifluorotoluene	20	1.0	25		81.0	70	130				

Associated Samples: B21121019-001C, B21121019-002C, B21121019-003C, B21121019-005A, B21121019-007A, B21121019-008A

Run ID: Run Order: PE 1_211214A: 3 **SampType:** Laboratory Control Sample **Batch ID:** R371801
Method: SW8015C **Analysis Date:** 12/14/2021 11:39 **Prep Date:**
Lab ID: LCS_1214PE104r **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
C6 to C10	178	20	170		105.0	78	122				
Total Purgeable Hydrocarbons	216	20	200		108.0	70	130				
Surr: Trifluorotoluene	24	1.0	25		95.0	70	130				

Associated Samples: B21121019-001C, B21121019-002C, B21121019-003C, B21121019-005A, B21121019-007A, B21121019-008A



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121019
Project: CV18F0126/60571032.02.20.01

Report Date: 01/20/2022

Run ID: Run Order: PE 1_211214A: 19 **SampType:** Laboratory Control Sample **Batch ID:** R371801
Method: SW8015C **Analysis Date:** 12/14/2021 21:57 **Prep Date:**
Lab ID: LCS_1214PE122r **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
C6 to C10	171	20	170		100.0	78	122				
Total Purgeable Hydrocarbons	207	20	200		103.0	70	130				
Surr: Trifluorotoluene	23	1.0	25		92.0	70	130				

Associated Samples: B21121019-001C, B21121019-002C, B21121019-003C, B21121019-005A, B21121019-007A, B21121019-008A

Run ID: Run Order: PE 1_211214A: 15 **SampType:** Sample Matrix Spike **Batch ID:** R371801
Method: SW8015C **Analysis Date:** 12/14/2021 19:05 **Prep Date:**
Lab ID: B21121001-001CMS **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
C6 to C10	162	20	170	0.0	95.0	78	122				
Total Purgeable Hydrocarbons	198	20	200	0.0	99.0	70	130				
Surr: Trifluorotoluene	23	1.0	25	0.0	92.0	70	130				

Associated Samples: B21121019-001C, B21121019-002C, B21121019-003C, B21121019-005A, B21121019-007A, B21121019-008A

Run ID: Run Order: PE 1_211214A: 16 **SampType:** Sample Matrix Spike Duplicate **Batch ID:** R371801
Method: SW8015C **Analysis Date:** 12/14/2021 19:39 **Prep Date:**
Lab ID: B21121001-001CMSD **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
C6 to C10	171	20	170	0.0	101.0	78	122	162	5.6	20.0	
Total Purgeable Hydrocarbons	210	20	200	0.0	105.0	70	130	198	5.8	20.0	
Surr: Trifluorotoluene	24	1.0	25	0.0	94.0	70	130	0.0			

Associated Samples: B21121019-001C, B21121019-002C, B21121019-003C, B21121019-005A, B21121019-007A, B21121019-008A



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121019
Project: CV18F0126/60571032.02.20.01

Report Date: 01/20/2022

Run ID: Run Order: GCFID-HP5-B_211214A: 5 **SampType:** Method Blank **Batch ID:** 162151
Method: SW8015C **Analysis Date:** 12/14/2021 13:25 **Prep Date:** 12/13/2021 13:18
Lab ID: MB-162151 **Units:** mg/L **Prep Method:** SW3520C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Diesel Range Organics (C10 to C24)	ND	0.15									
Oil Range Hydrocarbons (C24 to C40)	ND	0.15									
Total Extractable Hydrocarbons	ND	0.15									
Surr: o-Terphenyl	0.19	0.0020	0.20		93.0	56	150				
Surr: n-Triacontane	0.098	0.0020	0.10		98.0	50	125				

Associated Samples: **B21121019-001B, B21121019-002B, B21121019-003B**

Run ID: Run Order: GCFID-HP5-B_211214B: 5 **SampType:** Method Blank **Batch ID:** 162151
Method: SW8015C **Analysis Date:** 12/15/2021 21:57 **Prep Date:** 12/13/2021 13:18
Lab ID: MB-162151 **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)	0.17	0.0020	0.20		84.0	56	125				
Surr: n-Triacontane (SGT)	0.082	0.0020	0.10		82.0	50	150				

Associated Samples: **B21121019-001B, B21121019-002B, B21121019-003B**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121019
Project: CV18F0126/60571032.02.20.01

Report Date: 01/20/2022

Run ID: Run Order: GCFID-HP5-B_211214A: 3 **SampType:** Laboratory Control Sample **Batch ID:** 162151
Method: SW8015C **Analysis Date:** 12/14/2021 11:59 **Prep Date:** 12/13/2021 13:18
Lab ID: LCS-162151 **Units:** mg/L **Prep Method:** SW3520C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Diesel Range Organics (C10 to C24)	13	0.30	15		87.0	36	132				
Total Extractable Hydrocarbons	14	0.30	15		93.0	60	132				
Surr: o-Terphenyl	0.18	0.0020	0.20		92.0	56	125				

Associated Samples: **B21121019-001B, B21121019-002B, B21121019-003B**

Run ID: Run Order: GCFID-HP5-B_211214A: 4 **SampType:** Laboratory Control Sample Duplicate **Batch ID:** 162151
Method: SW8015C **Analysis Date:** 12/14/2021 12:42 **Prep Date:** 12/13/2021 13:18
Lab ID: LCSD-162151 **Units:** mg/L **Prep Method:** SW3520C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Diesel Range Organics (C10 to C24)	14	0.30	15		91.0	36	132	13	3.9	20.0	
Total Extractable Hydrocarbons	15	0.30	15		97.0	60	132	14	3.8	20.0	
Surr: o-Terphenyl	0.19	0.0020	0.20		96.0	56	125	0.0			

Associated Samples: **B21121019-001B, B21121019-002B, B21121019-003B**

Run ID: Run Order: GCFID-HP5-B_211214A: 22 **SampType:** Laboratory Control Sample **Batch ID:** 162151
Method: SW8015C **Analysis Date:** 12/15/2021 12:32 **Prep Date:** 12/13/2021 13:18
Lab ID: LCS-162151-RRO **Units:** mg/L **Prep Method:** SW3520C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
TEH(Oil Range)	4.7	0.30	5.0		94.0	41	113				
Surr: n-Triacontane	0.095	0.0020	0.10		95.0	50	150				

Associated Samples: **B21121019-001B, B21121019-002B, B21121019-003B**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121019
Project: CV18F0126/60571032.02.20.01

Report Date: 01/20/2022

Run ID: Run Order: GCFID-HP5-B_211214A: 23 **SampType:** Laboratory Control Sample Duplicate **Batch ID:** 162151
Method: SW8015C **Analysis Date:** 12/15/2021 13:15 **Prep Date:** 12/13/2021 13:18
Lab ID: LCSD-162151-RRO **Units:** mg/L **Prep Method:** SW3520C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
TEH(Oil Range)	5.2	0.30	5.0		104.0	41	113	4.7	10.0	20.0	
Surr: n-Triacontane	0.098	0.0020	0.10		98.0	50	150	0.0			

Associated Samples: **B21121019-001B, B21121019-002B, B21121019-003B**

Run ID: Run Order: GCFID-HP5-B_211214B: 3 **SampType:** Laboratory Control Sample **Batch ID:** 162151
Method: SW8015C **Analysis Date:** 12/15/2021 20:31 **Prep Date:** 12/13/2021 13:18
Lab ID: LCS-162151 **Units:** mg/L **Prep Method:** SW3520C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Diesel Range Organics (SGT-C10 to C24)	12	0.30	15		79.0	36	132				
Total Extractable Hydrocarbons (SGT)	13	0.30	15		85.0	60	132				
Surr: o-Terphenyl (SGT)	0.17	0.0020	0.20		86.0	56	125				

Associated Samples: **B21121019-001B, B21121019-002B, B21121019-003B**

Run ID: Run Order: GCFID-HP5-B_211214B: 4 **SampType:** Laboratory Control Sample Duplicate **Batch ID:** 162151
Method: SW8015C **Analysis Date:** 12/15/2021 21:14 **Prep Date:** 12/13/2021 13:18
Lab ID: LCSD-162151 **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)	13	0.30	15		88.0	36	132	12	10.0	20.0	
Total Extractable Hydrocarbons (SGT)	14	0.30	15		93.0	60	132	13	9.9	20.0	
Surr: o-Terphenyl (SGT)	0.19	0.0020	0.20		94.0	56	125	0.0			

Associated Samples: **B21121019-001B, B21121019-002B, B21121019-003B**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121019
Project: CV18F0126/60571032.02.20.01

Report Date: 01/20/2022

Run ID: Run Order: GCFID-HP5-B_211214B: 18 **SampType:** Laboratory Control Sample **Batch ID:** 162151
Method: SW8015C **Analysis Date:** 12/16/2021 10:52 **Prep Date:** 12/13/2021 13:18
Lab ID: LCS-162151-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)	4.7	0.30	5.0		94.0	41	113				
Surr: n-Triacontane (SGT)	0.091	0.0020	0.10		91.0	50	150				

Associated Samples: **B21121019-001B, B21121019-002B, B21121019-003B**

Run ID: Run Order: GCFID-HP5-B_211214B: 19 **SampType:** Laboratory Control Sample Duplicate **Batch ID:** 162151
Method: SW8015C **Analysis Date:** 12/16/2021 12:17 **Prep Date:** 12/13/2021 13:18
Lab ID: LCSD-162151-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)	4.7	0.30	5.0		94.0	41	113	4.7	0.9	20.0	
Surr: n-Triacontane (SGT)	0.089	0.0020	0.10		89.0	50	150	0.0			

Associated Samples: **B21121019-001B, B21121019-002B, B21121019-003B**

Run ID: Run Order: GCFID-HP5-B_211214A: 6 **SampType:** Sample Matrix Spike **Batch ID:** 162151
Method: SW8015C **Analysis Date:** 12/14/2021 14:51 **Prep Date:** 12/13/2021 13:19
Lab ID: B21121019-001BMS **Units:** mg/L **Prep Method:** SW3520C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Diesel Range Organics (C10 to C24)	14	0.30	14	0.12	96.0	36	132				
Total Extractable Hydrocarbons	15	0.30	14	0.41	102.0	60	132				
Surr: o-Terphenyl	0.18	0.0020	0.19	0.0	96.0	56	125				

Associated Samples: **B21121019-001B, B21121019-002B, B21121019-003B**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121019
Project: CV18F0126/60571032.02.20.01

Report Date: 01/20/2022

Run ID: Run Order: GCFID-HP5-B_211214A: 9 **SampType:** Sample Matrix Spike **Batch ID:** 162151
Method: SW8015C **Analysis Date:** 12/14/2021 18:32 **Prep Date:** 12/13/2021 13:19
Lab ID: B21121019-002BMS-RRO **Units:** mg/L **Prep Method:** SW3520C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
TEH(Oil Range)	5.0	0.30	4.8	0.23	99.0	41	113				
Surr: n-Triacontane	0.094	0.0020	0.096	0.0	98.0	50	150				

Associated Samples: **B21121019-001B, B21121019-002B, B21121019-003B**

Run ID: Run Order: GCFID-HP5-B_211214B: 7 **SampType:** Sample Matrix Spike **Batch ID:** 162151
Method: SW8015C **Analysis Date:** 12/15/2021 23:23 **Prep Date:** 12/13/2021 13:19
Lab ID: B21121019-001BMS **Units:** mg/L **Prep Method:** SW3520C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Diesel Range Organics (SGT-C10 to C24)	13	0.30	14	0.0	89.0	36	132				
Total Extractable Hydrocarbons (SGT)	13	0.30	14	0.0	94.0	60	132				
Surr: o-Terphenyl (SGT)	0.18	0.0020	0.19	0.0	93.0	56	125				

Associated Samples: **B21121019-001B, B21121019-002B, B21121019-003B**

Run ID: Run Order: GCFID-HP5-B_211214B: 11 **SampType:** Sample Matrix Spike **Batch ID:** 162151
Method: SW8015C **Analysis Date:** 12/16/2021 03:41 **Prep Date:** 12/13/2021 13:19
Lab ID: B21121019-002BMS-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)	4.6	0.30	4.8	0.0	95.0	41	113				
Surr: n-Triacontane (SGT)	0.083	0.0020	0.096	0.0	86.0	50	150				

Associated Samples: **B21121019-001B, B21121019-002B, B21121019-003B**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121019
Project: CV18F0126/60571032.02.20.01

Report Date: 01/20/2022

Run ID: Run Order: PE 1_211214A: 2 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R371801
Method: SW8015C **Analysis Date:** 12/14/2021 11:05 **Prep Date:**
Lab ID: CCV_1214PE103r **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	208	20	200		104.0	80	120				
Surr: Trifluorotoluene	25	1.0	25		99.0	80	120				

Associated Samples: B21121019-001C, B21121019-002C, B21121019-003C, B21121019-005A, B21121019-007A, B21121019-008A

Run ID: Run Order: PE 1_211214A: 18 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R371801
Method: SW8015C **Analysis Date:** 12/14/2021 21:22 **Prep Date:**
Lab ID: CCV_1214PE121r **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
C6 to C10	165	20	168		98.0	80	120				
Total Purgeable Hydrocarbons	196	20	200		98.0	80	120				
Surr: Trifluorotoluene	23	1.0	25		92.0	80	120				

Associated Samples: B21121019-001C, B21121019-002C, B21121019-003C, B21121019-005A, B21121019-007A, B21121019-008A

Run ID: Run Order: PE 1_211214A: 30 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R371801
Method: SW8015C **Analysis Date:** 12/15/2021 08:49 **Prep Date:**
Lab ID: CCV_1214PE141r **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	168		95.0	80	120				
Total Purgeable Hydrocarbons	193	20	200		96.0	80	120				
Surr: Trifluorotoluene	23	1.0	25		91.0	80	120				

Associated Samples: B21121019-001C, B21121019-002C, B21121019-003C, B21121019-005A, B21121019-007A, B21121019-008A



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121019
Project: CV18F0126/60571032.02.20.01

Report Date: 01/20/2022

Run ID: Run Order: GCFID-HP5-B_211214A: 1 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R371804
Method: SW8015C **Analysis Date:** 12/14/2021 09:45 **Prep Date:**
Lab ID: CCV_1214HP504r-W **Units:** mg/L **Prep Method:**

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

Associated Samples: **B21121019-001B, B21121019-002B, B21121019-003B**

Run ID: Run Order: GCFID-HP5-B_211214A: 2 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R371804
Method: SW8015C **Analysis Date:** 12/14/2021 10:29 **Prep Date:**
Lab ID: CCV_1214HP505r **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		100.0	80	120				
Total Extractable Hydrocarbons	16	0.30	15		104.0	80	120				
Surr: o-Terphenyl	0.20	0.0020	0.20		100.0	80	120				

Associated Samples: **B21121019-001B, B21121019-002B, B21121019-003B**

Run ID: Run Order: GCFID-HP5-B_211214A: 10 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R371804
Method: SW8015C **Analysis Date:** 12/14/2021 19:59 **Prep Date:**
Lab ID: CCV_1214HP518r-W **Units:** mg/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
TEH(Oil Range)	4.9	0.30	5.0		98.0	80	120				
Surr: n-Triacontane	0.21	0.0020	0.20		104.0	80	120				

Associated Samples: **B21121019-001B, B21121019-002B, B21121019-003B**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121019
Project: CV18F0126/60571032.02.20.01

Report Date: 01/20/2022

Run ID: Run Order: GCFID-HP5-B_211214A: 11 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R371804
Method: SW8015C **Analysis Date:** 12/14/2021 20:42 **Prep Date:**
Lab ID: CCV_1214HP519r **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		100.0	80	120				
Total Extractable Hydrocarbons	16	0.30	15		104.0	80	120				
Surr: o-Terphenyl	0.20	0.0020	0.20		101.0	80	120				

Associated Samples: **B21121019-001B, B21121019-002B, B21121019-003B**

Run ID: Run Order: GCFID-HP5-B_211214B: 1 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R371919
Method: SW8015C **Analysis Date:** 12/15/2021 18:22 **Prep Date:**
Lab ID: CCV_1214HP549r-W **Units:** mg/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
TEH(Oil Range)	4.8	0.30	5.0		96.0	80	120				
Surr: n-Triacontane	0.21	0.0020	0.20		104.0	80	120				

Associated Samples: **B21121019-001B, B21121019-002B, B21121019-003B**

Run ID: Run Order: GCFID-HP5-B_211214B: 2 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R371919
Method: SW8015C **Analysis Date:** 12/15/2021 19:05 **Prep Date:**
Lab ID: CCV_1214HP550r **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		100.0	80	120				
Total Extractable Hydrocarbons	16	0.30	15		104.0	80	120				
Surr: o-Terphenyl	0.20	0.0020	0.20		99.0	80	120				

Associated Samples: **B21121019-001B, B21121019-002B, B21121019-003B**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121019
Project: CV18F0126/60571032.02.20.01

Report Date: 01/20/2022

Run ID: Run Order: GCFID-HP5-B_211214B: 12 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R371919
Method: SW8015C **Analysis Date:** 12/16/2021 05:07 **Prep Date:**
Lab ID: CCV_1214HP564r-W **Units:** mg/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
TEH(Oil Range)	4.9	0.30	5.0		97.0	80	120				
Surr: n-Triacontane	0.21	0.0020	0.20		106.0	80	120				

Associated Samples: **B21121019-001B, B21121019-002B, B21121019-003B**

Run ID: Run Order: GCFID-HP5-B_211214B: 13 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R371919
Method: SW8015C **Analysis Date:** 12/16/2021 05:50 **Prep Date:**
Lab ID: CCV_1214HP565r **Units:** mg/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Diesel Range Organics (C10 to C24)	15	0.30	15		102.0	80	120				
Total Extractable Hydrocarbons	16	0.30	15		106.0	80	120				
Surr: o-Terphenyl	0.20	0.0020	0.20		102.0	80	120				

Associated Samples: **B21121019-001B, B21121019-002B, B21121019-003B**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121019
Project: CV18F0126/60571032.02.20.01

Report Date: 01/20/2022

Run ID: Run Order: SV5975.I_211214A: 11 **SampType:** Method Blank **Batch ID:** 162126
Method: SW8270C **Analysis Date:** 12/14/2021 22:55 **Prep Date:** 12/13/2021 10:12
Lab ID: MB-162126 **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1-Methylnaphthalene	ND	0.10									
2-Methylnaphthalene	ND	0.10									
Naphthalene	ND	0.10									

Associated Samples: **B21121019-001A, B21121019-002A, B21121019-003A**

- A documented laboratory error occurred during extraction, which contributed to low surrogate recoveries in this sample. The surrogate Nitrobenzene-d5 was not recovered.

Run ID: Run Order: SV5975.I_211214A: 12 **SampType:** Method Blank **Batch ID:** 162126
Method: SW8270C **Analysis Date:** 12/14/2021 23:28 **Prep Date:** 12/13/2021 10:12
Lab ID: MB-162126 **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Surr: 2-Fluorobiphenyl	27	2.0	100		27.0	53	106				S
Surr: Nitrobenzene-d5	ND	2.0	5.0		0.0	55	111				S
Surr: Terphenyl-d14	104	2.0	100		104.0	58	132				

Associated Samples: **B21121019-001A, B21121019-002A, B21121019-003A**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121019
Project: CV18F0126/60571032.02.20.01

Report Date: 01/20/2022

Run ID: Run Order: SV5975.I_211214A: 13 **SampType:** Laboratory Control Sample **Batch ID:** 162126
Method: SW8270C **Analysis Date:** 12/15/2021 00:01 **Prep Date:** 12/13/2021 10:13
Lab ID: LLCS-162126 **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1-Methylnaphthalene	0.28	0.10	5.0		6.0	41	115				S
2-Methylnaphthalene	0.21	0.10	5.0		4.0	39	114				S
Naphthalene	ND	0.10	5.0		0.0	43	114				S
Surr: 2-Fluorobiphenyl	0.79	0.10	5.0		16.0	53	106				S
Surr: Nitrobenzene-d5	ND	0.10	5.0		0.0	55	111				S
Surr: Terphenyl-d14	5.2	0.10	5.0		104.0	58	132				

Associated Samples: **B21121019-001A, B21121019-002A, B21121019-003A**

- A documented laboratory error occurred during extraction, which contributed to low surrogate and analyte recoveries in this sample. The surrogate Nitrobenzene-d5 and analyte Naphthalene were not recovered. The associated LCSDuplicate sample, LLCSD-162126, had normal recoveries.

Run ID: Run Order: SV5975.I_211214A: 14 **SampType:** Laboratory Control Sample Duplicate **Batch ID:** 162126
Method: SW8270C **Analysis Date:** 12/15/2021 00:33 **Prep Date:** 12/13/2021 10:13
Lab ID: LLCSD-162126 **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1-Methylnaphthalene	3.1	0.10	5.0		61.0	41	115	0.28	166.0	40.0	R
2-Methylnaphthalene	3.5	0.10	5.0		69.0	39	114	0.21	177.0	40.0	R
Naphthalene	3.3	0.10	5.0		65.0	43	114	0.0		40.0	
Surr: 2-Fluorobiphenyl	3.4	0.10	5.0		68.0	53	106	0.0	0.0		
Surr: Nitrobenzene-d5	3.8	0.10	5.0		75.0	55	111	0.0	0.0		
Surr: Terphenyl-d14	5.3	0.10	5.0		105.0	58	132	0.0	0.0		

Associated Samples: **B21121019-001A, B21121019-002A, B21121019-003A**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121019
Project: CV18F0126/60571032.02.20.01

Report Date: 01/20/2022

Run ID: Run Order: SV5975.I_211214A: 16 **SampType:** Sample Matrix Spike **Batch ID:** 162126
Method: SW8270C **Analysis Date:** 12/15/2021 01:39 **Prep Date:** 12/13/2021 10:16
Lab ID: B21121001-001ALMS **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1-Methylnaphthalene	2.4	0.10	5.2	0.078	45.0	41	115				
2-Methylnaphthalene	2.4	0.10	5.2	0.084	45.0	39	114				
Naphthalene	2.0	0.10	5.2	0.072	37.0	43	114				S
Surr: 2-Fluorobiphenyl	3.0	0.10	5.2	0.0	57.0	53	106				
Surr: Nitrobenzene-d5	2.1	0.10	5.2	0.0	41.0	55	111				S
Surr: Terphenyl-d14	5.1	0.10	5.2	0.0	100.0	58	132				

Associated Samples: **B21121019-001A, B21121019-002A, B21121019-003A**

- A documented laboratory error occurred during extraction, which contributed to low surrogate and analyte recoveries in this sample.

Run ID: Run Order: SV5975.I_211214B: 6 **SampType:** Method Blank **Batch ID:** 162189
Method: SW8270C **Analysis Date:** 12/15/2021 08:33 **Prep Date:** 12/14/2021 15:17
Lab ID: MB-162189 **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1-Methylnaphthalene	ND	0.10									
2-Methylnaphthalene	ND	0.10									
Naphthalene	ND	0.10									

Associated Samples: **B21121019-003A**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121019
Project: CV18F0126/60571032.02.20.01

Report Date: 01/20/2022

Run ID: Run Order: SV5975.I_211214B: 13 **SampType:** Method Blank **Batch ID:** 162189
Method: SW8270C **Analysis Date:** 12/15/2021 12:21 **Prep Date:** 12/14/2021 15:17
Lab ID: MB-162189 **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Surr: 2-Fluorobiphenyl	67	2.0	100		67.0	53	106				
Surr: Nitrobenzene-d5	66	2.0	100		66.0	55	111				
Surr: Terphenyl-d14	101	2.0	100		101.0	58	132				

Associated Samples: **B21121019-003A**

Run ID: Run Order: SV5975.I_211214B: 8 **SampType:** Laboratory Control Sample **Batch ID:** 162189
Method: SW8270C **Analysis Date:** 12/15/2021 09:38 **Prep Date:** 12/14/2021 15:17
Lab ID: LLCs-162189 **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1-Methylnaphthalene	3.1	0.10	5.0		62.0	41	115				
2-Methylnaphthalene	3.6	0.10	5.0		72.0	39	114				
Naphthalene	3.3	0.10	5.0		66.0	43	114				
Surr: 2-Fluorobiphenyl	4.2	0.10	5.0		84.0	53	106				
Surr: Nitrobenzene-d5	4.6	0.10	5.0		92.0	55	111				
Surr: Terphenyl-d14	4.9	0.10	5.0		98.0	58	132				

Associated Samples: **B21121019-003A**

Run ID: Run Order: SV5975.I_211214B: 9 **SampType:** Laboratory Control Sample Duplicate **Batch ID:** 162189
Method: SW8270C **Analysis Date:** 12/15/2021 10:11 **Prep Date:** 12/14/2021 15:17
Lab ID: LLCSD-162189 **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1-Methylnaphthalene	3.7	0.10	5.0		74.0	41	115	3.1	16.0	40.0	
2-Methylnaphthalene	4.2	0.10	5.0		83.0	39	114	3.6	14.0	40.0	
Naphthalene	3.8	0.10	5.0		75.0	43	114	3.3	13.0	40.0	



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121019
Project: CV18F0126/60571032.02.20.01

Report Date: 01/20/2022

Run ID: Run Order: SV5975.I_211214B: 9 **SampType:** Laboratory Control Sample Duplicate **Batch ID:** 162189
Method: SW8270C **Analysis Date:** 12/15/2021 10:11 **Prep Date:** 12/14/2021 15:17
Lab ID: LLCSD-162189 **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Surr: 2-Fluorobiphenyl	4.9	0.10	5.0		97.0	53	106	0.0	0.0		
Surr: Nitrobenzene-d5	4.9	0.10	5.0		99.0	55	111	0.0	0.0		
Surr: Terphenyl-d14	5.4	0.10	5.0		108.0	58	132	0.0	0.0		

Associated Samples: **B21121019-003A**

Run ID: Run Order: SV5975.I_211214B: 14 **SampType:** Sample Matrix Spike **Batch ID:** 162189
Method: SW8270C **Analysis Date:** 12/15/2021 12:54 **Prep Date:** 12/14/2021 14:45
Lab ID: B21121020-002ALMS **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1-Methylnaphthalene	18	0.96	4.8	14	84.0	41	115				
2-Methylnaphthalene	15	0.96	4.8	11	79.0	39	114				
Naphthalene	37	0.96	4.8	30	155.0	43	114				S
Surr: 2-Fluorobiphenyl	3.5	0.96	4.8	0.0	73.0	53	106				
Surr: Nitrobenzene-d5	4.2	0.96	4.8	0.0	87.0	55	111				
Surr: Terphenyl-d14	4.7	0.96	4.8	0.0	98.0	58	132				

Associated Samples: **B21121019-003A**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121019
Project: CV18F0126/60571032.02.20.01

Report Date: 01/20/2022

Run ID: Run Order: SV5975.I_211220A: 20 **SampType:** Method Blank **Batch ID:** 162373
Method: SW8270C **Analysis Date:** 12/21/2021 01:52 **Prep Date:** 12/20/2021 15:52
Lab ID: LMB-162373 **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1-Methylnaphthalene	ND	0.10									
2-Methylnaphthalene	ND	0.10									
Naphthalene	ND	0.10									
Surr: 2-Fluorobiphenyl	3.7	0.10	5.0		74.0	53	106				
Surr: Nitrobenzene-d5	2.9	0.10	5.0		58.0	55	111				
Surr: Terphenyl-d14	4.8	0.10	5.0		96.0	58	132				

Associated Samples: **B21121019-002A**

Run ID: Run Order: SV5975.I_211220A: 21 **SampType:** Laboratory Control Sample **Batch ID:** 162373
Method: SW8270C **Analysis Date:** 12/21/2021 02:25 **Prep Date:** 12/20/2021 15:52
Lab ID: LLCS-162373 **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1-Methylnaphthalene	3.3	0.10	5.0		67.0	41	115				
2-Methylnaphthalene	3.5	0.10	5.0		71.0	39	114				
Naphthalene	3.5	0.10	5.0		70.0	43	114				
Surr: 2-Fluorobiphenyl	3.6	0.10	5.0		72.0	53	106				
Surr: Nitrobenzene-d5	3.7	0.10	5.0		74.0	55	111				
Surr: Terphenyl-d14	4.4	0.10	5.0		89.0	58	132				

Associated Samples: **B21121019-002A**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121019
Project: CV18F0126/60571032.02.20.01

Report Date: 01/20/2022

Run ID: Run Order: SV5975.I_211220A: 22 **SampType:** Laboratory Control Sample Duplicate **Batch ID:** 162373
Method: SW8270C **Analysis Date:** 12/21/2021 02:57 **Prep Date:** 12/20/2021 15:53
Lab ID: LLCSD-162373 **Units:** ug/L **Prep Method:** SW3510C

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1-Methylnaphthalene	3.6	0.10	5.0		71.0	41	115	3.3	6.6	40.0	
2-Methylnaphthalene	3.6	0.10	5.0		72.0	39	114	3.5	1.6	40.0	
Naphthalene	3.6	0.10	5.0		72.0	43	114	3.5	3.6	40.0	
Surr: 2-Fluorobiphenyl	3.6	0.10	5.0		71.0	53	106	0.0	0.0		
Surr: Nitrobenzene-d5	3.5	0.10	5.0		71.0	55	111	0.0	0.0		
Surr: Terphenyl-d14	4.5	0.10	5.0		90.0	58	132	0.0	0.0		

Associated Samples: **B21121019-002A**

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

Run ID: Run Order: SV5975.I_211214A: 23 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R371805
Method: SW8270C **Analysis Date:** 12/15/2021 05:26 **Prep Date:**
Lab ID: 14-Dec-21_CCv_23 **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1-Methylnaphthalene	2.0	0.10	2.0		98.0	50	150				
2-Methylnaphthalene	2.0	0.10	2.0		102.0	50	150				
Naphthalene	1.9	0.10	2.0		95.0	50	150				
Surr: 2-Fluorobiphenyl	2.1	0.10	2.0		105.0	50	150				
Surr: Nitrobenzene-d5	2.2	0.10	2.0		111.0	50	150				
Surr: Terphenyl-d14	1.9	0.10	2.0		94.0	50	150				

Associated Samples: **B21121019-001A, B21121019-002A, B21121019-003A**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121019
Project: CV18F0126/60571032.02.20.01

Report Date: 01/20/2022

Run ID: Run Order: SV5975.I_211214A: 9 **SampType:** Initial Calibration Verification Standard **Batch ID:** R371805
Method: SW8270C **Analysis Date:** 12/14/2021 21:50 **Prep Date:**
Lab ID: 14-Dec-21_CCV_9 **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1-Methylnaphthalene	1.9	0.10	2.0		96.0	80	120				
2-Methylnaphthalene	2.0	0.10	2.0		98.0	80	120				
Naphthalene	1.9	0.10	2.0		95.0	80	120				
Surr: 2-Fluorobiphenyl	2.0	0.10	2.0		99.0	80	120				
Surr: Nitrobenzene-d5	1.9	0.10	2.0		96.0	80	120				
Surr: Terphenyl-d14	2.1	0.10	2.0		107.0	80	120				

Associated Samples: **B21121019-001A, B21121019-002A, B21121019-003A**

Run ID: Run Order: SV5975.I_211214B: 2 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R371813
Method: SW8270C **Analysis Date:** 12/15/2021 06:23 **Prep Date:**
Lab ID: 14-Dec-21_CCV_25 **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1-Methylnaphthalene	2.0	0.10	2.0		98.0	80	120				
2-Methylnaphthalene	2.0	0.10	2.0		100.0	80	120				
Naphthalene	1.9	0.10	2.0		93.0	80	120				
Surr: 2-Fluorobiphenyl	2.2	0.10	2.0		108.0	80	120				
Surr: Nitrobenzene-d5	2.1	0.10	2.0		103.0	80	120				
Surr: Terphenyl-d14	1.8	0.10	2.0		92.0	80	120				

Associated Samples: **B21121019-003A**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121019
Project: CV18F0126/60571032.02.20.01

Report Date: 01/20/2022

Run ID: Run Order: SV5975.I_211214B: 15 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R371813
Method: SW8270C **Analysis Date:** 12/15/2021 13:26 **Prep Date:**
Lab ID: 14-Dec-21_CCV_38 **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1-Methylnaphthalene	2.0	0.10	2.0		99.0	80	120				
2-Methylnaphthalene	2.0	0.10	2.0		99.0	80	120				
Naphthalene	1.8	0.10	2.0		91.0	80	120				
Surr: 2-Fluorobiphenyl	2.1	0.10	2.0		107.0	80	120				
Surr: Nitrobenzene-d5	2.3	0.10	2.0		113.0	80	120				
Surr: Terphenyl-d14	1.9	0.10	2.0		95.0	80	120				

Associated Samples: **B21121019-003A**

Run ID: Run Order: SV5975.I_211220A: 25 **SampType:** Continuing Calibration Verification Standard **Batch ID:** R372112
Method: SW8270C **Analysis Date:** 12/21/2021 04:34 **Prep Date:**
Lab ID: 20-Dec-21_CCV_25 **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1-Methylnaphthalene	2.3	0.10	2.0		114.0	50	150				
2-Methylnaphthalene	2.4	0.10	2.0		119.0	50	150				
Naphthalene	2.5	0.10	2.0		124.0	50	150				
Surr: 2-Fluorobiphenyl	2.2	0.10	2.0		111.0	50	150				
Surr: Nitrobenzene-d5	1.6	0.10	2.0		80.0	50	150				
Surr: Terphenyl-d14	1.8	0.10	2.0		89.0	50	150				

Associated Samples: **B21121019-002A**



Analytical QC Summary Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121019
Project: CV18F0126/60571032.02.20.01

Report Date: 01/20/2022

Run ID: Run Order: SV5975.I_211220A: 9 **SampType:** Initial Calibration Verification Standard **Batch ID:** R372112
Method: SW8270C **Analysis Date:** 12/20/2021 19:55 **Prep Date:**
Lab ID: 20-Dec-21_CCV_9 **Units:** ug/L **Prep Method:**

Analytes	Result	LOQ	Spk value	Spk RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
1-Methylnaphthalene	2.3	0.10	2.0		114.0	80	120				
2-Methylnaphthalene	2.3	0.10	2.0		115.0	80	120				
Naphthalene	2.3	0.10	2.0		113.0	80	120				
Surr: 2-Fluorobiphenyl	2.2	0.10	2.0		108.0	80	120				
Surr: Nitrobenzene-d5	2.2	0.10	2.0		110.0	80	120				
Surr: Terphenyl-d14	2.2	0.10	2.0		112.0	80	120				

Associated Samples: **B21121019-002A**



Analytical QC Exceptions Report

Prepared by Billings, MT Branch

Client: AECOM - Honolulu
Workorder: B21121019
Project: CV18F0126/60571032.02.20.01

Report Date: 01/20/2022

Analysis Method	Analysis	Batch ID	Associated Samples	Sample Type	Lab ID	Analysis Date	Analysis Time	Analyte	%REC	Low Limit	High Limit	% RPD	RPD Limit	Qual		
SW8270C	Low Level PAH	162126	001A, 002A, 003A	MBLK	MB-162126	12/14/2021	23:28	Surr: 2-Fluorobiphenyl	27.0	53	106			S		
								Surr: Nitrobenzene-d5	0.0	55	111			S		
				LCS-DOD	LLCS-162126	12/15/2021	00:01	Surr: 2-Fluorobiphenyl	16.0	53	106			S		
								Surr: Nitrobenzene-d5	0.0	55	111			S		
								1-Methylnaphthalene	6.0	41	115			S		
								2-Methylnaphthalene	4.0	39	114			S		
		LCSD-DOD	LLCSD-162126	12/15/2021	00:33	1-Methylnaphthalene	61.0	41	115	166	40.0	R				
						2-Methylnaphthalene	69.0	39	114	177	40.0	R				
		MS-DOD	B21121001-001ALMS	12/15/2021	01:39	Surr: Nitrobenzene-d5	41.0	55	111			S				
						Naphthalene	37.0	43	114			S				
				162189	003A	MS-DOD	B21121020-002ALMS	12/15/2021	12:54	Naphthalene	155.0	43	114			S



Preparation and Analysis Dates Report

Work Order: B21121019

Client: AECOM - Honolulu

Project Name: CV18F0126/60571032.02.20.01

Report Date: 1/20/2022

Lab ID	Client Sample ID	Collection Date	Matrix	Test Name	TCLP Date	Prep Method	Prep Date	Prep Batch	Analysis Method	Analysis Date
001A	ERH2217 (RHMW03)	12/08/2021 17:35	Ground Water	Low Level PAH		SW3510C	12/13/2021 16:54	162126	SW8270C	12/15/2021 03:49
001B	ERH2217 (RHMW03)	12/08/2021 17:35	Ground Water	Diesel Range Organics		SW3520C	12/13/2021 13:19	162151	SW8015C	12/15/2021 11:49
						SW3520C	12/13/2021 13:19	162151	SW8015C	12/15/2021 22:40
002A	ERH2219 (RHMW05)	12/08/2021 13:45	Ground Water	Low Level PAH		SW3510C	12/13/2021 16:54	162126	SW8270C	12/15/2021 04:21
						SW3510C	12/20/2021 15:58	162373	SW8270C	12/21/2021 04:02
002B	ERH2219 (RHMW05)	12/08/2021 13:45	Ground Water	Diesel Range Organics		SW3520C	12/13/2021 13:19	162151	SW8015C	12/14/2021 17:48
						SW3520C	12/13/2021 13:19	162151	SW8015C	12/16/2021 00:49
003A	ERH2220 (RHMW05)	12/08/2021 13:45	Ground Water	Low Level PAH		SW3510C	12/13/2021 16:54	162126	SW8270C	12/15/2021 04:54
						SW3510C	12/14/2021 14:44	162189	SW8270C	12/15/2021 11:16
003B	ERH2220 (RHMW05)	12/08/2021 13:45	Ground Water	Diesel Range Organics		SW3520C	12/13/2021 13:19	162151	SW8015C	12/14/2021 16:17
						SW3520C	12/13/2021 13:19	162151	SW8015C	12/16/2021 01:32



Chemical Abstracts Service (CAS) Registry Numbers

Prepared by Billings, MT Branch

Client: AECOM - Honolulu

Workorder: B21121019

Project: CV18F0126/60571032.02.20.01

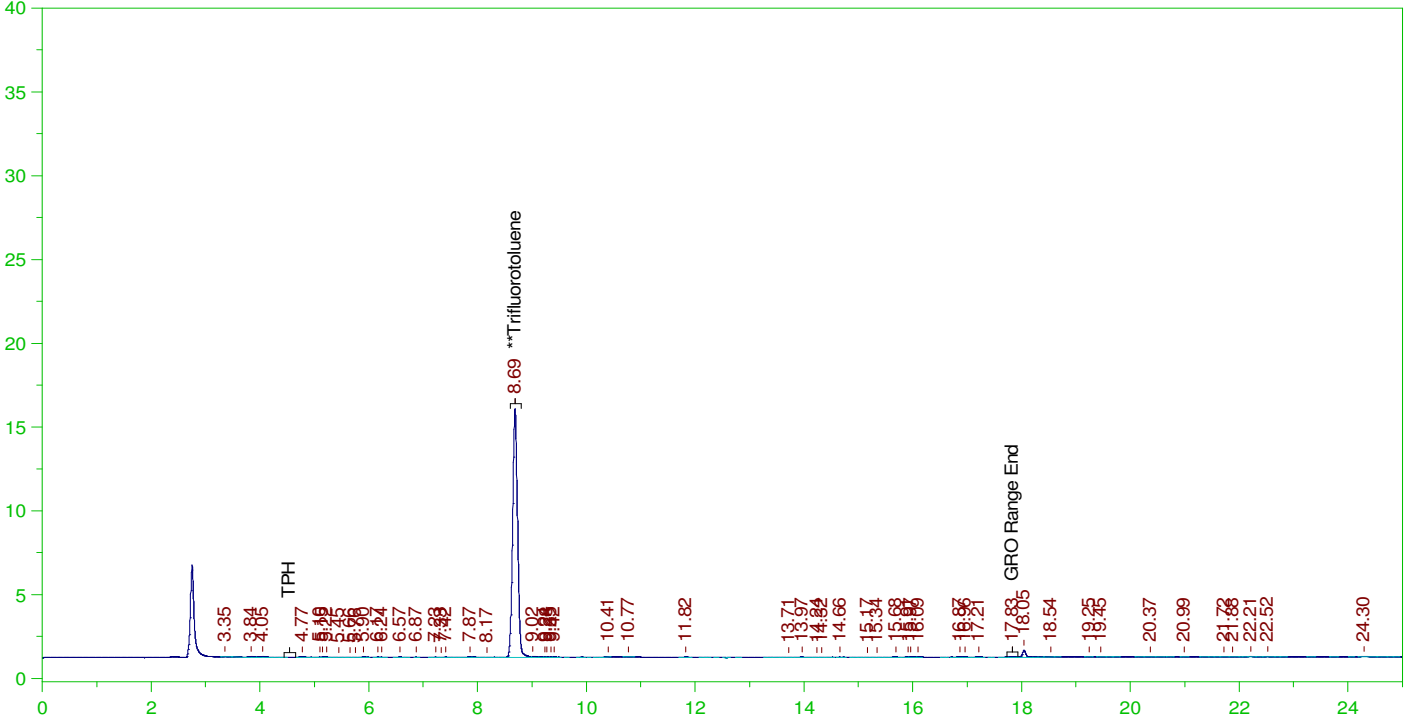
Report Date: 01/20/2022

Analyses	CAS No
AGGREGATE ORGANICS	
Organic Carbon, Total (TOC)	7440-44-0
VOLATILE ORGANIC COMPOUNDS	
Benzene	71-43-2
Ethylbenzene	100-41-4
Toluene	108-88-3
m+p-Xylenes	179601-23-1
o-Xylene	95-47-6
Xylenes, Total	1330-20-7
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)	
SEMI-VOLATILE ORGANIC COMPOUNDS (LOW LEVEL) BY SIM	
1-Methylnaphthalene	90-12-0
2-Methylnaphthalene	91-57-6
Naphthalene	91-20-3

ERH2217 (RHMW03)

G:\Org\PE1\DAT\PE1121421_b\1214PE1B.0030.RAW

B21121019-001C ;1214PE1 , \$HC-8015-GRO-W,



GASOLINE RANGE ORGANICS CHROMATOGRAM REPORT

Sample Name: B21121019-001C ;1214PE1 , \$HC-8015-GRO-W,
Raw File: G:\Org\PE1\DAT\PE1121421_b\1214PE1B.0030.RAW
Date & Time Acquired: 12/15/2021 2:31:52 AM
Method File: G:\Org\PE1\Methods\211208GROB%.MET
Calibration File: G:\Org\PE1\Cals\211208GRO8015CB.CAL
Sample Weight: 5 Dilution: 1 S.A.: 1

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

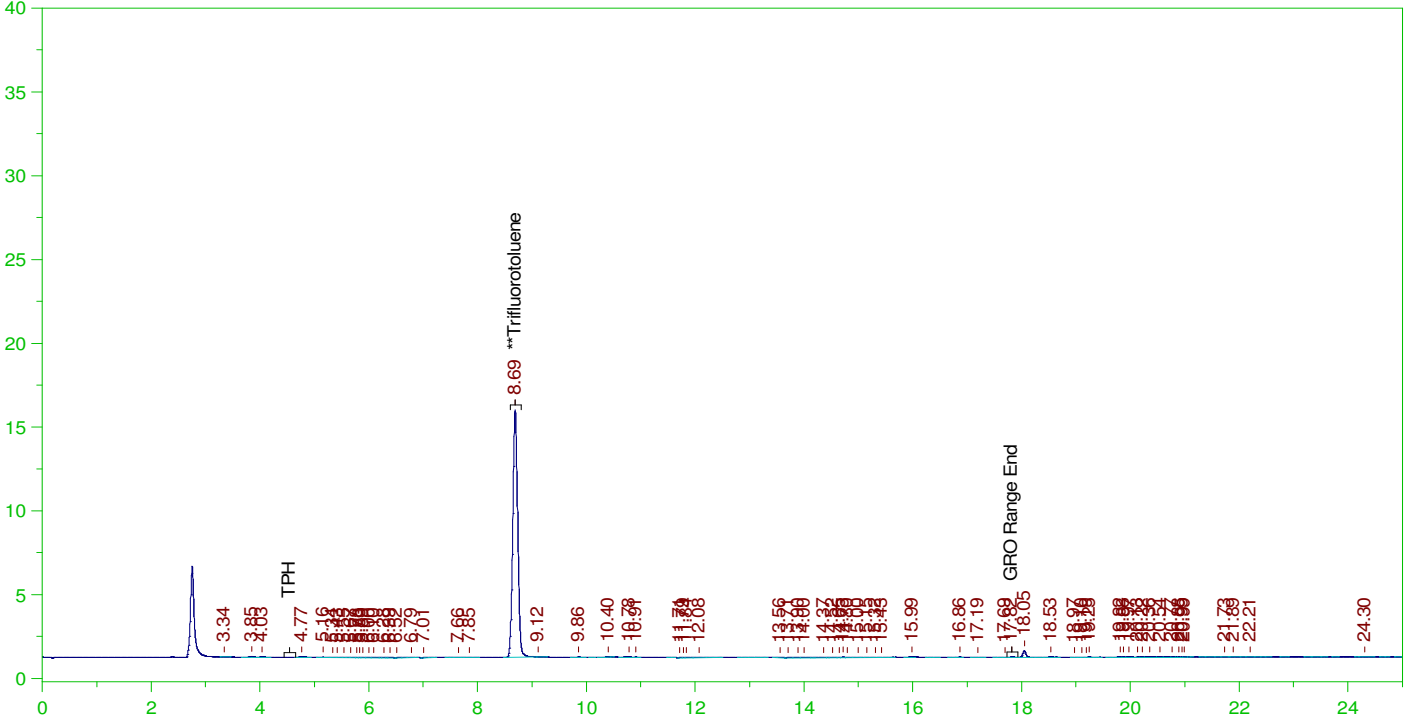
SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC
**Trifluorotoluene	8.69	25.	20.032	80.13

GRO Area:5858.173 GRO Amount: 1.238557
TPH Area:10333.15 TPH Amount: 2.272542

ERH2219 (RHMW05)

G:\Org\PE1\DAT\PE1121421_b\1214PE1B.0032.RAW

B21121019-002C ;1214PE1 , \$HC-8015-GRO-W,



GASOLINE RANGE ORGANICS CHROMATOGRAM REPORT

Sample Name: B21121019-002C ;1214PE1 , \$HC-8015-GRO-W,
Raw File: G:\Org\PE1\DAT\PE1121421_b\1214PE1B.0032.RAW
Date & Time Acquired: 12/15/2021 3:40:27 AM
Method File: G:\Org\PE1\Methods\211208GROB%.MET
Calibration File: G:\Org\PE1\Cals\211208GRO8015CB.CAL
Sample Weight: 5 Dilution: 1 S.A.: 1

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

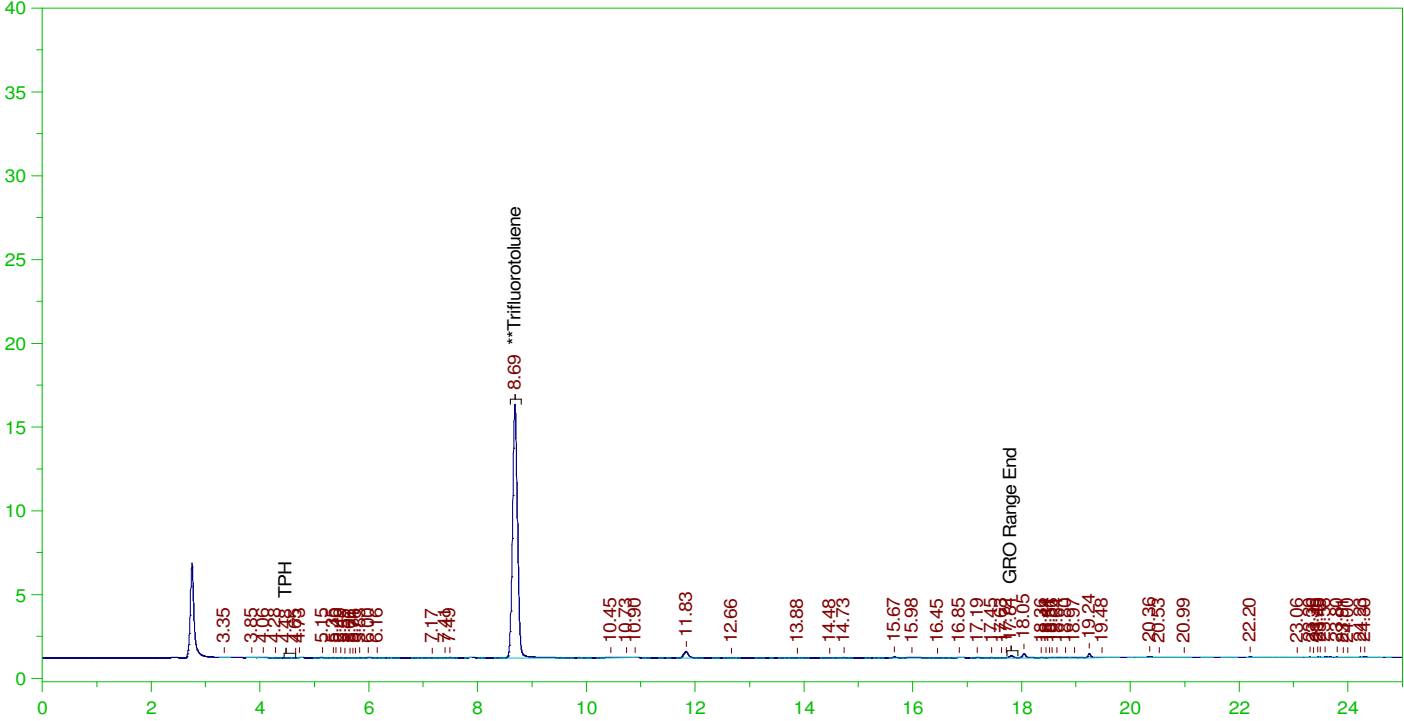
SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC
**Trifluorotoluene	8.693	25.	20.008	80.03

GRO Area:6915.752 GRO Amount: 1.462154
TPH Area:12191.89 TPH Amount: 2.68133

ERH2220 (RHMW05)

G:\Org\PE1\DAT\PE1121421_b\1214PE1B.0034.RAW

B21121019-003C ;1214PE1 , \$HC-8015-GRO-W,



GASOLINE RANGE ORGANICS CHROMATOGRAM REPORT

Sample Name: B21121019-003C ;1214PE1 , \$HC-8015-GRO-W,
Raw File: G:\Org\PE1\DAT\PE1121421_b\1214PE1B.0034.RAW
Date & Time Acquired: 12/15/2021 4:49:07 AM
Method File: G:\Org\PE1\Methods\211208GROB%.MET
Calibration File: G:\Org\PE1\Cals\211208GRO8015CB.CAL
Sample Weight: 5 Dilution: 1 S.A.: 1

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

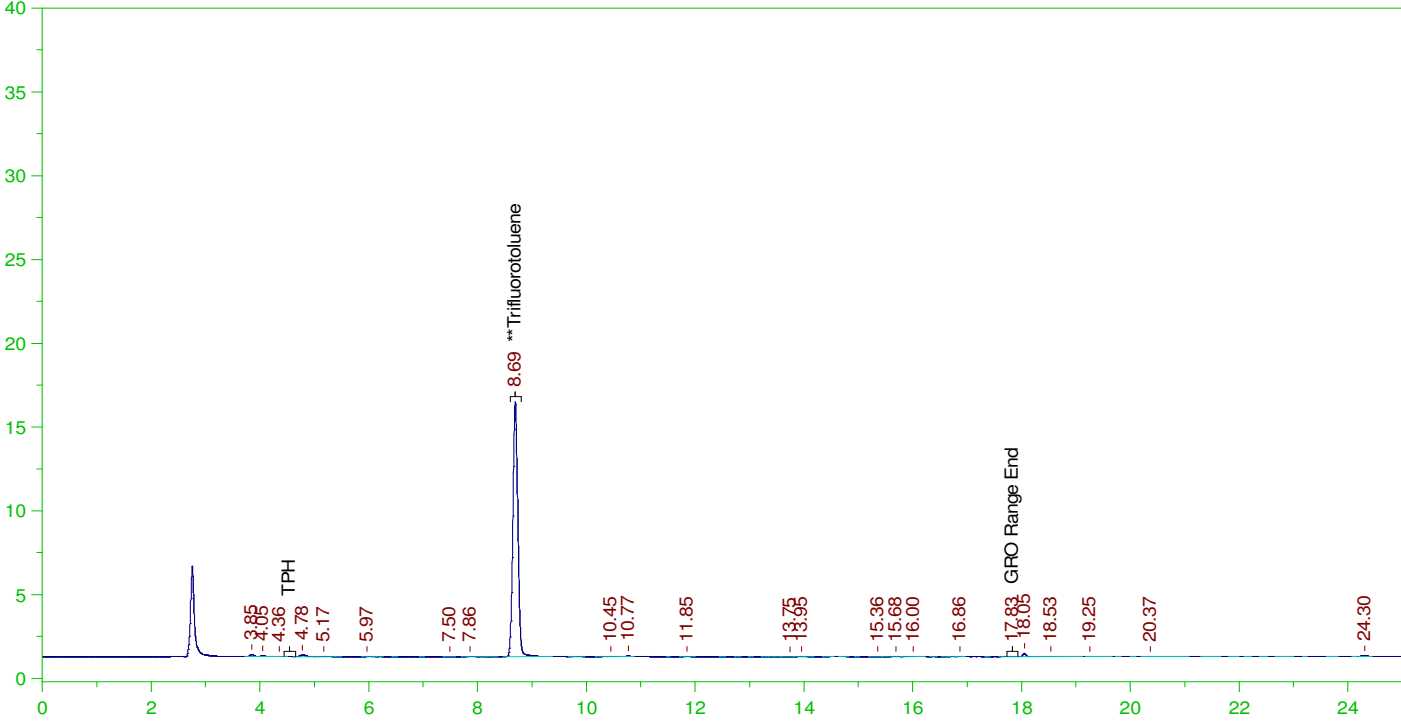
SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC
**Trifluorotoluene	8.688	25.	20.667	82.67

GRO Area:8520.944 GRO Amount: 1.80153
TPH Area:14051.41 TPH Amount: 3.090288

ERH2216 (Trip Blank)-14525

G:\Org\PE1\DAT\PE1121421_b\1214PE1B.0012.RAW

B21121019-005A ;1214PE1 , \$HC-8015-GRO-W,



GASOLINE RANGE ORGANICS CHROMATOGRAM REPORT

Sample Name: B21121019-005A ;1214PE1 , \$HC-8015-GRO-W,
Raw File: G:\Org\PE1\DAT\PE1121421_b\1214PE1B.0012.RAW
Date & Time Acquired: 12/14/2021 4:13:57 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

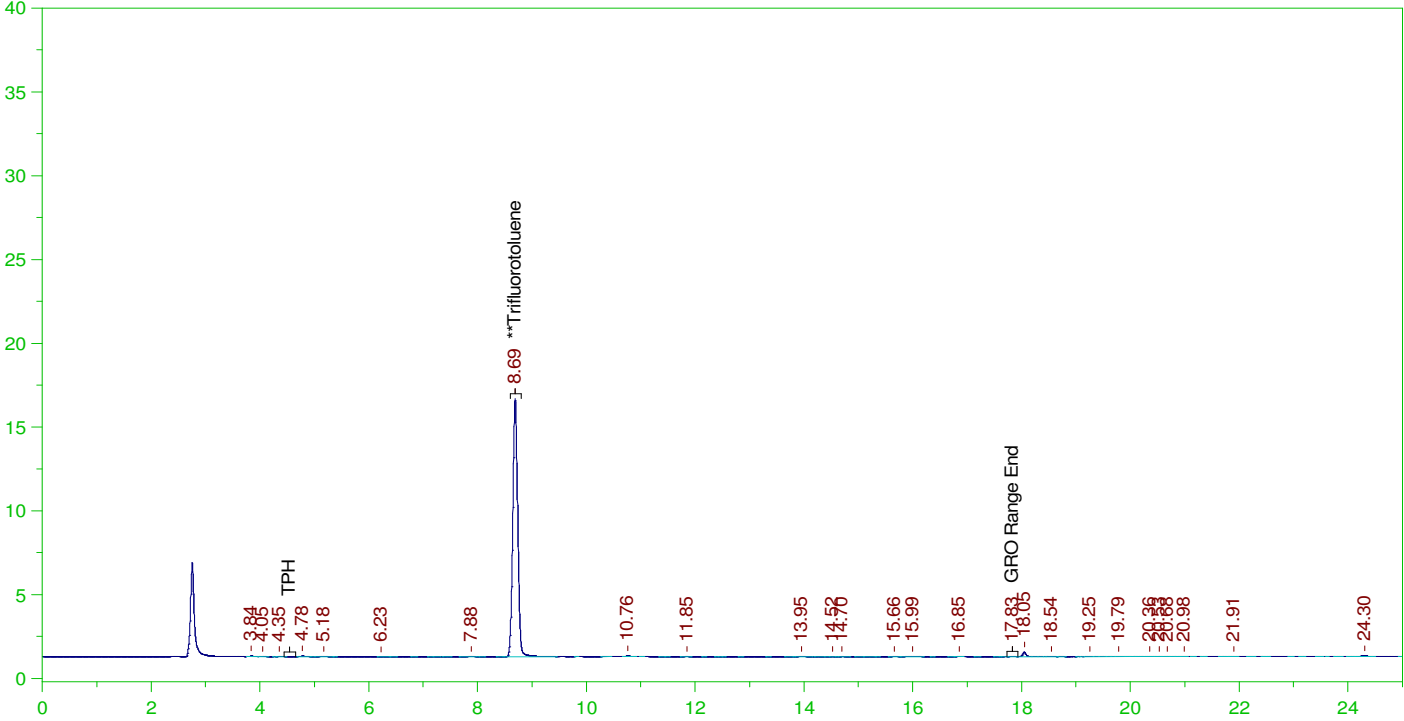
SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC
**Trifluorotoluene	8.694	25.	20.659	82.64

GRO Area:3543.417 GRO Amount: 0.7491624
TPH Area:6676.974 TPH Amount: 1.468449

ERH2218 (Trip Blank)-14525

G:\Org\PE1\DAT\PE1121421_b\1214PE1B.0013.RAW

B21121019-007A ;1214PE1 , \$HC-8015-GRO-W,



GASOLINE RANGE ORGANICS CHROMATOGRAM REPORT

Sample Name: B21121019-007A ;1214PE1 , \$HC-8015-GRO-W,
Raw File: G:\Org\PE1\DAT\PE1121421_b\1214PE1B.0013.RAW
Date & Time Acquired: 12/14/2021 4:48:18 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

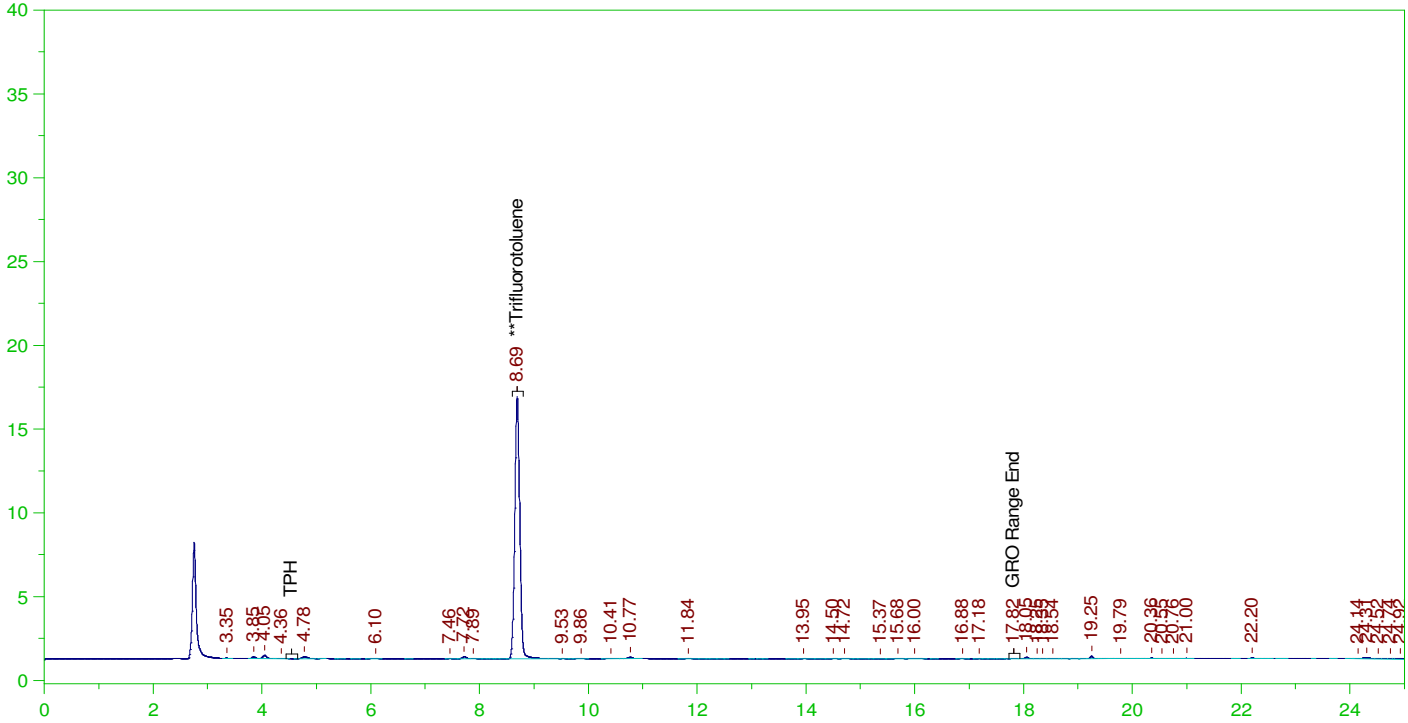
SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC
**Trifluorotoluene	8.693	25.	20.897	83.59

GRO Area:2644.239 GRO Amount: 0.5590549
TPH Area:5792.757 TPH Amount: 1.273985

ERH2218 (Trip Blank)-Client Provided

G:\Org\PE1\DAT\PE1121421_b\1214PE1B.0014.RAW

B21121019-008A ;1214PE1 , \$HC-8015-GRO-W,



GASOLINE RANGE ORGANICS CHROMATOGRAM REPORT

Sample Name: B21121019-008A ;1214PE1 , \$HC-8015-GRO-W,
Raw File: G:\Org\PE1\DAT\PE1121421_b\1214PE1B.0014.RAW
Date & Time Acquired: 12/14/2021 5:22:38 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	8.693	25.	21.313	85.25

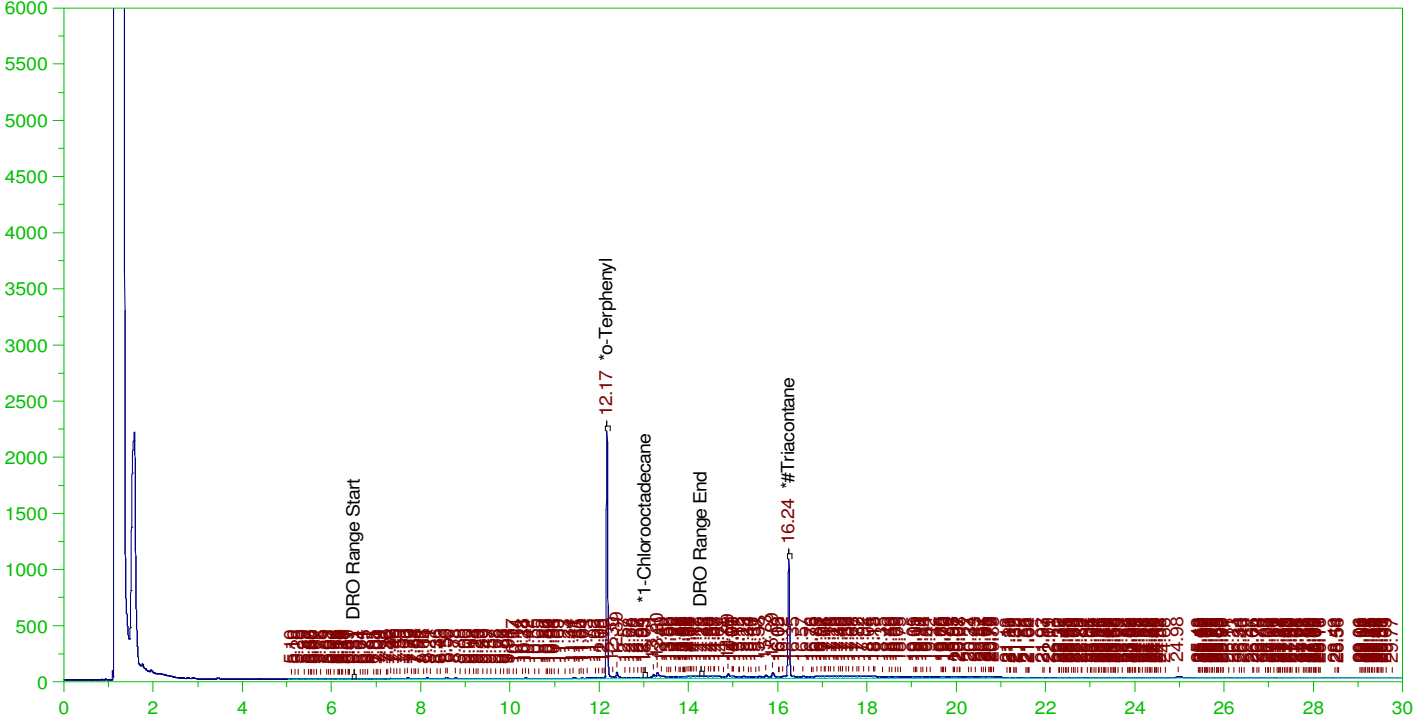
GRO Area:5838.097 GRO Amount: 1.234312
TPH Area:11885.14 TPH Amount: 2.613867

ERH2217 (RHMW03)

Batch ID: 162151

G:\org\HP5\DAT\HP5121421_b\1214HP5.0040.RAW

B21121019-001B ;1214HP5 , \$HC-8015-DRO-W, RR



DIESEL RANGE ORGANICS CHROMATOGRAM REPORT

Sample Name: B21121019-001B ;1214HP5 , \$HC-8015-DRO-W, RR
 Raw File: G:\org\HP5\DAT\HP5121421_b\1214HP5.0040.RAW
 Date & Time Acquired: 12/15/2021 11:49:54 AM
 Method File: G:\Org\HP5\Methods\D3_8015-121440-IH-L%.met
 Calibration File: G:\Org\HP5\Cals\SW8015C_DRO211102IH-24-Tri.CAL
 Sample Weight: 1020 Dilution: 1 S.A.: 1

Mean RF for TEH: 31353.19

Rt range for Diesel Range Organics: 6.46 to 14.35

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	
*o-Terphenyl	12.171	.196	.125	63.8	-
*1-Chlorooctadecane	13.033	.196	.001	.65	-
*#Triacontane	16.244	.196	.099	50.44	-

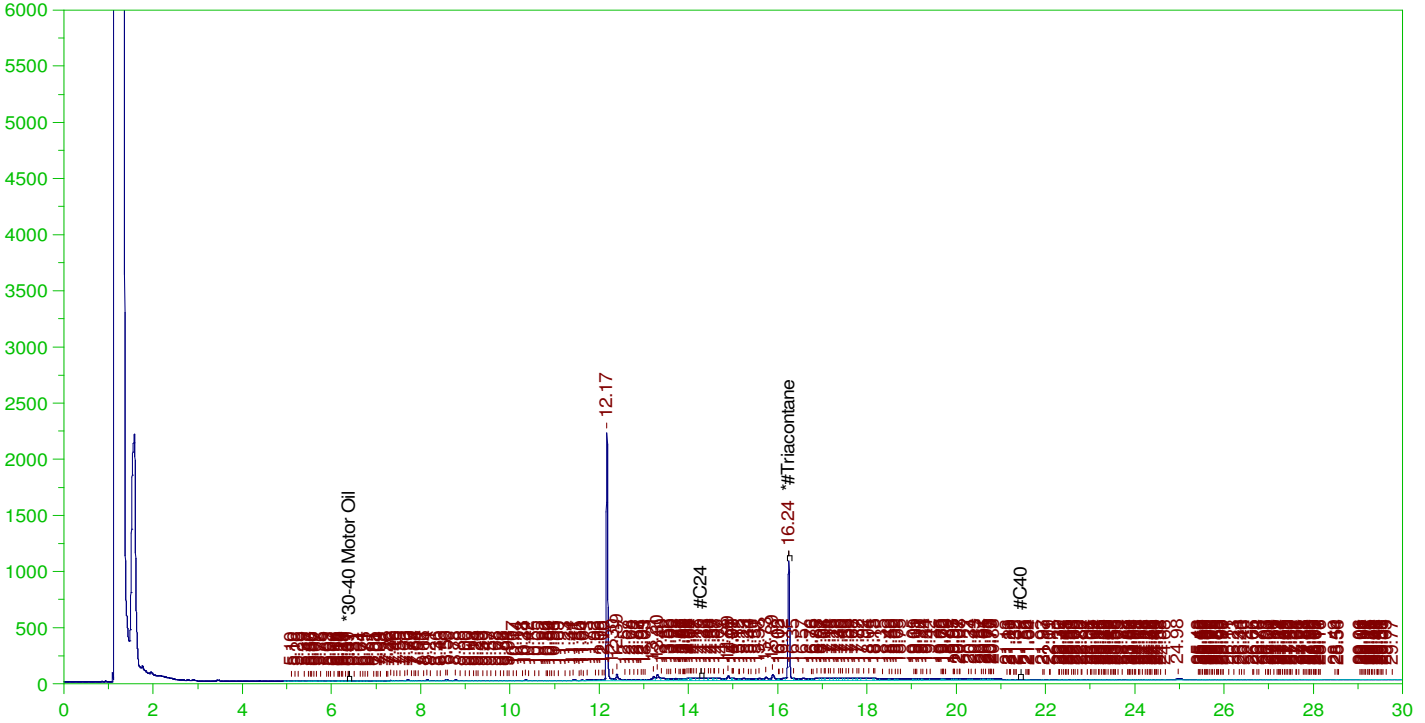
DRO Area: 3921638 DRO Amount: 0.1226268
 TEH Area: 1.29736E+07 TEH Amount: 0.4056753

ERH2217 (RHMW03)

Batch ID: 162151

G:\org\HP5\DAT\HP5121421_b\1214HP5.0040.RAW

B21121019-001B ;1214HP5 , \$HC-8015-DRO-W, RR



RESIDUAL RANGE ORGANICS CHROMATOGRAM

Sample Name: B21121019-001B ;1214HP5 , \$HC-8015-DRO-W, RR
 Raw File: G:\org\HP5\DAT\HP5121421_b\1214HP5.0040.RAW
 Date & Time Acquired: 12/15/2021 11:49:54 AM
 Method File: G:\Org\HP5\Methods\D3_OROS-121440-AI-L%.MET
 Calibration File: G:\Org\HP5\Cals\SW8015C_ORO211017AI-SAMP.CAL
 Sample Weight: 1020 Dilution: 1 S.A.: 1

Mean RF for for Residual Range Organics Calculations: 28542.41
 Rt range for Residual Range Organics: 14.25 to 21.5

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	
*#Triacontane	16.244	.49	.099	20.18	-

RRO Area:7064817

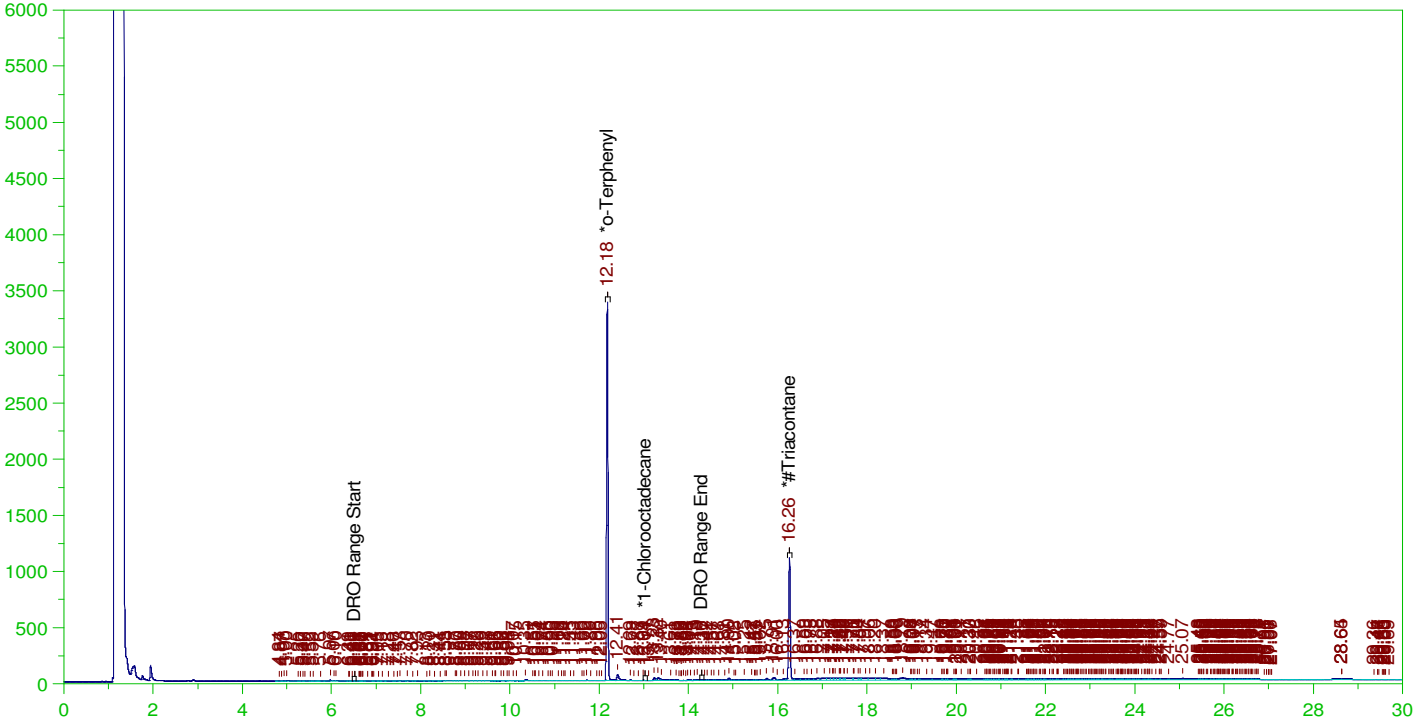
RRO AMOUNT: 0.2426667

ERH2219 (RHMW05)

Batch ID: 162151

G:\org\HP5\DAT\HP5121421_b\1214HP5.0015.RAW

B21121019-002B ;1214HP5 , \$HC-8015-DRO-W,



DIESEL RANGE ORGANICS CHROMATOGRAM REPORT

Sample Name: B21121019-002B ;1214HP5 , \$HC-8015-DRO-W,
Raw File: G:\org\HP5\DAT\HP5121421_b\1214HP5.0015.RAW
Date & Time Acquired: 12/14/2021 5:48:58 PM
Method File: G:\Org\HP5\Methods\DR_8015-121415-IH-L%.met
Calibration File: G:\Org\HP5\Cals\SW8015C_DRO211102IH-24-Tri.CAL
Sample Weight: 1040 Dilution: 1 S.A.: 1

Mean RF for TEH: 31353.19

Rt range for Diesel Range Organics: 6.46 to 14.35

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	
*o-Terphenyl	12.177	.192	.177	92.2	-
*1-Chlorooctadecane	13.037	.192	.	.07	-
*#Triacontane	16.259	.192	.098	50.92	-

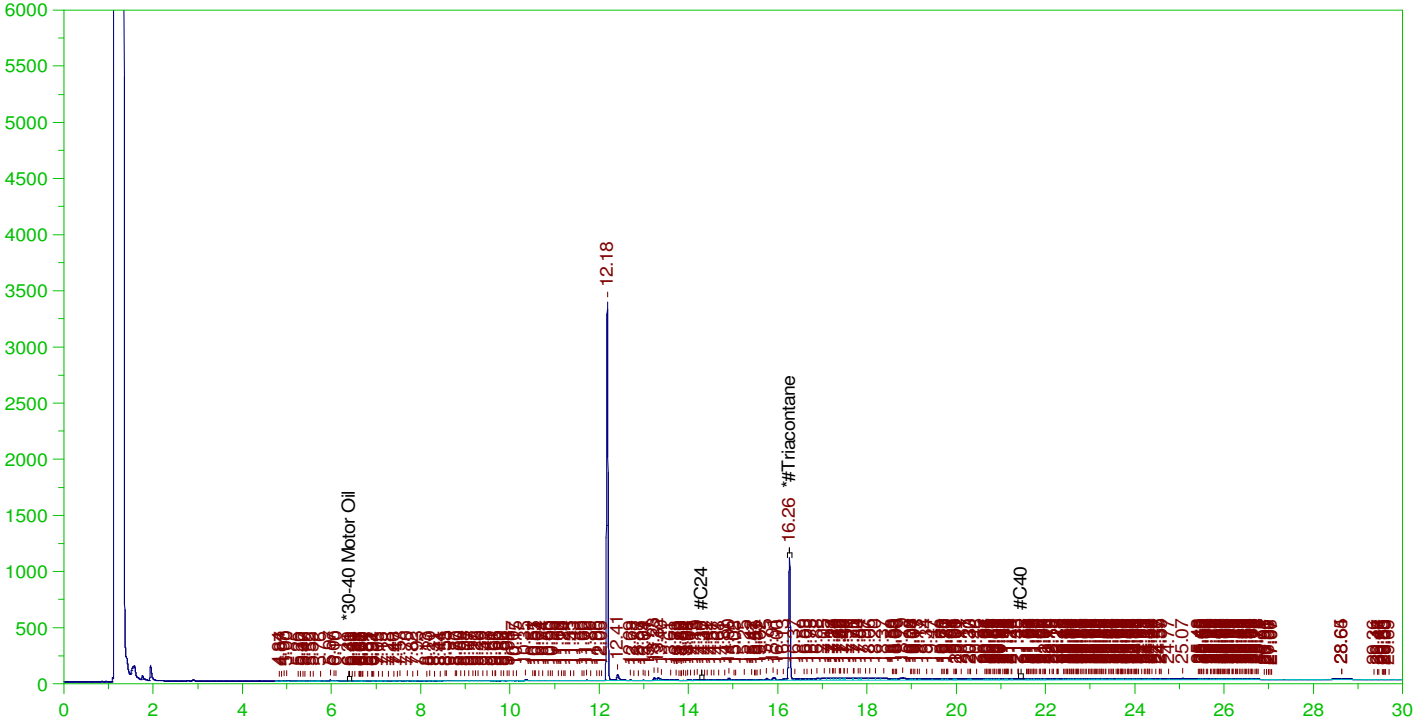
DRO Area:1267635 DRO Amount: 3.887578E-02
TEH Area:7836028 TEH Amount: 0.240315

ERH2219 (RHMW05)

G:\org\HP5\DAT\HP5121421_b\1214HP5.0015.RAW

Batch ID: 162151

B21121019-002B ;1214HP5 , \$HC-8015-DRO-W,



RESIDUAL RANGE ORGANICS CHROMATOGRAM

Sample Name: B21121019-002B ;1214HP5 , \$HC-8015-DRO-W,
Raw File: G:\org\HP5\DAT\HP5121421_b\1214HP5.0015.RAW
Date & Time Acquired: 12/14/2021 5:48:58 PM
Method File: G:\Org\HP5\Methods\D3_OROS-121415-AI-L%.MET
Calibration File: G:\Org\HP5\Cals\SW8015C_ORO211017AI-SAMP.CAL
Sample Weight: 1040 Dilution: 1 S.A.: 1

Mean RF for for Residual Range Organics Calculations: 28542.41
Rt range for Residual Range Organics: 14.25 to 21.5

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	
*#Triacontane	16.259	.481	.098	20.37	-

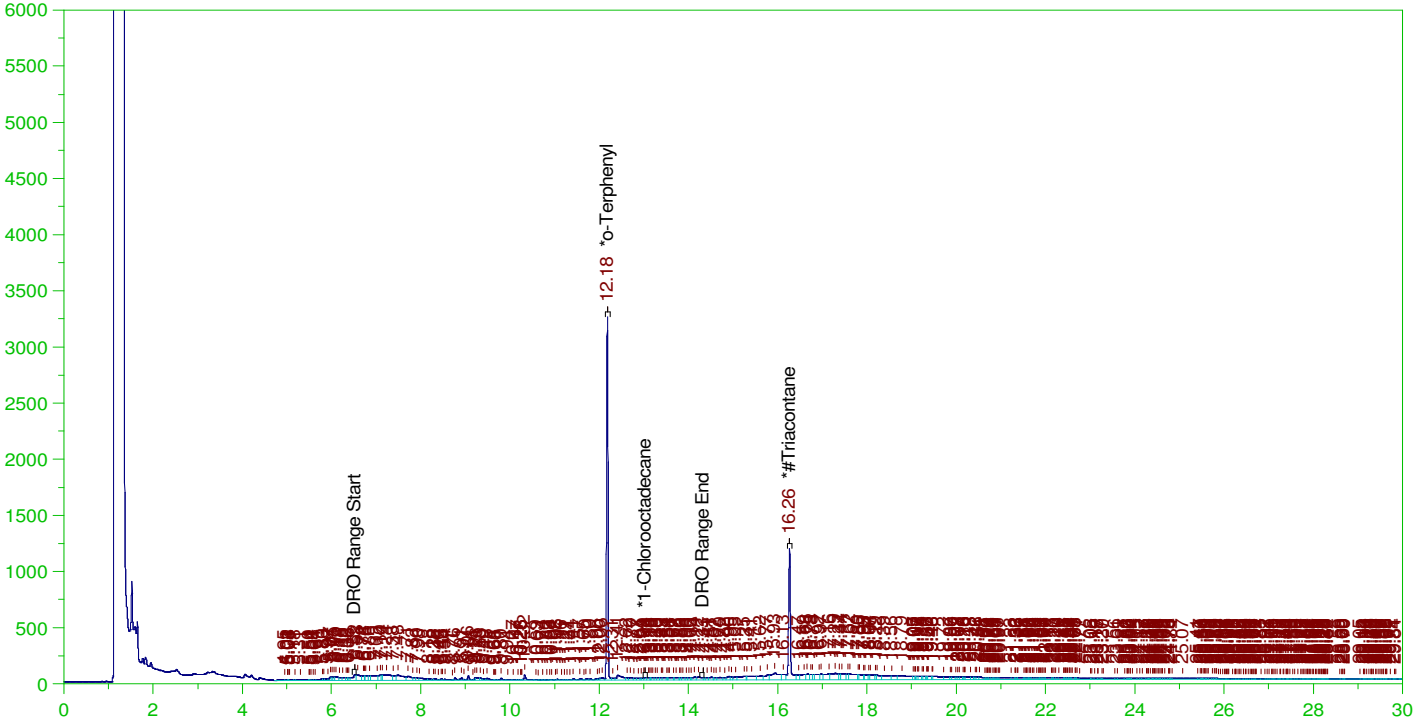
RRO Area:4904023 RRO AMOUNT: 0.165207

ERH2220 (RHMW05)

G:\org\HP5\DAT\HP5121421_b\1214HP5.0013.RAW

Batch ID: 162151

B21121019-003B ;1214HP5 , \$HC-8015-DRO-W,



DIESEL RANGE ORGANICS CHROMATOGRAM REPORT

Sample Name: B21121019-003B ;1214HP5 , \$HC-8015-DRO-W,
Raw File: G:\org\HP5\DAT\HP5121421_b\1214HP5.0013.RAW
Date & Time Acquired: 12/14/2021 4:17:19 PM
Method File: G:\Org\HP5\Methods\DR_8015-121413-IH-L%.met
Calibration File: G:\Org\HP5\Cals\SW8015C_DRO211102IH-24-Tri.CAL
Sample Weight: 1040 Dilution: 1 S.A.: 1

Mean RF for TEH: 31353.19

Rt range for Diesel Range Organics: 6.46 to 14.35

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	
*o-Terphenyl	12.179	.192	.17	88.39	-
*1-Chlorooctadecane	13.036	.192	.002	.94	-
*#Triacontane	16.261	.192	.115	59.93	-

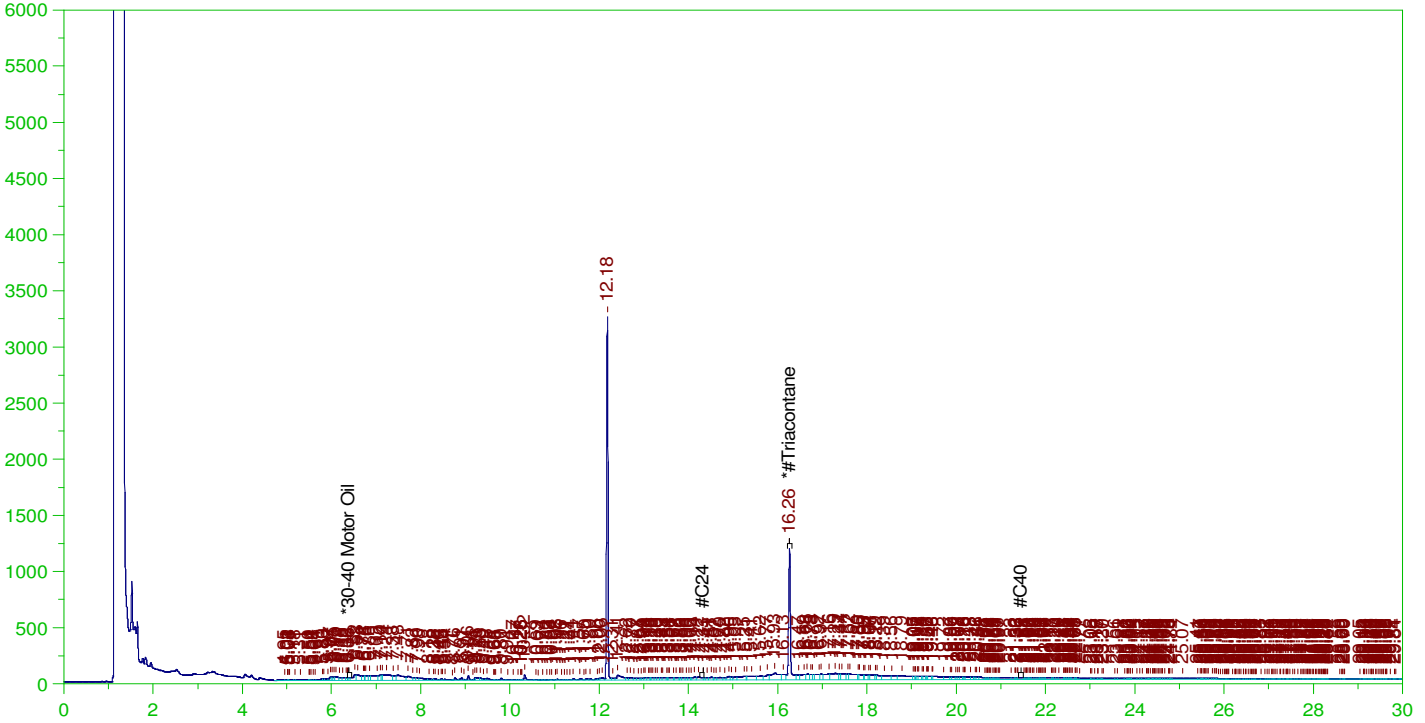
DRO Area:8236959 DRO Amount: 0.2526107
TEH Area:2.641941E+07 TEH Amount: 0.8102295

ERH2220 (RHMW05)

G:\org\HP5\DAT\HP5121421_b\1214HP5.0013.RAW

Batch ID: 162151

B21121019-003B ;1214HP5 , \$HC-8015-DRO-W,



RESIDUAL RANGE ORGANICS CHROMATOGRAM

Sample Name: B21121019-003B ;1214HP5 , \$HC-8015-DRO-W,
Raw File: G:\org\HP5\DAT\HP5121421_b\1214HP5.0013.RAW
Date & Time Acquired: 12/14/2021 4:17:19 PM
Method File: G:\Org\HP5\Methods\D3_OROS-121413-AI-L%.MET
Calibration File: G:\Org\HP5\Cals\SW8015C_ORO211017AI-SAMP.CAL
Sample Weight: 1040 Dilution: 1 S.A.: 1

Mean RF for for Residual Range Organics Calculations: 28542.41
Rt range for Residual Range Organics: 14.25 to 21.5

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC
*#Triacontane	16.261	.481	.115	23.97

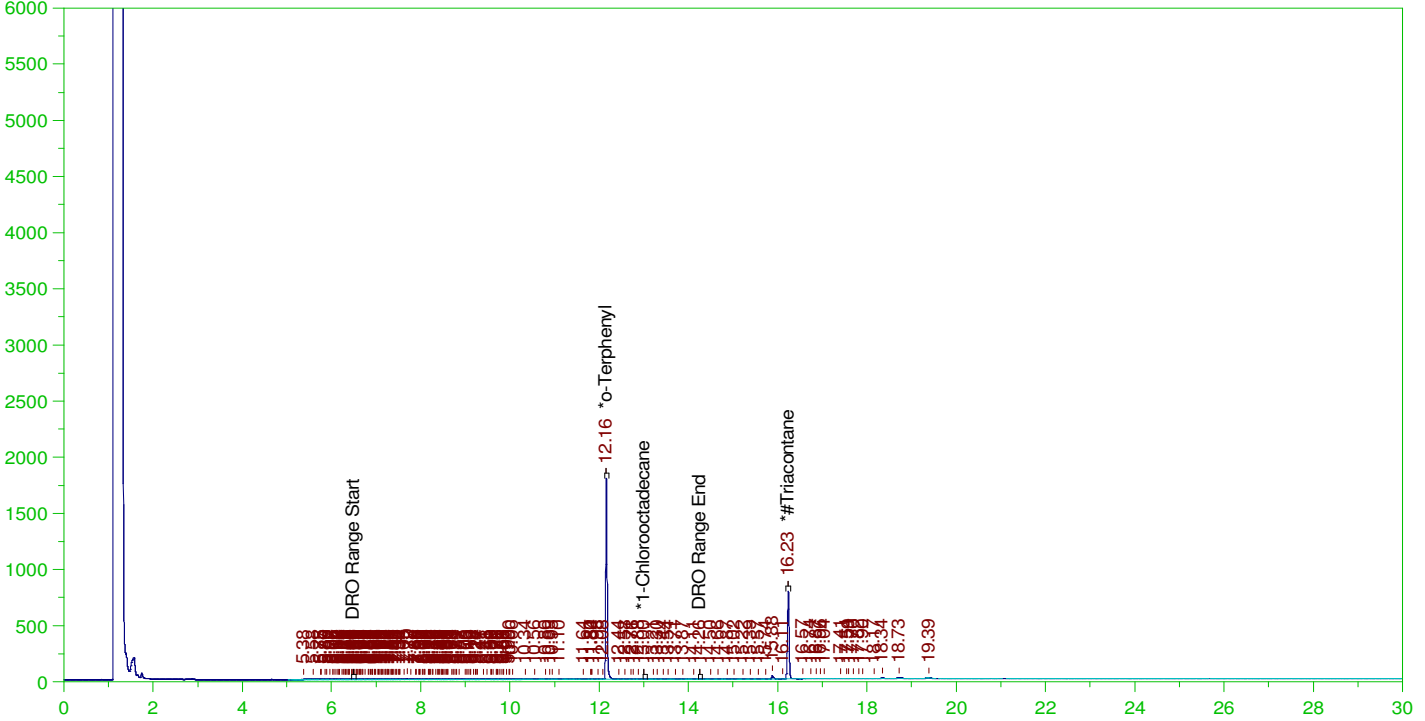
RRO Area:1.340125E+07 RRO AMOUNT: 0.451462

ERH2217 (RHMW03)

Batch ID: 162151

G:\org\HP5\DAT\HP5121421_b\1214HP5.0055.RAW

B21121019-001B ;1214HP5 , \$HC-8015-DRO-W, SGT



DIESEL RANGE ORGANICS CHROMATOGRAM REPORT

Sample Name: B21121019-001B ;1214HP5 , \$HC-8015-DRO-W, SGT
 Raw File: G:\org\HP5\DAT\HP5121421_b\1214HP5.0055.RAW
 Date & Time Acquired: 12/15/2021 10:40:21 PM
 Method File: G:\Org\HP5\Methods\DR_8015-C24T-II-L%.met
 Calibration File: G:\Org\HP5\Cals\SW8015C_DRO211102II-24-Tri.CAL
 Sample Weight: 1020 Dilution: 1 S.A.: 1

Mean RF for TEH: 31353.19

Rt range for Diesel Range Organics: 6.45 to 14.32

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	
*o-Terphenyl	12.159	.196	.106	54.06	-
*1-Chlorooctadecane	13.003	.196	.	.1	-
*#Triacontane	16.233	.196	.072	36.94	-

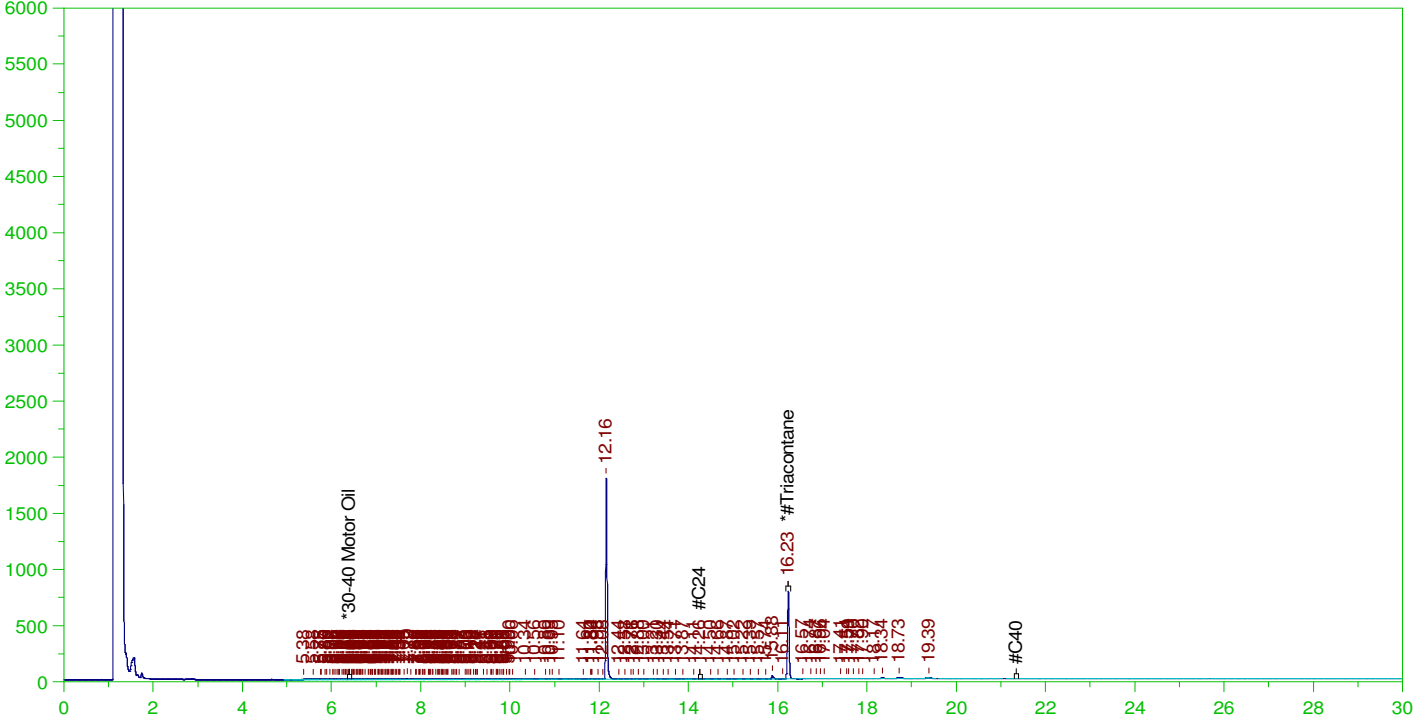
DRO Area:278620.1 DRO Amount: 8.712253E-03
 TEH Area:530479.1 TEH Amount: 1.658771E-02

ERH2217 (RHMW03)

Batch ID: 162151

G:\org\HP5\DAT\HP5121421_b\1214HP5.0055.RAW

B21121019-001B ;1214HP5 , \$HC-8015-DRO-W, SGT



RESIDUAL RANGE ORGANICS CHROMATOGRAM

Sample Name: B21121019-001B ;1214HP5 , \$HC-8015-DRO-W, SGT
 Raw File: G:\org\HP5\DAT\HP5121421_b\1214HP5.0055.RAW
 Date & Time Acquired: 12/15/2021 10:40:21 PM
 Method File: G:\Org\HP5\Methods\DR_OROS-AJ-L%.MET
 Calibration File: G:\Org\HP5\Cals\SW8015C_ORO211017AJ-SAMP.CAL
 Sample Weight: 1020 Dilution: 1 S.A.: 1

Mean RF for for Residual Range Organics Calculations: 28542.41
 Rt range for Residual Range Organics: 14.22 to 21.4

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	
*#Triacontane	16.233	.49	.072	14.77	-

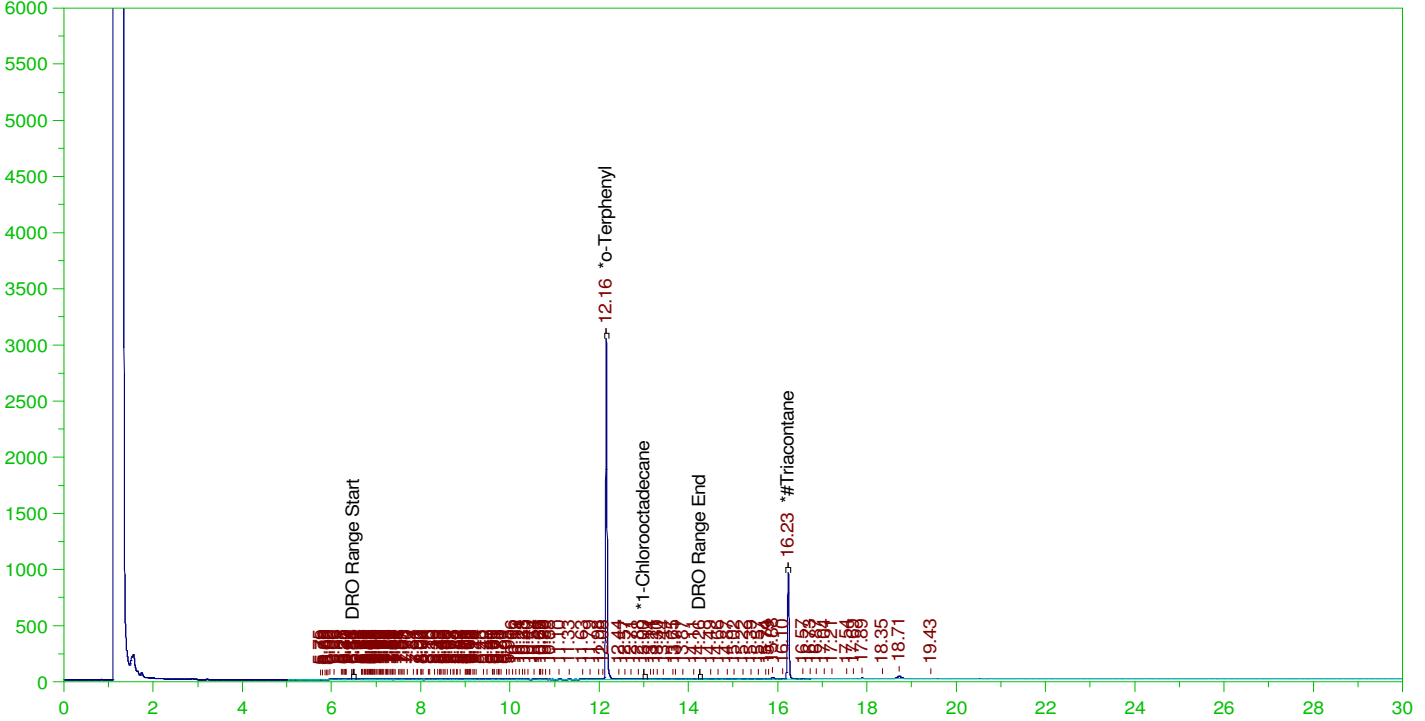
RRO Area:217817.9 RRO AMOUNT: 7.481744E-03

ERH2219 (RHMW05)

Batch ID: 162151

G:\Org\HP5\DAT\HP5121421_b\1214HP5.0058.RAW

B21121019-002B ;1214HP5 , \$HC-8015-DRO-W, SGT



DIESEL RANGE ORGANICS CHROMATOGRAM REPORT

Sample Name: B21121019-002B ;1214HP5 , \$HC-8015-DRO-W, SGT
 Raw File: G:\Org\HP5\DAT\HP5121421_b\1214HP5.0058.RAW
 Date & Time Acquired: 12/16/2021 12:49:23 AM
 Method File: G:\Org\HP5\Methods\DR_8015-C24T-II-L%.met
 Calibration File: G:\Org\HP5\Cals\SW8015C_DRO211102II-24-Tri.CAL
 Sample Weight: 1040 Dilution: 1 S.A.: 1

Mean RF for TEH: 31353.19

Rt range for Diesel Range Organics: 6.45 to 14.32

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	
*o-Terphenyl	12.158	.192	.171	88.71	-
*1-Chlorooctadecane	13.	.192	.	.17	-
*#Triacontane	16.232	.192	.085	44.41	-

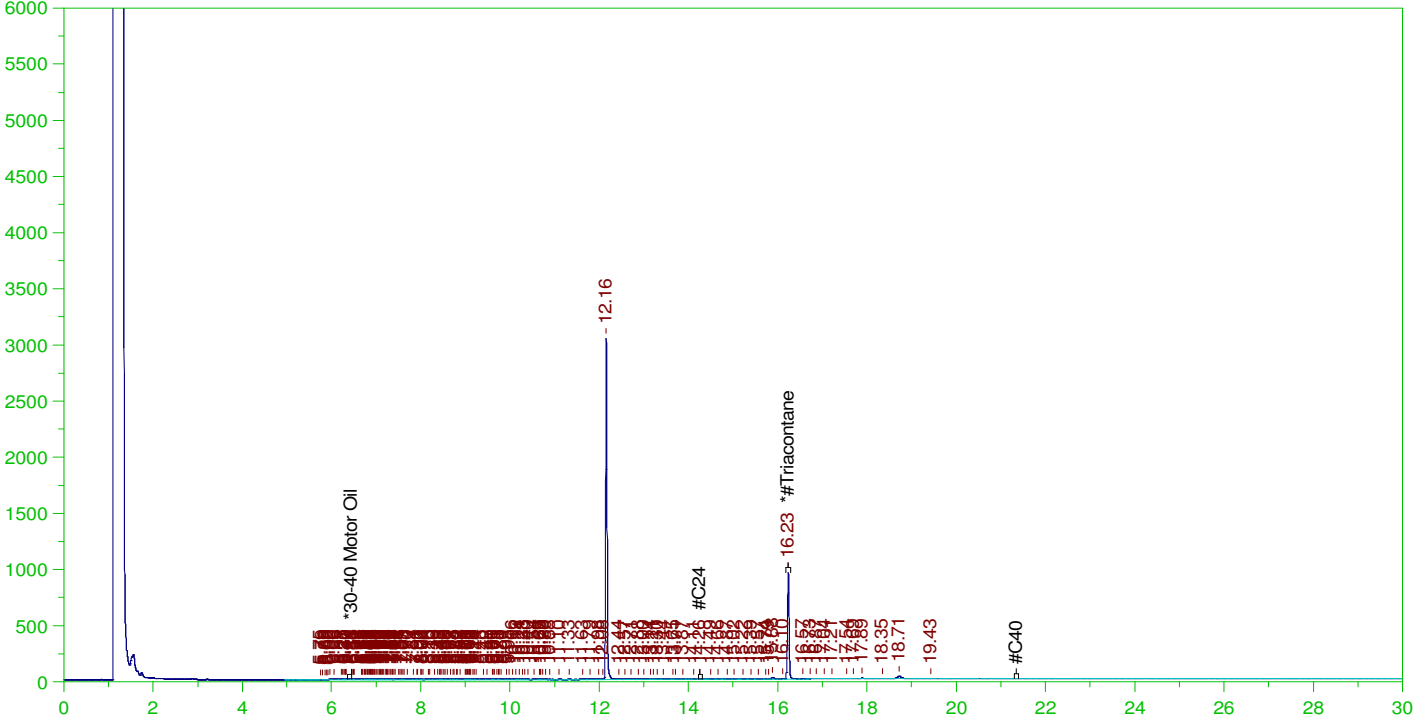
DRO Area:351248 DRO Amount: 1.077206E-02
 TEH Area:760879.4 TEH Amount: 2.333462E-02

ERH2219 (RHMW05)

G:\org\HP5\DAT\HP5121421_b\1214HP5.0058.RAW

Batch ID: 162151

B21121019-002B ;1214HP5 , \$HC-8015-DRO-W, SGT



RESIDUAL RANGE ORGANICS CHROMATOGRAM

Sample Name: B21121019-002B ;1214HP5 , \$HC-8015-DRO-W, SGT
 Raw File: G:\org\HP5\DAT\HP5121421_b\1214HP5.0058.RAW
 Date & Time Acquired: 12/16/2021 12:49:23 AM
 Method File: G:\Org\HP5\Methods\DR_OROS-AJ-L%.MET
 Calibration File: G:\Org\HP5\Cals\SW8015C_ORO211017AJ-SAMP.CAL
 Sample Weight: 1040 Dilution: 1 S.A.: 1

Mean RF for for Residual Range Organics Calculations: 28542.41
 Rt range for Residual Range Organics: 14.22 to 21.4

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC
*#Triacontane	16.232	.481	.085	17.77

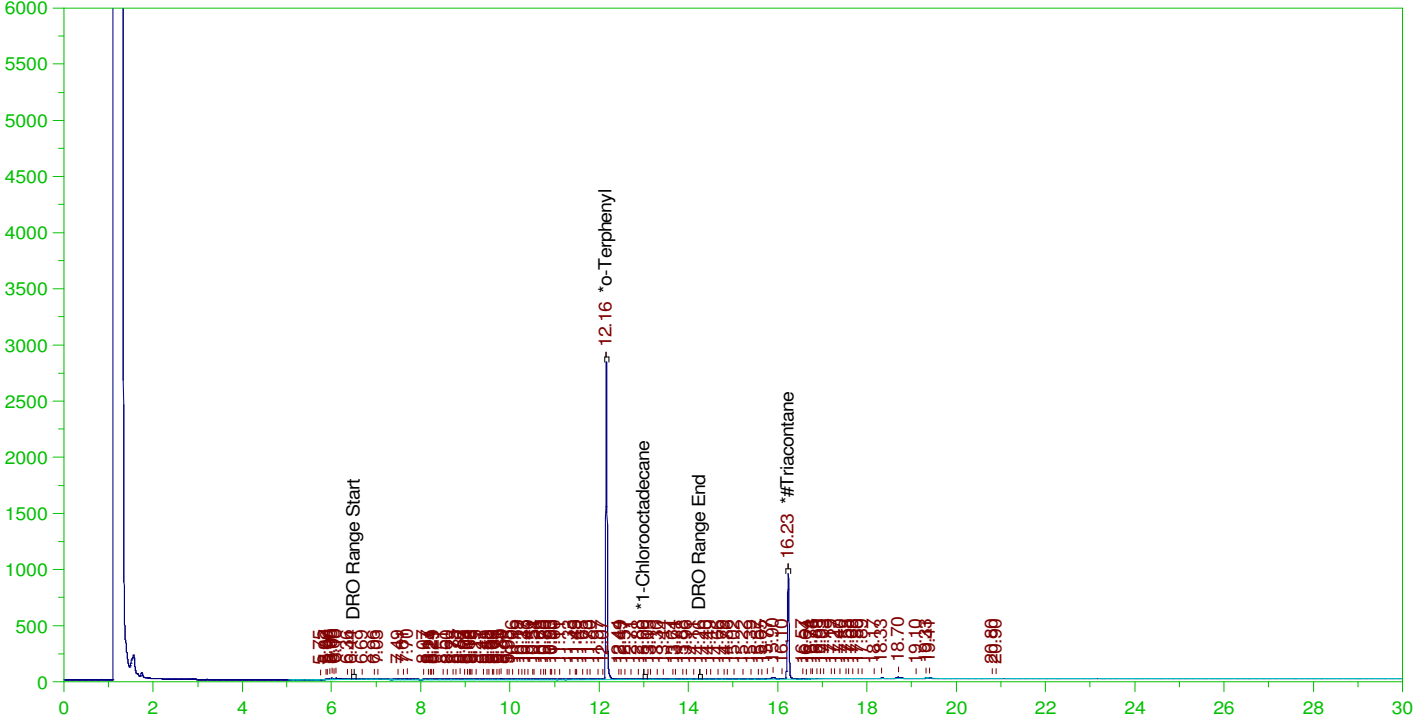
RRO Area:337429.5 RRO AMOUNT: 1.136735E-02

ERH2220 (RHMW05)

Batch ID: 162151

G:\Org\HP5\DAT\HP5121421_b\1214HP5.0059.RAW

B21121019-003B ;1214HP5 , \$HC-8015-DRO-W, SGT



DIESEL RANGE ORGANICS CHROMATOGRAM REPORT

Sample Name: B21121019-003B ;1214HP5 , \$HC-8015-DRO-W, SGT
 Raw File: G:\Org\HP5\DAT\HP5121421_b\1214HP5.0059.RAW
 Date & Time Acquired: 12/16/2021 1:32:20 AM
 Method File: G:\Org\HP5\Methods\DR_8015-C24T-II-L%.met
 Calibration File: G:\Org\HP5\Cals\SW8015C_DRO211102II-24-Tri.CAL
 Sample Weight: 1040 Dilution: 1 S.A.: 1

Mean RF for TEH: 31353.19

Rt range for Diesel Range Organics: 6.45 to 14.32

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	
*o-Terphenyl	12.16	.192	.16	83.09	-
*1-Chlorooctadecane	13.004	.192	.	.06	-
*#Triacontane	16.23	.192	.085	44.09	-

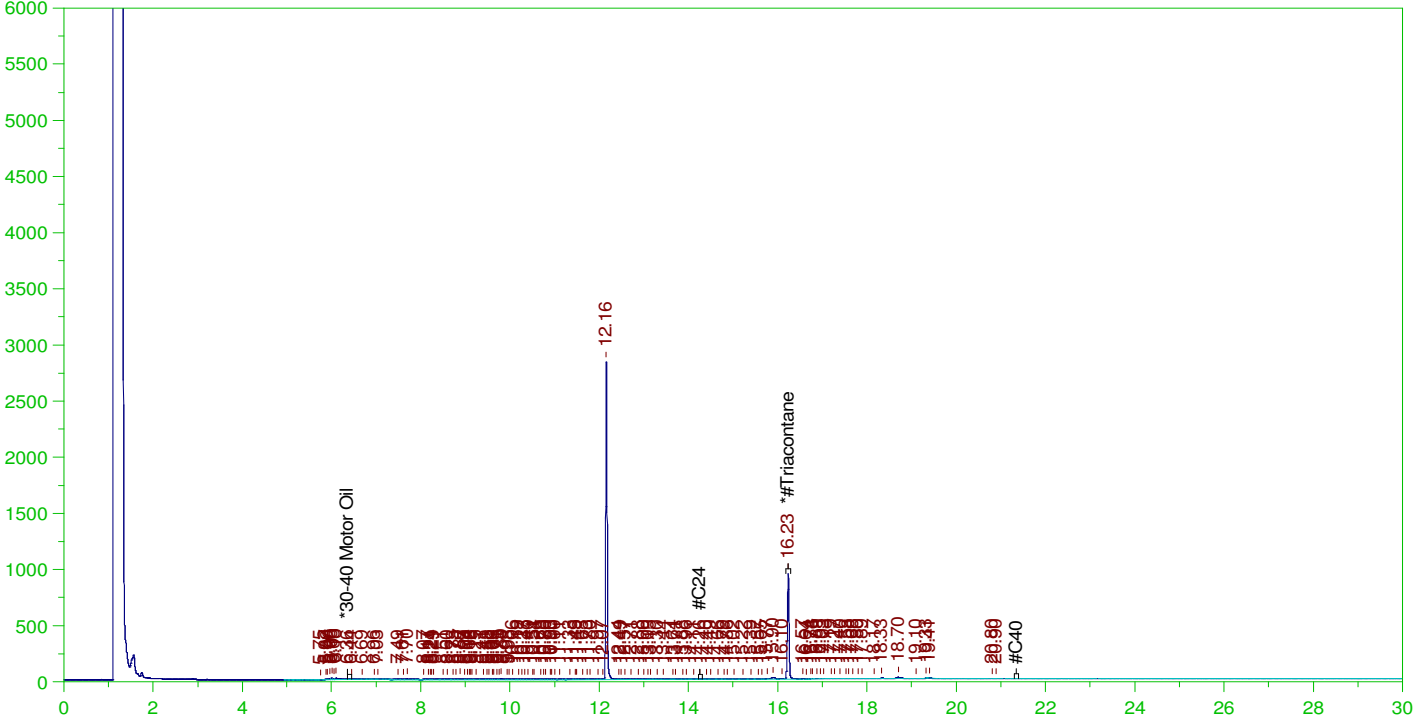
DRO Area:304144.7 DRO Amount: 9.327499E-03
 TEH Area:886674.8 TEH Amount: 2.719251E-02

ERH2220 (RHMW05)

Batch ID: 162151

G:\org\HP5\DAT\HP5121421_b\1214HP5.0059.RAW

B21121019-003B ;1214HP5 , \$HC-8015-DRO-W, SGT



RESIDUAL RANGE ORGANICS CHROMATOGRAM

Sample Name: B21121019-003B ;1214HP5 , \$HC-8015-DRO-W, SGT
 Raw File: G:\org\HP5\DAT\HP5121421_b\1214HP5.0059.RAW
 Date & Time Acquired: 12/16/2021 1:32:20 AM
 Method File: G:\Org\HP5\Methods\DR_OROS-AJ-L%.MET
 Calibration File: G:\Org\HP5\Cals\SW8015C_ORO211017AJ-SAMP.CAL
 Sample Weight: 1040 Dilution: 1 S.A.: 1

Mean RF for for Residual Range Organics Calculations: 28542.41
 Rt range for Residual Range Organics: 14.22 to 21.4

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC
*#Triacontane	16.23	.481	.085	17.63

RRO Area:372158.4 RRO AMOUNT: 1.253729E-02

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

Alethea,

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

Thank you,

Energy Laboratories, Inc.

Trust our People. Trust our Data.

Tabitha Edwards | Office Manager | Billings, MT

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

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

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

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

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

To: Shari Endy; billingsPM@energylab.com

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

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

Importance: High

Hi Shari and Billings PM,

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

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

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

Thank you,

Alethea Ramos, CIH

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