

# ANALYTICAL REPORT

## PREPARED FOR

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

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## JOB DESCRIPTION

RED-HILL  
RUSH Weekly Red Hill

## JOB NUMBER

380-49443-1

# Eurofins Eaton Analytical Pomona

## Job Notes

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

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

## Compliance Statement

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

## Authorization



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Authorized for release by  
Rachelle Arada, Manager of Project Management  
[Rachelle.Arada@et.eurofinsus.com](mailto:Rachelle.Arada@et.eurofinsus.com)  
(626)386-1106



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# Definitions/Glossary

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

Job ID: 380-49443-1

## Qualifiers

### GC/MS Semi VOA

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

### GC/MS Semi VOA TICs

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

### Subcontract

Qualifier	Qualifier Description
U	This analyte was not detected.

## Glossary

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

# Case Narrative

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

Job ID: 380-49443-1

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**Job ID: 380-49443-1**

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**Laboratory: Eurofins Eaton Analytical Pomona**

## Narrative

**Job Narrative**  
**380-49443-1**

### Comments

No additional comments.

### Receipt

The samples were received on 6/1/2023 9:57 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 2.0° C, 3.0° C and 3.7° 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: 380-49443-1

**Client Sample ID: MOANALUA WELLS** **Lab Sample ID: 380-49443-1**  
**PWSID Number: HI0000331**

No Detections.

**Client Sample ID: AIEA GULCH WELLS PUMP 2** **Lab Sample ID: 380-49443-2**  
**PWSID Number: HI0000331**

No Detections.

**Client Sample ID: AIEA WELLS PUMPS 1&2 (260)** **Lab Sample ID: 380-49443-3**  
**PWSID Number: HI0000331**

No Detections.

**Client Sample ID: HALAWA WELLS UNITS 1 & 2** **Lab Sample ID: 380-49443-4**  
**PWSID Number: HI0000331**

No Detections.

**Client Sample ID: TB MOANALUA WELLS** **Lab Sample ID: 380-49443-5**

No Detections.

**Client Sample ID: TB AIEA GULCH WELLS PUMP 2** **Lab Sample ID: 380-49443-6**

No Detections.

**Client Sample ID: TB AIEA WELLS PUMPS 1&2 (260)** **Lab Sample ID: 380-49443-7**

No Detections.

**Client Sample ID: TB HALAWA WELLS UNITS 1 & 2** **Lab Sample ID: 380-49443-8**

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: 380-49443-1

**Client Sample ID: MOANALUA WELLS**

**Lab Sample ID: 380-49443-1**

Date Collected: 05/30/23 10:14

Matrix: Drinking Water

Date Received: 06/01/23 09:57

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:00	1
2,4'-DDD	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:00	1
2,4'-DDE	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:00	1
2,4'-DDT	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:00	1
2,4-Dinitrotoluene	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:00	1
2,6-Dinitrotoluene	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:00	1
2-Methylnaphthalene	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:00	1
4,4'-DDD	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:00	1
4,4'-DDE	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:00	1
4,4'-DDT	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:00	1
Acenaphthene	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:00	1
Acenaphthylene	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:00	1
Acetochlor	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:00	1
Alachlor	<0.049		0.049	ug/L		06/07/23 14:25	06/09/23 19:00	1
alpha-BHC	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:00	1
alpha-Chlordane	<0.049		0.049	ug/L		06/07/23 14:25	06/09/23 19:00	1
Anthracene	<0.020		0.020	ug/L		06/07/23 14:25	06/09/23 19:00	1
Atrazine	<0.049		0.049	ug/L		06/07/23 14:25	06/09/23 19:00	1
Benz(a)anthracene	<0.049		0.049	ug/L		06/07/23 14:25	06/09/23 19:00	1
Benzo[a]pyrene	<0.020		0.020	ug/L		06/07/23 14:25	06/09/23 19:00	1
Benzo[b]fluoranthene	<0.020		0.020	ug/L		06/07/23 14:25	06/09/23 19:00	1
Benzo[g,h,i]perylene	<0.049		0.049	ug/L		06/07/23 14:25	06/09/23 19:00	1
Benzo[k]fluoranthene	<0.020		0.020	ug/L		06/07/23 14:25	06/09/23 19:00	1
beta-BHC	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:00	1
Bis(2-ethylhexyl) phthalate	<0.59		0.59	ug/L		06/07/23 14:25	06/09/23 19:00	1
Bromacil	<0.099	^3+	0.099	ug/L		06/07/23 14:25	06/09/23 19:00	1
Butachlor	<0.049		0.049	ug/L		06/07/23 14:25	06/09/23 19:00	1
Butylbenzylphthalate	<0.49		0.49	ug/L		06/07/23 14:25	06/09/23 19:00	1
Chlorobenzilate	<0.099	B ^3+	0.099	ug/L		06/07/23 14:25	06/09/23 19:00	1
Chloroneb	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:00	1
Chlorothalonil (Draconil, Bravo)	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:00	1
Chlorpyrifos	<0.049		0.049	ug/L		06/07/23 14:25	06/09/23 19:00	1
Chrysene	<0.020		0.020	ug/L		06/07/23 14:25	06/09/23 19:00	1
delta-BHC	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:00	1
Di(2-ethylhexyl)adipate	<0.59	B ^3+	0.59	ug/L		06/07/23 14:25	06/09/23 19:00	1
Dibenz(a,h)anthracene	<0.049		0.049	ug/L		06/07/23 14:25	06/09/23 19:00	1
Diclorvos (DDVP)	<0.049	^3+	0.049	ug/L		06/07/23 14:25	06/09/23 19:00	1
Dieldrin	<0.20		0.20	ug/L		06/07/23 14:25	06/09/23 19:00	1
Diethylphthalate	<0.49		0.49	ug/L		06/07/23 14:25	06/09/23 19:00	1
Dimethylphthalate	<0.49		0.49	ug/L		06/07/23 14:25	06/09/23 19:00	1
Di-n-butyl phthalate	<0.99		0.99	ug/L		06/07/23 14:25	06/09/23 19:00	1
Di-n-octyl phthalate	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:00	1
Endosulfan I (Alpha)	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:00	1
Endosulfan II (Beta)	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:00	1
Endosulfan sulfate	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:00	1
Endrin	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:00	1
Endrin aldehyde	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:00	1
EPTC	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:00	1
Fluoranthene	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:00	1

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# Client Sample Results

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

Job ID: 380-49443-1

**Client Sample ID: MOANALUA WELLS**

**Lab Sample ID: 380-49443-1**

Date Collected: 05/30/23 10:14

Matrix: Drinking Water

Date Received: 06/01/23 09:57

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	<0.049		0.049	ug/L		06/07/23 14:25	06/09/23 19:00	1
gamma-Chlordane	<0.049		0.049	ug/L		06/07/23 14:25	06/09/23 19:00	1
Heptachlor	<0.040		0.040	ug/L		06/07/23 14:25	06/09/23 19:00	1
Heptachlor epoxide (isomer B)	<0.049		0.049	ug/L		06/07/23 14:25	06/09/23 19:00	1
Hexachlorobenzene	<0.049		0.049	ug/L		06/07/23 14:25	06/09/23 19:00	1
Hexachlorocyclopentadiene	<0.049		0.049	ug/L		06/07/23 14:25	06/09/23 19:00	1
Indeno[1,2,3-cd]pyrene	<0.049		0.049	ug/L		06/07/23 14:25	06/09/23 19:00	1
Isophorone	<0.49		0.49	ug/L		06/07/23 14:25	06/09/23 19:00	1
Lindane	<0.040		0.040	ug/L		06/07/23 14:25	06/09/23 19:00	1
Malathion	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:00	1
Methoxychlor	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:00	1
Metolachlor	<0.049		0.049	ug/L		06/07/23 14:25	06/09/23 19:00	1
Molinate	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:00	1
Naphthalene	<0.30		0.30	ug/L		06/07/23 14:25	06/09/23 19:00	1
Parathion	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:00	1
Pendimethalin (Penoxaline)	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:00	1
Phenanthrene	<0.040		0.040	ug/L		06/07/23 14:25	06/09/23 19:00	1
Propachlor	<0.049		0.049	ug/L		06/07/23 14:25	06/09/23 19:00	1
Pyrene	<0.049		0.049	ug/L		06/07/23 14:25	06/09/23 19:00	1
Simazine	<0.049		0.049	ug/L		06/07/23 14:25	06/09/23 19:00	1
Terbacil	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:00	1
Terbutylazine	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:00	1
Thiobencarb	<0.20		0.20	ug/L		06/07/23 14:25	06/09/23 19:00	1
Total Permethrin (mixed isomers)	<0.20		0.20	ug/L		06/07/23 14:25	06/09/23 19:00	1
trans-Nonachlor	<0.049		0.049	ug/L		06/07/23 14:25	06/09/23 19:00	1
Trifluralin	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:00	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	0.52	T J	ug/L		3.80	N/A	06/07/23 14:25	06/09/23 19:00	1
Unknown	0.50	T J	ug/L		14.30	N/A	06/07/23 14:25	06/09/23 19:00	1
tri(2-Ethylhexyl) trimellitate	2.4	T J N	ug/L		15.02	3319-31-1	06/07/23 14:25	06/09/23 19:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Nitro-m-xylene	98		70 - 130	06/07/23 14:25	06/09/23 19:00	1
Perylene-d12	95		70 - 130	06/07/23 14:25	06/09/23 19:00	1
Triphenylphosphate	102		70 - 130	06/07/23 14:25	06/09/23 19:00	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		06/02/23 00:00	06/14/23 14:50	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 14:50	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 14:50	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 14:50	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 14:50	1
Acenaphthene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 14:50	1
Acenaphthylene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 14:50	1
Anthracene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 14:50	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 14:50	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 14:50	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 14:50	1

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# Client Sample Results

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

Job ID: 380-49443-1

## Client Sample ID: MOANALUA WELLS

## Lab Sample ID: 380-49443-1

Date Collected: 05/30/23 10:14

Matrix: Drinking Water

Date Received: 06/01/23 09:57

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[e]pyrene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 14:50	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 14:50	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 14:50	1
Biphenyl	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 14:50	1
Chrysene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 14:50	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 14:50	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 14:50	1
Dibenzothiophene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 14:50	1
Disalicylidenepropanediamine	ND		0.1	0.05	µg/L		06/02/23 00:00	06/14/23 14:50	1
Fluoranthene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 14:50	1
Fluorene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 14:50	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 14:50	1
Naphthalene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 14:50	1
Perylene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 14:50	1
Phenanthrene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 14:50	1
Pyrene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 14:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
(d10-Acenaphthene)	86		27 - 133	06/02/23 00:00	06/14/23 14:50	1
(d10-Phenanthrene)	90		43 - 129	06/02/23 00:00	06/14/23 14:50	1
(d12-Chrysene)	86		52 - 144	06/02/23 00:00	06/14/23 14:50	1
(d12-Perylene)	82		36 - 161	06/02/23 00:00	06/14/23 14:50	1
(d8-Naphthalene)	74		25 - 125	06/02/23 00:00	06/14/23 14:50	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GASOLINE	ND	U	0.020		mg/L			06/02/23 21:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE	94		60 - 140		06/02/23 21:29	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	0.028		mg/L			06/05/23 18:38	1
JP5	ND	U	0.055		mg/L			06/05/23 18:38	1
JP8	ND	U	0.055		mg/L			06/05/23 18:38	1
MOTOR OIL	ND	U	0.055		mg/L			06/05/23 18:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOBENZENE	81		60 - 130		06/05/23 18:38	1
HEXACOSANE	105		60 - 130		06/05/23 18:38	1

## Client Sample ID: AIEA GULCH WELLS PUMP 2

## Lab Sample ID: 380-49443-2

Date Collected: 05/30/23 11:39

Matrix: Drinking Water

Date Received: 06/01/23 09:57

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:20	1
2,4'-DDD	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:20	1
2,4'-DDE	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:20	1

Eurofins Eaton Analytical Pomona

# Client Sample Results

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

Job ID: 380-49443-1

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

**Lab Sample ID: 380-49443-2**

Date Collected: 05/30/23 11:39

Matrix: Drinking Water

Date Received: 06/01/23 09:57

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	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:20	1
2,4-Dinitrotoluene	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:20	1
2,6-Dinitrotoluene	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:20	1
2-Methylnaphthalene	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:20	1
4,4'-DDD	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:20	1
4,4'-DDE	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:20	1
4,4'-DDT	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:20	1
Acenaphthene	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:20	1
Acenaphthylene	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:20	1
Acetochlor	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:20	1
Alachlor	<0.049		0.049	ug/L		06/07/23 14:25	06/09/23 19:20	1
alpha-BHC	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:20	1
alpha-Chlordane	<0.049		0.049	ug/L		06/07/23 14:25	06/09/23 19:20	1
Anthracene	<0.020		0.020	ug/L		06/07/23 14:25	06/09/23 19:20	1
Atrazine	<0.049		0.049	ug/L		06/07/23 14:25	06/09/23 19:20	1
Benz(a)anthracene	<0.049		0.049	ug/L		06/07/23 14:25	06/09/23 19:20	1
Benzo[a]pyrene	<0.020		0.020	ug/L		06/07/23 14:25	06/09/23 19:20	1
Benzo[b]fluoranthene	<0.020		0.020	ug/L		06/07/23 14:25	06/09/23 19:20	1
Benzo[g,h,i]perylene	<0.049		0.049	ug/L		06/07/23 14:25	06/09/23 19:20	1
Benzo[k]fluoranthene	<0.020		0.020	ug/L		06/07/23 14:25	06/09/23 19:20	1
beta-BHC	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:20	1
Bis(2-ethylhexyl) phthalate	<0.59		0.59	ug/L		06/07/23 14:25	06/09/23 19:20	1
Bromacil	<0.099	^3+	0.099	ug/L		06/07/23 14:25	06/09/23 19:20	1
Butachlor	<0.049		0.049	ug/L		06/07/23 14:25	06/09/23 19:20	1
Butylbenzylphthalate	<0.49		0.49	ug/L		06/07/23 14:25	06/09/23 19:20	1
Chlorobenzilate	<0.099	B ^3+	0.099	ug/L		06/07/23 14:25	06/09/23 19:20	1
Chloroneb	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:20	1
Chlorothalonil (Draconil, Bravo)	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:20	1
Chlorpyrifos	<0.049		0.049	ug/L		06/07/23 14:25	06/09/23 19:20	1
Chrysene	<0.020		0.020	ug/L		06/07/23 14:25	06/09/23 19:20	1
delta-BHC	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:20	1
Di(2-ethylhexyl)adipate	<0.59	B ^3+	0.59	ug/L		06/07/23 14:25	06/09/23 19:20	1
Dibenz(a,h)anthracene	<0.049		0.049	ug/L		06/07/23 14:25	06/09/23 19:20	1
Diclorvos (DDVP)	<0.049	^3+	0.049	ug/L		06/07/23 14:25	06/09/23 19:20	1
Dieldrin	<0.20		0.20	ug/L		06/07/23 14:25	06/09/23 19:20	1
Diethylphthalate	<0.49		0.49	ug/L		06/07/23 14:25	06/09/23 19:20	1
Dimethylphthalate	<0.49		0.49	ug/L		06/07/23 14:25	06/09/23 19:20	1
Di-n-butyl phthalate	<0.99		0.99	ug/L		06/07/23 14:25	06/09/23 19:20	1
Di-n-octyl phthalate	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:20	1
Endosulfan I (Alpha)	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:20	1
Endosulfan II (Beta)	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:20	1
Endosulfan sulfate	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:20	1
Endrin	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:20	1
Endrin aldehyde	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:20	1
EPTC	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:20	1
Fluoranthene	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:20	1
Fluorene	<0.049		0.049	ug/L		06/07/23 14:25	06/09/23 19:20	1
gamma-Chlordane	<0.049		0.049	ug/L		06/07/23 14:25	06/09/23 19:20	1
Heptachlor	<0.039		0.039	ug/L		06/07/23 14:25	06/09/23 19:20	1

Eurofins Eaton Analytical Pomona

# Client Sample Results

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

Job ID: 380-49443-1

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

**Lab Sample ID: 380-49443-2**

Date Collected: 05/30/23 11:39

Matrix: Drinking Water

Date Received: 06/01/23 09:57

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Heptachlor epoxide (isomer B)	<0.049		0.049	ug/L		06/07/23 14:25	06/09/23 19:20	1
Hexachlorobenzene	<0.049		0.049	ug/L		06/07/23 14:25	06/09/23 19:20	1
Hexachlorocyclopentadiene	<0.049		0.049	ug/L		06/07/23 14:25	06/09/23 19:20	1
Indeno[1,2,3-cd]pyrene	<0.049		0.049	ug/L		06/07/23 14:25	06/09/23 19:20	1
Isophorone	<0.49		0.49	ug/L		06/07/23 14:25	06/09/23 19:20	1
Lindane	<0.039		0.039	ug/L		06/07/23 14:25	06/09/23 19:20	1
Malathion	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:20	1
Methoxychlor	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:20	1
Metolachlor	<0.049		0.049	ug/L		06/07/23 14:25	06/09/23 19:20	1
Molinate	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:20	1
Naphthalene	<0.30		0.30	ug/L		06/07/23 14:25	06/09/23 19:20	1
Parathion	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:20	1
Pendimethalin (Penoxaline)	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:20	1
Phenanthrene	<0.039		0.039	ug/L		06/07/23 14:25	06/09/23 19:20	1
Propachlor	<0.049		0.049	ug/L		06/07/23 14:25	06/09/23 19:20	1
Pyrene	<0.049		0.049	ug/L		06/07/23 14:25	06/09/23 19:20	1
Simazine	<0.049		0.049	ug/L		06/07/23 14:25	06/09/23 19:20	1
Terbacil	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:20	1
Terbutylazine	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:20	1
Thiobencarb	<0.20		0.20	ug/L		06/07/23 14:25	06/09/23 19:20	1
Total Permethrin (mixed isomers)	<0.20		0.20	ug/L		06/07/23 14:25	06/09/23 19:20	1
trans-Nonachlor	<0.049		0.049	ug/L		06/07/23 14:25	06/09/23 19:20	1
Trifluralin	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:20	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L			N/A	06/07/23 14:25	06/09/23 19:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Nitro-m-xylene	97		70 - 130	06/07/23 14:25	06/09/23 19:20	1
Perylene-d12	98		70 - 130	06/07/23 14:25	06/09/23 19:20	1
Triphenylphosphate	104		70 - 130	06/07/23 14:25	06/09/23 19:20	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		06/02/23 00:00	06/14/23 16:36	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 16:36	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 16:36	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 16:36	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 16:36	1
Acenaphthene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 16:36	1
Acenaphthylene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 16:36	1
Anthracene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 16:36	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 16:36	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 16:36	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 16:36	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 16:36	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 16:36	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 16:36	1
Biphenyl	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 16:36	1
Chrysene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 16:36	1

Eurofins Eaton Analytical Pomona

# Client Sample Results

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

Job ID: 380-49443-1

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

**Lab Sample ID: 380-49443-2**

Date Collected: 05/30/23 11:39

Matrix: Drinking Water

Date Received: 06/01/23 09:57

PWSID Number: HI0000331

**Method: 625 PAH Physys 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		06/02/23 00:00	06/14/23 16:36	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 16:36	1
Dibenzothiophene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 16:36	1
Disalicylidenepranediamine	ND		0.1	0.05	µg/L		06/02/23 00:00	06/14/23 16:36	1
Fluoranthene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 16:36	1
Fluorene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 16:36	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 16:36	1
Naphthalene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 16:36	1
Perylene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 16:36	1
Phenanthrene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 16:36	1
Pyrene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 16:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
(d10-Acenaphthene)	89		27 - 133	06/02/23 00:00	06/14/23 16:36	1
(d10-Phenanthrene)	89		43 - 129	06/02/23 00:00	06/14/23 16:36	1
(d12-Chrysene)	89		52 - 144	06/02/23 00:00	06/14/23 16:36	1
(d12-Perylene)	83		36 - 161	06/02/23 00:00	06/14/23 16:36	1
(d8-Naphthalene)	81		25 - 125	06/02/23 00:00	06/14/23 16:36	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			06/02/23 23:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE	90		60 - 140		06/02/23 23:21	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	0.030		mg/L			06/05/23 18:57	1
JP5	ND	U	0.059		mg/L			06/05/23 18:57	1
JP8	ND	U	0.059		mg/L			06/05/23 18:57	1
MOTOR OIL	ND	U	0.059		mg/L			06/05/23 18:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOBENZENE	85		60 - 130		06/05/23 18:57	1
HEXACOSANE	115		60 - 130		06/05/23 18:57	1

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

**Lab Sample ID: 380-49443-3**

Date Collected: 05/30/23 11:12

Matrix: Drinking Water

Date Received: 06/01/23 09:57

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:40	1
2,4'-DDD	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:40	1
2,4'-DDE	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:40	1
2,4'-DDT	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:40	1
2,4-Dinitrotoluene	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:40	1
2,6-Dinitrotoluene	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:40	1
2-Methylnaphthalene	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:40	1
4,4'-DDD	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:40	1

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# Client Sample Results

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

Job ID: 380-49443-1

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

**Lab Sample ID: 380-49443-3**

Date Collected: 05/30/23 11:12

Matrix: Drinking Water

Date Received: 06/01/23 09:57

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDE	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:40	1
4,4'-DDT	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:40	1
Acenaphthene	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:40	1
Acenaphthylene	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:40	1
Acetochlor	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:40	1
Alachlor	<0.049		0.049	ug/L		06/07/23 14:25	06/09/23 19:40	1
alpha-BHC	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:40	1
alpha-Chlordane	<0.049		0.049	ug/L		06/07/23 14:25	06/09/23 19:40	1
Anthracene	<0.020		0.020	ug/L		06/07/23 14:25	06/09/23 19:40	1
Atrazine	<0.049		0.049	ug/L		06/07/23 14:25	06/09/23 19:40	1
Benz(a)anthracene	<0.049		0.049	ug/L		06/07/23 14:25	06/09/23 19:40	1
Benzo[a]pyrene	<0.020		0.020	ug/L		06/07/23 14:25	06/09/23 19:40	1
Benzo[b]fluoranthene	<0.020		0.020	ug/L		06/07/23 14:25	06/09/23 19:40	1
Benzo[g,h,i]perylene	<0.049		0.049	ug/L		06/07/23 14:25	06/09/23 19:40	1
Benzo[k]fluoranthene	<0.020		0.020	ug/L		06/07/23 14:25	06/09/23 19:40	1
beta-BHC	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:40	1
Bis(2-ethylhexyl) phthalate	<0.59		0.59	ug/L		06/07/23 14:25	06/09/23 19:40	1
Bromacil	<0.099	^3+	0.099	ug/L		06/07/23 14:25	06/09/23 19:40	1
Butachlor	<0.049		0.049	ug/L		06/07/23 14:25	06/09/23 19:40	1
Butylbenzylphthalate	<0.49		0.49	ug/L		06/07/23 14:25	06/09/23 19:40	1
Chlorobenzilate	<0.099	B ^3+	0.099	ug/L		06/07/23 14:25	06/09/23 19:40	1
Chloroneb	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:40	1
Chlorothalonil (Draconil, Bravo)	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:40	1
Chlorpyrifos	<0.049		0.049	ug/L		06/07/23 14:25	06/09/23 19:40	1
Chrysene	<0.020		0.020	ug/L		06/07/23 14:25	06/09/23 19:40	1
delta-BHC	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:40	1
Di(2-ethylhexyl)adipate	<0.59	B ^3+	0.59	ug/L		06/07/23 14:25	06/09/23 19:40	1
Dibenz(a,h)anthracene	<0.049		0.049	ug/L		06/07/23 14:25	06/09/23 19:40	1
Diclorvos (DDVP)	<0.049	^3+	0.049	ug/L		06/07/23 14:25	06/09/23 19:40	1
Dieldrin	<0.20		0.20	ug/L		06/07/23 14:25	06/09/23 19:40	1
Diethylphthalate	<0.49		0.49	ug/L		06/07/23 14:25	06/09/23 19:40	1
Dimethylphthalate	<0.49		0.49	ug/L		06/07/23 14:25	06/09/23 19:40	1
Di-n-butyl phthalate	<0.99		0.99	ug/L		06/07/23 14:25	06/09/23 19:40	1
Di-n-octyl phthalate	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:40	1
Endosulfan I (Alpha)	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:40	1
Endosulfan II (Beta)	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:40	1
Endosulfan sulfate	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:40	1
Endrin	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:40	1
Endrin aldehyde	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:40	1
EPTC	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:40	1
Fluoranthene	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:40	1
Fluorene	<0.049		0.049	ug/L		06/07/23 14:25	06/09/23 19:40	1
gamma-Chlordane	<0.049		0.049	ug/L		06/07/23 14:25	06/09/23 19:40	1
Heptachlor	<0.040		0.040	ug/L		06/07/23 14:25	06/09/23 19:40	1
Heptachlor epoxide (isomer B)	<0.049		0.049	ug/L		06/07/23 14:25	06/09/23 19:40	1
Hexachlorobenzene	<0.049		0.049	ug/L		06/07/23 14:25	06/09/23 19:40	1
Hexachlorocyclopentadiene	<0.049		0.049	ug/L		06/07/23 14:25	06/09/23 19:40	1
Indeno[1,2,3-cd]pyrene	<0.049		0.049	ug/L		06/07/23 14:25	06/09/23 19:40	1
Isophorone	<0.49		0.49	ug/L		06/07/23 14:25	06/09/23 19:40	1

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# Client Sample Results

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

Job ID: 380-49443-1

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

**Lab Sample ID: 380-49443-3**

Date Collected: 05/30/23 11:12

Matrix: Drinking Water

Date Received: 06/01/23 09:57

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Lindane	<0.040		0.040	ug/L		06/07/23 14:25	06/09/23 19:40	1
Malathion	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:40	1
Methoxychlor	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:40	1
Metolachlor	<0.049		0.049	ug/L		06/07/23 14:25	06/09/23 19:40	1
Molinate	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:40	1
Naphthalene	<0.30		0.30	ug/L		06/07/23 14:25	06/09/23 19:40	1
Parathion	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:40	1
Pendimethalin (Penoxaline)	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:40	1
Phenanthrene	<0.040		0.040	ug/L		06/07/23 14:25	06/09/23 19:40	1
Propachlor	<0.049		0.049	ug/L		06/07/23 14:25	06/09/23 19:40	1
Pyrene	<0.049		0.049	ug/L		06/07/23 14:25	06/09/23 19:40	1
Simazine	<0.049		0.049	ug/L		06/07/23 14:25	06/09/23 19:40	1
Terbacil	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:40	1
Terbutylazine	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:40	1
Thiobencarb	<0.20		0.20	ug/L		06/07/23 14:25	06/09/23 19:40	1
Total Permethrin (mixed isomers)	<0.20		0.20	ug/L		06/07/23 14:25	06/09/23 19:40	1
trans-Nonachlor	<0.049		0.049	ug/L		06/07/23 14:25	06/09/23 19:40	1
Trifluralin	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 19:40	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L			N/A	06/07/23 14:25	06/09/23 19:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Nitro-m-xylene	97		70 - 130	06/07/23 14:25	06/09/23 19:40	1
Perylene-d12	88		70 - 130	06/07/23 14:25	06/09/23 19:40	1
Triphenylphosphate	104		70 - 130	06/07/23 14:25	06/09/23 19:40	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		06/02/23 00:00	06/14/23 18:21	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 18:21	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 18:21	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 18:21	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 18:21	1
Acenaphthene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 18:21	1
Acenaphthylene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 18:21	1
Anthracene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 18:21	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 18:21	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 18:21	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 18:21	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 18:21	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 18:21	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 18:21	1
Biphenyl	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 18:21	1
Chrysene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 18:21	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 18:21	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 18:21	1
Dibenzothiophene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 18:21	1
Disalicylidenepropanediamine	ND		0.1	0.05	µg/L		06/02/23 00:00	06/14/23 18:21	1
Fluoranthene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 18:21	1

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# Client Sample Results

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

Job ID: 380-49443-1

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

**Lab Sample ID: 380-49443-3**

Date Collected: 05/30/23 11:12

Matrix: Drinking Water

Date Received: 06/01/23 09:57

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 18:21	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 18:21	1
Naphthalene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 18:21	1
Perylene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 18:21	1
Phenanthrene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 18:21	1
Pyrene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 18:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
(d10-Acenaphthene)	88		27 - 133	06/02/23 00:00	06/14/23 18:21	1
(d10-Phenanthrene)	89		43 - 129	06/02/23 00:00	06/14/23 18:21	1
(d12-Chrysene)	90		52 - 144	06/02/23 00:00	06/14/23 18:21	1
(d12-Perylene)	86		36 - 161	06/02/23 00:00	06/14/23 18:21	1
(d8-Naphthalene)	80		25 - 125	06/02/23 00:00	06/14/23 18:21	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			06/02/23 23:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE	92		60 - 140		06/02/23 23:58	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			06/05/23 19:15	1
JP5	ND	U	0.048		mg/L			06/05/23 19:15	1
JP8	ND	U	0.048		mg/L			06/05/23 19:15	1
MOTOR OIL	ND	U	0.048		mg/L			06/05/23 19:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOBENZENE	76		60 - 130		06/05/23 19:15	1
HEXACOSANE	107		60 - 130		06/05/23 19:15	1

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

**Lab Sample ID: 380-49443-4**

Date Collected: 05/30/23 10:47

Matrix: Drinking Water

Date Received: 06/01/23 09:57

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 20:00	1
2,4'-DDD	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 20:00	1
2,4'-DDE	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 20:00	1
2,4'-DDT	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 20:00	1
2,4-Dinitrotoluene	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 20:00	1
2,6-Dinitrotoluene	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 20:00	1
2-Methylnaphthalene	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 20:00	1
4,4'-DDD	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 20:00	1
4,4'-DDE	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 20:00	1
4,4'-DDT	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 20:00	1
Acenaphthene	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 20:00	1
Acenaphthylene	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 20:00	1
Acetochlor	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 20:00	1

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# Client Sample Results

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

Job ID: 380-49443-1

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

**Lab Sample ID: 380-49443-4**

Date Collected: 05/30/23 10:47

Matrix: Drinking Water

Date Received: 06/01/23 09:57

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alachlor	<0.050		0.050	ug/L		06/07/23 14:25	06/09/23 20:00	1
alpha-BHC	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 20:00	1
alpha-Chlordane	<0.050		0.050	ug/L		06/07/23 14:25	06/09/23 20:00	1
Anthracene	<0.020		0.020	ug/L		06/07/23 14:25	06/09/23 20:00	1
Atrazine	<0.050		0.050	ug/L		06/07/23 14:25	06/09/23 20:00	1
Benz(a)anthracene	<0.050		0.050	ug/L		06/07/23 14:25	06/09/23 20:00	1
Benzo[a]pyrene	<0.020		0.020	ug/L		06/07/23 14:25	06/09/23 20:00	1
Benzo[b]fluoranthene	<0.020		0.020	ug/L		06/07/23 14:25	06/09/23 20:00	1
Benzo[g,h,i]perylene	<0.050		0.050	ug/L		06/07/23 14:25	06/09/23 20:00	1
Benzo[k]fluoranthene	<0.020		0.020	ug/L		06/07/23 14:25	06/09/23 20:00	1
beta-BHC	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 20:00	1
Bis(2-ethylhexyl) phthalate	<0.60		0.60	ug/L		06/07/23 14:25	06/09/23 20:00	1
Bromacil	<0.099		0.099	ug/L		06/07/23 14:25	06/11/23 14:27	1
Butachlor	<0.050		0.050	ug/L		06/07/23 14:25	06/09/23 20:00	1
Butylbenzylphthalate	<0.50		0.50	ug/L		06/07/23 14:25	06/09/23 20:00	1
Chlorobenzilate	<0.099	B ^3+	0.099	ug/L		06/07/23 14:25	06/09/23 20:00	1
Chloroneb	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 20:00	1
Chlorothalonil (Draconil, Bravo)	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 20:00	1
Chlorpyrifos	<0.050		0.050	ug/L		06/07/23 14:25	06/09/23 20:00	1
Chrysene	<0.020		0.020	ug/L		06/07/23 14:25	06/09/23 20:00	1
delta-BHC	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 20:00	1
Di(2-ethylhexyl)adipate	<0.60	B ^3+	0.60	ug/L		06/07/23 14:25	06/09/23 20:00	1
Dibenz(a,h)anthracene	<0.050		0.050	ug/L		06/07/23 14:25	06/09/23 20:00	1
Diclorvos (DDVP)	<0.050	^3+	0.050	ug/L		06/07/23 14:25	06/09/23 20:00	1
Dieldrin	<0.20		0.20	ug/L		06/07/23 14:25	06/09/23 20:00	1
Diethylphthalate	<0.50		0.50	ug/L		06/07/23 14:25	06/09/23 20:00	1
Dimethylphthalate	<0.50		0.50	ug/L		06/07/23 14:25	06/09/23 20:00	1
Di-n-butyl phthalate	<0.99		0.99	ug/L		06/07/23 14:25	06/09/23 20:00	1
Di-n-octyl phthalate	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 20:00	1
Endosulfan I (Alpha)	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 20:00	1
Endosulfan II (Beta)	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 20:00	1
Endosulfan sulfate	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 20:00	1
Endrin	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 20:00	1
Endrin aldehyde	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 20:00	1
EPTC	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 20:00	1
Fluoranthene	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 20:00	1
Fluorene	<0.050		0.050	ug/L		06/07/23 14:25	06/09/23 20:00	1
gamma-Chlordane	<0.050		0.050	ug/L		06/07/23 14:25	06/09/23 20:00	1
Heptachlor	<0.040		0.040	ug/L		06/07/23 14:25	06/09/23 20:00	1
Heptachlor epoxide (isomer B)	<0.050		0.050	ug/L		06/07/23 14:25	06/09/23 20:00	1
Hexachlorobenzene	<0.050		0.050	ug/L		06/07/23 14:25	06/09/23 20:00	1
Hexachlorocyclopentadiene	<0.050		0.050	ug/L		06/07/23 14:25	06/09/23 20:00	1
Indeno[1,2,3-cd]pyrene	<0.050		0.050	ug/L		06/07/23 14:25	06/09/23 20:00	1
Isophorone	<0.50		0.50	ug/L		06/07/23 14:25	06/09/23 20:00	1
Lindane	<0.040		0.040	ug/L		06/07/23 14:25	06/09/23 20:00	1
Malathion	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 20:00	1
Methoxychlor	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 20:00	1
Metolachlor	<0.050		0.050	ug/L		06/07/23 14:25	06/09/23 20:00	1
Molinate	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 20:00	1

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# Client Sample Results

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

Job ID: 380-49443-1

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

**Lab Sample ID: 380-49443-4**

Date Collected: 05/30/23 10:47

Matrix: Drinking Water

Date Received: 06/01/23 09:57

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	<0.30		0.30	ug/L		06/07/23 14:25	06/09/23 20:00	1
Parathion	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 20:00	1
Pendimethalin (Penoxaline)	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 20:00	1
Phenanthrene	<0.040		0.040	ug/L		06/07/23 14:25	06/09/23 20:00	1
Propachlor	<0.050		0.050	ug/L		06/07/23 14:25	06/09/23 20:00	1
Pyrene	<0.050		0.050	ug/L		06/07/23 14:25	06/09/23 20:00	1
Simazine	<0.050		0.050	ug/L		06/07/23 14:25	06/09/23 20:00	1
Terbacil	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 20:00	1
Terbutylazine	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 20:00	1
Thiobencarb	<0.20		0.20	ug/L		06/07/23 14:25	06/09/23 20:00	1
Total Permethrin (mixed isomers)	<0.20		0.20	ug/L		06/07/23 14:25	06/09/23 20:00	1
trans-Nonachlor	<0.050		0.050	ug/L		06/07/23 14:25	06/09/23 20:00	1
Trifluralin	<0.099		0.099	ug/L		06/07/23 14:25	06/09/23 20:00	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Cyclopentasiloxane, decamethyl-	0.63	T J N	ug/L		2.72	541-02-6	06/07/23 14:25	06/11/23 14:27	1
9-Octadecenoic acid, (E)-	0.88	T J N	ug/L		6.50	112-79-8	06/07/23 14:25	06/11/23 14:27	1
Octadecanoic acid	0.77	T J N	ug/L		6.57	57-11-4	06/07/23 14:25	06/11/23 14:27	1
9-Octadecenamide, (Z)-	2.0	T J N	ug/L		7.59	301-02-0	06/07/23 14:25	06/11/23 14:27	1
Tentatively Identified Compound	None		ug/L			N/A	06/07/23 14:25	06/09/23 20:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Nitro-m-xylene	100		70 - 130	06/07/23 14:25	06/09/23 20:00	1
2-Nitro-m-xylene	100		70 - 130	06/07/23 14:25	06/11/23 14:27	1
Perylene-d12	95		70 - 130	06/07/23 14:25	06/09/23 20:00	1
Perylene-d12	94		70 - 130	06/07/23 14:25	06/11/23 14:27	1
Triphenylphosphate	104		70 - 130	06/07/23 14:25	06/09/23 20:00	1
Triphenylphosphate	110		70 - 130	06/07/23 14:25	06/11/23 14:27	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		06/02/23 00:00	06/14/23 20:07	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 20:07	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 20:07	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 20:07	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 20:07	1
Acenaphthene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 20:07	1
Acenaphthylene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 20:07	1
Anthracene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 20:07	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 20:07	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 20:07	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 20:07	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 20:07	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 20:07	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 20:07	1
Biphenyl	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 20:07	1
Chrysene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 20:07	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 20:07	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 20:07	1
Dibenzothiophene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 20:07	1

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# Client Sample Results

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

Job ID: 380-49443-1

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

Lab Sample ID: 380-49443-4

Date Collected: 05/30/23 10:47

Matrix: Drinking Water

Date Received: 06/01/23 09:57

PWSID Number: HI0000331

### Method: 625 PAH Physys 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		06/02/23 00:00	06/14/23 20:07	1
Fluoranthene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 20:07	1
Fluorene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 20:07	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 20:07	1
Naphthalene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 20:07	1
Perylene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 20:07	1
Phenanthrene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 20:07	1
Pyrene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 20:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
(d10-Acenaphthene)	89		27 - 133	06/02/23 00:00	06/14/23 20:07	1
(d10-Phenanthrene)	90		43 - 129	06/02/23 00:00	06/14/23 20:07	1
(d12-Chrysene)	91		52 - 144	06/02/23 00:00	06/14/23 20:07	1
(d12-Perylene)	90		36 - 161	06/02/23 00:00	06/14/23 20:07	1
(d8-Naphthalene)	82		25 - 125	06/02/23 00:00	06/14/23 20:07	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GASOLINE	ND	U	0.020		mg/L			06/03/23 00:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE	94		60 - 140		06/03/23 00:36	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DIESEL	ND	U	0.025		mg/L			06/05/23 19:34	1
JP5	ND	U	0.051		mg/L			06/05/23 19:34	1
JP8	ND	U	0.051		mg/L			06/05/23 19:34	1
MOTOR OIL	ND	U	0.051		mg/L			06/05/23 19:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOBENZENE	86		60 - 130		06/05/23 19:34	1
HEXACOSANE	110		60 - 130		06/05/23 19:34	1

## Client Sample ID: TB MOANALUA WELLS

Lab Sample ID: 380-49443-5

Date Collected: 05/30/23 10:14

Matrix: Water

Date Received: 06/01/23 09:57

### 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			06/03/23 01:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE	88		60 - 140		06/03/23 01:13	1

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

Lab Sample ID: 380-49443-6

Date Collected: 05/30/23 11:39

Matrix: Water

Date Received: 06/01/23 09:57

### 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			06/03/23 01:50	1

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# Client Sample Results

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

Job ID: 380-49443-1

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

Lab Sample ID: 380-49443-6

Date Collected: 05/30/23 11:39

Matrix: Water

Date Received: 06/01/23 09:57

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE	90		60 - 140		06/03/23 01:50	1

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

Lab Sample ID: 380-49443-7

Date Collected: 05/30/23 11:12

Matrix: Water

Date Received: 06/01/23 09:57

### 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			06/03/23 02:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE	93		60 - 140		06/03/23 02:28	1

## Client Sample ID: TB HALAWA WELLS UNITS 1 & 2

Lab Sample ID: 380-49443-8

Date Collected: 05/30/23 10:47

Matrix: Water

Date Received: 06/01/23 09:57

### 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			06/03/23 03:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE	85		60 - 140		06/03/23 03:05	1

# Action Limit Summary

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

Job ID: 380-49443-1

**Client Sample ID: MOANALUA WELLS**

**Lab Sample ID: 380-49443-1**

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

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

**Lab Sample ID: 380-49443-2**

**PWSID Number: HI0000331**

## Compliance Check

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

Analyte	Result	Qualifier	Unit	EPAMCL		RL	Method	Prep Type
				Limit				
Alachlor	<0.049		ug/L	2		0.049	525.2	Total/NA
Atrazine	<0.049		ug/L	3		0.049	525.2	Total/NA
Benzo[a]pyrene	<0.020		ug/L	0.2		0.020	525.2	Total/NA
Bis(2-ethylhexyl) phthalate	<0.59		ug/L	6		0.59	525.2	Total/NA
Di(2-ethylhexyl)adipate	<0.59	B ^3+	ug/L	400		0.59	525.2	Total/NA
Endrin	<0.099		ug/L	2		0.099	525.2	Total/NA
Heptachlor	<0.039		ug/L	0.4		0.039	525.2	Total/NA
Heptachlor epoxide (isomer B)	<0.049		ug/L	0.2		0.049	525.2	Total/NA
Hexachlorobenzene	<0.049		ug/L	1		0.049	525.2	Total/NA
Hexachlorocyclopentadiene	<0.049		ug/L	50		0.049	525.2	Total/NA
Lindane	<0.039		ug/L	0.2		0.039	525.2	Total/NA
Methoxychlor	<0.099		ug/L	40		0.099	525.2	Total/NA
Simazine	<0.049		ug/L	4		0.049	525.2	Total/NA

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

**Lab Sample ID: 380-49443-3**

**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	EPAMCL		RL	Method	Prep Type
				Limit				
Alachlor	<0.049		ug/L	2		0.049	525.2	Total/NA
Atrazine	<0.049		ug/L	3		0.049	525.2	Total/NA

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# Action Limit Summary

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

Job ID: 380-49443-1

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

**Lab Sample ID: 380-49443-3**

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

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

**Lab Sample ID: 380-49443-4**

**PWSID Number: HI0000331**

## Compliance Check

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

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

# Surrogate Summary

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

Job ID: 380-49443-1

## 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)	PRY (70-130)	TPP (70-130)
380-49443-1	MOANALUA WELLS	98	95	102
380-49443-2	AIEA GULCH WELLS PUMP 2	97	98	104
380-49443-3	AIEA WELLS PUMPS 1&2 (260)	97	88	104
380-49443-4	HALAWA WELLS UNITS 1 & 2	100	95	104
380-49443-4	HALAWA WELLS UNITS 1 & 2	100	94	110

**Surrogate Legend**

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

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		2NMX (70-130)	PRY (70-130)	TPP (70-130)
380-49552-D-1-A MS	Matrix Spike	99	93	107
380-49567-D-1-A DU	Duplicate	98	87	110
LCS 380-42965/23-A	Lab Control Sample	98	92	106
LCS 380-42965/24-A	Lab Control Sample Dup	97	89	111
MB 380-42965/21-A	Method Blank	101	82	103
MRL 380-42965/22-A	Lab Control Sample	99	84	102
MRL 380-42965/22-A	Lab Control Sample	102	86	109

**Surrogate Legend**

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

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

Matrix: BlankMatrix

Prep Type: Total/NA

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)
107024-B1	Method Blank	93	93	110	89	87
107024-BS1	Lab Control Sample	91	90	85	86	88
107024-BS2	Lab Control Sample Dup	92	92	87	87	89

**Surrogate Legend**

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

# Surrogate Summary

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

Job ID: 380-49443-1

## 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 (27-133)	Phenanth (43-129)	CRY (52-144)	NPT (25-125)	PRY (36-161)
380-49443-1	MOANALUA WELLS	86	90	86	74	82
380-49443-2	AIEA GULCH WELLS PUMP 2	89	89	89	81	83
380-49443-3	AIEA WELLS PUMPS 1&2 (260)	88	89	90	80	86
380-49443-4	HALAWA WELLS UNITS 1 & 2	89	90	91	82	90

**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)
380-49443-1	MOANALUA WELLS	94
380-49443-2	AIEA GULCH WELLS PUMP 2	90
380-49443-3	AIEA WELLS PUMPS 1&2 (260)	92
380-49443-4	HALAWA WELLS UNITS 1 & 2	94

**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
23VGH7F02B	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)
23VGH7F02C	LCD	120
23VGH7F02L	Lab Control Sample	114

**Surrogate Legend**

BFB = BROMOFLUOROBENZENE

# Surrogate Summary

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

Job ID: 380-49443-1

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

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB (60-140)
380-49443-5	TB MOANALUA WELLS	88
380-49443-6	TB AIEA GULCH WELLS PUMP 2	90
380-49443-7	TB AIEA WELLS PUMPS 1&2 (260)	93
380-49443-8	TB HALAWA WELLS UNITS 1 & 2	85

**Surrogate Legend**

BFB = BROMOFLUOROBENZENE

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

Matrix: WATER

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB (60-140)
23F018-01M	Matrix Spike	117
23F018-01S	Matrix Spike Duplicate	109

**Surrogate Legend**

BFB = BROMOFLUOROBENZENE

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

Matrix: Drinking Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BB (60-130)	XACOSAI (60-130)
380-49443-1	MOANALUA WELLS	81	105
380-49443-2	AIEA GULCH WELLS PUMP 2	85	115
380-49443-3	AIEA WELLS PUMPS 1&2 (260)	76	107
380-49443-4	HALAWA WELLS UNITS 1 & 2	86	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
23DSF003WB	Method Blank		

**Surrogate Legend**

BB = BROMOBENZENE

HEXACOSANE = HEXACOSANE



# Surrogate Summary

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

Job ID: 380-49443-1

**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	HEXACOSANE
		(60-130)	(60-130)
23DSF003WC	LCD	80	105
23DSF003WL	Lab Control Sample	62	98
23J5F003WC	LCD	76	94
23J5F003WL	Lab Control Sample	76	102
23J8F003WC	LCD	85	113
23J8F003WL	Lab Control Sample	88	105

### Surrogate Legend

BB = BROMOBENZENE

HEXACOSANE = HEXACOSANE

# QC Sample Results

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

Job ID: 380-49443-1

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

**Lab Sample ID: MB 380-42965/21-A**  
**Matrix: Water**  
**Analysis Batch: 43445**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 42965**

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
1-Methylnaphthalene	<0.099		0.099	ug/L		06/07/23 12:03	06/09/23 13:40	1
2,4'-DDD	<0.099		0.099	ug/L		06/07/23 12:03	06/09/23 13:40	1
2,4'-DDE	<0.099		0.099	ug/L		06/07/23 12:03	06/09/23 13:40	1
2,4'-DDT	<0.099		0.099	ug/L		06/07/23 12:03	06/09/23 13:40	1
2,4-Dinitrotoluene	<0.099		0.099	ug/L		06/07/23 12:03	06/09/23 13:40	1
2,6-Dinitrotoluene	<0.099		0.099	ug/L		06/07/23 12:03	06/09/23 13:40	1
2-Methylnaphthalene	<0.099		0.099	ug/L		06/07/23 12:03	06/09/23 13:40	1
4,4'-DDD	<0.099		0.099	ug/L		06/07/23 12:03	06/09/23 13:40	1
4,4'-DDE	<0.099		0.099	ug/L		06/07/23 12:03	06/09/23 13:40	1
4,4'-DDT	<0.099		0.099	ug/L		06/07/23 12:03	06/09/23 13:40	1
Acenaphthene	<0.099		0.099	ug/L		06/07/23 12:03	06/09/23 13:40	1
Acenaphthylene	<0.099		0.099	ug/L		06/07/23 12:03	06/09/23 13:40	1
Acetochlor	<0.099		0.099	ug/L		06/07/23 12:03	06/09/23 13:40	1
Alachlor	<0.049		0.049	ug/L		06/07/23 12:03	06/09/23 13:40	1
alpha-BHC	<0.099		0.099	ug/L		06/07/23 12:03	06/09/23 13:40	1
alpha-Chlordane	<0.049		0.049	ug/L		06/07/23 12:03	06/09/23 13:40	1
Anthracene	<0.020		0.020	ug/L		06/07/23 12:03	06/09/23 13:40	1
Atrazine	<0.049		0.049	ug/L		06/07/23 12:03	06/09/23 13:40	1
Benz(a)anthracene	<0.049		0.049	ug/L		06/07/23 12:03	06/09/23 13:40	1
Benzo[a]pyrene	<0.020		0.020	ug/L		06/07/23 12:03	06/09/23 13:40	1
Benzo[b]fluoranthene	<0.020		0.020	ug/L		06/07/23 12:03	06/09/23 13:40	1
Benzo[g,h,i]perylene	<0.049		0.049	ug/L		06/07/23 12:03	06/09/23 13:40	1
Benzo[k]fluoranthene	<0.020		0.020	ug/L		06/07/23 12:03	06/09/23 13:40	1
beta-BHC	<0.099		0.099	ug/L		06/07/23 12:03	06/09/23 13:40	1
Bis(2-ethylhexyl) phthalate	<0.59		0.59	ug/L		06/07/23 12:03	06/09/23 13:40	1
Bromacil	<0.099		0.099	ug/L		06/07/23 12:03	06/09/23 13:40	1
Butachlor	<0.049		0.049	ug/L		06/07/23 12:03	06/09/23 13:40	1
Butylbenzylphthalate	<0.49		0.49	ug/L		06/07/23 12:03	06/09/23 13:40	1
Chlorobenzilate	0.149	B	0.099	ug/L		06/07/23 12:03	06/09/23 13:40	1
Chloroneb	<0.099		0.099	ug/L		06/07/23 12:03	06/09/23 13:40	1
Chlorothalonil (Draconil, Bravo)	<0.099		0.099	ug/L		06/07/23 12:03	06/09/23 13:40	1
Chlorpyrifos	<0.049		0.049	ug/L		06/07/23 12:03	06/09/23 13:40	1
Chrysene	<0.020		0.020	ug/L		06/07/23 12:03	06/09/23 13:40	1
delta-BHC	<0.099		0.099	ug/L		06/07/23 12:03	06/09/23 13:40	1
Di(2-ethylhexyl)adipate	0.639	B	0.59	ug/L		06/07/23 12:03	06/09/23 13:40	1
Dibenz(a,h)anthracene	<0.049		0.049	ug/L		06/07/23 12:03	06/09/23 13:40	1
Diclorvos (DDVP)	<0.049		0.049	ug/L		06/07/23 12:03	06/09/23 13:40	1
Dieldrin	<0.20		0.20	ug/L		06/07/23 12:03	06/09/23 13:40	1
Diethylphthalate	<0.49		0.49	ug/L		06/07/23 12:03	06/09/23 13:40	1
Dimethylphthalate	<0.49		0.49	ug/L		06/07/23 12:03	06/09/23 13:40	1
Di-n-butyl phthalate	<0.99		0.99	ug/L		06/07/23 12:03	06/09/23 13:40	1
Di-n-octyl phthalate	<0.099		0.099	ug/L		06/07/23 12:03	06/09/23 13:40	1
Endosulfan I (Alpha)	<0.099		0.099	ug/L		06/07/23 12:03	06/09/23 13:40	1
Endosulfan II (Beta)	<0.099		0.099	ug/L		06/07/23 12:03	06/09/23 13:40	1
Endosulfan sulfate	<0.099		0.099	ug/L		06/07/23 12:03	06/09/23 13:40	1
Endrin	<0.099		0.099	ug/L		06/07/23 12:03	06/09/23 13:40	1
Endrin aldehyde	<0.099		0.099	ug/L		06/07/23 12:03	06/09/23 13:40	1
EPTC	<0.099		0.099	ug/L		06/07/23 12:03	06/09/23 13:40	1

Eurofins Eaton Analytical Pomona

# QC Sample Results

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

Job ID: 380-49443-1

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

**Lab Sample ID: MB 380-42965/21-A**  
**Matrix: Water**  
**Analysis Batch: 43445**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 42965**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoranthene	<0.099		0.099	ug/L		06/07/23 12:03	06/09/23 13:40	1
Fluorene	<0.049		0.049	ug/L		06/07/23 12:03	06/09/23 13:40	1
gamma-Chlordane	<0.049		0.049	ug/L		06/07/23 12:03	06/09/23 13:40	1
Heptachlor	<0.039		0.039	ug/L		06/07/23 12:03	06/09/23 13:40	1
Heptachlor epoxide (isomer B)	<0.049		0.049	ug/L		06/07/23 12:03	06/09/23 13:40	1
Hexachlorobenzene	<0.049		0.049	ug/L		06/07/23 12:03	06/09/23 13:40	1
Hexachlorocyclopentadiene	<0.049		0.049	ug/L		06/07/23 12:03	06/09/23 13:40	1
Indeno[1,2,3-cd]pyrene	<0.049		0.049	ug/L		06/07/23 12:03	06/09/23 13:40	1
Isophorone	<0.49		0.49	ug/L		06/07/23 12:03	06/09/23 13:40	1
Lindane	<0.039		0.039	ug/L		06/07/23 12:03	06/09/23 13:40	1
Malathion	<0.099		0.099	ug/L		06/07/23 12:03	06/09/23 13:40	1
Methoxychlor	<0.099		0.099	ug/L		06/07/23 12:03	06/09/23 13:40	1
Metolachlor	<0.049		0.049	ug/L		06/07/23 12:03	06/09/23 13:40	1
Molinate	<0.099		0.099	ug/L		06/07/23 12:03	06/09/23 13:40	1
Naphthalene	<0.30		0.30	ug/L		06/07/23 12:03	06/09/23 13:40	1
Parathion	<0.099		0.099	ug/L		06/07/23 12:03	06/09/23 13:40	1
Pendimethalin (Penoxaline)	<0.099		0.099	ug/L		06/07/23 12:03	06/09/23 13:40	1
Phenanthrene	<0.039		0.039	ug/L		06/07/23 12:03	06/09/23 13:40	1
Propachlor	<0.049		0.049	ug/L		06/07/23 12:03	06/09/23 13:40	1
Pyrene	<0.049		0.049	ug/L		06/07/23 12:03	06/09/23 13:40	1
Simazine	<0.049		0.049	ug/L		06/07/23 12:03	06/09/23 13:40	1
Terbacil	<0.099		0.099	ug/L		06/07/23 12:03	06/09/23 13:40	1
Terbutylazine	<0.099		0.099	ug/L		06/07/23 12:03	06/09/23 13:40	1
Thiobencarb	<0.20		0.20	ug/L		06/07/23 12:03	06/09/23 13:40	1
Total Permethrin (mixed isomers)	<0.20		0.20	ug/L		06/07/23 12:03	06/09/23 13:40	1
trans-Nonachlor	<0.049		0.049	ug/L		06/07/23 12:03	06/09/23 13:40	1
Trifluralin	<0.099		0.099	ug/L		06/07/23 12:03	06/09/23 13:40	1

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Decane	1.82	T J N	ug/L		2.36	124-18-5	06/07/23 12:03	06/09/23 13:40	1
Unknown	0.511	T J	ug/L		2.55	N/A	06/07/23 12:03	06/09/23 13:40	1
n-Hexadecanoic acid	1.14	T J N	ug/L		5.82	57-10-3	06/07/23 12:03	06/09/23 13:40	1
9-Octadecenoic acid, (E)-	0.620	T J N	ug/L		6.43	112-79-8	06/07/23 12:03	06/09/23 13:40	1
Octadecanoic acid	0.685	T J N	ug/L		6.49	57-11-4	06/07/23 12:03	06/09/23 13:40	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Nitro-m-xylene	101		70 - 130	06/07/23 12:03	06/09/23 13:40	1
Perylene-d12	82		70 - 130	06/07/23 12:03	06/09/23 13:40	1
Triphenylphosphate	103		70 - 130	06/07/23 12:03	06/09/23 13:40	1

**Lab Sample ID: LCS 380-42965/23-A**  
**Matrix: Water**  
**Analysis Batch: 43445**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 42965**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1-Methylnaphthalene	1.97	2.10		ug/L		106	70 - 130
2,4'-DDD	1.97	2.01		ug/L		102	70 - 130
2,4'-DDE	1.97	2.02		ug/L		102	70 - 130

Eurofins Eaton Analytical Pomona

# QC Sample Results

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

Job ID: 380-49443-1

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

**Lab Sample ID: LCS 380-42965/23-A**  
**Matrix: Water**  
**Analysis Batch: 43445**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 42965**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2,4'-DDT	1.97	2.12		ug/L		108	70 - 130
2,4-Dinitrotoluene	1.97	1.79		ug/L		91	70 - 130
2,6-Dinitrotoluene	1.97	1.79		ug/L		91	70 - 130
2-Methylnaphthalene	1.97	2.12		ug/L		108	70 - 130
4,4'-DDD	1.97	2.10		ug/L		107	70 - 130
4,4'-DDE	1.97	2.15		ug/L		109	70 - 130
4,4'-DDT	1.97	1.96		ug/L		100	70 - 130
Acenaphthene	1.97	1.93		ug/L		98	70 - 130
Acenaphthylene	1.97	1.99		ug/L		101	70 - 130
Acetochlor	1.97	2.17		ug/L		110	70 - 130
Alachlor	1.97	2.18		ug/L		110	70 - 130
alpha-BHC	1.97	2.08		ug/L		106	70 - 130
alpha-Chlordane	1.97	2.15		ug/L		109	70 - 130
Anthracene	1.97	1.81		ug/L		92	70 - 130
Atrazine	1.97	2.20		ug/L		112	70 - 130
Benz(a)anthracene	1.97	1.95		ug/L		99	70 - 130
Benzo[a]pyrene	1.97	1.97		ug/L		100	70 - 130
Benzo[b]fluoranthene	1.97	2.23		ug/L		113	70 - 130
Benzo[g,h,i]perylene	1.97	2.12		ug/L		108	70 - 130
Benzo[k]fluoranthene	1.97	2.26		ug/L		115	70 - 130
beta-BHC	1.97	2.00		ug/L		102	70 - 130
Bis(2-ethylhexyl) phthalate	1.97	2.08		ug/L		106	70 - 130
Bromacil	1.97	2.15		ug/L		109	70 - 130
Butachlor	1.97	2.32		ug/L		118	70 - 130
Butylbenzylphthalate	1.97	2.22		ug/L		113	70 - 130
Chlorobenzilate	1.97	2.47		ug/L		126	70 - 130
Chloroneb	1.97	2.00		ug/L		102	70 - 130
Chlorothalonil (Draconil, Bravo)	1.97	2.12		ug/L		107	70 - 130
Chlorpyrifos	1.97	2.15		ug/L		109	70 - 130
Chrysene	1.97	2.07		ug/L		105	70 - 130
delta-BHC	1.97	2.00		ug/L		101	70 - 130
Di(2-ethylhexyl)adipate	1.97	2.39		ug/L		121	70 - 130
Dibenz(a,h)anthracene	1.97	2.07		ug/L		105	70 - 130
Diclorvos (DDVP)	1.97	2.29		ug/L		116	70 - 130
Dieldrin	1.97	2.10		ug/L		106	70 - 130
Diethylphthalate	1.97	2.23		ug/L		113	70 - 130
Dimethylphthalate	1.97	2.07		ug/L		105	70 - 130
Di-n-butyl phthalate	3.94	4.36		ug/L		111	70 - 130
Di-n-octyl phthalate	1.97	1.80		ug/L		92	70 - 130
Endosulfan I (Alpha)	1.97	2.03		ug/L		103	70 - 130
Endosulfan II (Beta)	1.97	2.18		ug/L		111	70 - 130
Endosulfan sulfate	1.97	2.01		ug/L		102	70 - 130
Endrin	1.97	2.05		ug/L		104	70 - 130
Endrin aldehyde	1.97	2.16		ug/L		110	70 - 130
EPTC	1.97	2.13		ug/L		108	70 - 130
Fluoranthene	1.97	2.10		ug/L		107	70 - 130
Fluorene	1.97	2.08		ug/L		106	70 - 130
gamma-Chlordane	1.97	2.16		ug/L		110	70 - 130
Heptachlor	1.97	1.96		ug/L		100	70 - 130

Eurofins Eaton Analytical Pomona

# QC Sample Results

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

Job ID: 380-49443-1

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

**Lab Sample ID: LCS 380-42965/23-A**  
**Matrix: Water**  
**Analysis Batch: 43445**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 42965**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Heptachlor epoxide (isomer B)	1.97	2.19		ug/L		111	70 - 130
Hexachlorobenzene	1.97	2.08		ug/L		106	70 - 130
Hexachlorocyclopentadiene	1.97	2.18		ug/L		111	70 - 130
Indeno[1,2,3-cd]pyrene	1.97	2.06		ug/L		104	70 - 130
Isophorone	1.97	2.08		ug/L		106	70 - 130
Lindane	1.97	2.04		ug/L		104	70 - 130
Malathion	1.97	2.24		ug/L		114	70 - 130
Methoxychlor	1.97	2.13		ug/L		108	70 - 130
Metolachlor	1.97	2.27		ug/L		115	70 - 130
Molinate	1.97	2.08		ug/L		106	70 - 130
Naphthalene	1.97	1.88		ug/L		95	70 - 130
Parathion	1.97	2.01		ug/L		102	70 - 130
Pendimethalin (Penoxaline)	1.97	1.98		ug/L		101	70 - 130
Phenanthrene	1.97	1.88		ug/L		95	70 - 130
Propachlor	1.97	2.22		ug/L		113	70 - 130
Pyrene	1.97	2.11		ug/L		107	70 - 130
Simazine	1.97	2.20		ug/L		112	70 - 130
Terbacil	1.97	2.21		ug/L		112	70 - 130
Terbutylazine	1.97	2.19		ug/L		111	70 - 130
Thiobencarb	1.97	2.09		ug/L		106	70 - 130
trans-Nonachlor	1.97	2.14		ug/L		109	70 - 130
Trifluralin	1.97	2.07		ug/L		105	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Nitro-m-xylene	98		70 - 130
Perylene-d12	92		70 - 130
Triphenylphosphate	106		70 - 130

**Lab Sample ID: LCSD 380-42965/24-A**  
**Matrix: Water**  
**Analysis Batch: 43445**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 42965**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1-Methylnaphthalene	1.97	2.10		ug/L		107	70 - 130	0	20
2,4'-DDD	1.97	2.10		ug/L		107	70 - 130	4	20
2,4'-DDE	1.97	2.13		ug/L		108	70 - 130	5	20
2,4'-DDT	1.97	2.25		ug/L		114	70 - 130	6	20
2,4-Dinitrotoluene	1.97	1.87		ug/L		95	70 - 130	5	20
2,6-Dinitrotoluene	1.97	1.84		ug/L		94	70 - 130	3	20
2-Methylnaphthalene	1.97	2.15		ug/L		109	70 - 130	1	20
4,4'-DDD	1.97	2.23		ug/L		113	70 - 130	6	20
4,4'-DDE	1.97	2.21		ug/L		112	70 - 130	3	20
4,4'-DDT	1.97	2.11		ug/L		107	70 - 130	7	20
Acenaphthene	1.97	1.91		ug/L		97	70 - 130	1	20
Acenaphthylene	1.97	2.02		ug/L		103	70 - 130	2	20
Acetochlor	1.97	2.17		ug/L		110	70 - 130	0	20
Alachlor	1.97	2.20		ug/L		112	70 - 130	1	20
alpha-BHC	1.97	2.12		ug/L		108	70 - 130	2	20

Eurofins Eaton Analytical Pomona

# QC Sample Results

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

Job ID: 380-49443-1

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

**Lab Sample ID: LCSD 380-42965/24-A**  
**Matrix: Water**  
**Analysis Batch: 43445**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 42965**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	RPD Limit
							Limits	RPD		
alpha-Chlordane	1.97	2.18		ug/L		110	70 - 130	1	20	
Anthracene	1.97	1.81		ug/L		92	70 - 130	0	20	
Atrazine	1.97	2.32		ug/L		118	70 - 130	5	20	
Benz(a)anthracene	1.97	2.09		ug/L		106	70 - 130	7	20	
Benzo[a]pyrene	1.97	1.97		ug/L		100	70 - 130	0	20	
Benzo[b]fluoranthene	1.97	2.13		ug/L		108	70 - 130	4	20	
Benzo[g,h,i]perylene	1.97	1.93		ug/L		98	70 - 130	9	20	
Benzo[k]fluoranthene	1.97	2.18		ug/L		111	70 - 130	4	20	
beta-BHC	1.97	2.17		ug/L		110	70 - 130	8	20	
Bis(2-ethylhexyl) phthalate	1.97	2.02		ug/L		103	70 - 130	3	20	
Bromacil	1.97	2.22		ug/L		113	70 - 130	3	20	
Butachlor	1.97	2.36		ug/L		120	70 - 130	2	20	
Butylbenzylphthalate	1.97	2.30		ug/L		117	70 - 130	3	20	
Chlorobenzilate	1.97	2.55		ug/L		130	70 - 130	3	20	
Chloroneb	1.97	2.07		ug/L		105	70 - 130	3	20	
Chlorothalonil (Draconil, Bravo)	1.97	2.14		ug/L		109	70 - 130	1	20	
Chlorpyrifos	1.97	2.20		ug/L		112	70 - 130	2	20	
Chrysene	1.97	2.05		ug/L		104	70 - 130	1	20	
delta-BHC	1.97	1.92		ug/L		97	70 - 130	4	20	
Di(2-ethylhexyl)adipate	1.97	2.35		ug/L		119	70 - 130	2	20	
Dibenz(a,h)anthracene	1.97	1.96		ug/L		100	70 - 130	5	20	
Diclorvos (DDVP)	1.97	2.25		ug/L		114	70 - 130	2	20	
Dieldrin	1.97	2.16		ug/L		109	70 - 130	3	20	
Diethylphthalate	1.97	2.27		ug/L		115	70 - 130	2	20	
Dimethylphthalate	1.97	2.18		ug/L		110	70 - 130	5	20	
Di-n-butyl phthalate	3.94	4.43		ug/L		112	70 - 130	2	20	
Di-n-octyl phthalate	1.97	1.73		ug/L		88	70 - 130	4	20	
Endosulfan I (Alpha)	1.97	2.09		ug/L		106	70 - 130	3	20	
Endosulfan II (Beta)	1.97	2.25		ug/L		114	70 - 130	3	20	
Endosulfan sulfate	1.97	2.11		ug/L		107	70 - 130	5	20	
Endrin	1.97	2.12		ug/L		108	70 - 130	3	20	
Endrin aldehyde	1.97	2.14		ug/L		109	70 - 130	1	20	
EPTC	1.97	2.06		ug/L		105	70 - 130	3	20	
Fluoranthene	1.97	2.23		ug/L		113	70 - 130	6	20	
Fluorene	1.97	2.11		ug/L		107	70 - 130	2	20	
gamma-Chlordane	1.97	2.17		ug/L		110	70 - 130	0	20	
Heptachlor	1.97	1.94		ug/L		98	70 - 130	1	20	
Heptachlor epoxide (isomer B)	1.97	2.22		ug/L		113	70 - 130	1	20	
Hexachlorobenzene	1.97	2.09		ug/L		106	70 - 130	1	20	
Hexachlorocyclopentadiene	1.97	2.29		ug/L		116	70 - 130	5	20	
Indeno[1,2,3-cd]pyrene	1.97	1.94		ug/L		98	70 - 130	6	20	
Isophorone	1.97	2.05		ug/L		104	70 - 130	2	20	
Lindane	1.97	2.07		ug/L		105	70 - 130	1	20	
Malathion	1.97	2.31		ug/L		117	70 - 130	3	20	
Methoxychlor	1.97	2.15		ug/L		109	70 - 130	1	20	
Metolachlor	1.97	2.37		ug/L		120	70 - 130	4	20	
Molinate	1.97	2.02		ug/L		103	70 - 130	3	20	
Naphthalene	1.97	1.83		ug/L		93	70 - 130	2	20	
Parathion	1.97	2.11		ug/L		107	70 - 130	5	20	

Eurofins Eaton Analytical Pomona

# QC Sample Results

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

Job ID: 380-49443-1

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

**Lab Sample ID: LCSD 380-42965/24-A**  
**Matrix: Water**  
**Analysis Batch: 43445**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 42965**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Pendimethalin (Penoxaline)	1.97	2.09		ug/L		106	70 - 130	5	20
Phenanthrene	1.97	1.87		ug/L		95	70 - 130	0	20
Propachlor	1.97	2.25		ug/L		114	70 - 130	2	20
Pyrene	1.97	2.22		ug/L		113	70 - 130	5	20
Simazine	1.97	2.41		ug/L		122	70 - 130	9	20
Terbacil	1.97	2.33		ug/L		118	70 - 130	6	20
Terbutylazine	1.97	2.35		ug/L		119	70 - 130	7	20
Thiobencarb	1.97	2.11		ug/L		107	70 - 130	1	20
trans-Nonachlor	1.97	2.12		ug/L		108	70 - 130	1	20
Trifluralin	1.97	2.04		ug/L		103	70 - 130	1	20

Surrogate	LCSD %Recovery	LCSD Qualifier	LCSD Limits
2-Nitro-m-xylene	97		70 - 130
Perylene-d12	89		70 - 130
Triphenylphosphate	111		70 - 130

**Lab Sample ID: MRL 380-42965/22-A**  
**Matrix: Water**  
**Analysis Batch: 43445**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 42965**

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
1-Methylnaphthalene	0.0986	0.117		ug/L		119	50 - 150
2,4'-DDD	0.0986	0.131		ug/L		133	50 - 150
2,4'-DDE	0.0986	0.105		ug/L		107	50 - 150
2,4'-DDT	0.0986	0.104		ug/L		106	50 - 150
2,4-Dinitrotoluene	0.0986	0.0941	J	ug/L		95	50 - 150
2,6-Dinitrotoluene	0.0986	0.0853	J	ug/L		87	50 - 150
2-Methylnaphthalene	0.0986	0.114		ug/L		116	50 - 150
4,4'-DDD	0.0986	0.105		ug/L		107	50 - 150
4,4'-DDE	0.0986	0.0963	J	ug/L		98	50 - 150
4,4'-DDT	0.0986	0.125		ug/L		126	50 - 150
Acenaphthene	0.0986	0.0975	J	ug/L		99	50 - 150
Acenaphthylene	0.0986	0.0899	J	ug/L		91	50 - 150
Acetochlor	0.0493	0.0472	J	ug/L		96	50 - 150
Alachlor	0.0493	0.0603		ug/L		122	50 - 150
alpha-BHC	0.0986	0.105		ug/L		107	50 - 150
alpha-Chlordane	0.0247	<0.029		ug/L		109	50 - 150
Anthracene	0.0197	<0.019		ug/L		81	50 - 150
Atrazine	0.0493	0.0509		ug/L		103	50 - 150
Benz(a)anthracene	0.0493	0.0426	J	ug/L		86	50 - 150
Benzo[a]pyrene	0.0197	0.0141	J	ug/L		72	50 - 150
Benzo[b]fluoranthene	0.0197	0.0196	J	ug/L		99	50 - 150
Benzo[g,h,i]perylene	0.0493	0.0418	J	ug/L		85	50 - 150
Benzo[k]fluoranthene	0.0197	0.0178	J	ug/L		90	50 - 150
beta-BHC	0.0986	0.104		ug/L		106	50 - 150
Bis(2-ethylhexyl) phthalate	0.592	0.674		ug/L		114	50 - 150
Bromacil	0.0986	0.157	^3+	ug/L		159	50 - 150
Butachlor	0.0493	0.0545		ug/L		111	50 - 150

Eurofins Eaton Analytical Pomona

# QC Sample Results

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

Job ID: 380-49443-1

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

**Lab Sample ID: MRL 380-42965/22-A**  
**Matrix: Water**  
**Analysis Batch: 43445**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 42965**

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Butylbenzylphthalate	0.148	0.149	J	ug/L		101	50 - 150
Chlorobenzilate	0.0986	0.196	^3+	ug/L		199	50 - 150
Chloroneb	0.0986	0.0977	J	ug/L		99	50 - 150
Chlorothalonil (Draconil, Bravo)	0.0986	0.111		ug/L		113	50 - 150
Chlorpyrifos	0.0493	0.0503		ug/L		102	50 - 150
Chrysene	0.0197	0.0220		ug/L		111	50 - 150
delta-BHC	0.0986	0.0994		ug/L		101	50 - 150
Di(2-ethylhexyl)adipate	0.296	0.526	J ^3+	ug/L		178	50 - 150
Dibenz(a,h)anthracene	0.0493	0.0402	J	ug/L		82	50 - 150
Diclorvos (DDVP)	0.0493	0.0966	^3+	ug/L		196	50 - 150
Dieldrin	0.0986	0.101	J	ug/L		103	50 - 150
Diethylphthalate	0.148	0.176	J	ug/L		119	50 - 150
Dimethylphthalate	0.296	0.304	J	ug/L		103	50 - 150
Di-n-butyl phthalate	0.296	0.348	J	ug/L		118	49 - 243
Di-n-octyl phthalate	0.0986	0.0999		ug/L		101	50 - 150
Endosulfan I (Alpha)	0.0986	0.102		ug/L		103	50 - 150
Endosulfan II (Beta)	0.0986	0.127		ug/L		129	50 - 150
Endosulfan sulfate	0.0986	0.107		ug/L		108	50 - 150
Endrin	0.0986	0.113		ug/L		115	50 - 150
Endrin aldehyde	0.0986	0.122		ug/L		124	50 - 150
EPTC	0.0986	0.103		ug/L		104	50 - 150
Fluoranthene	0.0493	0.0507	J	ug/L		103	50 - 150
Fluorene	0.0493	0.0513		ug/L		104	50 - 150
gamma-Chlordane	0.0247	0.0249	J	ug/L		101	50 - 150
Heptachlor	0.0394	0.0334	J	ug/L		85	50 - 150
Heptachlor epoxide (isomer B)	0.0493	0.0527		ug/L		107	50 - 150
Hexachlorobenzene	0.0493	0.0492		ug/L		100	50 - 150
Hexachlorocyclopentadiene	0.0493	0.0458	J	ug/L		93	50 - 150
Indeno[1,2,3-cd]pyrene	0.0493	0.0422	J	ug/L		86	50 - 150
Isophorone	0.0986	0.109	J	ug/L		111	50 - 150
Lindane	0.0394	0.0462		ug/L		117	50 - 150
Malathion	0.0986	0.101		ug/L		103	50 - 150
Methoxychlor	0.0986	0.105		ug/L		107	50 - 150
Metolachlor	0.0493	0.0545		ug/L		111	50 - 150
Molinate	0.0986	0.0979	J	ug/L		99	50 - 150
Naphthalene	0.0986	0.106	J	ug/L		108	50 - 150
Parathion	0.0986	0.0954	J	ug/L		97	50 - 150
Pendimethalin (Penoxaline)	0.0986	0.107		ug/L		108	50 - 150
Phenanthrene	0.0197	0.0213	J	ug/L		108	50 - 150
Propachlor	0.0493	0.0549		ug/L		111	50 - 150
Pyrene	0.0493	0.0507		ug/L		103	50 - 150
Simazine	0.0493	0.0529		ug/L		107	50 - 150
Terbacil	0.0986	0.103		ug/L		104	50 - 150
Terbutylazine	0.0986	0.102		ug/L		103	50 - 150
Thiobencarb	0.0986	0.103	J	ug/L		105	50 - 150
trans-Nonachlor	0.0247	<0.026		ug/L		102	50 - 150
Trifluralin	0.0986	0.105		ug/L		107	50 - 150



# QC Sample Results

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

Job ID: 380-49443-1

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

**Lab Sample ID: MRL 380-42965/22-A**  
**Matrix: Water**  
**Analysis Batch: 43445**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 42965**

Surrogate	MRL %Recovery	MRL Qualifier	Limits
2-Nitro-m-xylene	99		70 - 130
Perylene-d12	84		70 - 130
Triphenylphosphate	102		70 - 130

**Lab Sample ID: MRL 380-42965/22-A**  
**Matrix: Water**  
**Analysis Batch: 43592**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 42965**

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Bromacil	0.0986	0.138		ug/L		140	50 - 150

Surrogate	MRL %Recovery	MRL Qualifier	Limits
2-Nitro-m-xylene	102		70 - 130
Perylene-d12	86		70 - 130
Triphenylphosphate	109		70 - 130

**Lab Sample ID: 380-49552-D-1-A MS**  
**Matrix: Water**  
**Analysis Batch: 43445**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 42965**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1-Methylnaphthalene	<0.097		1.95	2.07		ug/L		106	70 - 130
2,4'-DDD	<0.097		1.95	2.02		ug/L		104	70 - 130
2,4'-DDE	<0.097		1.95	2.01		ug/L		103	70 - 130
2,4'-DDT	<0.097		1.95	2.10		ug/L		108	70 - 130
2,4-Dinitrotoluene	<0.097		1.95	1.83		ug/L		94	70 - 130
2,6-Dinitrotoluene	<0.097		1.95	1.83		ug/L		94	70 - 130
2-Methylnaphthalene	<0.097		1.95	2.13		ug/L		109	70 - 130
4,4'-DDD	<0.097		1.95	2.07		ug/L		107	70 - 130
4,4'-DDE	<0.097		1.95	2.10		ug/L		108	70 - 130
4,4'-DDT	<0.097		1.95	1.91		ug/L		98	70 - 130
Acenaphthene	<0.097		1.95	1.88		ug/L		97	70 - 130
Acenaphthylene	<0.097		1.95	1.96		ug/L		101	70 - 130
Acetochlor	<0.097		1.95	2.13		ug/L		110	70 - 130
Alachlor	<0.049		1.95	2.14		ug/L		110	70 - 130
alpha-BHC	<0.097		1.95	2.05		ug/L		106	70 - 130
alpha-Chlordane	<0.049		1.95	2.10		ug/L		108	70 - 130
Anthracene	<0.019		1.95	1.39		ug/L		71	70 - 130
Atrazine	<0.049		1.95	2.22		ug/L		114	70 - 130
Benz(a)anthracene	<0.049		1.95	1.81		ug/L		93	70 - 130
Benzo[a]pyrene	<0.019		1.95	1.66		ug/L		85	70 - 130
Benzo[b]fluoranthene	<0.019		1.95	1.99		ug/L		102	70 - 130
Benzo[g,h,i]perylene	<0.049		1.95	2.02		ug/L		104	70 - 130
Benzo[k]fluoranthene	<0.019		1.95	2.11		ug/L		108	70 - 130
beta-BHC	<0.097		1.95	2.02		ug/L		104	70 - 130
Bis(2-ethylhexyl) phthalate	<0.58		1.95	2.04		ug/L		105	70 - 130
Bromacil	<0.097	^3+	1.95	2.22		ug/L		114	70 - 130
Butachlor	<0.049		1.95	2.25		ug/L		116	70 - 130

Eurofins Eaton Analytical Pomona

# QC Sample Results

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

Job ID: 380-49443-1

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

**Lab Sample ID: 380-49552-D-1-A MS**  
**Matrix: Water**  
**Analysis Batch: 43445**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 42965**

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec Limits
	Result	Qualifier	Added	Result	Qualifier				
Butylbenzylphthalate	<0.49		1.95	2.23		ug/L		115	70 - 130
Chlorobenzilate	<0.097	B ^3+	1.95	2.48		ug/L		127	70 - 130
Chloroneb	<0.097		1.95	1.98		ug/L		102	70 - 130
Chlorothalonil (Draconil, Bravo)	<0.097		1.95	2.06		ug/L		106	70 - 130
Chlorpyrifos	<0.049		1.95	2.14		ug/L		110	70 - 130
Chrysene	<0.019		1.95	2.00		ug/L		103	70 - 130
delta-BHC	<0.097		1.95	1.93		ug/L		99	70 - 130
Di(2-ethylhexyl)adipate	<0.58	B ^3+	1.95	2.47		ug/L		122	70 - 130
Dibenz(a,h)anthracene	<0.049		1.95	1.99		ug/L		102	70 - 130
Diclorvos (DDVP)	<0.049	^3+	1.95	2.27		ug/L		117	70 - 130
Dieldrin	<0.19		1.95	2.03		ug/L		104	70 - 130
Diethylphthalate	<0.49		1.95	2.19		ug/L		113	70 - 130
Dimethylphthalate	<0.49		1.95	2.06		ug/L		106	70 - 130
Di-n-butyl phthalate	<0.97		3.89	4.24		ug/L		109	70 - 130
Di-n-octyl phthalate	<0.097		1.95	1.79		ug/L		92	70 - 130
Endosulfan I (Alpha)	<0.097		1.95	1.98		ug/L		102	70 - 130
Endosulfan II (Beta)	<0.097		1.95	2.23		ug/L		114	70 - 130
Endosulfan sulfate	<0.097		1.95	1.99		ug/L		102	70 - 130
Endrin	<0.097		1.95	2.02		ug/L		104	70 - 130
Endrin aldehyde	<0.097		1.95	2.11		ug/L		108	70 - 130
EPTC	<0.097		1.95	2.12		ug/L		109	70 - 130
Fluoranthene	<0.097		1.95	2.06		ug/L		106	70 - 130
Fluorene	<0.049		1.95	2.03		ug/L		104	70 - 130
gamma-Chlordane	<0.049		1.95	2.10		ug/L		108	70 - 130
Heptachlor	<0.039		1.95	1.91		ug/L		98	70 - 130
Heptachlor epoxide (isomer B)	<0.049		1.95	2.15		ug/L		110	70 - 130
Hexachlorobenzene	<0.049		1.95	2.06		ug/L		106	70 - 130
Hexachlorocyclopentadiene	<0.049		1.95	2.16		ug/L		111	70 - 130
Indeno[1,2,3-cd]pyrene	<0.049		1.95	2.01		ug/L		103	70 - 130
Isophorone	<0.49		1.95	2.11		ug/L		109	70 - 130
Lindane	<0.039		1.95	2.00		ug/L		102	70 - 130
Malathion	<0.097		1.95	2.26		ug/L		116	70 - 130
Methoxychlor	<0.097		1.95	2.14		ug/L		110	70 - 130
Metolachlor	<0.049		1.95	2.23		ug/L		115	70 - 130
Molinate	<0.097		1.95	2.05		ug/L		105	70 - 130
Naphthalene	<0.29		1.95	1.85		ug/L		95	70 - 130
Parathion	<0.097		1.95	2.02		ug/L		104	70 - 130
Pendimethalin (Penoxaline)	<0.097		1.95	2.01		ug/L		103	70 - 130
Phenanthrene	<0.039		1.95	1.87		ug/L		96	70 - 130
Propachlor	<0.049		1.95	2.19		ug/L		113	70 - 130
Pyrene	<0.049		1.95	2.08		ug/L		107	70 - 130
Simazine	<0.049		1.95	2.26		ug/L		116	70 - 130
Terbacil	<0.097		1.95	2.27		ug/L		117	70 - 130
Terbutylazine	<0.097		1.95	2.20		ug/L		113	70 - 130
Thiobencarb	<0.19		1.95	2.09		ug/L		107	70 - 130
trans-Nonachlor	<0.049		1.95	2.05		ug/L		105	70 - 130
Trifluralin	<0.097		1.95	2.06		ug/L		106	70 - 130

# QC Sample Results

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

Job ID: 380-49443-1

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

**Lab Sample ID: 380-49552-D-1-A MS**  
**Matrix: Water**  
**Analysis Batch: 43445**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 42965**

<i>Surrogate</i>	<i>%Recovery</i>	<i>MS MS Qualifier</i>	<i>Limits</i>
2-Nitro-m-xylene	99		70 - 130
Perylene-d12	93		70 - 130
Triphenylphosphate	107		70 - 130

**Lab Sample ID: 380-49567-D-1-A DU**  
**Matrix: Water**  
**Analysis Batch: 43445**

**Client Sample ID: Duplicate**  
**Prep Type: Total/NA**  
**Prep Batch: 42965**

Analyte	Sample Result	Sample Qualifier	DU		Unit	D	RPD	Limit
			Result	Qualifier				
1-Methylnaphthalene	<0.099		<0.099		ug/L		NC	20
2,4'-DDD	<0.099		<0.099		ug/L		NC	20
2,4'-DDE	<0.099		<0.099		ug/L		NC	20
2,4'-DDT	<0.099		<0.099		ug/L		NC	20
2,4-Dinitrotoluene	<0.099		<0.099		ug/L		NC	20
2,6-Dinitrotoluene	<0.099		<0.099		ug/L		NC	20
2-Methylnaphthalene	<0.099		<0.099		ug/L		NC	20
4,4'-DDD	<0.099		<0.099		ug/L		NC	20
4,4'-DDE	<0.099		<0.099		ug/L		NC	20
4,4'-DDT	<0.099		<0.099		ug/L		NC	20
Acenaphthene	<0.099		<0.099		ug/L		NC	20
Acenaphthylene	<0.099		<0.099		ug/L		NC	20
Acetochlor	<0.099		<0.099		ug/L		NC	20
Alachlor	<0.049		<0.049		ug/L		NC	20
alpha-BHC	<0.099		<0.099		ug/L		NC	20
alpha-Chlordane	<0.049		<0.049		ug/L		NC	20
Anthracene	<0.020		<0.020		ug/L		NC	20
Atrazine	<0.049		<0.049		ug/L		NC	20
Benz(a)anthracene	<0.049		<0.049		ug/L		NC	20
Benzo[a]pyrene	<0.020		<0.020		ug/L		NC	20
Benzo[b]fluoranthene	<0.020		<0.020		ug/L		NC	20
Benzo[g,h,i]perylene	<0.049		<0.049		ug/L		NC	20
Benzo[k]fluoranthene	<0.020		<0.020		ug/L		NC	20
beta-BHC	<0.099		<0.099		ug/L		NC	20
Bis(2-ethylhexyl) phthalate	<0.59		<0.59		ug/L		NC	20
Bromacil	<0.099	^3+	<0.099		ug/L		NC	20
Butachlor	<0.049		<0.049		ug/L		NC	20
Butylbenzylphthalate	<0.49		<0.49		ug/L		NC	20
Chlorobenzilate	<0.099	B ^3+	<0.099	B	ug/L		NC	20
Chloroneb	<0.099		<0.099		ug/L		NC	20
Chlorothalonil (Draconil, Bravo)	<0.099		<0.099		ug/L		NC	20
Chlorpyrifos	<0.049		<0.049		ug/L		NC	20
Chrysene	<0.020		<0.020		ug/L		NC	20
delta-BHC	<0.099		<0.099		ug/L		NC	20
Di(2-ethylhexyl)adipate	0.69	B ^3+	<0.59	B	ug/L		NC	20
Dibenz(a,h)anthracene	<0.049		<0.049		ug/L		NC	20
Diclorvos (DDVP)	<0.049	^3+	<0.049		ug/L		NC	20
Dieldrin	<0.20		<0.20		ug/L		NC	20
Diethylphthalate	<0.49		<0.49		ug/L		NC	20

# QC Sample Results

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

Job ID: 380-49443-1

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

**Lab Sample ID: 380-49567-D-1-A DU**  
**Matrix: Water**  
**Analysis Batch: 43445**

**Client Sample ID: Duplicate**  
**Prep Type: Total/NA**  
**Prep Batch: 42965**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Dimethylphthalate	<0.49		<0.49		ug/L		NC	20
Di-n-butyl phthalate	<0.99		<0.99		ug/L		NC	20
Di-n-octyl phthalate	<0.099		<0.099		ug/L		NC	20
Endosulfan I (Alpha)	<0.099		<0.099		ug/L		NC	20
Endosulfan II (Beta)	<0.099		<0.099		ug/L		NC	20
Endosulfan sulfate	<0.099		<0.099		ug/L		NC	20
Endrin	<0.099		<0.099		ug/L		NC	20
Endrin aldehyde	<0.099		<0.099		ug/L		NC	20
EPTC	<0.099		<0.099		ug/L		NC	20
Fluoranthene	<0.099		<0.099		ug/L		NC	20
Fluorene	<0.049		<0.049		ug/L		NC	20
gamma-Chlordane	<0.049		<0.049		ug/L		NC	20
Heptachlor	<0.039		<0.040		ug/L		NC	20
Heptachlor epoxide (isomer B)	<0.049		<0.049		ug/L		NC	20
Hexachlorobenzene	<0.049		<0.049		ug/L		NC	20
Hexachlorocyclopentadiene	<0.049		<0.049		ug/L		NC	20
Indeno[1,2,3-cd]pyrene	<0.049		<0.049		ug/L		NC	20
Isophorone	<0.49		<0.49		ug/L		NC	20
Lindane	<0.039		<0.040		ug/L		NC	20
Malathion	<0.099		<0.099		ug/L		NC	20
Methoxychlor	<0.099		<0.099		ug/L		NC	20
Metolachlor	<0.049		<0.049		ug/L		NC	20
Molinate	<0.099		<0.099		ug/L		NC	20
Naphthalene	<0.30		<0.30		ug/L		NC	20
Parathion	<0.099		<0.099		ug/L		NC	20
Pendimethalin (Penoxaline)	<0.099		<0.099		ug/L		NC	20
Phenanthrene	<0.039		<0.040		ug/L		NC	20
Propachlor	<0.049		<0.049		ug/L		NC	20
Pyrene	<0.049		<0.049		ug/L		NC	20
Simazine	<0.049		<0.049		ug/L		NC	20
Terbacil	<0.099		<0.099		ug/L		NC	20
Terbutylazine	<0.099		<0.099		ug/L		NC	20
Thiobencarb	<0.20		<0.20		ug/L		NC	20
Total Permethrin (mixed isomers)	<0.20		<0.20		ug/L		NC	20
trans-Nonachlor	<0.049		<0.049		ug/L		NC	20
Trifluralin	<0.099		<0.099		ug/L		NC	20

Surrogate	DU DU		Limits
	%Recovery	Qualifier	
2-Nitro-m-xylene	98		70 - 130
Perylene-d12	87		70 - 130
Triphenylphosphate	110		70 - 130

# QC Sample Results

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

Job ID: 380-49443-1

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

**Lab Sample ID: 107024-B1**  
**Matrix: BlankMatrix**  
**Analysis Batch: O-41078**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: O-41078\_P**

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 09:35	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 09:35	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 09:35	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 09:35	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 09:35	1
Acenaphthene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 09:35	1
Acenaphthylene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 09:35	1
Anthracene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 09:35	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 09:35	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 09:35	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 09:35	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 09:35	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 09:35	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 09:35	1
Biphenyl	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 09:35	1
Chrysene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 09:35	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 09:35	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 09:35	1
Dibenzothiophene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 09:35	1
Disalicylidenepropanediamine	ND		0.1	0.05	µg/L		06/02/23 00:00	06/14/23 09:35	1
Fluoranthene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 09:35	1
Fluorene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 09:35	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 09:35	1
Naphthalene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 09:35	1
Perylene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 09:35	1
Phenanthrene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 09:35	1
Pyrene	ND		0.005	0.001	µg/L		06/02/23 00:00	06/14/23 09:35	1

Surrogate	Blank %Recovery	Blank Qualifier	Limits	Prepared	Analyzed	Dil Fac
(d10-Acenaphthene)	93		27 - 133	06/02/23 00:00	06/14/23 09:35	1
(d10-Phenanthrene)	93		43 - 129	06/02/23 00:00	06/14/23 09:35	1
(d12-Chrysene)	110		52 - 144	06/02/23 00:00	06/14/23 09:35	1
(d12-Perylene)	87		36 - 161	06/02/23 00:00	06/14/23 09:35	1
(d8-Naphthalene)	89		25 - 125	06/02/23 00:00	06/14/23 09:35	1

**Lab Sample ID: 107024-BS1**  
**Matrix: BlankMatrix**  
**Analysis Batch: O-41078**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: O-41078\_P**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1-Methylnaphthalene	0.5	0.45		µg/L		90	31 - 128
1-Methylphenanthrene	0.5	0.466		µg/L		93	66 - 127
2,3,5-Trimethylnaphthalene	0.5	0.466		µg/L		93	55 - 122
2,6-Dimethylnaphthalene	0.5	0.457		µg/L		91	48 - 120
2-Methylnaphthalene	0.5	0.451		µg/L		90	47 - 130
Acenaphthene	0.5	0.459		µg/L		92	53 - 131
Acenaphthylene	0.5	0.466		µg/L		93	43 - 140
Anthracene	0.5	0.458		µg/L		92	58 - 135

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# QC Sample Results

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

Job ID: 380-49443-1

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

**Lab Sample ID: 107024-BS1**  
**Matrix: BlankMatrix**  
**Analysis Batch: O-41078**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: O-41078\_P**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benz[a]anthracene	0.5	0.465		µg/L		93	55 - 145
Benzo[a]pyrene	0.5	0.481		µg/L		96	51 - 143
Benzo[b]fluoranthene	0.5	0.51		µg/L		102	46 - 165
Benzo[e]pyrene	0.5	0.496		µg/L		99	42 - 152
Benzo[g,h,i]perylene	0.5	0.45		µg/L		90	63 - 133
Benzo[k]fluoranthene	0.5	0.509		µg/L		102	56 - 145
Biphenyl	0.5	0.46		µg/L		92	56 - 119
Chrysene	0.5	0.43		µg/L		86	56 - 141
Dibenz[a,h]anthracene	0.5	0.537		µg/L		107	55 - 150
Dibenzo[a,l]pyrene	0.5	0.611		µg/L		122	50 - 150
Dibenzothiophene	0.5	0.455		µg/L		91	46 - 126
Disalicylidenepropanediamine	50	45.1		µg/L		90	50 - 150
Fluoranthene	0.5	0.472		µg/L		94	60 - 146
Fluorene	0.5	0.471		µg/L		94	58 - 131
Indeno[1,2,3-cd]pyrene	0.5	0.501		µg/L		100	50 - 151
Naphthalene	0.5	0.437		µg/L		87	41 - 126
Perylene	0.5	0.479		µg/L		96	48 - 141
Phenanthrene	0.5	0.464		µg/L		93	67 - 127
Pyrene	0.5	0.47		µg/L		94	54 - 156

Surrogate	LCS %Recovery	LCS Qualifier	Limits
(d10-Acenaphthene)	91		27 - 133
(d10-Phenanthrene)	90		43 - 129
(d12-Chrysene)	85		52 - 144
(d12-Perylene)	88		36 - 161
(d8-Naphthalene)	86		25 - 125

**Lab Sample ID: 107024-BS2**  
**Matrix: BlankMatrix**  
**Analysis Batch: O-41078**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: O-41078\_P**

Analyte	Spike Added	LCS DUP Result	LCS DUP Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1-Methylnaphthalene	0.5	0.457		µg/L		91	31 - 128	1	30
1-Methylphenanthrene	0.5	0.481		µg/L		96	66 - 127	3	30
2,3,5-Trimethylnaphthalene	0.5	0.476		µg/L		95	55 - 122	2	30
2,6-Dimethylnaphthalene	0.5	0.467		µg/L		93	48 - 120	2	30
2-Methylnaphthalene	0.5	0.458		µg/L		92	47 - 130	2	30
Acenaphthene	0.5	0.467		µg/L		93	53 - 131	1	30
Acenaphthylene	0.5	0.479		µg/L		96	43 - 140	3	30
Anthracene	0.5	0.474		µg/L		95	58 - 135	3	30
Benz[a]anthracene	0.5	0.476		µg/L		95	55 - 145	2	30
Benzo[a]pyrene	0.5	0.487		µg/L		97	51 - 143	1	30
Benzo[b]fluoranthene	0.5	0.52		µg/L		104	46 - 165	2	30
Benzo[e]pyrene	0.5	0.502		µg/L		100	42 - 152	1	30
Benzo[g,h,i]perylene	0.5	0.461		µg/L		92	63 - 133	2	30
Benzo[k]fluoranthene	0.5	0.502		µg/L		100	56 - 145	2	30
Biphenyl	0.5	0.467		µg/L		93	56 - 119	1	30
Chrysene	0.5	0.441		µg/L		88	56 - 141	2	30

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# QC Sample Results

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

Job ID: 380-49443-1

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

**Lab Sample ID: 107024-BS2**  
**Matrix: BlankMatrix**  
**Analysis Batch: O-41078**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: O-41078\_P**

Analyte	Spike Added	LCS DUP Result	LCS DUP Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Dibenz[a,h]anthracene	0.5	0.533		µg/L		107	55 - 150	0	30
Dibenzo[a,i]pyrene	0.5	0.623		µg/L		125	50 - 150	2	30
Dibenzothiophene	0.5	0.465		µg/L		93	46 - 126	2	30
Disalicylidenepropanediamine	50	51.3		µg/L		103	50 - 150	13	30
Fluoranthene	0.5	0.486		µg/L		97	60 - 146	3	30
Fluorene	0.5	0.479		µg/L		96	58 - 131	2	30
Indeno[1,2,3-cd]pyrene	0.5	0.525		µg/L		105	50 - 151	5	30
Naphthalene	0.5	0.442		µg/L		88	41 - 126	1	30
Perylene	0.5	0.474		µg/L		95	48 - 141	1	30
Phenanthrene	0.5	0.469		µg/L		94	67 - 127	1	30
Pyrene	0.5	0.483		µg/L		97	54 - 156	3	30

Surrogate	LCS DUP %Recovery	LCS DUP Qualifier	Limits
(d10-Acenaphthene)	92		27 - 133
(d10-Phenanthrene)	92		43 - 129
(d12-Chrysene)	87		52 - 144
(d12-Perylene)	89		36 - 161
(d8-Naphthalene)	87		25 - 125

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

**Lab Sample ID: 23VGH7F02B**  
**Matrix: WATER**  
**Analysis Batch: 23VGH7F02**

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GASOLINE	ND	U	0.020		mg/L			06/02/23 14:28	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE					06/02/23 14:28	1

**Lab Sample ID: 23VGH7F02L**  
**Matrix: WATER**  
**Analysis Batch: 23VGH7F02**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
GASOLINE	0.500	0.471		mg/L		94	60 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
BROMOFLUOROBENZENE	114		70 - 130

**Lab Sample ID: 23F018-01M**  
**Matrix: WATER**  
**Analysis Batch: 23VGH7F02**

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
GASOLINE	ND		0.500	0.525		mg/L		105	50 - 130

Eurofins Eaton Analytical Pomona

# QC Sample Results

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

Job ID: 380-49443-1

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

Lab Sample ID: 23F018-01M  
Matrix: WATER  
Analysis Batch: 23VGH7F02

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

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
BROMOFLUOROBENZENE	117		60 - 140

Lab Sample ID: 23F018-01S  
Matrix: WATER  
Analysis Batch: 23VGH7F02

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
GASOLINE	ND		0.500	0.494		mg/L		99	50 - 130	6	30

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
BROMOFLUOROBENZENE	109		60 - 140

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

Lab Sample ID: 23DSF003WB  
Matrix: WATER  
Analysis Batch: 23DSF003W

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DIESEL	ND	U	0.025		mg/L			06/05/23 15:13	1
JP5	ND	U	0.050		mg/L			06/05/23 15:13	1
JP8	ND	U	0.050		mg/L			06/05/23 15:13	1
MOTOR OIL	ND	U	0.050		mg/L			06/05/23 15:13	1

	MB	MB		Prepared	Analyzed	Dil Fac
Surrogate	%Recovery	Qualifier	Limits			
BROMOBENZENE					06/05/23 15:13	1
HEXACOSANE					06/05/23 15:13	1

Lab Sample ID: 23DSF003WL  
Matrix: WATER  
Analysis Batch: 23DSF003W

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
DIESEL	2.50	1.72		mg/L		69	50 - 130

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
BROMOBENZENE	62		60 - 130
HEXACOSANE	98		60 - 130

Lab Sample ID: 23J5F003WL  
Matrix: WATER  
Analysis Batch: 23DSF003W

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
JP5	2.50	1.79		mg/L		72	30 - 160



# QC Sample Results

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

Job ID: 380-49443-1

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

**Lab Sample ID: 23J5F003WL**  
**Matrix: WATER**  
**Analysis Batch: 23DSF003W**

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

<i>Surrogate</i>	<i>LCS</i> <i>%Recovery</i>	<i>LCS</i> <i>Qualifier</i>	<i>Limits</i>
BROMOBENZENE	76		60 - 130
HEXACOSANE	102		60 - 130

**Lab Sample ID: 23J8F003WL**  
**Matrix: WATER**  
**Analysis Batch: 23DSF003W**

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

<i>Analyte</i>	<i>Spike</i> <i>Added</i>	<i>LCS</i> <i>Result</i>	<i>LCS</i> <i>Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec</i> <i>Limits</i>
JP8	2.50	2.14		mg/L		86	30 - 160

<i>Surrogate</i>	<i>LCS</i> <i>%Recovery</i>	<i>LCS</i> <i>Qualifier</i>	<i>Limits</i>
BROMOBENZENE	88		60 - 130
HEXACOSANE	105		60 - 130

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# QC Association Summary

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

Job ID: 380-49443-1

## GC/MS Semi VOA

### Prep Batch: 42965

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-49443-1	MOANALUA WELLS	Total/NA	Drinking Water	525.2	
380-49443-2	AIEA GULCH WELLS PUMP 2	Total/NA	Drinking Water	525.2	
380-49443-3	AIEA WELLS PUMPS 1&2 (260)	Total/NA	Drinking Water	525.2	
380-49443-4	HALAWA WELLS UNITS 1 & 2	Total/NA	Drinking Water	525.2	
MB 380-42965/21-A	Method Blank	Total/NA	Water	525.2	
LCS 380-42965/23-A	Lab Control Sample	Total/NA	Water	525.2	
LCSD 380-42965/24-A	Lab Control Sample Dup	Total/NA	Water	525.2	
MRL 380-42965/22-A	Lab Control Sample	Total/NA	Water	525.2	
380-49552-D-1-A MS	Matrix Spike	Total/NA	Water	525.2	
380-49567-D-1-A DU	Duplicate	Total/NA	Water	525.2	

### Analysis Batch: 43445

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-49443-1	MOANALUA WELLS	Total/NA	Drinking Water	525.2	42965
380-49443-2	AIEA GULCH WELLS PUMP 2	Total/NA	Drinking Water	525.2	42965
380-49443-3	AIEA WELLS PUMPS 1&2 (260)	Total/NA	Drinking Water	525.2	42965
380-49443-4	HALAWA WELLS UNITS 1 & 2	Total/NA	Drinking Water	525.2	42965
MB 380-42965/21-A	Method Blank	Total/NA	Water	525.2	42965
LCS 380-42965/23-A	Lab Control Sample	Total/NA	Water	525.2	42965
LCSD 380-42965/24-A	Lab Control Sample Dup	Total/NA	Water	525.2	42965
MRL 380-42965/22-A	Lab Control Sample	Total/NA	Water	525.2	42965
380-49552-D-1-A MS	Matrix Spike	Total/NA	Water	525.2	42965
380-49567-D-1-A DU	Duplicate	Total/NA	Water	525.2	42965

### Analysis Batch: 43592

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-49443-4	HALAWA WELLS UNITS 1 & 2	Total/NA	Drinking Water	525.2	42965
MRL 380-42965/22-A	Lab Control Sample	Total/NA	Water	525.2	42965

## Subcontract

### Analysis Batch: O-41078

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-49443-1	MOANALUA WELLS	Total/NA	Drinking Water	625 PAH Physis LL (EAL) + TICs	O-41078_P
380-49443-2	AIEA GULCH WELLS PUMP 2	Total/NA	Drinking Water	625 PAH Physis LL (EAL) + TICs	O-41078_P
380-49443-3	AIEA WELLS PUMPS 1&2 (260)	Total/NA	Drinking Water	625 PAH Physis LL (EAL) + TICs	O-41078_P
380-49443-4	HALAWA WELLS UNITS 1 & 2	Total/NA	Drinking Water	625 PAH Physis LL (EAL) + TICs	O-41078_P
107024-B1	Method Blank	Total/NA	BlankMatrix	625 PAH Physis LL (EAL) + TICs	O-41078_P
107024-BS1	Lab Control Sample	Total/NA	BlankMatrix	625 PAH Physis LL (EAL) + TICs	O-41078_P
107024-BS2	Lab Control Sample Dup	Total/NA	BlankMatrix	625 PAH Physis LL (EAL) + TICs	O-41078_P

### Analysis Batch: 23DSF003W

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-49443-1	MOANALUA WELLS	Total/NA	Drinking Water	8015 LL DRO/MRO/JP5/J P8	

Eurofins Eaton Analytical Pomona

# QC Association Summary

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

Job ID: 380-49443-1

## Subcontract (Continued)

### Analysis Batch: 23DSF003W (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-49443-2	AIEA GULCH WELLS PUMP 2	Total/NA	Drinking Water	8015 LL DRO/MRO/JP5/J P8	
380-49443-3	AIEA WELLS PUMPS 1&2 (260)	Total/NA	Drinking Water	8015 LL DRO/MRO/JP5/J P8	
380-49443-4	HALAWA WELLS UNITS 1 & 2	Total/NA	Drinking Water	8015 LL DRO/MRO/JP5/J P8	
23DSF003WB	Method Blank	Total/NA	WATER	8015 LL DRO/MRO/JP5/J P8	
23DSF003WL	Lab Control Sample	Total/NA	WATER	8015 LL DRO/MRO/JP5/J P8	
23J5F003WL	Lab Control Sample	Total/NA	WATER	8015 LL DRO/MRO/JP5/J P8	
23J8F003WL	Lab Control Sample	Total/NA	WATER	8015 LL DRO/MRO/JP5/J P8	

### Analysis Batch: 23VGH7F02

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-49443-1	MOANALUA WELLS	Total/NA	Drinking Water	8015 Gas (Purgeable) LL (EAL)	
380-49443-2	AIEA GULCH WELLS PUMP 2	Total/NA	Drinking Water	8015 Gas (Purgeable) LL (EAL)	
380-49443-3	AIEA WELLS PUMPS 1&2 (260)	Total/NA	Drinking Water	8015 Gas (Purgeable) LL (EAL)	
380-49443-4	HALAWA WELLS UNITS 1 & 2	Total/NA	Drinking Water	8015 Gas (Purgeable) LL (EAL)	
380-49443-5	TB MOANALUA WELLS	Total/NA	Water	8015 Gas (Purgeable) LL (EAL)	
380-49443-6	TB AIEA GULCH WELLS PUMP 2	Total/NA	Water	8015 Gas (Purgeable) LL (EAL)	
380-49443-7	TB AIEA WELLS PUMPS 1&2 (260)	Total/NA	Water	8015 Gas (Purgeable) LL (EAL)	
380-49443-8	TB HALAWA WELLS UNITS 1 & 2	Total/NA	Water	8015 Gas (Purgeable) LL (EAL)	
23VGH7F02B	Method Blank	Total/NA	WATER	8015 Gas (Purgeable) LL (EAL)	
23VGH7F02L	Lab Control Sample	Total/NA	WATER	8015 Gas (Purgeable) LL (EAL)	
23F018-01M	Matrix Spike	Total/NA	WATER	8015 Gas (Purgeable) LL (EAL)	

# QC Association Summary

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

Job ID: 380-49443-1

## Subcontract (Continued)

### Analysis Batch: 23VGH7F02 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
23F018-01S	Matrix Spike Duplicate	Total/NA	WATER	8015 Gas (Purgeable) LL (EAL)	

### Prep Batch: O-41078\_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-49443-1	MOANALUA WELLS	Total/NA	Drinking Water	EPA_625	
380-49443-2	AIEA GULCH WELLS PUMP 2	Total/NA	Drinking Water	EPA_625	
380-49443-3	AIEA WELLS PUMPS 1&2 (260)	Total/NA	Drinking Water	EPA_625	
380-49443-4	HALAWA WELLS UNITS 1 & 2	Total/NA	Drinking Water	EPA_625	
107024-B1	Method Blank	Total/NA	BlankMatrix	EPA_625	
107024-BS1	Lab Control Sample	Total/NA	BlankMatrix	EPA_625	
107024-BS2	Lab Control Sample Dup	Total/NA	BlankMatrix	EPA_625	



# Lab Chronicle

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

Job ID: 380-49443-1

## Client Sample ID: MOANALUA WELLS

Lab Sample ID: 380-49443-1

Date Collected: 05/30/23 10:14

Matrix: Drinking Water

Date Received: 06/01/23 09:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	525.2			42965	N8NE	EA POM	06/07/23 14:25
Total/NA	Analysis	525.2		1	43445	Q8LA	EA POM	06/09/23 19:00
Total/NA	Prep	EPA_625		1	O-41078_P			06/02/23 00:00
Total/NA	Analysis	625 PAH Physis LL (EAL) + TICs		1	O-41078	YC		06/14/23 14:50
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)		1	23VGH7F02	SCerva		06/02/23 21:29
Total/NA	Analysis	8015 LL DRO/MRO/JP5/JP8		1	23DSF003W	SDees		06/05/23 18:38

## Client Sample ID: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-49443-2

Date Collected: 05/30/23 11:39

Matrix: Drinking Water

Date Received: 06/01/23 09:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	525.2			42965	N8NE	EA POM	06/07/23 14:25
Total/NA	Analysis	525.2		1	43445	Q8LA	EA POM	06/09/23 19:20
Total/NA	Prep	EPA_625		1	O-41078_P			06/02/23 00:00
Total/NA	Analysis	625 PAH Physis LL (EAL) + TICs		1	O-41078	YC		06/14/23 16:36
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)		1	23VGH7F02	SCerva		06/02/23 23:21
Total/NA	Analysis	8015 LL DRO/MRO/JP5/JP8		1	23DSF003W	SDees		06/05/23 18:57

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

Lab Sample ID: 380-49443-3

Date Collected: 05/30/23 11:12

Matrix: Drinking Water

Date Received: 06/01/23 09:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	525.2			42965	N8NE	EA POM	06/07/23 14:25
Total/NA	Analysis	525.2		1	43445	Q8LA	EA POM	06/09/23 19:40
Total/NA	Prep	EPA_625		1	O-41078_P			06/02/23 00:00
Total/NA	Analysis	625 PAH Physis LL (EAL) + TICs		1	O-41078	YC		06/14/23 18:21
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)		1	23VGH7F02	SCerva		06/02/23 23:58
Total/NA	Analysis	8015 LL DRO/MRO/JP5/JP8		1	23DSF003W	SDees		06/05/23 19:15

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

Lab Sample ID: 380-49443-4

Date Collected: 05/30/23 10:47

Matrix: Drinking Water

Date Received: 06/01/23 09:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	525.2			42965	N8NE	EA POM	06/07/23 14:25
Total/NA	Analysis	525.2		1	43445	Q8LA	EA POM	06/09/23 20:00

Eurofins Eaton Analytical Pomona

# Lab Chronicle

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

Job ID: 380-49443-1

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

Lab Sample ID: 380-49443-4

Date Collected: 05/30/23 10:47

Matrix: Drinking Water

Date Received: 06/01/23 09:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	525.2			42965	N8NE	EA POM	06/07/23 14:25
Total/NA	Analysis	525.2		1	43592	Q8LA	EA POM	06/11/23 14:27
Total/NA	Prep	EPA_625		1	O-41078_P			06/02/23 00:00
Total/NA	Analysis	625 PAH Physis LL (EAL) + TICs		1	O-41078	YC		06/14/23 20:07
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)		1	23VGH7F02	SCerva		06/03/23 00:36
Total/NA	Analysis	8015 LL DRO/MRO/JP5/JP8		1	23DSF003W	SDees		06/05/23 19:34

## Client Sample ID: TB MOANALUA WELLS

Lab Sample ID: 380-49443-5

Date Collected: 05/30/23 10:14

Matrix: Water

Date Received: 06/01/23 09:57

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	23VGH7F02	SCerva		06/03/23 01:13

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

Lab Sample ID: 380-49443-6

Date Collected: 05/30/23 11:39

Matrix: Water

Date Received: 06/01/23 09:57

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	23VGH7F02	SCerva		06/03/23 01:50

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

Lab Sample ID: 380-49443-7

Date Collected: 05/30/23 11:12

Matrix: Water

Date Received: 06/01/23 09:57

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	23VGH7F02	SCerva		06/03/23 02:28

## Client Sample ID: TB HALAWA WELLS UNITS 1 & 2

Lab Sample ID: 380-49443-8

Date Collected: 05/30/23 10:47

Matrix: Water

Date Received: 06/01/23 09:57

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	23VGH7F02	SCerva		06/03/23 03:05

### Laboratory References:

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

EA POM = Eurofins Eaton Analytical Pomona, 941 Corporate Center Drive, Pomona, CA 91768-2642, TEL (626)386-1100

Eurofins Eaton Analytical Pomona

# Accreditation/Certification Summary

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

Job ID: 380-49443-1

## Laboratory: Eurofins Eaton Analytical Pomona

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

Authority	Program	Identification Number	Expiration Date
Hawaii	State	CA00006	02-29-24

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

Analysis Method	Prep Method	Matrix	Analyte
525.2	525.2	Drinking Water	1-Methylnaphthalene
525.2	525.2	Drinking Water	2,4'-DDD
525.2	525.2	Drinking Water	2,4'-DDE
525.2	525.2	Drinking Water	2,4'-DDT
525.2	525.2	Drinking Water	2,4-Dinitrotoluene
525.2	525.2	Drinking Water	2,6-Dinitrotoluene
525.2	525.2	Drinking Water	2-Methylnaphthalene
525.2	525.2	Drinking Water	4,4'-DDD
525.2	525.2	Drinking Water	4,4'-DDE
525.2	525.2	Drinking Water	4,4'-DDT
525.2	525.2	Drinking Water	Acenaphthene
525.2	525.2	Drinking Water	Acenaphthylene
525.2	525.2	Drinking Water	Acetochlor
525.2	525.2	Drinking Water	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	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	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	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
525.2	525.2	Drinking Water	Isophorone

# Accreditation/Certification Summary

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

Job ID: 380-49443-1

## Laboratory: Eurofins Eaton Analytical Pomona (Continued)

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

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

Analysis Method	Prep Method	Matrix	Analyte
525.2	525.2	Drinking Water	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: 380-49443-1

Method	Method Description	Protocol	Laboratory
525.2	Semivolatile Organic Compounds (GC/MS)	EPA	EA POM
625	EPA 625 Base/Neutral and Acid Organics i	EPA	
8015	8015 - TPH DRO/ORO	EPA	
8015B	SW846 8015B Gasoline Range Organics	SW846	
525.2	Extraction of Semivolatile Compounds	EPA	EA POM

**Protocol References:**

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

**Laboratory References:**

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

EA POM = Eurofins Eaton Analytical Pomona, 941 Corporate Center Drive, Pomona, CA 91768-2642, TEL (626)386-1100



# Sample Summary

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

Job ID: 380-49443-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	PWSID Number
380-49443-1	MOANALUA WELLS	Drinking Water	05/30/23 10:14	06/01/23 09:57	HI0000331
380-49443-2	AIEA GULCH WELLS PUMP 2	Drinking Water	05/30/23 11:39	06/01/23 09:57	HI0000331
380-49443-3	AIEA WELLS PUMPS 1&2 (260)	Drinking Water	05/30/23 11:12	06/01/23 09:57	HI0000331
380-49443-4	HALAWA WELLS UNITS 1 & 2	Drinking Water	05/30/23 10:47	06/01/23 09:57	HI0000331
380-49443-5	TB MOANALUA WELLS	Water	05/30/23 10:14	06/01/23 09:57	
380-49443-6	TB AIEA GULCH WELLS PUMP 2	Water	05/30/23 11:39	06/01/23 09:57	
380-49443-7	TB AIEA WELLS PUMPS 1&2 (260)	Water	05/30/23 11:12	06/01/23 09:57	
380-49443-8	TB HALAWA WELLS UNITS 1 & 2	Water	05/30/23 10:47	06/01/23 09:57	

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LABORATORIES, INC.®

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

Date: 06-26-2023  
EMAX Batch No.: 23F018

Attn: Jackie Contreras

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

Subject: Laboratory Report  
Project: 380-49443

Enclosed is the Laboratory report for samples received on 06/02/23.  
The data reported relate only to samples listed below :

Sample ID	Control #	Col Date	Matrix	Analysis
380-49443-1	F018-01	05/30/23	WATER	TPH GASOLINE TPH
380-49443-2	F018-02	05/30/23	WATER	TPH GASOLINE TPH
380-49443-3	F018-03	05/30/23	WATER	TPH GASOLINE TPH
380-49443-4	F018-04	05/30/23	WATER	TPH GASOLINE TPH
380-49443-5	F018-05	05/30/23	WATER	TPH GASOLINE
380-49443-6	F018-06	05/30/23	WATER	TPH GASOLINE
380-49443-7	F018-07	05/30/23	WATER	TPH GASOLINE
380-49443-8	F018-08	05/30/23	WATER	TPH GASOLINE
380-49443-1MS	F018-01M	05/30/23	WATER	TPH GASOLINE
380-49443-1MSD	F018-01S	05/30/23	WATER	TPH GASOLINE

The results are summarized on the following pages.

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

Sincerely yours,

Caspar J. Pang  
Laboratory Director

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

# Chain of Custody Record 23F018



<b>Client Information (Sub Contract Lab)</b> Client Contact: Shipping/Receiving Company: EMAX Laboratories Inc Address: 3051 Fujita Street, City: Torrance State, Zip: CA, 90505 Phone: Email: Project Name: RED-HILL Site: Honolulu BWS Sites		Lab PM: Arada, Rachelle E-Mail: Rachelle.Arada@et.eurofins.com State of Origin: Hawaii		Carrier Tracking No(s): Page: Page 1 of 1 Job #: 380-49443-1		COC No: 380-55950.1					
Due Date Requested: 6/15/2023 TAT Requested (days):		Accreditations Required (See note): State - Hawaii		<b>Preservation Codes:</b> M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2SO4 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 X - Trizma Y - EDTA Z - other (specify) Other:		<b>Analysis Requested</b>					
Sample ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (Water, Sewage, Solid, Wastewater)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Sub (8015 Gas (Purgeable) LL (EAL)) / 8015 Gas	Sub (8015 LL DRO/MRO/PS/JP8)	Sub (8015 LL DRO/MRO/PS/JP8)	Total Number of Containers	Special Instructions/Note:
MOANALUA WELLS (380-49443-1)	5/30/23	10:14 Hawaiian	Water	Water	X	X	X	X	X	6	See Attached Instructions
AIEA GULCH WELLS PUMP 2 (380-49443-2)	5/30/23	11:39 Hawaiian	Water	Water	X	X	X	X	X	6	See Attached Instructions
AIEA WELLS PUMPS 1&2 (260) (380-49443-3)	5/30/23	11:12 Hawaiian	Water	Water	X	X	X	X	X	6	See Attached Instructions
HALAWA WELLS UNITS 1 & 2 (380-49443-4)	5/30/23	10:47 Hawaiian	Water	Water	X	X	X	X	X	6	See Attached Instructions
TB MOANALUA WELLS (380-49443-5)	5/30/23	10:14 Hawaiian	Water	Water	X	X	X	X	X	2	See Attached Instructions
TB AIEA GULCH WELLS PUMP 2 (380-49443-6)	5/30/23	11:39 Hawaiian	Water	Water	X	X	X	X	X	2	See Attached Instructions
TB AIEA WELLS PUMPS 1&2 (260) (380-49443-7)	5/30/23	11:12 Hawaiian	Water	Water	X	X	X	X	X	2	See Attached Instructions
TB HALAWA WELLS UNITS 1 & 2 (380-49443-8)	5/30/23	10:47 Hawaiian	Water	Water	X	X	X	X	X	2	See Attached Instructions
Note: Since laboratory accreditations are subject to change, Eurofins Eaton Analytical, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/matrix being analyzed, the samples must be shipped back to the Eurofins Eaton Analytical, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Eaton Analytical, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to Eurofins Eaton Analytical, LLC.											
<b>Possible Hazard Identification</b> <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months Special Instructions/QC Requirements:											
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2											
Empty Kit Relinquished by: _____ Date: _____ Time: _____ Method of Shipment: _____											
Relinquished by: <i>[Signature]</i> Date: 6/15/23 10:41 Company: EMAX Company: EMAX											
Relinquished by: _____ Date/Time: _____ Company: _____											
Relinquished by: _____ Date/Time: _____ Company: _____											
Relinquished by: _____ Date/Time: _____ Company: _____											
Custody Seals Intact: <input checked="" type="checkbox"/> Custody Seal No.: <b>REPORT ID: 23F018</b>											

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 Date: 06/08/2023  
 Temp: 1.8/1.6  
 CF: 0.23



Type of Delivery	Airbill / Tracking Number	ECN 23F018
<input type="checkbox"/> Fedex <input type="checkbox"/> UPS <input type="checkbox"/> GSO <input type="checkbox"/> Others		Recipient Jocelyne Solis - Ramos
<input type="checkbox"/> EMAX Courier <input checked="" type="checkbox"/> Client Delivery		Date 06/02/23 Time 10:41

**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)	<input type="checkbox"/> High concentrations expected	<input type="checkbox"/> From Superfund Site	<input type="checkbox"/> Rad screening required		

Note: \_\_\_\_\_

**PACKAGING INSPECTION**

Container	<input checked="" type="checkbox"/> Cooler	<input type="checkbox"/> Box	<input type="checkbox"/> Other
Condition <i>correction</i>	<input type="checkbox"/> Custody Seal	<input type="checkbox"/> Intact	<input type="checkbox"/> Damaged
Packaging <i>factor: -0.2</i>	<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 <i>1.8/1.6 °C</i>	<input type="checkbox"/> Cooler 2 _____ °C	<input type="checkbox"/> Cooler 3 _____ °C
Thermometer: <i>S/N 221052760</i>	<input type="checkbox"/> Cooler 6 _____ °C	<input type="checkbox"/> Cooler 7 _____ °C	<input type="checkbox"/> Cooler 8 _____ °C
	<i>B - S/N 210760237</i>	<input type="checkbox"/> Cooler 9 _____ °C	<input type="checkbox"/> Cooler 10 _____ °C
		<input type="checkbox"/> C - S/N _____	<input type="checkbox"/> D - S/N _____

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

Note: \_\_\_\_\_

**DISCREPANCIES**

LabSampleID	LabSampleContainerID	Code	ClientSample Label ID / Information	Corrective Action
5-8	25-27, 29-32	D22	2nd date reads: 5/22/23	R1
1-4	5, 6, 11, 12, 17, 18, 23, 24	D1	JPS/JPS not on label	R8
<i>h</i>				

pH holding time requirement for water samples is 15 mins. Water samples for pH analysis are received beyond 15 minutes from sampling time. *MS 6/6/23*

**NOTES/OBSERVATIONS:**

SAMPLE MATRIX IS DRINKING WATER?  YES  NO

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

**REVIEWS:**

Sample Labeling <i>Maria Rivera</i>	SRF <i>Cyrtia</i>	PM <i>MS</i>
Date <i>06/02/23</i>	Date <i>6/2/23</i>	Date <i>6/6/23</i>

## 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

380-49443

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

SDG#: 23F018



CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 380-49443

SDG : 23F018

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

A total of eight(8) water samples were received on 06/02/23 to be analyzed for Total Petroleum Hydrocarbons by Purge and Trap in accordance with Method 5030B/8015B and project specific requirements.

Holding Time

Samples were analyzed within the prescribed holding time.

Calibration

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

Method Blank

Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. VGH7F02B - 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. VGH7F02L/VGH7F02C 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 F018-01M/F018-01S. Refer to Matrix QC summary form for details.

Surrogate

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

Sample Analysis

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



LAB CHRONICLE  
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

SDG NO. : 23F018  
Instrument ID : H7

Client : EUROFINS EATON ANALYTICAL  
Project : 380-49443

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
									WATER
MBLK1W	VGH7F02B	1	NA	06/02/2314:28	06/02/2314:28	AF02004A	AF02003A	23VGH7F02	Method Blank
LCS1W	VGH7F02L	1	NA	06/02/2315:49	06/02/2315:49	AF02006A	AF02003A	23VGH7F02	Lab Control Sample (LCS)
LCD1W	VGH7F02C	1	NA	06/02/2316:29	06/02/2316:29	AF02007A	AF02003A	23VGH7F02	LCS Duplicate
380-49443-1	F018-01	1	NA	06/02/2321:29	06/02/2321:29	AF02015A	AF02014A	23VGH7F02	Field Sample
380-49443-1MS	F018-01M	1	NA	06/02/2322:06	06/02/2322:06	AF02016A	AF02014A	23VGH7F02	Matrix Spike Sample (MS)
380-49443-1MSD	F018-01S	1	NA	06/02/2322:44	06/02/2322:44	AF02017A	AF02014A	23VGH7F02	MS Duplicate (MSD)
380-49443-2	F018-02	1	NA	06/02/2323:21	06/02/2323:21	AF02018A	AF02014A	23VGH7F02	Field Sample
380-49443-3	F018-03	1	NA	06/02/2323:58	06/02/2323:58	AF02019A	AF02014A	23VGH7F02	Field Sample
380-49443-4	F018-04	1	NA	06/03/2300:36	06/03/2300:36	AF02020A	AF02014A	23VGH7F02	Field Sample
380-49443-5	F018-05	1	NA	06/03/2301:13	06/03/2301:13	AF02021A	AF02014A	23VGH7F02	Field Sample
380-49443-6	F018-06	1	NA	06/03/2301:50	06/03/2301:50	AF02022A	AF02014A	23VGH7F02	Field Sample
380-49443-7	F018-07	1	NA	06/03/2302:28	06/03/2302:28	AF02023A	AF02014A	23VGH7F02	Field Sample
380-49443-8	F018-08	1	NA	06/03/2303:05	06/03/2303:05	AF02024A	AF02014A	23VGH7F02	Field Sample

FN - Filename  
% Moist - Percent Moisture



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# SAMPLE RESULTS

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

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 05/30/23 10:14
Project    : 380-49443                   Date Received: 06/02/23
Batch No.  : 23F018                       Date Extracted: 06/02/23 21:29
Sample ID  : 380-49443-1                 Date Analyzed: 06/02/23 21:29
Lab Samp ID: F018-01                     Dilution Factor: 1
Lab File ID: AF02015A                     Matrix: WATER
Ext Btch ID: 23VGH7F02                   % Moisture: NA
Calib. Ref.: AF02014A                     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	0.0377	0.0400	94	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: 05/30/23 11:39
Project     : 380-49443                  Date Received: 06/02/23
Batch No.   : 23F018                     Date Extracted: 06/02/23 23:21
Sample ID   : 380-49443-2                Date Analyzed: 06/02/23 23:21
Lab Samp ID: F018-02                     Dilution Factor: 1
Lab File ID: AF02018A                    Matrix: WATER
Ext Btch ID: 23VGH7F02                   % Moisture: NA
Calib. Ref.: AF02014A                    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	0.0358	0.0400	90	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: 05/30/23 11:12
Project    : 380-49443                   Date Received: 06/02/23
Batch No.  : 23F018                       Date Extracted: 06/02/23 23:58
Sample ID  : 380-49443-3                 Date Analyzed: 06/02/23 23:58
Lab Samp ID: F018-03                     Dilution Factor: 1
Lab File ID: AF02019A                     Matrix: WATER
Ext Btch ID: 23VGH7F02                   % Moisture: NA
Calib. Ref.: AF02014A                   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: 05/30/23 11:39
Project    : 380-49443                   Date Received: 06/02/23
Batch No.  : 23F018                       Date Extracted: 06/03/23 01:50
Sample ID  : 380-49443-6                 Date Analyzed: 06/03/23 01:50
Lab Samp ID: F018-06                     Dilution Factor: 1
Lab File ID: AF02022A                     Matrix: WATER
Ext Btch ID: 23VGH7F02                   % Moisture: NA
Calib. Ref.: AF02014A                    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	0.0360	0.0400	90	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: 05/30/23 11:12
Project     : 380-49443                   Date Received: 06/02/23
Batch No.   : 23F018                       Date Extracted: 06/03/23 02:28
Sample ID   : 380-49443-7                 Date Analyzed: 06/03/23 02:28
Lab Samp ID: F018-07                       Dilution Factor: 1
Lab File ID: AF02023A                       Matrix: WATER
Ext Btch ID: 23VGH7F02                       % Moisture: NA
Calib. Ref.: AF02014A                       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	0.0371	0.0400	93	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: 05/30/23 10:47
Project    : 380-49443                   Date Received: 06/02/23
Batch No.  : 23F018                       Date Extracted: 06/03/23 03:05
Sample ID  : 380-49443-8                 Date Analyzed: 06/03/23 03:05
Lab Samp ID: F018-08                     Dilution Factor: 1
Lab File ID: AF02024A                     Matrix: WATER
Ext Btch ID: 23VGH7F02                   % Moisture: NA
Calib. Ref.: AF02014A                     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	0.0340	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

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# QC SUMMARIES

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

Client : EUROFINS EATON ANALYTICAL Date Collected: 06/02/23 14:28  
Project : 380-49443 Date Received: 06/02/23  
Batch No. : 23F018 Date Extracted: 06/02/23 14:28  
Sample ID : MBLK1W Date Analyzed: 06/02/23 14:28  
Lab Samp ID: VGH7F02B Dilution Factor: 1  
Lab File ID: AF02004A Matrix: WATER  
Ext Btch ID: 23VGH7F02 % Moisture: NA  
Calib. Ref.: AF02003A 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	0.0372	0.0400	93	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 : 380-49443  
BATCH NO. : 23F018  
METHOD : 5030B/8015B

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR:	1	1	1
SAMPLE ID	: MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID	: VGH7F02B	VGH7F02L	VGH7F02C
LAB FILE ID	: AF02004A	AF02006A	AF02007A
DATE PREPARED	: 06/02/23 14:28	06/02/23 15:49	06/02/23 16:29
DATE ANALYZED	: 06/02/23 14:28	06/02/23 15:49	06/02/23 16:29
PREP BATCH	: 23VGH7F02	23VGH7F02	23VGH7F02
CALIBRATION REF:	AF02003A	AF02003A	AF02003A

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	0.471	94	0.500	0.523	105	10	60-130	30

SURROGATE PARAMETER	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	QCLimit (%)
Bromofluorobenzene	0.0400	0.0456	114	0.0400	0.0478	120	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 : 380-49443  
BATCH NO. : 23F018  
METHOD : 5030B/8015B

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR:	1	1	1
SAMPLE ID	: 380-49443-1	380-49443-1MS	380-49443-1MSD
LAB SAMPLE ID	: F018-01	F018-01M	F018-01S
LAB FILE ID	: AF02015A	AF02016A	AF02017A
DATE PREPARED	: 06/02/23 21:29	06/02/23 22:06	06/02/23 22:44
DATE ANALYZED	: 06/02/23 21:29	06/02/23 22:06	06/02/23 22:44
PREP BATCH	: 23VGH7F02	23VGH7F02	23VGH7F02
CALIBRATION REF:	AF02014A	AF02014A	AF02014A

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	0.525	105	0.500	0.494	99	6	50-130	30

SURROGATE PARAMETER	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	QCLimit (%)
Bromofluorobenzene	0.0400	0.0468	117	0.0400	0.0437	109	60-140

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

LABORATORY REPORT FOR

EUROFINS EATON ANALYTICAL

380-49443

METHOD 3520C/8015B  
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

SDG#: 23F018



CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 380-49443

SDG : 23F018

METHOD 3520C/8015B  
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

A total of four(4) water samples were received on 06/02/23 to be analyzed for Total Petroleum Hydrocarbons by Extraction in accordance with Method 3520C/8015B and project specific requirements.

Holding Time

Samples were analyzed within the prescribed holding time.

Calibration

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

Method Blank

Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. DSF003WB - 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. DSF003WL/DSF003WC were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample

No matrix QC sample was provided on this SDG.

Surrogate

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

Sample Analysis

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



CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 380-49443

SDG : 23F018

METHOD 3520C/8015B  
PETROLEUM HYDROCARBONS BY EXTRACTION

A total of four(4) water samples were received on 06/02/23 to be analyzed for Petroleum Hydrocarbons by Extraction in accordance with Method 3520C/8015B and project specific requirements.

Holding Time

Samples were analyzed within the prescribed holding time.

Calibration

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

Method Blank

Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. DSF003WB - 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. J5F003WL/J5F003WC were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample

No matrix QC sample was provided on this SDG.

Surrogate

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

Sample Analysis

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

CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 380-49443

SDG : 23F018

METHOD 3520C/8015B  
PETROLEUM HYDROCARBONS BY EXTRACTION

A total of four(4) water samples were received on 06/02/23 to be analyzed for Petroleum Hydrocarbons by Extraction in accordance with Method 3520C/8015B and project specific requirements.

Holding Time

Samples were analyzed within the prescribed holding time.

Calibration

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

Method Blank

Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. DSF003WB - 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. J8F003WL/J8F003WC were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample

No matrix QC sample was provided on this SDG.

Surrogate

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

Sample Analysis

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

LAB CHRONICLE  
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client : EUROFINS EATON ANALYTICAL  
 Project : 380-49443  
 SDG NO. : 23F018  
 Instrument ID : D5

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis Date/Time	Extraction Date/Time	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
				WATER					
MBLK1W	DSF003WB	1	NA	06/05/2315:13	06/02/2315:15	LF05010A	LF05004A	23DSF003W	Method Blank
LCS1W	DSF003WL	1	NA	06/05/2315:31	06/02/2315:15	LF05011A	LF05004A	23DSF003W	Lab Control Sample (LCS)
LCD1W	DSF003WC	1	NA	06/05/2315:50	06/02/2315:15	LF05012A	LF05004A	23DSF003W	LCS Duplicate
380-49443-1	F018-01	1	NA	06/05/2318:38	06/02/2315:15	LF05021A	LF05004A	23DSF003W	Field Sample
380-49443-2	F018-02	1	NA	06/05/2318:57	06/02/2315:15	LF05022A	LF05004A	23DSF003W	Field Sample
380-49443-3	F018-03	1	NA	06/05/2319:15	06/02/2315:15	LF05023A	LF05004A	23DSF003W	Field Sample
380-49443-4	F018-04	1	NA	06/05/2319:34	06/02/2315:15	LF05024A	LF05004A	23DSF003W	Field Sample

FN - Filename  
 % Moist - Percent Moisture







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# SAMPLE RESULTS

METHOD 3520C/8015B  
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 05/30/23 10:14
Project     : 380-49443                   Date Received: 06/02/23
Batch No.   : 23F018                       Date Extracted: 06/02/23 15:15
Sample ID   : 380-49443-1                 Date Analyzed: 06/05/23 18:38
Lab Samp ID: 23F018-01                     Dilution Factor: 1
Lab File ID: LF05021A                       Matrix: WATER
Ext Btch ID: 23DSF003W                       % Moisture: NA
Calib. Ref.: LF05004A                       Instrument ID: D5
=====

```

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
-----	-----	-----	-----	
Diesel	ND	0.028	0.014	
Motor Oil	ND	0.055	0.028	
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
-----	-----	-----	-----	-----
Bromobenzene	0.446	0.550	81	60-130
Hexacosane	0.145	0.138	105	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   : 910ml                     Final Volume : 5ml
Prepared by     : RGalan                       Analyzed by  : SDeeso

```

METHOD 3520C/8015B  
 PETROLEUM HYDROCARBONS BY EXTRACTION

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 05/30/23 10:14
Project     : 380-49443                   Date Received: 06/02/23
Batch No.   : 23F018                       Date Extracted: 06/02/23 15:15
Sample ID   : 380-49443-1                 Date Analyzed: 06/05/23 18:38
Lab Samp ID: 23F018-01                     Dilution Factor: 1
Lab File ID: LF05021A                       Matrix: WATER
Ext Btch ID: 23DSF003W                     % Moisture: NA
Calib. Ref.: LF05005A                       Instrument ID: D5
=====
    
```

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
JP5	ND	0.055	0.028	
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.446	0.550	81	60-130
Hexacosane	0.145	0.138	105	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 : 910ml

Final Volume : 5ml

Prepared by : RGalan

Analyzed by : SDeeso



METHOD 3520C/8015B  
 PETROLEUM HYDROCARBONS BY EXTRACTION

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 05/30/23 10:14
Project    : 380-49443                   Date Received: 06/02/23
Batch No.  : 23F018                       Date Extracted: 06/02/23 15:15
Sample ID  : 380-49443-1                 Date Analyzed: 06/05/23 18:38
Lab Samp ID: 23F018-01                   Dilution Factor: 1
Lab File ID: LF05021A                     Matrix: WATER
Ext Btch ID: 23DSF003W                    % Moisture: NA
Calib. Ref.: LF05006A                     Instrument ID: D5
=====
  
```

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
JP8	ND	0.055	0.028

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.446	0.550	81	60-130
Hexacosane	0.145	0.138	105	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 : 910ml                      Final Volume : 5ml  
 Prepared by : RGalan                        Analyzed by : SDeeso

METHOD 3520C/8015B  
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 05/30/23 11:39
Project     : 380-49443                   Date Received: 06/02/23
Batch No.   : 23F018                      Date Extracted: 06/02/23 15:15
Sample ID   : 380-49443-2                 Date Analyzed: 06/05/23 18:57
Lab Samp ID: 23F018-02                    Dilution Factor: 1
Lab File ID: LF05022A                      Matrix: WATER
Ext Btch ID: 23DSF003W                     % Moisture: NA
Calib. Ref.: LF05004A                     Instrument ID: D5
=====

```

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
Diesel	ND	0.030	0.015	
Motor Oil	ND	0.059	0.030	
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.504	0.590	85	60-130
Hexacosane	0.170	0.148	115	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 : 850ml                      Final Volume : 5ml  
Prepared by : RGalan                        Analyzed by : SDeeso

METHOD 3520C/8015B  
 PETROLEUM HYDROCARBONS BY EXTRACTION

```

=====
Client      : EUROFINS EATON ANALYTICAL      Date Collected: 05/30/23 11:39
Project     : 380-49443                      Date Received: 06/02/23
Batch No.   : 23F018                         Date Extracted: 06/02/23 15:15
Sample ID   : 380-49443-2                   Date Analyzed: 06/05/23 18:57
Lab Samp ID: 23F018-02                      Dilution Factor: 1
Lab File ID: LF05022A                       Matrix: WATER
Ext Btch ID: 23DSF003W                      % Moisture: NA
Calib. Ref.: LF05005A                       Instrument ID: D5
=====
    
```

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
JP5	ND	0.059	0.030

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.504	0.590	85	60-130
Hexacosane	0.170	0.148	115	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 : 850ml

Final Volume : 5ml

Prepared by : RGalan

Analyzed by : SDeeso

METHOD 3520C/8015B  
 PETROLEUM HYDROCARBONS BY EXTRACTION

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 05/30/23 11:39
Project     : 380-49443                   Date Received: 06/02/23
Batch No.   : 23F018                       Date Extracted: 06/02/23 15:15
Sample ID   : 380-49443-2                 Date Analyzed: 06/05/23 18:57
Lab Samp ID: 23F018-02                     Dilution Factor: 1
Lab File ID: LF05022A                       Matrix: WATER
Ext Btch ID: 23DSF003W                       % Moisture: NA
Calib. Ref.: LF05006A                       Instrument ID: D5
=====
  
```

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
JP8	ND	0.059	0.030

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.504	0.590	85	60-130
Hexacosane	0.170	0.148	115	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 : 850ml

Final Volume : 5ml

Prepared by : RGalan

Analyzed by : SDeeso

METHOD 3520C/8015B  
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 05/30/23 11:12
Project     : 380-49443                   Date Received: 06/02/23
Batch No.   : 23F018                       Date Extracted: 06/02/23 15:15
Sample ID   : 380-49443-3                 Date Analyzed: 06/05/23 19:15
Lab Samp ID : 23F018-03                   Dilution Factor: 1
Lab File ID : LF05023A                    Matrix: WATER
Ext Btch ID : 23DSF003W                   % Moisture: NA
Calib. Ref.: LF05004A                     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	0.362	0.475	76	60-130
Hexacosane	0.127	0.119	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    : 1050ml                      Final Volume : 5ml  
 Prepared by      : RGalan                              Analyzed by : SDeeso

METHOD 3520C/8015B  
 PETROLEUM HYDROCARBONS BY EXTRACTION

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 05/30/23 11:12
Project    : 380-49443                   Date Received: 06/02/23
Batch No.  : 23F018                       Date Extracted: 06/02/23 15:15
Sample ID  : 380-49443-3                 Date Analyzed: 06/05/23 19:15
Lab Samp ID: 23F018-03                   Dilution Factor: 1
Lab File ID: LF05023A                    Matrix: WATER
Ext Btch ID: 23DSF003W                   % Moisture: NA
Calib. Ref.: LF05005A                    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	0.362	0.475	76	60-130
Hexacosane	0.127	0.119	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 : 1050ml                      Final Volume : 5ml  
 Prepared by : RGalan                         Analyzed by : SDeeso

METHOD 3520C/8015B  
 PETROLEUM HYDROCARBONS BY EXTRACTION

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 05/30/23 11:12
Project    : 380-49443                   Date Received: 06/02/23
Batch No.  : 23F018                       Date Extracted: 06/02/23 15:15
Sample ID  : 380-49443-3                 Date Analyzed: 06/05/23 19:15
Lab Samp ID: 23F018-03                   Dilution Factor: 1
Lab File ID: LF05023A                     Matrix: WATER
Ext Btch ID: 23DSF003W                   % Moisture: NA
Calib. Ref.: LF05006A                     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	0.362	0.475	76	60-130
Hexacosane	0.127	0.119	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 : 1050ml

Final Volume : 5ml

Prepared by : RGalan

Analyzed by : SDeeso

METHOD 3520C/8015B  
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

```

=====
Client      : EUROFINS EATON ANALYTICAL    Date Collected: 05/30/23 10:47
Project     : 380-49443                    Date Received: 06/02/23
Batch No.   : 23F018                       Date Extracted: 06/02/23 15:15
Sample ID   : 380-49443-4                 Date Analyzed: 06/05/23 19:34
Lab Samp ID: 23F018-04                   Dilution Factor: 1
Lab File ID: LF05024A                     Matrix: WATER
Ext Btch ID: 23DSF003W                   % Moisture: NA
Calib. Ref.: LF05004A                     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	0.438	0.510	86	60-130
Hexacosane	0.141	0.127	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    : 980ml                                  Final Volume : 5ml  
Prepared by        : RGalan    Analyzed by : SDeeso



METHOD 3520C/8015B  
 PETROLEUM HYDROCARBONS BY EXTRACTION

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 05/30/23 10:47
Project    : 380-49443                   Date Received: 06/02/23
Batch No.  : 23F018                       Date Extracted: 06/02/23 15:15
Sample ID  : 380-49443-4                 Date Analyzed: 06/05/23 19:34
Lab Samp ID: 23F018-04                   Dilution Factor: 1
Lab File ID: LF05024A                     Matrix: WATER
Ext Btch ID: 23DSF003W                    % Moisture: NA
Calib. Ref.: LF05005A                     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	0.438	0.510	86	60-130
Hexacosane	0.141	0.127	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 : 980ml

Final Volume : 5ml

Prepared by : RGalan

Analyzed by : SDeeso

METHOD 3520C/8015B  
 PETROLEUM HYDROCARBONS BY EXTRACTION

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 05/30/23 10:47
Project    : 380-49443                   Date Received: 06/02/23
Batch No.  : 23F018                       Date Extracted: 06/02/23 15:15
Sample ID  : 380-49443-4                 Date Analyzed: 06/05/23 19:34
Lab Samp ID: 23F018-04                   Dilution Factor: 1
Lab File ID: LF05024A                     Matrix: WATER
Ext Btch ID: 23DSF003W                   % Moisture: NA
Calib. Ref.: LF05006A                     Instrument ID: D5
=====
    
```

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	0.438	0.510	86	60-130
Hexacosane	0.141	0.127	110	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 : RGalan

Analyzed by : SDeeso

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# QC SUMMARIES

METHOD 3520C/8015B  
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 06/02/23 15:15
Project     : 380-49443                   Date Received: 06/02/23
Batch No.   : 23F018                       Date Extracted: 06/02/23 15:15
Sample ID   : MBLK1W                       Date Analyzed: 06/05/23 15:13
Lab Samp ID: DSF003WB                       Dilution Factor: 1
Lab File ID: LF05010A                       Matrix: WATER
Ext Btch ID: 23DSF003W                       % Moisture: NA
Calib. Ref.: LF05004A                       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	0.346	0.500	69	60-130
Hexacosane	0.126	0.125	101	60-130

Notes:

```

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

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

```

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

EMAX QUALITY CONTROL DATA  
LAB CONTROL SAMPLE ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL  
PROJECT : 380-49443  
BATCH NO. : 23F018  
METHOD : 3520C/8015B

MATRIX : WATER % MOISTURE:NA  
DILUTION FACTOR: 1 1  
SAMPLE ID : MBLK1W LCS1W LCD1W  
LAB SAMPLE ID : DSF003WB DSF003WL DSF003WC  
LAB FILE ID : LF05010A LF05011A LF05012A  
DATE PREPARED : 06/02/23 15:15 06/02/23 15:15 06/02/23 15:15  
DATE ANALYZED : 06/05/23 15:13 06/05/23 15:31 06/05/23 15:50  
PREP BATCH : 23DSF003W 23DSF003W 23DSF003W  
CALIBRATION REF: LF05004A LF05004A LF05004A

ACCESSION:

PARAMETERS	MBResult (mg/L)	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
Diesel	ND	2.50	1.72	69	2.50	1.97	79	14	50-130	30

SURROGATE PARAMETERS	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	QCLimit (%)
Bromobenzene	0.500	0.309	62	0.500	0.399	80	60-130
Hexacosane	0.125	0.123	98	0.125	0.131	105	60-130

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

METHOD 3520C/8015B  
 PETROLEUM HYDROCARBONS BY EXTRACTION

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 06/02/23 15:15
Project    : 380-49443                   Date Received: 06/02/23
Batch No.  : 23F018                       Date Extracted: 06/02/23 15:15
Sample ID  : MBLK1W                       Date Analyzed: 06/05/23 15:13
Lab Samp ID: DSF003WB                     Dilution Factor: 1
Lab File ID: LF05010A                     Matrix: WATER
Ext Btch ID: 23DSF003W                   % Moisture: NA
Calib. Ref.: LF05005A                    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	0.346	0.500	69	60-130
Hexacosane	0.126	0.125	101	60-130

Notes:

RL : Reporting Limit

Parameter H-C Range

JP5 C8-C18

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 1000ml

Final Volume : 5ml

Prepared by : RGalan

Analyzed by : SDeeso

EMAX QUALITY CONTROL DATA  
LAB CONTROL SAMPLE ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL  
PROJECT : 380-49443  
BATCH NO. : 23F018  
METHOD : 3520C/8015B

MATRIX : WATER % MOISTURE:NA  
DILUTION FACTOR: 1 1  
SAMPLE ID : MBLK1W LCS1W LCD1W  
LAB SAMPLE ID : DSF003WB J5F003WL J5F003WC  
LAB FILE ID : LF05010A LF05013A LF05014A  
DATE PREPARED : 06/02/23 15:15 06/02/23 15:15 06/02/23 15:15  
DATE ANALYZED : 06/05/23 15:13 06/05/23 16:09 06/05/23 16:27  
PREP BATCH : 23DSF003W 23DSF003W 23DSF003W  
CALIBRATION REF: LF05005A LF05005A LF05005A

ACCESSION:

PARAMETERS	MBResult (mg/L)	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
JP5	ND	2.50	1.79	72	2.50	1.87	75	4	30-160	30

SURROGATE PARAMETERS	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	QCLimit (%)
Bromobenzene	0.500	0.382	76	0.500	0.378	76	60-130
Hexacosane	0.125	0.127	102	0.125	0.117	94	60-130

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

METHOD 3520C/8015B  
 PETROLEUM HYDROCARBONS BY EXTRACTION

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 06/02/23 15:15
Project     : 380-49443                   Date Received: 06/02/23
Batch No.   : 23F018                       Date Extracted: 06/02/23 15:15
Sample ID   : MBLK1W                       Date Analyzed: 06/05/23 15:13
Lab Samp ID: DSF003WB                     Dilution Factor: 1
Lab File ID: LF05010A                     Matrix: WATER
Ext Btch ID: 23DSF003W                   % Moisture: NA
Calib. Ref.: LF05006A                   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	0.346	0.500	69	60-130
Hexacosane	0.126	0.125	101	60-130

Notes:

RL : Reporting Limit

Parameter H-C Range

JP8 C8-C18

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 1000ml

Final Volume : 5ml

Prepared by : RGalan

Analyzed by : SDeeso



EMAX QUALITY CONTROL DATA  
LAB CONTROL SAMPLE ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL  
PROJECT : 380-49443  
BATCH NO. : 23F018  
METHOD : 3520C/8015B

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR:	1	1	1
SAMPLE ID	: MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID	: DSF003WB	J8F003WL	J8F003WC
LAB FILE ID	: LF05010A	LF05015A	LF05016A
DATE PREPARED	: 06/02/23 15:15	06/02/23 15:15	06/02/23 15:15
DATE ANALYZED	: 06/05/23 15:13	06/05/23 16:46	06/05/23 17:05
PREP BATCH	: 23DSF003W	23DSF003W	23DSF003W
CALIBRATION REF:	LF05006A	LF05006A	LF05006A

ACCESSION:

PARAMETERS	MBResult (mg/L)	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
JP8	ND	2.50	2.14	86	2.50	2.31	92	8	30-160	30

SURROGATE PARAMETERS	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	QCLimit (%)
Bromobenzene	0.500	0.442	88	0.500	0.426	85	60-130
Hexacosane	0.125	0.131	105	0.125	0.141	113	60-130

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

June 16, 2023

Rachelle Arada  
Eurofins Eaton Analytical  
750 Royal Oaks Drive  
Suite 100  
Monrovia, CA 91016-

Project Name: RED-HILL Project # 38001111 Job # 380-49443-1  
Physis Project ID: 1407003-407

Dear Rachelle,


Enclosed are the analytical results for samples submitted to PHYSIS Environmental Laboratories, Inc. (PHYSIS) on 6/2/2023. 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: 1407003-407

RED-HILL Project # 38001111 Job # 380-49443-1

Total Samples: 4

PHYSIS ID	Sample ID	Description	Date	Time	Matrix	Sample Type
107025	MOANALUA WELLS	380-49443-1	5/30/2023	10:14	Samplewater	Not Specified
107026	AIEA GULCH WELLS PUMP 2	380-49443-2	5/30/2023	11:39	Samplewater	Not Specified
107027	AIEA WELLS PUMPS 1&2 (260)	380-49443-3	5/30/2023	11:12	Samplewater	Not Specified
107028	HALAWA WELLS UNITS 1 & 2	380-49443-4	5/30/2023	10:47	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.



# ANALYTICAL REPORT

TERRA AURA ENVIRONMENTAL LABORATORIES, INC.

*Innovative Solutions for Nature*

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### Base/Neutral Extractable Compounds

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
<b>Sample ID: 107025-R1 MOANALUA WELLS 380-49443-1 Matrix: Samplewater</b>											
Disalicylideneprapanediamine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-41078	02-Jun-23	14-Jun-23
<b>Sample ID: 107026-R1 AIEA GULCH WELLS PUMP 2 380-4 Matrix: Samplewater</b>											
Disalicylideneprapanediamine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-41078	02-Jun-23	14-Jun-23
<b>Sample ID: 107027-R1 AIEA WELLS PUMPS 1&amp;2 (260) 380- Matrix: Samplewater</b>											
Disalicylideneprapanediamine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-41078	02-Jun-23	14-Jun-23
<b>Sample ID: 107028-R1 HALAWA WELLS UNITS 1 &amp; 2 380-4 Matrix: Samplewater</b>											
Disalicylideneprapanediamine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-41078	02-Jun-23	14-Jun-23

## Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
<b>Sample ID: 107025-R1</b>	<b>MOANALUA WELLS 380-49443-1</b>	<b>Matrix: Samplewater</b>					<b>Sampled: 30-May-23 10:14</b>			<b>Received: 02-Jun-23</b>	
(d10-Acenaphthene)	EPA 625.1	% Recovery	86	1			Total		O-41078	02-Jun-23	14-Jun-23
(d10-Phenanthrene)	EPA 625.1	% Recovery	90	1			Total		O-41078	02-Jun-23	14-Jun-23
(d12-Chrysene)	EPA 625.1	% Recovery	86	1			Total		O-41078	02-Jun-23	14-Jun-23
(d12-Perylene)	EPA 625.1	% Recovery	82	1			Total		O-41078	02-Jun-23	14-Jun-23
(d8-Naphthalene)	EPA 625.1	% Recovery	74	1			Total		O-41078	02-Jun-23	14-Jun-23
1-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41078	02-Jun-23	14-Jun-23
1-Methylphenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41078	02-Jun-23	14-Jun-23
2,3,5-Trimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41078	02-Jun-23	14-Jun-23
2,6-Dimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41078	02-Jun-23	14-Jun-23
2-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41078	02-Jun-23	14-Jun-23
Acenaphthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41078	02-Jun-23	14-Jun-23
Acenaphthylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41078	02-Jun-23	14-Jun-23
Anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41078	02-Jun-23	14-Jun-23
Benz[a]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41078	02-Jun-23	14-Jun-23
Benzo[a]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41078	02-Jun-23	14-Jun-23
Benzo[b]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41078	02-Jun-23	14-Jun-23
Benzo[e]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41078	02-Jun-23	14-Jun-23
Benzo[g,h,i]perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41078	02-Jun-23	14-Jun-23
Benzo[k]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41078	02-Jun-23	14-Jun-23
Biphenyl	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41078	02-Jun-23	14-Jun-23
Chrysene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41078	02-Jun-23	14-Jun-23
Dibenz[a,h]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41078	02-Jun-23	14-Jun-23
Dibenzo[a,l]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41078	02-Jun-23	14-Jun-23
Dibenzothiophene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41078	02-Jun-23	14-Jun-23

## 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-41078	02-Jun-23	14-Jun-23
Fluorene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41078	02-Jun-23	14-Jun-23
Indeno[1,2,3-cd]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41078	02-Jun-23	14-Jun-23
Naphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41078	02-Jun-23	14-Jun-23
Perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41078	02-Jun-23	14-Jun-23
Phenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41078	02-Jun-23	14-Jun-23
Pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41078	02-Jun-23	14-Jun-23



## Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
<b>Sample ID: 107026-R1</b>	<b>AIEA GULCH WELLS PUMP 2 380-4 Matrix: Samplewater</b>						<b>Sampled: 30-May-23 11:39</b>		<b>Received: 02-Jun-23</b>		
(d10-Acenaphthene)	EPA 625.1	% Recovery	89	1			Total		O-41078	02-Jun-23	14-Jun-23
(d10-Phenanthrene)	EPA 625.1	% Recovery	89	1			Total		O-41078	02-Jun-23	14-Jun-23
(d12-Chrysene)	EPA 625.1	% Recovery	89	1			Total		O-41078	02-Jun-23	14-Jun-23
(d12-Perylene)	EPA 625.1	% Recovery	83	1			Total		O-41078	02-Jun-23	14-Jun-23
(d8-Naphthalene)	EPA 625.1	% Recovery	81	1			Total		O-41078	02-Jun-23	14-Jun-23
1-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41078	02-Jun-23	14-Jun-23
1-Methylphenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41078	02-Jun-23	14-Jun-23
2,3,5-Trimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41078	02-Jun-23	14-Jun-23
2,6-Dimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41078	02-Jun-23	14-Jun-23
2-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41078	02-Jun-23	14-Jun-23
Acenaphthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41078	02-Jun-23	14-Jun-23
Acenaphthylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41078	02-Jun-23	14-Jun-23
Anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41078	02-Jun-23	14-Jun-23
Benz[a]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41078	02-Jun-23	14-Jun-23
Benzo[a]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41078	02-Jun-23	14-Jun-23
Benzo[b]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41078	02-Jun-23	14-Jun-23
Benzo[e]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41078	02-Jun-23	14-Jun-23
Benzo[g,h,i]perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41078	02-Jun-23	14-Jun-23
Benzo[k]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41078	02-Jun-23	14-Jun-23
Biphenyl	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41078	02-Jun-23	14-Jun-23
Chrysene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41078	02-Jun-23	14-Jun-23
Dibenz[a,h]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41078	02-Jun-23	14-Jun-23
Dibenzo[a,l]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41078	02-Jun-23	14-Jun-23
Dibenzothiophene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41078	02-Jun-23	14-Jun-23

### 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-41078	02-Jun-23	14-Jun-23
Fluorene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41078	02-Jun-23	14-Jun-23
Indeno[1,2,3-cd]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41078	02-Jun-23	14-Jun-23
Naphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41078	02-Jun-23	14-Jun-23
Perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41078	02-Jun-23	14-Jun-23
Phenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41078	02-Jun-23	14-Jun-23
Pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41078	02-Jun-23	14-Jun-23



## Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
<b>Sample ID: 107027-R1</b>	<b>AIEA WELLS PUMPS 1&amp;2 (260) 380- Matrix: Samplewater</b>						<b>Sampled: 30-May-23 11:12</b>		<b>Received: 02-Jun-23</b>		
(d10-Acenaphthene)	EPA 625.1	% Recovery	88	1			Total		O-41078	02-Jun-23	14-Jun-23
(d10-Phenanthrene)	EPA 625.1	% Recovery	89	1			Total		O-41078	02-Jun-23	14-Jun-23
(d12-Chrysene)	EPA 625.1	% Recovery	90	1			Total		O-41078	02-Jun-23	14-Jun-23
(d12-Perylene)	EPA 625.1	% Recovery	86	1			Total		O-41078	02-Jun-23	14-Jun-23
(d8-Naphthalene)	EPA 625.1	% Recovery	80	1			Total		O-41078	02-Jun-23	14-Jun-23
1-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41078	02-Jun-23	14-Jun-23
1-Methylphenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41078	02-Jun-23	14-Jun-23
2,3,5-Trimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41078	02-Jun-23	14-Jun-23
2,6-Dimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41078	02-Jun-23	14-Jun-23
2-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41078	02-Jun-23	14-Jun-23
Acenaphthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41078	02-Jun-23	14-Jun-23
Acenaphthylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41078	02-Jun-23	14-Jun-23
Anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41078	02-Jun-23	14-Jun-23
Benz[a]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41078	02-Jun-23	14-Jun-23
Benzo[a]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41078	02-Jun-23	14-Jun-23
Benzo[b]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41078	02-Jun-23	14-Jun-23
Benzo[e]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41078	02-Jun-23	14-Jun-23
Benzo[g,h,i]perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41078	02-Jun-23	14-Jun-23
Benzo[k]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41078	02-Jun-23	14-Jun-23
Biphenyl	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41078	02-Jun-23	14-Jun-23
Chrysene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41078	02-Jun-23	14-Jun-23
Dibenz[a,h]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41078	02-Jun-23	14-Jun-23
Dibenzo[a,l]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41078	02-Jun-23	14-Jun-23
Dibenzothiophene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41078	02-Jun-23	14-Jun-23

### 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-41078	02-Jun-23	14-Jun-23
Fluorene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41078	02-Jun-23	14-Jun-23
Indeno[1,2,3-cd]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41078	02-Jun-23	14-Jun-23
Naphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41078	02-Jun-23	14-Jun-23
Perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41078	02-Jun-23	14-Jun-23
Phenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41078	02-Jun-23	14-Jun-23
Pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41078	02-Jun-23	14-Jun-23





## Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
<b>Sample ID: 107028-R1</b>	<b>HALAWA WELLS UNITS 1 &amp; 2 380-4 Matrix: Samplewater</b>						<b>Sampled: 30-May-23 10:47</b>		<b>Received:</b>	<b>02-Jun-23</b>	
(d10-Acenaphthene)	EPA 625.1	% Recovery	89	1			Total		O-41078	02-Jun-23	14-Jun-23
(d10-Phenanthrene)	EPA 625.1	% Recovery	90	1			Total		O-41078	02-Jun-23	14-Jun-23
(d12-Chrysene)	EPA 625.1	% Recovery	91	1			Total		O-41078	02-Jun-23	14-Jun-23
(d12-Perylene)	EPA 625.1	% Recovery	90	1			Total		O-41078	02-Jun-23	14-Jun-23
(d8-Naphthalene)	EPA 625.1	% Recovery	82	1			Total		O-41078	02-Jun-23	14-Jun-23
1-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41078	02-Jun-23	14-Jun-23
1-Methylphenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41078	02-Jun-23	14-Jun-23
2,3,5-Trimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41078	02-Jun-23	14-Jun-23
2,6-Dimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41078	02-Jun-23	14-Jun-23
2-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41078	02-Jun-23	14-Jun-23
Acenaphthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41078	02-Jun-23	14-Jun-23
Acenaphthylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41078	02-Jun-23	14-Jun-23
Anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41078	02-Jun-23	14-Jun-23
Benz[a]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41078	02-Jun-23	14-Jun-23
Benzo[a]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41078	02-Jun-23	14-Jun-23
Benzo[b]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41078	02-Jun-23	14-Jun-23
Benzo[e]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41078	02-Jun-23	14-Jun-23
Benzo[g,h,i]perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41078	02-Jun-23	14-Jun-23
Benzo[k]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41078	02-Jun-23	14-Jun-23
Biphenyl	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41078	02-Jun-23	14-Jun-23
Chrysene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41078	02-Jun-23	14-Jun-23
Dibenz[a,h]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41078	02-Jun-23	14-Jun-23
Dibenzo[a,l]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41078	02-Jun-23	14-Jun-23
Dibenzothiophene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41078	02-Jun-23	14-Jun-23

### 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-41078	02-Jun-23	14-Jun-23
Fluorene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41078	02-Jun-23	14-Jun-23
Indeno[1,2,3-cd]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41078	02-Jun-23	14-Jun-23
Naphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41078	02-Jun-23	14-Jun-23
Perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41078	02-Jun-23	14-Jun-23
Phenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41078	02-Jun-23	14-Jun-23
Pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41078	02-Jun-23	14-Jun-23



# QUALITY CONTROL REPORT

TERRA ENVIRONMENTAL LABORATORIES, INC. AURA

*Innovative Solutions for Nature*

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## Base/Neutral Extractable Compounds

## QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE		SOURCE		ACCURACY		PRECISION		QA CODEc
							LEVEL	RESULT	%	LIMITS	%	LIMITS			
<b>Sample ID: 107024-B1</b>		<b>QAQC Procedural Blank</b>				<b>Matrix: BlankMatrix</b>		<b>Sampled:</b>				<b>Received:</b>			
		Method: EPA 625.1				Batch ID: O-41078		Prepared: 02-Jun-23				Analyzed: 14-Jun-23			
Disalicylideneprapanediamin	Total	ND	1	0.05	0.1	µg/L									
<b>Sample ID: 107024-BS1</b>		<b>QAQC Procedural Blank</b>				<b>Matrix: BlankMatrix</b>		<b>Sampled:</b>				<b>Received:</b>			
		Method: EPA 625.1				Batch ID: O-41078		Prepared: 02-Jun-23				Analyzed: 14-Jun-23			
Disalicylideneprapanediamin	Total	45.1	1	0.05	0.1	µg/L	50	0	90	50 - 150%	PASS				
<b>Sample ID: 107024-BS2</b>		<b>QAQC Procedural Blank</b>				<b>Matrix: BlankMatrix</b>		<b>Sampled:</b>				<b>Received:</b>			
		Method: EPA 625.1				Batch ID: O-41078		Prepared: 02-Jun-23				Analyzed: 14-Jun-23			
Disalicylideneprapanediamin	Total	51.3	1	0.05	0.1	µg/L	50	0	103	50 - 150%	PASS	13	30	PASS	

## Polynuclear Aromatic Hydrocarbons

## QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY	PRECISION	QA CODEc
							LEVEL	RESULT	% LIMITS	% LIMITS	
<b>Sample ID: 107024-B1</b>		<b>QAQC Procedural Blank</b>			<b>Matrix: BlankMatrix</b>		<b>Sampled:</b>		<b>Received:</b>		
		Method: EPA 625.1			Batch ID: O-41078		Prepared: 02-Jun-23		Analyzed: 14-Jun-23		
(d10-Acenaphthene)	Total	93	1			% Recovery	100	93	27 - 133%	PASS	
(d10-Phenanthrene)	Total	93	1			% Recovery	100	93	43 - 129%	PASS	
(d12-Chrysene)	Total	110	1			% Recovery	100	110	52 - 144%	PASS	
(d12-Perylene)	Total	87	1			% Recovery	100	87	36 - 161%	PASS	
(d8-Naphthalene)	Total	89	1			% Recovery	100	89	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: 107024-BS1</b>		<b>QAQC Procedural Blank</b>			<b>Matrix: BlankMatrix</b>			<b>Sampled:</b>		<b>Received:</b>		
Method: EPA 625.1		Batch ID: O-41078			Prepared: 02-Jun-23		Analyzed: 14-Jun-23					
(d10-Acenaphthene)	Total	91	1			% Recovery	100	0	91	27 - 133%	PASS	
(d10-Phenanthrene)	Total	90	1			% Recovery	100	0	90	43 - 129%	PASS	
(d12-Chrysene)	Total	85	1			% Recovery	100	0	85	52 - 144%	PASS	
(d12-Perylene)	Total	88	1			% Recovery	100	0	88	36 - 161%	PASS	
(d8-Naphthalene)	Total	86	1			% Recovery	100	0	86	25 - 125%	PASS	
1-Methylnaphthalene	Total	0.45	1	0.001	0.005	µg/L	0.5	0	90	31 - 128%	PASS	
1-Methylphenanthrene	Total	0.466	1	0.001	0.005	µg/L	0.5	0	93	66 - 127%	PASS	
2,3,5-Trimethylnaphthalene	Total	0.466	1	0.001	0.005	µg/L	0.5	0	93	55 - 122%	PASS	
2,6-Dimethylnaphthalene	Total	0.457	1	0.001	0.005	µg/L	0.5	0	91	48 - 120%	PASS	
2-Methylnaphthalene	Total	0.451	1	0.001	0.005	µg/L	0.5	0	90	47 - 130%	PASS	
Acenaphthene	Total	0.459	1	0.001	0.005	µg/L	0.5	0	92	53 - 131%	PASS	
Acenaphthylene	Total	0.466	1	0.001	0.005	µg/L	0.5	0	93	43 - 140%	PASS	
Anthracene	Total	0.458	1	0.001	0.005	µg/L	0.5	0	92	58 - 135%	PASS	
Benz[a]anthracene	Total	0.465	1	0.001	0.005	µg/L	0.5	0	93	55 - 145%	PASS	
Benzo[a]pyrene	Total	0.481	1	0.001	0.005	µg/L	0.5	0	96	51 - 143%	PASS	
Benzo[b]fluoranthene	Total	0.51	1	0.001	0.005	µg/L	0.5	0	102	46 - 165%	PASS	
Benzo[e]pyrene	Total	0.496	1	0.001	0.005	µg/L	0.5	0	99	42 - 152%	PASS	
Benzo[g,h,i]perylene	Total	0.45	1	0.001	0.005	µg/L	0.5	0	90	63 - 133%	PASS	
Benzo[k]fluoranthene	Total	0.509	1	0.001	0.005	µg/L	0.5	0	102	56 - 145%	PASS	
Biphenyl	Total	0.46	1	0.001	0.005	µg/L	0.5	0	92	56 - 119%	PASS	
Chrysene	Total	0.43	1	0.001	0.005	µg/L	0.5	0	86	56 - 141%	PASS	
Dibenz[a,h]anthracene	Total	0.537	1	0.001	0.005	µg/L	0.5	0	107	55 - 150%	PASS	
Dibenzo[a,l]pyrene	Total	0.611	1	0.001	0.005	µg/L	0.5	0	122	50 - 150%	PASS	
Dibenzothiophene	Total	0.455	1	0.001	0.005	µg/L	0.5	0	91	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	0.472	1	0.001	0.005	µg/L	0.5	0	94	60 - 146%	PASS		
Fluorene	Total	0.471	1	0.001	0.005	µg/L	0.5	0	94	58 - 131%	PASS		
Indeno[1,2,3-cd]pyrene	Total	0.501	1	0.001	0.005	µg/L	0.5	0	100	50 - 151%	PASS		
Naphthalene	Total	0.437	1	0.001	0.005	µg/L	0.5	0	87	41 - 126%	PASS		
Perylene	Total	0.479	1	0.001	0.005	µg/L	0.5	0	96	48 - 141%	PASS		
Phenanthrene	Total	0.464	1	0.001	0.005	µg/L	0.5	0	93	67 - 127%	PASS		
Pyrene	Total	0.47	1	0.001	0.005	µg/L	0.5	0	94	54 - 156%	PASS		





## Polynuclear Aromatic Hydrocarbons

## QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY		PRECISION		QA CODEc		
							LEVEL	RESULT	%	LIMITS	%	LIMITS			
<b>Sample ID: 107024-BS2</b>		<b>QAQC Procedural Blank</b>			<b>Matrix: BlankMatrix</b>			<b>Sampled:</b>			<b>Received:</b>				
		Method: EPA 625.1			Batch ID: O-41078			Prepared: 02-Jun-23			Analyzed: 14-Jun-23				
(d10-Acenaphthene)	Total	92	1				% Recovery	100	0	92	27 - 133%	PASS	1	30	PASS
(d10-Phenanthrene)	Total	92	1				% Recovery	100	0	92	43 - 129%	PASS	2	30	PASS
(d12-Chrysene)	Total	87	1				% Recovery	100	0	87	52 - 144%	PASS	2	30	PASS
(d12-Perylene)	Total	89	1				% Recovery	100	0	89	36 - 161%	PASS	1	30	PASS
(d8-Naphthalene)	Total	87	1				% Recovery	100	0	87	25 - 125%	PASS	1	30	PASS
1-Methylnaphthalene	Total	0.457	1	0.001	0.005	µg/L		0.5	0	91	31 - 128%	PASS	1	30	PASS
1-Methylphenanthrene	Total	0.481	1	0.001	0.005	µg/L		0.5	0	96	66 - 127%	PASS	3	30	PASS
2,3,5-Trimethylnaphthalene	Total	0.476	1	0.001	0.005	µg/L		0.5	0	95	55 - 122%	PASS	2	30	PASS
2,6-Dimethylnaphthalene	Total	0.467	1	0.001	0.005	µg/L		0.5	0	93	48 - 120%	PASS	2	30	PASS
2-Methylnaphthalene	Total	0.458	1	0.001	0.005	µg/L		0.5	0	92	47 - 130%	PASS	2	30	PASS
Acenaphthene	Total	0.467	1	0.001	0.005	µg/L		0.5	0	93	53 - 131%	PASS	1	30	PASS
Acenaphthylene	Total	0.479	1	0.001	0.005	µg/L		0.5	0	96	43 - 140%	PASS	3	30	PASS
Anthracene	Total	0.474	1	0.001	0.005	µg/L		0.5	0	95	58 - 135%	PASS	3	30	PASS
Benz[a]anthracene	Total	0.476	1	0.001	0.005	µg/L		0.5	0	95	55 - 145%	PASS	2	30	PASS
Benzo[a]pyrene	Total	0.487	1	0.001	0.005	µg/L		0.5	0	97	51 - 143%	PASS	1	30	PASS
Benzo[b]fluoranthene	Total	0.52	1	0.001	0.005	µg/L		0.5	0	104	46 - 165%	PASS	2	30	PASS
Benzo[e]pyrene	Total	0.502	1	0.001	0.005	µg/L		0.5	0	100	42 - 152%	PASS	1	30	PASS
Benzo[g,h,i]perylene	Total	0.461	1	0.001	0.005	µg/L		0.5	0	92	63 - 133%	PASS	2	30	PASS
Benzo[k]fluoranthene	Total	0.502	1	0.001	0.005	µg/L		0.5	0	100	56 - 145%	PASS	2	30	PASS
Biphenyl	Total	0.467	1	0.001	0.005	µg/L		0.5	0	93	56 - 119%	PASS	1	30	PASS
Chrysene	Total	0.441	1	0.001	0.005	µg/L		0.5	0	88	56 - 141%	PASS	2	30	PASS
Dibenz[a,h]anthracene	Total	0.533	1	0.001	0.005	µg/L		0.5	0	107	55 - 150%	PASS	0	30	PASS
Dibenzo[a,l]pyrene	Total	0.623	1	0.001	0.005	µg/L		0.5	0	125	50 - 150%	PASS	2	30	PASS
Dibenzothiophene	Total	0.465	1	0.001	0.005	µg/L		0.5	0	93	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	0.486	1	0.001	0.005	µg/L	0.5	0	97	60 - 146%	PASS	3	30	PASS
Fluorene	Total	0.479	1	0.001	0.005	µg/L	0.5	0	96	58 - 131%	PASS	2	30	PASS
Indeno[1,2,3-cd]pyrene	Total	0.525	1	0.001	0.005	µg/L	0.5	0	105	50 - 151%	PASS	5	30	PASS
Naphthalene	Total	0.442	1	0.001	0.005	µg/L	0.5	0	88	41 - 126%	PASS	1	30	PASS
Perylene	Total	0.474	1	0.001	0.005	µg/L	0.5	0	95	48 - 141%	PASS	1	30	PASS
Phenanthrene	Total	0.469	1	0.001	0.005	µg/L	0.5	0	94	67 - 127%	PASS	1	30	PASS
Pyrene	Total	0.483	1	0.001	0.005	µg/L	0.5	0	97	54 - 156%	PASS	3	30	PASS

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

Sample ID: 107025

Retention Time	Area (% of total)	Concentration (ng/L)	Library/ID	Cas Number	Match Quality (%)
34.9926	7.2180	1111	Anthracene-D10-	1719-06-8	96
10.3171	4.4423	684	Cyclohexane, 1-methyl-2-propyl-	4291-79-6	92
10.2591	1.9035	293	Octane, 3-methyl-6-methylene-	74630-07-2	86
10.0840	0.8336	128	1H-Pyrazole, 4,5-dihydro-3-methyl-	1911-30-4	85
10.5049	0.7969	123	1,5-Heptadien-4-one, 3,3,6-trimethyl-	546-49-6	83

Concentration estimated using the response for Anthracene-d10

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Sample ID: 107026

Retention Time	Area (% of total)	Concentration (ng/L)	Library/ID	Cas Number	Match Quality (%)
34.9951	5.8898	1111	Anthracene-D10-	1719-06-8	96
10.3160	5.8957	1112	Cyclohexane, 1-methyl-2-propyl-	4291-79-6	92
10.2580	2.6262	495	Octane, 3-methyl-6-methylene-	74630-07-2	86
10.0787	1.8189	343	2,3,3-Trimethyl-1-hexene	1000113-52-1	87
10.0526	1.1326	214	1H-Tetrazole	288-94-8	85
10.1991	0.6479	122	Sulfurous acid, di(cyclohexylmethyl) ester	1010309-22-7	81
45.4564	0.5602	106	Terephthalic acid, isobutyl butyl ester	1000323-56-2	96

Concentration estimated using the response for Anthracene-d10

Sample ID: 107027

Retention Time	Area (% of total)	Concentration (ng/L)	Library/ID	Cas Number	Match Quality (%)
34.9930	7.9078	1111	Anthracene-D10-	1517-22-2	93
10.3174	6.7844	953	Cyclohexane, 1-methyl-2-propyl-	4291-79-6	92
10.2593	3.0102	423	Octane, 3-methyl-6-methylene-	74630-07-2	86
10.0831	1.5722	221	Oxalic acid, cyclohexyl hexyl ester	1000309-30-8	84
10.2012	0.8559	120	Sulfurous acid, di(cyclohexylmethyl) ester	1010309-22-7	81
10.5051	0.7419	104	1,5-Heptadien-4-one, 3,3,6-trimethyl-	546-49-6	82

Concentration estimated using the response for Anthracene-d10

Sample ID: 107028

Retention Time	Area (% of total)	Concentration (ng/L)	Library/ID	Cas Number	Match Quality (%)
34.9917	6.6560	1111	Anthracene-D10-	1719-06-8	96
10.3158	5.2747	881	Cyclohexane, 1-methyl-2-propyl-	4291-79-6	92
10.2582	2.2824	381	Octane, 3-methyl-6-methylene-	74630-07-2	86
10.0807	1.1869	198	Oxalic acid, cyclohexyl hexyl ester	1000309-30-8	83
10.0807	1.1779	197	1H-Pyrazole, 4,5-dihydro-3-methyl-	1911-30-4	83
10.5042	0.6201	104	1,5-Heptadien-4-one, 3,3,6-trimethyl-	546-49-6	82

Concentration estimated using the response for Anthracene-d10

Sample ID: LabBlank B1\_41078

Retention Time	Area (% of total)	Concentration (ng/L)	Library/ID	Cas Number	Match Quality (%)
34.9863	8.7995	1111	Anthracene-D10-	1719-06-8	97
10.5030	0.9585	121	1,5-Heptadien-4-one, 3,3,6-trimethyl-	546-49-6	82

Concentration estimated using the response for Anthracene-d10

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# PERFORMANCE CHAIN OF CUSTODY

TERRA ENVIRONMENTAL LABORATORIES, INC. AURA

*Innovative Solutions for Nature*

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**Client Information (Sub Contract Lab)**

Client Contact: Physis Environmental Laboratories  
 Shipping/Receiving  
 Company: Physis Environmental Laboratories  
 Address: 1904 Wright Circle,  
 City: Anaheim  
 State, Zip: CA, 92806  
 Phone: PO #:  
 Email: WQ #:  
 Project Name: RED-HILL  
 Site: Honolulu BWS Sites

Sampler: Arada, Rachelle  
 Phone: Rachelle.Arada@et.eurofins.com  
 Accreditations Required (See note): State - Hawaii

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

COC No: 380-55953-1  
 Page: Page 1 of 1  
 Job #: 380-49443-1

**Analysis Requested**

Due Date Requested: 6/15/2023  
 TAT Requested (days):  
 Matrix (Water, Sewage, Aerosol, STP/Sludge, Ash):  
 Field Filtered Sample (Yes or No)  
 Perform MS/MSD (Yes or No)  
 SUB (625 PAH Physis LL (EAL) + TICs)/ 625 PAH Physis LL (EAL) + TICs  
 Total Number of containers

Preservation Codes:  
 A - HCL  
 B - NaOH  
 C - Zn Acetate  
 D - Nitric Acid  
 E - NaHSO4  
 F - MeOH  
 G - Amchlor  
 H - Ascorbic Acid  
 I - Ice  
 J - DI Water  
 K - EDTA  
 L - EDA  
 M - Hexane  
 N - None  
 O - AsHAcO2  
 P - Na2OAS  
 Q - Na2SO3  
 R - Na2S2O3  
 S - H2SO4  
 T - TSP Dodecylhydrate  
 U - Acetone  
 V - MCAA  
 W - pH 4.5  
 Y - Trizma  
 Z - other (specify)

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

Sample ID	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (Water, Sewage, Aerosol, STP/Sludge, Ash)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Total Number of containers	Special Instructions/Note:
MOANALUA WELLS (380-49443-1)	5/30/23	10:14		Water			2	See Attached Instructions
AIEA GULCH WELLS PUMP 2 (380-49443-2)	5/30/23	11:39		Water			2	See Attached Instructions
AIEA WELLS PUMPS 1&2 (260) (380-49443-3)	5/30/23	11:12		Water			2	See Attached Instructions
HALAWA WELLS UNITS 1 & 2 (380-49443-4)	5/30/23	10:47		Water			2	See Attached Instructions

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

**Possible Hazard Identification**

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

**Empty Kit Relinquished by:**

Relinquished by: [Signature] Date/Time: 6/2/23 11:37 Company: [Signature] Company: [Signature]  
 Relinquished by: [Signature] Date/Time: 6/2/23 11:37 Company: [Signature] Company: [Signature]

**Relinquished by:**

Relinquished by: [Signature] Date/Time: 6/2/23 11:37 Company: [Signature] Company: [Signature]  
 Custody Seals Intact: Δ Yes Δ No Custody Seal No.: Cooler Temperature(s) °C and Other Remarks:

Project Iteration ID: 1407003-407  
 Client Name: Eurofins Eaton Analytical  
 Project Name: RED-HILL Project # 38001111 Job # 380-49443-1  
 COC Page Number: 2 of 2  
 Bottle Label Color: NA

**Sample Receipt Summary**

Receiving Info

1. Initials Received By: DA
2. Date Received: 6/2/23
3. Time Received: 11:37
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)
  - 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): 1.9  
 Used I/R Thermometer # 1-2

Inspection Info

1. Initials Inspected By: DA

Sample Integrity Upon Receipt:

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

Notes:

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

### Chain of Custody Record



<b>Client Information</b>		Sampler: <b>BAILEY</b>	Lab PM: Arada, Rachele	Carrier Tracking No(s):	COC No: 380-27941-2757.2								
Client Contact: Dr. Ron Fenstermacher		Phone: 808-748-5840	E-Mail: Rachele.Arada@et.euronisus.com	State of Origin:	Page: Page 1 of 2								
Company: City & County of Honolulu		PWSID:	<b>Analysis Requested</b>										
Address: 630 South Beretania Street; Chemistry Lab		Due Date Requested:	Field Filtered Sample (Yes or No) Perform MS/MSD (Yes or No) SUBCONTRACT - 625 PAH Physis LL (EAL) + TICs SUBCONTRACT - 8015 Gas (Purgable) LL (EAL) SUBCONTRACT - 8915 Diesel LL (EAL) and Motor Oil 525.2_PREC - (MOD) 525plus PLUS TICs SUBCONTRACT - 8015 Gas (Purgable) LL (EAL) 537.1_DW_PREC - 537.1 Full List 533 - All Analytes	Total Number of containers	Preservation Codes: A - HCL M - Hexane B - NaOH N - None C - Zn Acetate O - AsNaO2 D - Nitric Acid P - Na2O4S E - NaHSO4 Q - Na2SO3 F - MeOH R - Na2S2O3 G - Amchlor S - H2SO4 H - Ascorbic Acid T - TSP Dodecahydrate I - Ice U - Acetone J - DI Water V - MCAA K - EDTA W - pH 4-5 L - EDA Y - Trizma Z - other (specify)								
City: Honolulu		TAT Requested (days):											
State, Zip: HI, 96843		Compliance Project: Δ No											
Phone: 808-748-5091 (tel)		PO #: C20525101 exp 05312023											
Email: rfenstermacher@hbws.org		WO #:											
Project Name: RED-HILL/HBWS sites Event Desc: RUSH Weekly Red Hill		Project #: 38001111	Other:										
Site:		SSOW#:	Special Instructions/Note:										
Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	R	R	RA	RA	Y	N	Special Instructions/Note:
MOANALUA WELLS	30-May-2023	1014	G	Water			2	2	2	4			(750A) 3.1/3.0
AIEA GULCH WELLS PUMP2	30-May-2023	1139	G	Water			2	2	2	4			Fed X: 772305272459
AIEA WELLS PUMPS 1&2 (260) P2	30-May-2023	1112	G	Water			2	2	2	4			(750A) 3.0/3.7
HALAWA WELLS UNITS 1&2 P1	30-May-2023	1047	G	Water			2	2	2	4			Fed X: 772305272584
													(750A) 2.1/2.0
													Fed X: 772305271706
TB MOANALUA WELLS	30-May-2023	1014		Water						2			
TB AIEA GULCH WELLS PUMP2	30-May-2023	1139		Water						2			
TB AIEA WELLS PUMPS 1&2 (260)	30-May-2023	1112		Water						2			
TB HALAWA WELLS UNITS 1&2	30-May-2023	1047		Water						2			
<b>Possible Hazard Identification</b>						<b>Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)</b>							
<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological						<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months							
Deliverable Requested: I, II, III, IV, Other (specify)						Special Instructions/QC Requirements:							
Empty Kit Relinquished by:		Date:	Time:	Method of Shipment:		Fed X: 772305271614							
Relinquished by: BAILEY	Date/Time: May 31, 2023 1400	Company: HBWS	Received by: Mark Urrutia	Date/Time: 6/1/23 957	Company: EEA								
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:								
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:								
Custody Seals Intact: A Yes A No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: (750A) 2.5/2.4 act-frozen											



380-49443 COC



Shipping Order Form - Bottle



Environment Testing



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

Shipping Order ID: 27947

Ship Via: FedEx
When To Ship: 5/ 8/2023

Due On: 5/10/2023 11:59:00PM

Ship To Information

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

Notes to Bottle/Shipping Department

Pack with Gel Ice.

Please pack as one cooler per site.

Label the cooler under the left hand handle with the ID of the samples that are in the cooler (If more than 1 cooler is used per 1 sample ID label cooler with "sample ID x of y").

Pack by sample ID on the botte labels (with one full set of tests per sample ID).

Send only medium to large coolers.

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

- Ready to Fill
Preprinted COC
Number of COC Copies: 1
Seals on Bottle
Seals on Coolers
Priority
Return Shipment Labels
Prepaid Return
Eurofins Eaton Analytical Pomona
Short Hold Times
Temperature Control
Rush

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

# Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-49443-1

**Login Number: 49443**  
**List Number: 1**  
**Creator: Elyas, Matthew**

**List Source: Eurofins Eaton Analytical Pomona**

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	

