

# ANALYTICAL REPORT

## PREPARED FOR

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

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## JOB DESCRIPTION

RED-HILL  
RUSH Weekly Red Hill

## JOB NUMBER

380-30191-1

# Eurofins Eaton Monrovia

## Job Notes

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

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

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

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

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

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

## Compliance Statement

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

## Authorization



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Authorized for release by  
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# Definitions/Glossary

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

Job ID: 380-30191-1

## Qualifiers

### GC/MS Semi VOA

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

### GC/MS Semi VOA TICs

Qualifier	Qualifier Description
J	Indicates an Estimated Value for TICs
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: 380-30191-1

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## Job ID: 380-30191-1

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### Laboratory: Eurofins Eaton Monrovia

#### Narrative

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#### Job Narrative 380-30191-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 12/6/2022 9:45 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 4 coolers at receipt time were 0.9° C, 1.3° C, 1.4° C and 1.4° C.

#### GC/MS Semi VOA

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

#### Subcontract non-Sister

See attached subcontract report.

#### Organic Prep

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

#### Subcontract Work

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

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

# Detection Summary

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

Job ID: 380-30191-1

**Client Sample ID: Aiea Gulch Wells Pump 1**  
**PWSID Number: HI0000331**

**Lab Sample ID: 380-30191-1**

No Detections.

**Client Sample ID: Aiea Gulch Wells Pump 2**  
**PWSID Number: HI0000331**

**Lab Sample ID: 380-30191-2**

No Detections.

**Client Sample ID: Aiea Wells Pump 2**  
**PWSID Number: HI0000331**

**Lab Sample ID: 380-30191-3**

No Detections.

**Client Sample ID: Halawa Wells Pump 1**

**Lab Sample ID: 380-30191-4**

No Detections.

**Client Sample ID: TB: AIEA GULCH WELLS PUMP 1**

**Lab Sample ID: 380-30191-5**

No Detections.

**Client Sample ID: TB: AIEA GULCH WELLS PUMP 2**

**Lab Sample ID: 380-30191-6**

No Detections.

**Client Sample ID: TB: Aiea Wells Pump 2**

**Lab Sample ID: 380-30191-7**

No Detections.

**Client Sample ID: TB: Halawa Wells Pump 1**

**Lab Sample ID: 380-30191-8**

No Detections.

This Detection Summary does not include radiochemical test results.

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# Client Sample Results

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

Job ID: 380-30191-1

**Client Sample ID: Aiea Gulch Wells Pump 1**

**Lab Sample ID: 380-30191-1**

Date Collected: 12/05/22 10:31

Matrix: Drinking Water

Date Received: 12/06/22 09:45

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		12/09/22 05:50	12/12/22 16:20	1
2,4'-DDE	ND		0.098	ug/L		12/09/22 05:50	12/12/22 16:20	1
2,4'-DDT	ND		0.098	ug/L		12/09/22 05:50	12/12/22 16:20	1
2,4-Dinitrotoluene	ND		0.098	ug/L		12/09/22 05:50	12/12/22 16:20	1
2,6-Dinitrotoluene	ND		0.098	ug/L		12/09/22 05:50	12/12/22 16:20	1
4,4'-DDD	ND		0.098	ug/L		12/09/22 05:50	12/12/22 16:20	1
4,4'-DDE	ND		0.098	ug/L		12/09/22 05:50	12/12/22 16:20	1
4,4'-DDT	ND		0.098	ug/L		12/09/22 05:50	12/12/22 16:20	1
Acenaphthene	ND		0.098	ug/L		12/09/22 05:50	12/12/22 16:20	1
Acenaphthylene	ND		0.098	ug/L		12/09/22 05:50	12/12/22 16:20	1
Acetochlor	ND		0.098	ug/L		12/09/22 05:50	12/12/22 16:20	1
Alachlor	ND		0.049	ug/L		12/09/22 05:50	12/12/22 16:20	1
alpha-BHC	ND		0.098	ug/L		12/09/22 05:50	12/12/22 16:20	1
alpha-Chlordane	ND		0.049	ug/L		12/09/22 05:50	12/12/22 16:20	1
Anthracene	ND		0.020	ug/L		12/09/22 05:50	12/12/22 16:20	1
Atrazine	ND		0.049	ug/L		12/09/22 05:50	12/12/22 16:20	1
Benz(a)anthracene	ND		0.049	ug/L		12/09/22 05:50	12/12/22 16:20	1
Benzo[a]pyrene	ND		0.020	ug/L		12/09/22 05:50	12/12/22 16:20	1
Benzo[b]fluoranthene	ND		0.020	ug/L		12/09/22 05:50	12/12/22 16:20	1
Benzo[g,h,i]perylene	ND		0.049	ug/L		12/09/22 05:50	12/12/22 16:20	1
Benzo[k]fluoranthene	ND		0.020	ug/L		12/09/22 05:50	12/12/22 16:20	1
beta-BHC	ND		0.098	ug/L		12/09/22 05:50	12/12/22 16:20	1
Bromacil	ND		0.098	ug/L		12/09/22 05:50	12/12/22 16:20	1
Butachlor	ND		0.049	ug/L		12/09/22 05:50	12/12/22 16:20	1
Butylbenzylphthalate	ND		0.49	ug/L		12/09/22 05:50	12/12/22 16:20	1
Caffeine	ND		0.049	ug/L		12/09/22 05:50	12/12/22 16:20	1
Chlorobenzilate	ND		0.098	ug/L		12/09/22 05:50	12/12/22 16:20	1
Chloroneb	ND		0.098	ug/L		12/09/22 05:50	12/12/22 16:20	1
Chlorothalonil (Draconil, Bravo)	ND	^3+	0.098	ug/L		12/09/22 05:50	12/12/22 16:20	1
Chlorpyrifos	ND		0.049	ug/L		12/09/22 05:50	12/12/22 16:20	1
Chrysene	ND		0.020	ug/L		12/09/22 05:50	12/12/22 16:20	1
delta-BHC	ND		0.098	ug/L		12/09/22 05:50	12/12/22 16:20	1
Di(2-ethylhexyl)adipate	ND		0.59	ug/L		12/09/22 05:50	12/12/22 16:20	1
Bis(2-ethylhexyl) phthalate	ND		0.59	ug/L		12/09/22 05:50	12/12/22 16:20	1
Diazinon (Qualitative)	ND		0.098	ug/L		12/09/22 05:50	12/12/22 16:20	1
Dibenz(a,h)anthracene	ND		0.049	ug/L		12/09/22 05:50	12/12/22 16:20	1
Diclorvos (DDVP)	ND		0.049	ug/L		12/09/22 05:50	12/12/22 16:20	1
Dieldrin	ND		0.20	ug/L		12/09/22 05:50	12/12/22 16:20	1
Diethylphthalate	ND		0.49	ug/L		12/09/22 05:50	12/12/22 16:20	1
Dimethoate	ND		0.098	ug/L		12/09/22 05:50	12/12/22 16:20	1
Dimethylphthalate	ND		0.49	ug/L		12/09/22 05:50	12/12/22 16:20	1
Di-n-butyl phthalate	ND		0.98	ug/L		12/09/22 05:50	12/12/22 16:20	1
Di-n-octyl phthalate	ND		0.098	ug/L		12/09/22 05:50	12/12/22 16:20	1
Endosulfan I (Alpha)	ND		0.098	ug/L		12/09/22 05:50	12/12/22 16:20	1
Endosulfan II (Beta)	ND		0.098	ug/L		12/09/22 05:50	12/12/22 16:20	1
Endosulfan sulfate	ND		0.098	ug/L		12/09/22 05:50	12/12/22 16:20	1
Endrin	ND		0.098	ug/L		12/09/22 05:50	12/12/22 16:20	1
Endrin aldehyde	ND		0.098	ug/L		12/09/22 05:50	12/12/22 16:20	1
EPTC	ND		0.098	ug/L		12/09/22 05:50	12/12/22 16:20	1

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# Client Sample Results

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

Job ID: 380-30191-1

**Client Sample ID: Aiea Gulch Wells Pump 1**

**Lab Sample ID: 380-30191-1**

Date Collected: 12/05/22 10:31

Matrix: Drinking Water

Date Received: 12/06/22 09:45

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoranthene	ND		0.098	ug/L		12/09/22 05:50	12/12/22 16:20	1
Fluorene	ND		0.049	ug/L		12/09/22 05:50	12/12/22 16:20	1
gamma-Chlordane	ND		0.049	ug/L		12/09/22 05:50	12/12/22 16:20	1
Heptachlor	ND		0.039	ug/L		12/09/22 05:50	12/12/22 16:20	1
Heptachlor epoxide (isomer B)	ND		0.049	ug/L		12/09/22 05:50	12/12/22 16:20	1
Hexachlorobenzene	ND		0.049	ug/L		12/09/22 05:50	12/12/22 16:20	1
Hexachlorocyclopentadiene	ND		0.049	ug/L		12/09/22 05:50	12/12/22 16:20	1
Indeno[1,2,3-cd]pyrene	ND		0.049	ug/L		12/09/22 05:50	12/12/22 16:20	1
Isophorone	ND		0.49	ug/L		12/09/22 05:50	12/12/22 16:20	1
Lindane	ND		0.039	ug/L		12/09/22 05:50	12/12/22 16:20	1
Malathion	ND		0.098	ug/L		12/09/22 05:50	12/12/22 16:20	1
Methoxychlor	ND		0.098	ug/L		12/09/22 05:50	12/12/22 16:20	1
Metolachlor	ND		0.049	ug/L		12/09/22 05:50	12/12/22 16:20	1
Metribuzin	ND		0.049	ug/L		12/09/22 05:50	12/12/22 16:20	1
Molinate	ND		0.098	ug/L		12/09/22 05:50	12/12/22 16:20	1
Naphthalene	ND		0.29	ug/L		12/09/22 05:50	12/12/22 16:20	1
Parathion	ND		0.098	ug/L		12/09/22 05:50	12/12/22 16:20	1
Pendimethalin (Penoxaline)	ND		0.098	ug/L		12/09/22 05:50	12/12/22 16:20	1
Total Permethrin (mixed isomers)	ND		0.20	ug/L		12/09/22 05:50	12/12/22 16:20	1
Phenanthrene	ND		0.039	ug/L		12/09/22 05:50	12/12/22 16:20	1
Propachlor	ND		0.049	ug/L		12/09/22 05:50	12/12/22 16:20	1
Pyrene	ND		0.049	ug/L		12/09/22 05:50	12/12/22 16:20	1
Simazine	ND		0.049	ug/L		12/09/22 05:50	12/12/22 16:20	1
Terbacil	ND		0.098	ug/L		12/09/22 05:50	12/12/22 16:20	1
Terbutylazine	ND		0.098	ug/L		12/09/22 05:50	12/12/22 16:20	1
Thiobencarb	ND		0.20	ug/L		12/09/22 05:50	12/12/22 16:20	1
trans-Nonachlor	ND		0.049	ug/L		12/09/22 05:50	12/12/22 16:20	1
Trifluralin	ND		0.098	ug/L		12/09/22 05:50	12/12/22 16:20	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	0.49	T J	ug/L		6.37		12/09/22 05:50	12/12/22 16:20	1
Unknown	1.0	T J	ug/L		7.38		12/09/22 05:50	12/12/22 16:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Nitro-m-xylene	101		70 - 130	12/09/22 05:50	12/12/22 16:20	1
Triphenylphosphate	113		70 - 130	12/09/22 05:50	12/12/22 16:20	1
Perylene-d12	96		70 - 130	12/09/22 05:50	12/12/22 16:20	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		12/07/22 00:00	12/18/22 16:52	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		12/07/22 00:00	12/18/22 16:52	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		12/07/22 00:00	12/18/22 16:52	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		12/07/22 00:00	12/18/22 16:52	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		12/07/22 00:00	12/18/22 16:52	1
Acenaphthene	ND		0.005	0.001	µg/L		12/07/22 00:00	12/18/22 16:52	1
Acenaphthylene	ND		0.005	0.001	µg/L		12/07/22 00:00	12/18/22 16:52	1
Anthracene	ND		0.005	0.001	µg/L		12/07/22 00:00	12/18/22 16:52	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		12/07/22 00:00	12/18/22 16:52	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		12/07/22 00:00	12/18/22 16:52	1

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# Client Sample Results

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

Job ID: 380-30191-1

**Client Sample ID: Aiea Gulch Wells Pump 1**

**Lab Sample ID: 380-30191-1**

Date Collected: 12/05/22 10:31

Matrix: Drinking Water

Date Received: 12/06/22 09:45

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		12/07/22 00:00	12/18/22 16:52	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		12/07/22 00:00	12/18/22 16:52	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		12/07/22 00:00	12/18/22 16:52	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		12/07/22 00:00	12/18/22 16:52	1
Biphenyl	ND		0.005	0.001	µg/L		12/07/22 00:00	12/18/22 16:52	1
Chrysene	ND		0.005	0.001	µg/L		12/07/22 00:00	12/18/22 16:52	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		12/07/22 00:00	12/18/22 16:52	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		12/07/22 00:00	12/18/22 16:52	1
Dibenzothiophene	ND		0.005	0.001	µg/L		12/07/22 00:00	12/18/22 16:52	1
Disalicylidenepropanediamine	ND		0.1	0.05	µg/L		12/07/22 00:00	12/18/22 16:52	1
Fluoranthene	ND		0.005	0.001	µg/L		12/07/22 00:00	12/18/22 16:52	1
Fluorene	ND		0.005	0.001	µg/L		12/07/22 00:00	12/18/22 16:52	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		12/07/22 00:00	12/18/22 16:52	1
Naphthalene	ND		0.005	0.001	µg/L		12/07/22 00:00	12/18/22 16:52	1
Perylene	ND		0.005	0.001	µg/L		12/07/22 00:00	12/18/22 16:52	1
Phenanthrene	ND		0.005	0.001	µg/L		12/07/22 00:00	12/18/22 16:52	1
Pyrene	ND		0.005	0.001	µg/L		12/07/22 00:00	12/18/22 16:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
(d10-Acenaphthene)	81		45 - 118	12/07/22 00:00	12/18/22 16:52	1
(d10-Phenanthrene)	86		56 - 123	12/07/22 00:00	12/18/22 16:52	1
(d12-Chrysene)	85		36 - 142	12/07/22 00:00	12/18/22 16:52	1
(d12-Perylene)	38		36 - 161	12/07/22 00:00	12/18/22 16:52	1
(d8-Naphthalene)	72		20 - 112	12/07/22 00:00	12/18/22 16:52	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GASOLINE	ND	U	0.020		mg/L			12/07/22 18:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE	87		60 - 140		12/07/22 18:38	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DIESEL	ND	U	0.025		mg/L			12/14/22 17:45	1
JP5	ND	U	0.051		mg/L			12/14/22 17:45	1
JP8	ND	U	0.051		mg/L			12/14/22 17:45	1
MOTOR OIL	ND	U	0.051		mg/L			12/14/22 17:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOBENZENE	87		60 - 130		12/14/22 17:45	1
HEXACOSANE	104		60 - 130		12/14/22 17:45	1

**Client Sample ID: Aiea Gulch Wells Pump 2**

**Lab Sample ID: 380-30191-2**

Date Collected: 12/05/22 10:56

Matrix: Drinking Water

Date Received: 12/06/22 09:45

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		12/09/22 05:50	12/12/22 16:00	1
2,4'-DDE	ND		0.098	ug/L		12/09/22 05:50	12/12/22 16:00	1

Eurofins Eaton Monrovia

# Client Sample Results

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

Job ID: 380-30191-1

**Client Sample ID: Aiea Gulch Wells Pump 2**

**Lab Sample ID: 380-30191-2**

Date Collected: 12/05/22 10:56

Matrix: Drinking Water

Date Received: 12/06/22 09:45

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
2,4'-DDT	ND		0.098	ug/L		12/09/22 05:50	12/12/22 16:00	1
2,4-Dinitrotoluene	ND		0.098	ug/L		12/09/22 05:50	12/12/22 16:00	1
2,6-Dinitrotoluene	ND		0.098	ug/L		12/09/22 05:50	12/12/22 16:00	1
4,4'-DDD	ND		0.098	ug/L		12/09/22 05:50	12/12/22 16:00	1
4,4'-DDE	ND		0.098	ug/L		12/09/22 05:50	12/12/22 16:00	1
4,4'-DDT	ND		0.098	ug/L		12/09/22 05:50	12/12/22 16:00	1
Acenaphthene	ND		0.098	ug/L		12/09/22 05:50	12/12/22 16:00	1
Acenaphthylene	ND		0.098	ug/L		12/09/22 05:50	12/12/22 16:00	1
Acetochlor	ND		0.098	ug/L		12/09/22 05:50	12/12/22 16:00	1
Alachlor	ND		0.049	ug/L		12/09/22 05:50	12/12/22 16:00	1
alpha-BHC	ND		0.098	ug/L		12/09/22 05:50	12/12/22 16:00	1
alpha-Chlordane	ND		0.049	ug/L		12/09/22 05:50	12/12/22 16:00	1
Anthracene	ND		0.020	ug/L		12/09/22 05:50	12/12/22 16:00	1
Atrazine	ND		0.049	ug/L		12/09/22 05:50	12/12/22 16:00	1
Benz(a)anthracene	ND		0.049	ug/L		12/09/22 05:50	12/12/22 16:00	1
Benzo[a]pyrene	ND		0.020	ug/L		12/09/22 05:50	12/12/22 16:00	1
Benzo[b]fluoranthene	ND		0.020	ug/L		12/09/22 05:50	12/12/22 16:00	1
Benzo[g,h,i]perylene	ND		0.049	ug/L		12/09/22 05:50	12/12/22 16:00	1
Benzo[k]fluoranthene	ND		0.020	ug/L		12/09/22 05:50	12/12/22 16:00	1
beta-BHC	ND		0.098	ug/L		12/09/22 05:50	12/12/22 16:00	1
Bromacil	ND		0.098	ug/L		12/09/22 05:50	12/12/22 16:00	1
Butachlor	ND		0.049	ug/L		12/09/22 05:50	12/12/22 16:00	1
Butylbenzylphthalate	ND		0.49	ug/L		12/09/22 05:50	12/12/22 16:00	1
Caffeine	ND		0.049	ug/L		12/09/22 05:50	12/12/22 16:00	1
Chlorobenzilate	ND		0.098	ug/L		12/09/22 05:50	12/12/22 16:00	1
Chloroneb	ND		0.098	ug/L		12/09/22 05:50	12/12/22 16:00	1
Chlorothalonil (Draconil, Bravo)	ND	^3+	0.098	ug/L		12/09/22 05:50	12/12/22 16:00	1
Chlorpyrifos	ND		0.049	ug/L		12/09/22 05:50	12/12/22 16:00	1
Chrysene	ND		0.020	ug/L		12/09/22 05:50	12/12/22 16:00	1
delta-BHC	ND		0.098	ug/L		12/09/22 05:50	12/12/22 16:00	1
Di(2-ethylhexyl)adipate	ND		0.59	ug/L		12/09/22 05:50	12/12/22 16:00	1
Bis(2-ethylhexyl) phthalate	ND		0.59	ug/L		12/09/22 05:50	12/12/22 16:00	1
Diazinon (Qualitative)	ND		0.098	ug/L		12/09/22 05:50	12/12/22 16:00	1
Dibenz(a,h)anthracene	ND		0.049	ug/L		12/09/22 05:50	12/12/22 16:00	1
Diclorvos (DDVP)	ND		0.049	ug/L		12/09/22 05:50	12/12/22 16:00	1
Dieldrin	ND		0.20	ug/L		12/09/22 05:50	12/12/22 16:00	1
Diethylphthalate	ND		0.49	ug/L		12/09/22 05:50	12/12/22 16:00	1
Dimethoate	ND		0.098	ug/L		12/09/22 05:50	12/12/22 16:00	1
Dimethylphthalate	ND		0.49	ug/L		12/09/22 05:50	12/12/22 16:00	1
Di-n-butyl phthalate	ND		0.98	ug/L		12/09/22 05:50	12/12/22 16:00	1
Di-n-octyl phthalate	ND		0.098	ug/L		12/09/22 05:50	12/12/22 16:00	1
Endosulfan I (Alpha)	ND		0.098	ug/L		12/09/22 05:50	12/12/22 16:00	1
Endosulfan II (Beta)	ND		0.098	ug/L		12/09/22 05:50	12/12/22 16:00	1
Endosulfan sulfate	ND		0.098	ug/L		12/09/22 05:50	12/12/22 16:00	1
Endrin	ND		0.098	ug/L		12/09/22 05:50	12/12/22 16:00	1
Endrin aldehyde	ND		0.098	ug/L		12/09/22 05:50	12/12/22 16:00	1
EPTC	ND		0.098	ug/L		12/09/22 05:50	12/12/22 16:00	1
Fluoranthene	ND		0.098	ug/L		12/09/22 05:50	12/12/22 16:00	1
Fluorene	ND		0.049	ug/L		12/09/22 05:50	12/12/22 16:00	1

Eurofins Eaton Monrovia

# Client Sample Results

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

Job ID: 380-30191-1

**Client Sample ID: Aiea Gulch Wells Pump 2**

**Lab Sample ID: 380-30191-2**

Date Collected: 12/05/22 10:56

Matrix: Drinking Water

Date Received: 12/06/22 09:45

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
gamma-Chlordane	ND		0.049	ug/L		12/09/22 05:50	12/12/22 16:00	1
Heptachlor	ND		0.039	ug/L		12/09/22 05:50	12/12/22 16:00	1
Heptachlor epoxide (isomer B)	ND		0.049	ug/L		12/09/22 05:50	12/12/22 16:00	1
Hexachlorobenzene	ND		0.049	ug/L		12/09/22 05:50	12/12/22 16:00	1
Hexachlorocyclopentadiene	ND		0.049	ug/L		12/09/22 05:50	12/12/22 16:00	1
Indeno[1,2,3-cd]pyrene	ND		0.049	ug/L		12/09/22 05:50	12/12/22 16:00	1
Isophorone	ND		0.49	ug/L		12/09/22 05:50	12/12/22 16:00	1
Lindane	ND		0.039	ug/L		12/09/22 05:50	12/12/22 16:00	1
Malathion	ND		0.098	ug/L		12/09/22 05:50	12/12/22 16:00	1
Methoxychlor	ND		0.098	ug/L		12/09/22 05:50	12/12/22 16:00	1
Metolachlor	ND		0.049	ug/L		12/09/22 05:50	12/12/22 16:00	1
Metribuzin	ND		0.049	ug/L		12/09/22 05:50	12/12/22 16:00	1
Molinate	ND		0.098	ug/L		12/09/22 05:50	12/12/22 16:00	1
Naphthalene	ND		0.29	ug/L		12/09/22 05:50	12/12/22 16:00	1
Parathion	ND		0.098	ug/L		12/09/22 05:50	12/12/22 16:00	1
Pendimethalin (Penoxaline)	ND		0.098	ug/L		12/09/22 05:50	12/12/22 16:00	1
Total Permethrin (mixed isomers)	ND		0.20	ug/L		12/09/22 05:50	12/12/22 16:00	1
Phenanthrene	ND		0.039	ug/L		12/09/22 05:50	12/12/22 16:00	1
Propachlor	ND		0.049	ug/L		12/09/22 05:50	12/12/22 16:00	1
Pyrene	ND		0.049	ug/L		12/09/22 05:50	12/12/22 16:00	1
Simazine	ND		0.049	ug/L		12/09/22 05:50	12/12/22 16:00	1
Terbacil	ND		0.098	ug/L		12/09/22 05:50	12/12/22 16:00	1
Terbuthylazine	ND		0.098	ug/L		12/09/22 05:50	12/12/22 16:00	1
Thiobencarb	ND		0.20	ug/L		12/09/22 05:50	12/12/22 16:00	1
trans-Nonachlor	ND		0.049	ug/L		12/09/22 05:50	12/12/22 16:00	1
Trifluralin	ND		0.098	ug/L		12/09/22 05:50	12/12/22 16:00	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L				12/09/22 05:50	12/12/22 16:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Nitro-m-xylene	102		70 - 130	12/09/22 05:50	12/12/22 16:00	1
Triphenylphosphate	108		70 - 130	12/09/22 05:50	12/12/22 16:00	1
Perylene-d12	94		70 - 130	12/09/22 05:50	12/12/22 16:00	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		12/07/22 00:00	12/19/22 10:08	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		12/07/22 00:00	12/19/22 10:08	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		12/07/22 00:00	12/19/22 10:08	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		12/07/22 00:00	12/19/22 10:08	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		12/07/22 00:00	12/19/22 10:08	1
Acenaphthene	ND		0.005	0.001	µg/L		12/07/22 00:00	12/19/22 10:08	1
Acenaphthylene	ND		0.005	0.001	µg/L		12/07/22 00:00	12/19/22 10:08	1
Anthracene	ND		0.005	0.001	µg/L		12/07/22 00:00	12/19/22 10:08	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		12/07/22 00:00	12/19/22 10:08	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		12/07/22 00:00	12/19/22 10:08	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		12/07/22 00:00	12/19/22 10:08	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		12/07/22 00:00	12/19/22 10:08	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		12/07/22 00:00	12/19/22 10:08	1

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# Client Sample Results

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

Job ID: 380-30191-1

**Client Sample ID: Aiea Gulch Wells Pump 2**

**Lab Sample ID: 380-30191-2**

Date Collected: 12/05/22 10:56

Matrix: Drinking Water

Date Received: 12/06/22 09:45

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		12/07/22 00:00	12/19/22 10:08	1
Biphenyl	ND		0.005	0.001	µg/L		12/07/22 00:00	12/19/22 10:08	1
Chrysene	ND		0.005	0.001	µg/L		12/07/22 00:00	12/19/22 10:08	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		12/07/22 00:00	12/19/22 10:08	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		12/07/22 00:00	12/19/22 10:08	1
Dibenzothiophene	ND		0.005	0.001	µg/L		12/07/22 00:00	12/19/22 10:08	1
Disalicylidenepropanediamine	ND		0.1	0.05	µg/L		12/07/22 00:00	12/19/22 10:08	1
Fluoranthene	ND		0.005	0.001	µg/L		12/07/22 00:00	12/19/22 10:08	1
Fluorene	ND		0.005	0.001	µg/L		12/07/22 00:00	12/19/22 10:08	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		12/07/22 00:00	12/19/22 10:08	1
Naphthalene	ND		0.005	0.001	µg/L		12/07/22 00:00	12/19/22 10:08	1
Perylene	ND		0.005	0.001	µg/L		12/07/22 00:00	12/19/22 10:08	1
Phenanthrene	ND		0.005	0.001	µg/L		12/07/22 00:00	12/19/22 10:08	1
Pyrene	ND		0.005	0.001	µg/L		12/07/22 00:00	12/19/22 10:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
(d10-Acenaphthene)	72		45 - 118	12/07/22 00:00	12/19/22 10:08	1
(d10-Phenanthrene)	82		56 - 123	12/07/22 00:00	12/19/22 10:08	1
(d12-Chrysene)	88		36 - 142	12/07/22 00:00	12/19/22 10:08	1
(d12-Perylene)	77		36 - 161	12/07/22 00:00	12/19/22 10:08	1
(d8-Naphthalene)	63		20 - 112	12/07/22 00:00	12/19/22 10:08	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GASOLINE	ND	U	0.020		mg/L			12/07/22 19:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE	92		60 - 140		12/07/22 19:14	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DIESEL	ND	U	0.026		mg/L			12/14/22 18:03	1
JP5	ND	U	0.052		mg/L			12/14/22 18:03	1
JP8	ND	U	0.052		mg/L			12/14/22 18:03	1
MOTOR OIL	ND	U	0.052		mg/L			12/14/22 18:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOBENZENE	76		60 - 130		12/14/22 18:03	1
HEXACOSANE	108		60 - 130		12/14/22 18:03	1

**Client Sample ID: Aiea Wells Pump 2**

**Lab Sample ID: 380-30191-3**

Date Collected: 12/05/22 10:04

Matrix: Drinking Water

Date Received: 12/06/22 09:45

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		0.096	ug/L		12/09/22 05:50	12/12/22 15:40	1
2,4'-DDE	ND		0.096	ug/L		12/09/22 05:50	12/12/22 15:40	1
2,4'-DDT	ND		0.096	ug/L		12/09/22 05:50	12/12/22 15:40	1
2,4-Dinitrotoluene	ND		0.096	ug/L		12/09/22 05:50	12/12/22 15:40	1
2,6-Dinitrotoluene	ND		0.096	ug/L		12/09/22 05:50	12/12/22 15:40	1

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# Client Sample Results

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

Job ID: 380-30191-1

**Client Sample ID: Aiea Wells Pump 2**

**Lab Sample ID: 380-30191-3**

Date Collected: 12/05/22 10:04

Matrix: Drinking Water

Date Received: 12/06/22 09:45

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.096	ug/L		12/09/22 05:50	12/12/22 15:40	1
4,4'-DDE	ND		0.096	ug/L		12/09/22 05:50	12/12/22 15:40	1
4,4'-DDT	ND		0.096	ug/L		12/09/22 05:50	12/12/22 15:40	1
Acenaphthene	ND		0.096	ug/L		12/09/22 05:50	12/12/22 15:40	1
Acenaphthylene	ND		0.096	ug/L		12/09/22 05:50	12/12/22 15:40	1
Acetochlor	ND		0.096	ug/L		12/09/22 05:50	12/12/22 15:40	1
Alachlor	ND		0.048	ug/L		12/09/22 05:50	12/12/22 15:40	1
alpha-BHC	ND		0.096	ug/L		12/09/22 05:50	12/12/22 15:40	1
alpha-Chlordane	ND		0.048	ug/L		12/09/22 05:50	12/12/22 15:40	1
Anthracene	ND		0.019	ug/L		12/09/22 05:50	12/12/22 15:40	1
Atrazine	ND		0.048	ug/L		12/09/22 05:50	12/12/22 15:40	1
Benz(a)anthracene	ND		0.048	ug/L		12/09/22 05:50	12/12/22 15:40	1
Benzo[a]pyrene	ND		0.019	ug/L		12/09/22 05:50	12/12/22 15:40	1
Benzo[b]fluoranthene	ND		0.019	ug/L		12/09/22 05:50	12/12/22 15:40	1
Benzo[g,h,i]perylene	ND		0.048	ug/L		12/09/22 05:50	12/12/22 15:40	1
Benzo[k]fluoranthene	ND		0.019	ug/L		12/09/22 05:50	12/12/22 15:40	1
beta-BHC	ND		0.096	ug/L		12/09/22 05:50	12/12/22 15:40	1
Bromacil	ND		0.096	ug/L		12/09/22 05:50	12/12/22 15:40	1
Butachlor	ND		0.048	ug/L		12/09/22 05:50	12/12/22 15:40	1
Butylbenzylphthalate	ND		0.48	ug/L		12/09/22 05:50	12/12/22 15:40	1
Caffeine	ND		0.048	ug/L		12/09/22 05:50	12/12/22 15:40	1
Chlorobenzilate	ND		0.096	ug/L		12/09/22 05:50	12/12/22 15:40	1
Chloroneb	ND		0.096	ug/L		12/09/22 05:50	12/12/22 15:40	1
Chlorothalonil (Draconil, Bravo)	ND	^3+	0.096	ug/L		12/09/22 05:50	12/12/22 15:40	1
Chlorpyrifos	ND		0.048	ug/L		12/09/22 05:50	12/12/22 15:40	1
Chrysene	ND		0.019	ug/L		12/09/22 05:50	12/12/22 15:40	1
delta-BHC	ND		0.096	ug/L		12/09/22 05:50	12/12/22 15:40	1
Di(2-ethylhexyl)adipate	ND		0.58	ug/L		12/09/22 05:50	12/12/22 15:40	1
Bis(2-ethylhexyl) phthalate	ND		0.58	ug/L		12/09/22 05:50	12/12/22 15:40	1
Diazinon (Qualitative)	ND		0.096	ug/L		12/09/22 05:50	12/12/22 15:40	1
Dibenz(a,h)anthracene	ND		0.048	ug/L		12/09/22 05:50	12/12/22 15:40	1
Diclorvos (DDVP)	ND		0.048	ug/L		12/09/22 05:50	12/12/22 15:40	1
Dieldrin	ND		0.19	ug/L		12/09/22 05:50	12/12/22 15:40	1
Diethylphthalate	ND		0.48	ug/L		12/09/22 05:50	12/12/22 15:40	1
Dimethoate	ND		0.096	ug/L		12/09/22 05:50	12/12/22 15:40	1
Dimethylphthalate	ND		0.48	ug/L		12/09/22 05:50	12/12/22 15:40	1
Di-n-butyl phthalate	ND		0.96	ug/L		12/09/22 05:50	12/12/22 15:40	1
Di-n-octyl phthalate	ND		0.096	ug/L		12/09/22 05:50	12/12/22 15:40	1
Endosulfan I (Alpha)	ND		0.096	ug/L		12/09/22 05:50	12/12/22 15:40	1
Endosulfan II (Beta)	ND		0.096	ug/L		12/09/22 05:50	12/12/22 15:40	1
Endosulfan sulfate	ND		0.096	ug/L		12/09/22 05:50	12/12/22 15:40	1
Endrin	ND		0.096	ug/L		12/09/22 05:50	12/12/22 15:40	1
Endrin aldehyde	ND		0.096	ug/L		12/09/22 05:50	12/12/22 15:40	1
EPTC	ND		0.096	ug/L		12/09/22 05:50	12/12/22 15:40	1
Fluoranthene	ND		0.096	ug/L		12/09/22 05:50	12/12/22 15:40	1
Fluorene	ND		0.048	ug/L		12/09/22 05:50	12/12/22 15:40	1
gamma-Chlordane	ND		0.048	ug/L		12/09/22 05:50	12/12/22 15:40	1
Heptachlor	ND		0.039	ug/L		12/09/22 05:50	12/12/22 15:40	1
Heptachlor epoxide (isomer B)	ND		0.048	ug/L		12/09/22 05:50	12/12/22 15:40	1

Eurofins Eaton Monrovia

# Client Sample Results

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

Job ID: 380-30191-1

**Client Sample ID: Aiea Wells Pump 2**

**Lab Sample ID: 380-30191-3**

Date Collected: 12/05/22 10:04

Matrix: Drinking Water

Date Received: 12/06/22 09:45

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorobenzene	ND		0.048	ug/L		12/09/22 05:50	12/12/22 15:40	1
Hexachlorocyclopentadiene	ND		0.048	ug/L		12/09/22 05:50	12/12/22 15:40	1
Indeno[1,2,3-cd]pyrene	ND		0.048	ug/L		12/09/22 05:50	12/12/22 15:40	1
Isophorone	ND		0.48	ug/L		12/09/22 05:50	12/12/22 15:40	1
Lindane	ND		0.039	ug/L		12/09/22 05:50	12/12/22 15:40	1
Malathion	ND		0.096	ug/L		12/09/22 05:50	12/12/22 15:40	1
Methoxychlor	ND		0.096	ug/L		12/09/22 05:50	12/12/22 15:40	1
Metolachlor	ND		0.048	ug/L		12/09/22 05:50	12/12/22 15:40	1
Metribuzin	ND		0.048	ug/L		12/09/22 05:50	12/12/22 15:40	1
Molinate	ND		0.096	ug/L		12/09/22 05:50	12/12/22 15:40	1
Naphthalene	ND		0.29	ug/L		12/09/22 05:50	12/12/22 15:40	1
Parathion	ND		0.096	ug/L		12/09/22 05:50	12/12/22 15:40	1
Pendimethalin (Penoxaline)	ND		0.096	ug/L		12/09/22 05:50	12/12/22 15:40	1
Total Permethrin (mixed isomers)	ND		0.19	ug/L		12/09/22 05:50	12/12/22 15:40	1
Phenanthrene	ND		0.039	ug/L		12/09/22 05:50	12/12/22 15:40	1
Propachlor	ND		0.048	ug/L		12/09/22 05:50	12/12/22 15:40	1
Pyrene	ND		0.048	ug/L		12/09/22 05:50	12/12/22 15:40	1
Simazine	ND		0.048	ug/L		12/09/22 05:50	12/12/22 15:40	1
Terbacil	ND		0.096	ug/L		12/09/22 05:50	12/12/22 15:40	1
Terbutylazine	ND		0.096	ug/L		12/09/22 05:50	12/12/22 15:40	1
Thiobencarb	ND		0.19	ug/L		12/09/22 05:50	12/12/22 15:40	1
trans-Nonachlor	ND		0.048	ug/L		12/09/22 05:50	12/12/22 15:40	1
Trifluralin	ND		0.096	ug/L		12/09/22 05:50	12/12/22 15:40	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L				12/09/22 05:50	12/12/22 15:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Nitro-m-xylene	103		70 - 130	12/09/22 05:50	12/12/22 15:40	1
Triphenylphosphate	101		70 - 130	12/09/22 05:50	12/12/22 15:40	1
Perylene-d12	93		70 - 130	12/09/22 05:50	12/12/22 15:40	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		12/07/22 00:00	12/19/22 13:35	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		12/07/22 00:00	12/19/22 13:35	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		12/07/22 00:00	12/19/22 13:35	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		12/07/22 00:00	12/19/22 13:35	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		12/07/22 00:00	12/19/22 13:35	1
Acenaphthene	ND		0.005	0.001	µg/L		12/07/22 00:00	12/19/22 13:35	1
Acenaphthylene	ND		0.005	0.001	µg/L		12/07/22 00:00	12/19/22 13:35	1
Anthracene	ND		0.005	0.001	µg/L		12/07/22 00:00	12/19/22 13:35	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		12/07/22 00:00	12/19/22 13:35	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		12/07/22 00:00	12/19/22 13:35	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		12/07/22 00:00	12/19/22 13:35	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		12/07/22 00:00	12/19/22 13:35	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		12/07/22 00:00	12/19/22 13:35	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		12/07/22 00:00	12/19/22 13:35	1
Biphenyl	ND		0.005	0.001	µg/L		12/07/22 00:00	12/19/22 13:35	1
Chrysene	ND		0.005	0.001	µg/L		12/07/22 00:00	12/19/22 13:35	1

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# Client Sample Results

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

Job ID: 380-30191-1

**Client Sample ID: Aiea Wells Pump 2**

**Lab Sample ID: 380-30191-3**

Date Collected: 12/05/22 10:04

Matrix: Drinking Water

Date Received: 12/06/22 09:45

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
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		12/07/22 00:00	12/19/22 13:35	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		12/07/22 00:00	12/19/22 13:35	1
Dibenzothiophene	ND		0.005	0.001	µg/L		12/07/22 00:00	12/19/22 13:35	1
Disalicylideneprapanediamine	ND		0.1	0.05	µg/L		12/07/22 00:00	12/19/22 13:35	1
Fluoranthene	ND		0.005	0.001	µg/L		12/07/22 00:00	12/19/22 13:35	1
Fluorene	ND		0.005	0.001	µg/L		12/07/22 00:00	12/19/22 13:35	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		12/07/22 00:00	12/19/22 13:35	1
Naphthalene	ND		0.005	0.001	µg/L		12/07/22 00:00	12/19/22 13:35	1
Perylene	ND		0.005	0.001	µg/L		12/07/22 00:00	12/19/22 13:35	1
Phenanthrene	ND		0.005	0.001	µg/L		12/07/22 00:00	12/19/22 13:35	1
Pyrene	ND		0.005	0.001	µg/L		12/07/22 00:00	12/19/22 13:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
(d10-Acenaphthene)	77		45 - 118	12/07/22 00:00	12/19/22 13:35	1
(d10-Phenanthrene)	84		56 - 123	12/07/22 00:00	12/19/22 13:35	1
(d12-Chrysene)	79		36 - 142	12/07/22 00:00	12/19/22 13:35	1
(d12-Perylene)	74		36 - 161	12/07/22 00:00	12/19/22 13:35	1
(d8-Naphthalene)	66		20 - 112	12/07/22 00:00	12/19/22 13:35	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GASOLINE	ND	U	0.020		mg/L			12/07/22 20:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE	81		60 - 140		12/07/22 20:26	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DIESEL	ND	U	0.024		mg/L			12/14/22 18:21	1
JP5	ND	U	0.048		mg/L			12/14/22 18:21	1
JP8	ND	U	0.048		mg/L			12/14/22 18:21	1
MOTOR OIL	ND	U	0.048		mg/L			12/14/22 18:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOBENZENE	69		60 - 130		12/14/22 18:21	1
HEXACOSANE	109		60 - 130		12/14/22 18:21	1

**Client Sample ID: Halawa Wells Pump 1**

**Lab Sample ID: 380-30191-4**

Date Collected: 12/05/22 09:42

Matrix: Drinking Water

Date Received: 12/06/22 09:45

**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		12/09/22 05:50	12/12/22 15:20	1
2,4'-DDE	ND		0.098	ug/L		12/09/22 05:50	12/12/22 15:20	1
2,4'-DDT	ND		0.098	ug/L		12/09/22 05:50	12/12/22 15:20	1
2,4-Dinitrotoluene	ND		0.098	ug/L		12/09/22 05:50	12/12/22 15:20	1
2,6-Dinitrotoluene	ND		0.098	ug/L		12/09/22 05:50	12/12/22 15:20	1
4,4'-DDD	ND		0.098	ug/L		12/09/22 05:50	12/12/22 15:20	1
4,4'-DDE	ND		0.098	ug/L		12/09/22 05:50	12/12/22 15:20	1
4,4'-DDT	ND		0.098	ug/L		12/09/22 05:50	12/12/22 15:20	1

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# Client Sample Results

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

Job ID: 380-30191-1

**Client Sample ID: Halawa Wells Pump 1**

**Lab Sample ID: 380-30191-4**

Date Collected: 12/05/22 09:42

Matrix: Drinking Water

Date Received: 12/06/22 09:45

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.098	ug/L		12/09/22 05:50	12/12/22 15:20	1
Acenaphthylene	ND		0.098	ug/L		12/09/22 05:50	12/12/22 15:20	1
Acetochlor	ND		0.098	ug/L		12/09/22 05:50	12/12/22 15:20	1
Alachlor	ND		0.049	ug/L		12/09/22 05:50	12/12/22 15:20	1
alpha-BHC	ND		0.098	ug/L		12/09/22 05:50	12/12/22 15:20	1
alpha-Chlordane	ND		0.049	ug/L		12/09/22 05:50	12/12/22 15:20	1
Anthracene	ND		0.020	ug/L		12/09/22 05:50	12/12/22 15:20	1
Atrazine	ND		0.049	ug/L		12/09/22 05:50	12/12/22 15:20	1
Benz(a)anthracene	ND		0.049	ug/L		12/09/22 05:50	12/12/22 15:20	1
Benzo[a]pyrene	ND		0.020	ug/L		12/09/22 05:50	12/12/22 15:20	1
Benzo[b]fluoranthene	ND		0.020	ug/L		12/09/22 05:50	12/12/22 15:20	1
Benzo[g,h,i]perylene	ND		0.049	ug/L		12/09/22 05:50	12/12/22 15:20	1
Benzo[k]fluoranthene	ND		0.020	ug/L		12/09/22 05:50	12/12/22 15:20	1
beta-BHC	ND		0.098	ug/L		12/09/22 05:50	12/12/22 15:20	1
Bromacil	ND		0.098	ug/L		12/09/22 05:50	12/12/22 15:20	1
Butachlor	ND		0.049	ug/L		12/09/22 05:50	12/12/22 15:20	1
Butylbenzylphthalate	ND		0.49	ug/L		12/09/22 05:50	12/12/22 15:20	1
Caffeine	ND		0.049	ug/L		12/09/22 05:50	12/12/22 15:20	1
Chlorobenzilate	ND		0.098	ug/L		12/09/22 05:50	12/12/22 15:20	1
Chloroneb	ND		0.098	ug/L		12/09/22 05:50	12/12/22 15:20	1
Chlorothalonil (Draconil, Bravo)	ND	^3+	0.098	ug/L		12/09/22 05:50	12/12/22 15:20	1
Chlorpyrifos	ND		0.049	ug/L		12/09/22 05:50	12/12/22 15:20	1
Chrysene	ND		0.020	ug/L		12/09/22 05:50	12/12/22 15:20	1
delta-BHC	ND		0.098	ug/L		12/09/22 05:50	12/12/22 15:20	1
Di(2-ethylhexyl)adipate	ND		0.59	ug/L		12/09/22 05:50	12/12/22 15:20	1
Bis(2-ethylhexyl) phthalate	ND		0.59	ug/L		12/09/22 05:50	12/12/22 15:20	1
Diazinon (Qualitative)	ND		0.098	ug/L		12/09/22 05:50	12/12/22 15:20	1
Dibenz(a,h)anthracene	ND		0.049	ug/L		12/09/22 05:50	12/12/22 15:20	1
Diclorvos (DDVP)	ND		0.049	ug/L		12/09/22 05:50	12/12/22 15:20	1
Dieldrin	ND		0.20	ug/L		12/09/22 05:50	12/12/22 15:20	1
Diethylphthalate	ND		0.49	ug/L		12/09/22 05:50	12/12/22 15:20	1
Dimethoate	ND		0.098	ug/L		12/09/22 05:50	12/12/22 15:20	1
Dimethylphthalate	ND		0.49	ug/L		12/09/22 05:50	12/12/22 15:20	1
Di-n-butyl phthalate	ND		0.98	ug/L		12/09/22 05:50	12/12/22 15:20	1
Di-n-octyl phthalate	ND		0.098	ug/L		12/09/22 05:50	12/12/22 15:20	1
Endosulfan I (Alpha)	ND		0.098	ug/L		12/09/22 05:50	12/12/22 15:20	1
Endosulfan II (Beta)	ND		0.098	ug/L		12/09/22 05:50	12/12/22 15:20	1
Endosulfan sulfate	ND		0.098	ug/L		12/09/22 05:50	12/12/22 15:20	1
Endrin	ND		0.098	ug/L		12/09/22 05:50	12/12/22 15:20	1
Endrin aldehyde	ND		0.098	ug/L		12/09/22 05:50	12/12/22 15:20	1
EPTC	ND		0.098	ug/L		12/09/22 05:50	12/12/22 15:20	1
Fluoranthene	ND		0.098	ug/L		12/09/22 05:50	12/12/22 15:20	1
Fluorene	ND		0.049	ug/L		12/09/22 05:50	12/12/22 15:20	1
gamma-Chlordane	ND		0.049	ug/L		12/09/22 05:50	12/12/22 15:20	1
Heptachlor	ND		0.039	ug/L		12/09/22 05:50	12/12/22 15:20	1
Heptachlor epoxide (isomer B)	ND		0.049	ug/L		12/09/22 05:50	12/12/22 15:20	1
Hexachlorobenzene	ND		0.049	ug/L		12/09/22 05:50	12/12/22 15:20	1
Hexachlorocyclopentadiene	ND		0.049	ug/L		12/09/22 05:50	12/12/22 15:20	1
Indeno[1,2,3-cd]pyrene	ND		0.049	ug/L		12/09/22 05:50	12/12/22 15:20	1

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# Client Sample Results

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

Job ID: 380-30191-1

**Client Sample ID: Halawa Wells Pump 1**

**Lab Sample ID: 380-30191-4**

Date Collected: 12/05/22 09:42

Matrix: Drinking Water

Date Received: 12/06/22 09:45

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Isophorone	ND		0.49	ug/L		12/09/22 05:50	12/12/22 15:20	1
Lindane	ND		0.039	ug/L		12/09/22 05:50	12/12/22 15:20	1
Malathion	ND		0.098	ug/L		12/09/22 05:50	12/12/22 15:20	1
Methoxychlor	ND		0.098	ug/L		12/09/22 05:50	12/12/22 15:20	1
Metolachlor	ND		0.049	ug/L		12/09/22 05:50	12/12/22 15:20	1
Metribuzin	ND		0.049	ug/L		12/09/22 05:50	12/12/22 15:20	1
Molinate	ND		0.098	ug/L		12/09/22 05:50	12/12/22 15:20	1
Naphthalene	ND		0.29	ug/L		12/09/22 05:50	12/12/22 15:20	1
Parathion	ND		0.098	ug/L		12/09/22 05:50	12/12/22 15:20	1
Pendimethalin (Penoxaline)	ND		0.098	ug/L		12/09/22 05:50	12/12/22 15:20	1
Total Permethrin (mixed isomers)	ND		0.20	ug/L		12/09/22 05:50	12/12/22 15:20	1
Phenanthrene	ND		0.039	ug/L		12/09/22 05:50	12/12/22 15:20	1
Propachlor	ND		0.049	ug/L		12/09/22 05:50	12/12/22 15:20	1
Pyrene	ND		0.049	ug/L		12/09/22 05:50	12/12/22 15:20	1
Simazine	ND		0.049	ug/L		12/09/22 05:50	12/12/22 15:20	1
Terbacil	ND		0.098	ug/L		12/09/22 05:50	12/12/22 15:20	1
Terbutylazine	ND		0.098	ug/L		12/09/22 05:50	12/12/22 15:20	1
Thiobencarb	ND		0.20	ug/L		12/09/22 05:50	12/12/22 15:20	1
trans-Nonachlor	ND		0.049	ug/L		12/09/22 05:50	12/12/22 15:20	1
Trifluralin	ND		0.098	ug/L		12/09/22 05:50	12/12/22 15:20	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L				12/09/22 05:50	12/12/22 15:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Nitro-m-xylene	100		70 - 130	12/09/22 05:50	12/12/22 15:20	1
Triphenylphosphate	119		70 - 130	12/09/22 05:50	12/12/22 15:20	1
Perylene-d12	92		70 - 130	12/09/22 05:50	12/12/22 15:20	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		12/07/22 00:00	12/19/22 15:19	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		12/07/22 00:00	12/19/22 15:19	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		12/07/22 00:00	12/19/22 15:19	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		12/07/22 00:00	12/19/22 15:19	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		12/07/22 00:00	12/19/22 15:19	1
Acenaphthene	ND		0.005	0.001	µg/L		12/07/22 00:00	12/19/22 15:19	1
Acenaphthylene	ND		0.005	0.001	µg/L		12/07/22 00:00	12/19/22 15:19	1
Anthracene	ND		0.005	0.001	µg/L		12/07/22 00:00	12/19/22 15:19	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		12/07/22 00:00	12/19/22 15:19	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		12/07/22 00:00	12/19/22 15:19	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		12/07/22 00:00	12/19/22 15:19	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		12/07/22 00:00	12/19/22 15:19	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		12/07/22 00:00	12/19/22 15:19	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		12/07/22 00:00	12/19/22 15:19	1
Biphenyl	ND		0.005	0.001	µg/L		12/07/22 00:00	12/19/22 15:19	1
Chrysene	ND		0.005	0.001	µg/L		12/07/22 00:00	12/19/22 15:19	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		12/07/22 00:00	12/19/22 15:19	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		12/07/22 00:00	12/19/22 15:19	1
Dibenzothiophene	ND		0.005	0.001	µg/L		12/07/22 00:00	12/19/22 15:19	1

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# Client Sample Results

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

Job ID: 380-30191-1

## Client Sample ID: Halawa Wells Pump 1

Lab Sample ID: 380-30191-4

Date Collected: 12/05/22 09:42

Matrix: Drinking Water

Date Received: 12/06/22 09:45

### 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
Disalicylidenepranediamine	ND		0.1	0.05	µg/L		12/07/22 00:00	12/19/22 15:19	1
Fluoranthene	ND		0.005	0.001	µg/L		12/07/22 00:00	12/19/22 15:19	1
Fluorene	ND		0.005	0.001	µg/L		12/07/22 00:00	12/19/22 15:19	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		12/07/22 00:00	12/19/22 15:19	1
Naphthalene	ND		0.005	0.001	µg/L		12/07/22 00:00	12/19/22 15:19	1
Perylene	ND		0.005	0.001	µg/L		12/07/22 00:00	12/19/22 15:19	1
Phenanthrene	ND		0.005	0.001	µg/L		12/07/22 00:00	12/19/22 15:19	1
Pyrene	ND		0.005	0.001	µg/L		12/07/22 00:00	12/19/22 15:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
(d10-Acenaphthene)	76		45 - 118	12/07/22 00:00	12/19/22 15:19	1
(d10-Phenanthrene)	82		56 - 123	12/07/22 00:00	12/19/22 15:19	1
(d12-Chrysene)	79		36 - 142	12/07/22 00:00	12/19/22 15:19	1
(d12-Perylene)	76		36 - 161	12/07/22 00:00	12/19/22 15:19	1
(d8-Naphthalene)	66		20 - 112	12/07/22 00:00	12/19/22 15:19	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GASOLINE	ND	U	0.020		mg/L			12/07/22 21:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE	84		60 - 140		12/07/22 21:03	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DIESEL	ND	U	0.025		mg/L			12/14/22 18:40	1
JP5	ND	U	0.050		mg/L			12/14/22 18:40	1
JP8	ND	U	0.050		mg/L			12/14/22 18:40	1
MOTOR OIL	ND	U	0.050		mg/L			12/14/22 18:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOBENZENE	77		60 - 130		12/14/22 18:40	1
HEXACOSANE	110		60 - 130		12/14/22 18:40	1

## Client Sample ID: TB: AIEA GULCH WELLS PUMP 1

Lab Sample ID: 380-30191-5

Date Collected: 12/05/22 10:31

Matrix: Drinking Water

Date Received: 12/06/22 09:45

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GASOLINE	ND	U	0.020		mg/L			12/07/22 21:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE	80		60 - 140		12/07/22 21:39	1

## Client Sample ID: TB: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-30191-6

Date Collected: 12/05/22 10:56

Matrix: Drinking Water

Date Received: 12/06/22 09:45

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GASOLINE	ND	U	0.020		mg/L			12/07/22 22:15	1

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# Client Sample Results

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

Job ID: 380-30191-1

**Client Sample ID: TB: AIEA GULCH WELLS PUMP 2**  
 Date Collected: 12/05/22 10:56  
 Date Received: 12/06/22 09:45

**Lab Sample ID: 380-30191-6**  
 Matrix: Drinking Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE	82		60 - 140		12/07/22 22:15	1

**Client Sample ID: TB: Aiea Wells Pump 2**  
 Date Collected: 12/05/22 10:04  
 Date Received: 12/06/22 09:45

**Lab Sample ID: 380-30191-7**  
 Matrix: Drinking Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GASOLINE	ND	U	0.020		mg/L			12/07/22 22:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE	85		60 - 140		12/07/22 22:52	1

**Client Sample ID: TB: Halawa Wells Pump 1**  
 Date Collected: 12/05/22 09:42  
 Date Received: 12/06/22 09:45

**Lab Sample ID: 380-30191-8**  
 Matrix: Drinking Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GASOLINE	ND	U	0.020		mg/L			12/07/22 23:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE	82		60 - 140		12/07/22 23:29	1

# Action Limit Summary

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

Job ID: 380-30191-1

**Client Sample ID: Aiea Gulch Wells Pump 1**

**Lab Sample ID: 380-30191-1**

**PWSID Number: HI0000331**

## Compliance Check

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

Analyte	Result	Qualifier	Unit	Limit	RL	Method	Prep Type
Alachlor	ND		ug/L	2	0.049	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		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		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

**Client Sample ID: Aiea Gulch Wells Pump 2**

**Lab Sample ID: 380-30191-2**

**PWSID Number: HI0000331**

## Compliance Check

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

Analyte	Result	Qualifier	Unit	Limit	RL	Method	Prep Type
Alachlor	ND		ug/L	2	0.049	525.2	Total/NA
Atrazine	ND		ug/L	3	0.049	525.2	Total/NA
Benzo[a]pyrene	ND		ug/L	0.2	0.020	525.2	Total/NA
Di(2-ethylhexyl)adipate	ND		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		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

**Client Sample ID: Aiea Wells Pump 2**

**Lab Sample ID: 380-30191-3**

**PWSID Number: HI0000331**

## Compliance Check

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

Analyte	Result	Qualifier	Unit	Limit	RL	Method	Prep Type
Alachlor	ND		ug/L	2	0.048	525.2	Total/NA
Atrazine	ND		ug/L	3	0.048	525.2	Total/NA

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# Action Limit Summary

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

Job ID: 380-30191-1

**Client Sample ID: Aiea Wells Pump 2 (Continued)**

**Lab Sample ID: 380-30191-3**

**PWSID Number: HI0000331**

## Compliance Check

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

Analyte	Result	Qualifier	Unit	Limit	RL	Method	Prep Type
Benzo[a]pyrene	ND		ug/L	0.2	0.019	525.2	Total/NA
Di(2-ethylhexyl)adipate	ND		ug/L	400	0.58	525.2	Total/NA
Bis(2-ethylhexyl) phthalate	ND		ug/L	6	0.58	525.2	Total/NA
Endrin	ND		ug/L	2	0.096	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	0.048	525.2	Total/NA
Hexachlorobenzene	ND		ug/L	1	0.048	525.2	Total/NA
Hexachlorocyclopentadiene	ND		ug/L	50	0.048	525.2	Total/NA
Lindane	ND		ug/L	0.2	0.039	525.2	Total/NA
Methoxychlor	ND		ug/L	40	0.096	525.2	Total/NA
Simazine	ND		ug/L	4	0.048	525.2	Total/NA

**Client Sample ID: Halawa Wells Pump 1**

**Lab Sample ID: 380-30191-4**

## Compliance Check

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

Analyte	Result	Qualifier	Unit	Limit	RL	Method	Prep Type
Alachlor	ND		ug/L	2	0.049	525.2	Total/NA
Atrazine	ND		ug/L	3	0.049	525.2	Total/NA
Benzo[a]pyrene	ND		ug/L	0.2	0.020	525.2	Total/NA
Di(2-ethylhexyl)adipate	ND		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		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: 380-30191-1

## 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)
380-30191-1	Aiea Gulch Wells Pump 1	101	113	96
380-30191-2	Aiea Gulch Wells Pump 2	102	108	94
380-30191-3	Aiea Wells Pump 2	103	101	93
380-30191-4	Halawa Wells Pump 1	100	119	92

### 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)
380-30157-W-1-A DU	Duplicate	102	109	95
380-30160-W-1-A MS	Matrix Spike	102	113	96
LCS 380-26252/3-A	Lab Control Sample	100	112	94
LCS 380-26252/4-A	Lab Control Sample Dup	98	116	93
MB 380-26252/1-A	Method Blank	103	102	90
MRL 380-26252/2-A	Lab Control Sample	100	104	91

### Surrogate Legend

2NMX = 2-Nitro-m-xylene

TPP = Triphenylphosphate

PRY = Perylene-d12

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

Matrix: BlankMatrix

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)				
		Acenaphtl (27-133)	Phenanth (43-129)	CRY (52-144)	NPT (25-125)	PRY (36-161)
102197-B1	Method Blank	81	88	88	83	82
102197-BS1	Lab Control Sample	74	88	91	69	91
102197-BS2	Lab Control Sample Dup	88	87	88	79	90

### Surrogate Legend

(d10-Acenaphthene) = (d10-Acenaphthene)

(d10-Phenanthrene) = (d10-Phenanthrene)

CRY = (d12-Chrysene)

NPT = (d8-Naphthalene)

PRY = (d12-Perylene)

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

Matrix: Drinking Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)				
		Acenaphtl (45-118)	Phenanth (56-123)	CRY (36-142)	NPT (20-112)	PRY (36-161)
380-30191-1	Aiea Gulch Wells Pump 1	81	86	85	72	38

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# Surrogate Summary

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

Job ID: 380-30191-1

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

**Matrix: Drinking Water**

**Prep Type: Total/NA**

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)				
		Acenaphtl (45-118)	Phenanth (56-123)	CRY (36-142)	NPT (20-112)	PRY (36-161)
380-30191-2	Aiea Gulch Wells Pump 2	72	82	88	63	77
380-30191-3	Aiea Wells Pump 2	77	84	79	66	74
380-30191-4	Halawa Wells Pump 1	76	82	79	66	76

**Surrogate Legend**

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

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

**Matrix: Drinking Water**

**Prep Type: Total/NA**

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)
		BFB (60-140)
380-30191-1	Aiea Gulch Wells Pump 1	87
380-30191-2	Aiea Gulch Wells Pump 2	92
380-30191-3	Aiea Wells Pump 2	81
380-30191-4	Halawa Wells Pump 1	84
380-30191-5	TB: AIEA GULCH WELLS PUMF 1	80
380-30191-6	TB: AIEA GULCH WELLS PUMF 2	82
380-30191-7	TB: Aiea Wells Pump 2	85
380-30191-8	TB: Halawa Wells Pump 1	82

**Surrogate Legend**

BFB = BROMOFLUOROBENZENE

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

**Matrix: WATER**

**Prep Type: Total/NA**

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)
		BFB
22VGH7L03B	Method Blank	

**Surrogate Legend**

BFB = BROMOFLUOROBENZENE

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

**Matrix: WATER**

**Prep Type: Total/NA**

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)
		BFB (70-130)
22VGH7L03C	LCD	111
22VGH7L03L	Lab Control Sample	104

**Surrogate Legend**

BFB = BROMOFLUOROBENZENE

# Surrogate Summary

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

Job ID: 380-30191-1

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

**Matrix: Drinking Water**

**Prep Type: Total/NA**

## Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BB	XACOSAI
		(60-130)	(60-130)
380-30191-1	Aiea Gulch Wells Pump 1	87	104
380-30191-2	Aiea Gulch Wells Pump 2	76	108
380-30191-3	Aiea Wells Pump 2	69	109
380-30191-4	Halawa Wells Pump 1	77	110

### Surrogate Legend

BB = BROMOBENZENE  
HEXACOSANE = HEXACOSANE

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

**Matrix: WATER**

**Prep Type: Total/NA**

## Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BB	XACOSAI
		(60-130)	(60-130)
22DSL019WB	Method Blank		

### Surrogate Legend

BB = BROMOBENZENE  
HEXACOSANE = HEXACOSANE

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

**Matrix: WATER**

**Prep Type: Total/NA**

## Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BB	XACOSAI
		(60-130)	(60-130)
22DSL019WL	Lab Control Sample	87	107
22J5L019WL	Lab Control Sample	97	109
22J8L019WL	Lab Control Sample	102	110

### Surrogate Legend

BB = BROMOBENZENE  
HEXACOSANE = HEXACOSANE



# QC Sample Results

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

Job ID: 380-30191-1

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

**Lab Sample ID: MB 380-26252/1-A**  
**Matrix: Water**  
**Analysis Batch: 26486**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 26252**

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
2,4'-DDD	ND		0.099	ug/L		12/09/22 05:50	12/12/22 11:21	1
2,4'-DDE	ND		0.099	ug/L		12/09/22 05:50	12/12/22 11:21	1
2,4'-DDT	ND		0.099	ug/L		12/09/22 05:50	12/12/22 11:21	1
2,4-Dinitrotoluene	ND		0.099	ug/L		12/09/22 05:50	12/12/22 11:21	1
2,6-Dinitrotoluene	ND		0.099	ug/L		12/09/22 05:50	12/12/22 11:21	1
4,4'-DDD	ND		0.099	ug/L		12/09/22 05:50	12/12/22 11:21	1
4,4'-DDE	ND		0.099	ug/L		12/09/22 05:50	12/12/22 11:21	1
4,4'-DDT	ND		0.099	ug/L		12/09/22 05:50	12/12/22 11:21	1
Acenaphthene	ND		0.099	ug/L		12/09/22 05:50	12/12/22 11:21	1
Acenaphthylene	ND		0.099	ug/L		12/09/22 05:50	12/12/22 11:21	1
Acetochlor	ND		0.099	ug/L		12/09/22 05:50	12/12/22 11:21	1
Alachlor	ND		0.050	ug/L		12/09/22 05:50	12/12/22 11:21	1
alpha-BHC	ND		0.099	ug/L		12/09/22 05:50	12/12/22 11:21	1
alpha-Chlordane	ND		0.050	ug/L		12/09/22 05:50	12/12/22 11:21	1
Anthracene	ND		0.020	ug/L		12/09/22 05:50	12/12/22 11:21	1
Atrazine	ND		0.050	ug/L		12/09/22 05:50	12/12/22 11:21	1
Benz(a)anthracene	ND		0.050	ug/L		12/09/22 05:50	12/12/22 11:21	1
Benzo[a]pyrene	ND		0.020	ug/L		12/09/22 05:50	12/12/22 11:21	1
Benzo[b]fluoranthene	ND		0.020	ug/L		12/09/22 05:50	12/12/22 11:21	1
Benzo[g,h,i]perylene	ND		0.050	ug/L		12/09/22 05:50	12/12/22 11:21	1
Benzo[k]fluoranthene	ND		0.020	ug/L		12/09/22 05:50	12/12/22 11:21	1
beta-BHC	ND		0.099	ug/L		12/09/22 05:50	12/12/22 11:21	1
Bromacil	ND		0.099	ug/L		12/09/22 05:50	12/12/22 11:21	1
Butachlor	ND		0.050	ug/L		12/09/22 05:50	12/12/22 11:21	1
Butylbenzylphthalate	ND		0.50	ug/L		12/09/22 05:50	12/12/22 11:21	1
Caffeine	ND		0.050	ug/L		12/09/22 05:50	12/12/22 11:21	1
Chlorobenzilate	ND		0.099	ug/L		12/09/22 05:50	12/12/22 11:21	1
Chloroneb	ND		0.099	ug/L		12/09/22 05:50	12/12/22 11:21	1
Chlorothalonil (Draconil, Bravo)	ND		0.099	ug/L		12/09/22 05:50	12/12/22 11:21	1
Chlorpyrifos	ND		0.050	ug/L		12/09/22 05:50	12/12/22 11:21	1
Chrysene	ND		0.020	ug/L		12/09/22 05:50	12/12/22 11:21	1
delta-BHC	ND		0.099	ug/L		12/09/22 05:50	12/12/22 11:21	1
Di(2-ethylhexyl)adipate	ND		0.60	ug/L		12/09/22 05:50	12/12/22 11:21	1
Bis(2-ethylhexyl) phthalate	ND		0.60	ug/L		12/09/22 05:50	12/12/22 11:21	1
Diazinon (Qualitative)	ND		0.099	ug/L		12/09/22 05:50	12/12/22 11:21	1
Dibenz(a,h)anthracene	ND		0.050	ug/L		12/09/22 05:50	12/12/22 11:21	1
Diclorvos (DDVP)	ND		0.050	ug/L		12/09/22 05:50	12/12/22 11:21	1
Dieldrin	ND		0.20	ug/L		12/09/22 05:50	12/12/22 11:21	1
Diethylphthalate	ND		0.50	ug/L		12/09/22 05:50	12/12/22 11:21	1
Dimethoate	ND		0.099	ug/L		12/09/22 05:50	12/12/22 11:21	1
Dimethylphthalate	ND		0.50	ug/L		12/09/22 05:50	12/12/22 11:21	1
Di-n-butyl phthalate	ND		0.99	ug/L		12/09/22 05:50	12/12/22 11:21	1
Di-n-octyl phthalate	ND		0.099	ug/L		12/09/22 05:50	12/12/22 11:21	1
Endosulfan I (Alpha)	ND		0.099	ug/L		12/09/22 05:50	12/12/22 11:21	1
Endosulfan II (Beta)	ND		0.099	ug/L		12/09/22 05:50	12/12/22 11:21	1
Endosulfan sulfate	ND		0.099	ug/L		12/09/22 05:50	12/12/22 11:21	1
Endrin	ND		0.099	ug/L		12/09/22 05:50	12/12/22 11:21	1
Endrin aldehyde	ND		0.099	ug/L		12/09/22 05:50	12/12/22 11:21	1

Eurofins Eaton Monrovia

# QC Sample Results

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

Job ID: 380-30191-1

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

**Lab Sample ID: MB 380-26252/1-A**  
**Matrix: Water**  
**Analysis Batch: 26486**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 26252**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
EPTC	ND		0.099	ug/L		12/09/22 05:50	12/12/22 11:21	1
Fluoranthene	ND		0.099	ug/L		12/09/22 05:50	12/12/22 11:21	1
Fluorene	ND		0.050	ug/L		12/09/22 05:50	12/12/22 11:21	1
gamma-Chlordane	ND		0.050	ug/L		12/09/22 05:50	12/12/22 11:21	1
Heptachlor	ND		0.040	ug/L		12/09/22 05:50	12/12/22 11:21	1
Heptachlor epoxide (isomer B)	ND		0.050	ug/L		12/09/22 05:50	12/12/22 11:21	1
Hexachlorobenzene	ND		0.050	ug/L		12/09/22 05:50	12/12/22 11:21	1
Hexachlorocyclopentadiene	ND		0.050	ug/L		12/09/22 05:50	12/12/22 11:21	1
Indeno[1,2,3-cd]pyrene	ND		0.050	ug/L		12/09/22 05:50	12/12/22 11:21	1
Isophorone	ND		0.50	ug/L		12/09/22 05:50	12/12/22 11:21	1
Lindane	ND		0.040	ug/L		12/09/22 05:50	12/12/22 11:21	1
Malathion	ND		0.099	ug/L		12/09/22 05:50	12/12/22 11:21	1
Methoxychlor	ND		0.099	ug/L		12/09/22 05:50	12/12/22 11:21	1
Metolachlor	ND		0.050	ug/L		12/09/22 05:50	12/12/22 11:21	1
Metribuzin	ND		0.050	ug/L		12/09/22 05:50	12/12/22 11:21	1
Molinate	ND		0.099	ug/L		12/09/22 05:50	12/12/22 11:21	1
Naphthalene	ND		0.30	ug/L		12/09/22 05:50	12/12/22 11:21	1
Parathion	ND		0.099	ug/L		12/09/22 05:50	12/12/22 11:21	1
Pendimethalin (Penoxaline)	ND		0.099	ug/L		12/09/22 05:50	12/12/22 11:21	1
Total Permethrin (mixed isomers)	ND		0.20	ug/L		12/09/22 05:50	12/12/22 11:21	1
Phenanthrene	ND		0.040	ug/L		12/09/22 05:50	12/12/22 11:21	1
Propachlor	ND		0.050	ug/L		12/09/22 05:50	12/12/22 11:21	1
Pyrene	ND		0.050	ug/L		12/09/22 05:50	12/12/22 11:21	1
Simazine	ND		0.050	ug/L		12/09/22 05:50	12/12/22 11:21	1
Terbacil	ND		0.099	ug/L		12/09/22 05:50	12/12/22 11:21	1
Terbutylazine	ND		0.099	ug/L		12/09/22 05:50	12/12/22 11:21	1
Thiobencarb	ND		0.20	ug/L		12/09/22 05:50	12/12/22 11:21	1
trans-Nonachlor	ND		0.050	ug/L		12/09/22 05:50	12/12/22 11:21	1
Trifluralin	ND		0.099	ug/L		12/09/22 05:50	12/12/22 11:21	1

<i>Tentatively Identified Compound</i>	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	1.93	T J	ug/L		2.34		12/09/22 05:50	12/12/22 11:21	1
Unknown	0.662	T J	ug/L		2.61		12/09/22 05:50	12/12/22 11:21	1

<i>Surrogate</i>	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Nitro-m-xylene	103		70 - 130	12/09/22 05:50	12/12/22 11:21	1
Triphenylphosphate	102		70 - 130	12/09/22 05:50	12/12/22 11:21	1
Perylene-d12	90		70 - 130	12/09/22 05:50	12/12/22 11:21	1

**Lab Sample ID: LCS 380-26252/3-A**  
**Matrix: Water**  
**Analysis Batch: 26486**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 26252**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
2,4'-DDD	1.98	1.97		ug/L		100	70 - 130
2,4'-DDE	1.98	2.04		ug/L		103	70 - 130
2,4'-DDT	1.98	2.05		ug/L		103	70 - 130
2,4-Dinitrotoluene	1.98	1.99		ug/L		100	70 - 130

Eurofins Eaton Monrovia

# QC Sample Results

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

Job ID: 380-30191-1

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

**Lab Sample ID: LCS 380-26252/3-A**  
**Matrix: Water**  
**Analysis Batch: 26486**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 26252**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2,6-Dinitrotoluene	1.98	1.94		ug/L		98	70 - 130
4,4'-DDD	1.98	2.15		ug/L		108	70 - 130
4,4'-DDE	1.98	2.11		ug/L		106	70 - 130
4,4'-DDT	1.98	2.05		ug/L		103	70 - 130
Acenaphthene	1.98	1.99		ug/L		100	70 - 130
Acenaphthylene	1.98	1.96		ug/L		99	70 - 130
Acetochlor	1.98	2.06		ug/L		104	70 - 130
Alachlor	1.98	1.94		ug/L		98	70 - 130
alpha-BHC	1.98	2.05		ug/L		103	70 - 130
alpha-Chlordane	1.98	2.02		ug/L		102	70 - 130
Anthracene	1.98	1.88		ug/L		95	70 - 130
Atrazine	1.98	2.11		ug/L		106	70 - 130
Benz(a)anthracene	1.98	2.12		ug/L		107	70 - 130
Benzo[a]pyrene	1.98	2.10		ug/L		106	70 - 130
Benzo[b]fluoranthene	1.98	2.08		ug/L		105	70 - 130
Benzo[g,h,i]perylene	1.98	2.10		ug/L		106	70 - 130
Benzo[k]fluoranthene	1.98	2.18		ug/L		110	70 - 130
beta-BHC	1.98	2.10		ug/L		106	70 - 130
Bromacil	1.98	2.31		ug/L		117	70 - 130
Butachlor	1.98	2.06		ug/L		104	70 - 130
Butylbenzylphthalate	1.98	2.16		ug/L		109	70 - 130
Caffeine	1.98	1.68		ug/L		85	45 - 137
Chlorobenzilate	1.98	2.13		ug/L		108	70 - 130
Chloroneb	1.98	1.89		ug/L		95	70 - 130
Chlorothalonil (Draconil, Bravo)	1.98	1.99		ug/L		100	70 - 130
Chlorpyrifos	1.98	2.03		ug/L		102	70 - 130
Chrysene	1.98	1.93		ug/L		97	70 - 130
delta-BHC	1.98	1.97		ug/L		99	70 - 130
Di(2-ethylhexyl)adipate	1.98	2.22		ug/L		112	70 - 130
Bis(2-ethylhexyl) phthalate	1.98	1.97		ug/L		100	70 - 130
Diazinon (Qualitative)	1.98	1.95		ug/L		98	15 - 132
Dibenz(a,h)anthracene	1.98	2.11		ug/L		107	70 - 130
Diclorvos (DDVP)	1.98	2.44		ug/L		123	70 - 130
Dieldrin	1.98	2.06		ug/L		104	70 - 130
Diethylphthalate	1.98	2.13		ug/L		107	70 - 130
Dimethoate	1.98	1.27		ug/L		64	35 - 100
Dimethylphthalate	1.98	2.04		ug/L		103	70 - 130
Di-n-butyl phthalate	3.96	4.42		ug/L		111	70 - 130
Di-n-octyl phthalate	1.98	1.99		ug/L		100	70 - 130
Endosulfan I (Alpha)	1.98	1.88		ug/L		95	70 - 130
Endosulfan II (Beta)	1.98	2.22		ug/L		112	70 - 130
Endosulfan sulfate	1.98	2.28		ug/L		115	70 - 130
Endrin	1.98	2.15		ug/L		108	70 - 130
Endrin aldehyde	1.98	2.06		ug/L		104	70 - 130
EPTC	1.98	2.09		ug/L		105	70 - 130
Fluoranthene	1.98	2.09		ug/L		105	70 - 130
Fluorene	1.98	2.00		ug/L		101	70 - 130
gamma-Chlordane	1.98	2.08		ug/L		105	70 - 130
Heptachlor	1.98	1.67		ug/L		84	70 - 130

Eurofins Eaton Monrovia

# QC Sample Results

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

Job ID: 380-30191-1

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

**Lab Sample ID: LCS 380-26252/3-A**  
**Matrix: Water**  
**Analysis Batch: 26486**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 26252**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Heptachlor epoxide (isomer B)	1.98	2.12		ug/L		107	70 - 130
Hexachlorobenzene	1.98	2.03		ug/L		103	70 - 130
Hexachlorocyclopentadiene	1.98	1.71		ug/L		86	70 - 130
Indeno[1,2,3-cd]pyrene	1.98	2.14		ug/L		108	70 - 130
Isophorone	1.98	2.15		ug/L		109	70 - 130
Lindane	1.98	2.00		ug/L		101	70 - 130
Malathion	1.98	2.15		ug/L		109	70 - 130
Methoxychlor	1.98	2.05		ug/L		104	70 - 130
Metolachlor	1.98	2.13		ug/L		107	70 - 130
Metribuzin	1.98	2.22		ug/L		112	70 - 130
Molinate	1.98	2.10		ug/L		106	70 - 130
Naphthalene	1.98	2.01		ug/L		101	70 - 130
Parathion	1.98	2.15		ug/L		108	70 - 130
Pendimethalin (Penoxaline)	1.98	2.13		ug/L		108	70 - 130
Phenanthrene	1.98	1.88		ug/L		95	70 - 130
Propachlor	1.98	2.13		ug/L		108	70 - 130
Pyrene	1.98	2.08		ug/L		105	70 - 130
Simazine	1.98	2.15		ug/L		108	70 - 130
Terbacil	1.98	2.09		ug/L		105	70 - 130
Terbutylazine	1.98	2.21		ug/L		112	70 - 130
Thiobencarb	1.98	2.04		ug/L		103	70 - 130
trans-Nonachlor	1.98	2.12		ug/L		107	70 - 130
Trifluralin	1.98	2.12		ug/L		107	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Nitro-m-xylene	100		70 - 130
Triphenylphosphate	112		70 - 130
Perylene-d12	94		70 - 130

**Lab Sample ID: LCSD 380-26252/4-A**  
**Matrix: Water**  
**Analysis Batch: 26486**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 26252**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
2,4'-DDD	1.98	2.07		ug/L		105	70 - 130	5	20
2,4'-DDE	1.98	2.11		ug/L		107	70 - 130	3	20
2,4'-DDT	1.98	2.17		ug/L		110	70 - 130	6	20
2,4-Dinitrotoluene	1.98	2.09		ug/L		106	70 - 130	5	20
2,6-Dinitrotoluene	1.98	2.04		ug/L		103	70 - 130	5	20
4,4'-DDD	1.98	2.24		ug/L		113	70 - 130	4	20
4,4'-DDE	1.98	2.17		ug/L		110	70 - 130	3	20
4,4'-DDT	1.98	2.21		ug/L		111	70 - 130	7	20
Acenaphthene	1.98	2.02		ug/L		102	70 - 130	2	20
Acenaphthylene	1.98	2.04		ug/L		103	70 - 130	4	20
Acetochlor	1.98	2.20		ug/L		111	70 - 130	6	20
Alachlor	1.98	2.14		ug/L		108	70 - 130	10	20
alpha-BHC	1.98	2.10		ug/L		106	70 - 130	2	20
alpha-Chlordane	1.98	2.06		ug/L		104	70 - 130	2	20

Eurofins Eaton Monrovia

# QC Sample Results

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

Job ID: 380-30191-1

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

**Lab Sample ID: LCSD 380-26252/4-A**  
**Matrix: Water**  
**Analysis Batch: 26486**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 26252**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	RPD Limit
							Limits	RPD		
Anthracene	1.98	1.94		ug/L		98	70 - 130	3	20	
Atrazine	1.98	2.30		ug/L		116	70 - 130	9	20	
Benz(a)anthracene	1.98	2.26		ug/L		114	70 - 130	7	20	
Benzo[a]pyrene	1.98	2.22		ug/L		112	70 - 130	6	20	
Benzo[b]fluoranthene	1.98	2.17		ug/L		110	70 - 130	4	20	
Benzo[g,h,i]perylene	1.98	2.05		ug/L		104	70 - 130	2	20	
Benzo[k]fluoranthene	1.98	2.22		ug/L		112	70 - 130	2	20	
beta-BHC	1.98	2.19		ug/L		111	70 - 130	4	20	
Bromacil	1.98	2.42		ug/L		122	70 - 130	5	20	
Butachlor	1.98	2.18		ug/L		110	70 - 130	6	20	
Butylbenzylphthalate	1.98	2.28		ug/L		115	70 - 130	5	20	
Caffeine	1.98	1.66		ug/L		84	45 - 137	1	20	
Chlorobenzilate	1.98	2.20		ug/L		111	70 - 130	3	20	
Chloroneb	1.98	2.04		ug/L		103	70 - 130	7	20	
Chlorothalonil (Draconil, Bravo)	1.98	2.07		ug/L		105	70 - 130	4	20	
Chlorpyrifos	1.98	2.20		ug/L		111	70 - 130	8	20	
Chrysene	1.98	2.06		ug/L		104	70 - 130	6	20	
delta-BHC	1.98	2.01		ug/L		101	70 - 130	2	20	
Di(2-ethylhexyl)adipate	1.98	2.23		ug/L		112	70 - 130	0	20	
Bis(2-ethylhexyl) phthalate	1.98	1.93		ug/L		97	70 - 130	2	20	
Diazinon (Qualitative)	1.98	2.05		ug/L		103	15 - 132	5	20	
Dibenz(a,h)anthracene	1.98	2.06		ug/L		104	70 - 130	3	20	
Diclorvos (DDVP)	1.98	2.38		ug/L		120	70 - 130	2	20	
Dieldrin	1.98	2.31		ug/L		117	70 - 130	12	20	
Diethylphthalate	1.98	2.27		ug/L		114	70 - 130	6	20	
Dimethoate	1.98	1.44		ug/L		73	35 - 100	13	20	
Dimethylphthalate	1.98	2.13		ug/L		107	70 - 130	4	20	
Di-n-butyl phthalate	3.96	4.27		ug/L		108	70 - 130	4	20	
Di-n-octyl phthalate	1.98	1.92		ug/L		97	70 - 130	3	20	
Endosulfan I (Alpha)	1.98	1.97		ug/L		99	70 - 130	5	20	
Endosulfan II (Beta)	1.98	2.16		ug/L		109	70 - 130	2	20	
Endosulfan sulfate	1.98	2.25		ug/L		114	70 - 130	2	20	
Endrin	1.98	2.22		ug/L		112	70 - 130	4	20	
Endrin aldehyde	1.98	1.92		ug/L		97	70 - 130	7	20	
EPTC	1.98	2.07		ug/L		104	70 - 130	1	20	
Fluoranthene	1.98	2.19		ug/L		111	70 - 130	5	20	
Fluorene	1.98	2.05		ug/L		104	70 - 130	3	20	
gamma-Chlordane	1.98	2.20		ug/L		111	70 - 130	5	20	
Heptachlor	1.98	1.73		ug/L		87	70 - 130	4	20	
Heptachlor epoxide (isomer B)	1.98	2.24		ug/L		113	70 - 130	6	20	
Hexachlorobenzene	1.98	2.17		ug/L		109	70 - 130	6	20	
Hexachlorocyclopentadiene	1.98	1.91		ug/L		96	70 - 130	11	20	
Indeno[1,2,3-cd]pyrene	1.98	2.14		ug/L		108	70 - 130	0	20	
Isophorone	1.98	2.15		ug/L		109	70 - 130	0	20	
Lindane	1.98	2.08		ug/L		105	70 - 130	4	20	
Malathion	1.98	2.22		ug/L		112	70 - 130	3	20	
Methoxychlor	1.98	2.21		ug/L		112	70 - 130	7	20	
Metolachlor	1.98	2.22		ug/L		112	70 - 130	4	20	
Metribuzin	1.98	2.09		ug/L		105	70 - 130	6	20	

Eurofins Eaton Monrovia

# QC Sample Results

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

Job ID: 380-30191-1

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

**Lab Sample ID: LCSD 380-26252/4-A**  
**Matrix: Water**  
**Analysis Batch: 26486**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 26252**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Molinate	1.98	2.03		ug/L		102	70 - 130	4	20
Naphthalene	1.98	2.02		ug/L		102	70 - 130	1	20
Parathion	1.98	2.28		ug/L		115	70 - 130	6	20
Pendimethalin (Penoxaline)	1.98	2.33		ug/L		117	70 - 130	9	20
Phenanthrene	1.98	1.92		ug/L		97	70 - 130	2	20
Propachlor	1.98	2.26		ug/L		114	70 - 130	6	20
Pyrene	1.98	2.22		ug/L		112	70 - 130	6	20
Simazine	1.98	2.38		ug/L		120	70 - 130	10	20
Terbacil	1.98	2.33		ug/L		117	70 - 130	11	20
Terbutylazine	1.98	2.46		ug/L		124	70 - 130	11	20
Thiobencarb	1.98	2.16		ug/L		109	70 - 130	6	20
trans-Nonachlor	1.98	2.16		ug/L		109	70 - 130	2	20
Trifluralin	1.98	2.22		ug/L		112	70 - 130	5	20

Surrogate	LCSD %Recovery	LCSD Qualifier	LCSD Limits
2-Nitro-m-xylene	98		70 - 130
Triphenylphosphate	116		70 - 130
Perylene-d12	93		70 - 130

**Lab Sample ID: MRL 380-26252/2-A**  
**Matrix: Water**  
**Analysis Batch: 26486**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 26252**

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
2,4'-DDD	0.0994	0.137		ug/L		138	50 - 150
2,4'-DDE	0.0994	0.0973	J	ug/L		98	50 - 150
2,4'-DDT	0.0994	0.0946	J	ug/L		95	50 - 150
2,4-Dinitrotoluene	0.0994	0.0951	J	ug/L		96	50 - 150
2,6-Dinitrotoluene	0.0994	0.0966	J	ug/L		97	50 - 150
4,4'-DDD	0.0994	0.114		ug/L		114	50 - 150
4,4'-DDE	0.0994	0.0962	J	ug/L		97	50 - 150
4,4'-DDT	0.0994	0.0909	J	ug/L		91	50 - 150
Acenaphthene	0.0994	0.0991		ug/L		100	50 - 150
Acenaphthylene	0.0994	0.0910	J	ug/L		92	50 - 150
Acetochlor	0.0497	0.0517	J	ug/L		104	50 - 150
Alachlor	0.0497	0.0622		ug/L		125	50 - 150
alpha-BHC	0.0994	0.108		ug/L		108	50 - 150
alpha-Chlordane	0.0249	0.0300	J	ug/L		121	50 - 150
Anthracene	0.0199	ND		ug/L		93	50 - 150
Atrazine	0.0497	ND		ug/L		79	50 - 150
Benz(a)anthracene	0.0497	0.0397	J	ug/L		80	50 - 150
Benzo[a]pyrene	0.0199	0.0154	J	ug/L		78	50 - 150
Benzo[b]fluoranthene	0.0199	0.0214		ug/L		108	50 - 150
Benzo[g,h,i]perylene	0.0497	0.0486	J	ug/L		98	50 - 150
Benzo[k]fluoranthene	0.0199	0.0178	J	ug/L		89	50 - 150
beta-BHC	0.0994	0.0918	J	ug/L		92	50 - 150
Bromacil	0.0994	0.114		ug/L		115	50 - 150
Butachlor	0.0497	0.0522		ug/L		105	50 - 150

Eurofins Eaton Monrovia

# QC Sample Results

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

Job ID: 380-30191-1

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

**Lab Sample ID: MRL 380-26252/2-A**  
**Matrix: Water**  
**Analysis Batch: 26486**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 26252**

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Butylbenzylphthalate	0.149	0.155	J	ug/L		104	50 - 150
Caffeine	0.0497	0.0356	J	ug/L		72	50 - 150
Chlorobenzilate	0.0994	0.0978	J	ug/L		98	50 - 150
Chloroneb	0.0994	0.117		ug/L		118	50 - 150
Chlorothalonil (Draconil, Bravo)	0.0994	0.185	^3+	ug/L		186	50 - 150
Chlorpyrifos	0.0497	0.0510		ug/L		103	50 - 150
Chrysene	0.0199	0.0223		ug/L		112	50 - 150
delta-BHC	0.0994	0.120		ug/L		120	50 - 150
Di(2-ethylhexyl)adipate	0.298	0.352	J	ug/L		118	50 - 150
Bis(2-ethylhexyl) phthalate	0.596	0.626		ug/L		105	50 - 150
Diazinon (Qualitative)	0.0994	0.0966	J	ug/L		97	15 - 132
Dibenz(a,h)anthracene	0.0497	0.0412	J	ug/L		83	50 - 150
Diclorvos (DDVP)	0.0497	0.0596		ug/L		120	50 - 150
Dieldrin	0.0994	0.121	J	ug/L		122	50 - 150
Diethylphthalate	0.149	0.166	J	ug/L		111	50 - 150
Dimethoate	0.0994	0.0407	J	ug/L		41	35 - 100
Dimethylphthalate	0.298	0.279	J	ug/L		93	50 - 150
Di-n-butyl phthalate	0.298	0.319	J	ug/L		107	49 - 243
Di-n-octyl phthalate	0.0994	0.0914	J	ug/L		92	50 - 150
Endosulfan I (Alpha)	0.0994	0.114		ug/L		115	50 - 150
Endosulfan II (Beta)	0.0994	0.141		ug/L		142	50 - 150
Endosulfan sulfate	0.0994	0.0819	J	ug/L		82	50 - 150
Endrin	0.0994	0.128		ug/L		129	50 - 150
Endrin aldehyde	0.0994	0.0867	J	ug/L		87	50 - 150
EPTC	0.0994	0.112		ug/L		113	50 - 150
Fluoranthene	0.0497	0.0502	J	ug/L		101	50 - 150
Fluorene	0.0497	ND		ug/L		98	50 - 150
gamma-Chlordane	0.0249	0.0272	J	ug/L		109	50 - 150
Heptachlor	0.0398	0.0470		ug/L		118	50 - 150
Heptachlor epoxide (isomer B)	0.0497	0.0509		ug/L		102	50 - 150
Hexachlorobenzene	0.0497	0.0513		ug/L		103	50 - 150
Hexachlorocyclopentadiene	0.0497	ND		ug/L		74	50 - 150
Indeno[1,2,3-cd]pyrene	0.0497	0.0497	J	ug/L		100	50 - 150
Isophorone	0.0994	0.109	J	ug/L		110	50 - 150
Lindane	0.0398	0.0470		ug/L		118	50 - 150
Malathion	0.0994	0.0954	J	ug/L		96	50 - 150
Methoxychlor	0.0994	0.0915	J	ug/L		92	50 - 150
Metolachlor	0.0497	0.0524		ug/L		106	50 - 150
Metribuzin	0.0497	0.0519		ug/L		104	50 - 150
Molinate	0.0994	0.102		ug/L		102	50 - 150
Naphthalene	0.0994	0.106	J	ug/L		107	50 - 150
Parathion	0.0994	0.118		ug/L		119	50 - 150
Pendimethalin (Penoxaline)	0.0994	0.0851	J	ug/L		86	50 - 150
Phenanthrene	0.0199	0.0214	J	ug/L		108	50 - 150
Propachlor	0.0497	0.0541		ug/L		109	50 - 150
Pyrene	0.0497	0.0483	J	ug/L		97	50 - 150
Simazine	0.0497	0.0527		ug/L		106	50 - 150
Terbacil	0.0994	0.101		ug/L		101	50 - 150
Terbutylazine	0.0994	0.0945	J	ug/L		95	50 - 150

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# QC Sample Results

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

Job ID: 380-30191-1

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

**Lab Sample ID: MRL 380-26252/2-A**  
**Matrix: Water**  
**Analysis Batch: 26486**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 26252**

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Thiobencarb	0.0994	0.0955	J	ug/L		96	50 - 150
trans-Nonachlor	0.0249	ND		ug/L		102	50 - 150
Trifluralin	0.0994	0.0813	J	ug/L		82	50 - 150

Surrogate	MRL %Recovery	MRL Qualifier	Limits
2-Nitro-m-xylene	100		70 - 130
Triphenylphosphate	104		70 - 130
Perylene-d12	91		70 - 130

**Lab Sample ID: 380-30160-W-1-A MS**  
**Matrix: Water**  
**Analysis Batch: 26486**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 26252**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
2,4'-DDD	ND		2.00	2.05		ug/L		103	70 - 130
2,4'-DDE	ND		2.00	2.12		ug/L		106	70 - 130
2,4'-DDT	ND		2.00	2.11		ug/L		106	70 - 130
2,4-Dinitrotoluene	ND		2.00	2.02		ug/L		101	70 - 130
2,6-Dinitrotoluene	ND		2.00	2.06		ug/L		103	70 - 130
4,4'-DDD	ND		2.00	2.21		ug/L		111	70 - 130
4,4'-DDE	ND		2.00	2.23		ug/L		112	70 - 130
4,4'-DDT	ND		2.00	2.09		ug/L		105	70 - 130
Acenaphthene	ND		2.00	2.04		ug/L		102	70 - 130
Acenaphthylene	ND		2.00	2.04		ug/L		102	70 - 130
Acetochlor	ND		2.00	2.15		ug/L		108	70 - 130
Alachlor	ND		2.00	2.12		ug/L		106	70 - 130
alpha-BHC	ND		2.00	2.07		ug/L		103	70 - 130
alpha-Chlordane	ND		2.00	2.08		ug/L		104	70 - 130
Anthracene	ND	F1	2.00	1.16	F1	ug/L		58	70 - 130
Atrazine	ND		2.00	2.27		ug/L		114	70 - 130
Benz(a)anthracene	ND		2.00	2.01		ug/L		101	70 - 130
Benzo[a]pyrene	ND		2.00	1.85		ug/L		93	70 - 130
Benzo[b]fluoranthene	ND		2.00	2.15		ug/L		108	70 - 130
Benzo[g,h,i]perylene	ND		2.00	2.19		ug/L		110	70 - 130
Benzo[k]fluoranthene	ND		2.00	2.24		ug/L		112	70 - 130
beta-BHC	ND		2.00	2.11		ug/L		106	70 - 130
Bromacil	ND		2.00	2.35		ug/L		118	70 - 130
Butachlor	ND		2.00	2.18		ug/L		109	70 - 130
Butylbenzylphthalate	ND		2.00	2.27		ug/L		114	70 - 130
Caffeine	ND		2.00	2.10		ug/L		105	46 - 144
Chlorobenzilate	ND		2.00	2.10		ug/L		105	70 - 130
Chloroneb	ND		2.00	2.04		ug/L		102	70 - 130
Chlorothalonil (Draconil, Bravo)	ND	^3+	2.00	1.98		ug/L		99	70 - 130
Chlorpyrifos	ND		2.00	2.21		ug/L		111	70 - 130
Chrysene	ND		2.00	2.02		ug/L		101	70 - 130
delta-BHC	ND		2.00	2.00		ug/L		100	70 - 130
Di(2-ethylhexyl)adipate	ND		2.00	2.26		ug/L		108	70 - 130
Bis(2-ethylhexyl) phthalate	ND		2.00	2.00		ug/L		100	70 - 130



# QC Sample Results

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

Job ID: 380-30191-1

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

**Lab Sample ID: 380-30160-W-1-A MS**  
**Matrix: Water**  
**Analysis Batch: 26486**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 26252**

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec Limits
	Result	Qualifier	Added	Result	Qualifier				
Diazinon (Qualitative)	ND		2.00	2.10		ug/L		105	15 - 132
Dibenz(a,h)anthracene	ND		2.00	2.20		ug/L		110	70 - 130
Diclorvos (DDVP)	ND		2.00	2.46		ug/L		123	70 - 130
Dieldrin	ND		2.00	2.19		ug/L		110	70 - 130
Diethylphthalate	ND		2.00	2.18		ug/L		109	70 - 130
Dimethoate	ND		2.00	1.76		ug/L		88	34 - 111
Dimethylphthalate	ND		2.00	2.12		ug/L		106	70 - 130
Di-n-butyl phthalate	ND		3.99	4.18		ug/L		105	70 - 130
Di-n-octyl phthalate	ND		2.00	1.93		ug/L		97	70 - 130
Endosulfan I (Alpha)	ND		2.00	2.04		ug/L		102	70 - 130
Endosulfan II (Beta)	ND		2.00	2.15		ug/L		108	70 - 130
Endosulfan sulfate	ND		2.00	2.26		ug/L		113	70 - 130
Endrin	ND		2.00	2.16		ug/L		108	70 - 130
Endrin aldehyde	ND		2.00	1.99		ug/L		99	70 - 130
EPTC	ND		2.00	2.26		ug/L		113	70 - 130
Fluoranthene	ND		2.00	2.17		ug/L		109	70 - 130
Fluorene	ND		2.00	2.08		ug/L		104	70 - 130
gamma-Chlordane	ND		2.00	2.18		ug/L		109	70 - 130
Heptachlor	ND		2.00	1.79		ug/L		90	70 - 130
Heptachlor epoxide (isomer B)	ND		2.00	2.18		ug/L		109	70 - 130
Hexachlorobenzene	ND		2.00	2.14		ug/L		107	70 - 130
Hexachlorocyclopentadiene	ND		2.00	1.81		ug/L		91	70 - 130
Indeno[1,2,3-cd]pyrene	ND		2.00	2.26		ug/L		113	70 - 130
Isophorone	ND		2.00	2.18		ug/L		109	70 - 130
Lindane	ND		2.00	2.05		ug/L		102	70 - 130
Malathion	ND		2.00	2.33		ug/L		117	70 - 130
Methoxychlor	ND		2.00	2.16		ug/L		108	70 - 130
Metolachlor	ND		2.00	2.17		ug/L		109	70 - 130
Metribuzin	ND		2.00	2.44		ug/L		122	70 - 130
Molinate	ND		2.00	2.26		ug/L		113	70 - 130
Naphthalene	ND		2.00	2.04		ug/L		102	70 - 130
Parathion	ND		2.00	2.32		ug/L		116	70 - 130
Pendimethalin (Penoxaline)	ND		2.00	2.29		ug/L		115	70 - 130
Phenanthrene	ND		2.00	2.03		ug/L		102	70 - 130
Propachlor	ND		2.00	2.18		ug/L		109	70 - 130
Pyrene	ND		2.00	2.16		ug/L		108	70 - 130
Simazine	0.11		2.00	2.38		ug/L		114	70 - 130
Terbacil	ND		2.00	2.24		ug/L		112	70 - 130
Terbutylazine	ND		2.00	2.26		ug/L		113	70 - 130
Thiobencarb	ND		2.00	2.18		ug/L		109	70 - 130
trans-Nonachlor	ND		2.00	2.23		ug/L		112	70 - 130
Trifluralin	ND		2.00	2.18		ug/L		109	70 - 130

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
2-Nitro-m-xylene	102		70 - 130
Triphenylphosphate	113		70 - 130
Perylene-d12	96		70 - 130

# QC Sample Results

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

Job ID: 380-30191-1

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

**Lab Sample ID: 380-30157-W-1-A DU**  
**Matrix: Water**  
**Analysis Batch: 26486**

**Client Sample ID: Duplicate**  
**Prep Type: Total/NA**  
**Prep Batch: 26252**

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

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# QC Sample Results

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

Job ID: 380-30191-1

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

**Lab Sample ID: 380-30157-W-1-A DU**  
**Matrix: Water**  
**Analysis Batch: 26486**

**Client Sample ID: Duplicate**  
**Prep Type: Total/NA**  
**Prep Batch: 26252**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
EPTC	ND		ND		ug/L		NC	20
Fluoranthene	ND		ND		ug/L		NC	20
Fluorene	ND		ND		ug/L		NC	20
gamma-Chlordane	ND		ND		ug/L		NC	20
Heptachlor	ND		ND		ug/L		NC	20
Heptachlor epoxide (isomer B)	ND		ND		ug/L		NC	20
Hexachlorobenzene	ND		ND		ug/L		NC	20
Hexachlorocyclopentadiene	ND		ND		ug/L		NC	20
Indeno[1,2,3-cd]pyrene	ND		ND		ug/L		NC	20
Isophorone	ND		ND		ug/L		NC	20
Lindane	ND		ND		ug/L		NC	20
Malathion	ND		ND		ug/L		NC	20
Methoxychlor	ND		ND		ug/L		NC	20
Metolachlor	ND		ND		ug/L		NC	20
Metribuzin	ND		ND		ug/L		NC	20
Molinate	ND		ND		ug/L		NC	20
Naphthalene	ND		ND		ug/L		NC	20
Parathion	ND		ND		ug/L		NC	20
Pendimethalin (Penoxaline)	ND		ND		ug/L		NC	20
Total Permethrin (mixed isomers)	ND		ND		ug/L		NC	20
Phenanthrene	ND		ND		ug/L		NC	20
Propachlor	ND		ND		ug/L		NC	20
Pyrene	ND		ND		ug/L		NC	20
Simazine	0.079		0.0754		ug/L		5	20
Terbacil	ND		ND		ug/L		NC	20
Terbutylazine	ND		ND		ug/L		NC	20
Thiobencarb	ND		ND		ug/L		NC	20
trans-Nonachlor	ND		ND		ug/L		NC	20
Trifluralin	ND		ND		ug/L		NC	20

Surrogate	DU %Recovery	DU Qualifier	Limits
2-Nitro-m-xylene	102		70 - 130
Triphenylphosphate	109		70 - 130
Perylene-d12	95		70 - 130

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

**Lab Sample ID: 102197-B1**  
**Matrix: BlankMatrix**  
**Analysis Batch: O-40046**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: O-40046\_P**

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.005	0.001	µg/L		12/05/22 00:00	12/17/22 16:47	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		12/05/22 00:00	12/17/22 16:47	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		12/05/22 00:00	12/17/22 16:47	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		12/05/22 00:00	12/17/22 16:47	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		12/05/22 00:00	12/17/22 16:47	1
Acenaphthene	ND		0.005	0.001	µg/L		12/05/22 00:00	12/17/22 16:47	1
Acenaphthylene	ND		0.005	0.001	µg/L		12/05/22 00:00	12/17/22 16:47	1

Eurofins Eaton Monrovia

# QC Sample Results

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

Job ID: 380-30191-1

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

**Lab Sample ID: 102197-B1**  
**Matrix: BlankMatrix**  
**Analysis Batch: O-40046**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: O-40046\_P**

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Anthracene	ND		0.005	0.001	µg/L		12/05/22 00:00	12/17/22 16:47	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		12/05/22 00:00	12/17/22 16:47	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		12/05/22 00:00	12/17/22 16:47	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		12/05/22 00:00	12/17/22 16:47	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		12/05/22 00:00	12/17/22 16:47	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		12/05/22 00:00	12/17/22 16:47	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		12/05/22 00:00	12/17/22 16:47	1
Biphenyl	ND		0.005	0.001	µg/L		12/05/22 00:00	12/17/22 16:47	1
Chrysene	ND		0.005	0.001	µg/L		12/05/22 00:00	12/17/22 16:47	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		12/05/22 00:00	12/17/22 16:47	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		12/05/22 00:00	12/17/22 16:47	1
Dibenzothiophene	ND		0.005	0.001	µg/L		12/05/22 00:00	12/17/22 16:47	1
Disalicylidenepropanediamine	ND		0.1	0.05	µg/L		12/05/22 00:00	12/17/22 16:47	1
Fluoranthene	ND		0.005	0.001	µg/L		12/05/22 00:00	12/17/22 16:47	1
Fluorene	ND		0.005	0.001	µg/L		12/05/22 00:00	12/17/22 16:47	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		12/05/22 00:00	12/17/22 16:47	1
Naphthalene	ND		0.005	0.001	µg/L		12/05/22 00:00	12/17/22 16:47	1
Perylene	ND		0.005	0.001	µg/L		12/05/22 00:00	12/17/22 16:47	1
Phenanthrene	ND		0.005	0.001	µg/L		12/05/22 00:00	12/17/22 16:47	1
Pyrene	ND		0.005	0.001	µg/L		12/05/22 00:00	12/17/22 16:47	1

Surrogate	Blank %Recovery	Blank Qualifier	Limits	Prepared	Analyzed	Dil Fac
(d10-Acenaphthene)	81		27 - 133	12/05/22 00:00	12/17/22 16:47	1
(d10-Phenanthrene)	88		43 - 129	12/05/22 00:00	12/17/22 16:47	1
(d12-Chrysene)	88		52 - 144	12/05/22 00:00	12/17/22 16:47	1
(d12-Perylene)	82		36 - 161	12/05/22 00:00	12/17/22 16:47	1
(d8-Naphthalene)	83		25 - 125	12/05/22 00:00	12/17/22 16:47	1

**Lab Sample ID: 102197-BS1**  
**Matrix: BlankMatrix**  
**Analysis Batch: O-40046**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: O-40046\_P**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
1-Methylnaphthalene	0.5	0.364		µg/L		73	31 - 128
1-Methylphenanthrene	0.5	0.42		µg/L		84	66 - 127
2,3,5-Trimethylnaphthalene	0.5	0.407		µg/L		81	55 - 122
2,6-Dimethylnaphthalene	0.5	0.377		µg/L		75	48 - 120
2-Methylnaphthalene	0.5	0.36		µg/L		72	47 - 130
Acenaphthene	0.5	0.401		µg/L		80	53 - 131
Acenaphthylene	0.5	0.386		µg/L		77	43 - 140
Anthracene	0.5	0.419		µg/L		84	58 - 135
Benz[a]anthracene	0.5	0.429		µg/L		86	55 - 145
Benzo[a]pyrene	0.5	0.409		µg/L		82	51 - 143
Benzo[b]fluoranthene	0.5	0.42		µg/L		84	46 - 165
Benzo[e]pyrene	0.5	0.421		µg/L		84	42 - 152
Benzo[g,h,i]perylene	0.5	0.423		µg/L		85	63 - 133
Benzo[k]fluoranthene	0.5	0.416		µg/L		83	56 - 145
Biphenyl	0.5	0.381		µg/L		76	56 - 119

Eurofins Eaton Monrovia

# QC Sample Results

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

Job ID: 380-30191-1

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

**Lab Sample ID: 102197-BS1**  
**Matrix: BlankMatrix**  
**Analysis Batch: O-40046**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: O-40046\_P**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chrysene	0.5	0.421		µg/L		84	56 - 141
Dibenz[a,h]anthracene	0.5	0.433		µg/L		87	55 - 150
Dibenzo[a,l]pyrene	0.5	0.492		µg/L		98	50 - 150
Dibenzothiophene	0.5	0.416		µg/L		83	46 - 126
Disalicylideneprapanediamine	50	50.3		µg/L		101	50 - 150
Fluoranthene	0.5	0.416		µg/L		83	60 - 146
Fluorene	0.5	0.395		µg/L		79	58 - 131
Indeno[1,2,3-cd]pyrene	0.5	0.419		µg/L		84	50 - 151
Naphthalene	0.5	0.337		µg/L		67	41 - 126
Perylene	0.5	0.413		µg/L		83	48 - 141
Phenanthrene	0.5	0.421		µg/L		84	67 - 127
Pyrene	0.5	0.432		µg/L		86	54 - 156

Surrogate	LCS %Recovery	LCS Qualifier	Limits
(d10-Acenaphthene)	74		27 - 133
(d10-Phenanthrene)	88		43 - 129
(d12-Chrysene)	91		52 - 144
(d12-Perylene)	91		36 - 161
(d8-Naphthalene)	69		25 - 125

**Lab Sample ID: 102197-BS2**  
**Matrix: BlankMatrix**  
**Analysis Batch: O-40046**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: O-40046\_P**

Analyte	Spike Added	LCS DUP Result	LCS DUP Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1-Methylnaphthalene	0.5	0.391		µg/L		78	31 - 128	7	30
1-Methylphenanthrene	0.5	0.43		µg/L		86	66 - 127	2	30
2,3,5-Trimethylnaphthalene	0.5	0.428		µg/L		86	55 - 122	6	30
2,6-Dimethylnaphthalene	0.5	0.396		µg/L		79	48 - 120	5	30
2-Methylnaphthalene	0.5	0.397		µg/L		79	47 - 130	9	30
Acenaphthene	0.5	0.416		µg/L		83	53 - 131	4	30
Acenaphthylene	0.5	0.407		µg/L		81	43 - 140	5	30
Anthracene	0.5	0.428		µg/L		86	58 - 135	2	30
Benz[a]anthracene	0.5	0.415		µg/L		83	55 - 145	4	30
Benzo[a]pyrene	0.5	0.414		µg/L		83	51 - 143	1	30
Benzo[b]fluoranthene	0.5	0.424		µg/L		85	46 - 165	1	30
Benzo[e]pyrene	0.5	0.42		µg/L		84	42 - 152	0	30
Benzo[g,h,i]perylene	0.5	0.407		µg/L		81	63 - 133	5	30
Benzo[k]fluoranthene	0.5	0.416		µg/L		83	56 - 145	0	30
Biphenyl	0.5	0.404		µg/L		81	56 - 119	6	30
Chrysene	0.5	0.409		µg/L		82	56 - 141	2	30
Dibenz[a,h]anthracene	0.5	0.406		µg/L		81	55 - 150	7	30
Dibenzo[a,l]pyrene	0.5	0.455		µg/L		91	50 - 150	7	30
Dibenzothiophene	0.5	0.426		µg/L		85	46 - 126	2	30
Disalicylideneprapanediamine	50	53.8		µg/L		108	50 - 150	7	30
Fluoranthene	0.5	0.406		µg/L		81	60 - 146	2	30
Fluorene	0.5	0.417		µg/L		83	58 - 131	5	30
Indeno[1,2,3-cd]pyrene	0.5	0.391		µg/L		78	50 - 151	7	30

Eurofins Eaton Monrovia

# QC Sample Results

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

Job ID: 380-30191-1

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

**Lab Sample ID: 102197-BS2**  
**Matrix: BlankMatrix**  
**Analysis Batch: O-40046**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: O-40046\_P**

Analyte	Spike Added	LCS DUP Result	LCS DUP Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
							Limits	RPD		
Naphthalene	0.5	0.389		µg/L		78	41 - 126	15		30
Perylene	0.5	0.408		µg/L		82	48 - 141	1		30
Phenanthrene	0.5	0.427		µg/L		85	67 - 127	1		30
Pyrene	0.5	0.406		µg/L		81	54 - 156	6		30

Surrogate	LCS DUP %Recovery	LCS DUP Qualifier	Limits	Prepared	Analyzed	Dil Fac
(d10-Phenanthrene)	87		43 - 129			
(d12-Chrysene)	88		52 - 144			
(d12-Perylene)	90		36 - 161			
(d8-Naphthalene)	79		25 - 125			

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

**Lab Sample ID: 22VGH7L03B**  
**Matrix: WATER**  
**Analysis Batch: 22VGH7L03**

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac

**Lab Sample ID: 22VGH7L03L**  
**Matrix: WATER**  
**Analysis Batch: 22VGH7L03**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec		Limit
							Limits	RPD	
GASOLINE	0.500	0.426		mg/L		85	60 - 130		

Surrogate	LCS %Recovery	LCS Qualifier	Limits	Prepared	Analyzed	Dil Fac

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

**Lab Sample ID: 22DSL019WB**  
**Matrix: WATER**  
**Analysis Batch: 22DSL019W**

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
JP5	ND	U	0.050		mg/L		12/14/22 16:31	1	
JP8	ND	U	0.050		mg/L		12/14/22 16:31	1	
MOTOR OIL	ND	U	0.050		mg/L		12/14/22 16:31	1	

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac

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# QC Sample Results

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

Job ID: 380-30191-1

## Method: 8015 LL DRO/MRO/JP5/JP8 - 8015 - TPH DRO/ORO (Continued)

**Lab Sample ID: 22DSL019WB**  
**Matrix: WATER**  
**Analysis Batch: 22DSL019W**

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

<i>Surrogate</i>	<i>MB</i>	<i>MB</i>	<i>MB</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
HEXACOSANE						12/14/22 16:31	1

**Lab Sample ID: 22DSL019WL**  
**Matrix: WATER**  
**Analysis Batch: 22DSL019W**

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

<i>Analyte</i>	<i>Spike Added</i>	<i>LCS Result</i>	<i>LCS Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec Limits</i>
DIESEL	2.50	2.51		mg/L		100	50 - 130

<i>Surrogate</i>	<i>LCS %Recovery</i>	<i>LCS Qualifier</i>	<i>Limits</i>
BROMOBENZENE	87		60 - 130
HEXACOSANE	107		60 - 130

**Lab Sample ID: 22J5L019WL**  
**Matrix: WATER**  
**Analysis Batch: 22DSL019W**

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

<i>Analyte</i>	<i>Spike Added</i>	<i>LCS Result</i>	<i>LCS Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec Limits</i>
JP5	2.50	2.65		mg/L		106	30 - 160

<i>Surrogate</i>	<i>LCS %Recovery</i>	<i>LCS Qualifier</i>	<i>Limits</i>
BROMOBENZENE	97		60 - 130
HEXACOSANE	109		60 - 130

**Lab Sample ID: 22J8L019WL**  
**Matrix: WATER**  
**Analysis Batch: 22DSL019W**

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

<i>Analyte</i>	<i>Spike Added</i>	<i>LCS Result</i>	<i>LCS Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec Limits</i>
JP8	2.50	2.86		mg/L		114	30 - 160

<i>Surrogate</i>	<i>LCS %Recovery</i>	<i>LCS Qualifier</i>	<i>Limits</i>
BROMOBENZENE	102		60 - 130
HEXACOSANE	110		60 - 130

# QC Association Summary

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

Job ID: 380-30191-1

## GC/MS Semi VOA

### Prep Batch: 26252

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-30191-1	Aiea Gulch Wells Pump 1	Total/NA	Drinking Water	525.2	
380-30191-2	Aiea Gulch Wells Pump 2	Total/NA	Drinking Water	525.2	
380-30191-3	Aiea Wells Pump 2	Total/NA	Drinking Water	525.2	
380-30191-4	Halawa Wells Pump 1	Total/NA	Drinking Water	525.2	
MB 380-26252/1-A	Method Blank	Total/NA	Water	525.2	
LCS 380-26252/3-A	Lab Control Sample	Total/NA	Water	525.2	
LCSD 380-26252/4-A	Lab Control Sample Dup	Total/NA	Water	525.2	
MRL 380-26252/2-A	Lab Control Sample	Total/NA	Water	525.2	
380-30160-W-1-A MS	Matrix Spike	Total/NA	Water	525.2	
380-30157-W-1-A DU	Duplicate	Total/NA	Water	525.2	

### Analysis Batch: 26486

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-30191-1	Aiea Gulch Wells Pump 1	Total/NA	Drinking Water	525.2	26252
380-30191-2	Aiea Gulch Wells Pump 2	Total/NA	Drinking Water	525.2	26252
380-30191-3	Aiea Wells Pump 2	Total/NA	Drinking Water	525.2	26252
380-30191-4	Halawa Wells Pump 1	Total/NA	Drinking Water	525.2	26252
MB 380-26252/1-A	Method Blank	Total/NA	Water	525.2	26252
LCS 380-26252/3-A	Lab Control Sample	Total/NA	Water	525.2	26252
LCSD 380-26252/4-A	Lab Control Sample Dup	Total/NA	Water	525.2	26252
MRL 380-26252/2-A	Lab Control Sample	Total/NA	Water	525.2	26252
380-30160-W-1-A MS	Matrix Spike	Total/NA	Water	525.2	26252
380-30157-W-1-A DU	Duplicate	Total/NA	Water	525.2	26252

## Subcontract

### Analysis Batch: O-40046

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-30191-1	Aiea Gulch Wells Pump 1	Total/NA	Drinking Water	625 PAH Physis LL (EAL) + TICs	O-40046_P
380-30191-2	Aiea Gulch Wells Pump 2	Total/NA	Drinking Water	625 PAH Physis LL (EAL) + TICs	O-40046_P
380-30191-3	Aiea Wells Pump 2	Total/NA	Drinking Water	625 PAH Physis LL (EAL) + TICs	O-40046_P
380-30191-4	Halawa Wells Pump 1	Total/NA	Drinking Water	625 PAH Physis LL (EAL) + TICs	O-40046_P
102197-B1	Method Blank	Total/NA	BlankMatrix	625 PAH Physis LL (EAL) + TICs	O-40046_P
102197-BS1	Lab Control Sample	Total/NA	BlankMatrix	625 PAH Physis LL (EAL) + TICs	O-40046_P
102197-BS2	Lab Control Sample Dup	Total/NA	BlankMatrix	625 PAH Physis LL (EAL) + TICs	O-40046_P

### Analysis Batch: 22DSL019W

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-30191-1	Aiea Gulch Wells Pump 1	Total/NA	Drinking Water	8015 LL DRO/MRO/JP5/J P8	
380-30191-2	Aiea Gulch Wells Pump 2	Total/NA	Drinking Water	8015 LL DRO/MRO/JP5/J P8	
380-30191-3	Aiea Wells Pump 2	Total/NA	Drinking Water	8015 LL DRO/MRO/JP5/J P8	

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# QC Association Summary

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

Job ID: 380-30191-1

## Subcontract (Continued)

### Analysis Batch: 22DSL019W (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-30191-4	Halawa Wells Pump 1	Total/NA	Drinking Water	8015 LL DRO/MRO/JP5/J P8	
22DSL019WB	Method Blank	Total/NA	WATER	8015 LL DRO/MRO/JP5/J P8	
22DSL019WL	Lab Control Sample	Total/NA	WATER	8015 LL DRO/MRO/JP5/J P8	
22J5L019WL	Lab Control Sample	Total/NA	WATER	8015 LL DRO/MRO/JP5/J P8	
22J8L019WL	Lab Control Sample	Total/NA	WATER	8015 LL DRO/MRO/JP5/J P8	

### Analysis Batch: 22VGH7L03

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-30191-1	Aiea Gulch Wells Pump 1	Total/NA	Drinking Water	8015 Gas (Purgeable) LL (EAL)	
380-30191-2	Aiea Gulch Wells Pump 2	Total/NA	Drinking Water	8015 Gas (Purgeable) LL (EAL)	
380-30191-3	Aiea Wells Pump 2	Total/NA	Drinking Water	8015 Gas (Purgeable) LL (EAL)	
380-30191-4	Halawa Wells Pump 1	Total/NA	Drinking Water	8015 Gas (Purgeable) LL (EAL)	
380-30191-5	TB: AIEA GULCH WELLS PUMP 1	Total/NA	Drinking Water	8015 Gas (Purgeable) LL (EAL)	
380-30191-6	TB: AIEA GULCH WELLS PUMP 2	Total/NA	Drinking Water	8015 Gas (Purgeable) LL (EAL)	
380-30191-7	TB: Aiea Wells Pump 2	Total/NA	Drinking Water	8015 Gas (Purgeable) LL (EAL)	
380-30191-8	TB: Halawa Wells Pump 1	Total/NA	Drinking Water	8015 Gas (Purgeable) LL (EAL)	
22VGH7L03B	Method Blank	Total/NA	WATER	8015 Gas (Purgeable) LL (EAL)	
22VGH7L03L	Lab Control Sample	Total/NA	WATER	8015 Gas (Purgeable) LL (EAL)	

### Prep Batch: O-40046\_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-30191-1	Aiea Gulch Wells Pump 1	Total/NA	Drinking Water	EPA_625	
380-30191-2	Aiea Gulch Wells Pump 2	Total/NA	Drinking Water	EPA_625	
380-30191-3	Aiea Wells Pump 2	Total/NA	Drinking Water	EPA_625	
380-30191-4	Halawa Wells Pump 1	Total/NA	Drinking Water	EPA_625	
102197-B1	Method Blank	Total/NA	BlankMatrix	EPA_625	
102197-BS1	Lab Control Sample	Total/NA	BlankMatrix	EPA_625	

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# QC Association Summary

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

Job ID: 380-30191-1

## Subcontract (Continued)

### Prep Batch: O-40046\_P (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
102197-BS2	Lab Control Sample Dup	Total/NA	BlankMatrix	EPA_625	

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

# Lab Chronicle

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

Job ID: 380-30191-1

## Client Sample ID: Aiea Gulch Wells Pump 1

Date Collected: 12/05/22 10:31

Date Received: 12/06/22 09:45

## Lab Sample ID: 380-30191-1

Matrix: Drinking Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	525.2			26252	OTM3	EA MON	12/09/22 05:50
Total/NA	Analysis	525.2		1	26486	Q8LA	EA MON	12/12/22 16:20
Total/NA	Prep	EPA_625		1	O-40046_P			12/07/22 00:00
Total/NA	Analysis	625 PAH Physis LL (EAL) + TICs		1	O-40046	YC		12/18/22 16:52
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)		1	22VGH7L03	SCerva		12/07/22 18:38
Total/NA	Analysis	8015 LL DRO/MRO/JP5/JP8		1	22DSL019W	SDees		12/14/22 17:45

## Client Sample ID: Aiea Gulch Wells Pump 2

Date Collected: 12/05/22 10:56

Date Received: 12/06/22 09:45

## Lab Sample ID: 380-30191-2

Matrix: Drinking Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	525.2			26252	OTM3	EA MON	12/09/22 05:50
Total/NA	Analysis	525.2		1	26486	Q8LA	EA MON	12/12/22 16:00
Total/NA	Prep	EPA_625		1	O-40046_P			12/07/22 00:00
Total/NA	Analysis	625 PAH Physis LL (EAL) + TICs		1	O-40046	YC		12/19/22 10:08
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)		1	22VGH7L03	SCerva		12/07/22 19:14
Total/NA	Analysis	8015 LL DRO/MRO/JP5/JP8		1	22DSL019W	SDees		12/14/22 18:03

## Client Sample ID: Aiea Wells Pump 2

Date Collected: 12/05/22 10:04

Date Received: 12/06/22 09:45

## Lab Sample ID: 380-30191-3

Matrix: Drinking Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	525.2			26252	OTM3	EA MON	12/09/22 05:50
Total/NA	Analysis	525.2		1	26486	Q8LA	EA MON	12/12/22 15:40
Total/NA	Prep	EPA_625		1	O-40046_P			12/07/22 00:00
Total/NA	Analysis	625 PAH Physis LL (EAL) + TICs		1	O-40046	YC		12/19/22 13:35
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)		1	22VGH7L03	SCerva		12/07/22 20:26
Total/NA	Analysis	8015 LL DRO/MRO/JP5/JP8		1	22DSL019W	SDees		12/14/22 18:21

## Client Sample ID: Halawa Wells Pump 1

Date Collected: 12/05/22 09:42

Date Received: 12/06/22 09:45

## Lab Sample ID: 380-30191-4

Matrix: Drinking Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	525.2			26252	OTM3	EA MON	12/09/22 05:50
Total/NA	Analysis	525.2		1	26486	Q8LA	EA MON	12/12/22 15:20

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# Lab Chronicle

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

Job ID: 380-30191-1

## Client Sample ID: Halawa Wells Pump 1

Date Collected: 12/05/22 09:42

Date Received: 12/06/22 09:45

## Lab Sample ID: 380-30191-4

Matrix: Drinking Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	EPA_625		1	O-40046_P			12/07/22 00:00
Total/NA	Analysis	625 PAH Physis LL (EAL) + TICs		1	O-40046	YC		12/19/22 15:19
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)		1	22VGH7L03	SCerva		12/07/22 21:03
Total/NA	Analysis	8015 LL DRO/MRO/JP5/JP8		1	22DSL019W	SDees		12/14/22 18:40

## Client Sample ID: TB: AIEA GULCH WELLS PUMP 1

Date Collected: 12/05/22 10:31

Date Received: 12/06/22 09:45

## Lab Sample ID: 380-30191-5

Matrix: Drinking Water

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	22VGH7L03	SCerva		12/07/22 21:39

## Client Sample ID: TB: AIEA GULCH WELLS PUMP 2

Date Collected: 12/05/22 10:56

Date Received: 12/06/22 09:45

## Lab Sample ID: 380-30191-6

Matrix: Drinking Water

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	22VGH7L03	SCerva		12/07/22 22:15

## Client Sample ID: TB: Aiea Wells Pump 2

Date Collected: 12/05/22 10:04

Date Received: 12/06/22 09:45

## Lab Sample ID: 380-30191-7

Matrix: Drinking Water

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	22VGH7L03	SCerva		12/07/22 22:52

## Client Sample ID: TB: Halawa Wells Pump 1

Date Collected: 12/05/22 09:42

Date Received: 12/06/22 09:45

## Lab Sample ID: 380-30191-8

Matrix: Drinking Water

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	22VGH7L03	SCerva		12/07/22 23:29

### 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: 380-30191-1

## Laboratory: Eurofins Eaton Monrovia

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

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

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

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

# Accreditation/Certification Summary

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

Job ID: 380-30191-1

## Laboratory: Eurofins Eaton Monrovia (Continued)

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

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

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

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

# Method Summary

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

Job ID: 380-30191-1

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: 380-30191-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	PWSID Number
380-30191-1	Aiea Gulch Wells Pump 1	Drinking Water	12/05/22 10:31	12/06/22 09:45	HI0000331
380-30191-2	Aiea Gulch Wells Pump 2	Drinking Water	12/05/22 10:56	12/06/22 09:45	HI0000331
380-30191-3	Aiea Wells Pump 2	Drinking Water	12/05/22 10:04	12/06/22 09:45	HI0000331
380-30191-4	Halawa Wells Pump 1	Drinking Water	12/05/22 09:42	12/06/22 09:45	
380-30191-5	TB: AIEA GULCH WELLS PUMP 1	Drinking Water	12/05/22 10:31	12/06/22 09:45	
380-30191-6	TB: AIEA GULCH WELLS PUMP 2	Drinking Water	12/05/22 10:56	12/06/22 09:45	
380-30191-7	TB: Aiea Wells Pump 2	Drinking Water	12/05/22 10:04	12/06/22 09:45	
380-30191-8	TB: Halawa Wells Pump 1	Drinking Water	12/05/22 09:42	12/06/22 09:45	

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Date: 12-28-2022  
EMAX Batch No.: 22L099

Attn: Jackie Contreras

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

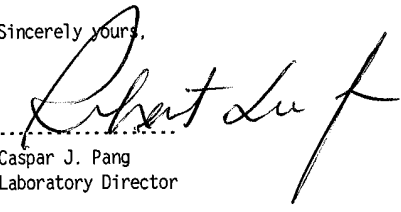
Subject: Laboratory Report  
Project: 380-30191

Enclosed is the Laboratory report for samples received on 12/07/22.  
The data reported relate only to samples listed below :

Sample ID	Control #	Col Date	Matrix	Analysis
380-30191-1	L099-01	12/05/22	WATER	TPH TPH GASOLINE
380-30191-2	L099-02	12/05/22	WATER	TPH TPH GASOLINE
380-30191-3	L099-03	12/05/22	WATER	TPH TPH GASOLINE
380-30191-4	L099-04	12/05/22	WATER	TPH TPH GASOLINE
380-30191-5	L099-05	12/05/22	WATER	TPH GASOLINE
380-30191-6	L099-06	12/05/22	WATER	TPH GASOLINE
380-30191-7	L099-07	12/05/22	WATER	TPH GASOLINE
380-30191-8	L099-08	12/05/22	WATER	TPH GASOLINE

The results are summarized on the following pages.

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

Sincerely yours,  
  
Caspar J. Pang  
Laboratory Director

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

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

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



Chain of Custody Record 22L099



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

**Client Information (Sub Contract Lab)**  
 Client Contact: Rachelle Arada, Rachelle  
 Shipping/Receiving: Rachelle Arada@et.eurolins.com  
 Company: EMAX Laboratories Inc  
 Address: 3051 Fujita Street, Torrance, CA 90505  
 Phone: 626-386-1100  
 Due Date Requested: 12/20/2022  
 TAT Requested (days):  
 Project Name: RED-HILL  
 Project #: 38001111  
 SSOV#: SSOV#:  
 Site: Honolulu BWS Sites

Sampler: Arada, Rachelle  
 Lab P/N: Rachelle Arada@et.eurolins.com  
 State of Origin: Hawaii  
 Carrier Tracking No(s):  
 Job #: 380-30115-1  
 Page: 1 of 1

**Analysis Requested**  
 Field Filtered Sample (Yes or No)   
 Perform MS/MSD (Yes or No)   
 SUB (8015 LL DRO/MRO/JP5/JP8)/ 8015 LL DRO/MRO/JP5/JP8  
 SUB (8015 Gas (Purgeable) LL (EAL))/ 8015 Gas (Purgeable) LL (EAL)

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, B=Tissue, A=Air)	Matrix (Water, Seawater, Oceanwater, Other)	Preservation Code	Total Number of containers	Special Instructions/Note:
Alea Gulch Wells Pump 1 (380-30191-1)	12/5/22	10:31	Hawaiian	Water		6	See Attached Instructions
Alea Gulch Wells Pump 2 (380-30191-2)	12/5/22	10:56	Hawaiian	Water		6	See Attached Instructions
Alea Wells Pump 2 (380-30191-3)	12/5/22	10:04	Hawaiian	Water		6	See Attached Instructions
Halawa Wells Pump 1 (380-30191-4)	12/5/22	09:42	Hawaiian	Water		6	See Attached Instructions
TB: AIEA GULCH WELLS PUMP 1 (380-30191-5)	12/5/22	10:31	Hawaiian	Water		2	See Attached Instructions
TB: AIEA GULCH WELLS PUMP 2 (380-30191-6)	12/5/22	10:56	Hawaiian	Water		2	See Attached Instructions
TB: Alea Wells Pump 2 (380-30191-7)	12/5/22	10:04	Hawaiian	Water		2	See Attached Instructions
TB: Halawa Wells Pump 1 (380-30191-8)	12/5/22	09:42	Hawaiian	Water		2	See Attached Instructions

**Possible Hazard Identification**  
 Unconfirmed  
 Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2  
 Empty Kit Relinquished by: [Signature] Date: [Date] Time: [Time] Method of Shipment:  
 Relinquished by: [Signature] Date/Time: [Date/Time] Company: EEA  
 Relinquished by: [Signature] Date/Time: [Date/Time] Company: EEA  
 Relinquished by: [Signature] Date/Time: [Date/Time] Company: EMAX  
 Custody Seals Intact:  Yes  No  
 Custody Seal No.:  
 Cooler Temperature(s) °C and Other Remarks:  
 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  
 Note: Since laboratory accreditations are subject to change, Eurofins Eaton Analytical, LLC places the ownership of method, analyte & accreditation compliance upon our subcontracted laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/test/matrix being analyzed, the samples must be shipped back to the Eurofins Eaton Analytical, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Eaton Analytical, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Eaton Analytical, LLC.



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

Type of Delivery <input checked="" type="checkbox"/> Fedex <input type="checkbox"/> UPS <input type="checkbox"/> GSO <input type="checkbox"/> Others <input type="checkbox"/> EMAX Courier <input type="checkbox"/> Client Delivery	Airbill / Tracking Number 5913 5989 7139	ECN <u>22L099</u> Recipient <u>Maria Rivera</u> Date <u>12/07/22</u> Time <u>10:00</u>
---	---	--

**COC INSPECTION**

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

**PACKAGING INSPECTION**

Container	<input checked="" type="checkbox"/> Cooler	<input type="checkbox"/> Box	<input type="checkbox"/> Other
Condition	<input type="checkbox"/> Custody Seal	<input type="checkbox"/> Intact	<input type="checkbox"/> Damaged
Packaging	<input checked="" type="checkbox"/> Bubble Pack	<input type="checkbox"/> Styrofoam	<input type="checkbox"/> Popcorn
Temperatures (Cool, ≤6 °C but not frozen)	<input checked="" type="checkbox"/> Cooler 1 <u>3.1</u> °C	<input type="checkbox"/> Cooler 2 _____ °C	<input type="checkbox"/> Cooler 3 _____ °C
Thermometer:	<input type="checkbox"/> Cooler 6 _____ °C	<input type="checkbox"/> Cooler 7 _____ °C	<input type="checkbox"/> Cooler 8 _____ °C
	<input type="checkbox"/> Cooler 9 _____ °C	<input type="checkbox"/> Cooler 10 _____ °C	
	A - S/N _____	B - S/N <u>210760237</u>	C - S/N _____
			D - S/N <u>210760272</u>

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

**DISCREPANCIES**

LabSampleID	LabSampleContainerID	Code	ClientSample Label ID / Information	Corrective Action
1-4	5,6,11,12,17,18,23,24	D1	JPS/JPS Analysis not indicated	RI
5-8	25-32	D22	2nd label/date reads 11/23/22 not 4:15	↓
<i>12/9/22</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:**

SAMPLE MATRIX IS DRINKING WATER?  YES  NO

**LEGEND:**

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

- Code Description-Sample Management
- D13 Out of Holding Time
- D14 Bubble is >6mm
- D15 No trip blank in cooler
- D16 Preservation not indicated in \_\_\_\_\_
- D17 Preservation mismatch COC vs label
- D18 Insufficient chemical preservative
- D19 Insufficient Sample
- D20 No filtration info for dissolved analysis
- D21 No sample for moisture determination
- D22** 2nd label/date is incorrect
- D23 \_\_\_\_\_
- D24 \_\_\_\_\_

Continue to next page.

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

**REVIEWS:**

Sample Labeling Maria Rivera  
 Date 12/07/22

SRF [Signature]  
 Date 12/9/22

PM NB  
 Date 12/9/22

REPORT ID: 22L099

ORIGIN ID:WHPA (626) 386-1100  
MANUEL A. VASQUEZ  
EUROFINS EATON ANALYTICAL  
750 ROYAL OAKS DRIVE  
SUITE 100  
MONROVIA, CA 91016  
UNITED STATES US

SHIP DATE: 06DEC22  
ACTWTG: 71.85 LB  
CAD: 0894108/CAFE3616  
DIMS: 24x14x14 IN  
BILL SENDER

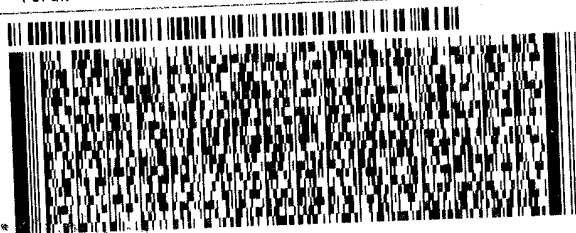
TO **SHIPPING/RECEIVING**  
**EMAX LABORATORIES INC**  
**3051 FUJITA STREET**

**TORRANCE CA 90505**

(602) 659-7669  
PO: GR

REF: 6380-20676

DEPT: SUBOUTS/LOG-IN



**FedEx**  
Express



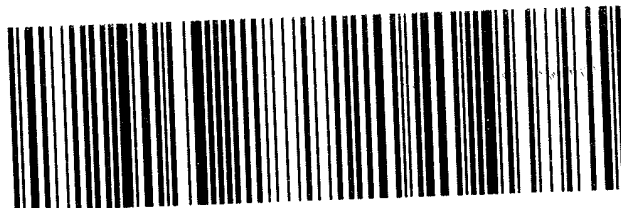
**WED - 07 DEC 10:30/**  
**PRIORITY OVERNIGHT**

TRK# 5913 5989 7139  
0201

**92 HHRA**

90505  
CA-US LAX

Part # 156697-434 RRDB EXP 04/23



## REPORTING CONVENTIONS

### DATA QUALIFIERS:

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

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

### ACRONYMS AND ABBREVIATIONS:

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

### DATES

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

LABORATORY REPORT FOR

EUROFINS EATON ANALYTICAL

380-30191

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

SDG#: 22L099



CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 380-30191

SDG : 22L099

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

A total of eight(8) water samples were received on 12/07/22 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. VGH7L03B - 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. VGH7L03L/VGH7L03C 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 L101-01M/L101-01S. 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.



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# SAMPLE RESULTS

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

=====  
Client : EUROFINS EATON ANALYTICAL Date Collected: 12/05/22 10:31  
Project : 380-30191 Date Received: 12/07/22  
Batch No. : 22L099 Date Extracted: 12/07/22 18:38  
Sample ID : 380-30191-1 Date Analyzed: 12/07/22 18:38  
Lab Samp ID: L099-01 Dilution Factor: 1  
Lab File ID: AL07013A Matrix: WATER  
Ext Btch ID: 22VGH7L03 % Moisture: NA  
Calib. Ref.: AL07004A Instrument ID: H7  
=====

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	0.0347	0.0400	87	60-140

=====

Notes:

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

Detection limits are reported relative to sample result significant figures.

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

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

```

=====
Client       : EUROFINS EATON ANALYTICAL   Date Collected: 12/05/22 10:56
Project      : 380-30191                   Date Received: 12/07/22
Batch No.    : 22L099                       Date Extracted: 12/07/22 19:14
Sample ID    : 380-30191-2                 Date Analyzed: 12/07/22 19:14
Lab Samp ID  : L099-02                     Dilution Factor: 1
Lab File ID  : AL07014A                    Matrix: WATER
Ext Btch ID  : 22VGH7L03                   % Moisture: NA
Calib. Ref.  : AL07004A                    Instrument ID: H7
=====

```

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	0.0368	0.0400	92	60-140

Notes:

Parameter H-C Range

Gasoline C6-C10

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 5ml

Final Volume : 5ml

Prepared by : SCerva

Analyzed by : SCerva



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

```

=====
Client      : EUROFINS EATON ANALYTICAL      Date Collected: 12/05/22 09:42
Project     : 380-30191                      Date Received: 12/07/22
Batch No.   : 22L099                         Date Extracted: 12/07/22 21:03
Sample ID   : 380-30191-4                   Date Analyzed: 12/07/22 21:03
Lab Samp ID: L099-04                        Dilution Factor: 1
Lab File ID: AL07017A                       Matrix: WATER
Ext Btch ID: 22VGH7L03                      % Moisture: NA
Calib. Ref.: AL07015A                       Instrument ID: H7
=====

```

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	0.0338	0.0400	84	60-140

Notes:

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

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



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

```

=====
Client      : EUROFINS EATON ANALYTICAL      Date Collected: 12/05/22 10:31
Project     : 380-30191                      Date Received: 12/07/22
Batch No.   : 22L099                          Date Extracted: 12/07/22 21:39
Sample ID   : 380-30191-5                    Date Analyzed: 12/07/22 21:39
Lab Samp ID: L099-05                          Dilution Factor: 1
Lab File ID: AL07018A                          Matrix: WATER
Ext Btch ID: 22VGH7L03                        % Moisture: NA
Calib. Ref.: AL07015A                        Instrument ID: H7
=====

```

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	0.0319	0.0400	80	60-140

Notes:

Parameter H-C Range

Gasoline C6-C10

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 5ml

Final Volume : 5ml

Prepared by : SCerva

Analyzed by : SCerva

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

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 12/05/22 10:56
Project     : 380-30191                   Date Received: 12/07/22
Batch No.   : 22L099                       Date Extracted: 12/07/22 22:15
Sample ID   : 380-30191-6                 Date Analyzed: 12/07/22 22:15
Lab Samp ID: L099-06                       Dilution Factor: 1
Lab File ID: AL07019A                       Matrix: WATER
Ext Btch ID: 22VGH7L03                     % Moisture: NA
Calib. Ref.: AL07015A                       Instrument ID: H7
=====

```

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

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromofluorobenzene	0.0326	0.0400	82	60-140

Notes:

Parameter H-C Range

Gasoline C6-C10

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 5ml

Final Volume : 5ml

Prepared by : SCerva

Analyzed by : SCerva

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

```

=====
Client      : EUROFINS EATON ANALYTICAL      Date Collected: 12/05/22 10:04
Project     : 380-30191                      Date Received: 12/07/22
Batch No.   : 22L099                         Date Extracted: 12/07/22 22:52
Sample ID   : 380-30191-7                   Date Analyzed: 12/07/22 22:52
Lab Samp ID: L099-07                        Dilution Factor: 1
Lab File ID: AL07020A                       Matrix: WATER
Ext Btch ID: 22VGH7L03                     % Moisture: NA
Calib. Ref.: AL07015A                       Instrument ID: H7
=====

```

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	0.0338	0.0400	85	60-140

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

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

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

=====  
Client : EUROFINS EATON ANALYTICAL Date Collected: 12/05/22 09:42  
Project : 380-30191 Date Received: 12/07/22  
Batch No. : 22L099 Date Extracted: 12/07/22 23:29  
Sample ID : 380-30191-8 Date Analyzed: 12/07/22 23:29  
Lab Samp ID: L099-08 Dilution Factor: 1  
Lab File ID: AL07021A Matrix: WATER  
Ext Btch ID: 22VGH7L03 % Moisture: NA  
Calib. Ref.: AL07015A Instrument ID: H7  
=====

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)		
GASOLINE	ND	0.020	0.010		
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT	
Bromofluorobenzene	0.0326	0.0400	82	60-140	

Notes:

Parameter H-C Range  
Gasoline C6-C10

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 5ml

Final Volume : 5ml

Prepared by : SCerva

Analyzed by : SCerva

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# QC SUMMARIES

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

```

=====
Client      : EUROFINS EATON ANALYTICAL      Date Collected: 12/07/22 13:42
Project    : 380-30191                      Date Received: 12/07/22
Batch No.  : 22L099                         Date Extracted: 12/07/22 13:42
Sample ID  : MBLK1W                         Date Analyzed: 12/07/22 13:42
Lab Samp ID: VGH7L03B                      Dilution Factor: 1
Lab File ID: AL07005A                      Matrix: WATER
Ext Btch ID: 22VGH7L03                    % Moisture: NA
Calib. Ref.: AL07004A                     Instrument ID: H7
=====

```

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	0.0327	0.0400	82	60-140

Notes:

Parameter H-C Range

Gasoline C6-C10

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 5ml

Final Volume : 5ml

Prepared by : SCerva

Analyzed by : SCerva

EMAX QUALITY CONTROL DATA  
LAB CONTROL SAMPLE ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL  
PROJECT : 380-30191  
BATCH NO. : 22L099  
METHOD : 5030B/8015B

```

=====
MATRIX      : WATER                               % MOISTURE:NA
DILUTION FACTOR: 1                               1
SAMPLE ID   : MBLK1W                             LCS1W      LCD1W
LAB SAMPLE ID : VGH7L03B                         VGH7L03L   VGH7L03C
LAB FILE ID  : AL07005A                         AL07006A   AL07007A
DATE PREPARED : 12/07/22 13:42                 12/07/22 14:20 12/07/22 14:57
DATE ANALYZED : 12/07/22 13:42                 12/07/22 14:20 12/07/22 14:57
PREP BATCH   : 22VGH7L03                       22VGH7L03  22VGH7L03
CALIBRATION REF: AL07004A                      AL07004A   AL07004A
  
```

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	0.426	85	0.500	0.480	96	12	60-130	30

SURROGATE PARAMETER	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	QCLimit (%)
Bromofluorobenzene	0.0400	0.0414	104	0.0400	0.0442	111	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 : 380-30497  
BATCH NO. : 22L101  
METHOD : 5030B/8015B

```

=====
MATRIX      : WATER                               % MOISTURE:NA
DILUTION FACTOR: 1                               1
SAMPLE ID   : 380-30947-1                         380-30947-1MS
LAB SAMPLE ID : L101-01                           L101-01S
LAB FILE ID  : AL07009A                           AL07010A
DATE PREPARED : 12/07/22 16:11                   12/07/22 17:26
DATE ANALYZED : 12/07/22 16:11                   12/07/22 17:26
PREP BATCH   : 22VGH7L03                         22VGH7L03
CALIBRATION REF: AL07004A                       AL07004A
  
```

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	0.385	77	0.500	0.397	79	3	50-130	30

SURROGATE PARAMETER	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	QCLimit (%)
Bromofluorobenzene	0.0400	0.0397	99	0.0400	0.0459	115	60-140

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

LABORATORY REPORT FOR

EUROFINS EATON ANALYTICAL

380-30191

METHOD 3520C/8015B  
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

SDG#: 22L099



CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 380-30191

SDG : 22L099

METHOD 3520C/8015B  
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

A total of four(4) water samples were received on 12/07/22 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. DSL019WB - 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) LCS was analyzed. Percent recovery for Diesel was within LCS QC limits in DSL019WL. 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 22L101-01M/22L101-01S. 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.

CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 380-30191

SDG : 22L099

METHOD 3520C/8015B  
PETROLEUM HYDROCARBONS BY EXTRACTION

A total of four(4) water samples were received on 12/07/22 to be analyzed for Petroleum Hydrocarbons by Extraction in accordance with Method 3520C/8015B and project specific requirements.

Holding Time

Samples were analyzed within the prescribed holding time.

Calibration

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

Method Blank

Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. DSL019WB - 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) LCS was analyzed. Percent recovery for JP5 was within LCS QC limits in J5L019WL. 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. JP5 was within MS QC limits in 22L101-01M/22L101-01S. 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.

CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 380-30191

SDG : 22L099

METHOD 3520C/8015B  
PETROLEUM HYDROCARBONS BY EXTRACTION

A total of four(4) water samples were received on 12/07/22 to be analyzed for Petroleum Hydrocarbons by Extraction in accordance with Method 3520C/8015B and project specific requirements.

Holding Time

Samples were analyzed within the prescribed holding time.

Calibration

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

Method Blank

Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. DSL019WB - 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) LCS was analyzed. Percent recovery for JP8 was within LCS QC limits in J8L019WL. 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. JP8 was within MS QC limits in 22L101-01M/22L101-01S. 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.









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# SAMPLE RESULTS

METHOD 3520C/8015B  
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 12/05/22 10:31
Project     : 380-30191                 Date Received: 12/07/22
Batch No.   : 22L099                    Date Extracted: 12/13/22 13:00
Sample ID   : 380-30191-1              Date Analyzed: 12/14/22 17:45
Lab Samp ID: 22L099-01                 Dilution Factor: 1
Lab File ID: LL14025A                  Matrix: WATER
Ext Btch ID: 22DSL019W                 % Moisture: NA
Calib. Ref.: LL14015A                  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	0.443	0.510	87	60-130
Hexacosane	0.133	0.127	104	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  
 PETROLEUM HYDROCARBONS BY EXTRACTION

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 12/05/22 10:31
Project     : 380-30191                   Date Received: 12/07/22
Batch No.   : 22L099                       Date Extracted: 12/13/22 13:00
Sample ID   : 380-30191-1                 Date Analyzed: 12/14/22 17:45
Lab Samp ID: 22L099-01                     Dilution Factor: 1
Lab File ID: LL14025A                       Matrix: WATER
Ext Btch ID: 22DSL019W                       % Moisture: NA
Calib. Ref.: LL14016A                       Instrument ID: D5
=====
    
```

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
JP5	ND	0.051	0.025

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.443	0.510	87	60-130
Hexacosane	0.133	0.127	104	60-130

Notes:

RL : Reporting Limit  
 Parameter H-C Range  
 JP5 C8-C18

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 980ml                      Final Volume : 5ml  
 Prepared by : POreto                      Analyzed by : SDeeso

METHOD 3520C/8015B  
 PETROLEUM HYDROCARBONS BY EXTRACTION

```

=====
Client      : EUROFINS EATON ANALYTICAL      Date Collected: 12/05/22 10:31
Project    : 380-30191                      Date Received: 12/07/22
Batch No.  : 22L099                          Date Extracted: 12/13/22 13:00
Sample ID  : 380-30191-1                    Date Analyzed: 12/14/22 17:45
Lab Samp ID: 22L099-01                      Dilution Factor: 1
Lab File ID: LL14025A                      Matrix: WATER
Ext Btch ID: 22DSL019W                     % Moisture: NA
Calib. Ref.: LL14017A                      Instrument ID: 05
=====
    
```

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
JP8	ND	0.051	0.025

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.443	0.510	87	60-130
Hexacosane	0.133	0.127	104	60-130

Notes:

RL : Reporting Limit  
 Parameter H-C Range  
 JP8 C8-C18

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 980ml                      Final Volume : 5ml  
 Prepared by : P0reto                      Analyzed by : SDeeso

METHOD 3520C/8015B  
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

=====  
Client : EUROFINS EATON ANALYTICAL Date Collected: 12/05/22 10:56  
Project : 380-30191 Date Received: 12/07/22  
Batch No. : 22L099 Date Extracted: 12/13/22 13:00  
Sample ID : 380-30191-2 Date Analyzed: 12/14/22 18:03  
Lab Samp ID: 22L099-02 Dilution Factor: 1  
Lab File ID: LL14026A Matrix: WATER  
Ext Btch ID: 22DSL019W % Moisture: NA  
Calib. Ref.: LL14015A 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	0.401	0.525	76	60-130
Hexacosane	0.142	0.131	108	60-130

Notes:

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

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

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

METHOD 3520C/8015B  
 PETROLEUM HYDROCARBONS BY EXTRACTION

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 12/05/22 10:56
Project    : 380-30191                   Date Received: 12/07/22
Batch No.  : 22L099                       Date Extracted: 12/13/22 13:00
Sample ID  : 380-30191-2                 Date Analyzed: 12/14/22 18:03
Lab Samp ID: 22L099-02                   Dilution Factor: 1
Lab File ID: LL14026A                    Matrix: WATER
Ext Btch ID: 22DSL019W                   % Moisture: NA
Calib. Ref.: LL14016A                    Instrument ID: D5
=====
    
```

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

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.401	0.525	76	60-130
Hexacosane	0.142	0.131	108	60-130

Notes:

RL : Reporting Limit  
 Parameter H-C Range  
 JP5 C8-C18  
 Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.  
 Sample Amount : 950ml Final Volume : 5ml  
 Prepared by : P0reto Analyzed by : SDeeso

METHOD 3520C/8015B  
 PETROLEUM HYDROCARBONS BY EXTRACTION

```

=====
Client       : EUROFINS EATON ANALYTICAL   Date Collected: 12/05/22 10:56
Project      : 380-30191                 Date Received: 12/07/22
Batch No.    : 22L099                    Date Extracted: 12/13/22 13:00
Sample ID    : 380-30191-2               Date Analyzed: 12/14/22 18:03
Lab Samp ID  : 22L099-02                 Dilution Factor: 1
Lab File ID  : LL14026A                  Matrix: WATER
Ext Btch ID  : 22DSL019W                 % Moisture: NA
Calib. Ref. : LL14017A                   Instrument ID: D5
=====
    
```

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)		
JP8	ND	0.052	0.026		
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT	
Bromobenzene	0.401	0.525	76	60-130	
Hexacosane	0.142	0.131	108	60-130	

Notes:

RL : Reporting Limit

Parameter H-C Range

JP8 C8-C18

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 950ml

Final Volume : 5ml

Prepared by : P0reto

Analyzed by : SDeeso

METHOD 3520C/8015B  
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 12/05/22 10:04
Project    : 380-30191                   Date Received: 12/07/22
Batch No.  : 22L099                       Date Extracted: 12/13/22 13:00
Sample ID  : 380-30191-3                 Date Analyzed: 12/14/22 18:21
Lab Samp ID: 22L099-03                   Dilution Factor: 1
Lab File ID: LL14027A                     Matrix: WATER
Ext Btch ID: 22DSL019W                    % Moisture: NA
Calib. Ref.: LL14015A                     Instrument ID: D5
=====

```

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
Diesel	ND	0.024	0.012
Motor Oil	ND	0.048	0.024

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.327	0.475	69	60-130
Hexacosane	0.130	0.119	109	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 : 1050ml                      Final Volume : 5ml  
Prepared by    : P0reto                            Analyzed by : SDeeso



METHOD 3520C/8015B  
 PETROLEUM HYDROCARBONS BY EXTRACTION

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 12/05/22 10:04
Project    : 380-30191                   Date Received: 12/07/22
Batch No.  : 22L099                       Date Extracted: 12/13/22 13:00
Sample ID  : 380-30191-3                 Date Analyzed: 12/14/22 18:21
Lab Samp ID: 22L099-03                   Dilution Factor: 1
Lab File ID: LL14027A                    Matrix: WATER
Ext Btch ID: 22DSL019W                   % Moisture: NA
Calib. Ref.: LL14016A                    Instrument ID: D5
=====
    
```

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)		
JP5	ND	0.048	0.024		
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT	
Bromobenzene	0.327	0.475	69	60-130	
Hexacosane	0.130	0.119	109	60-130	

Notes:

RL : Reporting Limit

Parameter H-C Range

JP5 C8-C18

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 1050ml

Final Volume : 5ml

Prepared by : P0reto

Analyzed by : SDecso

METHOD 3520C/8015B  
 PETROLEUM HYDROCARBONS BY EXTRACTION

```

=====
Client       : EUROFINS EATON ANALYTICAL   Date Collected: 12/05/22 10:04
Project      : 380-30191                 Date Received: 12/07/22
Batch No.    : 22L099                    Date Extracted: 12/13/22 13:00
Sample ID    : 380-30191-3              Date Analyzed: 12/14/22 18:21
Lab Samp ID  : 22L099-03                 Dilution Factor: 1
Lab File ID  : LL14027A                  Matrix: WATER
Ext Btch ID  : 22DSL019W                 % Moisture: NA
Calib. Ref.  : LL14017A                  Instrument ID: D5
=====
  
```

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
JP8	ND	0.048	0.024

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.327	0.475	69	60-130
Hexacosane	0.130	0.119	109	60-130

Notes:

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

Detection limits are reported relative to sample result significant figures.  
 Sample Amount : 1050ml Final Volume : 5ml  
 Prepared by : P0reto Analyzed by : SDeeso

METHOD 3520C/8015B  
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 12/05/22 09:42
Project     : 380-30191                 Date Received: 12/07/22
Batch No.   : 22L099                   Date Extracted: 12/13/22 13:00
Sample ID   : 380-30191-4              Date Analyzed: 12/14/22 18:40
Lab Samp ID: 22L099-04                 Dilution Factor: 1
Lab File ID: LL14028A                  Matrix: WATER
Ext Btch ID: 22DSL019W                 % Moisture: NA
Calib. Ref.: LL14015A                  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	0.380	0.495	77	60-130
Hexacosane	0.136	0.124	110	60-130

Notes:

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

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 1010ml Final Volume : 5ml  
Prepared by : POrreto Analyzed by : SDeeso

METHOD 3520C/8015B  
 PETROLEUM HYDROCARBONS BY EXTRACTION

```

=====
Client      : EUROFINS EATON ANALYTICAL    Date Collected: 12/05/22 09:42
Project     : 380-30191                    Date Received: 12/07/22
Batch No.   : 22L099                       Date Extracted: 12/13/22 13:00
Sample ID   : 380-30191-4                 Date Analyzed: 12/14/22 18:40
Lab Samp ID : 22L099-04                   Dilution Factor: 1
Lab File ID : LL14028A                    Matrix: WATER
Ext Btch ID : 22DSL019W                   % Moisture: NA
Calib. Ref. : LL14016A                    Instrument ID: D5
=====
    
```

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

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.380	0.495	77	60-130
Hexacosane	0.136	0.124	110	60-130

Notes:

RL : Reporting Limit

Parameter H-C Range

JP5 C8-C18

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 1010ml Final Volume : 5ml

Prepared by : P0reto Analyzed by : SDeeso

METHOD 3520C/8015B  
 PETROLEUM HYDROCARBONS BY EXTRACTION

```

=====
Client       : EUROFINs EATON ANALYTICAL   Date Collected: 12/05/22 09:42
Project      : 380-30191                   Date Received: 12/07/22
Batch No.    : 22L099                       Date Extracted: 12/13/22 13:00
Sample ID    : 380-30191-4                 Date Analyzed: 12/14/22 18:40
Lab Samp ID  : 22L099-04                   Dilution Factor: 1
Lab File ID  : LL14028A                    Matrix: WATER
Ext Btch ID  : 22DSL019W                   % Moisture: NA
Calib. Ref.  : LL14017A                    Instrument ID: D5
=====
    
```

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

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.380	0.495	77	60-130
Hexacosane	0.136	0.124	110	60-130

Notes:

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

Detection limits are reported relative to sample result significant figures.  
 Sample Amount : 1010ml Final Volume : 5ml  
 Prepared by : P0reto Analyzed by : SDeeso

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# QC SUMMARIES

METHOD 3520C/8015B  
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

```

=====
Client      : EUROFINS EATON ANALYTICAL      Date Collected: 12/13/22 13:00
Project    : 380-30191                      Date Received: 12/13/22
Batch No.  : 22L099                          Date Extracted: 12/13/22 13:00
Sample ID  : MBLK1W                          Date Analyzed: 12/14/22 16:31
Lab Samp ID: DSL019WB                        Dilution Factor: 1
Lab File ID: LL14021A                        Matrix: WATER
Ext Btch ID: 22DSL019W                       % Moisture: NA
Calib. Ref.: LL14015A                       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	0.416	0.500	83	60-130
Hexacosane	0.133	0.125	107	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 : POrreto Analyzed by : SDeeso

EMAX QUALITY CONTROL DATA  
LAB CONTROL SAMPLE ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL  
PROJECT : 380-30191  
BATCH NO. : 22L099  
METHOD : 3520C/8015B

MATRIX : WATER % MOISTURE:NA  
DILUTION FACTOR: 1 1  
SAMPLE ID : MBLK1W LCS1W  
LAB SAMPLE ID : DSL019WB DSL019WL  
LAB FILE ID : LL14021A LL14022A  
DATE PREPARED : 12/13/22 13:00 12/13/22 13:00  
DATE ANALYZED : 12/14/22 16:31 12/14/22 16:49  
PREP BATCH : 22DSL019W 22DSL019W  
CALIBRATION REF: LL14015A LL14015A

ACCESSION:

PARAMETERS	MBResult (mg/L)	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	QCLimit (%)
Diesel	ND	2.50	2.51	100	50-130

SURROGATE PARAMETERS	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	QCLimit (%)
Bromobenzene	0.500	0.436	87	60-130
Hexacosane	0.125	0.134	107	60-130

MB: Method Blank sample LCS: Lab Control Sample



EMAX QUALITY CONTROL DATA  
MS/MSD ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL  
PROJECT : 380-30497  
BATCH NO. : 22L101  
METHOD : 3520C/8015B

```

=====
MATRIX      : WATER                               % MOISTURE:NA
DILUTION FACTOR: 1                               1
SAMPLE ID   : 380-30947-1                         380-30947-1MSD
LAB SAMPLE ID : 22L101-01                         22L101-01S
LAB FILE ID  : LL14029A                           LL14030A
DATE PREPARED : 12/13/22 13:00                   12/13/22 13:00
DATE ANALYZED : 12/14/22 18:58                   12/14/22 19:35
PREP BATCH   : 22DSL019W                         22DSL019W
CALIBRATION REF: LL14015A                        LL14015A
  
```

ACCESSION:

PARAMETERS	PSResult (mg/L)	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
Diesel	ND	2.62	2.77	106	2.62	2.72	104	2	50-130	30

SURROGATE PARAMETERS	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	QCLimit (%)
Bromobenzene	0.525	0.495	94	0.525	0.512	98	60-130
Hexacosane	0.131	0.139	106	0.131	0.149	114	60-130

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

METHOD 3520C/8015B  
 PETROLEUM HYDROCARBONS BY EXTRACTION

```

=====
Client      : EUROFINS EATON ANALYTICAL      Date Collected: 12/13/22 13:00
Project     : 380-30191                      Date Received: 12/13/22
Batch No.   : 22L099                          Date Extracted: 12/13/22 13:00
Sample ID   : MBLK1W                           Date Analyzed: 12/14/22 16:31
Lab Samp ID: DSL019WB                          Dilution Factor: 1
Lab File ID: LL14021A                           Matrix: WATER
Ext Btch ID: 22DSL019W                          % Moisture: NA
Calib. Ref.: LL14016A                           Instrument ID: D5
=====
    
```

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

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.416	0.500	83	60-130
Hexacosane	0.133	0.125	107	60-130

Notes:

RL : Reporting Limit  
 Parameter H-C Range  
 JP5 C8-C18  
 Reported ND at RL quantitated per pattern recognition.

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

EMAX QUALITY CONTROL DATA  
LAB CONTROL SAMPLE ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL  
PROJECT : 380-30191  
BATCH NO. : 22L099  
METHOD : 3520C/8015B

MATRIX : WATER % MOISTURE:NA  
DILUTION FACTOR: 1 1  
SAMPLE ID : MBLK1W LCS1W  
LAB SAMPLE ID : DSL019WB J5L019WL  
LAB FILE ID : LL14021A LL14023A  
DATE PREPARED : 12/13/22 13:00 12/13/22 13:00  
DATE ANALYZED : 12/14/22 16:31 12/14/22 17:08  
PREP BATCH : 22DSL019W 22DSL019W  
CALIBRATION REF: LL14016A LL14016A

ACCESSION:

PARAMETERS	MBResult (mg/L)	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	QCLimit (%)
JP5	ND	2.50	2.65	106	30-160

SURROGATE PARAMETERS	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	QCLimit (%)
Bromobenzene	0.500	0.484	97	60-130
Hexacosane	0.125	0.136	109	60-130

MB: Method Blank sample LCS: Lab Control Sample

EMAX QUALITY CONTROL DATA  
MS/MSD ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL  
PROJECT : 380-30497  
BATCH NO. : 22L101  
METHOD : 3520C/8015B

```

=====
MATRIX      : WATER                               % MOISTURE:NA
DILUTION FACTOR: 1                               1
SAMPLE ID   : 380-30947-1                         380-30947-1MSD
LAB SAMPLE ID : 22L101-01                         22L101-01S
LAB FILE ID  : LL14029A                           LL14032A
DATE PREPARED : 12/13/22 13:00                    12/13/22 13:00
DATE ANALYZED : 12/14/22 18:58                    12/14/22 20:12
PREP BATCH   : 22DSL019W                           22DSL019W
CALIBRATION REF: LL14016A                           LL14016A
=====
  
```

ACCESSION:

PARAMETERS	PSResult (mg/L)	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
JP5	ND	2.42	2.45	101	2.42	2.85	118	15	30-160	30

SURROGATE PARAMETERS	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	QCLimit (%)
Bromobenzene	0.485	0.428	88	0.485	0.494	102	60-130
Hexacosane	0.121	0.128	106	0.121	0.142	117	60-130

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

METHOD 3520C/8015B  
 PETROLEUM HYDROCARBONS BY EXTRACTION

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 12/13/22 13:00
Project     : 380-30191                 Date Received: 12/13/22
Batch No.   : 22L099                   Date Extracted: 12/13/22 13:00
Sample ID   : MBLK1W                   Date Analyzed: 12/14/22 16:31
Lab Samp ID: DSL019WB                 Dilution Factor: 1
Lab File ID: LL14021A                 Matrix: WATER
Ext Btch ID: 22DSL019W                % Moisture: NA
Calib. Ref.: LL14017A                 Instrument ID: D5
=====
    
```

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

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.416	0.500	83	60-130
Hexacosane	0.133	0.125	107	60-130

Notes:

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

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

EMAX QUALITY CONTROL DATA  
LAB CONTROL SAMPLE ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL  
PROJECT : 380-30191  
BATCH NO. : 22L099  
METHOD : 3520C/8015B

=====

MATRIX : WATER % MOISTURE:NA  
DILUTION FACTOR: 1 1  
SAMPLE ID : MBLK1W LCS1W  
LAB SAMPLE ID : DSL019WB J8L019WL  
LAB FILE ID : LL14021A LL14024A  
DATE PREPARED : 12/13/22 13:00 12/13/22 13:00  
DATE ANALYZED : 12/14/22 16:31 12/14/22 17:26  
PREP BATCH : 22DSL019W 22DSL019W  
CALIBRATION REF: LL14017A LL14017A

ACCESSION:

PARAMETERS	MBResult (mg/L)	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	QCLimit (%)
JP8	ND	2.50	2.86	114	30-160

=====

SURROGATE PARAMETERS	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	QCLimit (%)
Bromobenzene	0.500	0.511	102	60-130
Hexacosane	0.125	0.138	110	60-130

=====

MB: Method Blank sample LCS: Lab Control Sample

EMAX QUALITY CONTROL DATA  
MS/MSD ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL  
PROJECT : 380-30497  
BATCH NO. : 22L101  
METHOD : 3520C/8015B

```

=====
MATRIX      : WATER                               % MOISTURE:NA
DILUTION FACTOR: 1                               1
SAMPLE ID   : 380-30947-1                         380-30947-1MS      380-30947-1MSD
LAB SAMPLE ID : 22L101-01                         22L101-01M        22L101-01S
LAB FILE ID  : LL14029A                           LL14034A          LL14035A
DATE PREPARED : 12/13/22 13:00                   12/13/22 13:00   12/13/22 13:00
DATE ANALYZED : 12/14/22 18:58                   12/14/22 20:30   12/14/22 20:49
PREP BATCH   : 22DSL019W                          22DSL019W        22DSL019W
CALIBRATION REF: LL14017A                         LL14017A         LL14017A
  
```

ACCESSION:

PARAMETERS	PSResult (mg/L)	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
JP8	ND	2.65	3.04	115	2.62	2.99	114	2	30-160	30

SURROGATE PARAMETERS	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	QCLimit (%)
Bromobenzene	0.530	0.606	114	0.525	0.499	95	60-130
Hexacosane	0.132	0.145	109	0.131	0.143	109	60-130

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

December 28, 2022

Rosalynn Dang  
 Eurofins Eaton Analytical  
 750 Royal Oaks Drive  
 Suite 100  
 Monrovia, CA 91016-

Project Name: RED-HILL Project # 38001111 Job # 380-30191-1  
 Physis Project ID: 1407003-345

Dear Rosalynn,

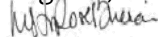
Enclosed are the analytical results for samples submitted to PHYSIS Environmental Laboratories, Inc. (PHYSIS) on 12/7/2022. A total of 4 samples were received for analysis in accordance with the attached chain of custody (COC). Per the COC, the samples were analyzed for:

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: 1407003-345

RED-HILL Project # 38001111 Job # 380-30191-1

Total Samples: 4

PHYSIS ID	Sample ID	Description	Date	Time	Matrix	Sample Type
102198	Aiea Gulch Wells Pump 1	380-30191-1	12/5/2022	10:31	Samplewater	Not Specified
102199	Aiea Gulch Wells Pump 2	380-30191-2	12/5/2022	10:56	Samplewater	Not Specified
102200	Aiea Wells Pump 2	380-30191-3	12/5/2022	10:04	Samplewater	Not Specified
102201	Halawa Wells Pump 1	380-30191-4	12/5/2022	9:42	Samplewater	Not Specified



## ABBREVIATIONS and ACRONYMS

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

## QUALITY ASSURANCE SUMMARY

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

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

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

**PRECISION:** Precision is the agreement among a set of replicate measurements without assumption of knowledge of the true value and is based on RPD calculations between repeated values. Precision of the project data was determined by analysis of replicate MS<sub>1</sub>/MS<sub>2</sub>, BS<sub>1</sub>/BS<sub>2</sub>, LCS<sub>1</sub>/LCS<sub>2</sub>, LCM<sub>1</sub>/LCM<sub>2</sub>, CRM<sub>1</sub>/CRM<sub>2</sub>, surrogate spikes and/or replicate project sample analysis (R<sub>1</sub>/R<sub>2</sub>) on a minimum frequency of one per batch. Physis' QM requires that for 95% of the compounds greater than 10 times the MDL, the percent RPD should be within the specified acceptance range.

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

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

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

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

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

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

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

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

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

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

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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.

# ANALYTICALS

# REPORT

TERRA AURA  
ENVIRONMENTAL LABORATORIES, INC.

*Innovative Solutions for Nature*

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### Base/Neutral Extractable Compounds

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
<b>Sample ID: 102198-R1 Aiea Gulch Wells Pump 1 380-30191 Matrix: Samplewater</b>											
Disalicylideneprapanediamine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-40046	07-Dec-22	18-Dec-22
<b>Sample ID: 102199-R1 Aiea Gulch Wells Pump 2 380-30191 Matrix: Samplewater</b>											
Disalicylideneprapanediamine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-40046	07-Dec-22	19-Dec-22
<b>Sample ID: 102200-R1 Aiea Wells Pump 2 380-30191-3 Matrix: Samplewater</b>											
Disalicylideneprapanediamine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-40046	07-Dec-22	19-Dec-22
<b>Sample ID: 102201-R1 Halawa Wells Pump 1 380-30191-4 Matrix: Samplewater</b>											
Disalicylideneprapanediamine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-40046	07-Dec-22	19-Dec-22



### Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
<b>Sample ID: 102198-R1 Aiea Gulch Wells Pump 1 380-30191 Matrix: Samplewater</b>							<b>Sampled: 05-Dec-22 10:31</b>		<b>Received: 07-Dec-22</b>		
(d10-Acenaphthene)	EPA 625.1	% Recovery	81	1			Total		O-40046	07-Dec-22	18-Dec-22
(d10-Phenanthrene)	EPA 625.1	% Recovery	86	1			Total		O-40046	07-Dec-22	18-Dec-22
(d12-Chrysene)	EPA 625.1	% Recovery	85	1			Total		O-40046	07-Dec-22	18-Dec-22
(d12-Perylene)	EPA 625.1	% Recovery	38	1			Total		O-40046	07-Dec-22	18-Dec-22
(d8-Naphthalene)	EPA 625.1	% Recovery	72	1			Total		O-40046	07-Dec-22	18-Dec-22
1-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40046	07-Dec-22	18-Dec-22
1-Methylphenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40046	07-Dec-22	18-Dec-22
2,3,5-Trimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40046	07-Dec-22	18-Dec-22
2,6-Dimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40046	07-Dec-22	18-Dec-22
2-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40046	07-Dec-22	18-Dec-22
Acenaphthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40046	07-Dec-22	18-Dec-22
Acenaphthylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40046	07-Dec-22	18-Dec-22
Anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40046	07-Dec-22	18-Dec-22
Benz[a]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40046	07-Dec-22	18-Dec-22
Benzo[a]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40046	07-Dec-22	18-Dec-22
Benzo[b]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40046	07-Dec-22	18-Dec-22
Benzo[e]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40046	07-Dec-22	18-Dec-22
Benzo[g,h,i]perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40046	07-Dec-22	18-Dec-22
Benzo[k]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40046	07-Dec-22	18-Dec-22
Biphenyl	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40046	07-Dec-22	18-Dec-22
Chrysene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40046	07-Dec-22	18-Dec-22
Dibenz[a,h]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40046	07-Dec-22	18-Dec-22
Dibenzo[a,l]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40046	07-Dec-22	18-Dec-22
Dibenzothiophene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40046	07-Dec-22	18-Dec-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-40046	07-Dec-22	18-Dec-22
Fluorene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40046	07-Dec-22	18-Dec-22
Indeno[1,2,3-cd]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40046	07-Dec-22	18-Dec-22
Naphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40046	07-Dec-22	18-Dec-22
Perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40046	07-Dec-22	18-Dec-22
Phenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40046	07-Dec-22	18-Dec-22
Pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40046	07-Dec-22	18-Dec-22



## Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed	
<b>Sample ID: 102199-R1</b>	<b>Aiea Gulch Wells Pump 2 380-30191 Matrix: Samplewater</b>						<b>Sampled:</b>	<b>05-Dec-22 10:56</b>	<b>Received:</b>	<b>07-Dec-22</b>		
(d10-Acenaphthene)	EPA 625.1	% Recovery	72	1			Total		O-40046	07-Dec-22	19-Dec-22	
(d10-Phenanthrene)	EPA 625.1	% Recovery	82	1			Total		O-40046	07-Dec-22	19-Dec-22	
(d12-Chrysene)	EPA 625.1	% Recovery	88	1			Total		O-40046	07-Dec-22	19-Dec-22	
(d12-Perylene)	EPA 625.1	% Recovery	77	1			Total		O-40046	07-Dec-22	19-Dec-22	
(d8-Naphthalene)	EPA 625.1	% Recovery	63	1			Total		O-40046	07-Dec-22	19-Dec-22	
1-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40046	07-Dec-22	19-Dec-22	
1-Methylphenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40046	07-Dec-22	19-Dec-22	
2,3,5-Trimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40046	07-Dec-22	19-Dec-22	
2,6-Dimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40046	07-Dec-22	19-Dec-22	
2-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40046	07-Dec-22	19-Dec-22	
Acenaphthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40046	07-Dec-22	19-Dec-22	
Acenaphthylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40046	07-Dec-22	19-Dec-22	
Anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40046	07-Dec-22	19-Dec-22	
Benz[a]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40046	07-Dec-22	19-Dec-22	
Benzo[a]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40046	07-Dec-22	19-Dec-22	
Benzo[b]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40046	07-Dec-22	19-Dec-22	
Benzo[e]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40046	07-Dec-22	19-Dec-22	
Benzo[g,h,i]perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40046	07-Dec-22	19-Dec-22	
Benzo[k]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40046	07-Dec-22	19-Dec-22	
Biphenyl	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40046	07-Dec-22	19-Dec-22	
Chrysene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40046	07-Dec-22	19-Dec-22	
Dibenz[a,h]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40046	07-Dec-22	19-Dec-22	
Dibenzo[a,l]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40046	07-Dec-22	19-Dec-22	
Dibenzothiophene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40046	07-Dec-22	19-Dec-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-40046	07-Dec-22	19-Dec-22
Fluorene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40046	07-Dec-22	19-Dec-22
Indeno[1,2,3-cd]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40046	07-Dec-22	19-Dec-22
Naphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40046	07-Dec-22	19-Dec-22
Perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40046	07-Dec-22	19-Dec-22
Phenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40046	07-Dec-22	19-Dec-22
Pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40046	07-Dec-22	19-Dec-22

## Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
<b>Sample ID: 102200-R1</b>	<b>Aiea Wells Pump 2 380-30191-3</b>	<b>Matrix: Samplewater</b>					<b>Sampled: 05-Dec-22 10:04</b>			<b>Received: 07-Dec-22</b>	<b>07-Dec-22</b>
(d10-Acenaphthene)	EPA 625.1	% Recovery	77	1			Total		O-40046	07-Dec-22	19-Dec-22
(d10-Phenanthrene)	EPA 625.1	% Recovery	84	1			Total		O-40046	07-Dec-22	19-Dec-22
(d12-Chrysene)	EPA 625.1	% Recovery	79	1			Total		O-40046	07-Dec-22	19-Dec-22
(d12-Perylene)	EPA 625.1	% Recovery	74	1			Total		O-40046	07-Dec-22	19-Dec-22
(d8-Naphthalene)	EPA 625.1	% Recovery	66	1			Total		O-40046	07-Dec-22	19-Dec-22
1-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40046	07-Dec-22	19-Dec-22
1-Methylphenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40046	07-Dec-22	19-Dec-22
2,3,5-Trimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40046	07-Dec-22	19-Dec-22
2,6-Dimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40046	07-Dec-22	19-Dec-22
2-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40046	07-Dec-22	19-Dec-22
Acenaphthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40046	07-Dec-22	19-Dec-22
Acenaphthylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40046	07-Dec-22	19-Dec-22
Anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40046	07-Dec-22	19-Dec-22
Benz[a]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40046	07-Dec-22	19-Dec-22
Benzo[a]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40046	07-Dec-22	19-Dec-22
Benzo[b]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40046	07-Dec-22	19-Dec-22
Benzo[e]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40046	07-Dec-22	19-Dec-22
Benzo[g,h,i]perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40046	07-Dec-22	19-Dec-22
Benzo[k]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40046	07-Dec-22	19-Dec-22
Biphenyl	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40046	07-Dec-22	19-Dec-22
Chrysene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40046	07-Dec-22	19-Dec-22
Dibenz[a,h]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40046	07-Dec-22	19-Dec-22
Dibenzo[a,l]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40046	07-Dec-22	19-Dec-22
Dibenzothiophene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40046	07-Dec-22	19-Dec-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-40046	07-Dec-22	19-Dec-22
Fluorene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40046	07-Dec-22	19-Dec-22
Indeno[1,2,3-cd]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40046	07-Dec-22	19-Dec-22
Naphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40046	07-Dec-22	19-Dec-22
Perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40046	07-Dec-22	19-Dec-22
Phenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40046	07-Dec-22	19-Dec-22
Pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40046	07-Dec-22	19-Dec-22



## Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
<b>Sample ID: 102201-R1    Halawa Wells Pump 1 380-30191-4    Matrix: Samplewater    Sampled: 05-Dec-22 9:42    Received: 07-Dec-22</b>											
(d10-Acenaphthene)	EPA 625.1	% Recovery	76	1			Total		O-40046	07-Dec-22	19-Dec-22
(d10-Phenanthrene)	EPA 625.1	% Recovery	82	1			Total		O-40046	07-Dec-22	19-Dec-22
(d12-Chrysene)	EPA 625.1	% Recovery	79	1			Total		O-40046	07-Dec-22	19-Dec-22
(d12-Perylene)	EPA 625.1	% Recovery	76	1			Total		O-40046	07-Dec-22	19-Dec-22
(d8-Naphthalene)	EPA 625.1	% Recovery	66	1			Total		O-40046	07-Dec-22	19-Dec-22
1-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40046	07-Dec-22	19-Dec-22
1-Methylphenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40046	07-Dec-22	19-Dec-22
2,3,5-Trimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40046	07-Dec-22	19-Dec-22
2,6-Dimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40046	07-Dec-22	19-Dec-22
2-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40046	07-Dec-22	19-Dec-22
Acenaphthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40046	07-Dec-22	19-Dec-22
Acenaphthylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40046	07-Dec-22	19-Dec-22
Anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40046	07-Dec-22	19-Dec-22
Benz[a]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40046	07-Dec-22	19-Dec-22
Benzo[a]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40046	07-Dec-22	19-Dec-22
Benzo[b]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40046	07-Dec-22	19-Dec-22
Benzo[e]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40046	07-Dec-22	19-Dec-22
Benzo[g,h,i]perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40046	07-Dec-22	19-Dec-22
Benzo[k]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40046	07-Dec-22	19-Dec-22
Biphenyl	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40046	07-Dec-22	19-Dec-22
Chrysene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40046	07-Dec-22	19-Dec-22
Dibenz[a,h]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40046	07-Dec-22	19-Dec-22
Dibenzo[a,l]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40046	07-Dec-22	19-Dec-22
Dibenzothiophene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40046	07-Dec-22	19-Dec-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-40046	07-Dec-22	19-Dec-22
Fluorene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40046	07-Dec-22	19-Dec-22
Indeno[1,2,3-cd]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40046	07-Dec-22	19-Dec-22
Naphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40046	07-Dec-22	19-Dec-22
Perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40046	07-Dec-22	19-Dec-22
Phenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40046	07-Dec-22	19-Dec-22
Pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40046	07-Dec-22	19-Dec-22



# QUALITY CONTROL REPORT

TERRA ENVIRONMENTAL LABORATORIES, INC. AURA

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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: 102197-B1</b>		<b>QAQC Procedural Blank</b>				<b>Matrix: BlankMatrix</b>		<b>Sampled:</b>		<b>Received:</b>					
		Method: EPA 625.1				Batch ID: O-40046		Prepared: 05-Dec-22		Analyzed: 17-Dec-22					
Disalicylidenepropanediamin	Total	ND	1	0.05	0.1	µg/L									
<b>Sample ID: 102197-BS1</b>		<b>QAQC Procedural Blank</b>				<b>Matrix: BlankMatrix</b>		<b>Sampled:</b>		<b>Received:</b>					
		Method: EPA 625.1				Batch ID: O-40046		Prepared: 05-Dec-22		Analyzed: 17-Dec-22					
Disalicylidenepropanediamin	Total	50.3	1	0.05	0.1	µg/L	50	0	101	50 - 150%	PASS				
<b>Sample ID: 102197-BS2</b>		<b>QAQC Procedural Blank</b>				<b>Matrix: BlankMatrix</b>		<b>Sampled:</b>		<b>Received:</b>					
		Method: EPA 625.1				Batch ID: O-40046		Prepared: 05-Dec-22		Analyzed: 17-Dec-22					
Disalicylidenepropanediamin	Total	53.8	1	0.05	0.1	µg/L	50	0	108	50 - 150%	PASS	7	30	PASS	

## 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: 102197-B1</b>		<b>QAQC Procedural Blank</b>			<b>Matrix: BlankMatrix</b>			<b>Sampled:</b>		<b>Received:</b>		
		Method: EPA 625.1			Batch ID: O-40046			Prepared: 05-Dec-22		Analyzed: 17-Dec-22		
(d10-Acenaphthene)	Total	81	1				% Recovery	100	81	27 - 133%	PASS	
(d10-Phenanthrene)	Total	88	1				% Recovery	100	88	43 - 129%	PASS	
(d12-Chrysene)	Total	88	1				% Recovery	100	88	52 - 144%	PASS	
(d12-Perylene)	Total	82	1				% Recovery	100	82	36 - 161%	PASS	
(d8-Naphthalene)	Total	83	1				% Recovery	100	83	25 - 125%	PASS	
1-Methylnaphthalene	Total	ND	1	0.001	0.005	µg/L						
1-Methylphenanthrene	Total	ND	1	0.001	0.005	µg/L						
2,3,5-Trimethylnaphthalene	Total	ND	1	0.001	0.005	µg/L						
2,6-Dimethylnaphthalene	Total	ND	1	0.001	0.005	µg/L						
2-Methylnaphthalene	Total	ND	1	0.001	0.005	µg/L						
Acenaphthene	Total	ND	1	0.001	0.005	µg/L						
Acenaphthylene	Total	ND	1	0.001	0.005	µg/L						
Anthracene	Total	ND	1	0.001	0.005	µg/L						
Benz[a]anthracene	Total	ND	1	0.001	0.005	µg/L						
Benzo[a]pyrene	Total	ND	1	0.001	0.005	µg/L						
Benzo[b]fluoranthene	Total	ND	1	0.001	0.005	µg/L						
Benzo[e]pyrene	Total	ND	1	0.001	0.005	µg/L						
Benzo[g,h,i]perylene	Total	ND	1	0.001	0.005	µg/L						
Benzo[k]fluoranthene	Total	ND	1	0.001	0.005	µg/L						
Biphenyl	Total	ND	1	0.001	0.005	µg/L						
Chrysene	Total	ND	1	0.001	0.005	µg/L						
Dibenz[a,h]anthracene	Total	ND	1	0.001	0.005	µg/L						
Dibenzo[a,l]pyrene	Total	ND	1	0.001	0.005	µg/L						
Dibenzothiophene	Total	ND	1	0.001	0.005	µg/L						

## Polynuclear Aromatic Hydrocarbons

## QUALITY CONTROL REPORT

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



## Polynuclear Aromatic Hydrocarbons

## QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY	PRECISION	QA CODEc	
							LEVEL	RESULT	%	LIMITS	%	LIMITS
<b>Sample ID: 102197-BS1</b>		<b>QAQC Procedural Blank</b>			<b>Matrix: BlankMatrix</b>			<b>Sampled:</b>		<b>Received:</b>		
Method: EPA 625.1		Batch ID: O-40046			Prepared: 05-Dec-22		Analyzed: 17-Dec-22					
(d10-Acenaphthene)	Total	74	1			% Recovery	100	0	74	27 - 133%	PASS	
(d10-Phenanthrene)	Total	88	1			% Recovery	100	0	88	43 - 129%	PASS	
(d12-Chrysene)	Total	91	1			% Recovery	100	0	91	52 - 144%	PASS	
(d12-Perylene)	Total	91	1			% Recovery	100	0	91	36 - 161%	PASS	
(d8-Naphthalene)	Total	69	1			% Recovery	100	0	69	25 - 125%	PASS	
1-Methylnaphthalene	Total	0.364	1	0.001	0.005	µg/L	0.5	0	73	31 - 128%	PASS	
1-Methylphenanthrene	Total	0.42	1	0.001	0.005	µg/L	0.5	0	84	66 - 127%	PASS	
2,3,5-Trimethylnaphthalene	Total	0.407	1	0.001	0.005	µg/L	0.5	0	81	55 - 122%	PASS	
2,6-Dimethylnaphthalene	Total	0.377	1	0.001	0.005	µg/L	0.5	0	75	48 - 120%	PASS	
2-Methylnaphthalene	Total	0.36	1	0.001	0.005	µg/L	0.5	0	72	47 - 130%	PASS	
Acenaphthene	Total	0.401	1	0.001	0.005	µg/L	0.5	0	80	53 - 131%	PASS	
Acenaphthylene	Total	0.386	1	0.001	0.005	µg/L	0.5	0	77	43 - 140%	PASS	
Anthracene	Total	0.419	1	0.001	0.005	µg/L	0.5	0	84	58 - 135%	PASS	
Benz[a]anthracene	Total	0.429	1	0.001	0.005	µg/L	0.5	0	86	55 - 145%	PASS	
Benzo[a]pyrene	Total	0.409	1	0.001	0.005	µg/L	0.5	0	82	51 - 143%	PASS	
Benzo[b]fluoranthene	Total	0.42	1	0.001	0.005	µg/L	0.5	0	84	46 - 165%	PASS	
Benzo[e]pyrene	Total	0.421	1	0.001	0.005	µg/L	0.5	0	84	42 - 152%	PASS	
Benzo[g,h,i]perylene	Total	0.423	1	0.001	0.005	µg/L	0.5	0	85	63 - 133%	PASS	
Benzo[k]fluoranthene	Total	0.416	1	0.001	0.005	µg/L	0.5	0	83	56 - 145%	PASS	
Biphenyl	Total	0.381	1	0.001	0.005	µg/L	0.5	0	76	56 - 119%	PASS	
Chrysene	Total	0.421	1	0.001	0.005	µg/L	0.5	0	84	56 - 141%	PASS	
Dibenz[a,h]anthracene	Total	0.433	1	0.001	0.005	µg/L	0.5	0	87	55 - 150%	PASS	
Dibenzo[a,l]pyrene	Total	0.492	1	0.001	0.005	µg/L	0.5	0	98	50 - 150%	PASS	
Dibenzothiophene	Total	0.416	1	0.001	0.005	µg/L	0.5	0	83	46 - 126%	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	
Fluoranthene	Total	0.416	1	0.001	0.005	µg/L	0.5	0	83	60 - 146%	PASS		
Fluorene	Total	0.395	1	0.001	0.005	µg/L	0.5	0	79	58 - 131%	PASS		
Indeno[1,2,3-cd]pyrene	Total	0.419	1	0.001	0.005	µg/L	0.5	0	84	50 - 151%	PASS		
Naphthalene	Total	0.337	1	0.001	0.005	µg/L	0.5	0	67	41 - 126%	PASS		
Perylene	Total	0.413	1	0.001	0.005	µg/L	0.5	0	83	48 - 141%	PASS		
Phenanthrene	Total	0.421	1	0.001	0.005	µg/L	0.5	0	84	67 - 127%	PASS		
Pyrene	Total	0.432	1	0.001	0.005	µg/L	0.5	0	86	54 - 156%	PASS		



## Polynuclear Aromatic Hydrocarbons

## QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY		PRECISION		QA CODE	
							LEVEL	RESULT	%	LIMITS	%	LIMITS		
<b>Sample ID: 102197-BS2</b>		<b>QAQC Procedural Blank</b>			<b>Matrix: BlankMatrix</b>			<b>Sampled:</b>			<b>Received:</b>			
Method: EPA 625.1		Batch ID: O-40046			Prepared: 05-Dec-22			Analyzed: 17-Dec-22						
(d10-Acenaphthene)	Total	88	1			% Recovery	100	0	88	27 - 133%	PASS	17	30	PASS
(d10-Phenanthrene)	Total	87	1			% Recovery	100	0	87	43 - 129%	PASS	1	30	PASS
(d12-Chrysene)	Total	88	1			% Recovery	100	0	88	52 - 144%	PASS	3	30	PASS
(d12-Perylene)	Total	90	1			% Recovery	100	0	90	36 - 161%	PASS	1	30	PASS
(d8-Naphthalene)	Total	79	1			% Recovery	100	0	79	25 - 125%	PASS	14	30	PASS
1-Methylnaphthalene	Total	0.391	1	0.001	0.005	µg/L	0.5	0	78	31 - 128%	PASS	7	30	PASS
1-Methylphenanthrene	Total	0.43	1	0.001	0.005	µg/L	0.5	0	86	66 - 127%	PASS	2	30	PASS
2,3,5-Trimethylnaphthalene	Total	0.428	1	0.001	0.005	µg/L	0.5	0	86	55 - 122%	PASS	6	30	PASS
2,6-Dimethylnaphthalene	Total	0.396	1	0.001	0.005	µg/L	0.5	0	79	48 - 120%	PASS	5	30	PASS
2-Methylnaphthalene	Total	0.397	1	0.001	0.005	µg/L	0.5	0	79	47 - 130%	PASS	9	30	PASS
Acenaphthene	Total	0.416	1	0.001	0.005	µg/L	0.5	0	83	53 - 131%	PASS	4	30	PASS
Acenaphthylene	Total	0.407	1	0.001	0.005	µg/L	0.5	0	81	43 - 140%	PASS	5	30	PASS
Anthracene	Total	0.428	1	0.001	0.005	µg/L	0.5	0	86	58 - 135%	PASS	2	30	PASS
Benz[a]anthracene	Total	0.415	1	0.001	0.005	µg/L	0.5	0	83	55 - 145%	PASS	4	30	PASS
Benzo[a]pyrene	Total	0.414	1	0.001	0.005	µg/L	0.5	0	83	51 - 143%	PASS	1	30	PASS
Benzo[b]fluoranthene	Total	0.424	1	0.001	0.005	µg/L	0.5	0	85	46 - 165%	PASS	1	30	PASS
Benzo[e]pyrene	Total	0.42	1	0.001	0.005	µg/L	0.5	0	84	42 - 152%	PASS	0	30	PASS
Benzo[g,h,i]perylene	Total	0.407	1	0.001	0.005	µg/L	0.5	0	81	63 - 133%	PASS	5	30	PASS
Benzo[k]fluoranthene	Total	0.416	1	0.001	0.005	µg/L	0.5	0	83	56 - 145%	PASS	0	30	PASS
Biphenyl	Total	0.404	1	0.001	0.005	µg/L	0.5	0	81	56 - 119%	PASS	6	30	PASS
Chrysene	Total	0.409	1	0.001	0.005	µg/L	0.5	0	82	56 - 141%	PASS	2	30	PASS
Dibenz[a,h]anthracene	Total	0.406	1	0.001	0.005	µg/L	0.5	0	81	55 - 150%	PASS	7	30	PASS
Dibenzo[a,l]pyrene	Total	0.455	1	0.001	0.005	µg/L	0.5	0	91	50 - 150%	PASS	7	30	PASS
Dibenzothiophene	Total	0.426	1	0.001	0.005	µg/L	0.5	0	85	46 - 126%	PASS	2	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		
Fluoranthene	Total	0.406	1	0.001	0.005	µg/L	0.5	0	81	60 - 146%	PASS	2	30	PASS
Fluorene	Total	0.417	1	0.001	0.005	µg/L	0.5	0	83	58 - 131%	PASS	5	30	PASS
Indeno[1,2,3-cd]pyrene	Total	0.391	1	0.001	0.005	µg/L	0.5	0	78	50 - 151%	PASS	7	30	PASS
Naphthalene	Total	0.389	1	0.001	0.005	µg/L	0.5	0	78	41 - 126%	PASS	15	30	PASS
Perylene	Total	0.408	1	0.001	0.005	µg/L	0.5	0	82	48 - 141%	PASS	1	30	PASS
Phenanthrene	Total	0.427	1	0.001	0.005	µg/L	0.5	0	85	67 - 127%	PASS	1	30	PASS
Pyrene	Total	0.406	1	0.001	0.005	µg/L	0.5	0	81	54 - 156%	PASS	6	30	PASS



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

Sample ID: 102198

RT	Area Pct	Concentration (ng/L)	Library/ID	Cas Number	Match Qual
36.3658	4.8790	1111	Anthracene-D10-	1719-06-8	94
10.9613	2.2307	508	Cyclobutanecarboxylic acid, 2-propenyl ester	1000282-60-3	90
33.0558	1.2934	295	Benzoic acid, 2-ethylhexyl ester	5444-75-7	98
10.7060	0.9500	216	Heptane, 2,4-dimethyl-	2213-23-2	81
10.7079	0.9334	213	2-Furanmethanol, tetrahydro-5-methyl-, trans-	54774-28-6	81
10.5839	0.7921	180	Hexane, 2-nitro-	14255-44-8	81
10.3399	0.7353	167	Cyclopentene, 1,2,3,4,5-pentamethyl-	1000154-28-6	91
10.7676	0.6954	158	Cyclohexane, 1-methyl-2-propyl-	4291-79-6	92
11.3124	0.5522	126	1,5-Heptadien-4-one, 3,3,6-trimethyl-	546-49-6	92
10.5828	0.4589	105	3-Hexanol	623-37-0	80

Concentration estimated using the response for Anthracene-d10

Sample ID: 102199

RT	Area Pct	Concentration (ng/L)	Library/ID	Cas Number	Match Qual
36.3895	2.9198	1111	Anthracene-D10-	1517-22-2	93
10.6049	0.7515	286	Hydroperoxide, 1-ethylbutyl	24254-56-6	88
10.9847	0.7251	276	Oxalic acid, cyclohexyl propyl ester	1000309-30-3	89
33.0752	0.5018	191	Benzoic acid, 2-ethylhexyl ester	5444-75-7	97
10.7319	0.4575	174	Hydroperoxide, 1-methylpentyl	24254-55-5	87
11.3435	0.4156	158	1-Butene, 2,3,3-trimethyl-	594-56-9	89
10.3209	0.4051	154	Cyclopentane, 1,2,3,4,5-pentamethyl-	1000152-79-7	89
10.7889	0.2862	109	Cyclohexane, 1-methyl-2-propyl-	4291-79-6	87

Concentration estimated using the response for Anthracene-d10

Sample ID: 102200

RT	Area Pct	Concentration (ng/L)	Library/ID	Cas Number	Match Qual
36.3700	4.6411	1111	Anthracene-D10	1517-22-2	95
10.9617	1.4679	351	Oxalic acid, cyclohexyl pentyl ester	1000309-30-6	88
33.0555	0.8084	194	Benzoic acid, 2-ethylhexyl ester	5444-75-7	98
10.7072	0.6000	144	Hydroperoxide, 1-methylpentyl	24254-55-5	84
10.5833	0.5937	142	Hydroperoxide, 1-ethylbutyl	24254-56-6	87
10.3397	0.5027	120	Cyclopentene, 1,2,3,4,5-pentamethyl-	1000154-28-6	91
13.3280	0.4392	105	Succinimide	123-56-8	99

Concentration estimated using the response for Anthracene-d10

Sample ID: 102201

RT	Area Pct	Concentration (ng/L)	Library/ID	Cas Number	Match Qual
36.3735	4.8655	1111	Anthracene-D10-	1517-22-2	95
10.9611	1.5947	364	Oxalic acid, cyclohexyl pentyl ester	1000309-30-6	88
33.0564	0.7520	172	Benzoic acid, 2-ethylhexyl ester	5444-75-7	98
10.5830	0.6281	143	Hydroperoxide, 1-ethylbutyl	24254-56-6	85
10.3390	0.5057	115	Cyclopentene, 1,2,3,4,5-pentamethyl-	1000154-28-6	91
10.7071	0.5030	115	Hydroperoxide, 1-methylpentyl	24254-55-5	84
11.3118	0.4351	99	Oxalic acid, cyclohexyl isobutyl ester	1000309-30-4	89

Concentration estimated using the response for Anthracene-d10

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Sample ID: Lab Blank B1\_40046

RT	Area Pct	Concentration (ng/L)	Library/ID	Cas Number	Match Qual
36.3666	4.5719	1111	Anthracene-D10	1517-22-2	94
10.9619	2.2168	539	Cyclobutanecarboxylic acid, 2-propenyl ester	1000282-60-3	90
10.5839	0.7914	192	Hexane, 2-nitro-	14255-44-8	81
10.5837	0.7137	173	Ethanone, 1-(3-ethyloxiranyl)-	17257-81-7	80
33.0585	0.6695	163	Benzoic acid, 2-ethylhexyl ester	5444-75-7	98
10.7077	0.6200	151	2-Furanmethanol, tetrahydro-5-methyl-, trans-	54774-28-6	85
11.3135	0.5703	139	Oxalic acid, cyclohexyl isobutyl ester	1000309-30-4	91
10.3164	0.4714	115	Pentanal, 2,2-dimethyl-	14250-88-5	83

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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Project Iteration ID: 1407003-345  
 Client Name: Eurofins Eaton Analytical  
 Project Name: RED-HILL Project # 38001111 Job # 380-30191-1  
 COC Page Number: 2 of 2  
 Bottle Label Color: NA

### Sample Receipt Summary

#### Receiving Info

1. Initials Received By: YL
2. Date Received: 12/7/22
3. Time Received: 0930
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): 0.2 Used I/R Thermometer # 1-2

#### 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:



# Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-30191-1

**Login Number: 30191**

**List Number: 1**

**Creator: Elyas, Matthew**

**List Source: Eurofins Eaton Monrovia**

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