eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Mr. Erwin Kawata
City & County of Honolulu
630 South Beretania Street
Public Service Bldg. Room 310
Honolulu, Hawaii 96843

Generated 11/22/2023 8:03:13 AM

JOB DESCRIPTION

RED-HILL

JOB NUMBER

380-60202-2

Eurofins Eaton Analytical Pomona
941 Corporate Center Drive
Pomona CA 91768-2642

See page two for job notes and contact information.

Eurofins Eaton Analytical Pomona

Job Notes

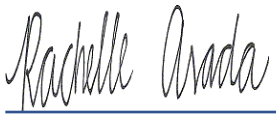
This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Eaton Analytical, LLC Project Manager.

Compliance Statement

1. Laboratory is accredited in accordance with TNI 2016 Standards and ISO/IEC 17025:2017.
2. Laboratory certifies that the test results meet all TNI 2016 and ISO/IEC 17025:2017 requirements unless noted under the individual analysis
3. Test results relate only to the sample(s) tested.
4. This report shall not be reproduced except in full, without the written approval of the laboratory.
5. Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below. (DW,Water matrices)

Authorization



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Authorized for release by
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Table of Contents

Definitions/Glossary

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-60202-2

Qualifiers

Subcontract

Qualifier	Qualifier Description
U	This analyte was not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 380-60202-2

Laboratory: Eurofins Eaton Analytical Pomona

Narrative

Job Narrative
380-60202-2

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 8/23/2023 10:25 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 4 coolers at receipt time were 0.8°C, 3.9°C, 4.4°C and 5.7°C

Subcontract Work
Methods 8015 Gas (Purgeable) LL (EAL), 8015 LL DRO/MRO/JP5/JP8: These methods were subcontracted to EMAX Laboratories Inc. The subcontract laboratory certifications are different from that of the facility issuing the final report. The subcontract report is appended in its entirety.

Method 625 PAH Physis LL (EAL) + TICs: This method was subcontracted to Physis Environmental Laboratories. The subcontract laboratory certification is different from that of the facility issuing the final report. The subcontract report is appended in its entirety.

Detection Summary

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-60202-2

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) P2 — Lab Sample ID: 380-60202-1

No Detections.

Client Sample ID: AIEA GULCH WELLS PUMP 2 — Lab Sample ID: 380-60202-2

No Detections.

Client Sample ID: TB AIEA WELLS PUMPS 1&2 (260) P2 — Lab Sample ID: 380-60202-3

No Detections.

Client Sample ID: TB AIEA GULCH WELLS PUMP 2 — Lab Sample ID: 380-60202-4

No Detections.

This Detection Summary does not include radiochemical test results.

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-60202-2

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) P2

Date Collected: 08/21/23 11:14
Date Received: 08/23/23 10:25

Lab Sample ID: 380-60202-1

Matrix: Drinking Water

Method: 625 PAH Physis LL (EAL) + TICs - EPA 625 Base/Neutral and Acid Organics i

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.005	0.001	µg/L		08/28/23 00:00	10/03/23 19:05	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		08/28/23 00:00	10/03/23 19:05	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		08/28/23 00:00	10/03/23 19:05	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		08/28/23 00:00	10/03/23 19:05	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		08/28/23 00:00	10/03/23 19:05	1
Acenaphthene	ND		0.005	0.001	µg/L		08/28/23 00:00	10/03/23 19:05	1
Acenaphthylene	ND		0.005	0.001	µg/L		08/28/23 00:00	10/03/23 19:05	1
Anthracene	ND		0.005	0.001	µg/L		08/28/23 00:00	10/03/23 19:05	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		08/28/23 00:00	10/03/23 19:05	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		08/28/23 00:00	10/03/23 19:05	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		08/28/23 00:00	10/03/23 19:05	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		08/28/23 00:00	10/03/23 19:05	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		08/28/23 00:00	10/03/23 19:05	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		08/28/23 00:00	10/03/23 19:05	1
Biphenyl	ND		0.005	0.001	µg/L		08/28/23 00:00	10/03/23 19:05	1
Chrysene	ND		0.005	0.001	µg/L		08/28/23 00:00	10/03/23 19:05	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		08/28/23 00:00	10/03/23 19:05	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		08/28/23 00:00	10/03/23 19:05	1
Dibenzothiophene	ND		0.005	0.001	µg/L		08/28/23 00:00	10/03/23 19:05	1
Disalicylidenepropanediamine	ND		0.1	0.05	µg/L		08/28/23 00:00	10/03/23 19:05	1
Fluoranthene	ND		0.005	0.001	µg/L		08/28/23 00:00	10/03/23 19:05	1
Fluorene	ND		0.005	0.001	µg/L		08/28/23 00:00	10/03/23 19:05	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		08/28/23 00:00	10/03/23 19:05	1
Naphthalene	ND		0.005	0.001	µg/L		08/28/23 00:00	10/03/23 19:05	1
Perylene	ND		0.005	0.001	µg/L		08/28/23 00:00	10/03/23 19:05	1
Phenanthrene	ND		0.005	0.001	µg/L		08/28/23 00:00	10/03/23 19:05	1
Pyrene	ND		0.005	0.001	µg/L		08/28/23 00:00	10/03/23 19:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
(d10-Acenaphthene)	*76*		*27 - 133*	*08/28/23 00:00*	*10/03/23 19:05*	*1*
(d10-Phenanthrene)	*81*		*43 - 129*	*08/28/23 00:00*	*10/03/23 19:05*	*1*
(d12-Chrysene)	*84*		*52 - 144*	*08/28/23 00:00*	*10/03/23 19:05*	*1*
(d12-Perylene)	*87*		*36 - 161*	*08/28/23 00:00*	*10/03/23 19:05*	*1*
(d8-Naphthalene)	*71*		*25 - 125*	*08/28/23 00:00*	*10/03/23 19:05*	*1*

Method: 8015 Gas (Purgeable) LL (EAL) - SW846 8015B Gasoline Range Organics

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GASOLINE	ND	U	0.02		mg/L			08/25/23 14:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
BROMOFLUOROBENZENE	*85*		*60 - 140*		*08/25/23 14:22*	*1*

Method: 8015 LL DRO/MRO/JP5/JP8 - 8015 - TPH DRO/ORO

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DIESEL	ND	U	0.027		mg/L			08/28/23 22:46	1
JP5	ND	U	0.054		mg/L			08/28/23 22:46	1
JP8	ND	U	0.054		mg/L			08/28/23 22:46	1
MOTOR OIL	ND	U	0.054		mg/L			08/28/23 22:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
BROMOBENZENE	*63*		*60 - 130*		*08/28/23 22:46*	*1*

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) P2

Lab Sample ID: 380-60202-1
Date Collected: 08/21/23 11:14
Matrix: Drinking Water
Date Received: 08/23/23 10:25

Method: 8015 LL DRO/MRO/JP5/JP8 - 8015 - TPH DRO/ORO (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
HEXACOSANE	*73*		*60 - 130*		*08/28/23 22:46*	*1*

Client Sample ID: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-60202-2
Date Collected: 08/21/23 10:39
Matrix: Drinking Water
Date Received: 08/23/23 10:25

Method: 625 PAH Physis LL (EAL) + TICs - EPA 625 Base/Neutral and Acid Organics i

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.005	0.001	µg/L		08/28/23 00:00	10/03/23 20:54	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		08/28/23 00:00	10/03/23 20:54	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		08/28/23 00:00	10/03/23 20:54	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		08/28/23 00:00	10/03/23 20:54	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		08/28/23 00:00	10/03/23 20:54	1
Acenaphthene	ND		0.005	0.001	µg/L		08/28/23 00:00	10/03/23 20:54	1
Acenaphthylene	ND		0.005	0.001	µg/L		08/28/23 00:00	10/03/23 20:54	1
Anthracene	ND		0.005	0.001	µg/L		08/28/23 00:00	10/03/23 20:54	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		08/28/23 00:00	10/03/23 20:54	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		08/28/23 00:00	10/03/23 20:54	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		08/28/23 00:00	10/03/23 20:54	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		08/28/23 00:00	10/03/23 20:54	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		08/28/23 00:00	10/03/23 20:54	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		08/28/23 00:00	10/03/23 20:54	1
Biphenyl	ND		0.005	0.001	µg/L		08/28/23 00:00	10/03/23 20:54	1
Chrysene	ND		0.005	0.001	µg/L		08/28/23 00:00	10/03/23 20:54	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		08/28/23 00:00	10/03/23 20:54	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		08/28/23 00:00	10/03/23 20:54	1
Dibenzothiophene	ND		0.005	0.001	µg/L		08/28/23 00:00	10/03/23 20:54	1
Disalicylidenepropanediamine	ND		0.1	0.05	µg/L		08/28/23 00:00	10/03/23 20:54	1
Fluoranthene	ND		0.005	0.001	µg/L		08/28/23 00:00	10/03/23 20:54	1
Fluorene	ND		0.005	0.001	µg/L		08/28/23 00:00	10/03/23 20:54	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		08/28/23 00:00	10/03/23 20:54	1
Naphthalene	ND		0.005	0.001	µg/L		08/28/23 00:00	10/03/23 20:54	1
Perylene	ND		0.005	0.001	µg/L		08/28/23 00:00	10/03/23 20:54	1
Phenanthrene	ND		0.005	0.001	µg/L		08/28/23 00:00	10/03/23 20:54	1
Pyrene	ND		0.005	0.001	µg/L		08/28/23 00:00	10/03/23 20:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
(d10-Acenaphthene)	*79*		*27 - 133*	*08/28/23 00:00*	*10/03/23 20:54*	*1*
(d10-Phenanthrene)	*87*		*43 - 129*	*08/28/23 00:00*	*10/03/23 20:54*	*1*
(d12-Chrysene)	*86*		*52 - 144*	*08/28/23 00:00*	*10/03/23 20:54*	*1*
(d12-Perylene)	*85*		*36 - 161*	*08/28/23 00:00*	*10/03/23 20:54*	*1*
(d8-Naphthalene)	*72*		*25 - 125*	*08/28/23 00:00*	*10/03/23 20:54*	*1*

Method: 8015 Gas (Purgeable) LL (EAL) - SW846 8015B Gasoline Range Organics

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GASOLINE	ND	U	0.02		mg/L			08/25/23 16:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
BROMOFLUOROBENZENE	*82*		*60 - 140*		*08/25/23 16:18*	*1*

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-60202-2

Client Sample ID: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-60202-2
Date Collected: 08/21/23 10:39
Matrix: Drinking Water
Date Received: 08/23/23 10:25

Method: 8015 LL DRO/MRO/JP5/JP8 - 8015 - TPH DRO/ORO

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DIESEL	ND	U	0.028		mg/L			08/28/23 23:05	1
JP5	ND	U	0.055		mg/L			08/28/23 23:05	1
JP8	ND	U	0.055		mg/L			08/28/23 23:05	1
MOTOR OIL	ND	U	0.055		mg/L			08/28/23 23:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
BROMOBENZENE	*69*		*60 - 130*		*08/28/23 23:05*	*1*
HEXACOSANE	*83*		*60 - 130*		*08/28/23 23:05*	*1*

Client Sample ID: TB AIEA WELLS PUMPS 1&2 (260) P2

Lab Sample ID: 380-60202-3
Date Collected: 08/21/23 11:14
Matrix: Water
Date Received: 08/23/23 10:25

Method: 8015 Gas (Purgeable) LL (EAL) - SW846 8015B Gasoline Range Organics

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GASOLINE	ND	U	0.02		mg/L			08/25/23 17:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
BROMOFLUOROBENZENE	*80*		*60 - 140*		*08/25/23 17:34*	*1*

Client Sample ID: TB AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-60202-4
Date Collected: 08/21/23 10:39
Matrix: Water
Date Received: 08/23/23 10:25

Method: 8015 Gas (Purgeable) LL (EAL) - SW846 8015B Gasoline Range Organics

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GASOLINE	ND	U	0.02		mg/L			08/25/23 18:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
BROMOFLUOROBENZENE	*82*		*60 - 140*		*08/25/23 18:12*	*1*

Surrogate Summary

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-60202-2

Method: 625 PAH Physis LL (EAL) + TICs - EPA 625 Base/Neutral and Acid Organics i

Matrix: BlankMatrix **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)				
		Acenapht	Phenanth	CRY	NPT	PRY
Lab Sample ID	Client Sample ID	(27-133)	(43-129)	(52-144)	(25-125)	(36-161)
110070-B1	Method Blank	82	85	89	79	80
110070-BS1	Lab Control Sample	85	91	92	79	91
110070-BS2	Lab Control Sample Dup	88	92	95	80	79

Surrogate Legend

(d10-Acenaphthene) = (d10-Acenaphthene)
(d10-Phenanthrene) = (d10-Phenanthrene)
CRY = (d12-Chrysene)
NPT = (d8-Naphthalene)
PRY = (d12-Perylene)

Method: 625 PAH Physis LL (EAL) + TICs - EPA 625 Base/Neutral and Acid Organics i

Matrix: Drinking Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)				
		Acenapht	Phenanth	CRY	NPT	PRY
Lab Sample ID	Client Sample ID	(27-133)	(43-129)	(52-144)	(25-125)	(36-161)
380-60202-1	AIEA WELLS PUMPS 1&2 (260)	76	81	84	71	87
380-60202-2	AIEA GULCH WELLS PUMP 2	79	87	86	72	85

Surrogate Legend

(d10-Acenaphthene) = (d10-Acenaphthene)
(d10-Phenanthrene) = (d10-Phenanthrene)
CRY = (d12-Chrysene)
NPT = (d8-Naphthalene)
PRY = (d12-Perylene)

Method: 8015 Gas (Purgeable) LL (EAL) - SW846 8015B Gasoline Range Organics

Matrix: Drinking Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
		BFB
Lab Sample ID	Client Sample ID	(60-140)
380-60202-1	AIEA WELLS PUMPS 1&2 (260)	85
380-60202-2	AIEA GULCH WELLS PUMP 2	82

Surrogate Legend

BFB = BROMOFLUOROBENZENE

Method: 8015 Gas (Purgeable) LL (EAL) - SW846 8015B Gasoline Range Organics

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
		BFB
Lab Sample ID	Client Sample ID	(60-140)
380-60202-3	TB AIEA WELLS PUMPS 1&2 (2	80
380-60202-4	TB AIEA GULCH WELLS PUMP 2	82

Surrogate Legend

BFB = BROMOFLUOROBENZENE

Surrogate Summary

Client: City & County of Honolulu
Job ID: 380-60202-2
Project/Site: RED-HILL

Method: 8015 Gas (Purgeable) LL (EAL) - SW846 8015B Gasoline Range Organics

Matrix: WATER **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
		BFB
Lab Sample ID	Client Sample ID	(60-140)
23H191-01M	Matrix Spike	104
23H191-01S	Matrix Spike Duplicate	97

Surrogate Legend

BFB = BROMOFLUOROBENZENE

Method: 8015 Gas (Purgeable) LL (EAL) - SW846 8015B Gasoline Range Organics

Matrix: WATER **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
		BFB
Lab Sample ID	Client Sample ID	
23VG39H10B	Method Blank	

Surrogate Legend

BFB = BROMOFLUOROBENZENE

Method: 8015 Gas (Purgeable) LL (EAL) - SW846 8015B Gasoline Range Organics

Matrix: WATER **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
		BFB
Lab Sample ID	Client Sample ID	(70-130)
23VG39H10C	LCD	99
23VG39H10L	Lab Control Sample	101

Surrogate Legend

BFB = BROMOFLUOROBENZENE

Method: 8015 LL DRO/MRO/JP5/JP8 - 8015 - TPH DRO/ORO

Matrix: Drinking Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
		BB	XACOSAI
Lab Sample ID	Client Sample ID	(60-130)	(60-130)
380-60202-1	AIEA WELLS PUMPS 1&2 (260)	63	73
380-60202-2	AIEA GULCH WELLS PUMP 2	69	83

Surrogate Legend

BB = BROMOBENZENE
HEXACOSANE = HEXACOSANE

Method: 8015 LL DRO/MRO/JP5/JP8 - 8015 - TPH DRO/ORO

Matrix: WATER **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
		BB	XACOSAI
Lab Sample ID	Client Sample ID		
23DSH028WB	Method Blank		

Surrogate Legend

BB = BROMOBENZENE
HEXACOSANE = HEXACOSANE

Surrogate Summary

Client: City & County of Honolulu
Job ID: 380-60202-2
Project/Site: RED-HILL

Method: 8015 LL DRO/MRO/JP5/JP8 - 8015 - TPH DRO/ORO

Matrix: WATER **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)									
		BB	XACOSA								
Lab Sample ID	Client Sample ID	(60-130)	(60-130)								
23DSH028WC	LCD	67	78								
23DSH028WL	Lab Control Sample	72	84								
23J5H028WC	LCD	77	84								
23J5H028WL	Lab Control Sample	68	79								
23J8H028WC	LCD	79	72								
23J8H028WL	Lab Control Sample	92	81								

Surrogate Legend

BB = BROMOBENZENE

HEXACOSANE = HEXACOSANE

Method: 625 PAH Physis LL (EAL) + TICs - EPA 625 Base/Neutral and Acid Organics i

Lab Sample ID: 110070-B1
Matrix: BlankMatrix
Analysis Batch: O-42076

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: O-42076_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.005	0.001	µg/L		08/28/23 00:00	10/03/23 13:36	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		08/28/23 00:00	10/03/23 13:36	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		08/28/23 00:00	10/03/23 13:36	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		08/28/23 00:00	10/03/23 13:36	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		08/28/23 00:00	10/03/23 13:36	1
Acenaphthene	ND		0.005	0.001	µg/L		08/28/23 00:00	10/03/23 13:36	1
Acenaphthylene	ND		0.005	0.001	µg/L		08/28/23 00:00	10/03/23 13:36	1
Anthracene	ND		0.005	0.001	µg/L		08/28/23 00:00	10/03/23 13:36	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		08/28/23 00:00	10/03/23 13:36	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		08/28/23 00:00	10/03/23 13:36	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		08/28/23 00:00	10/03/23 13:36	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		08/28/23 00:00	10/03/23 13:36	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		08/28/23 00:00	10/03/23 13:36	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		08/28/23 00:00	10/03/23 13:36	1
Biphenyl	ND		0.005	0.001	µg/L		08/28/23 00:00	10/03/23 13:36	1
Chrysene	ND		0.005	0.001	µg/L		08/28/23 00:00	10/03/23 13:36	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		08/28/23 00:00	10/03/23 13:36	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		08/28/23 00:00	10/03/23 13:36	1
Dibenzothiophene	ND		0.005	0.001	µg/L		08/28/23 00:00	10/03/23 13:36	1
Disalicylidenepropanediamine	ND		0.1	0.05	µg/L		08/28/23 00:00	10/03/23 13:36	1
Fluoranthene	ND		0.005	0.001	µg/L		08/28/23 00:00	10/03/23 13:36	1
Fluorene	ND		0.005	0.001	µg/L		08/28/23 00:00	10/03/23 13:36	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		08/28/23 00:00	10/03/23 13:36	1
Naphthalene	ND		0.005	0.001	µg/L		08/28/23 00:00	10/03/23 13:36	1
Perylene	ND		0.005	0.001	µg/L		08/28/23 00:00	10/03/23 13:36	1
Phenanthrene	ND		0.005	0.001	µg/L		08/28/23 00:00	10/03/23 13:36	1
Pyrene	ND		0.005	0.001	µg/L		08/28/23 00:00	10/03/23 13:36	1

Surrogate	*Blank %Recovery*	*Blank Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
(d10-Acenaphthene)	*82*		*27 - 133*	*08/28/23 00:00*	*10/03/23 13:36*	*1*
(d10-Phenanthrene)	*85*		*43 - 129*	*08/28/23 00:00*	*10/03/23 13:36*	*1*
(d12-Chrysene)	*89*		*52 - 144*	*08/28/23 00:00*	*10/03/23 13:36*	*1*
(d12-Perylene)	*80*		*36 - 161*	*08/28/23 00:00*	*10/03/23 13:36*	*1*
(d8-Naphthalene)	*79*		*25 - 125*	*08/28/23 00:00*	*10/03/23 13:36*	*1*

Lab Sample ID: 110070-BS1
Matrix: BlankMatrix
Analysis Batch: O-42076

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: O-42076_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1-Methylnaphthalene	0.5	0.413		µg/L		83	31 - 128
1-Methylphenanthrene	0.5	0.447		µg/L		89	66 - 127
2,3,5-Trimethylnaphthalene	0.5	0.435		µg/L		87	55 - 122
2,6-Dimethylnaphthalene	0.5	0.424		µg/L		85	48 - 120
2-Methylnaphthalene	0.5	0.406		µg/L		81	47 - 130
Acenaphthene	0.5	0.429		µg/L		86	53 - 131
Acenaphthylene	0.5	0.445		µg/L		89	43 - 140
Anthracene	0.5	0.453		µg/L		91	58 - 135

Method: 625 PAH Physis LL (EAL) + TICs - EPA 625 Base/Neutral and Acid Organics i (Continued)

Lab Sample ID: 110070-BS1
Matrix: BlankMatrix
Analysis Batch: O-42076

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: O-42076_P

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benz[a]anthracene			0.5	0.481		µg/L		96	55 - 145		
Benzo[a]pyrene			0.5	0.479		µg/L		96	51 - 143		
Benzo[b]fluoranthene			0.5	0.424		µg/L		85	46 - 165		
Benzo[e]pyrene			0.5	0.381		µg/L		76	42 - 152		
Benzo[g,h,i]perylene			0.5	0.448		µg/L		90	63 - 133		
Benzo[k]fluoranthene			0.5	0.429		µg/L		86	56 - 145		
Biphenyl			0.5	0.424		µg/L		85	56 - 119		
Chrysene			0.5	0.403		µg/L		81	56 - 141		
Dibenz[a,h]anthracene			0.5	0.558		µg/L		112	55 - 150		
Dibenzo[a,l]pyrene			0.5	0.479		µg/L		96	50 - 150		
Dibenzothiophene			0.5	0.442		µg/L		88	46 - 126		
Disalicylidenepropanediamine			50	46.7		µg/L		93	50 - 150		
Fluoranthene			0.5	0.447		µg/L		89	60 - 146		
Fluorene			0.5	0.44		µg/L		88	58 - 131		
Indeno[1,2,3-cd]pyrene			0.5	0.494		µg/L		99	50 - 151		
Naphthalene			0.5	0.398		µg/L		80	41 - 126		
Perylene			0.5	0.446		µg/L		89	48 - 141		
Phenanthrene			0.5	0.434		µg/L		87	67 - 127		
Pyrene			0.5	0.434		µg/L		87	54 - 156		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
(d10-Acenaphthene)	*85*		*27 - 133*
(d10-Phenanthrene)	*91*		*43 - 129*
(d12-Chrysene)	*92*		*52 - 144*
(d12-Perylene)	*91*		*36 - 161*
(d8-Naphthalene)	*79*		*25 - 125*

Lab Sample ID: 110070-BS2
Matrix: BlankMatrix
Analysis Batch: O-42076

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: O-42076_P

Analyte			Spike Added	LCS DUP Result	LCS DUP Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1-Methylnaphthalene			0.5	0.434		µg/L		87	31 - 128	5	30
1-Methylphenanthrene			0.5	0.455		µg/L		91	66 - 127	2	30
2,3,5-Trimethylnaphthalene			0.5	0.439		µg/L		88	55 - 122	1	30
2,6-Dimethylnaphthalene			0.5	0.424		µg/L		85	48 - 120	0	30
2-Methylnaphthalene			0.5	0.411		µg/L		82	47 - 130	1	30
Acenaphthene			0.5	0.43		µg/L		86	53 - 131	0	30
Acenaphthylene			0.5	0.453		µg/L		91	43 - 140	2	30
Anthracene			0.5	0.453		µg/L		91	58 - 135	0	30
Benz[a]anthracene			0.5	0.497		µg/L		99	55 - 145	3	30
Benzo[a]pyrene			0.5	0.486		µg/L		97	51 - 143	1	30
Benzo[b]fluoranthene			0.5	0.438		µg/L		88	46 - 165	3	30
Benzo[e]pyrene			0.5	0.399		µg/L		80	42 - 152	5	30
Benzo[g,h,i]perylene			0.5	0.46		µg/L		92	63 - 133	2	30
Benzo[k]fluoranthene			0.5	0.436		µg/L		87	56 - 145	1	30
Biphenyl			0.5	0.427		µg/L		85	56 - 119	0	30
Chrysene			0.5	0.408		µg/L		82	56 - 141	1	30

Method: 625 PAH Physis LL (EAL) + TICs - EPA 625 Base/Neutral and Acid Organics i (Continued)

Lab Sample ID: 110070-BS2
Matrix: BlankMatrix
Analysis Batch: O-42076

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: O-42076_P

Analyte			Spike Added	LCS DUP Result	LCS DUP Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Dibenz[a,h]anthracene			0.5	0.58		µg/L		116	55 - 150	4	30
Dibenzo[a,l]pyrene			0.5	0.456		µg/L		91	50 - 150	5	30
Dibenzothiophene			0.5	0.443		µg/L		89	46 - 126	1	30
Disalicylidenepropanediamine			50	52.3		µg/L		105	50 - 150	12	30
Fluoranthene			0.5	0.455		µg/L		91	60 - 146	2	30
Fluorene			0.5	0.444		µg/L		89	58 - 131	1	30
Indeno[1,2,3-cd]pyrene			0.5	0.505		µg/L		101	50 - 151	2	30
Naphthalene			0.5	0.403		µg/L		81	41 - 126	1	30
Perylene			0.5	0.466		µg/L		93	48 - 141	4	30
Phenanthrene			0.5	0.436		µg/L		87	67 - 127	0	30
Pyrene			0.5	0.443		µg/L		89	54 - 156	2	30

Surrogate	*LCS DUP %Recovery*	*LCS DUP Qualifier*	*Limits*
(d10-Acenaphthene)	*88*		*27 - 133*
(d10-Phenanthrene)	*92*		*43 - 129*
(d12-Chrysene)	*95*		*52 - 144*
(d12-Perylene)	*79*		*36 - 161*
(d8-Naphthalene)	*80*		*25 - 125*

Method: 8015 Gas (Purgeable) LL (EAL) - SW846 8015B Gasoline Range Organics

Lab Sample ID: 23VG39H10B
Matrix: WATER
Analysis Batch: 23VG39H10

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GASOLINE	ND	U	0.02		mg/L			08/25/23 12:27	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
BROMOFLUOROBENZENE					*08/25/23 12:27*	*1*

Lab Sample ID: 23VG39H10L
Matrix: WATER
Analysis Batch: 23VG39H10

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
GASOLINE			0.5	0.429		mg/L		86	60 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
BROMOFLUOROBENZENE	*101*		*70 - 130*

Lab Sample ID: 23H191-01M
Matrix: WATER
Analysis Batch: 23VG39H10

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
GASOLINE	ND		0.5	0.444		mg/L		89	50 - 130

Method: 8015 Gas (Purgeable) LL (EAL) - SW846 8015B Gasoline Range Organics (Continued)

Lab Sample ID: 23H191-01M
Matrix: WATER
Analysis Batch: 23VG39H10

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
BROMOFLUOROBENZENE	*104*		*60 - 140*

Lab Sample ID: 23H191-01S
Matrix: WATER
Analysis Batch: 23VG39H10

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
GASOLINE	ND		0.5	0.457		mg/L		91	50 - 130	3	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
BROMOFLUOROBENZENE	*97*		*60 - 140*

Method: 8015 LL DRO/MRO/JP5/JP8 - 8015 - TPH DRO/ORO

Lab Sample ID: 23DSH028WB
Matrix: WATER
Analysis Batch: 23DSH028W

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DIESEL	ND	U	0.025		mg/L			08/28/23 19:20	1
JP5	ND	U	0.05		mg/L			08/28/23 19:20	1
JP8	ND	U	0.05		mg/L			08/28/23 19:20	1
MOTOR OIL	ND	U	0.05		mg/L			08/28/23 19:20	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
BROMOBENZENE					*08/28/23 19:20*	*1*
HEXACOSANE					*08/28/23 19:20*	*1*

Lab Sample ID: 23DSH028WL
Matrix: WATER
Analysis Batch: 23DSH028W

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
DIESEL			2.5	1.89		mg/L		76	50 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
BROMOBENZENE	*72*		*60 - 130*
HEXACOSANE	*84*		*60 - 130*

Lab Sample ID: 23J5H028WL
Matrix: WATER
Analysis Batch: 23DSH028W

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
JP5			2.5	1.55		mg/L		62	30 - 160		

Method: 8015 LL DRO/MRO/JP5/JP8 - 8015 - TPH DRO/ORO (Continued)

Lab Sample ID: 23J5H028WL
Matrix: WATER
Analysis Batch: 23DSH028W

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Surrogate	LCS %Recovery	LCS Qualifier	Limits
BROMOBENZENE	68		60 - 130
HEXACOSANE	79		60 - 130

Lab Sample ID: 23J8H028WL
Matrix: WATER
Analysis Batch: 23DSH028W

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
JP8			2.5	2.63		mg/L		105	30 - 160		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
BROMOBENZENE	92		60 - 130
HEXACOSANE	81		60 - 130

Subcontract

Analysis Batch: O-42076

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-60202-1	AIEA WELLS PUMPS 1&2 (260) P2	Total/NA	Drinking Water	625 PAH Physis LL (EAL) + TICs	O-42076_P
380-60202-2	AIEA GULCH WELLS PUMP 2	Total/NA	Drinking Water	625 PAH Physis LL (EAL) + TICs	O-42076_P
110070-B1	Method Blank	Total/NA	BlankMatrix	625 PAH Physis LL (EAL) + TICs	O-42076_P
110070-BS1	Lab Control Sample	Total/NA	BlankMatrix	625 PAH Physis LL (EAL) + TICs	O-42076_P
110070-BS2	Lab Control Sample Dup	Total/NA	BlankMatrix	625 PAH Physis LL (EAL) + TICs	O-42076_P

Analysis Batch: 23DSH028W

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-60202-1	AIEA WELLS PUMPS 1&2 (260) P2	Total/NA	Drinking Water	8015 LL DRO/MRO/JP5/JP8	
380-60202-2	AIEA GULCH WELLS PUMP 2	Total/NA	Drinking Water	8015 LL DRO/MRO/JP5/JP8	
23DSH028WB	Method Blank	Total/NA	WATER	8015 LL DRO/MRO/JP5/JP8	
23DSH028WL	Lab Control Sample	Total/NA	WATER	8015 LL DRO/MRO/JP5/JP8	
23J5H028WL	Lab Control Sample	Total/NA	WATER	8015 LL DRO/MRO/JP5/JP8	
23J8H028WL	Lab Control Sample	Total/NA	WATER	8015 LL DRO/MRO/JP5/JP8	

Analysis Batch: 23VG39H10

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-60202-1	AIEA WELLS PUMPS 1&2 (260) P2	Total/NA	Drinking Water	8015 Gas (Purgeable) LL (EAL)	
380-60202-2	AIEA GULCH WELLS PUMP 2	Total/NA	Drinking Water	8015 Gas (Purgeable) LL (EAL)	
380-60202-3	TB AIEA WELLS PUMPS 1&2 (260) P2	Total/NA	Water	8015 Gas (Purgeable) LL (EAL)	
380-60202-4	TB AIEA GULCH WELLS PUMP 2	Total/NA	Water	8015 Gas (Purgeable) LL (EAL)	
23VG39H10B	Method Blank	Total/NA	WATER	8015 Gas (Purgeable) LL (EAL)	
23VG39H10L	Lab Control Sample	Total/NA	WATER	8015 Gas (Purgeable) LL (EAL)	
23H191-01M	Matrix Spike	Total/NA	WATER	8015 Gas (Purgeable) LL (EAL)	
23H191-01S	Matrix Spike Duplicate	Total/NA	WATER	8015 Gas (Purgeable) LL (EAL)	

QC Association Summary

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-60202-2

Subcontract

Prep Batch: O-42076_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-60202-1	AIEA WELLS PUMPS 1&2 (260) P2	Total/NA	Drinking Water	EPA_625	
380-60202-2	AIEA GULCH WELLS PUMP 2	Total/NA	Drinking Water	EPA_625	
110070-B1	Method Blank	Total/NA	BlankMatrix	EPA_625	
110070-BS1	Lab Control Sample	Total/NA	BlankMatrix	EPA_625	
110070-BS2	Lab Control Sample Dup	Total/NA	BlankMatrix	EPA_625	

Lab Chronicle

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-60202-2

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) P2

Lab Sample ID: 380-60202-1
Matrix: Drinking Water
Date Collected: 08/21/23 11:14
Date Received: 08/23/23 10:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	EPA_625		1	O-42076_P			08/28/23 00:00
Total/NA	Analysis	625 PAH Physis LL (EAL) + TICs		1	O-42076	YC		10/03/23 19:05
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)		1	23VG39H10	SCerva		08/25/23 14:22
Total/NA	Analysis	8015 LL DRO/MRO/JP5/JP8		1	23DSH028W	SDees		08/28/23 22:46

Client Sample ID: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-60202-2
Matrix: Drinking Water
Date Collected: 08/21/23 10:39
Date Received: 08/23/23 10:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	EPA_625		1	O-42076_P			08/28/23 00:00
Total/NA	Analysis	625 PAH Physis LL (EAL) + TICs		1	O-42076	YC		10/03/23 20:54
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)		1	23VG39H10	SCerva		08/25/23 16:18
Total/NA	Analysis	8015 LL DRO/MRO/JP5/JP8		1	23DSH028W	SDees		08/28/23 23:05

Client Sample ID: TB AIEA WELLS PUMPS 1&2 (260) P2

Lab Sample ID: 380-60202-3
Matrix: Water
Date Collected: 08/21/23 11:14
Date Received: 08/23/23 10:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)		1	23VG39H10	SCerva		08/25/23 17:34

Client Sample ID: TB AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-60202-4
Matrix: Water
Date Collected: 08/21/23 10:39
Date Received: 08/23/23 10:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)		1	23VG39H10	SCerva		08/25/23 18:12

Laboratory References:

= Physis Environmental Laboratories, 1904 Wright Circle, Anaheim, CA 92806

Method Summary

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-60202-2

Method	Method Description	Protocol	Laboratory
625	EPA 625 Base/Neutral and Acid Organics i	EPA	
8015	8015 - TPH DRO/ORO	EPA	
8015B	SW846 8015B Gasoline Range Organics	SW846	

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

= Physis Environmental Laboratories, 1904 Wright Circle, Anaheim, CA 92806

Sample Summary

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-60202-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
380-60202-1	AIEA WELLS PUMPS 1&2 (260) P2	Drinking Water	08/21/23 11:14	08/23/23 10:25
380-60202-2	AIEA GULCH WELLS PUMP 2	Drinking Water	08/21/23 10:39	08/23/23 10:25
380-60202-3	TB AIEA WELLS PUMPS 1&2 (260) P2	Water	08/21/23 11:14	08/23/23 10:25
380-60202-4	TB AIEA GULCH WELLS PUMP 2	Water	08/21/23 10:39	08/23/23 10:25

EMAX LABORATORIES, INC.
3051 Fujita Street
Torrance, CA 90505
Tel: (310)-618-8889

Date: 09-13-2023
EMAX Batch No.: 23H191

Attn: Jackie Contreras

Eurofins Eaton Analytical
750 Royal Oaks Dr., Suite 100
Monrovia, CA 91016-3629

Subject: Laboratory Report
Project: 380-60202

Enclosed is the Laboratory report for samples received on 08/24/23.
The data reported relate only to samples listed below :

Sample ID	Control #	Col Date	Matrix	Analysis
380-60202-1	H191-01	08/21/23	WATER	TPH GASOLINE
				TPH
380-60202-2	H191-02	08/21/23	WATER	TPH GASOLINE
				TPH
380-60202-3	H191-03	08/21/23	WATER	TPH GASOLINE
380-60202-4	H191-04	08/21/23	WATER	TPH GASOLINE
380-60202-1MS	H191-01M	08/21/23	WATER	TPH GASOLINE
380-60202-1MSD	H191-01S	08/21/23	WATER	TPH GASOLINE

The results are summarized on the following pages.

Please feel free to call if you have any questions concerning
these results.

Sincerely yours,

Caspar J. Pang
Laboratory Director

EMAX certifies that results included in this report meets all TNI & DOD requirements unless noted in the Case Narrative.

NELAP Accredited Certificate Number CA002912022-24
ANAB Accredited DoD ELAP and ISO/IEC 17025 Certificate Number L2278 Testing
California ELAP Accredited Certificate Number 2672

Eurofins Eaton Analytical Pomona
941 Corporate Center Drive
Pomona, CA 91768-2642
Phone: 626-386-1100

Chain of Custody Record 23H191

eurofins | Environment Testing

11/22/2023

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Arada, Rachelle	Carrier Tracking No(s):	COC No: 380-73296.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Rachelle.Arada@et.eurofinsus.com	State of Origin: Hawaii	Page: Page 1 of 1
Company: EMAX Laboratories Inc		Accreditations Required (See note): State - Hawaii		Job #: 380-60202-1
Address: 3051 Fujita Street, ,	Due Date Requested: 9/5/2023			
City: Torrance	TAT Requested (days):			
State, Zip: CA, 90505				
Phone:	PO #:			
Email:	WO #:			
Project Name: RED-HILL	Project #: 38001111			
Site: Honolulu BWS Sites	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)
Other:

	Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (8015 Gas (Purgeable) LL (EAL))/ 8015 Gas (Purgeable) LL (EAL)	SUB (8015 LL DRO/MRO/JP5/JP8)/ 8015 LL DRO/MRO/JP5/JP8	Total Number of containers	Special Instructions/Note:
				Preservation Code:							
1	AIEA WELLS PUMPS 1&2 (260) P2 (380-60202-1)	8/21/23	11:14 Hawaiian		Water			X	X	6	See Attached Instructions
2	AIEA GULCH WELLS PUMP 2 (380-60202-2)	8/21/23	10:39 Hawaiian		Water			X	X	6	See Attached Instructions
3	TB AIEA WELLS PUMPS 1&2 (260) P2 (380-60202-3)	8/21/23	11:14 Hawaiian		Water			X		2	See Attached Instructions
4	TB AIEA GULCH WELLS PUMP 2 (380-60202-4)	8/21/23	10:39 Hawaiian		Water			X		2	See Attached Instructions

Note: Since laboratory accreditations are subject to change, Eurofins Eaton Analytical, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Eaton Analytical, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Eaton Analytical, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Eaton Analytical, LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	8/24/23 1029	EEA		8/24/23 1029	Emax
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 1.8/1.7 *CF: -0.1

EMAX LABORATORIES, INC.

REFERENCE: EMAX-SM02 Rev. 12

SAMPLE RECEIPT FORM 1

Type of Delivery	Airbill / Tracking Number	ECN 23H191
☐ Fedex ☐ UPS ☐ GSO ☐ Others		Recipient Jhowin Zamora
☐ EMAX Courier ☒ Client Delivery		Date 08/24/23 Time 10:29

COC INSPECTION

☒ Client Name	☒ Client PM/FC	☐ Sampler Name	☒ Sampling Date/Time	☒ Sample ID	☒ Matrix
☒ Address	☒ Tel # / Fax #	☐ Courier Signature	☒ Analysis Required	☐ Preservative (if any)	☒ TAT
Safety Issues (if any)	☐ High concentrations expected	☐ From Superfund Site	☐ Rad screening required		

Note: _____

PACKAGING INSPECTION

Container	☒ Cooler	☐ Box	☐ Other		
Condition	☐ Custody Seal	☐ Intact	☐ Damaged		
Packaging correction factor:	☒ Bubble Pack	☐ Styrofoam	☐ Popcorn	☐ Sufficient	☐ _____
Temperatures (Cool, ≤6 °C but not frozen)	☒ Cooler 1 1.8/1.7 °C	☐ Cooler 2 _____ °C	☐ Cooler 3 _____ °C	☐ Cooler 4 _____ °C	☐ Cooler 5 _____ °C
-0.1	☐ Cooler 6 _____ °C	☐ Cooler 7 _____ °C	☐ Cooler 8 _____ °C	☐ Cooler 9 _____ °C	☐ Cooler 10 _____ °C
Thermometer:	*A - S/N* 221852768	*B - S/N* 224925379	*C - S/N* _____	*D - S/N* _____	

Comments: ☐ **Temperature is out of range. PM was informed IMMEDIATELY.**

Note: _____

DISCREPANCIES

LabSampleID	LabSampleContainerID	Code	ClientSample Label ID / Information	Corrective Action
1-2	5, 6, 11, 12	D1	JPS / JP8 not on label	R1
3-4	13-16	D22	2nd date reads: 8/15/23	

☐ pH holding time requirement for water samples is 15 mins. Water samples for pH analysis are received beyond 15 minutes from sampling time.

NB 8/30/23

NOTES/OBSERVATIONS:

SAMPLE MATRIX IS DRINKING WATER? ☐ YES ☐ NO

LEGEND:

☐ **Continue to next page.**

Code	Description- Sample Management
(D1)	Analysis is not indicated in label
D2	Analysis mismatch COC vs label
D3	Sample ID mismatch COC vs label
D4	Sample ID is not indicated in _____
D5	Container -[improper] [leaking] [broken]
D6	Date/Time is not indicated in _____
D7	Date/Time mismatch COC vs label
D8	Sample listed in COC is not received
D9	Sample received is not listed in COC
D10	No initial/date on corrections in COC/label
D11	Container count mismatch COC vs received
D12	Container size mismatch COC vs received

Code	Description-Sample Management
D13	Out of Holding Time
D14	Bubble is >6mm
D15	No trip blank in cooler
D16	Preservation not indicated in _____
D17	Preservation mismatch COC vs label
D18	Insufficient chemical preservative
D19	Insufficient Sample
D20	No filtration info for dissolved analysis
D21	No sample for moisture determination
(D22)	2nd Date on label is incorrect
D23	_____
D24	_____

Code	Description-Sample Management
R1	Proceed as indicated in ☒ COC ☐ Label
R2	Refer to attached instruction
R3	Cancel the analysis
R4	Use vial with smallest bubble first
R5	Log-in with latest sampling date and time+1 min
R6	Adjust pH as necessary
R7	Filter and preserved as necessary
R8	_____
R9	_____
R10	_____
R11	_____
R12	_____

REVIEWS:

Sample Labeling Maria Rivera Date 08/24/23 — 8/24/23

SRF _____ Date 8/24/23

PM _____ Date 8/30/23

REPORTING CONVENTIONS

DATA QUALIFIERS:

Lab Qualifier	AFCEE Qualifier	Description
J	F	Indicates that the analyte is positively identified and the result is less than RL but greater than MDL.
N		Indicates presumptive evidence of a compound.
B	B	Indicates that the analyte is found in the associated method blank as well as in the sample at above QC level.
E	J	Indicates that the result is above the maximum calibration range or estimated value.
*	*	Out of QC limit.

Note: The above qualifiers are used to flag the results unless the project requires a different set of qualification criteria.

ACRONYMS AND ABBREVIATIONS:

CRDL	Contract Required Detection Limit
RL	Reporting Limit
MRL	Method Reporting Limit
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
DO	Diluted out

DATES

The date and time information for leaching and preparation reflect the beginning date and time of the procedure unless the method, protocol, or project specifically requires otherwise.

LABORATORY REPORT FOR

EUROFINS EATON ANALYTICAL

380-60202

METHOD 5030B/8015B
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

SDG#: 23H191

CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 380-60202

SDG : 23H191

METHOD 5030B/8015B
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

A total of four(4) water samples were received on 08/24/23 to be analyzed for Total Petroleum Hydrocarbons by Purge and Trap in accordance with Method 5030B/8015B and project specific requirements.

Holding Time
Samples were analyzed within the prescribed holding time.

Calibration
Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using a secondary source (ICV). Continuing calibration (CCV) verifications were carried out on a frequency specified by the project. All calibration requirements were within acceptance criteria. Refer to calibration summary forms of ICAL, ICV and CCV for details. MRL was analyzed as required by the project. Refer to MRL summary form for details.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. VG39H10B - result was compliant to project requirement. Refer to sample result summary form for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of LCS/LCD was analyzed. VG39H10L/VG39H10C were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample
Matrix spike sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of MS/MSD was analyzed. Gasoline was within MS QC limits in H191-01M/H191-01S. Refer to Matrix QC summary form for details.

Surrogate
Surrogate was added on QC and field samples. All surrogate recoveries were within QC limits. Refer to sample result summary forms for details.

Sample Analysis
Samples were analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

LAB CHRONICLE
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

Client : EUROFINS EATON ANALYTICAL
Project : 380-60202

SDG NO. : 23H191
Instrument ID : GCT039

WATER

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1W	VG39H10B	1	NA	08/25/2312:27	08/25/2312:27	EH25005A	EH25004A	23VG39H10	Method Blank
LCS1W	VG39H10L	1	NA	08/25/2313:06	08/25/2313:06	EH25006A	EH25004A	23VG39H10	Lab Control Sample (LCS)
LCD1W	VG39H10C	1	NA	08/25/2313:44	08/25/2313:44	EH25007A	EH25004A	23VG39H10	LCS Duplicate
380-60202-1	H191-01	1	NA	08/25/2314:22	08/25/2314:22	EH25008A	EH25004A	23VG39H10	Field Sample
380-60202-1MS	H191-01M	1	NA	08/25/2315:01	08/25/2315:01	EH25009A	EH25004A	23VG39H10	Matrix Spike Sample (MS)
380-60202-1MSD	H191-01S	1	NA	08/25/2315:39	08/25/2315:39	EH25010A	EH25004A	23VG39H10	MS Duplicate (MSD)
380-60202-2	H191-02	1	NA	08/25/2316:18	08/25/2316:18	EH25011A	EH25004A	23VG39H10	Field Sample
380-60202-3	H191-03	1	NA	08/25/2317:34	08/25/2317:34	EH25012A	EH25004A	23VG39H10	Field Sample
380-60202-4	H191-04	1	NA	08/25/2318:12	08/25/2318:12	EH25013A	EH25004A	23VG39H10	Field Sample

FN - Filename
% Moist - Percent Moisture

SAMPLE RESULTS

METHOD 5030B/8015B
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	08/21/23 11:14
Project	: 380-60202	Date Received:	08/24/23
Batch No.	: 23H191	Date Extracted:	08/25/23 14:22
Sample ID	: 380-60202-1	Date Analyzed:	08/25/23 14:22
Lab Samp ID:	H191-01	Dilution Factor:	1
Lab File ID:	EH25008A	Matrix:	WATER
Ext Btch ID:	23VG39H10	% Moisture:	NA
Calib. Ref.:	EH25004A	Instrument ID:	39

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
GASOLINE	ND	0.020	0.010

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromofluorobenzene	0.0338	0.0400	85	60-140

Notes:
Parameter H-C Range
Gasoline C6-C10
Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.
Sample Amount : 5ml Final Volume : 5ml
Prepared by : SCerva Analyzed by : SCerva

METHOD 5030B/8015B
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	08/21/23 10:39
Project	: 380-60202	Date Received:	08/24/23
Batch No.	: 23H191	Date Extracted:	08/25/23 16:18
Sample ID	: 380-60202-2	Date Analyzed:	08/25/23 16:18
Lab Samp ID:	H191-02	Dilution Factor:	1
Lab File ID:	EH25011A	Matrix:	WATER
Ext Btch ID:	23VG39H10	% Moisture:	NA
Calib. Ref.:	EH25004A	Instrument ID:	39

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
GASOLINE	ND	0.020	0.010

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromofluorobenzene	0.0327	0.0400	82	60-140

Notes:
Parameter H-C Range
Gasoline C6-C10
Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.
Sample Amount : 5ml Final Volume : 5ml
Prepared by : SCerva Analyzed by : SCerva

METHOD 5030B/8015B
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	08/21/23 11:14
Project	: 380-60202	Date Received:	08/24/23
Batch No.	: 23H191	Date Extracted:	08/25/23 17:34
Sample ID	: 380-60202-3	Date Analyzed:	08/25/23 17:34
Lab Samp ID:	H191-03	Dilution Factor:	1
Lab File ID:	EH25012A	Matrix:	WATER
Ext Btch ID:	23VG39H10	% Moisture:	NA
Calib. Ref.:	EH25004A	Instrument ID:	39

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
GASOLINE	ND	0.020	0.010

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromofluorobenzene	0.0318	0.0400	80	60-140

Notes:
Parameter H-C Range
Gasoline C6-C10
Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.
Sample Amount : 5ml Final Volume : 5ml
Prepared by : SCerva Analyzed by : SCerva

METHOD 5030B/8015B
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	08/21/23 10:39
Project	: 380-60202	Date Received:	08/24/23
Batch No.	: 23H191	Date Extracted:	08/25/23 18:12
Sample ID	: 380-60202-4	Date Analyzed:	08/25/23 18:12
Lab Samp ID:	H191-04	Dilution Factor:	1
Lab File ID:	EH25013A	Matrix:	WATER
Ext Btch ID:	23VG39H10	% Moisture:	NA
Calib. Ref.:	EH25004A	Instrument ID:	39

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
GASOLINE	ND	0.020	0.010	
SURROGATE PARAMETERS	**RESULT**	**SPK_AMT**	**%RECOVERY**	**QC LIMIT**
Bromofluorobenzene	0.0327	0.0400	82	60-140

Notes:

Parameter	H-C Range
Gasoline	C6-C10

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount	: 5ml	Final Volume :	5ml
Prepared by	: SCerva	Analyzed by :	SCerva

QC SUMMARIES

METHOD 5030B/8015B
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	08/25/23 12:27
Project	: 380-60202	Date Received:	08/25/23
Batch No.	: 23H191	Date Extracted:	08/25/23 12:27
Sample ID	: MBLK1W	Date Analyzed:	08/25/23 12:27
Lab Samp ID:	VG39H10B	Dilution Factor:	1
Lab File ID:	EH25005A	Matrix:	WATER
Ext Btch ID:	23VG39H10	% Moisture:	NA
Calib. Ref.:	EH25004A	Instrument ID:	39

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
GASOLINE	ND	0.020	0.010	
SURROGATE PARAMETERS	**RESULT**	**SPK_AMT**	**%RECOVERY**	**QC LIMIT**
Bromofluorobenzene	0.0331	0.0400	83	60-140

Notes:
Parameter H-C Range
Gasoline C6-C10
Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.
Sample Amount : 5ml Final Volume : 5ml
Prepared by : SCerva Analyzed by : SCerva

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL
PROJECT : 380-60202
BATCH NO. : 23H191
METHOD : 5030B/8015B

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR	: 1	1	1
SAMPLE ID	: MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID	: VG39H10B	VG39H10L	VG39H10C
LAB FILE ID	: EH25005A	EH25006A	EH25007A
DATE PREPARED	: 08/25/23 12:27	08/25/23 13:06	08/25/23 13:44
DATE ANALYZED	: 08/25/23 12:27	08/25/23 13:06	08/25/23 13:44
PREP BATCH	: 23VG39H10	23VG39H10	23VG39H10
CALIBRATION REF	: EH25004A	EH25004A	EH25004A

ACCESSION:

PARAMETERS	MBResult (mg/L)	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
Gasoline	ND	0.500	0.429	86	0.500	0.456	91	6	60-130	30

SURROGATE PARAMETER	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	QCLimit (%)
Bromofluorobenzene	0.0400	0.0402	101	0.0400	0.0396	99	70-130

MB: Method Blank sample LCS: Lab Control Sample LCD: Lab Control Sample Duplicate

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL
PROJECT : 380-60202
BATCH NO. : 23H191
METHOD : 5030B/8015B

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR	: 1	1	1
SAMPLE ID	: 380-60202-1	380-60202-1MS	380-60202-1MSD
LAB SAMPLE ID	: H191-01	H191-01M	H191-01S
LAB FILE ID	: EH25008A	EH25009A	EH25010A
DATE PREPARED	: 08/25/23 14:22	08/25/23 15:01	08/25/23 15:39
DATE ANALYZED	: 08/25/23 14:22	08/25/23 15:01	08/25/23 15:39
PREP BATCH	: 23VG39H10	23VG39H10	23VG39H10
CALIBRATION REF	: EH25004A	EH25004A	EH25004A

ACCESSION:

PARAMETERS	PSResult (mg/L)	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
Gasoline	ND	0.500	0.444	89	0.500	0.457	91	3	50-130	30

SURROGATE PARAMETER	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	QCLimit (%)
Bromofluorobenzene	0.0400	0.0417	104	0.0400	0.0387	97	60-140

PS: Parent Sample MS: Matrix Spike MSD: Matrix Spike Duplicate

LABORATORY REPORT FOR

EUROFINS EATON ANALYTICAL

380-60202

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

SDG#: 23H191

CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 380-60202

SDG : 23H191

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

A total of two(2) water samples were received on 08/24/23 to be analyzed for Total Petroleum Hydrocarbons by Extraction in accordance with Method 3520C/8015B and project specific requirements.

Holding Time
Samples were analyzed within the prescribed holding time.

Calibration
Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using a secondary source (ICV). Continuing calibration (CCV) verifications were carried out on a frequency specified by the project. All calibration requirements were within acceptance criteria. Refer to calibration summary forms of ICAL, ICV and CCV for details. MRL was analyzed as required by the project. Refer to MRL summary form for details.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. DSH028WB - result was compliant to project requirement. Refer to sample result summary form for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of LCS/LCD was analyzed. DSH028WL/DSH028WC were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample
No matrix QC sample was provided on this SDG.

Surrogate
Surrogates were added on QC and field samples. All surrogate recoveries were within QC limits. Refer to sample result summary forms for details.

Sample Analysis
Samples were analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 380-60202

SDG : 23H191

METHOD 3520C/8015B
PETROLEUM HYDROCARBONS BY EXTRACTION

A total of two(2) water samples were received on 08/24/23 to be analyzed for Petroleum Hydrocarbons by Extraction in accordance with Method 3520C/8015B and project specific requirements.

Holding Time
Samples were analyzed within the prescribed holding time.

Calibration
Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using a secondary source (ICV). Continuing calibration (CCV) verifications were carried out on a frequency specified by the project. All calibration requirements were within acceptance criteria. Refer to calibration summary forms of ICAL, ICV and CCV for details. MRL was analyzed as required by the project. Refer to MRL summary form for details.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. DSH028WB - result was compliant to project requirement. Refer to sample result summary form for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of LCS/LCD was analyzed. J5H028WL/J5H028WC were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample
No matrix QC sample was provided on this SDG.

Surrogate
Surrogates were added on QC and field samples. All surrogate recoveries were within QC limits. Refer to sample result summary forms for details.

Sample Analysis
Samples were analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 380-60202

SDG : 23H191

METHOD 3520C/8015B
PETROLEUM HYDROCARBONS BY EXTRACTION

A total of two(2) water samples were received on 08/24/23 to be analyzed for Petroleum Hydrocarbons by Extraction in accordance with Method 3520C/8015B and project specific requirements.

Holding Time
Samples were analyzed within the prescribed holding time.

Calibration
Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using a secondary source (ICV). Continuing calibration (CCV) verifications were carried out on a frequency specified by the project. All calibration requirements were within acceptance criteria. Refer to calibration summary forms of ICAL, ICV and CCV for details. MRL was analyzed as required by the project. Refer to MRL summary form for details.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. DSH028WB - result was compliant to project requirement. Refer to sample result summary form for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of LCS/LCD was analyzed. J8H028WL/J8H028WC were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample
No matrix QC sample was provided on this SDG.

Surrogate
Surrogates were added on QC and field samples. All surrogate recoveries were within QC limits. Refer to sample result summary forms for details.

Sample Analysis
Samples were analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

LAB CHRONICLE
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client : EUROFINS EATON ANALYTICAL
Project : 380-60202

SDG NO. : 23H191
Instrument ID : D5

WATER

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1W	DSH028WB	1	NA	08/28/2319:20	08/24/2314:00	LH28009A	LH28003A	23DSH028W	Method Blank
LCS1W	DSH028WL	1	NA	08/28/2319:39	08/24/2314:00	LH28010A	LH28003A	23DSH028W	Lab Control Sample (LCS)
LCD1W	DSH028WC	1	NA	08/28/2319:57	08/24/2314:00	LH28011A	LH28003A	23DSH028W	LCS Duplicate
380-60202-1	H191-01	1	NA	08/28/2322:46	08/24/2314:00	LH28020A	LH28003A	23DSH028W	Field Sample
380-60202-2	H191-02	1	NA	08/28/2323:05	08/24/2314:00	LH28021A	LH28003A	23DSH028W	Field Sample

FN - Filename
% Moist - Percent Moisture

LAB CHRONICLE
PETROLEUM HYDROCARBONS BY EXTRACTION

Client : EUROFINS EATON ANALYTICAL
Project : 380-60202

SDG NO. : 23H191
Instrument ID : D5

WATER

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1W	DSH028WB	1	NA	08/28/2319:20	08/24/2314:00	LH28009A	LH28004A	23DSH028W	Method Blank
LCS1W	J5H028WL	1	NA	08/28/2320:16	08/24/2314:00	LH28012A	LH28004A	23DSH028W	Lab Control Sample (LCS)
LCD1W	J5H028WC	1	NA	08/28/2320:35	08/24/2314:00	LH28013A	LH28004A	23DSH028W	LCS Duplicate
380-60202-1	H191-01	1	NA	08/28/2322:46	08/24/2314:00	LH28020A	LH28004A	23DSH028W	Field Sample
380-60202-2	H191-02	1	NA	08/28/2323:05	08/24/2314:00	LH28021A	LH28004A	23DSH028W	Field Sample

FN - Filename
% Moist - Percent Moisture

LAB CHRONICLE
PETROLEUM HYDROCARBONS BY EXTRACTION

Client : EUROFINS EATON ANALYTICAL
Project : 380-60202

SDG NO. : 23H191
Instrument ID : D5

WATER

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1W	DSH028WB	1	NA	08/28/2319:20	08/24/2314:00	LH28009A	LH28005A	23DSH028W	Method Blank
LCS1W	J8H028WL	1	NA	08/28/2320:53	08/24/2314:00	LH28014A	LH28005A	23DSH028W	Lab Control Sample (LCS)
LCD1W	J8H028WC	1	NA	08/28/2321:12	08/24/2314:00	LH28015A	LH28005A	23DSH028W	LCS Duplicate
380-60202-1	H191-01	1	NA	08/28/2322:46	08/24/2314:00	LH28020A	LH28005A	23DSH028W	Field Sample
380-60202-2	H191-02	1	NA	08/28/2323:05	08/24/2314:00	LH28021A	LH28005A	23DSH028W	Field Sample

FN - Filename
% Moist - Percent Moisture

SAMPLE RESULTS

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	08/21/23 11:14
Project	: 380-60202	Date Received:	08/24/23
Batch No.	: 23H191	Date Extracted:	08/24/23 14:00
Sample ID	: 380-60202-1	Date Analyzed:	08/28/23 22:46
Lab Samp ID:	23H191-01	Dilution Factor:	1
Lab File ID:	LH28020A	Matrix:	WATER
Ext Btch ID:	23DSH028W	% Moisture:	NA
Calib. Ref.:	LH28003A	Instrument ID:	D5

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
Diesel	ND	0.027	0.014
Motor Oil	ND	0.054	0.027

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.342	0.540	63	60-130
Hexacosane	0.0981	0.135	73	60-130

Notes:

Parameter	H-C Range
Diesel	C10-C24
Motor Oil	C24-C36

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount	: 930ml	Final Volume :	5ml
Prepared by	: RGalan	Analyzed by :	SDeeso

METHOD 3520C/8015B
PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	08/21/23 11:14
Project	: 380-60202	Date Received:	08/24/23
Batch No.	: 23H191	Date Extracted:	08/24/23 14:00
Sample ID	: 380-60202-1	Date Analyzed:	08/28/23 22:46
Lab Samp ID:	23H191-01	Dilution Factor:	1
Lab File ID:	LH28020A	Matrix:	WATER
Ext Btch ID:	23DSH028W	% Moisture:	NA
Calib. Ref.:	LH28004A	Instrument ID:	D5

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
JP5	ND	0.054	0.027	
SURROGATE PARAMETERS	**RESULT**	**SPK_AMT**	**%RECOVERY**	**QC LIMIT**
Bromobenzene	0.342	0.540	63	60-130
Hexacosane	0.0981	0.135	73	60-130

Notes:
RL : Reporting Limit
Parameter H-C Range
JP5 C8-C18
Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.
Sample Amount : 930ml Final Volume : 5ml
Prepared by : RGalan Analyzed by : SDeeso

METHOD 3520C/8015B
PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	08/21/23 11:14
Project	: 380-60202	Date Received:	08/24/23
Batch No.	: 23H191	Date Extracted:	08/24/23 14:00
Sample ID	: 380-60202-1	Date Analyzed:	08/28/23 22:46
Lab Samp ID:	23H191-01	Dilution Factor:	1
Lab File ID:	LH28020A	Matrix:	WATER
Ext Btch ID:	23DSH028W	% Moisture:	NA
Calib. Ref.:	LH28005A	Instrument ID:	D5

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
JP8	ND	0.054	0.027

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.342	0.540	63	60-130
Hexacosane	0.0981	0.135	73	60-130

Notes:
RL : Reporting Limit
Parameter H-C Range
JP8 C8-C18
Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.
Sample Amount : 930ml Final Volume : 5ml
Prepared by : RGalan Analyzed by : SDeeso

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	08/21/23 10:39
Project	: 380-60202	Date Received:	08/24/23
Batch No.	: 23H191	Date Extracted:	08/24/23 14:00
Sample ID	: 380-60202-2	Date Analyzed:	08/28/23 23:05
Lab Samp ID:	23H191-02	Dilution Factor:	1
Lab File ID:	LH28021A	Matrix:	WATER
Ext Btch ID:	23DSH028W	% Moisture:	NA
Calib. Ref.:	LH28003A	Instrument ID:	D5

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
Diesel	ND	0.028	0.014
Motor Oil	ND	0.055	0.028

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.380	0.550	69	60-130
Hexacosane	0.114	0.138	83	60-130

Notes:

Parameter	H-C Range
Diesel	C10-C24
Motor Oil	C24-C36

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount	: 910ml	Final Volume	: 5ml
Prepared by	: RGalan	Analyzed by	: SDeeso

METHOD 3520C/8015B
PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	08/21/23 10:39
Project	: 380-60202	Date Received:	08/24/23
Batch No.	: 23H191	Date Extracted:	08/24/23 14:00
Sample ID	: 380-60202-2	Date Analyzed:	08/28/23 23:05
Lab Samp ID:	23H191-02	Dilution Factor:	1
Lab File ID:	LH28021A	Matrix:	WATER
Ext Btch ID:	23DSH028W	% Moisture:	NA
Calib. Ref.:	LH28004A	Instrument ID:	D5

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
JP5	ND	0.055	0.028

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.380	0.550	69	60-130
Hexacosane	0.114	0.138	83	60-130

Notes:
RL : Reporting Limit

Parameter	H-C Range
JP5	C8-C18

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.
Sample Amount : 910ml Final Volume : 5ml
Prepared by : RGalan Analyzed by : SDeeso

METHOD 3520C/8015B
PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	08/21/23 10:39
Project	: 380-60202	Date Received:	08/24/23
Batch No.	: 23H191	Date Extracted:	08/24/23 14:00
Sample ID	: 380-60202-2	Date Analyzed:	08/28/23 23:05
Lab Samp ID:	23H191-02	Dilution Factor:	1
Lab File ID:	LH28021A	Matrix:	WATER
Ext Btch ID:	23DSH028W	% Moisture:	NA
Calib. Ref.:	LH28005A	Instrument ID:	D5

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
JP8	ND	0.055	0.028

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.380	0.550	69	60-130
Hexacosane	0.114	0.138	83	60-130

Notes:
RL : Reporting Limit
Parameter H-C Range
JP8 C8-C18
Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.
Sample Amount : 910ml Final Volume : 5ml
Prepared by : RGalan Analyzed by : SDeeso

QC SUMMARIES

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	08/24/23 14:00
Project	: 380-60202	Date Received:	08/24/23
Batch No.	: 23H191	Date Extracted:	08/24/23 14:00
Sample ID	: MBLK1W	Date Analyzed:	08/28/23 19:20
Lab Samp ID:	DSH028WB	Dilution Factor:	1
Lab File ID:	LH28009A	Matrix:	WATER
Ext Btch ID:	23DSH028W	% Moisture:	NA
Calib. Ref.:	LH28003A	Instrument ID:	D5

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
Diesel	ND	0.025	0.012
Motor Oil	ND	0.050	0.025

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.370	0.500	74	60-130
Hexacosane	0.0946	0.125	76	60-130

Notes:

Parameter	H-C Range
Diesel	C10-C24
Motor Oil	C24-C36

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount	: 1000ml	Final Volume	: 5ml
Prepared by	: RGalan	Analyzed by	: SDeeso

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL
PROJECT : 380-60202
BATCH NO. : 23H191
METHOD : 3520C/8015B

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR	: 1	1	1
SAMPLE ID	: MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID	: DSH028WB	DSH028WL	DSH028WC
LAB FILE ID	: LH28009A	LH28010A	LH28011A
DATE PREPARED	: 08/24/23 14:00	08/24/23 14:00	08/24/23 14:00
DATE ANALYZED	: 08/28/23 19:20	08/28/23 19:39	08/28/23 19:57
PREP BATCH	: 23DSH028W	23DSH028W	23DSH028W
CALIBRATION REF	: LH28003A	LH28003A	LH28003A

ACCESSION:

PARAMETERS	MBResult (mg/L)	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
Diesel	ND	2.50	1.89	76	2.50	1.85	74	2	50-130	30

SURROGATE PARAMETERS	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	QCLimit (%)
Bromobenzene	0.500	0.360	72	0.500	0.336	67	60-130
Hexacosane	0.125	0.105	84	0.125	0.0977	78	60-130

MB: Method Blank sample LCS: Lab Control Sample LCD: Lab Control Sample Duplicate

METHOD 3520C/8015B
PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	08/24/23 14:00
Project	: 380-60202	Date Received:	08/24/23
Batch No.	: 23H191	Date Extracted:	08/24/23 14:00
Sample ID	: MBLK1W	Date Analyzed:	08/28/23 19:20
Lab Samp ID:	DSH028WB	Dilution Factor:	1
Lab File ID:	LH28009A	Matrix:	WATER
Ext Btch ID:	23DSH028W	% Moisture:	NA
Calib. Ref.:	LH28004A	Instrument ID:	D5

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
JP5	ND	0.050	0.025	
SURROGATE PARAMETERS	**RESULT**	**SPK_AMT**	**%RECOVERY**	**QC LIMIT**
Bromobenzene	0.370	0.500	74	60-130
Hexacosane	0.0946	0.125	76	60-130

Notes:
RL : Reporting Limit
Parameter H-C Range
JP5 C8-C18
Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.
Sample Amount : 1000ml Final Volume : 5ml
Prepared by : RGalan Analyzed by : SDeeso

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL
PROJECT : 380-60202
BATCH NO. : 23H191
METHOD : 3520C/8015B

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR	: 1	1	1
SAMPLE ID	: MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID	: DSH028WB	J5H028WL	J5H028WC
LAB FILE ID	: LH28009A	LH28012A	LH28013A
DATE PREPARED	: 08/24/23 14:00	08/24/23 14:00	08/24/23 14:00
DATE ANALYZED	: 08/28/23 19:20	08/28/23 20:16	08/28/23 20:35
PREP BATCH	: 23DSH028W	23DSH028W	23DSH028W
CALIBRATION REF	: LH28004A	LH28004A	LH28004A

ACCESSION:

PARAMETERS	MBResult (mg/L)	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
JP5	ND	2.50	1.55	62	2.50	1.81	72	15	30-160	30

SURROGATE PARAMETERS	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	QCLimit (%)
Bromobenzene	0.500	0.341	68	0.500	0.384	77	60-130
Hexacosane	0.125	0.0984	79	0.125	0.105	84	60-130

MB: Method Blank sample LCS: Lab Control Sample LCD: Lab Control Sample Duplicate

METHOD 3520C/8015B
PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	08/24/23 14:00
Project	: 380-60202	Date Received:	08/24/23
Batch No.	: 23H191	Date Extracted:	08/24/23 14:00
Sample ID	: MBLK1W	Date Analyzed:	08/28/23 19:20
Lab Samp ID:	DSH028WB	Dilution Factor:	1
Lab File ID:	LH28009A	Matrix:	WATER
Ext Btch ID:	23DSH028W	% Moisture:	NA
Calib. Ref.:	LH28005A	Instrument ID:	D5

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
JP8	ND	0.050	0.025	
SURROGATE PARAMETERS	**RESULT**	**SPK_AMT**	**%RECOVERY**	**QC LIMIT**
Bromobenzene	0.370	0.500	74	60-130
Hexacosane	0.0946	0.125	76	60-130

Notes:
RL : Reporting Limit

Parameter	H-C Range
JP8	C8-C18

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.
Sample Amount : 1000ml Final Volume : 5ml
Prepared by : RGalan Analyzed by : SDeeso

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL
PROJECT : 380-60202
BATCH NO. : 23H191
METHOD : 3520C/8015B

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR	: 1	1	1
SAMPLE ID	: MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID	: DSH028WB	J8H028WL	J8H028WC
LAB FILE ID	: LH28009A	LH28014A	LH28015A
DATE PREPARED	: 08/24/23 14:00	08/24/23 14:00	08/24/23 14:00
DATE ANALYZED	: 08/28/23 19:20	08/28/23 20:53	08/28/23 21:12
PREP BATCH	: 23DSH028W	23DSH028W	23DSH028W
CALIBRATION REF	: LH28005A	LH28005A	LH28005A

ACCESSION:

PARAMETERS	MBResult (mg/L)	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
JP8	ND	2.50	2.63	105	2.50	2.31	92	13	30-160	30

SURROGATE PARAMETERS	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	QCLimit (%)
Bromobenzene	0.500	0.461	92	0.500	0.396	79	60-130
Hexacosane	0.125	0.101	81	0.125	0.0901	72	60-130

MB: Method Blank sample LCS: Lab Control Sample LCD: Lab Control Sample Duplicate

October 04, 2023

Rachelle Arada
Eurofins Eaton Analytical
750 Royal Oaks Drive
Suite 100
Monrovia, CA 91016-

Project Name: RED-HILL Project # 38001111 Job # 380-60202-1
Physis Project ID: 1407003-438

Dear Rachelle,

Enclosed are the analytical results for samples submitted to PHYSIS Environmental Laboratories, Inc. (PHYSIS) on 8/24/2023. A total of 2 samples were received for analysis in accordance with the attached chain of custody (COC). Per the COC, the samples were analyzed for:

Organics
Polynuclear Aromatic Hydrocarbons by EPA 625.1
Disalicylidenepropanediamine by EPA 625.1
Dibenzo [a,l] Pyrene w/ PAHs by EPA 625.1

Analytical results in this report apply only to samples submitted to PHYSIS in accordance with the COC and are intended to be considered in their entirety.

Please feel free to contact me at any time with any questions. PHYSIS appreciates the opportunity to provide you with our analytical and support services.

Regards,

Rachel Hansen
714 602-5320
Extension 203
rachelhansen@physislabs.com

PROJECT SAMPLE LIST

Eurofins Eaton Analytical

PHYSIS Project ID: 1407003-438

RED-HILL Project # 38001111 Job # 380-60202-1

Total Samples: 2

PHYSIS ID	Sample ID	Description	Date	Time	Matrix	Sample Type
110071	AIEA WELLS PUMPS 1&2 (260) P2	380-60202-1	8/21/2023	11:14	Samplewater	Not Specified
110072	AIEA GULCH WELLS PUMP 2	380-60202-2	8/21/2023	10:39	Samplewater	Not Specified

1904 E. Wright Circle Anaheim, CA 92806 (714) 602-5320 fax (714) 602-5321 www.physislabs.com CA ELAP #2769

ABBREVIATIONS and ACRONYMS

QM	Quality Manual
QA	Quality Assurance
QC	Quality Control
MDL	method detection limit
RL	reporting limit
R1	project sample
R2	project sample replicate
MS1	matrix spike
MS2	matrix spike replicate
B1	procedural blank
B2	procedural blank replicate
BS1	blank spike
BS2	blank spike replicate
LCS1	laboratory control spike
LCS2	laboratory control spike replicate
LCM1	laboratory control material
LCM2	laboratory control material replicate
CRM1	certified reference material
CRM2	certified reference material replicate
RPD	relative percent difference
LMW	low molecular weight
HMW	high molecular weight

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QUALITY ASSURANCE SUMMARY

LABORATORY BATCH: Physis' QM defines a laboratory batch as a group of 20 or fewer project samples of similar matrix, processed together under the same conditions and with the same reagents. QC samples are associated with each batch and were used to assess the validity of the sample analyses.

PROCEDURAL BLANK: Laboratory contamination introduced during method use is assessed through the preparation and analysis of procedural blanks is provided at a minimum frequency of one per batch.

ACCURACY: Accuracy of analytical measurements is the degree of closeness based on percent recovery calculations between measured values and the actual or true value and includes a combination of reproducibility error and systematic bias due to sampling and analytical operations. Accuracy of the project data was indicated by analysis of MS, BS, LCS, LCM, CRM, and/or surrogate spikes on a minimum frequency of one per batch. Physis' QM requires that 95% of the target compounds greater than 10 times the MDL be within the specified acceptance limits.

PRECISION: Precision is the agreement among a set of replicate measurements without assumption of knowledge of the true value and is based on RPD calculations between repeated values. Precision of the project data was determined by analysis of replicate MS1/MS2, BS1/BS2, LCS1/LCS2, LCM1/LCM2, CRM1/CRM2, surrogate spikes and/or replicate project sample analysis (R1/R2) on a minimum frequency of one per batch. Physis' QM requires that for 95% of the compounds greater than 10 times the MDL, the percent RPD should be within the specified acceptance range.

BLANK SPIKES: BS is the introduction of a known concentration of analyte into the procedural blank. BS demonstrates performance of the preparation and analytical methods on a clean matrix void of potential matrix related interferences. The BS is performed in laboratory deionized water, making these recoveries a better indicator of the efficiency of the laboratory method per se.

MATRIX SPIKES: MS is the introduction of a known concentration of analyte into a sample. MS samples demonstrate the effect a particular project sample matrix has on the accuracy of a measurement. Individually, MS samples also indicate the bias of analytical measurements due to chemical interferences inherent in the in the specific project sample spiked. Intrinsic target analyte concentration in the specific project sample can also significantly impact MS recovery.

CERTIFIED REFERENCE MATERIALS: CRMs are materials of various matrices for which analytical information has been determined and certified by a recognized authority. These are used to provide a quantitative assessment of the accuracy of an analytical method. CRMs provide evidence that the laboratory preparation and analysis produces results that are comparable to those obtained by an independent organization.

LABORATORY CONTROL MATERIAL: LCM is provided because a suitable natural seawater CRM is not available and can be used to indicate accuracy of the method. Physis' internal LCM is seawater collected at ~800 meters in the Southern California San Pedro Basin and can be used as a reference for background concentrations in clean, natural seawater for comparison to project samples.

LABORATORY CONTROL SPIKES: LCS is the introduction of a known concentration of analyte into Physis' LCM. LCS samples were employed to assess the effect the seawater matrix has on the accuracy of a measurement. LCS also indicate the bias of this method due to chemical interferences inherent in the in the seawater matrix. Intrinsic LCM concentration can also significantly impact LCS recovery.

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SURROGATES: A surrogate is a pure analyte unlikely to be found in any project sample, behaves similarly to the target analyte and most often used with organic analytical procedures. Surrogates are added in known concentration to all samples and are measured to indicate overall efficiency of the method including processing and analyses.

HOLDING TIME: Method recommended holding times are the length of time a project sample can be stored under specific conditions after collection and prior to analysis without significantly affecting the analyte's concentration. Holding times can be extended if preservation techniques are employed to reduce biodegradation, volatilization, oxidation, sorption, precipitation, and other physical and chemical processes.

SAMPLE STORAGE/RETENTION: In order to maintain chemical integrity prior to analysis, all samples submitted to Physis are refrigerated (liquids) or frozen (solids) upon receipt unless otherwise recommended by applicable methods. Solid samples are retained for 1 year from collection while liquid samples are retained until method recommended holding times elapse.

TOTAL/DISSOLVED FRACTION: In some instances, the results for the dissolved fraction may be higher than the total fraction for a particular analyte (e.g. trace metals). This is typically caused by the analytical variation for each result and indicates that the target analyte is primarily in the dissolved phase, within the sample.

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PHYSIS QUALIFIER CODES

CODE	DEFINITION
#	see Case Narrative
ND	analyte not detected at or above the MDL
B	analyte was detected in the procedural blank greater than 10 times the MDL
E	analyte concentration exceeds the upper limit of the linear calibration range, reported value is estimated
H	sample received and/or analyzed past the recommended holding time
J	analyte was detected at a concentration below the RL and above the MDL, reported value is estimated
N	insufficient sample, analysis could not be performed
M	analyte was outside the specified accuracy and/or precision acceptance limits due to matrix interference. The associated B/BS were within limits, therefore the sample data was reported without further clarification
SH	analyte concentration in the project sample exceeded the spike concentration, therefore accuracy and/or precision acceptance limits do not apply
SL	analyte results were lower than 10 times the MDL, therefore accuracy and/or precision acceptance limits do not apply
NH	project sample was heterogeneous and sample homogeneity could not be readily achieved using routine laboratory practices, therefore accuracy and/or precision acceptance limits do not apply
Q	analyte was outside the specified QAPP acceptance limits for precision and/or accuracy but within Physis derived acceptance limits, therefore the sample data was reported without further clarification
R	Physis' QM allows for 5% of the target compounds greater than 10 times the MDL to be outside the specified acceptance limits for precision and/or accuracy. This is often due to random error and does not indicate any significant problems with the analysis of these project samples

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CASE NARRATIVE

QUALIFIER NOTES

In addition to the use of analyte specific Physis Qualifier Codes where applicable, the following were also noted.

ND

MDL is listed due to report format restrictions; it is not used in reporting. Analytical results reported are ND at the RL.

ANALYTICAL REPORT

PHYSIS Project ID: 1407003-438
Client: Eurofins Eaton Analytical
Project: RED-HILL Project # 38001111 Job # 380-60202-1

Base/Neutral Extractable Compounds

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 110071-R1	**AIEA WELLS PUMPS 1&2 (260) P2 3 Matrix: Samplewater**							**Sampled:**	**21-Aug-23 11:14**	**Received:**	**24-Aug-23**
Disalicylidenepropanediamine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-42076	28-Aug-23	03-Oct-23
Sample ID: 110072-R1	**AIEA GULCH WELLS PUMP 2 380-6 Matrix: Samplewater**							**Sampled:**	**21-Aug-23 10:39**	**Received:**	**24-Aug-23**
Disalicylidenepropanediamine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-42076	28-Aug-23	03-Oct-23

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 110071-R1	**AIEA WELLS PUMPS 1&2 (260) P2 3 Matrix: Samplewater**						**Sampled:**	**21-Aug-23**	**11:14**	**Received:**	**24-Aug-23**
(d10-Acenaphthene)	EPA 625.1	% Recovery	76	1			Total		O-42076	28-Aug-23	03-Oct-23
(d10-Phenanthrene)	EPA 625.1	% Recovery	81	1			Total		O-42076	28-Aug-23	03-Oct-23
(d12-Chrysene)	EPA 625.1	% Recovery	84	1			Total		O-42076	28-Aug-23	03-Oct-23
(d12-Perylene)	EPA 625.1	% Recovery	87	1			Total		O-42076	28-Aug-23	03-Oct-23
(d8-Naphthalene)	EPA 625.1	% Recovery	71	1			Total		O-42076	28-Aug-23	03-Oct-23
1-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42076	28-Aug-23	03-Oct-23
1-Methylphenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42076	28-Aug-23	03-Oct-23
2,3,5-Trimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42076	28-Aug-23	03-Oct-23
2,6-Dimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42076	28-Aug-23	03-Oct-23
2-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42076	28-Aug-23	03-Oct-23
Acenaphthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42076	28-Aug-23	03-Oct-23
Acenaphthylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42076	28-Aug-23	03-Oct-23
Anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42076	28-Aug-23	03-Oct-23
Benz[a]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42076	28-Aug-23	03-Oct-23
Benzo[a]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42076	28-Aug-23	03-Oct-23
Benzo[b]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42076	28-Aug-23	03-Oct-23
Benzo[e]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42076	28-Aug-23	03-Oct-23
Benzo[g,h,i]perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42076	28-Aug-23	03-Oct-23
Benzo[k]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42076	28-Aug-23	03-Oct-23
Biphenyl	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42076	28-Aug-23	03-Oct-23
Chrysene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42076	28-Aug-23	03-Oct-23
Dibenz[a,h]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42076	28-Aug-23	03-Oct-23
Dibenzo[a,l]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42076	28-Aug-23	03-Oct-23
Dibenzothiophene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42076	28-Aug-23	03-Oct-23

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42076	28-Aug-23	03-Oct-23
Fluorene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42076	28-Aug-23	03-Oct-23
Indeno[1,2,3-cd]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42076	28-Aug-23	03-Oct-23
Naphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42076	28-Aug-23	03-Oct-23
Perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42076	28-Aug-23	03-Oct-23
Phenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42076	28-Aug-23	03-Oct-23
Pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42076	28-Aug-23	03-Oct-23

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 110072-R1	**AIEA GULCH WELLS PUMP 2 380-6**	**Matrix: Samplewater**					**Sampled:**	**21-Aug-23 10:39**		**Received:**	**24-Aug-23**
(d10-Acenaphthene)	EPA 625.1	% Recovery	79	1			Total		O-42076	28-Aug-23	03-Oct-23
(d10-Phenanthrene)	EPA 625.1	% Recovery	87	1			Total		O-42076	28-Aug-23	03-Oct-23
(d12-Chrysene)	EPA 625.1	% Recovery	86	1			Total		O-42076	28-Aug-23	03-Oct-23
(d12-Perylene)	EPA 625.1	% Recovery	85	1			Total		O-42076	28-Aug-23	03-Oct-23
(d8-Naphthalene)	EPA 625.1	% Recovery	72	1			Total		O-42076	28-Aug-23	03-Oct-23
1-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42076	28-Aug-23	03-Oct-23
1-Methylphenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42076	28-Aug-23	03-Oct-23
2,3,5-Trimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42076	28-Aug-23	03-Oct-23
2,6-Dimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42076	28-Aug-23	03-Oct-23
2-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42076	28-Aug-23	03-Oct-23
Acenaphthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42076	28-Aug-23	03-Oct-23
Acenaphthylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42076	28-Aug-23	03-Oct-23
Anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42076	28-Aug-23	03-Oct-23
Benz[a]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42076	28-Aug-23	03-Oct-23
Benzo[a]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42076	28-Aug-23	03-Oct-23
Benzo[b]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42076	28-Aug-23	03-Oct-23
Benzo[e]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42076	28-Aug-23	03-Oct-23
Benzo[g,h,i]perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42076	28-Aug-23	03-Oct-23
Benzo[k]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42076	28-Aug-23	03-Oct-23
Biphenyl	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42076	28-Aug-23	03-Oct-23
Chrysene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42076	28-Aug-23	03-Oct-23
Dibenz[a,h]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42076	28-Aug-23	03-Oct-23
Dibenzo[a,l]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42076	28-Aug-23	03-Oct-23
Dibenzothiophene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42076	28-Aug-23	03-Oct-23

PHYSIS Project ID: 1407003-438
Client: Eurofins Eaton Analytical
Project: RED-HILL Project # 38001111 Job # 380-60202-1

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42076	28-Aug-23	03-Oct-23
Fluorene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42076	28-Aug-23	03-Oct-23
Indeno[1,2,3-cd]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42076	28-Aug-23	03-Oct-23
Naphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42076	28-Aug-23	03-Oct-23
Perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42076	28-Aug-23	03-Oct-23
Phenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42076	28-Aug-23	03-Oct-23
Pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42076	28-Aug-23	03-Oct-23

QUALITY CONTROL REPORT

Base/Neutral Extractable Compounds QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODEc
Sample ID: 110070-B1	**QAQC Procedural Blank**					**Matrix: BlankMatrix**	**Sampled:**						**Received:**	
		Method: EPA 625.1				Batch ID: O-42076		Prepared: 28-Aug-23					Analyzed: 03-Oct-23	
Disalicylidenepropanediamine	Total	ND	1	0.05	0.1	µg/L								
Sample ID: 110070-BS1	**QAQC Procedural Blank**					**Matrix: BlankMatrix**	**Sampled:**						**Received:**	
		Method: EPA 625.1				Batch ID: O-42076		Prepared: 28-Aug-23					Analyzed: 03-Oct-23	
Disalicylidenepropanediamine	Total	46.7	1	0.05	0.1	µg/L	50	0	93	50 - 150%	PASS			
Sample ID: 110070-BS2	**QAQC Procedural Blank**					**Matrix: BlankMatrix**	**Sampled:**						**Received:**	
		Method: EPA 625.1				Batch ID: O-42076		Prepared: 28-Aug-23					Analyzed: 03-Oct-23	
Disalicylidenepropanediamine	Total	52.3	1	0.05	0.1	µg/L	50	0	105	50 - 150%	PASS	12	30 PASS	

Polynuclear Aromatic Hydrocarbons QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODEc
Sample ID: 110070-B1	**QAQC Procedural Blank**					**Matrix: BlankMatrix**	**Sampled:**					**Received:**	
	Method: EPA 625.1					Batch ID: O-42076		Prepared: 28-Aug-23				Analyzed: 03-Oct-23	
(d10-Acenaphthene)	Total	82	1			% Recovery	100	82	27 - 133%	PASS			
(d10-Phenanthrene)	Total	85	1			% Recovery	100	85	43 - 129%	PASS			
(d12-Chrysene)	Total	89	1			% Recovery	100	89	52 - 144%	PASS			
(d12-Perylene)	Total	80	1			% Recovery	100	80	36 - 161%	PASS			
(d8-Naphthalene)	Total	79	1			% Recovery	100	79	25 - 125%	PASS			
1-Methylnaphthalene	Total	ND	1	0.001	0.005	µg/L							
1-Methylphenanthrene	Total	ND	1	0.001	0.005	µg/L							
2,3,5-Trimethylnaphthalene	Total	ND	1	0.001	0.005	µg/L							
2,6-Dimethylnaphthalene	Total	ND	1	0.001	0.005	µg/L							
2-Methylnaphthalene	Total	ND	1	0.001	0.005	µg/L							
Acenaphthene	Total	ND	1	0.001	0.005	µg/L							
Acenaphthylene	Total	ND	1	0.001	0.005	µg/L							
Anthracene	Total	ND	1	0.001	0.005	µg/L							
Benz[a]anthracene	Total	ND	1	0.001	0.005	µg/L							
Benzo[a]pyrene	Total	ND	1	0.001	0.005	µg/L							
Benzo[b]fluoranthene	Total	ND	1	0.001	0.005	µg/L							
Benzo[e]pyrene	Total	ND	1	0.001	0.005	µg/L							
Benzo[g,h,i]perylene	Total	ND	1	0.001	0.005	µg/L							
Benzo[k]fluoranthene	Total	ND	1	0.001	0.005	µg/L							
Biphenyl	Total	ND	1	0.001	0.005	µg/L							
Chrysene	Total	ND	1	0.001	0.005	µg/L							
Dibenz[a,h]anthracene	Total	ND	1	0.001	0.005	µg/L							
Dibenzo[a,l]pyrene	Total	ND	1	0.001	0.005	µg/L							

Polynuclear Aromatic Hydrocarbons QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODEc
Dibenzothiophene	Total	ND	1	0.001	0.005	µg/L							
Fluoranthene	Total	ND	1	0.001	0.005	µg/L							
Fluorene	Total	ND	1	0.001	0.005	µg/L							
Indeno[1,2,3-cd]pyrene	Total	ND	1	0.001	0.005	µg/L							
Naphthalene	Total	ND	1	0.001	0.005	µg/L							
Perylene	Total	ND	1	0.001	0.005	µg/L							
Phenanthrene	Total	ND	1	0.001	0.005	µg/L							
Pyrene	Total	ND	1	0.001	0.005	µg/L							

Polynuclear Aromatic Hydrocarbons QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODEc
Sample ID: 110070-BS1	**QAQC Procedural Blank**					**Matrix: BlankMatrix**		**Sampled:**				**Received:**	
	Method: EPA 625.1					Batch ID: O-42076		Prepared: 28-Aug-23				Analyzed: 03-Oct-23	
(d10-Acenaphthene)	Total	85	1			% Recovery	100	0	85	27 - 133%		PASS	
(d10-Phenanthrene)	Total	91	1			% Recovery	100	0	91	43 - 129%		PASS	
(d12-Chrysene)	Total	92	1			% Recovery	100	0	92	52 - 144%		PASS	
(d12-Perylene)	Total	91	1			% Recovery	100	0	91	36 - 161%		PASS	
(d8-Naphthalene)	Total	79	1			% Recovery	100	0	79	25 - 125%		PASS	
1-Methylnaphthalene	Total	0.413	1	0.001	0.005	µg/L	0.5	0	83	31 - 128%		PASS	
1-Methylphenanthrene	Total	0.447	1	0.001	0.005	µg/L	0.5	0	89	66 - 127%		PASS	
2,3,5-Trimethylnaphthalene	Total	0.435	1	0.001	0.005	µg/L	0.5	0	87	55 - 122%		PASS	
2,6-Dimethylnaphthalene	Total	0.424	1	0.001	0.005	µg/L	0.5	0	85	48 - 120%		PASS	
2-Methylnaphthalene	Total	0.406	1	0.001	0.005	µg/L	0.5	0	81	47 - 130%		PASS	
Acenaphthene	Total	0.429	1	0.001	0.005	µg/L	0.5	0	86	53 - 131%		PASS	
Acenaphthylene	Total	0.445	1	0.001	0.005	µg/L	0.5	0	89	43 - 140%		PASS	
Anthracene	Total	0.453	1	0.001	0.005	µg/L	0.5	0	91	58 - 135%		PASS	
Benz[a]anthracene	Total	0.481	1	0.001	0.005	µg/L	0.5	0	96	55 - 145%		PASS	
Benzo[a]pyrene	Total	0.479	1	0.001	0.005	µg/L	0.5	0	96	51 - 143%		PASS	
Benzo[b]fluoranthene	Total	0.424	1	0.001	0.005	µg/L	0.5	0	85	46 - 165%		PASS	
Benzo[e]pyrene	Total	0.381	1	0.001	0.005	µg/L	0.5	0	76	42 - 152%		PASS	
Benzo[g,h,i]perylene	Total	0.448	1	0.001	0.005	µg/L	0.5	0	90	63 - 133%		PASS	
Benzo[k]fluoranthene	Total	0.429	1	0.001	0.005	µg/L	0.5	0	86	56 - 145%		PASS	
Biphenyl	Total	0.424	1	0.001	0.005	µg/L	0.5	0	85	56 - 119%		PASS	
Chrysene	Total	0.403	1	0.001	0.005	µg/L	0.5	0	81	56 - 141%		PASS	
Dibenz[a,h]anthracene	Total	0.558	1	0.001	0.005	µg/L	0.5	0	112	55 - 150%		PASS	
Dibenzo[a,l]pyrene	Total	0.479	1	0.001	0.005	µg/L	0.5	0	96	50 - 150%		PASS	

PHYSIS Project ID: 1407003-438
Client: Eurofins Eaton Analytical
Project: RED-HILL Project # 38001111 Job # 380-60202-1

Polynuclear Aromatic Hydrocarbons QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODEc
Dibenzothiophene	Total	0.442	1	0.001	0.005	µg/L	0.5	0	88	46 - 126%	PASS			
Fluoranthene	Total	0.447	1	0.001	0.005	µg/L	0.5	0	89	60 - 146%	PASS			
Fluorene	Total	0.44	1	0.001	0.005	µg/L	0.5	0	88	58 - 131%	PASS			
Indeno[1,2,3-cd]pyrene	Total	0.494	1	0.001	0.005	µg/L	0.5	0	99	50 - 151%	PASS			
Naphthalene	Total	0.398	1	0.001	0.005	µg/L	0.5	0	80	41 - 126%	PASS			
Perylene	Total	0.446	1	0.001	0.005	µg/L	0.5	0	89	48 - 141%	PASS			
Phenanthrene	Total	0.434	1	0.001	0.005	µg/L	0.5	0	87	67 - 127%	PASS			
Pyrene	Total	0.434	1	0.001	0.005	µg/L	0.5	0	87	54 - 156%	PASS			

Polynuclear Aromatic Hydrocarbons — QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODEc
Sample ID: 110070-BS2	**QAQC Procedural Blank**					**Matrix: BlankMatrix**		**Sampled:**				**Received:**		
	Method: EPA 625.1					Batch ID: O-42076		Prepared: 28-Aug-23				Analyzed: 03-Oct-23		
(d10-Acenaphthene)	Total	88	1			% Recovery	100	0	88	27 - 133%	PASS	3	30	PASS
(d10-Phenanthrene)	Total	92	1			% Recovery	100	0	92	43 - 129%	PASS	1	30	PASS
(d12-Chrysene)	Total	95	1			% Recovery	100	0	95	52 - 144%	PASS	3	30	PASS
(d12-Perylene)	Total	79	1			% Recovery	100	0	79	36 - 161%	PASS	14	30	PASS
(d8-Naphthalene)	Total	80	1			% Recovery	100	0	80	25 - 125%	PASS	1	30	PASS
1-Methylnaphthalene	Total	0.434	1	0.001	0.005	µg/L	0.5	0	87	31 - 128%	PASS	5	30	PASS
1-Methylphenanthrene	Total	0.455	1	0.001	0.005	µg/L	0.5	0	91	66 - 127%	PASS	2	30	PASS
2,3,5-Trimethylnaphthalene	Total	0.439	1	0.001	0.005	µg/L	0.5	0	88	55 - 122%	PASS	1	30	PASS
2,6-Dimethylnaphthalene	Total	0.424	1	0.001	0.005	µg/L	0.5	0	85	48 - 120%	PASS	0	30	PASS
2-Methylnaphthalene	Total	0.411	1	0.001	0.005	µg/L	0.5	0	82	47 - 130%	PASS	1	30	PASS
Acenaphthene	Total	0.43	1	0.001	0.005	µg/L	0.5	0	86	53 - 131%	PASS	0	30	PASS
Acenaphthylene	Total	0.453	1	0.001	0.005	µg/L	0.5	0	91	43 - 140%	PASS	2	30	PASS
Anthracene	Total	0.453	1	0.001	0.005	µg/L	0.5	0	91	58 - 135%	PASS	0	30	PASS
Benz[a]anthracene	Total	0.497	1	0.001	0.005	µg/L	0.5	0	99	55 - 145%	PASS	3	30	PASS
Benzo[a]pyrene	Total	0.486	1	0.001	0.005	µg/L	0.5	0	97	51 - 143%	PASS	1	30	PASS
Benzo[b]fluoranthene	Total	0.438	1	0.001	0.005	µg/L	0.5	0	88	46 - 165%	PASS	3	30	PASS
Benzo[e]pyrene	Total	0.399	1	0.001	0.005	µg/L	0.5	0	80	42 - 152%	PASS	5	30	PASS
Benzo[g,h,i]perylene	Total	0.46	1	0.001	0.005	µg/L	0.5	0	92	63 - 133%	PASS	2	30	PASS
Benzo[k]fluoranthene	Total	0.436	1	0.001	0.005	µg/L	0.5	0	87	56 - 145%	PASS	1	30	PASS
Biphenyl	Total	0.427	1	0.001	0.005	µg/L	0.5	0	85	56 - 119%	PASS	0	30	PASS
Chrysene	Total	0.408	1	0.001	0.005	µg/L	0.5	0	82	56 - 141%	PASS	1	30	PASS
Dibenz[a,h]anthracene	Total	0.58	1	0.001	0.005	µg/L	0.5	0	116	55 - 150%	PASS	4	30	PASS
Dibenzo[a,l]pyrene	Total	0.456	1	0.001	0.005	µg/L	0.5	0	91	50 - 150%	PASS	5	30	PASS

PHYSIS Project ID: 1407003-438
Client: Eurofins Eaton Analytical
Project: RED-HILL Project # 38001111 Job # 380-60202-1

Polynuclear Aromatic Hydrocarbons QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS		QA CODEc
Dibenzothiophene	Total	0.443	1	0.001	0.005	µg/L	0.5	0	89	46 - 126%	PASS	1	30	PASS	
Fluoranthene	Total	0.455	1	0.001	0.005	µg/L	0.5	0	91	60 - 146%	PASS	2	30	PASS	
Fluorene	Total	0.444	1	0.001	0.005	µg/L	0.5	0	89	58 - 131%	PASS	1	30	PASS	
Indeno[1,2,3-cd]pyrene	Total	0.505	1	0.001	0.005	µg/L	0.5	0	101	50 - 151%	PASS	2	30	PASS	
Naphthalene	Total	0.403	1	0.001	0.005	µg/L	0.5	0	81	41 - 126%	PASS	1	30	PASS	
Perylene	Total	0.466	1	0.001	0.005	µg/L	0.5	0	93	48 - 141%	PASS	4	30	PASS	
Phenanthrene	Total	0.436	1	0.001	0.005	µg/L	0.5	0	87	67 - 127%	PASS	0	30	PASS	
Pyrene	Total	0.443	1	0.001	0.005	µg/L	0.5	0	89	54 - 156%	PASS	2	30	PASS	

TENTATIVELY IDENTIFIED COMPOUNDS

Sample ID: Lab Blank B1_42076

Retention Time	Area (% of total)	Concentration (ng/L)	Library/ID	Cas Number	Match Quality (%)
33.2914	5.5252	1111	Anthracene-D10-	1517-22-2	93
10.0338	4.2986	864	1,5-Heptadien-4-one, 3,3,6-trimethyl-	546-49-6	90
27.7112	1.3342	268	Hexanoic acid, 3,5,5-trimethyl-, 2-ethylhexyl ester	1000406-82-2	96
10.3511	1.2990	261	Cyclobutanone, 2-methyl-	1517-15-3	80
10.3509	0.5446	110	Oxalic acid, cyclohexyl isobutyl ester	1000309-30-4	93

Concentration estimated using the response for Anthracene-d10

Sample ID: 110072

Retention Time	Area (% of total)	Concentration (ng/L)	Library/ID	Cas Number	Match Quality (%)
33.2747	7.3065	1111	Anthracene-D10-	1517-22-2	94
10.0347	5.8630	892	1,5-Heptadien-4-one, 3,3,6-trimethyl-	546-49-6	89
27.7134	1.0037	153	Hexanoic acid, 3,5,5-trimethyl-, 2-ethylhexyl ester	1000406-82-2	96
10.3503	0.8228	125	Cyclopropane, 1,1,2,3-tetramethyl-	74752-93-5	89

Concentration estimated using the response for Anthracene-d10

Sample ID: 110071

Retention Time	Area (% of total)	Concentration (ng/L)	Library/ID	Cas Number	Match Quality (%)
33.2771	6.3188	1111	Anthracene-D10	1517-22-2	92
10.0341	4.5774	805	1,5-Heptadien-4-one, 3,3,6-trimethyl-	546-49-6	89
10.3512	0.7980	140	2-Ethylthiolane, S,S-dioxide	10178-59-3	86
27.7107	0.7815	137	Hexanoic acid, 3,5,5-trimethyl-, 2-ethylhexyl ester	1000406-82-2	94
10.3508	0.6451	113	3,3-Diethoxy-1-propyne	10160-87-9	88

Concentration estimated using the response for Anthracene-d10

CHAIN OF CUSTODY

Eurofins Eaton Analytical Pomona
941 Corporate Center Drive
Pomona, CA 91768-2642
Phone: 626-386-1100

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Arada, Rachelle	Carrier Tracking No(s):	COC No: 380-73297.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Rachelle.Arada@et.eurofinsus.com	State of Origin: Hawaii	Page: Page 1 of 1
Company: Physis Environmental Laboratories		Accreditations Required (See note): State - Hawaii		Job #: 380-60202-1
Address: 1904 Wright Circle,	Due Date Requested: 9/5/2023			
City: Anaheim	TAT Requested (days):			
State, Zip: CA, 92806				
Phone:	PO #:			
Email:	WO #:			
Project Name: RED-HILL	Project #: 38001111			
Site: Honolulu BWS Sites	SSOW#:			

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)
Other:

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (625 PAH Physis LL (EAL) + TICs)/ 625 PAH Physis LL (EAL) + TICs	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
AIEA WELLS PUMPS 1&2 (260) P2 (380-60202-1)	8/21/23	11:14 Hawaiian		Water			X	2	See Attached Instructions
AIEA GULCH WELLS PUMP 2 (380-60202-2)	8/21/23	10:39 Hawaiian		Water			X	2	See Attached Instructions

Note: Since laboratory accreditations are subject to change, Eurofins Eaton Analytical, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Eaton Analytical, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Eaton Analytical, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Eaton Analytical, LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	[signature]	8/24/23 1123	EEA	Angie Toriz	8/24/23 1123	Physis
2						
3						

Custody Seals Intact: ∆ Yes ∆ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

11/22/2023

PHYSIS
ENVIRONMENTAL LABORATORIES, INC.
Innovative Solutions for Nature

PHYSIS
ENVIRONMENTAL LABORATORIES, INC.

Project Iteration ID: 1407003-438
Client Name: Eurofins Eaton Analytical
Project Name: RED-HILL Project # 38001111 Job # 380-60202-1
COC Page Number: 2 of 2
Bottle Label Color: NA

Sample Receipt Summary

Receiving Info

1. Initials Received By: AT
2. Date Received: 8/24/23
3. Time Received: 1123
4. Client Name: Eurofins
5. Courier Information: (Please circle)
   - (Client) • UPS • Area Fast • DRS
   - FedEx • GSO/GLS • Ontrac • PAMS
   - PHYSIS Driver:
     - i. Start Time:_____ iii. Total Mileage: _____
     - ii. End Time:_____ iv. Number of Pickups:_____
6. Container Information: (Please put the # of containers or circle none)
   - 1 Cooler • __ Styrofoam Cooler • ____ Boxes • None
   - ___ Carboy(s) • __Carboy Trash Can(s) • ____ Carboy Cap(s) • Other _____
7. What type of ice was used: (Please circle any that apply)
   - (Wet Ice) • Blue Ice • Dry Ice • Water • None
8. Randomly Selected Samples Temperature (°C): 2.0 Used I/R Thermometer # 1-2

Inspection Info

1. Initials Inspected By: [signature]

Sample Integrity Upon Receipt:

1. COC(s) included and completely filled out..... (Yes) / No
2. All sample containers arrived intact..... (Yes) / No
3. All samples listed on COC(s) are present..... (Yes) / No
4. Information on containers consistent with information on COC(s)..... (Yes) / No
5. Correct containers and volume for all analyses indicated..... (Yes) / No
6. All samples received within method holding time..... (Yes) / No
7. Correct preservation used for all analyses indicated..... (Yes) / No
8. Name of sampler included on COC(s)..... Yes / (No)

Notes:

Monrovia, CA (Suite 100)
750 Royal Oaks Drive Suite 100
Monrovia CA 91016
Phone (626) 386-1100

Chain of Custody Record

eurofins

Client Information	Sampler: BAILEY	Lab PM: Arada Rachelle	Carrier Tracking No(s):	COC No: 380-27941-2757 2
Client Contact: Dr Ron Fenstermacher	Phone: 808-748-5840	E-Mail: Rachelle Arada@et euronisus com	State of Origin:	Page: Page 1 of 2
Company: City & County of Honolulu	PWSID:	Analysis Requested		Job #:
Address: 630 South Beretania Street, Chemistry Lab	Due Date Requested:			
City: Honolulu	TAT Requested (days):			
State Zip: HI 96843	Compliance Project: Δ No			
Phone: 808-748-5091 (tel)	PO #: C20525101 exp 05312023			
Email: rfenstemacher@hbws org	WO #:			
Project Name: RED-HILL/HBWS sites Event Desc. RUSH Weekly Red Hill	Project #: 38001111			
Site:	SSOW#:			

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water S=solid, O=waste/oil BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUBCONTRACT - 625 PAH Physis LL (EAL) + TICs	SUBCONTRACT - 8015 Gas (Purgable) LL (EAL)	SUBCONTRACT - 8915 Diesel LL (EAL) and Motor Oil	525 2_PREC - (MOD) 525plus PLUS TICs	SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL)	537 1_DW_PREC - 537 1 Full List	533 - All Analytes	Total Number of containers	Special Instructions/Note:
			Preservation Code		X	X	R	R	RA		RA	Y	N	X	
AIEA WELLS PUMPS 1&2 (260) P2	21-Aug-2023	1114	G	Water			2		2	2	4				
AIEA GULCH WELLS PUMP2	21-Aug-2023	1039	G	Water			2		2	2	4				
TB AIEA WELLS PUMPS 1&2 (260)	21-Aug-2023	1114		Water							2				
TB AIEA GULCH WELLS PUMP2	21-Aug-2023	1039		Water							2				

380-60202 COC

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For ______ Months

Deliverable Requested I, II, III, IV Other (specify)

Special Instructions/QC Requirements: 7731 3595 6410/6742/6731/6720

Empty Kit Relinquished by	Date	Time	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
BAILEY	8/22/2023 1400	HBWS	4401	8/23/23 1025	EEAP

Custody Seals Intact Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks: 6CBA / 2.0 / 4.6 → 2 ... 4.4 [illegible] LET

Ver 01 16/2019

Monrovia, CA (Suite 100)
750 Royal Oaks Drive Suite 100
Monrovia, CA 91016
Phone (626) 386-1100

Chain of Custody Record

eurofins

Client Information	Sampler: BAILEY	Lab PM: Arada, Rachelle	Carrier Tracking No(s):	COC No: 380-27941-2757 2
Client Contact: Dr Ron Fenstermacher	Phone: 808-748-5840	E-Mail: Rachelle.Arada@et.eurofinsus.com	State of Origin:	Page: Page 2 of 2
Company: City & County of Honolulu	PWSID:	Analysis Requested		Job #:
Address: 630 South Beretania Street, Chemistry Lab	Due Date Requested:			
City: Honolulu	TAT Requested (days):			
State, Zip: HI, 96843	Compliance Project: Δ No			
Phone: 808-748-5091 (tel)	PO #: C20525101 exp 05312023			
Email: rfenstemacher@hbws.org	WO #:			
Project Name: RED-HILL/HBWS sites Event Desc. RUSH Weekly Red Hill	Project #: 38001111			
Site:	SSOW#:			

Preservation Codes:
A - HCL; B - NaOH; C - Zn Acetate; D - Nitric Acid; E - NaHSO4; F - MeOH; G - Amchlor; H - Ascorbic Acid; I - Ice; J - DI Water; K - EDTA; L - EDA; M - Hexane; N - None; O - AsNaO2; P - Na2O4S; Q - Na2SO3; R - Na2S2O3; S - H2SO4; T - TSP Dodecahydrate; U - Acetone; V - MCAA; W - pH 4-5; Y - Trizma; Z - other (specify); Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUBCONTRACT - 625 PAH Physis LL (EAL) + TICs	SUBCONTRACT - 8015 Gas (Purgable) LL (EAL)	SUBCONTRACT - 8915 Diesel LL (EAL) and Motor Oil	525.2_PREC - (MOD) 525plus PLUS TICs	SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL)	537.1_DW_PREC - 537.1 Full List	533 - All Analytes	Total Number of containers	Special Instructions/Note:
			Preservation Code				R	R	RA		RA	Y	N		
AIEA WELLS PUMPS 1&2 (260)P2	21-Aug-2023	1114	G	Water								3	3		
AIEA GULCH WELLS PUMP2	21-Aug-2023	1039	G	Water								3	3		
FB AIEA WELLS PUMPS 1&2 (260)	21-Aug-2023	1114		Water								1	1		
FB AIEA GULCH WELLS PUMP2	21-Aug-2023	1039		Water								1	1		

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month): ☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
BAILEY	8/22/2023 1400	HBWS	[signature] 4401	8/23/23 1025	EEA
Relinquished by:	Date/Time	Company	Received by:	Date/Time	Company
Relinquished by:	Date/Time	Company	Received by	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks
		5.7 / 0.8 / 4.4 / 3.9 GEL

Ver: 01/16/2019

Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-60202-2

Login Number: 60202
List Number: 1
Creator: Elyas, Matthew

List Source: Eurofins Eaton Analytical Pomona

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Samples do not require splitting or compositing.	True	
Container provided by EEA	True	