

## ANALYTICAL REPORT

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

Laboratory Job ID: 380-11533-1  
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:  
10/9/2022 3:41:41 PM  
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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  
10/9/2022 3:41:41 PM





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# Definitions/Glossary

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

Job ID: 380-11533-1

## Qualifiers

### GC/MS Semi VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
^3+	Reporting Limit Check Standard is outside acceptance limits, high biased
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



# Case Narrative

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

Job ID: 380-11533-1

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## Job ID: 380-11533-1

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### Laboratory: Eurofins Eaton Monrovia

#### Narrative

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#### Job Narrative 380-11533-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 7/22/2022 10:10 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 4 coolers at receipt time were 3.2° C, 3.3° C, 4.3° C and 4.5° C.

#### GC/MS Semi VOA

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

#### Subcontract non-Sister

See attached subcontract report.

#### Organic Prep

Sample 380-11533-2 was sent to another lab in error. The PM requested that the samples be sent back, but the only sample received was 380-11533-1. Sample has been cancelled for 525.2 prep and analysis. Resample requested

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

#### Subcontract Work

Methods 8015 Diesel LL (EAL) and Motor Oil, 8015 Gas (Purgeable) LL (EAL): These methods were subcontracted to EMAX Laboratories Inc. The subcontract laboratory certifications are different from that of the facility issuing the final report.

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

# Detection Summary

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

Job ID: 380-11533-1

**Client Sample ID: AIEA GULCH WELLS PUMP 1  
(331-201-TP071)**  
PWSID Number: HI0000331

**Lab Sample ID: 380-11533-1**

No Detections.

**Client Sample ID: AIEA WELLS P2 (260) (331-004-WL103)**

**Lab Sample ID: 380-11533-2**

No Detections.

**Client Sample ID: AIEA GULCH - TRAVEL BLANK**

**Lab Sample ID: 380-11533-3**

No Detections.

**Client Sample ID: AIEA WELLS - TRAVEL BLANK**

**Lab Sample ID: 380-11533-4**

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Eaton Monrovia

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# Client Sample Results

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

Job ID: 380-11533-1

**Client Sample ID: AIEA GULCH WELLS PUMP 1  
(331-201-TP071)**

**Lab Sample ID: 380-11533-1**

**Date Collected: 07/20/22 10:20**

**Matrix: Drinking Water**

**Date Received: 07/22/22 10:10**

**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		0.098	ug/L		07/27/22 10:58	08/18/22 23:49	1
2,4'-DDE	ND		0.098	ug/L		07/27/22 10:58	08/18/22 23:49	1
2,4'-DDT	ND		0.098	ug/L		07/27/22 10:58	08/18/22 23:49	1
2,4-Dinitrotoluene	ND		0.098	ug/L		07/27/22 10:58	08/18/22 23:49	1
2,6-Dinitrotoluene	ND		0.098	ug/L		07/27/22 10:58	08/18/22 23:49	1
4,4'-DDD	ND		0.098	ug/L		07/27/22 10:58	08/18/22 23:49	1
4,4'-DDE	ND		0.098	ug/L		07/27/22 10:58	08/18/22 23:49	1
4,4'-DDT	ND		0.098	ug/L		07/27/22 10:58	08/18/22 23:49	1
Acenaphthene	ND		0.098	ug/L		07/27/22 10:58	08/18/22 23:49	1
Acenaphthylene	ND		0.098	ug/L		07/27/22 10:58	08/18/22 23:49	1
Acetochlor	ND		0.098	ug/L		07/27/22 10:58	08/18/22 23:49	1
Alachlor	ND		0.049	ug/L		07/27/22 10:58	08/18/22 23:49	1
alpha-BHC	ND		0.098	ug/L		07/27/22 10:58	08/18/22 23:49	1
alpha-Chlordane	ND		0.049	ug/L		07/27/22 10:58	08/18/22 23:49	1
Anthracene	ND		0.020	ug/L		07/27/22 10:58	08/18/22 23:49	1
Atrazine	ND		0.049	ug/L		07/27/22 10:58	08/18/22 23:49	1
Benz(a)anthracene	ND		0.049	ug/L		07/27/22 10:58	08/18/22 23:49	1
Benzo[a]pyrene	ND		0.020	ug/L		07/27/22 10:58	08/18/22 23:49	1
Benzo[b]fluoranthene	ND		0.020	ug/L		07/27/22 10:58	08/18/22 23:49	1
Benzo[g,h,i]perylene	ND		0.049	ug/L		07/27/22 10:58	08/18/22 23:49	1
Benzo[k]fluoranthene	ND		0.020	ug/L		07/27/22 10:58	08/18/22 23:49	1
beta-BHC	ND		0.098	ug/L		07/27/22 10:58	08/18/22 23:49	1
Bromacil	ND		0.098	ug/L		07/27/22 10:58	08/18/22 23:49	1
Butachlor	ND		0.049	ug/L		07/27/22 10:58	08/18/22 23:49	1
Butylbenzylphthalate	ND		0.49	ug/L		07/27/22 10:58	08/18/22 23:49	1
Caffeine	ND		0.049	ug/L		07/27/22 10:58	08/18/22 23:49	1
Chlorobenzilate	ND		0.098	ug/L		07/27/22 10:58	08/18/22 23:49	1
Chloroneb	ND		0.098	ug/L		07/27/22 10:58	08/18/22 23:49	1
Chlorothalonil (Draconil, Bravo)	ND		0.098	ug/L		07/27/22 10:58	08/18/22 23:49	1
Chlorpyrifos	ND		0.049	ug/L		07/27/22 10:58	08/18/22 23:49	1
Chrysene	ND		0.020	ug/L		07/27/22 10:58	08/18/22 23:49	1
delta-BHC	ND		0.098	ug/L		07/27/22 10:58	08/18/22 23:49	1
Di(2-ethylhexyl)adipate	ND	*+ ^3+	0.59	ug/L		07/27/22 10:58	08/18/22 23:49	1
Bis(2-ethylhexyl) phthalate	ND		0.59	ug/L		07/27/22 10:58	08/18/22 23:49	1
Diazinon (Qualitative)	ND		0.098	ug/L		07/27/22 10:58	08/18/22 23:49	1
Dibenz(a,h)anthracene	ND		0.049	ug/L		07/27/22 10:58	08/18/22 23:49	1
Diclorvos (DDVP)	ND		0.049	ug/L		07/27/22 10:58	08/18/22 23:49	1
Dieldrin	ND		0.20	ug/L		07/27/22 10:58	08/18/22 23:49	1
Diethylphthalate	ND		0.49	ug/L		07/27/22 10:58	08/18/22 23:49	1
Dimethoate	ND		0.098	ug/L		07/27/22 10:58	08/18/22 23:49	1
Dimethylphthalate	ND		0.49	ug/L		07/27/22 10:58	08/18/22 23:49	1
Di-n-butyl phthalate	ND		0.98	ug/L		07/27/22 10:58	08/18/22 23:49	1
Di-n-octyl phthalate	ND		0.098	ug/L		07/27/22 10:58	08/18/22 23:49	1
Endosulfan I (Alpha)	ND		0.098	ug/L		07/27/22 10:58	08/18/22 23:49	1
Endosulfan II (Beta)	ND		0.098	ug/L		07/27/22 10:58	08/18/22 23:49	1
Endosulfan sulfate	ND		0.098	ug/L		07/27/22 10:58	08/18/22 23:49	1
Endrin	ND		0.098	ug/L		07/27/22 10:58	08/18/22 23:49	1
Endrin aldehyde	ND		0.098	ug/L		07/27/22 10:58	08/18/22 23:49	1

Eurofins Eaton Monrovia

# Client Sample Results

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

Job ID: 380-11533-1

**Client Sample ID: AIEA GULCH WELLS PUMP 1  
(331-201-TP071)**

**Lab Sample ID: 380-11533-1**

**Date Collected: 07/20/22 10:20**

**Matrix: Drinking Water**

**Date Received: 07/22/22 10:10**

**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		0.098	ug/L		07/27/22 10:58	08/18/22 23:49	1
Fluoranthene	ND		0.098	ug/L		07/27/22 10:58	08/18/22 23:49	1
Fluorene	ND		0.049	ug/L		07/27/22 10:58	08/18/22 23:49	1
gamma-Chlordane	ND		0.049	ug/L		07/27/22 10:58	08/18/22 23:49	1
Heptachlor	ND		0.039	ug/L		07/27/22 10:58	08/18/22 23:49	1
Heptachlor epoxide (isomer B)	ND		0.049	ug/L		07/27/22 10:58	08/18/22 23:49	1
Hexachlorobenzene	ND	^3+	0.049	ug/L		07/27/22 10:58	08/18/22 23:49	1
Hexachlorocyclopentadiene	ND		0.049	ug/L		07/27/22 10:58	08/18/22 23:49	1
Indeno[1,2,3-cd]pyrene	ND		0.049	ug/L		07/27/22 10:58	08/18/22 23:49	1
Isophorone	ND		0.49	ug/L		07/27/22 10:58	08/18/22 23:49	1
Lindane	ND		0.039	ug/L		07/27/22 10:58	08/18/22 23:49	1
Malathion	ND		0.098	ug/L		07/27/22 10:58	08/18/22 23:49	1
Methoxychlor	ND		0.098	ug/L		07/27/22 10:58	08/18/22 23:49	1
Metolachlor	ND		0.049	ug/L		07/27/22 10:58	08/18/22 23:49	1
Metribuzin	ND		0.049	ug/L		07/27/22 10:58	08/18/22 23:49	1
Molinate	ND		0.098	ug/L		07/27/22 10:58	08/18/22 23:49	1
Naphthalene	ND		0.29	ug/L		07/27/22 10:58	08/18/22 23:49	1
Parathion	ND	^3+	0.098	ug/L		07/27/22 10:58	08/18/22 23:49	1
Pendimethalin (Penoxaline)	ND		0.098	ug/L		07/27/22 10:58	08/18/22 23:49	1
Total Permethrin (mixed isomers)	ND		0.20	ug/L		07/27/22 10:58	08/18/22 23:49	1
Phenanthrene	ND		0.039	ug/L		07/27/22 10:58	08/18/22 23:49	1
Propachlor	ND		0.049	ug/L		07/27/22 10:58	08/18/22 23:49	1
Pyrene	ND		0.049	ug/L		07/27/22 10:58	08/18/22 23:49	1
Simazine	ND		0.049	ug/L		07/27/22 10:58	08/18/22 23:49	1
Terbacil	ND		0.098	ug/L		07/27/22 10:58	08/18/22 23:49	1
Terbutylazine	ND		0.098	ug/L		07/27/22 10:58	08/18/22 23:49	1
Thiobencarb	ND		0.20	ug/L		07/27/22 10:58	08/18/22 23:49	1
trans-Nonachlor	ND		0.049	ug/L		07/27/22 10:58	08/18/22 23:49	1
Trifluralin	ND		0.098	ug/L		07/27/22 10:58	08/18/22 23:49	1
1-Methylnaphthalene	ND		0.098	ug/L		07/27/22 10:58	08/18/22 23:49	1
2-Methylnaphthalene	ND		0.098	ug/L		07/27/22 10:58	08/18/22 23:49	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Decane	1.9	T J N	ug/L		2.46	124-18-5	07/27/22 10:58	08/18/22 23:49	1
Tridecanoic acid	1.0	T J N	ug/L		5.84	638-53-9	07/27/22 10:58	08/18/22 23:49	1
Octadecanoic acid	0.58	T J N	ug/L		6.52	57-11-4	07/27/22 10:58	08/18/22 23:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Nitro-m-xylene	92		70 - 130	07/27/22 10:58	08/18/22 23:49	1
Triphenylphosphate	100		70 - 130	07/27/22 10:58	08/18/22 23:49	1
Perylene-d12	102		70 - 130	07/27/22 10:58	08/18/22 23:49	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		07/27/22 00:00	07/31/22 19:01	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		07/27/22 00:00	07/31/22 19:01	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		07/27/22 00:00	07/31/22 19:01	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		07/27/22 00:00	07/31/22 19:01	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		07/27/22 00:00	07/31/22 19:01	1

Eurofins Eaton Monrovia

# Client Sample Results

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

Job ID: 380-11533-1

**Client Sample ID: AIEA GULCH WELLS PUMP 1  
(331-201-TP071)**

**Lab Sample ID: 380-11533-1**

**Date Collected: 07/20/22 10:20**

**Matrix: Drinking Water**

**Date Received: 07/22/22 10:10**

**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
Acenaphthene	ND		0.005	0.001	µg/L		07/27/22 00:00	07/31/22 19:01	1
Acenaphthylene	ND		0.005	0.001	µg/L		07/27/22 00:00	07/31/22 19:01	1
Anthracene	ND		0.005	0.001	µg/L		07/27/22 00:00	07/31/22 19:01	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		07/27/22 00:00	07/31/22 19:01	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		07/27/22 00:00	07/31/22 19:01	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		07/27/22 00:00	07/31/22 19:01	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		07/27/22 00:00	07/31/22 19:01	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		07/27/22 00:00	07/31/22 19:01	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		07/27/22 00:00	07/31/22 19:01	1
Biphenyl	ND		0.005	0.001	µg/L		07/27/22 00:00	07/31/22 19:01	1
Chrysene	ND		0.005	0.001	µg/L		07/27/22 00:00	07/31/22 19:01	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		07/27/22 00:00	07/31/22 19:01	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		07/27/22 00:00	07/31/22 19:01	1
Dibenzothiophene	ND		0.005	0.001	µg/L		07/27/22 00:00	07/31/22 19:01	1
Disalicylidenepranediamine	ND		0.1	0.05	µg/L		07/27/22 00:00	07/31/22 19:01	1
Fluoranthene	ND		0.005	0.001	µg/L		07/27/22 00:00	07/31/22 19:01	1
Fluorene	ND		0.005	0.001	µg/L		07/27/22 00:00	07/31/22 19:01	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		07/27/22 00:00	07/31/22 19:01	1
Naphthalene	ND		0.005	0.001	µg/L		07/27/22 00:00	07/31/22 19:01	1
Perylene	ND		0.005	0.001	µg/L		07/27/22 00:00	07/31/22 19:01	1
Phenanthrene	ND		0.005	0.001	µg/L		07/27/22 00:00	07/31/22 19:01	1
Pyrene	ND		0.005	0.001	µg/L		07/27/22 00:00	07/31/22 19:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
(d10-Acenaphthene)	84		45 - 118	07/27/22 00:00	07/31/22 19:01	1
(d10-Phenanthrene)	81		56 - 123	07/27/22 00:00	07/31/22 19:01	1
(d12-Chrysene)	79		36 - 142	07/27/22 00:00	07/31/22 19:01	1
(d12-Perylene)	51		36 - 161	07/27/22 00:00	07/31/22 19:01	1
(d8-Naphthalene)	87		20 - 112	07/27/22 00:00	07/31/22 19:01	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DIESEL	ND	U	0.025		mg/L			07/26/22 20:54	1
MOTOR OIL	ND	U	0.051		mg/L			07/26/22 20:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOBENZENE	74		60 - 130		07/26/22 20:54	1
HEXACOSANE	81		60 - 130		07/26/22 20:54	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			07/26/22 17:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE	88		60 - 140		07/26/22 17:47	1

# Client Sample Results

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

Job ID: 380-11533-1

**Client Sample ID: AIEA WELLS P2 (260) (331-004-WL103)**

**Lab Sample ID: 380-11533-2**

**Date Collected: 07/20/22 11:00**

**Matrix: Drinking Water**

**Date Received: 07/22/22 10:10**

**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		07/27/22 00:00	07/31/22 20:44	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		07/27/22 00:00	07/31/22 20:44	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		07/27/22 00:00	07/31/22 20:44	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		07/27/22 00:00	07/31/22 20:44	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		07/27/22 00:00	07/31/22 20:44	1
Acenaphthene	ND		0.005	0.001	µg/L		07/27/22 00:00	07/31/22 20:44	1
Acenaphthylene	ND		0.005	0.001	µg/L		07/27/22 00:00	07/31/22 20:44	1
Anthracene	ND		0.005	0.001	µg/L		07/27/22 00:00	07/31/22 20:44	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		07/27/22 00:00	07/31/22 20:44	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		07/27/22 00:00	07/31/22 20:44	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		07/27/22 00:00	07/31/22 20:44	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		07/27/22 00:00	07/31/22 20:44	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		07/27/22 00:00	07/31/22 20:44	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		07/27/22 00:00	07/31/22 20:44	1
Biphenyl	ND		0.005	0.001	µg/L		07/27/22 00:00	07/31/22 20:44	1
Chrysene	ND		0.005	0.001	µg/L		07/27/22 00:00	07/31/22 20:44	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		07/27/22 00:00	07/31/22 20:44	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		07/27/22 00:00	07/31/22 20:44	1
Dibenzothiophene	ND		0.005	0.001	µg/L		07/27/22 00:00	07/31/22 20:44	1
Disalicylidenepropanediamine	ND		0.1	0.05	µg/L		07/27/22 00:00	07/31/22 20:44	1
Fluoranthene	ND		0.005	0.001	µg/L		07/27/22 00:00	07/31/22 20:44	1
Fluorene	ND		0.005	0.001	µg/L		07/27/22 00:00	07/31/22 20:44	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		07/27/22 00:00	07/31/22 20:44	1
Naphthalene	ND		0.005	0.001	µg/L		07/27/22 00:00	07/31/22 20:44	1
Perylene	ND		0.005	0.001	µg/L		07/27/22 00:00	07/31/22 20:44	1
Phenanthrene	ND		0.005	0.001	µg/L		07/27/22 00:00	07/31/22 20:44	1
Pyrene	ND		0.005	0.001	µg/L		07/27/22 00:00	07/31/22 20:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
(d10-Acenaphthene)	94		45 - 118	07/27/22 00:00	07/31/22 20:44	1
(d10-Phenanthrene)	83		56 - 123	07/27/22 00:00	07/31/22 20:44	1
(d12-Chrysene)	74		36 - 142	07/27/22 00:00	07/31/22 20:44	1
(d12-Perylene)	64		36 - 161	07/27/22 00:00	07/31/22 20:44	1
(d8-Naphthalene)	101		20 - 112	07/27/22 00:00	07/31/22 20:44	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	0.026		mg/L			07/26/22 21:12	1
MOTOR OIL	ND	U	0.052		mg/L			07/26/22 21:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOBENZENE	76		60 - 130		07/26/22 21:12	1
HEXACOSANE	82		60 - 130		07/26/22 21:12	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			07/26/22 18:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE	89		60 - 140		07/26/22 18:23	1

Eurofins Eaton Monrovia

# Client Sample Results

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

Job ID: 380-11533-1

## Client Sample ID: AIEA GULCH - TRAVEL BLANK

Lab Sample ID: 380-11533-3

Date Collected: 07/20/22 10:20

Matrix: Water

Date Received: 07/22/22 10:10

### 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			07/26/22 19:00	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE	84		60 - 140					07/26/22 19:00	1

## Client Sample ID: AIEA WELLS - TRAVEL BLANK

Lab Sample ID: 380-11533-4

Date Collected: 07/20/22 11:00

Matrix: Water

Date Received: 07/22/22 10:10

### 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			07/26/22 19:36	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE	88		60 - 140					07/26/22 19:36	1

# Action Limit Summary

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

Job ID: 380-11533-1

**Client Sample ID: AIEA GULCH WELLS PUMP 1  
(331-201-TP071)**  
**PWSID Number: HI0000331**

**Lab Sample ID: 380-11533-1**

## Compliance Check

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

Analyte	Result	Qualifier	Unit	EPAMCL	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	0.098	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	0.098	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: 380-11533-1

## 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)
380-11533-1	AIEA GULCH WELLS PUMP 1 (	92	100	102

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

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		2NMX (70-130)	TPP (70-130)	PRY (70-130)
380-12016-J-1-A DU	Duplicate	95	102	101
380-11994-AK-16-A MS	Matrix Spike	92	104	101
LCS 380-10424/3-A	Lab Control Sample	92	100	103
LCS 380-10424/4-A	Lab Control Sample Dup	93	98	102
MB 380-10424/1-A	Method Blank	93	97	101
MRL 380-10424/2-A	Lab Control Sample	89	103	99

**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)
380-11533-1	AIEA GULCH WELLS PUMP 1 (	84	79	87	81	51
380-11533-2	AIEA WELLS P2 (260) (331-004-WL103)	94	74	101	83	64

**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)
98682-B1	Method Blank	98	92	99	97	87
98682-BS1	Lab Control Sample	101	101	98	98	87
98682-BS2	Lab Control Sample Dup	100	107	98	99	85

**Surrogate Legend**

Eurofins Eaton Monrovia

# Surrogate Summary

Client: City & County of Honolulu

Job ID: 380-11533-1

Project/Site: RED-HILL

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

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		BB (60-130)	XACOSAI (60-130)
380-11533-1	AIEA GULCH WELLS PUMP 1 (	74	81
380-11533-2	AIEA WELLS P2 (260) (331-004-WL103)	76	82

#### Surrogate Legend

BB = BROMOBENZENE

HEXACOSANE = HEXACOSANE

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

Matrix: WATER

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		BB	XACOSAI
22DSG022WB	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

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		BB (60-130)	XACOSAI (60-130)
22DSG022WC	LCD	62	90
22DSG022WL	Lab Control Sample	73	88

#### Surrogate Legend

BB = BROMOBENZENE

HEXACOSANE = HEXACOSANE

## 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	Percent Surrogate Recovery (Acceptance Limits)	
		BFB (60-140)	
380-11533-1	AIEA GULCH WELLS PUMP 1 (	88	
380-11533-2	AIEA WELLS P2 (260) (331-004-WL103)	89	

#### Surrogate Legend

BFB = BROMOFLUOROBENZENE

# Surrogate Summary

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

Job ID: 380-11533-1

## 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)
22VG39G18C	LCD	104
22VG39G18L	Lab Control Sample	107

#### Surrogate Legend

BFB = BROMOFLUOROBENZENE

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

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB (60-140)
380-11533-3	AIEA GULCH - TRAVEL BLANK	84
380-11533-4	AIEA WELLS - TRAVEL BLANK	88

#### 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
22VG39G18B	Method Blank	

#### Surrogate Legend

BFB = BROMOFLUOROBENZENE

# QC Sample Results

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

Job ID: 380-11533-1

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

**Lab Sample ID: MB 380-10424/1-A**  
**Matrix: Water**  
**Analysis Batch: 13891**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 10424**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
2,4'-DDD	ND		0.099	ug/L		07/27/22 10:58	08/18/22 21:28	1
2,4'-DDE	ND		0.099	ug/L		07/27/22 10:58	08/18/22 21:28	1
2,4'-DDT	ND		0.099	ug/L		07/27/22 10:58	08/18/22 21:28	1
2,4-Dinitrotoluene	ND		0.099	ug/L		07/27/22 10:58	08/18/22 21:28	1
2,6-Dinitrotoluene	ND		0.099	ug/L		07/27/22 10:58	08/18/22 21:28	1
4,4'-DDD	ND		0.099	ug/L		07/27/22 10:58	08/18/22 21:28	1
4,4'-DDE	ND		0.099	ug/L		07/27/22 10:58	08/18/22 21:28	1
4,4'-DDT	ND		0.099	ug/L		07/27/22 10:58	08/18/22 21:28	1
Acenaphthene	ND		0.099	ug/L		07/27/22 10:58	08/18/22 21:28	1
Acenaphthylene	ND		0.099	ug/L		07/27/22 10:58	08/18/22 21:28	1
Acetochlor	ND		0.099	ug/L		07/27/22 10:58	08/18/22 21:28	1
Alachlor	ND		0.049	ug/L		07/27/22 10:58	08/18/22 21:28	1
alpha-BHC	ND		0.099	ug/L		07/27/22 10:58	08/18/22 21:28	1
alpha-Chlordane	ND		0.049	ug/L		07/27/22 10:58	08/18/22 21:28	1
Anthracene	ND		0.020	ug/L		07/27/22 10:58	08/18/22 21:28	1
Atrazine	ND		0.049	ug/L		07/27/22 10:58	08/18/22 21:28	1
Benz(a)anthracene	ND		0.049	ug/L		07/27/22 10:58	08/18/22 21:28	1
Benzo[a]pyrene	ND		0.020	ug/L		07/27/22 10:58	08/18/22 21:28	1
Benzo[b]fluoranthene	ND		0.020	ug/L		07/27/22 10:58	08/18/22 21:28	1
Benzo[g,h,i]perylene	ND		0.049	ug/L		07/27/22 10:58	08/18/22 21:28	1
Benzo[k]fluoranthene	ND		0.020	ug/L		07/27/22 10:58	08/18/22 21:28	1
beta-BHC	ND		0.099	ug/L		07/27/22 10:58	08/18/22 21:28	1
Bromacil	ND		0.099	ug/L		07/27/22 10:58	08/18/22 21:28	1
Butachlor	ND		0.049	ug/L		07/27/22 10:58	08/18/22 21:28	1
Butylbenzylphthalate	ND		0.49	ug/L		07/27/22 10:58	08/18/22 21:28	1
Caffeine	ND		0.049	ug/L		07/27/22 10:58	08/18/22 21:28	1
Chlorobenzilate	ND		0.099	ug/L		07/27/22 10:58	08/18/22 21:28	1
Chloroneb	ND		0.099	ug/L		07/27/22 10:58	08/18/22 21:28	1
Chlorothalonil (Draconil, Bravo)	ND		0.099	ug/L		07/27/22 10:58	08/18/22 21:28	1
Chlorpyrifos	ND		0.049	ug/L		07/27/22 10:58	08/18/22 21:28	1
Chrysene	ND		0.020	ug/L		07/27/22 10:58	08/18/22 21:28	1
delta-BHC	ND		0.099	ug/L		07/27/22 10:58	08/18/22 21:28	1
Di(2-ethylhexyl)adipate	ND		0.59	ug/L		07/27/22 10:58	08/18/22 21:28	1
Bis(2-ethylhexyl) phthalate	ND		0.59	ug/L		07/27/22 10:58	08/18/22 21:28	1
Diazinon (Qualitative)	ND		0.099	ug/L		07/27/22 10:58	08/18/22 21:28	1
Dibenz(a,h)anthracene	ND		0.049	ug/L		07/27/22 10:58	08/18/22 21:28	1
Diclorvos (DDVP)	ND		0.049	ug/L		07/27/22 10:58	08/18/22 21:28	1
Dieldrin	ND		0.20	ug/L		07/27/22 10:58	08/18/22 21:28	1
Diethylphthalate	ND		0.49	ug/L		07/27/22 10:58	08/18/22 21:28	1
Dimethoate	ND		0.099	ug/L		07/27/22 10:58	08/18/22 21:28	1
Dimethylphthalate	ND		0.49	ug/L		07/27/22 10:58	08/18/22 21:28	1
Di-n-butyl phthalate	ND		0.99	ug/L		07/27/22 10:58	08/18/22 21:28	1
Di-n-octyl phthalate	ND		0.099	ug/L		07/27/22 10:58	08/18/22 21:28	1
Endosulfan I (Alpha)	ND		0.099	ug/L		07/27/22 10:58	08/18/22 21:28	1
Endosulfan II (Beta)	ND		0.099	ug/L		07/27/22 10:58	08/18/22 21:28	1
Endosulfan sulfate	ND		0.099	ug/L		07/27/22 10:58	08/18/22 21:28	1
Endrin	ND		0.099	ug/L		07/27/22 10:58	08/18/22 21:28	1
Endrin aldehyde	ND		0.099	ug/L		07/27/22 10:58	08/18/22 21:28	1

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# QC Sample Results

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

Job ID: 380-11533-1

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

**Lab Sample ID: MB 380-10424/1-A**  
**Matrix: Water**  
**Analysis Batch: 13891**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 10424**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
EPTC	ND		0.099	ug/L		07/27/22 10:58	08/18/22 21:28	1
Fluoranthene	ND		0.099	ug/L		07/27/22 10:58	08/18/22 21:28	1
Fluorene	ND		0.049	ug/L		07/27/22 10:58	08/18/22 21:28	1
gamma-Chlordane	ND		0.049	ug/L		07/27/22 10:58	08/18/22 21:28	1
Heptachlor	ND		0.039	ug/L		07/27/22 10:58	08/18/22 21:28	1
Heptachlor epoxide (isomer B)	ND		0.049	ug/L		07/27/22 10:58	08/18/22 21:28	1
Hexachlorobenzene	ND		0.049	ug/L		07/27/22 10:58	08/18/22 21:28	1
Hexachlorocyclopentadiene	ND		0.049	ug/L		07/27/22 10:58	08/18/22 21:28	1
Indeno[1,2,3-cd]pyrene	ND		0.049	ug/L		07/27/22 10:58	08/18/22 21:28	1
Isophorone	ND		0.49	ug/L		07/27/22 10:58	08/18/22 21:28	1
Lindane	ND		0.039	ug/L		07/27/22 10:58	08/18/22 21:28	1
Malathion	ND		0.099	ug/L		07/27/22 10:58	08/18/22 21:28	1
Methoxychlor	ND		0.099	ug/L		07/27/22 10:58	08/18/22 21:28	1
Metolachlor	ND		0.049	ug/L		07/27/22 10:58	08/18/22 21:28	1
Metribuzin	ND		0.049	ug/L		07/27/22 10:58	08/18/22 21:28	1
Molinate	ND		0.099	ug/L		07/27/22 10:58	08/18/22 21:28	1
Naphthalene	ND		0.30	ug/L		07/27/22 10:58	08/18/22 21:28	1
Parathion	ND		0.099	ug/L		07/27/22 10:58	08/18/22 21:28	1
Pendimethalin (Penoxaline)	ND		0.099	ug/L		07/27/22 10:58	08/18/22 21:28	1
Total Permethrin (mixed isomers)	ND		0.20	ug/L		07/27/22 10:58	08/18/22 21:28	1
Phenanthrene	ND		0.039	ug/L		07/27/22 10:58	08/18/22 21:28	1
Propachlor	ND		0.049	ug/L		07/27/22 10:58	08/18/22 21:28	1
Pyrene	ND		0.049	ug/L		07/27/22 10:58	08/18/22 21:28	1
Simazine	ND		0.049	ug/L		07/27/22 10:58	08/18/22 21:28	1
Terbacil	ND		0.099	ug/L		07/27/22 10:58	08/18/22 21:28	1
Terbutylazine	ND		0.099	ug/L		07/27/22 10:58	08/18/22 21:28	1
Thiobencarb	ND		0.20	ug/L		07/27/22 10:58	08/18/22 21:28	1
trans-Nonachlor	ND		0.049	ug/L		07/27/22 10:58	08/18/22 21:28	1
Trifluralin	ND		0.099	ug/L		07/27/22 10:58	08/18/22 21:28	1
1-Methylnaphthalene	ND		0.099	ug/L		07/27/22 10:58	08/18/22 21:28	1
2-Methylnaphthalene	ND		0.099	ug/L		07/27/22 10:58	08/18/22 21:28	1

<i>Tentatively Identified Compound</i>	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
<i>Tentatively Identified Compound</i>	None		ug/L				07/27/22 10:58	08/18/22 21:28	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Nitro-m-xylene	93		70 - 130	07/27/22 10:58	08/18/22 21:28	1
Triphenylphosphate	97		70 - 130	07/27/22 10:58	08/18/22 21:28	1
Perylene-d12	101		70 - 130	07/27/22 10:58	08/18/22 21:28	1

**Lab Sample ID: LCS 380-10424/3-A**  
**Matrix: Water**  
**Analysis Batch: 13891**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 10424**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2,4'-DDD	1.97	2.13		ug/L		108	70 - 130
2,4'-DDE	1.97	1.82		ug/L		92	70 - 130
2,4'-DDT	1.97	1.69		ug/L		86	70 - 130

Eurofins Eaton Monrovia

# QC Sample Results

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

Job ID: 380-11533-1

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

**Lab Sample ID: LCS 380-10424/3-A**

**Matrix: Water**

**Analysis Batch: 13891**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

**Prep Batch: 10424**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2,4-Dinitrotoluene	1.97	1.98		ug/L		101	70 - 130
2,6-Dinitrotoluene	1.97	1.95		ug/L		99	70 - 130
4,4'-DDD	1.97	1.74		ug/L		88	70 - 130
4,4'-DDE	1.97	1.90		ug/L		96	70 - 130
4,4'-DDT	1.97	1.73		ug/L		88	70 - 130
Acenaphthene	1.97	1.85		ug/L		94	70 - 130
Acenaphthylene	1.97	1.89		ug/L		96	70 - 130
Acetochlor	1.97	2.10		ug/L		106	70 - 130
Alachlor	1.97	1.89		ug/L		96	70 - 130
alpha-BHC	1.97	1.87		ug/L		95	70 - 130
alpha-Chlordane	1.97	1.82		ug/L		93	70 - 130
Anthracene	1.97	2.05		ug/L		104	70 - 130
Atrazine	1.97	1.98		ug/L		100	70 - 130
Benz(a)anthracene	1.97	1.72		ug/L		87	70 - 130
Benzo[a]pyrene	1.97	1.65		ug/L		84	70 - 130
Benzo[b]fluoranthene	1.97	1.76		ug/L		89	70 - 130
Benzo[g,h,i]perylene	1.97	1.95		ug/L		99	70 - 130
Benzo[k]fluoranthene	1.97	1.82		ug/L		92	70 - 130
beta-BHC	1.97	1.83		ug/L		93	70 - 130
Bromacil	1.97	1.85		ug/L		94	70 - 130
Butachlor	1.97	2.16		ug/L		110	70 - 130
Butylbenzylphthalate	1.97	2.25		ug/L		114	70 - 130
Caffeine	1.97	1.72		ug/L		87	45 - 137
Chlorobenzilate	1.97	2.12		ug/L		107	70 - 130
Chloroneb	1.97	1.81		ug/L		92	70 - 130
Chlorothalonil (Draconil, Bravo)	1.97	2.28		ug/L		115	70 - 130
Chlorpyrifos	1.97	1.88		ug/L		96	70 - 130
Chrysene	1.97	1.67		ug/L		84	70 - 130
delta-BHC	1.97	1.74		ug/L		88	70 - 130
Di(2-ethylhexyl)adipate	1.97	2.69	*+	ug/L		137	70 - 130
Bis(2-ethylhexyl) phthalate	1.97	1.95		ug/L		99	70 - 130
Diazinon (Qualitative)	1.97	2.03		ug/L		103	15 - 132
Dibenz(a,h)anthracene	1.97	2.00		ug/L		102	70 - 130
Diclorvos (DDVP)	1.97	1.99		ug/L		101	70 - 130
Dieldrin	1.97	2.01		ug/L		102	70 - 130
Diethylphthalate	1.97	1.99		ug/L		101	70 - 130
Dimethoate	1.97	1.76		ug/L		89	35 - 100
Dimethylphthalate	1.97	2.03		ug/L		103	70 - 130
Di-n-butyl phthalate	3.94	3.85		ug/L		98	70 - 130
Di-n-octyl phthalate	1.97	1.72		ug/L		87	70 - 130
Endosulfan I (Alpha)	1.97	1.64		ug/L		83	70 - 130
Endosulfan II (Beta)	1.97	1.82		ug/L		92	70 - 130
Endosulfan sulfate	1.97	2.15		ug/L		109	70 - 130
Endrin	1.97	2.01		ug/L		102	70 - 130
Endrin aldehyde	1.97	2.06		ug/L		104	70 - 130
EPTC	1.97	2.13		ug/L		108	70 - 130
Fluoranthene	1.97	1.82		ug/L		92	70 - 130
Fluorene	1.97	2.09		ug/L		106	70 - 130
gamma-Chlordane	1.97	1.83		ug/L		93	70 - 130

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# QC Sample Results

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

Job ID: 380-11533-1

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

**Lab Sample ID: LCS 380-10424/3-A**  
**Matrix: Water**  
**Analysis Batch: 13891**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 10424**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Heptachlor	1.97	1.94		ug/L		98	70 - 130
Heptachlor epoxide (isomer B)	1.97	2.01		ug/L		102	70 - 130
Hexachlorobenzene	1.97	2.01		ug/L		102	70 - 130
Hexachlorocyclopentadiene	1.97	1.71		ug/L		87	70 - 130
Indeno[1,2,3-cd]pyrene	1.97	1.99		ug/L		101	70 - 130
Isophorone	1.97	1.83		ug/L		93	70 - 130
Lindane	1.97	1.83		ug/L		93	70 - 130
Malathion	1.97	2.12		ug/L		108	70 - 130
Methoxychlor	1.97	1.88		ug/L		95	70 - 130
Metolachlor	1.97	2.01		ug/L		102	70 - 130
Metribuzin	1.97	1.94		ug/L		99	70 - 130
Molinate	1.97	2.09		ug/L		106	70 - 130
Naphthalene	1.97	1.96		ug/L		99	70 - 130
Parathion	1.97	2.23		ug/L		113	70 - 130
Pendimethalin (Penoxaline)	1.97	2.21		ug/L		112	70 - 130
Phenanthrene	1.97	1.92		ug/L		97	70 - 130
Propachlor	1.97	2.21		ug/L		112	70 - 130
Pyrene	1.97	1.90		ug/L		97	70 - 130
Simazine	1.97	2.13		ug/L		108	70 - 130
Terbacil	1.97	2.27		ug/L		115	70 - 130
Terbutylazine	1.97	1.88		ug/L		95	70 - 130
Thiobencarb	1.97	2.01		ug/L		102	70 - 130
trans-Nonachlor	1.97	1.86		ug/L		94	70 - 130
Trifluralin	1.97	2.55		ug/L		129	70 - 130
1-Methylnaphthalene	1.97	2.09		ug/L		106	70 - 130
2-Methylnaphthalene	1.97	1.99		ug/L		101	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Nitro-m-xylene	92		70 - 130
Triphenylphosphate	100		70 - 130
Perylene-d12	103		70 - 130

**Lab Sample ID: LCSD 380-10424/4-A**  
**Matrix: Water**  
**Analysis Batch: 13891**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 10424**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
2,4'-DDD	1.97	2.13		ug/L		108	70 - 130	0	20
2,4'-DDE	1.97	1.81		ug/L		92	70 - 130	0	20
2,4'-DDT	1.97	1.72		ug/L		87	70 - 130	2	20
2,4-Dinitrotoluene	1.97	2.03		ug/L		103	70 - 130	2	20
2,6-Dinitrotoluene	1.97	2.04		ug/L		103	70 - 130	4	20
4,4'-DDD	1.97	1.78		ug/L		90	70 - 130	2	20
4,4'-DDE	1.97	1.92		ug/L		97	70 - 130	1	20
4,4'-DDT	1.97	1.72		ug/L		87	70 - 130	1	20
Acenaphthene	1.97	1.83		ug/L		93	70 - 130	1	20
Acenaphthylene	1.97	1.90		ug/L		96	70 - 130	1	20
Acetochlor	1.97	2.04		ug/L		103	70 - 130	3	20

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# QC Sample Results

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

Job ID: 380-11533-1

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

**Lab Sample ID: LCSD 380-10424/4-A**  
**Matrix: Water**  
**Analysis Batch: 13891**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 10424**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	RPD Limit
							Limits	RPD		
Alachlor	1.97	1.84		ug/L		93	70 - 130	3	20	
alpha-BHC	1.97	1.88		ug/L		95	70 - 130	1	20	
alpha-Chlordane	1.97	1.82		ug/L		92	70 - 130	0	20	
Anthracene	1.97	2.01		ug/L		102	70 - 130	2	20	
Atrazine	1.97	2.03		ug/L		103	70 - 130	3	20	
Benz(a)anthracene	1.97	1.78		ug/L		90	70 - 130	4	20	
Benzo[a]pyrene	1.97	1.64		ug/L		83	70 - 130	0	20	
Benzo[b]fluoranthene	1.97	1.70		ug/L		86	70 - 130	3	20	
Benzo[g,h,i]perylene	1.97	1.79		ug/L		91	70 - 130	9	20	
Benzo[k]fluoranthene	1.97	1.76		ug/L		89	70 - 130	3	20	
beta-BHC	1.97	1.83		ug/L		93	70 - 130	0	20	
Bromacil	1.97	1.89		ug/L		96	70 - 130	2	20	
Butachlor	1.97	2.10		ug/L		107	70 - 130	3	20	
Butylbenzylphthalate	1.97	2.21		ug/L		112	70 - 130	2	20	
Caffeine	1.97	1.79		ug/L		91	45 - 137	4	20	
Chlorobenzilate	1.97	2.13		ug/L		108	70 - 130	1	20	
Chloroneb	1.97	1.81		ug/L		92	70 - 130	0	20	
Chlorothalonil (Draconil, Bravo)	1.97	2.27		ug/L		115	70 - 130	0	20	
Chlorpyrifos	1.97	1.91		ug/L		97	70 - 130	1	20	
Chrysene	1.97	1.64		ug/L		83	70 - 130	2	20	
delta-BHC	1.97	1.72		ug/L		87	70 - 130	1	20	
Di(2-ethylhexyl)adipate	1.97	2.65	*+	ug/L		135	70 - 130	2	20	
Bis(2-ethylhexyl) phthalate	1.97	1.87		ug/L		95	70 - 130	4	20	
Diazinon (Qualitative)	1.97	2.02		ug/L		102	15 - 132	1	20	
Dibenz(a,h)anthracene	1.97	1.87		ug/L		95	70 - 130	7	20	
Diclorvos (DDVP)	1.97	2.14		ug/L		109	70 - 130	8	20	
Dieldrin	1.97	2.01		ug/L		102	70 - 130	0	20	
Diethylphthalate	1.97	2.03		ug/L		103	70 - 130	2	20	
Dimethoate	1.97	1.79		ug/L		91	35 - 100	1	20	
Dimethylphthalate	1.97	1.97		ug/L		100	70 - 130	3	20	
Di-n-butyl phthalate	3.94	3.92		ug/L		99	70 - 130	2	20	
Di-n-octyl phthalate	1.97	1.53		ug/L		78	70 - 130	12	20	
Endosulfan I (Alpha)	1.97	1.62		ug/L		82	70 - 130	1	20	
Endosulfan II (Beta)	1.97	1.82		ug/L		92	70 - 130	0	20	
Endosulfan sulfate	1.97	2.19		ug/L		111	70 - 130	2	20	
Endrin	1.97	1.91		ug/L		97	70 - 130	5	20	
Endrin aldehyde	1.97	2.01		ug/L		102	70 - 130	2	20	
EPTC	1.97	2.13		ug/L		108	70 - 130	0	20	
Fluoranthene	1.97	1.84		ug/L		93	70 - 130	1	20	
Fluorene	1.97	2.09		ug/L		106	70 - 130	0	20	
gamma-Chlordane	1.97	1.84		ug/L		93	70 - 130	1	20	
Heptachlor	1.97	1.96		ug/L		99	70 - 130	1	20	
Heptachlor epoxide (isomer B)	1.97	2.02		ug/L		103	70 - 130	1	20	
Hexachlorobenzene	1.97	2.01		ug/L		102	70 - 130	0	20	
Hexachlorocyclopentadiene	1.97	1.74		ug/L		88	70 - 130	2	20	
Indeno[1,2,3-cd]pyrene	1.97	1.87		ug/L		95	70 - 130	6	20	
Isophorone	1.97	1.84		ug/L		94	70 - 130	1	20	
Lindane	1.97	1.83		ug/L		93	70 - 130	0	20	
Malathion	1.97	2.08		ug/L		106	70 - 130	2	20	

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# QC Sample Results

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

Job ID: 380-11533-1

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

**Lab Sample ID: LCSD 380-10424/4-A**  
**Matrix: Water**  
**Analysis Batch: 13891**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 10424**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Methoxychlor	1.97	1.91		ug/L		97	70 - 130	2	20
Metolachlor	1.97	2.00		ug/L		101	70 - 130	0	20
Metribuzin	1.97	2.04		ug/L		103	70 - 130	5	20
Molinate	1.97	2.25		ug/L		114	70 - 130	7	20
Naphthalene	1.97	1.98		ug/L		101	70 - 130	1	20
Parathion	1.97	2.22		ug/L		112	70 - 130	0	20
Pendimethalin (Penoxaline)	1.97	2.28		ug/L		115	70 - 130	3	20
Phenanthrene	1.97	1.92		ug/L		97	70 - 130	0	20
Propachlor	1.97	2.24		ug/L		114	70 - 130	1	20
Pyrene	1.97	1.94		ug/L		98	70 - 130	2	20
Simazine	1.97	2.20		ug/L		112	70 - 130	3	20
Terbacil	1.97	2.28		ug/L		116	70 - 130	0	20
Terbutylazine	1.97	1.91		ug/L		97	70 - 130	2	20
Thiobencarb	1.97	2.03		ug/L		103	70 - 130	1	20
trans-Nonachlor	1.97	1.83		ug/L		93	70 - 130	2	20
Trifluralin	1.97	2.51		ug/L		127	70 - 130	1	20
1-Methylnaphthalene	1.97	2.07		ug/L		105	70 - 130	1	20
2-Methylnaphthalene	1.97	1.98		ug/L		100	70 - 130	1	20

Surrogate	LCSD %Recovery	LCSD Qualifier	LCSD Limits
2-Nitro-m-xylene	93		70 - 130
Triphenylphosphate	98		70 - 130
Perylene-d12	102		70 - 130

**Lab Sample ID: MRL 380-10424/2-A**  
**Matrix: Water**  
**Analysis Batch: 13891**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 10424**

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
2,4'-DDD	0.0986	0.124		ug/L		125	50 - 150
2,4'-DDE	0.0986	0.0825	J	ug/L		84	50 - 150
2,4'-DDT	0.0986	0.0751	J	ug/L		76	50 - 150
2,4-Dinitrotoluene	0.0986	0.111		ug/L		112	50 - 150
2,6-Dinitrotoluene	0.0986	0.0865	J	ug/L		88	50 - 150
4,4'-DDD	0.0986	0.0792	J	ug/L		80	50 - 150
4,4'-DDE	0.0986	0.146		ug/L		148	50 - 150
4,4'-DDT	0.0986	0.0791	J	ug/L		80	50 - 150
Acenaphthene	0.0986	0.0893	J	ug/L		91	50 - 150
Acenaphthylene	0.0986	0.0709	J	ug/L		72	50 - 150
Acetochlor	0.0493	0.0379	J	ug/L		77	50 - 150
Alachlor	0.0493	0.0497		ug/L		101	50 - 150
alpha-BHC	0.0986	0.0945	J	ug/L		96	50 - 150
alpha-Chlordane	0.0493	0.0515		ug/L		104	50 - 150
Anthracene	0.0197	0.0213		ug/L		108	50 - 150
Atrazine	0.0493	ND		ug/L		85	50 - 150
Benz(a)anthracene	0.0493	0.0392	J	ug/L		79	50 - 150
Benzo[a]pyrene	0.0197	0.0139	J	ug/L		70	50 - 150
Benzo[b]fluoranthene	0.0197	0.0155	J	ug/L		79	50 - 150

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# QC Sample Results

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

Job ID: 380-11533-1

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

**Lab Sample ID: MRL 380-10424/2-A**  
**Matrix: Water**  
**Analysis Batch: 13891**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 10424**

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Benzo[g,h,i]perylene	0.0493	0.0399	J	ug/L		81	50 - 150
Benzo[k]fluoranthene	0.0197	ND		ug/L		83	50 - 150
beta-BHC	0.0986	0.0992		ug/L		101	50 - 150
Bromacil	0.0986	0.100		ug/L		102	50 - 150
Butachlor	0.0493	0.0520		ug/L		105	50 - 150
Butylbenzylphthalate	0.148	0.176	J	ug/L		119	50 - 150
Caffeine	0.0493	0.0447	J	ug/L		91	50 - 150
Chlorobenzilate	0.0986	0.130		ug/L		132	50 - 150
Chloroneb	0.0986	0.0870	J	ug/L		88	50 - 150
Chlorothalonil (Draconil, Bravo)	0.0986	0.0871	J	ug/L		88	50 - 150
Chlorpyrifos	0.0493	0.0520		ug/L		106	50 - 150
Chrysene	0.0197	0.0173	J	ug/L		88	50 - 150
delta-BHC	0.0986	0.105		ug/L		106	50 - 150
Di(2-ethylhexyl)adipate	0.296	0.791	^3+	ug/L		268	50 - 150
Bis(2-ethylhexyl) phthalate	0.591	0.649		ug/L		110	50 - 150
Diazinon (Qualitative)	0.0986	0.0937	J	ug/L		95	15 - 132
Dibenz(a,h)anthracene	0.0493	0.0398	J	ug/L		81	50 - 150
Diclorvos (DDVP)	0.0493	0.0450	J	ug/L		91	50 - 150
Dieldrin	0.0986	0.0971	J	ug/L		98	50 - 150
Diethylphthalate	0.148	0.145	J	ug/L		98	50 - 150
Dimethoate	0.0986	0.0802	J	ug/L		81	35 - 100
Dimethylphthalate	0.296	0.265	J	ug/L		90	50 - 150
Di-n-butyl phthalate	0.296	0.307	J	ug/L		104	49 - 243
Di-n-octyl phthalate	0.0986	0.0935	J	ug/L		95	50 - 150
Endosulfan I (Alpha)	0.0986	0.0911	J	ug/L		92	50 - 150
Endosulfan II (Beta)	0.0986	0.115		ug/L		117	50 - 150
Endosulfan sulfate	0.0986	0.0878	J	ug/L		89	50 - 150
Endrin	0.0986	0.106		ug/L		107	50 - 150
Endrin aldehyde	0.0986	0.0911	J	ug/L		92	50 - 150
EPTC	0.0986	0.0937	J	ug/L		95	50 - 150
Fluoranthene	0.0493	0.0508	J	ug/L		103	50 - 150
Fluorene	0.0493	0.0495		ug/L		100	50 - 150
gamma-Chlordane	0.0493	0.0481	J	ug/L		98	50 - 150
Heptachlor	0.0394	0.0412		ug/L		105	50 - 150
Heptachlor epoxide (isomer B)	0.0493	0.0498		ug/L		101	50 - 150
Hexachlorobenzene	0.0493	0.0800	^3+	ug/L		162	50 - 150
Hexachlorocyclopentadiene	0.0493	ND		ug/L		60	50 - 150
Indeno[1,2,3-cd]pyrene	0.0493	0.0428	J	ug/L		87	50 - 150
Isophorone	0.0986	0.0822	J	ug/L		83	50 - 150
Lindane	0.0493	0.0465		ug/L		94	50 - 150
Malathion	0.0986	0.0995		ug/L		101	50 - 150
Methoxychlor	0.0986	0.0845	J	ug/L		86	50 - 150
Metolachlor	0.0493	0.0508		ug/L		103	50 - 150
Metribuzin	0.0493	0.0512		ug/L		104	50 - 150
Molinate	0.0986	0.0990		ug/L		100	50 - 150
Naphthalene	0.0986	0.0921	J	ug/L		93	50 - 150
Parathion	0.0986	0.149	^3+	ug/L		152	50 - 150
Pendimethalin (Penoxaline)	0.0986	0.0830	J	ug/L		84	50 - 150
Phenanthrene	0.0197	0.0245	J	ug/L		124	50 - 150

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# QC Sample Results

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

Job ID: 380-11533-1

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

**Lab Sample ID: MRL 380-10424/2-A**  
**Matrix: Water**  
**Analysis Batch: 13891**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 10424**

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Propachlor	0.0493	0.0499		ug/L		101	50 - 150
Pyrene	0.0493	0.0514		ug/L		104	50 - 150
Simazine	0.0493	0.0553		ug/L		112	50 - 150
Terbacil	0.0986	0.117		ug/L		119	50 - 150
Terbutylazine	0.0986	0.0864	J	ug/L		88	50 - 150
Thiobencarb	0.0986	0.106	J	ug/L		107	50 - 150
trans-Nonachlor	0.0493	0.0425	J	ug/L		86	50 - 150
Trifluralin	0.0986	0.0821	J	ug/L		83	50 - 150
1-Methylnaphthalene	0.0986	0.0966	J	ug/L		98	50 - 150
2-Methylnaphthalene	0.0986	0.0877	J	ug/L		89	50 - 150

Surrogate	MRL %Recovery	MRL Qualifier	Limits
2-Nitro-m-xylene	89		70 - 130
Triphenylphosphate	103		70 - 130
Perylene-d12	99		70 - 130

**Lab Sample ID: 380-11994-AK-16-A MS**  
**Matrix: Water**  
**Analysis Batch: 13891**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 10424**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
2,4'-DDD	ND		1.95	2.19		ug/L		113	70 - 130
2,4'-DDE	ND		1.95	1.88		ug/L		97	70 - 130
2,4'-DDT	ND		1.95	1.82		ug/L		93	70 - 130
2,4-Dinitrotoluene	ND		1.95	1.98		ug/L		102	70 - 130
2,6-Dinitrotoluene	ND		1.95	1.95		ug/L		100	70 - 130
4,4'-DDD	ND		1.95	1.90		ug/L		98	70 - 130
4,4'-DDE	ND		1.95	1.97		ug/L		101	70 - 130
4,4'-DDT	ND		1.95	1.89		ug/L		97	70 - 130
Acenaphthene	ND		1.95	1.82		ug/L		93	70 - 130
Acenaphthylene	ND		1.95	1.98		ug/L		102	70 - 130
Acetochlor	ND		1.95	2.05		ug/L		105	70 - 130
Alachlor	ND		1.95	1.87		ug/L		96	70 - 130
alpha-BHC	ND		1.95	1.81		ug/L		93	70 - 130
alpha-Chlordane	ND		1.95	1.82		ug/L		93	70 - 130
Anthracene	ND		1.95	1.95		ug/L		100	70 - 130
Atrazine	ND		1.95	2.03		ug/L		104	70 - 130
Benz(a)anthracene	ND		1.95	1.85		ug/L		95	70 - 130
Benzo[a]pyrene	ND		1.95	1.67		ug/L		86	70 - 130
Benzo[b]fluoranthene	ND		1.95	1.76		ug/L		90	70 - 130
Benzo[g,h,i]perylene	ND		1.95	1.87		ug/L		96	70 - 130
Benzo[k]fluoranthene	ND		1.95	1.80		ug/L		93	70 - 130
beta-BHC	ND		1.95	1.78		ug/L		91	70 - 130
Bromacil	ND		1.95	1.94		ug/L		100	70 - 130
Butachlor	ND		1.95	2.14		ug/L		110	70 - 130
Butylbenzylphthalate	ND		1.95	2.25		ug/L		116	70 - 130
Caffeine	ND		1.95	1.76		ug/L		91	46 - 144
Chlorobenzilate	ND		1.95	2.22		ug/L		114	70 - 130

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# QC Sample Results

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

Job ID: 380-11533-1

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

**Lab Sample ID: 380-11994-AK-16-A MS**  
**Matrix: Water**  
**Analysis Batch: 13891**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 10424**

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec
	Result	Qualifier	Added	Result	Qualifier				Limits
Chloroneb	ND		1.95	1.78		ug/L		92	70 - 130
Chlorothalonil (Draconil, Bravo)	ND		1.95	2.26		ug/L		116	70 - 130
Chlorpyrifos	ND		1.95	1.96		ug/L		101	70 - 130
Chrysene	ND		1.95	1.63		ug/L		84	70 - 130
delta-BHC	ND		1.95	1.71		ug/L		88	70 - 130
Di(2-ethylhexyl)adipate	ND	*+ ^3+	1.95	2.82		ug/L		123	70 - 130
Bis(2-ethylhexyl) phthalate	ND		1.95	2.10		ug/L		108	70 - 130
Diazinon (Qualitative)	ND		1.95	2.06		ug/L		106	15 - 132
Dibenz(a,h)anthracene	ND		1.95	1.96		ug/L		101	70 - 130
Diclorvos (DDVP)	ND		1.95	2.02		ug/L		104	70 - 130
Dieldrin	ND		1.95	2.05		ug/L		106	70 - 130
Diethylphthalate	ND		1.95	1.98		ug/L		102	70 - 130
Dimethoate	ND		1.95	1.69		ug/L		87	34 - 111
Dimethylphthalate	ND		1.95	1.93		ug/L		99	70 - 130
Di-n-butyl phthalate	ND		3.89	3.93		ug/L		101	70 - 130
Di-n-octyl phthalate	ND		1.95	1.76		ug/L		91	70 - 130
Endosulfan I (Alpha)	ND		1.95	1.63		ug/L		84	70 - 130
Endosulfan II (Beta)	ND		1.95	1.85		ug/L		95	70 - 130
Endosulfan sulfate	ND		1.95	2.30		ug/L		118	70 - 130
Endrin	ND		1.95	1.94		ug/L		100	70 - 130
Endrin aldehyde	ND		1.95	1.51		ug/L		78	70 - 130
EPTC	ND		1.95	2.08		ug/L		107	70 - 130
Fluoranthene	ND		1.95	1.86		ug/L		96	70 - 130
Fluorene	ND		1.95	2.04		ug/L		105	70 - 130
gamma-Chlordane	ND		1.95	1.85		ug/L		95	70 - 130
Heptachlor	ND		1.95	2.01		ug/L		103	70 - 130
Heptachlor epoxide (isomer B)	ND		1.95	2.06		ug/L		106	70 - 130
Hexachlorobenzene	ND	^3+	1.95	1.95		ug/L		100	70 - 130
Hexachlorocyclopentadiene	ND		1.95	1.82		ug/L		93	70 - 130
Indeno[1,2,3-cd]pyrene	ND		1.95	1.94		ug/L		100	70 - 130
Isophorone	ND		1.95	1.82		ug/L		93	70 - 130
Lindane	ND		1.95	1.80		ug/L		92	70 - 130
Malathion	ND		1.95	2.11		ug/L		109	70 - 130
Methoxychlor	ND		1.95	1.98		ug/L		102	70 - 130
Metolachlor	ND		1.95	2.00		ug/L		103	70 - 130
Metribuzin	ND		1.95	1.96		ug/L		101	70 - 130
Molinate	ND		1.95	2.24		ug/L		115	70 - 130
Naphthalene	ND		1.95	1.86		ug/L		96	70 - 130
Parathion	ND	^3+	1.95	2.28		ug/L		117	70 - 130
Pendimethalin (Penoxaline)	ND		1.95	2.27		ug/L		117	70 - 130
Phenanthrene	ND		1.95	1.90		ug/L		98	70 - 130
Propachlor	ND		1.95	2.25		ug/L		116	70 - 130
Pyrene	ND		1.95	1.93		ug/L		99	70 - 130
Simazine	ND		1.95	2.19		ug/L		113	70 - 130
Terbacil	ND		1.95	2.29		ug/L		118	70 - 130
Terbutylazine	ND		1.95	1.91		ug/L		98	70 - 130
Thiobencarb	ND		1.95	2.03		ug/L		104	70 - 130
trans-Nonachlor	ND		1.95	1.81		ug/L		93	70 - 130
Trifluralin	ND		1.95	2.50		ug/L		129	70 - 130

Eurofins Eaton Monrovia

# QC Sample Results

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

Job ID: 380-11533-1

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

**Lab Sample ID: 380-11994-AK-16-A MS**  
**Matrix: Water**  
**Analysis Batch: 13891**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 10424**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1-Methylnaphthalene	ND		1.95	2.12		ug/L		109	70 - 130
2-Methylnaphthalene	ND		1.95	2.00		ug/L		103	70 - 130
<b>MS MS</b>									
Surrogate	%Recovery	MS Qualifier	Limits						
2-Nitro-m-xylene	92		70 - 130						
Triphenylphosphate	104		70 - 130						
Perylene-d12	101		70 - 130						

**Lab Sample ID: 380-12016-J-1-A DU**  
**Matrix: Water**  
**Analysis Batch: 13891**

**Client Sample ID: Duplicate**  
**Prep Type: Total/NA**  
**Prep Batch: 10424**

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	0.16		0.161		ug/L		2	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

Eurofins Eaton Monrovia

# QC Sample Results

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

Job ID: 380-11533-1

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

**Lab Sample ID: 380-12016-J-1-A DU**  
**Matrix: Water**  
**Analysis Batch: 13891**

**Client Sample ID: Duplicate**  
**Prep Type: Total/NA**  
**Prep Batch: 10424**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
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
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	^3+	ND		ug/L		NC	20
Pendimethalin (Penoxaline)	ND		ND		ug/L		NC	20
Total Permethrin (mixed isomers)	ND		ND		ug/L		NC	20
Phenanthrene	0.052		0.0605		ug/L		15	20
Propachlor	ND		ND		ug/L		NC	20
Pyrene	ND		ND		ug/L		NC	20
Simazine	0.065		0.0690		ug/L		7	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
1-Methylnaphthalene	ND		ND		ug/L		NC	20
2-Methylnaphthalene	ND		ND		ug/L		NC	20

Surrogate	DU %Recovery	DU Qualifier	Limits
2-Nitro-m-xylene	95		70 - 130
Triphenylphosphate	102		70 - 130

# QC Sample Results

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

Job ID: 380-11533-1

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

**Lab Sample ID: 380-12016-J-1-A DU**  
**Matrix: Water**  
**Analysis Batch: 13891**

**Client Sample ID: Duplicate**  
**Prep Type: Total/NA**  
**Prep Batch: 10424**

<i>Surrogate</i>	<i>%Recovery</i>	<i>DU DU</i> <i>Qualifier</i>	<i>Limits</i>
<i>Perylene-d12</i>	101		70 - 130

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

**Lab Sample ID: 98682-B1**  
**Matrix: water**  
**Analysis Batch: O-38064**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: O-38064\_P**

<i>Analyte</i>	<i>Blank Result</i>	<i>Blank Qualifier</i>	<i>RL</i>	<i>MDL</i>	<i>Unit</i>	<i>D</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
1-Methylnaphthalene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 06:55	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 06:55	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 06:55	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 06:55	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 06:55	1
Acenaphthene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 06:55	1
Acenaphthylene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 06:55	1
Anthracene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 06:55	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 06:55	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 06:55	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 06:55	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 06:55	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 06:55	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 06:55	1
Biphenyl	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 06:55	1
Chrysene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 06:55	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 06:55	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 06:55	1
Dibenzothiophene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 06:55	1
Disalicylidenepropanediamine	ND		0.1	0.05	µg/L		07/25/22 00:00	07/31/22 06:55	1
Fluoranthene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 06:55	1
Fluorene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 06:55	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 06:55	1
Naphthalene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 06:55	1
Perylene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 06:55	1
Phenanthrene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 06:55	1
Pyrene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 06:55	1

<i>Surrogate</i>	<i>Blank %Recovery</i>	<i>Blank Qualifier</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
<i>(d10-Acenaphthene)</i>	98		65 - 113	07/25/22 00:00	07/31/22 06:55	1
<i>(d10-Phenanthrene)</i>	97		80 - 111	07/25/22 00:00	07/31/22 06:55	1
<i>(d12-Chrysene)</i>	92		60 - 139	07/25/22 00:00	07/31/22 06:55	1
<i>(d12-Perylene)</i>	87		36 - 161	07/25/22 00:00	07/31/22 06:55	1
<i>(d8-Naphthalene)</i>	99		44 - 119	07/25/22 00:00	07/31/22 06:55	1



# QC Sample Results

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

Job ID: 380-11533-1

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

**Lab Sample ID: 98682-BS1**  
**Matrix: water**  
**Analysis Batch: O-38064**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: O-38064\_P**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1-Methylnaphthalene	0.5	0.478		µg/L		96	49 - 117
1-Methylphenanthrene	0.5	0.414		µg/L		83	66 - 127
2,3,5-Trimethylnaphthalene	0.5	0.453		µg/L		91	57 - 120
2,6-Dimethylnaphthalene	0.5	0.463		µg/L		93	54 - 117
2-Methylnaphthalene	0.5	0.484		µg/L		97	47 - 130
Acenaphthene	0.5	0.471		µg/L		94	53 - 131
Acenaphthylene	0.5	0.475		µg/L		95	43 - 140
Anthracene	0.5	0.434		µg/L		87	58 - 135
Benz[a]anthracene	0.5	0.401		µg/L		80	55 - 145
Benzo[a]pyrene	0.5	0.415		µg/L		83	51 - 143
Benzo[b]fluoranthene	0.5	0.496		µg/L		99	46 - 165
Benzo[e]pyrene	0.5	0.454		µg/L		91	42 - 152
Benzo[g,h,i]perylene	0.5	0.438		µg/L		88	63 - 133
Benzo[k]fluoranthene	0.5	0.445		µg/L		89	56 - 145
Biphenyl	0.5	0.485		µg/L		97	56 - 119
Chrysene	0.5	0.432		µg/L		86	56 - 141
Dibenz[a,h]anthracene	0.5	0.437		µg/L		87	55 - 150
Dibenzo[a,l]pyrene	0.25	0.202		µg/L		81	50 - 150
Dibenzothiophene	0.5	0.449		µg/L		90	75 - 113
Disalicylidenepropanediamine	10	9.48		µg/L		95	50 - 150
Fluoranthene	0.5	0.436		µg/L		87	60 - 146
Fluorene	0.5	0.469		µg/L		94	58 - 131
Indeno[1,2,3-cd]pyrene	0.5	0.435		µg/L		87	50 - 151
Naphthalene	0.5	0.479		µg/L		96	41 - 126
Perylene	0.5	0.397		µg/L		79	48 - 141
Phenanthrene	0.5	0.458		µg/L		92	67 - 127
Pyrene	0.5	0.411		µg/L		82	54 - 156

Surrogate	LCS %Recovery	LCS Qualifier	LCS Limits
(d10-Acenaphthene)	101		65 - 113
(d10-Phenanthrene)	98		80 - 111
(d12-Chrysene)	101		60 - 139
(d12-Perylene)	87		36 - 161
(d8-Naphthalene)	98		44 - 119

**Lab Sample ID: 98682-BS2**  
**Matrix: water**  
**Analysis Batch: O-38064**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: O-38064\_P**

Analyte	Spike Added	LCS DUP Result	LCS DUP Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1-Methylnaphthalene	0.5	0.48		µg/L		96	49 - 117	0	30
1-Methylphenanthrene	0.5	0.431		µg/L		86	66 - 127	4	30
2,3,5-Trimethylnaphthalene	0.5	0.466		µg/L		93	57 - 120	2	30
2,6-Dimethylnaphthalene	0.5	0.47		µg/L		94	54 - 117	1	30
2-Methylnaphthalene	0.5	0.489		µg/L		98	47 - 130	1	30
Acenaphthene	0.5	0.472		µg/L		94	53 - 131	0	30
Acenaphthylene	0.5	0.478		µg/L		96	43 - 140	1	30
Anthracene	0.5	0.447		µg/L		89	58 - 135	2	30

Eurofins Eaton Monrovia



# QC Sample Results

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

Job ID: 380-11533-1

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

Lab Sample ID: 98682-BS2

Matrix: water

Analysis Batch: O-38064

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: O-38064\_P

Analyte	Spike Added	LCS DUP Result	LCS DUP Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
							Limits	RPD		
Benz[a]anthracene	0.5	0.43		µg/L		86	55 - 145	7	30	
Benzo[a]pyrene	0.5	0.436		µg/L		87	51 - 143	5	30	
Benzo[b]fluoranthene	0.5	0.531		µg/L		106	46 - 165	7	30	
Benzo[e]pyrene	0.5	0.48		µg/L		96	42 - 152	5	30	
Benzo[g,h,i]perylene	0.5	0.444		µg/L		89	63 - 133	1	30	
Benzo[k]fluoranthene	0.5	0.473		µg/L		95	56 - 145	7	30	
Biphenyl	0.5	0.489		µg/L		98	56 - 119	1	30	
Chrysene	0.5	0.449		µg/L		90	56 - 141	5	30	
Dibenz[a,h]anthracene	0.5	0.438		µg/L		88	55 - 150	1	30	
Dibenzo[a,l]pyrene	0.25	0.213		µg/L		85	50 - 150	5	30	
Dibenzothiophene	0.5	0.459		µg/L		92	75 - 113	2	30	
Disalicylidenepropanediamine	10	9.77		µg/L		98	50 - 150	3	30	
Fluoranthene	0.5	0.441		µg/L		88	60 - 146	1	30	
Fluorene	0.5	0.474		µg/L		95	58 - 131	1	30	
Indeno[1,2,3-cd]pyrene	0.5	0.435		µg/L		87	50 - 151	0	30	
Naphthalene	0.5	0.478		µg/L		96	41 - 126	0	30	
Perylene	0.5	0.421		µg/L		84	48 - 141	6	30	
Phenanthrene	0.5	0.468		µg/L		94	67 - 127	2	30	
Pyrene	0.5	0.421		µg/L		84	54 - 156	2	30	

Surrogate	LCS DUP		Limits
	%Recovery	Qualifier	
(d10-Acenaphthene)	100		65 - 113
(d10-Phenanthrene)	99		80 - 111
(d12-Chrysene)	107		60 - 139
(d12-Perylene)	85		36 - 161
(d8-Naphthalene)	98		44 - 119

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

Lab Sample ID: 22DSG022WB

Matrix: WATER

Analysis Batch: 22DSG022W

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			07/27/22 10:49	1
MOTOR OIL	ND	U	0.05		mg/L			07/27/22 10:49	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
BROMOBENZENE					07/27/22 10:49	1
HEXACOSANE					07/27/22 10:49	1

Lab Sample ID: 22DSG022WL

Matrix: WATER

Analysis Batch: 22DSG022W

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	2.06		mg/L		82	50 - 130	

Eurofins Eaton Monrovia

# QC Sample Results

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

Job ID: 380-11533-1

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

Lab Sample ID: 22DSG022WL  
Matrix: WATER  
Analysis Batch: 22DSG022W

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

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
BROMOBENZENE	73		60 - 130
HEXACOSANE	88		60 - 130

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

Lab Sample ID: 22VG39G18B  
Matrix: WATER  
Analysis Batch: 22VG39G18

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			07/26/22 12:21	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
BROMOFLUOROBENZENE					07/26/22 12:21	1

Lab Sample ID: 22VG39G18L  
Matrix: WATER  
Analysis Batch: 22VG39G18

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	0.484		mg/L		97	60 - 130

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
BROMOFLUOROBENZENE	107		70 - 130

# QC Association Summary

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

Job ID: 380-11533-1

## GC/MS Semi VOA

### Prep Batch: 10424

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-11533-1	AIEA GULCH WELLS PUMP 1 (331-201-TP071)	Total/NA	Drinking Water	525.2	
MB 380-10424/1-A	Method Blank	Total/NA	Water	525.2	
LCS 380-10424/3-A	Lab Control Sample	Total/NA	Water	525.2	
LCSD 380-10424/4-A	Lab Control Sample Dup	Total/NA	Water	525.2	
MRL 380-10424/2-A	Lab Control Sample	Total/NA	Water	525.2	
380-11994-AK-16-A MS	Matrix Spike	Total/NA	Water	525.2	
380-12016-J-1-A DU	Duplicate	Total/NA	Water	525.2	

### Analysis Batch: 13891

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-11533-1	AIEA GULCH WELLS PUMP 1 (331-201-TP071)	Total/NA	Drinking Water	525.2	10424
MB 380-10424/1-A	Method Blank	Total/NA	Water	525.2	10424
LCS 380-10424/3-A	Lab Control Sample	Total/NA	Water	525.2	10424
LCSD 380-10424/4-A	Lab Control Sample Dup	Total/NA	Water	525.2	10424
MRL 380-10424/2-A	Lab Control Sample	Total/NA	Water	525.2	10424
380-11994-AK-16-A MS	Matrix Spike	Total/NA	Water	525.2	10424
380-12016-J-1-A DU	Duplicate	Total/NA	Water	525.2	10424

## Subcontract

### Analysis Batch: O-38064

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-11533-1	AIEA GULCH WELLS PUMP 1 (331-201-TP071)	Total/NA	Drinking Water	625 PAH Physis LL (EAL) + TICs	O-38064_P
380-11533-2	AIEA WELLS P2 (260) (331-004-WL103)	Total/NA	Drinking Water	625 PAH Physis LL (EAL) + TICs	O-38064_P
98682-B1	Method Blank	Total/NA	water	625 PAH Physis LL (EAL) + TICs	O-38064_P
98682-BS1	Lab Control Sample	Total/NA	water	625 PAH Physis LL (EAL) + TICs	O-38064_P
98682-BS2	Lab Control Sample Dup	Total/NA	water	625 PAH Physis LL (EAL) + TICs	O-38064_P

### Analysis Batch: 22DSG022W

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-11533-1	AIEA GULCH WELLS PUMP 1 (331-201-TP071)	Total/NA	Drinking Water	8015 Diesel LL (EAL) and Motor Oil	
380-11533-2	AIEA WELLS P2 (260) (331-004-WL103)	Total/NA	Drinking Water	8015 Diesel LL (EAL) and Motor Oil	
22DSG022WB	Method Blank	Total/NA	WATER	8015 Diesel LL (EAL) and Motor Oil	
22DSG022WL	Lab Control Sample	Total/NA	WATER	8015 Diesel LL (EAL) and Motor Oil	

### Analysis Batch: 22VG39G18

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-11533-1	AIEA GULCH WELLS PUMP 1 (331-201-TP071)	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: 380-11533-1

## Subcontract (Continued)

### Analysis Batch: 22VG39G18 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-11533-2	AIEA WELLS P2 (260) (331-004-WL103)	Total/NA	Drinking Water	8015 Gas (Purgeable) LL (EAL)	
380-11533-3	AIEA GULCH - TRAVEL BLANK	Total/NA	Water	8015 Gas (Purgeable) LL (EAL)	
380-11533-4	AIEA WELLS - TRAVEL BLANK	Total/NA	Water	8015 Gas (Purgeable) LL (EAL)	
22VG39G18B	Method Blank	Total/NA	WATER	8015 Gas (Purgeable) LL (EAL)	
22VG39G18L	Lab Control Sample	Total/NA	WATER	8015 Gas (Purgeable) LL (EAL)	

### Prep Batch: O-38064\_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-11533-1	AIEA GULCH WELLS PUMP 1 (331-201-TP071)	Total/NA	Drinking Water	EPA_625	
380-11533-2	AIEA WELLS P2 (260) (331-004-WL103)	Total/NA	Drinking Water	EPA_625	
98682-B1	Method Blank	Total/NA	water	EPA_625	
98682-BS1	Lab Control Sample	Total/NA	water	EPA_625	
98682-BS2	Lab Control Sample Dup	Total/NA	water	EPA_625	

# Lab Chronicle

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

Job ID: 380-11533-1

**Client Sample ID: AIEA GULCH WELLS PUMP 1  
(331-201-TP071)**

**Lab Sample ID: 380-11533-1**

**Date Collected: 07/20/22 10:20**

**Matrix: Drinking Water**

**Date Received: 07/22/22 10:10**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	525.2			10424	N8NE	EA MON	07/27/22 10:58
Total/NA	Analysis	525.2		1	13891	UPAC	EA MON	08/18/22 23:49
Total/NA	Prep	EPA_625		1	O-38064_P			07/27/22 00:00
Total/NA	Analysis	625 PAH Physis LL (EAL) + TICs		1	O-38064	YC		07/31/22 19:01
Total/NA	Analysis	8015 Diesel LL (EAL) and Motor Oil		1	22DSG022W	SDees		07/26/22 20:54
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)		1	22VG39G18	SCerva		07/26/22 17:47

**Client Sample ID: AIEA WELLS P2 (260) (331-004-WL103)**

**Lab Sample ID: 380-11533-2**

**Date Collected: 07/20/22 11:00**

**Matrix: Drinking Water**

**Date Received: 07/22/22 10:10**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	EPA_625		1	O-38064_P			07/27/22 00:00
Total/NA	Analysis	625 PAH Physis LL (EAL) + TICs		1	O-38064	YC		07/31/22 20:44
Total/NA	Analysis	8015 Diesel LL (EAL) and Motor Oil		1	22DSG022W	SDees		07/26/22 21:12
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)		1	22VG39G18	SCerva		07/26/22 18:23

**Client Sample ID: AIEA GULCH - TRAVEL BLANK**

**Lab Sample ID: 380-11533-3**

**Date Collected: 07/20/22 10:20**

**Matrix: Water**

**Date Received: 07/22/22 10:10**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)		1	22VG39G18	SCerva		07/26/22 19:00

**Client Sample ID: AIEA WELLS - TRAVEL BLANK**

**Lab Sample ID: 380-11533-4**

**Date Collected: 07/20/22 11:00**

**Matrix: Water**

**Date Received: 07/22/22 10:10**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)		1	22VG39G18	SCerva		07/26/22 19:36

**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: 380-11533-1

## 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	1-Methylnaphthalene
525.2	525.2	Drinking Water	2,4'-DDD
525.2	525.2	Drinking Water	2,4'-DDE
525.2	525.2	Drinking Water	2,4'-DDT
525.2	525.2	Drinking Water	2,4-Dinitrotoluene
525.2	525.2	Drinking Water	2,6-Dinitrotoluene
525.2	525.2	Drinking Water	2-Methylnaphthalene
525.2	525.2	Drinking Water	4,4'-DDD
525.2	525.2	Drinking Water	4,4'-DDE
525.2	525.2	Drinking Water	4,4'-DDT
525.2	525.2	Drinking Water	Acenaphthene
525.2	525.2	Drinking Water	Acenaphthylene
525.2	525.2	Drinking Water	Acetochlor
525.2	525.2	Drinking Water	alpha-BHC
525.2	525.2	Drinking Water	alpha-Chlordane
525.2	525.2	Drinking Water	Anthracene
525.2	525.2	Drinking Water	Benz(a)anthracene
525.2	525.2	Drinking Water	Benzo[b]fluoranthene
525.2	525.2	Drinking Water	Benzo[g,h,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

# Accreditation/Certification Summary

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

Job ID: 380-11533-1

## 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
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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	gamma-Chlordane
525.2	525.2	Drinking Water	Indeno[1,2,3-cd]pyrene
525.2	525.2	Drinking Water	Isophorone
525.2	525.2	Drinking Water	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: 380-11533-1

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: 380-11533-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	PWSID Number
380-11533-1	AIEA GULCH WELLS PUMP 1 (331-201-TP071)	Drinking Water	07/20/22 10:20	07/22/22 10:10	HI0000331
380-11533-2	AIEA WELLS P2 (260) (331-004-WL103)	Drinking Water	07/20/22 11:00	07/22/22 10:10	
380-11533-3	AIEA GULCH - TRAVEL BLANK	Water	07/20/22 10:20	07/22/22 10:10	
380-11533-4	AIEA WELLS - TRAVEL BLANK	Water	07/20/22 11:00	07/22/22 10:10	

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



LABORATORIES, INC.®

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

Date: 08-08-2022  
EMAX Batch No.: 22G237

Attn: Jackie Contreras

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

Subject: Laboratory Report  
Project: 380-11533

Enclosed is the Laboratory report for samples received on 07/25/22.  
The data reported relate only to samples listed below :

Sample ID	Control #	Col Date	Matrix	Analysis
380-11533-1	G237-01	07/20/22	WATER	TPH GASOLINE TPH DIESEL & MOTOR OIL
380-11533-2	G237-02	07/20/22	WATER	TPH GASOLINE TPH DIESEL & MOTOR OIL
380-11533-3	G237-03	07/20/22	WATER	TPH GASOLINE
380-11533-4	G237-04	07/20/22	WATER	TPH GASOLINE

The results are summarized on the following pages.

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

Sincerely yours,

Caspar J. Pang  
Laboratory Director

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

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

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

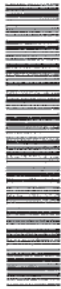
**Monrovia, CA (Suite 100)**  
 750 Royal Oaks Drive Suite 100  
 Monrovia, CA 91016  
 Phone: 626-386-1100

**Chain of Custody Record**

229137



Environment Testing  
 America



Client Information (Sub Contract Lab)		Sample:	Lab PM:	Carrier Tracking No(s):	COC No:						
Client Contact: Shipping/Receiving		Frank, Debbie L	Frank, Debbie L		380-13891-1						
Company: EMAX Laboratories Inc		Phone:	E-Mail: Debbie.Frank@et.eurofins.com	State of Origin: Hawaii	Page: 1 of 1						
Address: 3051 Fujita Street, Torrance CA, 90505		PO #:	Project #: 38001111	Accreditations Required (See note): State - Hawaii	Job #: 380-11533-1						
Phone:		WO #:	SSOW #:	Preservation Codes: M - Hexane N - None O - AsNaO2 P - Na2O4S Q - NiHc Acid R - Na2SO3 S - H2SO4 T - TSP Dodecylhydrate U - Acetone V - MCAA W - pH 4-5 Y - Trizma Z - other (Specify) Other:							
Due Date Requested: 8/5/2022		Analysis Requested									
TAT Requested (days):		Total Number of Containers									
Field Filled Sample (Yes or No)		Special Instructions/Note:									
Perform (MS/MS, Yes or No)		See Attached Instructions									
Sub (8015 Gas Purgeable) LL (EAL) / 8015 Gas		See Attached Instructions									
Sub (8015 Diesel LL (EAL) and Motor Oil)		See Attached Instructions									
Sub (8015 Diesel LL (EAL) and Motor Oil) / 8015		See Attached Instructions									
Diesel LL (EAL) and Motor Oil		See Attached Instructions									
Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=wasteoil, BFT=issue, A=Air)	Field Filled Sample (Yes or No) <th>Perform (MS/MS, Yes or No) <th>Sub (8015 Gas Purgeable) LL (EAL) / 8015 Gas <th>Sub (8015 Diesel LL (EAL) and Motor Oil) <th>Sub (8015 Diesel LL (EAL) and Motor Oil) / 8015 <th>Total Number of Containers <th>Special Instructions/Note:</th> </th></th></th></th></th>	Perform (MS/MS, Yes or No) <th>Sub (8015 Gas Purgeable) LL (EAL) / 8015 Gas <th>Sub (8015 Diesel LL (EAL) and Motor Oil) <th>Sub (8015 Diesel LL (EAL) and Motor Oil) / 8015 <th>Total Number of Containers <th>Special Instructions/Note:</th> </th></th></th></th>	Sub (8015 Gas Purgeable) LL (EAL) / 8015 Gas <th>Sub (8015 Diesel LL (EAL) and Motor Oil) <th>Sub (8015 Diesel LL (EAL) and Motor Oil) / 8015 <th>Total Number of Containers <th>Special Instructions/Note:</th> </th></th></th>	Sub (8015 Diesel LL (EAL) and Motor Oil) <th>Sub (8015 Diesel LL (EAL) and Motor Oil) / 8015 <th>Total Number of Containers <th>Special Instructions/Note:</th> </th></th>	Sub (8015 Diesel LL (EAL) and Motor Oil) / 8015 <th>Total Number of Containers <th>Special Instructions/Note:</th> </th>	Total Number of Containers <th>Special Instructions/Note:</th>	Special Instructions/Note:
AIEA GULCH WELLS PUMP 1 (331-201-T P071) (380-11533-1)	7/20/22	10:20 Hawaiian	Water	Water			X	X		6	See Attached Instructions
AIEA WELLS P2 (260) (331-004-W L103) (380-11533-2)	7/20/22	11:00 Hawaiian	Water	Water			X	X		5	See Attached Instructions
AIEA GULCH - TRAVEL BLANK (380-11533-3)	7/20/22	10:20 Hawaiian	Water	Water			X			2	See Attached Instructions
AIEA WELLS - TRAVEL BLANK (380-11533-4)	7/20/22	11:00 Hawaiian	Water	Water			X			2	See Attached Instructions
<p>Note: Since laboratory accreditations are subject to change, Eurofins Eaton Analytical, LLC places the ownership of method, analyte &amp; accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/matrix being analyzed, the samples must be shipped back to the Eurofins Eaton Analytical, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Eaton Analytical, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Eaton Analytical, LLC.</p>											
<p><b>Possible Hazard Identification</b>  <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months          Special Instructions/QC Requirements:</p>											
<p>Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2</p>											
<p>Empty Kit Relinquished by: _____ Date: _____ Method of Shipment:</p>											
<p>Relinquished by: <i>Cheryl Beach</i> Date/Time: 7/25/22 12:17 Company: EEA</p>											
<p>Relinquished by: <i>Maria Min</i> Date/Time: 8/25/22 14:25 Company: EEA</p>											
<p>Relinquished by: _____ Date/Time: _____ Company: _____</p>											
<p>COOLING TID: 220237 No.: _____ Cooler Temperature(s) °C and Other Remarks: 2.5 (1.8) °C</p>											



Type of Delivery <input type="checkbox"/> Fedex <input type="checkbox"/> UPS <input type="checkbox"/> GSO <input type="checkbox"/> Others <input type="checkbox"/> EMAX Courier <input checked="" type="checkbox"/> Client Delivery	Airbill / Tracking Number	ECN 226237 Recipient <u>Maria Rivera</u> Date <u>07/25/22</u> Time <u>14:25</u>
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**COC INSPECTION**

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

**PACKAGING INSPECTION**

Container	<input checked="" type="checkbox"/> Cooler	<input type="checkbox"/> Box	<input type="checkbox"/> Other
Condition <i>* correction</i>	<input type="checkbox"/> Custody Seal	<input type="checkbox"/> Intact	<input type="checkbox"/> Damaged
Packaging <i>Factor:</i>	<input checked="" type="checkbox"/> Bubble Pack	<input type="checkbox"/> Styrofoam	<input type="checkbox"/> Popcom
Temperatures <i>-0.2</i>	<input checked="" type="checkbox"/> Cooler <u>2.0/1.8</u> °C	<input type="checkbox"/> Cooler 2 _____ °C	<input type="checkbox"/> Cooler 3 _____ °C
(Cool: ≤6 °C but not frozen)	<input type="checkbox"/> Cooler 6 _____ °C	<input type="checkbox"/> Cooler 7 _____ °C	<input type="checkbox"/> Cooler 8 _____ °C
Thermometer:	A - S/N <u>210583479</u>	B - S/N <u>210760237</u>	C - S/N <u>210271399</u>
			D - S/N _____
Comments: <input type="checkbox"/> Temperature is out of range. PM was informed IMMEDIATELY.			
Note:			

**DISCREPANCIES**

LabSampleID	LabSampleContainerID	Code	ClientSample Label ID / Information	Corrective Action
1	5,6	D2	Label reads 525 PWS TICs	R8
1	5,6	D16	All labels read sodium sulfate/HCl for preservative	↓
2	11,12	D16*	Labels read sodium thiosulfate/HCl	R8
2	12	D1		MI
3,4	13,15,16	D22	2nd Date reads 6/6/22	↓
<i>exp/22</i>				

pH holding time requirement for water samples is 15 mins. Water samples for pH analysis are received beyond 15 minutes from sampling time.

NOTES/OBSERVATIONS: *\* For sample 2 container 11 Amber, 1 label reads thiosulfate preservative only.*

SAMPLE MATRIX IS DRINKING WATER?  YES  NO

**LEGEND:**

<b>Code Description-Sample Management</b>	<b>Code Description-Sample Management</b>	<b>Code Description-Sample Management</b>
D1 Analysis is not indicated in <u>label</u>	D13 Out of Holding Time	R1 Proceed as indicated in 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 <u>COC</u>	R4 Use vial with smallest bubble first
D5 Container -[improper] [leaking] [broken]	D17 Preservation mismatch COC vs label	R5 Log-in with latest sampling date and time+1 min
D6 Date/Time is not indicated in _____	D18 Insufficient chemical preservative	R6 Adjust pH as necessary
D7 Date/Time mismatch COC vs label	D19 Insufficient Sample	R7 Filter and preserved as necessary
D8 Sample listed in COC is not received	D20 No filtration info for dissolved analysis	R8 <u>Informed client</u>
D9 Sample received is not listed in COC	D21 No sample for moisture determination	R9 _____
D10 No initial/date on corrections in COC/label	D22 <u>2nd date on label is incorrect</u>	R10 _____
D11 Container count mismatch COC vs received	D23 _____	R11 _____
D12 Container size mismatch COC vs received	D24 _____	R12 _____

REVIEWS:

Sample Labeling <u>Maria Rivera</u>	SRF <u>Rivera</u>	PM <u>MS</u>
Date <u>07/25/22</u>	Date <u>7/29/22</u>	Date <u>7/29/22</u>

## REPORTING CONVENTIONS

### DATA QUALIFIERS:

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

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

### ACRONYMS AND ABBREVIATIONS:

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

### DATES

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

LABORATORY REPORT FOR

EUROFINS EATON ANALYTICAL

380-11533

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

SDG#: 22G237





CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 380-11533

SDG : 22G237

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

A total of four(4) water samples were received on 07/25/22 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. VG39G18B - 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. VG39G18L/VG39G18C 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 G238-01M/G238-01S. Refer to Matrix QC summary form for details.

Surrogate

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

Sample Analysis

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

LAB CHRONICLE  
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

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=====
Client      : EUROFINS EATON ANALYTICAL
Project    : 380-11533
=====
Client      : EUROFINS EATON ANALYTICAL
Project    : 380-11533
=====
SDG NO.    : 22G237
Instrument ID : GCT039
=====

```

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Notes
								WATER
MBLK1W	VG39G18B	1	NA	07/26/2212:21	07/26/2212:21	EG26005A	EG26003A	22VG39G18 Method Blank
LCS1W	VG39G18L	1	NA	07/26/2212:57	07/26/2212:57	EG26006A	EG26003A	22VG39G18 Lab Control Sample (LCS)
LCD1W	VG39G18C	1	NA	07/26/2213:34	07/26/2213:34	EG26007A	EG26003A	22VG39G18 LCS Duplicate
380-11533-1	G237-01	1	NA	07/26/2217:47	07/26/2217:47	EG26014A	EG26013A	22VG39G18 Field Sample
380-11533-2	G237-02	1	NA	07/26/2218:23	07/26/2218:23	EG26015A	EG26013A	22VG39G18 Field Sample
380-11533-3	G237-03	1	NA	07/26/2219:00	07/26/2219:00	EG26016A	EG26013A	22VG39G18 Field Sample
380-11533-4	G237-04	1	NA	07/26/2219:36	07/26/2219:36	EG26017A	EG26013A	22VG39G18 Field Sample

FN - Filename  
% Moist - Percent Moisture





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# SAMPLE RESULTS

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

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=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 07/20/22 10:20
Project     : 380-11533                   Date Received: 07/25/22
Batch No.   : 22G237                       Date Extracted: 07/26/22 17:47
Sample ID   : 380-11533-1                 Date Analyzed: 07/26/22 17:47
Lab Samp ID : G237-01                     Dilution Factor: 1
Lab File ID : EG26014A                    Matrix: WATER
Ext Btch ID : 22VG39G18                   % Moisture: NA
Calib. Ref.: EG26013A                     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	0.0352	0.0400	88	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

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=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 07/20/22 11:00
Project     : 380-11533                   Date Received: 07/25/22
Batch No.   : 22G237                       Date Extracted: 07/26/22 19:36
Sample ID   : 380-11533-4                 Date Analyzed: 07/26/22 19:36
Lab Samp ID: G237-04                       Dilution Factor: 1
Lab File ID: EG26017A                       Matrix: WATER
Ext Btch ID: 22VG39G18                     % Moisture: NA
Calib. Ref.: EG26013A                       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	0.0354	0.0400	88	60-140

Notes:

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

Detection limits are reported relative to sample result significant figures.

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

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# QC SUMMARIES



EMAX QUALITY CONTROL DATA  
LAB CONTROL SAMPLE ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL  
PROJECT : 380-11533  
BATCH NO. : 22G237  
METHOD : 5030B/8015B

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR:	1	1	1
SAMPLE ID	: MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID	: VG39G18B	VG39G18L	VG39G18C
LAB FILE ID	: EG26005A	EG26006A	EG26007A
DATE PREPARED	: 07/26/22 12:21	07/26/22 12:57	07/26/22 13:34
DATE ANALYZED	: 07/26/22 12:21	07/26/22 12:57	07/26/22 13:34
PREP BATCH	: 22VG39G18	22VG39G18	22VG39G18
CALIBRATION REF:	EG26003A	EG26003A	EG26003A

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	0.484	97	0.500	0.462	92	5	60-130	30

SURROGATE PARAMETER	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	QCLimit (%)
Bromofluorobenzene	0.0400	0.0427	107	0.0400	0.0414	104	70-130

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



EMAX QUALITY CONTROL DATA  
MS/MSD ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL  
PROJECT : 380-11532  
BATCH NO. : 22G238  
METHOD : 5030B/8015B

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=====
MATRIX      : WATER                               % MOISTURE:NA
DILUTION FACTOR: 1                               1
SAMPLE ID   : 380-11532-1                       380-11532-1MS
LAB SAMPLE ID : G238-01                         G238-01M
LAB FILE ID  : EG26008A                         EG26009A
DATE PREPARED : 07/26/22 14:10                 07/26/22 14:46
DATE ANALYZED : 07/26/22 14:10                 07/26/22 15:22
PREP BATCH   : 22VG39G18                       22VG39G18
CALIBRATION REF: EG26003A                      EG26003A
    
```

ACCESSION:

PARAMETERS	PSResult (mg/L)	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
Gasoline	ND	0.500	0.479	96	0.500	0.490	98	2	50-130	30

SURROGATE PARAMETER	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	QCLimit (%)
Bromofluorobenzene	0.0400	0.0429	107	0.0400	0.0449	112	60-140

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

LABORATORY REPORT FOR

EUROFINS EATON ANALYTICAL

380-11533

METHOD 3520C/8015B  
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

SDG#: 22G237



CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 380-11533

SDG : 22G237

METHOD 3520C/8015B  
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

A total of two(2) water samples were received on 07/25/22 to be analyzed for Total Petroleum Hydrocarbons by Extraction in accordance with Method 3520C/8015B and project specific requirements.

Holding Time

Samples were analyzed within the prescribed holding time.

Calibration

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

Method Blank

Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. DSG022WB - 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. DSG022WL/DSG022WC 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. Diesel was within MS QC limits in 22G209-01M/22G209-01S. Refer to Matrix QC summary form for details.

Surrogate

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

Sample Analysis

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

LAB CHRONICLE  
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

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=====
Client      : EUROFINS EATON ANALYTICAL
Project     : 380-11533
SDG NO.    : 22G237
Instrument ID : D5
=====

```

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
									WATER
MBLK1W	DSG022WB	1	NA	07/27/2210:49	07/25/2216:15	LG25120A	LG25116A	22DSG022W	Method Blank
LCS1W	DSG022WL	1	NA	07/26/2215:57	07/25/2216:15	LG25092A	LG25085A	22DSG022W	Lab Control Sample (LCS)
LCD1W	DSG022MC	1	NA	07/26/2216:15	07/25/2216:15	LG25093A	LG25085A	22DSG022W	LCS Duplicate
380-11533-1	G237-01	1	NA	07/26/2220:54	07/25/2216:15	LG25108A	LG25105A	22DSG022W	Field Sample
380-11533-2	G237-02	1	NA	07/26/2221:12	07/25/2216:15	LG25109A	LG25105A	22DSG022W	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: 07/20/22 10:20
Project     : 380-11533                   Date Received: 07/25/22
Batch No.   : 22G237                       Date Extracted: 07/25/22 16:15
Sample ID   : 380-11533-1                 Date Analyzed: 07/26/22 20:54
Lab Samp ID: 22G237-01                   Dilution Factor: 1
Lab File ID: LG25108A                     Matrix: WATER
Ext Btch ID: 22DSG022W                    % Moisture: NA
Calib. Ref.: LG25105A                     Instrument ID: D5
=====
  
```

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)		
Diesel	ND	0.025	0.013		
Motor Oil	ND	0.051	0.025		
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT	
Bromobenzene	0.379	0.510	74	60-130	
Hexacosane	0.103	0.127	81	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 : 980ml Final Volume : 5ml  
 Prepared by : P0reto Analyzed by : SDeeso

METHOD 3520C/8015B  
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

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=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 07/20/22 11:00
Project     : 380-11533                   Date Received: 07/25/22
Batch No.   : 22G237                       Date Extracted: 07/25/22 16:15
Sample ID   : 380-11533-2                 Date Analyzed: 07/26/22 21:12
Lab Samp ID: 22G237-02                    Dilution Factor: 1
Lab File ID: LG25109A                      Matrix: WATER
Ext Btch ID: 22DSG022W                     % Moisture: NA
Calib. Ref.: LG25105A                      Instrument ID: D5
=====

```

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)		
Diesel	ND	0.026	0.013		
Motor Oil	ND	0.052	0.026		
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT	
Bromobenzene	0.396	0.520	76	60-130	
Hexacosane	0.106	0.130	82	60-130	

Notes:  
Parameter H-C Range  
Diesel C10-C24  
Motor Oil C24-C36  
Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.  
Sample Amount : 960ml Final Volume : 5ml  
Prepared by : P0reto Analyzed by : SDeeso

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# QC SUMMARIES



METHOD 3520C/8015B  
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 07/25/22 16:15
Project    : 380-11533                   Date Received: 07/25/22
Batch No.  : 22G237                      Date Extracted: 07/25/22 16:15
Sample ID  : MBLK1W                      Date Analyzed: 07/27/22 10:49
Lab Samp ID: DSG022WB                   Dilution Factor: 1
Lab File ID: LG25120A                   Matrix: WATER
Ext Btch ID: 22DSG022W                  % Moisture: NA
Calib. Ref.: LG25116A                   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	0.306	0.500	61	60-130
Hexacosane	0.103	0.125	82	60-130

Notes:  
Parameter H-C Range  
Diesel C10-C24  
Motor Oil C24-C36  
Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.  
Sample Amount : 1000ml Final Volume : 5ml  
Prepared by : P0reto Analyzed by : SDeeso

EMAX QUALITY CONTROL DATA  
LAB CONTROL SAMPLE ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL  
PROJECT : 380-11533  
BATCH NO. : 22G237  
METHOD : 3520C/8015B

```
=====
MATRIX      : WATER                               % MOISTURE:NA
DILUTION FACTOR: 1                               1
SAMPLE ID   : MBLK1W                             LCS1W
LAB SAMPLE ID : DSG022WB                         DSG022WL
LAB FILE ID  : LG25120A                         LG25092A
DATE PREPARED : 07/25/22 16:15                 07/25/22 16:15
DATE ANALYZED : 07/27/22 10:49                 07/26/22 15:57
PREP BATCH   : 22DSG022W                       22DSG022W
CALIBRATION REF: LG25116A                      LG25085A
=====
```

ACCESSION:

PARAMETERS	MBResult (mg/L)	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	RPD (%)	QLimit (%)	MaxRPD (%)
Diesel	ND	2.50	2.06	82	2.50	2.01	80	2	50-130	30

SURROGATE PARAMETERS	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	QLimit (%)
Bromobenzene	0.500	0.365	73	0.500	0.311	62	60-130
Hexacosane	0.125	0.110	88	0.125	0.113	90	60-130

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 : 380-11135  
BATCH NO. : 22G209  
METHOD : 3520C/8015B

```

=====
MATRIX      : WATER                                     % MOISTURE:NA
DILUTION FACTOR: 1                                     1
SAMPLE ID   : 380-11135-1                             380-11135-1MSD
LAB SAMPLE ID : 22G209-01                             22G209-01S
LAB FILE ID  : LG25098A                               LG25100A
DATE PREPARED : 07/25/22 16:15                       07/25/22 16:15
DATE ANALYZED : 07/26/22 17:48                       07/26/22 18:25
PREP BATCH   : 22DSG022W                             22DSG022W
CALIBRATION REF: LG25085A                             LG25085A
    
```

ACCESSION:

PARAMETERS	PSResult (mg/L)	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
Diesel	ND	2.72	2.41	88	2.58	2.58	100	7	50-130	30

SURROGATE PARAMETERS	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	QCLimit (%)
Bromobenzene	0.545	0.424	78	0.515	0.447	87	60-130
Hexacosane	0.136	0.132	97	0.129	0.130	101	60-130

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

August 08, 2022

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

Project Name: RED-HILL Project # 38001111 Job # 380-11533-1  
Physis Project ID: 1407003-256

Dear Debbie,


Enclosed are the analytical results for samples submitted to PHYSIS Environmental Laboratories, Inc. (PHYSIS) on 7/25/2022. 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: 1407003-256

RED-HILL Project # 38001111 Job # 380-11533-1

Total Samples: 2

PHYSIS ID	Sample ID	Description	Date	Time	Matrix	Sample Type
98683	AIEA GULCH WELLS PUMP 331-201-T P071	(380-11533-1)	7/20/2022	10:20	Samplewater	Not Specified
98684	AIEA WELLS P2 (260)	331-004-W L103 (380-11533-2)	7/20/2022	11:00	Samplewater	Not Specified

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## ABBREVIATIONS and ACRONYMS

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

## 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.

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## PHYSIS QUALIFIER CODES

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

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## CASE NARRATIVE

### QUALIFIER NOTES

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

#### **ND**

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

# BIOPHARMACEUTICALS ANALYTICAL REPOR

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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: 98683-R1 AIEA GULCH WELLS PUMP 1 331-20 Matrix: Samplewater</b>											
Disalicylideneopropanediamine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-38064	27-Jul-22	31-Jul-22
<b>Sample ID: 98684-R1 AIEA WELLS P2 (260) 331-004-W L1 Matrix: Samplewater</b>											
Disalicylideneopropanediamine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-38064	27-Jul-22	31-Jul-22



## Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
<b>Sample ID: 98683-R1</b>	<b>AIEA GULCH WELLS PUMP 1331-20 Matrix: Samplewater</b>						<b>Sampled:</b>	<b>20-Jul-22 10:20</b>	<b>Received:</b>	<b>25-Jul-22</b>	
(d10-Acenaphthene)	EPA 625.1	% Recovery	84	1			Total		O-38064	27-Jul-22	31-Jul-22
(d10-Phenanthrene)	EPA 625.1	% Recovery	81	1			Total		O-38064	27-Jul-22	31-Jul-22
(d12-Chrysene)	EPA 625.1	% Recovery	79	1			Total		O-38064	27-Jul-22	31-Jul-22
(d12-Perylene)	EPA 625.1	% Recovery	51	1			Total		O-38064	27-Jul-22	31-Jul-22
(d8-Naphthalene)	EPA 625.1	% Recovery	87	1			Total		O-38064	27-Jul-22	31-Jul-22
1-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	27-Jul-22	31-Jul-22
1-Methylphenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	27-Jul-22	31-Jul-22
2,3,5-Trimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	27-Jul-22	31-Jul-22
2,6-Dimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	27-Jul-22	31-Jul-22
2-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	27-Jul-22	31-Jul-22
Acenaphthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	27-Jul-22	31-Jul-22
Acenaphthylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	27-Jul-22	31-Jul-22
Anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	27-Jul-22	31-Jul-22
Benz[a]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	27-Jul-22	31-Jul-22
Benzo[a]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	27-Jul-22	31-Jul-22
Benzo[b]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	27-Jul-22	31-Jul-22
Benzo[e]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	27-Jul-22	31-Jul-22
Benzo[g,h,i]perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	27-Jul-22	31-Jul-22
Benzo[k]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	27-Jul-22	31-Jul-22
Biphenyl	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	27-Jul-22	31-Jul-22
Chrysene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	27-Jul-22	31-Jul-22
D benz[a,h]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	27-Jul-22	31-Jul-22
D benzo[a,l]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	27-Jul-22	31-Jul-22
D benzothiophene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	27-Jul-22	31-Jul-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-38064	27-Jul-22	31-Jul-22
Fluorene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	27-Jul-22	31-Jul-22
Indeno[1,2,3-cd]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	27-Jul-22	31-Jul-22
Naphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	27-Jul-22	31-Jul-22
Perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	27-Jul-22	31-Jul-22
Phenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	27-Jul-22	31-Jul-22
Pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	27-Jul-22	31-Jul-22

## Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed	
<b>Sample ID: 98684-R1</b>	<b>AIEA WELLS P2 (260) 331-004-W L1 Matrix: Samplewater</b>						<b>Sampled:</b>	<b>20-Jul-22 11:00</b>	<b>Received:</b>	<b>25-Jul-22</b>		
(d10-Acenaphthene)	EPA 625.1	% Recovery	94	1			Total		O-38064	27-Jul-22	31-Jul-22	
(d10-Phenanthrene)	EPA 625.1	% Recovery	83	1			Total		O-38064	27-Jul-22	31-Jul-22	
(d12-Chrysene)	EPA 625.1	% Recovery	74	1			Total		O-38064	27-Jul-22	31-Jul-22	
(d12-Perylene)	EPA 625.1	% Recovery	64	1			Total		O-38064	27-Jul-22	31-Jul-22	
(d8-Naphthalene)	EPA 625.1	% Recovery	101	1			Total		O-38064	27-Jul-22	31-Jul-22	
1-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	27-Jul-22	31-Jul-22	
1-Methylphenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	27-Jul-22	31-Jul-22	
2,3,5-Trimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	27-Jul-22	31-Jul-22	
2,6-Dimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	27-Jul-22	31-Jul-22	
2-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	27-Jul-22	31-Jul-22	
Acenaphthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	27-Jul-22	31-Jul-22	
Acenaphthylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	27-Jul-22	31-Jul-22	
Anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	27-Jul-22	31-Jul-22	
Benz[a]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	27-Jul-22	31-Jul-22	
Benzo[a]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	27-Jul-22	31-Jul-22	
Benzo[b]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	27-Jul-22	31-Jul-22	
Benzo[e]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	27-Jul-22	31-Jul-22	
Benzo[g,h,i]perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	27-Jul-22	31-Jul-22	
Benzo[k]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	27-Jul-22	31-Jul-22	
Biphenyl	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	27-Jul-22	31-Jul-22	
Chrysene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	27-Jul-22	31-Jul-22	
D benz[a,h]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	27-Jul-22	31-Jul-22	
D benzo[a,l]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	27-Jul-22	31-Jul-22	
D benzothiophene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	27-Jul-22	31-Jul-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-38064	27-Jul-22	31-Jul-22
Fluorene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	27-Jul-22	31-Jul-22
Indeno[1,2,3-cd]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	27-Jul-22	31-Jul-22
Naphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	27-Jul-22	31-Jul-22
Perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	27-Jul-22	31-Jul-22
Phenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	27-Jul-22	31-Jul-22
Pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	27-Jul-22	31-Jul-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: 98682-B1</b>		<b>QAQC Procedural Blank</b>			<b>Matrix: BlankMatrix</b>			<b>Sampled:</b>		<b>Received:</b>			
		Method: EPA 625.1			Batch ID: O-38064			Prepared: 25-Jul-22		Analyzed: 31-Jul-22			
Disalicylideneprapanediamin	Total	ND	1	0.05	0.1	µg/L							
<b>Sample ID: 98682-BS1</b>		<b>QAQC Procedural Blank</b>			<b>Matrix: BlankMatrix</b>			<b>Sampled:</b>		<b>Received:</b>			
		Method: EPA 625.1			Batch ID: O-38064			Prepared: 25-Jul-22		Analyzed: 31-Jul-22			
Disalicylideneprapanediamin	Total	9.48	1	0.05	0.1	µg/L	10	0	95	50 - 150%	PASS		
<b>Sample ID: 98682-BS2</b>		<b>QAQC Procedural Blank</b>			<b>Matrix: BlankMatrix</b>			<b>Sampled:</b>		<b>Received:</b>			
		Method: EPA 625.1			Batch ID: O-38064			Prepared: 25-Jul-22		Analyzed: 31-Jul-22			
Disalicylideneprapanediamin	Total	9.77	1	0.05	0.1	µg/L	10	0	98	50 - 150%	PASS	3	30 PASS

## Polynuclear Aromatic Hydrocarbons

## QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY	PRECISION	QA CODEc
							LEVEL	RESULT	% LIMITS	% LIMITS	
<b>Sample ID: 98682-B1</b>		<b>QAQC Procedural Blank</b>			<b>Matrix: BlankMatrix</b>		<b>Sampled:</b>		<b>Received:</b>		
	Method: EPA 625.1					Batch ID: O-38064	Prepared: 25-Jul-22	Analyzed: 31-Jul-22			
(d10-Acenaphthene)	Total	98	1			% Recovery	100	98	65 - 113%	PASS	
(d10-Phenanthrene)	Total	97	1			% Recovery	100	97	80 - 111%	PASS	
(d12-Chrysene)	Total	92	1			% Recovery	100	92	60 - 139%	PASS	
(d12-Perylene)	Total	87	1			% Recovery	100	87	36 - 161%	PASS	
(d8-Naphthalene)	Total	99	1			% Recovery	100	99	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

## Polynuclear Aromatic Hydrocarbons

## QUALITY CONTROL REPORT

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



## Polynuclear Aromatic Hydrocarbons

## QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY		PRECISION	QA CODE
							LEVEL	RESULT	%	LIMITS	%	LIMITS
<b>Sample ID: 98682-BS1</b>		<b>QAQC Procedural Blank</b>			<b>Matrix: BlankMatrix</b>			<b>Sampled:</b>		<b>Received:</b>		
Method: EPA 625.1		Batch ID: O-38064			Prepared: 25-Jul-22		Analyzed: 31-Jul-22					
(d10-Acenaphthene)	Total	101	1			% Recovery	100	0	101	65 - 113%	PASS	
(d10-Phenanthrene)	Total	98	1			% Recovery	100	0	98	80 - 111%	PASS	
(d12-Chrysene)	Total	101	1			% Recovery	100	0	101	60 - 139%	PASS	
(d12-Perylene)	Total	87	1			% Recovery	100	0	87	36 - 161%	PASS	
(d8-Naphthalene)	Total	98	1			% Recovery	100	0	98	44 - 119%	PASS	
1-Methylnaphthalene	Total	0.478	1	0.001	0.005	µg/L	0.5	0	96	49 - 117%	PASS	
1-Methylphenanthrene	Total	0.414	1	0.001	0.005	µg/L	0.5	0	83	66 - 127%	PASS	
2,3,5-Trimethylnaphthalene	Total	0.453	1	0.001	0.005	µg/L	0.5	0	91	57 - 120%	PASS	
2,6-Dimethylnaphthalene	Total	0.463	1	0.001	0.005	µg/L	0.5	0	93	54 - 117%	PASS	
2-Methylnaphthalene	Total	0.484	1	0.001	0.005	µg/L	0.5	0	97	47 - 130%	PASS	
Acenaphthene	Total	0.471	1	0.001	0.005	µg/L	0.5	0	94	53 - 131%	PASS	
Acenaphthylene	Total	0.475	1	0.001	0.005	µg/L	0.5	0	95	43 - 140%	PASS	
Anthracene	Total	0.434	1	0.001	0.005	µg/L	0.5	0	87	58 - 135%	PASS	
Benz[a]anthracene	Total	0.401	1	0.001	0.005	µg/L	0.5	0	80	55 - 145%	PASS	
Benzo[a]pyrene	Total	0.415	1	0.001	0.005	µg/L	0.5	0	83	51 - 143%	PASS	
Benzo[b]fluoranthene	Total	0.496	1	0.001	0.005	µg/L	0.5	0	99	46 - 165%	PASS	
Benzo[e]pyrene	Total	0.454	1	0.001	0.005	µg/L	0.5	0	91	42 - 152%	PASS	
Benzo[g,h,i]perylene	Total	0.438	1	0.001	0.005	µg/L	0.5	0	88	63 - 133%	PASS	
Benzo[k]fluoranthene	Total	0.445	1	0.001	0.005	µg/L	0.5	0	89	56 - 145%	PASS	
Biphenyl	Total	0.485	1	0.001	0.005	µg/L	0.5	0	97	56 - 119%	PASS	
Chrysene	Total	0.432	1	0.001	0.005	µg/L	0.5	0	86	56 - 141%	PASS	
Dibenz[a,h]anthracene	Total	0.437	1	0.001	0.005	µg/L	0.5	0	87	55 - 150%	PASS	
Dibenzo[a,l]pyrene	Total	0.202	1	0.001	0.005	µg/L	0.25	0	81	50 - 150%	PASS	

## Polynuclear Aromatic Hydrocarbons

## QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY		PRECISION		QA CODE <sub>c</sub>
							LEVEL	RESULT	%	LIMITS	%	LIMITS	
Dibenzothiophene	Total	0.449	1	0.001	0.005	µg/L	0.5	0	90	75 - 113%	PASS		
Fluoranthene	Total	0.436	1	0.001	0.005	µg/L	0.5	0	87	60 - 146%	PASS		
Fluorene	Total	0.469	1	0.001	0.005	µg/L	0.5	0	94	58 - 131%	PASS		
Indeno[1,2,3-cd]pyrene	Total	0.435	1	0.001	0.005	µg/L	0.5	0	87	50 - 151%	PASS		
Naphthalene	Total	0.479	1	0.001	0.005	µg/L	0.5	0	96	41 - 126%	PASS		
Perylene	Total	0.397	1	0.001	0.005	µg/L	0.5	0	79	48 - 141%	PASS		
Phenanthrene	Total	0.458	1	0.001	0.005	µg/L	0.5	0	92	67 - 127%	PASS		
Pyrene	Total	0.411	1	0.001	0.005	µg/L	0.5	0	82	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: 98682-BS2</b>		<b>QAQC Procedural Blank</b>			<b>Matrix: BlankMatrix</b>			<b>Sampled:</b>			<b>Received:</b>				
		Method: EPA 625.1			Batch ID: O-38064			Prepared: 25-Jul-22			Analyzed: 31-Jul-22				
(d10-Acenaphthene)	Total	100	1				% Recovery	100	0	100	65 - 113%	PASS	1	30	PASS
(d10-Phenanthrene)	Total	99	1				% Recovery	100	0	99	80 - 111%	PASS	1	30	PASS
(d12-Chrysene)	Total	107	1				% Recovery	100	0	107	60 - 139%	PASS	6	30	PASS
(d12-Perylene)	Total	85	1				% Recovery	100	0	85	36 - 161%	PASS	2	30	PASS
(d8-Naphthalene)	Total	98	1				% Recovery	100	0	98	44 - 119%	PASS	0	30	PASS
1-Methylnaphthalene	Total	0.48	1	0.001	0.005	µg/L		0.5	0	96	49 - 117%	PASS	0	30	PASS
1-Methylphenanthrene	Total	0.431	1	0.001	0.005	µg/L		0.5	0	86	66 - 127%	PASS	4	30	PASS
2,3,5-Trimethylnaphthalene	Total	0.466	1	0.001	0.005	µg/L		0.5	0	93	57 - 120%	PASS	2	30	PASS
2,6-Dimethylnaphthalene	Total	0.47	1	0.001	0.005	µg/L		0.5	0	94	54 - 117%	PASS	1	30	PASS
2-Methylnaphthalene	Total	0.489	1	0.001	0.005	µg/L		0.5	0	98	47 - 130%	PASS	1	30	PASS
Acenaphthene	Total	0.472	1	0.001	0.005	µg/L		0.5	0	94	53 - 131%	PASS	0	30	PASS
Acenaphthylene	Total	0.478	1	0.001	0.005	µg/L		0.5	0	96	43 - 140%	PASS	1	30	PASS
Anthracene	Total	0.447	1	0.001	0.005	µg/L		0.5	0	89	58 - 135%	PASS	2	30	PASS
Benz[a]anthracene	Total	0.43	1	0.001	0.005	µg/L		0.5	0	86	55 - 145%	PASS	7	30	PASS
Benzo[a]pyrene	Total	0.436	1	0.001	0.005	µg/L		0.5	0	87	51 - 143%	PASS	5	30	PASS
Benzo[b]fluoranthene	Total	0.531	1	0.001	0.005	µg/L		0.5	0	106	46 - 165%	PASS	7	30	PASS
Benzo[e]pyrene	Total	0.48	1	0.001	0.005	µg/L		0.5	0	96	42 - 152%	PASS	5	30	PASS
Benzo[g,h,i]perylene	Total	0.444	1	0.001	0.005	µg/L		0.5	0	89	63 - 133%	PASS	1	30	PASS
Benzo[k]fluoranthene	Total	0.473	1	0.001	0.005	µg/L		0.5	0	95	56 - 145%	PASS	7	30	PASS
Biphenyl	Total	0.489	1	0.001	0.005	µg/L		0.5	0	98	56 - 119%	PASS	1	30	PASS
Chrysene	Total	0.449	1	0.001	0.005	µg/L		0.5	0	90	56 - 141%	PASS	5	30	PASS
Dibenz[a,h]anthracene	Total	0.438	1	0.001	0.005	µg/L		0.5	0	88	55 - 150%	PASS	1	30	PASS
Dibenzo[a,l]pyrene	Total	0.213	1	0.001	0.005	µg/L		0.25	0	85	50 - 150%	PASS	5	30	PASS



## Polynuclear Aromatic Hydrocarbons

## QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY		PRECISION		QA CODE <sub>c</sub>	
							LEVEL	RESULT	%	LIMITS	%	LIMITS		
Dibenzothiophene	Total	0.459	1	0.001	0.005	µg/L	0.5	0	92	75 - 113%	PASS	2	30	PASS
Fluoranthene	Total	0.441	1	0.001	0.005	µg/L	0.5	0	88	60 - 146%	PASS	1	30	PASS
Fluorene	Total	0.474	1	0.001	0.005	µg/L	0.5	0	95	58 - 131%	PASS	1	30	PASS
Indeno[1,2,3-cd]pyrene	Total	0.435	1	0.001	0.005	µg/L	0.5	0	87	50 - 151%	PASS	0	30	PASS
Naphthalene	Total	0.478	1	0.001	0.005	µg/L	0.5	0	96	41 - 126%	PASS	0	30	PASS
Perylene	Total	0.421	1	0.001	0.005	µg/L	0.5	0	84	48 - 141%	PASS	6	30	PASS
Phenanthrene	Total	0.468	1	0.001	0.005	µg/L	0.5	0	94	67 - 127%	PASS	2	30	PASS
Pyrene	Total	0.421	1	0.001	0.005	µg/L	0.5	0	84	54 - 156%	PASS	2	30	PASS



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**PHYSIS**

**TENTATIVELY**

**IDENTIFIED COMPOUNDS**

ENVIRONMENTAL LABORATORIES, INC.

*Innovative Solutions for Nature*

Sample ID: 98683

RT	Area Pct	Concentration (ng/L)	Library/ID	Cas Number	Match Qual
32.6442	6.8287	1111	Anthracene-D10-	1719-06-8	96
14.9719	1.5939	259	Cyclohexane, 1,2,4,5-tetraethyl-, (1.alpha.,2.alpha.,4.alpha.,5.alpha.)-	61142-24-3	82
43.1788	0.7226	118	Terephthalic acid, isobutyl butyl ester	1000323-56-2	94

Concentration estimated using the response for Anthracene-d10

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Sample ID: 98684

RT	Area Pct	Concentration (ng/L)	Library/ID	Cas Number	Match Qual
32.6443	7.5064	1111	Anthracene-D10-	1719-06-8	97
14.9739	1.9681	291	3-Hexene, 3-ethyl-2,5-dimethyl-	62338-08-3	80
25.1170	1.3952	207	Diethyl Phthalate	84-66-2	98

Concentration estimated using the response for Anthracene-d10

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Sample ID: Lab Blank Batch O-38064

RT	Area Pct	Concentration (ng/L)	Library/ID	Cas Number	Match Qual
32.6440	5.5511	1111	Anthracene-D10-	1719-06-8	96
14.9715	1.2315	246	Cyclohexane, 1,2,4,5-tetraethyl-, (1.alpha.,2.alpha.,4.alpha.,5.alpha.)-	61142-24-3	82
14.9715	1.2098	242	3-Hexene, 3-ethyl-2,5-dimethyl-	62338-08-3	82
43.1778	0.9236	185	Terephthalic acid, isobutyl butyl ester	1000323-56-2	95
60.3753	0.7547	151	Heneicosane	629-94-7	91
14.8120	0.6560	131	Cyclohexane, 1,2,4,5-tetraethyl-, (1.alpha.,2.alpha.,4.alpha.,5.alpha.)-	61142-24-3	83
25.1154	0.6335	127	Diethyl Phthalate	84-66-2	99
66.0814	0.5730	115	Heneicosane	629-94-7	94
15.6916	0.5092	102	3-Octene, 2,2-dimethyl-	86869-76-3	84

Concentration estimated using the response for Anthracene-d10

# PERFORMANCE CHAIN OF CUSTODY

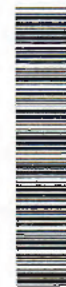
TERRA ENVIRONMENTAL LABORATORIES, INC. AURA

*Innovative Solutions for Nature*

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

**Chain of Custody Record**



**Client Information (Sub Contract Lab)**

Client Contact: \_\_\_\_\_  
 Shipping/Receiving: \_\_\_\_\_  
 Company: \_\_\_\_\_  
 Physis Environmental Laboratories

Sampler: \_\_\_\_\_  
 Phone: \_\_\_\_\_  
 E-Mail: Debbie.Frank@eurofins.com  
 Accreditations Required (See note): State - Hawaii

Lab Pk: Frank, Debbie L  
 Carrier Tracking No(s): \_\_\_\_\_  
 State of Origin: Hawaii  
 COC No: 380-13892.1  
 Page: 1 of 1  
 Job #: 380-11533-1

Address: 1904 Wright Circle,  
 City: Anaheim  
 State, Zip: CA, 92806  
 Phone: \_\_\_\_\_

Due Date Requested: 8/5/2022  
 TAT Requested (days): \_\_\_\_\_

Analysis Requested  
 Preservation Codes:  
 A - HCl  
 B - NaOH  
 C - Zn Acetate  
 D - Nitric Acid  
 E - NaHSO4  
 F - MeOH  
 G - Amchlor  
 H - Ascorbic Acid  
 I - ke  
 J - DI Water  
 K - EDTA  
 L - EDA  
 M - Hexane  
 N - None  
 O - AsNaO2  
 P - Na2OAS  
 Q - Na2SO3  
 R - Na2S2O3  
 S - H2SO4  
 T - TSP Dodecahydrate  
 U - Acetone  
 V - MCAA  
 W - PH 4-5  
 Y - Tizma  
 Z - other (Specify)

Project Name: RED-HILL  
 Site: Honolulu BWS Sites

Project #: 38001111  
 SSON#: \_\_\_\_\_

Special Instructions/Note: \_\_\_\_\_

**Sample Identification - Client ID (Lab ID)**

AlEA GULCH WELLS PUMP 1 (331-201-T-P071) (380-11533-1)  
 AlEA WELLS P2 (260) (331-004-W-L103) (380-11533-2)

Sample Date	Sample Time	Sample Type (C-comp, G=grab)	Preservation Code	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Total Number of Containers
7/20/22	10:20	Hawaiian	Water	X	SUB (625 PAH Physis LL (EAL) + TICs) 625 PAH Physis LL (EAL) + TICs	3
7/20/22	11:00	Hawaiian	Water	X		4

Special Instructions/Note: See Attached Instructions

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

**Possible Hazard Identification**

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

Empty Kit Relinquished by: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_ Method of Shipment: \_\_\_\_\_  
 Relinquished by: John Brock Date/Time: 7/25/22 1209 Company: ETO  
 Relinquished by: \_\_\_\_\_ Date/Time: 7-25-22 16: Company: \_\_\_\_\_  
 Relinquished by: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Company: \_\_\_\_\_

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



Project Iteration ID: 1407003-256  
 Client Name: Eurofins Eaton Analytical  
 Project Name: RED-HILL Project # 38001111  
 Job # 380-11533-1  
 COC Page Number: 2 of 2  
 Bottle Label Color: NA

**Sample Receipt Summary**

Receiving Info

1. Initials Received By: YK
2. Date Received: 7/25/22
3. Time Received: 1600
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): 9.3  
 Used I/R Thermometer # 2

Inspection Info

1. Initials Inspected By: RGH

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:

See temp.



Eaton Analytical

# CHAIN OF CUSTODY RECORD

750 Royal Oaks Drive, Suite 100  
Monrovia, CA 91016-3629

Phone: 626 386 1100  
Fax: 626 386 1101

800 566 LABS (800 566 5227)

EUROFINS EATON ANALYTICAL USE ONLY:

LOGIN COMMENTS: \_\_\_\_\_

SAMPLES CHECKED AGAINST COC BY: GR

SAMPLES LOGGED IN BY: Le

SAMPLE TEMP RECEIVED AT:

SAMPLES REC'D DAY OF COLLECTION?  (check for yes)


Colton / No. California / Arizona \_\_\_\_\_ °C ( Compliance: 4 ± 2 °C )

Monrovia 3.3 °C ( Compliance: 4 ± 2 °C )

CONDITION OF BLUE ICE: Frozen \_\_\_\_\_ Partially Frozen  Thawed \_\_\_\_\_ Wet Ice \_\_\_\_\_ No Ice \_\_\_\_\_

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

TO BE COMPLETED BY SAMPLER

COMPANY/AGENCY NAME: <b>HONOLULU BOARD OF WATER SUPPLY</b>		PROJECT CODE: <b>RED HILL-Weekly</b>		COMPLIANCE SAMPLES <input type="checkbox"/> NON-COMPLIANCE SAMPLES <input checked="" type="checkbox"/>		REGULATION INVOLVED: _____	
EEA CLIENT CODE: _____		COC ID: _____		SAMPLE GROUP: _____		SEE ATTACHED BOTTLE ORDER FOR ANALYSES <input checked="" type="checkbox"/> (check for yes), <u>OR</u>	
TAT requested: <b>RUSH</b>		STD_X_ 1 wk ___ 3 day ___ 2 day ___ 1 day ___		Type of samples (circle one): <u>ROUTINE</u> SPECIAL CONFIRMATION (eg. SDWA, Phase V, NPDES, FDA,...)		list ANALYSES REQUIRED (enter number of bottles sent for each test for each sample)	
SAMPLE DATE	SAMPLE TIME	SAMPLE ID	CLIENT LAB ID	MATRIX	FIELD DATA	FIELD DATA	SAMPLER COMMENTS
7/20/22	<u>1020</u>	Aiea Gulch Pump 1	HI0000331-201	CFW			X
7/20/22	<u>1100</u>	Aiea Wells Pump 2	HI0000331-004	RGW			X
 380-11533 COC							

\* MATRIX TYPES: RSW = Raw Surface Water    CFW = Chlor(am)inated Finished Water    SEAW = Sea Water    BW = Bottled Water    SO = Soil    O = Other - Please Identify  
 RGW = Raw Ground Water    FW = Other Finished Water    WW = Waste Water    SW = Storm Water    SL = Sludge

SIGNATURE	PRINT NAME	COMPANY/TITLE	DATE	TIME
[Redacted]	EJ	BWS HONOLULU	7/20/22	-
[Redacted]	EJ	BWS HONOLULU	7/21/22	1200
<u>[Signature]</u>	G. RECTOR	EPA	7/22/22	10:10
RECEIVED BY:				
RECEIVED BY:				



**Bottle Order Information**

Bottle Order: RED-HILL - Weekly Resample  
 Bottle Order #: 2162  
 Request From Client: 7/1/2022  
 Date Order Posted: 7/1/2022 11:21:01AM  
 Order Status: Ready To Process  
 Prepared By: Davis Haley  
 Deliver By Date: 7/7/2022 11:59:00PM  
 Lab Project Number: 38001111  
 PWSID:

**Order Completion Information**

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

Sets	Bottles/Set	Qty	Bottle Type Description	Preservative	Method	Matrix	Sample Type	Comments	Lot #
4	4	16	Voa Vial 40ml Amber - Sodium thiosulfate	Sodium Thiosulfate	SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL)	Water	Normal		
4	3	12	Amber Glass 1 liter - Sodium Thiosulfate	Sodium Thiosulfate	SUBCONTRACT - 8015 Diesel LL (EAL) and Motor Oil	Water	Normal		
4	2	8	Voa Vial 40ml - with Sodium Thiosulfate	Sodium Thiosulfate	SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL)	Water	Trip Blank		

Total Bottle Summary		
Bottle Type Description	Preservative	Bottle Count
Amber Glass 1 liter - Sodium Thiosulfate	Sodium Thiosulfate	12
Voa Vial 40ml - with Sodium Thiosulfate	Sodium Thiosulfate	8
Voa Vial 40ml Amber - Sodium thiosulfate	Sodium Thiosulfate	16
Total Bottles:		<u>36</u>

**Notes to Field Staff:**



Scan QR code for field sampler instructions

**Health and Safety Notes:**

Preservative	Comment
Sodium Thiosulfate	CAUTION! CONTAINS 10% SODIUM THIOSULFATE. Harmful if inhaled. Use adequate ventilation. Avoid skin and eye contact. If contact is made, FLUSH IMMEDIATELY with water.

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

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

- 1
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- 14
- 15
- 16
- 17

# Shipping Order Form - Bottle Order



Environment  
America



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

**Shipping Order ID: 7880**

**Ship Via: FedEx**

**Due On: 7/7/2022 11:59:00PM**

## Ship To Information

Project Manager: Debbie Frank  
Em: Debbie.Frank@et.eurofinsus.com  
Company Name: City & County of Honolulu  
Attention: Ron Fenstemacher  
Address 1: 630 South Beretania Street  
Address 2: Chemistry Lab  
Address 3:  
City: Honolulu  
State: HI  
Zip: 96843  
Phone #: +1-808-748-5841  
Project Ref: RED-HILL

## Notes to Bottle/Shipping Department

### Shipping Method: Pack by sample set (affixed TALS labels)

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

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

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- 17

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

ORIGIN ID:HIKA (808) 748-5840  
BWS CHEMLAB  
HONOLULU BOARD OF WATER SUPPLY  
630 S. BERETANIA ST.  
CHEMICAL LABORATORY  
HONOLULU, HI 96843  
UNITED STATES US

SHIP DATE: 21 JUL 22  
ACTWGT: 50.00 LB  
CAD: 100205419/NET4490

BILL RECIPIENT

TO C CHUCK

EUROFINS EATON ANALYTICAL, INC

750 ROYAL OAKS DR

SUITE 100

MONROVIA CA 91016

(626) 386-1178 REF:

INV

PO

DEPT



591J20A92FE4A

FRI - 22 JUL 10:30A

PRIORITY OVERNIGHT

1 of 4

TRK# 7774 5201 7677

0201 ## MASTER ##

91016  
CA-US BUR

WZ WHPA



**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. 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.

After printing this label:



ORIGIN ID:HIKA (808) 748-5840  
 BWS CHEM LAB  
 HONOLULU BOARD OF WATER SUPPLY  
 630 S. BERETANIA ST.  
 CHEMICAL LABORATORY  
 HONOLULU, HI 96843  
 UNITED STATES US

SHIP DATE: 21JUL22  
 ACTWGT: 50.00 LB  
 CAD: 100205419/NET4490

BILL RECIPIENT

TO C CHUCK

EUROFINS EATON ANALYTICAL, INC  
 750 ROYAL OAKS DR  
 SUITE 100  
 MONROVIA CA 91016

(626) 386-1178 REF

DEPT

PO

581J20A92FE4A



FRI - 22 JUL 10:30A  
 PRIORITY OVERNIGHT

2 of 4

MPS# 7774 5201 8434

Mstr# 7774 5201 7677

0263

0201

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.





ORIGIN ID:HIKA (808) 748-5840  
BWS CHEMLAB  
HONOLULU BOARD OF WATER SUPPLY  
630 S. BERETANIA ST.  
CHEMICAL LABORATORY  
HONOLULU, HI 96843  
UNITED STATES US

SHIP DATE: 21JUL22  
ACTWGT: 50.00 LB  
CAD: 100205419/NET4480

BILL RECIPIENT

TO C CHUCK

EUROFINS EATON ANALYTICAL, INC

750 ROYAL OAKS DR

SUITE 100

MONROVIA CA 91016

REF

(626) 386-1178

INV

PO

DEPT:

581J20A92FE4A



FRI - 22 JUL 10:30A  
PRIORITY OVERNIGHT

3 of 4

MPS# 7774 5201 8000

Mstr# 7774 5201 7677

0201

**WZ WHPA** 91016  
CA-US BUR



**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.



ORIGIN ID: HIKKA (808) 748-5840  
BWS CHEMILAB  
HONOLULU BOARD OF WATER SUPPLY  
630 S. BERETANIA ST.  
CHEMICAL LABORATORY  
HONOLULU, HI 96843  
UNITED STATES US

SHIP DATE: 21 JUL 22  
ACTWGT: 50.00 LB  
CAD: 100205419/INET4490

BILL RECIPIENT

TO C CHUCK

EUROFINS EATON ANALYTICAL, INC

750 ROYAL OAKS DR

SUITE 100

MONROVIA CA 91016

(626) 386-1178

REF

INV

PO

DEPT



FRI - 22 JUL 10:30A

PRIORITY OVERNIGHT

4 of 4

MPS# 7774 5201 8950

0263

Mstr# 7774 5201 7677

0201

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.



# 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 = 4.8 °C) (Corr. Factor -0.3 °C) (Final = 4.5 °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)**

Example from headspace concerns: Methods 815.4, HAA(8251,552), 505, SPME, @CH, 532LCMS, 558, 538, 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	COMPANY/TITLE	DATE	TIME
		G. REITER	Eurofins Eaton Analytical	7/22/22	10:10

SAMPLES CHECKED AGAINST COC BY:	SIGNATURE	PRINT NAME	COMPANY/TITLE	DATE	TIME
			Eurofins Eaton Analytical		



# INTERNAL CHAIN OF CUSTODY RECORD

EEA Folder Number:

**SAMPLE TEMP RECEIVED:**

Note: 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 = 35 °C) (Corr. Factor -0.3 °C) (Final = 3.2 °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 COFG for additional bottles)**

Exempt from headspace concerns: Methods 815.4, HAA(8251,562), 505, SPME, @CH, 532LCMS, 556, 538, Anatoxin, LCMS methods using 40 ml vials, International clients:

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

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

RECEIVED BY:	SIGNATURE	PRINT NAME	COMPANY/TITLE	DATE	TIME
		G. RETNER	Eurofins Eaton Analytical	7/22/22	10:10
SAMPLES CHECKED AGAINST COC BY:	SIGNATURE	PRINT NAME	COMPANY/TITLE	DATE	TIME
			Eurofins Eaton Analytical		

# INTERNAL CHAIN OF CUSTODY RECORD

EEA Folder Number:

SAMPLE TEMP RECEIVED:  
 Note: 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 temperatures 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:

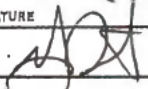
Samples with Headspace (see below):

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

Exempt from headspace concerns: Methods 815.4, HAA(8251,552), 505, 8PME, @CH, 532LCMS, 858, 836, 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: <u>G REITER</u>	COMPANY/TITLE: Eurofins Eaton Analytical	DATE: <u>7/22/22</u>	TIME: <u>10:10</u>
SAMPLES CHECKED AGAINST COC BY:	SIGNATURE:	PRINT NAME:	COMPANY/TITLE: Eurofins Eaton Analytical	DATE:	TIME:

# INTERNAL CHAIN OF CUSTODY RECORD

EEA Folder Number:

**SAMPLE TEMP RECEIVED:**  
 Note: 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 = 36 °C) (Corr. Factor 03 °C) (Final = 33 °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 815.4, HAA(8251,882), 505, SPME, @CH, 832LCMS, 858, 838, Anatoxin, LCMS methods using 40 ml vials, International clients:

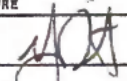
Samp ID	Bottle #	None/<8 mm	>8mm	Test

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	COMPANY/TITLE	DATE	TIME
		G. REINER	Eurofins Eaton Analytical	07/22/2022	10:10
SAMPLES CHECKED AGAINST COC BY:	SIGNATURE	PRINT NAME	COMPANY/TITLE	DATE	TIME
			Eurofins Eaton Analytical		

# Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-11533-1

**Login Number: 11533**

**List Number: 1**

**Creator: Gerfen, Chris**

**List Source: Eurofins Eaton Monrovia**

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
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").	N/A	
Samples do not require splitting or compositing.	N/A	
Container provided by EEA	True	