

 **ANALYTICAL REPORT****PREPARED FOR**

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JOB DESCRIPTION

RED-HILL

JOB NUMBER

380-69290-2

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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Definitions/Glossary

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

Job ID: 380-69290-2

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.
α	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

Case Narrative

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

Job ID: 380-69290-2

Job ID: 380-69290-2

Laboratory: Eurofins Eaton Analytical Pomona

Narrative

Job Narrative 380-69290-2

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 11/1/2023 10:30 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 1.2°C, 1.5°C and 2.4°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: 380-69290-2

Client Sample ID: MOANALUA WELLS **Lab Sample ID: 380-69290-1**

No Detections.

Client Sample ID: AIEA GULCH WELLS PUMP 2 **Lab Sample ID: 380-69290-2**

No Detections.

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) P2 **Lab Sample ID: 380-69290-3**

No Detections.

Client Sample ID: HALAWA WELLS UNITS 1 & 2 P1 **Lab Sample ID: 380-69290-4**

No Detections.

Client Sample ID: TB MOANALUA WELLS **Lab Sample ID: 380-69290-5**

No Detections.

Client Sample ID: TB AIEA GULCH WELLS PUMP 2 **Lab Sample ID: 380-69290-6**

No Detections.

Client Sample ID: TB AIEA WELLS PUMPS 1&2 (260) P2 **Lab Sample ID: 380-69290-7**

No Detections.

Client Sample ID: TB HALAWA WELLS UNITS 1 & 2 P1 **Lab Sample ID: 380-69290-8**

No Detections.

This Detection Summary does not include radiochemical test results.

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Client Sample Results

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

Job ID: 380-69290-2

Client Sample ID: MOANALUA WELLS

Lab Sample ID: 380-69290-1

Date Collected: 10/30/23 09:56

Matrix: Drinking Water

Date Received: 11/01/23 10:30

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		11/06/23 00:00	11/18/23 03:40	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/18/23 03:40	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/18/23 03:40	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/18/23 03:40	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/18/23 03:40	1
Acenaphthene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/18/23 03:40	1
Acenaphthylene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/18/23 03:40	1
Anthracene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/18/23 03:40	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/18/23 03:40	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/18/23 03:40	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/18/23 03:40	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/18/23 03:40	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/18/23 03:40	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/18/23 03:40	1
Biphenyl	ND		0.005	0.001	µg/L		11/06/23 00:00	11/18/23 03:40	1
Chrysene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/18/23 03:40	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/18/23 03:40	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/18/23 03:40	1
Dibenzothiophene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/18/23 03:40	1
Disalicylidenepropanediamine	ND		0.1	0.05	µg/L		11/06/23 00:00	11/18/23 03:40	1
Fluoranthene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/18/23 03:40	1
Fluorene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/18/23 03:40	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/18/23 03:40	1
Naphthalene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/18/23 03:40	1
Perylene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/18/23 03:40	1
Phenanthrene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/18/23 03:40	1
Pyrene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/18/23 03:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
(d10-Acenaphthene)	86		27 - 133	11/06/23 00:00	11/18/23 03:40	1
(d10-Phenanthrene)	92		43 - 129	11/06/23 00:00	11/18/23 03:40	1
(d12-Chrysene)	86		52 - 144	11/06/23 00:00	11/18/23 03:40	1
(d12-Perylene)	84		36 - 161	11/06/23 00:00	11/18/23 03:40	1
(d8-Naphthalene)	85		25 - 125	11/06/23 00:00	11/18/23 03:40	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			11/02/23 17:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE	84		60 - 140		11/02/23 17:42	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	0.028		mg/L			11/09/23 16:56	1
JP5	ND	U	0.055		mg/L			11/09/23 16:56	1
JP8	ND	U	0.055		mg/L			11/09/23 16:56	1
MOTOR OIL	ND	U	0.055		mg/L			11/09/23 16:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOBENZENE	72		60 - 130		11/09/23 16:56	1

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Client Sample Results

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

Job ID: 380-69290-2

Client Sample ID: MOANALUA WELLS

Lab Sample ID: 380-69290-1

Date Collected: 10/30/23 09:56

Matrix: Drinking Water

Date Received: 11/01/23 10:30

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
HEXACOSANE	79		60 - 130		11/09/23 16:56	1

Client Sample ID: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-69290-2

Date Collected: 10/30/23 11:09

Matrix: Drinking Water

Date Received: 11/01/23 10:30

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		11/06/23 00:00	11/18/23 05:25	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/18/23 05:25	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/18/23 05:25	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/18/23 05:25	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/18/23 05:25	1
Acenaphthene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/18/23 05:25	1
Acenaphthylene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/18/23 05:25	1
Anthracene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/18/23 05:25	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/18/23 05:25	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/18/23 05:25	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/18/23 05:25	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/18/23 05:25	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/18/23 05:25	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/18/23 05:25	1
Biphenyl	ND		0.005	0.001	µg/L		11/06/23 00:00	11/18/23 05:25	1
Chrysene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/18/23 05:25	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/18/23 05:25	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/18/23 05:25	1
Dibenzothiophene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/18/23 05:25	1
Disalicylidenepropanediamine	ND		0.1	0.05	µg/L		11/06/23 00:00	11/18/23 05:25	1
Fluoranthene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/18/23 05:25	1
Fluorene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/18/23 05:25	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/18/23 05:25	1
Naphthalene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/18/23 05:25	1
Perylene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/18/23 05:25	1
Phenanthrene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/18/23 05:25	1
Pyrene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/18/23 05:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
(d10-Acenaphthene)	97		27 - 133	11/06/23 00:00	11/18/23 05:25	1
(d10-Phenanthrene)	96		43 - 129	11/06/23 00:00	11/18/23 05:25	1
(d12-Chrysene)	89		52 - 144	11/06/23 00:00	11/18/23 05:25	1
(d12-Perylene)	87		36 - 161	11/06/23 00:00	11/18/23 05:25	1
(d8-Naphthalene)	94		25 - 125	11/06/23 00:00	11/18/23 05:25	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			11/02/23 20:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE	83		60 - 140		11/02/23 20:11	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-69290-2

Client Sample ID: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-69290-2

Date Collected: 10/30/23 11:09

Matrix: Drinking Water

Date Received: 11/01/23 10:30

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	0.026		mg/L			11/09/23 17:15	1
JP5	ND	U	0.052		mg/L			11/09/23 17:15	1
JP8	ND	U	0.052		mg/L			11/09/23 17:15	1
MOTOR OIL	ND	U	0.052		mg/L			11/09/23 17:15	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
BROMOBENZENE	66		60 - 130					11/09/23 17:15	1
HEXACOSANE	78		60 - 130					11/09/23 17:15	1

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

Lab Sample ID: 380-69290-3

Date Collected: 10/30/23 11:44

Matrix: Drinking Water

Date Received: 11/01/23 10:30

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		11/06/23 00:00	11/18/23 07:10	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/18/23 07:10	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/18/23 07:10	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/18/23 07:10	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/18/23 07:10	1
Acenaphthene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/18/23 07:10	1
Acenaphthylene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/18/23 07:10	1
Anthracene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/18/23 07:10	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/18/23 07:10	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/18/23 07:10	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/18/23 07:10	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/18/23 07:10	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/18/23 07:10	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/18/23 07:10	1
Biphenyl	ND		0.005	0.001	µg/L		11/06/23 00:00	11/18/23 07:10	1
Chrysene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/18/23 07:10	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/18/23 07:10	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/18/23 07:10	1
Dibenzothiophene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/18/23 07:10	1
Disalicylidenepropanediamine	ND		0.1	0.05	µg/L		11/06/23 00:00	11/18/23 07:10	1
Fluoranthene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/18/23 07:10	1
Fluorene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/18/23 07:10	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/18/23 07:10	1
Naphthalene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/18/23 07:10	1
Perylene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/18/23 07:10	1
Phenanthrene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/18/23 07:10	1
Pyrene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/18/23 07:10	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
(d10-Acenaphthene)	89		27 - 133				11/06/23 00:00	11/18/23 07:10	1
(d10-Phenanthrene)	95		43 - 129				11/06/23 00:00	11/18/23 07:10	1
(d12-Chrysene)	88		52 - 144				11/06/23 00:00	11/18/23 07:10	1
(d12-Perylene)	88		36 - 161				11/06/23 00:00	11/18/23 07:10	1
(d8-Naphthalene)	88		25 - 125				11/06/23 00:00	11/18/23 07:10	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-69290-2

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

Lab Sample ID: 380-69290-3

Date Collected: 10/30/23 11:44

Matrix: Drinking Water

Date Received: 11/01/23 10:30

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			11/02/23 20:48	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE	82		60 - 140					11/02/23 20:48	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	0.026		mg/L			11/09/23 17:34	1
JP5	ND	U	0.052		mg/L			11/09/23 17:34	1
JP8	ND	U	0.052		mg/L			11/09/23 17:34	1
MOTOR OIL	ND	U	0.052		mg/L			11/09/23 17:34	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
BROMOBENZENE	71		60 - 130					11/09/23 17:34	1
HEXACOSANE	84		60 - 130					11/09/23 17:34	1

Client Sample ID: HALAWA WELLS UNITS 1 & 2 P1

Lab Sample ID: 380-69290-4

Date Collected: 10/30/23 10:37

Matrix: Drinking Water

Date Received: 11/01/23 10:30

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		11/06/23 00:00	11/18/23 08:55	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/18/23 08:55	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/18/23 08:55	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/18/23 08:55	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/18/23 08:55	1
Acenaphthene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/18/23 08:55	1
Acenaphthylene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/18/23 08:55	1
Anthracene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/18/23 08:55	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/18/23 08:55	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/18/23 08:55	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/18/23 08:55	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/18/23 08:55	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/18/23 08:55	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/18/23 08:55	1
Biphenyl	ND		0.005	0.001	µg/L		11/06/23 00:00	11/18/23 08:55	1
Chrysene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/18/23 08:55	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/18/23 08:55	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/18/23 08:55	1
Dibenzothiophene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/18/23 08:55	1
Disalicylidenepropanediamine	ND		0.1	0.05	µg/L		11/06/23 00:00	11/18/23 08:55	1
Fluoranthene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/18/23 08:55	1
Fluorene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/18/23 08:55	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/18/23 08:55	1
Naphthalene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/18/23 08:55	1
Perylene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/18/23 08:55	1
Phenanthrene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/18/23 08:55	1
Pyrene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/18/23 08:55	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-69290-2

Client Sample ID: HALAWA WELLS UNITS 1 & 2 P1

Lab Sample ID: 380-69290-4

Date Collected: 10/30/23 10:37

Matrix: Drinking Water

Date Received: 11/01/23 10:30

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
(d10-Acenaphthene)	94		27 - 133	11/06/23 00:00	11/18/23 08:55	1
(d10-Phenanthrene)	100		43 - 129	11/06/23 00:00	11/18/23 08:55	1
(d12-Chrysene)	91		52 - 144	11/06/23 00:00	11/18/23 08:55	1
(d12-Perylene)	89		36 - 161	11/06/23 00:00	11/18/23 08:55	1
(d8-Naphthalene)	94		25 - 125	11/06/23 00:00	11/18/23 08:55	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			11/02/23 21:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE	82		60 - 140		11/02/23 21:26	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	0.026		mg/L			11/09/23 17:52	1
JP5	ND	U	0.052		mg/L			11/09/23 17:52	1
JP8	ND	U	0.052		mg/L			11/09/23 17:52	1
MOTOR OIL	ND	U	0.052		mg/L			11/09/23 17:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOBENZENE	74		60 - 130		11/09/23 17:52	1
HEXACOSANE	86		60 - 130		11/09/23 17:52	1

Client Sample ID: TB MOANALUA WELLS

Lab Sample ID: 380-69290-5

Date Collected: 10/30/23 09:56

Matrix: Water

Date Received: 11/01/23 10:30

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			11/02/23 22:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE	86		60 - 140		11/02/23 22:03	1

Client Sample ID: TB AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-69290-6

Date Collected: 10/30/23 11:09

Matrix: Water

Date Received: 11/01/23 10:30

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			11/02/23 22:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE	78		60 - 140		11/02/23 22:40	1

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

Lab Sample ID: 380-69290-7

Date Collected: 10/30/23 11:44

Matrix: Water

Date Received: 11/01/23 10:30

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			11/02/23 23:17	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-69290-2

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

Lab Sample ID: 380-69290-7

Date Collected: 10/30/23 11:44

Matrix: Water

Date Received: 11/01/23 10:30

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE	77		60 - 140		11/02/23 23:17	1

Client Sample ID: TB HALAWA WELLS UNITS 1 & 2 P1

Lab Sample ID: 380-69290-8

Date Collected: 10/30/23 10:37

Matrix: Water

Date Received: 11/01/23 10:30

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			11/02/23 23:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE	78		60 - 140		11/02/23 23:55	1

Surrogate Summary

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

Job ID: 380-69290-2

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

Matrix: BlankMatrix

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)				
		Acenaphtl (27-133)	Phenanth (43-129)	CRY (52-144)	NPT (25-125)	PRY (36-161)
112528-B1	Method Blank	94	99	89	98	91
112528-BS1	Lab Control Sample	93	98	91	93	91
112528-BS2	Lab Control Sample Dup	93	98	92	94	91

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

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)				
		Acenaphtl (27-133)	Phenanth (43-129)	CRY (52-144)	NPT (25-125)	PRY (36-161)
380-69290-1	MOANALUA WELLS	86	92	86	85	84
380-69290-2	AIEA GULCH WELLS PUMP 2	97	96	89	94	87
380-69290-3	AIEA WELLS PUMPS 1&2 (260) P2	89	95	88	88	88
380-69290-4	HALAWA WELLS UNITS 1 & 2 P1	94	100	91	94	89

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

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)
		BFB (60-140)
380-69290-1	MOANALUA WELLS	84
380-69290-2	AIEA GULCH WELLS PUMP 2	83
380-69290-3	AIEA WELLS PUMPS 1&2 (260) P2	82
380-69290-4	HALAWA WELLS UNITS 1 & 2 P1	82

Surrogate Legend

BFB = BROMOFLUOROBENZENE

Surrogate Summary

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

Job ID: 380-69290-2

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

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB (60-140)
380-69290-5	TB MOANALUA WELLS	86
380-69290-6	TB AIEA GULCH WELLS PUMP 2	78
380-69290-7	TB AIEA WELLS PUMPS 1&2 (260) P2	77
380-69290-8	TB HALAWA WELLS UNITS 1 & 2 P1	78

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)

Lab Sample ID	Client Sample ID	BFB (60-140)
23K019-01M	Matrix Spike	105
23K019-01S	Matrix Spike Duplicate	106

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)

Lab Sample ID	Client Sample ID	BFB
23VG39K01B	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)

Lab Sample ID	Client Sample ID	BFB (70-130)
23VG39K01C	LCD	101
23VG39K01L	Lab Control Sample	98

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)

Lab Sample ID	Client Sample ID	BB (60-130)	XACOSAI (60-130)
380-69290-1	MOANALUA WELLS	72	79
380-69290-2	AIEA GULCH WELLS PUMP 2	66	78

Eurofins Eaton Analytical Pomona

Surrogate Summary

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

Job ID: 380-69290-2

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

Matrix: Drinking Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BB	XACOSAI
		(60-130)	(60-130)
380-69290-3	AIEA WELLS PUMPS 1&2 (260)	71	84
380-69290-4	HALAWA WELLS UNITS 1 & 2 P1	74	86

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)

Lab Sample ID	Client Sample ID	BB	XACOSAI
		(60-130)	(60-130)
23DSK007WB	Method Blank		

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)

Lab Sample ID	Client Sample ID	BB	XACOSAI
		(60-130)	(60-130)
23DSK007WC	LCD	65	88
23DSK007WL	Lab Control Sample	68	86
23J5K007WC	LCD	80	81
23J5K007WL	Lab Control Sample	79	83
23J8K007WC	LCD	96	88
23J8K007WL	Lab Control Sample	90	79

Surrogate Legend

BB = BROMOBENZENE
HEXACOSANE = HEXACOSANE

QC Sample Results

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

Job ID: 380-69290-2

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

Lab Sample ID: 112528-B1
Matrix: BlankMatrix
Analysis Batch: O-42152

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: O-42152_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/17/23 22:24	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/17/23 22:24	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/17/23 22:24	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/17/23 22:24	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/17/23 22:24	1
Acenaphthene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/17/23 22:24	1
Acenaphthylene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/17/23 22:24	1
Anthracene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/17/23 22:24	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/17/23 22:24	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/17/23 22:24	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/17/23 22:24	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/17/23 22:24	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/17/23 22:24	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/17/23 22:24	1
Biphenyl	ND		0.005	0.001	µg/L		11/06/23 00:00	11/17/23 22:24	1
Chrysene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/17/23 22:24	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/17/23 22:24	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/17/23 22:24	1
Dibenzothiophene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/17/23 22:24	1
Disalicylidenepropanediamine	ND		0.1	0.05	µg/L		11/06/23 00:00	11/17/23 22:24	1
Fluoranthene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/17/23 22:24	1
Fluorene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/17/23 22:24	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/17/23 22:24	1
Naphthalene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/17/23 22:24	1
Perylene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/17/23 22:24	1
Phenanthrene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/17/23 22:24	1
Pyrene	ND		0.005	0.001	µg/L		11/06/23 00:00	11/17/23 22:24	1

Surrogate	Blank %Recovery	Blank Qualifier	Limits	Prepared	Analyzed	Dil Fac
(d10-Acenaphthene)	94		27 - 133	11/06/23 00:00	11/17/23 22:24	1
(d10-Phenanthrene)	99		43 - 129	11/06/23 00:00	11/17/23 22:24	1
(d12-Chrysene)	89		52 - 144	11/06/23 00:00	11/17/23 22:24	1
(d12-Perylene)	91		36 - 161	11/06/23 00:00	11/17/23 22:24	1
(d8-Naphthalene)	98		25 - 125	11/06/23 00:00	11/17/23 22:24	1

Lab Sample ID: 112528-BS1
Matrix: BlankMatrix
Analysis Batch: O-42152

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: O-42152_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1-Methylnaphthalene	0.5	0.455		µg/L		91	31 - 128
1-Methylphenanthrene	0.5	0.492		µg/L		98	66 - 127
2,3,5-Trimethylnaphthalene	0.5	0.469		µg/L		94	55 - 122
2,6-Dimethylnaphthalene	0.5	0.444		µg/L		89	48 - 120
2-Methylnaphthalene	0.5	0.45		µg/L		90	47 - 130
Acenaphthene	0.5	0.448		µg/L		90	53 - 131
Acenaphthylene	0.5	0.462		µg/L		92	43 - 140
Anthracene	0.5	0.465		µg/L		93	58 - 135

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-69290-2

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

Lab Sample ID: 112528-BS1
Matrix: BlankMatrix
Analysis Batch: O-42152

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: O-42152_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benz[a]anthracene	0.5	0.461		µg/L		92	55 - 145
Benzo[a]pyrene	0.5	0.41		µg/L		82	51 - 143
Benzo[b]fluoranthene	0.5	0.501		µg/L		100	46 - 165
Benzo[e]pyrene	0.5	0.482		µg/L		96	42 - 152
Benzo[g,h,i]perylene	0.5	0.458		µg/L		92	63 - 133
Benzo[k]fluoranthene	0.5	0.398		µg/L		80	56 - 145
Biphenyl	0.5	0.444		µg/L		89	56 - 119
Chrysene	0.5	0.436		µg/L		87	56 - 141
Dibenz[a,h]anthracene	0.5	0.65		µg/L		130	55 - 150
Dibenzo[a,l]pyrene	1	1.13		µg/L		113	50 - 150
Dibenzothiophene	0.5	0.469		µg/L		94	46 - 126
Disalicylidenepropanediamine	50	39.8		µg/L		80	50 - 150
Fluoranthene	0.5	0.516		µg/L		103	60 - 146
Fluorene	0.5	0.452		µg/L		90	58 - 131
Indeno[1,2,3-cd]pyrene	0.5	0.685		µg/L		137	50 - 151
Naphthalene	0.5	0.454		µg/L		91	41 - 126
Perylene	0.5	0.465		µg/L		93	48 - 141
Phenanthrene	0.5	0.473		µg/L		95	67 - 127
Pyrene	0.5	0.522		µg/L		104	54 - 156

Surrogate	LCS %Recovery	LCS Qualifier	Limits
(d10-Acenaphthene)	93		27 - 133
(d10-Phenanthrene)	98		43 - 129
(d12-Chrysene)	91		52 - 144
(d12-Perylene)	91		36 - 161
(d8-Naphthalene)	93		25 - 125

Lab Sample ID: 112528-BS2
Matrix: BlankMatrix
Analysis Batch: O-42152

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: O-42152_P

Analyte	Spike Added	LCS DUP Result	LCS DUP Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1-Methylnaphthalene	0.5	0.45		µg/L		90	31 - 128	1	30
1-Methylphenanthrene	0.5	0.481		µg/L		96	66 - 127	2	30
2,3,5-Trimethylnaphthalene	0.5	0.467		µg/L		93	55 - 122	1	30
2,6-Dimethylnaphthalene	0.5	0.446		µg/L		89	48 - 120	0	30
2-Methylnaphthalene	0.5	0.452		µg/L		90	47 - 130	0	30
Acenaphthene	0.5	0.441		µg/L		88	53 - 131	2	30
Acenaphthylene	0.5	0.458		µg/L		92	43 - 140	0	30
Anthracene	0.5	0.467		µg/L		93	58 - 135	0	30
Benz[a]anthracene	0.5	0.463		µg/L		93	55 - 145	1	30
Benzo[a]pyrene	0.5	0.464		µg/L		93	51 - 143	13	30
Benzo[b]fluoranthene	0.5	0.498		µg/L		100	46 - 165	0	30
Benzo[e]pyrene	0.5	0.48		µg/L		96	42 - 152	0	30
Benzo[g,h,i]perylene	0.5	0.463		µg/L		93	63 - 133	1	30
Benzo[k]fluoranthene	0.5	0.395		µg/L		79	56 - 145	1	30
Biphenyl	0.5	0.45		µg/L		90	56 - 119	1	30
Chrysene	0.5	0.414		µg/L		83	56 - 141	5	30

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-69290-2

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

Lab Sample ID: 112528-BS2
Matrix: BlankMatrix
Analysis Batch: O-42152

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: O-42152_P

Analyte	Spike Added	LCS DUP Result	LCS DUP Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Dibenz[a,h]anthracene	0.5	0.662		µg/L		132	55 - 150	2	30
Dibenzo[a,l]pyrene	1	1.19		µg/L		119	50 - 150	5	30
Dibenzothiophene	0.5	0.47		µg/L		94	46 - 126	0	30
Disalicylidenepropanediamine	50	43.5		µg/L		87	50 - 150	8	30
Fluoranthene	0.5	0.497		µg/L		99	60 - 146	4	30
Fluorene	0.5	0.46		µg/L		92	58 - 131	2	30
Indeno[1,2,3-cd]pyrene	0.5	0.675		µg/L		135	50 - 151	1	30
Naphthalene	0.5	0.454		µg/L		91	41 - 126	0	30
Perylene	0.5	0.451		µg/L		90	48 - 141	3	30
Phenanthrene	0.5	0.469		µg/L		94	67 - 127	1	30
Pyrene	0.5	0.502		µg/L		100	54 - 156	4	30

Surrogate	LCS DUP %Recovery	LCS DUP Qualifier	Limits
(d10-Acenaphthene)	93		27 - 133
(d10-Phenanthrene)	98		43 - 129
(d12-Chrysene)	92		52 - 144
(d12-Perylene)	91		36 - 161
(d8-Naphthalene)	94		25 - 125

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

Lab Sample ID: 23VG39K01B
Matrix: WATER
Analysis Batch: 23VG39K01

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			11/02/23 13:58	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE					11/02/23 13:58	1

Lab Sample ID: 23VG39K01L
Matrix: WATER
Analysis Batch: 23VG39K01

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	0.453		mg/L		91	60 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
BROMOFLUOROBENZENE	98		70 - 130

Lab Sample ID: 23K019-01M
Matrix: WATER
Analysis Batch: 23VG39K01

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	0.504		mg/L		101	50 - 130

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-69290-2

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

Lab Sample ID: 23K019-01M
Matrix: WATER
Analysis Batch: 23VG39K01

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

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
BROMOFLUOROBENZENE	105		60 - 140

Lab Sample ID: 23K019-01S
Matrix: WATER
Analysis Batch: 23VG39K01

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	0.496		mg/L		99	50 - 130	2	30

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
BROMOFLUOROBENZENE	106		60 - 140

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

Lab Sample ID: 23DSK007WB
Matrix: WATER
Analysis Batch: 23DSK007W

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			11/09/23 14:46	1
JP5	ND	U	0.05		mg/L			11/09/23 14:46	1
JP8	ND	U	0.05		mg/L			11/09/23 14:46	1
MOTOR OIL	ND	U	0.05		mg/L			11/09/23 14:46	1

	MB	MB			
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed
BROMOBENZENE					11/09/23 14:46
HEXACOSANE					11/09/23 14:46

Lab Sample ID: 23DSK007WL
Matrix: WATER
Analysis Batch: 23DSK007W

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	2.22		mg/L		89	50 - 130

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
BROMOBENZENE	68		60 - 130
HEXACOSANE	86		60 - 130

Lab Sample ID: 23J5K007WL
Matrix: WATER
Analysis Batch: 23DSK007W

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	2.06		mg/L		82	30 - 160

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-69290-2

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

Lab Sample ID: 23J5K007WL
Matrix: WATER
Analysis Batch: 23DSK007W

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

Surrogate	LCS		Limits
	%Recovery	Qualifier	
BROMOBENZENE	79		60 - 130
HEXACOSANE	83		60 - 130

Lab Sample ID: 23J8K007WL
Matrix: WATER
Analysis Batch: 23DSK007W

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits

Surrogate	LCS		Limits
	%Recovery	Qualifier	
BROMOBENZENE	90		60 - 130
HEXACOSANE	79		60 - 130

QC Association Summary

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

Job ID: 380-69290-2

Subcontract

Analysis Batch: O-42152

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-69290-1	MOANALUA WELLS	Total/NA	Drinking Water	625 PAH Physis LL (EAL) + TICs	O-42152_P
380-69290-2	AIEA GULCH WELLS PUMP 2	Total/NA	Drinking Water	625 PAH Physis LL (EAL) + TICs	O-42152_P
380-69290-3	AIEA WELLS PUMPS 1&2 (260) P2	Total/NA	Drinking Water	625 PAH Physis LL (EAL) + TICs	O-42152_P
380-69290-4	HALAWA WELLS UNITS 1 & 2 P1	Total/NA	Drinking Water	625 PAH Physis LL (EAL) + TICs	O-42152_P
112528-B1	Method Blank	Total/NA	BlankMatrix	625 PAH Physis LL (EAL) + TICs	O-42152_P
112528-BS1	Lab Control Sample	Total/NA	BlankMatrix	625 PAH Physis LL (EAL) + TICs	O-42152_P
112528-BS2	Lab Control Sample Dup	Total/NA	BlankMatrix	625 PAH Physis LL (EAL) + TICs	O-42152_P

Analysis Batch: 23DSK007W

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-69290-1	MOANALUA WELLS	Total/NA	Drinking Water	8015 LL DRO/MRO/JP5/J P8	
380-69290-2	AIEA GULCH WELLS PUMP 2	Total/NA	Drinking Water	8015 LL DRO/MRO/JP5/J P8	
380-69290-3	AIEA WELLS PUMPS 1&2 (260) P2	Total/NA	Drinking Water	8015 LL DRO/MRO/JP5/J P8	
380-69290-4	HALAWA WELLS UNITS 1 & 2 P1	Total/NA	Drinking Water	8015 LL DRO/MRO/JP5/J P8	
23DSK007WB	Method Blank	Total/NA	WATER	8015 LL DRO/MRO/JP5/J P8	
23DSK007WL	Lab Control Sample	Total/NA	WATER	8015 LL DRO/MRO/JP5/J P8	
23J5K007WL	Lab Control Sample	Total/NA	WATER	8015 LL DRO/MRO/JP5/J P8	
23J8K007WL	Lab Control Sample	Total/NA	WATER	8015 LL DRO/MRO/JP5/J P8	

Analysis Batch: 23VG39K01

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-69290-1	MOANALUA WELLS	Total/NA	Drinking Water	8015 Gas (Purgeable) LL (EAL)	
380-69290-2	AIEA GULCH WELLS PUMP 2	Total/NA	Drinking Water	8015 Gas (Purgeable) LL (EAL)	
380-69290-3	AIEA WELLS PUMPS 1&2 (260) P2	Total/NA	Drinking Water	8015 Gas (Purgeable) LL (EAL)	
380-69290-4	HALAWA WELLS UNITS 1 & 2 P1	Total/NA	Drinking Water	8015 Gas (Purgeable) LL (EAL)	

QC Association Summary

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

Job ID: 380-69290-2

Subcontract (Continued)

Analysis Batch: 23VG39K01 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-69290-5	TB MOANALUA WELLS	Total/NA	Water	8015 Gas (Purgeable) LL (EAL)	
380-69290-6	TB AIEA GULCH WELLS PUMP 2	Total/NA	Water	8015 Gas (Purgeable) LL (EAL)	
380-69290-7	TB AIEA WELLS PUMPS 1&2 (260) P2	Total/NA	Water	8015 Gas (Purgeable) LL (EAL)	
380-69290-8	TB HALAWA WELLS UNITS 1 & 2 P1	Total/NA	Water	8015 Gas (Purgeable) LL (EAL)	
23VG39K01B	Method Blank	Total/NA	WATER	8015 Gas (Purgeable) LL (EAL)	
23VG39K01L	Lab Control Sample	Total/NA	WATER	8015 Gas (Purgeable) LL (EAL)	
23K019-01M	Matrix Spike	Total/NA	WATER	8015 Gas (Purgeable) LL (EAL)	
23K019-01S	Matrix Spike Duplicate	Total/NA	WATER	8015 Gas (Purgeable) LL (EAL)	

Prep Batch: O-42152_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-69290-1	MOANALUA WELLS	Total/NA	Drinking Water	EPA_625	
380-69290-2	AIEA GULCH WELLS PUMP 2	Total/NA	Drinking Water	EPA_625	
380-69290-3	AIEA WELLS PUMPS 1&2 (260) P2	Total/NA	Drinking Water	EPA_625	
380-69290-4	HALAWA WELLS UNITS 1 & 2 P1	Total/NA	Drinking Water	EPA_625	
112528-B1	Method Blank	Total/NA	BlankMatrix	EPA_625	
112528-BS1	Lab Control Sample	Total/NA	BlankMatrix	EPA_625	
112528-BS2	Lab Control Sample Dup	Total/NA	BlankMatrix	EPA_625	

Lab Chronicle

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

Job ID: 380-69290-2

Client Sample ID: MOANALUA WELLS

Lab Sample ID: 380-69290-1

Date Collected: 10/30/23 09:56

Matrix: Drinking Water

Date Received: 11/01/23 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	EPA_625		1	O-42152_P			11/06/23 00:00
Total/NA	Analysis	625 PAH Physis LL (EAL) + TICs		1	O-42152	YC		11/18/23 03:40
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)		1	23VG39K01	SCerva		11/02/23 17:42
Total/NA	Analysis	8015 LL DRO/MRO/JP5/JP8		1	23DSK007W	SDees		11/09/23 16:56

Client Sample ID: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-69290-2

Date Collected: 10/30/23 11:09

Matrix: Drinking Water

Date Received: 11/01/23 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	EPA_625		1	O-42152_P			11/06/23 00:00
Total/NA	Analysis	625 PAH Physis LL (EAL) + TICs		1	O-42152	YC		11/18/23 05:25
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)		1	23VG39K01	SCerva		11/02/23 20:11
Total/NA	Analysis	8015 LL DRO/MRO/JP5/JP8		1	23DSK007W	SDees		11/09/23 17:15

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

Lab Sample ID: 380-69290-3

Date Collected: 10/30/23 11:44

Matrix: Drinking Water

Date Received: 11/01/23 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	EPA_625		1	O-42152_P			11/06/23 00:00
Total/NA	Analysis	625 PAH Physis LL (EAL) + TICs		1	O-42152	YC		11/18/23 07:10
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)		1	23VG39K01	SCerva		11/02/23 20:48
Total/NA	Analysis	8015 LL DRO/MRO/JP5/JP8		1	23DSK007W	SDees		11/09/23 17:34

Client Sample ID: HALAWA WELLS UNITS 1 & 2 P1

Lab Sample ID: 380-69290-4

Date Collected: 10/30/23 10:37

Matrix: Drinking Water

Date Received: 11/01/23 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	EPA_625		1	O-42152_P			11/06/23 00:00
Total/NA	Analysis	625 PAH Physis LL (EAL) + TICs		1	O-42152	YC		11/18/23 08:55
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)		1	23VG39K01	SCerva		11/02/23 21:26
Total/NA	Analysis	8015 LL DRO/MRO/JP5/JP8		1	23DSK007W	SDees		11/09/23 17:52

Lab Chronicle

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

Job ID: 380-69290-2

Client Sample ID: TB MOANALUA WELLS

Lab Sample ID: 380-69290-5

Date Collected: 10/30/23 09:56

Matrix: Water

Date Received: 11/01/23 10:30

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	23VG39K01	SCerva		11/02/23 22:03

Client Sample ID: TB AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-69290-6

Date Collected: 10/30/23 11:09

Matrix: Water

Date Received: 11/01/23 10:30

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	23VG39K01	SCerva		11/02/23 22:40

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

Lab Sample ID: 380-69290-7

Date Collected: 10/30/23 11:44

Matrix: Water

Date Received: 11/01/23 10:30

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	23VG39K01	SCerva		11/02/23 23:17

Client Sample ID: TB HALAWA WELLS UNITS 1 & 2 P1

Lab Sample ID: 380-69290-8

Date Collected: 10/30/23 10:37

Matrix: Water

Date Received: 11/01/23 10:30

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	23VG39K01	SCerva		11/02/23 23:55

Laboratory References:

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

Method Summary

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

Job ID: 380-69290-2

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: 380-69290-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
380-69290-1	MOANALUA WELLS	Drinking Water	10/30/23 09:56	11/01/23 10:30
380-69290-2	AIEA GULCH WELLS PUMP 2	Drinking Water	10/30/23 11:09	11/01/23 10:30
380-69290-3	AIEA WELLS PUMPS 1&2 (260) P2	Drinking Water	10/30/23 11:44	11/01/23 10:30
380-69290-4	HALAWA WELLS UNITS 1 & 2 P1	Drinking Water	10/30/23 10:37	11/01/23 10:30
380-69290-5	TB MOANALUA WELLS	Water	10/30/23 09:56	11/01/23 10:30
380-69290-6	TB AIEA GULCH WELLS PUMP 2	Water	10/30/23 11:09	11/01/23 10:30
380-69290-7	TB AIEA WELLS PUMPS 1&2 (260) P2	Water	10/30/23 11:44	11/01/23 10:30
380-69290-8	TB HALAWA WELLS UNITS 1 & 2 P1	Water	10/30/23 10:37	11/01/23 10:30

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Date: 11-20-2023
EMAX Batch No.: 23K019

Attn: Jackie Contreras

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

Subject: Laboratory Report
Project: 380-69290

Enclosed is the Laboratory report for samples received on 11/02/23.
The data reported relate only to samples listed below :

Sample ID	Control #	Col Date	Matrix	Analysis
380-69290-1	K019-01	10/30/23	WATER	TPH GASOLINE TPH
380-69290-2	K019-02	10/30/23	WATER	TPH GASOLINE TPH
380-69290-3	K019-03	10/30/23	WATER	TPH GASOLINE TPH
380-69290-4	K019-04	10/30/23	WATER	TPH GASOLINE TPH
380-69290-5	K019-05	10/30/23	WATER	TPH GASOLINE
380-69290-6	K019-06	10/30/23	WATER	TPH GASOLINE
380-69290-7	K019-07	10/30/23	WATER	TPH GASOLINE
380-69290-8	K019-08	10/30/23	WATER	TPH GASOLINE
380-69290-1MS	K019-01M	10/30/23	WATER	TPH GASOLINE
380-69290-1MSD	K019-01S	10/30/23	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

This report is confidential and intended solely for the use of the individual or entity to whom it is addressed. This report shall not be reproduced except in full or without the written approval of EMAX.

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

NELAP Accredited Certificate Number CA002912023-25
ANAB Accredited DoD ELAP and ISO/IEC 17025 Certificate Number L2278 Testing
California ELAP Accredited Certificate Number 2672



Chain of Custody Record



23K019



Environment Testing

Client Information (Sub Contract Lab)

Client Contact: **Arada, Rachelle** Lab Pk: **Arada, Rachelle** Carrier Tracking No(s):
 Shipping/Receiving: **Rachelle.Arada@at.eurofins.com** E-Mail: **Rachelle.Arada@at.eurofins.com** State of Origin: **Hawaii**
 Company: **EMAX Laboratories Inc** Accreditations Required (See note): **State - Hawaii**
 Address: **3051 Fujita Street,** Due Date Requested: **11/13/2023** Job #: **380-88290-1**
 City: **Torrance** TAT Requested (days): **11/13/2023** Preservation Codes: **380-88290-1**
 State Zip: **CA, 90505** PO #: **WOC #:**
 Phone: **Project #:** **38001111**
 Email: **SSOV#:**
 Project Name: **REB-HILL**
 Site: **Honolulu BWS Sites**

Analysis Requested

Sample ID (Lab ID)	Sample Date	Sample Time	Sample Type (G=grab)	Matrix (Inorganic, Semimetal, Organic, As/My)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Total Number of containers	Special Instructions/Note:
1 MOANALLUA WELLS (380-69290-1)	10/30/23	09:56		Water	X	X	6	See Attached Instructions
2 AIEA GULCH WELLS PUMP 2 (380-69290-2)	10/30/23	11:09		Water	X	X	6	See Attached Instructions
3 AIEA WELLS PUMPS 1&2 (260) P2 (380-69290-3)	10/30/23	11:44		Water	X	X	6	See Attached Instructions
4 HALAWA WELLS UNITS 1 & 2 P1 (380-69290-4)	10/30/23	10:37		Water	X	X	6	See Attached Instructions
5 TB MOANALLUA WELLS (380-69290-5)	10/30/23	09:56		Water	X	X	2	See Attached Instructions
6 TB AIEA GULCH WELLS PUMP 2 (380-69290-6)	10/30/23	11:09		Water	X	X	2	See Attached Instructions
7 TB AIEA WELLS PUMPS 1&2 (260) P2 (380-69290-7)	10/30/23	11:44		Water	X	X	2	See Attached Instructions
8 TB HALAWA WELLS UNITS 1 & 2 P1 (380-69290-8)	10/30/23	10:37		Water	X	X	2	See Attached Instructions

Note: Since laboratory accreditations are subject to change, Eurofins Eaton Analytical, LLC places the ownership of method, analyze & 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/test/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

Deliverable Requested: **I, II, III, IV, Other (specify)** Primary Deliverable Rank: **2**
 Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
 Return To Client Dispose By Lab Archive For **Months**

Empty Kit Relinquished by:

Relinquished by: **[Signature]** Date/Time: **11/2/23 10:32** Company: **[Signature]**
 Relinquished by: **[Signature]** Date/Time: **11/2/23 10:32** Company: **[Signature]**
 Relinquished by: **[Signature]** Date/Time: **11/2/23 10:32** Company: **[Signature]**

Custody Seals Intact: **A Yes A No** Custody Seal No.: **3.1/3.5** Cooler Temperature(s) °C and Other Remarks: **CF = -0.2**

REPORT ID: 23K019

Page 2 of 2



Type of Delivery <input type="checkbox"/> Fedex <input type="checkbox"/> UPS <input type="checkbox"/> GSO <input type="checkbox"/> Others <input type="checkbox"/> EMAX Courier <input type="checkbox"/> Client Delivery		Airbill / Tracking Number	
ECN 23K019		Recipient <u>Shoum Zamora</u>	
Date 11/2/23		Time 1632	

COC INSPECTION

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

PACKAGING INSPECTION

Condition $CF = -0.2$
 Container Cooler Box Intact Damaged Other _____
 Packaging Bubble Pack Styrofoam Popcorn _____
 Temperatures (Cool, 56 °C but not frozen)
 Cooler 1 $13.7/3.5$ °C Cooler 2 _____ °C Cooler 3 _____ °C Cooler 4 _____ °C Cooler 5 _____ °C
 Cooler 6 _____ °C Cooler 7 _____ °C Cooler 8 _____ °C Cooler 9 _____ °C Cooler 10 _____ °C
 Thermometer: A - S/N _____ B - S/N _____ C - S/N 230041891 D - S/N 210700237
 Comments: Temperature is out of range. PM was informed IMMEDIATELY.

DISCREPANCIES

LabSampleID	5-8	LabSample/ContainerID	07	Code	second date track: 10/23/23	ClientSample Label ID / Information	Corrective Action	R1
pH holding time requirement for water samples is 15 mins. Water samples for pH analysis are received beyond 15 minutes from sampling time.								
SAMPLE MATRIX IS DRINKING WATER? <input type="checkbox"/> YES <input type="checkbox"/> NO								

NOTES/OBSERVATIONS:

Continue to next page.

Code Description-Sample Management

LEGEND:

D1 Analysis is not indicated in _____
 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 _____

REVIEWERS:

Sample Labeling Nadeen Nacana Date 11/2/23
 SRF [Signature] Date 11/2/23
 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 _____
 D23 _____
 D24 _____

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 Date 11/7/23 PM

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

380-69290

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

SDG#: 23K019



CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 380-69290

SDG : 23K019

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

A total of eight(8) water samples were received on 11/02/23 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. VG39K01B - 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. VG39K01L/VG39K01C 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 K019-01M/K019-01S. 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 : 380-69290

SDG NO. : 23K019
Instrument ID : GCT039

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis Date/Time	Extraction Date/Time	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
WATER									
380-69290-1	VG39K01B	1	NA	11/02/2313:58	11/02/2313:58	EK02005A	EK02003A	23V639K01	Method Blank
380-69290-1MS	VG39K01L	1	NA	11/02/2314:35	11/02/2314:35	EK02006A	EK02003A	23V639K01	Lab Control Sample (LCS)
380-69290-1MSD	VG39K01C	1	NA	11/02/2315:13	11/02/2315:13	EK02007A	EK02003A	23V639K01	LCS Duplicate
380-69290-2	K019-01	1	NA	11/02/2317:42	11/02/2317:42	EK02011A	EK02003A	23V639K01	Field Sample
380-69290-3	K019-01M	1	NA	11/02/2318:19	11/02/2318:19	EK02012A	EK02003A	23V639K01	Matrix Spike Sample (MS)
380-69290-4	K019-01S	1	NA	11/02/2318:56	11/02/2318:56	EK02013A	EK02003A	23V639K01	MS Duplicate (MSD)
380-69290-5	K019-02	1	NA	11/02/2320:11	11/02/2320:11	EK02015A	EK02014A	23V639K01	Field Sample
380-69290-6	K019-03	1	NA	11/02/2320:48	11/02/2320:48	EK02016A	EK02014A	23V639K01	Field Sample
380-69290-7	K019-04	1	NA	11/02/2321:26	11/02/2321:26	EK02017A	EK02014A	23V639K01	Field Sample
380-69290-8	K019-05	1	NA	11/02/2322:03	11/02/2322:03	EK02018A	EK02014A	23V639K01	Field Sample
	K019-06	1	NA	11/02/2322:40	11/02/2322:40	EK02019A	EK02014A	23V639K01	Field Sample
	K019-07	1	NA	11/02/2323:17	11/02/2323:17	EK02020A	EK02014A	23V639K01	Field Sample
	K019-08	1	NA	11/02/2323:55	11/02/2323:55	EK02021A	EK02014A	23V639K01	Field Sample

FN - Filename
% Moist - Percent Moisture



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SAMPLE RESULTS

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

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	10/30/23 09:56
Project	: 380-69290	Date Received:	11/02/23
Batch No.	: 23K019	Date Extracted:	11/02/23 17:42
Sample ID	: 380-69290-1	Date Analyzed:	11/02/23 17:42
Lab Samp ID:	K019-01	Dilution Factor:	1
Lab File ID:	EK02011A	Matrix:	WATER
Ext Btch ID:	23VG39K01	% Moisture:	NA
Calib. Ref.:	EK02003A	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	0.0335	0.0400	84	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:	10/30/23 11:09
Project	: 380-69290	Date Received:	11/02/23
Batch No.	: 23K019	Date Extracted:	11/02/23 20:11
Sample ID	: 380-69290-2	Date Analyzed:	11/02/23 20:11
Lab Samp ID:	K019-02	Dilution Factor:	1
Lab File ID:	EK02015A	Matrix:	WATER
Ext Btch ID:	23VG39K01	% Moisture:	NA
Calib. Ref.:	EK02014A	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

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

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	10/30/23 11:44
Project	: 380-69290	Date Received:	11/02/23
Batch No.	: 23K019	Date Extracted:	11/02/23 20:48
Sample ID	: 380-69290-3	Date Analyzed:	11/02/23 20:48
Lab Samp ID:	K019-03	Dilution Factor:	1
Lab File ID:	EK02016A	Matrix:	WATER
Ext Btch ID:	23VG39K01	% Moisture:	NA
Calib. Ref.:	EK02014A	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	0.0330	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: 10/30/23 10:37
Project : 380-69290	Date Received: 11/02/23
Batch No. : 23K019	Date Extracted: 11/02/23 21:26
Sample ID : 380-69290-4	Date Analyzed: 11/02/23 21:26
Lab Samp ID: K019-04	Dilution Factor: 1
Lab File ID: EK02017A	Matrix: WATER
Ext Btch ID: 23VG39K01	% Moisture: NA
Calib. Ref.: EK02014A	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	0.0326	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:	10/30/23 09:56
Project	: 380-69290	Date Received:	11/02/23
Batch No.	: 23K019	Date Extracted:	11/02/23 22:03
Sample ID	: 380-69290-5	Date Analyzed:	11/02/23 22:03
Lab Samp ID:	K019-05	Dilution Factor:	1
Lab File ID:	EK02018A	Matrix:	WATER
Ext Btch ID:	23VG39K01	% Moisture:	NA
Calib. Ref.:	EK02014A	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	0.0344	0.0400	86	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: 10/30/23 11:09
Project : 380-69290	Date Received: 11/02/23
Batch No. : 23K019	Date Extracted: 11/02/23 22:40
Sample ID : 380-69290-6	Date Analyzed: 11/02/23 22:40
Lab Samp ID: K019-06	Dilution Factor: 1
Lab File ID: EK02019A	Matrix: WATER
Ext Btch ID: 23VG39K01	% Moisture: NA
Calib. Ref.: EK02014A	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	0.0311	0.0400	78	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: 10/30/23 11:44
Project : 380-69290	Date Received: 11/02/23
Batch No. : 23K019	Date Extracted: 11/02/23 23:17
Sample ID : 380-69290-7	Date Analyzed: 11/02/23 23:17
Lab Samp ID: K019-07	Dilution Factor: 1
Lab File ID: EK02020A	Matrix: WATER
Ext Btch ID: 23VG39K01	% Moisture: NA
Calib. Ref.: EK02014A	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	0.0310	0.0400	77	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:	10/30/23 10:37
Project	: 380-69290	Date Received:	11/02/23
Batch No.	: 23K019	Date Extracted:	11/02/23 23:55
Sample ID	: 380-69290-8	Date Analyzed:	11/02/23 23:55
Lab Samp ID:	K019-08	Dilution Factor:	1
Lab File ID:	EK02021A	Matrix:	WATER
Ext Btch ID:	23VG39K01	% Moisture:	NA
Calib. Ref.:	EK02014A	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	0.0312	0.0400	78	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: 11/02/23 13:58
Project : 380-69290	Date Received: 11/02/23
Batch No. : 23K019	Date Extracted: 11/02/23 13:58
Sample ID : MBLK1W	Date Analyzed: 11/02/23 13:58
Lab Samp ID: VG39K01B	Dilution Factor: 1
Lab File ID: EK02005A	Matrix: WATER
Ext Btch ID: 23VG39K01	% Moisture: NA
Calib. Ref.: EK02003A	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	0.0326	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

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL
PROJECT : 380-69290
BATCH NO. : 23K019
METHOD : 5030B/8015B

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR:	1	1	1
SAMPLE ID	: MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID	: VG39K01B	VG39K01L	VG39K01C
LAB FILE ID	: EK02005A	EK02006A	EK02007A
DATE PREPARED	: 11/02/23 13:58	11/02/23 14:35	11/02/23 15:13
DATE ANALYZED	: 11/02/23 13:58	11/02/23 14:35	11/02/23 15:13
PREP BATCH	: 23VG39K01	23VG39K01	23VG39K01
CALIBRATION REF:	EK02003A	EK02003A	EK02003A

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	0.453	91	0.500	0.464	93	2	60-130	30

SURROGATE PARAMETER	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	QCLimit (%)
Bromofluorobenzene	0.0400	0.0393	98	0.0400	0.0403	101	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 : 380-69290
BATCH NO. : 23K019
METHOD : 5030B/8015B

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR:	1	1	1
SAMPLE ID	: 380-69290-1	380-69290-1MS	380-69290-1MSD
LAB SAMPLE ID	: K019-01	K019-01M	K019-01S
LAB FILE ID	: EK02011A	EK02012A	EK02013A
DATE PREPARED	: 11/02/23 17:42	11/02/23 18:19	11/02/23 18:56
DATE ANALYZED	: 11/02/23 17:42	11/02/23 18:19	11/02/23 18:56
PREP BATCH	: 23VG39K01	23VG39K01	23VG39K01
CALIBRATION REF:	EK02003A	EK02003A	EK02003A

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	0.504	101	0.500	0.496	99	2	50-130	30

SURROGATE PARAMETER	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	QCLimit (%)
Bromofluorobenzene	0.0400	0.0419	105	0.0400	0.0425	106	60-140

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

LABORATORY REPORT FOR

EUROFINS EATON ANALYTICAL

380-69290

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

SDG#: 23K019

CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 380-69290

SDG : 23K019

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

A total of four(4) water samples were received on 11/02/23 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. DSK007WB - 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. DSK007WL/DSK007WC 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: 380-69290

SDG : 23K019

METHOD 3520C/8015B
PETROLEUM HYDROCARBONS BY EXTRACTION

A total of four(4) water samples were received on 11/02/23 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. DSK007WB - 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. J5K007WL/J5K007WC 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: 380-69290

SDG : 23K019

METHOD 3520C/8015B
PETROLEUM HYDROCARBONS BY EXTRACTION

A total of four(4) water samples were received on 11/02/23 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. DSK007WB - 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. J8K007WL/J8K007WC 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 : 380-69290
 SDG NO. : 23K019
 Instrument ID : D5

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
					WATER				
MBLK1W	DSK007WB	1	NA	11/09/2314:46	11/08/2311:15	LK09009A	LK09003A	23DSK007M	Method Blank
LCS1W	DSK007WL	1	NA	11/09/2315:04	11/08/2311:15	LK09010A	LK09003A	23DSK007M	Lab Control Sample (LCS)
LCD1W	DSK007WC	1	NA	11/09/2315:23	11/08/2311:15	LK09011A	LK09003A	23DSK007M	LCS Duplicate
380-69290-1	K019-01	1	NA	11/09/2316:56	11/08/2311:15	LK09016A	LK09003A	23DSK007M	Field Sample
380-69290-2	K019-02	1	NA	11/09/2317:15	11/08/2311:15	LK09017A	LK09003A	23DSK007M	Field Sample
380-69290-3	K019-03	1	NA	11/09/2317:34	11/08/2311:15	LK09018A	LK09003A	23DSK007M	Field Sample
380-69290-4	K019-04	1	NA	11/09/2317:52	11/08/2311:15	LK09019A	LK09003A	23DSK007M	Field Sample

FN - Filename
 % Moist - Percent Moisture



LAB CHRONICLE
PETROLEUM HYDROCARBONS BY EXTRACTION

Client : EUROFINS EATON ANALYTICAL
Project : 380-69290

SDG NO. : 23K019
Instrument ID : D5

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis Date/Time	Extraction Date/Time	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
					WATER				
MBLK1W	DSK007WB	1	NA	11/09/2314:46	11/08/2311:15	LK09009A	LK09004A	23DSK007W	Method Blank
LCS1W	J5K007WL	1	NA	11/09/2315:42	11/08/2311:15	LK09012A	LK09004A	23DSK007W	Lab Control Sample (LCS)
LCD1W	J5K007WC	1	NA	11/09/2316:00	11/08/2311:15	LK09013A	LK09004A	23DSK007W	LCS Duplicate
380-69290-1	K019-01	1	NA	11/09/2316:56	11/08/2311:15	LK09016A	LK09004A	23DSK007W	Field Sample
380-69290-2	K019-02	1	NA	11/09/2317:15	11/08/2311:15	LK09017A	LK09004A	23DSK007W	Field Sample
380-69290-3	K019-03	1	NA	11/09/2317:34	11/08/2311:15	LK09018A	LK09004A	23DSK007W	Field Sample
380-69290-4	K019-04	1	NA	11/09/2317:52	11/08/2311:15	LK09019A	LK09004A	23DSK007W	Field Sample

FN - Filename
% Moist - Percent Moisture



LAB CHRONICLE
PETROLEUM HYDROCARBONS BY EXTRACTION

Client : EUROFINS EATON ANALYTICAL
Project : 380-69290

SDG NO. : 23K019
Instrument ID : D5

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis Date/Time	Extraction Date/Time	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
					WATER				
MBLK1W	DSK007WB	1	NA	11/09/2314:46	11/08/2311:15	LK09009A	LK09005A	23DSK007W	Method Blank
LCS1W	J8K007WL	1	NA	11/09/2316:19	11/08/2311:15	LK09014A	LK09005A	23DSK007W	Lab Control Sample (LCS)
LCD1W	J8K007WC	1	NA	11/09/2316:38	11/08/2311:15	LK09015A	LK09005A	23DSK007W	LCS Duplicate
380-69290-1	K019-01	1	NA	11/09/2316:56	11/08/2311:15	LK09016A	LK09005A	23DSK007W	Field Sample
380-69290-2	K019-02	1	NA	11/09/2317:15	11/08/2311:15	LK09017A	LK09005A	23DSK007W	Field Sample
380-69290-3	K019-03	1	NA	11/09/2317:34	11/08/2311:15	LK09018A	LK09005A	23DSK007W	Field Sample
380-69290-4	K019-04	1	NA	11/09/2317:52	11/08/2311:15	LK09019A	LK09005A	23DSK007W	Field Sample

FN - FileName
% Moist - Percent Moisture



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SAMPLE RESULTS

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client : EUROFINS EATON ANALYTICAL	Date Collected: 10/30/23 09:56
Project : 380-69290	Date Received: 11/02/23
Batch No. : 23K019	Date Extracted: 11/08/23 11:15
Sample ID : 380-69290-1	Date Analyzed: 11/09/23 16:56
Lab Samp ID: 23K019-01	Dilution Factor: 1
Lab File ID: LK09016A	Matrix: WATER
Ext Btch ID: 23DSK007W	% Moisture: NA
Calib. Ref.: LK09003A	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	0.395	0.550	72	60-130
Hexacosane	0.109	0.138	79	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 : RGalán	Analyzed by : SDeeso

METHOD 3520C/8015B
 PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	10/30/23 09:56
Project	: 380-69290	Date Received:	11/02/23
Batch No.	: 23K019	Date Extracted:	11/08/23 11:15
Sample ID	: 380-69290-1	Date Analyzed:	11/09/23 16:56
Lab Samp ID:	23K019-01	Dilution Factor:	1
Lab File ID:	LK09016A	Matrix:	WATER
Ext Btch ID:	23DSK007W	% Moisture:	NA
Calib. Ref.:	LK09004A	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	0.395	0.550	72	60-130
Hexacosane	0.109	0.138	79	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 : RGalán

Analyzed by : SDeeso

METHOD 3520C/8015B
 PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	10/30/23 09:56
Project	: 380-69290	Date Received:	11/02/23
Batch No.	: 23K019	Date Extracted:	11/08/23 11:15
Sample ID	: 380-69290-1	Date Analyzed:	11/09/23 16:56
Lab Samp ID:	23K019-01	Dilution Factor:	1
Lab File ID:	LK09016A	Matrix:	WATER
Ext Btch ID:	23DSK007W	% Moisture:	NA
Calib. Ref.:	LK09005A	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	0.395	0.550	72	60-130
Hexacosane	0.109	0.138	79	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

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client : EUROFINS EATON ANALYTICAL	Date Collected: 10/30/23 11:09
Project : 380-69290	Date Received: 11/02/23
Batch No. : 23K019	Date Extracted: 11/08/23 11:15
Sample ID : 380-69290-2	Date Analyzed: 11/09/23 17:15
Lab Samp ID: 23K019-02	Dilution Factor: 1
Lab File ID: LK09017A	Matrix: WATER
Ext Btch ID: 23DSK007W	% Moisture: NA
Calib. Ref.: LK09003A	Instrument ID: D5

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
Diesel	ND	0.026	0.013	
Motor Oil	ND	0.052	0.026	
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.342	0.515	66	60-130
Hexacosane	0.101	0.129	78	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 : 970ml	Final Volume : 5ml
Prepared by : RGalan	Analyzed by : SDeeso

METHOD 3520C/8015B
 PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	10/30/23 11:09
Project	: 380-69290	Date Received:	11/02/23
Batch No.	: 23K019	Date Extracted:	11/08/23 11:15
Sample ID	: 380-69290-2	Date Analyzed:	11/09/23 17:15
Lab Samp ID:	23K019-02	Dilution Factor:	1
Lab File ID:	LK09017A	Matrix:	WATER
Ext Btch ID:	23DSK007W	% Moisture:	NA
Calib. Ref.:	LK09004A	Instrument ID:	D5

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)		
JP5	ND	0.052	0.026		
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT	
Bromobenzene	0.342	0.515	66	60-130	
Hexacosane	0.101	0.129	78	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 : 970ml

Final Volume : 5ml

Prepared by : RGalan

Analyzed by : SDeeso

METHOD 3520C/8015B
 PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	10/30/23 11:09
Project	: 380-69290	Date Received:	11/02/23
Batch No.	: 23K019	Date Extracted:	11/08/23 11:15
Sample ID	: 380-69290-2	Date Analyzed:	11/09/23 17:15
Lab Samp ID:	23K019-02	Dilution Factor:	1
Lab File ID:	LK09017A	Matrix:	WATER
Ext Btch ID:	23DSK007W	% Moisture:	NA
Calib. Ref.:	LK09005A	Instrument ID:	D5

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
JP8	ND	0.052	0.026

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.342	0.515	66	60-130
Hexacosane	0.101	0.129	78	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 : 970ml

Final Volume : 5ml

Prepared by : RGalan

Analyzed by : SDeeso

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client : EUROFINS EATON ANALYTICAL	Date Collected: 10/30/23 11:44
Project : 380-69290	Date Received: 11/02/23
Batch No. : 23K019	Date Extracted: 11/08/23 11:15
Sample ID : 380-69290-3	Date Analyzed: 11/09/23 17:34
Lab Samp ID: 23K019-03	Dilution Factor: 1
Lab File ID: LK09018A	Matrix: WATER
Ext Btch ID: 23DSK007W	% Moisture: NA
Calib. Ref.: LK09003A	Instrument ID: D5

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)		
Diesel	ND	0.026	0.013		
Motor Oil	ND	0.052	0.026		
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT	
Bromobenzene	0.371	0.525	71	60-130	
Hexacosane	0.111	0.131	84	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 : 950ml	Final Volume : 5ml
Prepared by : RGalán	Analyzed by : SDeeso

METHOD 3520C/8015B
 PETROLEUM HYDROCARBONS BY EXTRACTION

Client : EUROFINS EATON ANALYTICAL	Date Collected: 10/30/23 11:44
Project : 380-69290	Date Received: 11/02/23
Batch No. : 23K019	Date Extracted: 11/08/23 11:15
Sample ID : 380-69290-3	Date Analyzed: 11/09/23 17:34
Lab Samp ID: 23K019-03	Dilution Factor: 1
Lab File ID: LK09018A	Matrix: WATER
Ext Btch ID: 23DSK007W	% Moisture: NA
Calib. Ref.: LK09004A	Instrument ID: D5

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
JP5	ND	0.052	0.026

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.371	0.525	71	60-130
Hexacosane	0.111	0.131	84	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 : 950ml Final Volume : 5ml
 Prepared by : RGalán Analyzed by : SDeeso

METHOD 3520C/8015B
 PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	10/30/23 11:44
Project	: 380-69290	Date Received:	11/02/23
Batch No.	: 23K019	Date Extracted:	11/08/23 11:15
Sample ID	: 380-69290-3	Date Analyzed:	11/09/23 17:34
Lab Samp ID:	23K019-03	Dilution Factor:	1
Lab File ID:	LK09018A	Matrix:	WATER
Ext Btch ID:	23DSK007W	% Moisture:	NA
Calib. Ref.:	LK09005A	Instrument ID:	D5

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
JP8	ND	0.052	0.026

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.371	0.525	71	60-130
Hexacosane	0.111	0.131	84	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 : 950ml

Final Volume : 5ml

Prepared by : RGalán

Analyzed by : SDeeso

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client : EUROFINS EATON ANALYTICAL	Date Collected: 10/30/23 10:37
Project : 380-69290	Date Received: 11/02/23
Batch No. : 23K019	Date Extracted: 11/08/23 11:15
Sample ID : 380-69290-4	Date Analyzed: 11/09/23 17:52
Lab Samp ID: 23K019-04	Dilution Factor: 1
Lab File ID: LK09019A	Matrix: WATER
Ext Btch ID: 23DSK007W	% Moisture: NA
Calib. Ref.: LK09003A	Instrument ID: D5

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
Diesel	ND	0.026	0.013	
Motor Oil	ND	0.052	0.026	
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.386	0.520	74	60-130
Hexacosane	0.111	0.130	86	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 : 960ml	Final Volume : 5ml
Prepared by : RGalán	Analyzed by : SDeeso

METHOD 3520C/8015B
 PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	10/30/23 10:37
Project	: 380-69290	Date Received:	11/02/23
Batch No.	: 23K019	Date Extracted:	11/08/23 11:15
Sample ID	: 380-69290-4	Date Analyzed:	11/09/23 17:52
Lab Samp ID:	23K019-04	Dilution Factor:	1
Lab File ID:	LK09019A	Matrix:	WATER
Ext Btch ID:	23DSK007W	% Moisture:	NA
Calib. Ref.:	LK09004A	Instrument ID:	D5

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
JP5	ND	0.052	0.026	

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.386	0.520	74	60-130
Hexacosane	0.111	0.130	86	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 : 960ml Final Volume : 5ml
 Prepared by : RGalan Analyzed by : SDeeso

METHOD 3520C/8015B
 PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	10/30/23 10:37
Project	: 380-69290	Date Received:	11/02/23
Batch No.	: 23K019	Date Extracted:	11/08/23 11:15
Sample ID	: 380-69290-4	Date Analyzed:	11/09/23 17:52
Lab Samp ID:	23K019-04	Dilution Factor:	1
Lab File ID:	LK09019A	Matrix:	WATER
Ext Btch ID:	23DSK007W	% Moisture:	NA
Calib. Ref.:	LK09005A	Instrument ID:	D5

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
JP8	ND	0.052	0.026	
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.386	0.520	74	60-130
Hexacosane	0.111	0.130	86	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 : 960ml

Final Volume : 5ml

Prepared by : RGalán

Analyzed by : SDeeso

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QC SUMMARIES

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	11/08/23 11:15
Project	: 380-69290	Date Received:	11/08/23
Batch No.	: 23K019	Date Extracted:	11/08/23 11:15
Sample ID	: MBLK1W	Date Analyzed:	11/09/23 14:46
Lab Samp ID:	DSK007WB	Dilution Factor:	1
Lab File ID:	LK09009A	Matrix:	WATER
Ext Btch ID:	23DSK007W	% Moisture:	NA
Calib. Ref.:	LK09003A	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	0.366	0.500	73	60-130
Hexacosane	0.106	0.125	85	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 : 380-69290
BATCH NO. : 23K019
METHOD : 3520C/8015B

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR:	1	1	1
SAMPLE ID	: MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID	: DSK007WB	DSK007WL	DSK007WC
LAB FILE ID	: LK09009A	LK09010A	LK09011A
DATE PREPARED	: 11/08/23 11:15	11/08/23 11:15	11/08/23 11:15
DATE ANALYZED	: 11/09/23 14:46	11/09/23 15:04	11/09/23 15:23
PREP BATCH	: 23DSK007W	23DSK007W	23DSK007W
CALIBRATION REF:	LK09003A	LK09003A	LK09003A

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	2.22	89	2.50	2.12	85	5	50-130	30

SURROGATE PARAMETERS	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	QCLimit (%)
Bromobenzene	0.500	0.340	68	0.500	0.323	65	60-130
Hexacosane	0.125	0.108	86	0.125	0.110	88	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:	11/08/23 11:15
Project	: 380-69290	Date Received:	11/08/23
Batch No.	: 23K019	Date Extracted:	11/08/23 11:15
Sample ID	: MBLK1W	Date Analyzed:	11/09/23 14:46
Lab Samp ID:	DSK007WB	Dilution Factor:	1
Lab File ID:	LK09009A	Matrix:	WATER
Ext Btch ID:	23DSK007W	% Moisture:	NA
Calib. Ref.:	LK09004A	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	0.366	0.500	73	60-130
Hexacosane	0.106	0.125	85	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 : 380-69290
BATCH NO. : 23K019
METHOD : 3520C/8015B

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR:	1	1	1
SAMPLE ID	: MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID	: DSK007WB	J5K007WL	J5K007WC
LAB FILE ID	: LK09009A	LK09012A	LK09013A
DATE PREPARED	: 11/08/23 11:15	11/08/23 11:15	11/08/23 11:15
DATE ANALYZED	: 11/09/23 14:46	11/09/23 15:42	11/09/23 16:00
PREP BATCH	: 23DSK007W	23DSK007W	23DSK007W
CALIBRATION REF:	LK09004A	LK09004A	LK09004A

ACCESSION:

PARAMETERS	MBResult (mg/L)	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	RPD (%)	QLLimit (%)	MaxRPD (%)
JP5	ND	2.50	2.06	82	2.50	2.01	80	2	30-160	30

SURROGATE PARAMETERS	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	QLLimit (%)
Bromobenzene	0.500	0.396	79	0.500	0.400	80	60-130
Hexacosane	0.125	0.104	83	0.125	0.101	81	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:	11/08/23 11:15
Project	: 380-69290	Date Received:	11/08/23
Batch No.	: 23K019	Date Extracted:	11/08/23 11:15
Sample ID	: MBLK1W	Date Analyzed:	11/09/23 14:46
Lab Samp ID:	DSK007WB	Dilution Factor:	1
Lab File ID:	LK09009A	Matrix:	WATER
Ext Btch ID:	23DSK007W	% Moisture:	NA
Calib. Ref.:	LK09005A	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	0.366	0.500	73	60-130
Hexacosane	0.106	0.125	85	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 : 380-69290
BATCH NO. : 23K019
METHOD : 3520C/8015B

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR:	1	1	1
SAMPLE ID	: MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID	: DSK007WB	J8K007WL	J8K007WC
LAB FILE ID	: LK09009A	LK09014A	LK09015A
DATE PREPARED	: 11/08/23 11:15	11/08/23 11:15	11/08/23 11:15
DATE ANALYZED	: 11/09/23 14:46	11/09/23 16:19	11/09/23 16:38
PREP BATCH	: 23DSK007W	23DSK007W	23DSK007W
CALIBRATION REF:	LK09005A	LK09005A	LK09005A

ACCESSION:

PARAMETERS	MBResult (mg/L)	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	RPD (%)	QLLimit (%)	MaxRPD (%)
JP8	ND	2.50	2.05	82	2.50	2.24	90	9	30-160	30

SURROGATE PARAMETERS	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	QLLimit (%)
Bromobenzene	0.500	0.451	90	0.500	0.481	96	60-130
Hexacosane	0.125	0.0991	79	0.125	0.110	88	60-130

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

November 21, 2023

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

Project Name: RED-HILL Project # 38001111 Job # 380-69290-1
Physis Project ID: 1407003-459

Dear Rachelle,

Enclosed are the analytical results for samples submitted to PHYSIS Environmental Laboratories, Inc. (PHYSIS) on 11/2/2023. A total of 4 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,
misty mercier

Misty Mercier
714 602-5320
Extension 202
mistymercier@physislabs.com

PROJECT SAMPLE LIST

Eurofins Eaton Analytical

PHYSIS Project ID: 1407003-459

RED-HILL Project # 38001111 Job # 380-69290-1

Total Samples: 4

PHYSIS ID	Sample ID	Description	Date	Time	Matrix	Sample Type
112529	MOANALUA WELLS	380-69290-1	10/30/202	9:56	Samplewater	Not Specified
112530	AIEA GULCH WELLS PUMP 2	380-69290-2	10/30/202	11:09	Samplewater	Not Specified
112531	AIEA WELLS PUMPS 1&2 (260) P2	380-69290-3	10/30/202	11:44	Samplewater	Not Specified
112532	HALAWA WELLS UNITS 1 & 2 P1	380-69290-4	10/30/202	10:37	Samplewater	Not Specified

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

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.

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

ANALYTICAL REPORT

TERRA AURA
ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

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Base/Neutral Extractable Compounds

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 112529-R1 MOANALUA WELLS 380-69290-1 Matrix: Samplewater											
Disalicylideneopropanediamine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-42152	06-Nov-23	18-Nov-23
Sample ID: 112530-R1 AIEA GULCH WELLS PUMP 2 380-6 Matrix: Samplewater											
Disalicylideneopropanediamine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-42152	06-Nov-23	18-Nov-23
Sample ID: 112531-R1 AIEA WELLS PUMPS 1&2 (260) P2 3 Matrix: Samplewater											
Disalicylideneopropanediamine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-42152	06-Nov-23	18-Nov-23
Sample ID: 112532-R1 HALAWA WELLS UNITS 1 & 2 P1 38 Matrix: Samplewater											
Disalicylideneopropanediamine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-42152	06-Nov-23	18-Nov-23

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 112529-R1	MOANALUA WELLS 380-69290-1	Matrix: Samplewater					Sampled: 30-Oct-23 9:56			Received: 02-Nov-23	
(d10-Acenaphthene)	EPA 625.1	% Recovery	86	1			Total		O-42152	06-Nov-23	18-Nov-23
(d10-Phenanthrene)	EPA 625.1	% Recovery	92	1			Total		O-42152	06-Nov-23	18-Nov-23
(d12-Chrysene)	EPA 625.1	% Recovery	86	1			Total		O-42152	06-Nov-23	18-Nov-23
(d12-Perylene)	EPA 625.1	% Recovery	84	1			Total		O-42152	06-Nov-23	18-Nov-23
(d8-Naphthalene)	EPA 625.1	% Recovery	85	1			Total		O-42152	06-Nov-23	18-Nov-23
1-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42152	06-Nov-23	18-Nov-23
1-Methylphenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42152	06-Nov-23	18-Nov-23
2,3,5-Trimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42152	06-Nov-23	18-Nov-23
2,6-Dimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42152	06-Nov-23	18-Nov-23
2-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42152	06-Nov-23	18-Nov-23
Acenaphthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42152	06-Nov-23	18-Nov-23
Acenaphthylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42152	06-Nov-23	18-Nov-23
Anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42152	06-Nov-23	18-Nov-23
Benz[a]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42152	06-Nov-23	18-Nov-23
Benzo[a]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42152	06-Nov-23	18-Nov-23
Benzo[b]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42152	06-Nov-23	18-Nov-23
Benzo[e]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42152	06-Nov-23	18-Nov-23
Benzo[g,h,i]perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42152	06-Nov-23	18-Nov-23
Benzo[k]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42152	06-Nov-23	18-Nov-23
Biphenyl	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42152	06-Nov-23	18-Nov-23
Chrysene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42152	06-Nov-23	18-Nov-23
Dibenz[a,h]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42152	06-Nov-23	18-Nov-23
Dibenzo[a,l]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42152	06-Nov-23	18-Nov-23
Dibenzothiophene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42152	06-Nov-23	18-Nov-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-42152	06-Nov-23	18-Nov-23
Fluorene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42152	06-Nov-23	18-Nov-23
Indeno[1,2,3-cd]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42152	06-Nov-23	18-Nov-23
Naphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42152	06-Nov-23	18-Nov-23
Perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42152	06-Nov-23	18-Nov-23
Phenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42152	06-Nov-23	18-Nov-23
Pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42152	06-Nov-23	18-Nov-23



Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 112530-R1	AIEA GULCH WELLS PUMP 2 380-6 Matrix: Samplewater						Sampled:	30-Oct-23 11:09	Received:	02-Nov-23	
(d10-Acenaphthene)	EPA 625.1	% Recovery	97	1			Total		O-42152	06-Nov-23	18-Nov-23
(d10-Phenanthrene)	EPA 625.1	% Recovery	96	1			Total		O-42152	06-Nov-23	18-Nov-23
(d12-Chrysene)	EPA 625.1	% Recovery	89	1			Total		O-42152	06-Nov-23	18-Nov-23
(d12-Perylene)	EPA 625.1	% Recovery	87	1			Total		O-42152	06-Nov-23	18-Nov-23
(d8-Naphthalene)	EPA 625.1	% Recovery	94	1			Total		O-42152	06-Nov-23	18-Nov-23
1-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42152	06-Nov-23	18-Nov-23
1-Methylphenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42152	06-Nov-23	18-Nov-23
2,3,5-Trimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42152	06-Nov-23	18-Nov-23
2,6-Dimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42152	06-Nov-23	18-Nov-23
2-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42152	06-Nov-23	18-Nov-23
Acenaphthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42152	06-Nov-23	18-Nov-23
Acenaphthylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42152	06-Nov-23	18-Nov-23
Anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42152	06-Nov-23	18-Nov-23
Benz[a]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42152	06-Nov-23	18-Nov-23
Benzo[a]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42152	06-Nov-23	18-Nov-23
Benzo[b]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42152	06-Nov-23	18-Nov-23
Benzo[e]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42152	06-Nov-23	18-Nov-23
Benzo[g,h,i]perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42152	06-Nov-23	18-Nov-23
Benzo[k]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42152	06-Nov-23	18-Nov-23
Biphenyl	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42152	06-Nov-23	18-Nov-23
Chrysene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42152	06-Nov-23	18-Nov-23
Dibenz[a,h]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42152	06-Nov-23	18-Nov-23
Dibenzo[a,l]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42152	06-Nov-23	18-Nov-23
Dibenzothiophene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42152	06-Nov-23	18-Nov-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-42152	06-Nov-23	18-Nov-23
Fluorene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42152	06-Nov-23	18-Nov-23
Indeno[1,2,3-cd]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42152	06-Nov-23	18-Nov-23
Naphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42152	06-Nov-23	18-Nov-23
Perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42152	06-Nov-23	18-Nov-23
Phenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42152	06-Nov-23	18-Nov-23
Pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42152	06-Nov-23	18-Nov-23

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed	
Sample ID: 112531-R1	AIEA WELLS PUMPS 1&2 (260) P2 3 Matrix: Samplewater						Sampled:	30-Oct-23 11:44	Received:	02-Nov-23		
(d10-Acenaphthene)	EPA 625.1	% Recovery	89	1			Total		O-42152	06-Nov-23	18-Nov-23	
(d10-Phenanthrene)	EPA 625.1	% Recovery	95	1			Total		O-42152	06-Nov-23	18-Nov-23	
(d12-Chrysene)	EPA 625.1	% Recovery	88	1			Total		O-42152	06-Nov-23	18-Nov-23	
(d12-Perylene)	EPA 625.1	% Recovery	88	1			Total		O-42152	06-Nov-23	18-Nov-23	
(d8-Naphthalene)	EPA 625.1	% Recovery	88	1			Total		O-42152	06-Nov-23	18-Nov-23	
1-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42152	06-Nov-23	18-Nov-23	
1-Methylphenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42152	06-Nov-23	18-Nov-23	
2,3,5-Trimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42152	06-Nov-23	18-Nov-23	
2,6-Dimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42152	06-Nov-23	18-Nov-23	
2-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42152	06-Nov-23	18-Nov-23	
Acenaphthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42152	06-Nov-23	18-Nov-23	
Acenaphthylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42152	06-Nov-23	18-Nov-23	
Anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42152	06-Nov-23	18-Nov-23	
Benz[a]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42152	06-Nov-23	18-Nov-23	
Benzo[a]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42152	06-Nov-23	18-Nov-23	
Benzo[b]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42152	06-Nov-23	18-Nov-23	
Benzo[e]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42152	06-Nov-23	18-Nov-23	
Benzo[g,h,i]perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42152	06-Nov-23	18-Nov-23	
Benzo[k]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42152	06-Nov-23	18-Nov-23	
Biphenyl	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42152	06-Nov-23	18-Nov-23	
Chrysene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42152	06-Nov-23	18-Nov-23	
Dibenz[a,h]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42152	06-Nov-23	18-Nov-23	
Dibenzo[a,l]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42152	06-Nov-23	18-Nov-23	
Dibenzothiophene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42152	06-Nov-23	18-Nov-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-42152	06-Nov-23	18-Nov-23
Fluorene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42152	06-Nov-23	18-Nov-23
Indeno[1,2,3-cd]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42152	06-Nov-23	18-Nov-23
Naphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42152	06-Nov-23	18-Nov-23
Perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42152	06-Nov-23	18-Nov-23
Phenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42152	06-Nov-23	18-Nov-23
Pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42152	06-Nov-23	18-Nov-23



Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 112532-R1	HALAWA WELLS UNITS 1 & 2 P1 38 Matrix: Samplewater						Sampled: 30-Oct-23 10:37		Received: 02-Nov-23		
(d10-Acenaphthene)	EPA 625.1	% Recovery	94	1			Total		O-42152	06-Nov-23	18-Nov-23
(d10-Phenanthrene)	EPA 625.1	% Recovery	100	1			Total		O-42152	06-Nov-23	18-Nov-23
(d12-Chrysene)	EPA 625.1	% Recovery	91	1			Total		O-42152	06-Nov-23	18-Nov-23
(d12-Perylene)	EPA 625.1	% Recovery	89	1			Total		O-42152	06-Nov-23	18-Nov-23
(d8-Naphthalene)	EPA 625.1	% Recovery	94	1			Total		O-42152	06-Nov-23	18-Nov-23
1-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42152	06-Nov-23	18-Nov-23
1-Methylphenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42152	06-Nov-23	18-Nov-23
2,3,5-Trimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42152	06-Nov-23	18-Nov-23
2,6-Dimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42152	06-Nov-23	18-Nov-23
2-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42152	06-Nov-23	18-Nov-23
Acenaphthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42152	06-Nov-23	18-Nov-23
Acenaphthylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42152	06-Nov-23	18-Nov-23
Anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42152	06-Nov-23	18-Nov-23
Benz[a]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42152	06-Nov-23	18-Nov-23
Benzo[a]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42152	06-Nov-23	18-Nov-23
Benzo[b]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42152	06-Nov-23	18-Nov-23
Benzo[e]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42152	06-Nov-23	18-Nov-23
Benzo[g,h,i]perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42152	06-Nov-23	18-Nov-23
Benzo[k]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42152	06-Nov-23	18-Nov-23
Biphenyl	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42152	06-Nov-23	18-Nov-23
Chrysene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42152	06-Nov-23	18-Nov-23
Dibenz[a,h]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42152	06-Nov-23	18-Nov-23
Dibenzo[a,l]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42152	06-Nov-23	18-Nov-23
Dibenzothiophene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42152	06-Nov-23	18-Nov-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-42152	06-Nov-23	18-Nov-23
Fluorene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42152	06-Nov-23	18-Nov-23
Indeno[1,2,3-cd]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42152	06-Nov-23	18-Nov-23
Naphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42152	06-Nov-23	18-Nov-23
Perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42152	06-Nov-23	18-Nov-23
Phenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42152	06-Nov-23	18-Nov-23
Pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42152	06-Nov-23	18-Nov-23



QUALITY CONTROL REPORT

TERRA ENVIRONMENTAL LABORATORIES, INC. AURA

Innovative Solutions for Nature

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Base/Neutral Extractable Compounds

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE		SOURCE		ACCURACY		PRECISION		QA CODEc
							LEVEL	RESULT	%	LIMITS	%	LIMITS			
Sample ID: 112528-B1		QAQC Procedural Blank				Matrix: BlankMatrix		Sampled:				Received:			
		Method: EPA 625.1				Batch ID: O-42152		Prepared: 06-Nov-23				Analyzed: 17-Nov-23			
Disalicylidenepropanediamin	Total	ND	1	0.05	0.1	µg/L									
Sample ID: 112528-BS1		QAQC Procedural Blank				Matrix: BlankMatrix		Sampled:				Received:			
		Method: EPA 625.1				Batch ID: O-42152		Prepared: 06-Nov-23				Analyzed: 18-Nov-23			
Disalicylidenepropanediamin	Total	39.8	1	0.05	0.1	µg/L	50	0	80	50 - 150%	PASS				
Sample ID: 112528-BS2		QAQC Procedural Blank				Matrix: BlankMatrix		Sampled:				Received:			
		Method: EPA 625.1				Batch ID: O-42152		Prepared: 06-Nov-23				Analyzed: 18-Nov-23			
Disalicylidenepropanediamin	Total	43.5	1	0.05	0.1	µg/L	50	0	87	50 - 150%	PASS	8	30	PASS	

Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY	PRECISION	QA CODEc
							LEVEL	RESULT	% LIMITS	% LIMITS	
Sample ID: 112528-B1		QAQC Procedural Blank			Matrix: BlankMatrix		Sampled:		Received:		
		Method: EPA 625.1				Batch ID: O-42152	Prepared: 06-Nov-23		Analyzed: 17-Nov-23		
(d10-Acenaphthene)	Total	94	1			% Recovery	100	94	27 - 133%	PASS	
(d10-Phenanthrene)	Total	99	1			% Recovery	100	99	43 - 129%	PASS	
(d12-Chrysene)	Total	89	1			% Recovery	100	89	52 - 144%	PASS	
(d12-Perylene)	Total	91	1			% Recovery	100	91	36 - 161%	PASS	
(d8-Naphthalene)	Total	98	1			% Recovery	100	98	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					
Dibenzothiophene	Total	ND	1	0.001	0.005	µg/L					

Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY	PRECISION	QA CODEc
							LEVEL	RESULT	%	LIMITS	%
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	SOURCE	ACCURACY	PRECISION	QA CODEc	
							LEVEL	RESULT	%	LIMITS	%	LIMITS
Sample ID: 112528-BS1		QAQC Procedural Blank			Matrix: BlankMatrix			Sampled:		Received:		
Method: EPA 625.1		Batch ID: O-42152			Prepared: 06-Nov-23			Analyzed: 18-Nov-23				
(d10-Acenaphthene)	Total	93	1			% Recovery	100	0	93	27 - 133%	PASS	
(d10-Phenanthrene)	Total	98	1			% Recovery	100	0	98	43 - 129%	PASS	
(d12-Chrysene)	Total	91	1			% Recovery	100	0	91	52 - 144%	PASS	
(d12-Perylene)	Total	91	1			% Recovery	100	0	91	36 - 161%	PASS	
(d8-Naphthalene)	Total	93	1			% Recovery	100	0	93	25 - 125%	PASS	
1-Methylnaphthalene	Total	0.455	1	0.001	0.005	µg/L	0.5	0	91	31 - 128%	PASS	
1-Methylphenanthrene	Total	0.492	1	0.001	0.005	µg/L	0.5	0	98	66 - 127%	PASS	
2,3,5-Trimethylnaphthalene	Total	0.469	1	0.001	0.005	µg/L	0.5	0	94	55 - 122%	PASS	
2,6-Dimethylnaphthalene	Total	0.444	1	0.001	0.005	µg/L	0.5	0	89	48 - 120%	PASS	
2-Methylnaphthalene	Total	0.45	1	0.001	0.005	µg/L	0.5	0	90	47 - 130%	PASS	
Acenaphthene	Total	0.448	1	0.001	0.005	µg/L	0.5	0	90	53 - 131%	PASS	
Acenaphthylene	Total	0.462	1	0.001	0.005	µg/L	0.5	0	92	43 - 140%	PASS	
Anthracene	Total	0.465	1	0.001	0.005	µg/L	0.5	0	93	58 - 135%	PASS	
Benz[a]anthracene	Total	0.461	1	0.001	0.005	µg/L	0.5	0	92	55 - 145%	PASS	
Benzo[a]pyrene	Total	0.41	1	0.001	0.005	µg/L	0.5	0	82	51 - 143%	PASS	
Benzo[b]fluoranthene	Total	0.501	1	0.001	0.005	µg/L	0.5	0	100	46 - 165%	PASS	
Benzo[e]pyrene	Total	0.482	1	0.001	0.005	µg/L	0.5	0	96	42 - 152%	PASS	
Benzo[g,h,i]perylene	Total	0.458	1	0.001	0.005	µg/L	0.5	0	92	63 - 133%	PASS	
Benzo[k]fluoranthene	Total	0.398	1	0.001	0.005	µg/L	0.5	0	80	56 - 145%	PASS	
Biphenyl	Total	0.444	1	0.001	0.005	µg/L	0.5	0	89	56 - 119%	PASS	
Chrysene	Total	0.436	1	0.001	0.005	µg/L	0.5	0	87	56 - 141%	PASS	
Dibenz[a,h]anthracene	Total	0.65	1	0.001	0.005	µg/L	0.5	0	130	55 - 150%	PASS	
Dibenzo[a,l]pyrene	Total	1.13	1	0.001	0.005	µg/L	1	0	113	50 - 150%	PASS	
Dibenzothiophene	Total	0.469	1	0.001	0.005	µg/L	0.5	0	94	46 - 126%	PASS	

Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY		PRECISION		QA CODE _c
							LEVEL	RESULT	%	LIMITS	%	LIMITS	
Fluoranthene	Total	0.516	1	0.001	0.005	µg/L	0.5	0	103	60 - 146%	PASS		
Fluorene	Total	0.452	1	0.001	0.005	µg/L	0.5	0	90	58 - 131%	PASS		
Indeno[1,2,3-cd]pyrene	Total	0.685	1	0.001	0.005	µg/L	0.5	0	137	50 - 151%	PASS		
Naphthalene	Total	0.454	1	0.001	0.005	µg/L	0.5	0	91	41 - 126%	PASS		
Perylene	Total	0.465	1	0.001	0.005	µg/L	0.5	0	93	48 - 141%	PASS		
Phenanthrene	Total	0.473	1	0.001	0.005	µg/L	0.5	0	95	67 - 127%	PASS		
Pyrene	Total	0.522	1	0.001	0.005	µg/L	0.5	0	104	54 - 156%	PASS		

Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY		PRECISION		QA CODE	
							LEVEL	RESULT	%	LIMITS	%	LIMITS		
Sample ID: 112528-BS2		QAQC Procedural Blank			Matrix: BlankMatrix			Sampled:			Received:			
		Method: EPA 625.1			Batch ID: O-42152			Prepared: 06-Nov-23			Analyzed: 18-Nov-23			
(d10-Acenaphthene)	Total	93	1			% Recovery	100	0	93	27 - 133%	PASS	0	30	PASS
(d10-Phenanthrene)	Total	98	1			% Recovery	100	0	98	43 - 129%	PASS	0	30	PASS
(d12-Chrysene)	Total	92	1			% Recovery	100	0	92	52 - 144%	PASS	1	30	PASS
(d12-Perylene)	Total	91	1			% Recovery	100	0	91	36 - 161%	PASS	0	30	PASS
(d8-Naphthalene)	Total	94	1			% Recovery	100	0	94	25 - 125%	PASS	1	30	PASS
1-Methylnaphthalene	Total	0.45	1	0.001	0.005	µg/L	0.5	0	90	31 - 128%	PASS	1	30	PASS
1-Methylphenanthrene	Total	0.481	1	0.001	0.005	µg/L	0.5	0	96	66 - 127%	PASS	2	30	PASS
2,3,5-Trimethylnaphthalene	Total	0.467	1	0.001	0.005	µg/L	0.5	0	93	55 - 122%	PASS	1	30	PASS
2,6-Dimethylnaphthalene	Total	0.446	1	0.001	0.005	µg/L	0.5	0	89	48 - 120%	PASS	0	30	PASS
2-Methylnaphthalene	Total	0.452	1	0.001	0.005	µg/L	0.5	0	90	47 - 130%	PASS	0	30	PASS
Acenaphthene	Total	0.441	1	0.001	0.005	µg/L	0.5	0	88	53 - 131%	PASS	2	30	PASS
Acenaphthylene	Total	0.458	1	0.001	0.005	µg/L	0.5	0	92	43 - 140%	PASS	0	30	PASS
Anthracene	Total	0.467	1	0.001	0.005	µg/L	0.5	0	93	58 - 135%	PASS	0	30	PASS
Benz[a]anthracene	Total	0.463	1	0.001	0.005	µg/L	0.5	0	93	55 - 145%	PASS	1	30	PASS
Benzo[a]pyrene	Total	0.464	1	0.001	0.005	µg/L	0.5	0	93	51 - 143%	PASS	13	30	PASS
Benzo[b]fluoranthene	Total	0.498	1	0.001	0.005	µg/L	0.5	0	100	46 - 165%	PASS	0	30	PASS
Benzo[e]pyrene	Total	0.48	1	0.001	0.005	µg/L	0.5	0	96	42 - 152%	PASS	0	30	PASS
Benzo[g,h,i]perylene	Total	0.463	1	0.001	0.005	µg/L	0.5	0	93	63 - 133%	PASS	1	30	PASS
Benzo[k]fluoranthene	Total	0.395	1	0.001	0.005	µg/L	0.5	0	79	56 - 145%	PASS	1	30	PASS
Biphenyl	Total	0.45	1	0.001	0.005	µg/L	0.5	0	90	56 - 119%	PASS	1	30	PASS
Chrysene	Total	0.414	1	0.001	0.005	µg/L	0.5	0	83	56 - 141%	PASS	5	30	PASS
Dibenz[a,h]anthracene	Total	0.662	1	0.001	0.005	µg/L	0.5	0	132	55 - 150%	PASS	2	30	PASS
Dibenzo[a,l]pyrene	Total	1.19	1	0.001	0.005	µg/L	1	0	119	50 - 150%	PASS	5	30	PASS
Dibenzothiophene	Total	0.47	1	0.001	0.005	µg/L	0.5	0	94	46 - 126%	PASS	0	30	PASS

Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY		PRECISION		QA CODE _c	
							LEVEL	RESULT	%	LIMITS	%	LIMITS		
Fluoranthene	Total	0.497	1	0.001	0.005	µg/L	0.5	0	99	60 - 146%	PASS	4	30	PASS
Fluorene	Total	0.46	1	0.001	0.005	µg/L	0.5	0	92	58 - 131%	PASS	2	30	PASS
Indeno[1,2,3-cd]pyrene	Total	0.675	1	0.001	0.005	µg/L	0.5	0	135	50 - 151%	PASS	1	30	PASS
Naphthalene	Total	0.454	1	0.001	0.005	µg/L	0.5	0	91	41 - 126%	PASS	0	30	PASS
Perylene	Total	0.451	1	0.001	0.005	µg/L	0.5	0	90	48 - 141%	PASS	3	30	PASS
Phenanthrene	Total	0.469	1	0.001	0.005	µg/L	0.5	0	94	67 - 127%	PASS	1	30	PASS
Pyrene	Total	0.502	1	0.001	0.005	µg/L	0.5	0	100	54 - 156%	PASS	4	30	PASS

PERFORMANCE CHAIN OF CUSTODY

TERRA ENVIRONMENTAL LABORATORIES, INC. AURA

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

Chain of Custody Record

eurofins

Client Information		Lab PMI		Carmer Tracking No(s)		COC No							
Arada, Rachelle		Arada, Rachelle		380-27941-2757 2		380-27941-2757 2							
Rachelle Arada@get.euronisus.com		Rachelle Arada@get.euronisus.com		State of Origin		Page 1 of 2							
PWSID		Analysis Requested		Job #		Preservation Codes:							
Date Requested TAT Requested (days) Compliance Project <input type="checkbox"/> No PO # C20525101 exp 05312023 WC # Project # 38001111 SSOW#	Perform MS/MSD (Yes or No) <input checked="" type="checkbox"/>	Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/>	SUBCONTRACT - 625 PAH Physis LL (EAL) + TICs SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL) SUBCONTRACT - 8915 Diesel LL (EAL) and Motor Oil SUBCONTRACT - (MOD) 525PLUS PLUS TICs SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL) SUBCONTRACT - 537 1 Full List 533 - All Analytes	SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL) SUBCONTRACT - 8915 Diesel LL (EAL) and Motor Oil SUBCONTRACT - (MOD) 525PLUS PLUS TICs SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL) SUBCONTRACT - 537 1 Full List 533 - All Analytes	RA Y N	RA Y N	M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2SO3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Y - Trizma Z - other (specify)	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 Other					
Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (w=water, s=solid, o=wastelil)	Preservation Code	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Form MS/MSD (Yes or No)	RA	Y	N	Total Number of Containers	Special Instructions/Note:
MOANALUA WELLS	30-Oct-2023	0986	G	Water		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		2	2	4		
AIEA GULCH WELLS PUMP2	30-Oct-2023	1109	G	Water		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		2	2	4		
AIEA WELLS PUMPS 1&2 (260) P2	30-Oct-2023	1144	G	Water		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		2	2	4		
HALAWA WELLS UNITS 1&2 P1	30-Oct-2023	1037	G	Water		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		2	2	4		
TB MOANALUA WELLS	30-Oct-2023	0986		Water					2				
TB AIEA GULCH WELLS PUMP2	30-Oct-2023	1109		Water					2				
TB AIEA WELLS PUMPS 1&2 (260)	30-Oct-2023	1144		Water					2				
TB HALAWA WELLS UNITS 1&2	30-Oct-2023	1037		Water					2				



380-69290 COC

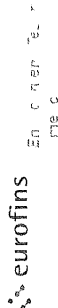
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
 Return To Client Disposal By Lab Archive For _____ Months

Special Instructions/QC Requirements
 Method of Shipment: FED EX
 Date/Time: 11/01/2023 10:30
 Received by: BAILEY
 Company: HBWS

Relinquished by: BAILEY
 Date/Time: 30 October 2023 10:30
 Relinquished by: BAILEY
 Date/Time: 30 October 2023 10:30
 Relinquished by: BAILEY
 Date/Time: 30 October 2023 10:30
 Company: EGAP
 Company: EGAP
 Company: EGAP

Custody Seal No
 Yes No
 Cooler Temperature(s) °C and Other Remarks
 GEL-FROZEN (51A) 13° 0.1°-17.2° (2) 2.5° 0.1°-2.4° (3) 16° 0.1°-17°

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



Chain of Custody Record

Client Information Client Contact: Dr. Ron Fenstermacher City & County of Honolulu Address: 630 South Beretania Street, Chemistry Lab Honolulu State Zip: HI, 96843 Phone: 808-748-5091 (tel) Email: rfenstermacher@hbws.org Project Name: RED-HILL/HBWS sites Event Desc: RUSH Weekly Red Hill Site: 		Lab PM Arada, Rachelle E-Mail: Rachelle.Arada@et.eurofins.com PWSID: 	Carrier Tracking No(s) State of Origin 	COC No 380-27941-2757 2 Page Page 2 of 2 Job #
Due Date Requested TAT Requested (days) Compliance Project: Δ No PO # C20525101 exp 05312023 WO # Project # 38001111 SSOW# 	Sample Date Sample Time Sample Type (C=Comp, G=grab) Preservation Code Matrix (W=water, S=solid, O=wastewater, 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 (Purgeable) LL (EAL) SUBCONTRACT - 8915 Diesel LL (EAL) and Motor Oil SUBCONTRACT - (MOD) 525plus PLUS TICs SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL) SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL) SUBCONTRACT - 537 1_DW_PREC - 537 1 Full List 533 - All Analytes 	Analysis Requested 	Preservation Codes: 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 MOANALUA WELLS AIEA GULCH WELLS PUMP2 AIEA WELLS PUMPS 1&2 (260) PZ HALAWA WELLS UNITS 1&2 PI FB MOANALUA WELLS FB AIEA GULCH WELLS PUMP2 FB AIEA WELLS PUMPS 1&2 (260) FB HALAWA WELLS UNITS 1&2 	Sample Date 30-Oct-2023 30-Oct-2023 30-Oct-2023 30-Oct-2023 30-Oct-2023 30-Oct-2023 30-Oct-2023 	Sample Time 0956 1109 1144 1057 0956 1109 1144 1057 	Sample Type G G G G 	Matrix Water Water Water Water Water Water Water
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological Deliverable Requested I, II, III, IV, Other (specify) 		Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/> Perform MS/MSD (Yes or No) <input checked="" type="checkbox"/> 	Analysis Requested 	Preservation Codes:
Empty Kit Relinquished by Relinquished by Relinquished by 		Date 30 Oct 2023 	Date 11/10/2023 	Method of Shipment FEDEX
Relinquished by BAILEY 		Date 30 Oct 2023 	Date 11/10/2023 	Method of Shipment FEDEX
Relinquished by 		Date 	Date 	Method of Shipment
Custody Seals Intact. Δ Yes Δ No 		Cooler Temperature(s) °C and Other Remarks CEL-FROZEN 731A13 01-12 / 025 01-24 / 016 01-15 	Cooler Temperature(s) °C and Other Remarks 	Cooler Temperature(s) °C and Other Remarks



Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-69290-2

Login Number: 69290
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	

