

ANALYTICAL REPORT

PREPARED FOR

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Public Service Bldg. Room 310
Honolulu, Hawaii 96843

Generated 9/17/2023 10:22:45 AM

JOB DESCRIPTION

RED-HILL

JOB NUMBER

380-53442-2

Eurofins Eaton Analytical Pomona

Job Notes

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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: 380-53442-2

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: 380-53442-2

Job ID: 380-53442-2

Laboratory: Eurofins Eaton Analytical Pomona

Narrative

Job Narrative 380-53442-2

Comments

No additional comments.

Receipt

The samples were received on 7/6/2023 9:50 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 5 coolers at receipt time were 1.3° C, 1.6° C, 2.1° C, 2.6° C and 3.5° C.

Subcontract non-Sister

See attached subcontract report.

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.

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.



Detection Summary

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

Job ID: 380-53442-2

Client Sample ID: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-53442-1

No Detections.

Client Sample ID: AIEA WELLS PUMP 2 (260)

Lab Sample ID: 380-53442-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[b]fluoranthene	0.00755		0.005	0.001	µg/L	1		625 PAH Physis LL (EAL) + TICs	Total/NA

Client Sample ID: TB: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-53442-4

No Detections.

Client Sample ID: TB: AIEA WELLS PUMP 2 (260)

Lab Sample ID: 380-53442-5

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: 380-53442-2

Client Sample ID: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-53442-1

Date Collected: 07/03/23 08:45

Matrix: Drinking Water

Date Received: 07/06/23 09:50

Method: 625 PAH Physys 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		07/07/23 00:00	07/29/23 23:45	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		07/07/23 00:00	07/29/23 23:45	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		07/07/23 00:00	07/29/23 23:45	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		07/07/23 00:00	07/29/23 23:45	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		07/07/23 00:00	07/29/23 23:45	1
Acenaphthene	ND		0.005	0.001	µg/L		07/07/23 00:00	07/29/23 23:45	1
Acenaphthylene	ND		0.005	0.001	µg/L		07/07/23 00:00	07/29/23 23:45	1
Anthracene	ND		0.005	0.001	µg/L		07/07/23 00:00	07/29/23 23:45	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		07/07/23 00:00	07/29/23 23:45	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		07/07/23 00:00	07/29/23 23:45	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		07/07/23 00:00	07/29/23 23:45	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		07/07/23 00:00	07/29/23 23:45	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		07/07/23 00:00	07/29/23 23:45	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		07/07/23 00:00	07/29/23 23:45	1
Biphenyl	ND		0.005	0.001	µg/L		07/07/23 00:00	07/29/23 23:45	1
Chrysene	ND		0.005	0.001	µg/L		07/07/23 00:00	07/29/23 23:45	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		07/07/23 00:00	07/29/23 23:45	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		07/07/23 00:00	07/29/23 23:45	1
Dibenzothiophene	ND		0.005	0.001	µg/L		07/07/23 00:00	07/29/23 23:45	1
Disalicylidenepropanediamine	ND		0.1	0.05	µg/L		07/07/23 00:00	07/29/23 23:45	1
Fluoranthene	ND		0.005	0.001	µg/L		07/07/23 00:00	07/29/23 23:45	1
Fluorene	ND		0.005	0.001	µg/L		07/07/23 00:00	07/29/23 23:45	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		07/07/23 00:00	07/29/23 23:45	1
Naphthalene	ND		0.005	0.001	µg/L		07/07/23 00:00	07/29/23 23:45	1
Perylene	ND		0.005	0.001	µg/L		07/07/23 00:00	07/29/23 23:45	1
Phenanthrene	ND		0.005	0.001	µg/L		07/07/23 00:00	07/29/23 23:45	1
Pyrene	ND		0.005	0.001	µg/L		07/07/23 00:00	07/29/23 23:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
(d10-Acenaphthene)	64		27 - 133	07/07/23 00:00	07/29/23 23:45	1
(d10-Phenanthrene)	98		43 - 129	07/07/23 00:00	07/29/23 23:45	1
(d12-Chrysene)	105		52 - 144	07/07/23 00:00	07/29/23 23:45	1
(d12-Perylene)	83		36 - 161	07/07/23 00:00	07/29/23 23:45	1
(d8-Naphthalene)	80		25 - 125	07/07/23 00:00	07/29/23 23:45	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			07/07/23 17:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE	101		60 - 140		07/07/23 17:04	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DIESEL	ND	U	0.027		mg/L			07/14/23 21:20	1
JP5	ND	U	0.055		mg/L			07/14/23 21:20	1
JP8	ND	U	0.055		mg/L			07/14/23 21:20	1
MOTOR OIL	ND	U	0.055		mg/L			07/14/23 21:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOBENZENE	66		60 - 130		07/14/23 21:20	1

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Client Sample Results

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

Job ID: 380-53442-2

Client Sample ID: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-53442-1

Date Collected: 07/03/23 08:45

Matrix: Drinking Water

Date Received: 07/06/23 09:50

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
HEXACOSANE	89		60 - 130		07/14/23 21:20	1

Client Sample ID: AIEA WELLS PUMP 2 (260)

Lab Sample ID: 380-53442-2

Date Collected: 07/03/23 09:20

Matrix: Drinking Water

Date Received: 07/06/23 09:50

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		07/07/23 00:00	07/30/23 01:33	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		07/07/23 00:00	07/30/23 01:33	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		07/07/23 00:00	07/30/23 01:33	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		07/07/23 00:00	07/30/23 01:33	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		07/07/23 00:00	07/30/23 01:33	1
Acenaphthene	ND		0.005	0.001	µg/L		07/07/23 00:00	07/30/23 01:33	1
Acenaphthylene	ND		0.005	0.001	µg/L		07/07/23 00:00	07/30/23 01:33	1
Anthracene	ND		0.005	0.001	µg/L		07/07/23 00:00	07/30/23 01:33	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		07/07/23 00:00	07/30/23 01:33	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		07/07/23 00:00	07/30/23 01:33	1
Benzo[b]fluoranthene	0.00755		0.005	0.001	µg/L		07/07/23 00:00	07/30/23 01:33	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		07/07/23 00:00	07/30/23 01:33	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		07/07/23 00:00	07/30/23 01:33	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		07/07/23 00:00	07/30/23 01:33	1
Biphenyl	ND		0.005	0.001	µg/L		07/07/23 00:00	07/30/23 01:33	1
Chrysene	ND		0.005	0.001	µg/L		07/07/23 00:00	07/30/23 01:33	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		07/07/23 00:00	07/30/23 01:33	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		07/07/23 00:00	07/30/23 01:33	1
Dibenzothiophene	ND		0.005	0.001	µg/L		07/07/23 00:00	07/30/23 01:33	1
Disalicylidenepropanediamine	ND		0.1	0.05	µg/L		07/07/23 00:00	07/30/23 01:33	1
Fluoranthene	ND		0.005	0.001	µg/L		07/07/23 00:00	07/30/23 01:33	1
Fluorene	ND		0.005	0.001	µg/L		07/07/23 00:00	07/30/23 01:33	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		07/07/23 00:00	07/30/23 01:33	1
Naphthalene	ND		0.005	0.001	µg/L		07/07/23 00:00	07/30/23 01:33	1
Perylene	ND		0.005	0.001	µg/L		07/07/23 00:00	07/30/23 01:33	1
Phenanthrene	ND		0.005	0.001	µg/L		07/07/23 00:00	07/30/23 01:33	1
Pyrene	ND		0.005	0.001	µg/L		07/07/23 00:00	07/30/23 01:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
(d10-Acenaphthene)	54		27 - 133	07/07/23 00:00	07/30/23 01:33	1
(d10-Phenanthrene)	88		43 - 129	07/07/23 00:00	07/30/23 01:33	1
(d12-Chrysene)	94		52 - 144	07/07/23 00:00	07/30/23 01:33	1
(d12-Perylene)	74		36 - 161	07/07/23 00:00	07/30/23 01:33	1
(d8-Naphthalene)	72		25 - 125	07/07/23 00:00	07/30/23 01:33	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			07/07/23 18:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE	100		60 - 140		07/07/23 18:57	1

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Client Sample Results

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

Job ID: 380-53442-2

Client Sample ID: AIEA WELLS PUMP 2 (260)

Lab Sample ID: 380-53442-2

Date Collected: 07/03/23 09:20

Matrix: Drinking Water

Date Received: 07/06/23 09:50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DIESEL	ND	U	0.027		mg/L			07/14/23 21:39	1
JP5	ND	U	0.055		mg/L			07/14/23 21:39	1
JP8	ND	U	0.055		mg/L			07/14/23 21:39	1
MOTOR OIL	ND	U	0.055		mg/L			07/14/23 21:39	1
Surrogate									
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
BROMOBENZENE	62		60 - 130					07/14/23 21:39	1
HEXACOSANE	90		60 - 130					07/14/23 21:39	1

Client Sample ID: TB: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-53442-4

Date Collected: 07/03/23 08:45

Matrix: Water

Date Received: 07/06/23 09:50

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			07/07/23 19:35	1
Surrogate									
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE	105		60 - 140					07/07/23 19:35	1

Client Sample ID: TB: AIEA WELLS PUMP 2 (260)

Lab Sample ID: 380-53442-5

Date Collected: 07/03/23 09:20

Matrix: Water

Date Received: 07/06/23 09:50

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			07/07/23 20:12	1
Surrogate									
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE	101		60 - 140					07/07/23 20:12	1

Surrogate Summary

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

Job ID: 380-53442-2

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)
108032-B1	Method Blank	80	108	107	105	96
108032-BS1	Lab Control Sample	82	102	104	89	92
108032-BS2	Lab Control Sample Dup	80	96	104	85	94

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)
380-53442-1	AIEA GULCH WELLS PUMP 2	64	98	105	80	83
380-53442-2	AIEA WELLS PUMP 2 (260)	54	88	94	72	74

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)
380-53442-1	AIEA GULCH WELLS PUMP 2	101
380-53442-2	AIEA WELLS PUMP 2 (260)	100

Surrogate Legend

BFB = BROMOFLUOROBENZENE

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

Matrix: WATER

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)
		BFB (70-130)
23VGH7G03C	LCD	111
23VGH7G03L	Lab Control Sample	119

Surrogate Legend

BFB = BROMOFLUOROBENZENE

Surrogate Summary

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

Job ID: 380-53442-2

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)
380-53442-4	TB: AIEA GULCH WELLS PUMF	105
380-53442-5	TB: AIEA WELLS PUMP 2 (260)	101

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)
23G030-01M	Matrix Spike	114
23G030-01S	Matrix Spike Duplicate	114

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
23VGH7G03B	Method Blank	

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)
380-53442-1	AIEA GULCH WELLS PUMP 2	66	89
380-53442-2	AIEA WELLS PUMP 2 (260)	62	90

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
23DSG017WB	Method Blank		

Surrogate Legend

BB = BROMOBENZENE

HEXACOSANE = HEXACOSANE

Surrogate Summary

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

Job ID: 380-53442-2

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	Percent Surrogate Recovery (Acceptance Limits)	
		BB (60-130)	HEXACOSANE (60-130)
23DSG017WC	LCD	69	88
23DSG017WL	Lab Control Sample	73	90
23J5G017WC	LCD	78	93
23J5G017WL	Lab Control Sample	76	89
23J8G017WC	LCD	85	86
23J8G017WL	Lab Control Sample	96	88

Surrogate Legend

BB = BROMOBENZENE

HEXACOSANE = HEXACOSANE

QC Sample Results

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

Job ID: 380-53442-2

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

Lab Sample ID: 108032-B1
Matrix: BlankMatrix
Analysis Batch: O-41138

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: O-41138_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.005	0.001	µg/L		07/07/23 00:00	07/29/23 18:19	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		07/07/23 00:00	07/29/23 18:19	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		07/07/23 00:00	07/29/23 18:19	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		07/07/23 00:00	07/29/23 18:19	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		07/07/23 00:00	07/29/23 18:19	1
Acenaphthene	ND		0.005	0.001	µg/L		07/07/23 00:00	07/29/23 18:19	1
Acenaphthylene	ND		0.005	0.001	µg/L		07/07/23 00:00	07/29/23 18:19	1
Anthracene	ND		0.005	0.001	µg/L		07/07/23 00:00	07/29/23 18:19	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		07/07/23 00:00	07/29/23 18:19	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		07/07/23 00:00	07/29/23 18:19	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		07/07/23 00:00	07/29/23 18:19	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		07/07/23 00:00	07/29/23 18:19	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		07/07/23 00:00	07/29/23 18:19	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		07/07/23 00:00	07/29/23 18:19	1
Biphenyl	ND		0.005	0.001	µg/L		07/07/23 00:00	07/29/23 18:19	1
Chrysene	ND		0.005	0.001	µg/L		07/07/23 00:00	07/29/23 18:19	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		07/07/23 00:00	07/29/23 18:19	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		07/07/23 00:00	07/29/23 18:19	1
Dibenzothiophene	ND		0.005	0.001	µg/L		07/07/23 00:00	07/29/23 18:19	1
Disalicylidenepropanediamine	ND		0.1	0.05	µg/L		07/07/23 00:00	07/29/23 18:19	1
Fluoranthene	ND		0.005	0.001	µg/L		07/07/23 00:00	07/29/23 18:19	1
Fluorene	ND		0.005	0.001	µg/L		07/07/23 00:00	07/29/23 18:19	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		07/07/23 00:00	07/29/23 18:19	1
Naphthalene	ND		0.005	0.001	µg/L		07/07/23 00:00	07/29/23 18:19	1
Perylene	ND		0.005	0.001	µg/L		07/07/23 00:00	07/29/23 18:19	1
Phenanthrene	ND		0.005	0.001	µg/L		07/07/23 00:00	07/29/23 18:19	1
Pyrene	ND		0.005	0.001	µg/L		07/07/23 00:00	07/29/23 18:19	1

Surrogate	Blank %Recovery	Blank Qualifier	Limits	Prepared	Analyzed	Dil Fac
(d10-Acenaphthene)	80		27 - 133	07/07/23 00:00	07/29/23 18:19	1
(d10-Phenanthrene)	108		43 - 129	07/07/23 00:00	07/29/23 18:19	1
(d12-Chrysene)	107		52 - 144	07/07/23 00:00	07/29/23 18:19	1
(d12-Perylene)	96		36 - 161	07/07/23 00:00	07/29/23 18:19	1
(d8-Naphthalene)	105		25 - 125	07/07/23 00:00	07/29/23 18:19	1

Lab Sample ID: 108032-BS1
Matrix: BlankMatrix
Analysis Batch: O-41138

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: O-41138_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1-Methylnaphthalene	0.5	0.436		µg/L		87	31 - 128
1-Methylphenanthrene	0.5	0.536		µg/L		107	66 - 127
2,3,5-Trimethylnaphthalene	0.5	0.481		µg/L		96	55 - 122
2,6-Dimethylnaphthalene	0.5	0.46		µg/L		92	48 - 120
2-Methylnaphthalene	0.5	0.476		µg/L		95	47 - 130
Acenaphthene	0.5	0.436		µg/L		87	53 - 131
Acenaphthylene	0.5	0.496		µg/L		99	43 - 140
Anthracene	0.5	0.459		µg/L		92	58 - 135

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-53442-2

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

Lab Sample ID: 108032-BS1
Matrix: BlankMatrix
Analysis Batch: O-41138

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: O-41138_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benz[a]anthracene	0.5	0.504		µg/L		101	55 - 145
Benzo[a]pyrene	0.5	0.444		µg/L		89	51 - 143
Benzo[b]fluoranthene	0.5	0.51		µg/L		102	46 - 165
Benzo[e]pyrene	0.5	0.491		µg/L		98	42 - 152
Benzo[g,h,i]perylene	0.5	0.482		µg/L		96	63 - 133
Benzo[k]fluoranthene	0.5	0.514		µg/L		103	56 - 145
Biphenyl	0.5	0.532		µg/L		106	56 - 119
Chrysene	0.5	0.471		µg/L		94	56 - 141
Dibenz[a,h]anthracene	0.5	0.482		µg/L		96	55 - 150
Dibenzo[a,l]pyrene	0.5	0.413		µg/L		83	50 - 150
Dibenzothiophene	0.5	0.527		µg/L		105	46 - 126
Disalicylidenepropanediamine	50	28		µg/L		56	50 - 150
Fluoranthene	0.5	0.608		µg/L		122	60 - 146
Fluorene	0.5	0.477		µg/L		95	58 - 131
Indeno[1,2,3-cd]pyrene	0.5	0.467		µg/L		93	50 - 151
Naphthalene	0.5	0.46		µg/L		92	41 - 126
Perylene	0.5	0.426		µg/L		85	48 - 141
Phenanthrene	0.5	0.476		µg/L		95	67 - 127
Pyrene	0.5	0.57		µg/L		114	54 - 156

Surrogate	LCS %Recovery	LCS Qualifier	Limits
(d10-Acenaphthene)	82		27 - 133
(d10-Phenanthrene)	102		43 - 129
(d12-Chrysene)	104		52 - 144
(d12-Perylene)	92		36 - 161
(d8-Naphthalene)	89		25 - 125

Lab Sample ID: 108032-BS2
Matrix: BlankMatrix
Analysis Batch: O-41138

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: O-41138_P

Analyte	Spike Added	LCS DUP Result	LCS DUP Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1-Methylnaphthalene	0.5	0.424		µg/L		85	31 - 128	2	30
1-Methylphenanthrene	0.5	0.512		µg/L		102	66 - 127	5	30
2,3,5-Trimethylnaphthalene	0.5	0.484		µg/L		97	55 - 122	1	30
2,6-Dimethylnaphthalene	0.5	0.451		µg/L		90	48 - 120	2	30
2-Methylnaphthalene	0.5	0.462		µg/L		92	47 - 130	3	30
Acenaphthene	0.5	0.424		µg/L		85	53 - 131	2	30
Acenaphthylene	0.5	0.482		µg/L		96	43 - 140	3	30
Anthracene	0.5	0.456		µg/L		91	58 - 135	1	30
Benz[a]anthracene	0.5	0.521		µg/L		104	55 - 145	3	30
Benzo[a]pyrene	0.5	0.459		µg/L		92	51 - 143	3	30
Benzo[b]fluoranthene	0.5	0.523		µg/L		105	46 - 165	3	30
Benzo[e]pyrene	0.5	0.476		µg/L		95	42 - 152	3	30
Benzo[g,h,i]perylene	0.5	0.489		µg/L		98	63 - 133	2	30
Benzo[k]fluoranthene	0.5	0.521		µg/L		104	56 - 145	1	30
Biphenyl	0.5	0.531		µg/L		106	56 - 119	0	30
Chrysene	0.5	0.483		µg/L		97	56 - 141	3	30

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-53442-2

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

Lab Sample ID: 108032-BS2
Matrix: BlankMatrix
Analysis Batch: O-41138

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: O-41138_P

Analyte	Spike Added	LCS DUP Result	LCS DUP Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Dibenz[a,h]anthracene	0.5	0.475		µg/L		95	55 - 150	1	30
Dibenzo[a,i]pyrene	0.5	0.416		µg/L		83	50 - 150	0	30
Dibenzothiophene	0.5	0.492		µg/L		98	46 - 126	7	30
Disalicylidenepropanediamine	50	27.2		µg/L		54	50 - 150	4	30
Fluoranthene	0.5	0.596		µg/L		119	60 - 146	2	30
Fluorene	0.5	0.458		µg/L		92	58 - 131	3	30
Indeno[1,2,3-cd]pyrene	0.5	0.461		µg/L		92	50 - 151	1	30
Naphthalene	0.5	0.451		µg/L		90	41 - 126	2	30
Perylene	0.5	0.45		µg/L		90	48 - 141	6	30
Phenanthrene	0.5	0.463		µg/L		93	67 - 127	2	30
Pyrene	0.5	0.557		µg/L		111	54 - 156	3	30

Surrogate	LCS DUP %Recovery	LCS DUP Qualifier	Limits
(d10-Acenaphthene)	80		27 - 133
(d10-Phenanthrene)	96		43 - 129
(d12-Chrysene)	104		52 - 144
(d12-Perylene)	94		36 - 161
(d8-Naphthalene)	85		25 - 125

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

Lab Sample ID: 23VGH7G03B
Matrix: WATER
Analysis Batch: 23VGH7G03

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			07/07/23 15:09	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE					07/07/23 15:09	1

Lab Sample ID: 23VGH7G03L
Matrix: WATER
Analysis Batch: 23VGH7G03

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	0.451		mg/L		90	60 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
BROMOFLUOROBENZENE	119		70 - 130

Lab Sample ID: 23G030-01M
Matrix: WATER
Analysis Batch: 23VGH7G03

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	0.421		mg/L		84	50 - 130

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-53442-2

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

Lab Sample ID: 23G030-01M
Matrix: WATER
Analysis Batch: 23VGH7G03

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

<i>Surrogate</i>	<i>%Recovery</i>	<i>MS MS Qualifier</i>	<i>Limits</i>
BROMOFLUOROBENZENE	114		60 - 140

Lab Sample ID: 23G030-01S
Matrix: WATER
Analysis Batch: 23VGH7G03

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

<i>Analyte</i>	<i>Sample Result</i>	<i>Sample Qualifier</i>	<i>Spike Added</i>	<i>MSD Result</i>	<i>MSD Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec Limits</i>	<i>RPD</i>	<i>RPD Limit</i>
GASOLINE	ND		0.5	0.426		mg/L		85	50 - 130	1	30

<i>Surrogate</i>	<i>%Recovery</i>	<i>MSD MSD Qualifier</i>	<i>Limits</i>
BROMOFLUOROBENZENE	114		60 - 140

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

Lab Sample ID: 23DSG017WB
Matrix: WATER
Analysis Batch: 23DSG017W

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

<i>Analyte</i>	<i>MB Result</i>	<i>MB Qualifier</i>	<i>RL</i>	<i>MDL</i>	<i>Unit</i>	<i>D</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
DIESEL	ND	U	0.025		mg/L			07/14/23 19:09	1
JP5	ND	U	0.05		mg/L			07/14/23 19:09	1
JP8	ND	U	0.05		mg/L			07/14/23 19:09	1
MOTOR OIL	ND	U	0.05		mg/L			07/14/23 19:09	1

<i>Surrogate</i>	<i>%Recovery</i>	<i>MB MB Qualifier</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
BROMOBENZENE					07/14/23 19:09	1
HEXACOSANE					07/14/23 19:09	1

Lab Sample ID: 23DSG017WL
Matrix: WATER
Analysis Batch: 23DSG017W

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

<i>Analyte</i>	<i>Spike Added</i>	<i>LCS Result</i>	<i>LCS Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec Limits</i>
DIESEL	2.5	2.5		mg/L		100	50 - 130

<i>Surrogate</i>	<i>%Recovery</i>	<i>LCS LCS Qualifier</i>	<i>Limits</i>
BROMOBENZENE	73		60 - 130
HEXACOSANE	90		60 - 130

Lab Sample ID: 23J5G017WL
Matrix: WATER
Analysis Batch: 23DSG017W

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

<i>Analyte</i>	<i>Spike Added</i>	<i>LCS Result</i>	<i>LCS Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec Limits</i>
JP5	2.5	2.42		mg/L		97	30 - 160

QC Sample Results

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

Job ID: 380-53442-2

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

Lab Sample ID: 23J5G017WL
Matrix: WATER
Analysis Batch: 23DSG017W

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

<i>Surrogate</i>	<i>LCS</i> <i>%Recovery</i>	<i>LCS</i> <i>Qualifier</i>	<i>Limits</i>
BROMOBENZENE	76		60 - 130
HEXACOSANE	89		60 - 130

Lab Sample ID: 23J8G017WL
Matrix: WATER
Analysis Batch: 23DSG017W

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

<i>Analyte</i>	<i>Spike</i> <i>Added</i>	<i>LCS</i> <i>Result</i>	<i>LCS</i> <i>Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec</i> <i>Limits</i>
JP8	2.5	2.92		mg/L		117	30 - 160

<i>Surrogate</i>	<i>LCS</i> <i>%Recovery</i>	<i>LCS</i> <i>Qualifier</i>	<i>Limits</i>
BROMOBENZENE	96		60 - 130
HEXACOSANE	88		60 - 130

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QC Association Summary

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

Job ID: 380-53442-2

Subcontract

Analysis Batch: O-41138

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-53442-1	AIEA GULCH WELLS PUMP 2	Total/NA	Drinking Water	625 PAH Physis LL (EAL) + TICs	O-41138_P
380-53442-2	AIEA WELLS PUMP 2 (260)	Total/NA	Drinking Water	625 PAH Physis LL (EAL) + TICs	O-41138_P
108032-B1	Method Blank	Total/NA	BlankMatrix	625 PAH Physis LL (EAL) + TICs	O-41138_P
108032-BS1	Lab Control Sample	Total/NA	BlankMatrix	625 PAH Physis LL (EAL) + TICs	O-41138_P
108032-BS2	Lab Control Sample Dup	Total/NA	BlankMatrix	625 PAH Physis LL (EAL) + TICs	O-41138_P

Analysis Batch: 23DSG017W

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-53442-1	AIEA GULCH WELLS PUMP 2	Total/NA	Drinking Water	8015 LL DRO/MRO/JP5/J P8	
380-53442-2	AIEA WELLS PUMP 2 (260)	Total/NA	Drinking Water	8015 LL DRO/MRO/JP5/J P8	
23DSG017WB	Method Blank	Total/NA	WATER	8015 LL DRO/MRO/JP5/J P8	
23DSG017WL	Lab Control Sample	Total/NA	WATER	8015 LL DRO/MRO/JP5/J P8	
23J5G017WL	Lab Control Sample	Total/NA	WATER	8015 LL DRO/MRO/JP5/J P8	
23J8G017WL	Lab Control Sample	Total/NA	WATER	8015 LL DRO/MRO/JP5/J P8	

Analysis Batch: 23VGH7G03

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-53442-1	AIEA GULCH WELLS PUMP 2	Total/NA	Drinking Water	8015 Gas (Purgeable) LL (EAL)	
380-53442-2	AIEA WELLS PUMP 2 (260)	Total/NA	Drinking Water	8015 Gas (Purgeable) LL (EAL)	
380-53442-4	TB: AIEA GULCH WELLS PUMP 2	Total/NA	Water	8015 Gas (Purgeable) LL (EAL)	
380-53442-5	TB: AIEA WELLS PUMP 2 (260)	Total/NA	Water	8015 Gas (Purgeable) LL (EAL)	
23VGH7G03B	Method Blank	Total/NA	WATER	8015 Gas (Purgeable) LL (EAL)	
23VGH7G03L	Lab Control Sample	Total/NA	WATER	8015 Gas (Purgeable) LL (EAL)	
23G030-01M	Matrix Spike	Total/NA	WATER	8015 Gas (Purgeable) LL (EAL)	
23G030-01S	Matrix Spike Duplicate	Total/NA	WATER	8015 Gas (Purgeable) LL (EAL)	

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QC Association Summary

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

Job ID: 380-53442-2

Subcontract

Prep Batch: O-41138_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-53442-1	AIEA GULCH WELLS PUMP 2	Total/NA	Drinking Water	EPA_625	
380-53442-2	AIEA WELLS PUMP 2 (260)	Total/NA	Drinking Water	EPA_625	
108032-B1	Method Blank	Total/NA	BlankMatrix	EPA_625	
108032-BS1	Lab Control Sample	Total/NA	BlankMatrix	EPA_625	
108032-BS2	Lab Control Sample Dup	Total/NA	BlankMatrix	EPA_625	

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Lab Chronicle

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

Job ID: 380-53442-2

Client Sample ID: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-53442-1

Date Collected: 07/03/23 08:45

Matrix: Drinking Water

Date Received: 07/06/23 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	EPA_625		1	O-41138_P			07/07/23 00:00
Total/NA	Analysis	625 PAH Physis LL (EAL) + TICs		1	O-41138	YC		07/29/23 23:45
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)		1	23VGH7G03	SCerva		07/07/23 17:04
Total/NA	Analysis	8015 LL DRO/MRO/JP5/JP8		1	23DSG017W	SDees		07/14/23 21:20

Client Sample ID: AIEA WELLS PUMP 2 (260)

Lab Sample ID: 380-53442-2

Date Collected: 07/03/23 09:20

Matrix: Drinking Water

Date Received: 07/06/23 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	EPA_625		1	O-41138_P			07/07/23 00:00
Total/NA	Analysis	625 PAH Physis LL (EAL) + TICs		1	O-41138	YC		07/30/23 01:33
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)		1	23VGH7G03	SCerva		07/07/23 18:57
Total/NA	Analysis	8015 LL DRO/MRO/JP5/JP8		1	23DSG017W	SDees		07/14/23 21:39

Client Sample ID: TB: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-53442-4

Date Collected: 07/03/23 08:45

Matrix: Water

Date Received: 07/06/23 09:50

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	23VGH7G03	SCerva		07/07/23 19:35

Client Sample ID: TB: AIEA WELLS PUMP 2 (260)

Lab Sample ID: 380-53442-5

Date Collected: 07/03/23 09:20

Matrix: Water

Date Received: 07/06/23 09:50

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	23VGH7G03	SCerva		07/07/23 20:12

Laboratory References:

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

Method Summary

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

Job ID: 380-53442-2

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: 380-53442-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
380-53442-1	AIEA GULCH WELLS PUMP 2	Drinking Water	07/03/23 08:45	07/06/23 09:50
380-53442-2	AIEA WELLS PUMP 2 (260)	Drinking Water	07/03/23 09:20	07/06/23 09:50
380-53442-4	TB: AIEA GULCH WELLS PUMP 2	Water	07/03/23 08:45	07/06/23 09:50
380-53442-5	TB: AIEA WELLS PUMP 2 (260)	Water	07/03/23 09:20	07/06/23 09:50

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3051 Fujita Street
Torrance, CA 90505
Tel: (310)-618-8889

Date: 07-28-2023
EMAX Batch No.: 23G030

Attn: Jackie Contreras

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

Subject: Laboratory Report
Project: 380-53442

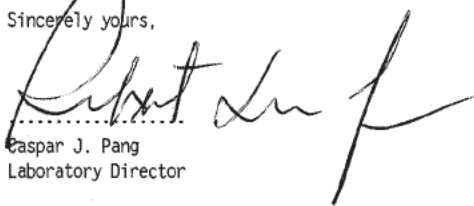
Enclosed is the Laboratory report for samples received on 07/07/23.
The data reported relate only to samples listed below :

Sample ID	Control #	Col Date	Matrix	Analysis
380-53442-1	G030-01	07/03/23	WATER	TPH GASOLINE TPH
380-53442-2	G030-02	07/03/23	WATER	TPH GASOLINE TPH
380-53442-4	G030-03	07/03/23	WATER	TPH GASOLINE
380-53442-5	G030-04	07/03/23	WATER	TPH GASOLINE
380-53442-1MS	G030-01M	07/03/23	WATER	TPH GASOLINE
380-53442-1MSD	G030-01S	07/03/23	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 CA002912022-24
ANAB Accredited DoD ELAP and ISO/IEC 17025 Certificate Number L2278 Testing
California ELAP Accredited Certificate Number 2672





Type of Delivery	Airbill / Tracking Number	ECN 23G030
<input type="checkbox"/> Fedex <input type="checkbox"/> UPS <input type="checkbox"/> GSO <input type="checkbox"/> Others		Recipient <u>Thowin Zamora</u>
<input type="checkbox"/> EMAX Courier <input checked="" type="checkbox"/> Client Delivery		Date <u>07/07/23</u> Time <u>10:00</u>

COC INSPECTION

<input checked="" type="checkbox"/> Client Name	<input checked="" type="checkbox"/> Client PM/FC	<input type="checkbox"/> Sampler Name	<input checked="" type="checkbox"/> Sampling Date/Time	<input checked="" type="checkbox"/> Sample ID	<input checked="" type="checkbox"/> Matrix
<input checked="" type="checkbox"/> Address	<input checked="" type="checkbox"/> Tel # / Fax #	<input type="checkbox"/> Courier Signature	<input checked="" type="checkbox"/> Analysis Required	<input type="checkbox"/> Preservative (if any)	<input checked="" type="checkbox"/> TAT
Safety Issues (if any)	<input type="checkbox"/> High concentrations expected	<input type="checkbox"/> From Superfund Site	<input type="checkbox"/> Rad screening required		

Note: _____

PACKAGING INSPECTION

Container	<input checked="" type="checkbox"/> Cooler	<input type="checkbox"/> Box	<input type="checkbox"/> Other
Condition	<input type="checkbox"/> Custody Seal	<input type="checkbox"/> Intact	<input type="checkbox"/> Damaged
Packaging	<input checked="" type="checkbox"/> Bubble Pack	<input type="checkbox"/> Styrofoam	<input type="checkbox"/> Popcorn
Temperatures (Cool, ≤6 °C but not frozen)	<input checked="" type="checkbox"/> Cooler 1 <u>3.8/3.7</u> °C	<input type="checkbox"/> Cooler 2 _____ °C	<input type="checkbox"/> Cooler 3 _____ °C
	<input type="checkbox"/> Cooler 6 _____ °C	<input type="checkbox"/> Cooler 7 _____ °C	<input type="checkbox"/> Cooler 8 _____ °C
Thermometer:	A - S/N <u>221852708</u>	B - S/N <u>221925379</u>	C - S/N _____

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

Note: _____

DISCREPANCIES

LabSampleID	LabSampleContainerID	Code	ClientSample Label ID / Information	Corrective Action
1,2	5,6,11,12	D1	JPS/JP8 not on label	RI
3	13-16	D22	2nd date reads: 6/26/23*	↓
<i>[Large diagonal scribble across the table]</i>				

AB 7/10/23

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

NOTES/OBSERVATIONS: * out of III *[initials]*

SAMPLE MATRIX IS DRINKING WATER? YES NO

- LEGEND:**
- | | | |
|---|--|---|
| Code Description-Sample Management | Code Description-Sample Management | Code Description-Sample Management |
| (D1) Analysis is not indicated in <u>label</u> | D13 Out of Holding Time | R1 Proceed as indicated in <input checked="" type="checkbox"/> COC <input type="checkbox"/> Label |
| D2 Analysis mismatch COC vs label | D14 Bubble is >6mm | R2 Refer to attached instruction |
| D3 Sample ID mismatch COC vs label | D15 No trip blank in cooler | R3 Cancel the analysis |
| D4 Sample ID is not indicated in _____ | D16 Preservation not indicated in _____ | R4 Use vial with smallest bubble first |
| D5 Container -[improper] [leaking] [broken] | D17 Preservation mismatch COC vs label | R5 Log-in with latest sampling date and time+1 min |
| D6 Date/Time is not indicated in _____ | D18 Insufficient chemical preservative | R6 Adjust pH as necessary |
| D7 Date/Time mismatch COC vs label | D19 Insufficient Sample | R7 Filter and preserved as necessary |
| D8 Sample listed in COC is not received | D20 No filtration info for dissolved analysis | R8 _____ |
| D9 Sample received is not listed in COC | D21 No sample for moisture determination | R9 _____ |
| D10 No initial/date on corrections in COC/label | (D22) <u>2nd date on label is incorrect</u> | R10 _____ |
| D11 Container count mismatch COC vs received | D23 _____ | R11 _____ |
| D12 Container size mismatch COC vs received | D24 _____ | R12 _____ |

REVIEWS:

Sample Labeling	<u>Maria Rivera</u>	Date	<u>07/07/23</u>	Sample Labeling	<u>Jocelyn Solis-Ramos</u>	Date	<u>07/07/23</u>	PM	<u>AB</u>	Date	<u>7/12/23</u>
-----------------	---------------------	------	-----------------	-----------------	----------------------------	------	-----------------	----	-----------	------	----------------

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

380-53442

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

SDG#: 23G030

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CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 380-53442

SDG : 23G030

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

A total of four(4) water samples were received on 07/07/23 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. VGH7G03B - 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. VGH7G03L/VGH7G03C 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 G030-01M/G030-01S. 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.

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SAMPLE RESULTS

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

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 07/03/23 08:45
Project    : 380-53442                   Date Received: 07/07/23
Batch No.  : 23G030                       Date Extracted: 07/07/23 17:04
Sample ID  : 380-53442-1                 Date Analyzed: 07/07/23 17:04
Lab Samp ID: G030-01                     Dilution Factor: 1
Lab File ID: AG07008A                     Matrix: WATER
Ext Btch ID: 23VGH7G03                     % Moisture: NA
Calib. Ref.: AG07003A                     Instrument ID: H7
=====

```

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	0.0402	0.0400	101	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: 07/03/23 08:45
Project    : 380-53442                   Date Received: 07/07/23
Batch No.  : 23G030                       Date Extracted: 07/07/23 19:35
Sample ID  : 380-53442-4                 Date Analyzed: 07/07/23 19:35
Lab Samp ID: G030-03                     Dilution Factor: 1
Lab File ID: AG07012A                    Matrix: WATER
Ext Btch ID: 23VGH7G03                   % Moisture: NA
Calib. Ref.: AG07003A                    Instrument ID: H7
=====

```

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	0.0418	0.0400	105	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

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QC SUMMARIES

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

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=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 07/07/23 15:09
Project    : 380-53442                   Date Received: 07/07/23
Batch No.  : 23G030                       Date Extracted: 07/07/23 15:09
Sample ID  : MBLK1W                       Date Analyzed: 07/07/23 15:09
Lab Samp ID: VGH7G03B                   Dilution Factor: 1
Lab File ID: AG07005A                   Matrix: WATER
Ext Btch ID: 23VGH7G03                 % Moisture: NA
Calib. Ref.: AG07003A                 Instrument ID: H7
=====

```

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	0.0403	0.0400	101	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 : 380-53442
BATCH NO. : 23G030
METHOD : 5030B/8015B

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR:	1	1	1
SAMPLE ID	: MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID	: VGH7G03B	VGH7G03L	VGH7G03C
LAB FILE ID	: AG07005A	AG07006A	AG07007A
DATE PREPARED	: 07/07/23 15:09	07/07/23 15:48	07/07/23 16:26
DATE ANALYZED	: 07/07/23 15:09	07/07/23 15:48	07/07/23 16:26
PREP BATCH	: 23VGH7G03	23VGH7G03	23VGH7G03
CALIBRATION REF:	AG07003A	AG07003A	AG07003A

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	0.451	90	0.500	0.426	85	6	60-130	30

SURROGATE PARAMETER	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	QCLimit (%)
Bromofluorobenzene	0.0400	0.0474	119	0.0400	0.0443	111	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 : 380-53442
BATCH NO. : 23G030
METHOD : 5030B/8015B

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR:	1	1	1
SAMPLE ID	: 380-53442-1	380-53442-1MS	380-53442-1MSD
LAB SAMPLE ID	: G030-01	G030-01M	G030-01S
LAB FILE ID	: AG07008A	AG07009A	AG07010A
DATE PREPARED	: 07/07/23 17:04	07/07/23 17:42	07/07/23 18:19
DATE ANALYZED	: 07/07/23 17:04	07/07/23 17:42	07/07/23 18:19
PREP BATCH	: 23VGH7G03	23VGH7G03	23VGH7G03
CALIBRATION REF:	AG07003A	AG07003A	AG07003A

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	0.421	84	0.500	0.426	85	1	50-130	30

SURROGATE PARAMETER	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	QCLimit (%)
Bromofluorobenzene	0.0400	0.0457	114	0.0400	0.0455	114	60-140

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

LABORATORY REPORT FOR

EUROFINS EATON ANALYTICAL

380-53442

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

SDG#: 23G030

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CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 380-53442

SDG : 23G030

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

A total of two(2) water samples were received on 07/07/23 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. DSG017WB - 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. DSG017WL/DSG017WC 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. Diesel was within MS QC limits in 23G078-01M/23G078-01S. Refer to Matrix QC summary form for details.

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: 380-53442

SDG : 23G030

METHOD 3520C/8015B
PETROLEUM HYDROCARBONS BY EXTRACTION

A total of two(2) water samples were received on 07/07/23 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. DSG017WB - 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. J5G017WL/J5G017WC 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. JP5 was within MS QC limits in 23G078-01M/23G078-01S. Refer to Matrix QC summary form for details.

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: 380-53442

SDG : 23G030

METHOD 3520C/8015B
PETROLEUM HYDROCARBONS BY EXTRACTION

A total of two(2) water samples were received on 07/07/23 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. DSG017WB - 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. J8G017WL/J8G017WC 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.

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SAMPLE RESULTS

METHOD 3520C/8015B
 PETROLEUM HYDROCARBONS BY EXTRACTION

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 07/03/23 08:45
Project    : 380-53442                   Date Received: 07/07/23
Batch No.  : 23G030                       Date Extracted: 07/13/23 13:00
Sample ID  : 380-53442-1                 Date Analyzed: 07/14/23 21:20
Lab Samp ID: 23G030-01                   Dilution Factor: 1
Lab File ID: LG14016A                     Matrix: WATER
Ext Btch ID: 23DSG017W                   % Moisture: NA
Calib. Ref.: LG14004A                     Instrument ID: D5
=====
    
```

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
JP5	ND	0.055	0.027	
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.362	0.545	66	60-130
Hexacosane	0.122	0.136	89	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 : 920ml Final Volume : 5ml
 Prepared by : RGalan Analyzed by : SDeeso

METHOD 3520C/8015B
 PETROLEUM HYDROCARBONS BY EXTRACTION

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 07/03/23 08:45
Project    : 380-53442                   Date Received: 07/07/23
Batch No.  : 23G030                       Date Extracted: 07/13/23 13:00
Sample ID  : 380-53442-1                 Date Analyzed: 07/14/23 21:20
Lab Samp ID: 23G030-01                   Dilution Factor: 1
Lab File ID: LG14016A                     Matrix: WATER
Ext Btch ID: 23DSG017W                   % Moisture: NA
Calib. Ref.: LG14005A                     Instrument ID: D5
=====
    
```

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
JP8	ND	0.055	0.027	
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.362	0.545	66	60-130
Hexacosane	0.122	0.136	89	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 : 920ml

Final Volume : 5ml

Prepared by : RGalan

Analyzed by : SDeeso

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 07/03/23 09:20
Project     : 380-53442                   Date Received: 07/07/23
Batch No.   : 23G030                       Date Extracted: 07/13/23 13:00
Sample ID   : 380-53442-2                 Date Analyzed: 07/14/23 21:39
Lab Samp ID: 23G030-02                     Dilution Factor: 1
Lab File ID: LG14017A                       Matrix: WATER
Ext Btch ID: 23DSG017W                       % Moisture: NA
Calib. Ref.: LG14003A                       Instrument ID: D5
=====

```

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)		
-----	-----	-----	-----		
Diesel	ND	0.027	0.014		
Motor Oil	ND	0.055	0.027		
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT	
-----	-----	-----	-----	-----	
Bromobenzene	0.337	0.545	62	60-130	
Hexacosane	0.122	0.136	90	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   : 920ml                      Final Volume : 5ml
Prepared by    : RGalan                       Analyzed by  : SDeeso

```

METHOD 3520C/8015B
 PETROLEUM HYDROCARBONS BY EXTRACTION

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 07/03/23 09:20
Project    : 380-53442                   Date Received: 07/07/23
Batch No.  : 23G030                       Date Extracted: 07/13/23 13:00
Sample ID  : 380-53442-2                 Date Analyzed: 07/14/23 21:39
Lab Samp ID: 23G030-02                   Dilution Factor: 1
Lab File ID: LG14017A                     Matrix: WATER
Ext Btch ID: 23DSG017W                   % Moisture: NA
Calib. Ref.: LG14004A                     Instrument ID: D5
=====
    
```

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
JP5	ND	0.055	0.027	
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.337	0.545	62	60-130
Hexacosane	0.122	0.136	90	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 : 920ml Final Volume : 5ml
 Prepared by : RGalan Analyzed by : SDeeso

METHOD 3520C/8015B
 PETROLEUM HYDROCARBONS BY EXTRACTION

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 07/03/23 09:20
Project    : 380-53442                   Date Received: 07/07/23
Batch No.  : 23G030                       Date Extracted: 07/13/23 13:00
Sample ID  : 380-53442-2                 Date Analyzed: 07/14/23 21:39
Lab Samp ID: 23G030-02                   Dilution Factor: 1
Lab File ID: LG14017A                     Matrix: WATER
Ext Btch ID: 23DSG017W                   % Moisture: NA
Calib. Ref.: LG14005A                     Instrument ID: D5
=====
    
```

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
JP8	ND	0.055	0.027	
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.337	0.545	62	60-130
Hexacosane	0.122	0.136	90	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 : 920ml Final Volume : 5ml
 Prepared by : RGalán Analyzed by : SDeeso

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QC SUMMARIES

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL
PROJECT : 380-53442
BATCH NO. : 23G030
METHOD : 3520C/8015B

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR:	1	1	1
SAMPLE ID	: MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID	: DSG017WB	DSG017WL	DSG017WC
LAB FILE ID	: LG14009A	LG14010A	LG14011A
DATE PREPARED	: 07/13/23 13:00	07/13/23 13:00	07/13/23 13:00
DATE ANALYZED	: 07/14/23 19:09	07/14/23 19:28	07/14/23 19:47
PREP BATCH	: 23DSG017W	23DSG017W	23DSG017W
CALIBRATION REF:	LG14003A	LG14003A	LG14003A

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	2.50	100	2.50	2.32	93	7	50-130	30

SURROGATE PARAMETERS	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	QCLimit (%)
Bromobenzene	0.500	0.366	73	0.500	0.344	69	60-130
Hexacosane	0.125	0.112	90	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: 07/13/23 13:00
Project    : 380-53442                   Date Received: 07/13/23
Batch No.  : 23G030                       Date Extracted: 07/13/23 13:00
Sample ID  : MBLK1W                       Date Analyzed: 07/14/23 19:09
Lab Samp ID: DSG017WB                    Dilution Factor: 1
Lab File ID: LG14009A                    Matrix: WATER
Ext Btch ID: 23DSG017W                   % Moisture: NA
Calib. Ref.: LG14004A                    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	0.373	0.500	75	60-130
Hexacosane	0.114	0.125	92	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 : 380-53442
BATCH NO. : 23G030
METHOD : 3520C/8015B

MATRIX : WATER % MOISTURE:NA
DILUTION FACTOR: 1 1
SAMPLE ID : MBLK1W LCS1W LCD1W
LAB SAMPLE ID : DSG017WB J5G017WL J5G017WC
LAB FILE ID : LG14009A LG14012A LG14013A
DATE PREPARED : 07/13/23 13:00 07/13/23 13:00 07/13/23 13:00
DATE ANALYZED : 07/14/23 19:09 07/14/23 20:05 07/14/23 20:24
PREP BATCH : 23DSG017W 23DSG017W 23DSG017W
CALIBRATION REF: LG14004A LG14004A LG14004A

ACCESSION:

PARAMETERS	MBResult (mg/L)	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
JP5	ND	2.50	2.42	97	2.50	2.72	109	12	30-160	30

SURROGATE PARAMETERS	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	QCLimit (%)
Bromobenzene	0.500	0.379	76	0.500	0.392	78	60-130
Hexacosane	0.125	0.111	89	0.125	0.116	93	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: 07/13/23 13:00
Project     : 380-53442                      Date Received: 07/13/23
Batch No.   : 23G030                         Date Extracted: 07/13/23 13:00
Sample ID   : MBLK1W                         Date Analyzed: 07/14/23 19:09
Lab Samp ID: DSG017WB                       Dilution Factor: 1
Lab File ID: LG14009A                       Matrix: WATER
Ext Btch ID: 23DSG017W                     % Moisture: NA
Calib. Ref.: LG14005A                       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	0.373	0.500	75	60-130
Hexacosane	0.114	0.125	92	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 : 380-53442
BATCH NO. : 23G030
METHOD : 3520C/8015B

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR:	1	1	1
SAMPLE ID	: MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID	: DSG017WB	J8G017WL	J8G017WC
LAB FILE ID	: LG14009A	LG14014A	LG14015A
DATE PREPARED	: 07/13/23 13:00	07/13/23 13:00	07/13/23 13:00
DATE ANALYZED	: 07/14/23 19:09	07/14/23 20:43	07/14/23 21:01
PREP BATCH	: 23DSG017W	23DSG017W	23DSG017W
CALIBRATION REF:	LG14005A	LG14005A	LG14005A

ACCESSION:

PARAMETERS	MBResult (mg/L)	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
JP8	ND	2.50	2.92	117	2.50	2.54	102	14	30-160	30

SURROGATE PARAMETERS	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	QCLimit (%)
Bromobenzene	0.500	0.479	96	0.500	0.426	85	60-130
Hexacosane	0.125	0.110	88	0.125	0.108	86	60-130

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 : 380-54001
BATCH NO. : 23G078
METHOD : 3520C/8015B

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR:	1	1	1
SAMPLE ID	: 380-54001-1	380-54001-1MS	380-54001-1MSD
LAB SAMPLE ID	: 23G078-01	23G078-01M	23G078-01S
LAB FILE ID	: LG14020A	LG14021A	LG14022A
DATE PREPARED	: 07/13/23 13:00	07/13/23 13:00	07/13/23 13:00
DATE ANALYZED	: 07/14/23 22:35	07/14/23 22:53	07/14/23 23:12
PREP BATCH	: 23DSG017W	23DSG017W	23DSG017W
CALIBRATION REF:	LG14003A	LG14003A	LG14003A

ACCESSION:

PARAMETERS	PSResult (mg/L)	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
Diesel	ND	2.70	2.61	97	2.65	2.61	98	0	50-130	30

SURROGATE PARAMETERS	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	QCLimit (%)
Bromobenzene	0.540	0.341	63	0.530	0.338	64	60-130
Hexacosane	0.135	0.117	87	0.132	0.114	86	60-130

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

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL
PROJECT : 380-54001
BATCH NO. : 23G078
METHOD : 3520C/8015B

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR:	1	1	1
SAMPLE ID	: 380-54001-1	380-54001-1MS	380-54001-1MSD
LAB SAMPLE ID	: 23G078-01	23G078-01M	23G078-01S
LAB FILE ID	: LG14020A	LG14023A	LG14024A
DATE PREPARED	: 07/13/23 13:00	07/13/23 13:00	07/13/23 13:00
DATE ANALYZED	: 07/14/23 22:35	07/14/23 23:31	07/14/23 23:49
PREP BATCH	: 23DSG017W	23DSG017W	23DSG017W
CALIBRATION REF:	LG14004A	LG14004A	LG14004A

ACCESSION:

PARAMETERS	PSResult (mg/L)	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
JP5	ND	2.50	2.48	99	2.50	2.33	93	6	30-160	30

SURROGATE PARAMETERS	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	QCLimit (%)
Bromobenzene	0.500	0.363	73	0.500	0.325	65	60-130
Hexacosane	0.125	0.105	84	0.125	0.102	82	60-130

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

August 01, 2023

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

Project Name: RED-HILL Project # 38001111 Job # 380-53442-1
 Physis Project ID: 1407003-412

Dear Rachelle,

Enclosed are the analytical results for samples submitted to PHYSIS Environmental Laboratories, Inc. (PHYSIS) on 7/7/2023. A total of 2 samples were received for analysis in accordance with the attached chain of custody (COC). Per the COC, the samples were analyzed for:

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

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

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

Regards,

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



PROJECT SAMPLE LIST

Eurofins Eaton Analytical

PHYSIS Project ID: 1407003-412

RED-HILL Project # 38001111 Job # 380-53442-1

Total Samples: 2

PHYSIS ID	Sample ID	Description	Date	Time	Matrix	Sample Type
108033	AIEA GULCH WELLS PUMP 2	380-53442-1	7/3/2023	8:45	Samplewater	Not Specified
108034	AIEA WELLS PUMP 2 (260)	380-53442-2	7/3/2023	9:20	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 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

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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.

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

CASE NARRATIVE

QUALIFIER NOTES

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

ND

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

BIANALYTICALS

REPORT

TERRA AURA
ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

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Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed	
Sample ID: 108033-R1	AIEA GULCH WELLS PUMP 2 380-5 Matrix: Samplewater						Sampled:	03-Jul-23	8:45	Received:	07-Jul-23	
(d10-Acenaphthene)	EPA 625.1	% Recovery	64	1			Total		O-41138	07-Jul-23	29-Jul-23	
(d10-Phenanthrene)	EPA 625.1	% Recovery	98	1			Total		O-41138	07-Jul-23	29-Jul-23	
(d12-Chrysene)	EPA 625.1	% Recovery	105	1			Total		O-41138	07-Jul-23	29-Jul-23	
(d12-Perylene)	EPA 625.1	% Recovery	83	1			Total		O-41138	07-Jul-23	29-Jul-23	
(d8-Naphthalene)	EPA 625.1	% Recovery	80	1			Total		O-41138	07-Jul-23	29-Jul-23	
1-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41138	07-Jul-23	29-Jul-23	
1-Methylphenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41138	07-Jul-23	29-Jul-23	
2,3,5-Trimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41138	07-Jul-23	29-Jul-23	
2,6-Dimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41138	07-Jul-23	29-Jul-23	
2-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41138	07-Jul-23	29-Jul-23	
Acenaphthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41138	07-Jul-23	29-Jul-23	
Acenaphthylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41138	07-Jul-23	29-Jul-23	
Anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41138	07-Jul-23	29-Jul-23	
Benz[a]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41138	07-Jul-23	29-Jul-23	
Benzo[a]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41138	07-Jul-23	29-Jul-23	
Benzo[b]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41138	07-Jul-23	29-Jul-23	
Benzo[e]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41138	07-Jul-23	29-Jul-23	
Benzo[g,h,i]perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41138	07-Jul-23	29-Jul-23	
Benzo[k]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41138	07-Jul-23	29-Jul-23	
Biphenyl	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41138	07-Jul-23	29-Jul-23	
Chrysene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41138	07-Jul-23	29-Jul-23	
Dibenz[a,h]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41138	07-Jul-23	29-Jul-23	
Dibenzo[a,l]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41138	07-Jul-23	29-Jul-23	
Dibenzothiophene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41138	07-Jul-23	29-Jul-23	

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Disalicylidenepropanediamine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-41138	07-Jul-23	29-Jul-23
Fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41138	07-Jul-23	29-Jul-23
Fluorene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41138	07-Jul-23	29-Jul-23
Indeno[1,2,3-cd]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41138	07-Jul-23	29-Jul-23
Naphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41138	07-Jul-23	29-Jul-23
Perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41138	07-Jul-23	29-Jul-23
Phenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41138	07-Jul-23	29-Jul-23
Pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41138	07-Jul-23	29-Jul-23

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed	
Sample ID: 108034-R1	AIEA WELLS PUMP 2 (260) 380-534 Matrix: Samplewater						Sampled:	03-Jul-23	9:20	Received:	07-Jul-23	
(d10-Acenaphthene)	EPA 625.1	% Recovery	54	1			Total		O-41138	07-Jul-23	30-Jul-23	
(d10-Phenanthrene)	EPA 625.1	% Recovery	88	1			Total		O-41138	07-Jul-23	30-Jul-23	
(d12-Chrysene)	EPA 625.1	% Recovery	94	1			Total		O-41138	07-Jul-23	30-Jul-23	
(d12-Perylene)	EPA 625.1	% Recovery	74	1			Total		O-41138	07-Jul-23	30-Jul-23	
(d8-Naphthalene)	EPA 625.1	% Recovery	72	1			Total		O-41138	07-Jul-23	30-Jul-23	
1-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41138	07-Jul-23	30-Jul-23	
1-Methylphenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41138	07-Jul-23	30-Jul-23	
2,3,5-Trimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41138	07-Jul-23	30-Jul-23	
2,6-Dimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41138	07-Jul-23	30-Jul-23	
2-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41138	07-Jul-23	30-Jul-23	
Acenaphthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41138	07-Jul-23	30-Jul-23	
Acenaphthylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41138	07-Jul-23	30-Jul-23	
Anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41138	07-Jul-23	30-Jul-23	
Benz[a]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41138	07-Jul-23	30-Jul-23	
Benzo[a]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41138	07-Jul-23	30-Jul-23	
Benzo[b]fluoranthene	EPA 625.1	µg/L	0.00755	1	0.001	0.005	Total		O-41138	07-Jul-23	30-Jul-23	
Benzo[e]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41138	07-Jul-23	30-Jul-23	
Benzo[g,h,i]perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41138	07-Jul-23	30-Jul-23	
Benzo[k]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41138	07-Jul-23	30-Jul-23	
Biphenyl	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41138	07-Jul-23	30-Jul-23	
Chrysene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41138	07-Jul-23	30-Jul-23	
Dibenz[a,h]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41138	07-Jul-23	30-Jul-23	
Dibenzo[a,l]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41138	07-Jul-23	30-Jul-23	
Dibenzothiophene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41138	07-Jul-23	30-Jul-23	

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Disalicylidenepropanediamine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-41138	07-Jul-23	30-Jul-23
Fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41138	07-Jul-23	30-Jul-23
Fluorene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41138	07-Jul-23	30-Jul-23
Indeno[1,2,3-cd]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41138	07-Jul-23	30-Jul-23
Naphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41138	07-Jul-23	30-Jul-23
Perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41138	07-Jul-23	30-Jul-23
Phenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41138	07-Jul-23	30-Jul-23
Pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41138	07-Jul-23	30-Jul-23



QUALITY CONTROL REPORT

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Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY	PRECISION	QA CODE _c
							LEVEL	RESULT	% LIMITS	% LIMITS	
Sample ID: 108032-B1		QA/QC Procedural Blank			Matrix: BlankMatrix		Sampled:		Received:		
		Method: EPA 625.1		Batch ID: O-41138		Prepared: 07-Jul-23		Analyzed: 29-Jul-23			
(d10-Acenaphthene)	Total	80	1			% Recovery	100	80	27 - 133%	PASS	
(d10-Phenanthrene)	Total	108	1			% Recovery	100	108	43 - 129%	PASS	
(d12-Chrysene)	Total	107	1			% Recovery	100	107	52 - 144%	PASS	
(d12-Perylene)	Total	96	1			% Recovery	100	96	36 - 161%	PASS	
(d8-Naphthalene)	Total	105	1			% Recovery	100	105	25 - 125%	PASS	
1-Methylnaphthalene	Total	ND	1	0.001	0.005	µg/L					
1-Methylphenanthrene	Total	ND	1	0.001	0.005	µg/L					
2,3,5-Trimethylnaphthalene	Total	ND	1	0.001	0.005	µg/L					
2,6-Dimethylnaphthalene	Total	ND	1	0.001	0.005	µg/L					
2-Methylnaphthalene	Total	ND	1	0.001	0.005	µg/L					
Acenaphthene	Total	ND	1	0.001	0.005	µg/L					
Acenaphthylene	Total	ND	1	0.001	0.005	µg/L					
Anthracene	Total	ND	1	0.001	0.005	µg/L					
Benz[a]anthracene	Total	ND	1	0.001	0.005	µg/L					
Benzo[a]pyrene	Total	ND	1	0.001	0.005	µg/L					
Benzo[b]fluoranthene	Total	ND	1	0.001	0.005	µg/L					
Benzo[e]pyrene	Total	ND	1	0.001	0.005	µg/L					
Benzo[g,h,i]perylene	Total	ND	1	0.001	0.005	µg/L					
Benzo[k]fluoranthene	Total	ND	1	0.001	0.005	µg/L					
Biphenyl	Total	ND	1	0.001	0.005	µg/L					
Chrysene	Total	ND	1	0.001	0.005	µg/L					
Dibenz[a,h]anthracene	Total	ND	1	0.001	0.005	µg/L					
Dibenzo[a,l]pyrene	Total	ND	1	0.001	0.005	µg/L					

Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY	PRECISION	QA CODE _c
							LEVEL	RESULT	%	LIMITS	%
Dibenzothiophene	Total	ND	1	0.001	0.005	µg/L					
Disalicylidenepropanediamin	Total	ND	1	0.05	0.1	µg/L					
Fluoranthene	Total	ND	1	0.001	0.005	µg/L					
Fluorene	Total	ND	1	0.001	0.005	µg/L					
Indeno[1,2,3-cd]pyrene	Total	ND	1	0.001	0.005	µg/L					
Naphthalene	Total	ND	1	0.001	0.005	µg/L					
Perylene	Total	ND	1	0.001	0.005	µg/L					
Phenanthrene	Total	ND	1	0.001	0.005	µg/L					
Pyrene	Total	ND	1	0.001	0.005	µg/L					



Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY		PRECISION	QA CODE ^c
							LEVEL	RESULT	%	LIMITS	%	LIMITS
Sample ID: 108032-BS1		QAQC Procedural Blank			Matrix: BlankMatrix			Sampled:		Received:		
		Method: EPA 625.1			Batch ID: O-41138			Prepared: 07-Jul-23		Analyzed: 29-Jul-23		
(d10-Acenaphthene)	Total	82	1			% Recovery	100	0	82	27 - 133%	PASS	
(d10-Phenanthrene)	Total	102	1			% Recovery	100	0	102	43 - 129%	PASS	
(d12-Chrysene)	Total	104	1			% Recovery	100	0	104	52 - 144%	PASS	
(d12-Perylene)	Total	92	1			% Recovery	100	0	92	36 - 161%	PASS	
(d8-Naphthalene)	Total	89	1			% Recovery	100	0	89	25 - 125%	PASS	
1-Methylnaphthalene	Total	0.436	1	0.001	0.005	µg/L	0.5	0	87	31 - 128%	PASS	
1-Methylphenanthrene	Total	0.536	1	0.001	0.005	µg/L	0.5	0	107	66 - 127%	PASS	
2,3,5-Trimethylnaphthalene	Total	0.481	1	0.001	0.005	µg/L	0.5	0	96	55 - 122%	PASS	
2,6-Dimethylnaphthalene	Total	0.46	1	0.001	0.005	µg/L	0.5	0	92	48 - 120%	PASS	
2-Methylnaphthalene	Total	0.476	1	0.001	0.005	µg/L	0.5	0	95	47 - 130%	PASS	
Acenaphthene	Total	0.436	1	0.001	0.005	µg/L	0.5	0	87	53 - 131%	PASS	
Acenaphthylene	Total	0.496	1	0.001	0.005	µg/L	0.5	0	99	43 - 140%	PASS	
Anthracene	Total	0.459	1	0.001	0.005	µg/L	0.5	0	92	58 - 135%	PASS	
Benz[a]anthracene	Total	0.504	1	0.001	0.005	µg/L	0.5	0	101	55 - 145%	PASS	
Benzo[a]pyrene	Total	0.444	1	0.001	0.005	µg/L	0.5	0	89	51 - 143%	PASS	
Benzo[b]fluoranthene	Total	0.51	1	0.001	0.005	µg/L	0.5	0	102	46 - 165%	PASS	
Benzo[e]pyrene	Total	0.491	1	0.001	0.005	µg/L	0.5	0	98	42 - 152%	PASS	
Benzo[g,h,i]perylene	Total	0.482	1	0.001	0.005	µg/L	0.5	0	96	63 - 133%	PASS	
Benzo[k]fluoranthene	Total	0.514	1	0.001	0.005	µg/L	0.5	0	103	56 - 145%	PASS	
Biphenyl	Total	0.532	1	0.001	0.005	µg/L	0.5	0	106	56 - 119%	PASS	
Chrysene	Total	0.471	1	0.001	0.005	µg/L	0.5	0	94	56 - 141%	PASS	
Dibenz[a,h]anthracene	Total	0.482	1	0.001	0.005	µg/L	0.5	0	96	55 - 150%	PASS	
Dibenzo[a,l]pyrene	Total	0.413	1	0.001	0.005	µg/L	0.5	0	83	50 - 150%	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	
Dibenzothiophene	Total	0.527	1	0.001	0.005	µg/L	0.5	0	105	46 - 126%	PASS		
Disalicylidenepropanediamin	Total	28	1	0.05	0.1	µg/L	50	0	56	50 - 150%	PASS		
Fluoranthene	Total	0.608	1	0.001	0.005	µg/L	0.5	0	122	60 - 146%	PASS		
Fluorene	Total	0.477	1	0.001	0.005	µg/L	0.5	0	95	58 - 131%	PASS		
Indeno[1,2,3-cd]pyrene	Total	0.467	1	0.001	0.005	µg/L	0.5	0	93	50 - 151%	PASS		
Naphthalene	Total	0.46	1	0.001	0.005	µg/L	0.5	0	92	41 - 126%	PASS		
Perylene	Total	0.426	1	0.001	0.005	µg/L	0.5	0	85	48 - 141%	PASS		
Phenanthrene	Total	0.476	1	0.001	0.005	µg/L	0.5	0	95	67 - 127%	PASS		
Pyrene	Total	0.57	1	0.001	0.005	µg/L	0.5	0	114	54 - 156%	PASS		



Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY		PRECISION		QA CODE ^c	
									%	LIMITS	%	LIMITS		
Sample ID: 108032-BS2		QAQC Procedural Blank			Matrix: BlankMatrix			Sampled:			Received:			
		Method: EPA 625.1			Batch ID: O-41138			Prepared: 07-Jul-23			Analyzed: 29-Jul-23			
(d10-Acenaphthene)	Total	80	1			% Recovery	100	0	80	27 - 133%	PASS	2	30	PASS
(d10-Phenanthrene)	Total	96	1			% Recovery	100	0	96	43 - 129%	PASS	6	30	PASS
(d12-Chrysene)	Total	104	1			% Recovery	100	0	104	52 - 144%	PASS	0	30	PASS
(d12-Perylene)	Total	94	1			% Recovery	100	0	94	36 - 161%	PASS	2	30	PASS
(d8-Naphthalene)	Total	85	1			% Recovery	100	0	85	25 - 125%	PASS	5	30	PASS
1-Methylnaphthalene	Total	0.424	1	0.001	0.005	µg/L	0.5	0	85	31 - 128%	PASS	2	30	PASS
1-Methylphenanthrene	Total	0.512	1	0.001	0.005	µg/L	0.5	0	102	66 - 127%	PASS	5	30	PASS
2,3,5-Trimethylnaphthalene	Total	0.484	1	0.001	0.005	µg/L	0.5	0	97	55 - 122%	PASS	1	30	PASS
2,6-Dimethylnaphthalene	Total	0.451	1	0.001	0.005	µg/L	0.5	0	90	48 - 120%	PASS	2	30	PASS
2-Methylnaphthalene	Total	0.462	1	0.001	0.005	µg/L	0.5	0	92	47 - 130%	PASS	3	30	PASS
Acenaphthene	Total	0.424	1	0.001	0.005	µg/L	0.5	0	85	53 - 131%	PASS	2	30	PASS
Acenaphthylene	Total	0.482	1	0.001	0.005	µg/L	0.5	0	96	43 - 140%	PASS	3	30	PASS
Anthracene	Total	0.456	1	0.001	0.005	µg/L	0.5	0	91	58 - 135%	PASS	1	30	PASS
Benz[a]anthracene	Total	0.521	1	0.001	0.005	µg/L	0.5	0	104	55 - 145%	PASS	3	30	PASS
Benzo[a]pyrene	Total	0.459	1	0.001	0.005	µg/L	0.5	0	92	51 - 143%	PASS	3	30	PASS
Benzo[b]fluoranthene	Total	0.523	1	0.001	0.005	µg/L	0.5	0	105	46 - 165%	PASS	3	30	PASS
Benzo[e]pyrene	Total	0.476	1	0.001	0.005	µg/L	0.5	0	95	42 - 152%	PASS	3	30	PASS
Benzo[g,h,i]perylene	Total	0.489	1	0.001	0.005	µg/L	0.5	0	98	63 - 133%	PASS	2	30	PASS
Benzo[k]fluoranthene	Total	0.521	1	0.001	0.005	µg/L	0.5	0	104	56 - 145%	PASS	1	30	PASS
Biphenyl	Total	0.531	1	0.001	0.005	µg/L	0.5	0	106	56 - 119%	PASS	0	30	PASS
Chrysene	Total	0.483	1	0.001	0.005	µg/L	0.5	0	97	56 - 141%	PASS	3	30	PASS
Dibenz[a,h]anthracene	Total	0.475	1	0.001	0.005	µg/L	0.5	0	95	55 - 150%	PASS	1	30	PASS
Dibenzo[a,l]pyrene	Total	0.416	1	0.001	0.005	µg/L	0.5	0	83	50 - 150%	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	%	
Dibenzothiophene	Total	0.492	1	0.001	0.005	µg/L	0.5	0	98	46 - 126%	PASS	7	30	PASS
Disalicylidenepropanediamin	Total	27.2	1	0.05	0.1	µg/L	50	0	54	50 - 150%	PASS	4	30	PASS
Fluoranthene	Total	0.596	1	0.001	0.005	µg/L	0.5	0	119	60 - 146%	PASS	2	30	PASS
Fluorene	Total	0.458	1	0.001	0.005	µg/L	0.5	0	92	58 - 131%	PASS	3	30	PASS
Indeno[1,2,3-cd]pyrene	Total	0.461	1	0.001	0.005	µg/L	0.5	0	92	50 - 151%	PASS	1	30	PASS
Naphthalene	Total	0.451	1	0.001	0.005	µg/L	0.5	0	90	41 - 126%	PASS	2	30	PASS
Perylene	Total	0.45	1	0.001	0.005	µg/L	0.5	0	90	48 - 141%	PASS	6	30	PASS
Phenanthrene	Total	0.463	1	0.001	0.005	µg/L	0.5	0	93	67 - 127%	PASS	2	30	PASS
Pyrene	Total	0.557	1	0.001	0.005	µg/L	0.5	0	111	54 - 156%	PASS	3	30	PASS

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PHYSIS

TENTATIVELY IDENTIFIED COMPOUNDS

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Sample ID: 108033

Retention Time	Area (% of total)	Concentration (ng/L)	Library/ID	Cas Number	Match Quality (%)
34.8402	2.2768	1111	Anthracene-D10	1517-22-2	89
10.3993	10.1473	4952	2-Pentene, 2,4-dimethyl-	625-65-0	91
10.1763	6.7845	3311	Cyclohexane, 1-methyl-2-propyl-	4291-79-6	87
10.1770	4.9035	2393	m-Menthane, (1S,3S)-(+)-	13837-67-7	88
10.1200	2.3680	1156	Octane, 3-methyl-6-methylene-	74630-07-2	86
10.0470	2.1114	1030	Hydroperoxide, 1-ethylbutyl	24254-56-6	87
10.7308	1.5245	744	Cyclohexane, methyl-	108-87-2	88

Concentration estimated using the response for Anthracene-d10

Sample ID: 108034

Retention Time	Area (% of total)	Concentration (ng/L)	Library/ID	Cas Number	Match Quality (%)
34.8399	2.4664	1111	Anthracene-D10	1517-22-2	92
10.3998	14.4087	6491	2-Pentene, 2,4-dimethyl-	625-65-0	91
10.1704	5.1251	2309	Hydroperoxide, 1-methylpentyl	24254-55-5	88
10.1770	4.9666	2237	m-Menthane, (1S,3S)-(+)-	13837-67-7	87
10.0469	2.8071	1265	Hydroperoxide, 1-ethylbutyl	24254-56-6	87
10.1201	2.5529	1150	Octane, 3-methyl-6-methylene-	74630-07-2	83
10.7297	1.9022	857	Cyclohexane, methyl-	108-87-2	87
10.8801	0.3607	162	Cyclohexane, nitro-	1122-60-7	85

Concentration estimated using the response for Anthracene-d10

Sample ID: Lab Blank B1_41138

Retention Time	Area (% of total)	Concentration (ng/L)	Library/ID	Cas Number	Match Quality (%)
34.8456	2.1122	1111	Anthracene-D10	1517-22-2	90
10.4002	9.1209	4798	2-Pentene, 2,4-dimethyl-	625-65-0	90
10.1770	6.2969	3312	m-Menthane, (1S,3S)-(+)-	13837-67-7	89
10.1202	2.3524	1237	Octane, 3-methyl-6-methylene-	74630-07-2	88
10.0480	1.8008	947	Hydroperoxide, 1-ethylbutyl	24254-56-6	82
10.7690	1.2610	663	2-Pentene, 3,4-dimethyl-, (E)-	4914-92-5	84
10.7691	1.1482	604	Cyclohexane, methyl-	108-87-2	84
10.2315	0.4050	213	1-Hexene, 4,5-dimethyl-	16106-59-5	80
10.8834	0.2061	108	Cyclohexane, nitro-	1122-60-7	85

Concentration estimated using the response for Anthracene-d10

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

Chain of Custody Record



Client Information (Sub Contract Lab)
 Client Contact: **Arada, Rachelle**
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 Address: **1904 Wright Circle,**
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 Phone: **PO #:**
 Email: **W/O #:**
 Project Name: **RED-HILL**
 Site: **Honolulu BWS Sites**

Sampler: **Lab PM: Arada, Rachelle**
 Phone: **E-Mail: Rachelle.Arada@et.eurofins.com**
 Due Date Requested: **7/20/2023**
 TAT Requested (days): **Analysis Requested**
 Accreditations Required (See note): **State - Hawaii**
 Carrier Tracking No(s): **380-61907.1**
 State of Origin: **Hawaii**
 Job #: **380-53442-1**
 Page: **Page 1 of 1**
 Preservation Codes: **M - Hexane, N - None, O - AsNaO2, P - Na2CO3, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4.5, Y - Trizma, Z - other (specify)**

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Camp, G=Grab)	Matrix (Water, Ground, Overhead, Br-Tissue, A-A)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Substrates/PAHs	Total Number of Containers	Special Instructions/Note
AIEA GULCH WELLS PUMP 2 (380-53442-1)	7/19/23	08:45		Water	X	X		2	See Attached Instructions
AIEA WELLS PUMP 2 (260) (380-53442-2)	7/19/23	09:20		Water		X		2	See Attached Instructions

Possible Hazard Identification
 Unconfirmed
 Deliverable Requested: **I, II, III, IV, Other (specify)** Primary Deliverable Rank: **2**
 Empty Kit Relinquished by: **Date:**
 Relinquished by: **Date/Time:** **7/19/23 11:35** Company: **BEA**
 Relinquished by: **Date/Time:** Company:
 Custody Seals Intact: **Δ Yes Δ No** Custody Seal No.:
 Cooler Temperature(s) °C and Other Remarks:

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:
 Special Instructions/QC Requirements:
 Method of Shipment:
 Received by: **7/19/23 11:35** Company: **PHYSIS**

Project Iteration ID: 1407003-412
 Client Name: Eurofins Eaton Analytical
 Project Name: RED-HILL Project # 38001111 Job # 380-53442-1
 COC Page Number: 2 of 2
 Bottle Label Color: NA

Sample Receipt Summary

Receiving Info

- Initials Received By: MN
- Date Received: 7/7/23
- Time Received: 1135
- Client Name: Eurofins
- Courier Information: (Please circle)
 - Client
 - UPS
 - Area Fast
 - DRS
 - FedEx
 - GSO/GLS
 - Ontrac
 - PAMS
 - PHYSIS Driver:
 - Start Time: _____
 - End Time: _____
 - Total Mileage: _____
 - Number of Pickups: _____
- Container Information: (Please put the # of containers or circle none)
 - Cooler
 - Styrofoam Cooler
 - Boxes
 - None
 - Carboy(s)
 - Carboy Trash Can(s)
 - Carboy Cap(s)
 - Other _____
- What type of ice was used: (Please circle any that apply)
 - Wet Ice
 - Blue Ice
 - Dry Ice
 - Water
 - None
- Randomly Selected Samples Temperature (°C): 12.9
 Used I/R Thermometer # 1-2

Inspection Info

- Initials Inspected By: RGK

Sample Integrity Upon Receipt:

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

Notes:

Monrovia, CA (Suite 100)

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

Chain of Custody Record

Client Information		Sampler:	Lab PM:	Carrier Tracking No(s):	COC No:								
Client Contact: Dr. Ron Fenstermacher		Phone: 808-748-5840	Arada, Rachelle	State of Origin:	380-27941-2757.2								
Company: City & County of Honolulu		PWSID:	E-Mail: Rachelle.Arada@et.euronisus.com	Page 1 of 2	Page 2 of 2								
Address: 630 South Beretania Street; Chemistry Lab		Analysis Requested			Job #:								
City: Honolulu		Due Date Requested:	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	525.2_PREC - (MOD) 525plus PLUS TICs	SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL)	537.1_DW_PREC - 537.1 Full List	533 - All Analytes	Total Number of containers	Preservation Codes:	
State, Zip: HI, 96843		TAT Requested (days):										A - HCL	M - Hexane
Phone: 808-748-5091 (tel)		Compliance Project: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No										B - NaOH	N - None
Email: rfenstermacher@hbws.org		PO #: C20525101 exp 05312023										C - Zn Acetate	O - AsNaO2
Project Name: RED-HILL/HBWS sites Event Desc: RUSH Weekly Red Hill		WO #:										D - Nitric Acid	P - Na2O4S
Site:		Project #: 38001111	E - NaHSO4	Q - Na2SO3									
SSOW#:		Project #: 38001111	F - MeOH	R - Na2S2O3									
Sample Identification		Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=wasteoil, BT=Tissue, A=Air)	Special Instructions/Note:		Other:					
AIEA GULCH WELLS PUMP2		7/13/2023	0845	G	Water	R	R	RA	RA	Y	N	#1- 7726 4746 4472	
AIEA WELLS PUMP 2 (260)		7/13/2023	0920	G	Water	2	4	2	2			(752A) 2.8° - 0.2° = 2.6°	
FB AIEA GULCH WELLS PUMP2		7/13/2023	0845		Water			2				#2- 7726 4746 5582	
FB AIEA WELLS PUMP 2 (260)		7/13/2023	0920		Water			2				(752A) 3.7° - 0.2° = 3.5°	
												#3- 7726 4746 5126	
												(752A) 1.8° - 0.2° = 1.6°	
												#4- 7726 4746 6464	
												(752A) 1.5° - 0.2° = 1.3°	
												#5- 7726 4746 6670	
												(752A) 2.3° - 0.2° = 2.1°	
Possible Hazard Identification						Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)							
<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						<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months							
Deliverable Requested: I, II, III, IV, Other (specify)						Special Instructions/QC Requirements:							
Empty Kit Relinquished by:		Date:	Time:	Method of Shipment:		FED Ex 5 COOLERS ↑							
Relinquished by: [Redacted]		Date/Time: 7/13/2023 1220	Company: HBWS	Received by: [Signature] G. REITNER		Date/Time: 07/06/2023 09:50	Company: CCRAP						
Relinquished by: [Redacted]		Date/Time:	Company:	Received by:		Date/Time:	Company:						
Relinquished by:		Date/Time:	Company:	Received by:		Date/Time:	Company:						
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: (752A) -0.2° CORRECTION ↑ BEC-FREEN									

Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-53442-2

Login Number: 53442
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	

