

## ANALYTICAL REPORT

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Tel: (626)386-1100

Laboratory Job ID: 380-14577-1  
Client Project/Site: RED-HILL  
Sampling Event: RUSH Weekly Red Hill

For:  
City & County of Honolulu  
630 South Beretania Street  
Public Service Bldg. Room 308  
Honolulu, Hawaii 96843

Attn: Mr. Erwin Kawata



Authorized for release by:  
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Results relate only to the items tested and the sample(s) as received by the laboratory.

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)



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Kathleen Robb  
Client Program Manager  
10/20/2022 1:17:36 PM





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# Definitions/Glossary

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

Job ID: 380-14577-1

## Qualifiers

### GC/MS Semi VOA

Qualifier	Qualifier Description
^3+	Reporting Limit Check Standard is outside acceptance limits, high biased
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

### GC/MS Semi VOA TICs

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

### Subcontract

Qualifier	Qualifier Description
U	This analyte was not detected.

## Glossary

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

# Detection Summary

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

Job ID: 380-14577-1

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**Client Sample ID: AIEA WELLS PUMPS 1&2 (260)**  
**(331-203-TP400)**  
**PWSID Number: HI0000331**

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**Lab Sample ID: 380-14577-1**

No Detections.

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**Client Sample ID: MOANALUA WELLS (331-223-TP202)**  
**PWSID Number: HI0000331**

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**Lab Sample ID: 380-14577-2**

No Detections.

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

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: 380-14577-1

**Client Sample ID: AIEA WELLS PUMPS 1&2 (260)  
(331-203-TP400)**

**Lab Sample ID: 380-14577-1**

**Date Collected: 08/02/22 10:50**

**Matrix: Drinking Water**

**Date Received: 08/04/22 10:30**

**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		08/06/22 11:49	08/16/22 13:23	1
2,4'-DDE	ND		0.099	ug/L		08/06/22 11:49	08/16/22 13:23	1
2,4'-DDT	ND		0.099	ug/L		08/06/22 11:49	08/16/22 13:23	1
2,4-Dinitrotoluene	ND		0.099	ug/L		08/06/22 11:49	08/16/22 13:23	1
2,6-Dinitrotoluene	ND		0.099	ug/L		08/06/22 11:49	08/16/22 13:23	1
4,4'-DDD	ND		0.099	ug/L		08/06/22 11:49	08/16/22 13:23	1
4,4'-DDE	ND		0.099	ug/L		08/06/22 11:49	08/16/22 13:23	1
4,4'-DDT	ND		0.099	ug/L		08/06/22 11:49	08/16/22 13:23	1
Acenaphthene	ND		0.099	ug/L		08/06/22 11:49	08/16/22 13:23	1
Acenaphthylene	ND		0.099	ug/L		08/06/22 11:49	08/16/22 13:23	1
Acetochlor	ND		0.099	ug/L		08/06/22 11:49	08/16/22 13:23	1
Alachlor	ND		0.049	ug/L		08/06/22 11:49	08/16/22 13:23	1
alpha-BHC	ND		0.099	ug/L		08/06/22 11:49	08/16/22 13:23	1
alpha-Chlordane	ND		0.049	ug/L		08/06/22 11:49	08/16/22 13:23	1
Anthracene	ND		0.020	ug/L		08/06/22 11:49	08/16/22 13:23	1
Atrazine	ND		0.049	ug/L		08/06/22 11:49	08/16/22 13:23	1
Benz(a)anthracene	ND		0.049	ug/L		08/06/22 11:49	08/16/22 13:23	1
Benzo[a]pyrene	ND		0.020	ug/L		08/06/22 11:49	08/16/22 13:23	1
Benzo[b]fluoranthene	ND		0.020	ug/L		08/06/22 11:49	08/16/22 13:23	1
Benzo[g,h,i]perylene	ND		0.049	ug/L		08/06/22 11:49	08/16/22 13:23	1
Benzo[k]fluoranthene	ND		0.020	ug/L		08/06/22 11:49	08/16/22 13:23	1
beta-BHC	ND		0.099	ug/L		08/06/22 11:49	08/16/22 13:23	1
Bromacil	ND		0.099	ug/L		08/06/22 11:49	08/16/22 13:23	1
Butachlor	ND		0.049	ug/L		08/06/22 11:49	08/16/22 13:23	1
Butylbenzylphthalate	ND		0.49	ug/L		08/06/22 11:49	08/16/22 13:23	1
Caffeine	ND		0.049	ug/L		08/06/22 11:49	08/16/22 13:23	1
Chlorobenzilate	ND		0.099	ug/L		08/06/22 11:49	08/16/22 13:23	1
Chloroneb	ND		0.099	ug/L		08/06/22 11:49	08/16/22 13:23	1
Chlorothalonil (Draconil, Bravo)	ND		0.099	ug/L		08/06/22 11:49	08/16/22 13:23	1
Chlorpyrifos	ND		0.049	ug/L		08/06/22 11:49	08/16/22 13:23	1
Chrysene	ND		0.020	ug/L		08/06/22 11:49	08/16/22 13:23	1
delta-BHC	ND		0.099	ug/L		08/06/22 11:49	08/16/22 13:23	1
Di(2-ethylhexyl)adipate	ND	^3+	0.59	ug/L		08/06/22 11:49	08/16/22 13:23	1
Bis(2-ethylhexyl) phthalate	ND		0.59	ug/L		08/06/22 11:49	08/16/22 13:23	1
Diazinon (Qualitative)	ND		0.099	ug/L		08/06/22 11:49	08/16/22 13:23	1
Dibenz(a,h)anthracene	ND		0.049	ug/L		08/06/22 11:49	08/16/22 13:23	1
Diclorvos (DDVP)	ND		0.049	ug/L		08/06/22 11:49	08/16/22 13:23	1
Dieldrin	ND		0.20	ug/L		08/06/22 11:49	08/16/22 13:23	1
Diethylphthalate	ND		0.49	ug/L		08/06/22 11:49	08/16/22 13:23	1
Dimethoate	ND		0.099	ug/L		08/06/22 11:49	08/16/22 13:23	1
Dimethylphthalate	ND		0.49	ug/L		08/06/22 11:49	08/16/22 13:23	1
Di-n-butyl phthalate	ND		0.99	ug/L		08/06/22 11:49	08/16/22 13:23	1
Di-n-octyl phthalate	ND		0.099	ug/L		08/06/22 11:49	08/16/22 13:23	1
Endosulfan I (Alpha)	ND		0.099	ug/L		08/06/22 11:49	08/16/22 13:23	1
Endosulfan II (Beta)	ND		0.099	ug/L		08/06/22 11:49	08/16/22 13:23	1
Endosulfan sulfate	ND		0.099	ug/L		08/06/22 11:49	08/16/22 13:23	1
Endrin	ND		0.099	ug/L		08/06/22 11:49	08/16/22 13:23	1
Endrin aldehyde	ND		0.099	ug/L		08/06/22 11:49	08/16/22 13:23	1

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# Client Sample Results

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

Job ID: 380-14577-1

**Client Sample ID: AIEA WELLS PUMPS 1&2 (260)  
(331-203-TP400)**

**Lab Sample ID: 380-14577-1**

**Date Collected: 08/02/22 10:50**

**Matrix: Drinking Water**

**Date Received: 08/04/22 10:30**

**PWSID Number: HI0000331**

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
EPTC	ND		0.099	ug/L		08/06/22 11:49	08/16/22 13:23	1
Fluoranthene	ND		0.099	ug/L		08/06/22 11:49	08/16/22 13:23	1
Fluorene	ND		0.049	ug/L		08/06/22 11:49	08/16/22 13:23	1
gamma-Chlordane	ND		0.049	ug/L		08/06/22 11:49	08/16/22 13:23	1
Heptachlor	ND		0.039	ug/L		08/06/22 11:49	08/16/22 13:23	1
Heptachlor epoxide (isomer B)	ND		0.049	ug/L		08/06/22 11:49	08/16/22 13:23	1
Hexachlorobenzene	ND	^3+	0.049	ug/L		08/06/22 11:49	08/16/22 13:23	1
Hexachlorocyclopentadiene	ND		0.049	ug/L		08/06/22 11:49	08/16/22 13:23	1
Indeno[1,2,3-cd]pyrene	ND		0.049	ug/L		08/06/22 11:49	08/16/22 13:23	1
Isophorone	ND		0.49	ug/L		08/06/22 11:49	08/16/22 13:23	1
Lindane	ND		0.039	ug/L		08/06/22 11:49	08/16/22 13:23	1
Malathion	ND		0.099	ug/L		08/06/22 11:49	08/16/22 13:23	1
Methoxychlor	ND		0.099	ug/L		08/06/22 11:49	08/16/22 13:23	1
Metolachlor	ND		0.049	ug/L		08/06/22 11:49	08/16/22 13:23	1
Metribuzin	ND		0.049	ug/L		08/06/22 11:49	08/16/22 13:23	1
Molinate	ND		0.099	ug/L		08/06/22 11:49	08/16/22 13:23	1
Naphthalene	ND		0.30	ug/L		08/06/22 11:49	08/16/22 13:23	1
Parathion	ND		0.099	ug/L		08/06/22 11:49	08/16/22 13:23	1
Pendimethalin (Penoxaline)	ND		0.099	ug/L		08/06/22 11:49	08/16/22 13:23	1
Total Permethrin (mixed isomers)	ND		0.20	ug/L		08/06/22 11:49	08/16/22 13:23	1
Phenanthrene	ND		0.039	ug/L		08/06/22 11:49	08/16/22 13:23	1
Propachlor	ND		0.049	ug/L		08/06/22 11:49	08/16/22 13:23	1
Pyrene	ND		0.049	ug/L		08/06/22 11:49	08/16/22 13:23	1
Simazine	ND		0.049	ug/L		08/06/22 11:49	08/16/22 13:23	1
Terbacil	ND		0.099	ug/L		08/06/22 11:49	08/16/22 13:23	1
Terbutylazine	ND		0.099	ug/L		08/06/22 11:49	08/16/22 13:23	1
Thiobencarb	ND		0.20	ug/L		08/06/22 11:49	08/16/22 13:23	1
trans-Nonachlor	ND		0.049	ug/L		08/06/22 11:49	08/16/22 13:23	1
Trifluralin	ND		0.099	ug/L		08/06/22 11:49	08/16/22 13:23	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L				08/06/22 11:49	08/16/22 13:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Nitro-m-xylene	95		70 - 130	08/06/22 11:49	08/16/22 13:23	1
Triphenylphosphate	100		70 - 130	08/06/22 11:49	08/16/22 13:23	1
Perylene-d12	95		70 - 130	08/06/22 11:49	08/16/22 13:23	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		08/08/22 00:00	08/14/22 06:39	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		08/08/22 00:00	08/14/22 06:39	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		08/08/22 00:00	08/14/22 06:39	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		08/08/22 00:00	08/14/22 06:39	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		08/08/22 00:00	08/14/22 06:39	1
Acenaphthene	ND		0.005	0.001	µg/L		08/08/22 00:00	08/14/22 06:39	1
Acenaphthylene	ND		0.005	0.001	µg/L		08/08/22 00:00	08/14/22 06:39	1
Anthracene	ND		0.005	0.001	µg/L		08/08/22 00:00	08/14/22 06:39	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		08/08/22 00:00	08/14/22 06:39	1

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# Client Sample Results

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

Job ID: 380-14577-1

**Client Sample ID: AIEA WELLS PUMPS 1&2 (260)  
(331-203-TP400)**

**Lab Sample ID: 380-14577-1**

Date Collected: 08/02/22 10:50

Matrix: Drinking Water

Date Received: 08/04/22 10:30

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[a]pyrene	ND		0.005	0.001	µg/L		08/08/22 00:00	08/14/22 06:39	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		08/08/22 00:00	08/14/22 06:39	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		08/08/22 00:00	08/14/22 06:39	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		08/08/22 00:00	08/14/22 06:39	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		08/08/22 00:00	08/14/22 06:39	1
Biphenyl	ND		0.005	0.001	µg/L		08/08/22 00:00	08/14/22 06:39	1
Chrysene	ND		0.005	0.001	µg/L		08/08/22 00:00	08/14/22 06:39	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		08/08/22 00:00	08/14/22 06:39	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		08/08/22 00:00	08/14/22 06:39	1
Dibenzothiophene	ND		0.005	0.001	µg/L		08/08/22 00:00	08/14/22 06:39	1
Disalicylidenepropanediamine	ND		0.1	0.05	µg/L		08/08/22 00:00	08/14/22 06:39	1
Fluoranthene	ND		0.005	0.001	µg/L		08/08/22 00:00	08/14/22 06:39	1
Fluorene	ND		0.005	0.001	µg/L		08/08/22 00:00	08/14/22 06:39	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		08/08/22 00:00	08/14/22 06:39	1
Naphthalene	ND		0.005	0.001	µg/L		08/08/22 00:00	08/14/22 06:39	1
Perylene	ND		0.005	0.001	µg/L		08/08/22 00:00	08/14/22 06:39	1
Phenanthrene	ND		0.005	0.001	µg/L		08/08/22 00:00	08/14/22 06:39	1
Pyrene	ND		0.005	0.001	µg/L		08/08/22 00:00	08/14/22 06:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
(d10-Acenaphthene)	84		45 - 118	08/08/22 00:00	08/14/22 06:39	1
(d10-Phenanthrene)	87		56 - 123	08/08/22 00:00	08/14/22 06:39	1
(d12-Chrysene)	76		36 - 142	08/08/22 00:00	08/14/22 06:39	1
(d12-Perylene)	75		36 - 161	08/08/22 00:00	08/14/22 06:39	1
(d8-Naphthalene)	75		20 - 112	08/08/22 00:00	08/14/22 06:39	1

**Method: 8015 Diesel LL (EAL) and Motor Oil - 8015 - TPH DRO/ORO**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DIESEL	ND	U	0.025		mg/L			08/13/22 08:01	1
MOTOR OIL	ND	U	0.05		mg/L			08/13/22 08:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOBENZENE	62		60 - 130		08/13/22 08:01	1
HEXACOSANE	74		60 - 130		08/13/22 08:01	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GASOLINE	ND	U	0.02		mg/L			08/09/22 22:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE	95		60 - 140		08/09/22 22:35	1

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

**Lab Sample ID: 380-14577-2**

Date Collected: 08/02/22 11:33

Matrix: Drinking Water

Date Received: 08/04/22 10:30

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		08/06/22 11:49	08/16/22 13:44	1
2,4'-DDE	ND		0.099	ug/L		08/06/22 11:49	08/16/22 13:44	1

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# Client Sample Results

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

Job ID: 380-14577-1

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

**Lab Sample ID: 380-14577-2**

Date Collected: 08/02/22 11:33

Matrix: Drinking Water

Date Received: 08/04/22 10:30

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'-DDT	ND		0.099	ug/L		08/06/22 11:49	08/16/22 13:44	1
2,4-Dinitrotoluene	ND		0.099	ug/L		08/06/22 11:49	08/16/22 13:44	1
2,6-Dinitrotoluene	ND		0.099	ug/L		08/06/22 11:49	08/16/22 13:44	1
4,4'-DDD	ND		0.099	ug/L		08/06/22 11:49	08/16/22 13:44	1
4,4'-DDE	ND		0.099	ug/L		08/06/22 11:49	08/16/22 13:44	1
4,4'-DDT	ND		0.099	ug/L		08/06/22 11:49	08/16/22 13:44	1
Acenaphthene	ND		0.099	ug/L		08/06/22 11:49	08/16/22 13:44	1
Acenaphthylene	ND		0.099	ug/L		08/06/22 11:49	08/16/22 13:44	1
Acetochlor	ND		0.099	ug/L		08/06/22 11:49	08/16/22 13:44	1
Alachlor	ND		0.049	ug/L		08/06/22 11:49	08/16/22 13:44	1
alpha-BHC	ND		0.099	ug/L		08/06/22 11:49	08/16/22 13:44	1
alpha-Chlordane	ND		0.049	ug/L		08/06/22 11:49	08/16/22 13:44	1
Anthracene	ND		0.020	ug/L		08/06/22 11:49	08/16/22 13:44	1
Atrazine	ND		0.049	ug/L		08/06/22 11:49	08/16/22 13:44	1
Benz(a)anthracene	ND		0.049	ug/L		08/06/22 11:49	08/16/22 13:44	1
Benzo[a]pyrene	ND		0.020	ug/L		08/06/22 11:49	08/16/22 13:44	1
Benzo[b]fluoranthene	ND		0.020	ug/L		08/06/22 11:49	08/16/22 13:44	1
Benzo[g,h,i]perylene	ND		0.049	ug/L		08/06/22 11:49	08/16/22 13:44	1
Benzo[k]fluoranthene	ND		0.020	ug/L		08/06/22 11:49	08/16/22 13:44	1
beta-BHC	ND		0.099	ug/L		08/06/22 11:49	08/16/22 13:44	1
Bromacil	ND		0.099	ug/L		08/06/22 11:49	08/16/22 13:44	1
Butachlor	ND		0.049	ug/L		08/06/22 11:49	08/16/22 13:44	1
Butylbenzylphthalate	ND		0.49	ug/L		08/06/22 11:49	08/16/22 13:44	1
Caffeine	ND		0.049	ug/L		08/06/22 11:49	08/16/22 13:44	1
Chlorobenzilate	ND		0.099	ug/L		08/06/22 11:49	08/16/22 13:44	1
Chloroneb	ND		0.099	ug/L		08/06/22 11:49	08/16/22 13:44	1
Chlorothalonil (Draconil, Bravo)	ND		0.099	ug/L		08/06/22 11:49	08/16/22 13:44	1
Chlorpyrifos	ND		0.049	ug/L		08/06/22 11:49	08/16/22 13:44	1
Chrysene	ND		0.020	ug/L		08/06/22 11:49	08/16/22 13:44	1
delta-BHC	ND		0.099	ug/L		08/06/22 11:49	08/16/22 13:44	1
Di(2-ethylhexyl)adipate	ND	^3+	0.59	ug/L		08/06/22 11:49	08/16/22 13:44	1
Bis(2-ethylhexyl) phthalate	ND		0.59	ug/L		08/06/22 11:49	08/16/22 13:44	1
Diazinon (Qualitative)	ND		0.099	ug/L		08/06/22 11:49	08/16/22 13:44	1
Dibenz(a,h)anthracene	ND		0.049	ug/L		08/06/22 11:49	08/16/22 13:44	1
Diclorvos (DDVP)	ND		0.049	ug/L		08/06/22 11:49	08/16/22 13:44	1
Dieldrin	ND		0.20	ug/L		08/06/22 11:49	08/16/22 13:44	1
Diethylphthalate	ND		0.49	ug/L		08/06/22 11:49	08/16/22 13:44	1
Dimethoate	ND		0.099	ug/L		08/06/22 11:49	08/16/22 13:44	1
Dimethylphthalate	ND		0.49	ug/L		08/06/22 11:49	08/16/22 13:44	1
Di-n-butyl phthalate	ND		0.99	ug/L		08/06/22 11:49	08/16/22 13:44	1
Di-n-octyl phthalate	ND		0.099	ug/L		08/06/22 11:49	08/16/22 13:44	1
Endosulfan I (Alpha)	ND		0.099	ug/L		08/06/22 11:49	08/16/22 13:44	1
Endosulfan II (Beta)	ND		0.099	ug/L		08/06/22 11:49	08/16/22 13:44	1
Endosulfan sulfate	ND		0.099	ug/L		08/06/22 11:49	08/16/22 13:44	1
Endrin	ND		0.099	ug/L		08/06/22 11:49	08/16/22 13:44	1
Endrin aldehyde	ND		0.099	ug/L		08/06/22 11:49	08/16/22 13:44	1
EPTC	ND		0.099	ug/L		08/06/22 11:49	08/16/22 13:44	1
Fluoranthene	ND		0.099	ug/L		08/06/22 11:49	08/16/22 13:44	1
Fluorene	ND		0.049	ug/L		08/06/22 11:49	08/16/22 13:44	1

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# Client Sample Results

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

Job ID: 380-14577-1

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

**Lab Sample ID: 380-14577-2**

Date Collected: 08/02/22 11:33

Matrix: Drinking Water

Date Received: 08/04/22 10:30

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
gamma-Chlordane	ND		0.049	ug/L		08/06/22 11:49	08/16/22 13:44	1
Heptachlor	ND		0.039	ug/L		08/06/22 11:49	08/16/22 13:44	1
Heptachlor epoxide (isomer B)	ND		0.049	ug/L		08/06/22 11:49	08/16/22 13:44	1
Hexachlorobenzene	ND	^3+	0.049	ug/L		08/06/22 11:49	08/16/22 13:44	1
Hexachlorocyclopentadiene	ND		0.049	ug/L		08/06/22 11:49	08/16/22 13:44	1
Indeno[1,2,3-cd]pyrene	ND		0.049	ug/L		08/06/22 11:49	08/16/22 13:44	1
Isophorone	ND		0.49	ug/L		08/06/22 11:49	08/16/22 13:44	1
Lindane	ND		0.039	ug/L		08/06/22 11:49	08/16/22 13:44	1
Malathion	ND		0.099	ug/L		08/06/22 11:49	08/16/22 13:44	1
Methoxychlor	ND		0.099	ug/L		08/06/22 11:49	08/16/22 13:44	1
Metolachlor	ND		0.049	ug/L		08/06/22 11:49	08/16/22 13:44	1
Metribuzin	ND		0.049	ug/L		08/06/22 11:49	08/16/22 13:44	1
Molinate	ND		0.099	ug/L		08/06/22 11:49	08/16/22 13:44	1
Naphthalene	ND		0.30	ug/L		08/06/22 11:49	08/16/22 13:44	1
Parathion	ND		0.099	ug/L		08/06/22 11:49	08/16/22 13:44	1
Pendimethalin (Penoxaline)	ND		0.099	ug/L		08/06/22 11:49	08/16/22 13:44	1
Total Permethrin (mixed isomers)	ND		0.20	ug/L		08/06/22 11:49	08/16/22 13:44	1
Phenanthrene	ND		0.039	ug/L		08/06/22 11:49	08/16/22 13:44	1
Propachlor	ND		0.049	ug/L		08/06/22 11:49	08/16/22 13:44	1
Pyrene	ND		0.049	ug/L		08/06/22 11:49	08/16/22 13:44	1
Simazine	ND		0.049	ug/L		08/06/22 11:49	08/16/22 13:44	1
Terbacil	ND		0.099	ug/L		08/06/22 11:49	08/16/22 13:44	1
Terbutylazine	ND		0.099	ug/L		08/06/22 11:49	08/16/22 13:44	1
Thiobencarb	ND		0.20	ug/L		08/06/22 11:49	08/16/22 13:44	1
trans-Nonachlor	ND		0.049	ug/L		08/06/22 11:49	08/16/22 13:44	1
Trifluralin	ND		0.099	ug/L		08/06/22 11:49	08/16/22 13:44	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	0.50	T J	ug/L		2.67		08/06/22 11:49	08/16/22 13:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Nitro-m-xylene	96		70 - 130	08/06/22 11:49	08/16/22 13:44	1
Triphenylphosphate	97		70 - 130	08/06/22 11:49	08/16/22 13:44	1
Perylene-d12	98		70 - 130	08/06/22 11:49	08/16/22 13:44	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		08/08/22 00:00	08/14/22 08:23	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		08/08/22 00:00	08/14/22 08:23	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		08/08/22 00:00	08/14/22 08:23	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		08/08/22 00:00	08/14/22 08:23	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		08/08/22 00:00	08/14/22 08:23	1
Acenaphthene	ND		0.005	0.001	µg/L		08/08/22 00:00	08/14/22 08:23	1
Acenaphthylene	ND		0.005	0.001	µg/L		08/08/22 00:00	08/14/22 08:23	1
Anthracene	ND		0.005	0.001	µg/L		08/08/22 00:00	08/14/22 08:23	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		08/08/22 00:00	08/14/22 08:23	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		08/08/22 00:00	08/14/22 08:23	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		08/08/22 00:00	08/14/22 08:23	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		08/08/22 00:00	08/14/22 08:23	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		08/08/22 00:00	08/14/22 08:23	1

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# Client Sample Results

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

Job ID: 380-14577-1

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

**Lab Sample ID: 380-14577-2**

Date Collected: 08/02/22 11:33

Matrix: Drinking Water

Date Received: 08/04/22 10:30

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		08/08/22 00:00	08/14/22 08:23	1
Biphenyl	ND		0.005	0.001	µg/L		08/08/22 00:00	08/14/22 08:23	1
Chrysene	ND		0.005	0.001	µg/L		08/08/22 00:00	08/14/22 08:23	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		08/08/22 00:00	08/14/22 08:23	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		08/08/22 00:00	08/14/22 08:23	1
Dibenzothiophene	ND		0.005	0.001	µg/L		08/08/22 00:00	08/14/22 08:23	1
Disalicylidenepropanediamine	ND		0.1	0.05	µg/L		08/08/22 00:00	08/14/22 08:23	1
Fluoranthene	ND		0.005	0.001	µg/L		08/08/22 00:00	08/14/22 08:23	1
Fluorene	ND		0.005	0.001	µg/L		08/08/22 00:00	08/14/22 08:23	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		08/08/22 00:00	08/14/22 08:23	1
Naphthalene	ND		0.005	0.001	µg/L		08/08/22 00:00	08/14/22 08:23	1
Perylene	ND		0.005	0.001	µg/L		08/08/22 00:00	08/14/22 08:23	1
Phenanthrene	ND		0.005	0.001	µg/L		08/08/22 00:00	08/14/22 08:23	1
Pyrene	ND		0.005	0.001	µg/L		08/08/22 00:00	08/14/22 08:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
(d10-Acenaphthene)	84		45 - 118	08/08/22 00:00	08/14/22 08:23	1
(d10-Phenanthrene)	89		56 - 123	08/08/22 00:00	08/14/22 08:23	1
(d12-Chrysene)	78		36 - 142	08/08/22 00:00	08/14/22 08:23	1
(d12-Perylene)	79		36 - 161	08/08/22 00:00	08/14/22 08:23	1
(d8-Naphthalene)	82		20 - 112	08/08/22 00:00	08/14/22 08:23	1

**Method: 8015 Diesel LL (EAL) and Motor Oil - 8015 - TPH DRO/ORO**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DIESEL	ND	U	0.024		mg/L			08/13/22 08:19	1
MOTOR OIL	ND	U	0.048		mg/L			08/13/22 08:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOBENZENE	70		60 - 130		08/13/22 08:19	1
HEXACOSANE	83		60 - 130		08/13/22 08:19	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GASOLINE	ND	U	0.02		mg/L			08/09/22 23:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE	89		60 - 140		08/09/22 23:11	1

# Action Limit Summary

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

Job ID: 380-14577-1

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

**Lab Sample ID: 380-14577-1**

**(331-203-TP400)**

**PWSID Number: HI0000331**

## Compliance Check

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

Analyte	Result	Qualifier	Unit	EPAMCL	RL	Method	Prep Type
				Limit			
Alachlor	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	^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	0.039	525.2	Total/NA
Heptachlor epoxide (isomer B)	ND		ug/L	0.2	0.049	525.2	Total/NA
Hexachlorobenzene	ND	^3+	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	0.039	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: MOANALUA WELLS (331-223-TP202)**

**Lab Sample ID: 380-14577-2**

**PWSID Number: HI0000331**

## Compliance Check

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

Analyte	Result	Qualifier	Unit	EPAMCL	RL	Method	Prep Type
				Limit			
Alachlor	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	^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	0.039	525.2	Total/NA
Heptachlor epoxide (isomer B)	ND		ug/L	0.2	0.049	525.2	Total/NA
Hexachlorobenzene	ND	^3+	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	0.039	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

# Surrogate Summary

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

Job ID: 380-14577-1

## 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)
380-14577-1	AIEA WELLS PUMPS 1&2 (260)	95	100	95
380-14577-1 MS	AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	96	102	97
380-14577-2	MOANALUA WELLS (331-223-TP202)	96	97	98
380-14577-2 DU	MOANALUA WELLS (331-223-TP202)	96	100	95

### 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)
LCS 380-11996/3-A	Lab Control Sample	96	98	96
LCSD 380-11996/4-A	Lab Control Sample Dup	98	101	98
MB 380-11996/1-A	Method Blank	95	97	90
MRL 380-11996/2-A	Lab Control Sample	96	99	97

### 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: Drinking Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)				
		ANT (45-118)	CRY (36-142)	NPT (20-112)	PHN (56-123)	PRY (36-161)
380-14577-1	AIEA WELLS PUMPS 1&2 (260)	84	76	75	87	75
380-14577-2	MOANALUA WELLS (331-223-TP202)	84	78	82	89	79

### Surrogate Legend

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

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

Matrix: water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)				
		ANT (65-113)	CRY (60-139)	NPT (44-119)	PHN (80-111)	PRY (36-161)
98918-B1	Method Blank	90	92	86	92	93

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# Surrogate Summary

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

Job ID: 380-14577-1

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

Matrix: water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)				
		ANT (65-113)	CRY (60-139)	NPT (44-119)	PHN (80-111)	PRY (36-161)
98918-BS1	Lab Control Sample	92	88	85	95	98
98918-BS2	Lab Control Sample Dup	89	89	82	95	97

**Surrogate Legend**

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

## Method: 8015 Diesel LL (EAL) and Motor Oil - 8015 - TPH DRO/ORO

Matrix: Drinking Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		BB (60-130)	HEXACOSANE (60-130)
380-14577-1	AIEA WELLS PUMPS 1&2 (260)	62	74
380-14577-2	MOANALUA WELLS (331-223-TP202)	70	83

**Surrogate Legend**

BB = BROMOBENZENE  
 HEXACOSANE = HEXACOSANE

## Method: 8015 Diesel LL (EAL) and Motor Oil - 8015 - TPH DRO/ORO

Matrix: WATER

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		BB (60-130)	HEXACOSANE (60-130)
22DSH019WB	Method Blank		

**Surrogate Legend**

BB = BROMOBENZENE  
 HEXACOSANE = HEXACOSANE

## Method: 8015 Diesel LL (EAL) and Motor Oil - 8015 - TPH DRO/ORO

Matrix: WATER

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		BB (60-130)	HEXACOSANE (60-130)
22DSH019WC	LCD	72	104
22DSH019WL	Lab Control Sample	80	94

**Surrogate Legend**

BB = BROMOBENZENE  
 HEXACOSANE = HEXACOSANE

# Surrogate Summary

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

Job ID: 380-14577-1

## 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)
380-14577-1	AIEA WELLS PUMPS 1&2 (260)	95
380-14577-2	MOANALUA WELLS (331-223-TP202)	89

#### 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
22VG39H03B	Method Blank	

#### Surrogate Legend

BFB = BROMOFLUOROBENZENE

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

Matrix: WATER

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB (70-130)
22VG39H03C	LCD	113
22VG39H03L	Lab Control Sample	110

#### Surrogate Legend

BFB = BROMOFLUOROBENZENE

# QC Sample Results

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

Job ID: 380-14577-1

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

**Lab Sample ID: MB 380-11996/1-A**  
**Matrix: Water**  
**Analysis Batch: 13381**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 11996**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
2,4'-DDD	ND		0.098	ug/L		08/06/22 11:49	08/16/22 12:02	1
2,4'-DDE	ND		0.098	ug/L		08/06/22 11:49	08/16/22 12:02	1
2,4'-DDT	ND		0.098	ug/L		08/06/22 11:49	08/16/22 12:02	1
2,4-Dinitrotoluene	ND		0.098	ug/L		08/06/22 11:49	08/16/22 12:02	1
2,6-Dinitrotoluene	ND		0.098	ug/L		08/06/22 11:49	08/16/22 12:02	1
4,4'-DDD	ND		0.098	ug/L		08/06/22 11:49	08/16/22 12:02	1
4,4'-DDE	ND		0.098	ug/L		08/06/22 11:49	08/16/22 12:02	1
4,4'-DDT	ND		0.098	ug/L		08/06/22 11:49	08/16/22 12:02	1
Acenaphthene	ND		0.098	ug/L		08/06/22 11:49	08/16/22 12:02	1
Acenaphthylene	ND		0.098	ug/L		08/06/22 11:49	08/16/22 12:02	1
Acetochlor	ND		0.098	ug/L		08/06/22 11:49	08/16/22 12:02	1
Alachlor	ND		0.049	ug/L		08/06/22 11:49	08/16/22 12:02	1
alpha-BHC	ND		0.098	ug/L		08/06/22 11:49	08/16/22 12:02	1
alpha-Chlordane	ND		0.049	ug/L		08/06/22 11:49	08/16/22 12:02	1
Anthracene	ND		0.020	ug/L		08/06/22 11:49	08/16/22 12:02	1
Atrazine	ND		0.049	ug/L		08/06/22 11:49	08/16/22 12:02	1
Benz(a)anthracene	ND		0.049	ug/L		08/06/22 11:49	08/16/22 12:02	1
Benzo[a]pyrene	ND		0.020	ug/L		08/06/22 11:49	08/16/22 12:02	1
Benzo[b]fluoranthene	ND		0.020	ug/L		08/06/22 11:49	08/16/22 12:02	1
Benzo[g,h,i]perylene	ND		0.049	ug/L		08/06/22 11:49	08/16/22 12:02	1
Benzo[k]fluoranthene	ND		0.020	ug/L		08/06/22 11:49	08/16/22 12:02	1
beta-BHC	ND		0.098	ug/L		08/06/22 11:49	08/16/22 12:02	1
Bromacil	ND		0.098	ug/L		08/06/22 11:49	08/16/22 12:02	1
Butachlor	ND		0.049	ug/L		08/06/22 11:49	08/16/22 12:02	1
Butylbenzylphthalate	ND		0.49	ug/L		08/06/22 11:49	08/16/22 12:02	1
Caffeine	ND		0.049	ug/L		08/06/22 11:49	08/16/22 12:02	1
Chlorobenzilate	ND		0.098	ug/L		08/06/22 11:49	08/16/22 12:02	1
Chloroneb	ND		0.098	ug/L		08/06/22 11:49	08/16/22 12:02	1
Chlorothalonil (Draconil, Bravo)	ND		0.098	ug/L		08/06/22 11:49	08/16/22 12:02	1
Chlorpyrifos	ND		0.049	ug/L		08/06/22 11:49	08/16/22 12:02	1
Chrysene	ND		0.020	ug/L		08/06/22 11:49	08/16/22 12:02	1
delta-BHC	ND		0.098	ug/L		08/06/22 11:49	08/16/22 12:02	1
Di(2-ethylhexyl)adipate	ND		0.59	ug/L		08/06/22 11:49	08/16/22 12:02	1
Bis(2-ethylhexyl) phthalate	ND		0.59	ug/L		08/06/22 11:49	08/16/22 12:02	1
Diazinon (Qualitative)	ND		0.098	ug/L		08/06/22 11:49	08/16/22 12:02	1
Dibenz(a,h)anthracene	ND		0.049	ug/L		08/06/22 11:49	08/16/22 12:02	1
Diclorvos (DDVP)	ND		0.049	ug/L		08/06/22 11:49	08/16/22 12:02	1
Dieldrin	ND		0.20	ug/L		08/06/22 11:49	08/16/22 12:02	1
Diethylphthalate	ND		0.49	ug/L		08/06/22 11:49	08/16/22 12:02	1
Dimethoate	ND		0.098	ug/L		08/06/22 11:49	08/16/22 12:02	1
Dimethylphthalate	ND		0.49	ug/L		08/06/22 11:49	08/16/22 12:02	1
Di-n-butyl phthalate	ND		0.98	ug/L		08/06/22 11:49	08/16/22 12:02	1
Di-n-octyl phthalate	ND		0.098	ug/L		08/06/22 11:49	08/16/22 12:02	1
Endosulfan I (Alpha)	ND		0.098	ug/L		08/06/22 11:49	08/16/22 12:02	1
Endosulfan II (Beta)	ND		0.098	ug/L		08/06/22 11:49	08/16/22 12:02	1
Endosulfan sulfate	ND		0.098	ug/L		08/06/22 11:49	08/16/22 12:02	1
Endrin	ND		0.098	ug/L		08/06/22 11:49	08/16/22 12:02	1
Endrin aldehyde	ND		0.098	ug/L		08/06/22 11:49	08/16/22 12:02	1

Eurofins Eaton Monrovia



# QC Sample Results

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

Job ID: 380-14577-1

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

**Lab Sample ID: MB 380-11996/1-A**  
**Matrix: Water**  
**Analysis Batch: 13381**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 11996**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
EPTC	ND		0.098	ug/L		08/06/22 11:49	08/16/22 12:02	1
Fluoranthene	ND		0.098	ug/L		08/06/22 11:49	08/16/22 12:02	1
Fluorene	ND		0.049	ug/L		08/06/22 11:49	08/16/22 12:02	1
gamma-Chlordane	ND		0.049	ug/L		08/06/22 11:49	08/16/22 12:02	1
Heptachlor	ND		0.039	ug/L		08/06/22 11:49	08/16/22 12:02	1
Heptachlor epoxide (isomer B)	ND		0.049	ug/L		08/06/22 11:49	08/16/22 12:02	1
Hexachlorobenzene	ND		0.049	ug/L		08/06/22 11:49	08/16/22 12:02	1
Hexachlorocyclopentadiene	ND		0.049	ug/L		08/06/22 11:49	08/16/22 12:02	1
Indeno[1,2,3-cd]pyrene	ND		0.049	ug/L		08/06/22 11:49	08/16/22 12:02	1
Isophorone	ND		0.49	ug/L		08/06/22 11:49	08/16/22 12:02	1
Lindane	ND		0.039	ug/L		08/06/22 11:49	08/16/22 12:02	1
Malathion	ND		0.098	ug/L		08/06/22 11:49	08/16/22 12:02	1
Methoxychlor	ND		0.098	ug/L		08/06/22 11:49	08/16/22 12:02	1
Metolachlor	ND		0.049	ug/L		08/06/22 11:49	08/16/22 12:02	1
Metribuzin	ND		0.049	ug/L		08/06/22 11:49	08/16/22 12:02	1
Molinate	ND		0.098	ug/L		08/06/22 11:49	08/16/22 12:02	1
Naphthalene	ND		0.30	ug/L		08/06/22 11:49	08/16/22 12:02	1
Parathion	ND		0.098	ug/L		08/06/22 11:49	08/16/22 12:02	1
Pendimethalin (Penoxaline)	ND		0.098	ug/L		08/06/22 11:49	08/16/22 12:02	1
Total Permethrin (mixed isomers)	ND		0.20	ug/L		08/06/22 11:49	08/16/22 12:02	1
Phenanthrene	ND		0.039	ug/L		08/06/22 11:49	08/16/22 12:02	1
Propachlor	ND		0.049	ug/L		08/06/22 11:49	08/16/22 12:02	1
Pyrene	ND		0.049	ug/L		08/06/22 11:49	08/16/22 12:02	1
Simazine	ND		0.049	ug/L		08/06/22 11:49	08/16/22 12:02	1
Terbacil	ND		0.098	ug/L		08/06/22 11:49	08/16/22 12:02	1
Terbutylazine	ND		0.098	ug/L		08/06/22 11:49	08/16/22 12:02	1
Thiobencarb	ND		0.20	ug/L		08/06/22 11:49	08/16/22 12:02	1
trans-Nonachlor	ND		0.049	ug/L		08/06/22 11:49	08/16/22 12:02	1
Trifluralin	ND		0.098	ug/L		08/06/22 11:49	08/16/22 12:02	1

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Decane	1.70	T J N	ug/L		2.44	124-18-5	08/06/22 11:49	08/16/22 12:02	1
Unknown	0.498	T J	ug/L		2.60		08/06/22 11:49	08/16/22 12:02	1
E-7-Octadecene	0.931	T J N	ug/L		5.19	1000130-92-0	08/06/22 11:49	08/16/22 12:02	1
n-Hexadecanoic acid	1.02	T J N	ug/L		5.84	57-10-3	08/06/22 11:49	08/16/22 12:02	1
Octadecanoic acid	0.793	T J N	ug/L		6.53	57-11-4	08/06/22 11:49	08/16/22 12:02	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Nitro-m-xylene	95		70 - 130	08/06/22 11:49	08/16/22 12:02	1
Triphenylphosphate	97		70 - 130	08/06/22 11:49	08/16/22 12:02	1
Perylene-d12	90		70 - 130	08/06/22 11:49	08/16/22 12:02	1

# QC Sample Results

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

Job ID: 380-14577-1

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

**Lab Sample ID: LCS 380-11996/3-A**  
**Matrix: Water**  
**Analysis Batch: 13381**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 11996**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2,4'-DDD	1.97	2.14		ug/L		109	70 - 130
2,4'-DDE	1.97	1.67		ug/L		85	70 - 130
2,4'-DDT	1.97	1.70		ug/L		86	70 - 130
2,4-Dinitrotoluene	1.97	2.03		ug/L		103	70 - 130
2,6-Dinitrotoluene	1.97	2.01		ug/L		102	70 - 130
4,4'-DDD	1.97	1.78		ug/L		90	70 - 130
4,4'-DDE	1.97	2.08		ug/L		106	70 - 130
4,4'-DDT	1.97	1.80		ug/L		91	70 - 130
Acenaphthene	1.97	1.93		ug/L		98	70 - 130
Acenaphthylene	1.97	1.97		ug/L		100	70 - 130
Acetochlor	1.97	2.12		ug/L		108	70 - 130
Alachlor	1.97	2.07		ug/L		105	70 - 130
alpha-BHC	1.97	2.06		ug/L		105	70 - 130
alpha-Chlordane	1.97	1.94		ug/L		98	70 - 130
Anthracene	1.97	2.07		ug/L		105	70 - 130
Atrazine	1.97	1.94		ug/L		98	70 - 130
Benz(a)anthracene	1.97	1.81		ug/L		92	70 - 130
Benzo[a]pyrene	1.97	1.66		ug/L		84	70 - 130
Benzo[b]fluoranthene	1.97	1.77		ug/L		90	70 - 130
Benzo[g,h,i]perylene	1.97	1.89		ug/L		96	70 - 130
Benzo[k]fluoranthene	1.97	1.67		ug/L		85	70 - 130
beta-BHC	1.97	2.02		ug/L		103	70 - 130
Bromacil	1.97	2.21		ug/L		112	70 - 130
Butachlor	1.97	2.31		ug/L		117	70 - 130
Butylbenzylphthalate	1.97	2.38		ug/L		121	70 - 130
Caffeine	1.97	1.57		ug/L		80	45 - 137
Chlorobenzilate	1.97	2.36		ug/L		120	70 - 130
Chloroneb	1.97	1.88		ug/L		96	70 - 130
Chlorothalonil (Draconil, Bravo)	1.97	2.08		ug/L		105	70 - 130
Chlorpyrifos	1.97	1.86		ug/L		95	70 - 130
Chrysene	1.97	1.70		ug/L		86	70 - 130
delta-BHC	1.97	1.87		ug/L		95	70 - 130
Di(2-ethylhexyl)adipate	1.97	2.55		ug/L		129	70 - 130
Bis(2-ethylhexyl) phthalate	1.97	2.05		ug/L		104	70 - 130
Diazinon (Qualitative)	1.97	1.97		ug/L		100	15 - 132
Dibenz(a,h)anthracene	1.97	1.93		ug/L		98	70 - 130
Diclorvos (DDVP)	1.97	2.32		ug/L		118	70 - 130
Dieldrin	1.97	1.88		ug/L		96	70 - 130
Diethylphthalate	1.97	2.08		ug/L		105	70 - 130
Dimethoate	1.97	1.58		ug/L		80	35 - 100
Dimethylphthalate	1.97	2.17		ug/L		110	70 - 130
Di-n-butyl phthalate	3.94	4.11		ug/L		104	70 - 130
Di-n-octyl phthalate	1.97	1.79		ug/L		91	70 - 130
Endosulfan I (Alpha)	1.97	1.91		ug/L		97	70 - 130
Endosulfan II (Beta)	1.97	2.07		ug/L		105	70 - 130
Endosulfan sulfate	1.97	1.96		ug/L		99	70 - 130
Endrin	1.97	2.09		ug/L		106	70 - 130
Endrin aldehyde	1.97	2.13		ug/L		108	70 - 130

Eurofins Eaton Monrovia

# QC Sample Results

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

Job ID: 380-14577-1

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

**Lab Sample ID: LCS 380-11996/3-A**  
**Matrix: Water**  
**Analysis Batch: 13381**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 11996**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
EPTC	1.97	2.22		ug/L		113	70 - 130
Fluoranthene	1.97	2.03		ug/L		103	70 - 130
Fluorene	1.97	2.16		ug/L		109	70 - 130
gamma-Chlordane	1.97	1.93		ug/L		98	70 - 130
Heptachlor	1.97	2.04		ug/L		104	70 - 130
Heptachlor epoxide (isomer B)	1.97	2.20		ug/L		112	70 - 130
Hexachlorobenzene	1.97	1.96		ug/L		100	70 - 130
Hexachlorocyclopentadiene	1.97	1.61		ug/L		82	70 - 130
Indeno[1,2,3-cd]pyrene	1.97	1.98		ug/L		100	70 - 130
Isophorone	1.97	2.00		ug/L		101	70 - 130
Lindane	1.97	2.02		ug/L		103	70 - 130
Malathion	1.97	2.36		ug/L		120	70 - 130
Methoxychlor	1.97	1.99		ug/L		101	70 - 130
Metolachlor	1.97	2.08		ug/L		106	70 - 130
Metribuzin	1.97	2.03		ug/L		103	70 - 130
Molinate	1.97	2.30		ug/L		117	70 - 130
Naphthalene	1.97	2.00		ug/L		101	70 - 130
Parathion	1.97	2.31		ug/L		117	70 - 130
Pendimethalin (Penoxaline)	1.97	2.03		ug/L		103	70 - 130
Phenanthrene	1.97	2.08		ug/L		106	70 - 130
Propachlor	1.97	2.23		ug/L		113	70 - 130
Pyrene	1.97	1.97		ug/L		100	70 - 130
Simazine	1.97	2.16		ug/L		110	70 - 130
Terbacil	1.97	2.30		ug/L		117	70 - 130
Terbutylazine	1.97	1.86		ug/L		94	70 - 130
Thiobencarb	1.97	2.07		ug/L		105	70 - 130
trans-Nonachlor	1.97	1.87		ug/L		95	70 - 130
Trifluralin	1.97	2.13		ug/L		108	70 - 130

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

**Lab Sample ID: LCSD 380-11996/4-A**  
**Matrix: Water**  
**Analysis Batch: 13381**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 11996**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
2,4'-DDD	1.97	2.14		ug/L		108	70 - 130	0	20
2,4'-DDE	1.97	1.70		ug/L		86	70 - 130	2	20
2,4'-DDT	1.97	1.69		ug/L		86	70 - 130	1	20
2,4-Dinitrotoluene	1.97	2.14		ug/L		109	70 - 130	5	20
2,6-Dinitrotoluene	1.97	2.16		ug/L		109	70 - 130	7	20
4,4'-DDD	1.97	1.79		ug/L		91	70 - 130	1	20
4,4'-DDE	1.97	2.02		ug/L		102	70 - 130	3	20
4,4'-DDT	1.97	1.77		ug/L		90	70 - 130	1	20
Acenaphthene	1.97	1.97		ug/L		100	70 - 130	2	20

Eurofins Eaton Monrovia

# QC Sample Results

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

Job ID: 380-14577-1

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

**Lab Sample ID: LCSD 380-11996/4-A**  
**Matrix: Water**  
**Analysis Batch: 13381**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 11996**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	RPD Limit
							Limits	RPD		
Acenaphthylene	1.97	2.06		ug/L		104	70 - 130	4	20	
Acetochlor	1.97	2.11		ug/L		107	70 - 130	1	20	
Alachlor	1.97	2.05		ug/L		104	70 - 130	1	20	
alpha-BHC	1.97	2.08		ug/L		106	70 - 130	1	20	
alpha-Chlordane	1.97	1.87		ug/L		95	70 - 130	3	20	
Anthracene	1.97	2.09		ug/L		106	70 - 130	1	20	
Atrazine	1.97	2.05		ug/L		104	70 - 130	6	20	
Benz(a)anthracene	1.97	1.82		ug/L		92	70 - 130	1	20	
Benzo[a]pyrene	1.97	1.68		ug/L		85	70 - 130	1	20	
Benzo[b]fluoranthene	1.97	1.75		ug/L		88	70 - 130	1	20	
Benzo[g,h,i]perylene	1.97	1.94		ug/L		98	70 - 130	3	20	
Benzo[k]fluoranthene	1.97	1.74		ug/L		88	70 - 130	4	20	
beta-BHC	1.97	2.03		ug/L		103	70 - 130	0	20	
Bromacil	1.97	2.19		ug/L		111	70 - 130	1	20	
Butachlor	1.97	2.30		ug/L		117	70 - 130	0	20	
Butylbenzylphthalate	1.97	2.39		ug/L		121	70 - 130	0	20	
Caffeine	1.97	1.56		ug/L		79	45 - 137	1	20	
Chlorobenzilate	1.97	2.36		ug/L		119	70 - 130	0	20	
Chloroneb	1.97	1.91		ug/L		97	70 - 130	2	20	
Chlorothalonil (Draconil, Bravo)	1.97	2.10		ug/L		107	70 - 130	1	20	
Chlorpyrifos	1.97	1.87		ug/L		95	70 - 130	0	20	
Chrysene	1.97	1.70		ug/L		86	70 - 130	0	20	
delta-BHC	1.97	1.89		ug/L		96	70 - 130	1	20	
Di(2-ethylhexyl)adipate	1.97	2.52		ug/L		127	70 - 130	1	20	
Bis(2-ethylhexyl) phthalate	1.97	2.01		ug/L		102	70 - 130	2	20	
Diazinon (Qualitative)	1.97	1.97		ug/L		100	15 - 132	0	20	
Dibenz(a,h)anthracene	1.97	1.97		ug/L		100	70 - 130	2	20	
Diclorvos (DDVP)	1.97	2.45		ug/L		124	70 - 130	5	20	
Dieldrin	1.97	1.96		ug/L		99	70 - 130	4	20	
Diethylphthalate	1.97	2.16		ug/L		109	70 - 130	4	20	
Dimethoate	1.97	1.64		ug/L		83	35 - 100	3	20	
Dimethylphthalate	1.97	2.27		ug/L		115	70 - 130	5	20	
Di-n-butyl phthalate	3.95	4.13		ug/L		105	70 - 130	0	20	
Di-n-octyl phthalate	1.97	1.67		ug/L		85	70 - 130	7	20	
Endosulfan I (Alpha)	1.97	1.85		ug/L		94	70 - 130	3	20	
Endosulfan II (Beta)	1.97	1.96		ug/L		99	70 - 130	5	20	
Endosulfan sulfate	1.97	1.97		ug/L		100	70 - 130	1	20	
Endrin	1.97	2.12		ug/L		107	70 - 130	2	20	
Endrin aldehyde	1.97	2.30		ug/L		117	70 - 130	8	20	
EPTC	1.97	2.29		ug/L		116	70 - 130	3	20	
Fluoranthene	1.97	1.98		ug/L		100	70 - 130	3	20	
Fluorene	1.97	2.21		ug/L		112	70 - 130	3	20	
gamma-Chlordane	1.97	1.90		ug/L		96	70 - 130	2	20	
Heptachlor	1.97	2.02		ug/L		102	70 - 130	1	20	
Heptachlor epoxide (isomer B)	1.97	2.18		ug/L		111	70 - 130	1	20	
Hexachlorobenzene	1.97	1.99		ug/L		101	70 - 130	1	20	
Hexachlorocyclopentadiene	1.97	1.66		ug/L		84	70 - 130	3	20	
Indeno[1,2,3-cd]pyrene	1.97	2.02		ug/L		102	70 - 130	2	20	
Isophorone	1.97	2.06		ug/L		105	70 - 130	3	20	

Eurofins Eaton Monrovia

# QC Sample Results

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

Job ID: 380-14577-1

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

**Lab Sample ID: LCSD 380-11996/4-A**  
**Matrix: Water**  
**Analysis Batch: 13381**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 11996**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Lindane	1.97	2.05		ug/L		104	70 - 130	1	20
Malathion	1.97	2.33		ug/L		118	70 - 130	1	20
Methoxychlor	1.97	1.99		ug/L		101	70 - 130	0	20
Metolachlor	1.97	2.01		ug/L		102	70 - 130	4	20
Metribuzin	1.97	2.08		ug/L		106	70 - 130	3	20
Molinate	1.97	2.35		ug/L		119	70 - 130	2	20
Naphthalene	1.97	2.04		ug/L		103	70 - 130	2	20
Parathion	1.97	2.31		ug/L		117	70 - 130	0	20
Pendimethalin (Penoxaline)	1.97	2.13		ug/L		108	70 - 130	5	20
Phenanthrene	1.97	2.06		ug/L		104	70 - 130	1	20
Propachlor	1.97	2.33		ug/L		118	70 - 130	4	20
Pyrene	1.97	1.95		ug/L		99	70 - 130	1	20
Simazine	1.97	2.19		ug/L		111	70 - 130	1	20
Terbacil	1.97	2.29		ug/L		116	70 - 130	0	20
Terbutylazine	1.97	1.94		ug/L		98	70 - 130	4	20
Thiobencarb	1.97	2.08		ug/L		105	70 - 130	0	20
trans-Nonachlor	1.97	1.84		ug/L		93	70 - 130	2	20
Trifluralin	1.97	2.29		ug/L		116	70 - 130	7	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2-Nitro-m-xylene	98		70 - 130
Triphenylphosphate	101		70 - 130
Perylene-d12	98		70 - 130

**Lab Sample ID: MRL 380-11996/2-A**  
**Matrix: Water**  
**Analysis Batch: 13381**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 11996**

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
2,4'-DDD	0.0989	0.113		ug/L		114	50 - 150
2,4'-DDE	0.0989	0.0836	J	ug/L		85	50 - 150
2,4'-DDT	0.0989	0.0807	J	ug/L		82	50 - 150
2,4-Dinitrotoluene	0.0989	0.111		ug/L		112	50 - 150
2,6-Dinitrotoluene	0.0989	0.102		ug/L		103	50 - 150
4,4'-DDD	0.0989	0.0913	J	ug/L		92	50 - 150
4,4'-DDE	0.0989	0.129		ug/L		130	50 - 150
4,4'-DDT	0.0989	0.0874	J	ug/L		88	50 - 150
Acenaphthene	0.0989	0.0912	J	ug/L		92	50 - 150
Acenaphthylene	0.0989	0.0766	J	ug/L		77	50 - 150
Acetochlor	0.0494	0.0438	J	ug/L		89	50 - 150
Alachlor	0.0494	0.0558		ug/L		113	50 - 150
alpha-BHC	0.0989	0.114		ug/L		115	50 - 150
alpha-Chlordane	0.0494	0.0534		ug/L		108	50 - 150
Anthracene	0.0198	0.0198	J	ug/L		100	50 - 150
Atrazine	0.0494	ND		ug/L		88	50 - 150
Benz(a)anthracene	0.0494	0.0448	J	ug/L		91	50 - 150
Benzo[a]pyrene	0.0198	0.0196	J	ug/L		99	50 - 150
Benzo[b]fluoranthene	0.0198	0.0196	J	ug/L		99	50 - 150

Eurofins Eaton Monrovia

# QC Sample Results

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

Job ID: 380-14577-1

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

**Lab Sample ID: MRL 380-11996/2-A**  
**Matrix: Water**  
**Analysis Batch: 13381**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 11996**

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Benzo[g,h,i]perylene	0.0494	0.0472	J	ug/L		95	50 - 150
Benzo[k]fluoranthene	0.0198	0.0192	J	ug/L		97	50 - 150
beta-BHC	0.0989	0.103		ug/L		104	50 - 150
Bromacil	0.0989	0.108		ug/L		109	50 - 150
Butachlor	0.0494	0.0519		ug/L		105	50 - 150
Butylbenzylphthalate	0.148	0.162	J	ug/L		109	50 - 150
Caffeine	0.0494	0.0385	J	ug/L		78	50 - 150
Chlorobenzilate	0.0989	0.110		ug/L		111	50 - 150
Chloroneb	0.0989	0.104		ug/L		106	50 - 150
Chlorothalonil (Draconil, Bravo)	0.0989	0.0846	J	ug/L		86	50 - 150
Chlorpyrifos	0.0494	0.0545		ug/L		110	50 - 150
Chrysene	0.0198	0.0212		ug/L		107	50 - 150
delta-BHC	0.0989	0.122		ug/L		124	50 - 150
Di(2-ethylhexyl)adipate	0.297	0.472	J ^3+	ug/L		159	50 - 150
Bis(2-ethylhexyl) phthalate	0.593	0.656		ug/L		111	50 - 150
Diazinon (Qualitative)	0.0989	0.0955	J	ug/L		97	15 - 132
Dibenz(a,h)anthracene	0.0494	0.0536		ug/L		108	50 - 150
Diclorvos (DDVP)	0.0494	0.0566		ug/L		115	50 - 150
Dieldrin	0.0989	0.0994	J	ug/L		101	50 - 150
Diethylphthalate	0.148	0.165	J	ug/L		111	50 - 150
Dimethoate	0.0989	0.0883	J	ug/L		89	35 - 100
Dimethylphthalate	0.297	0.286	J	ug/L		97	50 - 150
Di-n-butyl phthalate	0.297	0.381	J	ug/L		129	49 - 243
Di-n-octyl phthalate	0.0989	0.121		ug/L		123	50 - 150
Endosulfan I (Alpha)	0.0989	0.0939	J	ug/L		95	50 - 150
Endosulfan II (Beta)	0.0989	0.114		ug/L		116	50 - 150
Endosulfan sulfate	0.0989	0.0826	J	ug/L		84	50 - 150
Endrin	0.0989	0.124		ug/L		126	50 - 150
Endrin aldehyde	0.0989	0.0871	J	ug/L		88	50 - 150
EPTC	0.0989	0.103		ug/L		104	50 - 150
Fluoranthene	0.0494	0.0549	J	ug/L		111	50 - 150
Fluorene	0.0494	ND		ug/L		98	50 - 150
gamma-Chlordane	0.0494	0.0520		ug/L		105	50 - 150
Heptachlor	0.0395	0.0463		ug/L		117	50 - 150
Heptachlor epoxide (isomer B)	0.0494	0.0513		ug/L		104	50 - 150
Hexachlorobenzene	0.0494	0.0749	^3+	ug/L		152	50 - 150
Hexachlorocyclopentadiene	0.0494	0.0400	J	ug/L		81	50 - 150
Indeno[1,2,3-cd]pyrene	0.0494	0.0470	J	ug/L		95	50 - 150
Isophorone	0.0989	0.0983	J	ug/L		99	50 - 150
Lindane	0.0494	0.0441		ug/L		89	50 - 150
Malathion	0.0989	0.100		ug/L		101	50 - 150
Methoxychlor	0.0989	0.0966	J	ug/L		98	50 - 150
Metolachlor	0.0494	0.0502		ug/L		102	50 - 150
Metribuzin	0.0494	0.0571		ug/L		115	50 - 150
Molinate	0.0989	0.113		ug/L		115	50 - 150
Naphthalene	0.0989	0.105	J	ug/L		106	50 - 150
Parathion	0.0989	0.138		ug/L		140	50 - 150
Pendimethalin (Penoxaline)	0.0989	0.0888	J	ug/L		90	50 - 150
Phenanthrene	0.0198	0.0239	J	ug/L		121	50 - 150

Eurofins Eaton Monrovia

# QC Sample Results

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

Job ID: 380-14577-1

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

**Lab Sample ID: MRL 380-11996/2-A**  
**Matrix: Water**  
**Analysis Batch: 13381**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 11996**

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Propachlor	0.0494	0.0541		ug/L		109	50 - 150
Pyrene	0.0494	0.0545		ug/L		110	50 - 150
Simazine	0.0494	0.0548		ug/L		111	50 - 150
Terbacil	0.0989	0.117		ug/L		118	50 - 150
Terbutylazine	0.0989	0.102		ug/L		103	50 - 150
Thiobencarb	0.0989	0.116	J	ug/L		117	50 - 150
trans-Nonachlor	0.0494	0.0432	J	ug/L		87	50 - 150
Trifluralin	0.0989	0.0808	J	ug/L		82	50 - 150

Surrogate	MRL %Recovery	MRL Qualifier	Limits
2-Nitro-m-xylene	96		70 - 130
Triphenylphosphate	99		70 - 130
Perylene-d12	97		70 - 130

**Lab Sample ID: 380-14577-1 MS**  
**Matrix: Drinking Water**  
**Analysis Batch: 13381**

**Client Sample ID: AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)**  
**Prep Type: Total/NA**  
**Prep Batch: 11996**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
2,4'-DDD	ND		1.97	2.12		ug/L		108	70 - 130
2,4'-DDE	ND		1.97	1.67		ug/L		85	70 - 130
2,4'-DDT	ND		1.97	1.66		ug/L		85	70 - 130
2,4-Dinitrotoluene	ND		1.97	2.11		ug/L		107	70 - 130
2,6-Dinitrotoluene	ND		1.97	2.09		ug/L		106	70 - 130
4,4'-DDD	ND		1.97	1.75		ug/L		89	70 - 130
4,4'-DDE	ND		1.97	1.96		ug/L		100	70 - 130
4,4'-DDT	ND		1.97	1.73		ug/L		88	70 - 130
Acenaphthene	ND		1.97	1.93		ug/L		98	70 - 130
Acenaphthylene	ND		1.97	2.05		ug/L		104	70 - 130
Acetochlor	ND		1.97	2.17		ug/L		110	70 - 130
Alachlor	ND		1.97	2.06		ug/L		105	70 - 130
alpha-BHC	ND		1.97	1.98		ug/L		101	70 - 130
alpha-Chlordane	ND		1.97	1.92		ug/L		97	70 - 130
Anthracene	ND		1.97	1.71		ug/L		87	70 - 130
Atrazine	ND		1.97	2.00		ug/L		102	70 - 130
Benz(a)anthracene	ND		1.97	1.73		ug/L		88	70 - 130
Benzo[a]pyrene	ND		1.97	1.57		ug/L		80	70 - 130
Benzo[b]fluoranthene	ND		1.97	1.79		ug/L		91	70 - 130
Benzo[g,h,i]perylene	ND		1.97	1.99		ug/L		101	70 - 130
Benzo[k]fluoranthene	ND		1.97	1.74		ug/L		88	70 - 130
beta-BHC	ND		1.97	1.98		ug/L		101	70 - 130
Bromacil	ND		1.97	2.22		ug/L		113	70 - 130
Butachlor	ND		1.97	2.35		ug/L		120	70 - 130
Butylbenzylphthalate	ND		1.97	2.37		ug/L		121	70 - 130
Caffeine	ND		1.97	1.68		ug/L		86	46 - 144
Chlorobenzilate	ND		1.97	2.41		ug/L		122	70 - 130
Chloroneb	ND		1.97	1.86		ug/L		94	70 - 130
Chlorothalonil (Draconil, Bravo)	ND		1.97	2.11		ug/L		108	70 - 130

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# QC Sample Results

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

Job ID: 380-14577-1

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

**Lab Sample ID: 380-14577-1 MS**

**Client Sample ID: AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)**

**Matrix: Drinking Water**

**Prep Type: Total/NA**

**Analysis Batch: 13381**

**Prep Batch: 11996**

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec
	Result	Qualifier	Added	Result	Qualifier				Limits
Chlorpyrifos	ND		1.97	1.86		ug/L		94	70 - 130
Chrysene	ND		1.97	1.74		ug/L		88	70 - 130
delta-BHC	ND		1.97	1.87		ug/L		95	70 - 130
Di(2-ethylhexyl)adipate	ND	^3+	1.97	2.47		ug/L		122	70 - 130
Bis(2-ethylhexyl) phthalate	ND		1.97	1.94		ug/L		99	70 - 130
Diazinon (Qualitative)	ND		1.97	2.03		ug/L		103	15 - 132
Dibenz(a,h)anthracene	ND		1.97	2.04		ug/L		104	70 - 130
Diclorvos (DDVP)	ND		1.97	2.34		ug/L		119	70 - 130
Dieldrin	ND		1.97	1.92		ug/L		97	70 - 130
Diethylphthalate	ND		1.97	2.09		ug/L		106	70 - 130
Dimethoate	ND		1.97	1.68		ug/L		86	34 - 111
Dimethylphthalate	ND		1.97	2.16		ug/L		110	70 - 130
Di-n-butyl phthalate	ND		3.93	4.20		ug/L		107	70 - 130
Di-n-octyl phthalate	ND		1.97	1.68		ug/L		85	70 - 130
Endosulfan I (Alpha)	ND		1.97	1.87		ug/L		95	70 - 130
Endosulfan II (Beta)	ND		1.97	1.97		ug/L		100	70 - 130
Endosulfan sulfate	ND		1.97	1.95		ug/L		99	70 - 130
Endrin	ND		1.97	2.08		ug/L		106	70 - 130
Endrin aldehyde	ND		1.97	2.19		ug/L		111	70 - 130
EPTC	ND		1.97	2.20		ug/L		112	70 - 130
Fluoranthene	ND		1.97	2.00		ug/L		102	70 - 130
Fluorene	ND		1.97	2.15		ug/L		109	70 - 130
gamma-Chlordane	ND		1.97	1.95		ug/L		99	70 - 130
Heptachlor	ND		1.97	2.04		ug/L		104	70 - 130
Heptachlor epoxide (isomer B)	ND		1.97	2.20		ug/L		112	70 - 130
Hexachlorobenzene	ND	^3+	1.97	1.96		ug/L		100	70 - 130
Hexachlorocyclopentadiene	ND		1.97	1.58		ug/L		80	70 - 130
Indeno[1,2,3-cd]pyrene	ND		1.97	2.09		ug/L		106	70 - 130
Isophorone	ND		1.97	1.97		ug/L		100	70 - 130
Lindane	ND		1.97	2.00		ug/L		102	70 - 130
Malathion	ND		1.97	2.34		ug/L		119	70 - 130
Methoxychlor	ND		1.97	1.98		ug/L		101	70 - 130
Metolachlor	ND		1.97	2.04		ug/L		104	70 - 130
Metribuzin	ND		1.97	1.94		ug/L		99	70 - 130
Molinate	ND		1.97	2.26		ug/L		115	70 - 130
Naphthalene	ND		1.97	2.01		ug/L		102	70 - 130
Parathion	ND		1.97	2.38		ug/L		121	70 - 130
Pendimethalin (Penoxaline)	ND		1.97	2.10		ug/L		107	70 - 130
Phenanthrene	ND		1.97	2.08		ug/L		106	70 - 130
Propachlor	ND		1.97	2.26		ug/L		115	70 - 130
Pyrene	ND		1.97	1.95		ug/L		99	70 - 130
Simazine	ND		1.97	2.10		ug/L		107	70 - 130
Terbacil	ND		1.97	2.23		ug/L		114	70 - 130
Terbutylazine	ND		1.97	1.88		ug/L		96	70 - 130
Thiobencarb	ND		1.97	2.13		ug/L		108	70 - 130
trans-Nonachlor	ND		1.97	1.82		ug/L		92	70 - 130
Trifluralin	ND		1.97	2.19		ug/L		111	70 - 130

Eurofins Eaton Monrovia



# QC Sample Results

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

Job ID: 380-14577-1

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

**Lab Sample ID: 380-14577-1 MS**  
**Matrix: Drinking Water**  
**Analysis Batch: 13381**

**Client Sample ID: AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)**  
**Prep Type: Total/NA**  
**Prep Batch: 11996**

Surrogate	%Recovery	MS MS Qualifier	Limits
2-Nitro-m-xylene	96		70 - 130
Triphenylphosphate	102		70 - 130
Perylene-d12	97		70 - 130

**Lab Sample ID: 380-14577-2 DU**  
**Matrix: Drinking Water**  
**Analysis Batch: 13381**

**Client Sample ID: MOANALUA WELLS (331-223-TP202)**  
**Prep Type: Total/NA**  
**Prep Batch: 11996**

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	^3+	ND		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: 380-14577-1

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

**Lab Sample ID: 380-14577-2 DU**  
**Matrix: Drinking Water**  
**Analysis Batch: 13381**

**Client Sample ID: MOANALUA WELLS (331-223-TP202)**  
**Prep Type: Total/NA**  
**Prep Batch: 11996**

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	^3+	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		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	DU %Recovery	DU Qualifier	Limits
2-Nitro-m-xylene	96		70 - 130
Triphenylphosphate	100		70 - 130
Perylene-d12	95		70 - 130

# QC Sample Results

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

Job ID: 380-14577-1

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

**Lab Sample ID: 98918-B1**  
**Matrix: water**  
**Analysis Batch: O-38082**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: O-38082\_P**

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.005	0.001	µg/L		08/08/22 00:00	08/13/22 16:48	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		08/08/22 00:00	08/13/22 16:48	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		08/08/22 00:00	08/13/22 16:48	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		08/08/22 00:00	08/13/22 16:48	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		08/08/22 00:00	08/13/22 16:48	1
Acenaphthene	ND		0.005	0.001	µg/L		08/08/22 00:00	08/13/22 16:48	1
Acenaphthylene	ND		0.005	0.001	µg/L		08/08/22 00:00	08/13/22 16:48	1
Anthracene	ND		0.005	0.001	µg/L		08/08/22 00:00	08/13/22 16:48	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		08/08/22 00:00	08/13/22 16:48	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		08/08/22 00:00	08/13/22 16:48	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		08/08/22 00:00	08/13/22 16:48	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		08/08/22 00:00	08/13/22 16:48	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		08/08/22 00:00	08/13/22 16:48	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		08/08/22 00:00	08/13/22 16:48	1
Biphenyl	ND		0.005	0.001	µg/L		08/08/22 00:00	08/13/22 16:48	1
Chrysene	ND		0.005	0.001	µg/L		08/08/22 00:00	08/13/22 16:48	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		08/08/22 00:00	08/13/22 16:48	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		08/08/22 00:00	08/13/22 16:48	1
Dibenzothiophene	ND		0.005	0.001	µg/L		08/08/22 00:00	08/13/22 16:48	1
Disalicylidenepropanediamine	ND		0.1	0.05	µg/L		08/08/22 00:00	08/13/22 16:48	1
Fluoranthene	ND		0.005	0.001	µg/L		08/08/22 00:00	08/13/22 16:48	1
Fluorene	ND		0.005	0.001	µg/L		08/08/22 00:00	08/13/22 16:48	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		08/08/22 00:00	08/13/22 16:48	1
Naphthalene	ND		0.005	0.001	µg/L		08/08/22 00:00	08/13/22 16:48	1
Perylene	ND		0.005	0.001	µg/L		08/08/22 00:00	08/13/22 16:48	1
Phenanthrene	ND		0.005	0.001	µg/L		08/08/22 00:00	08/13/22 16:48	1
Pyrene	ND		0.005	0.001	µg/L		08/08/22 00:00	08/13/22 16:48	1

Surrogate	Blank %Recovery	Blank Qualifier	Limits	Prepared	Analyzed	Dil Fac
(d10-Acenaphthene)	90		65 - 113	08/08/22 00:00	08/13/22 16:48	1
(d10-Phenanthrene)	92		80 - 111	08/08/22 00:00	08/13/22 16:48	1
(d12-Chrysene)	92		60 - 139	08/08/22 00:00	08/13/22 16:48	1
(d12-Perylene)	93		36 - 161	08/08/22 00:00	08/13/22 16:48	1
(d8-Naphthalene)	86		44 - 119	08/08/22 00:00	08/13/22 16:48	1

**Lab Sample ID: 98918-BS1**  
**Matrix: water**  
**Analysis Batch: O-38082**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: O-38082\_P**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1-Methylnaphthalene	0.5	0.444		µg/L		89	49 - 117
1-Methylphenanthrene	0.5	0.528		µg/L		106	66 - 127
2,3,5-Trimethylnaphthalene	0.5	0.455		µg/L		91	57 - 120
2,6-Dimethylnaphthalene	0.5	0.447		µg/L		89	54 - 117
2-Methylnaphthalene	0.5	0.446		µg/L		89	47 - 130
Acenaphthene	0.5	0.442		µg/L		88	53 - 131
Acenaphthylene	0.5	0.453		µg/L		91	43 - 140
Anthracene	0.5	0.442		µg/L		88	58 - 135

Eurofins Eaton Monrovia

# QC Sample Results

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

Job ID: 380-14577-1

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

**Lab Sample ID: 98918-BS1**  
**Matrix: water**  
**Analysis Batch: O-38082**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: O-38082\_P**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benz[a]anthracene	0.5	0.503		µg/L		101	55 - 145
Benzo[a]pyrene	0.5	0.427		µg/L		85	51 - 143
Benzo[b]fluoranthene	0.5	0.622		µg/L		124	46 - 165
Benzo[e]pyrene	0.5	0.543		µg/L		109	42 - 152
Benzo[g,h,i]perylene	0.5	0.46		µg/L		92	63 - 133
Benzo[k]fluoranthene	0.5	0.518		µg/L		104	56 - 145
Biphenyl	0.5	0.445		µg/L		89	56 - 119
Chrysene	0.5	0.455		µg/L		91	56 - 141
Dibenz[a,h]anthracene	0.5	0.638		µg/L		128	55 - 150
Dibenzo[a,l]pyrene	0.5	0.492		µg/L		98	50 - 150
Dibenzothiophene	0.5	0.469		µg/L		94	75 - 113
Disalicylidenepropanediamine	50	34.6		µg/L		69	50 - 150
Fluoranthene	0.5	0.53		µg/L		106	60 - 146
Fluorene	0.5	0.492		µg/L		98	58 - 131
Indeno[1,2,3-cd]pyrene	0.5	0.67		µg/L		134	50 - 151
Naphthalene	0.5	0.433		µg/L		87	41 - 126
Perylene	0.5	0.513		µg/L		103	48 - 141
Phenanthrene	0.5	0.46		µg/L		92	67 - 127
Pyrene	0.5	0.538		µg/L		108	54 - 156

Surrogate	LCS %Recovery	LCS Qualifier	Limits
(d10-Acenaphthene)	92		65 - 113
(d10-Phenanthrene)	95		80 - 111
(d12-Chrysene)	88		60 - 139
(d12-Perylene)	98		36 - 161
(d8-Naphthalene)	85		44 - 119

**Lab Sample ID: 98918-BS2**  
**Matrix: water**  
**Analysis Batch: O-38082**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: O-38082\_P**

Analyte	Spike Added	LCS DUP Result	LCS DUP Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1-Methylnaphthalene	0.5	0.437		µg/L		87	49 - 117	2	30
1-Methylphenanthrene	0.5	0.537		µg/L		107	66 - 127	1	30
2,3,5-Trimethylnaphthalene	0.5	0.438		µg/L		88	57 - 120	3	30
2,6-Dimethylnaphthalene	0.5	0.439		µg/L		88	54 - 117	1	30
2-Methylnaphthalene	0.5	0.442		µg/L		88	47 - 130	1	30
Acenaphthene	0.5	0.429		µg/L		86	53 - 131	2	30
Acenaphthylene	0.5	0.447		µg/L		89	43 - 140	2	30
Anthracene	0.5	0.449		µg/L		90	58 - 135	2	30
Benz[a]anthracene	0.5	0.501		µg/L		100	55 - 145	1	30
Benzo[a]pyrene	0.5	0.422		µg/L		84	51 - 143	1	30
Benzo[b]fluoranthene	0.5	0.621		µg/L		124	46 - 165	0	30
Benzo[e]pyrene	0.5	0.541		µg/L		108	42 - 152	1	30
Benzo[g,h,i]perylene	0.5	0.457		µg/L		91	63 - 133	1	30
Benzo[k]fluoranthene	0.5	0.51		µg/L		102	56 - 145	2	30
Biphenyl	0.5	0.431		µg/L		86	56 - 119	3	30
Chrysene	0.5	0.451		µg/L		90	56 - 141	1	30

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# QC Sample Results

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

Job ID: 380-14577-1

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

**Lab Sample ID: 98918-BS2**  
**Matrix: water**  
**Analysis Batch: O-38082**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: O-38082\_P**

Analyte	Spike Added	LCS DUP Result	LCS DUP Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
							Limits	RPD		
Dibenz[a,h]anthracene	0.5	0.642		µg/L		128	55 - 150	0	30	
Dibenzo[a,i]pyrene	0.5	0.52		µg/L		104	50 - 150	6	30	
Dibenzothiophene	0.5	0.473		µg/L		95	75 - 113	1	30	
Disalicylidenepropanediamine	50	36.7		µg/L		73	50 - 150	6	30	
Fluoranthene	0.5	0.546		µg/L		109	60 - 146	3	30	
Fluorene	0.5	0.481		µg/L		96	58 - 131	2	30	
Indeno[1,2,3-cd]pyrene	0.5	0.679		µg/L		136	50 - 151	1	30	
Naphthalene	0.5	0.413		µg/L		83	41 - 126	5	30	
Perylene	0.5	0.5		µg/L		100	48 - 141	3	30	
Phenanthrene	0.5	0.464		µg/L		93	67 - 127	1	30	
Pyrene	0.5	0.552		µg/L		110	54 - 156	2	30	

Surrogate	LCS DUP		Limits
	%Recovery	Qualifier	
(d10-Acenaphthene)	89		65 - 113
(d10-Phenanthrene)	95		80 - 111
(d12-Chrysene)	89		60 - 139
(d12-Perylene)	97		36 - 161
(d8-Naphthalene)	82		44 - 119

## Method: 8015 Diesel LL (EAL) and Motor Oil - 8015 - TPH DRO/ORO

**Lab Sample ID: 22DSH019WB**  
**Matrix: WATER**  
**Analysis Batch: 22DSH019W**

**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			08/13/22 04:57	1
MOTOR OIL	ND	U	0.05		mg/L			08/13/22 04:57	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
BROMOBENZENE					08/13/22 04:57	1
HEXACOSANE					08/13/22 04:57	1

**Lab Sample ID: 22DSH019WL**  
**Matrix: WATER**  
**Analysis Batch: 22DSH019W**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec	
							Limits	RPD
DIESEL	2.5	2.51		mg/L		100	50 - 130	

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
BROMOBENZENE	80		60 - 130
HEXACOSANE	94		60 - 130

# QC Sample Results

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

Job ID: 380-14577-1

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

**Lab Sample ID: 22VG39H03B**  
**Matrix: WATER**  
**Analysis Batch: 22VG39H03**

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GASOLINE	ND	U	0.02		mg/L			08/09/22 13:32	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE								08/09/22 13:32	1

**Lab Sample ID: 22VG39H03L**  
**Matrix: WATER**  
**Analysis Batch: 22VG39H03**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
GASOLINE	0.5	0.442		mg/L		88	60 - 130
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
BROMOFLUOROBENZENE	110		70 - 130				

# QC Association Summary

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

Job ID: 380-14577-1

## GC/MS Semi VOA

### Prep Batch: 11996

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-14577-1	AIEA WELLS PUMPS 1&2 (260) (331-203-TP40C	Total/NA	Drinking Water	525.2	
380-14577-2	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	525.2	
MB 380-11996/1-A	Method Blank	Total/NA	Water	525.2	
LCS 380-11996/3-A	Lab Control Sample	Total/NA	Water	525.2	
LCSD 380-11996/4-A	Lab Control Sample Dup	Total/NA	Water	525.2	
MRL 380-11996/2-A	Lab Control Sample	Total/NA	Water	525.2	
380-14577-1 MS	AIEA WELLS PUMPS 1&2 (260) (331-203-TP40C	Total/NA	Drinking Water	525.2	
380-14577-2 DU	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	525.2	

### Analysis Batch: 13381

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-14577-1	AIEA WELLS PUMPS 1&2 (260) (331-203-TP40C	Total/NA	Drinking Water	525.2	11996
380-14577-2	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	525.2	11996
MB 380-11996/1-A	Method Blank	Total/NA	Water	525.2	11996
LCS 380-11996/3-A	Lab Control Sample	Total/NA	Water	525.2	11996
LCSD 380-11996/4-A	Lab Control Sample Dup	Total/NA	Water	525.2	11996
MRL 380-11996/2-A	Lab Control Sample	Total/NA	Water	525.2	11996
380-14577-1 MS	AIEA WELLS PUMPS 1&2 (260) (331-203-TP40C	Total/NA	Drinking Water	525.2	11996
380-14577-2 DU	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	525.2	11996

## Subcontract

### Analysis Batch: O-38082

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-14577-1	AIEA WELLS PUMPS 1&2 (260) (331-203-TP40C	Total/NA	Drinking Water	625 PAH Physis LL (EAL) + TICs	O-38082_P
380-14577-2	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	625 PAH Physis LL (EAL) + TICs	O-38082_P
98918-B1	Method Blank	Total/NA	water	625 PAH Physis LL (EAL) + TICs	O-38082_P
98918-BS1	Lab Control Sample	Total/NA	water	625 PAH Physis LL (EAL) + TICs	O-38082_P
98918-BS2	Lab Control Sample Dup	Total/NA	water	625 PAH Physis LL (EAL) + TICs	O-38082_P

### Analysis Batch: 22DSH019W

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-14577-1	AIEA WELLS PUMPS 1&2 (260) (331-203-TP40C	Total/NA	Drinking Water	8015 Diesel LL (EAL) and Motor Oil	
380-14577-2	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	8015 Diesel LL (EAL) and Motor Oil	
22DSH019WB	Method Blank	Total/NA	WATER	8015 Diesel LL (EAL) and Motor Oil	
22DSH019WL	Lab Control Sample	Total/NA	WATER	8015 Diesel LL (EAL) and Motor Oil	

### Analysis Batch: 22VG39H03

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-14577-1	AIEA WELLS PUMPS 1&2 (260) (331-203-TP40C	Total/NA	Drinking Water	8015 Gas (Purgeable) LL (EAL)	

Eurofins Eaton Monrovia

# QC Association Summary

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

Job ID: 380-14577-1

## Subcontract (Continued)

### Analysis Batch: 22VG39H03 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-14577-2	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	8015 Gas (Purgeable) LL (EAL)	
22VG39H03B	Method Blank	Total/NA	WATER	8015 Gas (Purgeable) LL (EAL)	
22VG39H03L	Lab Control Sample	Total/NA	WATER	8015 Gas (Purgeable) LL (EAL)	

### Prep Batch: O-38082\_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-14577-1	AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	Total/NA	Drinking Water	EPA_625	
380-14577-2	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	EPA_625	
98918-B1	Method Blank	Total/NA	water	EPA_625	
98918-BS1	Lab Control Sample	Total/NA	water	EPA_625	
98918-BS2	Lab Control Sample Dup	Total/NA	water	EPA_625	





# Lab Chronicle

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

Job ID: 380-14577-1

**Client Sample ID: AIEA WELLS PUMPS 1&2 (260)  
(331-203-TP400)**

**Lab Sample ID: 380-14577-1**

**Date Collected: 08/02/22 10:50**

**Matrix: Drinking Water**

**Date Received: 08/04/22 10:30**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	525.2			11996	N8NE	EA MON	08/06/22 11:49
Total/NA	Analysis	525.2		1	13381	UPAC	EA MON	08/16/22 13:23
Total/NA	Prep	EPA_625		1	O-38082_P			08/08/22 00:00
Total/NA	Analysis	625 PAH Physis LL (EAL) + TICs		1	O-38082	YC		08/14/22 06:39
Total/NA	Analysis	8015 Diesel LL (EAL) and Motor Oil		1	22DSH019W	SDees		08/13/22 08:01
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)		1	22VG39H03	SCerva		08/09/22 22:35

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

**Lab Sample ID: 380-14577-2**

**Date Collected: 08/02/22 11:33**

**Matrix: Drinking Water**

**Date Received: 08/04/22 10:30**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	525.2			11996	N8NE	EA MON	08/06/22 11:49
Total/NA	Analysis	525.2		1	13381	UPAC	EA MON	08/16/22 13:44
Total/NA	Prep	EPA_625		1	O-38082_P			08/08/22 00:00
Total/NA	Analysis	625 PAH Physis LL (EAL) + TICs		1	O-38082	YC		08/14/22 08:23
Total/NA	Analysis	8015 Diesel LL (EAL) and Motor Oil		1	22DSH019W	SDees		08/13/22 08:19
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)		1	22VG39H03	SCerva		08/09/22 23:11

**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: 380-14577-1

## 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: 380-14577-1

## 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: 380-14577-1

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: 380-14577-1

---

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	PWSID Number
380-14577-1	AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	Drinking Water	08/02/22 10:50	08/04/22 10:30	HI0000331
380-14577-2	MOANALUA WELLS (331-223-TP202)	Drinking Water	08/02/22 11:33	08/04/22 10:30	HI0000331

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LABORATORIES, INC.®

3051 Fujita Street  
Torrance, CA 90506  
Tel: (310)-618-8889

Date: 08-30-2022  
EMAX Batch No.: 22H081

Attn: Jackie Contreras

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

Subject: Laboratory Report  
Project: 380-14577

-----  
Enclosed is the Laboratory report for samples received on 08/05/22.  
The data reported relate only to samples listed below :

Sample ID	Control #	Col Date	Matrix	Analysis
380-14577-1	H081-01	08/02/22	WATER	TPH GASOLINE TPH DIESEL & MOTOR OIL
380-14577-2	H081-02	08/02/22	WATER	TPH GASOLINE TPH DIESEL & MOTOR OIL

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

22H081

Chain of Custody Record

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



22H081



Environment Testing  
 America

Client Information (Sub Contract Lab)

Client Contact: Shipping/Receiving  
 Company: EMAX Laboratories Inc  
 Address: 3051 Fujita Street, Torrance, CA, 90505  
 City: Torrance  
 State, Zip: CA, 90505  
 Phone: [Blank]  
 Email: [Blank]  
 Project Name: RED-HILL  
 Site: Honolulu BWS Sites

Sampler: Frank, Debbie L  
 Lab P/N: [Blank]  
 Carrier Tracking No(s): [Blank]  
 Page: 1 of 1  
 Job #: 380-14577-1

Date Date Requested: 8/17/2022  
 TAT Requested (days): [Blank]  
 Analysis Requested: [Blank]

Field Filtered Sample (Yes or No) [X]  
 Perform MS/MSD (Yes or No) [X]  
 SUB (8015 Gas (Purgeable) LL (EAL)/ 8015 Gas (Purgeable) LL (EAL)  
 SUB (8015 Diesel LL (EAL) and Motor Oil/ 8015 Diesel LL (EAL) and Motor Oil

Preservation Codes:  
 A - HCL  
 B - NaOH  
 C - Zn Acetate  
 D - Nitric Acid  
 E - NaHSO4  
 F - MeOH  
 G - Amchlor  
 H - Ascorbic Acid  
 I - Ice  
 J - DI Water  
 K - EDTA  
 L - EDA  
 M - Hexane  
 N - None  
 O - AsMAO2  
 P - Na2OAS  
 Q - Na2SO3  
 R - Na2S2O3  
 S - H2SO4  
 T - TSP Dodecahydrate  
 U - Acetone  
 V - MCAA  
 W - pH 4.5  
 Y - Trizma  
 Z - other (Specify)

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (G=comp, G=grab)	MATRIX (W=Water, S=solid, O=oil, BT=Issue, AA=)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Total Number of containers	Special Instructions/Note:
1 AIEA WELLS PUMPS 182 (260) (331-203-T-P400) (380-14577-1)	8/2/22	10:50 Hawaiian	Water	Water	[X]	[X]	6	See Attached Instructions
2 MOANALUA WELLS (331-223-T-P202) (380-14577-2)	8/2/22	11:33 Hawaiian	Water	Water	[X]	[X]	6	See Attached Instructions

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

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

Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:
[Signature]	8-5-22 16:50	CEA	[Signature]	8/5/22	EMAX

Custody Seals Intact: [Blank]  
 Custody Seal No.: [Blank]  
 REPORT ID: 22H081  
 Cooler Temperature(s) °C and Other Remarks: 1-9  
 Page 2 of 23



REFERENCE: EMAX-SM02 Rev. 12  
 SAMPLE RECEIPT FORM 1

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>22H081</u> Recipient <u>JHOWIN Zamora</u> Date <u>8/5/22</u> Time <u>1610</u>
------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	---------------------------	--------------------------------------------------------------------------------------------

**COC INSPECTION**

<input checked="" type="checkbox"/> Client Name	<input checked="" type="checkbox"/> Client PM/FC	<input type="checkbox"/> Sampler Name	<input checked="" type="checkbox"/> Sampling Date/Time	<input checked="" type="checkbox"/> Sample ID	<input checked="" type="checkbox"/> Matrix
<input checked="" type="checkbox"/> Address	<input checked="" type="checkbox"/> Tel # / Fax #	<input checked="" type="checkbox"/> Courier Signature	<input checked="" type="checkbox"/> Analysis Required	<input type="checkbox"/> Preservative (if any)	<input checked="" type="checkbox"/> TAT
Safety Issues (if any) 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 checked="" 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>1.9</u> °C	<input type="checkbox"/> Cooler 2 _____ °C	<input type="checkbox"/> Cooler 3 _____ °C
Thermometer:	<input type="checkbox"/> Cooler 6 _____ °C	<input type="checkbox"/> Cooler 7 _____ °C	<input type="checkbox"/> Cooler 8 _____ °C
	A - S/N _____	B - S/N <u>210760237</u>	C - S/N _____
			<input checked="" type="checkbox"/> Sufficient <input type="checkbox"/> _____
			<input type="checkbox"/> Cooler 4 _____ °C <input type="checkbox"/> Cooler 5 _____ °C
			<input type="checkbox"/> Cooler 9 _____ °C <input type="checkbox"/> Cooler 10 _____ °C
Comments: <input type="checkbox"/> Temperature is out of range. PM was informed IMMEDIATELY.			<input checked="" type="checkbox"/> S/N <u>210760272</u>
Note: <u>Ambers - 8/11/22</u>			

**DISCREPANCIES**

LabSampleID	LabSampleContainerID	Code	ClientSample Label ID / Information	Corrective Action

pH holding time requirement for water samples is 15 mins. Water samples for pH analysis are received beyond 15 minutes from sampling time. MB 8/11/22

**NOTES/OBSERVATIONS:**

SAMPLE MATRIX IS DRINKING WATER?  YES  NO

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

**REVIEWS:**

Sample Labeling <u>JHOWIN Zamora</u>	SRF <u>Ambers</u>	PM <u>MB</u>
Date <u>8/5/22</u>	Date <u>8/3/22</u>	Date <u>8/11/22</u>

REPORT ID: 22H081 Page 3 of 23



## REPORTING CONVENTIONS

### DATA QUALIFIERS:

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

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

### ACRONYMS AND ABBREVIATIONS:

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

### DATES

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

LABORATORY REPORT FOR

EUROFINS EATON ANALYTICAL

380-14577

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

SDG#: 22H081



CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 380-14577

SDG : 22H081

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

A total of two(2) water samples were received on 08/05/22 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. VG39H03B - 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. VG39H03L/VG39H03C 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 H080-02M/H080-02S. Refer to Matrix QC summary form for details.

Surrogate

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

Sample Analysis

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

LAB CHRONICLE  
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

```
Client : EUROFINS EATON ANALYTICAL
Project : 380-14577
=====
SDG NO. : 22H081
Instrument ID : GCT039
=====
```

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis Date/Time	Extraction Date/Time	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
				WATER					

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: 08/02/22 10:50  
Project : 380-14577 Date Received: 08/05/22  
Batch No. : 22H081 Date Extracted: 08/09/22 22:35  
Sample ID : 380-14577-1 Date Analyzed: 08/09/22 22:35  
Lab Samp ID: H081-01 Dilution Factor: 1  
Lab File ID: EH09020A Matrix: WATER  
Ext Btch ID: 22VG39H03 % Moisture: NA  
Calib. Ref.: EH09015A 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	0.0379	0.0400	95	60-140

Notes:

Parameter H-C Range  
Gasoline C6-C10

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

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

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

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 08/02/22 11:33
Project    : 380-14577                   Date Received: 08/05/22
Batch No.  : 22H081                       Date Extracted: 08/09/22 23:11
Sample ID  : 380-14577-2                  Date Analyzed: 08/09/22 23:11
Lab Samp ID: H081-02                       Dilution Factor: 1
Lab File ID: EH09021A                       Matrix: WATER
Ext Btch ID: 22VG39H03                       % Moisture: NA
Calib. Ref.: EH09015A                       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	0.0358	0.0400	89	60-140

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

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

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# QC SUMMARIES



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

=====  
Client : EUROFINS EATON ANALYTICAL Date Collected: 08/09/22 13:32  
Project : 380-14577 Date Received: 08/09/22  
Batch No. : 22H081 Date Extracted: 08/09/22 13:32  
Sample ID : MBLK1W Date Analyzed: 08/09/22 13:32  
Lab Samp ID: VG39H03B Dilution Factor: 1  
Lab File ID: EH09005A Matrix: WATER  
Ext Btch ID: 22VG39H03 % Moisture: NA  
Calib. Ref.: EH09004A 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	0.0355	0.0400	89	60-140

=====

Notes:

Parameter H-C Range  
Gasoline C6-C10

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

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

EMAX QUALITY CONTROL DATA  
LAB CONTROL SAMPLE ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL  
PROJECT : 380-14577  
BATCH NO. : 22H081  
METHOD : 5030B/8015B

MATRIX : WATER		% MOISTURE:NA
DILUTION FACTOR: 1	1	1
SAMPLE ID : MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID : VG39H03B	VG39H03L	VG39H03C
LAB FILE ID : EH09005A	EH09006A	EH09007A
DATE PREPARED : 08/09/22 13:32	08/09/22 14:08	08/09/22 14:44
DATE ANALYZED : 08/09/22 13:32	08/09/22 14:08	08/09/22 14:44
PREP BATCH : 22VG39H03	22VG39H03	22VG39H03
CALIBRATION REF: EH09004A	EH09004A	EH09004A

ACCESSION:

PARAMETERS	MBResult (mg/L)	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
Gasoline	ND	0.500	0.442	88	0.500	0.454	91	3	60-130	30

SURROGATE PARAMETER	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	QCLimit (%)
Bromofluorobenzene	0.0400	0.0441	110	0.0400	0.0453	113	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 : 380-14579  
BATCH NO. : 22H080  
METHOD : 5030B/8015B

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR:	1	1	
SAMPLE ID	: 380-14579-6	380-14579-6MS	380-14579-6MSD
LAB SAMPLE ID	: H080-02	H080-02M	H080-02S
LAB FILE ID	: EH09016A	EH09017A	EH09018A
DATE PREPARED	: 08/09/22 20:11	08/09/22 20:47	08/09/22 21:23
DATE ANALYZED	: 08/09/22 20:11	08/09/22 20:47	08/09/22 21:23
PREP BATCH	: 22VG39H03	22VG39H03	22VG39H03
CALIBRATION REF:	EH09015A	EH09015A	EH09015A

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	0.477	95	0.500	0.463	93	3	50-130	30

SURROGATE PARAMETER	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	QCLimit (%)
Bromofluorobenzene	0.0400	0.0476	119	0.0400	0.0474	119	60-140

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

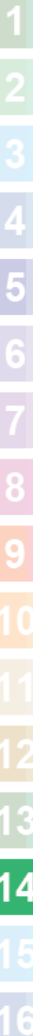
LABORATORY REPORT FOR

EUROFINS EATON ANALYTICAL

380-14577

METHOD 3520C/8015B  
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

SDG#: 22H081





CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 380-14577

SDG : 22H081

METHOD 3520C/8015B  
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

A total of two(2) water samples were received on 08/05/22 to be analyzed for Total Petroleum Hydrocarbons by Extraction in accordance with Method 3520C/8015B and project specific requirements.

Holdng 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 (CV) 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 CV 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. DSH019WB - 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. DSH019WL/DSH019WC 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 Analyis

Results

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



LAB CHRONICLE  
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client : EUROFINS EATON ANALYTICAL  
Project : 380-14577  
SDG NO. : 22H081  
Instrument ID : D5

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis Date/Time	Extraction Date/Time	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1W	DSH019WB	1	NA	08/13/2204:57	08/11/2213:30	LH12044A	LH12038A	22DSH019W	Method Blank
LCS1W	DSH019WL	1	NA	08/13/2205:15	08/11/2213:30	LH12045A	LH12038A	22DSH019W	Lab Control Sample (LCS)
LCD1W	DSH019WC	1	NA	08/13/2205:33	08/11/2213:30	LH12046A	LH12038A	22DSH019W	LCS Duplicate
380-14577-1	H081-01	1	NA	08/13/2208:01	08/11/2213:30	LH12054A	LH12038A	22DSH019W	Field Sample
380-14577-2	H081-02	1	NA	08/13/2208:19	08/11/2213:30	LH12055A	LH12038A	22DSH019W	Field Sample

FN - Filename  
% Moist - Percent Moisture

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# SAMPLE RESULTS

METHOD 3520C/8015B  
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 08/02/22 10:50
Project    : 380-14577                   Date Received: 08/05/22
Batch No.  : 22H081                       Date Extracted: 08/11/22 13:30
Sample ID  : 380-14577-1                 Date Analyzed: 08/13/22 08:01
Lab Samp ID: 22H081-01                   Dilution Factor: 1
Lab File ID: LH12054A                     Matrix: WATER
Ext Btch ID: 22DSH019W                   % Moisture: NA
Calib. Ref.: LH12038A                    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	0.309	0.500	62	60-130
Hexacosane	0.0927	0.125	74	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 : DLi                              Analyzed by : SDeeso



METHOD 3520C/8015B  
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 08/02/22 11:33
Project    : 380-14577                   Date Received: 08/05/22
Batch No.  : 22H081                       Date Extracted: 08/11/22 13:30
Sample ID  : 380-14577-2                 Date Analyzed: 08/13/22 08:19
Lab Samp ID: 22H081-02                   Dilution Factor: 1
Lab File ID: LH12055A                     Matrix: WATER
Ext Btch ID: 22DSH019W                   % Moisture: NA
Calib. Ref.: LH12038A                    Instrument ID: D5
=====

```

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)		
Diesel	ND	0.024	0.012		
Motor Oil	ND	0.048	0.024		
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT	
Bromobenzene	0.337	0.480	70	60-130	
Hexacosane	0.0992	0.120	83	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 : 1040ml                      Final Volume : 5ml  
Prepared by    : DLi                              Analyzed by : SDeeso

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# QC SUMMARIES

METHOD 3520C/8015B  
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 08/11/22 13:30
Project     : 380-14577                   Date Received: 08/11/22
Batch No.   : 22H081                       Date Extracted: 08/11/22 13:30
Sample ID   : MBLK1W                       Date Analyzed: 08/13/22 04:57
Lab Samp ID: DSH019WB                     Dilution Factor: 1
Lab File ID: LH12044A                     Matrix: WATER
Ext Btch ID: 22DSH019W                   % Moisture: NA
Calib. Ref.: LH12038A                   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	0.320	0.500	64	60-130
Hexacosane	0.0974	0.125	78	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    : DLi                                Analyzed by : SDeeso

EMAX QUALITY CONTROL DATA  
LAB CONTROL SAMPLE ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL  
PROJECT : 380-14577  
BATCH NO. : 22H081  
METHOD : 3520C/8015B

MATRIX : WATER % MOISTURE:NA  
DILUTION FACTOR: 1 1  
SAMPLE ID : MBLK1W LCS1W  
LAB SAMPLE ID : DSH019WB DSH019WL  
LAB FILE ID : LH12044A LH12045A  
DATE PREPARED : 08/11/22 13:30 08/11/22 13:30  
DATE ANALYZED : 08/13/22 04:57 08/13/22 05:15  
PREP BATCH : 22DSH019W 22DSH019W  
CALIBRATION REF: LH12038A LH12038A

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	2.51	100	2.50	2.41	96	4	50-130	30

SURROGATE PARAMETERS	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	QCLimit (%)
Bromobenzene	0.500	0.399	80	0.500	0.359	72	60-130
Hexacosane	0.125	0.118	94	0.125	0.130	104	60-130

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

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August 16, 2022

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

Project Name: RED-HILL Project # 38001111 Job # 380-14577-1  
Physis Project ID: 1407003-266

Dear Debbie,

Enclosed are the analytical results for samples submitted to PHYSIS Environmental Laboratories, Inc. (PHYSIS) on 8/5/2022. A total of 2 samples were received for analysis in accordance with the attached chain of custody (COC). Per the COC, the samples were analyzed for:

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

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

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

Regards,



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

## PROJECT SAMPLE LIST

Eurofins Eaton Analytical

PHYSIS Project ID: 1407003-266

RED-HILL Project # 38001111 Job # 380-14577-1

Total Samples: 2

PHYSIS ID	Sample ID	Description	Date	Time	Matrix	Sample Type
98919	AIEA WELLS PUMPS 1&2 (268)	31-203-TP400 (380-14577-1)	8/2/2022	10:50	Samplewater	Not Specified
98920	MOANALUA WELLS	331-223-TP202 (380-14577-2)	8/2/2022	11:33	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 MS<sub>1</sub>/MS<sub>2</sub>, BS<sub>1</sub>/BS<sub>2</sub>, LCS<sub>1</sub>/LCS<sub>2</sub>, LCM<sub>1</sub>/LCM<sub>2</sub>, CRM<sub>1</sub>/CRM<sub>2</sub>, surrogate spikes and/or replicate project sample analysis (R<sub>1</sub>/R<sub>2</sub>) on a minimum frequency of one per batch. Physis' QM requires that for 95% of the compounds greater than 10 times the MDL, the percent RPD should be within the specified acceptance range.

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

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

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

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

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

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



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

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

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

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

## PHYSIS QUALIFIER CODES

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

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## CASE NARRATIVE

### QUALIFIER NOTES

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

#### **ND**

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

# BIANALYTICALS

## REPORT

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### Base/Neutral Extractable Compounds

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
<b>Sample ID: 98919-R1 AIEA WELLS PUMPS 1&amp;2 (260) 331- Matrix: Samplewater</b>											
Disalicylideneopropanediamine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-38082	08-Aug-22	14-Aug-22
<b>Sample ID: 98920-R1 MOANALUA WELLS 331-223-TP202 Matrix: Samplewater</b>											
Disalicylideneopropanediamine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-38082	08-Aug-22	14-Aug-22



## Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
<b>Sample ID: 98919-R1</b>	<b>AIEA WELLS PUMPS 1&amp;2 (260) 331- Matrix: Samplewater</b>						<b>Sampled:</b>	<b>02-Aug-22 10:50</b>	<b>Received:</b>	<b>05-Aug-22</b>	
(d10-Acenaphthene)	EPA 625.1	% Recovery	84	1			Total		O-38082	08-Aug-22	14-Aug-22
(d10-Phenanthrene)	EPA 625.1	% Recovery	87	1			Total		O-38082	08-Aug-22	14-Aug-22
(d12-Chrysene)	EPA 625.1	% Recovery	76	1			Total		O-38082	08-Aug-22	14-Aug-22
(d12-Perylene)	EPA 625.1	% Recovery	75	1			Total		O-38082	08-Aug-22	14-Aug-22
(d8-Naphthalene)	EPA 625.1	% Recovery	75	1			Total		O-38082	08-Aug-22	14-Aug-22
1-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38082	08-Aug-22	14-Aug-22
1-Methylphenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38082	08-Aug-22	14-Aug-22
2,3,5-Trimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38082	08-Aug-22	14-Aug-22
2,6-Dimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38082	08-Aug-22	14-Aug-22
2-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38082	08-Aug-22	14-Aug-22
Acenaphthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38082	08-Aug-22	14-Aug-22
Acenaphthylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38082	08-Aug-22	14-Aug-22
Anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38082	08-Aug-22	14-Aug-22
Benz[a]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38082	08-Aug-22	14-Aug-22
Benzo[a]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38082	08-Aug-22	14-Aug-22
Benzo[b]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38082	08-Aug-22	14-Aug-22
Benzo[e]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38082	08-Aug-22	14-Aug-22
Benzo[g,h,i]perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38082	08-Aug-22	14-Aug-22
Benzo[k]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38082	08-Aug-22	14-Aug-22
Biphenyl	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38082	08-Aug-22	14-Aug-22
Chrysene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38082	08-Aug-22	14-Aug-22
Dibenz[a,h]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38082	08-Aug-22	14-Aug-22
Dibenzo[a,l]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38082	08-Aug-22	14-Aug-22
Dibenzothiophene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38082	08-Aug-22	14-Aug-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-38082	08-Aug-22	14-Aug-22
Fluorene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38082	08-Aug-22	14-Aug-22
Indeno[1,2,3-cd]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38082	08-Aug-22	14-Aug-22
Naphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38082	08-Aug-22	14-Aug-22
Perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38082	08-Aug-22	14-Aug-22
Phenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38082	08-Aug-22	14-Aug-22
Pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38082	08-Aug-22	14-Aug-22



## Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
<b>Sample ID: 98920-R1</b>	<b>MOANALUA WELLS 331-223-TP202 Matrix: Samplewater</b>						<b>Sampled: 02-Aug-22 11:33</b>		<b>Received: 05-Aug-22</b>		
(d10-Acenaphthene)	EPA 625.1	% Recovery	84	1			Total		O-38082	08-Aug-22	14-Aug-22
(d10-Phenanthrene)	EPA 625.1	% Recovery	89	1			Total		O-38082	08-Aug-22	14-Aug-22
(d12-Chrysene)	EPA 625.1	% Recovery	78	1			Total		O-38082	08-Aug-22	14-Aug-22
(d12-Perylene)	EPA 625.1	% Recovery	79	1			Total		O-38082	08-Aug-22	14-Aug-22
(d8-Naphthalene)	EPA 625.1	% Recovery	82	1			Total		O-38082	08-Aug-22	14-Aug-22
1-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38082	08-Aug-22	14-Aug-22
1-Methylphenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38082	08-Aug-22	14-Aug-22
2,3,5-Trimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38082	08-Aug-22	14-Aug-22
2,6-Dimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38082	08-Aug-22	14-Aug-22
2-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38082	08-Aug-22	14-Aug-22
Acenaphthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38082	08-Aug-22	14-Aug-22
Acenaphthylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38082	08-Aug-22	14-Aug-22
Anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38082	08-Aug-22	14-Aug-22
Benz[a]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38082	08-Aug-22	14-Aug-22
Benzo[a]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38082	08-Aug-22	14-Aug-22
Benzo[b]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38082	08-Aug-22	14-Aug-22
Benzo[e]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38082	08-Aug-22	14-Aug-22
Benzo[g,h,i]perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38082	08-Aug-22	14-Aug-22
Benzo[k]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38082	08-Aug-22	14-Aug-22
Biphenyl	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38082	08-Aug-22	14-Aug-22
Chrysene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38082	08-Aug-22	14-Aug-22
Dibenz[a,h]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38082	08-Aug-22	14-Aug-22
Dibenzo[a,l]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38082	08-Aug-22	14-Aug-22
Dibenzothiophene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38082	08-Aug-22	14-Aug-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-38082	08-Aug-22	14-Aug-22
Fluorene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38082	08-Aug-22	14-Aug-22
Indeno[1,2,3-cd]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38082	08-Aug-22	14-Aug-22
Naphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38082	08-Aug-22	14-Aug-22
Perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38082	08-Aug-22	14-Aug-22
Phenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38082	08-Aug-22	14-Aug-22
Pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38082	08-Aug-22	14-Aug-22



# QUALITY CONTROL REPORT

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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	
<b>Sample ID: 98918-B1</b>		<b>QAQC Procedural Blank</b>			<b>Matrix: BlankMatrix</b>			<b>Sampled:</b>		<b>Received:</b>			
		Method: EPA 625.1			Batch ID: O-38082			Prepared: 08-Aug-22		Analyzed: 13-Aug-22			
Disalicylideneprapanediamine	Total	ND	1	0.05	0.1	µg/L							
<b>Sample ID: 98918-BS1</b>		<b>QAQC Procedural Blank</b>			<b>Matrix: BlankMatrix</b>			<b>Sampled:</b>		<b>Received:</b>			
		Method: EPA 625.1			Batch ID: O-38082			Prepared: 08-Aug-22		Analyzed: 13-Aug-22			
Disalicylideneprapanediamine	Total	34.6	1	0.05	0.1	µg/L	50	0	69	50 - 150%	PASS		
<b>Sample ID: 98918-BS2</b>		<b>QAQC Procedural Blank</b>			<b>Matrix: BlankMatrix</b>			<b>Sampled:</b>		<b>Received:</b>			
		Method: EPA 625.1			Batch ID: O-38082			Prepared: 08-Aug-22		Analyzed: 13-Aug-22			
Disalicylideneprapanediamine	Total	36.7	1	0.05	0.1	µg/L	50	0	73	50 - 150%	PASS	6	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		
<b>Sample ID: 98918-B1</b>		<b>QAQC Procedural Blank</b>			<b>Matrix: BlankMatrix</b>			<b>Sampled:</b>		<b>Received:</b>		
		Method: EPA 625.1			Batch ID: O-38082			Prepared: o8-Aug-22		Analyzed: 13-Aug-22		
(d10-Acenaphthene)	Total	90	1			% Recovery	100	90	65 - 113%	PASS		
(d10-Phenanthrene)	Total	92	1			% Recovery	100	92	80 - 111%	PASS		
(d12-Chrysene)	Total	92	1			% Recovery	100	92	60 - 139%	PASS		
(d12-Perylene)	Total	93	1			% Recovery	100	93	36 - 161%	PASS		
(d8-Naphthalene)	Total	86	1			% Recovery	100	86	44 - 119%	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
<b>Sample ID: 98918-BS1</b>		<b>QAQC Procedural Blank</b>			<b>Matrix: BlankMatrix</b>			<b>Sampled:</b>		<b>Received:</b>		
Method: EPA 625.1		Batch ID: O-38082			Prepared: o8-Aug-22		Analyzed: 13-Aug-22					
(d10-Acenaphthene)	Total	92	1			% Recovery	100	0	92	65 - 113%	PASS	
(d10-Phenanthrene)	Total	95	1			% Recovery	100	0	95	80 - 111%	PASS	
(d12-Chrysene)	Total	88	1			% Recovery	100	0	88	60 - 139%	PASS	
(d12-Perylene)	Total	98	1			% Recovery	100	0	98	36 - 161%	PASS	
(d8-Naphthalene)	Total	85	1			% Recovery	100	0	85	44 - 119%	PASS	
1-Methylnaphthalene	Total	0.444	1	0.001	0.005	µg/L	0.5	0	89	49 - 117%	PASS	
1-Methylphenanthrene	Total	0.528	1	0.001	0.005	µg/L	0.5	0	106	66 - 127%	PASS	
2,3,5-Trimethylnaphthalene	Total	0.455	1	0.001	0.005	µg/L	0.5	0	91	57 - 120%	PASS	
2,6-Dimethylnaphthalene	Total	0.447	1	0.001	0.005	µg/L	0.5	0	89	54 - 117%	PASS	
2-Methylnaphthalene	Total	0.446	1	0.001	0.005	µg/L	0.5	0	89	47 - 130%	PASS	
Acenaphthene	Total	0.442	1	0.001	0.005	µg/L	0.5	0	88	53 - 131%	PASS	
Acenaphthylene	Total	0.453	1	0.001	0.005	µg/L	0.5	0	91	43 - 140%	PASS	
Anthracene	Total	0.442	1	0.001	0.005	µg/L	0.5	0	88	58 - 135%	PASS	
Benz[a]anthracene	Total	0.503	1	0.001	0.005	µg/L	0.5	0	101	55 - 145%	PASS	
Benzo[a]pyrene	Total	0.427	1	0.001	0.005	µg/L	0.5	0	85	51 - 143%	PASS	
Benzo[b]fluoranthene	Total	0.622	1	0.001	0.005	µg/L	0.5	0	124	46 - 165%	PASS	
Benzo[e]pyrene	Total	0.543	1	0.001	0.005	µg/L	0.5	0	109	42 - 152%	PASS	
Benzo[g,h,i]perylene	Total	0.46	1	0.001	0.005	µg/L	0.5	0	92	63 - 133%	PASS	
Benzo[k]fluoranthene	Total	0.518	1	0.001	0.005	µg/L	0.5	0	104	56 - 145%	PASS	
Biphenyl	Total	0.445	1	0.001	0.005	µg/L	0.5	0	89	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	0.638	1	0.001	0.005	µg/L	0.5	0	128	55 - 150%	PASS	
Dibenzo[a,l]pyrene	Total	0.492	1	0.001	0.005	µg/L	0.5	0	98	50 - 150%	PASS	
Dibenzothiophene	Total	0.469	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 CODEc
							LEVEL	RESULT	%	LIMITS	%	LIMITS	
Fluoranthene	Total	0.53	1	0.001	0.005	µg/L	0.5	0	106	60 - 146%	PASS		
Fluorene	Total	0.492	1	0.001	0.005	µg/L	0.5	0	98	58 - 131%	PASS		
Indeno[1,2,3-cd]pyrene	Total	0.67	1	0.001	0.005	µg/L	0.5	0	134	50 - 151%	PASS		
Naphthalene	Total	0.433	1	0.001	0.005	µg/L	0.5	0	87	41 - 126%	PASS		
Perylene	Total	0.513	1	0.001	0.005	µg/L	0.5	0	103	48 - 141%	PASS		
Phenanthrene	Total	0.46	1	0.001	0.005	µg/L	0.5	0	92	67 - 127%	PASS		
Pyrene	Total	0.538	1	0.001	0.005	µg/L	0.5	0	108	54 - 156%	PASS		

## Polynuclear Aromatic Hydrocarbons

## QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY		PRECISION		QA CODEc	
							LEVEL	RESULT	%	LIMITS	%	LIMITS		
<b>Sample ID: 98918-BS2</b>		<b>QAQC Procedural Blank</b>			<b>Matrix: BlankMatrix</b>			<b>Sampled:</b>			<b>Received:</b>			
		Method: EPA 625.1			Batch ID: O-38082			Prepared: 08-Aug-22			Analyzed: 13-Aug-22			
(d10-Acenaphthene)	Total	89	1			% Recovery	100	0	89	65 - 113%	PASS	3	30	PASS
(d10-Phenanthrene)	Total	95	1			% Recovery	100	0	95	80 - 111%	PASS	0	30	PASS
(d12-Chrysene)	Total	89	1			% Recovery	100	0	89	60 - 139%	PASS	1	30	PASS
(d12-Perylene)	Total	97	1			% Recovery	100	0	97	36 - 161%	PASS	1	30	PASS
(d8-Naphthalene)	Total	82	1			% Recovery	100	0	82	44 - 119%	PASS	4	30	PASS
1-Methylnaphthalene	Total	0.437	1	0.001	0.005	µg/L	0.5	0	87	49 - 117%	PASS	2	30	PASS
1-Methylphenanthrene	Total	0.537	1	0.001	0.005	µg/L	0.5	0	107	66 - 127%	PASS	1	30	PASS
2,3,5-Trimethylnaphthalene	Total	0.438	1	0.001	0.005	µg/L	0.5	0	88	57 - 120%	PASS	3	30	PASS
2,6-Dimethylnaphthalene	Total	0.439	1	0.001	0.005	µg/L	0.5	0	88	54 - 117%	PASS	1	30	PASS
2-Methylnaphthalene	Total	0.442	1	0.001	0.005	µg/L	0.5	0	88	47 - 130%	PASS	1	30	PASS
Acenaphthene	Total	0.429	1	0.001	0.005	µg/L	0.5	0	86	53 - 131%	PASS	2	30	PASS
Acenaphthylene	Total	0.447	1	0.001	0.005	µg/L	0.5	0	89	43 - 140%	PASS	2	30	PASS
Anthracene	Total	0.449	1	0.001	0.005	µg/L	0.5	0	90	58 - 135%	PASS	2	30	PASS
Benz[a]anthracene	Total	0.501	1	0.001	0.005	µg/L	0.5	0	100	55 - 145%	PASS	1	30	PASS
Benzo[a]pyrene	Total	0.422	1	0.001	0.005	µg/L	0.5	0	84	51 - 143%	PASS	1	30	PASS
Benzo[b]fluoranthene	Total	0.621	1	0.001	0.005	µg/L	0.5	0	124	46 - 165%	PASS	0	30	PASS
Benzo[e]pyrene	Total	0.541	1	0.001	0.005	µg/L	0.5	0	108	42 - 152%	PASS	1	30	PASS
Benzo[g,h,i]perylene	Total	0.457	1	0.001	0.005	µg/L	0.5	0	91	63 - 133%	PASS	1	30	PASS
Benzo[k]fluoranthene	Total	0.51	1	0.001	0.005	µg/L	0.5	0	102	56 - 145%	PASS	2	30	PASS
Biphenyl	Total	0.431	1	0.001	0.005	µg/L	0.5	0	86	56 - 119%	PASS	3	30	PASS
Chrysene	Total	0.451	1	0.001	0.005	µg/L	0.5	0	90	56 - 141%	PASS	1	30	PASS
Dibenz[a,h]anthracene	Total	0.642	1	0.001	0.005	µg/L	0.5	0	128	55 - 150%	PASS	0	30	PASS
Dibenzo[a,l]pyrene	Total	0.52	1	0.001	0.005	µg/L	0.5	0	104	50 - 150%	PASS	6	30	PASS
Dibenzothiophene	Total	0.473	1	0.001	0.005	µg/L	0.5	0	95	75 - 113%	PASS	1	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		
Fluoranthene	Total	0.546	1	0.001	0.005	µg/L	0.5	0	109	60 - 146%	PASS	3	30	PASS
Fluorene	Total	0.481	1	0.001	0.005	µg/L	0.5	0	96	58 - 131%	PASS	2	30	PASS
Indeno[1,2,3-cd]pyrene	Total	0.679	1	0.001	0.005	µg/L	0.5	0	136	50 - 151%	PASS	1	30	PASS
Naphthalene	Total	0.413	1	0.001	0.005	µg/L	0.5	0	83	41 - 126%	PASS	5	30	PASS
Perylene	Total	0.5	1	0.001	0.005	µg/L	0.5	0	100	48 - 141%	PASS	3	30	PASS
Phenanthrene	Total	0.464	1	0.001	0.005	µg/L	0.5	0	93	67 - 127%	PASS	1	30	PASS
Pyrene	Total	0.552	1	0.001	0.005	µg/L	0.5	0	110	54 - 156%	PASS	2	30	PASS

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# PHYSIS

**TENTATIVELY  
IDENTIFIED COMPOUNDS**

ENVIRONMENTAL LABORATORIES, INC.

*Innovative Solutions for Nature*

Sample ID: 98919

RT	Area Pct	Concentration (ng/L)	Library/ID	Cas Number	Match Qual
32.6250	6.5379	1111	Anthracene-D10-	1719-06-8	97
14.9636	1.7701	301	Cyclohexane, 1,2,4,5-tetraethyl-, (1.alpha.,2.alpha.,4.alpha.,5.alpha.)-	61142-24-3	85
43.1526	1.5113	257	Terephthalic acid, isobutyl butyl ester	1000323-56-2	95
15.6838	0.7131	121	3-Octene, 2,2-dimethyl-	86869-76-3	86

Concentration estimated using the response for Anthracene-d10

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Sample ID: 98920

RT	Area Pct	Concentration (ng/L)	Library/ID	Cas Number	Match Qual
32.6276	7.5665	1111	Anthracene-D10-	1517-22-2	96
14.9640	1.7041	250	3-Hexene, 3-ethyl-2,5-dimethyl-	62338-08-3	82
14.9637	1.6983	249	1,7-Dimethyl-4-(1-methylethyl)cyclodecane	645-10-3	83
43.1526	1.4891	219	Terephthalic acid, isobutyl butyl ester	1000323-56-2	94
14.8030	0.8723	128	Cyclohexane, 1,2,4,5-tetraethyl-, (1.alpha.,2.alpha.,4.alpha.,5.alpha.)-	61142-24-3	85

Concentration estimated using the response for Anthracene-d10

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Sample ID: Lab Blank Batch O-38082

RT	Area Pct	Concentration (ng/L)	Library/ID	Cas Number	Match Qual
32.6327	3.4871	1111	Anthracene-D10-	1719-06-8	97
10.7546	3.7523	1196	Benzaldehyde, 2-hydroxy-	90-02-8	98
60.7614	3.4189	1089	N,N'-Bis(salicylidene)-1,3-propanediamine	120-70-7	97
19.8094	1.1001	351	Phenol, 2,6-bis(1,1-dimethylethyl)-	128-39-2	99
15.3255	1.0310	329	Phenol, p-tert-butyl-	98-54-4	96
14.9648	0.7197	229	Cyclohexane, 1,2,4,5-tetraethyl-, (1.alpha.,2.alpha.,4.alpha.,5.alpha.)-	61142-24-3	85
64.5556	0.5382	172	1,4-Benzenedicarboxylic acid, bis(2-ethylhexyl) ester	6422-86-2	97
10.0206	0.4824	154	Cyclopropane, 1,1,2,3-tetramethyl-	74752-93-5	89

Concentration estimated using the response for Anthracene-d10

# PERFORMANCE CHAIN OF CUSTODY

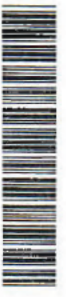
TERRA ENVIRONMENTAL LABORATORIES, INC. AURA

*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**



<b>Client Information (Sub Contract Lab)</b>		Client Contact:	Shipping/Receiving	Company:	Physis Environmental Laboratories	Address:	1904 Wright Circle,	City:	Anaheim	State, Zip:	CA, 92806	Phone:		Due Date Requested:	8/11/2022	TAT Requested (days):		Lab P/N:	Frank, Debbie L	Carrier Tracking No(s):		COC No.:	380-16082.1	Page:	Page 1 of 1
Project Name:		RED-HILL	Project #:	38001111	Site:	SSOW#:		WD #:		Email:		Field Filtered Sample (Yes or No)		Perform MSMSD (Yes or No)		Analysis Requested		State of Origin:	Hawaii	Job #:	380-14577-1	Preservation Codes:	A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amalher H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA M - Hexane N - None O - Acetic Acid P - Na2OAS Q - Na2SO3 R - Na2S2O8 S - H2SO4 T - TSP Dodecylhydrate U - Acetone V - MeOH W - pH 4-5 Y - Trizma Z - other (specify)		
Site:		Honolulu BWS Sites	Project #:	38001111	Site:	SSOW#:		WD #:		Email:		Field Filtered Sample (Yes or No)		Perform MSMSD (Yes or No)		Analysis Requested		State of Origin:	Hawaii	Job #:	380-14577-1	Preservation Codes:	A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amalher H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA M - Hexane N - None O - Acetic Acid P - Na2OAS Q - Na2SO3 R - Na2S2O8 S - H2SO4 T - TSP Dodecylhydrate U - Acetone V - MeOH W - pH 4-5 Y - Trizma Z - other (specify)		
<b>Sample Identification - Client ID (Lab ID)</b>		Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=soil, ST=slurry, A=Air)	Field Filtered Sample (Yes or No)	Perform MSMSD (Yes or No)	SUB (625 PAH Physis LL (EAL) + TICs) / 625 PAH Physis LL (EAL) + TICs																	
AIEA WELLS PUMPS 1&2 (260) (331-203-TP400) (380-14577-1)		8/2/22	10:50	Water	Water	X	X																		
MOANALUA WELLS (331-223-TP202) (380-14577-2)		8/2/22	11:33	Water	Water	X	X																		
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.																									
<b>Possible Hazard Identification</b>																									
<b>Unconfirmed</b>																									
Deliverable Requested: I, II, III, IV, Other (specify)		Primary Deliverable Rank: 2																							
Empty Kit Relinquished by:		Date:																							
Relinquished by:		Date/Time:	Company:																						
Relinquished by:		Date/Time:	Company:																						
Custody Seals Intact:																									
Custody Seal No.:																									
Cooler Temperature(s) °C and Other Remarks:																									

Project Iteration ID: 1407003-266  
 Client Name: Eurofins Eaton Analytical  
 Project Name: RED-HILL Project # 38001111  
 Job # 380-14577-1  
 COC Page Number: 2 of 2  
 Bottle Label Color: NA

**Sample Receipt Summary**

Receiving Info

1. Initials Received By: [Signature]
2. Date Received: 8/5/22
3. Time Received: 1415
4. Client Name: Eurofins
5. Courier Information: (Please circle)
  - Client
  - UPS
  - Area Fast
  - DRS
  - FedEx
  - GSO/GLS
  - Ontrac
  - PAMS
  - PHYSIS Driver:
  - i. Start Time: \_\_\_\_\_
  - ii. End Time: \_\_\_\_\_
  - iii. Total Mileage: \_\_\_\_\_
  - iv. Number of Pickups: \_\_\_\_\_
6. Container Information: (Please put the # of containers or circle none)
  - 2 Cooler
  - Styrofoam Cooler
  - Boxes
  - None
  - Carboy(s)
  - Carboy Trash Can(s)
  - Carboy Cap(s)
  - Other \_\_\_\_\_
7. What type of ice was used: (Please circle any that apply)
  - Wet Ice
  - Blue Ice
  - Dry Ice
  - Water
  - None
8. Randomly Selected Samples Temperature (°C): 2.7  
 Used I/R Thermometer # 1-2

Inspection Info

1. Initials Inspected By: [Signature]

Sample Integrity Upon Receipt:

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

Notes:



**Monrovia, CA (Suite 100)**

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

**Chain of Custody Record**

<b>Client Information</b>		Sampler: <b>E. JUAGDAN</b>	Lab PM: Frank, Debbie L	Carrier Tracking No(s):	COC No: 380-9747-2757.1	
Client Contact: Dr. Ron Fenstemacher		Phone: <b>808.748.5840</b>	E-Mail: Debbie.Frank@et.eurofinsus.com	State of Origin:	Page: Page 1 of 3	
Company: City & County of Honolulu		PWSID:	<b>Analysis Requested</b>			
Address: 630 South Beretania Street Chemistry Lab		Due Date Requested:	Field Filtered Sample (Yes or No) Perform MS/MSD (Yes or No) SUBCONTRACT - 625 PAH Physis LL (EAL) + TICs SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL) SUBCONTRACT - 8015 Diesel LL (EAL) and Motor Oil 526.2_PREC - (MOD) 525plus Plus TICs SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL)	Total Number of containers	<b>Preservation Codes:</b>	
City: Honolulu		TAT Requested (days):			A - HCL	M - Hexane
State, Zip: HI, 96843		Compliance Project: <input type="checkbox"/> Yes <input type="checkbox"/> No			B - NaOH	N - None
Phone: 808-748-5091(Tel)		PO #:			C - Zn Acetate	O - AsNaO2
Email: RFENSTEMACHER@hbws.org		WO #:			D - Nitric Acid	P - Na2O4S
Project Name: RED-HILL/HBWS Sites Event Desc: RUSH Weekly Red Hill		Project #: 38001111	E - NaHSO4	Q - Na2SO3		
Site: Hawaii		SSOW#:	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)		
					<b>Other:</b>	
<b>Sample Identification</b>		Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (Water, Solid, or waste/oil)	
					BT=Tissue, AA=Air	
					Preservation Code:	
AIEA GULCH WELLS PUMP 1 (331-201-TP071)					Water	
AIEA GULCH WELLS PUMP 2 (331-202-TP072)					Water	
AIEA WELLS PUMPS1&2(260)331-203-TP400		8/2/22	1050	G	Water	
HALAWA SHAFT (331-241-TP401)					Water	
HALAWA WELLS UNITS1&2(331-206-TP065)					Water	
MOANALUA WELLS (331-223-TP202)		8/2/22	1133	G	Water	
AIEA GULCH WELLS PUMP 1 (331-201-TP071)					Water	
AIEA GULCH WELLS PUMP 2 (331-202-TP072)					Water	
AIEA WELLS PUMPS1&2(260)331-203-TP400					Water	
HALAWA SHAFT (331-241-TP401)					Water	
HALAWA WELLS UNITS1&2(331-206-TP065)					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) \_\_\_\_\_

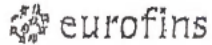
Special Instructions/QC Requirements: \_\_\_\_\_

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

Relinquished by: _____	Date/Time: 8/3/22 1200	Company: _____	Received by: <b>G. PEITNER</b>	Date/Time: 08/04/2022 10:30	Company: <b>ECA</b>
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: \_\_\_\_\_



Eaton Analytical

# INTERNAL CHAIN OF CUSTODY RECORD

EEA Folder Number:

### SAMPLE TEMP RECEIVED:

Notes: If samples are out of temperature range, let the ASMs know. ASMs will determine whether to proceed with analysis or not.

SAMPLES REC'D DAY OF COLLECTION? Yes / No

IR Gun ID = 649A (Observation = 4.6 °C) (Corr. Factor = -0.3 °C) (Final = 4.3 °C)

TYPE OF ICE: Real  Synthetic  No Ice  CONDITION OF ICE: Frozen  Partially Frozen  Thawed  N/A

METHOD OF SHIPMENT: Pick-Up / Walk-In / FedEx UPS / DHL / Area Fast / Top Line / Other: \_\_\_\_\_

### Compliance Acceptance Criteria:

- 1) Chemistry: >0, ≤ 6°C, not frozen (NELAP) (if received after 24 hrs of sample collection)
- 2) Microbiology, Distribution: < 10°C, not frozen (can be ≥ 10°C if received on ice the same day as sample collection, within 8 hours)
- 3) Microbiology, Surface Water: < 10°C (if received after 2 hours of sample collection)

If out of temperature range for both Chemistry and Microbiology samples and temperature does not confirm, then measure the temperature of each quadrant and record each temperature of the quadrants

1 = (Observation = _____ °C) (Corr. Factor = _____ °C) (Final = _____ °C)	2 = (Observation = _____ °C) (Corr. Factor = _____ °C) (Final = _____ °C)
3 = (Observation = _____ °C) (Corr. Factor = _____ °C) (Final = _____ °C)	4 = (Observation = _____ °C) (Corr. Factor = _____ °C) (Final = _____ °C)

4 Dioxin (1613 or 2,3,7,8 TCDD): must be between 0-4 °C, not frozen (if received after 24 hrs of sample collection)

5) pH Check. Manufacturer: \_\_\_\_\_ Lot Number: \_\_\_\_\_ pH strip type: 0 - 14 or \_\_\_\_\_ Expiration Date \_\_\_\_\_ Results: \_\_\_\_\_

6) Chlorine check. Manufacturer: Sansafe. Lot No.: \_\_\_\_\_ Expiration Date: \_\_\_\_\_ Results: \_\_\_\_\_

7) VOA and Radon Headspace: No Samples with Headspace:  Samples with Headspace (see below):

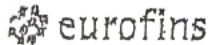
### Headspace Documentation (use additional VOC and Radon internal COFC for additional bottles)

Exempt from headspace concerns: Methods 815.4, HAA(8251,862), 808, 8PME, @CH, 832LCMS, 858, 838, Anatoxin, LCMS methods using 40 ml vials, International clients:

Samp ID	Bottle #	None/<8 mm	>8mm	Test	Samp ID	Bottle #	None/<8 mm	>8mm	Test	Samp ID	Bottle #	None/<8 mm	>8mm	Test	Samp ID	Bottle #	None/<8 mm	>8mm	Test	

Note Sample IDs which have dissimilar headspace (i.e. potential sampling errors): \_\_\_\_\_

RECEIVED BY:	SIGNATURE 	PRINT NAME G. REITNER	COMPANY/TITLE Eurofins Eaton Analytical	DATE 08/04/2022	TIME 10:30
SAMPLES CHECKED AGAINST DOOBY:	SIGNATURE	PRINT NAME	COMPANY/TITLE Eurofins Eaton Analytical	DATE	TIME



Eaton Analytical

# INTERNAL CHAIN OF CUSTODY RECORD

EEA Folder Number:

### SAMPLE TEMP RECEIVED:

Notes: If samples are out of temperature range, let the ASMR know. ASMR will determine whether to proceed with analysis or not.

SAMPLES REC'D DAY OF COLLECTION? Yes / No

IR Gun ID = 649A (Observation = 5.1 °C) (Corr. Factor = -0.3 °C) (Final = 4.8 °C)

TYPE OF ICE: Real  Synthetic  No Ice  CONDITION OF ICE: Frozen  Partially Frozen  Thawed  N/A

METHOD OF SHIPMENT: Pick-Up / Walk-In / FedEx / UPS / DHL / Area Fast / Top Line / Other: \_\_\_\_\_

### Compliance Acceptance Criteria:

- 1) Chemistry: >0, ≤ 6°C, not frozen (NELAP) (if received after 24 hrs of sample collection)
- 2) Microbiology, Distribution: < 10°C, not frozen (can be ≥ 10°C if received on ice the same day as sample collection, within 8 hours)
- 3) Microbiology, Surface Water: < 10°C (if received after 2 hours of sample collection)

If out of temperature range for both Chemistry and Microbiology samples and temperature does not confirm, then measure the temperature of each quadrant and record each temperature of the quadrants

1 = (Observation = _____ °C) (Corr. Factor = _____ °C) (Final = _____ °C)	2 = (Observation = _____ °C) (Corr. Factor = _____ °C) (Final = _____ °C)
3 = (Observation = _____ °C) (Corr. Factor = _____ °C) (Final = _____ °C)	4 = (Observation = _____ °C) (Corr. Factor = _____ °C) (Final = _____ °C)

4 Dioxin (1813 or 2,3,7,8 TCDD): must be between 0-4 °C, not frozen (if received after 24 hrs of sample collection)

5) pH Check. Manufacturer: \_\_\_\_\_ Lot Number: \_\_\_\_\_ pH strip type: 0 - 14 or \_\_\_\_\_ Expiration Date \_\_\_\_\_ Results: \_\_\_\_\_

6) Chlorine check. Manufacturer: Sansafe. Lot No.: \_\_\_\_\_ Expiration Date: \_\_\_\_\_ Results: \_\_\_\_\_

7) VOA and Radon Headspace:

No Samples with Headspace:

Samples with Headspace (see below):

### Headspace Documentation (use additional VOC and Radon Internal COFC for additional bottles)

Exempt from headspace concerns: Methods 816.4, HAA(8251,882), 805, SPME, @CH, 832LCMS, 888, 838, Anatoxin, LCMS methods using 40 ml vials, International clients:

Samp ID	Bottle #	None/<8 mm	>8mm	Test

Samp ID	Bottle #	None/<8 mm	>8mm	Test

Samp ID	Bottle #	None/<8 mm	>8mm	Test

Samp ID	Bottle #	None/<8 mm	>8mm	Test

Note Sample IDs which have dissimilar headspace (i.e. potential sampling errors): \_\_\_\_\_

RECEIVED BY:	SIGNATURE 	PRINT NAME G. REITNER	COMPANY/TITLE Eurofins Eaton Analytical	DATE 08/04/2022	TIME 10:30
SAMPLES CHECKED AGAINST COO BY:	SIGNATURE	PRINT NAME	COMPANY/TITLE Eurofins Eaton Analytical	DATE	TIME

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

ORIGIN ID:HIKA (808) 748-5840 SHIP DATE: 03AUG22  
 BWS CHEMLAB ACTWGT: 50.00 LB  
 HONOLULU BOARD OF WATER SUPPLY CAD: 100205419/INET4490  
 630 S. BERETANIA ST.  
 CHEMICAL LABORATORY  
 HONOLULU, HI 96843  
 UNITED STATES US

TO C CHUCK  
 EUROFINS EATON ANALYTICAL, INC  
 750 ROYAL OAKS DR  
 SUITE 100  
 MONROVIA CA 91016 REF  
 (626) 386-1178

5812/F39D/FE4A

DEFT



J22202041201uv

THU - 04 AUG 10:30A  
 PRIORITY OVERNIGHT

1 of 2  
 TRK# 7775 6716 1660  
 0201  
 ## MASTER ##

91016  
 CA-US BUR

**WZ WHPA**



**After printing this label:**  
 1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.  
 2. Fold the printed page along the horizontal line.  
 3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

**Warning:** Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.  
 Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com. FedEx will not be responsible for any claim in excess of \$100 per package, whether the result of loss, damage, delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is limited to the greater of \$100 or the authorized declared value. Recovery cannot exceed actual documented loss. Maximum for items of extraordinary value is \$1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our Service Guide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

- 1
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- 16

ORIGIN ID: HIKA (808) 748-5840  
 BWS CHEMLAB  
 HONOLULU BOARD OF WATER SUPPLY  
 630 S. BERETANIA ST.  
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 UNITED STATES US

SHIP DATE: 03AUG22  
 ACTWGT: 50.00 LB  
 CAD: 100205419/NET4490

TO C CHUCK

EUROFINS EATON ANALYTICAL, INC  
 750 ROYAL OAKS DR  
 SUITE 100

MONROVIA CA 91016 REF  
 (626) 386-1178 INV

581J2F39D/FE4A

DEPT



THU - 04 AUG 10:30A  
 PRIORITY OVERNIGHT

2 of 2

MPS# 7775 6716 0046

Mstr# 7775 6716 1660

0201

91016  
 CA-US BUR

**WZ WHPA**



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**After printing this label:**

**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: 7/25/2022 11:59:00PM  
 Lab Project Number: 38001111  
 PWSID: HI0000331

**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	4	24	Amber Glass 1 liter - Sodium Thiosulfate	Sodium Thiosulfate	SUBCONTRACT - 625 PAH Physis LL (EAL) + TICs	Water	Normal	625 PAH + MS/MSD Volume	
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	0	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	24
Amber Glass 1 Liter- Sodium Sulfite/HCl	Sodium Sulfite w/HCl	12
VOA Vial 40mL - NaThiosulfate/HCL	Sodium Thiosulfate/Hydrochloric Acid	0
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.

# Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-14577-1

**Login Number: 14577**  
**List Number: 1**  
**Creator: Ngo, Theodore**

**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	

