

ANALYTICAL REPORT

PREPARED FOR

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

Generated 11/22/2023 8:30:39 AM

JOB DESCRIPTION

RED-HILL
RUSH Weekly Red Hill

JOB NUMBER

380-61972-1

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



Generated
11/22/2023 8:30:39 AM

Authorized for release by
Rachelle Arada, Project Manager
Rachelle.Arada@et.eurofinsus.com
(626)386-1106



Table of Contents

Cover Page	1
Table of Contents	3
Definitions/Glossary	4
Case Narrative	5
Detection Summary	6
Client Sample Results	7
Action Limit Summary	13
Surrogate Summary	14
QC Sample Results	17
QC Association Summary	32
Lab Chronicle	34
Certification Summary	35
Method Summary	37
Sample Summary	38
Subcontract Data	39
Chain of Custody	95
Receipt Checklists	101

Definitions/Glossary

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

Job ID: 380-61972-1

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
^3+	Reporting Limit Check Standard is outside acceptance limits, high biased
F1	MS and/or MSD recovery exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS Semi VOA TICs

Qualifier	Qualifier Description
J	Indicates an Estimated Value for TICs
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

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: 380-61972-1

Job ID: 380-61972-1

Laboratory: Eurofins Eaton Analytical Pomona

Narrative

Job Narrative 380-61972-1

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 9/7/2023 10:40 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 4 coolers at receipt time were 0.9°C, 1.0°C, 1.9°C and 2.4°C

Subcontract Work

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

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

GC/MS Semi VOA

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

Job ID: 380-61972-1

Client Sample ID: MOANALUA WELLS Pump 2
PWSID Number: HI0000331

Lab Sample ID: 380-61972-1

No Detections.

Client Sample ID: HALAWA WELLS UNITS 1&2 Pump 1
PWSID Number: HI0000331

Lab Sample ID: 380-61972-2

No Detections.

Client Sample ID: FB MOANALUA WELLS

Lab Sample ID: 380-61972-3

No Detections.

Client Sample ID: FB HALAWA WELLS UNITS 1&2

Lab Sample ID: 380-61972-4

No Detections.

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16
- 17

This Detection Summary does not include radiochemical test results.

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-61972-1

Client Sample ID: MOANALUA WELLS Pump 2

Lab Sample ID: 380-61972-1

Date Collected: 09/05/23 12:00

Matrix: Drinking Water

Date Received: 09/07/23 10:40

PWSID Number: HI0000331

Method: EPA 525.2 - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	<0.099		0.099	ug/L		09/07/23 20:06	09/08/23 20:04	1
2,4'-DDD	<0.099		0.099	ug/L		09/07/23 20:06	09/08/23 20:04	1
2,4'-DDE	<0.099		0.099	ug/L		09/07/23 20:06	09/08/23 20:04	1
2,4'-DDT	<0.099		0.099	ug/L		09/07/23 20:06	09/08/23 20:04	1
2,4-Dinitrotoluene	<0.099		0.099	ug/L		09/07/23 20:06	09/08/23 20:04	1
2,6-Dinitrotoluene	<0.099		0.099	ug/L		09/07/23 20:06	09/08/23 20:04	1
2-Methylnaphthalene	<0.099		0.099	ug/L		09/07/23 20:06	09/08/23 20:04	1
4,4'-DDD	<0.099		0.099	ug/L		09/07/23 20:06	09/08/23 20:04	1
4,4'-DDE	<0.099		0.099	ug/L		09/07/23 20:06	09/08/23 20:04	1
4,4'-DDT	<0.099		0.099	ug/L		09/07/23 20:06	09/08/23 20:04	1
Acenaphthene	<0.099		0.099	ug/L		09/07/23 20:06	09/08/23 20:04	1
Acenaphthylene	<0.099		0.099	ug/L		09/07/23 20:06	09/08/23 20:04	1
Acetochlor	<0.099		0.099	ug/L		09/07/23 20:06	09/08/23 20:04	1
Alachlor	<0.049		0.049	ug/L		09/07/23 20:06	09/08/23 20:04	1
alpha-BHC	<0.099		0.099	ug/L		09/07/23 20:06	09/08/23 20:04	1
alpha-Chlordane	<0.049		0.049	ug/L		09/07/23 20:06	09/08/23 20:04	1
Anthracene	<0.020		0.020	ug/L		09/07/23 20:06	09/08/23 20:04	1
Atrazine	<0.049		0.049	ug/L		09/07/23 20:06	09/08/23 20:04	1
Benz(a)anthracene	<0.049		0.049	ug/L		09/07/23 20:06	09/08/23 20:04	1
Benzo[a]pyrene	<0.020		0.020	ug/L		09/07/23 20:06	09/08/23 20:04	1
Benzo[b]fluoranthene	<0.020		0.020	ug/L		09/07/23 20:06	09/08/23 20:04	1
Benzo[g,h,i]perylene	<0.049		0.049	ug/L		09/07/23 20:06	09/08/23 20:04	1
Benzo[k]fluoranthene	<0.020		0.020	ug/L		09/07/23 20:06	09/08/23 20:04	1
beta-BHC	<0.099		0.099	ug/L		09/07/23 20:06	09/08/23 20:04	1
Bis(2-ethylhexyl) phthalate	<0.59		0.59	ug/L		09/07/23 20:06	09/08/23 20:04	1
Bromacil	<0.099		0.099	ug/L		09/07/23 20:06	09/08/23 20:04	1
Butachlor	<0.049	^3+	0.049	ug/L		09/07/23 20:06	09/08/23 20:04	1
Butylbenzylphthalate	<0.49		0.49	ug/L		09/07/23 20:06	09/08/23 20:04	1
Chlorobenzilate	<0.099		0.099	ug/L		09/07/23 20:06	09/08/23 20:04	1
Chloroneb	<0.099		0.099	ug/L		09/07/23 20:06	09/08/23 20:04	1
Chlorothalonil (Draconil, Bravo)	<0.099	^3+	0.099	ug/L		09/07/23 20:06	09/08/23 20:04	1
Chlorpyrifos	<0.049		0.049	ug/L		09/07/23 20:06	09/08/23 20:04	1
Chrysene	<0.020		0.020	ug/L		09/07/23 20:06	09/08/23 20:04	1
delta-BHC	<0.099		0.099	ug/L		09/07/23 20:06	09/08/23 20:04	1
Di(2-ethylhexyl)adipate	<0.59	^3+	0.59	ug/L		09/07/23 20:06	09/08/23 20:04	1
Dibenz(a,h)anthracene	<0.049		0.049	ug/L		09/07/23 20:06	09/08/23 20:04	1
Diclorvos (DDVP)	<0.049		0.049	ug/L		09/07/23 20:06	09/08/23 20:04	1
Dieldrin	<0.20		0.20	ug/L		09/07/23 20:06	09/08/23 20:04	1
Diethylphthalate	<0.49		0.49	ug/L		09/07/23 20:06	09/08/23 20:04	1
Dimethylphthalate	<0.49		0.49	ug/L		09/07/23 20:06	09/08/23 20:04	1
Di-n-butyl phthalate	<0.99		0.99	ug/L		09/07/23 20:06	09/08/23 20:04	1
Di-n-octyl phthalate	<0.099		0.099	ug/L		09/07/23 20:06	09/08/23 20:04	1
Endosulfan I (Alpha)	<0.099		0.099	ug/L		09/07/23 20:06	09/08/23 20:04	1
Endosulfan II (Beta)	<0.099		0.099	ug/L		09/07/23 20:06	09/08/23 20:04	1
Endosulfan sulfate	<0.099		0.099	ug/L		09/07/23 20:06	09/08/23 20:04	1
Endrin	<0.099		0.099	ug/L		09/07/23 20:06	09/08/23 20:04	1
Endrin aldehyde	<0.099		0.099	ug/L		09/07/23 20:06	09/08/23 20:04	1
EPTC	<0.099		0.099	ug/L		09/07/23 20:06	09/08/23 20:04	1
Fluoranthene	<0.099		0.099	ug/L		09/07/23 20:06	09/08/23 20:04	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-61972-1

Client Sample ID: MOANALUA WELLS Pump 2

Lab Sample ID: 380-61972-1

Date Collected: 09/05/23 12:00

Matrix: Drinking Water

Date Received: 09/07/23 10:40

PWSID Number: HI0000331

Method: EPA 525.2 - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	<0.049		0.049	ug/L		09/07/23 20:06	09/08/23 20:04	1
gamma-Chlordane	<0.049		0.049	ug/L		09/07/23 20:06	09/08/23 20:04	1
Heptachlor	<0.040		0.040	ug/L		09/07/23 20:06	09/08/23 20:04	1
Heptachlor epoxide (isomer B)	<0.049		0.049	ug/L		09/07/23 20:06	09/08/23 20:04	1
Hexachlorobenzene	<0.049		0.049	ug/L		09/07/23 20:06	09/08/23 20:04	1
Hexachlorocyclopentadiene	<0.049		0.049	ug/L		09/07/23 20:06	09/08/23 20:04	1
Indeno[1,2,3-cd]pyrene	<0.049		0.049	ug/L		09/07/23 20:06	09/08/23 20:04	1
Isophorone	<0.49		0.49	ug/L		09/07/23 20:06	09/08/23 20:04	1
Lindane	<0.040		0.040	ug/L		09/07/23 20:06	09/08/23 20:04	1
Malathion	<0.099		0.099	ug/L		09/07/23 20:06	09/08/23 20:04	1
Methoxychlor	<0.099		0.099	ug/L		09/07/23 20:06	09/08/23 20:04	1
Metolachlor	<0.049		0.049	ug/L		09/07/23 20:06	09/08/23 20:04	1
Molinate	<0.099		0.099	ug/L		09/07/23 20:06	09/08/23 20:04	1
Naphthalene	<0.30		0.30	ug/L		09/07/23 20:06	09/08/23 20:04	1
Parathion	<0.099	*+	0.099	ug/L		09/07/23 20:06	09/08/23 20:04	1
Pendimethalin (Penoxaline)	<0.099		0.099	ug/L		09/07/23 20:06	09/08/23 20:04	1
Phenanthrene	<0.040		0.040	ug/L		09/07/23 20:06	09/08/23 20:04	1
Propachlor	<0.049		0.049	ug/L		09/07/23 20:06	09/08/23 20:04	1
Pyrene	<0.049		0.049	ug/L		09/07/23 20:06	09/08/23 20:04	1
Simazine	<0.049		0.049	ug/L		09/07/23 20:06	09/08/23 20:04	1
Terbacil	<0.099	^3+	0.099	ug/L		09/07/23 20:06	09/08/23 20:04	1
Terbutylazine	<0.099		0.099	ug/L		09/07/23 20:06	09/08/23 20:04	1
Thiobencarb	<0.20		0.20	ug/L		09/07/23 20:06	09/08/23 20:04	1
Total Permethrin (mixed isomers)	<0.20		0.20	ug/L		09/07/23 20:06	09/08/23 20:04	1
trans-Nonachlor	<0.049		0.049	ug/L		09/07/23 20:06	09/08/23 20:04	1
Trifluralin	<0.099		0.099	ug/L		09/07/23 20:06	09/08/23 20:04	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L			N/A	09/07/23 20:06	09/08/23 20:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Nitro-m-xylene	99		70 - 130	09/07/23 20:06	09/08/23 20:04	1
Perylene-d12	101		70 - 130	09/07/23 20:06	09/08/23 20:04	1
Triphenylphosphate	105		70 - 130	09/07/23 20:06	09/08/23 20:04	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		09/12/23 00:00	10/14/23 23:21	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		09/12/23 00:00	10/14/23 23:21	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		09/12/23 00:00	10/14/23 23:21	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		09/12/23 00:00	10/14/23 23:21	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		09/12/23 00:00	10/14/23 23:21	1
Acenaphthene	ND		0.005	0.001	µg/L		09/12/23 00:00	10/14/23 23:21	1
Acenaphthylene	ND		0.005	0.001	µg/L		09/12/23 00:00	10/14/23 23:21	1
Anthracene	ND		0.005	0.001	µg/L		09/12/23 00:00	10/14/23 23:21	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		09/12/23 00:00	10/14/23 23:21	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		09/12/23 00:00	10/14/23 23:21	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		09/12/23 00:00	10/14/23 23:21	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		09/12/23 00:00	10/14/23 23:21	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		09/12/23 00:00	10/14/23 23:21	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-61972-1

Client Sample ID: MOANALUA WELLS Pump 2

Lab Sample ID: 380-61972-1

Date Collected: 09/05/23 12:00

Matrix: Drinking Water

Date Received: 09/07/23 10:40

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		09/12/23 00:00	10/14/23 23:21	1
Biphenyl	ND		0.005	0.001	µg/L		09/12/23 00:00	10/14/23 23:21	1
Chrysene	ND		0.005	0.001	µg/L		09/12/23 00:00	10/14/23 23:21	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		09/12/23 00:00	10/14/23 23:21	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		09/12/23 00:00	10/14/23 23:21	1
Dibenzothiophene	ND		0.005	0.001	µg/L		09/12/23 00:00	10/14/23 23:21	1
Disalicylidenepropanediamine	ND		0.1	0.05	µg/L		09/12/23 00:00	10/14/23 23:21	1
Fluoranthene	ND		0.005	0.001	µg/L		09/12/23 00:00	10/14/23 23:21	1
Fluorene	ND		0.005	0.001	µg/L		09/12/23 00:00	10/14/23 23:21	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		09/12/23 00:00	10/14/23 23:21	1
Naphthalene	ND		0.005	0.001	µg/L		09/12/23 00:00	10/14/23 23:21	1
Perylene	ND		0.005	0.001	µg/L		09/12/23 00:00	10/14/23 23:21	1
Phenanthrene	ND		0.005	0.001	µg/L		09/12/23 00:00	10/14/23 23:21	1
Pyrene	ND		0.005	0.001	µg/L		09/12/23 00:00	10/14/23 23:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
(d10-Acenaphthene)	83		27 - 133	09/12/23 00:00	10/14/23 23:21	1
(d10-Phenanthrene)	90		43 - 129	09/12/23 00:00	10/14/23 23:21	1
(d12-Chrysene)	90		52 - 144	09/12/23 00:00	10/14/23 23:21	1
(d12-Perylene)	90		36 - 161	09/12/23 00:00	10/14/23 23:21	1
(d8-Naphthalene)	76		25 - 125	09/12/23 00:00	10/14/23 23:21	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			09/11/23 18:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE	79		60 - 140		09/11/23 18:10	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DIESEL	ND	U	0.026		mg/L			09/16/23 06:30	1
MOTOR OIL	ND	U	0.052		mg/L			09/16/23 06:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOBENZENE	81		60 - 130		09/16/23 06:30	1
HEXACOSANE	99		60 - 130		09/16/23 06:30	1

Client Sample ID: HALAWA WELLS UNITS 1&2 Pump 1

Lab Sample ID: 380-61972-2

Date Collected: 09/05/23 10:15

Matrix: Drinking Water

Date Received: 09/07/23 10:40

PWSID Number: HI0000331

Method: EPA 525.2 - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	<0.098		0.098	ug/L		09/07/23 20:06	09/08/23 20:24	1
2,4'-DDD	<0.098		0.098	ug/L		09/07/23 20:06	09/08/23 20:24	1
2,4'-DDE	<0.098		0.098	ug/L		09/07/23 20:06	09/08/23 20:24	1
2,4'-DDT	<0.098		0.098	ug/L		09/07/23 20:06	09/08/23 20:24	1
2,4-Dinitrotoluene	<0.098		0.098	ug/L		09/07/23 20:06	09/08/23 20:24	1
2,6-Dinitrotoluene	<0.098		0.098	ug/L		09/07/23 20:06	09/08/23 20:24	1
2-Methylnaphthalene	<0.098		0.098	ug/L		09/07/23 20:06	09/08/23 20:24	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-61972-1

Client Sample ID: HALAWA WELLS UNITS 1&2 Pump 1

Lab Sample ID: 380-61972-2

Date Collected: 09/05/23 10:15

Matrix: Drinking Water

Date Received: 09/07/23 10:40

PWSID Number: HI0000331

Method: EPA 525.2 - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	<0.098		0.098	ug/L		09/07/23 20:06	09/08/23 20:24	1
4,4'-DDE	<0.098		0.098	ug/L		09/07/23 20:06	09/08/23 20:24	1
4,4'-DDT	<0.098		0.098	ug/L		09/07/23 20:06	09/08/23 20:24	1
Acenaphthene	<0.098		0.098	ug/L		09/07/23 20:06	09/08/23 20:24	1
Acenaphthylene	<0.098		0.098	ug/L		09/07/23 20:06	09/08/23 20:24	1
Acetochlor	<0.098		0.098	ug/L		09/07/23 20:06	09/08/23 20:24	1
Alachlor	<0.049		0.049	ug/L		09/07/23 20:06	09/08/23 20:24	1
alpha-BHC	<0.098		0.098	ug/L		09/07/23 20:06	09/08/23 20:24	1
alpha-Chlordane	<0.049		0.049	ug/L		09/07/23 20:06	09/08/23 20:24	1
Anthracene	<0.020		0.020	ug/L		09/07/23 20:06	09/08/23 20:24	1
Atrazine	<0.049		0.049	ug/L		09/07/23 20:06	09/08/23 20:24	1
Benz(a)anthracene	<0.049		0.049	ug/L		09/07/23 20:06	09/08/23 20:24	1
Benzo[a]pyrene	<0.020		0.020	ug/L		09/07/23 20:06	09/08/23 20:24	1
Benzo[b]fluoranthene	<0.020		0.020	ug/L		09/07/23 20:06	09/08/23 20:24	1
Benzo[g,h,i]perylene	<0.049		0.049	ug/L		09/07/23 20:06	09/08/23 20:24	1
Benzo[k]fluoranthene	<0.020		0.020	ug/L		09/07/23 20:06	09/08/23 20:24	1
beta-BHC	<0.098		0.098	ug/L		09/07/23 20:06	09/08/23 20:24	1
Bis(2-ethylhexyl) phthalate	<0.59		0.59	ug/L		09/07/23 20:06	09/08/23 20:24	1
Bromacil	<0.098		0.098	ug/L		09/07/23 20:06	09/08/23 20:24	1
Butachlor	<0.049	^3+	0.049	ug/L		09/07/23 20:06	09/08/23 20:24	1
Butylbenzylphthalate	<0.49		0.49	ug/L		09/07/23 20:06	09/08/23 20:24	1
Chlorobenzilate	<0.098		0.098	ug/L		09/07/23 20:06	09/08/23 20:24	1
Chloroneb	<0.098		0.098	ug/L		09/07/23 20:06	09/08/23 20:24	1
Chlorothalonil (Draconil, Bravo)	<0.098	^3+	0.098	ug/L		09/07/23 20:06	09/08/23 20:24	1
Chlorpyrifos	<0.049		0.049	ug/L		09/07/23 20:06	09/08/23 20:24	1
Chrysene	<0.020		0.020	ug/L		09/07/23 20:06	09/08/23 20:24	1
delta-BHC	<0.098		0.098	ug/L		09/07/23 20:06	09/08/23 20:24	1
Di(2-ethylhexyl)adipate	<0.59	^3+	0.59	ug/L		09/07/23 20:06	09/08/23 20:24	1
Dibenz(a,h)anthracene	<0.049		0.049	ug/L		09/07/23 20:06	09/08/23 20:24	1
Diclorvos (DDVP)	<0.049		0.049	ug/L		09/07/23 20:06	09/08/23 20:24	1
Dieldrin	<0.20		0.20	ug/L		09/07/23 20:06	09/08/23 20:24	1
Diethylphthalate	<0.49		0.49	ug/L		09/07/23 20:06	09/08/23 20:24	1
Dimethylphthalate	<0.49		0.49	ug/L		09/07/23 20:06	09/08/23 20:24	1
Di-n-butyl phthalate	<0.98		0.98	ug/L		09/07/23 20:06	09/08/23 20:24	1
Di-n-octyl phthalate	<0.098		0.098	ug/L		09/07/23 20:06	09/08/23 20:24	1
Endosulfan I (Alpha)	<0.098		0.098	ug/L		09/07/23 20:06	09/08/23 20:24	1
Endosulfan II (Beta)	<0.098		0.098	ug/L		09/07/23 20:06	09/08/23 20:24	1
Endosulfan sulfate	<0.098		0.098	ug/L		09/07/23 20:06	09/08/23 20:24	1
Endrin	<0.098		0.098	ug/L		09/07/23 20:06	09/08/23 20:24	1
Endrin aldehyde	<0.098		0.098	ug/L		09/07/23 20:06	09/08/23 20:24	1
EPTC	<0.098		0.098	ug/L		09/07/23 20:06	09/08/23 20:24	1
Fluoranthene	<0.098		0.098	ug/L		09/07/23 20:06	09/08/23 20:24	1
Fluorene	<0.049		0.049	ug/L		09/07/23 20:06	09/08/23 20:24	1
gamma-Chlordane	<0.049		0.049	ug/L		09/07/23 20:06	09/08/23 20:24	1
Heptachlor	<0.039		0.039	ug/L		09/07/23 20:06	09/08/23 20:24	1
Heptachlor epoxide (isomer B)	<0.049		0.049	ug/L		09/07/23 20:06	09/08/23 20:24	1
Hexachlorobenzene	<0.049		0.049	ug/L		09/07/23 20:06	09/08/23 20:24	1
Hexachlorocyclopentadiene	<0.049		0.049	ug/L		09/07/23 20:06	09/08/23 20:24	1
Indeno[1,2,3-cd]pyrene	<0.049		0.049	ug/L		09/07/23 20:06	09/08/23 20:24	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-61972-1

Client Sample ID: HALAWA WELLS UNITS 1&2 Pump 1

Lab Sample ID: 380-61972-2

Date Collected: 09/05/23 10:15

Matrix: Drinking Water

Date Received: 09/07/23 10:40

PWSID Number: HI0000331

Method: EPA 525.2 - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Isophorone	<0.49		0.49	ug/L		09/07/23 20:06	09/08/23 20:24	1
Lindane	<0.039		0.039	ug/L		09/07/23 20:06	09/08/23 20:24	1
Malathion	<0.098		0.098	ug/L		09/07/23 20:06	09/08/23 20:24	1
Methoxychlor	<0.098		0.098	ug/L		09/07/23 20:06	09/08/23 20:24	1
Metolachlor	<0.049		0.049	ug/L		09/07/23 20:06	09/08/23 20:24	1
Molinate	<0.098		0.098	ug/L		09/07/23 20:06	09/08/23 20:24	1
Naphthalene	<0.29		0.29	ug/L		09/07/23 20:06	09/08/23 20:24	1
Parathion	<0.098	*+	0.098	ug/L		09/07/23 20:06	09/08/23 20:24	1
Pendimethalin (Penoxaline)	<0.098		0.098	ug/L		09/07/23 20:06	09/08/23 20:24	1
Phenanthrene	<0.039		0.039	ug/L		09/07/23 20:06	09/08/23 20:24	1
Propachlor	<0.049		0.049	ug/L		09/07/23 20:06	09/08/23 20:24	1
Pyrene	<0.049		0.049	ug/L		09/07/23 20:06	09/08/23 20:24	1
Simazine	<0.049		0.049	ug/L		09/07/23 20:06	09/08/23 20:24	1
Terbacil	<0.098	^3+	0.098	ug/L		09/07/23 20:06	09/08/23 20:24	1
Terbutylazine	<0.098		0.098	ug/L		09/07/23 20:06	09/08/23 20:24	1
Thiobencarb	<0.20		0.20	ug/L		09/07/23 20:06	09/08/23 20:24	1
Total Permethrin (mixed isomers)	<0.20		0.20	ug/L		09/07/23 20:06	09/08/23 20:24	1
trans-Nonachlor	<0.049		0.049	ug/L		09/07/23 20:06	09/08/23 20:24	1
Trifluralin	<0.098		0.098	ug/L		09/07/23 20:06	09/08/23 20:24	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L			N/A	09/07/23 20:06	09/08/23 20:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Nitro-m-xylene	97		70 - 130	09/07/23 20:06	09/08/23 20:24	1
Perylene-d12	99		70 - 130	09/07/23 20:06	09/08/23 20:24	1
Triphenylphosphate	104		70 - 130	09/07/23 20:06	09/08/23 20:24	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		09/12/23 00:00	10/15/23 01:07	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		09/12/23 00:00	10/15/23 01:07	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		09/12/23 00:00	10/15/23 01:07	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		09/12/23 00:00	10/15/23 01:07	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		09/12/23 00:00	10/15/23 01:07	1
Acenaphthene	ND		0.005	0.001	µg/L		09/12/23 00:00	10/15/23 01:07	1
Acenaphthylene	ND		0.005	0.001	µg/L		09/12/23 00:00	10/15/23 01:07	1
Anthracene	ND		0.005	0.001	µg/L		09/12/23 00:00	10/15/23 01:07	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		09/12/23 00:00	10/15/23 01:07	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		09/12/23 00:00	10/15/23 01:07	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		09/12/23 00:00	10/15/23 01:07	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		09/12/23 00:00	10/15/23 01:07	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		09/12/23 00:00	10/15/23 01:07	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		09/12/23 00:00	10/15/23 01:07	1
Biphenyl	ND		0.005	0.001	µg/L		09/12/23 00:00	10/15/23 01:07	1
Chrysene	ND		0.005	0.001	µg/L		09/12/23 00:00	10/15/23 01:07	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		09/12/23 00:00	10/15/23 01:07	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		09/12/23 00:00	10/15/23 01:07	1
Dibenzothiophene	ND		0.005	0.001	µg/L		09/12/23 00:00	10/15/23 01:07	1
Disalicylidenepropanediamine	ND		0.1	0.05	µg/L		09/12/23 00:00	10/15/23 01:07	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-61972-1

Client Sample ID: HALAWA WELLS UNITS 1&2 Pump 1

Lab Sample ID: 380-61972-2

Date Collected: 09/05/23 10:15

Matrix: Drinking Water

Date Received: 09/07/23 10:40

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoranthene	ND		0.005	0.001	µg/L		09/12/23 00:00	10/15/23 01:07	1
Fluorene	ND		0.005	0.001	µg/L		09/12/23 00:00	10/15/23 01:07	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		09/12/23 00:00	10/15/23 01:07	1
Naphthalene	ND		0.005	0.001	µg/L		09/12/23 00:00	10/15/23 01:07	1
Perylene	ND		0.005	0.001	µg/L		09/12/23 00:00	10/15/23 01:07	1
Phenanthrene	ND		0.005	0.001	µg/L		09/12/23 00:00	10/15/23 01:07	1
Pyrene	ND		0.005	0.001	µg/L		09/12/23 00:00	10/15/23 01:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
(d10-Acenaphthene)	78		27 - 133	09/12/23 00:00	10/15/23 01:07	1
(d10-Phenanthrene)	87		43 - 129	09/12/23 00:00	10/15/23 01:07	1
(d12-Chrysene)	86		52 - 144	09/12/23 00:00	10/15/23 01:07	1
(d12-Perylene)	84		36 - 161	09/12/23 00:00	10/15/23 01:07	1
(d8-Naphthalene)	73		25 - 125	09/12/23 00:00	10/15/23 01:07	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			09/11/23 18:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE	79		60 - 140		09/11/23 18:48	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DIESEL	ND	U	0.026		mg/L			09/16/23 06:49	1
MOTOR OIL	ND	U	0.052		mg/L			09/16/23 06:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOBENZENE	85		60 - 130		09/16/23 06:49	1
HEXACOSANE	99		60 - 130		09/16/23 06:49	1

Client Sample ID: FB MOANALUA WELLS

Lab Sample ID: 380-61972-3

Date Collected: 09/05/23 12:00

Matrix: Water

Date Received: 09/07/23 10:40

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			09/11/23 20:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE	78		60 - 140		09/11/23 20:02	1

Client Sample ID: FB HALAWA WELLS UNITS 1&2

Lab Sample ID: 380-61972-4

Date Collected: 09/05/23 10:15

Matrix: Water

Date Received: 09/07/23 10:40

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			09/11/23 20:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE	79		60 - 140		09/11/23 20:39	1

Eurofins Eaton Analytical Pomona

Action Limit Summary

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

Job ID: 380-61972-1

Client Sample ID: MOANALUA WELLS Pump 2

Lab Sample ID: 380-61972-1

PWSID Number: HI0000331

Compliance Check

The results obtained from the analytical testing of this data set were checked against compliance limits received from the client. Any results at or above the compliance limits have been highlighted for your convenience.

Analyte	Result	Qualifier	Unit	EPAMCL		RL	Method	Prep Type
				Limit				
Alachlor	<0.049		ug/L	2		0.049	525.2	Total/NA
Atrazine	<0.049		ug/L	3		0.049	525.2	Total/NA
Benzo[a]pyrene	<0.020		ug/L	0.2		0.020	525.2	Total/NA
Bis(2-ethylhexyl) phthalate	<0.59		ug/L	6		0.59	525.2	Total/NA
Di(2-ethylhexyl)adipate	<0.59	^3+	ug/L	400		0.59	525.2	Total/NA
Endrin	<0.099		ug/L	2		0.099	525.2	Total/NA
Heptachlor	<0.040		ug/L	0.4		0.040	525.2	Total/NA
Heptachlor epoxide (isomer B)	<0.049		ug/L	0.2		0.049	525.2	Total/NA
Hexachlorobenzene	<0.049		ug/L	1		0.049	525.2	Total/NA
Hexachlorocyclopentadiene	<0.049		ug/L	50		0.049	525.2	Total/NA
Lindane	<0.040		ug/L	0.2		0.040	525.2	Total/NA
Methoxychlor	<0.099		ug/L	40		0.099	525.2	Total/NA
Simazine	<0.049		ug/L	4		0.049	525.2	Total/NA

Client Sample ID: HALAWA WELLS UNITS 1&2 Pump 1

Lab Sample ID: 380-61972-2

PWSID Number: HI0000331

Compliance Check

The results obtained from the analytical testing of this data set were checked against compliance limits received from the client. Any results at or above the compliance limits have been highlighted for your convenience.

Analyte	Result	Qualifier	Unit	EPAMCL		RL	Method	Prep Type
				Limit				
Alachlor	<0.049		ug/L	2		0.049	525.2	Total/NA
Atrazine	<0.049		ug/L	3		0.049	525.2	Total/NA
Benzo[a]pyrene	<0.020		ug/L	0.2		0.020	525.2	Total/NA
Bis(2-ethylhexyl) phthalate	<0.59		ug/L	6		0.59	525.2	Total/NA
Di(2-ethylhexyl)adipate	<0.59	^3+	ug/L	400		0.59	525.2	Total/NA
Endrin	<0.098		ug/L	2		0.098	525.2	Total/NA
Heptachlor	<0.039		ug/L	0.4		0.039	525.2	Total/NA
Heptachlor epoxide (isomer B)	<0.049		ug/L	0.2		0.049	525.2	Total/NA
Hexachlorobenzene	<0.049		ug/L	1		0.049	525.2	Total/NA
Hexachlorocyclopentadiene	<0.049		ug/L	50		0.049	525.2	Total/NA
Lindane	<0.039		ug/L	0.2		0.039	525.2	Total/NA
Methoxychlor	<0.098		ug/L	40		0.098	525.2	Total/NA
Simazine	<0.049		ug/L	4		0.049	525.2	Total/NA

Surrogate Summary

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

Job ID: 380-61972-1

Method: 525.2 - Semivolatile Organic Compounds (GC/MS)

Matrix: Drinking Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		2NMX (70-130)	PRY (70-130)	TPP (70-130)
380-61972-1	MOANALUA WELLS Pump 2	99	101	105
380-61972-2	HALAWA WELLS UNITS 1&2 Pump 1	97	99	104

Surrogate Legend
 2NMX = 2-Nitro-m-xylene
 PRY = Perylene-d12
 TPP = Triphenylphosphate

Method: 525.2 - Semivolatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		2NMX (70-130)	PRY (70-130)	TPP (70-130)
380-61749-AG-4-A MS	Matrix Spike	101	97	107
380-61758-AN-4-A DU	Duplicate	99	98	104
LCS 380-54881/23-A	Lab Control Sample	100	97	108
LCSD 380-54881/24-A	Lab Control Sample Dup	101	97	106
MB 380-54881/21-A	Method Blank	102	83	107
MRL 380-54881/22-A	Lab Control Sample	102	91	100

Surrogate Legend
 2NMX = 2-Nitro-m-xylene
 PRY = Perylene-d12
 TPP = Triphenylphosphate

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)
110860-B1	Method Blank	85	89	88	85	94
110860-BS1	Lab Control Sample	89	96	93	83	90
110860-BS2	Lab Control Sample Dup	89	95	93	82	90

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)
380-61972-1	MOANALUA WELLS Pump 2	83	90	90	76	90
380-61972-2	HALAWA WELLS UNITS 1&2 Pump 1	78	87	86	73	84

Eurofins Eaton Analytical Pomona

Surrogate Summary

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

Job ID: 380-61972-1

Surrogate Legend

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

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

Matrix: Drinking Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB (60-140)
380-61972-1	MOANALUA WELLS Pump 2	79
380-61972-2	HALAWA WELLS UNITS 1&2 Pump 1	79

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
23VG39107B	Method Blank	

Surrogate Legend

BFB = BROMOFLUOROBENZENE

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

Matrix: WATER

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB (70-130)
23VG39107C	LCD	104
23VG39107L	Lab Control Sample	105

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)
380-61972-3	FB MOANALUA WELLS	78
380-61972-4	FB HALAWA WELLS UNITS 1&2	79

Surrogate Legend

BFB = BROMOFLUOROBENZENE

Surrogate Summary

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

Job ID: 380-61972-1

Method: 8015 LL DRO/MRO - 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)
380-61972-1	MOANALUA WELLS Pump 2	81	99
380-61972-2	HALAWA WELLS UNITS 1&2 Pump 1	85	99

Surrogate Legend

BB = BROMOBENZENE
HEXACOSANE = HEXACOSANE

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

Matrix: WATER

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BB (60-130)	XACOSAI (60-130)
23DSI023WB	Method Blank		

Surrogate Legend

BB = BROMOBENZENE
HEXACOSANE = HEXACOSANE

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

Matrix: WATER

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BB (60-130)	XACOSAI (60-130)
23DSI023WC	LCD	78	87
23DSI023WL	Lab Control Sample	80	98

Surrogate Legend

BB = BROMOBENZENE
HEXACOSANE = HEXACOSANE

QC Sample Results

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

Job ID: 380-61972-1

Method: 525.2 - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 380-54881/21-A
Matrix: Water
Analysis Batch: 54979

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 54881

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	<0.098		0.098	ug/L		09/07/23 18:51	09/08/23 13:44	1
2,4'-DDD	<0.098		0.098	ug/L		09/07/23 18:51	09/08/23 13:44	1
2,4'-DDE	<0.098		0.098	ug/L		09/07/23 18:51	09/08/23 13:44	1
2,4'-DDT	<0.098		0.098	ug/L		09/07/23 18:51	09/08/23 13:44	1
2,4-Dinitrotoluene	<0.098		0.098	ug/L		09/07/23 18:51	09/08/23 13:44	1
2,6-Dinitrotoluene	<0.098		0.098	ug/L		09/07/23 18:51	09/08/23 13:44	1
2-Methylnaphthalene	<0.098		0.098	ug/L		09/07/23 18:51	09/08/23 13:44	1
4,4'-DDD	<0.098		0.098	ug/L		09/07/23 18:51	09/08/23 13:44	1
4,4'-DDE	<0.098		0.098	ug/L		09/07/23 18:51	09/08/23 13:44	1
4,4'-DDT	<0.098		0.098	ug/L		09/07/23 18:51	09/08/23 13:44	1
Acenaphthene	<0.098		0.098	ug/L		09/07/23 18:51	09/08/23 13:44	1
Acenaphthylene	<0.098		0.098	ug/L		09/07/23 18:51	09/08/23 13:44	1
Acetochlor	<0.098		0.098	ug/L		09/07/23 18:51	09/08/23 13:44	1
Alachlor	<0.049		0.049	ug/L		09/07/23 18:51	09/08/23 13:44	1
alpha-BHC	<0.098		0.098	ug/L		09/07/23 18:51	09/08/23 13:44	1
alpha-Chlordane	<0.049		0.049	ug/L		09/07/23 18:51	09/08/23 13:44	1
Anthracene	<0.020		0.020	ug/L		09/07/23 18:51	09/08/23 13:44	1
Atrazine	<0.049		0.049	ug/L		09/07/23 18:51	09/08/23 13:44	1
Benz(a)anthracene	<0.049		0.049	ug/L		09/07/23 18:51	09/08/23 13:44	1
Benzo[a]pyrene	<0.020		0.020	ug/L		09/07/23 18:51	09/08/23 13:44	1
Benzo[b]fluoranthene	<0.020		0.020	ug/L		09/07/23 18:51	09/08/23 13:44	1
Benzo[g,h,i]perylene	<0.049		0.049	ug/L		09/07/23 18:51	09/08/23 13:44	1
Benzo[k]fluoranthene	<0.020		0.020	ug/L		09/07/23 18:51	09/08/23 13:44	1
beta-BHC	<0.098		0.098	ug/L		09/07/23 18:51	09/08/23 13:44	1
Bis(2-ethylhexyl) phthalate	<0.59		0.59	ug/L		09/07/23 18:51	09/08/23 13:44	1
Bromacil	<0.098		0.098	ug/L		09/07/23 18:51	09/08/23 13:44	1
Butachlor	<0.049		0.049	ug/L		09/07/23 18:51	09/08/23 13:44	1
Butylbenzylphthalate	<0.49		0.49	ug/L		09/07/23 18:51	09/08/23 13:44	1
Chlorobenzilate	<0.098		0.098	ug/L		09/07/23 18:51	09/08/23 13:44	1
Chloroneb	<0.098		0.098	ug/L		09/07/23 18:51	09/08/23 13:44	1
Chlorothalonil (Draconil, Bravo)	<0.098		0.098	ug/L		09/07/23 18:51	09/08/23 13:44	1
Chlorpyrifos	<0.049		0.049	ug/L		09/07/23 18:51	09/08/23 13:44	1
Chrysene	<0.020		0.020	ug/L		09/07/23 18:51	09/08/23 13:44	1
delta-BHC	<0.098		0.098	ug/L		09/07/23 18:51	09/08/23 13:44	1
Di(2-ethylhexyl)adipate	<0.59		0.59	ug/L		09/07/23 18:51	09/08/23 13:44	1
Dibenz(a,h)anthracene	<0.049		0.049	ug/L		09/07/23 18:51	09/08/23 13:44	1
Diclorvos (DDVP)	<0.049		0.049	ug/L		09/07/23 18:51	09/08/23 13:44	1
Dieldrin	<0.20		0.20	ug/L		09/07/23 18:51	09/08/23 13:44	1
Diethylphthalate	<0.49		0.49	ug/L		09/07/23 18:51	09/08/23 13:44	1
Dimethylphthalate	<0.49		0.49	ug/L		09/07/23 18:51	09/08/23 13:44	1
Di-n-butyl phthalate	<0.98		0.98	ug/L		09/07/23 18:51	09/08/23 13:44	1
Di-n-octyl phthalate	<0.098		0.098	ug/L		09/07/23 18:51	09/08/23 13:44	1
Endosulfan I (Alpha)	<0.098		0.098	ug/L		09/07/23 18:51	09/08/23 13:44	1
Endosulfan II (Beta)	<0.098		0.098	ug/L		09/07/23 18:51	09/08/23 13:44	1
Endosulfan sulfate	<0.098		0.098	ug/L		09/07/23 18:51	09/08/23 13:44	1
Endrin	<0.098		0.098	ug/L		09/07/23 18:51	09/08/23 13:44	1
Endrin aldehyde	<0.098		0.098	ug/L		09/07/23 18:51	09/08/23 13:44	1
EPTC	<0.098		0.098	ug/L		09/07/23 18:51	09/08/23 13:44	1

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-61972-1

Method: 525.2 - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 380-54881/21-A
Matrix: Water
Analysis Batch: 54979

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 54881

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoranthene	<0.098		0.098	ug/L		09/07/23 18:51	09/08/23 13:44	1
Fluorene	<0.049		0.049	ug/L		09/07/23 18:51	09/08/23 13:44	1
gamma-Chlordane	<0.049		0.049	ug/L		09/07/23 18:51	09/08/23 13:44	1
Heptachlor	<0.039		0.039	ug/L		09/07/23 18:51	09/08/23 13:44	1
Heptachlor epoxide (isomer B)	<0.049		0.049	ug/L		09/07/23 18:51	09/08/23 13:44	1
Hexachlorobenzene	<0.049		0.049	ug/L		09/07/23 18:51	09/08/23 13:44	1
Hexachlorocyclopentadiene	<0.049		0.049	ug/L		09/07/23 18:51	09/08/23 13:44	1
Indeno[1,2,3-cd]pyrene	<0.049		0.049	ug/L		09/07/23 18:51	09/08/23 13:44	1
Isophorone	<0.49		0.49	ug/L		09/07/23 18:51	09/08/23 13:44	1
Lindane	<0.039		0.039	ug/L		09/07/23 18:51	09/08/23 13:44	1
Malathion	<0.098		0.098	ug/L		09/07/23 18:51	09/08/23 13:44	1
Methoxychlor	<0.098		0.098	ug/L		09/07/23 18:51	09/08/23 13:44	1
Metolachlor	<0.049		0.049	ug/L		09/07/23 18:51	09/08/23 13:44	1
Molinate	<0.098		0.098	ug/L		09/07/23 18:51	09/08/23 13:44	1
Naphthalene	<0.29		0.29	ug/L		09/07/23 18:51	09/08/23 13:44	1
Parathion	<0.098		0.098	ug/L		09/07/23 18:51	09/08/23 13:44	1
Pendimethalin (Penoxaline)	<0.098		0.098	ug/L		09/07/23 18:51	09/08/23 13:44	1
Phenanthrene	<0.039		0.039	ug/L		09/07/23 18:51	09/08/23 13:44	1
Propachlor	<0.049		0.049	ug/L		09/07/23 18:51	09/08/23 13:44	1
Pyrene	<0.049		0.049	ug/L		09/07/23 18:51	09/08/23 13:44	1
Simazine	<0.049		0.049	ug/L		09/07/23 18:51	09/08/23 13:44	1
Terbacil	<0.098		0.098	ug/L		09/07/23 18:51	09/08/23 13:44	1
Terbutylazine	<0.098		0.098	ug/L		09/07/23 18:51	09/08/23 13:44	1
Thiobencarb	<0.20		0.20	ug/L		09/07/23 18:51	09/08/23 13:44	1
Total Permethrin (mixed isomers)	<0.20		0.20	ug/L		09/07/23 18:51	09/08/23 13:44	1
trans-Nonachlor	<0.049		0.049	ug/L		09/07/23 18:51	09/08/23 13:44	1
Trifluralin	<0.098		0.098	ug/L		09/07/23 18:51	09/08/23 13:44	1

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	0.927	T J	ug/L		2.28	N/A	09/07/23 18:51	09/08/23 13:44	1
Cyclohexane, 1-methyl-2-propyl-	0.856	T J N	ug/L		2.36	4291-79-6	09/07/23 18:51	09/08/23 13:44	1
Decane	2.34	T J N	ug/L		2.47	124-18-5	09/07/23 18:51	09/08/23 13:44	1
Ethyl 3-acetoxybutyrate	0.505	T J N	ug/L		2.82	27846-49-7	09/07/23 18:51	09/08/23 13:44	1
n-Hexadecanoic acid	4.19	T J N	ug/L		5.90	57-10-3	09/07/23 18:51	09/08/23 13:44	1
Octadecanoic acid	1.91	T J N	ug/L		6.59	57-11-4	09/07/23 18:51	09/08/23 13:44	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Nitro-m-xylene	102		70 - 130	09/07/23 18:51	09/08/23 13:44	1
Perylene-d12	83		70 - 130	09/07/23 18:51	09/08/23 13:44	1
Triphenylphosphate	107		70 - 130	09/07/23 18:51	09/08/23 13:44	1

Lab Sample ID: LCS 380-54881/23-A
Matrix: Water
Analysis Batch: 54979

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 54881

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1-Methylnaphthalene	1.97	2.18		ug/L		111	70 - 130
2,4'-DDD	1.97	2.36		ug/L		120	70 - 130

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-61972-1

Method: 525.2 - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 380-54881/23-A
Matrix: Water
Analysis Batch: 54979

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 54881

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2,4'-DDE	1.97	2.35		ug/L		120	70 - 130
2,4'-DDT	1.97	2.50		ug/L		127	70 - 130
2,4-Dinitrotoluene	1.97	2.27		ug/L		115	70 - 130
2,6-Dinitrotoluene	1.97	2.23		ug/L		113	70 - 130
2-Methylnaphthalene	1.97	2.24		ug/L		114	70 - 130
4,4'-DDD	1.97	2.49		ug/L		127	70 - 130
4,4'-DDE	1.97	2.19		ug/L		111	70 - 130
4,4'-DDT	1.97	2.37		ug/L		121	70 - 130
Acenaphthene	1.97	2.11		ug/L		107	70 - 130
Acenaphthylene	1.97	2.11		ug/L		107	70 - 130
Acetochlor	1.97	2.43		ug/L		123	70 - 130
Alachlor	1.97	2.26		ug/L		115	70 - 130
alpha-BHC	1.97	2.14		ug/L		109	70 - 130
alpha-Chlordane	1.97	2.01		ug/L		102	70 - 130
Anthracene	1.97	2.18		ug/L		111	70 - 130
Atrazine	1.97	2.42		ug/L		123	70 - 130
Benz(a)anthracene	1.97	2.39		ug/L		122	70 - 130
Benzo[a]pyrene	1.97	2.41		ug/L		122	70 - 130
Benzo[b]fluoranthene	1.97	2.50		ug/L		127	70 - 130
Benzo[g,h,i]perylene	1.97	2.22		ug/L		113	70 - 130
Benzo[k]fluoranthene	1.97	2.54		ug/L		129	70 - 130
beta-BHC	1.97	2.15		ug/L		109	70 - 130
Bis(2-ethylhexyl) phthalate	1.97	2.02		ug/L		103	70 - 130
Bromacil	1.97	2.33		ug/L		118	70 - 130
Butachlor	1.97	2.40		ug/L		122	70 - 130
Butylbenzylphthalate	1.97	2.44		ug/L		124	70 - 130
Chlorobenzilate	1.97	2.42		ug/L		123	70 - 130
Chloroneb	1.97	2.10		ug/L		106	70 - 130
Chlorothalonil (Draconil, Bravo)	1.97	2.25		ug/L		114	70 - 130
Chlorpyrifos	1.97	2.41		ug/L		122	70 - 130
Chrysene	1.97	2.10		ug/L		107	70 - 130
delta-BHC	1.97	2.14		ug/L		108	70 - 130
Di(2-ethylhexyl)adipate	1.97	2.28		ug/L		116	70 - 130
Dibenz(a,h)anthracene	1.97	2.24		ug/L		114	70 - 130
Diclorvos (DDVP)	1.97	2.39		ug/L		122	70 - 130
Dieldrin	1.97	2.34		ug/L		119	70 - 130
Diethylphthalate	1.97	2.23		ug/L		113	70 - 130
Dimethylphthalate	1.97	2.27		ug/L		115	70 - 130
Di-n-butyl phthalate	3.94	4.54		ug/L		115	70 - 130
Di-n-octyl phthalate	1.97	1.97		ug/L		100	70 - 130
Endosulfan I (Alpha)	1.97	2.01		ug/L		102	70 - 130
Endosulfan II (Beta)	1.97	2.23		ug/L		113	70 - 130
Endosulfan sulfate	1.97	2.38		ug/L		121	70 - 130
Endrin	1.97	2.47		ug/L		126	70 - 130
Endrin aldehyde	1.97	2.06		ug/L		104	70 - 130
EPTC	1.97	2.20		ug/L		112	70 - 130
Fluoranthene	1.97	2.23		ug/L		113	70 - 130
Fluorene	1.97	2.25		ug/L		114	70 - 130
gamma-Chlordane	1.97	1.99		ug/L		101	70 - 130

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-61972-1

Method: 525.2 - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 380-54881/23-A
Matrix: Water
Analysis Batch: 54979

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 54881

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Heptachlor	1.97	2.37		ug/L		121	70 - 130
Heptachlor epoxide (isomer B)	1.97	2.03		ug/L		103	70 - 130
Hexachlorobenzene	1.97	2.17		ug/L		110	70 - 130
Hexachlorocyclopentadiene	1.97	2.15		ug/L		109	70 - 130
Indeno[1,2,3-cd]pyrene	1.97	2.21		ug/L		112	70 - 130
Isophorone	1.97	2.14		ug/L		109	70 - 130
Lindane	1.97	2.15		ug/L		109	70 - 130
Malathion	1.97	2.28		ug/L		116	70 - 130
Methoxychlor	1.97	2.32		ug/L		118	70 - 130
Metolachlor	1.97	2.36		ug/L		120	70 - 130
Molinate	1.97	2.30		ug/L		117	70 - 130
Naphthalene	1.97	2.14		ug/L		108	70 - 130
Parathion	1.97	2.55		ug/L		130	70 - 130
Pendimethalin (Penoxaline)	1.97	2.41		ug/L		123	70 - 130
Phenanthrene	1.97	2.03		ug/L		103	70 - 130
Propachlor	1.97	2.42		ug/L		123	70 - 130
Pyrene	1.97	2.31		ug/L		117	70 - 130
Simazine	1.97	2.48		ug/L		126	70 - 130
Terbacil	1.97	2.35		ug/L		119	70 - 130
Terbutylazine	1.97	2.38		ug/L		121	70 - 130
Thiobencarb	1.97	2.46		ug/L		125	70 - 130
trans-Nonachlor	1.97	2.10		ug/L		107	70 - 130
Trifluralin	1.97	2.17		ug/L		110	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Nitro-m-xylene	100		70 - 130
Perylene-d12	97		70 - 130
Triphenylphosphate	108		70 - 130

Lab Sample ID: LCSD 380-54881/24-A
Matrix: Water
Analysis Batch: 54979

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 54881

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1-Methylnaphthalene	1.98	2.19		ug/L		110	70 - 130	0	20
2,4'-DDD	1.98	2.36		ug/L		119	70 - 130	0	20
2,4'-DDE	1.98	2.41		ug/L		122	70 - 130	2	20
2,4'-DDT	1.98	2.51		ug/L		126	70 - 130	0	20
2,4-Dinitrotoluene	1.98	2.29		ug/L		116	70 - 130	1	20
2,6-Dinitrotoluene	1.98	2.27		ug/L		114	70 - 130	2	20
2-Methylnaphthalene	1.98	2.26		ug/L		114	70 - 130	1	20
4,4'-DDD	1.98	2.47		ug/L		125	70 - 130	1	20
4,4'-DDE	1.98	2.16		ug/L		109	70 - 130	1	20
4,4'-DDT	1.98	2.36		ug/L		119	70 - 130	1	20
Acenaphthene	1.98	2.15		ug/L		108	70 - 130	2	20
Acenaphthylene	1.98	2.12		ug/L		107	70 - 130	0	20
Acetochlor	1.98	2.43		ug/L		123	70 - 130	0	20
Alachlor	1.98	2.25		ug/L		113	70 - 130	0	20

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-61972-1

Method: 525.2 - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 380-54881/24-A
Matrix: Water
Analysis Batch: 54979

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 54881

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	RPD Limit
							Limits	RPD		
alpha-BHC	1.98	2.14		ug/L		108	70 - 130	0	20	
alpha-Chlordane	1.98	2.03		ug/L		102	70 - 130	1	20	
Anthracene	1.98	2.15		ug/L		108	70 - 130	1	20	
Atrazine	1.98	2.49		ug/L		126	70 - 130	3	20	
Benz(a)anthracene	1.98	2.38		ug/L		120	70 - 130	1	20	
Benzo[a]pyrene	1.98	2.45		ug/L		124	70 - 130	2	20	
Benzo[b]fluoranthene	1.98	2.50		ug/L		126	70 - 130	0	20	
Benzo[g,h,i]perylene	1.98	2.22		ug/L		112	70 - 130	0	20	
Benzo[k]fluoranthene	1.98	2.55		ug/L		129	70 - 130	1	20	
beta-BHC	1.98	2.16		ug/L		109	70 - 130	0	20	
Bis(2-ethylhexyl) phthalate	1.98	2.03		ug/L		103	70 - 130	1	20	
Bromacil	1.98	2.38		ug/L		120	70 - 130	2	20	
Butachlor	1.98	2.39		ug/L		120	70 - 130	1	20	
Butylbenzylphthalate	1.98	2.43		ug/L		123	70 - 130	0	20	
Chlorobenzilate	1.98	2.42		ug/L		122	70 - 130	0	20	
Chloroneb	1.98	2.11		ug/L		106	70 - 130	1	20	
Chlorothalonil (Draconil, Bravo)	1.98	2.26		ug/L		114	70 - 130	1	20	
Chlorpyrifos	1.98	2.39		ug/L		121	70 - 130	1	20	
Chrysene	1.98	2.14		ug/L		108	70 - 130	2	20	
delta-BHC	1.98	2.05		ug/L		103	70 - 130	4	20	
Di(2-ethylhexyl)adipate	1.98	2.25		ug/L		114	70 - 130	1	20	
Dibenz(a,h)anthracene	1.98	2.28		ug/L		115	70 - 130	1	20	
Diclorvos (DDVP)	1.98	2.46		ug/L		124	70 - 130	3	20	
Dieldrin	1.98	2.34		ug/L		118	70 - 130	0	20	
Diethylphthalate	1.98	2.30		ug/L		116	70 - 130	3	20	
Dimethylphthalate	1.98	2.34		ug/L		118	70 - 130	3	20	
Di-n-butyl phthalate	3.96	4.62		ug/L		117	70 - 130	2	20	
Di-n-octyl phthalate	1.98	1.94		ug/L		98	70 - 130	1	20	
Endosulfan I (Alpha)	1.98	1.99		ug/L		101	70 - 130	1	20	
Endosulfan II (Beta)	1.98	2.24		ug/L		113	70 - 130	0	20	
Endosulfan sulfate	1.98	2.38		ug/L		120	70 - 130	0	20	
Endrin	1.98	2.51		ug/L		127	70 - 130	2	20	
Endrin aldehyde	1.98	2.10		ug/L		106	70 - 130	2	20	
EPTC	1.98	2.23		ug/L		112	70 - 130	1	20	
Fluoranthene	1.98	2.22		ug/L		112	70 - 130	0	20	
Fluorene	1.98	2.27		ug/L		114	70 - 130	1	20	
gamma-Chlordane	1.98	2.00		ug/L		101	70 - 130	1	20	
Heptachlor	1.98	2.42		ug/L		122	70 - 130	2	20	
Heptachlor epoxide (isomer B)	1.98	2.04		ug/L		103	70 - 130	1	20	
Hexachlorobenzene	1.98	2.19		ug/L		111	70 - 130	1	20	
Hexachlorocyclopentadiene	1.98	2.19		ug/L		111	70 - 130	2	20	
Indeno[1,2,3-cd]pyrene	1.98	2.27		ug/L		114	70 - 130	2	20	
Isophorone	1.98	2.15		ug/L		109	70 - 130	1	20	
Lindane	1.98	2.10		ug/L		106	70 - 130	2	20	
Malathion	1.98	2.29		ug/L		115	70 - 130	0	20	
Methoxychlor	1.98	2.28		ug/L		115	70 - 130	1	20	
Metolachlor	1.98	2.45		ug/L		124	70 - 130	4	20	
Molinate	1.98	2.32		ug/L		117	70 - 130	1	20	
Naphthalene	1.98	2.14		ug/L		108	70 - 130	0	20	

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-61972-1

Method: 525.2 - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 380-54881/24-A
Matrix: Water
Analysis Batch: 54979

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 54881

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Parathion	1.98	2.60	*+	ug/L		131	70 - 130	2	20
Pendimethalin (Penoxaline)	1.98	2.42		ug/L		122	70 - 130	0	20
Phenanthrene	1.98	2.08		ug/L		105	70 - 130	2	20
Propachlor	1.98	2.47		ug/L		125	70 - 130	2	20
Pyrene	1.98	2.28		ug/L		115	70 - 130	1	20
Simazine	1.98	2.50		ug/L		126	70 - 130	1	20
Terbacil	1.98	2.34		ug/L		118	70 - 130	0	20
Terbutylazine	1.98	2.43		ug/L		122	70 - 130	2	20
Thiobencarb	1.98	2.44		ug/L		123	70 - 130	1	20
trans-Nonachlor	1.98	2.08		ug/L		105	70 - 130	1	20
Trifluralin	1.98	2.20		ug/L		111	70 - 130	2	20

Surrogate	LCSD %Recovery	LCSD Qualifier	LCSD Limits
2-Nitro-m-xylene	101		70 - 130
Perylene-d12	97		70 - 130
Triphenylphosphate	106		70 - 130

Lab Sample ID: MRL 380-54881/22-A
Matrix: Water
Analysis Batch: 54979

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 54881

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
1-Methylnaphthalene	0.0984	0.121		ug/L		123	50 - 150
2,4'-DDD	0.0984	0.139		ug/L		141	50 - 150
2,4'-DDE	0.0984	0.110		ug/L		111	50 - 150
2,4'-DDT	0.0984	0.0927	J	ug/L		94	50 - 150
2,4-Dinitrotoluene	0.0984	0.104		ug/L		106	50 - 150
2,6-Dinitrotoluene	0.0984	0.117		ug/L		118	50 - 150
2-Methylnaphthalene	0.0984	0.118		ug/L		120	50 - 150
4,4'-DDD	0.0984	0.102		ug/L		104	50 - 150
4,4'-DDE	0.0984	0.100		ug/L		102	50 - 150
4,4'-DDT	0.0984	0.0920	J	ug/L		93	50 - 150
Acenaphthene	0.0984	0.107		ug/L		108	50 - 150
Acenaphthylene	0.0984	0.0916	J	ug/L		93	50 - 150
Acetochlor	0.0492	0.0501	J	ug/L		102	50 - 150
Alachlor	0.0492	0.0578		ug/L		117	50 - 150
alpha-BHC	0.0984	0.108		ug/L		110	50 - 150
alpha-Chlordane	0.0246	<0.029		ug/L		95	50 - 150
Anthracene	0.0197	0.0208		ug/L		106	50 - 150
Atrazine	0.0492	0.0503		ug/L		102	50 - 150
Benz(a)anthracene	0.0492	0.0488	J	ug/L		99	50 - 150
Benzo[a]pyrene	0.0197	0.0180	J	ug/L		91	50 - 150
Benzo[b]fluoranthene	0.0197	0.0199	J	ug/L		101	50 - 150
Benzo[g,h,i]perylene	0.0492	0.0431	J	ug/L		87	50 - 150
Benzo[k]fluoranthene	0.0197	0.0191	J	ug/L		97	50 - 150
beta-BHC	0.0984	0.110		ug/L		112	50 - 150
Bis(2-ethylhexyl) phthalate	0.591	0.713		ug/L		121	50 - 150
Bromacil	0.0984	0.147		ug/L		149	50 - 150

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-61972-1

Method: 525.2 - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MRL 380-54881/22-A
Matrix: Water
Analysis Batch: 54979

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 54881

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Butachlor	0.0492	0.0822	^3+	ug/L		167	50 - 150
Butylbenzylphthalate	0.148	0.190	J	ug/L		129	50 - 150
Chlorobenzilate	0.0984	0.132		ug/L		134	50 - 150
Chloroneb	0.0984	0.111		ug/L		113	50 - 150
Chlorothalonil (Draconil, Bravo)	0.0984	0.151	^3+	ug/L		154	50 - 150
Chlorpyrifos	0.0492	0.0562		ug/L		114	50 - 150
Chrysene	0.0197	0.0196	J	ug/L		100	50 - 150
delta-BHC	0.0984	0.118		ug/L		120	50 - 150
Di(2-ethylhexyl)adipate	0.295	0.823	^3+	ug/L		279	50 - 150
Dibenz(a,h)anthracene	0.0492	0.0422	J	ug/L		86	50 - 150
Diclorvos (DDVP)	0.0492	0.0670		ug/L		136	50 - 150
Dieldrin	0.0984	0.117	J	ug/L		119	50 - 150
Diethylphthalate	0.148	0.193	J	ug/L		130	50 - 150
Dimethylphthalate	0.295	0.331	J	ug/L		112	50 - 150
Di-n-butyl phthalate	0.295	0.601	J	ug/L		203	49 - 243
Di-n-octyl phthalate	0.0984	0.108		ug/L		109	50 - 150
Endosulfan I (Alpha)	0.0984	0.0990		ug/L		101	50 - 150
Endosulfan II (Beta)	0.0984	0.138		ug/L		140	50 - 150
Endosulfan sulfate	0.0984	0.120		ug/L		122	50 - 150
Endrin	0.0984	0.142		ug/L		144	50 - 150
Endrin aldehyde	0.0984	0.101		ug/L		103	50 - 150
EPTC	0.0984	0.142		ug/L		145	50 - 150
Fluoranthene	0.0492	0.0548	J	ug/L		111	50 - 150
Fluorene	0.0492	0.0556		ug/L		113	50 - 150
gamma-Chlordane	0.0246	0.0245	J	ug/L		100	50 - 150
Heptachlor	0.0394	0.0546		ug/L		139	50 - 150
Heptachlor epoxide (isomer B)	0.0492	0.0505		ug/L		103	50 - 150
Hexachlorobenzene	0.0492	0.0522		ug/L		106	50 - 150
Hexachlorocyclopentadiene	0.0492	0.0408	J	ug/L		83	50 - 150
Indeno[1,2,3-cd]pyrene	0.0492	0.0398	J	ug/L		81	50 - 150
Isophorone	0.0984	0.116	J	ug/L		118	50 - 150
Lindane	0.0394	0.0419		ug/L		106	50 - 150
Malathion	0.0984	0.133		ug/L		135	50 - 150
Methoxychlor	0.0984	0.0838	J	ug/L		85	50 - 150
Metolachlor	0.0492	0.0642		ug/L		130	50 - 150
Molinate	0.0984	0.139		ug/L		141	50 - 150
Naphthalene	0.0984	0.117	J	ug/L		119	50 - 150
Parathion	0.0984	0.132		ug/L		134	50 - 150
Pendimethalin (Penoxaline)	0.0984	0.116		ug/L		118	50 - 150
Phenanthrene	0.0197	0.0241	J	ug/L		122	50 - 150
Propachlor	0.0492	0.0565		ug/L		115	50 - 150
Pyrene	0.0492	0.0564		ug/L		115	50 - 150
Simazine	0.0492	0.0637		ug/L		129	50 - 150
Terbacil	0.0984	0.155	^3+	ug/L		157	50 - 150
Terbutylazine	0.0984	0.105		ug/L		107	50 - 150
Thiobencarb	0.0984	0.127	J	ug/L		129	50 - 150
trans-Nonachlor	0.0246	<0.026		ug/L		99	50 - 150
Trifluralin	0.0984	0.113		ug/L		115	50 - 150

QC Sample Results

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

Job ID: 380-61972-1

Method: 525.2 - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MRL 380-54881/22-A
Matrix: Water
Analysis Batch: 54979

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 54881

Surrogate	MRL %Recovery	MRL Qualifier	Limits
2-Nitro-m-xylene	102		70 - 130
Perylene-d12	91		70 - 130
Triphenylphosphate	100		70 - 130

Lab Sample ID: 380-61749-AG-4-A MS
Matrix: Water
Analysis Batch: 54979

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 54881

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1-Methylnaphthalene	<0.098		1.97	2.17		ug/L		110	70 - 130
2,4'-DDD	<0.098		1.97	2.23		ug/L		113	70 - 130
2,4'-DDE	<0.098		1.97	2.36		ug/L		120	70 - 130
2,4'-DDT	<0.098		1.97	2.49		ug/L		126	70 - 130
2,4-Dinitrotoluene	<0.098		1.97	2.43		ug/L		123	70 - 130
2,6-Dinitrotoluene	<0.098		1.97	2.33		ug/L		118	70 - 130
2-Methylnaphthalene	<0.098		1.97	2.21		ug/L		112	70 - 130
4,4'-DDD	<0.098		1.97	2.48		ug/L		126	70 - 130
4,4'-DDE	<0.098		1.97	2.12		ug/L		107	70 - 130
4,4'-DDT	<0.098		1.97	2.32		ug/L		118	70 - 130
Acenaphthene	<0.098		1.97	2.16		ug/L		109	70 - 130
Acenaphthylene	<0.098		1.97	2.19		ug/L		111	70 - 130
Acetochlor	<0.098		1.97	2.41		ug/L		122	70 - 130
Alachlor	<0.049		1.97	2.25		ug/L		114	70 - 130
alpha-BHC	<0.098		1.97	2.15		ug/L		109	70 - 130
alpha-Chlordane	<0.049		1.97	1.99		ug/L		101	70 - 130
Anthracene	<0.020		1.97	1.92		ug/L		97	70 - 130
Atrazine	<0.049		1.97	2.50		ug/L		127	70 - 130
Benz(a)anthracene	<0.049		1.97	2.35		ug/L		119	70 - 130
Benzo[a]pyrene	<0.020		1.97	2.21		ug/L		112	70 - 130
Benzo[b]fluoranthene	<0.020		1.97	2.48		ug/L		126	70 - 130
Benzo[g,h,i]perylene	<0.049		1.97	1.97		ug/L		100	70 - 130
Benzo[k]fluoranthene	<0.020		1.97	2.48		ug/L		126	70 - 130
beta-BHC	<0.098		1.97	2.16		ug/L		109	70 - 130
Bis(2-ethylhexyl) phthalate	<0.59		1.97	2.08		ug/L		96	70 - 130
Bromacil	<0.098		1.97	2.39		ug/L		121	70 - 130
Butachlor	<0.049	^3+	1.97	2.36		ug/L		120	70 - 130
Butylbenzylphthalate	<0.49		1.97	2.40		ug/L		122	70 - 130
Chlorobenzilate	<0.098		1.97	2.42		ug/L		123	70 - 130
Chloroneb	<0.098		1.97	2.09		ug/L		106	70 - 130
Chlorothalonil (Draconil, Bravo)	<0.098	^3+	1.97	2.30		ug/L		117	70 - 130
Chlorpyrifos	<0.049		1.97	2.41		ug/L		122	70 - 130
Chrysene	<0.020		1.97	2.15		ug/L		109	70 - 130
delta-BHC	<0.098		1.97	2.08		ug/L		105	70 - 130
Di(2-ethylhexyl)adipate	<0.59	^3+	1.97	2.15		ug/L		100	70 - 130
Dibenz(a,h)anthracene	<0.049		1.97	2.04		ug/L		103	70 - 130
Diclorvos (DDVP)	<0.049		1.97	2.41		ug/L		123	70 - 130
Dieldrin	<0.20		1.97	2.33		ug/L		118	70 - 130
Diethylphthalate	<0.49		1.97	2.27		ug/L		112	70 - 130

QC Sample Results

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

Job ID: 380-61972-1

Method: 525.2 - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 380-61749-AG-4-A MS
Matrix: Water
Analysis Batch: 54979

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 54881

Analyte	Sample	Sample Qualifier	Spike Added	MS	MS Qualifier	Unit	D	%Rec	%Rec Limits
	Result			Result					
Dimethylphthalate	<0.49		1.97	2.29		ug/L		116	70 - 130
Di-n-butyl phthalate	<0.98		3.94	4.61		ug/L		115	70 - 130
Di-n-octyl phthalate	<0.098		1.97	2.00		ug/L		102	70 - 130
Endosulfan I (Alpha)	<0.098		1.97	2.04		ug/L		104	70 - 130
Endosulfan II (Beta)	<0.098		1.97	2.25		ug/L		114	70 - 130
Endosulfan sulfate	<0.098		1.97	2.43		ug/L		123	70 - 130
Endrin	<0.098		1.97	2.50		ug/L		127	70 - 130
Endrin aldehyde	<0.098		1.97	1.81		ug/L		92	70 - 130
EPTC	<0.098		1.97	2.29		ug/L		116	70 - 130
Fluoranthene	<0.098		1.97	2.22		ug/L		113	70 - 130
Fluorene	<0.049		1.97	2.29		ug/L		116	70 - 130
gamma-Chlordane	<0.049		1.97	1.95		ug/L		99	70 - 130
Heptachlor	<0.039		1.97	2.32		ug/L		118	70 - 130
Heptachlor epoxide (isomer B)	<0.049		1.97	2.04		ug/L		103	70 - 130
Hexachlorobenzene	<0.049		1.97	2.20		ug/L		112	70 - 130
Hexachlorocyclopentadiene	<0.049		1.97	2.25		ug/L		114	70 - 130
Indeno[1,2,3-cd]pyrene	<0.049		1.97	2.04		ug/L		104	70 - 130
Isophorone	<0.49		1.97	2.10		ug/L		107	70 - 130
Lindane	<0.039		1.97	2.14		ug/L		108	70 - 130
Malathion	<0.098		1.97	2.29		ug/L		116	70 - 130
Methoxychlor	<0.098		1.97	2.38		ug/L		121	70 - 130
Metolachlor	<0.049		1.97	2.39		ug/L		121	70 - 130
Molinate	<0.098		1.97	2.30		ug/L		117	70 - 130
Naphthalene	<0.30		1.97	2.13		ug/L		108	70 - 130
Parathion	<0.098	F1 *+	1.97	2.62	F1	ug/L		133	70 - 130
Pendimethalin (Penoxaline)	<0.098		1.97	2.52		ug/L		128	70 - 130
Phenanthrene	<0.039		1.97	2.05		ug/L		104	70 - 130
Propachlor	<0.049		1.97	2.44		ug/L		124	70 - 130
Pyrene	<0.049		1.97	2.31		ug/L		117	70 - 130
Simazine	<0.049		1.97	2.56		ug/L		130	70 - 130
Terbacil	<0.098	^3+	1.97	2.32		ug/L		118	70 - 130
Terbutylazine	<0.098		1.97	2.46		ug/L		125	70 - 130
Thiobencarb	<0.20		1.97	2.39		ug/L		122	70 - 130
trans-Nonachlor	<0.049		1.97	2.07		ug/L		105	70 - 130
Trifluralin	<0.098		1.97	2.20		ug/L		112	70 - 130
				MS MS					
Surrogate				%Recovery	Qualifier				Limits
2-Nitro-m-xylene				101					70 - 130
Perylene-d12				97					70 - 130
Triphenylphosphate				107					70 - 130

Lab Sample ID: 380-61758-AN-4-A DU
Matrix: Water
Analysis Batch: 54979

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 54881

Analyte	Sample Result	Sample Qualifier	DU	DU	Unit	D	RPD	RPD Limit
			Result	Qualifier				
1-Methylnaphthalene	<0.098		<0.099		ug/L		NC	20
2,4'-DDD	<0.098		<0.099		ug/L		NC	20

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-61972-1

Method: 525.2 - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 380-61758-AN-4-A DU
Matrix: Water
Analysis Batch: 54979

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 54881

Analyte	Sample	Sample Qualifier	DU	DU	Unit	D	RPD	Limit
	Result		Result	Qualifier				
2,4'-DDE	<0.098		<0.099		ug/L		NC	20
2,4'-DDT	<0.098		<0.099		ug/L		NC	20
2,4-Dinitrotoluene	<0.098		<0.099		ug/L		NC	20
2,6-Dinitrotoluene	<0.098		<0.099		ug/L		NC	20
2-Methylnaphthalene	<0.098		<0.099		ug/L		NC	20
4,4'-DDD	<0.098		<0.099		ug/L		NC	20
4,4'-DDE	<0.098		<0.099		ug/L		NC	20
4,4'-DDT	<0.098		<0.099		ug/L		NC	20
Acenaphthene	<0.098		<0.099		ug/L		NC	20
Acenaphthylene	<0.098		<0.099		ug/L		NC	20
Acetochlor	<0.098		<0.099		ug/L		NC	20
Alachlor	<0.049		<0.049		ug/L		NC	20
alpha-BHC	<0.098		<0.099		ug/L		NC	20
alpha-Chlordane	<0.049		<0.049		ug/L		NC	20
Anthracene	<0.020		<0.020		ug/L		NC	20
Atrazine	<0.049		<0.049		ug/L		NC	20
Benz(a)anthracene	<0.049		<0.049		ug/L		NC	20
Benzo[a]pyrene	<0.020		<0.020		ug/L		NC	20
Benzo[b]fluoranthene	<0.020		<0.020		ug/L		NC	20
Benzo[g,h,i]perylene	<0.049		<0.049		ug/L		NC	20
Benzo[k]fluoranthene	<0.020		<0.020		ug/L		NC	20
beta-BHC	<0.098		<0.099		ug/L		NC	20
Bis(2-ethylhexyl) phthalate	<0.59		<0.59		ug/L		NC	20
Bromacil	<0.098		<0.099		ug/L		NC	20
Butachlor	<0.049	^3+	<0.049		ug/L		NC	20
Butylbenzylphthalate	<0.49		<0.49		ug/L		NC	20
Chlorobenzilate	<0.098		<0.099		ug/L		NC	20
Chloroneb	<0.098		<0.099		ug/L		NC	20
Chlorothalonil (Draconil, Bravo)	<0.098	^3+	<0.099		ug/L		NC	20
Chlorpyrifos	<0.049		<0.049		ug/L		NC	20
Chrysene	<0.020		<0.020		ug/L		NC	20
delta-BHC	<0.098		<0.099		ug/L		NC	20
Di(2-ethylhexyl)adipate	<0.59	^3+	<0.59		ug/L		NC	20
Dibenz(a,h)anthracene	<0.049		<0.049		ug/L		NC	20
Diclorvos (DDVP)	<0.049		<0.049		ug/L		NC	20
Dieldrin	<0.20		<0.20		ug/L		NC	20
Diethylphthalate	<0.49		<0.49		ug/L		NC	20
Dimethylphthalate	<0.49		<0.49		ug/L		NC	20
Di-n-butyl phthalate	<0.98		<0.99		ug/L		NC	20
Di-n-octyl phthalate	<0.098		<0.099		ug/L		NC	20
Endosulfan I (Alpha)	<0.098		<0.099		ug/L		NC	20
Endosulfan II (Beta)	<0.098		<0.099		ug/L		NC	20
Endosulfan sulfate	<0.098		<0.099		ug/L		NC	20
Endrin	<0.098		<0.099		ug/L		NC	20
Endrin aldehyde	<0.098		<0.099		ug/L		NC	20
EPTC	<0.098		<0.099		ug/L		NC	20
Fluoranthene	<0.098		<0.099		ug/L		NC	20
Fluorene	<0.049		<0.049		ug/L		NC	20
gamma-Chlordane	<0.049		<0.049		ug/L		NC	20

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-61972-1

Method: 525.2 - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 380-61758-AN-4-A DU
Matrix: Water
Analysis Batch: 54979

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 54881

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
Heptachlor	<0.039		<0.039		ug/L		NC	20
Heptachlor epoxide (isomer B)	<0.049		<0.049		ug/L		NC	20
Hexachlorobenzene	<0.049		<0.049		ug/L		NC	20
Hexachlorocyclopentadiene	<0.049		<0.049		ug/L		NC	20
Indeno[1,2,3-cd]pyrene	<0.049		<0.049		ug/L		NC	20
Isophorone	<0.49		<0.49		ug/L		NC	20
Lindane	<0.039		<0.039		ug/L		NC	20
Malathion	<0.098		<0.099		ug/L		NC	20
Methoxychlor	<0.098		<0.099		ug/L		NC	20
Metolachlor	<0.049		<0.049		ug/L		NC	20
Molinate	<0.098		<0.099		ug/L		NC	20
Naphthalene	<0.29		<0.30		ug/L		NC	20
Parathion	<0.098	*+	<0.099	*+	ug/L		NC	20
Pendimethalin (Penoxaline)	<0.098		<0.099		ug/L		NC	20
Phenanthrene	<0.039		<0.039		ug/L		NC	20
Propachlor	<0.049		<0.049		ug/L		NC	20
Pyrene	<0.049		<0.049		ug/L		NC	20
Simazine	<0.049		<0.049		ug/L		NC	20
Terbacil	<0.098	^3+	<0.099		ug/L		NC	20
Terbutylazine	<0.098		<0.099		ug/L		NC	20
Thiobencarb	<0.20		<0.20		ug/L		NC	20
Total Permethrin (mixed isomers)	<0.20		<0.20		ug/L		NC	20
trans-Nonachlor	<0.049		<0.049		ug/L		NC	20
Trifluralin	<0.098		<0.099		ug/L		NC	20
		DU	DU					
Surrogate	%Recovery	Qualifier	Limits					
2-Nitro-m-xylene	99		70 - 130					
Perylene-d12	98		70 - 130					
Triphenylphosphate	104		70 - 130					

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

Lab Sample ID: 110860-B1
Matrix: BlankMatrix
Analysis Batch: O-42086

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: O-42086_P

Analyte	Blank	Blank	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1-Methylnaphthalene	ND		0.005	0.001	µg/L		09/12/23 00:00	10/14/23 18:01	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		09/12/23 00:00	10/14/23 18:01	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		09/12/23 00:00	10/14/23 18:01	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		09/12/23 00:00	10/14/23 18:01	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		09/12/23 00:00	10/14/23 18:01	1
Acenaphthene	ND		0.005	0.001	µg/L		09/12/23 00:00	10/14/23 18:01	1
Acenaphthylene	ND		0.005	0.001	µg/L		09/12/23 00:00	10/14/23 18:01	1
Anthracene	ND		0.005	0.001	µg/L		09/12/23 00:00	10/14/23 18:01	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		09/12/23 00:00	10/14/23 18:01	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		09/12/23 00:00	10/14/23 18:01	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		09/12/23 00:00	10/14/23 18:01	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		09/12/23 00:00	10/14/23 18:01	1

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-61972-1

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

Lab Sample ID: 110860-B1
Matrix: BlankMatrix
Analysis Batch: O-42086

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: O-42086_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		09/12/23 00:00	10/14/23 18:01	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		09/12/23 00:00	10/14/23 18:01	1
Biphenyl	ND		0.005	0.001	µg/L		09/12/23 00:00	10/14/23 18:01	1
Chrysene	ND		0.005	0.001	µg/L		09/12/23 00:00	10/14/23 18:01	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		09/12/23 00:00	10/14/23 18:01	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		09/12/23 00:00	10/14/23 18:01	1
Dibenzothiophene	ND		0.005	0.001	µg/L		09/12/23 00:00	10/14/23 18:01	1
Disalicylidenepropanediamine	ND		0.1	0.05	µg/L		09/12/23 00:00	10/14/23 18:01	1
Fluoranthene	ND		0.005	0.001	µg/L		09/12/23 00:00	10/14/23 18:01	1
Fluorene	ND		0.005	0.001	µg/L		09/12/23 00:00	10/14/23 18:01	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		09/12/23 00:00	10/14/23 18:01	1
Naphthalene	ND		0.005	0.001	µg/L		09/12/23 00:00	10/14/23 18:01	1
Perylene	ND		0.005	0.001	µg/L		09/12/23 00:00	10/14/23 18:01	1
Phenanthrene	ND		0.005	0.001	µg/L		09/12/23 00:00	10/14/23 18:01	1
Pyrene	ND		0.005	0.001	µg/L		09/12/23 00:00	10/14/23 18:01	1

Surrogate	Blank %Recovery	Blank Qualifier	Limits	Prepared	Analyzed	Dil Fac
(d10-Acenaphthene)	85		27 - 133	09/12/23 00:00	10/14/23 18:01	1
(d10-Phenanthrene)	89		43 - 129	09/12/23 00:00	10/14/23 18:01	1
(d12-Chrysene)	88		52 - 144	09/12/23 00:00	10/14/23 18:01	1
(d12-Perylene)	94		36 - 161	09/12/23 00:00	10/14/23 18:01	1
(d8-Naphthalene)	85		25 - 125	09/12/23 00:00	10/14/23 18:01	1

Lab Sample ID: 110860-BS1
Matrix: BlankMatrix
Analysis Batch: O-42086

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: O-42086_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1-Methylnaphthalene	0.5	0.447		µg/L		89	31 - 128
1-Methylphenanthrene	0.5	0.45		µg/L		90	66 - 127
2,3,5-Trimethylnaphthalene	0.5	0.446		µg/L		89	55 - 122
2,6-Dimethylnaphthalene	0.5	0.442		µg/L		88	48 - 120
2-Methylnaphthalene	0.5	0.427		µg/L		85	47 - 130
Acenaphthene	0.5	0.45		µg/L		90	53 - 131
Acenaphthylene	0.5	0.458		µg/L		92	43 - 140
Anthracene	0.5	0.456		µg/L		91	58 - 135
Benz[a]anthracene	0.5	0.531		µg/L		106	55 - 145
Benzo[a]pyrene	0.5	0.467		µg/L		93	51 - 143
Benzo[b]fluoranthene	0.5	0.516		µg/L		103	46 - 165
Benzo[e]pyrene	0.5	0.422		µg/L		84	42 - 152
Benzo[g,h,i]perylene	0.5	0.473		µg/L		95	63 - 133
Benzo[k]fluoranthene	0.5	0.46		µg/L		92	56 - 145
Biphenyl	0.5	0.452		µg/L		90	56 - 119
Chrysene	0.5	0.394		µg/L		79	56 - 141
Dibenz[a,h]anthracene	0.5	0.531		µg/L		106	55 - 150
Dibenzo[a,l]pyrene	0.5	0.29		µg/L		58	50 - 150
Dibenzothiophene	0.5	0.468		µg/L		94	46 - 126
Disalicylidenepropanediamine	50	43.5		µg/L		87	50 - 150

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-61972-1

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

Lab Sample ID: 110860-BS1
Matrix: BlankMatrix
Analysis Batch: O-42086

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: O-42086_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Fluoranthene	0.5	0.454		µg/L		91	60 - 146
Fluorene	0.5	0.451		µg/L		90	58 - 131
Indeno[1,2,3-cd]pyrene	0.5	0.505		µg/L		101	50 - 151
Naphthalene	0.5	0.42		µg/L		84	41 - 126
Perylene	0.5	0.487		µg/L		97	48 - 141
Phenanthrene	0.5	0.461		µg/L		92	67 - 127
Pyrene	0.5	0.447		µg/L		89	54 - 156

Surrogate	LCS %Recovery	LCS Qualifier	Limits
(d10-Acenaphthene)	89		27 - 133
(d10-Phenanthrene)	96		43 - 129
(d12-Chrysene)	93		52 - 144
(d12-Perylene)	90		36 - 161
(d8-Naphthalene)	83		25 - 125

Lab Sample ID: 110860-BS2
Matrix: BlankMatrix
Analysis Batch: O-42086

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: O-42086_P

Analyte	Spike Added	LCS DUP Result	LCS DUP Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1-Methylnaphthalene	0.5	0.408		µg/L		82	31 - 128	8	30
1-Methylphenanthrene	0.5	0.442		µg/L		88	66 - 127	2	30
2,3,5-Trimethylnaphthalene	0.5	0.441		µg/L		88	55 - 122	1	30
2,6-Dimethylnaphthalene	0.5	0.431		µg/L		86	48 - 120	2	30
2-Methylnaphthalene	0.5	0.417		µg/L		83	47 - 130	2	30
Acenaphthene	0.5	0.435		µg/L		87	53 - 131	3	30
Acenaphthylene	0.5	0.429		µg/L		86	43 - 140	7	30
Anthracene	0.5	0.437		µg/L		87	58 - 135	4	30
Benz[a]anthracene	0.5	0.529		µg/L		106	55 - 145	0	30
Benzo[a]pyrene	0.5	0.479		µg/L		96	51 - 143	3	30
Benzo[b]fluoranthene	0.5	0.517		µg/L		103	46 - 165	0	30
Benzo[e]pyrene	0.5	0.416		µg/L		83	42 - 152	1	30
Benzo[g,h,i]perylene	0.5	0.469		µg/L		94	63 - 133	1	30
Benzo[k]fluoranthene	0.5	0.453		µg/L		91	56 - 145	1	30
Biphenyl	0.5	0.443		µg/L		89	56 - 119	1	30
Chrysene	0.5	0.39		µg/L		78	56 - 141	1	30
Dibenz[a,h]anthracene	0.5	0.53		µg/L		106	55 - 150	0	30
Dibenzo[a,l]pyrene	0.5	0.298		µg/L		60	50 - 150	3	30
Dibenzothiophene	0.5	0.449		µg/L		90	46 - 126	4	30
Disalicylidenepropanediamine	50	47.6		µg/L		95	50 - 150	9	30
Fluoranthene	0.5	0.443		µg/L		89	60 - 146	2	30
Fluorene	0.5	0.444		µg/L		89	58 - 131	1	30
Indeno[1,2,3-cd]pyrene	0.5	0.501		µg/L		100	50 - 151	1	30
Naphthalene	0.5	0.412		µg/L		82	41 - 126	2	30
Perylene	0.5	0.484		µg/L		97	48 - 141	0	30
Phenanthrene	0.5	0.44		µg/L		88	67 - 127	4	30
Pyrene	0.5	0.442		µg/L		88	54 - 156	1	30

QC Sample Results

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

Job ID: 380-61972-1

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

Lab Sample ID: 110860-BS2
Matrix: BlankMatrix
Analysis Batch: O-42086

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: O-42086_P

Surrogate	LCS DUP %Recovery	LCS DUP Qualifier	Limits
(d10-Acenaphthene)	89		27 - 133
(d10-Phenanthrene)	95		43 - 129
(d12-Chrysene)	93		52 - 144
(d12-Perylene)	90		36 - 161
(d8-Naphthalene)	82		25 - 125

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

Lab Sample ID: 23VG39I07B
Matrix: WATER
Analysis Batch: 23VG39I07

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			09/11/23 12:35	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE					09/11/23 12:35	1

Lab Sample ID: 23VG39I07L
Matrix: WATER
Analysis Batch: 23VG39I07

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	0.461		mg/L		92	60 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
BROMOFLUOROBENZENE	105		70 - 130

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

Lab Sample ID: 23DSI023WB
Matrix: WATER
Analysis Batch: 23DSI023W

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DIESEL	ND	U	0.025		mg/L			09/16/23 03:43	1
MOTOR OIL	ND	U	0.05		mg/L			09/16/23 03:43	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOBENZENE					09/16/23 03:43	1
HEXACOSANE					09/16/23 03:43	1

Lab Sample ID: 23DSI023WL
Matrix: WATER
Analysis Batch: 23DSI023W

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
DIESEL	2.5	2.37		mg/L		95	50 - 130

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-61972-1

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

Lab Sample ID: 23DSI023WL
Matrix: WATER
Analysis Batch: 23DSI023W

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

<i>Surrogate</i>	<i>LCS LCS</i>		<i>Limits</i>
	<i>%Recovery</i>	<i>Qualifier</i>	
<i>BROMOBENZENE</i>	80		60 - 130
<i>HEXACOSANE</i>	98		60 - 130

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16
- 17

QC Association Summary

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

Job ID: 380-61972-1

GC/MS Semi VOA

Prep Batch: 54881

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-61972-1	MOANALUA WELLS Pump 2	Total/NA	Drinking Water	525.2	
380-61972-2	HALAWA WELLS UNITS 1&2 Pump 1	Total/NA	Drinking Water	525.2	
MB 380-54881/21-A	Method Blank	Total/NA	Water	525.2	
LCS 380-54881/23-A	Lab Control Sample	Total/NA	Water	525.2	
LCSD 380-54881/24-A	Lab Control Sample Dup	Total/NA	Water	525.2	
MRL 380-54881/22-A	Lab Control Sample	Total/NA	Water	525.2	
380-61749-AG-4-A MS	Matrix Spike	Total/NA	Water	525.2	
380-61758-AN-4-A DU	Duplicate	Total/NA	Water	525.2	

Analysis Batch: 54979

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-61972-1	MOANALUA WELLS Pump 2	Total/NA	Drinking Water	525.2	54881
380-61972-2	HALAWA WELLS UNITS 1&2 Pump 1	Total/NA	Drinking Water	525.2	54881
MB 380-54881/21-A	Method Blank	Total/NA	Water	525.2	54881
LCS 380-54881/23-A	Lab Control Sample	Total/NA	Water	525.2	54881
LCSD 380-54881/24-A	Lab Control Sample Dup	Total/NA	Water	525.2	54881
MRL 380-54881/22-A	Lab Control Sample	Total/NA	Water	525.2	54881
380-61749-AG-4-A MS	Matrix Spike	Total/NA	Water	525.2	54881
380-61758-AN-4-A DU	Duplicate	Total/NA	Water	525.2	54881

Subcontract

Analysis Batch: O-42086

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-61972-1	MOANALUA WELLS Pump 2	Total/NA	Drinking Water	625 PAH Physis LL (EAL) + TICs	O-42086_P
380-61972-2	HALAWA WELLS UNITS 1&2 Pump 1	Total/NA	Drinking Water	625 PAH Physis LL (EAL) + TICs	O-42086_P
110860-B1	Method Blank	Total/NA	BlankMatrix	625 PAH Physis LL (EAL) + TICs	O-42086_P
110860-BS1	Lab Control Sample	Total/NA	BlankMatrix	625 PAH Physis LL (EAL) + TICs	O-42086_P
110860-BS2	Lab Control Sample Dup	Total/NA	BlankMatrix	625 PAH Physis LL (EAL) + TICs	O-42086_P

Analysis Batch: 23DSI023W

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-61972-1	MOANALUA WELLS Pump 2	Total/NA	Drinking Water	8015 LL DRO/MRO	
380-61972-2	HALAWA WELLS UNITS 1&2 Pump 1	Total/NA	Drinking Water	8015 LL DRO/MRO	
23DSI023WB	Method Blank	Total/NA	WATER	8015 LL DRO/MRO	
23DSI023WL	Lab Control Sample	Total/NA	WATER	8015 LL DRO/MRO	

Analysis Batch: 23VG39107

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-61972-1	MOANALUA WELLS Pump 2	Total/NA	Drinking Water	8015 Gas (Purgeable) LL (EAL)	
380-61972-2	HALAWA WELLS UNITS 1&2 Pump 1	Total/NA	Drinking Water	8015 Gas (Purgeable) LL (EAL)	

Eurofins Eaton Analytical Pomona

QC Association Summary

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

Job ID: 380-61972-1

Subcontract (Continued)

Analysis Batch: 23VG39107 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-61972-3	FB MOANALUA WELLS	Total/NA	Water	8015 Gas (Purgeable) LL (EAL)	
380-61972-4	FB HALAWA WELLS UNITS 1&2	Total/NA	Water	8015 Gas (Purgeable) LL (EAL)	
23VG39107B	Method Blank	Total/NA	WATER	8015 Gas (Purgeable) LL (EAL)	
23VG39107L	Lab Control Sample	Total/NA	WATER	8015 Gas (Purgeable) LL (EAL)	

Prep Batch: O-42086_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-61972-1	MOANALUA WELLS Pump 2	Total/NA	Drinking Water	EPA_625	
380-61972-2	HALAWA WELLS UNITS 1&2 Pump 1	Total/NA	Drinking Water	EPA_625	
110860-B1	Method Blank	Total/NA	BlankMatrix	EPA_625	
110860-BS1	Lab Control Sample	Total/NA	BlankMatrix	EPA_625	
110860-BS2	Lab Control Sample Dup	Total/NA	BlankMatrix	EPA_625	



Lab Chronicle

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

Job ID: 380-61972-1

Client Sample ID: MOANALUA WELLS Pump 2

Lab Sample ID: 380-61972-1

Date Collected: 09/05/23 12:00

Matrix: Drinking Water

Date Received: 09/07/23 10:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	525.2			54881	N8NE	EA POM	09/07/23 20:06
Total/NA	Analysis	525.2		1	54979	Q8LA	EA POM	09/08/23 20:04
Total/NA	Prep	EPA_625		1	O-42086_P			09/12/23 00:00
Total/NA	Analysis	625 PAH Physis LL (EAL) + TICs		1	O-42086	YC		10/14/23 23:21
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)		1	23VG39107	SCerva		09/11/23 18:10
Total/NA	Analysis	8015 LL DRO/MRO		1	23DSI023W	SDees		09/16/23 06:30

Client Sample ID: HALAWA WELLS UNITS 1&2 Pump 1

Lab Sample ID: 380-61972-2

Date Collected: 09/05/23 10:15

Matrix: Drinking Water

Date Received: 09/07/23 10:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	525.2			54881	N8NE	EA POM	09/07/23 20:06
Total/NA	Analysis	525.2		1	54979	Q8LA	EA POM	09/08/23 20:24
Total/NA	Prep	EPA_625		1	O-42086_P			09/12/23 00:00
Total/NA	Analysis	625 PAH Physis LL (EAL) + TICs		1	O-42086	YC		10/15/23 01:07
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)		1	23VG39107	SCerva		09/11/23 18:48
Total/NA	Analysis	8015 LL DRO/MRO		1	23DSI023W	SDees		09/16/23 06:49

Client Sample ID: FB MOANALUA WELLS

Lab Sample ID: 380-61972-3

Date Collected: 09/05/23 12:00

Matrix: Water

Date Received: 09/07/23 10:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)		1	23VG39107	SCerva		09/11/23 20:02

Client Sample ID: FB HALAWA WELLS UNITS 1&2

Lab Sample ID: 380-61972-4

Date Collected: 09/05/23 10:15

Matrix: Water

Date Received: 09/07/23 10:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)		1	23VG39107	SCerva		09/11/23 20:39

Laboratory References:

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

EA POM = Eurofins Eaton Analytical Pomona, 941 Corporate Center Drive, Pomona, CA 91768-2642, TEL (626)386-1100

Accreditation/Certification Summary

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

Job ID: 380-61972-1

Laboratory: Eurofins Eaton Analytical Pomona

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Hawaii	State	CA00006	01-31-24

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
525.2	525.2	Drinking Water	1-Methylnaphthalene
525.2	525.2	Drinking Water	2,4'-DDD
525.2	525.2	Drinking Water	2,4'-DDE
525.2	525.2	Drinking Water	2,4'-DDT
525.2	525.2	Drinking Water	2,4-Dinitrotoluene
525.2	525.2	Drinking Water	2,6-Dinitrotoluene
525.2	525.2	Drinking Water	2-Methylnaphthalene
525.2	525.2	Drinking Water	4,4'-DDD
525.2	525.2	Drinking Water	4,4'-DDE
525.2	525.2	Drinking Water	4,4'-DDT
525.2	525.2	Drinking Water	Acenaphthene
525.2	525.2	Drinking Water	Acenaphthylene
525.2	525.2	Drinking Water	Acetochlor
525.2	525.2	Drinking Water	alpha-BHC
525.2	525.2	Drinking Water	alpha-Chlordane
525.2	525.2	Drinking Water	Anthracene
525.2	525.2	Drinking Water	Benz(a)anthracene
525.2	525.2	Drinking Water	Benzo[b]fluoranthene
525.2	525.2	Drinking Water	Benzo[g,h,]perylene
525.2	525.2	Drinking Water	Benzo[k]fluoranthene
525.2	525.2	Drinking Water	beta-BHC
525.2	525.2	Drinking Water	Bromacil
525.2	525.2	Drinking Water	Butylbenzylphthalate
525.2	525.2	Drinking Water	Chlorobenzilate
525.2	525.2	Drinking Water	Chloroneb
525.2	525.2	Drinking Water	Chlorothalonil (Draconil, Bravo)
525.2	525.2	Drinking Water	Chlorpyrifos
525.2	525.2	Drinking Water	Chrysene
525.2	525.2	Drinking Water	delta-BHC
525.2	525.2	Drinking Water	Dibenz(a,h)anthracene
525.2	525.2	Drinking Water	Diclorvos (DDVP)
525.2	525.2	Drinking Water	Diethylphthalate
525.2	525.2	Drinking Water	Dimethylphthalate
525.2	525.2	Drinking Water	Di-n-butyl phthalate
525.2	525.2	Drinking Water	Di-n-octyl phthalate
525.2	525.2	Drinking Water	Endosulfan I (Alpha)
525.2	525.2	Drinking Water	Endosulfan II (Beta)
525.2	525.2	Drinking Water	Endosulfan sulfate
525.2	525.2	Drinking Water	Endrin aldehyde
525.2	525.2	Drinking Water	EPTC
525.2	525.2	Drinking Water	Fluoranthene
525.2	525.2	Drinking Water	Fluorene
525.2	525.2	Drinking Water	gamma-Chlordane
525.2	525.2	Drinking Water	Indeno[1,2,3-cd]pyrene
525.2	525.2	Drinking Water	Isophorone

Accreditation/Certification Summary

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

Job ID: 380-61972-1

Laboratory: Eurofins Eaton Analytical Pomona (Continued)

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
-----------	---------	-----------------------	-----------------

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
525.2	525.2	Drinking Water	Malathion
525.2	525.2	Drinking Water	Molinate
525.2	525.2	Drinking Water	Naphthalene
525.2	525.2	Drinking Water	Parathion
525.2	525.2	Drinking Water	Pendimethalin (Penoxaline)
525.2	525.2	Drinking Water	Phenanthrene
525.2	525.2	Drinking Water	Pyrene
525.2	525.2	Drinking Water	Terbacil
525.2	525.2	Drinking Water	Terbutylazine
525.2	525.2	Drinking Water	Thiobencarb
525.2	525.2	Drinking Water	Total Permethrin (mixed isomers)
525.2	525.2	Drinking Water	trans-Nonachlor
525.2	525.2	Drinking Water	Trifluralin



Method Summary

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

Job ID: 380-61972-1

Method	Method Description	Protocol	Laboratory
525.2	Semivolatile Organic Compounds (GC/MS)	EPA	EA POM
625	EPA 625 Base/Neutral and Acid Organics i	EPA	
8015	8015 - TPH DRO/ORO	EPA	
8015B	SW846 8015B Gasoline Range Organics	SW846	
525.2	Extraction of Semivolatile Compounds	EPA	EA POM

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

EA POM = Eurofins Eaton Analytical Pomona, 941 Corporate Center Drive, Pomona, CA 91768-2642, TEL (626)386-1100



Sample Summary

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

Job ID: 380-61972-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	PWSID Number
380-61972-1	MOANALUA WELLS Pump 2	Drinking Water	09/05/23 12:00	09/07/23 10:40	HI0000331
380-61972-2	HALAWA WELLS UNITS 1&2 Pump 1	Drinking Water	09/05/23 10:15	09/07/23 10:40	HI0000331
380-61972-3	FB MOANALUA WELLS	Water	09/05/23 12:00	09/07/23 10:40	
380-61972-4	FB HALAWA WELLS UNITS 1&2	Water	09/05/23 10:15	09/07/23 10:40	

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16
- 17



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

Date: 09-28-2023
EMAX Batch No.: 23I051

Attn: Jackie Contreras

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

Subject: Laboratory Report
Project: 380-61972

Enclosed is the Laboratory report for samples received on 09/08/23.
The data reported relate only to samples listed below :

Sample ID	Control #	Col Date	Matrix	Analysis
380-61972-1	I051-01	09/05/23	WATER	TPH GASOLINE TPH DIESEL & MOTOR OIL
380-61972-2	I051-02	09/05/23	WATER	TPH GASOLINE TPH DIESEL & MOTOR OIL
380-61972-3	I051-03	09/05/23	WATER	TPH GASOLINE
380-61972-4	I051-04	09/05/23	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



Chain of Custody Record



231051

Client Information (Sub Contract Lab)	Client Contact: Arada, Rachelle	Lab PM: Arada, Rachelle	Carrier Tracking No(s):	COC No: 380-61972-1
Shipping/Receiving	Phone:	E-Mail: Rachelle.Arada@et.eurofins.com	State of Origin: Hawaii	Page: Page 1 of 1
Company: EMAX Laboratories Inc	Address: 3051 Fujita Street, Torrance CA, 90505	Accreditations Required (see note): State - Hawaii	Job #:	380-61972-1

Due Date Requested: 9/19/2023	Analysis Requested
TAT Requested (days):	<input type="checkbox"/> Field Filtered Sample (Yes or No)
Project #: 38001111	<input type="checkbox"/> Perform MS/MSD (Yes or No)
SSOM#:	<input type="checkbox"/> SUB (8015 Gas (Purgeable) LL (EAL))/ 8015 Gas (Purgeable) LL (EAL)
WO #:	<input type="checkbox"/> SUB (8015 LL DRO/MRO)/ 8015 LL DRO/MRO
Project Name: RED-HILL	
Site: Honolulu BWS Sites	

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=Water, S=Solid, O=Other)	Preservation Code: (B=Truss, A=Alk)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Total Number of containers	Special Instructions/Note:
MOANALUA WELLS (331-223-TP202) (380-61972-1)	9/5/23	12:00		Water		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	6	See Attached Instructions
HALAWA WELLS UNITS 1 & 2 (331-206-TP065) (380-61972-2)	9/5/23	10:15		Water		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	6	See Attached Instructions
FB MOANALUA WELLS (380-61972-3)	9/5/23	12:00		Water		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	2	See Attached Instructions
FB HALAWA WELLS UNITS 1 & 2 (380-61972-4)	9/5/23	10:15		Water		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	2	See Attached Instructions

Note: Since laboratory accreditations are subject to change, Eurofins Eaton Analytical, LLC places the ownership of method, analyze & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/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

Unconfirmed

Deliverable Requested: I, II, III, IV, Other (specify) **Primary Deliverable Rank: 2**

Empty Kit Relinquished by: _____ Date: _____

Relinquished by: **Jan** Date/Time: **9/8/23 1005** Company: **EMAX**

Relinquished by: _____ Date/Time: _____ Company: _____

Relinquished by: _____ Date/Time: _____ Company: _____

Custody Seals Intact: _____ Custody Seal No.: _____

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

Return To Client Disposal By Lab Archive For _____ Months

Special Instructions/QC Requirements: _____

Method of Shipment: _____

Received by: **Jan** Date/Time: **09/08/23 11:05** Company: **EMAX**

Received by: _____ Date/Time: _____ Company: _____

Cooler Temperature(s) °C and Other Remarks: **11/10**



Type of Delivery	Airbill / Tracking Number	ECN 231051
<input type="checkbox"/> Fedex <input type="checkbox"/> UPS <input type="checkbox"/> GSO <input type="checkbox"/> Others		Recipient Maria Rivera
<input type="checkbox"/> EMAX Courier <input checked="" type="checkbox"/> Client Delivery		Date 9/8/23 Time 1005

COC INSPECTION

<input checked="" type="checkbox"/> Client Name	<input 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 checked="" 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 1/10 °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 221852708	B - S/N 221925379	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	Label mentions MOTOR oil	R1 ↓
3,4	13,14,16	D22	9/5/23, 8/29/23	
4	15	D22	9/5/23 8/24/23	
<i>9/8/23</i>				

pH holding time requirement for water samples is 15 mins. Water samples for pH analysis are received beyond 15 minutes from sampling time. *MS 9/12/23*

NOTES/OBSERVATIONS:

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>COC</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 2 dates	R10 _____
D11 Container count mismatch COC vs received	D23 _____	R11 _____
D12 Container size mismatch COC vs received	D24 _____	R12 _____

REVIEWS:

Sample Labeling *SHOWIN Zamora* / *Clayton* SRF *Clayton*

Date **9/8/23** Date **9/8/23**

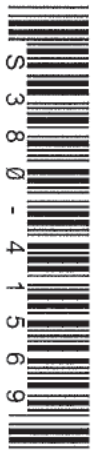
REPORT ID: 231051

PM *MS* Date **9/12/23**

Shipping Order Form



Environment Testing



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

Shipping Order ID: 41569

Ship Via: Lab Courier (UNASSIGNED)

Due On: 9/8/2023 11:59:00PM

Ship To Information

Project Manager:

Company Name: EMAX Laboratories Inc
Attention: Shipping/Receiving
Address 1: 3051 Fujita Street
Address 2:
Address 3:
City: Torrance
State: CA
Zip: 90505
Phone #:
Project Ref:

Notes to Bottle/Shipping Department

Shipping Method: **Standard packing**

- Ready to Fill
- Preprinted COC
- Number of COC Copies
- Seals on Bottle
- Seals on Coolers
- Priority
- Return Shipment Labels
- Prepaid Return
- Eurofins Eaton Analytical Pomona
- Short Hold Times
- Temperature Control
- Rush

Please notify your PM immediately if an error is found in shipment. When returning samples, please return all provided QC samples.

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16
- 17

Please notify your PM immediately if an error is found in shipment. When returning samples, please return all provided QC samples.

REPORT ID: 238951
Shipping Order ID: 438951

Page 2 of 3

Printed on 9/8/2023 9:50 AM
Page 5 of 28

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16
- 17

Bottle Order Information

Bottle Order:
 Bottle Order #:
 Request From Client: 9/8/2023
 Date Order Posted:
 Order Status: Ready To Process
 Prepared By:
Deliver By Date: 9/8/2023 11:59:00PM
 Lab Project Number:
 PWSID:

Order Completion Information

Creator: Gustavo Sanchez Velasquez
 Filled by:
 Sent Date:
 Sent Via:
 Tracking #:

Seis	Bottles/Set	Qty	Bottle Type Description	Preservative	Method	Matrix	Sample Type	Comments	Lot #
------	-------------	-----	-------------------------	--------------	--------	--------	-------------	----------	-------

Notes to Field Staff:



Scan QR code for field sampler instructions

Health and Safety Notes:

Preservative _____

Comment _____

Relinquished By	Company	Date	Time	Received By	Company	Seal #
Relinquished By	Company	Date	Time	Received By	Company	Seal #

Please notify your PM immediately if an error is found in shipment. When returning samples, please return all provided QC samples.

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

380-61972

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

SDG#: 231051



CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 380-61972

SDG : 23I051

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

A total of four(4) water samples were received on 09/08/23 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. VG39I07B - 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. VG39I07L/VG39I07C 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 I050-01M/I050-01S. Refer to Matrix QC summary form for details.

Surrogate

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

Sample Analysis

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

LAB CHRONICLE
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

Client : EUROFINS EATON ANALYTICAL
Project : 380-61972

SDG NO. : 231051
Instrument ID : GCT039

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes	
				WATER						
MBLK1W	VG39107B	1	NA	09/11/2312:35	09/11/2312:35	EI11005A	EI11004A	23VG39107	Method Blank	
LCS1W	VG39107L	1	NA	09/11/2313:12	09/11/2313:12	EI11006A	EI11004A	23VG39107	Lab Control Sample (LCS)	
LCD1W	VG39107C	1	NA	09/11/2313:50	09/11/2313:50	EI11007A	EI11004A	23VG39107	LCS Duplicate	
380-61972-1	I051-01	1	NA	09/11/2318:10	09/11/2318:10	EI11014A	EI11004A	23VG39107	Field Sample	
380-61972-2	I051-02	1	NA	09/11/2318:48	09/11/2318:48	EI11015A	EI11004A	23VG39107	Field Sample	
380-61972-3	I051-03	1	NA	09/11/2320:02	09/11/2320:02	EI11017A	EI11016A	23VG39107	Field Sample	
380-61972-4	I051-04	1	NA	09/11/2320:39	09/11/2320:39	EI11018A	EI11016A	23VG39107	Field Sample	

FN - Filename
% Moist - Percent Moisture



1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17

SAMPLE RESULTS

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

Client : EUROFINS EATON ANALYTICAL	Date Collected: 09/05/23 12:00
Project : 380-61972	Date Received: 09/08/23
Batch No. : 23I051	Date Extracted: 09/11/23 18:10
Sample ID : 380-61972-1	Date Analyzed: 09/11/23 18:10
Lab Samp ID: I051-01	Dilution Factor: 1
Lab File ID: EI11014A	Matrix: WATER
Ext Btch ID: 23VG39107	% Moisture: NA
Calib. Ref.: EI11004A	Instrument ID: 39

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

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
-----	-----	-----	-----	-----
Bromofluorobenzene	0.0316	0.0400	79	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: 09/05/23 10:15
Project : 380-61972	Date Received: 09/08/23
Batch No. : 23I051	Date Extracted: 09/11/23 18:48
Sample ID : 380-61972-2	Date Analyzed: 09/11/23 18:48
Lab Samp ID: I051-02	Dilution Factor: 1
Lab File ID: EI11015A	Matrix: WATER
Ext Btch ID: 23VG39107	% Moisture: NA
Calib. Ref.: EI11004A	Instrument ID: 39

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
GASOLINE	ND	0.020	0.010	
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromofluorobenzene	0.0314	0.0400	79	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: 09/05/23 12:00
Project : 380-61972	Date Received: 09/08/23
Batch No. : 23I051	Date Extracted: 09/11/23 20:02
Sample ID : 380-61972-3	Date Analyzed: 09/11/23 20:02
Lab Samp ID: I051-03	Dilution Factor: 1
Lab File ID: EI11017A	Matrix: WATER
Ext Btch ID: 23VG39107	% Moisture: NA
Calib. Ref.: EI11016A	Instrument ID: 39

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
GASOLINE	ND	0.020	0.010	
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromofluorobenzene	0.0313	0.0400	78	60-140

Notes:

Parameter H-C Range
Gasoline C6-C10

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

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

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

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	09/05/23 10:15
Project	: 380-61972	Date Received:	09/08/23
Batch No.	: 23I051	Date Extracted:	09/11/23 20:39
Sample ID	: 380-61972-4	Date Analyzed:	09/11/23 20:39
Lab Samp ID:	I051-04	Dilution Factor:	1
Lab File ID:	EI11018A	Matrix:	WATER
Ext Btch ID:	23VG39I07	% Moisture:	NA
Calib. Ref.:	EI11016A	Instrument ID:	39

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
-----	-----	-----	-----	
GASOLINE	ND	0.020	0.010	
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
-----	-----	-----	-----	-----
Bromofluorobenzene	0.0315	0.0400	79	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

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17

QC SUMMARIES

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

Client : EUROFINS EATON ANALYTICAL	Date Collected: 09/11/23 12:35
Project : 380-61972	Date Received: 09/11/23
Batch No. : 23I051	Date Extracted: 09/11/23 12:35
Sample ID : MBLK1W	Date Analyzed: 09/11/23 12:35
Lab Samp ID: VG39I07B	Dilution Factor: 1
Lab File ID: EI11005A	Matrix: WATER
Ext Btch ID: 23VG39I07	% Moisture: NA
Calib. Ref.: EI11004A	Instrument ID: 39

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
GASOLINE	ND	0.020	0.010	
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromofluorobenzene	0.0312	0.0400	78	60-140

Notes:

Parameter H-C Range
Gasoline C6-C10

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

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

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL
PROJECT : 380-61972
BATCH NO. : 23I051
METHOD : 5030B/8015B

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR:	1		1
SAMPLE ID	: MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID	: VG39I07B	VG39I07L	VG39I07C
LAB FILE ID	: EI11005A	EI11006A	EI11007A
DATE PREPARED	: 09/11/23 12:35	09/11/23 13:12	09/11/23 13:50
DATE ANALYZED	: 09/11/23 12:35	09/11/23 13:12	09/11/23 13:50
PREP BATCH	: 23VG39I07	23VG39I07	23VG39I07
CALIBRATION REF:	EI11004A	EI11004A	EI11004A

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	0.461	92	0.500	0.449	90	3	60-130	30

SURROGATE PARAMETER	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	QCLimit (%)
Bromofluorobenzene	0.0400	0.0420	105	0.0400	0.0417	104	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 : 380-61968
BATCH NO. : 23I050
METHOD : 5030B/8015B

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR:	1	1	1
SAMPLE ID	: 380-61968-1	380-61968-1MS	380-61968-1MSD
LAB SAMPLE ID	: I050-01	I050-01M	I050-01S
LAB FILE ID	: EI11008A	EI11009A	EI11010A
DATE PREPARED	: 09/11/23 14:27	09/11/23 15:04	09/11/23 15:42
DATE ANALYZED	: 09/11/23 14:27	09/11/23 15:04	09/11/23 15:42
PREP BATCH	: 23VG39I07	23VG39I07	23VG39I07
CALIBRATION REF:	EI11004A	EI11004A	EI11004A

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	0.479	96	0.500	0.478	96	0	50-130	30

SURROGATE PARAMETER	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	QCLimit (%)
Bromofluorobenzene	0.0400	0.0425	106	0.0400	0.0427	107	60-140

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

LABORATORY REPORT FOR

EUROFINS EATON ANALYTICAL

380-61972

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

SDG#: 23I051



CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 380-61972

SDG : 23I051

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

A total of two(2) water samples were received on 09/08/23 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. DSI023WB - 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. DSI023WL/DSI023WC were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample

No matrix QC sample was provided on this SDG.

Surrogate

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

Sample Analysis

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

LAB CHRONICLE
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client : EUROFINS EATON ANALYTICAL
Project : 380-61972

SDG NO. : 231051
Instrument ID : D5

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis Date/Time	Extraction Date/Time	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
	WATER								
MBLK1W	DS1023WB	1	NA	09/16/2303:43	09/14/2313:15	LI14127A	LI14124A	23DSI023W	Method Blank
LCS1W	DS1023WL	1	NA	09/16/2304:02	09/14/2313:15	LI14128A	LI14124A	23DSI023W	Lab Control Sample (LCS)
LCD1W	DS1023WC	1	NA	09/16/2304:20	09/14/2313:15	LI14129A	LI14124A	23DSI023W	LCS Duplicate
380-61972-1	I051-01	1	NA	09/16/2306:30	09/14/2313:15	LI14136A	LI14124A	23DSI023W	Field Sample
380-61972-2	I051-02	1	NA	09/16/2306:49	09/14/2313:15	LI14137A	LI14124A	23DSI023W	Field Sample

FN - Filename
% Moist - Percent Moisture



- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16
- 17

SAMPLE RESULTS

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client : EUROFINS EATON ANALYTICAL	Date Collected: 09/05/23 12:00
Project : 380-61972	Date Received: 09/08/23
Batch No. : 23I051	Date Extracted: 09/14/23 13:15
Sample ID : 380-61972-1	Date Analyzed: 09/16/23 06:30
Lab Samp ID: 23I051-01	Dilution Factor: 1
Lab File ID: LI14136A	Matrix: WATER
Ext Btch ID: 23DSI023W	% Moisture: NA
Calib. Ref.: LI14124A	Instrument ID: D5

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
Diesel	ND	0.026	0.013	
Motor Oil	ND	0.052	0.026	
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.421	0.520	81	60-130
Hexacosane	0.129	0.130	99	60-130

Notes:

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

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 960ml	Final Volume : 5ml
Prepared by : P0reto	Analyzed by : SDeeso

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client : EUROFINS EATON ANALYTICAL	Date Collected: 09/05/23 10:15
Project : 380-61972	Date Received: 09/08/23
Batch No. : 23I051	Date Extracted: 09/14/23 13:15
Sample ID : 380-61972-2	Date Analyzed: 09/16/23 06:49
Lab Samp ID: 23I051-02	Dilution Factor: 1
Lab File ID: LI14137A	Matrix: WATER
Ext Btch ID: 23DSI023W	% Moisture: NA
Calib. Ref.: LI14124A	Instrument ID: D5

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)		
Diesel	ND	0.026	0.013		
Motor Oil	ND	0.052	0.026		
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT	
Bromobenzene	0.449	0.525	85	60-130	
Hexacosane	0.130	0.131	99	60-130	

Notes:

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

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 950ml	Final Volume : 5ml
Prepared by : P0reto	Analyzed by : SDeeso

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17

QC SUMMARIES

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client : EUROFINS EATON ANALYTICAL	Date Collected: 09/14/23 13:15
Project : 380-61972	Date Received: 09/14/23
Batch No. : 23I051	Date Extracted: 09/14/23 13:15
Sample ID : MBLK1W	Date Analyzed: 09/16/23 03:43
Lab Samp ID: DSI023WB	Dilution Factor: 1
Lab File ID: LI14127A	Matrix: WATER
Ext Btch ID: 23DSI023W	% Moisture: NA
Calib. Ref.: LI14124A	Instrument ID: D5

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)		
Diesel	ND	0.025	0.012		
Motor Oil	ND	0.050	0.025		
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT	
Bromobenzene	0.372	0.500	74	60-130	
Hexacosane	0.102	0.125	82	60-130	

Notes:

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

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 1000ml	Final Volume : 5ml
Prepared by : P0reto	Analyzed by : SDeeso

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL
PROJECT : 380-61972
BATCH NO. : 23I051
METHOD : 3520C/8015B

MATRIX : WATER % MOISTURE:NA
DILUTION FACTOR: 1 1
SAMPLE ID : MBLK1W LCS1W LCD1W
LAB SAMPLE ID : DSI023WB DSI023WL DSI023WC
LAB FILE ID : LI14127A LI14128A LI14129A
DATE PREPARED : 09/14/23 13:15 09/14/23 13:15 09/14/23 13:15
DATE ANALYZED : 09/16/23 03:43 09/16/23 04:02 09/16/23 04:20
PREP BATCH : 23DSI023W 23DSI023W 23DSI023W
CALIBRATION REF: LI14124A LI14124A LI14124A

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	2.37	95	2.50	2.16	86	9	50-130	30

SURROGATE PARAMETERS	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	QCLimit (%)
Bromobenzene	0.500	0.402	80	0.500	0.390	78	60-130
Hexacosane	0.125	0.123	98	0.125	0.109	87	60-130

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

October 17, 2023

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

Project Name: RED-HILL Project # 38001111 Job # 380-61972-1
 Physis Project ID: 1407003-443

Dear Rachelle,

Enclosed are the analytical results for samples submitted to PHYSIS Environmental Laboratories, Inc. (PHYSIS) on 9/8/2023. 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: 1407003-443

RED-HILL Project # 38001111 Job # 380-61972-1

Total Samples: 2

PHYSIS ID	Sample ID	Description	Date	Time	Matrix	Sample Type
110861	MOANALUA WELLS	331-223-TP202 (380-61972-1)	9/5/2023	12:00	Samplewater	Not Specified
110862	HALAWA WELLS UNITS 1 & 2	231-206-TP065 (380-61972-2)	9/5/2023	10:15	Samplewater	Not Specified

ABBREVIATIONS and ACRONYMS

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

QUALITY ASSURANCE SUMMARY

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

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

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

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

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

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

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

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

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

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

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

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

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

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

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16
- 17

Base/Neutral Extractable Compounds

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 110861-R1 MOANALUA WELLS 331-223-TP202 Matrix: Samplewater Sampled: 05-Sep-23 12:00 Received: 08-Sep-23											
Disalicylidene-propanediamine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-42086	12-Sep-23	14-Oct-23
Sample ID: 110862-R1 HALAWA WELLS UNITS 1 & 2 331-2 Matrix: Samplewater Sampled: 05-Sep-23 10:15 Received: 08-Sep-23											
Disalicylidene-propanediamine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-42086	12-Sep-23	15-Oct-23



Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 110861-R1	MOANALUA WELLS 331-223-TP202	Matrix: Samplewater									
							Sampled:	05-Sep-23 12:00		Received:	08-Sep-23
(d10-Acenaphthene)	EPA 625.1	% Recovery	83	1			Total		O-42086	12-Sep-23	14-Oct-23
(d10-Phenanthrene)	EPA 625.1	% Recovery	90	1			Total		O-42086	12-Sep-23	14-Oct-23
(d12-Chrysene)	EPA 625.1	% Recovery	90	1			Total		O-42086	12-Sep-23	14-Oct-23
(d12-Perylene)	EPA 625.1	% Recovery	90	1			Total		O-42086	12-Sep-23	14-Oct-23
(d8-Naphthalene)	EPA 625.1	% Recovery	76	1			Total		O-42086	12-Sep-23	14-Oct-23
1-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42086	12-Sep-23	14-Oct-23
1-Methylphenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42086	12-Sep-23	14-Oct-23
2,3,5-Trimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42086	12-Sep-23	14-Oct-23
2,6-Dimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42086	12-Sep-23	14-Oct-23
2-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42086	12-Sep-23	14-Oct-23
Acenaphthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42086	12-Sep-23	14-Oct-23
Acenaphthylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42086	12-Sep-23	14-Oct-23
Anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42086	12-Sep-23	14-Oct-23
Benz[a]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42086	12-Sep-23	14-Oct-23
Benzo[a]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42086	12-Sep-23	14-Oct-23
Benzo[b]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42086	12-Sep-23	14-Oct-23
Benzo[e]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42086	12-Sep-23	14-Oct-23
Benzo[g,h,i]perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42086	12-Sep-23	14-Oct-23
Benzo[k]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42086	12-Sep-23	14-Oct-23
Biphenyl	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42086	12-Sep-23	14-Oct-23
Chrysene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42086	12-Sep-23	14-Oct-23
Dibenz[a,h]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42086	12-Sep-23	14-Oct-23
Dibenzo[a,l]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42086	12-Sep-23	14-Oct-23
Dibenzothiophene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42086	12-Sep-23	14-Oct-23

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42086	12-Sep-23	14-Oct-23
Fluorene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42086	12-Sep-23	14-Oct-23
Indeno[1,2,3-cd]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42086	12-Sep-23	14-Oct-23
Naphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42086	12-Sep-23	14-Oct-23
Perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42086	12-Sep-23	14-Oct-23
Phenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42086	12-Sep-23	14-Oct-23
Pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42086	12-Sep-23	14-Oct-23



Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 110862-R1	HALAWA WELLS UNITS 1 & 2 331-2	Matrix: Samplewater					Sampled: 05-Sep-23 10:15			Received: 08-Sep-23	
(d10-Acenaphthene)	EPA 625.1	% Recovery	78	1			Total		O-42086	12-Sep-23	15-Oct-23
(d10-Phenanthrene)	EPA 625.1	% Recovery	87	1			Total		O-42086	12-Sep-23	15-Oct-23
(d12-Chrysene)	EPA 625.1	% Recovery	86	1			Total		O-42086	12-Sep-23	15-Oct-23
(d12-Perylene)	EPA 625.1	% Recovery	84	1			Total		O-42086	12-Sep-23	15-Oct-23
(d8-Naphthalene)	EPA 625.1	% Recovery	73	1			Total		O-42086	12-Sep-23	15-Oct-23
1-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42086	12-Sep-23	15-Oct-23
1-Methylphenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42086	12-Sep-23	15-Oct-23
2,3,5-Trimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42086	12-Sep-23	15-Oct-23
2,6-Dimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42086	12-Sep-23	15-Oct-23
2-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42086	12-Sep-23	15-Oct-23
Acenaphthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42086	12-Sep-23	15-Oct-23
Acenaphthylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42086	12-Sep-23	15-Oct-23
Anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42086	12-Sep-23	15-Oct-23
Benz[a]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42086	12-Sep-23	15-Oct-23
Benzo[a]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42086	12-Sep-23	15-Oct-23
Benzo[b]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42086	12-Sep-23	15-Oct-23
Benzo[e]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42086	12-Sep-23	15-Oct-23
Benzo[g,h,i]perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42086	12-Sep-23	15-Oct-23
Benzo[k]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42086	12-Sep-23	15-Oct-23
Biphenyl	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42086	12-Sep-23	15-Oct-23
Chrysene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42086	12-Sep-23	15-Oct-23
Dibenz[a,h]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42086	12-Sep-23	15-Oct-23
Dibenzo[a,l]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42086	12-Sep-23	15-Oct-23
Dibenzothiophene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42086	12-Sep-23	15-Oct-23

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42086	12-Sep-23	15-Oct-23
Fluorene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42086	12-Sep-23	15-Oct-23
Indeno[1,2,3-cd]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42086	12-Sep-23	15-Oct-23
Naphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42086	12-Sep-23	15-Oct-23
Perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42086	12-Sep-23	15-Oct-23
Phenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42086	12-Sep-23	15-Oct-23
Pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42086	12-Sep-23	15-Oct-23



QUALITY CONTROL REPORT

TERRA ENVIRONMENTAL LABORATORIES, INC. AURA

Innovative Solutions for Nature

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17

Base/Neutral Extractable Compounds

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE		ACCURACY		PRECISION		QA CODEc
							LEVEL	RESULT	%	LIMITS	%	LIMITS	
Sample ID: 110860-B1		QAQC Procedural Blank			Matrix: BlankMatrix			Sampled:		Received:			
		Method: EPA 625.1			Batch ID: O-42086			Prepared: 12-Sep-23		Analyzed: 14-Oct-23			
Disalicylidenepropanediamine	Total	ND	1	0.05	0.1	µg/L							
Sample ID: 110860-BS1		QAQC Procedural Blank			Matrix: BlankMatrix			Sampled:		Received:			
		Method: EPA 625.1			Batch ID: O-42086			Prepared: 12-Sep-23		Analyzed: 14-Oct-23			
Disalicylidenepropanediamine	Total	43.5	1	0.05	0.1	µg/L	50	0	87	50 - 150%	PASS		
Sample ID: 110860-BS2		QAQC Procedural Blank			Matrix: BlankMatrix			Sampled:		Received:			
		Method: EPA 625.1			Batch ID: O-42086			Prepared: 12-Sep-23		Analyzed: 14-Oct-23			
Disalicylidenepropanediamine	Total	47.6	1	0.05	0.1	µg/L	50	0	95	50 - 150%	PASS	9	30 PASS

Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY	PRECISION	QA CODEc	
							LEVEL	RESULT	%	LIMITS	%	LIMITS
Sample ID: 110860-B1		QAQC Procedural Blank				Matrix: BlankMatrix		Sampled:		Received:		
		Method: EPA 625.1				Batch ID: O-42086		Prepared: 12-Sep-23		Analyzed: 14-Oct-23		
(d10-Acenaphthene)	Total	85	1				% Recovery	100	85	27 - 133%	PASS	
(d10-Phenanthrene)	Total	89	1				% Recovery	100	89	43 - 129%	PASS	
(d12-Chrysene)	Total	88	1				% Recovery	100	88	52 - 144%	PASS	
(d12-Perylene)	Total	94	1				% Recovery	100	94	36 - 161%	PASS	
(d8-Naphthalene)	Total	85	1				% Recovery	100	85	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 CODEc
							LEVEL	RESULT	%	LIMITS	%	LIMITS	
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	SOURCE	ACCURACY		PRECISION		QA CODEc
							LEVEL	RESULT	%	LIMITS	%	LIMITS	
Sample ID: 110860-BS1		QAQC Procedural Blank				Matrix: BlankMatrix			Sampled:		Received:		
Method: EPA 625.1		Batch ID: O-42086				Prepared: 12-Sep-23			Analyzed: 14-Oct-23				
(d10-Acenaphthene)	Total	89	1			% Recovery	100	0	89	27 - 133%	PASS		
(d10-Phenanthrene)	Total	96	1			% Recovery	100	0	96	43 - 129%	PASS		
(d12-Chrysene)	Total	93	1			% Recovery	100	0	93	52 - 144%	PASS		
(d12-Perylene)	Total	90	1			% Recovery	100	0	90	36 - 161%	PASS		
(d8-Naphthalene)	Total	83	1			% Recovery	100	0	83	25 - 125%	PASS		
1-Methylnaphthalene	Total	0.447	1	0.001	0.005	µg/L	0.5	0	89	31 - 128%	PASS		
1-Methylphenanthrene	Total	0.45	1	0.001	0.005	µg/L	0.5	0	90	66 - 127%	PASS		
2,3,5-Trimethylnaphthalene	Total	0.446	1	0.001	0.005	µg/L	0.5	0	89	55 - 122%	PASS		
2,6-Dimethylnaphthalene	Total	0.442	1	0.001	0.005	µg/L	0.5	0	88	48 - 120%	PASS		
2-Methylnaphthalene	Total	0.427	1	0.001	0.005	µg/L	0.5	0	85	47 - 130%	PASS		
Acenaphthene	Total	0.45	1	0.001	0.005	µg/L	0.5	0	90	53 - 131%	PASS		
Acenaphthylene	Total	0.458	1	0.001	0.005	µg/L	0.5	0	92	43 - 140%	PASS		
Anthracene	Total	0.456	1	0.001	0.005	µg/L	0.5	0	91	58 - 135%	PASS		
Benz[a]anthracene	Total	0.531	1	0.001	0.005	µg/L	0.5	0	106	55 - 145%	PASS		
Benzo[a]pyrene	Total	0.467	1	0.001	0.005	µg/L	0.5	0	93	51 - 143%	PASS		
Benzo[b]fluoranthene	Total	0.516	1	0.001	0.005	µg/L	0.5	0	103	46 - 165%	PASS		
Benzo[e]pyrene	Total	0.422	1	0.001	0.005	µg/L	0.5	0	84	42 - 152%	PASS		
Benzo[g,h,i]perylene	Total	0.473	1	0.001	0.005	µg/L	0.5	0	95	63 - 133%	PASS		
Benzo[k]fluoranthene	Total	0.46	1	0.001	0.005	µg/L	0.5	0	92	56 - 145%	PASS		
Biphenyl	Total	0.452	1	0.001	0.005	µg/L	0.5	0	90	56 - 119%	PASS		
Chrysene	Total	0.394	1	0.001	0.005	µg/L	0.5	0	79	56 - 141%	PASS		
Dibenz[a,h]anthracene	Total	0.531	1	0.001	0.005	µg/L	0.5	0	106	55 - 150%	PASS		
Dibenzo[a,l]pyrene	Total	0.29	1	0.001	0.005	µg/L	0.5	0	58	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	0.468	1	0.001	0.005	µg/L	0.5	0	94	46 - 126%	PASS		
Fluoranthene	Total	0.454	1	0.001	0.005	µg/L	0.5	0	91	60 - 146%	PASS		
Fluorene	Total	0.451	1	0.001	0.005	µg/L	0.5	0	90	58 - 131%	PASS		
Indeno[1,2,3-cd]pyrene	Total	0.505	1	0.001	0.005	µg/L	0.5	0	101	50 - 151%	PASS		
Naphthalene	Total	0.42	1	0.001	0.005	µg/L	0.5	0	84	41 - 126%	PASS		
Perylene	Total	0.487	1	0.001	0.005	µg/L	0.5	0	97	48 - 141%	PASS		
Phenanthrene	Total	0.461	1	0.001	0.005	µg/L	0.5	0	92	67 - 127%	PASS		
Pyrene	Total	0.447	1	0.001	0.005	µg/L	0.5	0	89	54 - 156%	PASS		

Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE		ACCURACY			PRECISION		QA CODEc
							LEVEL	RESULT	%	LIMITS	%	LIMITS		
Sample ID: 110860-BS2		QAQC Procedural Blank				Matrix: BlankMatrix			Sampled:			Received:		
		Method: EPA 625.1				Batch ID: O-42086			Prepared: 12-Sep-23			Analyzed: 14-Oct-23		
(d10-Acenaphthene)	Total	89	1			% Recovery	100	0	89	27 - 133%	PASS	0	30	PASS
(d10-Phenanthrene)	Total	95	1			% Recovery	100	0	95	43 - 129%	PASS	1	30	PASS
(d12-Chrysene)	Total	93	1			% Recovery	100	0	93	52 - 144%	PASS	0	30	PASS
(d12-Perylene)	Total	90	1			% Recovery	100	0	90	36 - 161%	PASS	0	30	PASS
(d8-Naphthalene)	Total	82	1			% Recovery	100	0	82	25 - 125%	PASS	1	30	PASS
1-Methylnaphthalene	Total	0.408	1	0.001	0.005	µg/L	0.5	0	82	31 - 128%	PASS	8	30	PASS
1-Methylphenanthrene	Total	0.442	1	0.001	0.005	µg/L	0.5	0	88	66 - 127%	PASS	2	30	PASS
2,3,5-Trimethylnaphthalene	Total	0.441	1	0.001	0.005	µg/L	0.5	0	88	55 - 122%	PASS	1	30	PASS
2,6-Dimethylnaphthalene	Total	0.431	1	0.001	0.005	µg/L	0.5	0	86	48 - 120%	PASS	2	30	PASS
2-Methylnaphthalene	Total	0.417	1	0.001	0.005	µg/L	0.5	0	83	47 - 130%	PASS	2	30	PASS
Acenaphthene	Total	0.435	1	0.001	0.005	µg/L	0.5	0	87	53 - 131%	PASS	3	30	PASS
Acenaphthylene	Total	0.429	1	0.001	0.005	µg/L	0.5	0	86	43 - 140%	PASS	7	30	PASS
Anthracene	Total	0.437	1	0.001	0.005	µg/L	0.5	0	87	58 - 135%	PASS	4	30	PASS
Benz[a]anthracene	Total	0.529	1	0.001	0.005	µg/L	0.5	0	106	55 - 145%	PASS	0	30	PASS
Benzo[a]pyrene	Total	0.479	1	0.001	0.005	µg/L	0.5	0	96	51 - 143%	PASS	3	30	PASS
Benzo[b]fluoranthene	Total	0.517	1	0.001	0.005	µg/L	0.5	0	103	46 - 165%	PASS	0	30	PASS
Benzo[e]pyrene	Total	0.416	1	0.001	0.005	µg/L	0.5	0	83	42 - 152%	PASS	1	30	PASS
Benzo[g,h,i]perylene	Total	0.469	1	0.001	0.005	µg/L	0.5	0	94	63 - 133%	PASS	1	30	PASS
Benzo[k]fluoranthene	Total	0.453	1	0.001	0.005	µg/L	0.5	0	91	56 - 145%	PASS	1	30	PASS
Biphenyl	Total	0.443	1	0.001	0.005	µg/L	0.5	0	89	56 - 119%	PASS	1	30	PASS
Chrysene	Total	0.39	1	0.001	0.005	µg/L	0.5	0	78	56 - 141%	PASS	1	30	PASS
Dibenz[a,h]anthracene	Total	0.53	1	0.001	0.005	µg/L	0.5	0	106	55 - 150%	PASS	0	30	PASS
Dibenzo[a,l]pyrene	Total	0.298	1	0.001	0.005	µg/L	0.5	0	60	50 - 150%	PASS	3	30	PASS

Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY			PRECISION		QA CODEc
							LEVEL	RESULT	%	LIMITS	%	LIMITS		
Dibenzothiophene	Total	0.449	1	0.001	0.005	µg/L	0.5	0	90	46 - 126%	PASS	4	30	PASS
Fluoranthene	Total	0.443	1	0.001	0.005	µg/L	0.5	0	89	60 - 146%	PASS	2	30	PASS
Fluorene	Total	0.444	1	0.001	0.005	µg/L	0.5	0	89	58 - 131%	PASS	1	30	PASS
Indeno[1,2,3-cd]pyrene	Total	0.501	1	0.001	0.005	µg/L	0.5	0	100	50 - 151%	PASS	1	30	PASS
Naphthalene	Total	0.412	1	0.001	0.005	µg/L	0.5	0	82	41 - 126%	PASS	2	30	PASS
Perylene	Total	0.484	1	0.001	0.005	µg/L	0.5	0	97	48 - 141%	PASS	0	30	PASS
Phenanthrene	Total	0.44	1	0.001	0.005	µg/L	0.5	0	88	67 - 127%	PASS	4	30	PASS
Pyrene	Total	0.442	1	0.001	0.005	µg/L	0.5	0	88	54 - 156%	PASS	1	30	PASS

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16
- 17

PHYSICS
TENTATIVELY
IDENTIFIED COMPOUNDS

ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

Sample ID: 110861

Retention Time	Area (% of total)	Concentration (ng/L)	Library/ID	Cas Number	Match Quality (%)
33.2816	5.3268	1111	Anthracene-D10-	1719-06-8	83
10.0386	2.8177	588	Oxalic acid, cyclohexyl propyl ester	1000309-30-3	93

Concentration estimated using the response for Anthracene-d10

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16
- 17

Sample ID: 110862

Retention Time	Area (% of total)	Concentration (ng/L)	Library/ID	Cas Number	Match Quality (%)
33.2781	6.4682	1111	Anthracene-D10-	1719-06-8	92
10.0388	2.6719	459	Oxalic acid, cyclohexyl propyl ester	1000309-30-3	93

Concentration estimated using the response for Anthracene-d10

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16
- 17

Sample ID: Lab Blank B1_42086

Retention Time	Area (% of total)	Concentration (ng/L)	Library/ID	Cas Number	Match Quality (%)
33.3089	5.9312	1111	Anthracene-D10-	1517-22-2	94
10.0410	2.4414	457	Oxalic acid, cyclohexyl pentyl ester	1000309-30-6	91

Concentration estimated using the response for Anthracene-d10

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16
- 17

PERFORMANCE CHAIN OF CUSTODY

TERRA ENVIRONMENTAL LABORATORIES, INC. AURA

Innovative Solutions for Nature

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17

Project Iteration ID: 1407003-443
 Client Name: Eurofins Eaton Analytical
 Project Name: RED-HILL Project # 38001111 Job # 380-61972-1
 COC Page Number: 2 of 2
 Bottle Label Color: NA

Sample Receipt Summary

Receiving Info

1. Initials Received By: YJC
2. Date Received: 9/8/23
3. Time Received: 1059
4. Client Name: EUROFIN
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): -0.1
 Used I/R Thermometer # 1-2

Inspection Info

1. Initials Inspected By: [Signature]

Sample Integrity Upon Receipt:

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

Notes:



Environment Testing

Shipping Summary



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

Bottle Order Information

Bottle Order: RUSH RED-HILL WEEKLY
Bottle Order #: 2757
Request From Client: 3/2/2023
Date Order Posted: 7/20/2022 11:12:54AM
Order Status: Shipped
Prepared By: Davis Haley
Deliver By Date: 3/29/2023 11:59:00PM
When To Ship: 3/27/2023

Project/Event Information

Project Manager: Rachelle Arada
Tel: (626) 386-1106 **Em:** Rachelle.Arada@et.eurofinsus.com
Lab Project Number: 38001111
Project Ref: RED-HILL
Event Desc: RUSH Weekly Red Hill

Client Samples: AIEA GULCH WELLS PUMP 2, AIEA WELLS PUMPS 1&2 (260), HALAWA WELLS UNITS 1&2, MOANALUA WELLS

Sets	Bottles/Set	Bottle Type Description	Field Filtered	Preservative	Method	Matrix	Comments
4	2	Amber Glass 1 liter - Sodium Thiosulfate		Sodium Thiosulfate	SUBCONTRACT - 625 PAH Physis LL (EAL) + TICs	Water	625 PAH <i>Physis</i>

Please notify your PM immediately if an error is found in shipment. When returning samples, please return all provided QC samples.



Shipping Summary

Client Samples: AIEA GULCH WELLS PUMP 2, AIEA WELLS PUMPS 1&2 (260), HALAWA WELLS UNITS 1&2, MOANALUA WELLS

Sets	Bottles/Set	Bottle Type Description	Field Filtered	Preservative	Method	Matrix	Comments
4	4	Voa Vial 40ml - SodiumThio w/HCl-dropper		Sodium Thiosulfate	SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL)	Water	<i>May</i>

Please notify your PM immediately if an error is found in shipment. When returning samples, please return all provided QC samples.



Shipping Summary

Client Samples: AIEA GULCH WELLS PUMP 2, AIEA WELLS PUMPS 1&2 (260), HALAWA WELLS UNITS 1&2, MOANALUA WELLS

Sets	Bottles/Set	Bottle Type Description	Field Filtered	Preservative	Method	Matrix	Comments
4	2	Amber Glass 1 L - NaThiosulfate 8mL HCL		Sodium Thiosulfate/Hydrochloric Acid	SUBCONTRACT - 8015 Diesel LL (EAL) and Motor Oil	Water	<i>Excess</i>

Please notify your PM immediately if an error is found in shipment. When returning samples, please return all provided QC samples.



Shipping Summary

Client Samples: AIEA GULCH WELLS PUMP 2, AIEA WELLS PUMPS 1&2 (260), HALAWA WELLS UNITS 1&2, MOANALUA WELLS

Sets	Bottles/Set	Bottle Type Description	Field Filtered	Preservative	Method	Matrix	Comments
4	2	Amber Glass 1 Liter- Sodium Sulfite/HCl		Sodium Sulfite w/HCl	525.2_PREC - (MOD) 525plus Plus TICs	Water	

Please notify your PM immediately if an error is found in shipment. When returning samples, please return all provided QC samples.



Shipping Summary

Client Samples: TB AIEA GULCH WELLS PUMP2, TBAIEA WELLS PUMPS 1&2 (260), TB HALAWA WELLS UNITS 1&2, TB MOANALUA WELLS

Sets	Bottles/Set	Bottle Type Description	Field Filtered	Preservative	Method	Matrix	Comments
4	2	VOA Vial 40mL - NaThiosulfate/HCL		Sodium Thiosulfate/Hydrochloric Acid	SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL)	Water	<i>ELSY</i>

Please notify your PM immediately if an error is found in shipment. When returning samples, please return all provided QC samples.



Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-61972-1

Login Number: 61972

List Number: 1

Creator: Edrosa, Rey

List Source: Eurofins Eaton Analytical Pomona

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	False	Not present
Sample custody seals, if present, are intact.	False	Not Present
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	