

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

Attn: Mr. Erwin Kawata
City & County of Honolulu
630 South Beretania Street
Public Service Bldg. Room 308
Honolulu, Hawaii 96843

Generated 12/8/2022 10:25:25 AM

JOB DESCRIPTION

RED-HILL
RUSH Weekly Red Hill

JOB NUMBER

380-25751-1

Eurofins Eaton Monrovia

Job Notes

Laboratory certifies that the test results meet all TNI 2016 and ISO/IEC 17025:2017 requirements unless noted under the individual analysis.

Following the cover page are State Certification List, ISO 17025 Accredited Method List, Acknowledgement of Samples Received, Comments, Hits Report, Data Report, QC Summary, QC Report and Regulatory Forms, as applicable.

Test results relate only to the sample(s) tested.

Test results apply to the sample(s) as received, unless otherwise noted in the comments report (ISO/IEC 17025:2017).

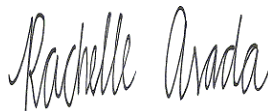
This report shall not be reproduced except in full, without the written approval of the laboratory.

This report includes ISO/IEC 17025 and non-ISO 17025 accredited methods.

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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Definitions/Glossary

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

Job ID: 380-25751-1

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
^3+	Reporting Limit Check Standard is outside acceptance limits, high biased
B	Analyte was found in the associated method blank.
F1	MS and/or MSD recovery exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS Semi VOA TICs

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

Subcontract

Qualifier	Qualifier Description
U	This analyte was not detected.

Glossary

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

Case Narrative

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

Job ID: 380-25751-1

Job ID: 380-25751-1

Laboratory: Eurofins Eaton Monrovia

Narrative

Job Narrative 380-25751-1

Comments

No additional comments.

Receipt

The samples were received on 10/25/2022 10:00 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 3.4° C and 4.9° C.

GC/MS Semi VOA

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

Subcontract non-Sister

See attached subcontract report.

Organic Prep

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

Subcontract Work

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

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

Detection Summary

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

Job ID: 380-25751-1

Client Sample ID: AIEA GULCH WELLS PUMP 1
PWSID Number: HI0000331

Lab Sample ID: 380-25751-1

No Detections.

Client Sample ID: AIEA WELLS PUMPS 1&2 (260)
PWSID Number: HI0000331

Lab Sample ID: 380-25751-2

No Detections.

Client Sample ID: AIEA GULCH WELLS PUMP 2
PWSID Number: HI0000331

Lab Sample ID: 380-25751-3

No Detections.

Client Sample ID: TB: AIEA GULCH WELLS PUMP1

Lab Sample ID: 380-25751-4

No Detections.

Client Sample ID: TB: AIEA GULCH WELLS PUMP2

Lab Sample ID: 380-25751-5

No Detections.

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

Lab Sample ID: 380-25751-6

No Detections.

This Detection Summary does not include radiochemical test results.

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Client Sample Results

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

Job ID: 380-25751-1

Client Sample ID: AIEA GULCH WELLS PUMP 1

Lab Sample ID: 380-25751-1

Date Collected: 10/24/22 10:17

Matrix: Drinking Water

Date Received: 10/25/22 10:00

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
2,4'-DDD	ND		0.099	ug/L		10/29/22 13:30	11/01/22 17:12	1
2,4'-DDE	ND		0.099	ug/L		10/29/22 13:30	11/01/22 17:12	1
2,4'-DDT	ND		0.099	ug/L		10/29/22 13:30	11/01/22 17:12	1
2,4-Dinitrotoluene	ND		0.099	ug/L		10/29/22 13:30	11/01/22 17:12	1
2,6-Dinitrotoluene	ND		0.099	ug/L		10/29/22 13:30	11/01/22 17:12	1
4,4'-DDD	ND		0.099	ug/L		10/29/22 13:30	11/01/22 17:12	1
4,4'-DDE	ND		0.099	ug/L		10/29/22 13:30	11/01/22 17:12	1
4,4'-DDT	ND		0.099	ug/L		10/29/22 13:30	11/01/22 17:12	1
Acenaphthene	ND		0.099	ug/L		10/29/22 13:30	11/01/22 17:12	1
Acenaphthylene	ND		0.099	ug/L		10/29/22 13:30	11/01/22 17:12	1
Acetochlor	ND		0.099	ug/L		10/29/22 13:30	11/01/22 17:12	1
Alachlor	ND		0.050	ug/L		10/29/22 13:30	11/01/22 17:12	1
alpha-BHC	ND		0.099	ug/L		10/29/22 13:30	11/01/22 17:12	1
alpha-Chlordane	ND		0.050	ug/L		10/29/22 13:30	11/01/22 17:12	1
Anthracene	ND		0.020	ug/L		10/29/22 13:30	11/01/22 17:12	1
Atrazine	ND		0.050	ug/L		10/29/22 13:30	11/01/22 17:12	1
Benz(a)anthracene	ND		0.050	ug/L		10/29/22 13:30	11/01/22 17:12	1
Benzo[a]pyrene	ND		0.020	ug/L		10/29/22 13:30	11/01/22 17:12	1
Benzo[b]fluoranthene	ND		0.020	ug/L		10/29/22 13:30	11/01/22 17:12	1
Benzo[g,h,i]perylene	ND		0.050	ug/L		10/29/22 13:30	11/01/22 17:12	1
Benzo[k]fluoranthene	ND		0.020	ug/L		10/29/22 13:30	11/01/22 17:12	1
beta-BHC	ND		0.099	ug/L		10/29/22 13:30	11/01/22 17:12	1
Bromacil	ND		0.099	ug/L		10/29/22 13:30	11/01/22 17:12	1
Butachlor	ND		0.050	ug/L		10/29/22 13:30	11/01/22 17:12	1
Butylbenzylphthalate	ND		0.50	ug/L		10/29/22 13:30	11/01/22 17:12	1
Caffeine	ND		0.050	ug/L		10/29/22 13:30	11/01/22 17:12	1
Chlorobenzilate	ND		0.099	ug/L		10/29/22 13:30	11/01/22 17:12	1
Chloroneb	ND		0.099	ug/L		10/29/22 13:30	11/01/22 17:12	1
Chlorothalonil (Draconil, Bravo)	ND		0.099	ug/L		10/29/22 13:30	11/01/22 17:12	1
Chlorpyrifos	ND		0.050	ug/L		10/29/22 13:30	11/01/22 17:12	1
Chrysene	ND		0.020	ug/L		10/29/22 13:30	11/01/22 17:12	1
delta-BHC	ND		0.099	ug/L		10/29/22 13:30	11/01/22 17:12	1
Di(2-ethylhexyl)adipate	ND	B ^3+	0.60	ug/L		10/29/22 13:30	11/01/22 17:12	1
Bis(2-ethylhexyl) phthalate	ND		0.60	ug/L		10/29/22 13:30	11/01/22 17:12	1
Diazinon (Qualitative)	ND		0.099	ug/L		10/29/22 13:30	11/01/22 17:12	1
Dibenz(a,h)anthracene	ND		0.050	ug/L		10/29/22 13:30	11/01/22 17:12	1
Diclorvos (DDVP)	ND		0.050	ug/L		10/29/22 13:30	11/01/22 17:12	1
Dieldrin	ND		0.20	ug/L		10/29/22 13:30	11/01/22 17:12	1
Diethylphthalate	ND		0.50	ug/L		10/29/22 13:30	11/01/22 17:12	1
Dimethoate	ND		0.099	ug/L		10/29/22 13:30	11/01/22 17:12	1
Dimethylphthalate	ND		0.50	ug/L		10/29/22 13:30	11/01/22 17:12	1
Di-n-butyl phthalate	ND		0.99	ug/L		10/29/22 13:30	11/01/22 17:12	1
Di-n-octyl phthalate	ND		0.099	ug/L		10/29/22 13:30	11/01/22 17:12	1
Endosulfan I (Alpha)	ND		0.099	ug/L		10/29/22 13:30	11/01/22 17:12	1
Endosulfan II (Beta)	ND		0.099	ug/L		10/29/22 13:30	11/01/22 17:12	1
Endosulfan sulfate	ND		0.099	ug/L		10/29/22 13:30	11/01/22 17:12	1
Endrin	ND		0.099	ug/L		10/29/22 13:30	11/01/22 17:12	1
Endrin aldehyde	ND		0.099	ug/L		10/29/22 13:30	11/01/22 17:12	1
EPTC	ND		0.099	ug/L		10/29/22 13:30	11/01/22 17:12	1

Eurofins Eaton Monrovia

Client Sample Results

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

Job ID: 380-25751-1

Client Sample ID: AIEA GULCH WELLS PUMP 1

Lab Sample ID: 380-25751-1

Date Collected: 10/24/22 10:17

Matrix: Drinking Water

Date Received: 10/25/22 10:00

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoranthene	ND		0.099	ug/L		10/29/22 13:30	11/01/22 17:12	1
Fluorene	ND		0.050	ug/L		10/29/22 13:30	11/01/22 17:12	1
gamma-Chlordane	ND		0.050	ug/L		10/29/22 13:30	11/01/22 17:12	1
Heptachlor	ND		0.040	ug/L		10/29/22 13:30	11/01/22 17:12	1
Heptachlor epoxide (isomer B)	ND		0.050	ug/L		10/29/22 13:30	11/01/22 17:12	1
Hexachlorobenzene	ND		0.050	ug/L		10/29/22 13:30	11/01/22 17:12	1
Hexachlorocyclopentadiene	ND		0.050	ug/L		10/29/22 13:30	11/01/22 17:12	1
Indeno[1,2,3-cd]pyrene	ND		0.050	ug/L		10/29/22 13:30	11/01/22 17:12	1
Isophorone	ND		0.50	ug/L		10/29/22 13:30	11/01/22 17:12	1
Lindane	ND		0.040	ug/L		10/29/22 13:30	11/01/22 17:12	1
Malathion	ND		0.099	ug/L		10/29/22 13:30	11/01/22 17:12	1
Methoxychlor	ND		0.099	ug/L		10/29/22 13:30	11/01/22 17:12	1
Metolachlor	ND		0.050	ug/L		10/29/22 13:30	11/01/22 17:12	1
Metribuzin	ND	^3+	0.050	ug/L		10/29/22 13:30	11/01/22 17:12	1
Molinate	ND		0.099	ug/L		10/29/22 13:30	11/01/22 17:12	1
Naphthalene	ND		0.30	ug/L		10/29/22 13:30	11/01/22 17:12	1
Parathion	ND		0.099	ug/L		10/29/22 13:30	11/01/22 17:12	1
Pendimethalin (Penoxaline)	ND		0.099	ug/L		10/29/22 13:30	11/01/22 17:12	1
Total Permethrin (mixed isomers)	ND		0.20	ug/L		10/29/22 13:30	11/01/22 17:12	1
Phenanthrene	ND		0.040	ug/L		10/29/22 13:30	11/01/22 17:12	1
Propachlor	ND		0.050	ug/L		10/29/22 13:30	11/01/22 17:12	1
Pyrene	ND		0.050	ug/L		10/29/22 13:30	11/01/22 17:12	1
Simazine	ND		0.050	ug/L		10/29/22 13:30	11/01/22 17:12	1
Terbacil	ND		0.099	ug/L		10/29/22 13:30	11/01/22 17:12	1
Terbutylazine	ND		0.099	ug/L		10/29/22 13:30	11/01/22 17:12	1
Thiobencarb	ND		0.20	ug/L		10/29/22 13:30	11/01/22 17:12	1
trans-Nonachlor	ND		0.050	ug/L		10/29/22 13:30	11/01/22 17:12	1
Trifluralin	ND		0.099	ug/L		10/29/22 13:30	11/01/22 17:12	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L				10/29/22 13:30	11/01/22 17:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Nitro-m-xylene	98		70 - 130	10/29/22 13:30	11/01/22 17:12	1
Triphenylphosphate	97		70 - 130	10/29/22 13:30	11/01/22 17:12	1
Perylene-d12	94		70 - 130	10/29/22 13:30	11/01/22 17:12	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		10/27/22 00:00	10/30/22 11:06	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		10/27/22 00:00	10/30/22 11:06	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		10/27/22 00:00	10/30/22 11:06	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		10/27/22 00:00	10/30/22 11:06	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		10/27/22 00:00	10/30/22 11:06	1
Acenaphthene	ND		0.005	0.001	µg/L		10/27/22 00:00	10/30/22 11:06	1
Acenaphthylene	ND		0.005	0.001	µg/L		10/27/22 00:00	10/30/22 11:06	1
Anthracene	ND		0.005	0.001	µg/L		10/27/22 00:00	10/30/22 11:06	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		10/27/22 00:00	10/30/22 11:06	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		10/27/22 00:00	10/30/22 11:06	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		10/27/22 00:00	10/30/22 11:06	1

Eurofins Eaton Monrovia

Client Sample Results

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

Job ID: 380-25751-1

Client Sample ID: AIEA GULCH WELLS PUMP 1

Lab Sample ID: 380-25751-1

Date Collected: 10/24/22 10:17

Matrix: Drinking Water

Date Received: 10/25/22 10:00

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[e]pyrene	ND		0.005	0.001	µg/L		10/27/22 00:00	10/30/22 11:06	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		10/27/22 00:00	10/30/22 11:06	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		10/27/22 00:00	10/30/22 11:06	1
Biphenyl	ND		0.005	0.001	µg/L		10/27/22 00:00	10/30/22 11:06	1
Chrysene	ND		0.005	0.001	µg/L		10/27/22 00:00	10/30/22 11:06	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		10/27/22 00:00	10/30/22 11:06	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		10/27/22 00:00	10/30/22 11:06	1
Dibenzothiophene	ND		0.005	0.001	µg/L		10/27/22 00:00	10/30/22 11:06	1
Disalicylidenepropanediamine	ND		0.1	0.05	µg/L		10/27/22 00:00	10/30/22 11:06	1
Fluoranthene	ND		0.005	0.001	µg/L		10/27/22 00:00	10/30/22 11:06	1
Fluorene	ND		0.005	0.001	µg/L		10/27/22 00:00	10/30/22 11:06	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		10/27/22 00:00	10/30/22 11:06	1
Naphthalene	ND		0.005	0.001	µg/L		10/27/22 00:00	10/30/22 11:06	1
Perylene	ND		0.005	0.001	µg/L		10/27/22 00:00	10/30/22 11:06	1
Phenanthrene	ND		0.005	0.001	µg/L		10/27/22 00:00	10/30/22 11:06	1
Pyrene	ND		0.005	0.001	µg/L		10/27/22 00:00	10/30/22 11:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
(d10-Acenaphthene)	79		45 - 118	10/27/22 00:00	10/30/22 11:06	1
(d10-Phenanthrene)	88		56 - 123	10/27/22 00:00	10/30/22 11:06	1
(d12-Chrysene)	85		36 - 142	10/27/22 00:00	10/30/22 11:06	1
(d12-Perylene)	73		36 - 161	10/27/22 00:00	10/30/22 11:06	1
(d8-Naphthalene)	55		20 - 112	10/27/22 00:00	10/30/22 11:06	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	0.020		mg/L			10/27/22 12:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE	88		60 - 140		10/27/22 12:39	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	0.024		mg/L			10/28/22 19:18	1
JP5	ND	U	0.048		mg/L			10/28/22 19:18	1
JP8	ND	U	0.048		mg/L			10/28/22 19:18	1
MOTOR OIL	ND	U	0.048		mg/L			10/28/22 19:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOBENZENE	94		60 - 130		10/28/22 19:18	1
HEXACOSANE	98		60 - 130		10/28/22 19:18	1

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

Lab Sample ID: 380-25751-2

Date Collected: 10/24/22 09:58

Matrix: Drinking Water

Date Received: 10/25/22 10:00

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
2,4'-DDD	ND		0.099	ug/L		10/29/22 13:30	11/01/22 17:32	1
2,4'-DDE	ND		0.099	ug/L		10/29/22 13:30	11/01/22 17:32	1
2,4'-DDT	ND		0.099	ug/L		10/29/22 13:30	11/01/22 17:32	1

Eurofins Eaton Monrovia

Client Sample Results

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

Job ID: 380-25751-1

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

Lab Sample ID: 380-25751-2

Date Collected: 10/24/22 09:58

Matrix: Drinking Water

Date Received: 10/25/22 10:00

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-Dinitrotoluene	ND		0.099	ug/L		10/29/22 13:30	11/01/22 17:32	1
2,6-Dinitrotoluene	ND		0.099	ug/L		10/29/22 13:30	11/01/22 17:32	1
4,4'-DDD	ND		0.099	ug/L		10/29/22 13:30	11/01/22 17:32	1
4,4'-DDE	ND		0.099	ug/L		10/29/22 13:30	11/01/22 17:32	1
4,4'-DDT	ND		0.099	ug/L		10/29/22 13:30	11/01/22 17:32	1
Acenaphthene	ND		0.099	ug/L		10/29/22 13:30	11/01/22 17:32	1
Acenaphthylene	ND		0.099	ug/L		10/29/22 13:30	11/01/22 17:32	1
Acetochlor	ND		0.099	ug/L		10/29/22 13:30	11/01/22 17:32	1
Alachlor	ND		0.049	ug/L		10/29/22 13:30	11/01/22 17:32	1
alpha-BHC	ND		0.099	ug/L		10/29/22 13:30	11/01/22 17:32	1
alpha-Chlordane	ND		0.049	ug/L		10/29/22 13:30	11/01/22 17:32	1
Anthracene	ND		0.020	ug/L		10/29/22 13:30	11/01/22 17:32	1
Atrazine	ND		0.049	ug/L		10/29/22 13:30	11/01/22 17:32	1
Benz(a)anthracene	ND		0.049	ug/L		10/29/22 13:30	11/01/22 17:32	1
Benzo[a]pyrene	ND		0.020	ug/L		10/29/22 13:30	11/01/22 17:32	1
Benzo[b]fluoranthene	ND		0.020	ug/L		10/29/22 13:30	11/01/22 17:32	1
Benzo[g,h,i]perylene	ND		0.049	ug/L		10/29/22 13:30	11/01/22 17:32	1
Benzo[k]fluoranthene	ND		0.020	ug/L		10/29/22 13:30	11/01/22 17:32	1
beta-BHC	ND		0.099	ug/L		10/29/22 13:30	11/01/22 17:32	1
Bromacil	ND		0.099	ug/L		10/29/22 13:30	11/01/22 17:32	1
Butachlor	ND		0.049	ug/L		10/29/22 13:30	11/01/22 17:32	1
Butylbenzylphthalate	ND		0.49	ug/L		10/29/22 13:30	11/01/22 17:32	1
Caffeine	ND		0.049	ug/L		10/29/22 13:30	11/01/22 17:32	1
Chlorobenzilate	ND		0.099	ug/L		10/29/22 13:30	11/01/22 17:32	1
Chloroneb	ND		0.099	ug/L		10/29/22 13:30	11/01/22 17:32	1
Chlorothalonil (Draconil, Bravo)	ND		0.099	ug/L		10/29/22 13:30	11/01/22 17:32	1
Chlorpyrifos	ND		0.049	ug/L		10/29/22 13:30	11/01/22 17:32	1
Chrysene	ND		0.020	ug/L		10/29/22 13:30	11/01/22 17:32	1
delta-BHC	ND		0.099	ug/L		10/29/22 13:30	11/01/22 17:32	1
Di(2-ethylhexyl)adipate	ND	B ^3+	0.59	ug/L		10/29/22 13:30	11/01/22 17:32	1
Bis(2-ethylhexyl) phthalate	ND		0.59	ug/L		10/29/22 13:30	11/01/22 17:32	1
Diazinon (Qualitative)	ND		0.099	ug/L		10/29/22 13:30	11/01/22 17:32	1
Dibenz(a,h)anthracene	ND		0.049	ug/L		10/29/22 13:30	11/01/22 17:32	1
Diclorvos (DDVP)	ND		0.049	ug/L		10/29/22 13:30	11/01/22 17:32	1
Dieldrin	ND		0.20	ug/L		10/29/22 13:30	11/01/22 17:32	1
Diethylphthalate	ND		0.49	ug/L		10/29/22 13:30	11/01/22 17:32	1
Dimethoate	ND		0.099	ug/L		10/29/22 13:30	11/01/22 17:32	1
Dimethylphthalate	ND		0.49	ug/L		10/29/22 13:30	11/01/22 17:32	1
Di-n-butyl phthalate	ND		0.99	ug/L		10/29/22 13:30	11/01/22 17:32	1
Di-n-octyl phthalate	ND		0.099	ug/L		10/29/22 13:30	11/01/22 17:32	1
Endosulfan I (Alpha)	ND		0.099	ug/L		10/29/22 13:30	11/01/22 17:32	1
Endosulfan II (Beta)	ND		0.099	ug/L		10/29/22 13:30	11/01/22 17:32	1
Endosulfan sulfate	ND		0.099	ug/L		10/29/22 13:30	11/01/22 17:32	1
Endrin	ND		0.099	ug/L		10/29/22 13:30	11/01/22 17:32	1
Endrin aldehyde	ND		0.099	ug/L		10/29/22 13:30	11/01/22 17:32	1
EPTC	ND		0.099	ug/L		10/29/22 13:30	11/01/22 17:32	1
Fluoranthene	ND		0.099	ug/L		10/29/22 13:30	11/01/22 17:32	1
Fluorene	ND		0.049	ug/L		10/29/22 13:30	11/01/22 17:32	1
gamma-Chlordane	ND		0.049	ug/L		10/29/22 13:30	11/01/22 17:32	1

Eurofins Eaton Monrovia

Client Sample Results

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

Job ID: 380-25751-1

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

Lab Sample ID: 380-25751-2

Date Collected: 10/24/22 09:58

Matrix: Drinking Water

Date Received: 10/25/22 10:00

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Heptachlor	ND		0.040	ug/L		10/29/22 13:30	11/01/22 17:32	1
Heptachlor epoxide (isomer B)	ND		0.049	ug/L		10/29/22 13:30	11/01/22 17:32	1
Hexachlorobenzene	ND		0.049	ug/L		10/29/22 13:30	11/01/22 17:32	1
Hexachlorocyclopentadiene	ND		0.049	ug/L		10/29/22 13:30	11/01/22 17:32	1
Indeno[1,2,3-cd]pyrene	ND		0.049	ug/L		10/29/22 13:30	11/01/22 17:32	1
Isophorone	ND		0.49	ug/L		10/29/22 13:30	11/01/22 17:32	1
Lindane	ND		0.040	ug/L		10/29/22 13:30	11/01/22 17:32	1
Malathion	ND		0.099	ug/L		10/29/22 13:30	11/01/22 17:32	1
Methoxychlor	ND		0.099	ug/L		10/29/22 13:30	11/01/22 17:32	1
Metolachlor	ND		0.049	ug/L		10/29/22 13:30	11/01/22 17:32	1
Metribuzin	ND	^3+	0.049	ug/L		10/29/22 13:30	11/01/22 17:32	1
Molinate	ND		0.099	ug/L		10/29/22 13:30	11/01/22 17:32	1
Naphthalene	ND		0.30	ug/L		10/29/22 13:30	11/01/22 17:32	1
Parathion	ND		0.099	ug/L		10/29/22 13:30	11/01/22 17:32	1
Pendimethalin (Penoxaline)	ND		0.099	ug/L		10/29/22 13:30	11/01/22 17:32	1
Total Permethrin (mixed isomers)	ND		0.20	ug/L		10/29/22 13:30	11/01/22 17:32	1
Phenanthrene	ND		0.040	ug/L		10/29/22 13:30	11/01/22 17:32	1
Propachlor	ND		0.049	ug/L		10/29/22 13:30	11/01/22 17:32	1
Pyrene	ND		0.049	ug/L		10/29/22 13:30	11/01/22 17:32	1
Simazine	ND		0.049	ug/L		10/29/22 13:30	11/01/22 17:32	1
Terbacil	ND		0.099	ug/L		10/29/22 13:30	11/01/22 17:32	1
Terbutylazine	ND		0.099	ug/L		10/29/22 13:30	11/01/22 17:32	1
Thiobencarb	ND		0.20	ug/L		10/29/22 13:30	11/01/22 17:32	1
trans-Nonachlor	ND		0.049	ug/L		10/29/22 13:30	11/01/22 17:32	1
Trifluralin	ND		0.099	ug/L		10/29/22 13:30	11/01/22 17:32	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L				10/29/22 13:30	11/01/22 17:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Nitro-m-xylene	98		70 - 130	10/29/22 13:30	11/01/22 17:32	1
Triphenylphosphate	95		70 - 130	10/29/22 13:30	11/01/22 17:32	1
Perylene-d12	95		70 - 130	10/29/22 13:30	11/01/22 17:32	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		10/27/22 00:00	10/30/22 12:50	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		10/27/22 00:00	10/30/22 12:50	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		10/27/22 00:00	10/30/22 12:50	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		10/27/22 00:00	10/30/22 12:50	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		10/27/22 00:00	10/30/22 12:50	1
Acenaphthene	ND		0.005	0.001	µg/L		10/27/22 00:00	10/30/22 12:50	1
Acenaphthylene	ND		0.005	0.001	µg/L		10/27/22 00:00	10/30/22 12:50	1
Anthracene	ND		0.005	0.001	µg/L		10/27/22 00:00	10/30/22 12:50	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		10/27/22 00:00	10/30/22 12:50	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		10/27/22 00:00	10/30/22 12:50	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		10/27/22 00:00	10/30/22 12:50	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		10/27/22 00:00	10/30/22 12:50	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		10/27/22 00:00	10/30/22 12:50	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		10/27/22 00:00	10/30/22 12:50	1

Eurofins Eaton Monrovia

Client Sample Results

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

Job ID: 380-25751-1

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

Lab Sample ID: 380-25751-2

Date Collected: 10/24/22 09:58

Matrix: Drinking Water

Date Received: 10/25/22 10:00

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Biphenyl	ND		0.005	0.001	µg/L		10/27/22 00:00	10/30/22 12:50	1
Chrysene	ND		0.005	0.001	µg/L		10/27/22 00:00	10/30/22 12:50	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		10/27/22 00:00	10/30/22 12:50	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		10/27/22 00:00	10/30/22 12:50	1
Dibenzothiophene	ND		0.005	0.001	µg/L		10/27/22 00:00	10/30/22 12:50	1
Disalicylidenepropanediamine	ND		0.1	0.05	µg/L		10/27/22 00:00	10/30/22 12:50	1
Fluoranthene	ND		0.005	0.001	µg/L		10/27/22 00:00	10/30/22 12:50	1
Fluorene	ND		0.005	0.001	µg/L		10/27/22 00:00	10/30/22 12:50	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		10/27/22 00:00	10/30/22 12:50	1
Naphthalene	ND		0.005	0.001	µg/L		10/27/22 00:00	10/30/22 12:50	1
Perylene	ND		0.005	0.001	µg/L		10/27/22 00:00	10/30/22 12:50	1
Phenanthrene	ND		0.005	0.001	µg/L		10/27/22 00:00	10/30/22 12:50	1
Pyrene	ND		0.005	0.001	µg/L		10/27/22 00:00	10/30/22 12:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
(d10-Acenaphthene)	67		45 - 118	10/27/22 00:00	10/30/22 12:50	1
(d10-Phenanthrene)	84		56 - 123	10/27/22 00:00	10/30/22 12:50	1
(d12-Chrysene)	71		36 - 142	10/27/22 00:00	10/30/22 12:50	1
(d12-Perylene)	79		36 - 161	10/27/22 00:00	10/30/22 12:50	1
(d8-Naphthalene)	32		20 - 112	10/27/22 00:00	10/30/22 12:50	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	0.020		mg/L			10/27/22 13:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE	88		60 - 140		10/27/22 13:17	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DIESEL	ND	U	0.026		mg/L			10/28/22 19:36	1
JP5	ND	U	0.052		mg/L			10/28/22 19:36	1
JP8	ND	U	0.052		mg/L			10/28/22 19:36	1
MOTOR OIL	ND	U	0.052		mg/L			10/28/22 19:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOBENZENE	88		60 - 130		10/28/22 19:36	1
HEXACOSANE	96		60 - 130		10/28/22 19:36	1

Client Sample ID: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-25751-3

Date Collected: 10/24/22 10:38

Matrix: Drinking Water

Date Received: 10/25/22 10:00

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
2,4'-DDD	ND		0.10	ug/L		10/29/22 13:30	11/01/22 17:52	1
2,4'-DDE	ND		0.10	ug/L		10/29/22 13:30	11/01/22 17:52	1
2,4'-DDT	ND		0.10	ug/L		10/29/22 13:30	11/01/22 17:52	1
2,4-Dinitrotoluene	ND		0.10	ug/L		10/29/22 13:30	11/01/22 17:52	1
2,6-Dinitrotoluene	ND		0.10	ug/L		10/29/22 13:30	11/01/22 17:52	1
4,4'-DDD	ND		0.10	ug/L		10/29/22 13:30	11/01/22 17:52	1

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Client Sample Results

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

Job ID: 380-25751-1

Client Sample ID: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-25751-3

Date Collected: 10/24/22 10:38

Matrix: Drinking Water

Date Received: 10/25/22 10:00

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDE	ND		0.10	ug/L		10/29/22 13:30	11/01/22 17:52	1
4,4'-DDT	ND		0.10	ug/L		10/29/22 13:30	11/01/22 17:52	1
Acenaphthene	ND		0.10	ug/L		10/29/22 13:30	11/01/22 17:52	1
Acenaphthylene	ND		0.10	ug/L		10/29/22 13:30	11/01/22 17:52	1
Acetochlor	ND		0.10	ug/L		10/29/22 13:30	11/01/22 17:52	1
Alachlor	ND		0.050	ug/L		10/29/22 13:30	11/01/22 17:52	1
alpha-BHC	ND		0.10	ug/L		10/29/22 13:30	11/01/22 17:52	1
alpha-Chlordane	ND		0.050	ug/L		10/29/22 13:30	11/01/22 17:52	1
Anthracene	ND		0.020	ug/L		10/29/22 13:30	11/01/22 17:52	1
Atrazine	ND		0.050	ug/L		10/29/22 13:30	11/01/22 17:52	1
Benz(a)anthracene	ND		0.050	ug/L		10/29/22 13:30	11/01/22 17:52	1
Benzo[a]pyrene	ND		0.020	ug/L		10/29/22 13:30	11/01/22 17:52	1
Benzo[b]fluoranthene	ND		0.020	ug/L		10/29/22 13:30	11/01/22 17:52	1
Benzo[g,h,i]perylene	ND		0.050	ug/L		10/29/22 13:30	11/01/22 17:52	1
Benzo[k]fluoranthene	ND		0.020	ug/L		10/29/22 13:30	11/01/22 17:52	1
beta-BHC	ND		0.10	ug/L		10/29/22 13:30	11/01/22 17:52	1
Bromacil	ND		0.10	ug/L		10/29/22 13:30	11/01/22 17:52	1
Butachlor	ND		0.050	ug/L		10/29/22 13:30	11/01/22 17:52	1
Butylbenzylphthalate	ND		0.50	ug/L		10/29/22 13:30	11/01/22 17:52	1
Caffeine	ND		0.050	ug/L		10/29/22 13:30	11/01/22 17:52	1
Chlorobenzilate	ND		0.10	ug/L		10/29/22 13:30	11/01/22 17:52	1
Chloroneb	ND		0.10	ug/L		10/29/22 13:30	11/01/22 17:52	1
Chlorothalonil (Draconil, Bravo)	ND		0.10	ug/L		10/29/22 13:30	11/01/22 17:52	1
Chlorpyrifos	ND		0.050	ug/L		10/29/22 13:30	11/01/22 17:52	1
Chrysene	ND		0.020	ug/L		10/29/22 13:30	11/01/22 17:52	1
delta-BHC	ND		0.10	ug/L		10/29/22 13:30	11/01/22 17:52	1
Di(2-ethylhexyl)adipate	ND	B ^3+	0.60	ug/L		10/29/22 13:30	11/01/22 17:52	1
Bis(2-ethylhexyl) phthalate	ND		0.60	ug/L		10/29/22 13:30	11/01/22 17:52	1
Diazinon (Qualitative)	ND		0.10	ug/L		10/29/22 13:30	11/01/22 17:52	1
Dibenz(a,h)anthracene	ND		0.050	ug/L		10/29/22 13:30	11/01/22 17:52	1
Diclorvos (DDVP)	ND		0.050	ug/L		10/29/22 13:30	11/01/22 17:52	1
Dieldrin	ND		0.20	ug/L		10/29/22 13:30	11/01/22 17:52	1
Diethylphthalate	ND		0.50	ug/L		10/29/22 13:30	11/01/22 17:52	1
Dimethoate	ND		0.10	ug/L		10/29/22 13:30	11/01/22 17:52	1
Dimethylphthalate	ND		0.50	ug/L		10/29/22 13:30	11/01/22 17:52	1
Di-n-butyl phthalate	ND		1.0	ug/L		10/29/22 13:30	11/01/22 17:52	1
Di-n-octyl phthalate	ND		0.10	ug/L		10/29/22 13:30	11/01/22 17:52	1
Endosulfan I (Alpha)	ND		0.10	ug/L		10/29/22 13:30	11/01/22 17:52	1
Endosulfan II (Beta)	ND		0.10	ug/L		10/29/22 13:30	11/01/22 17:52	1
Endosulfan sulfate	ND		0.10	ug/L		10/29/22 13:30	11/01/22 17:52	1
Endrin	ND		0.10	ug/L		10/29/22 13:30	11/01/22 17:52	1
Endrin aldehyde	ND		0.10	ug/L		10/29/22 13:30	11/01/22 17:52	1
EPTC	ND		0.10	ug/L		10/29/22 13:30	11/01/22 17:52	1
Fluoranthene	ND		0.10	ug/L		10/29/22 13:30	11/01/22 17:52	1
Fluorene	ND		0.050	ug/L		10/29/22 13:30	11/01/22 17:52	1
gamma-Chlordane	ND		0.050	ug/L		10/29/22 13:30	11/01/22 17:52	1
Heptachlor	ND		0.040	ug/L		10/29/22 13:30	11/01/22 17:52	1
Heptachlor epoxide (isomer B)	ND		0.050	ug/L		10/29/22 13:30	11/01/22 17:52	1
Hexachlorobenzene	ND		0.050	ug/L		10/29/22 13:30	11/01/22 17:52	1

Eurofins Eaton Monrovia

Client Sample Results

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

Job ID: 380-25751-1

Client Sample ID: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-25751-3

Date Collected: 10/24/22 10:38

Matrix: Drinking Water

Date Received: 10/25/22 10:00

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorocyclopentadiene	ND		0.050	ug/L		10/29/22 13:30	11/01/22 17:52	1
Indeno[1,2,3-cd]pyrene	ND		0.050	ug/L		10/29/22 13:30	11/01/22 17:52	1
Isophorone	ND		0.50	ug/L		10/29/22 13:30	11/01/22 17:52	1
Lindane	ND		0.040	ug/L		10/29/22 13:30	11/01/22 17:52	1
Malathion	ND		0.10	ug/L		10/29/22 13:30	11/01/22 17:52	1
Methoxychlor	ND		0.10	ug/L		10/29/22 13:30	11/01/22 17:52	1
Metolachlor	ND		0.050	ug/L		10/29/22 13:30	11/01/22 17:52	1
Metribuzin	ND	^3+	0.050	ug/L		10/29/22 13:30	11/01/22 17:52	1
Molinate	ND		0.10	ug/L		10/29/22 13:30	11/01/22 17:52	1
Naphthalene	ND		0.30	ug/L		10/29/22 13:30	11/01/22 17:52	1
Parathion	ND		0.10	ug/L		10/29/22 13:30	11/01/22 17:52	1
Pendimethalin (Penoxaline)	ND		0.10	ug/L		10/29/22 13:30	11/01/22 17:52	1
Total Permethrin (mixed isomers)	ND		0.20	ug/L		10/29/22 13:30	11/01/22 17:52	1
Phenanthrene	ND		0.040	ug/L		10/29/22 13:30	11/01/22 17:52	1
Propachlor	ND		0.050	ug/L		10/29/22 13:30	11/01/22 17:52	1
Pyrene	ND		0.050	ug/L		10/29/22 13:30	11/01/22 17:52	1
Simazine	ND		0.050	ug/L		10/29/22 13:30	11/01/22 17:52	1
Terbacil	ND		0.10	ug/L		10/29/22 13:30	11/01/22 17:52	1
Terbutylazine	ND		0.10	ug/L		10/29/22 13:30	11/01/22 17:52	1
Thiobencarb	ND		0.20	ug/L		10/29/22 13:30	11/01/22 17:52	1
trans-Nonachlor	ND		0.050	ug/L		10/29/22 13:30	11/01/22 17:52	1
Trifluralin	ND		0.10	ug/L		10/29/22 13:30	11/01/22 17:52	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L				10/29/22 13:30	11/01/22 17:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Nitro-m-xylene	99		70 - 130	10/29/22 13:30	11/01/22 17:52	1
Triphenylphosphate	99		70 - 130	10/29/22 13:30	11/01/22 17:52	1
Perylene-d12	97		70 - 130	10/29/22 13:30	11/01/22 17:52	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		10/27/22 00:00	10/30/22 14:33	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		10/27/22 00:00	10/30/22 14:33	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		10/27/22 00:00	10/30/22 14:33	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		10/27/22 00:00	10/30/22 14:33	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		10/27/22 00:00	10/30/22 14:33	1
Acenaphthene	ND		0.005	0.001	µg/L		10/27/22 00:00	10/30/22 14:33	1
Acenaphthylene	ND		0.005	0.001	µg/L		10/27/22 00:00	10/30/22 14:33	1
Anthracene	ND		0.005	0.001	µg/L		10/27/22 00:00	10/30/22 14:33	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		10/27/22 00:00	10/30/22 14:33	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		10/27/22 00:00	10/30/22 14:33	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		10/27/22 00:00	10/30/22 14:33	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		10/27/22 00:00	10/30/22 14:33	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		10/27/22 00:00	10/30/22 14:33	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		10/27/22 00:00	10/30/22 14:33	1
Biphenyl	ND		0.005	0.001	µg/L		10/27/22 00:00	10/30/22 14:33	1
Chrysene	ND		0.005	0.001	µg/L		10/27/22 00:00	10/30/22 14:33	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		10/27/22 00:00	10/30/22 14:33	1

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Client Sample Results

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

Job ID: 380-25751-1

Client Sample ID: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-25751-3

Date Collected: 10/24/22 10:38

Matrix: Drinking Water

Date Received: 10/25/22 10:00

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibenzo[a,h]pyrene	ND		0.005	0.001	µg/L		10/27/22 00:00	10/30/22 14:33	1
Dibenzothiophene	ND		0.005	0.001	µg/L		10/27/22 00:00	10/30/22 14:33	1
Disalicylidenepranediamine	ND		0.1	0.05	µg/L		10/27/22 00:00	10/30/22 14:33	1
Fluoranthene	ND		0.005	0.001	µg/L		10/27/22 00:00	10/30/22 14:33	1
Fluorene	ND		0.005	0.001	µg/L		10/27/22 00:00	10/30/22 14:33	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		10/27/22 00:00	10/30/22 14:33	1
Naphthalene	ND		0.005	0.001	µg/L		10/27/22 00:00	10/30/22 14:33	1
Perylene	ND		0.005	0.001	µg/L		10/27/22 00:00	10/30/22 14:33	1
Phenanthrene	ND		0.005	0.001	µg/L		10/27/22 00:00	10/30/22 14:33	1
Pyrene	ND		0.005	0.001	µg/L		10/27/22 00:00	10/30/22 14:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
(d10-Acenaphthene)	78		45 - 118	10/27/22 00:00	10/30/22 14:33	1
(d10-Phenanthrene)	89		56 - 123	10/27/22 00:00	10/30/22 14:33	1
(d12-Chrysene)	87		36 - 142	10/27/22 00:00	10/30/22 14:33	1
(d12-Perylene)	75		36 - 161	10/27/22 00:00	10/30/22 14:33	1
(d8-Naphthalene)	60		20 - 112	10/27/22 00:00	10/30/22 14:33	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GASOLINE	ND	U	0.020		mg/L			10/27/22 13:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE	86		60 - 140		10/27/22 13:55	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DIESEL	ND	U	0.027		mg/L			10/28/22 19:54	1
JP5	ND	U	0.053		mg/L			10/28/22 19:54	1
JP8	ND	U	0.053		mg/L			10/28/22 19:54	1
MOTOR OIL	ND	U	0.053		mg/L			10/28/22 19:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOBENZENE	81		60 - 130		10/28/22 19:54	1
HEXACOSANE	101		60 - 130		10/28/22 19:54	1

Client Sample ID: TB: AIEA GULCH WELLS PUMP1

Lab Sample ID: 380-25751-4

Date Collected: 10/24/22 10:17

Matrix: Drinking Water

Date Received: 10/25/22 10:00

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	0.020		mg/L			10/27/22 14:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE	87		60 - 140		10/27/22 14:33	1

Client Sample Results

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

Job ID: 380-25751-1

Client Sample ID: TB: AIEA GULCH WELLS PUMP2

Lab Sample ID: 380-25751-5

Date Collected: 10/24/22 10:38

Matrix: Drinking Water

Date Received: 10/25/22 10:00

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	0.020		mg/L			10/27/22 15:11	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE	87		60 - 140					10/27/22 15:11	1

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

Lab Sample ID: 380-25751-6

Date Collected: 10/24/22 09:58

Matrix: Drinking Water

Date Received: 10/25/22 10:00

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	0.020		mg/L			10/27/22 15:49	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE	86		60 - 140					10/27/22 15:49	1

Action Limit Summary

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

Job ID: 380-25751-1

Client Sample ID: AIEA GULCH WELLS PUMP 1

Lab Sample ID: 380-25751-1

PWSID Number: HI0000331

Compliance Check

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

Analyte	Result	Qualifier	Unit	Limit	RL	Method	Prep Type
Alachlor	ND		ug/L	2	0.050	525.2	Total/NA
Atrazine	ND		ug/L	3	0.050	525.2	Total/NA
Benzo[a]pyrene	ND		ug/L	0.2	0.020	525.2	Total/NA
Di(2-ethylhexyl)adipate	ND	B ^3+	ug/L	400	0.60	525.2	Total/NA
Bis(2-ethylhexyl) phthalate	ND		ug/L	6	0.60	525.2	Total/NA
Endrin	ND		ug/L	2	0.099	525.2	Total/NA
Heptachlor	ND		ug/L	0.4	0.040	525.2	Total/NA
Heptachlor epoxide (isomer B)	ND		ug/L	0.2	0.050	525.2	Total/NA
Hexachlorobenzene	ND		ug/L	1	0.050	525.2	Total/NA
Hexachlorocyclopentadiene	ND		ug/L	50	0.050	525.2	Total/NA
Lindane	ND		ug/L	0.2	0.040	525.2	Total/NA
Methoxychlor	ND		ug/L	40	0.099	525.2	Total/NA
Simazine	ND		ug/L	4	0.050	525.2	Total/NA

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

Lab Sample ID: 380-25751-2

PWSID Number: HI0000331

Compliance Check

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

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

Client Sample ID: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-25751-3

PWSID Number: HI0000331

Compliance Check

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

Analyte	Result	Qualifier	Unit	Limit	RL	Method	Prep Type
Alachlor	ND		ug/L	2	0.050	525.2	Total/NA
Atrazine	ND		ug/L	3	0.050	525.2	Total/NA

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Action Limit Summary

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

Job ID: 380-25751-1

Client Sample ID: AIEA GULCH WELLS PUMP 2 (Continued)

Lab Sample ID: 380-25751-3

PWSID Number: HI0000331

Compliance Check

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

Analyte	Result	Qualifier	Unit	Limit	RL	Method	Prep Type
Benzo[a]pyrene	ND		ug/L	0.2	0.020	525.2	Total/NA
Di(2-ethylhexyl)adipate	ND	B ^3+	ug/L	400	0.60	525.2	Total/NA
Bis(2-ethylhexyl) phthalate	ND		ug/L	6	0.60	525.2	Total/NA
Endrin	ND		ug/L	2	0.10	525.2	Total/NA
Heptachlor	ND		ug/L	0.4	0.040	525.2	Total/NA
Heptachlor epoxide (isomer B)	ND		ug/L	0.2	0.050	525.2	Total/NA
Hexachlorobenzene	ND		ug/L	1	0.050	525.2	Total/NA
Hexachlorocyclopentadiene	ND		ug/L	50	0.050	525.2	Total/NA
Lindane	ND		ug/L	0.2	0.040	525.2	Total/NA
Methoxychlor	ND		ug/L	40	0.10	525.2	Total/NA
Simazine	ND		ug/L	4	0.050	525.2	Total/NA

Surrogate Summary

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

Job ID: 380-25751-1

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

Matrix: Drinking Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		2NMX (70-130)	TPP (70-130)	PRY (70-130)
380-25751-1	AIEA GULCH WELLS PUMP 1	98	97	94
380-25751-2	AIEA WELLS PUMPS 1&2 (260)	98	95	95
380-25751-3	AIEA GULCH WELLS PUMP 2	99	99	97

Surrogate Legend

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

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		2NMX (70-130)	TPP (70-130)	PRY (70-130)
380-25725-B-1-A MS	Matrix Spike	84	129	95
380-25919-B-1-A DU	Duplicate	104	95	110
LCS 380-22573/3-A	Lab Control Sample	100	93	108
LCS 380-22573/4-A	Lab Control Sample Dup	102	102	108
MB 380-22573/1-A	Method Blank	109	92	89
MRL 380-22573/2-A	Lab Control Sample	103	99	92

Surrogate Legend

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

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

Matrix: BlankMatrix

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)				
		Acenaphtl (27-133)	Phenanth (43-129)	CRY (52-144)	NPT (25-125)	PRY (36-161)
101055-B1	Method Blank	77	97	94	68	86
101055-BS1	Lab Control Sample	88	96	101	76	81
101055-BS2	Lab Control Sample Dup	98	98	91	74	89

Surrogate Legend

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

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

Matrix: Drinking Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)				
		Acenaphtl (45-118)	Phenanth (56-123)	CRY (36-142)	NPT (20-112)	PRY (36-161)
380-25751-1	AIEA GULCH WELLS PUMP 1	79	88	85	55	73
380-25751-2	AIEA WELLS PUMPS 1&2 (260)	67	84	71	32	79

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Surrogate Summary

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

Job ID: 380-25751-1

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

Matrix: Drinking Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Acenaphtl (45-118)	Phenanth (56-123)	CRY (36-142)	NPT (20-112)	PRY (36-161)
380-25751-3	AIEA GULCH WELLS PUMP 2	78	89	87	60	75

Surrogate Legend

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

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

Matrix: Drinking Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB (60-140)
380-25751-1	AIEA GULCH WELLS PUMP 1	88
380-25751-2	AIEA WELLS PUMPS 1&2 (260)	88
380-25751-3	AIEA GULCH WELLS PUMP 2	86
380-25751-4	TB: AIEA GULCH WELLS PUMP1	87
380-25751-5	TB: AIEA GULCH WELLS PUMP2	87
380-25751-6	TB: AIEA WELLS PUMPS 1&2 (260)	86

Surrogate Legend

BFB = BROMOFLUOROBENZENE

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

Matrix: WATER

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB (70-130)
22VG39J07C	LCD	123
22VG39J07L	Lab Control Sample	122

Surrogate Legend

BFB = BROMOFLUOROBENZENE

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

Matrix: WATER

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB
22VG39J07B	Method Blank	

Surrogate Legend

BFB = BROMOFLUOROBENZENE

Surrogate Summary

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

Job ID: 380-25751-1

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

Matrix: Drinking Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		BB (60-130)	XACOSAI (60-130)
380-25751-1	AIEA GULCH WELLS PUMP 1	94	98
380-25751-2	AIEA WELLS PUMPS 1&2 (260)	88	96
380-25751-3	AIEA GULCH WELLS PUMP 2	81	101

Surrogate Legend

BB = BROMOBENZENE
 HEXACOSANE = HEXACOSANE

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

Matrix: WATER

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		BB (60-130)	XACOSAI (60-130)
22DSJ059WB	Method Blank		

Surrogate Legend

BB = BROMOBENZENE
 HEXACOSANE = HEXACOSANE

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

Matrix: WATER

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		BB (60-130)	XACOSAI (60-130)
22DSJ059WC	LCD	102	106
22DSJ059WL	Lab Control Sample	104	106
22J5J059WC	LCD	88	92
22J5J059WL	Lab Control Sample	91	98
22J8J059WC	LCD	115	98
22J8J059WL	Lab Control Sample	96	97

Surrogate Legend

BB = BROMOBENZENE
 HEXACOSANE = HEXACOSANE

QC Sample Results

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

Job ID: 380-25751-1

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

Lab Sample ID: MB 380-22573/1-A
Matrix: Water
Analysis Batch: 22756

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 22573

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
2,4'-DDD	ND		0.099	ug/L		10/29/22 13:30	11/01/22 12:23	1
2,4'-DDE	ND		0.099	ug/L		10/29/22 13:30	11/01/22 12:23	1
2,4'-DDT	ND		0.099	ug/L		10/29/22 13:30	11/01/22 12:23	1
2,4-Dinitrotoluene	ND		0.099	ug/L		10/29/22 13:30	11/01/22 12:23	1
2,6-Dinitrotoluene	ND		0.099	ug/L		10/29/22 13:30	11/01/22 12:23	1
4,4'-DDD	ND		0.099	ug/L		10/29/22 13:30	11/01/22 12:23	1
4,4'-DDE	ND		0.099	ug/L		10/29/22 13:30	11/01/22 12:23	1
4,4'-DDT	ND		0.099	ug/L		10/29/22 13:30	11/01/22 12:23	1
Acenaphthene	ND		0.099	ug/L		10/29/22 13:30	11/01/22 12:23	1
Acenaphthylene	ND		0.099	ug/L		10/29/22 13:30	11/01/22 12:23	1
Acetochlor	ND		0.099	ug/L		10/29/22 13:30	11/01/22 12:23	1
Alachlor	ND		0.049	ug/L		10/29/22 13:30	11/01/22 12:23	1
alpha-BHC	ND		0.099	ug/L		10/29/22 13:30	11/01/22 12:23	1
alpha-Chlordane	ND		0.049	ug/L		10/29/22 13:30	11/01/22 12:23	1
Anthracene	ND		0.020	ug/L		10/29/22 13:30	11/01/22 12:23	1
Atrazine	ND		0.049	ug/L		10/29/22 13:30	11/01/22 12:23	1
Benz(a)anthracene	ND		0.049	ug/L		10/29/22 13:30	11/01/22 12:23	1
Benzo[a]pyrene	ND		0.020	ug/L		10/29/22 13:30	11/01/22 12:23	1
Benzo[b]fluoranthene	ND		0.020	ug/L		10/29/22 13:30	11/01/22 12:23	1
Benzo[g,h,i]perylene	ND		0.049	ug/L		10/29/22 13:30	11/01/22 12:23	1
Benzo[k]fluoranthene	ND		0.020	ug/L		10/29/22 13:30	11/01/22 12:23	1
beta-BHC	ND		0.099	ug/L		10/29/22 13:30	11/01/22 12:23	1
Bromacil	ND		0.099	ug/L		10/29/22 13:30	11/01/22 12:23	1
Butachlor	ND		0.049	ug/L		10/29/22 13:30	11/01/22 12:23	1
Butylbenzylphthalate	ND		0.49	ug/L		10/29/22 13:30	11/01/22 12:23	1
Caffeine	ND		0.049	ug/L		10/29/22 13:30	11/01/22 12:23	1
Chlorobenzilate	ND		0.099	ug/L		10/29/22 13:30	11/01/22 12:23	1
Chloroneb	ND		0.099	ug/L		10/29/22 13:30	11/01/22 12:23	1
Chlorothalonil (Draconil, Bravo)	ND		0.099	ug/L		10/29/22 13:30	11/01/22 12:23	1
Chlorpyrifos	ND		0.049	ug/L		10/29/22 13:30	11/01/22 12:23	1
Chrysene	ND		0.020	ug/L		10/29/22 13:30	11/01/22 12:23	1
delta-BHC	ND		0.099	ug/L		10/29/22 13:30	11/01/22 12:23	1
Di(2-ethylhexyl)adipate	0.745	B	0.59	ug/L		10/29/22 13:30	11/01/22 12:23	1
Bis(2-ethylhexyl) phthalate	ND		0.59	ug/L		10/29/22 13:30	11/01/22 12:23	1
Diazinon (Qualitative)	ND		0.099	ug/L		10/29/22 13:30	11/01/22 12:23	1
Dibenz(a,h)anthracene	ND		0.049	ug/L		10/29/22 13:30	11/01/22 12:23	1
Diclorvos (DDVP)	ND		0.049	ug/L		10/29/22 13:30	11/01/22 12:23	1
Dieldrin	ND		0.20	ug/L		10/29/22 13:30	11/01/22 12:23	1
Diethylphthalate	ND		0.49	ug/L		10/29/22 13:30	11/01/22 12:23	1
Dimethoate	ND		0.099	ug/L		10/29/22 13:30	11/01/22 12:23	1
Dimethylphthalate	ND		0.49	ug/L		10/29/22 13:30	11/01/22 12:23	1
Di-n-butyl phthalate	ND		0.99	ug/L		10/29/22 13:30	11/01/22 12:23	1
Di-n-octyl phthalate	ND		0.099	ug/L		10/29/22 13:30	11/01/22 12:23	1
Endosulfan I (Alpha)	ND		0.099	ug/L		10/29/22 13:30	11/01/22 12:23	1
Endosulfan II (Beta)	ND		0.099	ug/L		10/29/22 13:30	11/01/22 12:23	1
Endosulfan sulfate	ND		0.099	ug/L		10/29/22 13:30	11/01/22 12:23	1
Endrin	ND		0.099	ug/L		10/29/22 13:30	11/01/22 12:23	1
Endrin aldehyde	ND		0.099	ug/L		10/29/22 13:30	11/01/22 12:23	1

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QC Sample Results

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

Job ID: 380-25751-1

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

Lab Sample ID: MB 380-22573/1-A
Matrix: Water
Analysis Batch: 22756

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 22573

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
EPTC	ND		0.099	ug/L		10/29/22 13:30	11/01/22 12:23	1
Fluoranthene	ND		0.099	ug/L		10/29/22 13:30	11/01/22 12:23	1
Fluorene	ND		0.049	ug/L		10/29/22 13:30	11/01/22 12:23	1
gamma-Chlordane	ND		0.049	ug/L		10/29/22 13:30	11/01/22 12:23	1
Heptachlor	ND		0.040	ug/L		10/29/22 13:30	11/01/22 12:23	1
Heptachlor epoxide (isomer B)	ND		0.049	ug/L		10/29/22 13:30	11/01/22 12:23	1
Hexachlorobenzene	ND		0.049	ug/L		10/29/22 13:30	11/01/22 12:23	1
Hexachlorocyclopentadiene	ND		0.049	ug/L		10/29/22 13:30	11/01/22 12:23	1
Indeno[1,2,3-cd]pyrene	ND		0.049	ug/L		10/29/22 13:30	11/01/22 12:23	1
Isophorone	ND		0.49	ug/L		10/29/22 13:30	11/01/22 12:23	1
Lindane	ND		0.040	ug/L		10/29/22 13:30	11/01/22 12:23	1
Malathion	ND		0.099	ug/L		10/29/22 13:30	11/01/22 12:23	1
Methoxychlor	ND		0.099	ug/L		10/29/22 13:30	11/01/22 12:23	1
Metolachlor	ND		0.049	ug/L		10/29/22 13:30	11/01/22 12:23	1
Metribuzin	ND		0.049	ug/L		10/29/22 13:30	11/01/22 12:23	1
Molinate	ND		0.099	ug/L		10/29/22 13:30	11/01/22 12:23	1
Naphthalene	ND		0.30	ug/L		10/29/22 13:30	11/01/22 12:23	1
Parathion	ND		0.099	ug/L		10/29/22 13:30	11/01/22 12:23	1
Pendimethalin (Penoxaline)	ND		0.099	ug/L		10/29/22 13:30	11/01/22 12:23	1
Total Permethrin (mixed isomers)	ND		0.20	ug/L		10/29/22 13:30	11/01/22 12:23	1
Phenanthrene	ND		0.040	ug/L		10/29/22 13:30	11/01/22 12:23	1
Propachlor	ND		0.049	ug/L		10/29/22 13:30	11/01/22 12:23	1
Pyrene	ND		0.049	ug/L		10/29/22 13:30	11/01/22 12:23	1
Simazine	ND		0.049	ug/L		10/29/22 13:30	11/01/22 12:23	1
Terbacil	ND		0.099	ug/L		10/29/22 13:30	11/01/22 12:23	1
Terbutylazine	ND		0.099	ug/L		10/29/22 13:30	11/01/22 12:23	1
Thiobencarb	ND		0.20	ug/L		10/29/22 13:30	11/01/22 12:23	1
trans-Nonachlor	ND		0.049	ug/L		10/29/22 13:30	11/01/22 12:23	1
Trifluralin	ND		0.099	ug/L		10/29/22 13:30	11/01/22 12:23	1

<i>Tentatively Identified Compound</i>	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	1.39	T J	ug/L		2.42		10/29/22 13:30	11/01/22 12:23	1
Unknown	1.69	T J	ug/L		2.72		10/29/22 13:30	11/01/22 12:23	1
Unknown	0.749	T J	ug/L		3.91		10/29/22 13:30	11/01/22 12:23	1
Unknown	0.724	T J	ug/L		5.90		10/29/22 13:30	11/01/22 12:23	1
Unknown	0.862	T J	ug/L		6.59		10/29/22 13:30	11/01/22 12:23	1
13-Docosenamide, (Z)-	0.525	T J N	ug/L		10.28	112-84-5	10/29/22 13:30	11/01/22 12:23	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Nitro-m-xylene	109		70 - 130	10/29/22 13:30	11/01/22 12:23	1
Triphenylphosphate	92		70 - 130	10/29/22 13:30	11/01/22 12:23	1
Perylene-d12	89		70 - 130	10/29/22 13:30	11/01/22 12:23	1

QC Sample Results

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

Job ID: 380-25751-1

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

Lab Sample ID: LCS 380-22573/3-A
Matrix: Water
Analysis Batch: 22756

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 22573

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2,4'-DDD	1.98	1.90		ug/L		96	70 - 130
2,4'-DDE	1.98	1.88		ug/L		95	70 - 130
2,4'-DDT	1.98	1.74		ug/L		88	70 - 130
2,4-Dinitrotoluene	1.98	1.77		ug/L		89	70 - 130
2,6-Dinitrotoluene	1.98	1.65		ug/L		83	70 - 130
4,4'-DDD	1.98	1.76		ug/L		89	70 - 130
4,4'-DDE	1.98	1.76		ug/L		89	70 - 130
4,4'-DDT	1.98	1.54		ug/L		78	70 - 130
Acenaphthene	1.98	1.74		ug/L		88	70 - 130
Acenaphthylene	1.98	1.66		ug/L		84	70 - 130
Acetochlor	1.98	1.79		ug/L		91	70 - 130
Alachlor	1.98	1.79		ug/L		90	70 - 130
alpha-BHC	1.98	2.00		ug/L		101	70 - 130
alpha-Chlordane	1.98	1.66		ug/L		84	70 - 130
Anthracene	1.98	2.01		ug/L		101	70 - 130
Atrazine	1.98	1.99		ug/L		100	70 - 130
Benz(a)anthracene	1.98	1.52		ug/L		77	70 - 130
Benzo[a]pyrene	1.98	2.37		ug/L		120	70 - 130
Benzo[b]fluoranthene	1.98	2.51		ug/L		127	70 - 130
Benzo[g,h,i]perylene	1.98	2.37		ug/L		120	70 - 130
Benzo[k]fluoranthene	1.98	2.42		ug/L		122	70 - 130
beta-BHC	1.98	2.03		ug/L		102	70 - 130
Bromacil	1.98	1.97		ug/L		100	70 - 130
Butachlor	1.98	1.92		ug/L		97	70 - 130
Butylbenzylphthalate	1.98	1.98		ug/L		100	70 - 130
Caffeine	1.98	1.30		ug/L		66	45 - 137
Chlorobenzilate	1.98	1.88		ug/L		95	70 - 130
Chloroneb	1.98	2.01		ug/L		102	70 - 130
Chlorothalonil (Draconil, Bravo)	1.98	1.79		ug/L		90	70 - 130
Chlorpyrifos	1.98	2.13		ug/L		107	70 - 130
Chrysene	1.98	1.79		ug/L		91	70 - 130
delta-BHC	1.98	1.89		ug/L		95	70 - 130
Di(2-ethylhexyl)adipate	1.98	2.08		ug/L		105	70 - 130
Bis(2-ethylhexyl) phthalate	1.98	2.17		ug/L		110	70 - 130
Diazinon (Qualitative)	1.98	1.73		ug/L		87	15 - 132
Dibenz(a,h)anthracene	1.98	2.53		ug/L		128	70 - 130
Diclorvos (DDVP)	1.98	2.12		ug/L		107	70 - 130
Dieldrin	1.98	1.75		ug/L		89	70 - 130
Diethylphthalate	1.98	1.80		ug/L		91	70 - 130
Dimethoate	1.98	1.08		ug/L		54	35 - 100
Dimethylphthalate	1.98	1.89		ug/L		96	70 - 130
Di-n-butyl phthalate	3.96	3.83		ug/L		97	70 - 130
Di-n-octyl phthalate	1.98	1.82		ug/L		92	70 - 130
Endosulfan I (Alpha)	1.98	1.90		ug/L		96	70 - 130
Endosulfan II (Beta)	1.98	1.79		ug/L		90	70 - 130
Endosulfan sulfate	1.98	1.76		ug/L		89	70 - 130
Endrin	1.98	1.95		ug/L		99	70 - 130
Endrin aldehyde	1.98	1.85		ug/L		93	70 - 130

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QC Sample Results

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

Job ID: 380-25751-1

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

Lab Sample ID: LCS 380-22573/3-A
Matrix: Water
Analysis Batch: 22756

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 22573

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
EPTC	1.98	1.82		ug/L		92	70 - 130
Fluoranthene	1.98	2.04		ug/L		103	70 - 130
Fluorene	1.98	1.95		ug/L		98	70 - 130
gamma-Chlordane	1.98	1.60		ug/L		81	70 - 130
Heptachlor	1.98	1.83		ug/L		93	70 - 130
Heptachlor epoxide (isomer B)	1.98	1.59		ug/L		80	70 - 130
Hexachlorobenzene	1.98	1.74		ug/L		88	70 - 130
Hexachlorocyclopentadiene	1.98	1.84		ug/L		93	70 - 130
Indeno[1,2,3-cd]pyrene	1.98	2.44		ug/L		123	70 - 130
Isophorone	1.98	1.84		ug/L		93	70 - 130
Lindane	1.98	2.02		ug/L		102	70 - 130
Malathion	1.98	2.01		ug/L		102	70 - 130
Methoxychlor	1.98	1.74		ug/L		88	70 - 130
Metolachlor	1.98	1.99		ug/L		101	70 - 130
Metribuzin	1.98	1.87		ug/L		94	70 - 130
Molinate	1.98	1.88		ug/L		95	70 - 130
Naphthalene	1.98	1.82		ug/L		92	70 - 130
Parathion	1.98	1.79		ug/L		91	70 - 130
Pendimethalin (Penoxaline)	1.98	1.74		ug/L		88	70 - 130
Phenanthrene	1.98	2.03		ug/L		103	70 - 130
Propachlor	1.98	2.02		ug/L		102	70 - 130
Pyrene	1.98	2.17		ug/L		110	70 - 130
Simazine	1.98	2.11		ug/L		107	70 - 130
Terbacil	1.98	1.98		ug/L		100	70 - 130
Terbutylazine	1.98	1.93		ug/L		98	70 - 130
Thiobencarb	1.98	1.98		ug/L		100	70 - 130
trans-Nonachlor	1.98	2.13		ug/L		107	70 - 130
Trifluralin	1.98	1.67		ug/L		84	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Nitro-m-xylene	100		70 - 130
Triphenylphosphate	93		70 - 130
Perylene-d12	108		70 - 130

Lab Sample ID: LCSD 380-22573/4-A
Matrix: Water
Analysis Batch: 22756

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 22573

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
2,4'-DDD	1.97	2.07		ug/L		105	70 - 130	9	20
2,4'-DDE	1.97	1.95		ug/L		99	70 - 130	4	20
2,4'-DDT	1.97	2.13		ug/L		108	70 - 130	20	20
2,4-Dinitrotoluene	1.97	1.74		ug/L		88	70 - 130	2	20
2,6-Dinitrotoluene	1.97	1.65		ug/L		84	70 - 130	0	20
4,4'-DDD	1.97	2.15		ug/L		109	70 - 130	20	20
4,4'-DDE	1.97	1.85		ug/L		94	70 - 130	5	20
4,4'-DDT	1.97	1.62		ug/L		82	70 - 130	5	20
Acenaphthene	1.97	1.69		ug/L		85	70 - 130	3	20

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QC Sample Results

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

Job ID: 380-25751-1

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

Lab Sample ID: LCSD 380-22573/4-A
Matrix: Water
Analysis Batch: 22756

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 22573

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	RPD Limit
							Limits	RPD		
Acenaphthylene	1.97	1.64		ug/L		83	70 - 130	1	20	
Acetochlor	1.97	1.89		ug/L		96	70 - 130	5	20	
Alachlor	1.97	1.84		ug/L		93	70 - 130	3	20	
alpha-BHC	1.97	1.97		ug/L		100	70 - 130	1	20	
alpha-Chlordane	1.97	1.78		ug/L		90	70 - 130	7	20	
Anthracene	1.97	1.93		ug/L		98	70 - 130	4	20	
Atrazine	1.97	2.05		ug/L		104	70 - 130	3	20	
Benz(a)anthracene	1.97	1.74		ug/L		88	70 - 130	13	20	
Benzo[a]pyrene	1.97	2.38		ug/L		121	70 - 130	1	20	
Benzo[b]fluoranthene	1.97	2.49		ug/L		126	70 - 130	1	20	
Benzo[g,h,i]perylene	1.97	2.37		ug/L		120	70 - 130	0	20	
Benzo[k]fluoranthene	1.97	2.49		ug/L		126	70 - 130	3	20	
beta-BHC	1.97	2.02		ug/L		102	70 - 130	0	20	
Bromacil	1.97	2.10		ug/L		106	70 - 130	6	20	
Butachlor	1.97	2.13		ug/L		108	70 - 130	11	20	
Butylbenzylphthalate	1.97	2.14		ug/L		108	70 - 130	8	20	
Caffeine	1.97	1.23		ug/L		62	45 - 137	6	20	
Chlorobenzilate	1.97	2.01		ug/L		102	70 - 130	7	20	
Chloroneb	1.97	1.94		ug/L		98	70 - 130	3	20	
Chlorothalonil (Draconil, Bravo)	1.97	1.94		ug/L		98	70 - 130	8	20	
Chlorpyrifos	1.97	2.28		ug/L		116	70 - 130	7	20	
Chrysene	1.97	1.85		ug/L		94	70 - 130	3	20	
delta-BHC	1.97	1.92		ug/L		97	70 - 130	2	20	
Di(2-ethylhexyl)adipate	1.97	2.19		ug/L		111	70 - 130	5	20	
Bis(2-ethylhexyl) phthalate	1.97	2.15		ug/L		109	70 - 130	1	20	
Diazinon (Qualitative)	1.97	1.80		ug/L		91	15 - 132	4	20	
Dibenz(a,h)anthracene	1.97	2.52		ug/L		128	70 - 130	0	20	
Diclorvos (DDVP)	1.97	2.14		ug/L		108	70 - 130	1	20	
Dieldrin	1.97	1.88		ug/L		95	70 - 130	7	20	
Diethylphthalate	1.97	1.86		ug/L		94	70 - 130	3	20	
Dimethoate	1.97	1.07		ug/L		54	35 - 100	1	20	
Dimethylphthalate	1.97	1.90		ug/L		96	70 - 130	0	20	
Di-n-butyl phthalate	3.95	4.01		ug/L		102	70 - 130	5	20	
Di-n-octyl phthalate	1.97	1.92		ug/L		97	70 - 130	5	20	
Endosulfan I (Alpha)	1.97	2.06		ug/L		104	70 - 130	8	20	
Endosulfan II (Beta)	1.97	2.01		ug/L		102	70 - 130	12	20	
Endosulfan sulfate	1.97	1.89		ug/L		96	70 - 130	7	20	
Endrin	1.97	2.10		ug/L		106	70 - 130	7	20	
Endrin aldehyde	1.97	1.83		ug/L		93	70 - 130	1	20	
EPTC	1.97	1.81		ug/L		92	70 - 130	1	20	
Fluoranthene	1.97	2.24		ug/L		114	70 - 130	10	20	
Fluorene	1.97	1.84		ug/L		93	70 - 130	6	20	
gamma-Chlordane	1.97	1.83		ug/L		93	70 - 130	13	20	
Heptachlor	1.97	1.90		ug/L		96	70 - 130	3	20	
Heptachlor epoxide (isomer B)	1.97	1.71		ug/L		87	70 - 130	7	20	
Hexachlorobenzene	1.97	1.72		ug/L		87	70 - 130	1	20	
Hexachlorocyclopentadiene	1.97	1.85		ug/L		94	70 - 130	1	20	
Indeno[1,2,3-cd]pyrene	1.97	2.46		ug/L		124	70 - 130	1	20	
Isophorone	1.97	1.87		ug/L		95	70 - 130	2	20	

Eurofins Eaton Monrovia

QC Sample Results

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

Job ID: 380-25751-1

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

Lab Sample ID: LCSD 380-22573/4-A
Matrix: Water
Analysis Batch: 22756

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 22573

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Lindane	1.97	1.98		ug/L		101	70 - 130	2	20
Malathion	1.97	2.17		ug/L		110	70 - 130	8	20
Methoxychlor	1.97	1.73		ug/L		88	70 - 130	1	20
Metolachlor	1.97	2.11		ug/L		107	70 - 130	6	20
Metribuzin	1.97	1.89		ug/L		96	70 - 130	1	20
Molinate	1.97	1.94		ug/L		98	70 - 130	3	20
Naphthalene	1.97	1.86		ug/L		94	70 - 130	2	20
Parathion	1.97	1.96		ug/L		99	70 - 130	9	20
Pendimethalin (Penoxaline)	1.97	1.87		ug/L		95	70 - 130	7	20
Phenanthrene	1.97	1.92		ug/L		97	70 - 130	6	20
Propachlor	1.97	2.08		ug/L		105	70 - 130	3	20
Pyrene	1.97	2.34		ug/L		119	70 - 130	8	20
Simazine	1.97	2.18		ug/L		110	70 - 130	3	20
Terbacil	1.97	2.06		ug/L		104	70 - 130	4	20
Terbutylazine	1.97	1.94		ug/L		98	70 - 130	0	20
Thiobencarb	1.97	2.08		ug/L		106	70 - 130	5	20
trans-Nonachlor	1.97	2.33		ug/L		118	70 - 130	9	20
Trifluralin	1.97	1.76		ug/L		89	70 - 130	6	20

Surrogate	LCSD %Recovery	LCSD Qualifier	LCSD Limits
2-Nitro-m-xylene	102		70 - 130
Triphenylphosphate	102		70 - 130
Perylene-d12	108		70 - 130

Lab Sample ID: MRL 380-22573/2-A
Matrix: Water
Analysis Batch: 22756

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 22573

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
2,4'-DDD	0.0997	0.115		ug/L		116	50 - 150
2,4'-DDE	0.0997	0.0692	J	ug/L		69	50 - 150
2,4'-DDT	0.0997	0.0853	J	ug/L		86	50 - 150
2,4-Dinitrotoluene	0.0997	0.0721	J	ug/L		72	50 - 150
2,6-Dinitrotoluene	0.0997	0.0832	J	ug/L		83	50 - 150
4,4'-DDD	0.0997	0.0990	J	ug/L		99	50 - 150
4,4'-DDE	0.0997	0.0808	J	ug/L		81	50 - 150
4,4'-DDT	0.0997	0.127		ug/L		127	50 - 150
Acenaphthene	0.0997	0.0976	J	ug/L		98	50 - 150
Acenaphthylene	0.0997	0.0812	J	ug/L		81	50 - 150
Acetochlor	0.0499	0.0378	J	ug/L		76	50 - 150
Alachlor	0.0499	0.0480	J	ug/L		96	50 - 150
alpha-BHC	0.0997	0.0943	J	ug/L		95	50 - 150
alpha-Chlordane	0.0249	ND		ug/L		92	50 - 150
Anthracene	0.0199	0.0198	J	ug/L		99	50 - 150
Atrazine	0.0499	0.0590		ug/L		118	50 - 150
Benz(a)anthracene	0.0499	0.0453	J	ug/L		91	50 - 150
Benzo[a]pyrene	0.0199	0.0162	J	ug/L		81	50 - 150
Benzo[b]fluoranthene	0.0199	0.0184	J	ug/L		92	50 - 150

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QC Sample Results

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

Job ID: 380-25751-1

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

Lab Sample ID: MRL 380-22573/2-A
Matrix: Water
Analysis Batch: 22756

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 22573

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Benzo[g,h,i]perylene	0.0499	0.0423	J	ug/L		85	50 - 150
Benzo[k]fluoranthene	0.0199	0.0171	J	ug/L		86	50 - 150
beta-BHC	0.0997	0.111		ug/L		111	50 - 150
Bromacil	0.0997	0.141		ug/L		141	50 - 150
Butachlor	0.0499	0.0536		ug/L		107	50 - 150
Butylbenzylphthalate	0.150	0.165	J	ug/L		110	50 - 150
Caffeine	0.0499	0.0338	J	ug/L		68	50 - 150
Chlorobenzilate	0.0997	0.104		ug/L		104	50 - 150
Chloroneb	0.0997	0.0970	J	ug/L		97	50 - 150
Chlorothalonil (Draconil, Bravo)	0.0997	0.128		ug/L		129	50 - 150
Chlorpyrifos	0.0499	0.0509		ug/L		102	50 - 150
Chrysene	0.0199	0.0201		ug/L		101	50 - 150
delta-BHC	0.0997	0.118		ug/L		119	50 - 150
Di(2-ethylhexyl)adipate	0.299	0.895	^3+	ug/L		299	50 - 150
Bis(2-ethylhexyl) phthalate	0.598	0.580	J	ug/L		97	50 - 150
Diazinon (Qualitative)	0.0997	0.101		ug/L		101	15 - 132
Dibenz(a,h)anthracene	0.0499	0.0422	J	ug/L		85	50 - 150
Diclorvos (DDVP)	0.0499	0.0524		ug/L		105	50 - 150
Dieldrin	0.0997	0.0980	J	ug/L		98	50 - 150
Diethylphthalate	0.150	0.174	J	ug/L		116	50 - 150
Dimethoate	0.0997	0.0541	J	ug/L		54	35 - 100
Dimethylphthalate	0.299	0.266	J	ug/L		89	50 - 150
Di-n-butyl phthalate	0.299	0.274	J	ug/L		92	49 - 243
Di-n-octyl phthalate	0.0997	0.107		ug/L		107	50 - 150
Endosulfan I (Alpha)	0.0997	0.0818	J	ug/L		82	50 - 150
Endosulfan II (Beta)	0.0997	0.121		ug/L		122	50 - 150
Endosulfan sulfate	0.0997	0.0949	J	ug/L		95	50 - 150
Endrin	0.0997	0.116		ug/L		116	50 - 150
Endrin aldehyde	0.0997	ND		ug/L		74	50 - 150
EPTC	0.0997	0.0885	J	ug/L		89	50 - 150
Fluoranthene	0.0499	0.0474	J	ug/L		95	50 - 150
Fluorene	0.0499	ND		ug/L		95	50 - 150
gamma-Chlordane	0.0249	0.0250	J	ug/L		100	50 - 150
Heptachlor	0.0399	0.0485		ug/L		122	50 - 150
Heptachlor epoxide (isomer B)	0.0499	0.0453	J	ug/L		91	50 - 150
Hexachlorobenzene	0.0499	0.0466	J	ug/L		93	50 - 150
Hexachlorocyclopentadiene	0.0499	0.0395	J	ug/L		79	50 - 150
Indeno[1,2,3-cd]pyrene	0.0499	0.0410	J	ug/L		82	50 - 150
Isophorone	0.0997	0.103	J	ug/L		104	50 - 150
Lindane	0.0399	0.0412		ug/L		103	50 - 150
Malathion	0.0997	0.0933	J	ug/L		94	50 - 150
Methoxychlor	0.0997	0.116		ug/L		117	50 - 150
Metolachlor	0.0499	0.0526		ug/L		106	50 - 150
Metribuzin	0.0499	0.0870	^3+	ug/L		175	50 - 150
Molinate	0.0997	0.0974	J	ug/L		98	50 - 150
Naphthalene	0.0997	0.110	J	ug/L		110	50 - 150
Parathion	0.0997	0.125		ug/L		125	50 - 150
Pendimethalin (Penoxaline)	0.0997	0.106		ug/L		107	50 - 150
Phenanthrene	0.0199	0.0243	J	ug/L		122	50 - 150

Eurofins Eaton Monrovia

QC Sample Results

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

Job ID: 380-25751-1

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

Lab Sample ID: MRL 380-22573/2-A
Matrix: Water
Analysis Batch: 22756

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 22573

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Propachlor	0.0499	0.0529		ug/L		106	50 - 150
Pyrene	0.0499	0.0433	J	ug/L		87	50 - 150
Simazine	0.0499	0.0539		ug/L		108	50 - 150
Terbacil	0.0997	0.118		ug/L		119	50 - 150
Terbutylazine	0.0997	0.106		ug/L		106	50 - 150
Thiobencarb	0.0997	0.119	J	ug/L		119	50 - 150
trans-Nonachlor	0.0249	ND		ug/L		101	50 - 150
Trifluralin	0.0997	0.107		ug/L		107	50 - 150

Surrogate	MRL %Recovery	MRL Qualifier	Limits
2-Nitro-m-xylene	103		70 - 130
Triphenylphosphate	99		70 - 130
Perylene-d12	92		70 - 130

Lab Sample ID: 380-25725-B-1-A MS
Matrix: Water
Analysis Batch: 22756

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 22573

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
2,4'-DDD	ND		1.95	2.21		ug/L		113	70 - 130
2,4'-DDE	ND		1.95	2.34		ug/L		120	70 - 130
2,4'-DDT	ND		1.95	2.39		ug/L		123	70 - 130
2,4-Dinitrotoluene	ND		1.95	2.24		ug/L		115	70 - 130
2,6-Dinitrotoluene	ND		1.95	1.83		ug/L		94	70 - 130
4,4'-DDD	ND	F1	1.95	2.60	F1	ug/L		133	70 - 130
4,4'-DDE	ND		1.95	2.01		ug/L		103	70 - 130
4,4'-DDT	ND		1.95	2.38		ug/L		122	70 - 130
Acenaphthene	ND		1.95	1.64		ug/L		84	70 - 130
Acenaphthylene	ND		1.95	1.54		ug/L		79	70 - 130
Acetochlor	ND		1.95	2.15		ug/L		110	70 - 130
Alachlor	ND		1.95	2.00		ug/L		102	70 - 130
alpha-BHC	ND		1.95	2.20		ug/L		113	70 - 130
alpha-Chlordane	ND		1.95	1.97		ug/L		101	70 - 130
Anthracene	ND		1.95	1.87		ug/L		96	70 - 130
Atrazine	ND	F1	1.95	2.98	F1	ug/L		153	70 - 130
Benz(a)anthracene	ND	F1	1.95	2.75	F1	ug/L		141	70 - 130
Benzo[a]pyrene	ND		1.95	2.08		ug/L		106	70 - 130
Benzo[b]fluoranthene	ND		1.95	2.15		ug/L		110	70 - 130
Benzo[g,h,i]perylene	ND		1.95	1.98		ug/L		101	70 - 130
Benzo[k]fluoranthene	ND		1.95	2.12		ug/L		109	70 - 130
beta-BHC	ND	F1	1.95	2.81	F1	ug/L		144	70 - 130
Bromacil	ND		1.95	2.21		ug/L		113	70 - 130
Butachlor	ND		1.95	2.37		ug/L		121	70 - 130
Butylbenzylphthalate	ND	F1	1.95	2.72	F1	ug/L		139	70 - 130
Caffeine	ND		1.95	1.68		ug/L		86	46 - 144
Chlorobenzilate	ND	F1	1.95	2.56	F1	ug/L		131	70 - 130
Chloroneb	ND		1.95	2.19		ug/L		112	70 - 130
Chlorothalonil (Draconil, Bravo)	ND		1.95	2.31		ug/L		118	70 - 130

QC Sample Results

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

Job ID: 380-25751-1

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

Lab Sample ID: 380-25725-B-1-A MS
Matrix: Water
Analysis Batch: 22756

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 22573

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec Limits
	Result	Qualifier	Added	Result	Qualifier				
Chlorpyrifos	ND		1.95	2.41		ug/L		124	70 - 130
Chrysene	ND		1.95	2.03		ug/L		104	70 - 130
delta-BHC	ND		1.95	2.14		ug/L		109	70 - 130
Di(2-ethylhexyl)adipate	ND	B ^3+ F1	1.95	2.77	F1	ug/L		137	70 - 130
Bis(2-ethylhexyl) phthalate	ND		1.95	1.72		ug/L		88	70 - 130
Diazinon (Qualitative)	ND	F1	1.95	2.65	F1	ug/L		136	15 - 132
Dibenz(a,h)anthracene	ND		1.95	2.06		ug/L		106	70 - 130
Diclorvos (DDVP)	ND		1.95	1.91		ug/L		98	70 - 130
Dieldrin	ND		1.95	2.15		ug/L		110	70 - 130
Diethylphthalate	ND		1.95	2.18		ug/L		112	70 - 130
Dimethoate	ND		1.95	1.99		ug/L		102	34 - 111
Dimethylphthalate	ND		1.95	1.96		ug/L		101	70 - 130
Di-n-butyl phthalate	ND		3.90	4.56		ug/L		117	70 - 130
Di-n-octyl phthalate	ND		1.95	1.57		ug/L		80	70 - 130
Endosulfan I (Alpha)	ND		1.95	1.96		ug/L		100	70 - 130
Endosulfan II (Beta)	ND	F1	1.95	2.67	F1	ug/L		137	70 - 130
Endosulfan sulfate	ND		1.95	2.45		ug/L		125	70 - 130
Endrin	ND		1.95	2.53		ug/L		129	70 - 130
Endrin aldehyde	ND		1.95	1.87		ug/L		96	70 - 130
EPTC	ND		1.95	1.70		ug/L		87	70 - 130
Fluoranthene	ND		1.95	2.23		ug/L		114	70 - 130
Fluorene	ND		1.95	1.97		ug/L		101	70 - 130
gamma-Chlordane	ND		1.95	2.16		ug/L		111	70 - 130
Heptachlor	ND		1.95	1.84		ug/L		94	70 - 130
Heptachlor epoxide (isomer B)	ND		1.95	1.81		ug/L		93	70 - 130
Hexachlorobenzene	ND		1.95	2.04		ug/L		104	70 - 130
Hexachlorocyclopentadiene	ND		1.95	1.39		ug/L		71	70 - 130
Indeno[1,2,3-cd]pyrene	ND		1.95	2.05		ug/L		105	70 - 130
Isophorone	ND		1.95	1.52		ug/L		78	70 - 130
Lindane	ND		1.95	2.54		ug/L		130	70 - 130
Malathion	ND		1.95	2.34		ug/L		120	70 - 130
Methoxychlor	ND		1.95	1.83		ug/L		94	70 - 130
Metolachlor	ND		1.95	2.29		ug/L		117	70 - 130
Metribuzin	ND	^3+	1.95	1.96		ug/L		100	70 - 130
Molinate	ND		1.95	2.07		ug/L		106	70 - 130
Naphthalene	ND		1.95	1.58		ug/L		81	70 - 130
Parathion	ND		1.95	2.30		ug/L		118	70 - 130
Pendimethalin (Penoxaline)	ND		1.95	2.01		ug/L		103	70 - 130
Phenanthrene	ND		1.95	1.81		ug/L		93	70 - 130
Propachlor	ND	F1	1.95	2.68	F1	ug/L		137	70 - 130
Pyrene	ND		1.95	2.19		ug/L		112	70 - 130
Simazine	ND	F1	1.95	3.26	F1	ug/L		167	70 - 130
Terbacil	ND		1.95	2.41		ug/L		124	70 - 130
Terbutylazine	ND	F1	1.95	2.97	F1	ug/L		152	70 - 130
Thiobencarb	ND		1.95	2.50		ug/L		128	70 - 130
trans-Nonachlor	ND		1.95	2.00		ug/L		102	70 - 130
Trifluralin	ND		1.95	2.27		ug/L		116	70 - 130

QC Sample Results

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

Job ID: 380-25751-1

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

Lab Sample ID: 380-25725-B-1-A MS
Matrix: Water
Analysis Batch: 22756

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 22573

Surrogate	MS %Recovery	MS Qualifier	Limits
2-Nitro-m-xylene	84		70 - 130
Triphenylphosphate	129		70 - 130
Perylene-d12	95		70 - 130

Lab Sample ID: 380-25919-B-1-A DU
Matrix: Water
Analysis Batch: 22756

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 22573

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
2,4'-DDD	ND		ND		ug/L		NC	20
2,4'-DDE	ND		ND		ug/L		NC	20
2,4'-DDT	ND		ND		ug/L		NC	20
2,4-Dinitrotoluene	ND		ND		ug/L		NC	20
2,6-Dinitrotoluene	ND		ND		ug/L		NC	20
4,4'-DDD	ND		ND		ug/L		NC	20
4,4'-DDE	ND		ND		ug/L		NC	20
4,4'-DDT	ND		ND		ug/L		NC	20
Acenaphthene	ND		ND		ug/L		NC	20
Acenaphthylene	ND		ND		ug/L		NC	20
Acetochlor	ND		ND		ug/L		NC	20
Alachlor	ND		ND		ug/L		NC	20
alpha-BHC	ND		ND		ug/L		NC	20
alpha-Chlordane	ND		ND		ug/L		NC	20
Anthracene	ND		ND		ug/L		NC	20
Atrazine	ND		ND		ug/L		NC	20
Benz(a)anthracene	ND		ND		ug/L		NC	20
Benzo[a]pyrene	ND		ND		ug/L		NC	20
Benzo[b]fluoranthene	ND		ND		ug/L		NC	20
Benzo[g,h,i]perylene	ND		ND		ug/L		NC	20
Benzo[k]fluoranthene	ND		ND		ug/L		NC	20
beta-BHC	ND		ND		ug/L		NC	20
Bromacil	ND		ND		ug/L		NC	20
Butachlor	ND		ND		ug/L		NC	20
Butylbenzylphthalate	ND		ND		ug/L		NC	20
Caffeine	ND		ND		ug/L		NC	20
Chlorobenzilate	ND		ND		ug/L		NC	20
Chloroneb	ND		ND		ug/L		NC	20
Chlorothalonil (Draconil, Bravo)	ND		ND		ug/L		NC	20
Chlorpyrifos	ND		ND		ug/L		NC	20
Chrysene	ND		ND		ug/L		NC	20
delta-BHC	ND		ND		ug/L		NC	20
Di(2-ethylhexyl)adipate	ND	B ^3+	ND	B	ug/L		NC	20
Bis(2-ethylhexyl) phthalate	ND		ND		ug/L		NC	20
Diazinon (Qualitative)	ND		ND		ug/L		NC	20
Dibenz(a,h)anthracene	ND		ND		ug/L		NC	20
Diclorvos (DDVP)	ND		ND		ug/L		NC	20
Dieldrin	ND		ND		ug/L		NC	20
Diethylphthalate	ND		ND		ug/L		NC	20

Eurofins Eaton Monrovia

QC Sample Results

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

Job ID: 380-25751-1

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

Lab Sample ID: 380-25919-B-1-A DU
Matrix: Water
Analysis Batch: 22756

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 22573

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Dimethoate	ND		ND		ug/L		NC	20
Dimethylphthalate	ND		ND		ug/L		NC	20
Di-n-butyl phthalate	ND		ND		ug/L		NC	20
Di-n-octyl phthalate	ND		ND		ug/L		NC	20
Endosulfan I (Alpha)	ND		ND		ug/L		NC	20
Endosulfan II (Beta)	ND		ND		ug/L		NC	20
Endosulfan sulfate	ND		ND		ug/L		NC	20
Endrin	ND		ND		ug/L		NC	20
Endrin aldehyde	ND		ND		ug/L		NC	20
EPTC	ND		ND		ug/L		NC	20
Fluoranthene	ND		ND		ug/L		NC	20
Fluorene	ND		ND		ug/L		NC	20
gamma-Chlordane	ND		ND		ug/L		NC	20
Heptachlor	ND		ND		ug/L		NC	20
Heptachlor epoxide (isomer B)	ND		ND		ug/L		NC	20
Hexachlorobenzene	ND		ND		ug/L		NC	20
Hexachlorocyclopentadiene	ND		ND		ug/L		NC	20
Indeno[1,2,3-cd]pyrene	ND		ND		ug/L		NC	20
Isophorone	ND		ND		ug/L		NC	20
Lindane	ND		ND		ug/L		NC	20
Malathion	ND		ND		ug/L		NC	20
Methoxychlor	ND		ND		ug/L		NC	20
Metolachlor	ND		ND		ug/L		NC	20
Metribuzin	ND	^3+	ND		ug/L		NC	20
Molinate	ND		ND		ug/L		NC	20
Naphthalene	ND		ND		ug/L		NC	20
Parathion	ND		ND		ug/L		NC	20
Pendimethalin (Penoxaline)	ND		ND		ug/L		NC	20
Total Permethrin (mixed isomers)	ND		ND		ug/L		NC	20
Phenanthrene	ND		ND		ug/L		NC	20
Propachlor	ND		ND		ug/L		NC	20
Pyrene	ND		ND		ug/L		NC	20
Simazine	ND		ND		ug/L		NC	20
Terbacil	ND		ND		ug/L		NC	20
Terbutylazine	ND		ND		ug/L		NC	20
Thiobencarb	ND		ND		ug/L		NC	20
trans-Nonachlor	ND		ND		ug/L		NC	20
Trifluralin	ND		ND		ug/L		NC	20

Surrogate	%Recovery	DU Qualifier	Limits
2-Nitro-m-xylene	104		70 - 130
Triphenylphosphate	95		70 - 130
Perylene-d12	110		70 - 130

QC Sample Results

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

Job ID: 380-25751-1

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

Lab Sample ID: 101055-B1
Matrix: BlankMatrix
Analysis Batch: O-40008

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: O-40008_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.005	0.001	µg/L		10/24/22 00:00	10/30/22 02:29	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		10/24/22 00:00	10/30/22 02:29	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		10/24/22 00:00	10/30/22 02:29	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		10/24/22 00:00	10/30/22 02:29	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		10/24/22 00:00	10/30/22 02:29	1
Acenaphthene	ND		0.005	0.001	µg/L		10/24/22 00:00	10/30/22 02:29	1
Acenaphthylene	ND		0.005	0.001	µg/L		10/24/22 00:00	10/30/22 02:29	1
Anthracene	ND		0.005	0.001	µg/L		10/24/22 00:00	10/30/22 02:29	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		10/24/22 00:00	10/30/22 02:29	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		10/24/22 00:00	10/30/22 02:29	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		10/24/22 00:00	10/30/22 02:29	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		10/24/22 00:00	10/30/22 02:29	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		10/24/22 00:00	10/30/22 02:29	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		10/24/22 00:00	10/30/22 02:29	1
Biphenyl	ND		0.005	0.001	µg/L		10/24/22 00:00	10/30/22 02:29	1
Chrysene	ND		0.005	0.001	µg/L		10/24/22 00:00	10/30/22 02:29	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		10/24/22 00:00	10/30/22 02:29	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		10/24/22 00:00	10/30/22 02:29	1
Dibenzothiophene	ND		0.005	0.001	µg/L		10/24/22 00:00	10/30/22 02:29	1
Disalicylidenepropanediamine	ND		0.1	0.05	µg/L		10/24/22 00:00	10/30/22 02:29	1
Fluoranthene	ND		0.005	0.001	µg/L		10/24/22 00:00	10/30/22 02:29	1
Fluorene	ND		0.005	0.001	µg/L		10/24/22 00:00	10/30/22 02:29	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		10/24/22 00:00	10/30/22 02:29	1
Naphthalene	ND		0.005	0.001	µg/L		10/24/22 00:00	10/30/22 02:29	1
Perylene	ND		0.005	0.001	µg/L		10/24/22 00:00	10/30/22 02:29	1
Phenanthrene	ND		0.005	0.001	µg/L		10/24/22 00:00	10/30/22 02:29	1
Pyrene	ND		0.005	0.001	µg/L		10/24/22 00:00	10/30/22 02:29	1

Surrogate	Blank %Recovery	Blank Qualifier	Limits	Prepared	Analyzed	Dil Fac
(d10-Acenaphthene)	77		27 - 133	10/24/22 00:00	10/30/22 02:29	1
(d10-Phenanthrene)	97		43 - 129	10/24/22 00:00	10/30/22 02:29	1
(d12-Chrysene)	94		52 - 144	10/24/22 00:00	10/30/22 02:29	1
(d12-Perylene)	86		36 - 161	10/24/22 00:00	10/30/22 02:29	1
(d8-Naphthalene)	68		25 - 125	10/24/22 00:00	10/30/22 02:29	1

Lab Sample ID: 101055-BS1
Matrix: BlankMatrix
Analysis Batch: O-40008

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: O-40008_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1-Methylnaphthalene	0.5	0.33		µg/L		66	31 - 128
1-Methylphenanthrene	0.5	0.393		µg/L		79	66 - 127
2,3,5-Trimethylnaphthalene	0.5	0.45		µg/L		90	55 - 122
2,6-Dimethylnaphthalene	0.5	0.425		µg/L		85	48 - 120
2-Methylnaphthalene	0.5	0.302		µg/L		60	47 - 130
Acenaphthene	0.5	0.479		µg/L		96	53 - 131
Acenaphthylene	0.5	0.464		µg/L		93	43 - 140
Anthracene	0.5	0.481		µg/L		96	58 - 135

Eurofins Eaton Monrovia

QC Sample Results

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

Job ID: 380-25751-1

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

Lab Sample ID: 101055-BS1
Matrix: BlankMatrix
Analysis Batch: O-40008

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: O-40008_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benz[a]anthracene	0.5	0.399		µg/L		80	55 - 145
Benzo[a]pyrene	0.5	0.411		µg/L		82	51 - 143
Benzo[b]fluoranthene	0.5	0.519		µg/L		104	46 - 165
Benzo[e]pyrene	0.5	0.45		µg/L		90	42 - 152
Benzo[g,h,i]perylene	0.5	0.423		µg/L		85	63 - 133
Benzo[k]fluoranthene	0.5	0.415		µg/L		83	56 - 145
Biphenyl	0.5	0.412		µg/L		82	56 - 119
Chrysene	0.5	0.455		µg/L		91	56 - 141
Dibenz[a,h]anthracene	0.5	0.473		µg/L		95	55 - 150
Dibenzo[a,l]pyrene	0.5	0.34		µg/L		68	50 - 150
Dibenzothiophene	0.5	0.472		µg/L		94	75 - 113
Disalicylidenepropanediamine	50	26.7		µg/L		53	50 - 150
Fluoranthene	0.5	0.366		µg/L		73	60 - 146
Fluorene	0.5	0.472		µg/L		94	58 - 131
Indeno[1,2,3-cd]pyrene	0.5	0.48		µg/L		96	50 - 151
Naphthalene	0.5	0.337		µg/L		67	41 - 126
Perylene	0.5	0.378		µg/L		76	48 - 141
Phenanthrene	0.5	0.493		µg/L		99	67 - 127
Pyrene	0.5	0.393		µg/L		79	54 - 156

Surrogate	LCS %Recovery	LCS Qualifier	Limits
(d10-Acenaphthene)	88		27 - 133
(d10-Phenanthrene)	96		43 - 129
(d12-Chrysene)	101		52 - 144
(d12-Perylene)	81		36 - 161
(d8-Naphthalene)	76		25 - 125

Lab Sample ID: 101055-BS2
Matrix: BlankMatrix
Analysis Batch: O-40008

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: O-40008_P

Analyte	Spike Added	LCS DUP Result	LCS DUP Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1-Methylnaphthalene	0.5	0.398		µg/L		80	31 - 128	19	30
1-Methylphenanthrene	0.5	0.39		µg/L		78	66 - 127	1	30
2,3,5-Trimethylnaphthalene	0.5	0.488		µg/L		98	55 - 122	9	30
2,6-Dimethylnaphthalene	0.5	0.522		µg/L		104	48 - 120	20	30
2-Methylnaphthalene	0.5	0.352		µg/L		70	47 - 130	15	30
Acenaphthene	0.5	0.54		µg/L		108	53 - 131	12	30
Acenaphthylene	0.5	0.509		µg/L		102	43 - 140	9	30
Anthracene	0.5	0.496		µg/L		99	58 - 135	3	30
Benz[a]anthracene	0.5	0.362		µg/L		72	55 - 145	11	30
Benzo[a]pyrene	0.5	0.398		µg/L		80	51 - 143	2	30
Benzo[b]fluoranthene	0.5	0.526		µg/L		105	46 - 165	1	30
Benzo[e]pyrene	0.5	0.475		µg/L		95	42 - 152	5	30
Benzo[g,h,i]perylene	0.5	0.446		µg/L		89	63 - 133	5	30
Benzo[k]fluoranthene	0.5	0.427		µg/L		85	56 - 145	2	30
Biphenyl	0.5	0.503		µg/L		101	56 - 119	21	30
Chrysene	0.5	0.432		µg/L		86	56 - 141	6	30

Eurofins Eaton Monrovia

QC Sample Results

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

Job ID: 380-25751-1

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

Lab Sample ID: 101055-BS2
Matrix: BlankMatrix
Analysis Batch: O-40008

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: O-40008_P

Analyte	Spike Added	LCS DUP Result	LCS DUP Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
							Limits	RPD		
Dibenz[a,h]anthracene	0.5	0.499		µg/L		100	55 - 150	5	30	
Dibenzo[a,i]pyrene	0.5	0.417		µg/L		83	50 - 150	20	30	
Dibenzothiophene	0.5	0.496		µg/L		99	75 - 113	5	30	
Disalicylidenepropanediamine	50	30.2		µg/L		60	50 - 150	12	30	
Fluoranthene	0.5	0.385		µg/L		77	60 - 146	5	30	
Fluorene	0.5	0.509		µg/L		102	58 - 131	8	30	
Indeno[1,2,3-cd]pyrene	0.5	0.498		µg/L		100	50 - 151	4	30	
Naphthalene	0.5	0.323		µg/L		65	41 - 126	3	30	
Perylene	0.5	0.406		µg/L		81	48 - 141	6	30	
Phenanthrene	0.5	0.51		µg/L		102	67 - 127	3	30	
Pyrene	0.5	0.389		µg/L		78	54 - 156	1	30	

Surrogate	LCS DUP		Limits
	%Recovery	Qualifier	
(d10-Acenaphthene)	98		27 - 133
(d10-Phenanthrene)	98		43 - 129
(d12-Chrysene)	91		52 - 144
(d12-Perylene)	89		36 - 161
(d8-Naphthalene)	74		25 - 125

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

Lab Sample ID: 22VG39J07B
Matrix: WATER
Analysis Batch: 22VG39J07

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

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
GASOLINE	ND	U	0.020		mg/L			10/27/22 02:51	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
BROMOFLUOROBENZENE					10/27/22 02:51	1

Lab Sample ID: 22VG39J07L
Matrix: WATER
Analysis Batch: 22VG39J07

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec	
							Limits	RPD
GASOLINE	0.500	0.520		mg/L		104	60 - 130	

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
BROMOFLUOROBENZENE	122		70 - 130

QC Sample Results

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

Job ID: 380-25751-1

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

Lab Sample ID: 22DSJ059WB
Matrix: WATER
Analysis Batch: 22DSJ059W

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

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
DIESEL	ND	U	0.025		mg/L			10/28/22 16:13	1
JP5	ND	U	0.050		mg/L			10/28/22 16:13	1
JP8	ND	U	0.050		mg/L			10/28/22 16:13	1
MOTOR OIL	ND	U	0.050		mg/L			10/28/22 16:13	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
BROMOBENZENE					10/28/22 16:13	1
HEXACOSANE					10/28/22 16:13	1

Lab Sample ID: 22DSJ059WL
Matrix: WATER
Analysis Batch: 22DSJ059W

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

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

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
BROMOBENZENE	104		60 - 130
HEXACOSANE	106		60 - 130

Lab Sample ID: 22J5J059WL
Matrix: WATER
Analysis Batch: 22DSJ059W

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

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

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
BROMOBENZENE	91		60 - 130
HEXACOSANE	98		60 - 130

Lab Sample ID: 22J8J059WL
Matrix: WATER
Analysis Batch: 22DSJ059W

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

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

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
BROMOBENZENE	96		60 - 130
HEXACOSANE	97		60 - 130

QC Association Summary

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

Job ID: 380-25751-1

GC/MS Semi VOA

Prep Batch: 22573

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-25751-1	AIEA GULCH WELLS PUMP 1	Total/NA	Drinking Water	525.2	
380-25751-2	AIEA WELLS PUMPS 1&2 (260)	Total/NA	Drinking Water	525.2	
380-25751-3	AIEA GULCH WELLS PUMP 2	Total/NA	Drinking Water	525.2	
MB 380-22573/1-A	Method Blank	Total/NA	Water	525.2	
LCS 380-22573/3-A	Lab Control Sample	Total/NA	Water	525.2	
LCSD 380-22573/4-A	Lab Control Sample Dup	Total/NA	Water	525.2	
MRL 380-22573/2-A	Lab Control Sample	Total/NA	Water	525.2	
380-25725-B-1-A MS	Matrix Spike	Total/NA	Water	525.2	
380-25919-B-1-A DU	Duplicate	Total/NA	Water	525.2	

Analysis Batch: 22756

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-25751-1	AIEA GULCH WELLS PUMP 1	Total/NA	Drinking Water	525.2	22573
380-25751-2	AIEA WELLS PUMPS 1&2 (260)	Total/NA	Drinking Water	525.2	22573
380-25751-3	AIEA GULCH WELLS PUMP 2	Total/NA	Drinking Water	525.2	22573
MB 380-22573/1-A	Method Blank	Total/NA	Water	525.2	22573
LCS 380-22573/3-A	Lab Control Sample	Total/NA	Water	525.2	22573
LCSD 380-22573/4-A	Lab Control Sample Dup	Total/NA	Water	525.2	22573
MRL 380-22573/2-A	Lab Control Sample	Total/NA	Water	525.2	22573
380-25725-B-1-A MS	Matrix Spike	Total/NA	Water	525.2	22573
380-25919-B-1-A DU	Duplicate	Total/NA	Water	525.2	22573

Subcontract

Analysis Batch: O-40008

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-25751-1	AIEA GULCH WELLS PUMP 1	Total/NA	Drinking Water	625 PAH Physis LL (EAL) + TICs	O-40008_P
380-25751-2	AIEA WELLS PUMPS 1&2 (260)	Total/NA	Drinking Water	625 PAH Physis LL (EAL) + TICs	O-40008_P
380-25751-3	AIEA GULCH WELLS PUMP 2	Total/NA	Drinking Water	625 PAH Physis LL (EAL) + TICs	O-40008_P
101055-B1	Method Blank	Total/NA	BlankMatrix	625 PAH Physis LL (EAL) + TICs	O-40008_P
101055-BS1	Lab Control Sample	Total/NA	BlankMatrix	625 PAH Physis LL (EAL) + TICs	O-40008_P
101055-BS2	Lab Control Sample Dup	Total/NA	BlankMatrix	625 PAH Physis LL (EAL) + TICs	O-40008_P

Analysis Batch: 22DSJ059W

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-25751-1	AIEA GULCH WELLS PUMP 1	Total/NA	Drinking Water	8015 LL DRO/MRO/JP5/J P8	
380-25751-2	AIEA WELLS PUMPS 1&2 (260)	Total/NA	Drinking Water	8015 LL DRO/MRO/JP5/J P8	
380-25751-3	AIEA GULCH WELLS PUMP 2	Total/NA	Drinking Water	8015 LL DRO/MRO/JP5/J P8	
22DSJ059WB	Method Blank	Total/NA	WATER	8015 LL DRO/MRO/JP5/J P8	

Eurofins Eaton Monrovia

QC Association Summary

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

Job ID: 380-25751-1

Subcontract (Continued)

Analysis Batch: 22DSJ059W (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
22DSJ059WL	Lab Control Sample	Total/NA	WATER	8015 LL DRO/MRO/JP5/J P8	
22J5J059WL	Lab Control Sample	Total/NA	WATER	8015 LL DRO/MRO/JP5/J P8	
22J8J059WL	Lab Control Sample	Total/NA	WATER	8015 LL DRO/MRO/JP5/J P8	

Analysis Batch: 22VG39J07

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-25751-1	AIEA GULCH WELLS PUMP 1	Total/NA	Drinking Water	8015 Gas (Purgeable) LL (EAL)	
380-25751-2	AIEA WELLS PUMPS 1&2 (260)	Total/NA	Drinking Water	8015 Gas (Purgeable) LL (EAL)	
380-25751-3	AIEA GULCH WELLS PUMP 2	Total/NA	Drinking Water	8015 Gas (Purgeable) LL (EAL)	
380-25751-4	TB: AIEA GULCH WELLS PUMP1	Total/NA	Drinking Water	8015 Gas (Purgeable) LL (EAL)	
380-25751-5	TB: AIEA GULCH WELLS PUMP2	Total/NA	Drinking Water	8015 Gas (Purgeable) LL (EAL)	
380-25751-6	TB: AIEA WELLS PUMPS 1&2 (260)	Total/NA	Drinking Water	8015 Gas (Purgeable) LL (EAL)	
22VG39J07B	Method Blank	Total/NA	WATER	8015 Gas (Purgeable) LL (EAL)	
22VG39J07L	Lab Control Sample	Total/NA	WATER	8015 Gas (Purgeable) LL (EAL)	

Prep Batch: O-40008_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-25751-1	AIEA GULCH WELLS PUMP 1	Total/NA	Drinking Water	EPA_625	
380-25751-2	AIEA WELLS PUMPS 1&2 (260)	Total/NA	Drinking Water	EPA_625	
380-25751-3	AIEA GULCH WELLS PUMP 2	Total/NA	Drinking Water	EPA_625	
101055-B1	Method Blank	Total/NA	BlankMatrix	EPA_625	
101055-BS1	Lab Control Sample	Total/NA	BlankMatrix	EPA_625	
101055-BS2	Lab Control Sample Dup	Total/NA	BlankMatrix	EPA_625	

Lab Chronicle

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

Job ID: 380-25751-1

Client Sample ID: AIEA GULCH WELLS PUMP 1

Lab Sample ID: 380-25751-1

Date Collected: 10/24/22 10:17

Matrix: Drinking Water

Date Received: 10/25/22 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	525.2			22573	N8NE	EA MON	10/29/22 13:30
Total/NA	Analysis	525.2		1	22756	Q8LA	EA MON	11/01/22 17:12
Total/NA	Prep	EPA_625		1	O-40008_P			10/27/22 00:00
Total/NA	Analysis	625 PAH Physis LL (EAL) + TICs		1	O-40008	YC		10/30/22 11:06
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)		1	22VG39J07	SCerva		10/27/22 12:39
Total/NA	Analysis	8015 LL DRO/MRO/JP5/JP8		1	22DSJ059W	SDees		10/28/22 19:18

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

Lab Sample ID: 380-25751-2

Date Collected: 10/24/22 09:58

Matrix: Drinking Water

Date Received: 10/25/22 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	525.2			22573	N8NE	EA MON	10/29/22 13:30
Total/NA	Analysis	525.2		1	22756	Q8LA	EA MON	11/01/22 17:32
Total/NA	Prep	EPA_625		1	O-40008_P			10/27/22 00:00
Total/NA	Analysis	625 PAH Physis LL (EAL) + TICs		1	O-40008	YC		10/30/22 12:50
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)		1	22VG39J07	SCerva		10/27/22 13:17
Total/NA	Analysis	8015 LL DRO/MRO/JP5/JP8		1	22DSJ059W	SDees		10/28/22 19:36

Client Sample ID: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-25751-3

Date Collected: 10/24/22 10:38

Matrix: Drinking Water

Date Received: 10/25/22 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	525.2			22573	N8NE	EA MON	10/29/22 13:30
Total/NA	Analysis	525.2		1	22756	Q8LA	EA MON	11/01/22 17:52
Total/NA	Prep	EPA_625		1	O-40008_P			10/27/22 00:00
Total/NA	Analysis	625 PAH Physis LL (EAL) + TICs		1	O-40008	YC		10/30/22 14:33
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)		1	22VG39J07	SCerva		10/27/22 13:55
Total/NA	Analysis	8015 LL DRO/MRO/JP5/JP8		1	22DSJ059W	SDees		10/28/22 19:54

Client Sample ID: TB: AIEA GULCH WELLS PUMP1

Lab Sample ID: 380-25751-4

Date Collected: 10/24/22 10:17

Matrix: Drinking Water

Date Received: 10/25/22 10:00

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	22VG39J07	SCerva		10/27/22 14:33

Lab Chronicle

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

Job ID: 380-25751-1

Client Sample ID: TB: AIEA GULCH WELLS PUMP2

Lab Sample ID: 380-25751-5

Date Collected: 10/24/22 10:38

Matrix: Drinking Water

Date Received: 10/25/22 10:00

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	22VG39J07	SCerva		10/27/22 15:11

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

Lab Sample ID: 380-25751-6

Date Collected: 10/24/22 09:58

Matrix: Drinking Water

Date Received: 10/25/22 10:00

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	22VG39J07	SCerva		10/27/22 15:49

Laboratory References:

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

EA MON = Eurofins Eaton Monrovia, 750 Royal Oaks Drive, Suite 100, Monrovia, CA 91016, TEL (626)386-1100

Accreditation/Certification Summary

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

Job ID: 380-25751-1

Laboratory: Eurofins Eaton Monrovia

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

Authority	Program	Identification Number	Expiration Date
Hawaii	State	CA00006	01-31-23

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	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	4,4'-DDD
525.2	525.2	Drinking Water	4,4'-DDE
525.2	525.2	Drinking Water	4,4'-DDT
525.2	525.2	Drinking Water	Acenaphthene
525.2	525.2	Drinking Water	Acenaphthylene
525.2	525.2	Drinking Water	Acetochlor
525.2	525.2	Drinking Water	alpha-BHC
525.2	525.2	Drinking Water	alpha-Chlordane
525.2	525.2	Drinking Water	Anthracene
525.2	525.2	Drinking Water	Benz(a)anthracene
525.2	525.2	Drinking Water	Benzo[b]fluoranthene
525.2	525.2	Drinking Water	Benzo[g,h,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	Bromacil
525.2	525.2	Drinking Water	Butylbenzylphthalate
525.2	525.2	Drinking Water	Caffeine
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	Diazinon (Qualitative)
525.2	525.2	Drinking Water	Dibenz(a,h)anthracene
525.2	525.2	Drinking Water	Diclorvos (DDVP)
525.2	525.2	Drinking Water	Diethylphthalate
525.2	525.2	Drinking Water	Dimethoate
525.2	525.2	Drinking Water	Dimethylphthalate
525.2	525.2	Drinking Water	Di-n-butyl phthalate
525.2	525.2	Drinking Water	Di-n-octyl phthalate
525.2	525.2	Drinking Water	Endosulfan I (Alpha)
525.2	525.2	Drinking Water	Endosulfan II (Beta)
525.2	525.2	Drinking Water	Endosulfan sulfate
525.2	525.2	Drinking Water	Endrin aldehyde
525.2	525.2	Drinking Water	EPTC
525.2	525.2	Drinking Water	Fluoranthene
525.2	525.2	Drinking Water	Fluorene
525.2	525.2	Drinking Water	gamma-Chlordane
525.2	525.2	Drinking Water	Indeno[1,2,3-cd]pyrene

Accreditation/Certification Summary

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

Job ID: 380-25751-1

Laboratory: Eurofins Eaton Monrovia (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	Isophorone
525.2	525.2	Drinking Water	Malathion
525.2	525.2	Drinking Water	Molinate
525.2	525.2	Drinking Water	Naphthalene
525.2	525.2	Drinking Water	Parathion
525.2	525.2	Drinking Water	Pendimethalin (Penoxaline)
525.2	525.2	Drinking Water	Phenanthrene
525.2	525.2	Drinking Water	Pyrene
525.2	525.2	Drinking Water	Terbacil
525.2	525.2	Drinking Water	Terbutylazine
525.2	525.2	Drinking Water	Thiobencarb
525.2	525.2	Drinking Water	Total Permethrin (mixed isomers)
525.2	525.2	Drinking Water	trans-Nonachlor
525.2	525.2	Drinking Water	Trifluralin

Method Summary

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

Job ID: 380-25751-1

Method	Method Description	Protocol	Laboratory
525.2	Semivolatile Organic Compounds (GC/MS)	EPA	EA MON
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 MON

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 MON = Eurofins Eaton Monrovia, 750 Royal Oaks Drive, Suite 100, Monrovia, CA 91016, TEL (626)386-1100



Sample Summary

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

Job ID: 380-25751-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	PWSID Number
380-25751-1	AIEA GULCH WELLS PUMP 1	Drinking Water	10/24/22 10:17	10/25/22 10:00	HI0000331
380-25751-2	AIEA WELLS PUMPS 1&2 (260)	Drinking Water	10/24/22 09:58	10/25/22 10:00	HI0000331
380-25751-3	AIEA GULCH WELLS PUMP 2	Drinking Water	10/24/22 10:38	10/25/22 10:00	HI0000331
380-25751-4	TB: AIEA GULCH WELLS PUMP1	Drinking Water	10/24/22 10:17	10/25/22 10:00	
380-25751-5	TB: AIEA GULCH WELLS PUMP2	Drinking Water	10/24/22 10:38	10/25/22 10:00	
380-25751-6	TB: AIEA WELLS PUMPS 1&2 (260)	Drinking Water	10/24/22 09:58	10/25/22 10:00	

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Date: 11-21-2022
EMAX Batch No.: 22J351

Attn: Jackie Contreras

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

Subject: Laboratory Report
Project: 380-25751

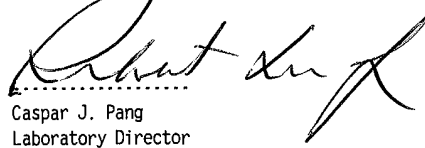
Enclosed is the Laboratory report for samples received on 10/26/22.
The data reported relate only to samples listed below :

Sample ID	Control #	Col Date	Matrix	Analysis
380-25751-1	J351-01	10/24/22	WATER	TPH GASOLINE TPH
380-25751-2	J351-02	10/24/22	WATER	TPH GASOLINE TPH
380-25751-3	J351-03	10/24/22	WATER	TPH GASOLINE TPH
380-25751-4	J351-04	10/24/22	WATER	TPH GASOLINE
380-25751-5	J351-05	10/24/22	WATER	TPH GASOLINE
380-25751-6	J351-06	10/24/22	WATER	TPH GASOLINE

The results are summarized on the following pages.

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

Sincerely yours


Caspar J. Pang
Laboratory Director

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

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

NELAP Accredited Certificate Number CA002912022-22
ANAB Accredited DoD ELAP and ISO/IEC 17025 Certificate Number L2278 Testing
California ELAP Accredited Certificate Number 2672



Chain of Custody Record



Monrovia, CA (Suite 100)
750 Royal Oaks Drive Suite 100
Monrovia, CA 91016
Phone: 626-366-1100

225351

Client Information (Sub Contract Lab)

Client Contract:
Shipping/Receiving
Company:
EMAX Laboratories Inc

Address:
3051 Fujita Street,
City:
Irrance
State Zip:
CA, 90505
Phone:

Project Name:
RED-HILL
Site:
Honolulu BWS Sites

Project #:
38001111
SSOV#:

WQC #:
PO #:

Due Date Requested:
11/8/2022
TAT Requested (days):

Lab P.M.:
Arada, Rachelle
E-Mail:
Rachelle.Arada@eurofins.com
Accreditations Required (See note):
State - Hawaii

Carrier Tracking No(s):
State of Origin:
Hawaii

COC No:
380-26043.1
Page:
Page 1 of 1
Job #:
380-25751-1

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 - EDTA
M - Hexane
N - None
O - Asn02
P - Na2SO4
Q - Na2SO3
R - Na2SO4
S - H2SO4
T - TSP Dodecylhydrate
U - Acetone
V - MCAA
W - pH 4.5
X - Trizma
Z - other (specify)

Analysis Requested
SUB (8015 Gas (Purgeable) LL (EAL))/ 8015 Gas (Purgeable) LL (EAL)
SUB (8015 LL DRO/MRO/JP5/JP8)/ 8015 LL DRO/MRO/JP5/JP8

Field Filtered Sample (Yes or No)
Perform MS/MSD (Yes or No)

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (Water, Seawater, Overboard, BT-Trawl, AVALP)	Preservation Code:	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Analysis Requested	Total Number of containers	Special Instructions/Note:
1 AIEA GULCH WELLS PUMP 1 (380-25751-1)	10/24/22	10:17	Hawaiian	Water		X	X		6	See Attached Instructions
2 AIEA WELLS PUMPS 1&2 (260) (380-25751-2)	10/24/22	09:58	Hawaiian	Water		X	X		6	See Attached Instructions
3 AIEA GULCH WELLS PUMP 2 (380-25751-3)	10/24/22	10:38	Hawaiian	Water		X	X		6	See Attached Instructions
4 TB: AIEA GULCH WELLS PUMP1 (380-25751-4)	10/24/22	10:17	Hawaiian	Water		X	X		2	See Attached Instructions
5 TB: AIEA GULCH WELLS PUMP2 (380-25751-5)	10/24/22	10:38	Hawaiian	Water		X	X		2	See Attached Instructions
6 TB: AIEA WELLS PUMPS 1&2 (260) (380-25751-6)	10/24/22	09:58	Hawaiian	Water		X	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/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 Eurofins Eaton Analytical, LLC.

Possible Hazard Identification

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

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

Empty Kit Relinquished by:
Date/Time: 10/26/22 / 1445
Company: EEA

Relinquished by:
Date/Time: _____
Company: _____

Relinquished by:
Date/Time: _____
Company: _____

Custody Seals Intact: Yes No
Custody Seal No.:

Received by: *Lucy J...*
Date/Time: 10/26/22 14:15
Company: EMAX
Received by:
Date/Time: _____
Company: _____
Cooler Temperature(s) °C and Other Remarks: Temp. 2.3



Type of Delivery <input type="checkbox"/> Fedex <input type="checkbox"/> UPS <input type="checkbox"/> GSO <input type="checkbox"/> Others <input checked="" type="checkbox"/> EMAX Courier <input checked="" type="checkbox"/> Client Delivery	Airbill / Tracking Number	ECN <u>22J351</u> Recipient <u>Maria Rivera</u> Date <u>10/26/22</u> Time <u>14:45</u>
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COC INSPECTION

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

PACKAGING INSPECTION

Container	<input checked="" type="checkbox"/> Cooler	<input type="checkbox"/> Box	<input type="checkbox"/> Other
Condition	<input type="checkbox"/> Custody Seal	<input type="checkbox"/> Intact	<input type="checkbox"/> Damaged
Packaging	<input checked="" type="checkbox"/> Bubble Pack	<input type="checkbox"/> Styrofoam	<input type="checkbox"/> Popcorn
Temperatures (Cool, ≤6 °C but not frozen)	<input checked="" type="checkbox"/> Cooler 1 <u>2.3</u> °C	<input type="checkbox"/> Cooler 2 _____ °C	<input type="checkbox"/> Cooler 3 _____ °C
	<input type="checkbox"/> Cooler 6 _____ °C	<input type="checkbox"/> Cooler 7 _____ °C	<input type="checkbox"/> Cooler 8 _____ °C
Thermometer: A - S/N _____	B - S/N <u>210760237</u>	C - S/N _____	<input checked="" type="checkbox"/> Sufficient
Comments: <input type="checkbox"/> Temperature is out of range. PM was informed IMMEDIATELY.			<input checked="" type="checkbox"/> Cooler 4 _____ °C
Note: _____			<input type="checkbox"/> Cooler 5 _____ °C
			<input type="checkbox"/> Cooler 9 _____ °C
			<input type="checkbox"/> Cooler 10 _____ °C

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

DISCREPANCIES

LabSampleID	LabSampleContainerID	Code	ClientSample Label ID / Information	Corrective Action
1-3	5, 6, 11, 12, 17, 18	D10	JPS/JPB Analysis not indicated on label	R8
4-6	19-24	D22	2nd date/time reads: 10/19/22 10:30	R1
<div style="border: 1px solid black; width: 100%; height: 100%; transform: rotate(45deg); opacity: 0.5;"></div>				

pH holding time requirement for water samples is 15 mins. Water samples for pH analysis are received beyond 15 minutes from sampling time. NS 10/31/22

NOTES/OBSERVATIONS:
 SAMPLE MATRIX IS DRINKING WATER? YES NO

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

REVIEWS:

Sample Labeling <u>Maria Rivera</u>	SRF <u>[Signature]</u>	PM <u>[Signature]</u>
Date <u>10/26/22</u>	Date <u>10/26/22</u>	Date <u>10/31/22</u>

REPORTING CONVENTIONS

DATA QUALIFIERS:

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

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

ACRONYMS AND ABBREVIATIONS:

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

DATES

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

LABORATORY REPORT FOR

EUROFINS EATON ANALYTICAL

380-25751

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

SDG#: 22J351



CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 380-25751

SDG : 22J351

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

A total of six(6) water samples were received on 10/26/22 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. VG39J07B - 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. VG39J07L/VG39J07C 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 J350-01M/J350-01S. 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

SDG NO. : 22J351
Instrument ID : GCT039

Client : EUROFINS EATON ANALYTICAL
Project : 380-25751

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Prep. Data FN	Notes
								WATER
MBLK1W	VG39J07B	1	NA	10/27/2202:51	10/27/2202:51	EJ26028A	EJ26026A	22VG39J07 Method Blank
LCSTW	VG39J07L	1	NA	10/27/2203:29	10/27/2203:29	EJ26029A	EJ26026A	22VG39J07 Lab Control Sample (LCS)
LCD1W	VG39J07C	1	NA	10/27/2204:07	10/27/2204:07	EJ26030A	EJ26026A	22VG39J07 LCS Duplicate
380-25751-1	J351-01	1	NA	10/27/2212:39	10/27/2212:39	EJ26043A	EJ26038A	22VG39J07 Field Sample
380-25751-2	J351-02	1	NA	10/27/2213:17	10/27/2213:17	EJ26044A	EJ26038A	22VG39J07 Field Sample
380-25751-3	J351-03	1	NA	10/27/2213:55	10/27/2213:55	EJ26045A	EJ26038A	22VG39J07 Field Sample
380-25751-4	J351-04	1	NA	10/27/2214:33	10/27/2214:33	EJ26046A	EJ26038A	22VG39J07 Field Sample
380-25751-5	J351-05	1	NA	10/27/2215:11	10/27/2215:11	EJ26047A	EJ26038A	22VG39J07 Field Sample
380-25751-6	J351-06	1	NA	10/27/2215:49	10/27/2215:49	EJ26048A	EJ26038A	22VG39J07 Field Sample

FN - Filename
% Moist - Percent Moisture



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SAMPLE RESULTS

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

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 10/24/22 10:38
Project     : 380-25751                   Date Received: 10/26/22
Batch No.   : 22J351                       Date Extracted: 10/27/22 13:55
Sample ID   : 380-25751-3                 Date Analyzed: 10/27/22 13:55
Lab Samp ID: J351-03                       Dilution Factor: 1
Lab File ID: EJ26045A                       Matrix: WATER
Ext Btch ID: 22VG39J07                     % Moisture: NA
Calib. Ref.: EJ26038A                       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	0.0345	0.0400	86	60-140

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

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



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QC SUMMARIES

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL
PROJECT : 380-25751
BATCH NO. : 22J351
METHOD : 5030B/8015B

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR:	1	1	1
SAMPLE ID	: MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID	: VG39J07B	VG39J07L	VG39J07C
LAB FILE ID	: EJ26028A	EJ26029A	EJ26030A
DATE PREPARED	: 10/27/22 02:51	10/27/22 03:29	10/27/22 04:07
DATE ANALYZED	: 10/27/22 02:51	10/27/22 03:29	10/27/22 04:07
PREP BATCH	: 22VG39J07	22VG39J07	22VG39J07
CALIBRATION REF:	EJ26026A	EJ26026A	EJ26026A

ACCESSION:

PARAMETERS	MBResult (mg/L)	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	RPD (%)	QLLimit (%)	MaxRPD (%)
Gasoline	ND	0.500	0.520	104	0.500	0.553	111	6	60-130	30

SURROGATE PARAMETER	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	QLLimit (%)
Bromofluorobenzene	0.0400	0.0487	122	0.0400	0.0491	123	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 : 380-25760
BATCH NO. : 22J350
METHOD : 5030B/8015B

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR:	1	1	1
SAMPLE ID	: 380-25760-1	380-25760-1MS	380-25760-1MSD
LAB SAMPLE ID	: J350-01	J350-01M	J350-01S
LAB FILE ID	: EJ26039A	EJ26040A	EJ26041A
DATE PREPARED	: 10/27/22 10:07	10/27/22 10:45	10/27/22 11:23
DATE ANALYZED	: 10/27/22 10:07	10/27/22 10:45	10/27/22 11:23
PREP BATCH	: 22VG39J07	22VG39J07	22VG39J07
CALIBRATION REF:	EJ26038A	EJ26038A	EJ26038A

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	0.436	87	0.500	0.426	85	2	50-130	30

SURROGATE PARAMETER	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	QCLimit (%)
Bromofluorobenzene	0.0400	0.0445	111	0.0400	0.0449	112	60-140

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

LABORATORY REPORT FOR

EUROFINS EATON ANALYTICAL

380-25751

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

SDG#: 22J351



CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 380-25751

SDG : 22J351

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

A total of three(3) water samples were received on 10/26/22 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. DSJ059WB - 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. DSJ059WL/DSJ059WC 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: 380-25751

SDG : 22J351

METHOD 3520C/8015B
PETROLEUM HYDROCARBONS BY EXTRACTION

A total of three(3) water samples were received on 10/26/22 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. DSJ059WB - 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. J5J059WL/J5J059WC 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: 380-25751

SDG : 22J351

METHOD 3520C/8015B
PETROLEUM HYDROCARBONS BY EXTRACTION

A total of three(3) water samples were received on 10/26/22 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. DSJ059WB - 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. J8J059WL/J8J059WC were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample

No matrix QC sample was provided on this SDG.

Surrogate

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

Sample Analysis

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

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SAMPLE RESULTS

METHOD 3520C/8015B
 PETROLEUM HYDROCARBONS BY EXTRACTION

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 10/24/22 10:17
Project     : 380-25751                   Date Received: 10/26/22
Batch No.   : 22J351                       Date Extracted: 10/27/22 12:15
Sample ID   : 380-25751-1                 Date Analyzed: 10/28/22 19:18
Lab Samp ID : 22J351-01                   Dilution Factor: 1
Lab File ID : LJ28019A                     Matrix: WATER
Ext Btch ID : 22DSJ059W                   % Moisture: NA
Calib. Ref.: LJ28004A                     Instrument ID: D5
=====
    
```

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
JP5	ND	0.048	0.024

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.453	0.480	94	60-130
Hexacosane	0.118	0.120	98	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 : 1040ml Final Volume : 5ml
 Prepared by : JMuert Analyzed by : SDeeso

METHOD 3520C/8015B
 PETROLEUM HYDROCARBONS BY EXTRACTION

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 10/24/22 10:17
Project     : 380-25751                   Date Received: 10/26/22
Batch No.   : 22J351                       Date Extracted: 10/27/22 12:15
Sample ID   : 380-25751-1                 Date Analyzed: 10/28/22 19:18
Lab Samp ID: 22J351-01                     Dilution Factor: 1
Lab File ID: LJ28019A                       Matrix: WATER
Ext Btch ID: 22DSJ059W                     % Moisture: NA
Calib. Ref.: LJ28005A                       Instrument ID: D5
=====
    
```

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
JPB	ND	0.048	0.024

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.453	0.480	94	60-130
Hexacosane	0.118	0.120	98	60-130

Notes:

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

Detection limits are reported relative to sample result significant figures.

Sample Amount : 1040ml Final Volume : 5ml
 Prepared by : JMuert Analyzed by : SDeeso

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

=====
Client : EUROFINS EATON ANALYTICAL Date Collected: 10/24/22 09:58
Project : 380-25751 Date Received: 10/26/22
Batch No. : 22J351 Date Extracted: 10/27/22 12:15
Sample ID : 380-25751-2 Date Analyzed: 10/28/22 19:36
Lab Samp ID: 22J351-02 Dilution Factor: 1
Lab File ID: LJ28020A Matrix: WATER
Ext Btch ID: 22DSJ059W % Moisture: NA
Calib. Ref.: LJ28003A Instrument ID: D5
=====

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
-----	-----	-----	-----
Diesel	ND	0.026	0.013
Motor Oil	ND	0.052	0.026

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
-----	-----	-----	-----	-----
Bromobenzene	0.455	0.520	88	60-130
Hexacosane	0.125	0.130	96	60-130

Notes:

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

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 960ml
Prepared by : JMuert

Final Volume : 5ml
Analyzed by : SDeeso

METHOD 3520C/8015B
 PETROLEUM HYDROCARBONS BY EXTRACTION

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 10/24/22 09:58
Project    : 380-25751                   Date Received: 10/26/22
Batch No.  : 22J351                      Date Extracted: 10/27/22 12:15
Sample ID  : 380-25751-2                 Date Analyzed: 10/28/22 19:36
Lab Samp ID: 22J351-02                   Dilution Factor: 1
Lab File ID: LJ28020A                    Matrix: WATER
Ext Btch ID: 22DSJ059W                   % Moisture: NA
Calib. Ref.: LJ28004A                    Instrument ID: D5
=====
    
```

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

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.455	0.520	88	60-130
Hexacosane	0.125	0.130	96	60-130

Notes:

RL : Reporting Limit

Parameter H-C Range

JP5 C8-C18

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 960ml

Final Volume : 5ml

Prepared by : JMuert

Analyzed by : SDeeso

METHOD 3520C/8015B
 PETROLEUM HYDROCARBONS BY EXTRACTION

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 10/24/22 09:58
Project    : 380-25751                   Date Received: 10/26/22
Batch No.  : 22J351                      Date Extracted: 10/27/22 12:15
Sample ID  : 380-25751-2                 Date Analyzed: 10/28/22 19:36
Lab Samp ID: 22J351-02                   Dilution Factor: 1
Lab File ID: LJ28020A                    Matrix: WATER
Ext Btch ID: 22DSJ059W                   % Moisture: NA
Calib. Ref.: LJ28005A                    Instrument ID: D5
=====
    
```

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

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.455	0.520	88	60-130
Hexacosane	0.125	0.130	96	60-130

Notes:

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

Detection limits are reported relative to sample result significant figures.
 Sample Amount : 960ml Final Volume : 5ml
 Prepared by : JMuert Analyzed by : SDeeso

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

```

=====
Client      : EUROFINS EATON ANALYTICAL    Date Collected: 10/24/22 10:38
Project     : 380-25751                    Date Received: 10/26/22
Batch No.   : 22J351                       Date Extracted: 10/27/22 12:15
Sample ID   : 380-25751-3                 Date Analyzed: 10/28/22 19:54
Lab Samp ID: 22J351-03                    Dilution Factor: 1
Lab File ID: LJ28021A                     Matrix: WATER
Ext Btch ID: 22DSJ059W                    % Moisture: NA
Calib. Ref.: LJ28003A                     Instrument ID: D5
=====

```

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)		
Diesel	ND	0.027	0.013		
Motor Oil	ND	0.053	0.027		
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT	
Bromobenzene	0.430	0.530	81	60-130	
Hexacosane	0.134	0.132	101	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 : 940ml Final Volume : 5ml
Prepared by : JMuert Analyzed by : SDeeso

METHOD 3520C/8015B
 PETROLEUM HYDROCARBONS BY EXTRACTION

```

=====
Client      : EUROFINS EATON ANALYTICAL      Date Collected: 10/24/22 10:38
Project     : 380-25751                      Date Received: 10/26/22
Batch No.   : 22J351                         Date Extracted: 10/27/22 12:15
Sample ID   : 380-25751-3                   Date Analyzed: 10/28/22 19:54
Lab Samp ID : 22J351-03                     Dilution Factor: 1
Lab File ID : LJ28021A                      Matrix: WATER
Ext Btch ID : 22DSJ059W                    % Moisture: NA
Calib. Ref.: LJ28004A                      Instrument ID: D5
=====
    
```

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
JP5	ND	0.053	0.027	

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.430	0.530	81	60-130
Hexacosane	0.134	0.132	101	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 : 940ml Final Volume : 5ml
 Prepared by : JMuert Analyzed by : SDeeso

METHOD 3520C/8015B
 PETROLEUM HYDROCARBONS BY EXTRACTION

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=====
Client      : EUROFINS EATON ANALYTICAL      Date Collected: 10/24/22 10:38
Project     : 380-25751                      Date Received: 10/26/22
Batch No.   : 22J351                          Date Extracted: 10/27/22 12:15
Sample ID   : 380-25751-3                    Date Analyzed: 10/28/22 19:54
Lab Samp ID : 22J351-03                       Dilution Factor: 1
Lab File ID : LJ28021A                          Matrix: WATER
Ext Btch ID : 22DSJ059W                       % Moisture: NA
Calib. Ref.: LJ28005A                          Instrument ID: D5
=====
    
```

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
JP8	ND	0.053	0.027	

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.430	0.530	81	60-130
Hexacosane	0.134	0.132	101	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 : 940ml Final Volume : 5ml
 Prepared by : JMuert Analyzed by : SDeeso

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QC SUMMARIES

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

```

=====
Client      : EUROFINS EATON ANALYTICAL      Date Collected: 10/27/22 12:15
Project     : 380-25751                      Date Received: 10/27/22
Batch No.   : 22J351                         Date Extracted: 10/27/22 12:15
Sample ID   : MBLK1W                         Date Analyzed: 10/28/22 16:13
Lab Samp ID : DSJ059WB                       Dilution Factor: 1
Lab File ID : LJ28009A                       Matrix: WATER
Ext Btch ID : 22DSJ059W                     % Moisture: NA
Calib. Ref.: LJ28003A                       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	0.515	0.500	103	60-130
Hexacosane	0.134	0.125	108	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 : JMuert Analyzed by : SDeeso

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL
PROJECT : 380-25751
BATCH NO. : 22J351
METHOD : 3520C/8015B

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR:	1	1	1
SAMPLE ID	: MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID	: DSJ059WB	DSJ059WL	DSJ059WC
LAB FILE ID	: LJ28009A	LJ28010A	LJ28011A
DATE PREPARED	: 10/27/22 12:15	10/27/22 12:15	10/27/22 12:15
DATE ANALYZED	: 10/28/22 16:13	10/28/22 16:32	10/28/22 16:50
PREP BATCH	: 22DSJ059W	22DSJ059W	22DSJ059W
CALIBRATION REF:	LJ28003A	LJ28003A	LJ28003A

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	2.70	108	2.50	2.70	108	0	50-130	30

SURROGATE PARAMETERS	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	QCLimit (%)
Bromobenzene	0.500	0.520	104	0.500	0.508	102	60-130
Hexacosane	0.125	0.133	106	0.125	0.132	106	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: 10/27/22 12:15
Project     : 380-25751                   Date Received: 10/27/22
Batch No.   : 22J351                       Date Extracted: 10/27/22 12:15
Sample ID   : MBLK1W                       Date Analyzed: 10/28/22 16:13
Lab Samp ID: DSJ059WB                      Dilution Factor: 1
Lab File ID: LJ28009A                      Matrix: WATER
Ext Btch ID: 22DSJ059W                    % Moisture: NA
Calib. Ref.: LJ28004A                    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	0.515	0.500	103	60-130
Hexacosane	0.134	0.125	108	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 : JMuert Analyzed by : SDeeso

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL
PROJECT : 380-25751
BATCH NO. : 22J351
METHOD : 3520C/8015B

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR:	1	1	1
SAMPLE ID	: MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID	: DSJ059WB	J5J059WL	J5J059WC
LAB FILE ID	: LJ28009A	LJ28012A	LJ28013A
DATE PREPARED	: 10/27/22 12:15	10/27/22 12:15	10/27/22 12:15
DATE ANALYZED	: 10/28/22 16:13	10/28/22 17:09	10/28/22 17:27
PREP BATCH	: 22DSJ059W	22DSJ059W	22DSJ059W
CALIBRATION REF:	LJ28004A	LJ28004A	LJ28004A

ACCESSION:

PARAMETERS	MBResult (mg/L)	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
JP5	ND	2.50	2.56	102	2.50	2.65	106	3	30-160	30

SURROGATE PARAMETERS	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	QCLimit (%)
Bromobenzene	0.500	0.457	91	0.500	0.442	88	60-130
Hexacosane	0.125	0.123	98	0.125	0.115	92	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: 10/27/22 12:15
Project    : 380-25751                   Date Received: 10/27/22
Batch No.  : 22J351                       Date Extracted: 10/27/22 12:15
Sample ID  : MBLK1W                       Date Analyzed: 10/28/22 16:13
Lab Samp ID: DSJ059WB                     Dilution Factor: 1
Lab File ID: LJ28009A                     Matrix: WATER
Ext Btch ID: 22DSJ059W                   % Moisture: NA
Calib. Ref.: LJ28005A                     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	0.515	0.500	103	60-130
Hexacosane	0.134	0.125	108	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 : JMuert

Analyzed by : SDeeso

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL
PROJECT : 380-25751
BATCH NO. : 22J351
METHOD : 3520C/8015B

MATRIX : WATER % MOISTURE:NA
DILUTION FACTOR: 1 1 1
SAMPLE ID : MBLK1W LCS1W LCD1W
LAB SAMPLE ID : DSJ059WB J8J059WL J8J059WC
LAB FILE ID : LJ28009A LJ28014A LJ28015A
DATE PREPARED : 10/27/22 12:15 10/27/22 12:15 10/27/22 12:15
DATE ANALYZED : 10/28/22 16:13 10/28/22 17:46 10/28/22 18:04
PREP BATCH : 22DSJ059W 22DSJ059W 22DSJ059W
CALIBRATION REF: LJ28005A LJ28005A LJ28005A

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	2.97	119	2.50	3.25	130	9	30-160	30

SURROGATE PARAMETERS	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	QCLimit (%)
Bromobenzene	0.500	0.479	96	0.500	0.573	115	60-130
Hexacosane	0.125	0.121	97	0.125	0.123	98	60-130

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

November 07, 2022

Debbie Frank
Eurofins Eaton Analytical
750 Royal Oaks Drive
Suite 100
Monrovia, CA 91016-

Project Name: RED-HILL Project # 38001111 Job # 380-25751-1
Physis Project ID: 1407003-329

Dear Debbie,

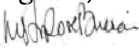
Enclosed are the analytical results for samples submitted to PHYSIS Environmental Laboratories, Inc. (PHYSIS) on 10/26/2022. A total of 3 samples were received for analysis in accordance with the attached chain of custody (COC). Per the COC, the samples were analyzed for:

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

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

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

Regards,


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

PROJECT SAMPLE LIST

Eurofins Eaton Analytical

PHYSIS Project ID: 1407003-329

RED-HILL Project # 38001111 Job # 380-25751-1

Total Samples: 3

PHYSIS ID	Sample ID	Description	Date	Time	Matrix	Sample Type
101056	AIEA GULCH WELLS PUMP 1	380-25751-1	10/24/202	10:17	Samplewater	Not Specified
101057	AIEA WELLS PUMPS 1&2 (260)	380-25751-2	10/24/202	9:58	Samplewater	Not Specified
101058	AIEA GULCH WELLS PUMP 2	380-25751-3	10/24/202	10:38	Samplewater	Not Specified

ABBREVIATIONS and ACRONYMS

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

QUALITY ASSURANCE SUMMARY

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

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

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

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

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

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

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

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

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

SURROGATES: A surrogate is a pure analyte unlikely to be found in any project sample, behaves similarly to

the target analyte and most often used with organic analytical procedures. Surrogates are added in known concentration to all samples and are measured to indicate overall efficiency of the method including processing and analyses.

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

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

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

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PHYSIS QUALIFIER CODES

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

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

TERRA AURA
ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

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Base/Neutral Extractable Compounds

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 101056-R1 AIEA GULCH WELLS PUMP 1 380-25 Matrix: Samplewater											
Disalicylidenepranediamine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-40008	27-Oct-22	30-Oct-22
Sample ID: 101057-R1 AIEA WELLS PUMPS 1&2 (260) 380- Matrix: Samplewater											
Disalicylidenepranediamine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-40008	27-Oct-22	30-Oct-22
Sample ID: 101058-R1 AIEA GULCH WELLS PUMP 2 380-2 Matrix: Samplewater											
Disalicylidenepranediamine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-40008	27-Oct-22	30-Oct-22



Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed	
Sample ID: 101056-R1	AIEA GULCH WELLS PUMP 1 380-25 Matrix: Samplewater						Sampled:	24-Oct-22 10:17	Received:	26-Oct-22		
(d10-Acenaphthene)	EPA 625.1	% Recovery	79	1			Total		O-40008	27-Oct-22	30-Oct-22	
(d10-Phenanthrene)	EPA 625.1	% Recovery	88	1			Total		O-40008	27-Oct-22	30-Oct-22	
(d12-Chrysene)	EPA 625.1	% Recovery	85	1			Total		O-40008	27-Oct-22	30-Oct-22	
(d12-Perylene)	EPA 625.1	% Recovery	73	1			Total		O-40008	27-Oct-22	30-Oct-22	
(d8-Naphthalene)	EPA 625.1	% Recovery	55	1			Total		O-40008	27-Oct-22	30-Oct-22	
1-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40008	27-Oct-22	30-Oct-22	
1-Methylphenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40008	27-Oct-22	30-Oct-22	
2,3,5-Trimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40008	27-Oct-22	30-Oct-22	
2,6-Dimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40008	27-Oct-22	30-Oct-22	
2-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40008	27-Oct-22	30-Oct-22	
Acenaphthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40008	27-Oct-22	30-Oct-22	
Acenaphthylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40008	27-Oct-22	30-Oct-22	
Anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40008	27-Oct-22	30-Oct-22	
Benz[a]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40008	27-Oct-22	30-Oct-22	
Benzo[a]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40008	27-Oct-22	30-Oct-22	
Benzo[b]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40008	27-Oct-22	30-Oct-22	
Benzo[e]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40008	27-Oct-22	30-Oct-22	
Benzo[g,h,i]perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40008	27-Oct-22	30-Oct-22	
Benzo[k]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40008	27-Oct-22	30-Oct-22	
Biphenyl	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40008	27-Oct-22	30-Oct-22	
Chrysene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40008	27-Oct-22	30-Oct-22	
Dibenz[a,h]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40008	27-Oct-22	30-Oct-22	
Dibenzo[a,l]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40008	27-Oct-22	30-Oct-22	
Dibenzothiophene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40008	27-Oct-22	30-Oct-22	



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-40008	27-Oct-22	30-Oct-22
Fluorene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40008	27-Oct-22	30-Oct-22
Indeno[1,2,3-cd]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40008	27-Oct-22	30-Oct-22
Naphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40008	27-Oct-22	30-Oct-22
Perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40008	27-Oct-22	30-Oct-22
Phenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40008	27-Oct-22	30-Oct-22
Pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40008	27-Oct-22	30-Oct-22



Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 101057-R1	AIEA WELLS PUMPS 1&2 (260) 380- Matrix: Samplewater						Sampled:	24-Oct-22 9:58	Received:	26-Oct-22	
(d10-Acenaphthene)	EPA 625.1	% Recovery	67	1			Total		O-40008	27-Oct-22	30-Oct-22
(d10-Phenanthrene)	EPA 625.1	% Recovery	84	1			Total		O-40008	27-Oct-22	30-Oct-22
(d12-Chrysene)	EPA 625.1	% Recovery	71	1			Total		O-40008	27-Oct-22	30-Oct-22
(d12-Perylene)	EPA 625.1	% Recovery	79	1			Total		O-40008	27-Oct-22	30-Oct-22
(d8-Naphthalene)	EPA 625.1	% Recovery	32	1			Total		O-40008	27-Oct-22	30-Oct-22
1-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40008	27-Oct-22	30-Oct-22
1-Methylphenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40008	27-Oct-22	30-Oct-22
2,3,5-Trimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40008	27-Oct-22	30-Oct-22
2,6-Dimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40008	27-Oct-22	30-Oct-22
2-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40008	27-Oct-22	30-Oct-22
Acenaphthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40008	27-Oct-22	30-Oct-22
Acenaphthylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40008	27-Oct-22	30-Oct-22
Anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40008	27-Oct-22	30-Oct-22
Benz[a]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40008	27-Oct-22	30-Oct-22
Benzo[a]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40008	27-Oct-22	30-Oct-22
Benzo[b]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40008	27-Oct-22	30-Oct-22
Benzo[e]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40008	27-Oct-22	30-Oct-22
Benzo[g,h,i]perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40008	27-Oct-22	30-Oct-22
Benzo[k]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40008	27-Oct-22	30-Oct-22
Biphenyl	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40008	27-Oct-22	30-Oct-22
Chrysene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40008	27-Oct-22	30-Oct-22
Dibenz[a,h]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40008	27-Oct-22	30-Oct-22
Dibenzo[a,l]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40008	27-Oct-22	30-Oct-22
Dibenzothiophene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40008	27-Oct-22	30-Oct-22

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-40008	27-Oct-22	30-Oct-22
Fluorene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40008	27-Oct-22	30-Oct-22
Indeno[1,2,3-cd]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40008	27-Oct-22	30-Oct-22
Naphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40008	27-Oct-22	30-Oct-22
Perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40008	27-Oct-22	30-Oct-22
Phenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40008	27-Oct-22	30-Oct-22
Pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40008	27-Oct-22	30-Oct-22



Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 101058-R1	AIEA GULCH WELLS PUMP 2 380-2 Matrix: Samplewater						Sampled:	24-Oct-22 10:38	Received:	26-Oct-22	
(d10-Acenaphthene)	EPA 625.1	% Recovery	78	1			Total		O-40008	27-Oct-22	30-Oct-22
(d10-Phenanthrene)	EPA 625.1	% Recovery	89	1			Total		O-40008	27-Oct-22	30-Oct-22
(d12-Chrysene)	EPA 625.1	% Recovery	87	1			Total		O-40008	27-Oct-22	30-Oct-22
(d12-Perylene)	EPA 625.1	% Recovery	75	1			Total		O-40008	27-Oct-22	30-Oct-22
(d8-Naphthalene)	EPA 625.1	% Recovery	60	1			Total		O-40008	27-Oct-22	30-Oct-22
1-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40008	27-Oct-22	30-Oct-22
1-Methylphenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40008	27-Oct-22	30-Oct-22
2,3,5-Trimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40008	27-Oct-22	30-Oct-22
2,6-Dimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40008	27-Oct-22	30-Oct-22
2-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40008	27-Oct-22	30-Oct-22
Acenaphthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40008	27-Oct-22	30-Oct-22
Acenaphthylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40008	27-Oct-22	30-Oct-22
Anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40008	27-Oct-22	30-Oct-22
Benz[a]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40008	27-Oct-22	30-Oct-22
Benzo[a]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40008	27-Oct-22	30-Oct-22
Benzo[b]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40008	27-Oct-22	30-Oct-22
Benzo[e]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40008	27-Oct-22	30-Oct-22
Benzo[g,h,i]perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40008	27-Oct-22	30-Oct-22
Benzo[k]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40008	27-Oct-22	30-Oct-22
Biphenyl	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40008	27-Oct-22	30-Oct-22
Chrysene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40008	27-Oct-22	30-Oct-22
Dibenz[a,h]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40008	27-Oct-22	30-Oct-22
Dibenzo[a,l]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40008	27-Oct-22	30-Oct-22
Dibenzothiophene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40008	27-Oct-22	30-Oct-22

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-40008	27-Oct-22	30-Oct-22
Fluorene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40008	27-Oct-22	30-Oct-22
Indeno[1,2,3-cd]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40008	27-Oct-22	30-Oct-22
Naphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40008	27-Oct-22	30-Oct-22
Perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40008	27-Oct-22	30-Oct-22
Phenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40008	27-Oct-22	30-Oct-22
Pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40008	27-Oct-22	30-Oct-22



QUALITY CONTROL REPORT

TERRA CONSULTING AURA ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

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Base/Neutral Extractable Compounds

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE		SOURCE		ACCURACY		PRECISION		QA CODEc
							LEVEL	RESULT	%	LIMITS	%	LIMITS			
Sample ID: 101055-B1		QAQC Procedural Blank				Matrix: BlankMatrix		Sampled:		Received:					
		Method: EPA 625.1				Batch ID: O-40008		Prepared: 24-Oct-22		Analyzed: 30-Oct-22					
Disalicylidenepropanediamin	Total	ND	1	0.05	0.1	µg/L									
Sample ID: 101055-BS1		QAQC Procedural Blank				Matrix: BlankMatrix		Sampled:		Received:					
		Method: EPA 625.1				Batch ID: O-40008		Prepared: 24-Oct-22		Analyzed: 30-Oct-22					
Disalicylidenepropanediamin	Total	26.7	1	0.05	0.1	µg/L	50	0	53	50 - 150%	PASS				
Sample ID: 101055-BS2		QAQC Procedural Blank				Matrix: BlankMatrix		Sampled:		Received:					
		Method: EPA 625.1				Batch ID: O-40008		Prepared: 24-Oct-22		Analyzed: 30-Oct-22					
Disalicylidenepropanediamin	Total	30.2	1	0.05	0.1	µg/L	50	0	60	50 - 150%	PASS	12	30	PASS	

Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY	PRECISION	QA CODEc
							LEVEL	RESULT	% LIMITS	% LIMITS	

Sample ID: 101055-B1		QAQC Procedural Blank			Matrix: BlankMatrix		Sampled:		Received:		
		Method: EPA 625.1				Batch ID: O-40008		Prepared: 24-Oct-22		Analyzed: 30-Oct-22	
(d10-Acenaphthene)	Total	77	1			% Recovery	100	77	27 - 133%	PASS	
(d10-Phenanthrene)	Total	97	1			% Recovery	100	97	43 - 129%	PASS	
(d12-Chrysene)	Total	94	1			% Recovery	100	94	52 - 144%	PASS	
(d12-Perylene)	Total	86	1			% Recovery	100	86	36 - 161%	PASS	
(d8-Naphthalene)	Total	68	1			% Recovery	100	68	25 - 125%	PASS	
1-Methylnaphthalene	Total	ND	1	0.001	0.005		µg/L				
1-Methylphenanthrene	Total	ND	1	0.001	0.005		µg/L				
2,3,5-Trimethylnaphthalene	Total	ND	1	0.001	0.005		µg/L				
2,6-Dimethylnaphthalene	Total	ND	1	0.001	0.005		µg/L				
2-Methylnaphthalene	Total	ND	1	0.001	0.005		µg/L				
Acenaphthene	Total	ND	1	0.001	0.005		µg/L				
Acenaphthylene	Total	ND	1	0.001	0.005		µg/L				
Anthracene	Total	ND	1	0.001	0.005		µg/L				
Benz[a]anthracene	Total	ND	1	0.001	0.005		µg/L				
Benzo[a]pyrene	Total	ND	1	0.001	0.005		µg/L				
Benzo[b]fluoranthene	Total	ND	1	0.001	0.005		µg/L				
Benzo[e]pyrene	Total	ND	1	0.001	0.005		µg/L				
Benzo[g,h,i]perylene	Total	ND	1	0.001	0.005		µg/L				
Benzo[k]fluoranthene	Total	ND	1	0.001	0.005		µg/L				
Biphenyl	Total	ND	1	0.001	0.005		µg/L				
Chrysene	Total	ND	1	0.001	0.005		µg/L				
Dibenz[a,h]anthracene	Total	ND	1	0.001	0.005		µg/L				
Dibenzo[a,l]pyrene	Total	ND	1	0.001	0.005		µg/L				
Dibenzothiophene	Total	ND	1	0.001	0.005		µg/L				

Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

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



Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY		PRECISION	QA CODEc
							LEVEL	RESULT	%	LIMITS	%	LIMITS
Sample ID: 101055-BS1		QAQC Procedural Blank			Matrix: BlankMatrix			Sampled:		Received:		
Method: EPA 625.1		Batch ID: O-40008			Prepared: 24-Oct-22		Analyzed: 30-Oct-22					
(d10-Acenaphthene)	Total	88	1			% Recovery	100	0	88	27 - 133%	PASS	
(d10-Phenanthrene)	Total	96	1			% Recovery	100	0	96	43 - 129%	PASS	
(d12-Chrysene)	Total	101	1			% Recovery	100	0	101	52 - 144%	PASS	
(d12-Perylene)	Total	81	1			% Recovery	100	0	81	36 - 161%	PASS	
(d8-Naphthalene)	Total	76	1			% Recovery	100	0	76	25 - 125%	PASS	
1-Methylnaphthalene	Total	0.33	1	0.001	0.005	µg/L	0.5	0	66	31 - 128%	PASS	
1-Methylphenanthrene	Total	0.393	1	0.001	0.005	µg/L	0.5	0	79	66 - 127%	PASS	
2,3,5-Trimethylnaphthalene	Total	0.45	1	0.001	0.005	µg/L	0.5	0	90	55 - 122%	PASS	
2,6-Dimethylnaphthalene	Total	0.425	1	0.001	0.005	µg/L	0.5	0	85	48 - 120%	PASS	
2-Methylnaphthalene	Total	0.302	1	0.001	0.005	µg/L	0.5	0	60	47 - 130%	PASS	
Acenaphthene	Total	0.479	1	0.001	0.005	µg/L	0.5	0	96	53 - 131%	PASS	
Acenaphthylene	Total	0.464	1	0.001	0.005	µg/L	0.5	0	93	43 - 140%	PASS	
Anthracene	Total	0.481	1	0.001	0.005	µg/L	0.5	0	96	58 - 135%	PASS	
Benz[a]anthracene	Total	0.399	1	0.001	0.005	µg/L	0.5	0	80	55 - 145%	PASS	
Benzo[a]pyrene	Total	0.411	1	0.001	0.005	µg/L	0.5	0	82	51 - 143%	PASS	
Benzo[b]fluoranthene	Total	0.519	1	0.001	0.005	µg/L	0.5	0	104	46 - 165%	PASS	
Benzo[e]pyrene	Total	0.45	1	0.001	0.005	µg/L	0.5	0	90	42 - 152%	PASS	
Benzo[g,h,i]perylene	Total	0.423	1	0.001	0.005	µg/L	0.5	0	85	63 - 133%	PASS	
Benzo[k]fluoranthene	Total	0.415	1	0.001	0.005	µg/L	0.5	0	83	56 - 145%	PASS	
Biphenyl	Total	0.412	1	0.001	0.005	µg/L	0.5	0	82	56 - 119%	PASS	
Chrysene	Total	0.455	1	0.001	0.005	µg/L	0.5	0	91	56 - 141%	PASS	
Dibenz[a,h]anthracene	Total	0.473	1	0.001	0.005	µg/L	0.5	0	95	55 - 150%	PASS	
Dibenzo[a,l]pyrene	Total	0.34	1	0.001	0.005	µg/L	0.5	0	68	50 - 150%	PASS	
Dibenzothiophene	Total	0.472	1	0.001	0.005	µg/L	0.5	0	94	75 - 113%	PASS	

Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY		PRECISION		QA CODE _c
							LEVEL	RESULT	%	LIMITS	%	LIMITS	
Fluoranthene	Total	0.366	1	0.001	0.005	µg/L	0.5	0	73	60 - 146%	PASS		
Fluorene	Total	0.472	1	0.001	0.005	µg/L	0.5	0	94	58 - 131%	PASS		
Indeno[1,2,3-cd]pyrene	Total	0.48	1	0.001	0.005	µg/L	0.5	0	96	50 - 151%	PASS		
Naphthalene	Total	0.337	1	0.001	0.005	µg/L	0.5	0	67	41 - 126%	PASS		
Perylene	Total	0.378	1	0.001	0.005	µg/L	0.5	0	76	48 - 141%	PASS		
Phenanthrene	Total	0.493	1	0.001	0.005	µg/L	0.5	0	99	67 - 127%	PASS		
Pyrene	Total	0.393	1	0.001	0.005	µg/L	0.5	0	79	54 - 156%	PASS		



Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY		PRECISION		QA CODE		
							LEVEL	RESULT	%	LIMITS	%	LIMITS			
Sample ID: 101055-BS2		QAQC Procedural Blank			Matrix: BlankMatrix			Sampled:			Received:				
		Method: EPA 625.1			Batch ID: O-40008			Prepared: 24-Oct-22			Analyzed: 30-Oct-22				
(d10-Acenaphthene)	Total	98	1				% Recovery	100	0	98	27 - 133%	PASS	11	30	PASS
(d10-Phenanthrene)	Total	98	1				% Recovery	100	0	98	43 - 129%	PASS	2	30	PASS
(d12-Chrysene)	Total	91	1				% Recovery	100	0	91	52 - 144%	PASS	10	30	PASS
(d12-Perylene)	Total	89	1				% Recovery	100	0	89	36 - 161%	PASS	9	30	PASS
(d8-Naphthalene)	Total	74	1				% Recovery	100	0	74	25 - 125%	PASS	3	30	PASS
1-Methylnaphthalene	Total	0.398	1	0.001	0.005	µg/L		0.5	0	80	31 - 128%	PASS	19	30	PASS
1-Methylphenanthrene	Total	0.39	1	0.001	0.005	µg/L		0.5	0	78	66 - 127%	PASS	1	30	PASS
2,3,5-Trimethylnaphthalene	Total	0.488	1	0.001	0.005	µg/L		0.5	0	98	55 - 122%	PASS	9	30	PASS
2,6-Dimethylnaphthalene	Total	0.522	1	0.001	0.005	µg/L		0.5	0	104	48 - 120%	PASS	20	30	PASS
2-Methylnaphthalene	Total	0.352	1	0.001	0.005	µg/L		0.5	0	70	47 - 130%	PASS	15	30	PASS
Acenaphthene	Total	0.54	1	0.001	0.005	µg/L		0.5	0	108	53 - 131%	PASS	12	30	PASS
Acenaphthylene	Total	0.509	1	0.001	0.005	µg/L		0.5	0	102	43 - 140%	PASS	9	30	PASS
Anthracene	Total	0.496	1	0.001	0.005	µg/L		0.5	0	99	58 - 135%	PASS	3	30	PASS
Benz[a]anthracene	Total	0.362	1	0.001	0.005	µg/L		0.5	0	72	55 - 145%	PASS	11	30	PASS
Benzo[a]pyrene	Total	0.398	1	0.001	0.005	µg/L		0.5	0	80	51 - 143%	PASS	2	30	PASS
Benzo[b]fluoranthene	Total	0.526	1	0.001	0.005	µg/L		0.5	0	105	46 - 165%	PASS	1	30	PASS
Benzo[e]pyrene	Total	0.475	1	0.001	0.005	µg/L		0.5	0	95	42 - 152%	PASS	5	30	PASS
Benzo[g,h,i]perylene	Total	0.446	1	0.001	0.005	µg/L		0.5	0	89	63 - 133%	PASS	5	30	PASS
Benzo[k]fluoranthene	Total	0.427	1	0.001	0.005	µg/L		0.5	0	85	56 - 145%	PASS	2	30	PASS
Biphenyl	Total	0.503	1	0.001	0.005	µg/L		0.5	0	101	56 - 119%	PASS	21	30	PASS
Chrysene	Total	0.432	1	0.001	0.005	µg/L		0.5	0	86	56 - 141%	PASS	6	30	PASS
Dibenz[a,h]anthracene	Total	0.499	1	0.001	0.005	µg/L		0.5	0	100	55 - 150%	PASS	5	30	PASS
Dibenzo[a,l]pyrene	Total	0.417	1	0.001	0.005	µg/L		0.5	0	83	50 - 150%	PASS	20	30	PASS
Dibenzothiophene	Total	0.496	1	0.001	0.005	µg/L		0.5	0	99	75 - 113%	PASS	5	30	PASS

Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY		PRECISION		QA CODE _c	
							LEVEL	RESULT	%	LIMITS	%	LIMITS		
Fluoranthene	Total	0.385	1	0.001	0.005	µg/L	0.5	0	77	60 - 146%	PASS	5	30	PASS
Fluorene	Total	0.509	1	0.001	0.005	µg/L	0.5	0	102	58 - 131%	PASS	8	30	PASS
Indeno[1,2,3-cd]pyrene	Total	0.498	1	0.001	0.005	µg/L	0.5	0	100	50 - 151%	PASS	4	30	PASS
Naphthalene	Total	0.323	1	0.001	0.005	µg/L	0.5	0	65	41 - 126%	PASS	3	30	PASS
Perylene	Total	0.406	1	0.001	0.005	µg/L	0.5	0	81	48 - 141%	PASS	6	30	PASS
Phenanthrene	Total	0.51	1	0.001	0.005	µg/L	0.5	0	102	67 - 127%	PASS	3	30	PASS
Pyrene	Total	0.389	1	0.001	0.005	µg/L	0.5	0	78	54 - 156%	PASS	1	30	PASS

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PHYSIS
TENTATIVELY
IDENTIFIED COMPOUNDS
ENVIRONMENTAL LABORATORIES, INC.
Innovative Solutions for Nature

Sample ID: 101056

RT	Area Pct	Concentration (ng/L)	Library/ID	Cas Number	Match Qual
32.3462	5.2014	1111	Anthracene-D10	1517-22-2	96
29.3387	2.4287	519	Benzoic acid, 2-ethylhexyl ester	5444-75-7	98

Concentration estimated using the response for Anthracene-d10

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Sample ID: 101057

RT	Area Pct	Concentration (ng/L)	Library/ID	Cas Number	Match Qual
32.3439	6.2628	1111	Anthracene-D10-	1719-06-8	97
29.3370	2.9563	524	Benzoic acid, 2-ethylhexyl ester	5444-75-7	99
29.3351	1.0514	187	Hexane, 2,3-dimethyl-	584-94-1	87

Concentration estimated using the response for Anthracene-d10

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Sample ID: 101058

RT	Area Pct	Concentration (ng/L)	Library/ID	Cas Number	Match Qual
32.3454	5.8465	1111	Anthracene-D10	1517-22-2	96
29.3400	3.0405	578	Benzoic acid, 2-ethylhexyl ester	5444-75-7	99

Concentration estimated using the response for Anthracene-d10

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Sample ID: Lab Blank B1_40008

RT	Area Pct	Concentration (ng/L)	Library/ID	Cas Number	Match Qual
32.3440	5.5207	1111	Anthracene-D10-	1719-06-8	97
29.3389	4.3353	873	Benzoic acid, 2-ethylhexyl ester	5444-75-7	99

Concentration estimated using the response for Anthracene-d10

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PERFORMANCE CHAIN OF CUSTODY

TERRA ENVIRONMENTAL LABORATORIES, INC. AURA

Innovative Solutions for Nature

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

Chain of Custody Record



Client Information (Sub Contract Lab)
 Client Contact: Phone: Lab PM: Arada, Rachelle
 Shipping/Receiving: E-Mail: Rachelle.Arada@et.eurolfins.com State of Origin: Hawaii
 Company: Physis Environmental Laboratories Accreditations Required (See role): State - Hawaii

Address: 1904 Wright Circle, Due Date Requested: 11/8/2022
 City: Anaheim TAT Requested (days):
 State, Zip: CA, 92806
 Phone: PO #:
 Email: WO #:
 Project Name: RED-HILL Project #: 38001111
 Site: SSCW#: Honolulu BWS Sites

Analysis Requested
 Carrier Tracking No(s):
 State of Origin: Hawaii
 Job #: 380-25751-1
 Page: 380-26045.1
 Page 1 of 1
 COC No: 380-25751-1
 Preservation Codes:
 A - HCL
 B - NaOH
 C - Zn Acetate
 D - Nitric Acid
 E - NaHSO4
 F - MeOH
 G - Anchlor
 H - Ascorbic Acid
 I - Ice
 J - DI Water
 K - EDTA
 L - EDTA
 M - Hexane
 N - None
 O - AsNaO2
 P - Na2CO4S
 Q - Na2SO3
 R - Na2S2O3
 S - H2SO4
 T - TSP Decahydrate
 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-wastor, S-solid, O-owasol, BT-Trizna, AA-AI)	Preservation Code:	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Analysis Requested	Total Number of containers	Special Instructions/Note:
AIEA GULCH WELLS PUMP 1 (380-25751-1)	10/24/22	10:17		Water		X	SUB (625 PAH Physis LL (EAL) + TICs) / 625 PAH Physis LL (EAL) + TICs		2	See Attached Instructions
AIEA WELLS PUMPS 1&2 (260) (380-25751-2)	10/24/22	10:58		Water		X			2	See Attached Instructions
AIEA GULCH WELLS PUMP 2 (380-25751-3)	10/24/22	10:38		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 analyststestmatrix 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
 Return To Client
 Disposal By Lab
 Archive For Months

Unconfirmed
 Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2
 Special Instructions/QC Requirements:

Empty Kit Relinquished by: Date: Method of Shipment:

Relinquished by: [Signature] Date/Time: 10/26/22 1337 Company: Great
 Received by: [Signature] Date/Time: 10/26/22 1337 Company: Physis

Relinquished by: Date/Time: Company:

Relinquished by: Date/Time: Company:

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

Project Iteration ID: 1407003-329
 Client Name: Eurofins Eaton Analytical
 Project Name: RED-HILL Project # 38001111 Job # 380-25751-1
 COC Page Number: 2 of 2
 Bottle Label Color: NA

Sample Receipt Summary

Receiving Info

- Initials Received By: [Signature]
- Date Received: 10/26/22
- Time Received: 1337
- Client Name: Eurofins
- Courier Information: (Please circle)
 - Client
 - UPS
 - Area Fast
 - DRS
 - FedEx
 - GSO/GLS
 - Ontrac
 - PAMS
 - PHYSIS Driver:
 - Start Time: _____
 - End Time: _____
 - Total Mileage: _____
 - Number of Pickups: _____
- Container Information: (Please put the # of containers or circle none)
 - 1 Cooler
 - Styrofoam Cooler
 - Boxes
 - None
 - Carboy(s)
 - Carboy Trash Can(s)
 - Carboy Cap(s)
 - Other _____
- What type of ice was used: (Please circle any that apply)
 - Wet Ice
 - Blue Ice
 - Dry Ice
 - Water
 - None
- Randomly Selected Samples Temperature (°C): 2.1
 Used I/R Thermometer # 1-2

Inspection Info

- Initials Inspected By: [Signature]

Sample Integrity Upon Receipt:

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

Notes:

Monrovia, CA (Suite 100)

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

Chain of Custody Record

eurofins Environment Testing
 America

Client Information		Sampler BAILEY	Lab PM Arada, Rachele	Carrier Tracking No(s): 380-9760-2757.1	COC No: 380-9760-2757.1																												
Client Contact Dr. Ron Fenstemacher		Phone 1-808-748-5840	E-Mail Rachele.Arada@et.eurofinsus.com	State of Origin:	Page Page 1 of 3																												
Company City & County of Honolulu		PWSID	Analysis Requested																														
Address: 630 South Beretania Street Chemistry Lab		Due Date Requested:	<table border="1"> <tr> <td>Field Filtered Sample (Yes or No)</td> <td>Perform Hg/MSD (Yes or No)</td> <td>SUBCONTRACT - 825 PAH Physia LL (EAL) + TICs</td> <td>SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL)</td> <td>SUBCONTRACT - 8015 Diesel LL (EAL) and Motor Oil</td> <td>525.2_PREC - (MOD) 525plus Plus TICs</td> <td>SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL)</td> </tr> </table>			Field Filtered Sample (Yes or No)	Perform Hg/MSD (Yes or No)	SUBCONTRACT - 825 PAH Physia LL (EAL) + TICs	SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL)	SUBCONTRACT - 8015 Diesel LL (EAL) and Motor Oil	525.2_PREC - (MOD) 525plus Plus TICs	SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL)																					
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City: Honolulu	TAT Requested (days):	Compliance Project: <input type="checkbox"/> Yes <input type="checkbox"/> No																															
State, Zip: HI, 96843	PO #: C20525101 exp 05312023	WVO #																															
Phone: 808-748-5091(Tel)	Project #: 38001111	SSOV#																															
Email: RFENSTEMACHER@hbws.org	Project Name RED-HILL/HBWS Sites Event Desc: RUSH Weekly Red Hill	Site Hawaii																															
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Sample Identification		Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=volatile, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform Hg/MSD (Yes or No)	SUBCONTRACT - 825 PAH Physia LL (EAL) + TICs	SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL)	SUBCONTRACT - 8015 Diesel LL (EAL) and Motor Oil	525.2_PREC - (MOD) 525plus Plus TICs	SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL)	Total Number of containers	Special Instructions/Note:																			
AIEA GULCH WELLS PUMP 1		oct. 24, 2022	1017	G	Water	X	X	X	X	X	X	X	X	COOLER 1 of 2 (75A) 5.1°-4.9°																			
AIEA GULCH WELLS PUMP 2					Water									GEL/FROZEN ^{FED EX} 7702 9451 1326																			
AIEA WELLS PUMPS 1&2 (260)					Water									COOLER 2 of 2 (75A) 3.6°-3.4°																			
HALAWA SHAFT					Water									GEL/FROZEN ^{FED EX} 7702 9451 3270																			
HALAWA WELLS UNITS 1&2					Water																												
MOANALUA WELLS					Water																												
AIEA GULCH WELLS PUMP 1					Water																												
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AIEA WELLS PUMPS 1&2 (260)		oct. 24, 2022	0958	G	Water																												
HALAWA SHAFT					Water																												
HALAWA WELLS UNITS 1&2					Water																												



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:

Empty Kit Relinquished by: _____ Date: _____ Time: _____ Method of Shipment: **FED EX / 7702 9451 1326 / 7702 9451 3270**

Relinquished by: BAILEY	Date/Time: oct. 24, 2022 1100	Company: HBWS	Received by: [Signature]	Date/Time: 10/25/2022 10:00	Company: EEA
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:

Custody Seals Intact: Yes No Custody Seal No.:

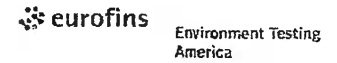
Cooler Temperature(s) °C and Other Remarks:
(75A) 5.1°-4.9° / 3.6°-3.4° GEL/FROZEN

M.L.
 12/8/2022

Monrovia, CA (Suite 100)

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

Chain of Custody Record



Client Information		Sampler BAILEY		Lab PM: Arada, Rachele		Carrier Tracking No(s)		COC No: 380-9760-2757.2									
Client Contact Dr. Ron Fenstemacher		Phone: 1-800-748-5840		E-Mail: Rachele.Arada@et.eurofinsus.com		State of Origin:		Page: Page 2 of 3									
Company: City & County of Honolulu				PWSID		Analysis Requested											
Address: 630 South Beretania Street Chemistry Lab		Due Date Requested:		Field Filtered Sample (Yes or No) Perform MS/MSD (Yes or No) SUBCONTRACT - 825 PAH Physals LL (EAL) + TICs SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL) SUBCONTRACT - 8015 Diesel LL (EAL) and Motor Oil 525.2_PRC - (MOD) 525plus Plus TICs SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL)				Preservation Codes: A - HCL M - Hexana B - NaOH N - None C - Zn Acetate O - AsNaO2 D - Nitric Acid P - Na2O4S E - NaHSO4 Q - Na2SO3 F - MeOH R - Na2S2O3 G - Amchlor S - H2SO4 H - Ascorbic Acid T - TSP Dodecahydrate I - Ice U - Acetone J - DI Water V - MCAA K - EDTA W - pH 4-5 L - EDA Y - Trizma Z - other (specify)									
City: Honolulu		TAT Requested (days):															
State, Zip: HI, 96843		Compliance Project: <input type="checkbox"/> Yes <input type="checkbox"/> No															
Phone: 808-748-5091 (Tel)		PO #: C20525101 exp 05312023															
Email: RFENSTEMACHER@hbws.org		W/O #:															
Project Name: RED-HILL/HBWS Sites Event Desc: RUSH Weekly Red Hill		Project #: 38001111		Total Number of Containers				Special Instructions/Note:									
Site: Hawaii		SSOW#:															
Sample Identification		Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, DT=tissue, A=air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUBCONTRACT - 825 PAH Physals LL (EAL) + TICs	SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL)	SUBCONTRACT - 8015 Diesel LL (EAL) and Motor Oil	525.2_PRC - (MOD) 525plus Plus TICs	SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL)	Total Number of Containers	Special Instructions/Note:			
MOANALUA WELLS					Water			R	R	RA	RA			COVER 10F2 (751A) 5.1°-4.9° FED Ex GEL/FROZEN 7702 9451 1326			
AIEA GULCH WELLS PUMP 1					Water												
AIEA GULCH WELLS PUMP 2					Water												
AIEA WELLS PUMPS 1&2 (260)					Water									COVER 20F2 (751A) 3.6°-3.4° FED Ex GEL/FROZEN 7702 9451 3270			
HALAWA SHAFT					Water												
HALAWA WELLS UNITS 1&2					Water												
MOANALUA WELLS					Water												
AIEA GULCH WELLS PUMP 1					Water												
AIEA GULCH WELLS PUMP 2		Oct 24, 2022	1038	G	Water												
AIEA WELLS PUMPS 1&2 (260)					Water												
HALAWA SHAFT					Water												
Possible Hazard Identification						Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)											
<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological						<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months											
Deliverable Requested: I, II, III, IV, Other (specify)						Special Instructions/QC Requirements:											
Empty Kit Relinquished by:			Date:			Time:			Method of Shipment								
Relinquished by: BAILEY			Date/Time: Oct 24, 2022 1400			Company: HBWS			Received by: J. GRETTNER			Date/Time: 10/25/2022 10:00			Company: EEA		
Relinquished by:			Date/Time:			Company:			Received by:			Date/Time:			Company:		
Relinquished by:			Date/Time:			Company:			Received by:			Date/Time:			Company:		
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: (751A) 5.1°-4.9°/3.6°-3.4° GEL FROZEN													

Ver: 06/08/2021

Shipping Order Form - Bottle Order



Environment Testing
America



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

Shipping Order ID: 9760

Ship Via: FedEx
When To Ship: 10/24/2022

Due On: 10/24/2022 11:59:00PM
Due After: 10/24/2022 12:00:00 AM

Ship To Information

Project Manager: *Rachelle Arada*
Tel: (626) 386-1106 Em: *Rachelle.Arada@et.eurofinsus.com*
Company Name: *City & County of Honolulu*
Attention: *Erwin Kawata*
Address 1: *630 South Beretania Street*
Address 2: *Public Service Bldg. Room 308*
Address 3:
City: *Honolulu*
State: *HI*
Zip: *96843*
Phone #: *+1-808-748-5841*
Project Ref: *RED-HILL*
Event Desc: *RUSH Weekly Red Hill*

Notes to Bottle/Shipping Department

Pack with Gel Ice
Label the cooler under the left hand handle with the ID of the samples that are in the cooler (If more than 1 cooler si used per 1 smaple ID lable cooler with "sample ID x of y)
Pack by Sample ID on the botte Labels (with one full set of tests per sample ID)
Send only medium to large coolers

CALL DEBBIE OR DAVIS IF THERE ARE QUESTIONS.

Shipping Method: Individual sample per cooler (affixed TALS labels)

- | | |
|--|---|
| <input checked="" type="checkbox"/> Ready to Fill | <input type="checkbox"/> Return Shipment Labels |
| <input checked="" type="checkbox"/> Preprinted COC | <input type="checkbox"/> Prepaid Return |
| <input type="checkbox"/> <input type="text" value="1"/> Number of COC Copies | Monrovia, CA (Suite 100) |
| <input type="checkbox"/> Seals on Bottle | <input type="checkbox"/> Short Hold Times |
| <input type="checkbox"/> Seals on Coolers | <input checked="" type="checkbox"/> Temperature Control |
| <input type="checkbox"/> Priority | <input type="checkbox"/> Rush |

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

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

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

Bottle Order Information

Bottle Order: RUSH RED-HILL WEEKLY
 Bottle Order #: 2757
 Request From Client: 7/20/2022
 Date Order Posted: 7/20/2022 11:12:54AM
 Order Status: Ready To Process
 Prepared By: Davis Haley
 Deliver By Date: 10/24/2022 11:59:00PM
 Lab Project Number: 38001111
 PWSID:

Order Completion Information

Creator: Davis Haley
 Filled by:
 Sent Date:
 Sent Via:
 Tracking #:

Sets	Bottles/Set	Qty	Bottle Type Description	Preservative	Method	Matrix	Sample Type	Comments	Lot #
6	2	12	Amber Glass 1 liter - Sodium Thiosulfate	Sodium Thiosulfate	SUBCONTRACT - 625 PAH Physis LL (EAL) + TICs	Water	Normal	625 PAH	
6	4	24	Voa Vial 40ml - SodiumThio w/HCl-dropper	Sodium Thiosulfate	SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL)	Water	Normal		
6	2	12	Amber Glass 1 L - NaThiosulfate 8mL HCL	Sodium Thiosulfate/Hydrochloric Acid	SUBCONTRACT - 8015 Diesel LL (EAL) and Motor Oil	Water	Normal		
6	2	12	Amber Glass 1 Liter- Sodium Sulfite/HCl	Sodium Sulfite w/HCl	525.2_PREC - (MOD) 525plus Plus TICs	Water	Normal		
6	2	12	VOA Vial 40mL - NaThiosulfate/HCL	Sodium Thiosulfate/Hydrochloric Acid	SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL)	Water	Trip Blank		

Total Bottle Summary		
Bottle Type Description	Preservative	Bottle Count
Amber Glass 1 L - NaThiosulfate 8mL HCL	Sodium Thiosulfate/Hydrochloric Acid	12
Amber Glass 1 liter - Sodium Thiosulfate	Sodium Thiosulfate	12
Amber Glass 1 Liter- Sodium Sulfite/HCl	Sodium Sulfite w/HCl	12
VOA Vial 40mL - NaThiosulfate/HCL	Sodium Thiosulfate/Hydrochloric Acid	12
Voa Vial 40ml - SodiumThio w/HCl-dropper	Sodium Thiosulfate	24
Total Bottles:		72

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

Notes to Field Staff:



Scan QR code for field sampler instructions

SAMPLER FOLLOW 2 STAGE FIELD PRESERVATION FOR 8015 and 525.2

Health and Safety Notes:

Preservative	Comment
Sodium Sulfite w/HCl	CAUTION! CONTAINS SODIUM SULFITE. Harmful if inhaled. Use adequate ventilation. Avoid skin and eye contact. If contact is made, FLUSH IMMEDIATELY with water.
Sodium Thiosulfate	CAUTION! CONTAINS 10% SODIUM THIOSULFATE. Harmful if inhaled. Use adequate ventilation. Avoid skin and eye contact. If contact is made, FLUSH IMMEDIATELY with water.
Sodium Thiosulfate/Hydrochloric Acid	CAUTION! CONTAINS 10% SODIUM THIOSULFATE. Harmful if inhaled. Use adequate ventilation. Avoid skin and eye contact. If contact is made, FLUSH IMMEDIATELY with water. Contains 13.3% Monochloroacetic Acid. Avoid skin and eye contact. If contact is made, FLUSH IMMEDIATELY with water.
	CAUTION! CONTAINS 1:1 HYDROCHLORIC ACID. Avoid skin and eye contact. If contact is made, FLUSH IMMEDIATELY with water.

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

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: 380-25751-1

Login Number: 25751
List Number: 1
Creator: Elyas, Matthew

List Source: Eurofins Eaton Monrovia

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Samples do not require splitting or compositing.	True	
Container provided by EEA	True	

