eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

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

Generated 11/22/2023 7:35:19 PM

JOB DESCRIPTION

RED-HILL
RUSH Weekly Red Hill

JOB NUMBER

380-61396-1

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

See page two for job notes and contact information.

Job Notes

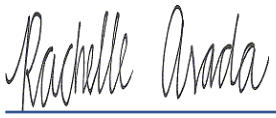
This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

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

Compliance Statement

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

Authorization



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Authorized for release by
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Table of Contents

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

Job ID: 380-61396-1

Laboratory: Eurofins Eaton Analytical Pomona

Narrative

Job Narrative
380-61396-1

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 9/1/2023 9:40 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 1.3°C and 2.9°C

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

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

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: 380-61396-1

Client Sample ID: MOANALUA WELLS Pump 2 — Lab Sample ID: 380-61396-1

No Detections.

Client Sample ID: HALAWA WELLS UNITS 1 & 2 Pump 1 — Lab Sample ID: 380-61396-2

No Detections.

Client Sample ID: TB MOANALUA WELLS — Lab Sample ID: 380-61396-3

No Detections.

Client Sample ID: TB HALAWA WELLS UNITS 1 & 2 — Lab Sample ID: 380-61396-4

No Detections.

This Detection Summary does not include radiochemical test results.

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

Job ID: 380-61396-1

Client Sample ID: MOANALUA WELLS Pump 2
Date Collected: 08/30/23 11:30
Date Received: 09/01/23 09:40

Lab Sample ID: 380-61396-1
Matrix: Drinking Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	<0.097		0.097		ug/L		09/02/23 10:37	09/05/23 20:12	1
2,4'-DDD	<0.097		0.097		ug/L		09/02/23 10:37	09/05/23 20:12	1
2,4'-DDE	<0.097		0.097		ug/L		09/02/23 10:37	09/05/23 20:12	1
2,4'-DDT	<0.097		0.097		ug/L		09/02/23 10:37	09/05/23 20:12	1
2,4-Dinitrotoluene	<0.097		0.097		ug/L		09/02/23 10:37	09/05/23 20:12	1
2,6-Dinitrotoluene	<0.097		0.097		ug/L		09/02/23 10:37	09/05/23 20:12	1
2-Methylnaphthalene	<0.097		0.097		ug/L		09/02/23 10:37	09/05/23 20:12	1
4,4'-DDD	<0.097		0.097		ug/L		09/02/23 10:37	09/05/23 20:12	1
4,4'-DDE	<0.097		0.097		ug/L		09/02/23 10:37	09/05/23 20:12	1
4,4'-DDT	<0.097		0.097		ug/L		09/02/23 10:37	09/05/23 20:12	1
Acenaphthene	<0.097		0.097		ug/L		09/02/23 10:37	09/05/23 20:12	1
Acenaphthylene	<0.097		0.097		ug/L		09/02/23 10:37	09/05/23 20:12	1
Acetochlor	<0.097	*+	0.097		ug/L		09/02/23 10:37	09/05/23 20:12	1
Alachlor	<0.049		0.049		ug/L		09/02/23 10:37	09/05/23 20:12	1
alpha-BHC	<0.097		0.097		ug/L		09/02/23 10:37	09/05/23 20:12	1
alpha-Chlordane	<0.049		0.049		ug/L		09/02/23 10:37	09/05/23 20:12	1
Anthracene	<0.019		0.019		ug/L		09/02/23 10:37	09/05/23 20:12	1
Atrazine	<0.049		0.049		ug/L		09/02/23 10:37	09/05/23 20:12	1
Benz(a)anthracene	<0.049		0.049		ug/L		09/02/23 10:37	09/05/23 20:12	1
Benzo[a]pyrene	<0.019		0.019		ug/L		09/02/23 10:37	09/05/23 20:12	1
Benzo[b]fluoranthene	<0.019		0.019		ug/L		09/02/23 10:37	09/05/23 20:12	1
Benzo[g,h,i]perylene	<0.049		0.049		ug/L		09/02/23 10:37	09/05/23 20:12	1
Benzo[k]fluoranthene	<0.019		0.019		ug/L		09/02/23 10:37	09/05/23 20:12	1
beta-BHC	<0.097		0.097		ug/L		09/02/23 10:37	09/05/23 20:12	1
Bis(2-ethylhexyl) phthalate	<0.58		0.58		ug/L		09/02/23 10:37	09/05/23 20:12	1
Bromacil	<0.097		0.097		ug/L		09/02/23 10:37	09/05/23 20:12	1
Butachlor	<0.049		0.049		ug/L		09/02/23 10:37	09/05/23 20:12	1
Butylbenzylphthalate	<0.49		0.49		ug/L		09/02/23 10:37	09/05/23 20:12	1
Chlorobenzilate	<0.097	^3+	0.097		ug/L		09/02/23 10:37	09/05/23 20:12	1
Chloroneb	<0.097		0.097		ug/L		09/02/23 10:37	09/05/23 20:12	1
Chlorothalonil (Draconil, Bravo)	<0.097		0.097		ug/L		09/02/23 10:37	09/05/23 20:12	1
Chlorpyrifos	<0.049		0.049		ug/L		09/02/23 10:37	09/05/23 20:12	1
Chrysene	<0.019		0.019		ug/L		09/02/23 10:37	09/05/23 20:12	1
delta-BHC	<0.097		0.097		ug/L		09/02/23 10:37	09/05/23 20:12	1
Di(2-ethylhexyl)adipate	<0.58		0.58		ug/L		09/02/23 10:37	09/05/23 20:12	1
Dibenz(a,h)anthracene	<0.049	*+	0.049		ug/L		09/02/23 10:37	09/05/23 20:12	1
Diclorvos (DDVP)	<0.049	*+ ^3+	0.049		ug/L		09/02/23 10:37	09/05/23 20:12	1
Dieldrin	<0.19		0.19		ug/L		09/02/23 10:37	09/05/23 20:12	1
Diethylphthalate	<0.49		0.49		ug/L		09/02/23 10:37	09/05/23 20:12	1
Dimethylphthalate	<0.49		0.49		ug/L		09/02/23 10:37	09/05/23 20:12	1
Di-n-butyl phthalate	<0.97		0.97		ug/L		09/02/23 10:37	09/05/23 20:12	1
Di-n-octyl phthalate	<0.097		0.097		ug/L		09/02/23 10:37	09/05/23 20:12	1
Endosulfan I (Alpha)	<0.097		0.097		ug/L		09/02/23 10:37	09/05/23 20:12	1
Endosulfan II (Beta)	<0.097		0.097		ug/L		09/02/23 10:37	09/05/23 20:12	1
Endosulfan sulfate	<0.097		0.097		ug/L		09/02/23 10:37	09/05/23 20:12	1
Endrin	<0.097		0.097		ug/L		09/02/23 10:37	09/05/23 20:12	1
Endrin aldehyde	<0.097		0.097		ug/L		09/02/23 10:37	09/05/23 20:12	1
EPTC	<0.097		0.097		ug/L		09/02/23 10:37	09/05/23 20:12	1
Fluoranthene	<0.097		0.097		ug/L		09/02/23 10:37	09/05/23 20:12	1

Client Sample ID: MOANALUA WELLS Pump 2
Date Collected: 08/30/23 11:30
Date Received: 09/01/23 09:40

Lab Sample ID: 380-61396-1
Matrix: Drinking Water

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		09/02/23 10:37	09/05/23 20:12	1
gamma-Chlordane	<0.049		0.049		ug/L		09/02/23 10:37	09/05/23 20:12	1
Heptachlor	<0.039		0.039		ug/L		09/02/23 10:37	09/05/23 20:12	1
Heptachlor epoxide (isomer B)	<0.049		0.049		ug/L		09/02/23 10:37	09/05/23 20:12	1
Hexachlorobenzene	<0.049		0.049		ug/L		09/02/23 10:37	09/05/23 20:12	1
Hexachlorocyclopentadiene	<0.049		0.049		ug/L		09/02/23 10:37	09/05/23 20:12	1
Indeno[1,2,3-cd]pyrene	<0.049	*+	0.049		ug/L		09/02/23 10:37	09/05/23 20:12	1
Isophorone	<0.49		0.49		ug/L		09/02/23 10:37	09/05/23 20:12	1
Lindane	<0.039		0.039		ug/L		09/02/23 10:37	09/05/23 20:12	1
Malathion	<0.097		0.097		ug/L		09/02/23 10:37	09/05/23 20:12	1
Methoxychlor	<0.097		0.097		ug/L		09/02/23 10:37	09/05/23 20:12	1
Metolachlor	<0.049		0.049		ug/L		09/02/23 10:37	09/05/23 20:12	1
Molinate	<0.097		0.097		ug/L		09/02/23 10:37	09/05/23 20:12	1
Naphthalene	<0.29		0.29		ug/L		09/02/23 10:37	09/05/23 20:12	1
Parathion	<0.097		0.097		ug/L		09/02/23 10:37	09/05/23 20:12	1
Pendimethalin (Penoxaline)	<0.097		0.097		ug/L		09/02/23 10:37	09/05/23 20:12	1
Phenanthrene	<0.039		0.039		ug/L		09/02/23 10:37	09/05/23 20:12	1
Propachlor	<0.049		0.049		ug/L		09/02/23 10:37	09/05/23 20:12	1
Pyrene	<0.049		0.049		ug/L		09/02/23 10:37	09/05/23 20:12	1
Simazine	<0.049		0.049		ug/L		09/02/23 10:37	09/05/23 20:12	1
Terbacil	<0.097	*+	0.097		ug/L		09/02/23 10:37	09/05/23 20:12	1
Terbuthylazine	<0.097		0.097		ug/L		09/02/23 10:37	09/05/23 20:12	1
Thiobencarb	<0.19		0.19		ug/L		09/02/23 10:37	09/05/23 20:12	1
Total Permethrin (mixed isomers)	<0.19		0.19		ug/L		09/02/23 10:37	09/05/23 20:12	1
trans-Nonachlor	<0.049		0.049		ug/L		09/02/23 10:37	09/05/23 20:12	1
Trifluralin	<0.097		0.097		ug/L		09/02/23 10:37	09/05/23 20:12	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Hexathiane	*3.4*	*T J N*	*ug/L*		*4.49*	*13798-23-7*	*09/02/23 10:37*	*09/05/23 20:12*	*1*
Unknown	*4.2*	*T J*	*ug/L*		*5.62*	*N/A*	*09/02/23 10:37*	*09/05/23 20:12*	*1*
Unknown	*2.0*	*T J*	*ug/L*		*5.89*	*N/A*	*09/02/23 10:37*	*09/05/23 20:12*	*1*
Unknown	*69*	*T J*	*ug/L*		*6.39*	*N/A*	*09/02/23 10:37*	*09/05/23 20:12*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Nitro-m-xylene	*94*		*70 - 130*	*09/02/23 10:37*	*09/05/23 20:12*	*1*
Perylene-d12	*98*		*70 - 130*	*09/02/23 10:37*	*09/05/23 20:12*	*1*
Triphenylphosphate	*90*		*70 - 130*	*09/02/23 10:37*	*09/05/23 20:12*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.005	0.001	µg/L		09/06/23 00:00	10/14/23 09:07	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		09/06/23 00:00	10/14/23 09:07	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		09/06/23 00:00	10/14/23 09:07	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		09/06/23 00:00	10/14/23 09:07	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		09/06/23 00:00	10/14/23 09:07	1
Acenaphthene	ND		0.005	0.001	µg/L		09/06/23 00:00	10/14/23 09:07	1
Acenaphthylene	ND		0.005	0.001	µg/L		09/06/23 00:00	10/14/23 09:07	1
Anthracene	ND		0.005	0.001	µg/L		09/06/23 00:00	10/14/23 09:07	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		09/06/23 00:00	10/14/23 09:07	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		09/06/23 00:00	10/14/23 09:07	1

Client Sample ID: MOANALUA WELLS Pump 2

Lab Sample ID: 380-61396-1
Date Collected: 08/30/23 11:30
Matrix: Drinking Water
Date Received: 09/01/23 09:40

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[b]fluoranthene	ND		0.005	0.001	µg/L		09/06/23 00:00	10/14/23 09:07	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		09/06/23 00:00	10/14/23 09:07	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		09/06/23 00:00	10/14/23 09:07	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		09/06/23 00:00	10/14/23 09:07	1
Biphenyl	ND		0.005	0.001	µg/L		09/06/23 00:00	10/14/23 09:07	1
Chrysene	ND		0.005	0.001	µg/L		09/06/23 00:00	10/14/23 09:07	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		09/06/23 00:00	10/14/23 09:07	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		09/06/23 00:00	10/14/23 09:07	1
Dibenzothiophene	ND		0.005	0.001	µg/L		09/06/23 00:00	10/14/23 09:07	1
Disalicylidenepropanediamine	ND		0.1	0.05	µg/L		09/06/23 00:00	10/14/23 09:07	1
Fluoranthene	ND		0.005	0.001	µg/L		09/06/23 00:00	10/14/23 09:07	1
Fluorene	ND		0.005	0.001	µg/L		09/06/23 00:00	10/14/23 09:07	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		09/06/23 00:00	10/14/23 09:07	1
Naphthalene	ND		0.005	0.001	µg/L		09/06/23 00:00	10/14/23 09:07	1
Perylene	ND		0.005	0.001	µg/L		09/06/23 00:00	10/14/23 09:07	1
Phenanthrene	ND		0.005	0.001	µg/L		09/06/23 00:00	10/14/23 09:07	1
Pyrene	ND		0.005	0.001	µg/L		09/06/23 00:00	10/14/23 09:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
(d10-Acenaphthene)	*78*		*27 - 133*	*09/06/23 00:00*	*10/14/23 09:07*	*1*
(d10-Phenanthrene)	*87*		*43 - 129*	*09/06/23 00:00*	*10/14/23 09:07*	*1*
(d12-Chrysene)	*87*		*52 - 144*	*09/06/23 00:00*	*10/14/23 09:07*	*1*
(d12-Perylene)	*85*		*36 - 161*	*09/06/23 00:00*	*10/14/23 09:07*	*1*
(d8-Naphthalene)	*70*		*25 - 125*	*09/06/23 00:00*	*10/14/23 09:07*	*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			09/06/23 14:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
BROMOFLUOROBENZENE	*78*		*60 - 140*		*09/06/23 14:43*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DIESEL	ND	U	0.025		mg/L			09/07/23 05:58	1
JP5	ND	U	0.05		mg/L			09/07/23 05:58	1
JP8	ND	U	0.05		mg/L			09/07/23 05:58	1
MOTOR OIL	ND	U	0.05		mg/L			09/07/23 05:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
BROMOBENZENE	*73*		*60 - 130*		*09/07/23 05:58*	*1*
HEXACOSANE	*94*		*60 - 130*		*09/07/23 05:58*	*1*

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

Lab Sample ID: 380-61396-2
Date Collected: 08/30/23 10:00
Matrix: Drinking Water
Date Received: 09/01/23 09:40

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		09/02/23 10:37	09/05/23 20:32	1
2,4'-DDD	<0.099		0.099		ug/L		09/02/23 10:37	09/05/23 20:32	1

Client Sample ID: HALAWA WELLS UNITS 1 & 2 Pump 1
Date Collected: 08/30/23 10:00
Date Received: 09/01/23 09:40

Lab Sample ID: 380-61396-2
Matrix: Drinking Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
2,4'-DDE	<0.099		0.099		ug/L		09/02/23 10:37	09/05/23 20:32	1
2,4'-DDT	<0.099		0.099		ug/L		09/02/23 10:37	09/05/23 20:32	1
2,4-Dinitrotoluene	<0.099		0.099		ug/L		09/02/23 10:37	09/05/23 20:32	1
2,6-Dinitrotoluene	<0.099		0.099		ug/L		09/02/23 10:37	09/05/23 20:32	1
2-Methylnaphthalene	<0.099		0.099		ug/L		09/02/23 10:37	09/05/23 20:32	1
4,4'-DDD	<0.099		0.099		ug/L		09/02/23 10:37	09/05/23 20:32	1
4,4'-DDE	<0.099		0.099		ug/L		09/02/23 10:37	09/05/23 20:32	1
4,4'-DDT	<0.099		0.099		ug/L		09/02/23 10:37	09/05/23 20:32	1
Acenaphthene	<0.099		0.099		ug/L		09/02/23 10:37	09/05/23 20:32	1
Acenaphthylene	<0.099		0.099		ug/L		09/02/23 10:37	09/05/23 20:32	1
Acetochlor	<0.099	*+	0.099		ug/L		09/02/23 10:37	09/05/23 20:32	1
Alachlor	<0.050		0.050		ug/L		09/02/23 10:37	09/05/23 20:32	1
alpha-BHC	<0.099		0.099		ug/L		09/02/23 10:37	09/05/23 20:32	1
alpha-Chlordane	<0.050		0.050		ug/L		09/02/23 10:37	09/05/23 20:32	1
Anthracene	<0.020		0.020		ug/L		09/02/23 10:37	09/05/23 20:32	1
Atrazine	<0.050		0.050		ug/L		09/02/23 10:37	09/05/23 20:32	1
Benz(a)anthracene	<0.050		0.050		ug/L		09/02/23 10:37	09/05/23 20:32	1
Benzo[a]pyrene	<0.020		0.020		ug/L		09/02/23 10:37	09/05/23 20:32	1
Benzo[b]fluoranthene	<0.020		0.020		ug/L		09/02/23 10:37	09/05/23 20:32	1
Benzo[g,h,i]perylene	<0.050		0.050		ug/L		09/02/23 10:37	09/05/23 20:32	1
Benzo[k]fluoranthene	<0.020		0.020		ug/L		09/02/23 10:37	09/05/23 20:32	1
beta-BHC	<0.099		0.099		ug/L		09/02/23 10:37	09/05/23 20:32	1
Bis(2-ethylhexyl) phthalate	<0.59		0.59		ug/L		09/02/23 10:37	09/05/23 20:32	1
Bromacil	<0.099		0.099		ug/L		09/02/23 10:37	09/05/23 20:32	1
Butachlor	<0.050		0.050		ug/L		09/02/23 10:37	09/05/23 20:32	1
Butylbenzylphthalate	<0.50		0.50		ug/L		09/02/23 10:37	09/05/23 20:32	1
Chlorobenzilate	<0.099	^3+	0.099		ug/L		09/02/23 10:37	09/05/23 20:32	1
Chloroneb	<0.099		0.099		ug/L		09/02/23 10:37	09/05/23 20:32	1
Chlorothalonil (Draconil, Bravo)	<0.099		0.099		ug/L		09/02/23 10:37	09/05/23 20:32	1
Chlorpyrifos	<0.050		0.050		ug/L		09/02/23 10:37	09/05/23 20:32	1
Chrysene	<0.020		0.020		ug/L		09/02/23 10:37	09/05/23 20:32	1
delta-BHC	<0.099		0.099		ug/L		09/02/23 10:37	09/05/23 20:32	1
Di(2-ethylhexyl)adipate	<0.59		0.59		ug/L		09/02/23 10:37	09/05/23 20:32	1
Dibenz(a,h)anthracene	<0.050	*+	0.050		ug/L		09/02/23 10:37	09/05/23 20:32	1
Diclorvos (DDVP)	<0.050	^3+ *+	0.050		ug/L		09/02/23 10:37	09/05/23 20:32	1
Dieldrin	<0.20		0.20		ug/L		09/02/23 10:37	09/05/23 20:32	1
Diethylphthalate	<0.50		0.50		ug/L		09/02/23 10:37	09/05/23 20:32	1
Dimethylphthalate	<0.50		0.50		ug/L		09/02/23 10:37	09/05/23 20:32	1
Di-n-butyl phthalate	<0.99		0.99		ug/L		09/02/23 10:37	09/05/23 20:32	1
Di-n-octyl phthalate	<0.099		0.099		ug/L		09/02/23 10:37	09/05/23 20:32	1
Endosulfan I (Alpha)	<0.099		0.099		ug/L		09/02/23 10:37	09/05/23 20:32	1
Endosulfan II (Beta)	<0.099		0.099		ug/L		09/02/23 10:37	09/05/23 20:32	1
Endosulfan sulfate	<0.099		0.099		ug/L		09/02/23 10:37	09/05/23 20:32	1
Endrin	<0.099		0.099		ug/L		09/02/23 10:37	09/05/23 20:32	1
Endrin aldehyde	<0.099		0.099		ug/L		09/02/23 10:37	09/05/23 20:32	1
EPTC	<0.099		0.099		ug/L		09/02/23 10:37	09/05/23 20:32	1
Fluoranthene	<0.099		0.099		ug/L		09/02/23 10:37	09/05/23 20:32	1
Fluorene	<0.050		0.050		ug/L		09/02/23 10:37	09/05/23 20:32	1
gamma-Chlordane	<0.050		0.050		ug/L		09/02/23 10:37	09/05/23 20:32	1

Client Sample ID: HALAWA WELLS UNITS 1 & 2 Pump 1
Date Collected: 08/30/23 10:00
Date Received: 09/01/23 09:40

Lab Sample ID: 380-61396-2
Matrix: Drinking Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Heptachlor	<0.040		0.040		ug/L		09/02/23 10:37	09/05/23 20:32	1
Heptachlor epoxide (isomer B)	<0.050		0.050		ug/L		09/02/23 10:37	09/05/23 20:32	1
Hexachlorobenzene	<0.050		0.050		ug/L		09/02/23 10:37	09/05/23 20:32	1
Hexachlorocyclopentadiene	<0.050		0.050		ug/L		09/02/23 10:37	09/05/23 20:32	1
Indeno[1,2,3-cd]pyrene	<0.050	*+	0.050		ug/L		09/02/23 10:37	09/05/23 20:32	1
Isophorone	<0.50		0.50		ug/L		09/02/23 10:37	09/05/23 20:32	1
Lindane	<0.040		0.040		ug/L		09/02/23 10:37	09/05/23 20:32	1
Malathion	<0.099		0.099		ug/L		09/02/23 10:37	09/05/23 20:32	1
Methoxychlor	<0.099		0.099		ug/L		09/02/23 10:37	09/05/23 20:32	1
Metolachlor	<0.050		0.050		ug/L		09/02/23 10:37	09/05/23 20:32	1
Molinate	<0.099		0.099		ug/L		09/02/23 10:37	09/05/23 20:32	1
Naphthalene	<0.30		0.30		ug/L		09/02/23 10:37	09/05/23 20:32	1
Parathion	<0.099		0.099		ug/L		09/02/23 10:37	09/05/23 20:32	1
Pendimethalin (Penoxaline)	<0.099		0.099		ug/L		09/02/23 10:37	09/05/23 20:32	1
Phenanthrene	<0.040		0.040		ug/L		09/02/23 10:37	09/05/23 20:32	1
Propachlor	<0.050		0.050		ug/L		09/02/23 10:37	09/05/23 20:32	1
Pyrene	<0.050		0.050		ug/L		09/02/23 10:37	09/05/23 20:32	1
Simazine	<0.050		0.050		ug/L		09/02/23 10:37	09/05/23 20:32	1
Terbacil	<0.099	*+	0.099		ug/L		09/02/23 10:37	09/05/23 20:32	1
Terbuthylazine	<0.099		0.099		ug/L		09/02/23 10:37	09/05/23 20:32	1
Thiobencarb	<0.20		0.20		ug/L		09/02/23 10:37	09/05/23 20:32	1
Total Permethrin (mixed isomers)	<0.20		0.20		ug/L		09/02/23 10:37	09/05/23 20:32	1
trans-Nonachlor	<0.050		0.050		ug/L		09/02/23 10:37	09/05/23 20:32	1
Trifluralin	<0.099		0.099		ug/L		09/02/23 10:37	09/05/23 20:32	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*			*N/A*	*09/02/23 10:37*	*09/05/23 20:32*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Nitro-m-xylene	*94*		*70 - 130*	*09/02/23 10:37*	*09/05/23 20:32*	*1*
Perylene-d12	*90*		*70 - 130*	*09/02/23 10:37*	*09/05/23 20:32*	*1*
Triphenylphosphate	*84*		*70 - 130*	*09/02/23 10:37*	*09/05/23 20:32*	*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		09/06/23 00:00	10/14/23 10:53	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		09/06/23 00:00	10/14/23 10:53	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		09/06/23 00:00	10/14/23 10:53	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		09/06/23 00:00	10/14/23 10:53	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		09/06/23 00:00	10/14/23 10:53	1
Acenaphthene	ND		0.005	0.001	µg/L		09/06/23 00:00	10/14/23 10:53	1
Acenaphthylene	ND		0.005	0.001	µg/L		09/06/23 00:00	10/14/23 10:53	1
Anthracene	ND		0.005	0.001	µg/L		09/06/23 00:00	10/14/23 10:53	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		09/06/23 00:00	10/14/23 10:53	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		09/06/23 00:00	10/14/23 10:53	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		09/06/23 00:00	10/14/23 10:53	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		09/06/23 00:00	10/14/23 10:53	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		09/06/23 00:00	10/14/23 10:53	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		09/06/23 00:00	10/14/23 10:53	1
Biphenyl	ND		0.005	0.001	µg/L		09/06/23 00:00	10/14/23 10:53	1

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

Lab Sample ID: 380-61396-2
Date Collected: 08/30/23 10:00
Matrix: Drinking Water
Date Received: 09/01/23 09:40

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
Chrysene	ND		0.005	0.001	µg/L		09/06/23 00:00	10/14/23 10:53	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		09/06/23 00:00	10/14/23 10:53	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		09/06/23 00:00	10/14/23 10:53	1
Dibenzothiophene	ND		0.005	0.001	µg/L		09/06/23 00:00	10/14/23 10:53	1
Disalicylidenepropanediamine	ND		0.1	0.05	µg/L		09/06/23 00:00	10/14/23 10:53	1
Fluoranthene	ND		0.005	0.001	µg/L		09/06/23 00:00	10/14/23 10:53	1
Fluorene	ND		0.005	0.001	µg/L		09/06/23 00:00	10/14/23 10:53	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		09/06/23 00:00	10/14/23 10:53	1
Naphthalene	ND		0.005	0.001	µg/L		09/06/23 00:00	10/14/23 10:53	1
Perylene	ND		0.005	0.001	µg/L		09/06/23 00:00	10/14/23 10:53	1
Phenanthrene	ND		0.005	0.001	µg/L		09/06/23 00:00	10/14/23 10:53	1
Pyrene	ND		0.005	0.001	µg/L		09/06/23 00:00	10/14/23 10:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
(d10-Acenaphthene)	*85*		*27 - 133*	*09/06/23 00:00*	*10/14/23 10:53*	*1*
(d10-Phenanthrene)	*96*		*43 - 129*	*09/06/23 00:00*	*10/14/23 10:53*	*1*
(d12-Chrysene)	*91*		*52 - 144*	*09/06/23 00:00*	*10/14/23 10:53*	*1*
(d12-Perylene)	*93*		*36 - 161*	*09/06/23 00:00*	*10/14/23 10:53*	*1*
(d8-Naphthalene)	*76*		*25 - 125*	*09/06/23 00:00*	*10/14/23 10:53*	*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			09/06/23 16:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
BROMOFLUOROBENZENE	*80*		*60 - 140*		*09/06/23 16:36*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DIESEL	ND	U	0.025		mg/L			09/07/23 06:17	1
JP5	ND	U	0.05		mg/L			09/07/23 06:17	1
JP8	ND	U	0.05		mg/L			09/07/23 06:17	1
MOTOR OIL	ND	U	0.05		mg/L			09/07/23 06:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
BROMOBENZENE	*79*		*60 - 130*		*09/07/23 06:17*	*1*
HEXACOSANE	*92*		*60 - 130*		*09/07/23 06:17*	*1*

Client Sample ID: TB MOANALUA WELLS

Lab Sample ID: 380-61396-3
Date Collected: 08/30/23 11:30
Matrix: Water
Date Received: 09/01/23 09:40

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			09/06/23 17:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
BROMOFLUOROBENZENE	*81*		*60 - 140*		*09/06/23 17:13*	*1*

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

Job ID: 380-61396-1

Client Sample ID: TB HALAWA WELLS UNITS 1 & 2
Date Collected: 08/30/23 10:00
Date Received: 09/01/23 09:40

Lab Sample ID: 380-61396-4
Matrix: Water

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			09/06/23 17:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
BROMOFLUOROBENZENE	*78*		*60 - 140*		*09/06/23 17:50*	*1*

Action Limit Summary

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

Job ID: 380-61396-1

Client Sample ID: MOANALUA WELLS Pump 2 — Lab Sample ID: 380-61396-1

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 Limit	RL	Method	Prep Type
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	<0.019		ug/L	0.2	0.019	525.2	Total/NA
Bis(2-ethylhexyl) phthalate	<0.58		ug/L	6	0.58	525.2	Total/NA
Di(2-ethylhexyl)adipate	<0.58		ug/L	400	0.58	525.2	Total/NA
Endrin	<0.097		ug/L	2	0.097	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	<0.097		ug/L	40	0.097	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: 380-61396-2

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 Limit	RL	Method	Prep Type
Alachlor	<0.050		ug/L	2	0.050	525.2	Total/NA
Atrazine	<0.050		ug/L	3	0.050	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		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)	<0.050		ug/L	0.2	0.050	525.2	Total/NA
Hexachlorobenzene	<0.050		ug/L	1	0.050	525.2	Total/NA
Hexachlorocyclopentadiene	<0.050		ug/L	50	0.050	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	<0.050		ug/L	4	0.050	525.2	Total/NA

Surrogate Summary

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

Job ID: 380-61396-1

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

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

		Percent Surrogate Recovery (Acceptance Limits)		
		2NMX	PRY	TPP
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	(70-130)
380-61396-1	MOANALUA WELLS Pump 2	94	98	90
380-61396-2	HALAWA WELLS UNITS 1 & 2 Pump 1	94	90	84

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**

		Percent Surrogate Recovery (Acceptance Limits)		
		2NMX	PRY	TPP
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	(70-130)
380-61049-O-1-A MS	Matrix Spike	99	95	96
380-61061-B-1-A DU	Duplicate	104	89	97
LCS 380-54269/23-A	Lab Control Sample	98	95	98
LCSD 380-54269/24-A	Lab Control Sample Dup	100	96	98
MB 380-54269/21-A	Method Blank	99	93	95
MRL 380-54269/22-A	Lab Control Sample	101	94	96

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**

		Percent Surrogate Recovery (Acceptance Limits)				
		Acenapht	Phenanth	CRY	NPT	PRY
Lab Sample ID	Client Sample ID	(27-133)	(43-129)	(52-144)	(25-125)	(36-161)
110503-B1	Method Blank	92	95	93	90	99
110503-BS1	Lab Control Sample	95	104	101	88	97
110503-BS2	Lab Control Sample Dup	94	101	99	88	95

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)				
		Acenapht	Phenanth	CRY	NPT	PRY
Lab Sample ID	Client Sample ID	(27-133)	(43-129)	(52-144)	(25-125)	(36-161)
380-61396-1	MOANALUA WELLS Pump 2	78	87	87	70	85
380-61396-2	HALAWA WELLS UNITS 1 & 2 Pump 1	85	96	91	76	93

Surrogate Summary

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

Job ID: 380-61396-1

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)
		BFB
Lab Sample ID	Client Sample ID	(60-140)
380-61396-1	MOANALUA WELLS Pump 2	78
380-61396-2	HALAWA WELLS UNITS 1 & 2 Pump 1	80

Surrogate Legend

BFB = BROMOFLUOROBENZENE

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

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

		Percent Surrogate Recovery (Acceptance Limits)
		BFB
Lab Sample ID	Client Sample ID	(60-140)
23I012-01M	Matrix Spike	102
23I012-01S	Matrix Spike Duplicate	106

Surrogate Legend

BFB = BROMOFLUOROBENZENE

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

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

		Percent Surrogate Recovery (Acceptance Limits)
		BFB
Lab Sample ID	Client Sample ID	
23VG39I04B	Method Blank	

Surrogate Legend

BFB = BROMOFLUOROBENZENE

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

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

		Percent Surrogate Recovery (Acceptance Limits)
		BFB
Lab Sample ID	Client Sample ID	(70-130)
23VG39I04C	LCD	103
23VG39I04L	Lab Control Sample	103

Surrogate Legend

BFB = BROMOFLUOROBENZENE

Surrogate Summary

Client: City & County of Honolulu
Job ID: 380-61396-1
Project/Site: RED-HILL

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

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

		Percent Surrogate Recovery (Acceptance Limits)								
		BFB								
Lab Sample ID	Client Sample ID	(60-140)								
380-61396-3	TB MOANALUA WELLS	81								
380-61396-4	TB HALAWA WELLS UNITS 1 & 2	78								

Surrogate Legend

BFB = BROMOFLUOROBENZENE

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

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

		Percent Surrogate Recovery (Acceptance Limits)								
		BB	XACOSA							
Lab Sample ID	Client Sample ID	(60-130)	(60-130)							
380-61396-1	MOANALUA WELLS Pump 2	73	94							
380-61396-2	HALAWA WELLS UNITS 1 & 2 Pump 1	79	92							

Surrogate Legend

BB = BROMOBENZENE
HEXACOSANE = HEXACOSANE

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

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

		Percent Surrogate Recovery (Acceptance Limits)								
		BB	XACOSA							
Lab Sample ID	Client Sample ID									
23DSI007WB	Method Blank									

Surrogate Legend

BB = BROMOBENZENE
HEXACOSANE = HEXACOSANE

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

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

		Percent Surrogate Recovery (Acceptance Limits)								
		BB	XACOSA							
Lab Sample ID	Client Sample ID	(60-130)	(60-130)							
23DSI007WC	LCD	80	111							
23DSI007WL	Lab Control Sample	78	99							
23J5I007WC	LCD	83	116							
23J5I007WL	Lab Control Sample	84	100							
23J8I007WC	LCD	91	102							
23J8I007WL	Lab Control Sample	95	102							

Surrogate Legend

BB = BROMOBENZENE
HEXACOSANE = HEXACOSANE

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

Lab Sample ID: MB 380-54269/21-A
Matrix: Water
Analysis Batch: 54389

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 54269

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	<0.099		0.099		ug/L		09/02/23 09:19	09/05/23 13:43	1
2,4'-DDD	<0.099		0.099		ug/L		09/02/23 09:19	09/05/23 13:43	1
2,4'-DDE	<0.099		0.099		ug/L		09/02/23 09:19	09/05/23 13:43	1
2,4'-DDT	<0.099		0.099		ug/L		09/02/23 09:19	09/05/23 13:43	1
2,4-Dinitrotoluene	<0.099		0.099		ug/L		09/02/23 09:19	09/05/23 13:43	1
2,6-Dinitrotoluene	<0.099		0.099		ug/L		09/02/23 09:19	09/05/23 13:43	1
2-Methylnaphthalene	<0.099		0.099		ug/L		09/02/23 09:19	09/05/23 13:43	1
4,4'-DDD	<0.099		0.099		ug/L		09/02/23 09:19	09/05/23 13:43	1
4,4'-DDE	<0.099		0.099		ug/L		09/02/23 09:19	09/05/23 13:43	1
4,4'-DDT	<0.099		0.099		ug/L		09/02/23 09:19	09/05/23 13:43	1
Acenaphthene	<0.099		0.099		ug/L		09/02/23 09:19	09/05/23 13:43	1
Acenaphthylene	<0.099		0.099		ug/L		09/02/23 09:19	09/05/23 13:43	1
Acetochlor	<0.099		0.099		ug/L		09/02/23 09:19	09/05/23 13:43	1
Alachlor	<0.050		0.050		ug/L		09/02/23 09:19	09/05/23 13:43	1
alpha-BHC	<0.099		0.099		ug/L		09/02/23 09:19	09/05/23 13:43	1
alpha-Chlordane	<0.050		0.050		ug/L		09/02/23 09:19	09/05/23 13:43	1
Anthracene	<0.020		0.020		ug/L		09/02/23 09:19	09/05/23 13:43	1
Atrazine	<0.050		0.050		ug/L		09/02/23 09:19	09/05/23 13:43	1
Benz(a)anthracene	<0.050		0.050		ug/L		09/02/23 09:19	09/05/23 13:43	1
Benzo[a]pyrene	<0.020		0.020		ug/L		09/02/23 09:19	09/05/23 13:43	1
Benzo[b]fluoranthene	<0.020		0.020		ug/L		09/02/23 09:19	09/05/23 13:43	1
Benzo[g,h,i]perylene	<0.050		0.050		ug/L		09/02/23 09:19	09/05/23 13:43	1
Benzo[k]fluoranthene	<0.020		0.020		ug/L		09/02/23 09:19	09/05/23 13:43	1
beta-BHC	<0.099		0.099		ug/L		09/02/23 09:19	09/05/23 13:43	1
Bis(2-ethylhexyl) phthalate	<0.60		0.60		ug/L		09/02/23 09:19	09/05/23 13:43	1
Bromacil	<0.099		0.099		ug/L		09/02/23 09:19	09/05/23 13:43	1
Butachlor	<0.050		0.050		ug/L		09/02/23 09:19	09/05/23 13:43	1
Butylbenzylphthalate	<0.50		0.50		ug/L		09/02/23 09:19	09/05/23 13:43	1
Chlorobenzilate	<0.099		0.099		ug/L		09/02/23 09:19	09/05/23 13:43	1
Chloroneb	<0.099		0.099		ug/L		09/02/23 09:19	09/05/23 13:43	1
Chlorothalonil (Draconil, Bravo)	<0.099		0.099		ug/L		09/02/23 09:19	09/05/23 13:43	1
Chlorpyrifos	<0.050		0.050		ug/L		09/02/23 09:19	09/05/23 13:43	1
Chrysene	<0.020		0.020		ug/L		09/02/23 09:19	09/05/23 13:43	1
delta-BHC	<0.099		0.099		ug/L		09/02/23 09:19	09/05/23 13:43	1
Di(2-ethylhexyl)adipate	<0.60		0.60		ug/L		09/02/23 09:19	09/05/23 13:43	1
Dibenz(a,h)anthracene	<0.050		0.050		ug/L		09/02/23 09:19	09/05/23 13:43	1
Diclorvos (DDVP)	<0.050		0.050		ug/L		09/02/23 09:19	09/05/23 13:43	1
Dieldrin	<0.20		0.20		ug/L		09/02/23 09:19	09/05/23 13:43	1
Diethylphthalate	<0.50		0.50		ug/L		09/02/23 09:19	09/05/23 13:43	1
Dimethylphthalate	<0.50		0.50		ug/L		09/02/23 09:19	09/05/23 13:43	1
Di-n-butyl phthalate	<0.99		0.99		ug/L		09/02/23 09:19	09/05/23 13:43	1
Di-n-octyl phthalate	<0.099		0.099		ug/L		09/02/23 09:19	09/05/23 13:43	1
Endosulfan I (Alpha)	<0.099		0.099		ug/L		09/02/23 09:19	09/05/23 13:43	1
Endosulfan II (Beta)	<0.099		0.099		ug/L		09/02/23 09:19	09/05/23 13:43	1
Endosulfan sulfate	<0.099		0.099		ug/L		09/02/23 09:19	09/05/23 13:43	1
Endrin	<0.099		0.099		ug/L		09/02/23 09:19	09/05/23 13:43	1
Endrin aldehyde	<0.099		0.099		ug/L		09/02/23 09:19	09/05/23 13:43	1
EPTC	<0.099		0.099		ug/L		09/02/23 09:19	09/05/23 13:43	1

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

Lab Sample ID: MB 380-54269/21-A
Matrix: Water
Analysis Batch: 54389

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 54269

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Fluoranthene	<0.099		0.099		ug/L		09/02/23 09:19	09/05/23 13:43	1
Fluorene	<0.050		0.050		ug/L		09/02/23 09:19	09/05/23 13:43	1
gamma-Chlordane	<0.050		0.050		ug/L		09/02/23 09:19	09/05/23 13:43	1
Heptachlor	<0.040		0.040		ug/L		09/02/23 09:19	09/05/23 13:43	1
Heptachlor epoxide (isomer B)	<0.050		0.050		ug/L		09/02/23 09:19	09/05/23 13:43	1
Hexachlorobenzene	<0.050		0.050		ug/L		09/02/23 09:19	09/05/23 13:43	1
Hexachlorocyclopentadiene	<0.050		0.050		ug/L		09/02/23 09:19	09/05/23 13:43	1
Indeno[1,2,3-cd]pyrene	<0.050		0.050		ug/L		09/02/23 09:19	09/05/23 13:43	1
Isophorone	<0.50		0.50		ug/L		09/02/23 09:19	09/05/23 13:43	1
Lindane	<0.040		0.040		ug/L		09/02/23 09:19	09/05/23 13:43	1
Malathion	<0.099		0.099		ug/L		09/02/23 09:19	09/05/23 13:43	1
Methoxychlor	<0.099		0.099		ug/L		09/02/23 09:19	09/05/23 13:43	1
Metolachlor	<0.050		0.050		ug/L		09/02/23 09:19	09/05/23 13:43	1
Molinate	<0.099		0.099		ug/L		09/02/23 09:19	09/05/23 13:43	1
Naphthalene	<0.30		0.30		ug/L		09/02/23 09:19	09/05/23 13:43	1
Parathion	<0.099		0.099		ug/L		09/02/23 09:19	09/05/23 13:43	1
Pendimethalin (Penoxaline)	<0.099		0.099		ug/L		09/02/23 09:19	09/05/23 13:43	1
Phenanthrene	<0.040		0.040		ug/L		09/02/23 09:19	09/05/23 13:43	1
Propachlor	<0.050		0.050		ug/L		09/02/23 09:19	09/05/23 13:43	1
Pyrene	<0.050		0.050		ug/L		09/02/23 09:19	09/05/23 13:43	1
Simazine	<0.050		0.050		ug/L		09/02/23 09:19	09/05/23 13:43	1
Terbacil	<0.099		0.099		ug/L		09/02/23 09:19	09/05/23 13:43	1
Terbuthylazine	<0.099		0.099		ug/L		09/02/23 09:19	09/05/23 13:43	1
Thiobencarb	<0.20		0.20		ug/L		09/02/23 09:19	09/05/23 13:43	1
Total Permethrin (mixed isomers)	<0.20		0.20		ug/L		09/02/23 09:19	09/05/23 13:43	1
trans-Nonachlor	<0.050		0.050		ug/L		09/02/23 09:19	09/05/23 13:43	1
Trifluralin	<0.099		0.099		ug/L		09/02/23 09:19	09/05/23 13:43	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Decane	*2.68*	*T J N*	*ug/L*		*2.36*	*124-18-5*	*09/02/23 09:19*	*09/05/23 13:43*	*1*
Decane, 5-methyl-	*0.751*	*T J N*	*ug/L*		*2.51*	*13151-35-4*	*09/02/23 09:19*	*09/05/23 13:43*	*1*
Tetradecanoic acid	*1.36*	*T J N*	*ug/L*		*5.73*	*544-63-8*	*09/02/23 09:19*	*09/05/23 13:43*	*1*
Octadecanoic acid	*1.04*	*T J N*	*ug/L*		*6.39*	*57-11-4*	*09/02/23 09:19*	*09/05/23 13:43*	*1*
9-Octadecenamide, (Z)-	*0.580*	*T J N*	*ug/L*		*7.33*	*301-02-0*	*09/02/23 09:19*	*09/05/23 13:43*	*1*
1,3-Benzenedicarboxylic acid, bis(2-ethylhexyl) ester	*0.683*	*T J N*	*ug/L*		*9.61*	*137-89-3*	*09/02/23 09:19*	*09/05/23 13:43*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Nitro-m-xylene	*99*		*70 - 130*	*09/02/23 09:19*	*09/05/23 13:43*	*1*
Perylene-d12	*93*		*70 - 130*	*09/02/23 09:19*	*09/05/23 13:43*	*1*
Triphenylphosphate	*95*		*70 - 130*	*09/02/23 09:19*	*09/05/23 13:43*	*1*

Lab Sample ID: LCS 380-54269/23-A
Matrix: Water
Analysis Batch: 54389

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 54269

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
1-Methylnaphthalene			1.97	2.05		ug/L		104	70 - 130		

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

Lab Sample ID: LCS 380-54269/23-A
Matrix: Water
Analysis Batch: 54389

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 54269

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2,4'-DDD	1.97	2.09		ug/L		106	70 - 130
2,4'-DDE	1.97	1.99		ug/L		101	70 - 130
2,4'-DDT	1.97	2.13		ug/L		108	70 - 130
2,4-Dinitrotoluene	1.97	2.21		ug/L		112	70 - 130
2,6-Dinitrotoluene	1.97	2.24		ug/L		114	70 - 130
2-Methylnaphthalene	1.97	2.09		ug/L		106	70 - 130
4,4'-DDD	1.97	2.08		ug/L		106	70 - 130
4,4'-DDE	1.97	1.97		ug/L		100	70 - 130
4,4'-DDT	1.97	2.03		ug/L		103	70 - 130
Acenaphthene	1.97	2.04		ug/L		103	70 - 130
Acenaphthylene	1.97	2.06		ug/L		104	70 - 130
Acetochlor	1.97	2.61	*+	ug/L		132	70 - 130
Alachlor	1.97	2.16		ug/L		109	70 - 130
alpha-BHC	1.97	2.06		ug/L		104	70 - 130
alpha-Chlordane	1.97	1.86		ug/L		94	70 - 130
Anthracene	1.97	2.05		ug/L		104	70 - 130
Atrazine	1.97	2.38		ug/L		120	70 - 130
Benz(a)anthracene	1.97	2.16		ug/L		110	70 - 130
Benzo[a]pyrene	1.97	2.14		ug/L		109	70 - 130
Benzo[b]fluoranthene	1.97	2.27		ug/L		115	70 - 130
Benzo[g,h,i]perylene	1.97	2.16		ug/L		110	70 - 130
Benzo[k]fluoranthene	1.97	2.17		ug/L		110	70 - 130
beta-BHC	1.97	2.09		ug/L		106	70 - 130
Bis(2-ethylhexyl) phthalate	1.97	2.17		ug/L		110	70 - 130
Bromacil	1.97	2.26		ug/L		115	70 - 130
Butachlor	1.97	2.38		ug/L		121	70 - 130
Butylbenzylphthalate	1.97	2.33		ug/L		118	70 - 130
Chlorobenzilate	1.97	2.47		ug/L		125	70 - 130
Chloroneb	1.97	1.99		ug/L		101	70 - 130
Chlorothalonil (Draconil, Bravo)	1.97	1.89		ug/L		96	70 - 130
Chlorpyrifos	1.97	2.25		ug/L		114	70 - 130
Chrysene	1.97	2.07		ug/L		105	70 - 130
delta-BHC	1.97	2.01		ug/L		102	70 - 130
Di(2-ethylhexyl)adipate	1.97	2.37		ug/L		120	70 - 130
Dibenz(a,h)anthracene	1.97	2.71	*+	ug/L		137	70 - 130
Diclorvos (DDVP)	1.97	2.68	*+	ug/L		136	70 - 130
Dieldrin	1.97	1.97		ug/L		100	70 - 130
Diethylphthalate	1.97	2.22		ug/L		112	70 - 130
Dimethylphthalate	1.97	2.18		ug/L		111	70 - 130
Di-n-butyl phthalate	3.95	4.16		ug/L		105	70 - 130
Di-n-octyl phthalate	1.97	2.11		ug/L		107	70 - 130
Endosulfan I (Alpha)	1.97	1.95		ug/L		99	70 - 130
Endosulfan II (Beta)	1.97	2.09		ug/L		106	70 - 130
Endosulfan sulfate	1.97	2.07		ug/L		105	70 - 130
Endrin	1.97	2.35		ug/L		119	70 - 130
Endrin aldehyde	1.97	1.82		ug/L		92	70 - 130
EPTC	1.97	2.05		ug/L		104	70 - 130
Fluoranthene	1.97	2.17		ug/L		110	70 - 130
Fluorene	1.97	2.13		ug/L		108	70 - 130

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

Lab Sample ID: LCS 380-54269/23-A
Matrix: Water
Analysis Batch: 54389

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 54269

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
gamma-Chlordane	1.97	1.87		ug/L		95	70 - 130
Heptachlor	1.97	2.22		ug/L		113	70 - 130
Heptachlor epoxide (isomer B)	1.97	1.95		ug/L		99	70 - 130
Hexachlorobenzene	1.97	1.84		ug/L		93	70 - 130
Hexachlorocyclopentadiene	1.97	1.87		ug/L		95	70 - 130
Indeno[1,2,3-cd]pyrene	1.97	2.76	*+	ug/L		140	70 - 130
Isophorone	1.97	2.31		ug/L		117	70 - 130
Lindane	1.97	2.08		ug/L		105	70 - 130
Malathion	1.97	2.25		ug/L		114	70 - 130
Methoxychlor	1.97	2.17		ug/L		110	70 - 130
Metolachlor	1.97	2.35		ug/L		119	70 - 130
Molinate	1.97	2.23		ug/L		113	70 - 130
Naphthalene	1.97	2.04		ug/L		104	70 - 130
Parathion	1.97	2.43		ug/L		123	70 - 130
Pendimethalin (Penoxaline)	1.97	2.12		ug/L		107	70 - 130
Phenanthrene	1.97	2.05		ug/L		104	70 - 130
Propachlor	1.97	2.38		ug/L		120	70 - 130
Pyrene	1.97	2.18		ug/L		110	70 - 130
Simazine	1.97	2.38		ug/L		121	70 - 130
Terbacil	1.97	2.61	*+	ug/L		132	70 - 130
Terbuthylazine	1.97	2.23		ug/L		113	70 - 130
Thiobencarb	1.97	2.53		ug/L		128	70 - 130
trans-Nonachlor	1.97	1.83		ug/L		93	70 - 130
Trifluralin	1.97	1.99		ug/L		101	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Nitro-m-xylene	*98*		*70 - 130*
Perylene-d12	*95*		*70 - 130*
Triphenylphosphate	*98*		*70 - 130*

Lab Sample ID: LCSD 380-54269/24-A
Matrix: Water
Analysis Batch: 54389

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 54269

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1-Methylnaphthalene	1.97	2.10		ug/L		107	70 - 130	2	20
2,4'-DDD	1.97	2.11		ug/L		107	70 - 130	1	20
2,4'-DDE	1.97	1.98		ug/L		101	70 - 130	0	20
2,4'-DDT	1.97	2.14		ug/L		109	70 - 130	1	20
2,4-Dinitrotoluene	1.97	2.14		ug/L		109	70 - 130	3	20
2,6-Dinitrotoluene	1.97	2.17		ug/L		110	70 - 130	3	20
2-Methylnaphthalene	1.97	2.12		ug/L		107	70 - 130	1	20
4,4'-DDD	1.97	2.10		ug/L		107	70 - 130	1	20
4,4'-DDE	1.97	1.97		ug/L		100	70 - 130	0	20
4,4'-DDT	1.97	2.04		ug/L		104	70 - 130	1	20
Acenaphthene	1.97	2.04		ug/L		104	70 - 130	0	20
Acenaphthylene	1.97	2.06		ug/L		105	70 - 130	0	20
Acetochlor	1.97	2.66	*+	ug/L		135	70 - 130	2	20

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

Lab Sample ID: LCSD 380-54269/24-A
Matrix: Water
Analysis Batch: 54389

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 54269

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Alachlor	1.97	2.16		ug/L		110	70 - 130	0	20
alpha-BHC	1.97	2.06		ug/L		104	70 - 130	0	20
alpha-Chlordane	1.97	1.87		ug/L		95	70 - 130	1	20
Anthracene	1.97	2.05		ug/L		104	70 - 130	0	20
Atrazine	1.97	2.35		ug/L		119	70 - 130	1	20
Benz(a)anthracene	1.97	2.20		ug/L		112	70 - 130	2	20
Benzo[a]pyrene	1.97	2.20		ug/L		112	70 - 130	3	20
Benzo[b]fluoranthene	1.97	2.26		ug/L		115	70 - 130	0	20
Benzo[g,h,i]perylene	1.97	2.24		ug/L		114	70 - 130	4	20
Benzo[k]fluoranthene	1.97	2.17		ug/L		110	70 - 130	0	20
beta-BHC	1.97	2.09		ug/L		106	70 - 130	0	20
Bis(2-ethylhexyl) phthalate	1.97	2.13		ug/L		108	70 - 130	2	20
Bromacil	1.97	2.24		ug/L		114	70 - 130	1	20
Butachlor	1.97	2.40		ug/L		122	70 - 130	1	20
Butylbenzylphthalate	1.97	2.37		ug/L		120	70 - 130	2	20
Chlorobenzilate	1.97	2.49		ug/L		126	70 - 130	1	20
Chloroneb	1.97	2.00		ug/L		101	70 - 130	0	20
Chlorothalonil (Draconil, Bravo)	1.97	1.88		ug/L		96	70 - 130	0	20
Chlorpyrifos	1.97	2.24		ug/L		114	70 - 130	0	20
Chrysene	1.97	2.09		ug/L		106	70 - 130	1	20
delta-BHC	1.97	2.01		ug/L		102	70 - 130	0	20
Di(2-ethylhexyl)adipate	1.97	2.40		ug/L		122	70 - 130	1	20
Dibenz(a,h)anthracene	1.97	2.72	*+	ug/L		138	70 - 130	0	20
Diclorvos (DDVP)	1.97	2.72	*+	ug/L		138	70 - 130	2	20
Dieldrin	1.97	2.03		ug/L		103	70 - 130	3	20
Diethylphthalate	1.97	2.20		ug/L		111	70 - 130	1	20
Dimethylphthalate	1.97	2.19		ug/L		111	70 - 130	0	20
Di-n-butyl phthalate	3.94	4.12		ug/L		105	70 - 130	1	20
Di-n-octyl phthalate	1.97	2.10		ug/L		107	70 - 130	0	20
Endosulfan I (Alpha)	1.97	2.00		ug/L		102	70 - 130	2	20
Endosulfan II (Beta)	1.97	2.07		ug/L		105	70 - 130	1	20
Endosulfan sulfate	1.97	2.16		ug/L		110	70 - 130	4	20
Endrin	1.97	2.35		ug/L		119	70 - 130	0	20
Endrin aldehyde	1.97	1.92		ug/L		97	70 - 130	5	20
EPTC	1.97	2.11		ug/L		107	70 - 130	3	20
Fluoranthene	1.97	2.17		ug/L		110	70 - 130	0	20
Fluorene	1.97	2.13		ug/L		108	70 - 130	0	20
gamma-Chlordane	1.97	1.87		ug/L		95	70 - 130	0	20
Heptachlor	1.97	2.22		ug/L		113	70 - 130	0	20
Heptachlor epoxide (isomer B)	1.97	1.96		ug/L		99	70 - 130	0	20
Hexachlorobenzene	1.97	1.83		ug/L		93	70 - 130	0	20
Hexachlorocyclopentadiene	1.97	1.83		ug/L		93	70 - 130	2	20
Indeno[1,2,3-cd]pyrene	1.97	2.85	*+	ug/L		145	70 - 130	3	20
Isophorone	1.97	2.39		ug/L		121	70 - 130	3	20
Lindane	1.97	2.06		ug/L		104	70 - 130	1	20
Malathion	1.97	2.29		ug/L		116	70 - 130	2	20
Methoxychlor	1.97	2.18		ug/L		110	70 - 130	0	20
Metolachlor	1.97	2.35		ug/L		119	70 - 130	0	20
Molinate	1.97	2.27		ug/L		115	70 - 130	2	20

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

Lab Sample ID: LCSD 380-54269/24-A
Matrix: Water
Analysis Batch: 54389

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 54269

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Naphthalene	1.97	2.08		ug/L		105	70 - 130	2	20
Parathion	1.97	2.46		ug/L		125	70 - 130	1	20
Pendimethalin (Penoxaline)	1.97	2.10		ug/L		106	70 - 130	1	20
Phenanthrene	1.97	2.04		ug/L		104	70 - 130	0	20
Propachlor	1.97	2.38		ug/L		121	70 - 130	0	20
Pyrene	1.97	2.19		ug/L		111	70 - 130	0	20
Simazine	1.97	2.40		ug/L		122	70 - 130	1	20
Terbacil	1.97	2.63	*+	ug/L		134	70 - 130	1	20
Terbuthylazine	1.97	2.25		ug/L		114	70 - 130	1	20
Thiobencarb	1.97	2.54		ug/L		129	70 - 130	0	20
trans-Nonachlor	1.97	1.83		ug/L		93	70 - 130	0	20
Trifluralin	1.97	1.98		ug/L		100	70 - 130	1	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Nitro-m-xylene	*100*		*70 - 130*
Perylene-d12	*96*		*70 - 130*
Triphenylphosphate	*98*		*70 - 130*

Lab Sample ID: MRL 380-54269/22-A
Matrix: Water
Analysis Batch: 54389

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 54269

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
1-Methylnaphthalene	0.0985	0.117		ug/L		119	50 - 150
2,4'-DDD	0.0985	0.131		ug/L		133	50 - 150
2,4'-DDE	0.0985	0.106		ug/L		108	50 - 150
2,4'-DDT	0.0985	0.0999		ug/L		101	50 - 150
2,4-Dinitrotoluene	0.0985	0.122		ug/L		124	50 - 150
2,6-Dinitrotoluene	0.0985	0.100		ug/L		102	50 - 150
2-Methylnaphthalene	0.0985	0.113		ug/L		115	50 - 150
4,4'-DDD	0.0985	0.103		ug/L		104	50 - 150
4,4'-DDE	0.0985	0.0911	J	ug/L		92	50 - 150
4,4'-DDT	0.0985	0.134		ug/L		136	50 - 150
Acenaphthene	0.0985	0.105		ug/L		106	50 - 150
Acenaphthylene	0.0985	0.0996		ug/L		101	50 - 150
Acetochlor	0.0493	0.0676	J	ug/L		137	50 - 150
Alachlor	0.0493	0.0606		ug/L		123	50 - 150
alpha-BHC	0.0985	0.111		ug/L		112	50 - 150
alpha-Chlordane	0.0246	<0.029		ug/L		92	50 - 150
Anthracene	0.0197	0.0200		ug/L		102	50 - 150
Atrazine	0.0493	0.0558		ug/L		113	50 - 150
Benz(a)anthracene	0.0493	0.0517		ug/L		105	50 - 150
Benzo[a]pyrene	0.0197	0.0179	J	ug/L		91	50 - 150
Benzo[b]fluoranthene	0.0197	0.0225		ug/L		114	50 - 150
Benzo[g,h,i]perylene	0.0493	0.0529		ug/L		107	50 - 150
Benzo[k]fluoranthene	0.0197	0.0209		ug/L		106	50 - 150
beta-BHC	0.0985	0.108		ug/L		109	50 - 150
Bis(2-ethylhexyl) phthalate	0.591	0.729		ug/L		123	50 - 150

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

Lab Sample ID: MRL 380-54269/22-A
Matrix: Water
Analysis Batch: 54389

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 54269

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Bromacil	0.0985	0.147		ug/L		149	50 - 150
Butachlor	0.0493	0.0627		ug/L		127	50 - 150
Butylbenzylphthalate	0.148	0.174	J	ug/L		118	50 - 150
Chlorobenzilate	0.0985	0.154	^3+	ug/L		156	50 - 150
Chloroneb	0.0985	0.113		ug/L		115	50 - 150
Chlorothalonil (Draconil, Bravo)	0.0985	0.128		ug/L		130	50 - 150
Chlorpyrifos	0.0493	0.0626		ug/L		127	50 - 150
Chrysene	0.0197	0.0216		ug/L		110	50 - 150
delta-BHC	0.0985	0.121		ug/L		122	50 - 150
Di(2-ethylhexyl)adipate	0.296	0.395	J	ug/L		134	50 - 150
Dibenz(a,h)anthracene	0.0493	0.0606		ug/L		123	50 - 150
Diclorvos (DDVP)	0.0493	0.108	^3+	ug/L		219	50 - 150
Dieldrin	0.0985	0.109	J	ug/L		111	50 - 150
Diethylphthalate	0.148	0.193	J	ug/L		131	50 - 150
Dimethylphthalate	0.296	0.332	J	ug/L		112	50 - 150
Di-n-butyl phthalate	0.296	0.401	J	ug/L		136	49 - 243
Di-n-octyl phthalate	0.0985	0.0943	J	ug/L		96	50 - 150
Endosulfan I (Alpha)	0.0985	0.0991		ug/L		101	50 - 150
Endosulfan II (Beta)	0.0985	0.132		ug/L		134	50 - 150
Endosulfan sulfate	0.0985	0.105		ug/L		107	50 - 150
Endrin	0.0985	0.145		ug/L		147	50 - 150
Endrin aldehyde	0.0985	0.0897	J	ug/L		91	50 - 150
EPTC	0.0985	0.102		ug/L		104	50 - 150
Fluoranthene	0.0493	0.0575	J	ug/L		117	50 - 150
Fluorene	0.0493	0.0533		ug/L		108	50 - 150
gamma-Chlordane	0.0246	0.0236	J	ug/L		96	50 - 150
Heptachlor	0.0394	0.0481		ug/L		122	50 - 150
Heptachlor epoxide (isomer B)	0.0493	0.0479	J	ug/L		97	50 - 150
Hexachlorobenzene	0.0493	0.0466	J	ug/L		95	50 - 150
Hexachlorocyclopentadiene	0.0493	0.0425	J	ug/L		86	50 - 150
Indeno[1,2,3-cd]pyrene	0.0493	0.0614		ug/L		125	50 - 150
Isophorone	0.0985	0.127	J	ug/L		129	50 - 150
Lindane	0.0394	0.0440		ug/L		112	50 - 150
Malathion	0.0985	0.136		ug/L		139	50 - 150
Methoxychlor	0.0985	0.128		ug/L		130	50 - 150
Metolachlor	0.0493	0.0590		ug/L		120	50 - 150
Molinate	0.0985	0.116		ug/L		118	50 - 150
Naphthalene	0.0985	0.117	J	ug/L		119	50 - 150
Parathion	0.0985	0.145		ug/L		147	50 - 150
Pendimethalin (Penoxaline)	0.0985	0.131		ug/L		133	50 - 150
Phenanthrene	0.0197	0.0246	J	ug/L		125	50 - 150
Propachlor	0.0493	0.0591		ug/L		120	50 - 150
Pyrene	0.0493	0.0560		ug/L		114	50 - 150
Simazine	0.0493	0.0628		ug/L		127	50 - 150
Terbacil	0.0985	0.134		ug/L		136	50 - 150
Terbuthylazine	0.0985	0.111		ug/L		112	50 - 150
Thiobencarb	0.0985	0.127	J	ug/L		129	50 - 150
trans-Nonachlor	0.0246	<0.026		ug/L		101	50 - 150
Trifluralin	0.0985	0.109		ug/L		111	50 - 150

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

Surrogate	MRL %Recovery	MRL Qualifier	Limits
2-Nitro-m-xylene	*101*		*70 - 130*
Perylene-d12	*94*		*70 - 130*
Triphenylphosphate	*96*		*70 - 130*

Lab Sample ID: 380-61049-O-1-A MS
Matrix: Water
Analysis Batch: 54389

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 54269

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1-Methylnaphthalene	<0.098		1.95	2.04		ug/L		105	70 - 130
2,4'-DDD	<0.098		1.95	2.03		ug/L		104	70 - 130
2,4'-DDE	<0.098		1.95	1.94		ug/L		100	70 - 130
2,4'-DDT	<0.098		1.95	2.09		ug/L		107	70 - 130
2,4-Dinitrotoluene	<0.098		1.95	2.21		ug/L		113	70 - 130
2,6-Dinitrotoluene	<0.098		1.95	2.25		ug/L		116	70 - 130
2-Methylnaphthalene	<0.098		1.95	2.09		ug/L		107	70 - 130
4,4'-DDD	<0.098		1.95	2.03		ug/L		104	70 - 130
4,4'-DDE	<0.098		1.95	1.95		ug/L		100	70 - 130
4,4'-DDT	<0.098		1.95	1.99		ug/L		102	70 - 130
Acenaphthene	<0.098		1.95	2.00		ug/L		103	70 - 130
Acenaphthylene	<0.098		1.95	2.00		ug/L		102	70 - 130
Acetochlor	<0.098	*+	1.95	2.54		ug/L		130	70 - 130
Alachlor	<0.049		1.95	2.10		ug/L		108	70 - 130
alpha-BHC	<0.098		1.95	1.99		ug/L		102	70 - 130
alpha-Chlordane	<0.049		1.95	1.81		ug/L		93	70 - 130
Anthracene	<0.020		1.95	1.99		ug/L		102	70 - 130
Atrazine	<0.049		1.95	2.30		ug/L		118	70 - 130
Benz(a)anthracene	<0.049		1.95	2.12		ug/L		109	70 - 130
Benzo[a]pyrene	<0.020		1.95	2.13		ug/L		109	70 - 130
Benzo[b]fluoranthene	<0.020		1.95	2.22		ug/L		114	70 - 130
Benzo[g,h,i]perylene	<0.049		1.95	2.17		ug/L		112	70 - 130
Benzo[k]fluoranthene	<0.020		1.95	2.14		ug/L		110	70 - 130
beta-BHC	<0.098		1.95	2.02		ug/L		104	70 - 130
Bis(2-ethylhexyl) phthalate	<0.59		1.95	2.12		ug/L		109	70 - 130
Bromacil	<0.098		1.95	2.24		ug/L		115	70 - 130
Butachlor	<0.049		1.95	2.33		ug/L		119	70 - 130
Butylbenzylphthalate	<0.49		1.95	2.29		ug/L		117	70 - 130
Chlorobenzilate	<0.098	^3+	1.95	2.40		ug/L		123	70 - 130
Chloroneb	<0.098		1.95	1.95		ug/L		100	70 - 130
Chlorothalonil (Draconil, Bravo)	<0.098		1.95	1.83		ug/L		94	70 - 130
Chlorpyrifos	<0.049		1.95	2.19		ug/L		112	70 - 130
Chrysene	<0.020		1.95	2.02		ug/L		104	70 - 130
delta-BHC	<0.098		1.95	1.95		ug/L		100	70 - 130
Di(2-ethylhexyl)adipate	<0.59		1.95	2.38		ug/L		122	70 - 130
Dibenz(a,h)anthracene	<0.049	F1 *+	1.95	2.76	F1	ug/L		142	70 - 130
Diclorvos (DDVP)	<0.049	^3+ F1 *+	1.95	2.68	F1	ug/L		138	70 - 130
Dieldrin	<0.20		1.95	1.95		ug/L		100	70 - 130
Diethylphthalate	<0.49		1.95	2.13		ug/L		109	70 - 130
Dimethylphthalate	<0.49		1.95	2.12		ug/L		109	70 - 130
Di-n-butyl phthalate	<0.98		3.90	4.28		ug/L		110	70 - 130
Di-n-octyl phthalate	<0.098		1.95	2.14		ug/L		110	70 - 130

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

Lab Sample ID: 380-61049-O-1-A MS
Matrix: Water
Analysis Batch: 54389

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 54269

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Endosulfan I (Alpha)	<0.098		1.95	1.99		ug/L		102	70 - 130
Endosulfan II (Beta)	<0.098		1.95	2.02		ug/L		104	70 - 130
Endosulfan sulfate	<0.098		1.95	1.99		ug/L		102	70 - 130
Endrin	<0.098		1.95	2.32		ug/L		119	70 - 130
Endrin aldehyde	<0.098		1.95	1.74		ug/L		89	70 - 130
EPTC	<0.098		1.95	2.02		ug/L		104	70 - 130
Fluoranthene	<0.098		1.95	2.12		ug/L		109	70 - 130
Fluorene	<0.049		1.95	2.09		ug/L		107	70 - 130
gamma-Chlordane	<0.049		1.95	1.82		ug/L		93	70 - 130
Heptachlor	<0.039		1.95	2.22		ug/L		114	70 - 130
Heptachlor epoxide (isomer B)	<0.049		1.95	1.89		ug/L		97	70 - 130
Hexachlorobenzene	<0.049		1.95	1.82		ug/L		93	70 - 130
Hexachlorocyclopentadiene	<0.049		1.95	1.83		ug/L		94	70 - 130
Indeno[1,2,3-cd]pyrene	<0.049	F1 *+	1.95	2.78	F1	ug/L		143	70 - 130
Isophorone	<0.49		1.95	2.34		ug/L		120	70 - 130
Lindane	<0.039		1.95	2.02		ug/L		103	70 - 130
Malathion	<0.098		1.95	2.20		ug/L		113	70 - 130
Methoxychlor	<0.098		1.95	2.10		ug/L		108	70 - 130
Metolachlor	<0.049		1.95	2.30		ug/L		118	70 - 130
Molinate	<0.098		1.95	2.21		ug/L		113	70 - 130
Naphthalene	<0.29		1.95	2.03		ug/L		104	70 - 130
Parathion	<0.098		1.95	2.41		ug/L		124	70 - 130
Pendimethalin (Penoxaline)	<0.098		1.95	2.05		ug/L		105	70 - 130
Phenanthrene	<0.039		1.95	1.98		ug/L		102	70 - 130
Propachlor	<0.049		1.95	2.31		ug/L		119	70 - 130
Pyrene	<0.049		1.95	2.12		ug/L		109	70 - 130
Simazine	<0.049		1.95	2.34		ug/L		120	70 - 130
Terbacil	<0.098	F1 *+	1.95	2.62	F1	ug/L		135	70 - 130
Terbuthylazine	<0.098		1.95	2.18		ug/L		112	70 - 130
Thiobencarb	<0.20		1.95	2.45		ug/L		125	70 - 130
trans-Nonachlor	<0.049		1.95	1.76		ug/L		90	70 - 130
Trifluralin	<0.098		1.95	1.92		ug/L		99	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2-Nitro-m-xylene	*99*		*70 - 130*
Perylene-d12	*95*		*70 - 130*
Triphenylphosphate	*96*		*70 - 130*

Lab Sample ID: 380-61061-B-1-A DU
Matrix: Water
Analysis Batch: 54389

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 54269

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

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

Lab Sample ID: 380-61061-B-1-A DU
Matrix: Water
Analysis Batch: 54389

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 54269

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
2,6-Dinitrotoluene	<0.099			<0.099		ug/L				NC	20
2-Methylnaphthalene	<0.099			<0.099		ug/L				NC	20
4,4'-DDD	<0.099			<0.099		ug/L				NC	20
4,4'-DDE	<0.099			<0.099		ug/L				NC	20
4,4'-DDT	<0.099			<0.099		ug/L				NC	20
Acenaphthene	<0.099			<0.099		ug/L				NC	20
Acenaphthylene	<0.099			<0.099		ug/L				NC	20
Acetochlor	<0.099	*+		<0.099	*+	ug/L				NC	20
Alachlor	<0.049			<0.049		ug/L				NC	20
alpha-BHC	<0.099			<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	<0.099			<0.099		ug/L				NC	20
Bis(2-ethylhexyl) phthalate	<0.59			<0.59		ug/L				NC	20
Bromacil	<0.099			<0.099		ug/L				NC	20
Butachlor	<0.049			<0.049		ug/L				NC	20
Butylbenzylphthalate	<0.49			<0.49		ug/L				NC	20
Chlorobenzilate	<0.099	^3+		<0.099		ug/L				NC	20
Chloroneb	<0.099			<0.099		ug/L				NC	20
Chlorothalonil (Draconil, Bravo)	<0.099			<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	<0.099			<0.099		ug/L				NC	20
Di(2-ethylhexyl)adipate	<0.59			<0.59		ug/L				NC	20
Dibenz(a,h)anthracene	<0.049	*+		<0.049	*+	ug/L				NC	20
Diclorvos (DDVP)	<0.049	*+ ^3+		<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	<0.99			<0.99		ug/L				NC	20
Di-n-octyl phthalate	<0.099			<0.099		ug/L				NC	20
Endosulfan I (Alpha)	<0.099			<0.099		ug/L				NC	20
Endosulfan II (Beta)	<0.099			<0.099		ug/L				NC	20
Endosulfan sulfate	<0.099			<0.099		ug/L				NC	20
Endrin	<0.099			<0.099		ug/L				NC	20
Endrin aldehyde	<0.099			<0.099		ug/L				NC	20
EPTC	<0.099			<0.099		ug/L				NC	20
Fluoranthene	<0.099			<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
Heptachlor	<0.039			<0.040		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

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

Lab Sample ID: 380-61061-B-1-A DU
Matrix: Water
Analysis Batch: 54389

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 54269

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
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			<0.040		ug/L				NC	20
Malathion	<0.099			<0.099		ug/L				NC	20
Methoxychlor	<0.099			<0.099		ug/L				NC	20
Metolachlor	<0.049			<0.049		ug/L				NC	20
Molinate	<0.099			<0.099		ug/L				NC	20
Naphthalene	<0.30			<0.30		ug/L				NC	20
Parathion	<0.099			<0.099		ug/L				NC	20
Pendimethalin (Penoxaline)	<0.099			<0.099		ug/L				NC	20
Phenanthrene	<0.039			<0.040		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	<0.099	*+		<0.099	*+	ug/L				NC	20
Terbuthylazine	<0.099			<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	<0.099			<0.099		ug/L				NC	20

Surrogate	*DU %Recovery*	*DU Qualifier*	*Limits*
2-Nitro-m-xylene	*104*		*70 - 130*
Perylene-d12	*89*		*70 - 130*
Triphenylphosphate	*97*		*70 - 130*

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

Lab Sample ID: 110503-B1
Matrix: BlankMatrix
Analysis Batch: O-42084

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: O-42084_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.005	0.001	µg/L		09/06/23 00:00	10/14/23 03:47	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		09/06/23 00:00	10/14/23 03:47	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		09/06/23 00:00	10/14/23 03:47	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		09/06/23 00:00	10/14/23 03:47	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		09/06/23 00:00	10/14/23 03:47	1
Acenaphthene	ND		0.005	0.001	µg/L		09/06/23 00:00	10/14/23 03:47	1
Acenaphthylene	ND		0.005	0.001	µg/L		09/06/23 00:00	10/14/23 03:47	1
Anthracene	ND		0.005	0.001	µg/L		09/06/23 00:00	10/14/23 03:47	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		09/06/23 00:00	10/14/23 03:47	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		09/06/23 00:00	10/14/23 03:47	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		09/06/23 00:00	10/14/23 03:47	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		09/06/23 00:00	10/14/23 03:47	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		09/06/23 00:00	10/14/23 03:47	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		09/06/23 00:00	10/14/23 03:47	1
Biphenyl	ND		0.005	0.001	µg/L		09/06/23 00:00	10/14/23 03:47	1

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

Lab Sample ID: 110503-B1
Matrix: BlankMatrix
Analysis Batch: O-42084

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: O-42084_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chrysene	ND		0.005	0.001	µg/L		09/06/23 00:00	10/14/23 03:47	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		09/06/23 00:00	10/14/23 03:47	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		09/06/23 00:00	10/14/23 03:47	1
Dibenzothiophene	ND		0.005	0.001	µg/L		09/06/23 00:00	10/14/23 03:47	1
Disalicylidenepropanediamine	ND		0.1	0.05	µg/L		09/06/23 00:00	10/14/23 03:47	1
Fluoranthene	ND		0.005	0.001	µg/L		09/06/23 00:00	10/14/23 03:47	1
Fluorene	ND		0.005	0.001	µg/L		09/06/23 00:00	10/14/23 03:47	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		09/06/23 00:00	10/14/23 03:47	1
Naphthalene	ND		0.005	0.001	µg/L		09/06/23 00:00	10/14/23 03:47	1
Perylene	ND		0.005	0.001	µg/L		09/06/23 00:00	10/14/23 03:47	1
Phenanthrene	ND		0.005	0.001	µg/L		09/06/23 00:00	10/14/23 03:47	1
Pyrene	ND		0.005	0.001	µg/L		09/06/23 00:00	10/14/23 03:47	1

Surrogate	*Blank %Recovery*	*Blank Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
(d10-Acenaphthene)	*92*		*27 - 133*	*09/06/23 00:00*	*10/14/23 03:47*	*1*
(d10-Phenanthrene)	*95*		*43 - 129*	*09/06/23 00:00*	*10/14/23 03:47*	*1*
(d12-Chrysene)	*93*		*52 - 144*	*09/06/23 00:00*	*10/14/23 03:47*	*1*
(d12-Perylene)	*99*		*36 - 161*	*09/06/23 00:00*	*10/14/23 03:47*	*1*
(d8-Naphthalene)	*90*		*25 - 125*	*09/06/23 00:00*	*10/14/23 03:47*	*1*

Lab Sample ID: 110503-BS1
Matrix: BlankMatrix
Analysis Batch: O-42084

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: O-42084_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	0.473		µg/L		95	66 - 127
2,3,5-Trimethylnaphthalene	0.5	0.46		µg/L		92	55 - 122
2,6-Dimethylnaphthalene	0.5	0.448		µg/L		90	48 - 120
2-Methylnaphthalene	0.5	0.436		µg/L		87	47 - 130
Acenaphthene	0.5	0.456		µg/L		91	53 - 131
Acenaphthylene	0.5	0.461		µg/L		92	43 - 140
Anthracene	0.5	0.471		µg/L		94	58 - 135
Benz[a]anthracene	0.5	0.556		µg/L		111	55 - 145
Benzo[a]pyrene	0.5	0.502		µg/L		100	51 - 143
Benzo[b]fluoranthene	0.5	0.546		µg/L		109	46 - 165
Benzo[e]pyrene	0.5	0.443		µg/L		89	42 - 152
Benzo[g,h,i]perylene	0.5	0.5		µg/L		100	63 - 133
Benzo[k]fluoranthene	0.5	0.471		µg/L		94	56 - 145
Biphenyl	0.5	0.462		µg/L		92	56 - 119
Chrysene	0.5	0.417		µg/L		83	56 - 141
Dibenz[a,h]anthracene	0.5	0.559		µg/L		112	55 - 150
Dibenzo[a,l]pyrene	0.5	0.328		µg/L		66	50 - 150
Dibenzothiophene	0.5	0.483		µg/L		97	46 - 126
Disalicylidenepropanediamine	50	41.1		µg/L		82	50 - 150
Fluoranthene	0.5	0.48		µg/L		96	60 - 146
Fluorene	0.5	0.457		µg/L		91	58 - 131
Indeno[1,2,3-cd]pyrene	0.5	0.533		µg/L		107	50 - 151

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

Lab Sample ID: 110503-BS1
Matrix: BlankMatrix
Analysis Batch: O-42084

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: O-42084_P

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Naphthalene			0.5	0.429		µg/L		86	41 - 126		
Perylene			0.5	0.381		µg/L		76	48 - 141		
Phenanthrene			0.5	0.479		µg/L		96	67 - 127		
Pyrene			0.5	0.476		µg/L		95	54 - 156		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
(d10-Acenaphthene)	*95*		*27 - 133*
(d10-Phenanthrene)	*104*		*43 - 129*
(d12-Chrysene)	*101*		*52 - 144*
(d12-Perylene)	*97*		*36 - 161*
(d8-Naphthalene)	*88*		*25 - 125*

Lab Sample ID: 110503-BS2
Matrix: BlankMatrix
Analysis Batch: O-42084

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: O-42084_P

Analyte			Spike Added	LCS DUP Result	LCS DUP Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1-Methylnaphthalene			0.5	0.44		µg/L		88	31 - 128	1	30
1-Methylphenanthrene			0.5	0.459		µg/L		92	66 - 127	3	30
2,3,5-Trimethylnaphthalene			0.5	0.452		µg/L		90	55 - 122	2	30
2,6-Dimethylnaphthalene			0.5	0.446		µg/L		89	48 - 120	1	30
2-Methylnaphthalene			0.5	0.431		µg/L		86	47 - 130	1	30
Acenaphthene			0.5	0.449		µg/L		90	53 - 131	1	30
Acenaphthylene			0.5	0.46		µg/L		92	43 - 140	0	30
Anthracene			0.5	0.442		µg/L		88	58 - 135	7	30
Benz[a]anthracene			0.5	0.55		µg/L		110	55 - 145	1	30
Benzo[a]pyrene			0.5	0.481		µg/L		96	51 - 143	4	30
Benzo[b]fluoranthene			0.5	0.542		µg/L		108	46 - 165	1	30
Benzo[e]pyrene			0.5	0.417		µg/L		83	42 - 152	7	30
Benzo[g,h,i]perylene			0.5	0.479		µg/L		96	63 - 133	4	30
Benzo[k]fluoranthene			0.5	0.464		µg/L		93	56 - 145	1	30
Biphenyl			0.5	0.453		µg/L		91	56 - 119	1	30
Chrysene			0.5	0.406		µg/L		81	56 - 141	2	30
Dibenz[a,h]anthracene			0.5	0.551		µg/L		110	55 - 150	2	30
Dibenzo[a,l]pyrene			0.5	0.322		µg/L		64	50 - 150	3	30
Dibenzothiophene			0.5	0.469		µg/L		94	46 - 126	3	30
Disalicylidenepropanediamine			50	46.8		µg/L		94	50 - 150	14	30
Fluoranthene			0.5	0.467		µg/L		93	60 - 146	3	30
Fluorene			0.5	0.454		µg/L		91	58 - 131	0	30
Indeno[1,2,3-cd]pyrene			0.5	0.527		µg/L		105	50 - 151	2	30
Naphthalene			0.5	0.424		µg/L		85	41 - 126	1	30
Perylene			0.5	0.384		µg/L		77	48 - 141	1	30
Phenanthrene			0.5	0.467		µg/L		93	67 - 127	3	30
Pyrene			0.5	0.464		µg/L		93	54 - 156	2	30

Surrogate	*LCS DUP %Recovery*	*LCS DUP Qualifier*	*Limits*
(d10-Acenaphthene)	*94*		*27 - 133*
(d10-Phenanthrene)	*101*		*43 - 129*

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

Lab Sample ID: 110503-BS2
Matrix: BlankMatrix
Analysis Batch: O-42084

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: O-42084_P

Surrogate	*LCS DUP %Recovery*	*LCS DUP Qualifier*	*Limits*
(d12-Chrysene)	*99*		*52 - 144*
(d12-Perylene)	*95*		*36 - 161*
(d8-Naphthalene)	*88*		*25 - 125*

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

Lab Sample ID: 23VG39I04B
Matrix: WATER
Analysis Batch: 23VG39I04

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			09/06/23 12:50	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
BROMOFLUOROBENZENE					*09/06/23 12:50*	*1*

Lab Sample ID: 23VG39I04L
Matrix: WATER
Analysis Batch: 23VG39I04

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	0.455		mg/L		91	60 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
BROMOFLUOROBENZENE	*103*		*70 - 130*

Lab Sample ID: 23I012-01M
Matrix: WATER
Analysis Batch: 23VG39I04

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
GASOLINE	ND		0.5	0.432		mg/L		86	50 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
BROMOFLUOROBENZENE	*102*		*60 - 140*

Lab Sample ID: 23I012-01S
Matrix: WATER
Analysis Batch: 23VG39I04

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
GASOLINE	ND		0.5	0.436		mg/L		87	50 - 130	1	30

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

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

Lab Sample ID: 23DSI007WB
Matrix: WATER
Analysis Batch: 23DSI007W

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			09/07/23 02:35	1
JP5	ND	U	0.05		mg/L			09/07/23 02:35	1
JP8	ND	U	0.05		mg/L			09/07/23 02:35	1
MOTOR OIL	ND	U	0.05		mg/L			09/07/23 02:35	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
BROMOBENZENE					*09/07/23 02:35*	*1*
HEXACOSANE					*09/07/23 02:35*	*1*

Lab Sample ID: 23DSI007WL
Matrix: WATER
Analysis Batch: 23DSI007W

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	2.39		mg/L		96	50 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
BROMOBENZENE	*78*		*60 - 130*
HEXACOSANE	*99*		*60 - 130*

Lab Sample ID: 23J5I007WL
Matrix: WATER
Analysis Batch: 23DSI007W

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
JP5			2.5	1.71		mg/L		68	30 - 160		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
BROMOBENZENE	*84*		*60 - 130*
HEXACOSANE	*100*		*60 - 130*

Lab Sample ID: 23J8I007WL
Matrix: WATER
Analysis Batch: 23DSI007W

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
JP8			2.5	2.01		mg/L		80	30 - 160		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
BROMOBENZENE	*95*		*60 - 130*
HEXACOSANE	*102*		*60 - 130*

QC Association Summary

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

Job ID: 380-61396-1

GC/MS Semi VOA

Prep Batch: 54269

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-61396-1	MOANALUA WELLS Pump 2	Total/NA	Drinking Water	525.2	
380-61396-2	HALAWA WELLS UNITS 1 & 2 Pump 1	Total/NA	Drinking Water	525.2	
MB 380-54269/21-A	Method Blank	Total/NA	Water	525.2	
LCS 380-54269/23-A	Lab Control Sample	Total/NA	Water	525.2	
LCSD 380-54269/24-A	Lab Control Sample Dup	Total/NA	Water	525.2	
MRL 380-54269/22-A	Lab Control Sample	Total/NA	Water	525.2	
380-61049-O-1-A MS	Matrix Spike	Total/NA	Water	525.2	
380-61061-B-1-A DU	Duplicate	Total/NA	Water	525.2	

Analysis Batch: 54389

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-61396-1	MOANALUA WELLS Pump 2	Total/NA	Drinking Water	525.2	54269
380-61396-2	HALAWA WELLS UNITS 1 & 2 Pump 1	Total/NA	Drinking Water	525.2	54269
MB 380-54269/21-A	Method Blank	Total/NA	Water	525.2	54269
LCS 380-54269/23-A	Lab Control Sample	Total/NA	Water	525.2	54269
LCSD 380-54269/24-A	Lab Control Sample Dup	Total/NA	Water	525.2	54269
MRL 380-54269/22-A	Lab Control Sample	Total/NA	Water	525.2	54269
380-61049-O-1-A MS	Matrix Spike	Total/NA	Water	525.2	54269
380-61061-B-1-A DU	Duplicate	Total/NA	Water	525.2	54269

Subcontract

Analysis Batch: O-42084

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-61396-1	MOANALUA WELLS Pump 2	Total/NA	Drinking Water	625 PAH Physis LL (EAL) + TICs	O-42084_P
380-61396-2	HALAWA WELLS UNITS 1 & 2 Pump 1	Total/NA	Drinking Water	625 PAH Physis LL (EAL) + TICs	O-42084_P
110503-B1	Method Blank	Total/NA	BlankMatrix	625 PAH Physis LL (EAL) + TICs	O-42084_P
110503-BS1	Lab Control Sample	Total/NA	BlankMatrix	625 PAH Physis LL (EAL) + TICs	O-42084_P
110503-BS2	Lab Control Sample Dup	Total/NA	BlankMatrix	625 PAH Physis LL (EAL) + TICs	O-42084_P

Analysis Batch: 23DSI007W

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-61396-1	MOANALUA WELLS Pump 2	Total/NA	Drinking Water	8015 LL DRO/MRO/JP5/JP8	
380-61396-2	HALAWA WELLS UNITS 1 & 2 Pump 1	Total/NA	Drinking Water	8015 LL DRO/MRO/JP5/JP8	
23DSI007WB	Method Blank	Total/NA	WATER	8015 LL DRO/MRO/JP5/JP8	
23DSI007WL	Lab Control Sample	Total/NA	WATER	8015 LL DRO/MRO/JP5/JP8	
23J5I007WL	Lab Control Sample	Total/NA	WATER	8015 LL DRO/MRO/JP5/JP8	
23J8I007WL	Lab Control Sample	Total/NA	WATER	8015 LL DRO/MRO/JP5/JP8	

QC Association Summary

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

Job ID: 380-61396-1

Subcontract

Analysis Batch: 23VG39I04

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-61396-1	MOANALUA WELLS Pump 2	Total/NA	Drinking Water	8015 Gas (Purgeable) LL (EAL)	
380-61396-2	HALAWA WELLS UNITS 1 & 2 Pump 1	Total/NA	Drinking Water	8015 Gas (Purgeable) LL (EAL)	
380-61396-3	TB MOANALUA WELLS	Total/NA	Water	8015 Gas (Purgeable) LL (EAL)	
380-61396-4	TB HALAWA WELLS UNITS 1 & 2	Total/NA	Water	8015 Gas (Purgeable) LL (EAL)	
23VG39I04B	Method Blank	Total/NA	WATER	8015 Gas (Purgeable) LL (EAL)	
23VG39I04L	Lab Control Sample	Total/NA	WATER	8015 Gas (Purgeable) LL (EAL)	
23I012-01M	Matrix Spike	Total/NA	WATER	8015 Gas (Purgeable) LL (EAL)	
23I012-01S	Matrix Spike Duplicate	Total/NA	WATER	8015 Gas (Purgeable) LL (EAL)	

Prep Batch: O-42084_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-61396-1	MOANALUA WELLS Pump 2	Total/NA	Drinking Water	EPA_625	
380-61396-2	HALAWA WELLS UNITS 1 & 2 Pump 1	Total/NA	Drinking Water	EPA_625	
110503-B1	Method Blank	Total/NA	BlankMatrix	EPA_625	
110503-BS1	Lab Control Sample	Total/NA	BlankMatrix	EPA_625	
110503-BS2	Lab Control Sample Dup	Total/NA	BlankMatrix	EPA_625	

Lab Chronicle

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

Job ID: 380-61396-1

Client Sample ID: MOANALUA WELLS Pump 2

Lab Sample ID: 380-61396-1
Matrix: Drinking Water
Date Collected: 08/30/23 11:30
Date Received: 09/01/23 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	525.2			54269	G9MN	EA POM	09/02/23 10:37
Total/NA	Analysis	525.2		1	54389	UPAC	EA POM	09/05/23 20:12
Total/NA	Prep	EPA_625		1	O-42084_P			09/06/23 00:00
Total/NA	Analysis	625 PAH Physis LL (EAL) + TICs		1	O-42084	YC		10/14/23 09:07
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)		1	23VG39I04	SCerva		09/06/23 14:43
Total/NA	Analysis	8015 LL DRO/MRO/JP5/JP8		1	23DSI007W	SDees		09/07/23 05:58

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

Lab Sample ID: 380-61396-2
Matrix: Drinking Water
Date Collected: 08/30/23 10:00
Date Received: 09/01/23 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	525.2			54269	G9MN	EA POM	09/02/23 10:37
Total/NA	Analysis	525.2		1	54389	UPAC	EA POM	09/05/23 20:32
Total/NA	Prep	EPA_625		1	O-42084_P			09/06/23 00:00
Total/NA	Analysis	625 PAH Physis LL (EAL) + TICs		1	O-42084	YC		10/14/23 10:53
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)		1	23VG39I04	SCerva		09/06/23 16:36
Total/NA	Analysis	8015 LL DRO/MRO/JP5/JP8		1	23DSI007W	SDees		09/07/23 06:17

Client Sample ID: TB MOANALUA WELLS

Lab Sample ID: 380-61396-3
Matrix: Water
Date Collected: 08/30/23 11:30
Date Received: 09/01/23 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)		1	23VG39I04	SCerva		09/06/23 17:13

Client Sample ID: TB HALAWA WELLS UNITS 1 & 2

Lab Sample ID: 380-61396-4
Matrix: Water
Date Collected: 08/30/23 10:00
Date Received: 09/01/23 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)		1	23VG39I04	SCerva		09/06/23 17:50

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: 380-61396-1

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	Alachlor
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	Atrazine
525.2	525.2	Drinking Water	Benz(a)anthracene
525.2	525.2	Drinking Water	Benzo[a]pyrene
525.2	525.2	Drinking Water	Benzo[b]fluoranthene
525.2	525.2	Drinking Water	Benzo[g,h,i]perylene
525.2	525.2	Drinking Water	Benzo[k]fluoranthene
525.2	525.2	Drinking Water	beta-BHC
525.2	525.2	Drinking Water	Bis(2-ethylhexyl) phthalate
525.2	525.2	Drinking Water	Bromacil
525.2	525.2	Drinking Water	Butachlor
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	Di(2-ethylhexyl)adipate
525.2	525.2	Drinking Water	Dibenz(a,h)anthracene
525.2	525.2	Drinking Water	Diclorvos (DDVP)
525.2	525.2	Drinking Water	Dieldrin
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

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	Endrin
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	Heptachlor
525.2	525.2	Drinking Water	Heptachlor epoxide (isomer B)
525.2	525.2	Drinking Water	Hexachlorobenzene
525.2	525.2	Drinking Water	Hexachlorocyclopentadiene
525.2	525.2	Drinking Water	Indeno[1,2,3-cd]pyrene
525.2	525.2	Drinking Water	Isophorone
525.2	525.2	Drinking Water	Lindane
525.2	525.2	Drinking Water	Malathion
525.2	525.2	Drinking Water	Methoxychlor
525.2	525.2	Drinking Water	Metolachlor
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	Propachlor
525.2	525.2	Drinking Water	Pyrene
525.2	525.2	Drinking Water	Simazine
525.2	525.2	Drinking Water	Terbacil
525.2	525.2	Drinking Water	Terbuthylazine
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: 380-61396-1

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: 380-61396-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
380-61396-1	MOANALUA WELLS Pump 2	Drinking Water	08/30/23 11:30	09/01/23 09:40
380-61396-2	HALAWA WELLS UNITS 1 & 2 Pump 1	Drinking Water	08/30/23 10:00	09/01/23 09:40
380-61396-3	TB MOANALUA WELLS	Water	08/30/23 11:30	09/01/23 09:40
380-61396-4	TB HALAWA WELLS UNITS 1 & 2	Water	08/30/23 10:00	09/01/23 09:40

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

Date: 09-21-2023
EMAX Batch No.: 23I012

Attn: Jackie Contreras

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

Subject: Laboratory Report
Project: 380-61396

Enclosed is the Laboratory report for samples received on 09/05/23.
The data reported relate only to samples listed below :

Sample ID	Control #	Col Date	Matrix	Analysis
380-61396-1	I012-01	08/30/23	WATER	TPH GASOLINE
				TPH
380-61396-2	I012-02	08/30/23	WATER	TPH GASOLINE
				TPH
380-61396-3	I012-03	08/30/23	WATER	TPH GASOLINE
380-61396-4	I012-04	08/30/23	WATER	TPH GASOLINE
380-61396-1MS	I012-01M	08/30/23	WATER	TPH GASOLINE
380-61396-1MSD	I012-01S	08/30/23	WATER	TPH GASOLINE

The results are summarized on the following pages.

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

Sincerely yours,

Caspar J. Pang
Laboratory Director

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

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

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

Chain of Custody Record

23I012

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Arada, Rachelle	Carrier Tracking No(s):	COC No: 380-75523.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Rachelle.Arada@et.eurofinsus.com	State of Origin: Hawaii	Page: Page 1 of 1
Company: EMAX Laboratories Inc		Accreditations Required (See note): State - Hawaii		Job #: 380-61396-1
Address: 3051 Fujita Street, ,	Due Date Requested: 9/14/2023			
City: Torrance	TAT Requested (days):			
State, Zip: CA, 90505				
Phone:	PO #:			
Email:	WO #:			
Project Name: RED-HILL	Project #: 38001111			
Site: Honolulu BWS Sites	SSOW#:			

Analysis Requested

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

	Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (8015 Gas (Purgeable) LL (EAL))/ 8015 Gas (Purgeable) LL (EAL)	SUB (8015 LL DRO/MRO/JP5/JP8)/ 8015 LL DRO/MRO/JP5/JP8	Total Number of containers	Special Instructions/Note:
	Preservation Code:										
1	MOANALUA WELLS (331-223-TP202) (380-61396-1)	8/30/23	11:30 Hawaiian		Water			X	X	6	See Attached Instructions
2	HALAWA WELLS UNITS 1 & 2 (331-206-TP065) (380-61396-2)	8/30/23	10:00 Hawaiian		Water			X	X	6	See Attached Instructions
3	FB MOANALUA WELLS (380-61396-3)	8/30/23	11:30 Hawaiian		Water			X		2	See Attached Instructions
4	FB HALAWA WELS UNITS 1 & 2 (380-61396-4)	8/30/23	10:00 Hawaiian		Water			X		2	See Attached Instructions

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

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

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

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		9/5/23 1231	EMAX		9/5/23 1231	EMAX
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 3.7 / 3.6 CF = -0.1

11/22/2023

Page 41 of 107

EMAX LABORATORIES, INC.

REFERENCE: EMAX-SM02 Rev. 12

SAMPLE RECEIPT FORM 1

Type of Delivery	Airbill / Tracking Number	ECN 23I012
☐ Fedex ☐ UPS ☐ GSO ☐ Others		Recipient Jhowin Zamora
☐ EMAX Courier ☑ Client Delivery		Date 09/05/23 Time 1281

COC INSPECTION

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

Note: _____

PACKAGING INSPECTION

Container	☑ Cooler	☐ Box	☐ Other		
Condition	☐ Custody Seal	☐ Intact	☐ Damaged		
Packaging (correction factor: -0.1)	☑ Bubble Pack	☐ Styrofoam	☐ Popcorn	☐ Sufficient	☐ _____
Temperatures (Cool, ≤6 °C but not frozen)	☑ Cooler 1 3.7/3.6 °C	☐ Cooler 2_____ °C	☐ Cooler 3_____ °C	☐ Cooler 4_____ °C	☐ Cooler 5_____ °C
	☐ Cooler 6_____ °C	☐ Cooler 7_____ °C	☐ Cooler 8_____ °C	☐ Cooler 9_____ °C	☐ Cooler 10_____ °C
Thermometer:	*A - S/N* 221852708	(B) *S/N* 221925379	*C - S/N* _____	*D - S/N* _____	

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

Note: _____

DISCREPANCIES

LabSampleID	LabSampleContainerID	Code	ClientSample Label ID / Information	Corrective Action
3,4	13, 14, 15, 16	D7	second handwritten date reads: "8/22/23"	R1
3	13, 14	D3	ID: TB MOANALUA WELLS	
4	15, 16	D3	ID: TB HALAWA WELLS UNITS 1&2	

c 9/6/23

☐ pH holding time requirement for water samples is 15 mins. Water samples for pH analysis are received beyond 15 minutes from sampling time. RB 9/8/23

NOTES/OBSERVATIONS:

SAMPLE MATRIX IS DRINKING WATER? ☐ YES ☐ NO

LEGEND:

☐ Continue to next page.

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

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

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

REVIEWS:

Sample Labeling Nahdeen Nacana — Date 09/05/23 9/5/23

SRF — Date 9/5/23

PM — Date 9/8/23

REPORTING CONVENTIONS

DATA QUALIFIERS:

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

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

ACRONYMS AND ABBREVIATIONS:

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

DATES

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

LABORATORY REPORT FOR

EUROFINS EATON ANALYTICAL

380-61396

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

SDG#: 23I012

CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 380-61396

SDG : 23I012

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

A total of four(4) water samples were received on 09/05/23 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. VG39I04B - 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. VG39I04L/VG39I04C 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 I012-01M/I012-01S. 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 : 380-61396

SDG NO. : 23I012
Instrument ID : GCT039

WATER

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1W	VG39I04B	1	NA	09/06/2312:50	09/06/2312:50	EI06005A	EI06004A	23VG39I04	Method Blank
LCS1W	VG39I04L	1	NA	09/06/2313:28	09/06/2313:28	EI06006A	EI06004A	23VG39I04	Lab Control Sample (LCS)
LCD1W	VG39I04C	1	NA	09/06/2314:05	09/06/2314:05	EI06007A	EI06004A	23VG39I04	LCS Duplicate
380-61396-1	I012-01	1	NA	09/06/2314:43	09/06/2314:43	EI06008A	EI06004A	23VG39I04	Field Sample
380-61396-1MS	I012-01M	1	NA	09/06/2315:21	09/06/2315:21	EI06009A	EI06004A	23VG39I04	Matrix Spike Sample (MS)
380-61396-1MSD	I012-01S	1	NA	09/06/2315:58	09/06/2315:58	EI06010A	EI06004A	23VG39I04	MS Duplicate (MSD)
380-61396-2	I012-02	1	NA	09/06/2316:36	09/06/2316:36	EI06011A	EI06004A	23VG39I04	Field Sample
380-61396-3	I012-03	1	NA	09/06/2317:13	09/06/2317:13	EI06012A	EI06004A	23VG39I04	Field Sample
380-61396-4	I012-04	1	NA	09/06/2317:50	09/06/2317:50	EI06013A	EI06004A	23VG39I04	Field Sample

FN - Filename
% Moist - Percent Moisture

SAMPLE RESULTS

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

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	08/30/23 11:30
Project	: 380-61396	Date Received:	09/05/23
Batch No.	: 23I012	Date Extracted:	09/06/23 14:43
Sample ID	: 380-61396-1	Date Analyzed:	09/06/23 14:43
Lab Samp ID:	I012-01	Dilution Factor:	1
Lab File ID:	EI06008A	Matrix:	WATER
Ext Btch ID:	23VG39I04	% Moisture:	NA
Calib. Ref.:	EI06004A	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:	08/30/23 10:00
Project	: 380-61396	Date Received:	09/05/23
Batch No.	: 23I012	Date Extracted:	09/06/23 16:36
Sample ID	: 380-61396-2	Date Analyzed:	09/06/23 16:36
Lab Samp ID:	I012-02	Dilution Factor:	1
Lab File ID:	EI06011A	Matrix:	WATER
Ext Btch ID:	23VG39I04	% Moisture:	NA
Calib. Ref.:	EI06004A	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	0.0320	0.0400	80	60-140

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

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

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

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	08/30/23 11:30
Project	: 380-61396	Date Received:	09/05/23
Batch No.	: 23I012	Date Extracted:	09/06/23 17:13
Sample ID	: 380-61396-3	Date Analyzed:	09/06/23 17:13
Lab Samp ID:	I012-03	Dilution Factor:	1
Lab File ID:	EI06012A	Matrix:	WATER
Ext Btch ID:	23VG39I04	% Moisture:	NA
Calib. Ref.:	EI06004A	Instrument ID:	39

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

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromofluorobenzene	0.0326	0.0400	81	60-140

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

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

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

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	08/30/23 10:00
Project	: 380-61396	Date Received:	09/05/23
Batch No.	: 23I012	Date Extracted:	09/06/23 17:50
Sample ID	: 380-61396-4	Date Analyzed:	09/06/23 17:50
Lab Samp ID:	I012-04	Dilution Factor:	1
Lab File ID:	EI06013A	Matrix:	WATER
Ext Btch ID:	23VG39I04	% Moisture:	NA
Calib. Ref.:	EI06004A	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

QC SUMMARIES

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

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	09/06/23 12:50
Project	: 380-61396	Date Received:	09/06/23
Batch No.	: 23I012	Date Extracted:	09/06/23 12:50
Sample ID	: MBLK1W	Date Analyzed:	09/06/23 12:50
Lab Samp ID:	VG39I04B	Dilution Factor:	1
Lab File ID:	EI06005A	Matrix:	WATER
Ext Btch ID:	23VG39I04	% Moisture:	NA
Calib. Ref.:	EI06004A	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

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL
PROJECT : 380-61396
BATCH NO. : 23I012
METHOD : 5030B/8015B

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR	: 1	1	1
SAMPLE ID	: MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID	: VG39I04B	VG39I04L	VG39I04C
LAB FILE ID	: EI06005A	EI06006A	EI06007A
DATE PREPARED	: 09/06/23 12:50	09/06/23 13:28	09/06/23 14:05
DATE ANALYZED	: 09/06/23 12:50	09/06/23 13:28	09/06/23 14:05
PREP BATCH	: 23VG39I04	23VG39I04	23VG39I04
CALIBRATION REF	: EI06004A	EI06004A	EI06004A

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	0.455	91	0.500	0.448	90	2	60-130	30

SURROGATE PARAMETER	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	QCLimit (%)
Bromofluorobenzene	0.0400	0.0413	103	0.0400	0.0410	103	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 : 380-61396
BATCH NO. : 23I012
METHOD : 5030B/8015B

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR	: 1	1	1
SAMPLE ID	: 380-61396-1	380-61396-1MS	380-61396-1MSD
LAB SAMPLE ID	: I012-01	I012-01M	I012-01S
LAB FILE ID	: EI06008A	EI06009A	EI06010A
DATE PREPARED	: 09/06/23 14:43	09/06/23 15:21	09/06/23 15:58
DATE ANALYZED	: 09/06/23 14:43	09/06/23 15:21	09/06/23 15:58
PREP BATCH	: 23VG39I04	23VG39I04	23VG39I04
CALIBRATION REF	: EI06004A	EI06004A	EI06004A

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	0.432	86	0.500	0.436	87	1	50-130	30

SURROGATE PARAMETER	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	QCLimit (%)
Bromofluorobenzene	0.0400	0.0409	102	0.0400	0.0422	106	60-140

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

LABORATORY REPORT FOR

EUROFINS EATON ANALYTICAL

380-61396

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

SDG#: 23I012

CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 380-61396

SDG : 23I012

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

A total of two(2) water samples were received on 09/05/23 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. DSI007WB - 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. DSI007WL/DSI007WC were within LCS limits. Refer to LCS summary form for details.

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

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

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

CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 380-61396

SDG : 23I012

METHOD 3520C/8015B
PETROLEUM HYDROCARBONS BY EXTRACTION

A total of two(2) water samples were received on 09/05/23 to be analyzed for Petroleum Hydrocarbons by Extraction in accordance with Method 3520C/8015B and project specific requirements.

Holding Time
Samples were analyzed within the prescribed holding time.

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

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. DSI007WB - 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. J5I007WL/J5I007WC were within LCS limits. Refer to LCS summary form for details.

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

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

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

CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 380-61396

SDG : 23I012

METHOD 3520C/8015B
PETROLEUM HYDROCARBONS BY EXTRACTION

A total of two(2) water samples were received on 09/05/23 to be analyzed for Petroleum Hydrocarbons by Extraction in accordance with Method 3520C/8015B and project specific requirements.

Holding Time
Samples were analyzed within the prescribed holding time.

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

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. DSI007WB - 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. J8I007WL/J8I007WC 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 : 380-61396

SDG NO. : 23I012
Instrument ID : D5

WATER

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1W	DSI007WB	1	NA	09/07/2302:35	09/05/2313:45	LI05111A	LI05104A	23DSI007W	Method Blank
LCS1W	DSI007WL	1	NA	09/07/2302:53	09/05/2313:45	LI05112A	LI05104A	23DSI007W	Lab Control Sample (LCS)
LCD1W	DSI007WC	1	NA	09/07/2303:12	09/05/2313:45	LI05113A	LI05104A	23DSI007W	LCS Duplicate
380-61396-1	I012-01	1	NA	09/07/2305:58	09/05/2313:45	LI05122A	LI05104A	23DSI007W	Field Sample
380-61396-2	I012-02	1	NA	09/07/2306:17	09/05/2313:45	LI05123A	LI05104A	23DSI007W	Field Sample

FN - Filename
% Moist - Percent Moisture

LAB CHRONICLE
PETROLEUM HYDROCARBONS BY EXTRACTION

Client : EUROFINS EATON ANALYTICAL
Project : 380-61396

SDG NO. : 23I012
Instrument ID : D5

WATER

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1W	DSI007WB	1	NA	09/07/2302:35	09/05/2313:45	LI05111A	LI05105A	23DSI007W	Method Blank
LCS1W	J5I007WL	1	NA	09/07/2303:30	09/05/2313:45	LI05114A	LI05105A	23DSI007W	Lab Control Sample (LCS)
LCD1W	J5I007WC	1	NA	09/07/2303:49	09/05/2313:45	LI05115A	LI05105A	23DSI007W	LCS Duplicate
380-61396-1	I012-01	1	NA	09/07/2305:58	09/05/2313:45	LI05122A	LI05105A	23DSI007W	Field Sample
380-61396-2	I012-02	1	NA	09/07/2306:17	09/05/2313:45	LI05123A	LI05105A	23DSI007W	Field Sample

FN - Filename
% Moist - Percent Moisture

LAB CHRONICLE
PETROLEUM HYDROCARBONS BY EXTRACTION

Client : EUROFINS EATON ANALYTICAL
Project : 380-61396

SDG NO. : 23I012
Instrument ID : D5

WATER

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1W	DSI007WB	1	NA	09/07/2302:35	09/05/2313:45	LI05111A	LI05106A	23DSI007W	Method Blank
LCS1W	J8I007WL	1	NA	09/07/2304:07	09/05/2313:45	LI05116A	LI05106A	23DSI007W	Lab Control Sample (LCS)
LCD1W	J8I007WC	1	NA	09/07/2304:26	09/05/2313:45	LI05117A	LI05106A	23DSI007W	LCS Duplicate
380-61396-1	I012-01	1	NA	09/07/2305:58	09/05/2313:45	LI05122A	LI05106A	23DSI007W	Field Sample
380-61396-2	I012-02	1	NA	09/07/2306:17	09/05/2313:45	LI05123A	LI05106A	23DSI007W	Field Sample

FN - Filename
% Moist - Percent Moisture

SAMPLE RESULTS

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	08/30/23 11:30
Project	: 380-61396	Date Received:	09/05/23
Batch No.	: 23I012	Date Extracted:	09/05/23 13:45
Sample ID	: 380-61396-1	Date Analyzed:	09/07/23 05:58
Lab Samp ID:	23I012-01	Dilution Factor:	1
Lab File ID:	LI05122A	Matrix:	WATER
Ext Btch ID:	23DSI007W	% Moisture:	NA
Calib. Ref.:	LI05104A	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	0.359	0.495	73	60-130
Hexacosane	0.116	0.124	94	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	: 1010ml	Final Volume :	5ml
Prepared by	: RGalan	Analyzed by :	SDeeso

METHOD 3520C/8015B
PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	08/30/23 11:30
Project	: 380-61396	Date Received:	09/05/23
Batch No.	: 23I012	Date Extracted:	09/05/23 13:45
Sample ID	: 380-61396-1	Date Analyzed:	09/07/23 05:58
Lab Samp ID:	23I012-01	Dilution Factor:	1
Lab File ID:	LI05122A	Matrix:	WATER
Ext Btch ID:	23DSI007W	% Moisture:	NA
Calib. Ref.:	LI05105A	Instrument ID:	D5

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
JP5	ND	0.050	0.025

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.359	0.495	73	60-130
Hexacosane	0.116	0.124	94	60-130

Notes:
RL : Reporting Limit

Parameter	H-C Range
JP5	C8-C18

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.
Sample Amount : 1010ml Final Volume : 5ml
Prepared by : RGalan Analyzed by : SDeeso

METHOD 3520C/8015B
PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	08/30/23 11:30
Project	: 380-61396	Date Received:	09/05/23
Batch No.	: 23I012	Date Extracted:	09/05/23 13:45
Sample ID	: 380-61396-1	Date Analyzed:	09/07/23 05:58
Lab Samp ID:	23I012-01	Dilution Factor:	1
Lab File ID:	LI05122A	Matrix:	WATER
Ext Btch ID:	23DSI007W	% Moisture:	NA
Calib. Ref.:	LI05106A	Instrument ID:	D5

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
JP8	ND	0.050	0.025

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.359	0.495	73	60-130
Hexacosane	0.116	0.124	94	60-130

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

Detection limits are reported relative to sample result significant figures.
Sample Amount : 1010ml Final Volume : 5ml
Prepared by : RGalan Analyzed by : SDeeso

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	08/30/23 10:00
Project	: 380-61396	Date Received:	09/05/23
Batch No.	: 23I012	Date Extracted:	09/05/23 13:45
Sample ID	: 380-61396-2	Date Analyzed:	09/07/23 06:17
Lab Samp ID:	23I012-02	Dilution Factor:	1
Lab File ID:	LI05123A	Matrix:	WATER
Ext Btch ID:	23DSI007W	% Moisture:	NA
Calib. Ref.:	LI05104A	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	0.395	0.500	79	60-130
Hexacosane	0.115	0.125	92	60-130

Notes:

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

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

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

METHOD 3520C/8015B
PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	08/30/23 10:00
Project	: 380-61396	Date Received:	09/05/23
Batch No.	: 23I012	Date Extracted:	09/05/23 13:45
Sample ID	: 380-61396-2	Date Analyzed:	09/07/23 06:17
Lab Samp ID:	23I012-02	Dilution Factor:	1
Lab File ID:	LI05123A	Matrix:	WATER
Ext Btch ID:	23DSI007W	% Moisture:	NA
Calib. Ref.:	LI05105A	Instrument ID:	D5

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
JP5	ND	0.050	0.025

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.395	0.500	79	60-130
Hexacosane	0.115	0.125	92	60-130

Notes:
RL : Reporting Limit

Parameter	H-C Range
JP5	C8-C18

Reported ND at RL quantitated per pattern recognition.

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

METHOD 3520C/8015B
PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	08/30/23 10:00
Project	: 380-61396	Date Received:	09/05/23
Batch No.	: 23I012	Date Extracted:	09/05/23 13:45
Sample ID	: 380-61396-2	Date Analyzed:	09/07/23 06:17
Lab Samp ID:	23I012-02	Dilution Factor:	1
Lab File ID:	LI05123A	Matrix:	WATER
Ext Btch ID:	23DSI007W	% Moisture:	NA
Calib. Ref.:	LI05106A	Instrument ID:	D5

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
JP8	ND	0.050	0.025

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.395	0.500	79	60-130
Hexacosane	0.115	0.125	92	60-130

Notes:
RL : Reporting Limit

Parameter	H-C Range
JP8	C8-C18

Reported ND at RL quantitated per pattern recognition.

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

QC SUMMARIES

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	09/05/23 13:45
Project	: 380-61396	Date Received:	09/05/23
Batch No.	: 23I012	Date Extracted:	09/05/23 13:45
Sample ID	: MBLK1W	Date Analyzed:	09/07/23 02:35
Lab Samp ID:	DSI007WB	Dilution Factor:	1
Lab File ID:	LI05111A	Matrix:	WATER
Ext Btch ID:	23DSI007W	% Moisture:	NA
Calib. Ref.:	LI05104A	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	0.382	0.500	76	60-130
Hexacosane	0.115	0.125	92	60-130

Notes:

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

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

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

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL
PROJECT : 380-61396
BATCH NO. : 23I012
METHOD : 3520C/8015B

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR	: 1	1	1
SAMPLE ID	: MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID	: DSI007WB	DSI007WL	DSI007WC
LAB FILE ID	: LI05111A	LI05112A	LI05113A
DATE PREPARED	: 09/05/23 13:45	09/05/23 13:45	09/05/23 13:45
DATE ANALYZED	: 09/07/23 02:35	09/07/23 02:53	09/07/23 03:12
PREP BATCH	: 23DSI007W	23DSI007W	23DSI007W
CALIBRATION REF	: LI05104A	LI05104A	LI05104A

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	2.39	96	2.50	2.40	96	0	50-130	30

SURROGATE PARAMETERS	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	QCLimit (%)
Bromobenzene	0.500	0.390	78	0.500	0.400	80	60-130
Hexacosane	0.125	0.124	99	0.125	0.139	111	60-130

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

METHOD 3520C/8015B
PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	09/05/23 13:45
Project	: 380-61396	Date Received:	09/05/23
Batch No.	: 23I012	Date Extracted:	09/05/23 13:45
Sample ID	: MBLK1W	Date Analyzed:	09/07/23 02:35
Lab Samp ID:	DSI007WB	Dilution Factor:	1
Lab File ID:	LI05111A	Matrix:	WATER
Ext Btch ID:	23DSI007W	% Moisture:	NA
Calib. Ref.:	LI05105A	Instrument ID:	D5

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
JP5	ND	0.050	0.025

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.382	0.500	76	60-130
Hexacosane	0.115	0.125	92	60-130

Notes:
RL : Reporting Limit

Parameter	H-C Range
JP5	C8-C18

Reported ND at RL quantitated per pattern recognition.

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

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL
PROJECT : 380-61396
BATCH NO. : 23I012
METHOD : 3520C/8015B

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR	: 1	1	1
SAMPLE ID	: MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID	: DSI007WB	J5I007WL	J5I007WC
LAB FILE ID	: LI05111A	LI05114A	LI05115A
DATE PREPARED	: 09/05/23 13:45	09/05/23 13:45	09/05/23 13:45
DATE ANALYZED	: 09/07/23 02:35	09/07/23 03:30	09/07/23 03:49
PREP BATCH	: 23DSI007W	23DSI007W	23DSI007W
CALIBRATION REF	: LI05105A	LI05105A	LI05105A

ACCESSION:

PARAMETERS	MBResult (mg/L)	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
JP5	ND	2.50	1.71	68	2.50	1.81	72	6	30-160	30

SURROGATE PARAMETERS	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	QCLimit (%)
Bromobenzene	0.500	0.420	84	0.500	0.413	83	60-130
Hexacosane	0.125	0.125	100	0.125	0.145	116	60-130

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

METHOD 3520C/8015B
PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	09/05/23 13:45
Project	: 380-61396	Date Received:	09/05/23
Batch No.	: 23I012	Date Extracted:	09/05/23 13:45
Sample ID	: MBLK1W	Date Analyzed:	09/07/23 02:35
Lab Samp ID:	DSI007WB	Dilution Factor:	1
Lab File ID:	LI05111A	Matrix:	WATER
Ext Btch ID:	23DSI007W	% Moisture:	NA
Calib. Ref.:	LI05106A	Instrument ID:	D5

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
JP8	ND	0.050	0.025

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.382	0.500	76	60-130
Hexacosane	0.115	0.125	92	60-130

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

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

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL
PROJECT : 380-61396
BATCH NO. : 23I012
METHOD : 3520C/8015B

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR	: 1	1	1
SAMPLE ID	: MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID	: DSI007WB	J8I007WL	J8I007WC
LAB FILE ID	: LI05111A	LI05116A	LI05117A
DATE PREPARED	: 09/05/23 13:45	09/05/23 13:45	09/05/23 13:45
DATE ANALYZED	: 09/07/23 02:35	09/07/23 04:07	09/07/23 04:26
PREP BATCH	: 23DSI007W	23DSI007W	23DSI007W
CALIBRATION REF	: LI05106A	LI05106A	LI05106A

ACCESSION:

PARAMETERS	MBResult (mg/L)	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
JP8	ND	2.50	2.01	80	2.50	2.04	82	1	30-160	30

SURROGATE PARAMETERS	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	QCLimit (%)
Bromobenzene	0.500	0.473	95	0.500	0.455	91	60-130
Hexacosane	0.125	0.127	102	0.125	0.128	102	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 # 380-61396-1
Physis Project ID: 1407003-442

Dear Rachelle,

Enclosed are the analytical results for samples submitted to PHYSIS Environmental Laboratories, Inc. (PHYSIS) on 9/5/2023. 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: 1407003-442

RED-HILL Project # 38001111 Job # 380-61396-1

Total Samples: 2

PHYSIS ID	Sample ID	Description	Date	Time	Matrix	Sample Type
110504	MOANALUA WELLS	331-223TP202 (380-61396-1)	8/30/2023	11:30	Samplewater	Not Specified
110505	HALAWA WELLS UNITS 1 & 2	331-206-TP065 (380-61396-2)	8/30/2023	10:00	Samplewater	Not Specified

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ABBREVIATIONS and ACRONYMS

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

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QUALITY ASSURANCE SUMMARY

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

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

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

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

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

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

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

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

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

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

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

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

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

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PHYSIS QUALIFIER CODES

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

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CASE NARRATIVE

QUALIFIER NOTES

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

ND

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

ANALYTICAL REPORT

PHYSIS Project ID: 1407003-442
Client: Eurofins Eaton Analytical
Project: RED-HILL Project # 38001111 Job # 380-61396-1

Base/Neutral Extractable Compounds

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 110504-R1	**MOANALUA WELLS 331-223TP202 (**	**Matrix: Samplewater**					**Sampled:**	**30-Aug-23 11:30**		**Received:**	**05-Sep-23**
Disalicylidenepropanediamine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-42084	06-Sep-23	14-Oct-23
Sample ID: 110505-R1	**HALAWA WELLS UNITS 1 & 2 331-2**	**Matrix: Samplewater**					**Sampled:**	**30-Aug-23 10:00**		**Received:**	**05-Sep-23**
Disalicylidenepropanediamine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-42084	06-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: 110504-R1	**MOANALUA WELLS 331-223TP202 (Matrix: Samplewater**						**Sampled: 30-Aug-23 11:30**			**Received: 05-Sep-23**	
(d10-Acenaphthene)	EPA 625.1	% Recovery	78	1			Total		O-42084	06-Sep-23	14-Oct-23
(d10-Phenanthrene)	EPA 625.1	% Recovery	87	1			Total		O-42084	06-Sep-23	14-Oct-23
(d12-Chrysene)	EPA 625.1	% Recovery	87	1			Total		O-42084	06-Sep-23	14-Oct-23
(d12-Perylene)	EPA 625.1	% Recovery	85	1			Total		O-42084	06-Sep-23	14-Oct-23
(d8-Naphthalene)	EPA 625.1	% Recovery	70	1			Total		O-42084	06-Sep-23	14-Oct-23
1-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42084	06-Sep-23	14-Oct-23
1-Methylphenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42084	06-Sep-23	14-Oct-23
2,3,5-Trimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42084	06-Sep-23	14-Oct-23
2,6-Dimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42084	06-Sep-23	14-Oct-23
2-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42084	06-Sep-23	14-Oct-23
Acenaphthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42084	06-Sep-23	14-Oct-23
Acenaphthylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42084	06-Sep-23	14-Oct-23
Anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42084	06-Sep-23	14-Oct-23
Benz[a]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42084	06-Sep-23	14-Oct-23
Benzo[a]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42084	06-Sep-23	14-Oct-23
Benzo[b]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42084	06-Sep-23	14-Oct-23
Benzo[e]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42084	06-Sep-23	14-Oct-23
Benzo[g,h,i]perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42084	06-Sep-23	14-Oct-23
Benzo[k]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42084	06-Sep-23	14-Oct-23
Biphenyl	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42084	06-Sep-23	14-Oct-23
Chrysene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42084	06-Sep-23	14-Oct-23
Dibenz[a,h]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42084	06-Sep-23	14-Oct-23
Dibenzo[a,l]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42084	06-Sep-23	14-Oct-23
Dibenzothiophene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42084	06-Sep-23	14-Oct-23

PHYSIS Project ID: 1407003-442
Client: Eurofins Eaton Analytical
Project: RED-HILL Project # 38001111 Job # 380-61396-1

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42084	06-Sep-23	14-Oct-23
Fluorene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42084	06-Sep-23	14-Oct-23
Indeno[1,2,3-cd]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42084	06-Sep-23	14-Oct-23
Naphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42084	06-Sep-23	14-Oct-23
Perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42084	06-Sep-23	14-Oct-23
Phenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42084	06-Sep-23	14-Oct-23
Pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42084	06-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: 110505-R1	**HALAWA WELLS UNITS 1 & 2 331-2**	**Matrix: Samplewater**					**Sampled: 30-Aug-23 10:00**			**Received: 05-Sep-23**	
(d10-Acenaphthene)	EPA 625.1	% Recovery	85	1			Total		O-42084	06-Sep-23	14-Oct-23
(d10-Phenanthrene)	EPA 625.1	% Recovery	96	1			Total		O-42084	06-Sep-23	14-Oct-23
(d12-Chrysene)	EPA 625.1	% Recovery	91	1			Total		O-42084	06-Sep-23	14-Oct-23
(d12-Perylene)	EPA 625.1	% Recovery	93	1			Total		O-42084	06-Sep-23	14-Oct-23
(d8-Naphthalene)	EPA 625.1	% Recovery	76	1			Total		O-42084	06-Sep-23	14-Oct-23
1-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42084	06-Sep-23	14-Oct-23
1-Methylphenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42084	06-Sep-23	14-Oct-23
2,3,5-Trimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42084	06-Sep-23	14-Oct-23
2,6-Dimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42084	06-Sep-23	14-Oct-23
2-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42084	06-Sep-23	14-Oct-23
Acenaphthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42084	06-Sep-23	14-Oct-23
Acenaphthylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42084	06-Sep-23	14-Oct-23
Anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42084	06-Sep-23	14-Oct-23
Benz[a]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42084	06-Sep-23	14-Oct-23
Benzo[a]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42084	06-Sep-23	14-Oct-23
Benzo[b]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42084	06-Sep-23	14-Oct-23
Benzo[e]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42084	06-Sep-23	14-Oct-23
Benzo[g,h,i]perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42084	06-Sep-23	14-Oct-23
Benzo[k]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42084	06-Sep-23	14-Oct-23
Biphenyl	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42084	06-Sep-23	14-Oct-23
Chrysene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42084	06-Sep-23	14-Oct-23
Dibenz[a,h]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42084	06-Sep-23	14-Oct-23
Dibenzo[a,l]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42084	06-Sep-23	14-Oct-23
Dibenzothiophene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42084	06-Sep-23	14-Oct-23

PHYSIS Project ID: 1407003-442
Client: Eurofins Eaton Analytical
Project: RED-HILL Project # 38001111 Job # 380-61396-1

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42084	06-Sep-23	14-Oct-23
Fluorene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42084	06-Sep-23	14-Oct-23
Indeno[1,2,3-cd]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42084	06-Sep-23	14-Oct-23
Naphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42084	06-Sep-23	14-Oct-23
Perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42084	06-Sep-23	14-Oct-23
Phenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42084	06-Sep-23	14-Oct-23
Pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42084	06-Sep-23	14-Oct-23

QUALITY CONTROL REPORT

ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

Base/Neutral Extractable Compounds QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS		QA CODEc
Sample ID: 110503-B1	**QAQC Procedural Blank**					**Matrix: BlankMatrix**	**Sampled:**						**Received:**		
		Method: EPA 625.1				Batch ID: O-42084		Prepared: 06-Sep-23					Analyzed: 14-Oct-23		
Disalicylidenepropanediamine	Total	ND	1	0.05	0.1	µg/L									
Sample ID: 110503-BS1	**QAQC Procedural Blank**					**Matrix: BlankMatrix**	**Sampled:**						**Received:**		
		Method: EPA 625.1				Batch ID: O-42084		Prepared: 06-Sep-23					Analyzed: 14-Oct-23		
Disalicylidenepropanediamine	Total	41.1	1	0.05	0.1	µg/L	50	0	82	50 - 150%	PASS				
Sample ID: 110503-BS2	**QAQC Procedural Blank**					**Matrix: BlankMatrix**	**Sampled:**						**Received:**		
		Method: EPA 625.1				Batch ID: O-42084		Prepared: 06-Sep-23					Analyzed: 14-Oct-23		
Disalicylidenepropanediamine	Total	46.8	1	0.05	0.1	µg/L	50	0	94	50 - 150%	PASS	14	30	PASS	

Polynuclear Aromatic Hydrocarbons QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODEc
Sample ID: 110503-B1	**QAQC Procedural Blank**					**Matrix: BlankMatrix**	**Sampled:**			**Received:**			
	Method: EPA 625.1					Batch ID: O-42084		Prepared: 06-Sep-23		Analyzed: 14-Oct-23			
(d10-Acenaphthene)	Total	92	1			% Recovery	100	92	27 - 133%	PASS			
(d10-Phenanthrene)	Total	95	1			% Recovery	100	95	43 - 129%	PASS			
(d12-Chrysene)	Total	93	1			% Recovery	100	93	52 - 144%	PASS			
(d12-Perylene)	Total	99	1			% Recovery	100	99	36 - 161%	PASS			
(d8-Naphthalene)	Total	90	1			% Recovery	100	90	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							

PHYSIS Project ID: 1407003-442
Client: Eurofins Eaton Analytical
Project: RED-HILL Project # 38001111 Job # 380-61396-1

Polynuclear Aromatic Hydrocarbons QUALITY CONTROL REPORT

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

Polynuclear Aromatic Hydrocarbons QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODEc
Sample ID: 110503-BS1	**QAQC Procedural Blank**					**Matrix: BlankMatrix**		**Sampled:**				**Received:**	
	Method: EPA 625.1					Batch ID: O-42084		Prepared: 06-Sep-23				Analyzed: 14-Oct-23	
(d10-Acenaphthene)	Total	95	1			% Recovery	100	0	95	27 - 133%		PASS	
(d10-Phenanthrene)	Total	104	1			% Recovery	100	0	104	43 - 129%		PASS	
(d12-Chrysene)	Total	101	1			% Recovery	100	0	101	52 - 144%		PASS	
(d12-Perylene)	Total	97	1			% Recovery	100	0	97	36 - 161%		PASS	
(d8-Naphthalene)	Total	88	1			% Recovery	100	0	88	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	0.473	1	0.001	0.005	µg/L	0.5	0	95	66 - 127%		PASS	
2,3,5-Trimethylnaphthalene	Total	0.46	1	0.001	0.005	µg/L	0.5	0	92	55 - 122%		PASS	
2,6-Dimethylnaphthalene	Total	0.448	1	0.001	0.005	µg/L	0.5	0	90	48 - 120%		PASS	
2-Methylnaphthalene	Total	0.436	1	0.001	0.005	µg/L	0.5	0	87	47 - 130%		PASS	
Acenaphthene	Total	0.456	1	0.001	0.005	µg/L	0.5	0	91	53 - 131%		PASS	
Acenaphthylene	Total	0.461	1	0.001	0.005	µg/L	0.5	0	92	43 - 140%		PASS	
Anthracene	Total	0.471	1	0.001	0.005	µg/L	0.5	0	94	58 - 135%		PASS	
Benz[a]anthracene	Total	0.556	1	0.001	0.005	µg/L	0.5	0	111	55 - 145%		PASS	
Benzo[a]pyrene	Total	0.502	1	0.001	0.005	µg/L	0.5	0	100	51 - 143%		PASS	
Benzo[b]fluoranthene	Total	0.546	1	0.001	0.005	µg/L	0.5	0	109	46 - 165%		PASS	
Benzo[e]pyrene	Total	0.443	1	0.001	0.005	µg/L	0.5	0	89	42 - 152%		PASS	
Benzo[g,h,i]perylene	Total	0.5	1	0.001	0.005	µg/L	0.5	0	100	63 - 133%		PASS	
Benzo[k]fluoranthene	Total	0.471	1	0.001	0.005	µg/L	0.5	0	94	56 - 145%		PASS	
Biphenyl	Total	0.462	1	0.001	0.005	µg/L	0.5	0	92	56 - 119%		PASS	
Chrysene	Total	0.417	1	0.001	0.005	µg/L	0.5	0	83	56 - 141%		PASS	
Dibenz[a,h]anthracene	Total	0.559	1	0.001	0.005	µg/L	0.5	0	112	55 - 150%		PASS	
Dibenzo[a,l]pyrene	Total	0.328	1	0.001	0.005	µg/L	0.5	0	66	50 - 150%		PASS	

PHYSIS Project ID: 1407003-442
Client: Eurofins Eaton Analytical
Project: RED-HILL Project # 38001111 Job # 380-61396-1

Polynuclear Aromatic Hydrocarbons QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODEc
Dibenzothiophene	Total	0.483	1	0.001	0.005	µg/L	0.5	0	97	46 - 126%	PASS			
Fluoranthene	Total	0.48	1	0.001	0.005	µg/L	0.5	0	96	60 - 146%	PASS			
Fluorene	Total	0.457	1	0.001	0.005	µg/L	0.5	0	91	58 - 131%	PASS			
Indeno[1,2,3-cd]pyrene	Total	0.533	1	0.001	0.005	µg/L	0.5	0	107	50 - 151%	PASS			
Naphthalene	Total	0.429	1	0.001	0.005	µg/L	0.5	0	86	41 - 126%	PASS			
Perylene	Total	0.381	1	0.001	0.005	µg/L	0.5	0	76	48 - 141%	PASS			
Phenanthrene	Total	0.479	1	0.001	0.005	µg/L	0.5	0	96	67 - 127%	PASS			
Pyrene	Total	0.476	1	0.001	0.005	µg/L	0.5	0	95	54 - 156%	PASS			

Polynuclear Aromatic Hydrocarbons QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODEc
Sample ID: 110503-BS2	**QAQC Procedural Blank**					**Matrix: BlankMatrix**		**Sampled:**				**Received:**		
		Method: EPA 625.1				Batch ID: O-42084		Prepared: 06-Sep-23				Analyzed: 14-Oct-23		
(d10-Acenaphthene)	Total	94	1			% Recovery	100	0	94	27 - 133%	PASS	1	30	PASS
(d10-Phenanthrene)	Total	101	1			% Recovery	100	0	101	43 - 129%	PASS	3	30	PASS
(d12-Chrysene)	Total	99	1			% Recovery	100	0	99	52 - 144%	PASS	2	30	PASS
(d12-Perylene)	Total	95	1			% Recovery	100	0	95	36 - 161%	PASS	2	30	PASS
(d8-Naphthalene)	Total	88	1			% Recovery	100	0	88	25 - 125%	PASS	0	30	PASS
1-Methylnaphthalene	Total	0.44	1	0.001	0.005	µg/L	0.5	0	88	31 - 128%	PASS	1	30	PASS
1-Methylphenanthrene	Total	0.459	1	0.001	0.005	µg/L	0.5	0	92	66 - 127%	PASS	3	30	PASS
2,3,5-Trimethylnaphthalene	Total	0.452	1	0.001	0.005	µg/L	0.5	0	90	55 - 122%	PASS	2	30	PASS
2,6-Dimethylnaphthalene	Total	0.446	1	0.001	0.005	µg/L	0.5	0	89	48 - 120%	PASS	1	30	PASS
2-Methylnaphthalene	Total	0.431	1	0.001	0.005	µg/L	0.5	0	86	47 - 130%	PASS	1	30	PASS
Acenaphthene	Total	0.449	1	0.001	0.005	µg/L	0.5	0	90	53 - 131%	PASS	1	30	PASS
Acenaphthylene	Total	0.46	1	0.001	0.005	µg/L	0.5	0	92	43 - 140%	PASS	0	30	PASS
Anthracene	Total	0.442	1	0.001	0.005	µg/L	0.5	0	88	58 - 135%	PASS	7	30	PASS
Benz[a]anthracene	Total	0.55	1	0.001	0.005	µg/L	0.5	0	110	55 - 145%	PASS	1	30	PASS
Benzo[a]pyrene	Total	0.481	1	0.001	0.005	µg/L	0.5	0	96	51 - 143%	PASS	4	30	PASS
Benzo[b]fluoranthene	Total	0.542	1	0.001	0.005	µg/L	0.5	0	108	46 - 165%	PASS	1	30	PASS
Benzo[e]pyrene	Total	0.417	1	0.001	0.005	µg/L	0.5	0	83	42 - 152%	PASS	7	30	PASS
Benzo[g,h,i]perylene	Total	0.479	1	0.001	0.005	µg/L	0.5	0	96	63 - 133%	PASS	4	30	PASS
Benzo[k]fluoranthene	Total	0.464	1	0.001	0.005	µg/L	0.5	0	93	56 - 145%	PASS	1	30	PASS
Biphenyl	Total	0.453	1	0.001	0.005	µg/L	0.5	0	91	56 - 119%	PASS	1	30	PASS
Chrysene	Total	0.406	1	0.001	0.005	µg/L	0.5	0	81	56 - 141%	PASS	2	30	PASS
Dibenz[a,h]anthracene	Total	0.551	1	0.001	0.005	µg/L	0.5	0	110	55 - 150%	PASS	2	30	PASS
Dibenzo[a,l]pyrene	Total	0.322	1	0.001	0.005	µg/L	0.5	0	64	50 - 150%	PASS	3	30	PASS

PHYSIS Project ID: 1407003-442
Client: Eurofins Eaton Analytical
Project: RED-HILL Project # 38001111 Job # 380-61396-1

Polynuclear Aromatic Hydrocarbons QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS		QA CODEc
Dibenzothiophene	Total	0.469	1	0.001	0.005	µg/L	0.5	0	94	46 - 126%	PASS	3	30	PASS	
Fluoranthene	Total	0.467	1	0.001	0.005	µg/L	0.5	0	93	60 - 146%	PASS	3	30	PASS	
Fluorene	Total	0.454	1	0.001	0.005	µg/L	0.5	0	91	58 - 131%	PASS	0	30	PASS	
Indeno[1,2,3-cd]pyrene	Total	0.527	1	0.001	0.005	µg/L	0.5	0	105	50 - 151%	PASS	2	30	PASS	
Naphthalene	Total	0.424	1	0.001	0.005	µg/L	0.5	0	85	41 - 126%	PASS	1	30	PASS	
Perylene	Total	0.384	1	0.001	0.005	µg/L	0.5	0	77	48 - 141%	PASS	1	30	PASS	
Phenanthrene	Total	0.467	1	0.001	0.005	µg/L	0.5	0	93	67 - 127%	PASS	3	30	PASS	
Pyrene	Total	0.464	1	0.001	0.005	µg/L	0.5	0	93	54 - 156%	PASS	2	30	PASS	

TENTATIVELY IDENTIFIED COMPOUNDS

Sample ID: 110504

Retention Time	Area (% of total)	Concentration (ng/L)	Library/ID	Cas Number	Match Quality (%)
33.2753	7.0628	1111	Anthracene-D10	1517-22-2	95
10.0386	2.1387	336	Oxalic acid, cyclohexyl pentyl ester	1000309-30-6	91
27.7198	1.0289	162	Hexanoic acid, 3,5,5-trimethyl-, 2-ethylhexyl ester	1000406-82-2	91
29.9715	0.8840	139	Benzoic acid, 2-ethylhexyl ester	5444-75-7	98

Concentration estimated using the response for Anthracene-d10

Sample ID: 110505

Retention Time	Area (% of total)	Concentration (ng/L)	Library/ID	Cas Number	Match Quality (%)
33.2805	5.6148	1111	Anthracene-D10	1517-22-2	93
10.0393	2.4688	489	Oxalic acid, cyclohexyl pentyl ester	1000309-30-6	91
27.7163	0.9813	194	Hexanoic acid, 3,5,5-trimethyl-, 2-ethylhexyl ester	1000406-82-2	97
29.9726	0.8313	165	Benzoic acid, 2-ethylhexyl ester	5444-75-7	98

Concentration estimated using the response for Anthracene-d10

Sample ID: Lab Blank B1_42084

Retention Time	Area (% of total)	Concentration (ng/L)	Library/ID	Cas Number	Match Quality (%)
33.3076	5.0023	1111	Anthracene-D10-	1719-06-8	87
10.0454	2.7579	613	Oxalic acid, cyclohexyl pentyl ester	1000309-30-6	91

Concentration estimated using the response for Anthracene-d10

CHAIN OF CUSTODY

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

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Arada, Rachelle	Carrier Tracking No(s):	COC No: 380-75526.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Rachelle.Arada@et.eurofinsus.com	State of Origin: Hawaii	Page: Page 1 of 1
Company: Physis Environmental Laboratories		Accreditations Required (See note): State - Hawaii		Job #: 380-61396-1
Address: 1904 Wright Circle,	Due Date Requested: 9/14/2023			
City: Anaheim	TAT Requested (days):			
State, Zip: CA, 92806				
Phone:	PO #:			
Email:	WO #:			
Project Name: RED-HILL	Project #: 38001111			
Site: Honolulu BWS Sites	SSOW#:			

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

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (625 PAH Physis LL (EAL) + TICs)/ 625 PAH Physis LL (EAL) + TICs	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MOANALUA WELLS (331-223-TP202) (380-61396-1)	8/30/23	11:30 Hawaiian		Water			X	2	See Attached Instructions
HALAWA WELLS UNITS 1 & 2 (331-206-TP065) (380-61396-2)	8/30/23	10:00 Hawaiian		Water			X	2	See Attached Instructions

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

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

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

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	[signature]	9/5/23 1357	EEA	[signature] Ashley Gonzalez	9/5/23 1357	Physis
	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

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

Ver: 06/08/2021

11/22/2023

Page 103 of 107

PHYSIS
ENVIRONMENTAL LABORATORIES, INC.
Innovative Solutions for Nature

Sample Receipt Summary

Project Iteration ID: 1407003-442
Client Name: Eurofins Eaton Analytical
Project Name: RED-HILL Project # 38001111 Job # 380-61396-1
COC Page Number: 2 of 2
Bottle Label Color: NA

Receiving Info

1. Initials Received By: AG
2. Date Received: 9/5/23
3. Time Received: 1357
4. Client Name: Eurofins
5. Courier Information: (Please circle)
   - (Client) • UPS • Area Fast • DRS
   - FedEx • GSO/GLS • Ontrac • PAMS
   - PHYSIS Driver:
     i. Start Time:_____ iii. Total Mileage:_____
     ii. End Time:_____ iv. Number of Pickups:_____
6. Container Information: (Please put the # of containers or circle none)
   - 1 Cooler • __ Styrofoam Cooler • ____ Boxes • None
   - ___ Carboy(s) • __Carboy Trash Can(s) • ____ Carboy Cap(s) • Other _____
7. What type of ice was used: (Please circle any that apply)
   - (Wet Ice) • Blue Ice • Dry Ice • Water • None
8. Randomly Selected Samples Temperature (°C): 0-3 Used I/R Thermometer # 1

Inspection Info

1. Initials Inspected By: LJ

Sample Integrity Upon Receipt:

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

Notes:

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

Chain of Custody Record

eurofins | Environment Testing America

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

Analysis Requested

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

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUBCONTRACT - 625 PAH Physis LL (EAL) + TICs	SUBCONTRACT - 8015 Gas (Purgable) LL (EAL)	SUBCONTRACT - 8915 Diesel LL (EAL) and Motor Oil	525.2_PREC - (MOD) 625plus PLUS TICs	SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL)	537.1_DW_PREC - 537.1 Full List	533 - All Analytes	Total Number of containers	Special Instructions/Note:
			Preservation Code:				R	R	RA		RA	Y	N		
MOANALUA WELLS	8/30/2023	1130	G	Water			2	4	2	2					Pump 2
AIEA GULCH WELLS PUMP2				Water											
AIEA WELLS PUMPS 1&2 (260)				Water											
HALAWA WELLS UNITS 1&2	8/30/2023	1000	G	Water			2	4	2	2					Pump 1
FB MOANALUA WELLS	8/30/2023			Water				2							
FB AIEA GULCH WELLS PUMP2				Water											
FB AIEA WELLS PUMPS 1&2 (260)				Water											
FB HALAWA WELLS UNITS 1&2	8/30/2023			Water				2							

380-61396 COC

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

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

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

Special Instructions/QC Requirements: @7732 7620 1235

Empty Kit Relinquished by: | Date: | Time: | Method of Shipment: FEDEX @7732 7620 1224

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Bryson Nakamoto	8/30/2023 1230	HBWS	RELTMER	09/01/2023 0940	EEAP

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

Cooler Temperature(s) °C and Other Remarks: (750A) @1.4° @1°-1.3° GEL-FROZEN
(750A) @2.0°-01°-2.9° GEL-FROZEN

Ver: 01/16/2019

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***
Lab Project Number: *38001111*
PWSID:

Order Completion Information

Creator: *Michelle Do*
Filled by: *Matthew Ramos*
Sent Date: *3/28/2023 5:36:36PM*
Sent Via: *FedEx Priority Overnight*
Tracking #: *618689361801, 618689361812, 618689361823, 618689361834, 618689361845*

Sets	Bottles/Set	Qty	Bottle Type Description	Preservative	Method	Matrix	Sample Type	Comments	Lot #
4	2	8	Amber Glass 1 liter - Sodium Thiosulfate	Sodium Thiosulfate	SUBCONTRACT - 625 PAH Physis LL (EAL) + TICs	Water	Normal	625 PAH PHYSIS	
4	4	16	Voa Vial 40ml - SodiumThio w/HCl-dropper	Sodium Thiosulfate	SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL)	Water	Normal	EMax	
4	2	8	Amber Glass 1 L - NaThiosulfate 8mL HCL	Sodium Thiosulfate/Hydrochloric Acid	SUBCONTRACT - 8015 Diesel LL (EAL) and Motor Oil	Water	Normal	EMAX	
4	2	8	Amber Glass 1 Liter- Sodium Sulfite/HCl	Sodium Sulfite w/HCl	525.2_PREC - (MOD) 525plus Plus TICs	Water	Normal		
4	2	8	VOA Vial 40mL - NaThiosulfate/HCL	Sodium Thiosulfate/Hydrochloric Acid	SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL)	Water	Trip Blank	EMax	
5	3	15	Plastic 250ml - Trizma	Trizma	537.1_DW_PREC - 537.1 Full List	Water	Normal		
5	3	15	Plastic 250ml – Ammonium Acetate	Ammonium Acetate	533 - All Analytes	Water	Normal		
5	1	5	Plastic 250ml - Reagent Water	None		Water	Field Blank		
5	1	5	Plastic 250ml – Ammonium Acetate	Ammonium Acetate		Water	Field Blank		
5	1	5	Plastic 250ml - Reagent Water	None		Water	Field Blank		
5	1	5	Plastic 250ml - Trizma	Trizma		Water	Field Blank		

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: 380-61396-1

Login Number: 61396
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	