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ANALYTICAL REPORT

PREPARED FOR

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City & County of Honolulu
630 South Beretania Street
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Honolulu, Hawaii 96843

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JOB DESCRIPTION

RED-HILL [SUBCONTRACT]
625, 8015
RUSH Weekly Red Hill

JOB NUMBER

380-87962-2

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

See page two for job notes and contact information.

my EOL

Eurofins Eaton Analytical Pomona

Job Notes

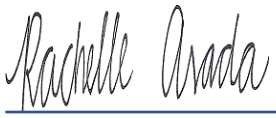
This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

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

Compliance Statement

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

Authorization



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Definitions/Glossary

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

Job ID: 380-87962-2
SDG: 625, 8015

Glossary

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

Job Narrative
380-87962-2

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

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

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

Receipt
The samples were received on 3/20/2024 10:55 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 1.9°C and 3.3°C.

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

Gasoline Range Organics
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC Semi VOA
Method 8015B_DRO_LL_CS: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 570-423141. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Detection Summary

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

Job ID: 380-87962-2
SDG: 625, 8015

Client Sample ID: MOANALUA WELLS (331-223-TP202) — Lab Sample ID: 380-87962-1

PWSID Number: HI0000331

No Detections.

Client Sample ID: HALAWA WELLS UNITS 1 & 2 (331-206-TP065) — Lab Sample ID: 380-87962-2

PWSID Number: HI0000331

No Detections.

Client Sample ID: TB:MOANALUA WELLS (331-223-TP202) — Lab Sample ID: 380-87962-3

No Detections.

Client Sample ID: TB: HALAWA WELLS UNITS 1&2 (331-206-TP065) — Lab Sample ID: 380-87962-4

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample ID: MOANALUA WELLS (331-223-TP202)

Date Collected: 03/18/24 09:49
Date Received: 03/20/24 10:55

Lab Sample ID: 380-87962-1

Matrix: Drinking Water
PWSID Number: HI0000331

Method: SW846 8015B GRO LL - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
GRO (C6-C10)	<10		10		ug/L			03/28/24 15:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*76*		*38 - 134*		*03/28/24 15:07*	*1*

Method: SW846 8015B - Diesel Range Organics (DRO) (GC) Low Level

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (C10-C24)	<26		26		ug/L		03/22/24 12:24	04/03/24 04:51	1
Motor Oil Range Organics [C24-C36]	<26		26		ug/L		03/22/24 12:24	04/03/24 04:51	1
C8-C18	<26		26		ug/L		03/22/24 12:24	04/03/24 04:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane (Surr)	*127*		*60 - 130*	*03/22/24 12:24*	*04/03/24 04:51*	*1*

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		03/25/24 00:00	04/07/24 06:31	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		03/25/24 00:00	04/07/24 06:31	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		03/25/24 00:00	04/07/24 06:31	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		03/25/24 00:00	04/07/24 06:31	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		03/25/24 00:00	04/07/24 06:31	1
Acenaphthene	ND		0.005	0.001	µg/L		03/25/24 00:00	04/07/24 06:31	1
Acenaphthylene	ND		0.005	0.001	µg/L		03/25/24 00:00	04/07/24 06:31	1
Anthracene	ND		0.005	0.001	µg/L		03/25/24 00:00	04/07/24 06:31	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		03/25/24 00:00	04/07/24 06:31	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		03/25/24 00:00	04/07/24 06:31	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		03/25/24 00:00	04/07/24 06:31	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		03/25/24 00:00	04/07/24 06:31	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		03/25/24 00:00	04/07/24 06:31	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		03/25/24 00:00	04/07/24 06:31	1
Biphenyl	ND		0.005	0.001	µg/L		03/25/24 00:00	04/07/24 06:31	1
Chrysene	ND		0.005	0.001	µg/L		03/25/24 00:00	04/07/24 06:31	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		03/25/24 00:00	04/07/24 06:31	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		03/25/24 00:00	04/07/24 06:31	1
Dibenzothiophene	ND		0.005	0.001	µg/L		03/25/24 00:00	04/07/24 06:31	1
Disalicylidenepropanediamine	ND		0.1	0.05	µg/L		03/25/24 00:00	04/07/24 06:31	1
Fluoranthene	ND		0.005	0.001	µg/L		03/25/24 00:00	04/07/24 06:31	1
Fluorene	ND		0.005	0.001	µg/L		03/25/24 00:00	04/07/24 06:31	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		03/25/24 00:00	04/07/24 06:31	1
Naphthalene	ND		0.005	0.001	µg/L		03/25/24 00:00	04/07/24 06:31	1
Perylene	ND		0.005	0.001	µg/L		03/25/24 00:00	04/07/24 06:31	1
Phenanthrene	ND		0.005	0.001	µg/L		03/25/24 00:00	04/07/24 06:31	1
Pyrene	ND		0.005	0.001	µg/L		03/25/24 00:00	04/07/24 06:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
(d10-Acenaphthene)	*80*		*27 - 133*	*03/25/24 00:00*	*04/07/24 06:31*	*1*
(d10-Phenanthrene)	*84*		*43 - 129*	*03/25/24 00:00*	*04/07/24 06:31*	*1*
(d12-Chrysene)	*97*		*52 - 144*	*03/25/24 00:00*	*04/07/24 06:31*	*1*
(d12-Perylene)	*95*		*36 - 161*	*03/25/24 00:00*	*04/07/24 06:31*	*1*
(d8-Naphthalene)	*60*		*25 - 125*	*03/25/24 00:00*	*04/07/24 06:31*	*1*

Client Sample ID: HALAWA WELLS UNITS 1 & 2 (331-206-TP065)

Lab Sample ID: 380-87962-2

Date Collected: 03/18/24 10:22
Date Received: 03/20/24 10:55

Matrix: Drinking Water
PWSID Number: HI0000331

Method: SW846 8015B GRO LL - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
GRO (C6-C10)	<10		10		ug/L			03/28/24 15:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*85*		*38 - 134*		*03/28/24 15:31*	*1*

Method: SW846 8015B - Diesel Range Organics (DRO) (GC) Low Level

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (C10-C24)	<26		26		ug/L		03/22/24 12:24	04/03/24 05:12	1
Motor Oil Range Organics [C24-C36]	<26		26		ug/L		03/22/24 12:24	04/03/24 05:12	1
C8-C18	<26		26		ug/L		03/22/24 12:24	04/03/24 05:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane (Surr)	*119*		*60 - 130*	*03/22/24 12:24*	*04/03/24 05:12*	*1*

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		03/25/24 00:00	04/07/24 08:19	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		03/25/24 00:00	04/07/24 08:19	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		03/25/24 00:00	04/07/24 08:19	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		03/25/24 00:00	04/07/24 08:19	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		03/25/24 00:00	04/07/24 08:19	1
Acenaphthene	ND		0.005	0.001	µg/L		03/25/24 00:00	04/07/24 08:19	1
Acenaphthylene	ND		0.005	0.001	µg/L		03/25/24 00:00	04/07/24 08:19	1
Anthracene	ND		0.005	0.001	µg/L		03/25/24 00:00	04/07/24 08:19	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		03/25/24 00:00	04/07/24 08:19	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		03/25/24 00:00	04/07/24 08:19	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		03/25/24 00:00	04/07/24 08:19	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		03/25/24 00:00	04/07/24 08:19	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		03/25/24 00:00	04/07/24 08:19	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		03/25/24 00:00	04/07/24 08:19	1
Biphenyl	ND		0.005	0.001	µg/L		03/25/24 00:00	04/07/24 08:19	1
Chrysene	ND		0.005	0.001	µg/L		03/25/24 00:00	04/07/24 08:19	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		03/25/24 00:00	04/07/24 08:19	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		03/25/24 00:00	04/07/24 08:19	1
Dibenzothiophene	ND		0.005	0.001	µg/L		03/25/24 00:00	04/07/24 08:19	1
Disalicylidenepropanediamine	ND		0.1	0.05	µg/L		03/25/24 00:00	04/07/24 08:19	1
Fluoranthene	ND		0.005	0.001	µg/L		03/25/24 00:00	04/07/24 08:19	1
Fluorene	ND		0.005	0.001	µg/L		03/25/24 00:00	04/07/24 08:19	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		03/25/24 00:00	04/07/24 08:19	1
Naphthalene	ND		0.005	0.001	µg/L		03/25/24 00:00	04/07/24 08:19	1
Perylene	ND		0.005	0.001	µg/L		03/25/24 00:00	04/07/24 08:19	1
Phenanthrene	ND		0.005	0.001	µg/L		03/25/24 00:00	04/07/24 08:19	1
Pyrene	ND		0.005	0.001	µg/L		03/25/24 00:00	04/07/24 08:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
(d10-Acenaphthene)	*79*		*27 - 133*	*03/25/24 00:00*	*04/07/24 08:19*	*1*
(d10-Phenanthrene)	*88*		*43 - 129*	*03/25/24 00:00*	*04/07/24 08:19*	*1*
(d12-Chrysene)	*103*		*52 - 144*	*03/25/24 00:00*	*04/07/24 08:19*	*1*
(d12-Perylene)	*98*		*36 - 161*	*03/25/24 00:00*	*04/07/24 08:19*	*1*

Client Sample ID: HALAWA WELLS UNITS 1 & 2 (331-206-TP065)

Lab Sample ID: 380-87962-2

Date Collected: 03/18/24 10:22
Date Received: 03/20/24 10:55

Matrix: Drinking Water
PWSID Number: HI0000331

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
(d8-Naphthalene)	*59*		*25 - 125*	*03/25/24 00:00*	*04/07/24 08:19*	*1*

Client Sample ID: TB:MOANALUA WELLS (331-223-TP202)

Lab Sample ID: 380-87962-3

Date Collected: 03/18/24 09:49
Date Received: 03/20/24 10:55

Matrix: Water

Method: SW846 8015B GRO LL - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
GRO (C6-C10)	<10		10		ug/L			03/28/24 13:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*75*		*38 - 134*		*03/28/24 13:31*	*1*

Client Sample ID: TB: HALAWA WELLS UNITS 1&2 (331-206-TP065)

Lab Sample ID: 380-87962-4

Date Collected: 03/18/24 10:22
Date Received: 03/20/24 10:55

Matrix: Water

Method: SW846 8015B GRO LL - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
GRO (C6-C10)	<10		10		ug/L			03/28/24 13:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*84*		*38 - 134*		*03/28/24 13:55*	*1*

Surrogate Summary

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

Job ID: 380-87962-2
SDG: 625, 8015

Method: 8015B GRO LL - Gasoline Range Organics - (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)
		BFB1
Lab Sample ID	Client Sample ID	(38-134)
380-87962-1	MOANALUA WELLS (331-223-T	76
380-87962-1 MS	MOANALUA WELLS (331-223-TP202)	91
380-87962-1 MSD	MOANALUA WELLS (331-223-TP202)	86
380-87962-2	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	85

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

Method: 8015B GRO LL - Gasoline Range Organics - (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)
		BFB1
Lab Sample ID	Client Sample ID	(38-134)
380-87962-3	TB:MOANALUA WELLS (331-22	75
380-87962-4	TB: HALAWA WELLS UNITS 1&2 (331-206-TP065)	84
LCS 570-425058/4	Lab Control Sample	83
LCSD 570-425058/5	Lab Control Sample Dup	91
MB 570-425058/6	Method Blank	82
MRL 570-425058/3	Lab Control Sample	84

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

Method: 8015B - Diesel Range Organics (DRO) (GC) Low Level

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

		Percent Surrogate Recovery (Acceptance Limits)
		OTCSN1
Lab Sample ID	Client Sample ID	(60-130)
380-87962-1	MOANALUA WELLS (331-223-T	127
380-87962-2	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	119

Surrogate Legend

OTCSN = n-Octacosane (Surr)

Method: 8015B - Diesel Range Organics (DRO) (GC) Low Level

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

		Percent Surrogate Recovery (Acceptance Limits)
		OTCSN1
Lab Sample ID	Client Sample ID	(60-130)
MRL 570-426165/4-A	Lab Control Sample	119

Surrogate Legend

OTCSN = n-Octacosane (Surr)

Surrogate Summary

Client: City & County of Honolulu
Job ID: 380-87962-2
Project/Site: RED-HILL [SUBCONTRACT]
SDG: 625, 8015

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

Matrix: BlankMatrix

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)							
		Acenapht	Phenanth	CRY	NPT	PRY			
Lab Sample ID	Client Sample ID	(27-133)	(43-129)	(52-144)	(25-125)	(36-161)			
116886-B1	Method Blank	90	88	134	69	98			
116886-BS1	Lab Control Sample	95	95	108	75	95			
116886-BS2	Lab Control Sample Dup	96	96	109	75	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

		Percent Surrogate Recovery (Acceptance Limits)							
		Acenapht	Phenanth	CRY	NPT	PRY			
Lab Sample ID	Client Sample ID	(27-133)	(43-129)	(52-144)	(25-125)	(36-161)			
380-87962-1	MOANALUA WELLS (331-223-T	80	84	97	60	95			
380-87962-2	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	79	88	103	59	98			

Surrogate Legend

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

Method: 8015B GRO LL - Gasoline Range Organics - (GC)

Lab Sample ID: MB 570-425058/6
Matrix: Water
Analysis Batch: 425058

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

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
GRO (C6-C10)	<10		10		ug/L			03/28/24 12:50	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*82*		*38 - 134*		*03/28/24 12:50*	*1*

Lab Sample ID: LCS 570-425058/4
Matrix: Water
Analysis Batch: 425058

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (C4-C13)			400	360		ug/L		90	78 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*83*		*38 - 134*

Lab Sample ID: LCSD 570-425058/5
Matrix: Water
Analysis Batch: 425058

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (C4-C13)			400	348		ug/L		87	78 - 120	4	10

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*91*		*38 - 134*

Lab Sample ID: MRL 570-425058/3
Matrix: Water
Analysis Batch: 425058

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

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (C4-C13)			10.0	11.3		ug/L		113	50 - 150		

Surrogate	*MRL %Recovery*	*MRL Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*84*		*38 - 134*

Lab Sample ID: 380-87962-1 MS
Matrix: Drinking Water
Analysis Batch: 425058

Client Sample ID: MOANALUA WELLS (331-223-TP202)
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (C4-C13)	<10		400	317		ug/L		79	68 - 122		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*91*		*38 - 134*

Method: 8015B GRO LL - Gasoline Range Organics - (GC)

Lab Sample ID: 380-87962-1 MSD
Matrix: Drinking Water
Analysis Batch: 425058

Client Sample ID: MOANALUA WELLS (331-223-TP202)
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (C4-C13)	<10		400	285		ug/L		71	68 - 122	11	18

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*86*		*38 - 134*

Method: 8015B - Diesel Range Organics (DRO) (GC) Low Level

Lab Sample ID: MRL 570-426165/4-A
Matrix: Water
Analysis Batch: 426743

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 426165

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits		
C10-C28			0.0200	<0.020		mg/L		82	50 - 150		

Surrogate	*MRL %Recovery*	*MRL Qualifier*	*Limits*
n-Octacosane (Surr)	*119*		*60 - 130*

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

Lab Sample ID: 116886-B1
Matrix: BlankMatrix
Analysis Batch: O-45002

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: O-45002_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.005	0.001	µg/L		03/25/24 00:00	04/07/24 01:08	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		03/25/24 00:00	04/07/24 01:08	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		03/25/24 00:00	04/07/24 01:08	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		03/25/24 00:00	04/07/24 01:08	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		03/25/24 00:00	04/07/24 01:08	1
Acenaphthene	ND		0.005	0.001	µg/L		03/25/24 00:00	04/07/24 01:08	1
Acenaphthylene	ND		0.005	0.001	µg/L		03/25/24 00:00	04/07/24 01:08	1
Anthracene	ND		0.005	0.001	µg/L		03/25/24 00:00	04/07/24 01:08	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		03/25/24 00:00	04/07/24 01:08	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		03/25/24 00:00	04/07/24 01:08	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		03/25/24 00:00	04/07/24 01:08	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		03/25/24 00:00	04/07/24 01:08	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		03/25/24 00:00	04/07/24 01:08	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		03/25/24 00:00	04/07/24 01:08	1
Biphenyl	ND		0.005	0.001	µg/L		03/25/24 00:00	04/07/24 01:08	1
Chrysene	ND		0.005	0.001	µg/L		03/25/24 00:00	04/07/24 01:08	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		03/25/24 00:00	04/07/24 01:08	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		03/25/24 00:00	04/07/24 01:08	1
Dibenzothiophene	ND		0.005	0.001	µg/L		03/25/24 00:00	04/07/24 01:08	1
Disalicylidenepropanediamine	ND		0.1	0.05	µg/L		03/25/24 00:00	04/07/24 01:08	1
Fluoranthene	ND		0.005	0.001	µg/L		03/25/24 00:00	04/07/24 01:08	1
Fluorene	ND		0.005	0.001	µg/L		03/25/24 00:00	04/07/24 01:08	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		03/25/24 00:00	04/07/24 01:08	1
Naphthalene	ND		0.005	0.001	µg/L		03/25/24 00:00	04/07/24 01:08	1

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

Lab Sample ID: 116886-B1
Matrix: BlankMatrix
Analysis Batch: O-45002

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: O-45002_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perylene	ND		0.005	0.001	µg/L		03/25/24 00:00	04/07/24 01:08	1
Phenanthrene	ND		0.005	0.001	µg/L		03/25/24 00:00	04/07/24 01:08	1
Pyrene	ND		0.005	0.001	µg/L		03/25/24 00:00	04/07/24 01:08	1

Surrogate	*Blank %Recovery*	*Blank Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
(d10-Acenaphthene)	*90*		*27 - 133*	*03/25/24 00:00*	*04/07/24 01:08*	*1*
(d10-Phenanthrene)	*88*		*43 - 129*	*03/25/24 00:00*	*04/07/24 01:08*	*1*
(d12-Chrysene)	*134*		*52 - 144*	*03/25/24 00:00*	*04/07/24 01:08*	*1*
(d12-Perylene)	*98*		*36 - 161*	*03/25/24 00:00*	*04/07/24 01:08*	*1*
(d8-Naphthalene)	*69*		*25 - 125*	*03/25/24 00:00*	*04/07/24 01:08*	*1*

Lab Sample ID: 116886-BS1
Matrix: BlankMatrix
Analysis Batch: O-45002

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: O-45002_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1-Methylnaphthalene	0.5	0.45		µg/L		90	31 - 128
1-Methylphenanthrene	0.5	0.525		µg/L		105	66 - 127
2,3,5-Trimethylnaphthalene	0.5	0.537		µg/L		107	55 - 122
2,6-Dimethylnaphthalene	0.5	0.495		µg/L		99	48 - 120
2-Methylnaphthalene	0.5	0.452		µg/L		90	47 - 130
Acenaphthene	0.5	0.517		µg/L		103	53 - 131
Acenaphthylene	0.5	0.546		µg/L		109	43 - 140
Anthracene	0.5	0.513		µg/L		103	58 - 135
Benz[a]anthracene	0.5	0.472		µg/L		94	55 - 145
Benzo[a]pyrene	0.5	0.592		µg/L		118	51 - 143
Benzo[b]fluoranthene	0.5	0.417		µg/L		83	46 - 165
Benzo[e]pyrene	0.5	0.466		µg/L		93	42 - 152
Benzo[g,h,i]perylene	0.5	0.541		µg/L		108	63 - 133
Benzo[k]fluoranthene	0.5	0.467		µg/L		93	56 - 145
Biphenyl	0.5	0.47		µg/L		94	56 - 119
Chrysene	0.5	0.499		µg/L		100	56 - 141
Dibenz[a,h]anthracene	0.5	0.419		µg/L		84	55 - 150
Dibenzo[a,l]pyrene	0.5	0.307		µg/L		61	50 - 150
Dibenzothiophene	0.5	0.514		µg/L		103	46 - 126
Disalicylidenepropanediamine	50	31.1		µg/L		62	50 - 150
Fluoranthene	0.5	0.509		µg/L		102	60 - 146
Fluorene	0.5	0.515		µg/L		103	58 - 131
Indeno[1,2,3-cd]pyrene	0.5	0.632		µg/L		126	50 - 151
Naphthalene	0.5	0.406		µg/L		81	41 - 126
Perylene	0.5	0.493		µg/L		99	48 - 141
Phenanthrene	0.5	0.503		µg/L		101	67 - 127
Pyrene	0.5	0.504		µg/L		101	54 - 156

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
(d10-Acenaphthene)	*95*		*27 - 133*
(d10-Phenanthrene)	*95*		*43 - 129*
(d12-Chrysene)	*108*		*52 - 144*

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

Lab Sample ID: 116886-BS1
Matrix: BlankMatrix
Analysis Batch: O-45002

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: O-45002_P

Surrogate	LCS %Recovery	LCS Qualifier	Limits
(d12-Perylene)	95		36 - 161
(d8-Naphthalene)	75		25 - 125

Lab Sample ID: 116886-BS2
Matrix: BlankMatrix
Analysis Batch: O-45002

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: O-45002_P

Analyte			Spike Added	LCS DUP Result	LCS DUP Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1-Methylnaphthalene			0.5	0.458		µg/L		92	31 - 128	2	30
1-Methylphenanthrene			0.5	0.532		µg/L		106	66 - 127	1	30
2,3,5-Trimethylnaphthalene			0.5	0.548		µg/L		110	55 - 122	3	30
2,6-Dimethylnaphthalene			0.5	0.504		µg/L		101	48 - 120	2	30
2-Methylnaphthalene			0.5	0.462		µg/L		92	47 - 130	2	30
Acenaphthene			0.5	0.518		µg/L		104	53 - 131	1	30
Acenaphthylene			0.5	0.573		µg/L		115	43 - 140	5	30
Anthracene			0.5	0.534		µg/L		107	58 - 135	4	30
Benz[a]anthracene			0.5	0.479		µg/L		96	55 - 145	2	30
Benzo[a]pyrene			0.5	0.522		µg/L		104	51 - 143	13	30
Benzo[b]fluoranthene			0.5	0.412		µg/L		82	46 - 165	1	30
Benzo[e]pyrene			0.5	0.45		µg/L		90	42 - 152	3	30
Benzo[g,h,i]perylene			0.5	0.545		µg/L		109	63 - 133	1	30
Benzo[k]fluoranthene			0.5	0.482		µg/L		96	56 - 145	3	30
Biphenyl			0.5	0.481		µg/L		96	56 - 119	2	30
Chrysene			0.5	0.509		µg/L		102	56 - 141	2	30
Dibenz[a,h]anthracene			0.5	0.446		µg/L		89	55 - 150	6	30
Dibenzo[a,l]pyrene			0.5	0.27		µg/L		54	50 - 150	12	30
Dibenzothiophene			0.5	0.519		µg/L		104	46 - 126	1	30
Disalicylidenepropanediamine			50	36.9		µg/L		74	50 - 150	18	30
Fluoranthene			0.5	0.521		µg/L		104	60 - 146	2	30
Fluorene			0.5	0.517		µg/L		103	58 - 131	0	30
Indeno[1,2,3-cd]pyrene			0.5	0.624		µg/L		125	50 - 151	1	30
Naphthalene			0.5	0.407		µg/L		81	41 - 126	0	30
Perylene			0.5	0.478		µg/L		96	48 - 141	3	30
Phenanthrene			0.5	0.513		µg/L		103	67 - 127	2	30
Pyrene			0.5	0.512		µg/L		102	54 - 156	1	30

Surrogate	LCS DUP %Recovery	LCS DUP Qualifier	Limits
(d10-Acenaphthene)	96		27 - 133
(d10-Phenanthrene)	96		43 - 129
(d12-Chrysene)	109		52 - 144
(d12-Perylene)	94		36 - 161
(d8-Naphthalene)	75		25 - 125

GC VOA

Analysis Batch: 425058

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-87962-1	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	8015B GRO LL	
380-87962-2	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	Total/NA	Drinking Water	8015B GRO LL	
380-87962-3	TB:MOANALUA WELLS (331-223-TP202)	Total/NA	Water	8015B GRO LL	
380-87962-4	TB: HALAWA WELLS UNITS 1&2 (331-206-TP06	Total/NA	Water	8015B GRO LL	
MB 570-425058/6	Method Blank	Total/NA	Water	8015B GRO LL	
LCS 570-425058/4	Lab Control Sample	Total/NA	Water	8015B GRO LL	
LCSD 570-425058/5	Lab Control Sample Dup	Total/NA	Water	8015B GRO LL	
MRL 570-425058/3	Lab Control Sample	Total/NA	Water	8015B GRO LL	
380-87962-1 MS	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	8015B GRO LL	
380-87962-1 MSD	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	8015B GRO LL	

GC Semi VOA

Prep Batch: 423141

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-87962-1	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	3510C	
380-87962-2	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	Total/NA	Drinking Water	3510C	

Prep Batch: 426165

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MRL 570-426165/4-A	Lab Control Sample	Total/NA	Water	3510C	

Analysis Batch: 426743

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-87962-1	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	8015B	423141
380-87962-2	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	Total/NA	Drinking Water	8015B	423141
MRL 570-426165/4-A	Lab Control Sample	Total/NA	Water	8015B	426165

Subcontract

Analysis Batch: O-45002

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-87962-1	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	625 PAH Physis LL (EAL) + TICs	O-45002_P
380-87962-2	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	Total/NA	Drinking Water	625 PAH Physis LL (EAL) + TICs	O-45002_P
116886-B1	Method Blank	Total/NA	BlankMatrix	625 PAH Physis LL (EAL) + TICs	O-45002_P
116886-BS1	Lab Control Sample	Total/NA	BlankMatrix	625 PAH Physis LL (EAL) + TICs	O-45002_P
116886-BS2	Lab Control Sample Dup	Total/NA	BlankMatrix	625 PAH Physis LL (EAL) + TICs	O-45002_P

Prep Batch: O-45002_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-87962-1	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	EPA_625	
380-87962-2	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	Total/NA	Drinking Water	EPA_625	
116886-B1	Method Blank	Total/NA	BlankMatrix	EPA_625	
116886-BS1	Lab Control Sample	Total/NA	BlankMatrix	EPA_625	
116886-BS2	Lab Control Sample Dup	Total/NA	BlankMatrix	EPA_625	

Lab Chronicle

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

Job ID: 380-87962-2
SDG: 625, 8015

Client Sample ID: MOANALUA WELLS (331-223-TP202)

Lab Sample ID: 380-87962-1

Date Collected: 03/18/24 09:49
Date Received: 03/20/24 10:55

Matrix: Drinking Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8015B GRO LL		1	425058	A9VE	EET CAL 4	03/28/24 15:07
Total/NA	Prep	3510C			423141	JC	EET CAL 4	03/22/24 12:24
Total/NA	Analysis	8015B		1	426743	SP9M	EET CAL 4	04/03/24 04:51
Total/NA	Prep	EPA_625		1	O-45002_P			03/25/24 00:00
Total/NA	Analysis	625 PAH Physis LL (EAL) + TICs		1	O-45002	YC		04/07/24 06:31

Client Sample ID: HALAWA WELLS UNITS 1 & 2 (331-206-TP065)

Lab Sample ID: 380-87962-2

Date Collected: 03/18/24 10:22
Date Received: 03/20/24 10:55

Matrix: Drinking Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8015B GRO LL		1	425058	A9VE	EET CAL 4	03/28/24 15:31
Total/NA	Prep	3510C			423141	JC	EET CAL 4	03/22/24 12:24
Total/NA	Analysis	8015B		1	426743	SP9M	EET CAL 4	04/03/24 05:12
Total/NA	Prep	EPA_625		1	O-45002_P			03/25/24 00:00
Total/NA	Analysis	625 PAH Physis LL (EAL) + TICs		1	O-45002	YC		04/07/24 08:19

Client Sample ID: TB:MOANALUA WELLS (331-223-TP202)

Lab Sample ID: 380-87962-3

Date Collected: 03/18/24 09:49
Date Received: 03/20/24 10:55

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8015B GRO LL		1	425058	A9VE	EET CAL 4	03/28/24 13:31

Client Sample ID: TB: HALAWA WELLS UNITS 1&2 (331-206-TP065)

Lab Sample ID: 380-87962-4

Date Collected: 03/18/24 10:22
Date Received: 03/20/24 10:55

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8015B GRO LL		1	425058	A9VE	EET CAL 4	03/28/24 13:55

Laboratory References:

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

EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

Accreditation/Certification Summary

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

Job ID: 380-87962-2
SDG: 625, 8015

Laboratory: Eurofins Calscience

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0830	11-16-24
California	Los Angeles County Sanitation Districts	10109	08-01-24
California	State	3082	07-31-24
Kansas	NELAP	E-10420	08-01-24
Nevada	State	CA00111	07-31-24
Oregon	NELAP	4175	02-03-25
USDA	US Federal Programs	P330-22-00059	06-08-26
Washington	State	C916-18	10-11-24

Method Summary

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

Job ID: 380-87962-2
SDG: 625, 8015

Method	Method Description	Protocol	Laboratory
8015B GRO LL	Gasoline Range Organics - (GC)	SW846	EET CAL 4
8015B	Diesel Range Organics (DRO) (GC) Low Level	SW846	EET CAL 4
625	EPA 625 Base/Neutral and Acid Organics i	EPA	
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	EET CAL 4
5030C	Purge and Trap	SW846	EET CAL 4

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

EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

Sample Summary

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

Job ID: 380-87962-2
SDG: 625, 8015

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	PWSID Number
380-87962-1	MOANALUA WELLS (331-223-TP202)	Drinking Water	03/18/24 09:49	03/20/24 10:55	HI0000331
380-87962-2	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	Drinking Water	03/18/24 10:22	03/20/24 10:55	HI0000331
380-87962-3	TB:MOANALUA WELLS (331-223-TP202)	Water	03/18/24 09:49	03/20/24 10:55	
380-87962-4	TB: HALAWA WELLS UNITS 1&2 (331-206-TP065)	Water	03/18/24 10:22	03/20/24 10:55	

April 09, 2024

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

Project Name: RED-HILL Project # 38001111 Job # 380-87962-1
Physis Project ID: 1407003-492

Dear Rachelle,

Enclosed are the analytical results for samples submitted to PHYSIS Environmental Laboratories, Inc. (PHYSIS) on 3/21/2024. 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,
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Rachel Hansen
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PROJECT SAMPLE LIST

Eurofins Eaton Analytical

PHYSIS Project ID: 1407003-492

RED-HILL Project # 38001111 Job # 380-87962-1

Total Samples: 2

PHYSIS ID	Sample ID	Description	Date	Time	Matrix	Sample Type
116887	MOANALUA WELLS	331-223-TP202 (380-87962-1)	3/18/2024	9:49	Samplewater	Not Specified
116888	HALAWA WELLS UNITS 1 & 2	331-206-TP065 (380-87962-2)	3/18/2024	10:22	Samplewater	Not Specified

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ABBREVIATIONS and ACRONYMS

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

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QUALITY ASSURANCE SUMMARY

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

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

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

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

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

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

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

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

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

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.

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PHYSIS QUALIFIER CODES

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

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CASE NARRATIVE

QUALIFIER NOTES

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

ND

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

ANALYTICAL REPORT

PHYSIS Project ID: 1407003-492
Client: Eurofins Eaton Analytical
Project: RED-HILL Project # 38001111 Job # 380-87962-1

Base/Neutral Extractable Compounds

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 116887-R1	**MOANALUA WELLS 331-223-TP202**	**Matrix: Samplewater**					**Sampled: 18-Mar-24 9:49**			**Received: 21-Mar-24**	
Disalicylidenepropanediamine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-45002	25-Mar-24	07-Apr-24
Sample ID: 116888-R1	**HALAWA WELLS UNITS 1 & 2 331-2**	**Matrix: Samplewater**					**Sampled: 18-Mar-24 10:22**			**Received: 21-Mar-24**	
Disalicylidenepropanediamine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-45002	25-Mar-24	07-Apr-24

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 116887-R1	**MOANALUA WELLS 331-223-TP202**	**Matrix: Samplewater**					**Sampled:**	**18-Mar-24 9:49**		**Received:**	**21-Mar-24**
(d10-Acenaphthene)	EPA 625.1	% Recovery	80	1			Total		O-45002	25-Mar-24	07-Apr-24
(d10-Phenanthrene)	EPA 625.1	% Recovery	84	1			Total		O-45002	25-Mar-24	07-Apr-24
(d12-Chrysene)	EPA 625.1	% Recovery	97	1			Total		O-45002	25-Mar-24	07-Apr-24
(d12-Perylene)	EPA 625.1	% Recovery	95	1			Total		O-45002	25-Mar-24	07-Apr-24
(d8-Naphthalene)	EPA 625.1	% Recovery	60	1			Total		O-45002	25-Mar-24	07-Apr-24
1-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45002	25-Mar-24	07-Apr-24
1-Methylphenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45002	25-Mar-24	07-Apr-24
2,3,5-Trimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45002	25-Mar-24	07-Apr-24
2,6-Dimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45002	25-Mar-24	07-Apr-24
2-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45002	25-Mar-24	07-Apr-24
Acenaphthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45002	25-Mar-24	07-Apr-24
Acenaphthylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45002	25-Mar-24	07-Apr-24
Anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45002	25-Mar-24	07-Apr-24
Benz[a]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45002	25-Mar-24	07-Apr-24
Benzo[a]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45002	25-Mar-24	07-Apr-24
Benzo[b]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45002	25-Mar-24	07-Apr-24
Benzo[e]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45002	25-Mar-24	07-Apr-24
Benzo[g,h,i]perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45002	25-Mar-24	07-Apr-24
Benzo[k]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45002	25-Mar-24	07-Apr-24
Biphenyl	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45002	25-Mar-24	07-Apr-24
Chrysene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45002	25-Mar-24	07-Apr-24
Dibenz[a,h]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45002	25-Mar-24	07-Apr-24
Dibenzo[a,l]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45002	25-Mar-24	07-Apr-24
Dibenzothiophene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45002	25-Mar-24	07-Apr-24

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45002	25-Mar-24	07-Apr-24
Fluorene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45002	25-Mar-24	07-Apr-24
Indeno[1,2,3-cd]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45002	25-Mar-24	07-Apr-24
Naphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45002	25-Mar-24	07-Apr-24
Perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45002	25-Mar-24	07-Apr-24
Phenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45002	25-Mar-24	07-Apr-24
Pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45002	25-Mar-24	07-Apr-24

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 116888-R1	**HALAWA WELLS UNITS 1 & 2 331-2**	**Matrix: Samplewater**					**Sampled: 18-Mar-24 10:22**			**Received: 21-Mar-24**	
(d10-Acenaphthene)	EPA 625.1	% Recovery	79	1			Total		O-45002	25-Mar-24	07-Apr-24
(d10-Phenanthrene)	EPA 625.1	% Recovery	88	1			Total		O-45002	25-Mar-24	07-Apr-24
(d12-Chrysene)	EPA 625.1	% Recovery	103	1			Total		O-45002	25-Mar-24	07-Apr-24
(d12-Perylene)	EPA 625.1	% Recovery	98	1			Total		O-45002	25-Mar-24	07-Apr-24
(d8-Naphthalene)	EPA 625.1	% Recovery	59	1			Total		O-45002	25-Mar-24	07-Apr-24
1-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45002	25-Mar-24	07-Apr-24
1-Methylphenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45002	25-Mar-24	07-Apr-24
2,3,5-Trimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45002	25-Mar-24	07-Apr-24
2,6-Dimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45002	25-Mar-24	07-Apr-24
2-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45002	25-Mar-24	07-Apr-24
Acenaphthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45002	25-Mar-24	07-Apr-24
Acenaphthylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45002	25-Mar-24	07-Apr-24
Anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45002	25-Mar-24	07-Apr-24
Benz[a]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45002	25-Mar-24	07-Apr-24
Benzo[a]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45002	25-Mar-24	07-Apr-24
Benzo[b]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45002	25-Mar-24	07-Apr-24
Benzo[e]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45002	25-Mar-24	07-Apr-24
Benzo[g,h,i]perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45002	25-Mar-24	07-Apr-24
Benzo[k]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45002	25-Mar-24	07-Apr-24
Biphenyl	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45002	25-Mar-24	07-Apr-24
Chrysene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45002	25-Mar-24	07-Apr-24
Dibenz[a,h]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45002	25-Mar-24	07-Apr-24
Dibenzo[a,l]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45002	25-Mar-24	07-Apr-24
Dibenzothiophene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45002	25-Mar-24	07-Apr-24

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45002	25-Mar-24	07-Apr-24
Fluorene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45002	25-Mar-24	07-Apr-24
Indeno[1,2,3-cd]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45002	25-Mar-24	07-Apr-24
Naphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45002	25-Mar-24	07-Apr-24
Perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45002	25-Mar-24	07-Apr-24
Phenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45002	25-Mar-24	07-Apr-24
Pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-45002	25-Mar-24	07-Apr-24

QUALITY CONTROL REPORT

ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

PHYSIS Project ID: 1407003-492
Client: Eurofins Eaton Analytical
Project: RED-HILL Project # 38001111 Job # 380-87962-1

Base/Neutral Extractable Compounds QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODEc
Sample ID: 116886-B1	**QAQC Procedural Blank**					**Matrix: BlankMatrix**	**Sampled:**					**Received:**	
		Method: EPA 625.1				Batch ID: O-45002		Prepared: 25-Mar-24				Analyzed: 07-Apr-24	
Disalicylidenepropanediamin	Total	ND	1	0.05	0.1	µg/L							
Sample ID: 116886-BS1	**QAQC Procedural Blank**					**Matrix: BlankMatrix**	**Sampled:**					**Received:**	
		Method: EPA 625.1				Batch ID: O-45002		Prepared: 25-Mar-24				Analyzed: 07-Apr-24	
Disalicylidenepropanediamin	Total	31.1	1	0.05	0.1	µg/L	50	0	62	50 - 150% PASS			
Sample ID: 116886-BS2	**QAQC Procedural Blank**					**Matrix: BlankMatrix**	**Sampled:**					**Received:**	
		Method: EPA 625.1				Batch ID: O-45002		Prepared: 25-Mar-24				Analyzed: 07-Apr-24	
Disalicylidenepropanediamin	Total	36.9	1	0.05	0.1	µg/L	50	0	74	50 - 150% PASS	18	30 PASS	

Polynuclear Aromatic Hydrocarbons QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODEc
Sample ID: 116886-B1	**QAQC Procedural Blank**					**Matrix: BlankMatrix**	**Sampled:**					**Received:**	
		Method: EPA 625.1				Batch ID: O-45002		Prepared: 25-Mar-24				Analyzed: 07-Apr-24	
(d10-Acenaphthene)	Total	90	1			% Recovery	100	90	27 - 133%	PASS			
(d10-Phenanthrene)	Total	88	1			% Recovery	100	88	43 - 129%	PASS			
(d12-Chrysene)	Total	134	1			% Recovery	100	134	52 - 144%	PASS			
(d12-Perylene)	Total	98	1			% Recovery	100	98	36 - 161%	PASS			
(d8-Naphthalene)	Total	69	1			% Recovery	100	69	25 - 125%	PASS			
1-Methylnaphthalene	Total	ND	1	0.001	0.005	µg/L							
1-Methylphenanthrene	Total	ND	1	0.001	0.005	µg/L							
2,3,5-Trimethylnaphthalene	Total	ND	1	0.001	0.005	µg/L							
2,6-Dimethylnaphthalene	Total	ND	1	0.001	0.005	µg/L							
2-Methylnaphthalene	Total	ND	1	0.001	0.005	µg/L							
Acenaphthene	Total	ND	1	0.001	0.005	µg/L							
Acenaphthylene	Total	ND	1	0.001	0.005	µg/L							
Anthracene	Total	ND	1	0.001	0.005	µg/L							
Benz[a]anthracene	Total	ND	1	0.001	0.005	µg/L							
Benzo[a]pyrene	Total	ND	1	0.001	0.005	µg/L							
Benzo[b]fluoranthene	Total	ND	1	0.001	0.005	µg/L							
Benzo[e]pyrene	Total	ND	1	0.001	0.005	µg/L							
Benzo[g,h,i]perylene	Total	ND	1	0.001	0.005	µg/L							
Benzo[k]fluoranthene	Total	ND	1	0.001	0.005	µg/L							
Biphenyl	Total	ND	1	0.001	0.005	µg/L							
Chrysene	Total	ND	1	0.001	0.005	µg/L							
Dibenz[a,h]anthracene	Total	ND	1	0.001	0.005	µg/L							
Dibenzo[a,l]pyrene	Total	ND	1	0.001	0.005	µg/L							

Polynuclear Aromatic Hydrocarbons QUALITY CONTROL REPORT

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

Polynuclear Aromatic Hydrocarbons QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODEc
Sample ID: 116886-BS1	**QAQC Procedural Blank**					**Matrix: BlankMatrix**		**Sampled:**				**Received:**	
		Method: EPA 625.1				Batch ID: O-45002		Prepared: 25-Mar-24				Analyzed: 07-Apr-24	
(d10-Acenaphthene)	Total	95	1			% Recovery	100	0	95	27 - 133%		PASS	
(d10-Phenanthrene)	Total	95	1			% Recovery	100	0	95	43 - 129%		PASS	
(d12-Chrysene)	Total	108	1			% Recovery	100	0	108	52 - 144%		PASS	
(d12-Perylene)	Total	95	1			% Recovery	100	0	95	36 - 161%		PASS	
(d8-Naphthalene)	Total	75	1			% Recovery	100	0	75	25 - 125%		PASS	
1-Methylnaphthalene	Total	0.45	1	0.001	0.005	µg/L	0.5	0	90	31 - 128%		PASS	
1-Methylphenanthrene	Total	0.525	1	0.001	0.005	µg/L	0.5	0	105	66 - 127%		PASS	
2,3,5-Trimethylnaphthalene	Total	0.537	1	0.001	0.005	µg/L	0.5	0	107	55 - 122%		PASS	
2,6-Dimethylnaphthalene	Total	0.495	1	0.001	0.005	µg/L	0.5	0	99	48 - 120%		PASS	
2-Methylnaphthalene	Total	0.452	1	0.001	0.005	µg/L	0.5	0	90	47 - 130%		PASS	
Acenaphthene	Total	0.517	1	0.001	0.005	µg/L	0.5	0	103	53 - 131%		PASS	
Acenaphthylene	Total	0.546	1	0.001	0.005	µg/L	0.5	0	109	43 - 140%		PASS	
Anthracene	Total	0.513	1	0.001	0.005	µg/L	0.5	0	103	58 - 135%		PASS	
Benz[a]anthracene	Total	0.472	1	0.001	0.005	µg/L	0.5	0	94	55 - 145%		PASS	
Benzo[a]pyrene	Total	0.592	1	0.001	0.005	µg/L	0.5	0	118	51 - 143%		PASS	
Benzo[b]fluoranthene	Total	0.417	1	0.001	0.005	µg/L	0.5	0	83	46 - 165%		PASS	
Benzo[e]pyrene	Total	0.466	1	0.001	0.005	µg/L	0.5	0	93	42 - 152%		PASS	
Benzo[g,h,i]perylene	Total	0.541	1	0.001	0.005	µg/L	0.5	0	108	63 - 133%		PASS	
Benzo[k]fluoranthene	Total	0.467	1	0.001	0.005	µg/L	0.5	0	93	56 - 145%		PASS	
Biphenyl	Total	0.47	1	0.001	0.005	µg/L	0.5	0	94	56 - 119%		PASS	
Chrysene	Total	0.499	1	0.001	0.005	µg/L	0.5	0	100	56 - 141%		PASS	
Dibenz[a,h]anthracene	Total	0.419	1	0.001	0.005	µg/L	0.5	0	84	55 - 150%		PASS	
Dibenzo[a,l]pyrene	Total	0.307	1	0.001	0.005	µg/L	0.5	0	61	50 - 150%		PASS	

PHYSIS Project ID: 1407003-492
Client: Eurofins Eaton Analytical
Project: RED-HILL Project # 38001111 Job # 380-87962-1

Polynuclear Aromatic Hydrocarbons QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODEc
Dibenzothiophene	Total	0.514	1	0.001	0.005	µg/L	0.5	0	103	46 - 126%	PASS			
Fluoranthene	Total	0.509	1	0.001	0.005	µg/L	0.5	0	102	60 - 146%	PASS			
Fluorene	Total	0.515	1	0.001	0.005	µg/L	0.5	0	103	58 - 131%	PASS			
Indeno[1,2,3-cd]pyrene	Total	0.632	1	0.001	0.005	µg/L	0.5	0	126	50 - 151%	PASS			
Naphthalene	Total	0.406	1	0.001	0.005	µg/L	0.5	0	81	41 - 126%	PASS			
Perylene	Total	0.493	1	0.001	0.005	µg/L	0.5	0	99	48 - 141%	PASS			
Phenanthrene	Total	0.503	1	0.001	0.005	µg/L	0.5	0	101	67 - 127%	PASS			
Pyrene	Total	0.504	1	0.001	0.005	µg/L	0.5	0	101	54 - 156%	PASS			

Polynuclear Aromatic Hydrocarbons QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODEc
Sample ID: 116886-BS2	**QAQC Procedural Blank**					**Matrix: BlankMatrix**		**Sampled:**				**Received:**		
		Method: EPA 625.1				Batch ID: O-45002		Prepared: 25-Mar-24				Analyzed: 07-Apr-24		
(d10-Acenaphthene)	Total	96	1			% Recovery	100	0	96	27 - 133%	PASS	1	30	PASS
(d10-Phenanthrene)	Total	96	1			% Recovery	100	0	96	43 - 129%	PASS	1	30	PASS
(d12-Chrysene)	Total	109	1			% Recovery	100	0	109	52 - 144%	PASS	1	30	PASS
(d12-Perylene)	Total	94	1			% Recovery	100	0	94	36 - 161%	PASS	1	30	PASS
(d8-Naphthalene)	Total	75	1			% Recovery	100	0	75	25 - 125%	PASS	0	30	PASS
1-Methylnaphthalene	Total	0.458	1	0.001	0.005	µg/L	0.5	0	92	31 - 128%	PASS	2	30	PASS
1-Methylphenanthrene	Total	0.532	1	0.001	0.005	µg/L	0.5	0	106	66 - 127%	PASS	1	30	PASS
2,3,5-Trimethylnaphthalene	Total	0.548	1	0.001	0.005	µg/L	0.5	0	110	55 - 122%	PASS	3	30	PASS
2,6-Dimethylnaphthalene	Total	0.504	1	0.001	0.005	µg/L	0.5	0	101	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	2	30	PASS
Acenaphthene	Total	0.518	1	0.001	0.005	µg/L	0.5	0	104	53 - 131%	PASS	1	30	PASS
Acenaphthylene	Total	0.573	1	0.001	0.005	µg/L	0.5	0	115	43 - 140%	PASS	5	30	PASS
Anthracene	Total	0.534	1	0.001	0.005	µg/L	0.5	0	107	58 - 135%	PASS	4	30	PASS
Benz[a]anthracene	Total	0.479	1	0.001	0.005	µg/L	0.5	0	96	55 - 145%	PASS	2	30	PASS
Benzo[a]pyrene	Total	0.522	1	0.001	0.005	µg/L	0.5	0	104	51 - 143%	PASS	13	30	PASS
Benzo[b]fluoranthene	Total	0.412	1	0.001	0.005	µg/L	0.5	0	82	46 - 165%	PASS	1	30	PASS
Benzo[e]pyrene	Total	0.45	1	0.001	0.005	µg/L	0.5	0	90	42 - 152%	PASS	3	30	PASS
Benzo[g,h,i]perylene	Total	0.545	1	0.001	0.005	µg/L	0.5	0	109	63 - 133%	PASS	1	30	PASS
Benzo[k]fluoranthene	Total	0.482	1	0.001	0.005	µg/L	0.5	0	96	56 - 145%	PASS	3	30	PASS
Biphenyl	Total	0.481	1	0.001	0.005	µg/L	0.5	0	96	56 - 119%	PASS	2	30	PASS
Chrysene	Total	0.509	1	0.001	0.005	µg/L	0.5	0	102	56 - 141%	PASS	2	30	PASS
Dibenz[a,h]anthracene	Total	0.446	1	0.001	0.005	µg/L	0.5	0	89	55 - 150%	PASS	6	30	PASS
Dibenzo[a,l]pyrene	Total	0.27	1	0.001	0.005	µg/L	0.5	0	54	50 - 150%	PASS	12	30	PASS

PHYSIS Project ID: 1407003-492
Client: Eurofins Eaton Analytical
Project: RED-HILL Project # 38001111 Job # 380-87962-1

Polynuclear Aromatic Hydrocarbons QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS		QA CODEc
Dibenzothiophene	Total	0.519	1	0.001	0.005	µg/L	0.5	0	104	46 - 126%	PASS	1	30	PASS	
Fluoranthene	Total	0.521	1	0.001	0.005	µg/L	0.5	0	104	60 - 146%	PASS	2	30	PASS	
Fluorene	Total	0.517	1	0.001	0.005	µg/L	0.5	0	103	58 - 131%	PASS	0	30	PASS	
Indeno[1,2,3-cd]pyrene	Total	0.624	1	0.001	0.005	µg/L	0.5	0	125	50 - 151%	PASS	1	30	PASS	
Naphthalene	Total	0.407	1	0.001	0.005	µg/L	0.5	0	81	41 - 126%	PASS	0	30	PASS	
Perylene	Total	0.478	1	0.001	0.005	µg/L	0.5	0	96	48 - 141%	PASS	3	30	PASS	
Phenanthrene	Total	0.513	1	0.001	0.005	µg/L	0.5	0	103	67 - 127%	PASS	2	30	PASS	
Pyrene	Total	0.512	1	0.001	0.005	µg/L	0.5	0	102	54 - 156%	PASS	1	30	PASS	

TENTATIVELY IDENTIFIED COMPOUNDS

Sample ID: 116888

Retention Time	Area (% of total)	Concentration (ng/L)	Library/ID	Cas Number	Match Quality (%)
35.5129	3.7523	1111	Anthracene-D10-	1719-06-8	97
10.8448	3.5935	1064	Oxalic acid, cyclohexyl pentyl ester	1000309-30-6	90
10.0699	2.0699	613	Ethane, 1,1,2,2-tetrachloro-	79-34-5	97
12.2927	1.8329	543	2-(Chloromethyl)tetrahydropyran	18420-41-2	85
12.0309	1.7269	511	2-[2-(5-Norbornenyl)oxy]-tetrahydropyran	122685-23-8	81
12.9806	1.0899	323	2,6-Octadiene, 2,4-dimethyl-	63843-03-8	82
10.5988	1.0048	298	Hydroperoxide, 1-methylpentyl	24254-55-5	88
63.5732	0.6317	187	Heneicosane	629-94-7	96
11.2335	0.6116	181	Cyclopropane, 1,1,2,2-tetramethyl-	4127-47-3	87
66.4622	0.5618	166	Heptacosane	593-49-7	95
13.3301	0.5107	151	Pentane, 2,3,3,4-tetramethyl-	16747-38-9	81
14.3253	0.4592	136	Cyclohexane, (1,2-dimethylbutyl)-	61142-37-8	91
10.2021	0.4424	131	Propane, 2-methoxy-2-methyl-	1634-04-4	85
16.1721	0.3843	114	3-n-Propyl-2,4-pentanedione	1540-35-8	86
16.6575	0.3519	104	3-Isopropyl-5-methylhexan-2-one	1000202-22-7	85
18.1432	0.3421	101	1,3-Dioxolane	646-06-0	82
12.9940	0.3109	92	Undecane, 4,4-dimethyl-	17312-68-4	81

Concentration estimated using the response for Anthracene-d10

Sample ID: Lab Blank B1_45002

Retention Time	Area (% of total)	Concentration (ng/L)	Library/ID	Cas Number	Match Quality (%)
35.5192	3.5530	1111	Anthracene-D10-	1719-06-8	97
10.8453	2.9490	922	Oxalic acid, cyclohexyl pentyl ester	1000309-30-6	88
10.0687	2.9144	911	Ethane, 1,1,2,2-tetrachloro-	79-34-5	97
12.2974	1.8621	582	2-(Chloromethyl)tetrahydropyran	18420-41-2	85
12.0350	1.5568	487	2-[2-(5-Norbornenyl)oxy]-tetrahydropyran	122685-23-8	83
12.9839	1.0118	316	2,6-Octadiene, 2,4-dimethyl-	63843-03-8	85
10.4731	0.7968	249	Hydroperoxide, 1-ethylbutyl	24254-56-6	86
13.3182	0.7181	225	Octane, 4,5-diethyl-	1636-41-5	87
12.8986	0.5643	176	Cyclopropane, 2-chloro-1,1,3-trimethyl-	98485-99-5	82
11.1997	0.4146	130	Oxalic acid, cyclohexyl isobutyl ester	1000309-30-4	90
14.3284	0.3559	111	Cyclohexane, (1,2-dimethylbutyl)-	61142-37-8	90
11.2356	0.3121	98	1-Butene, 2,3,3-trimethyl-	594-56-9	90

Concentration estimated using the response for Anthracene-d10

Sample ID: 116887

Retention Time	Area (% of total)	Concentration (ng/L)	Library/ID	Cas Number	Match Quality (%)
35.5137	3.3500	1111	Anthracene-D10-	1719-06-8	97
10.8452	3.5600	1181	Oxalic acid, cyclohexyl pentyl ester	1000309-30-6	89
12.2918	1.7406	577	2-(Chloromethyl)tetrahydropyran	18420-41-2	86
10.0741	1.4915	495	Ethane, 1,1,2,2-tetrachloro-	79-34-5	96
10.5983	1.0475	347	Hydroperoxide, 1-methylpentyl	24254-55-5	88
12.9796	1.0173	337	2,6-Octadiene, 2,4-dimethyl-	63843-03-8	84
63.5760	0.6940	230	Heneicosane	629-94-7	96
11.2333	0.6388	212	Cyclopropane, 1,1,2,2-tetramethyl-	4127-47-3	88
13.3272	0.6133	203	Undecane, 4,4-dimethyl-	17312-68-4	82
14.3240	0.5913	196	Cyclohexane, (1,2-dimethylbutyl)-	61142-37-8	91
69.2600	0.4115	136	Heptacosane	593-49-7	94
12.9931	0.3637	121	Octane, 4,5-diethyl-	1636-41-5	83
16.1670	0.3080	102	Acetaldehyde, propylhydrazone	7422-88-0	91
16.5612	0.3012	100	2,4-Heptanedione, 6-methyl-	3002-23-1	83

Concentration estimated using the response for Anthracene-d10

CHAIN OF CUSTODY

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

Chain of Custody Record

eurofins | Environment Testing

4/15/2024

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Arada, Rachelle	Carrier Tracking No(s):	COC No: 380-114899.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Rachelle.Arada@et.eurofinsus.com	State of Origin: Hawaii	Page: Page 1 of 1
Company: Physis Environmental Laboratories		Accreditations Required (See note): State - Hawaii		Job #: 380-87962-1
Address: 1904 Wright Circle, ,	Due Date Requested: 4/8/2024			
City: Anaheim	TAT Requested (days):			
State, Zip: CA, 92806				
Phone:	PO #:			
Email:	WO #:			
Project Name: RED-HILL	Project #: 38001111			
Site: Honolulu BWS Sites	SSOW#:			

Analysis Requested

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

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (625 PAH Physis LL (EAL) + TICs)/ 625 PAH Physis LL (EAL) + TICs	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MOANALUA WELLS (331-223-TP202) (380-87962-1)	3/18/24	09:49 Hawaiian		Water			X	2	See Attached Instructions
HALAWA WELLS UNITS 1 & 2 (331-206-TP065) (380-87962-2)	3/18/24	10:22 Hawaiian		Water			X	2	See Attached Instructions

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

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

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

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	[signature]	3/21/24 1137	GEA	[signature]	3/21/24 1137	PHI/SLS
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

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

Ver: 06/08/2021

PHYSIS
TERRA FAUNA FLORA AQUA AURA
ENVIRONMENTAL LABORATORIES, INC.
Innovative Solutions for Nature

PHYSIS
ENVIRONMENTAL LABORATORIES, INC.
Innovative Solutions for Nature

Project Iteration ID: 1407003-492
Client Name: Eurofins Eaton Analytical
Project Name: RED-HILL Project # 38001111 Job # 380-87962-1
COC Page Number: 2 of 2
Bottle Label Color: NA

Sample Receipt Summary

Receiving Info

1. Initials Received By: CR
2. Date Received: 3/27/24
3. Time Received: 1137
4. Client Name: Eurofins
5. Courier Information: (Please circle)
   - Client
   - UPS
   - Area Fast
   - DRS
   - FedEx
   - GSO/GLS
   - Ontrac
   - PAMS
   - PHYSIS Driver:
     i. Start Time:_____
     ii. End Time:_____
     iii. Total Mileage:_____
     iv. Number of Pickups:_____
6. Container Information: (Please put the # of containers or circle none)
   - 1 Cooler
   - __ Styrofoam Cooler
   - ____ Boxes
   - None
   - ___ Carboy(s)
   - __ Carboy Trash Can(s)
   - ____ Carboy Cap(s)
   - Other _____
7. What type of ice was used: (Please circle any that apply)
   - Wet Ice
   - Blue Ice
   - Dry Ice
   - Water
   - None
8. Randomly Selected Samples Temperature (°C): 0.5 Used I/R Thermometer # ____

Inspection Info

1. Initials Inspected By: CR

Sample Integrity Upon Receipt:

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

Notes:

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

Chain of Custody Record

eurofins

Client Information	Sampler: bailey	Lab PM: Arada Rachelle	Carrier Tracking No(s):	COC No: 380-27984-2757 2
Client Contact: Dr Ron Fenstermacher	Phone: 808-748-5840	E Mail: Rachelle.Arada@et.eurofinsus.com	State of Origin:	Page: Page 1 of 2
Company: City & County of Honolulu	PWSID:			Job #:
Address: 630 South Beretania Street Chemistry Lab	Due Date Requested:			
City: Honolulu	TAT Requested (days):			
State, Zip: HI, 96843	Compliance Project: Δ No			
Phone: 808-748-5091 (tel)	PO #: C20525101 exp 05312023			
Email: rfenstemacher@hbws.org	WO #:			
Project Name: RED-HILL/HBWS sites Event Desc RUSH Weekly Red Hill	Project #: 38001111			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

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

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUBCONTRACT - 625 PAH Physis LL (EAL) + TICs	8015B_GRO_LL - (MOD) GRO	8015B_DRO_LL_CS - HNL Ranges C10-C24/C24-C36/C8 C18	525.2_PREC - (MOD) 525plus PLUS TICs	537.1_DW_PREC - 537.1 Full List	533 - All Analytes	Total Number of containers	Special Instructions/Note:
			Preservation Code				R	A	Q		Y	N		
MOANALUA WELLS	18-Mar-2024	0949	G	Water			2	4	2	2				chlorinated
HALAWA WELLS UNITS 1&2 D1	18-Mar-2024	1022	G	Water			2	4	2	2				chlorinated
TB MOANALUA WELLS	18-Mar-2024	0949		Water				2						
TB HALAWA WELLS UNITS 1&2	18-Mar-2024	1022		Water				2						

380-87962 COC

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

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

Deliverable Requested I II III IV Other (specify)

Special Instructions/QC Requirements

① 7756 0792 4515

Empty Kit Relinquished by | Date | Time | Method of Shipment: FED EX ② 7756 0792 4526

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
[redacted]	19March2024 1400	HBWS	G REITNER	03/20/2024 10 55	EEAP
Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Relinquished by	Date/Time	Company	Received by	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No

Cooler Temperature(s) °C and Other Remarks: (631A) ① 2.0°-0.1°=1.9° ② 3.4°-0.1°=3.3° GEL FROZEN

Ver: 01/16/2019

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

Chain of Custody Record

eurofins

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

Analysis Requested

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

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUBCONTRACT - 625 PAH Physis LL (EAL) + TICs	8015B_GRO_LL - (MOD) GRO	8015B_DRO_LL_CS - HNL Ranges C10-C24/C24-C36/C8-C18	525.2_PREC - (MOD) 525plus PLUS TICs	537.1_DW_PREC - 537.1 Full List	533 - All Analytes	Total Number of containers	Special Instructions/Note:
			Preservation Code				R	A	Q		Y	N		
MOANALUA WELLS	18-Mar-2024	0949	G	Water							3	3		chlorinated
HALAWA WELLS UNITS 1&2 D1	18-Mar-2024	1022	G	Water							3	3		chlorinated
FB MOANALUA WELLS	18-Mar-2024	0949		Water							1	1		
FB HALAWA WELLS UNITS 1&2	18-Mar-2024	1022		Water							1	1		

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

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

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

Special Instructions/QC Requirements: ① 7756 0792 4515

Empty Kit Relinquished by: | Date: | Time: | Method of Shipment: FEDEX ② 7756 0792 4526

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Bailey	19 March 2024 1400	HBWS	E REITNER	03/20/2024 10:55	EEAP
Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Relinquished by	Date/Time	Company	Received by	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No:

Cooler Temperature(s) °C and Other Remarks: (631A) ① 20° -0.1° = 19° ② 34° -0.1° = 33° GEL-FROZEN

Ver. 01/16/2019

Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-87962-2
SDG Number: 625, 8015

Login Number: 87962
List Number: 1
Creator: Ngo, Theodore

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	

Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-87962-2
SDG Number: 625, 8015

Login Number: 87962
List Number: 2
Creator: Khana, Piyush

List Source: Eurofins Calscience
List Creation: 03/21/24 03:27 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.6
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
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	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	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	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	