

# ANALYTICAL REPORT

## PREPARED FOR

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

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## JOB DESCRIPTION

RED-HILL  
RUSH Weekly Red Hill

## JOB NUMBER

380-30468-1

# Eurofins Eaton Monrovia

## Job Notes

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

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

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

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

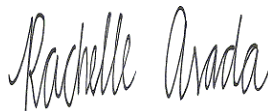
This report shall not be reproduced except in full, without the written approval of the laboratory.

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

## Compliance Statement

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

## Authorization



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Authorized for release by  
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: 380-30468-1

## Qualifiers

### GC/MS Semi VOA

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

### GC/MS Semi VOA TICs

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

### Subcontract

Qualifier	Qualifier Description
U	This analyte was not detected.

## Glossary

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



# Case Narrative

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

Job ID: 380-30468-1

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## Job ID: 380-30468-1

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### Laboratory: Eurofins Eaton Monrovia

#### Narrative

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#### Job Narrative 380-30468-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 12/7/2022 9:40 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.5° C.

#### GC/MS Semi VOA

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

#### Subcontract non-Sister

See attached subcontract report.

#### Organic Prep

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: 380-30468-1

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

**Lab Sample ID: 380-30468-1**

No Detections.

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

**Lab Sample ID: 380-30468-2**

No Detections.

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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: 380-30468-1

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

**Lab Sample ID: 380-30468-1**

Date Collected: 12/05/22 09:37

Matrix: Drinking Water

Date Received: 12/07/22 09:40

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
2,4'-DDD	ND		0.097	ug/L		12/09/22 06:06	12/13/22 14:03	1
2,4'-DDE	ND		0.097	ug/L		12/09/22 06:06	12/13/22 14:03	1
2,4'-DDT	ND		0.097	ug/L		12/09/22 06:06	12/13/22 14:03	1
2,4-Dinitrotoluene	ND		0.097	ug/L		12/09/22 06:06	12/13/22 14:03	1
2,6-Dinitrotoluene	ND		0.097	ug/L		12/09/22 06:06	12/13/22 14:03	1
4,4'-DDD	ND		0.097	ug/L		12/09/22 06:06	12/13/22 14:03	1
4,4'-DDE	ND		0.097	ug/L		12/09/22 06:06	12/13/22 14:03	1
4,4'-DDT	ND		0.097	ug/L		12/09/22 06:06	12/13/22 14:03	1
Acenaphthene	ND		0.097	ug/L		12/09/22 06:06	12/13/22 14:03	1
Acenaphthylene	ND		0.097	ug/L		12/09/22 06:06	12/13/22 14:03	1
Acetochlor	ND		0.097	ug/L		12/09/22 06:06	12/13/22 14:03	1
Alachlor	ND		0.048	ug/L		12/09/22 06:06	12/13/22 14:03	1
alpha-BHC	ND		0.097	ug/L		12/09/22 06:06	12/13/22 14:03	1
alpha-Chlordane	ND		0.048	ug/L		12/09/22 06:06	12/13/22 14:03	1
Anthracene	ND		0.019	ug/L		12/09/22 06:06	12/13/22 14:03	1
Atrazine	ND		0.048	ug/L		12/09/22 06:06	12/13/22 14:03	1
Benz(a)anthracene	ND		0.048	ug/L		12/09/22 06:06	12/13/22 14:03	1
Benzo[a]pyrene	ND		0.019	ug/L		12/09/22 06:06	12/13/22 14:03	1
Benzo[b]fluoranthene	ND		0.019	ug/L		12/09/22 06:06	12/13/22 14:03	1
Benzo[g,h,i]perylene	ND		0.048	ug/L		12/09/22 06:06	12/13/22 14:03	1
Benzo[k]fluoranthene	ND		0.019	ug/L		12/09/22 06:06	12/13/22 14:03	1
beta-BHC	ND		0.097	ug/L		12/09/22 06:06	12/13/22 14:03	1
Bromacil	ND		0.097	ug/L		12/09/22 06:06	12/13/22 14:03	1
Butachlor	ND		0.048	ug/L		12/09/22 06:06	12/13/22 14:03	1
Butylbenzylphthalate	ND		0.48	ug/L		12/09/22 06:06	12/13/22 14:03	1
Caffeine	ND		0.048	ug/L		12/09/22 06:06	12/13/22 14:03	1
Chlorobenzilate	ND		0.097	ug/L		12/09/22 06:06	12/13/22 14:03	1
Chloroneb	ND		0.097	ug/L		12/09/22 06:06	12/13/22 14:03	1
Chlorothalonil (Draconil, Bravo)	ND	^3+	0.097	ug/L		12/09/22 06:06	12/13/22 14:03	1
Chlorpyrifos	ND		0.048	ug/L		12/09/22 06:06	12/13/22 14:03	1
Chrysene	ND		0.019	ug/L		12/09/22 06:06	12/13/22 14:03	1
delta-BHC	ND		0.097	ug/L		12/09/22 06:06	12/13/22 14:03	1
Di(2-ethylhexyl)adipate	ND		0.58	ug/L		12/09/22 06:06	12/13/22 14:03	1
Bis(2-ethylhexyl) phthalate	ND		0.58	ug/L		12/09/22 06:06	12/13/22 14:03	1
Diazinon (Qualitative)	ND		0.097	ug/L		12/09/22 06:06	12/13/22 14:03	1
Dibenz(a,h)anthracene	ND		0.048	ug/L		12/09/22 06:06	12/13/22 14:03	1
Diclorvos (DDVP)	ND		0.048	ug/L		12/09/22 06:06	12/13/22 14:03	1
Dieldrin	ND		0.19	ug/L		12/09/22 06:06	12/13/22 14:03	1
Diethylphthalate	ND		0.48	ug/L		12/09/22 06:06	12/13/22 14:03	1
Dimethoate	ND		0.097	ug/L		12/09/22 06:06	12/13/22 14:03	1
Dimethylphthalate	ND		0.48	ug/L		12/09/22 06:06	12/13/22 14:03	1
Di-n-butyl phthalate	ND		0.97	ug/L		12/09/22 06:06	12/13/22 14:03	1
Di-n-octyl phthalate	ND		0.097	ug/L		12/09/22 06:06	12/13/22 14:03	1
Endosulfan I (Alpha)	ND		0.097	ug/L		12/09/22 06:06	12/13/22 14:03	1
Endosulfan II (Beta)	ND		0.097	ug/L		12/09/22 06:06	12/13/22 14:03	1
Endosulfan sulfate	ND		0.097	ug/L		12/09/22 06:06	12/13/22 14:03	1
Endrin	ND		0.097	ug/L		12/09/22 06:06	12/13/22 14:03	1
Endrin aldehyde	ND		0.097	ug/L		12/09/22 06:06	12/13/22 14:03	1
EPTC	ND		0.097	ug/L		12/09/22 06:06	12/13/22 14:03	1

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# Client Sample Results

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

Job ID: 380-30468-1

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

**Lab Sample ID: 380-30468-1**

Date Collected: 12/05/22 09:37

Matrix: Drinking Water

Date Received: 12/07/22 09:40

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoranthene	ND		0.097	ug/L		12/09/22 06:06	12/13/22 14:03	1
Fluorene	ND		0.048	ug/L		12/09/22 06:06	12/13/22 14:03	1
gamma-Chlordane	ND		0.048	ug/L		12/09/22 06:06	12/13/22 14:03	1
Heptachlor	ND		0.039	ug/L		12/09/22 06:06	12/13/22 14:03	1
Heptachlor epoxide (isomer B)	ND		0.048	ug/L		12/09/22 06:06	12/13/22 14:03	1
Hexachlorobenzene	ND		0.048	ug/L		12/09/22 06:06	12/13/22 14:03	1
Hexachlorocyclopentadiene	ND		0.048	ug/L		12/09/22 06:06	12/13/22 14:03	1
Indeno[1,2,3-cd]pyrene	ND		0.048	ug/L		12/09/22 06:06	12/13/22 14:03	1
Isophorone	ND		0.48	ug/L		12/09/22 06:06	12/13/22 14:03	1
Lindane	ND		0.039	ug/L		12/09/22 06:06	12/13/22 14:03	1
Malathion	ND		0.097	ug/L		12/09/22 06:06	12/13/22 14:03	1
Methoxychlor	ND		0.097	ug/L		12/09/22 06:06	12/13/22 14:03	1
Metolachlor	ND		0.048	ug/L		12/09/22 06:06	12/13/22 14:03	1
Metribuzin	ND		0.048	ug/L		12/09/22 06:06	12/13/22 14:03	1
Molinate	ND		0.097	ug/L		12/09/22 06:06	12/13/22 14:03	1
Naphthalene	ND		0.29	ug/L		12/09/22 06:06	12/13/22 14:03	1
Parathion	ND		0.097	ug/L		12/09/22 06:06	12/13/22 14:03	1
Pendimethalin (Penoxaline)	ND		0.097	ug/L		12/09/22 06:06	12/13/22 14:03	1
Total Permethrin (mixed isomers)	ND		0.19	ug/L		12/09/22 06:06	12/13/22 14:03	1
Phenanthrene	ND		0.039	ug/L		12/09/22 06:06	12/13/22 14:03	1
Propachlor	ND		0.048	ug/L		12/09/22 06:06	12/13/22 14:03	1
Pyrene	ND		0.048	ug/L		12/09/22 06:06	12/13/22 14:03	1
Simazine	ND		0.048	ug/L		12/09/22 06:06	12/13/22 14:03	1
Terbacil	ND		0.097	ug/L		12/09/22 06:06	12/13/22 14:03	1
Terbutylazine	ND		0.097	ug/L		12/09/22 06:06	12/13/22 14:03	1
Thiobencarb	ND		0.19	ug/L		12/09/22 06:06	12/13/22 14:03	1
trans-Nonachlor	ND		0.048	ug/L		12/09/22 06:06	12/13/22 14:03	1
Trifluralin	ND		0.097	ug/L		12/09/22 06:06	12/13/22 14:03	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L				12/09/22 06:06	12/13/22 14:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Nitro-m-xylene	101		70 - 130	12/09/22 06:06	12/13/22 14:03	1
Triphenylphosphate	108		70 - 130	12/09/22 06:06	12/13/22 14:03	1
Perylene-d12	94		70 - 130	12/09/22 06:06	12/13/22 14:03	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.005	0.001	µg/L		12/05/22 00:00	12/20/22 05:03	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		12/05/22 00:00	12/20/22 05:03	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		12/05/22 00:00	12/20/22 05:03	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		12/05/22 00:00	12/20/22 05:03	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		12/05/22 00:00	12/20/22 05:03	1
Acenaphthene	ND		0.005	0.001	µg/L		12/05/22 00:00	12/20/22 05:03	1
Acenaphthylene	ND		0.005	0.001	µg/L		12/05/22 00:00	12/20/22 05:03	1
Anthracene	ND		0.005	0.001	µg/L		12/05/22 00:00	12/20/22 05:03	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		12/05/22 00:00	12/20/22 05:03	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		12/05/22 00:00	12/20/22 05:03	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		12/05/22 00:00	12/20/22 05:03	1

Eurofins Eaton Monrovia

# Client Sample Results

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

Job ID: 380-30468-1

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

**Lab Sample ID: 380-30468-1**

Date Collected: 12/05/22 09:37

Matrix: Drinking Water

Date Received: 12/07/22 09:40

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[e]pyrene	ND		0.005	0.001	µg/L		12/05/22 00:00	12/20/22 05:03	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		12/05/22 00:00	12/20/22 05:03	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		12/05/22 00:00	12/20/22 05:03	1
Biphenyl	ND		0.005	0.001	µg/L		12/05/22 00:00	12/20/22 05:03	1
Chrysene	ND		0.005	0.001	µg/L		12/05/22 00:00	12/20/22 05:03	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		12/05/22 00:00	12/20/22 05:03	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		12/05/22 00:00	12/20/22 05:03	1
Dibenzothiophene	ND		0.005	0.001	µg/L		12/05/22 00:00	12/20/22 05:03	1
Disalicylidenepropanediamine	ND		0.1	0.05	µg/L		12/05/22 00:00	12/20/22 05:03	1
Fluoranthene	ND		0.005	0.001	µg/L		12/05/22 00:00	12/20/22 05:03	1
Fluorene	ND		0.005	0.001	µg/L		12/05/22 00:00	12/20/22 05:03	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		12/05/22 00:00	12/20/22 05:03	1
Naphthalene	ND		0.005	0.001	µg/L		12/05/22 00:00	12/20/22 05:03	1
Perylene	ND		0.005	0.001	µg/L		12/05/22 00:00	12/20/22 05:03	1
Phenanthrene	ND		0.005	0.001	µg/L		12/05/22 00:00	12/20/22 05:03	1
Pyrene	ND		0.005	0.001	µg/L		12/05/22 00:00	12/20/22 05:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
(d10-Acenaphthene)	67		45 - 118	12/05/22 00:00	12/20/22 05:03	1
(d10-Phenanthrene)	85		56 - 123	12/05/22 00:00	12/20/22 05:03	1
(d12-Chrysene)	86		36 - 142	12/05/22 00:00	12/20/22 05:03	1
(d12-Perylene)	82		36 - 161	12/05/22 00:00	12/20/22 05:03	1
(d8-Naphthalene)	36		20 - 112	12/05/22 00:00	12/20/22 05:03	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GASOLINE	ND	U	0.020		mg/L			12/08/22 17:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE	76		60 - 140		12/08/22 17:43	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DIESEL	ND	U	0.024		mg/L			12/14/22 21:44	1
JP5	ND	U	0.048		mg/L			12/14/22 21:44	1
JP8	ND	U	0.048		mg/L			12/14/22 21:44	1
MOTOR OIL	ND	U	0.048		mg/L			12/14/22 21:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOBENZENE	78		60 - 130		12/14/22 21:44	1
HEXACOSANE	110		60 - 130		12/14/22 21:44	1

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

**Lab Sample ID: 380-30468-2**

Date Collected: 12/05/22 09:37

Matrix: Drinking Water

Date Received: 12/07/22 09:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GASOLINE	ND	U	0.020		mg/L			12/08/22 18:19	1

Eurofins Eaton Monrovia

# Client Sample Results

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

Job ID: 380-30468-1

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

**Lab Sample ID: 380-30468-2**

**Date Collected: 12/05/22 09:37**

**Matrix: Drinking Water**

**Date Received: 12/07/22 09:40**

<u>Surrogate</u>	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Dil Fac</u>
BROMOFLUOROBENZENE	76		60 - 140		12/08/22 18:19	1

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- 10
- 11
- 12
- 13
- 14
- 15
- 16
- 17

# Action Limit Summary

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

Job ID: 380-30468-1

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

**Lab Sample ID: 380-30468-1**

**PWSID Number: HI0000331**

## Compliance Check

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

Analyte	Result	Qualifier	Unit	Limit	RL	Method	Prep Type
Alachlor	ND		ug/L	2	0.048	525.2	Total/NA
Atrazine	ND		ug/L	3	0.048	525.2	Total/NA
Benzo[a]pyrene	ND		ug/L	0.2	0.019	525.2	Total/NA
Di(2-ethylhexyl)adipate	ND		ug/L	400	0.58	525.2	Total/NA
Bis(2-ethylhexyl) phthalate	ND		ug/L	6	0.58	525.2	Total/NA
Endrin	ND		ug/L	2	0.097	525.2	Total/NA
Heptachlor	ND		ug/L	0.4	0.039	525.2	Total/NA
Heptachlor epoxide (isomer B)	ND		ug/L	0.2	0.048	525.2	Total/NA
Hexachlorobenzene	ND		ug/L	1	0.048	525.2	Total/NA
Hexachlorocyclopentadiene	ND		ug/L	50	0.048	525.2	Total/NA
Lindane	ND		ug/L	0.2	0.039	525.2	Total/NA
Methoxychlor	ND		ug/L	40	0.097	525.2	Total/NA
Simazine	ND		ug/L	4	0.048	525.2	Total/NA

# Surrogate Summary

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

Job ID: 380-30468-1

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

Matrix: Drinking Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		2NMX (70-130)	TPP (70-130)	PRY (70-130)
380-30468-1	MOANALUA WELLS (331-223-T	101	108	94

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

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		2NMX (70-130)	TPP (70-130)	PRY (70-130)
380-30288-Y-1-A MS	Matrix Spike	100	114	97
380-30295-X-1-A DU	Duplicate	105	112	92
LCS 380-26253/3-A	Lab Control Sample	101	112	99
LCS 380-26253/4-A	Lab Control Sample Dup	99	111	98
MB 380-26253/1-A	Method Blank	101	113	95
MRL 380-26253/2-A	Lab Control Sample	102	116	97

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

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

Matrix: 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)
102224-B1	Method Blank	81	86	87	80	77
102224-BS1	Lab Control Sample	83	87	92	64	87
102224-BS2	Lab Control Sample Dup	86	89	89	79	85

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

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

Matrix: Drinking Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)				
		Acenaphtl (45-118)	Phenanth (56-123)	CRY (36-142)	NPT (20-112)	PRY (36-161)
380-30468-1	MOANALUA WELLS (331-223-T	67	85	86	36	82

**Surrogate Legend**  
 (d10-Acenaphthene) = (d10-Acenaphthene)  
 (d10-Phenanthrene) = (d10-Phenanthrene)

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# Surrogate Summary

Client: City & County of Honolulu

Job ID: 380-30468-1

Project/Site: RED-HILL

CRY = (d12-Chrysene)

NPT = (d8-Naphthalene)

PRY = (d12-Perylene)

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

Matrix: Drinking Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB (60-140)
380-30468-1	MOANALUA WELLS (331-223-T	76
380-30468-2	TB MOANALUA WELLS (331-223-TP202)	76

#### 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
22VG39L03B	Method Blank	

#### Surrogate Legend

BFB = BROMOFLUOROBENZENE

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

Matrix: WATER

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB (70-130)
22VG39L03C	LCD	105
22VG39L03L	Lab Control Sample	106

#### 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)
380-30468-1	MOANALUA WELLS (331-223-T	78	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
22DSL019WB	Method Blank		

#### Surrogate Legend

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# Surrogate Summary

Client: City & County of Honolulu

Job ID: 380-30468-1

Project/Site: RED-HILL

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	HEXACOSANE
		(60-130)	(60-130)
22DSL019WL	Lab Control Sample	87	107
22J5L019WL	Lab Control Sample	97	109
22J8L019WL	Lab Control Sample	102	110

### Surrogate Legend

BB = BROMOBENZENE

HEXACOSANE = HEXACOSANE

# QC Sample Results

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

Job ID: 380-30468-1

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

**Lab Sample ID: MB 380-26253/1-A**  
**Matrix: Water**  
**Analysis Batch: 26515**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 26253**

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
2,4'-DDD	ND		0.099	ug/L		12/09/22 06:06	12/13/22 07:25	1
2,4'-DDE	ND		0.099	ug/L		12/09/22 06:06	12/13/22 07:25	1
2,4'-DDT	ND		0.099	ug/L		12/09/22 06:06	12/13/22 07:25	1
2,4-Dinitrotoluene	ND		0.099	ug/L		12/09/22 06:06	12/13/22 07:25	1
2,6-Dinitrotoluene	ND		0.099	ug/L		12/09/22 06:06	12/13/22 07:25	1
4,4'-DDD	ND		0.099	ug/L		12/09/22 06:06	12/13/22 07:25	1
4,4'-DDE	ND		0.099	ug/L		12/09/22 06:06	12/13/22 07:25	1
4,4'-DDT	ND		0.099	ug/L		12/09/22 06:06	12/13/22 07:25	1
Acenaphthene	ND		0.099	ug/L		12/09/22 06:06	12/13/22 07:25	1
Acenaphthylene	ND		0.099	ug/L		12/09/22 06:06	12/13/22 07:25	1
Acetochlor	ND		0.099	ug/L		12/09/22 06:06	12/13/22 07:25	1
Alachlor	ND		0.050	ug/L		12/09/22 06:06	12/13/22 07:25	1
alpha-BHC	ND		0.099	ug/L		12/09/22 06:06	12/13/22 07:25	1
alpha-Chlordane	ND		0.050	ug/L		12/09/22 06:06	12/13/22 07:25	1
Anthracene	ND		0.020	ug/L		12/09/22 06:06	12/13/22 07:25	1
Atrazine	ND		0.050	ug/L		12/09/22 06:06	12/13/22 07:25	1
Benz(a)anthracene	ND		0.050	ug/L		12/09/22 06:06	12/13/22 07:25	1
Benzo[a]pyrene	ND		0.020	ug/L		12/09/22 06:06	12/13/22 07:25	1
Benzo[b]fluoranthene	ND		0.020	ug/L		12/09/22 06:06	12/13/22 07:25	1
Benzo[g,h,i]perylene	ND		0.050	ug/L		12/09/22 06:06	12/13/22 07:25	1
Benzo[k]fluoranthene	ND		0.020	ug/L		12/09/22 06:06	12/13/22 07:25	1
beta-BHC	ND		0.099	ug/L		12/09/22 06:06	12/13/22 07:25	1
Bromacil	ND		0.099	ug/L		12/09/22 06:06	12/13/22 07:25	1
Butachlor	ND		0.050	ug/L		12/09/22 06:06	12/13/22 07:25	1
Butylbenzylphthalate	ND		0.50	ug/L		12/09/22 06:06	12/13/22 07:25	1
Caffeine	ND		0.050	ug/L		12/09/22 06:06	12/13/22 07:25	1
Chlorobenzilate	ND		0.099	ug/L		12/09/22 06:06	12/13/22 07:25	1
Chloroneb	ND		0.099	ug/L		12/09/22 06:06	12/13/22 07:25	1
Chlorothalonil (Draconil, Bravo)	ND		0.099	ug/L		12/09/22 06:06	12/13/22 07:25	1
Chlorpyrifos	ND		0.050	ug/L		12/09/22 06:06	12/13/22 07:25	1
Chrysene	ND		0.020	ug/L		12/09/22 06:06	12/13/22 07:25	1
delta-BHC	ND		0.099	ug/L		12/09/22 06:06	12/13/22 07:25	1
Di(2-ethylhexyl)adipate	ND		0.60	ug/L		12/09/22 06:06	12/13/22 07:25	1
Bis(2-ethylhexyl) phthalate	ND		0.60	ug/L		12/09/22 06:06	12/13/22 07:25	1
Diazinon (Qualitative)	ND		0.099	ug/L		12/09/22 06:06	12/13/22 07:25	1
Dibenz(a,h)anthracene	ND		0.050	ug/L		12/09/22 06:06	12/13/22 07:25	1
Diclorvos (DDVP)	ND		0.050	ug/L		12/09/22 06:06	12/13/22 07:25	1
Dieldrin	ND		0.20	ug/L		12/09/22 06:06	12/13/22 07:25	1
Diethylphthalate	ND		0.50	ug/L		12/09/22 06:06	12/13/22 07:25	1
Dimethoate	ND		0.099	ug/L		12/09/22 06:06	12/13/22 07:25	1
Dimethylphthalate	ND		0.50	ug/L		12/09/22 06:06	12/13/22 07:25	1
Di-n-butyl phthalate	ND		0.99	ug/L		12/09/22 06:06	12/13/22 07:25	1
Di-n-octyl phthalate	ND		0.099	ug/L		12/09/22 06:06	12/13/22 07:25	1
Endosulfan I (Alpha)	ND		0.099	ug/L		12/09/22 06:06	12/13/22 07:25	1
Endosulfan II (Beta)	ND		0.099	ug/L		12/09/22 06:06	12/13/22 07:25	1
Endosulfan sulfate	ND		0.099	ug/L		12/09/22 06:06	12/13/22 07:25	1
Endrin	ND		0.099	ug/L		12/09/22 06:06	12/13/22 07:25	1
Endrin aldehyde	ND		0.099	ug/L		12/09/22 06:06	12/13/22 07:25	1

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# QC Sample Results

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

Job ID: 380-30468-1

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

**Lab Sample ID: MB 380-26253/1-A**  
**Matrix: Water**  
**Analysis Batch: 26515**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 26253**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
EPTC	ND		0.099	ug/L		12/09/22 06:06	12/13/22 07:25	1
Fluoranthene	ND		0.099	ug/L		12/09/22 06:06	12/13/22 07:25	1
Fluorene	ND		0.050	ug/L		12/09/22 06:06	12/13/22 07:25	1
gamma-Chlordane	ND		0.050	ug/L		12/09/22 06:06	12/13/22 07:25	1
Heptachlor	ND		0.040	ug/L		12/09/22 06:06	12/13/22 07:25	1
Heptachlor epoxide (isomer B)	ND		0.050	ug/L		12/09/22 06:06	12/13/22 07:25	1
Hexachlorobenzene	ND		0.050	ug/L		12/09/22 06:06	12/13/22 07:25	1
Hexachlorocyclopentadiene	ND		0.050	ug/L		12/09/22 06:06	12/13/22 07:25	1
Indeno[1,2,3-cd]pyrene	ND		0.050	ug/L		12/09/22 06:06	12/13/22 07:25	1
Isophorone	ND		0.50	ug/L		12/09/22 06:06	12/13/22 07:25	1
Lindane	ND		0.040	ug/L		12/09/22 06:06	12/13/22 07:25	1
Malathion	ND		0.099	ug/L		12/09/22 06:06	12/13/22 07:25	1
Methoxychlor	ND		0.099	ug/L		12/09/22 06:06	12/13/22 07:25	1
Metolachlor	ND		0.050	ug/L		12/09/22 06:06	12/13/22 07:25	1
Metribuzin	ND		0.050	ug/L		12/09/22 06:06	12/13/22 07:25	1
Molinate	ND		0.099	ug/L		12/09/22 06:06	12/13/22 07:25	1
Naphthalene	ND		0.30	ug/L		12/09/22 06:06	12/13/22 07:25	1
Parathion	ND		0.099	ug/L		12/09/22 06:06	12/13/22 07:25	1
Pendimethalin (Penoxaline)	ND		0.099	ug/L		12/09/22 06:06	12/13/22 07:25	1
Total Permethrin (mixed isomers)	ND		0.20	ug/L		12/09/22 06:06	12/13/22 07:25	1
Phenanthrene	ND		0.040	ug/L		12/09/22 06:06	12/13/22 07:25	1
Propachlor	ND		0.050	ug/L		12/09/22 06:06	12/13/22 07:25	1
Pyrene	ND		0.050	ug/L		12/09/22 06:06	12/13/22 07:25	1
Simazine	ND		0.050	ug/L		12/09/22 06:06	12/13/22 07:25	1
Terbacil	ND		0.099	ug/L		12/09/22 06:06	12/13/22 07:25	1
Terbutylazine	ND		0.099	ug/L		12/09/22 06:06	12/13/22 07:25	1
Thiobencarb	ND		0.20	ug/L		12/09/22 06:06	12/13/22 07:25	1
trans-Nonachlor	ND		0.050	ug/L		12/09/22 06:06	12/13/22 07:25	1
Trifluralin	ND		0.099	ug/L		12/09/22 06:06	12/13/22 07:25	1

<i>Tentatively Identified Compound</i>	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
<i>Unknown</i>	1.59	T J	ug/L		2.34		12/09/22 06:06	12/13/22 07:25	1

<i>Surrogate</i>	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>2-Nitro-m-xylene</i>	101		70 - 130	12/09/22 06:06	12/13/22 07:25	1
<i>Triphenylphosphate</i>	113		70 - 130	12/09/22 06:06	12/13/22 07:25	1
<i>Perylene-d12</i>	95		70 - 130	12/09/22 06:06	12/13/22 07:25	1

**Lab Sample ID: LCS 380-26253/3-A**  
**Matrix: Water**  
**Analysis Batch: 26515**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 26253**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2,4'-DDD	1.99	1.95		ug/L		98	70 - 130
2,4'-DDE	1.99	1.97		ug/L		99	70 - 130
2,4'-DDT	1.99	2.00		ug/L		100	70 - 130
2,4-Dinitrotoluene	1.99	1.89		ug/L		95	70 - 130
2,6-Dinitrotoluene	1.99	1.96		ug/L		98	70 - 130

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# QC Sample Results

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

Job ID: 380-30468-1

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

**Lab Sample ID: LCS 380-26253/3-A**  
**Matrix: Water**  
**Analysis Batch: 26515**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 26253**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
4,4'-DDD	1.99	2.11		ug/L		106	70 - 130
4,4'-DDE	1.99	2.02		ug/L		101	70 - 130
4,4'-DDT	1.99	1.99		ug/L		100	70 - 130
Acenaphthene	1.99	1.93		ug/L		97	70 - 130
Acenaphthylene	1.99	1.94		ug/L		98	70 - 130
Acetochlor	1.99	2.06		ug/L		103	70 - 130
Alachlor	1.99	1.98		ug/L		100	70 - 130
alpha-BHC	1.99	1.99		ug/L		100	70 - 130
alpha-Chlordane	1.99	1.97		ug/L		99	70 - 130
Anthracene	1.99	1.94		ug/L		98	70 - 130
Atrazine	1.99	2.16		ug/L		109	70 - 130
Benz(a)anthracene	1.99	2.11		ug/L		106	70 - 130
Benzo[a]pyrene	1.99	2.13		ug/L		107	70 - 130
Benzo[b]fluoranthene	1.99	2.03		ug/L		102	70 - 130
Benzo[g,h,i]perylene	1.99	2.01		ug/L		101	70 - 130
Benzo[k]fluoranthene	1.99	2.12		ug/L		107	70 - 130
beta-BHC	1.99	2.07		ug/L		104	70 - 130
Bromacil	1.99	2.26		ug/L		114	70 - 130
Butachlor	1.99	2.07		ug/L		104	70 - 130
Butylbenzylphthalate	1.99	2.11		ug/L		106	70 - 130
Caffeine	1.99	1.52		ug/L		76	45 - 137
Chlorobenzilate	1.99	2.00		ug/L		101	70 - 130
Chloroneb	1.99	1.98		ug/L		99	70 - 130
Chlorothalonil (Draconil, Bravo)	1.99	1.96		ug/L		99	70 - 130
Chlorpyrifos	1.99	2.06		ug/L		104	70 - 130
Chrysene	1.99	1.91		ug/L		96	70 - 130
delta-BHC	1.99	1.93		ug/L		97	70 - 130
Di(2-ethylhexyl)adipate	1.99	2.02		ug/L		101	70 - 130
Bis(2-ethylhexyl) phthalate	1.99	1.87		ug/L		94	70 - 130
Diazinon (Qualitative)	1.99	1.96		ug/L		98	15 - 132
Dibenz(a,h)anthracene	1.99	2.00		ug/L		101	70 - 130
Diclorvos (DDVP)	1.99	2.30		ug/L		116	70 - 130
Dieldrin	1.99	2.11		ug/L		106	70 - 130
Diethylphthalate	1.99	2.07		ug/L		104	70 - 130
Dimethoate	1.99	1.28		ug/L		64	35 - 100
Dimethylphthalate	1.99	2.01		ug/L		101	70 - 130
Di-n-butyl phthalate	3.98	4.03		ug/L		101	70 - 130
Di-n-octyl phthalate	1.99	1.85		ug/L		93	70 - 130
Endosulfan I (Alpha)	1.99	1.92		ug/L		97	70 - 130
Endosulfan II (Beta)	1.99	2.05		ug/L		103	70 - 130
Endosulfan sulfate	1.99	2.17		ug/L		109	70 - 130
Endrin	1.99	2.31		ug/L		116	70 - 130
Endrin aldehyde	1.99	2.19		ug/L		110	70 - 130
EPTC	1.99	2.03		ug/L		102	70 - 130
Fluoranthene	1.99	2.09		ug/L		105	70 - 130
Fluorene	1.99	2.01		ug/L		101	70 - 130
gamma-Chlordane	1.99	2.09		ug/L		105	70 - 130
Heptachlor	1.99	1.70		ug/L		85	70 - 130
Heptachlor epoxide (isomer B)	1.99	2.13		ug/L		107	70 - 130

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# QC Sample Results

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

Job ID: 380-30468-1

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

**Lab Sample ID: LCS 380-26253/3-A**  
**Matrix: Water**  
**Analysis Batch: 26515**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 26253**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Hexachlorobenzene	1.99	2.03		ug/L		102	70 - 130
Hexachlorocyclopentadiene	1.99	1.83		ug/L		92	70 - 130
Indeno[1,2,3-cd]pyrene	1.99	2.02		ug/L		101	70 - 130
Isophorone	1.99	2.10		ug/L		106	70 - 130
Lindane	1.99	1.97		ug/L		99	70 - 130
Malathion	1.99	2.16		ug/L		109	70 - 130
Methoxychlor	1.99	2.04		ug/L		102	70 - 130
Metolachlor	1.99	2.11		ug/L		106	70 - 130
Metribuzin	1.99	2.19		ug/L		110	70 - 130
Molinate	1.99	2.05		ug/L		103	70 - 130
Naphthalene	1.99	1.98		ug/L		99	70 - 130
Parathion	1.99	2.21		ug/L		111	70 - 130
Pendimethalin (Penoxaline)	1.99	2.18		ug/L		109	70 - 130
Phenanthrene	1.99	1.91		ug/L		96	70 - 130
Propachlor	1.99	2.14		ug/L		108	70 - 130
Pyrene	1.99	2.06		ug/L		104	70 - 130
Simazine	1.99	2.16		ug/L		108	70 - 130
Terbacil	1.99	2.21		ug/L		111	70 - 130
Terbutylazine	1.99	2.23		ug/L		112	70 - 130
Thiobencarb	1.99	2.01		ug/L		101	70 - 130
trans-Nonachlor	1.99	2.07		ug/L		104	70 - 130
Trifluralin	1.99	2.10		ug/L		106	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Nitro-m-xylene	101		70 - 130
Triphenylphosphate	112		70 - 130
Perylene-d12	99		70 - 130

**Lab Sample ID: LCSD 380-26253/4-A**  
**Matrix: Water**  
**Analysis Batch: 26515**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 26253**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
2,4'-DDD	1.98	1.96		ug/L		99	70 - 130	1	20
2,4'-DDE	1.98	1.95		ug/L		99	70 - 130	1	20
2,4'-DDT	1.98	1.98		ug/L		100	70 - 130	1	20
2,4-Dinitrotoluene	1.98	2.09		ug/L		105	70 - 130	10	20
2,6-Dinitrotoluene	1.98	2.03		ug/L		102	70 - 130	4	20
4,4'-DDD	1.98	2.14		ug/L		108	70 - 130	1	20
4,4'-DDE	1.98	2.02		ug/L		102	70 - 130	0	20
4,4'-DDT	1.98	1.97		ug/L		99	70 - 130	1	20
Acenaphthene	1.98	1.93		ug/L		97	70 - 130	0	20
Acenaphthylene	1.98	1.94		ug/L		98	70 - 130	0	20
Acetochlor	1.98	2.00		ug/L		101	70 - 130	3	20
Alachlor	1.98	2.04		ug/L		103	70 - 130	3	20
alpha-BHC	1.98	2.08		ug/L		105	70 - 130	5	20
alpha-Chlordane	1.98	1.98		ug/L		100	70 - 130	0	20
Anthracene	1.98	1.88		ug/L		95	70 - 130	3	20

Eurofins Eaton Monrovia

# QC Sample Results

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

Job ID: 380-30468-1

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

**Lab Sample ID: LCSD 380-26253/4-A**  
**Matrix: Water**  
**Analysis Batch: 26515**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 26253**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	RPD Limit
							Limits	RPD		
Atrazine	1.98	2.23		ug/L		112	70 - 130	3	20	
Benz(a)anthracene	1.98	2.08		ug/L		105	70 - 130	1	20	
Benzo[a]pyrene	1.98	2.15		ug/L		108	70 - 130	1	20	
Benzo[b]fluoranthene	1.98	2.08		ug/L		105	70 - 130	3	20	
Benzo[g,h,i]perylene	1.98	2.06		ug/L		104	70 - 130	2	20	
Benzo[k]fluoranthene	1.98	2.12		ug/L		107	70 - 130	0	20	
beta-BHC	1.98	2.18		ug/L		110	70 - 130	5	20	
Bromacil	1.98	2.30		ug/L		116	70 - 130	2	20	
Butachlor	1.98	2.12		ug/L		107	70 - 130	2	20	
Butylbenzylphthalate	1.98	2.10		ug/L		106	70 - 130	1	20	
Caffeine	1.98	1.51		ug/L		76	45 - 137	1	20	
Chlorobenzilate	1.98	2.00		ug/L		101	70 - 130	0	20	
Chloroneb	1.98	1.97		ug/L		99	70 - 130	0	20	
Chlorothalonil (Draconil, Bravo)	1.98	1.89		ug/L		95	70 - 130	4	20	
Chlorpyrifos	1.98	2.08		ug/L		105	70 - 130	1	20	
Chrysene	1.98	1.88		ug/L		95	70 - 130	2	20	
delta-BHC	1.98	1.97		ug/L		99	70 - 130	2	20	
Di(2-ethylhexyl)adipate	1.98	2.03		ug/L		102	70 - 130	0	20	
Bis(2-ethylhexyl) phthalate	1.98	1.83		ug/L		92	70 - 130	2	20	
Diazinon (Qualitative)	1.98	2.06		ug/L		104	15 - 132	5	20	
Dibenz(a,h)anthracene	1.98	2.04		ug/L		103	70 - 130	2	20	
Diclorvos (DDVP)	1.98	2.32		ug/L		117	70 - 130	1	20	
Dieldrin	1.98	2.09		ug/L		105	70 - 130	1	20	
Diethylphthalate	1.98	2.14		ug/L		108	70 - 130	3	20	
Dimethoate	1.98	1.42		ug/L		72	35 - 100	11	20	
Dimethylphthalate	1.98	2.06		ug/L		104	70 - 130	2	20	
Di-n-butyl phthalate	3.97	3.94		ug/L		99	70 - 130	2	20	
Di-n-octyl phthalate	1.98	1.86		ug/L		94	70 - 130	0	20	
Endosulfan I (Alpha)	1.98	1.83		ug/L		92	70 - 130	5	20	
Endosulfan II (Beta)	1.98	2.03		ug/L		102	70 - 130	1	20	
Endosulfan sulfate	1.98	2.11		ug/L		106	70 - 130	3	20	
Endrin	1.98	2.16		ug/L		109	70 - 130	6	20	
Endrin aldehyde	1.98	2.20		ug/L		111	70 - 130	1	20	
EPTC	1.98	2.00		ug/L		101	70 - 130	2	20	
Fluoranthene	1.98	2.06		ug/L		104	70 - 130	1	20	
Fluorene	1.98	2.02		ug/L		102	70 - 130	0	20	
gamma-Chlordane	1.98	2.09		ug/L		105	70 - 130	0	20	
Heptachlor	1.98	1.68		ug/L		85	70 - 130	1	20	
Heptachlor epoxide (isomer B)	1.98	2.08		ug/L		105	70 - 130	2	20	
Hexachlorobenzene	1.98	2.05		ug/L		103	70 - 130	1	20	
Hexachlorocyclopentadiene	1.98	1.85		ug/L		93	70 - 130	1	20	
Indeno[1,2,3-cd]pyrene	1.98	2.11		ug/L		106	70 - 130	4	20	
Isophorone	1.98	2.06		ug/L		104	70 - 130	2	20	
Lindane	1.98	2.08		ug/L		105	70 - 130	6	20	
Malathion	1.98	2.15		ug/L		108	70 - 130	1	20	
Methoxychlor	1.98	2.06		ug/L		104	70 - 130	1	20	
Metolachlor	1.98	2.08		ug/L		105	70 - 130	1	20	
Metribuzin	1.98	2.20		ug/L		111	70 - 130	0	20	
Molinate	1.98	2.08		ug/L		105	70 - 130	1	20	

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# QC Sample Results

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

Job ID: 380-30468-1

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

**Lab Sample ID: LCSD 380-26253/4-A**  
**Matrix: Water**  
**Analysis Batch: 26515**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 26253**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Naphthalene	1.98	1.93		ug/L		97	70 - 130	3	20
Parathion	1.98	2.19		ug/L		111	70 - 130	0	20
Pendimethalin (Penoxaline)	1.98	2.19		ug/L		111	70 - 130	1	20
Phenanthrene	1.98	1.87		ug/L		94	70 - 130	2	20
Propachlor	1.98	2.21		ug/L		112	70 - 130	3	20
Pyrene	1.98	2.08		ug/L		105	70 - 130	1	20
Simazine	1.98	2.29		ug/L		115	70 - 130	6	20
Terbacil	1.98	2.22		ug/L		112	70 - 130	0	20
Terbutylazine	1.98	2.31		ug/L		117	70 - 130	4	20
Thiobencarb	1.98	2.04		ug/L		103	70 - 130	1	20
trans-Nonachlor	1.98	2.06		ug/L		104	70 - 130	0	20
Trifluralin	1.98	2.22		ug/L		112	70 - 130	5	20

Surrogate	LCSD %Recovery	LCSD Qualifier	LCSD Limits
2-Nitro-m-xylene	99		70 - 130
Triphenylphosphate	111		70 - 130
Perylene-d12	98		70 - 130

**Lab Sample ID: MRL 380-26253/2-A**  
**Matrix: Water**  
**Analysis Batch: 26515**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 26253**

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
2,4'-DDD	0.0992	0.148		ug/L		149	50 - 150
2,4'-DDE	0.0992	0.103		ug/L		104	50 - 150
2,4'-DDT	0.0992	0.0989	J	ug/L		100	50 - 150
2,4-Dinitrotoluene	0.0992	0.102		ug/L		103	50 - 150
2,6-Dinitrotoluene	0.0992	0.0922	J	ug/L		93	50 - 150
4,4'-DDD	0.0992	0.114		ug/L		115	50 - 150
4,4'-DDE	0.0992	0.101		ug/L		102	50 - 150
4,4'-DDT	0.0992	0.0993		ug/L		100	50 - 150
Acenaphthene	0.0992	0.0943	J	ug/L		95	50 - 150
Acenaphthylene	0.0992	0.0887	J	ug/L		89	50 - 150
Acetochlor	0.0496	0.0541	J	ug/L		109	50 - 150
Alachlor	0.0496	0.0684		ug/L		138	50 - 150
alpha-BHC	0.0992	0.115		ug/L		116	50 - 150
alpha-Chlordane	0.0248	0.0300	J	ug/L		121	50 - 150
Anthracene	0.0198	0.0205		ug/L		103	50 - 150
Atrazine	0.0496	0.0542		ug/L		109	50 - 150
Benz(a)anthracene	0.0496	0.0573		ug/L		115	50 - 150
Benzo[a]pyrene	0.0198	0.0194	J	ug/L		98	50 - 150
Benzo[b]fluoranthene	0.0198	0.0184	J	ug/L		93	50 - 150
Benzo[g,h,i]perylene	0.0496	0.0352	J	ug/L		71	50 - 150
Benzo[k]fluoranthene	0.0198	0.0211		ug/L		107	50 - 150
beta-BHC	0.0992	0.112		ug/L		113	50 - 150
Bromacil	0.0992	0.111		ug/L		112	50 - 150
Butachlor	0.0496	0.0479	J	ug/L		97	50 - 150
Butylbenzylphthalate	0.149	0.153	J	ug/L		103	50 - 150

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# QC Sample Results

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

Job ID: 380-30468-1

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

**Lab Sample ID: MRL 380-26253/2-A**

**Matrix: Water**

**Analysis Batch: 26515**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

**Prep Batch: 26253**

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Caffeine	0.0496	0.0341	J	ug/L		69	50 - 150
Chlorobenzilate	0.0992	0.105		ug/L		105	50 - 150
Chloroneb	0.0992	0.142		ug/L		143	50 - 150
Chlorothalonil (Draconil, Bravo)	0.0992	0.183	^3+	ug/L		185	50 - 150
Chlorpyrifos	0.0496	0.0457	J	ug/L		92	50 - 150
Chrysene	0.0198	0.0173	J	ug/L		87	50 - 150
delta-BHC	0.0992	0.112		ug/L		112	50 - 150
Di(2-ethylhexyl)adipate	0.297	0.357	J	ug/L		120	50 - 150
Bis(2-ethylhexyl) phthalate	0.595	0.608		ug/L		102	50 - 150
Diazinon (Qualitative)	0.0992	0.109		ug/L		110	15 - 132
Dibenz(a,h)anthracene	0.0496	0.0488	J	ug/L		98	50 - 150
Diclorvos (DDVP)	0.0496	0.0660		ug/L		133	50 - 150
Dieldrin	0.0992	0.109	J	ug/L		110	50 - 150
Diethylphthalate	0.149	0.158	J	ug/L		106	50 - 150
Dimethoate	0.0992	0.0784	J	ug/L		79	35 - 100
Dimethylphthalate	0.297	0.292	J	ug/L		98	50 - 150
Di-n-butyl phthalate	0.297	0.385	J	ug/L		129	49 - 243
Di-n-octyl phthalate	0.0992	0.101		ug/L		102	50 - 150
Endosulfan I (Alpha)	0.0992	0.0906	J	ug/L		91	50 - 150
Endosulfan II (Beta)	0.0992	0.113		ug/L		114	50 - 150
Endosulfan sulfate	0.0992	0.0980	J	ug/L		99	50 - 150
Endrin	0.0992	0.133		ug/L		134	50 - 150
Endrin aldehyde	0.0992	ND		ug/L		83	50 - 150
EPTC	0.0992	0.0960	J	ug/L		97	50 - 150
Fluoranthene	0.0496	0.0520	J	ug/L		105	50 - 150
Fluorene	0.0496	ND		ug/L		96	50 - 150
gamma-Chlordane	0.0248	0.0325	J	ug/L		131	50 - 150
Heptachlor	0.0397	0.0369	J	ug/L		93	50 - 150
Heptachlor epoxide (isomer B)	0.0496	0.0605		ug/L		122	50 - 150
Hexachlorobenzene	0.0496	0.0533		ug/L		107	50 - 150
Hexachlorocyclopentadiene	0.0496	0.0389	J	ug/L		78	50 - 150
Indeno[1,2,3-cd]pyrene	0.0496	0.0493	J	ug/L		99	50 - 150
Isophorone	0.0992	0.105	J	ug/L		106	50 - 150
Lindane	0.0397	0.0492		ug/L		124	50 - 150
Malathion	0.0992	0.0960	J	ug/L		97	50 - 150
Methoxychlor	0.0992	0.0881	J	ug/L		89	50 - 150
Metolachlor	0.0496	0.0522		ug/L		105	50 - 150
Metribuzin	0.0496	0.0549		ug/L		111	50 - 150
Molinate	0.0992	0.101		ug/L		101	50 - 150
Naphthalene	0.0992	0.107	J	ug/L		108	50 - 150
Parathion	0.0992	0.105		ug/L		106	50 - 150
Pendimethalin (Penoxaline)	0.0992	0.0918	J	ug/L		93	50 - 150
Phenanthrene	0.0198	0.0196	J	ug/L		99	50 - 150
Propachlor	0.0496	0.0547		ug/L		110	50 - 150
Pyrene	0.0496	0.0521		ug/L		105	50 - 150
Simazine	0.0496	0.0637		ug/L		129	50 - 150
Terbacil	0.0992	0.134		ug/L		135	50 - 150
Terbutylazine	0.0992	0.105		ug/L		106	50 - 150
Thiobencarb	0.0992	0.102	J	ug/L		103	50 - 150

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# QC Sample Results

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

Job ID: 380-30468-1

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

**Lab Sample ID: MRL 380-26253/2-A**  
**Matrix: Water**  
**Analysis Batch: 26515**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 26253**

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
trans-Nonachlor	0.0248	ND		ug/L		103	50 - 150
Trifluralin	0.0992	0.0989	J	ug/L		100	50 - 150

Surrogate	MRL %Recovery	MRL Qualifier	Limits
2-Nitro-m-xylene	102		70 - 130
Triphenylphosphate	116		70 - 130
Perylene-d12	97		70 - 130

**Lab Sample ID: 380-30288-Y-1-A MS**  
**Matrix: Water**  
**Analysis Batch: 26515**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 26253**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
2,4'-DDD	ND		1.98	1.92		ug/L		97	70 - 130
2,4'-DDE	ND		1.98	1.98		ug/L		100	70 - 130
2,4'-DDT	ND		1.98	2.03		ug/L		103	70 - 130
2,4-Dinitrotoluene	ND		1.98	1.97		ug/L		100	70 - 130
2,6-Dinitrotoluene	ND		1.98	2.03		ug/L		103	70 - 130
4,4'-DDD	ND		1.98	2.14		ug/L		108	70 - 130
4,4'-DDE	ND		1.98	2.03		ug/L		103	70 - 130
4,4'-DDT	ND		1.98	2.04		ug/L		103	70 - 130
Acenaphthene	ND		1.98	1.90		ug/L		96	70 - 130
Acenaphthylene	ND		1.98	1.81		ug/L		92	70 - 130
Acetochlor	ND		1.98	2.03		ug/L		103	70 - 130
Alachlor	ND		1.98	1.94		ug/L		98	70 - 130
alpha-BHC	ND		1.98	1.96		ug/L		99	70 - 130
alpha-Chlordane	ND		1.98	1.98		ug/L		100	70 - 130
Anthracene	ND	F1	1.98	0.168	F1	ug/L		8	70 - 130
Atrazine	ND		1.98	2.08		ug/L		105	70 - 130
Benz(a)anthracene	ND		1.98	1.40		ug/L		71	70 - 130
Benzo[a]pyrene	ND	F1	1.98	0.774	F1	ug/L		39	70 - 130
Benzo[b]fluoranthene	ND		1.98	2.00		ug/L		101	70 - 130
Benzo[g,h,i]perylene	ND		1.98	2.02		ug/L		102	70 - 130
Benzo[k]fluoranthene	ND		1.98	2.04		ug/L		103	70 - 130
beta-BHC	ND		1.98	2.05		ug/L		104	70 - 130
Bromacil	ND		1.98	2.26		ug/L		114	70 - 130
Butachlor	ND		1.98	2.05		ug/L		104	70 - 130
Butylbenzylphthalate	ND		1.98	2.11		ug/L		107	70 - 130
Caffeine	ND		1.98	1.71		ug/L		87	46 - 144
Chlorobenzilate	ND		1.98	2.06		ug/L		104	70 - 130
Chloroneb	ND		1.98	1.85		ug/L		94	70 - 130
Chlorothalonil (Draconil, Bravo)	ND	^3+	1.98	1.95		ug/L		99	70 - 130
Chlorpyrifos	ND		1.98	2.07		ug/L		105	70 - 130
Chrysene	ND		1.98	1.86		ug/L		94	70 - 130
delta-BHC	ND		1.98	1.88		ug/L		95	70 - 130
Di(2-ethylhexyl)adipate	ND		1.98	2.16		ug/L		109	70 - 130
Bis(2-ethylhexyl) phthalate	ND		1.98	1.92		ug/L		97	70 - 130
Diazinon (Qualitative)	ND		1.98	1.89		ug/L		96	15 - 132

# QC Sample Results

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

Job ID: 380-30468-1

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

**Lab Sample ID: 380-30288-Y-1-A MS**  
**Matrix: Water**  
**Analysis Batch: 26515**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 26253**

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec Limits
	Result	Qualifier	Added	Result	Qualifier				
Dibenz(a,h)anthracene	ND		1.98	2.03		ug/L		103	70 - 130
Diclorvos (DDVP)	ND		1.98	2.24		ug/L		113	70 - 130
Dieldrin	ND		1.98	2.06		ug/L		104	70 - 130
Diethylphthalate	ND		1.98	2.10		ug/L		106	70 - 130
Dimethoate	ND		1.98	1.59		ug/L		80	34 - 111
Dimethylphthalate	ND		1.98	2.00		ug/L		101	70 - 130
Di-n-butyl phthalate	ND		3.95	4.04		ug/L		100	70 - 130
Di-n-octyl phthalate	ND		1.98	2.05		ug/L		104	70 - 130
Endosulfan I (Alpha)	ND		1.98	1.90		ug/L		96	70 - 130
Endosulfan II (Beta)	ND		1.98	2.02		ug/L		102	70 - 130
Endosulfan sulfate	ND		1.98	2.09		ug/L		106	70 - 130
Endrin	ND		1.98	2.23		ug/L		113	70 - 130
Endrin aldehyde	ND		1.98	1.83		ug/L		93	70 - 130
EPTC	ND		1.98	2.09		ug/L		106	70 - 130
Fluoranthene	ND		1.98	2.03		ug/L		103	70 - 130
Fluorene	ND		1.98	1.99		ug/L		101	70 - 130
gamma-Chlordane	ND		1.98	2.07		ug/L		105	70 - 130
Heptachlor	ND		1.98	1.75		ug/L		89	70 - 130
Heptachlor epoxide (isomer B)	ND		1.98	2.05		ug/L		104	70 - 130
Hexachlorobenzene	ND		1.98	2.02		ug/L		102	70 - 130
Hexachlorocyclopentadiene	ND		1.98	1.86		ug/L		94	70 - 130
Indeno[1,2,3-cd]pyrene	ND		1.98	2.09		ug/L		106	70 - 130
Isophorone	ND		1.98	2.02		ug/L		102	70 - 130
Lindane	ND		1.98	1.94		ug/L		98	70 - 130
Malathion	ND		1.98	2.09		ug/L		106	70 - 130
Methoxychlor	ND		1.98	1.97		ug/L		100	70 - 130
Metolachlor	ND		1.98	2.19		ug/L		111	70 - 130
Metribuzin	ND		1.98	2.25		ug/L		114	70 - 130
Molinate	ND		1.98	2.15		ug/L		109	70 - 130
Naphthalene	ND		1.98	1.90		ug/L		96	70 - 130
Parathion	ND		1.98	2.19		ug/L		111	70 - 130
Pendimethalin (Penoxaline)	ND		1.98	2.20		ug/L		112	70 - 130
Phenanthrene	ND		1.98	1.86		ug/L		94	70 - 130
Propachlor	ND		1.98	2.12		ug/L		108	70 - 130
Pyrene	ND		1.98	1.95		ug/L		99	70 - 130
Simazine	ND		1.98	2.16		ug/L		109	70 - 130
Terbacil	ND		1.98	2.11		ug/L		107	70 - 130
Terbutylazine	ND		1.98	2.15		ug/L		109	70 - 130
Thiobencarb	ND		1.98	2.02		ug/L		102	70 - 130
trans-Nonachlor	ND		1.98	2.07		ug/L		105	70 - 130
Trifluralin	ND		1.98	2.14		ug/L		108	70 - 130
		<b>MS</b>	<b>MS</b>						
<b>Surrogate</b>		<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>					
2-Nitro-m-xylene		100		70 - 130					
Triphenylphosphate		114		70 - 130					
Perylene-d12		97		70 - 130					

# QC Sample Results

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

Job ID: 380-30468-1

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

**Lab Sample ID: 380-30295-X-1-A DU**  
**Matrix: Water**  
**Analysis Batch: 26515**

**Client Sample ID: Duplicate**  
**Prep Type: Total/NA**  
**Prep Batch: 26253**

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

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# QC Sample Results

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

Job ID: 380-30468-1

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

**Lab Sample ID: 380-30295-X-1-A DU**  
**Matrix: Water**  
**Analysis Batch: 26515**

**Client Sample ID: Duplicate**  
**Prep Type: Total/NA**  
**Prep Batch: 26253**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
EPTC	ND		ND		ug/L		NC	20
Fluoranthene	ND		ND		ug/L		NC	20
Fluorene	ND		ND		ug/L		NC	20
gamma-Chlordane	ND		ND		ug/L		NC	20
Heptachlor	ND		ND		ug/L		NC	20
Heptachlor epoxide (isomer B)	ND		ND		ug/L		NC	20
Hexachlorobenzene	ND		ND		ug/L		NC	20
Hexachlorocyclopentadiene	ND		ND		ug/L		NC	20
Indeno[1,2,3-cd]pyrene	ND		ND		ug/L		NC	20
Isophorone	ND		ND		ug/L		NC	20
Lindane	ND		ND		ug/L		NC	20
Malathion	ND		ND		ug/L		NC	20
Methoxychlor	ND		ND		ug/L		NC	20
Metolachlor	ND		ND		ug/L		NC	20
Metribuzin	ND		ND		ug/L		NC	20
Molinate	ND		ND		ug/L		NC	20
Naphthalene	ND		ND		ug/L		NC	20
Parathion	ND		ND		ug/L		NC	20
Pendimethalin (Penoxaline)	ND		ND		ug/L		NC	20
Total Permethrin (mixed isomers)	ND		ND		ug/L		NC	20
Phenanthrene	ND		ND		ug/L		NC	20
Propachlor	ND		ND		ug/L		NC	20
Pyrene	ND		ND		ug/L		NC	20
Simazine	ND		ND		ug/L		NC	20
Terbacil	ND		ND		ug/L		NC	20
Terbutylazine	ND		ND		ug/L		NC	20
Thiobencarb	ND		ND		ug/L		NC	20
trans-Nonachlor	ND		ND		ug/L		NC	20
Trifluralin	ND		ND		ug/L		NC	20
	<i>DU</i>	<i>DU</i>						
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>					
2-Nitro-m-xylene	105		70 - 130					
Triphenylphosphate	112		70 - 130					
Perylene-d12	92		70 - 130					

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

**Lab Sample ID: 102224-B1**  
**Matrix: BlankMatrix**  
**Analysis Batch: O-40048**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: O-40048\_P**

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.005	0.001	µg/L		12/05/22 00:00	12/19/22 22:12	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		12/05/22 00:00	12/19/22 22:12	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		12/05/22 00:00	12/19/22 22:12	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		12/05/22 00:00	12/19/22 22:12	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		12/05/22 00:00	12/19/22 22:12	1
Acenaphthene	ND		0.005	0.001	µg/L		12/05/22 00:00	12/19/22 22:12	1
Acenaphthylene	ND		0.005	0.001	µg/L		12/05/22 00:00	12/19/22 22:12	1

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# QC Sample Results

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

Job ID: 380-30468-1

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

**Lab Sample ID: 102224-B1**  
**Matrix: BlankMatrix**  
**Analysis Batch: O-40048**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: O-40048\_P**

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Anthracene	ND		0.005	0.001	µg/L		12/05/22 00:00	12/19/22 22:12	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		12/05/22 00:00	12/19/22 22:12	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		12/05/22 00:00	12/19/22 22:12	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		12/05/22 00:00	12/19/22 22:12	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		12/05/22 00:00	12/19/22 22:12	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		12/05/22 00:00	12/19/22 22:12	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		12/05/22 00:00	12/19/22 22:12	1
Biphenyl	ND		0.005	0.001	µg/L		12/05/22 00:00	12/19/22 22:12	1
Chrysene	ND		0.005	0.001	µg/L		12/05/22 00:00	12/19/22 22:12	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		12/05/22 00:00	12/19/22 22:12	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		12/05/22 00:00	12/19/22 22:12	1
Dibenzothiophene	ND		0.005	0.001	µg/L		12/05/22 00:00	12/19/22 22:12	1
Disalicylidenepropanediamine	ND		0.1	0.05	µg/L		12/05/22 00:00	12/19/22 22:12	1
Fluoranthene	ND		0.005	0.001	µg/L		12/05/22 00:00	12/19/22 22:12	1
Fluorene	ND		0.005	0.001	µg/L		12/05/22 00:00	12/19/22 22:12	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		12/05/22 00:00	12/19/22 22:12	1
Naphthalene	ND		0.005	0.001	µg/L		12/05/22 00:00	12/19/22 22:12	1
Perylene	ND		0.005	0.001	µg/L		12/05/22 00:00	12/19/22 22:12	1
Phenanthrene	ND		0.005	0.001	µg/L		12/05/22 00:00	12/19/22 22:12	1
Pyrene	ND		0.005	0.001	µg/L		12/05/22 00:00	12/19/22 22:12	1

Surrogate	Blank %Recovery	Blank Qualifier	Limits	Prepared	Analyzed	Dil Fac
(d10-Acenaphthene)	81		27 - 133	12/05/22 00:00	12/19/22 22:12	1
(d10-Phenanthrene)	86		43 - 129	12/05/22 00:00	12/19/22 22:12	1
(d12-Chrysene)	87		52 - 144	12/05/22 00:00	12/19/22 22:12	1
(d12-Perylene)	77		36 - 161	12/05/22 00:00	12/19/22 22:12	1
(d8-Naphthalene)	80		25 - 125	12/05/22 00:00	12/19/22 22:12	1

**Lab Sample ID: 102224-BS1**  
**Matrix: BlankMatrix**  
**Analysis Batch: O-40048**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: O-40048\_P**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
1-Methylnaphthalene	0.5	0.35		µg/L		70	31 - 128
1-Methylphenanthrene	0.5	0.425		µg/L		85	66 - 127
2,3,5-Trimethylnaphthalene	0.5	0.408		µg/L		82	55 - 122
2,6-Dimethylnaphthalene	0.5	0.365		µg/L		73	48 - 120
2-Methylnaphthalene	0.5	0.354		µg/L		71	47 - 130
Acenaphthene	0.5	0.388		µg/L		78	53 - 131
Acenaphthylene	0.5	0.367		µg/L		73	43 - 140
Anthracene	0.5	0.422		µg/L		84	58 - 135
Benz[a]anthracene	0.5	0.421		µg/L		84	55 - 145
Benzo[a]pyrene	0.5	0.386		µg/L		77	51 - 143
Benzo[b]fluoranthene	0.5	0.388		µg/L		78	46 - 165
Benzo[e]pyrene	0.5	0.4		µg/L		80	42 - 152
Benzo[g,h,i]perylene	0.5	0.398		µg/L		80	63 - 133
Benzo[k]fluoranthene	0.5	0.392		µg/L		78	56 - 145
Biphenyl	0.5	0.379		µg/L		76	56 - 119

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# QC Sample Results

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

Job ID: 380-30468-1

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

**Lab Sample ID: 102224-BS1**  
**Matrix: BlankMatrix**  
**Analysis Batch: O-40048**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: O-40048\_P**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chrysene	0.5	0.426		µg/L		85	56 - 141
Dibenz[a,h]anthracene	0.5	0.371		µg/L		74	55 - 150
Dibenzo[a,l]pyrene	0.5	0.465		µg/L		93	50 - 150
Dibenzothiophene	0.5	0.43		µg/L		86	46 - 126
Disalicylidenepropanediamine	50	48		µg/L		96	50 - 150
Fluoranthene	0.5	0.406		µg/L		81	60 - 146
Fluorene	0.5	0.377		µg/L		75	58 - 131
Indeno[1,2,3-cd]pyrene	0.5	0.359		µg/L		72	50 - 151
Naphthalene	0.5	0.314		µg/L		63	41 - 126
Perylene	0.5	0.392		µg/L		78	48 - 141
Phenanthrene	0.5	0.422		µg/L		84	67 - 127
Pyrene	0.5	0.425		µg/L		85	54 - 156

Surrogate	LCS %Recovery	LCS Qualifier	Limits
(d10-Acenaphthene)	83		27 - 133
(d10-Phenanthrene)	87		43 - 129
(d12-Chrysene)	92		52 - 144
(d12-Perylene)	87		36 - 161
(d8-Naphthalene)	64		25 - 125

**Lab Sample ID: 102224-BS2**  
**Matrix: BlankMatrix**  
**Analysis Batch: O-40048**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: O-40048\_P**

Analyte	Spike Added	LCS DUP Result	LCS DUP Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1-Methylnaphthalene	0.5	0.396		µg/L		79	31 - 128	12	30
1-Methylphenanthrene	0.5	0.43		µg/L		86	66 - 127	1	30
2,3,5-Trimethylnaphthalene	0.5	0.441		µg/L		88	55 - 122	7	30
2,6-Dimethylnaphthalene	0.5	0.412		µg/L		82	48 - 120	12	30
2-Methylnaphthalene	0.5	0.4		µg/L		80	47 - 130	12	30
Acenaphthene	0.5	0.431		µg/L		86	53 - 131	10	30
Acenaphthylene	0.5	0.383		µg/L		77	43 - 140	5	30
Anthracene	0.5	0.425		µg/L		85	58 - 135	1	30
Benz[a]anthracene	0.5	0.415		µg/L		83	55 - 145	1	30
Benzo[a]pyrene	0.5	0.41		µg/L		82	51 - 143	6	30
Benzo[b]fluoranthene	0.5	0.397		µg/L		79	46 - 165	1	30
Benzo[e]pyrene	0.5	0.407		µg/L		81	42 - 152	1	30
Benzo[g,h,i]perylene	0.5	0.404		µg/L		81	63 - 133	1	30
Benzo[k]fluoranthene	0.5	0.414		µg/L		83	56 - 145	6	30
Biphenyl	0.5	0.408		µg/L		82	56 - 119	8	30
Chrysene	0.5	0.423		µg/L		85	56 - 141	0	30
Dibenz[a,h]anthracene	0.5	0.377		µg/L		75	55 - 150	1	30
Dibenzo[a,l]pyrene	0.5	0.422		µg/L		84	50 - 150	10	30
Dibenzothiophene	0.5	0.436		µg/L		87	46 - 126	1	30
Disalicylidenepropanediamine	50	50.8		µg/L		102	50 - 150	6	30
Fluoranthene	0.5	0.419		µg/L		84	60 - 146	4	30
Fluorene	0.5	0.446		µg/L		89	58 - 131	17	30
Indeno[1,2,3-cd]pyrene	0.5	0.356		µg/L		71	50 - 151	1	30

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# QC Sample Results

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

Job ID: 380-30468-1

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

**Lab Sample ID: 102224-BS2**  
**Matrix: BlankMatrix**  
**Analysis Batch: O-40048**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: O-40048\_P**

Analyte	Spike Added	LCS DUP Result	LCS DUP Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
							Limits	RPD		
Naphthalene	0.5	0.394		µg/L		79	41 - 126	23		30
Perylene	0.5	0.396		µg/L		79	48 - 141	1		30
Phenanthrene	0.5	0.427		µg/L		85	67 - 127	1		30
Pyrene	0.5	0.435		µg/L		87	54 - 156	2		30

Surrogate	LCS DUP %Recovery	LCS DUP Qualifier	Limits
(d10-Phenanthrene)	89		43 - 129
(d12-Chrysene)	89		52 - 144
(d12-Perylene)	85		36 - 161
(d8-Naphthalene)	79		25 - 125

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

**Lab Sample ID: 22VG39L03B**  
**Matrix: WATER**  
**Analysis Batch: 22VG39L03**

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

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

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac

**Lab Sample ID: 22VG39L03L**  
**Matrix: WATER**  
**Analysis Batch: 22VG39L03**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec	
							Limits	RPD
GASOLINE	0.500	0.501		mg/L		100	60 - 130	

Surrogate	LCS %Recovery	LCS Qualifier	Limits

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

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

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

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

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac

Eurofins Eaton Monrovia



# QC Sample Results

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

Job ID: 380-30468-1

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

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

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

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
HEXACOSANE					12/14/22 16:31	1

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

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

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

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
BROMOBENZENE	87		60 - 130
HEXACOSANE	107		60 - 130

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

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

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

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
BROMOBENZENE	97		60 - 130
HEXACOSANE	109		60 - 130

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

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

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

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
BROMOBENZENE	102		60 - 130
HEXACOSANE	110		60 - 130

# QC Association Summary

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

Job ID: 380-30468-1

## GC/MS Semi VOA

### Prep Batch: 26253

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-30468-1	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	525.2	
MB 380-26253/1-A	Method Blank	Total/NA	Water	525.2	
LCS 380-26253/3-A	Lab Control Sample	Total/NA	Water	525.2	
LCSD 380-26253/4-A	Lab Control Sample Dup	Total/NA	Water	525.2	
MRL 380-26253/2-A	Lab Control Sample	Total/NA	Water	525.2	
380-30288-Y-1-A MS	Matrix Spike	Total/NA	Water	525.2	
380-30295-X-1-A DU	Duplicate	Total/NA	Water	525.2	

### Analysis Batch: 26515

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-30468-1	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	525.2	26253
MB 380-26253/1-A	Method Blank	Total/NA	Water	525.2	26253
LCS 380-26253/3-A	Lab Control Sample	Total/NA	Water	525.2	26253
LCSD 380-26253/4-A	Lab Control Sample Dup	Total/NA	Water	525.2	26253
MRL 380-26253/2-A	Lab Control Sample	Total/NA	Water	525.2	26253
380-30288-Y-1-A MS	Matrix Spike	Total/NA	Water	525.2	26253
380-30295-X-1-A DU	Duplicate	Total/NA	Water	525.2	26253

## Subcontract

### Analysis Batch: O-40048

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-30468-1	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	625 PAH Physis LL (EAL) + TICs	O-40048_P
102224-B1	Method Blank	Total/NA	BlankMatrix	625 PAH Physis LL (EAL) + TICs	O-40048_P
102224-BS1	Lab Control Sample	Total/NA	BlankMatrix	625 PAH Physis LL (EAL) + TICs	O-40048_P
102224-BS2	Lab Control Sample Dup	Total/NA	BlankMatrix	625 PAH Physis LL (EAL) + TICs	O-40048_P

### Analysis Batch: 22DSL019W

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-30468-1	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	8015 LL DRO/MRO/JP5/J P8	
22DSL019WB	Method Blank	Total/NA	WATER	8015 LL DRO/MRO/JP5/J P8	
22DSL019WL	Lab Control Sample	Total/NA	WATER	8015 LL DRO/MRO/JP5/J P8	
22J5L019WL	Lab Control Sample	Total/NA	WATER	8015 LL DRO/MRO/JP5/J P8	
22J8L019WL	Lab Control Sample	Total/NA	WATER	8015 LL DRO/MRO/JP5/J P8	

### Analysis Batch: 22VG39L03

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-30468-1	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	8015 Gas (Purgeable) LL (EAL)	

Eurofins Eaton Monrovia

# QC Association Summary

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

Job ID: 380-30468-1

## Subcontract (Continued)

### Analysis Batch: 22VG39L03 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-30468-2	TB MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	8015 Gas (Purgeable) LL (EAL)	
22VG39L03B	Method Blank	Total/NA	WATER	8015 Gas (Purgeable) LL (EAL)	
22VG39L03L	Lab Control Sample	Total/NA	WATER	8015 Gas (Purgeable) LL (EAL)	

### Prep Batch: O-40048\_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-30468-1	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	EPA_625	
102224-B1	Method Blank	Total/NA	BlankMatrix	EPA_625	
102224-BS1	Lab Control Sample	Total/NA	BlankMatrix	EPA_625	
102224-BS2	Lab Control Sample Dup	Total/NA	BlankMatrix	EPA_625	



# Lab Chronicle

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

Job ID: 380-30468-1

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

**Lab Sample ID: 380-30468-1**

**Date Collected: 12/05/22 09:37**

**Matrix: Drinking Water**

**Date Received: 12/07/22 09:40**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	525.2			26253	OTM3	EA MON	12/09/22 06:06
Total/NA	Analysis	525.2		1	26515	Q8LA	EA MON	12/13/22 14:03
Total/NA	Prep	EPA_625		1	O-40048_P			12/05/22 00:00
Total/NA	Analysis	625 PAH Physis LL (EAL) + TICs		1	O-40048	YC		12/20/22 05:03
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)		1	22VG39L03	SCerva		12/08/22 17:43
Total/NA	Analysis	8015 LL DRO/MRO/JP5/JP8		1	22DSL019W	SDees		12/14/22 21:44

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

**Lab Sample ID: 380-30468-2**

**Date Collected: 12/05/22 09:37**

**Matrix: Drinking Water**

**Date Received: 12/07/22 09:40**

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	22VG39L03	SCerva		12/08/22 18:19

**Laboratory References:**

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

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

# Accreditation/Certification Summary

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

Job ID: 380-30468-1

## Laboratory: Eurofins Eaton Monrovia

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

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

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

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

# Accreditation/Certification Summary

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

Job ID: 380-30468-1

## Laboratory: Eurofins Eaton Monrovia (Continued)

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

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

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



# Method Summary

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

Job ID: 380-30468-1

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

**Protocol References:**

EPA = US Environmental Protection Agency

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

**Laboratory References:**

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

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



# Sample Summary

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

Job ID: 380-30468-1

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Lab Sample ID	Client Sample ID	Matrix	Collected	Received	PWSID Number
380-30468-1	MOANALUA WELLS (331-223-TP202)	Drinking Water	12/05/22 09:37	12/07/22 09:40	HI0000331
380-30468-2	TB MOANALUA WELLS (331-223-TP202)	Drinking Water	12/05/22 09:37	12/07/22 09:40	

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

Date: 12-28-2022  
EMAX Batch No.: 22L136

Attn: Jackie Contreras

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

Subject: Laboratory Report  
Project: 380-30468

Enclosed is the Laboratory report for samples received on 12/08/22.  
The data reported relate only to samples listed below :

Sample ID	Control #	Col Date	Matrix	Analysis
380-30468-1	L136-01	12/05/22	WATER	TPH GASOLINE TPH
380-30468-2	L136-02	12/05/22	WATER	TPH GASOLINE

The results are summarized on the following pages.

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

Sincerely yours,

Caspar J. Pang  
Laboratory Director

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

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

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







Type of Delivery <input type="checkbox"/> Fedex <input type="checkbox"/> UPS <input type="checkbox"/> GSO <input type="checkbox"/> Others	Airbill / Tracking Number	ECN <u>222136</u>
<input type="checkbox"/> EMAX Courier <input checked="" type="checkbox"/> Client Delivery		Recipient <u>Cecilia Chavez</u>
		Date <u>12/08/22</u> Time <u>12:10</u>

**COC INSPECTION**

<input checked="" type="checkbox"/> Client Name	<input checked="" type="checkbox"/> Client PM/FC	<input type="checkbox"/> Sampler Name	<input checked="" type="checkbox"/> Sampling Date/Time	<input checked="" type="checkbox"/> Sample ID	<input checked="" type="checkbox"/> Matrix
<input checked="" type="checkbox"/> Address	<input checked="" type="checkbox"/> Tel # / Fax #	<input type="checkbox"/> Courier Signature	<input checked="" type="checkbox"/> Analysis Required	<input type="checkbox"/> Preservative (if any)	<input checked="" type="checkbox"/> TAT
Safety Issues (if any)	<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	<input type="checkbox"/> Custody Seal	<input type="checkbox"/> Intact	<input type="checkbox"/> Damaged
Packaging	<input checked="" type="checkbox"/> Bubble Pack	<input type="checkbox"/> Styrofoam	<input type="checkbox"/> Popcorn
Temperatures (Cool, ≤6 °C but not frozen)	<input checked="" type="checkbox"/> Cooler 1 <u>1.7</u> °C	<input type="checkbox"/> Cooler 2 _____ °C	<input type="checkbox"/> Cooler 3 _____ °C
	<input type="checkbox"/> Cooler 6 _____ °C	<input type="checkbox"/> Cooler 7 _____ °C	<input type="checkbox"/> Cooler 8 _____ °C
Thermometer:	A - S/N _____	B - S/N <u>210700237</u>	C - S/N _____
			<input checked="" type="checkbox"/> D - S/N <u>210700272</u>

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

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

**DISCREPANCIES**

LabSampleID	LabSampleContainerID	Code	ClientSample Label ID / Information	Corrective Action
<u>2</u>	<u>718</u>	<u>D22</u>	<u>2nd date/time vangs. 11/23/22 4:15</u>	<u>R1</u>
<u>1</u>	<u>516</u>	<u>D1</u>	<u>J15/J18 not indicated on label</u>	<u>R8</u>
<i>[Large diagonal scribble across the table]</i>				

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

*RB 12/9/22*

**NOTES/OBSERVATIONS:**

SAMPLE MATRIX IS DRINKING WATER?  YES  NO

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

REVIEWS:

Sample Labeling [Signature] SRF [Signature] PM [Signature]

Date 12/08/22 Date 12/8/22 Date 12/9/22

## 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

380-30468

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

SDG#: 22L136





CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 380-30468

SDG : 22L136

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

A total of two(2) water samples were received on 12/08/22 to be analyzed for Total Petroleum Hydrocarbons by Purge and Trap in accordance with Method 5030B/8015B and project specific requirements.

Holding Time

Samples were analyzed within the prescribed holding time.

Calibration

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

Method Blank

Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. VG39L03B - 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. VG39L03L/VG39L03C 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 L132-01M/L132-01S. Refer to Matrix QC summary form for details.

Surrogate

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

Sample Analysis

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



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# SAMPLE RESULTS







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# QC SUMMARIES



EMAX QUALITY CONTROL DATA  
LAB CONTROL SAMPLE ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL  
PROJECT : 380-30468  
BATCH NO. : 22L136  
METHOD : 50308/8015B

```

=====
MATRIX      : WATER                               % MOISTURE:NA
DILUTION FACTOR: 1                               1
SAMPLE ID   : MBLK1W                             LCS1W
LAB SAMPLE ID : VG39L03B                         VG39L03L
LAB FILE ID  : EL08007A                         EL08005A
DATE PREPARED : 12/08/22 14:07                 12/08/22 12:55
DATE ANALYZED : 12/08/22 14:07                 12/08/22 12:55
PREP BATCH   : 22VG39L03                       22VG39L03
CALIBRATION REF: EL08004A                      EL08004A
=====
  
```

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	0.501	100	0.500	0.502	100	0	60-130	30

SURROGATE PARAMETER	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	QCLimit (%)
Bromofluorobenzene	0.0400	0.0423	106	0.0400	0.0420	105	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 : 380-30906  
BATCH NO. : 22L132  
METHOD : 5030B/8015B

```

=====
MATRIX      : WATER                               % MOISTURE:NA
DILUTION FACTOR: 1                               1
SAMPLE ID   : 380-30906-1                       380-30906-1MS  380-30906-1MSD
LAB SAMPLE ID : L132-01                         L132-01M      L132-01S
LAB FILE ID  : EL08008A                         EL08009A      EL08010A
DATE PREPARED : 12/08/22 14:43                 12/08/22 15:19 12/08/22 15:55
DATE ANALYZED : 12/08/22 14:43                 12/08/22 15:19 12/08/22 15:55
PREP BATCH   : 22VG39L03                       22VG39L03     22VG39L03
CALIBRATION REF: EL08004A                       EL08004A      EL08004A
  
```

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	0.483	97	0.500	0.503	101	4	50-130	30

SURROGATE PARAMETER	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	QCLimit (%)
Bromofluorobenzene	0.0400	0.0400	100	0.0400	0.0408	102	60-140

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

LABORATORY REPORT FOR

EUROFINS EATON ANALYTICAL

380-30468

METHOD 3520C/8015B  
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

SDG#: 22L136

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CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 380-30468

SDG : 22L136

METHOD 3520C/8015B  
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

One(1) water sample was received on 12/08/22 to be analyzed for Total Petroleum Hydrocarbons by Extraction in accordance with Method 3520C/8015B and project specific requirements.

Holding Time

The sample was analyzed within the prescribed holding time.

Calibration

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

Method Blank

Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. DSL019WB - result was compliant to project requirement. Refer to sample result summary form for details.

Lab Control Sample

Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) LCS was analyzed. Percent recovery for Diesel was within LCS QC limits in DSL019WL. Refer to LCS summary form for details.

Matrix QC Sample

Matrix spike sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of MS/MSD was analyzed. Diesel was within MS QC limits in 22L101-01M/22L101-01S. Refer to Matrix QC summary form for details.

Surrogate

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

Sample Analysis

The sample was 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: 380-30468

SDG : 22L136

METHOD 3520C/8015B  
PETROLEUM HYDROCARBONS BY EXTRACTION

One(1) water sample was received on 12/08/22 to be analyzed for Petroleum Hydrocarbons by Extraction in accordance with Method 3520C/8015B and project specific requirements.

Holding Time

The sample was analyzed within the prescribed holding time.

Calibration

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

Method Blank

Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. DSL019WB - result was compliant to project requirement. Refer to sample result summary form for details.

Lab Control Sample

Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) LCS was analyzed. Percent recovery for JP5 was within LCS QC limits in J5L019WL. Refer to LCS summary form for details.

Matrix QC Sample

Matrix spike sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of MS/MSD was analyzed. JP5 was within MS QC limits in 22L101-01M/22L101-01S. Refer to Matrix QC summary form for details.

Surrogate

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

Sample Analysis

The sample was 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: 380-30468

SDG : 22L136

METHOD 3520C/8015B  
PETROLEUM HYDROCARBONS BY EXTRACTION

One(1) water sample was received on 12/08/22 to be analyzed for Petroleum Hydrocarbons by Extraction in accordance with Method 3520C/8015B and project specific requirements.

Holding Time

The sample was analyzed within the prescribed holding time.

Calibration

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

Method Blank

Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. DSL019WB - result was compliant to project requirement. Refer to sample result summary form for details.

Lab Control Sample

Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) LCS was analyzed. Percent recovery for JP8 was within LCS QC limits in J8L019WL. Refer to LCS summary form for details.

Matrix QC Sample

Matrix spike sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of MS/MSD was analyzed. JP8 was within MS QC limits in 22L101-01M/22L101-01S. Refer to Matrix QC summary form for details.

Surrogate

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

Sample Analysis

The sample was 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     : 380-30468
SDG NO.    : 22L136
Instrument ID : D5
=====
  
```

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1W	DSL019WB	1	NA	12/14/2216:31	12/13/2213:00	LL14021A	LL14015A	22DSL019W	Method Blank
LCS1W	DSL019WL	1	NA	12/14/2216:49	12/13/2213:00	LL14022A	LL14015A	22DSL019W	Lab Control Sample (LCS)
380-30468-1	L136-01	1	NA	12/14/2221:44	12/13/2213:00	LL14038A	LL14015A	22DSL019W	Field Sample

FN - Filename  
% Moist - Percent Moisture







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# SAMPLE RESULTS

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METHOD 3520C/8015B  
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 12/05/22 09:37
Project    : 380-30468                   Date Received: 12/08/22
Batch No.  : 22L136                       Date Extracted: 12/13/22 13:00
Sample ID  : 380-30468-1                 Date Analyzed: 12/14/22 21:44
Lab Samp ID: 22L136-01                   Dilution Factor: 1
Lab File ID: LL1403BA                    Matrix: WATER
Ext Btch ID: 22DSL019W                   % Moisture: NA
Calib. Ref.: LL14015A                    Instrument ID: D5
=====

```

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

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.373	0.480	78	60-130
Hexacosane	0.132	0.120	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 : 1040ml Final Volume : 5ml  
Prepared by : POrto Analyzed by : SDeeso

METHOD 3520C/8015B  
 PETROLEUM HYDROCARBONS BY EXTRACTION

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 12/05/22 09:37
Project    : 380-30468                   Date Received: 12/08/22
Batch No.  : 22L136                       Date Extracted: 12/13/22 13:00
Sample ID  : 380-30468-1                 Date Analyzed: 12/14/22 21:44
Lab Samp ID: 22L136-01                   Dilution Factor: 1
Lab File ID: LL14038A                    Matrix: WATER
Ext Btch ID: 22DSL019W                   % Moisture: NA
Calib. Ref.: LL14016A                    Instrument ID: D5
=====
    
```

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

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.373	0.480	78	60-130
Hexacosane	0.132	0.120	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 : 1040ml                      Final Volume : 5ml  
 Prepared by : P0reto                        Analyzed by : SDeeso



METHOD 3520C/B015B  
 PETROLEUM HYDROCARBONS BY EXTRACTION

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 12/05/22 09:37
Project    : 380-30468                   Date Received: 12/08/22
Batch No.  : 22L136                       Date Extracted: 12/13/22 13:00
Sample ID  : 380-30468-1                 Date Analyzed: 12/14/22 21:44
Lab Samp ID: 22L136-01                   Dilution Factor: 1
Lab File ID: LL14038A                    Matrix: WATER
Ext Btch ID: 22DSL019W                  % Moisture: NA
Calib. Ref.: LL14017A                   Instrument ID: D5
=====
  
```

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

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.373	0.480	78	60-130
Hexacosane	0.132	0.120	110	60-130

Notes:

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

Detection limits are reported relative to sample result significant figures.  
 Sample Amount : 1040ml Final Volume : 5ml  
 Prepared by : P0reto Analyzed by : SDeeso

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# QC SUMMARIES



EMAX QUALITY CONTROL DATA  
LAB CONTROL SAMPLE ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL  
PROJECT : 380-30468  
BATCH NO. : 22L136  
METHOD : 3520C/8015B

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

ACCESSION:

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

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

MB: Method Blank sample LCS: Lab Control Sample

METHOD 3520C/8015B  
 PETROLEUM HYDROCARBONS BY EXTRACTION

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 12/13/22 13:00
Project    : 380-30468                   Date Received: 12/13/22
Batch No.  : 22L136                       Date Extracted: 12/13/22 13:00
Sample ID  : MBLK1W                       Date Analyzed: 12/14/22 16:31
Lab Samp ID: DSL019WB                     Dilution Factor: 1
Lab File ID: LL14021A                     Matrix: WATER
Ext Btch ID: 22DSL019W                    % Moisture: NA
Calib. Ref.: LL14016A                    Instrument ID: D5
=====
    
```

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

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

Notes:

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

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

EMAX QUALITY CONTROL DATA  
LAB CONTROL SAMPLE ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL  
PROJECT : 380-30468  
BATCH NO. : 22L136  
METHOD : 3520C/8015B

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

ACCESSION:

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

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

MB: Method Blank sample LCS: Lab Control Sample

METHOD 3520C/8015B  
 PETROLEUM HYDROCARBONS BY EXTRACTION

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 12/13/22 13:00
Project    : 380-30468                   Date Received: 12/13/22
Batch No.  : 22L136                       Date Extracted: 12/13/22 13:00
Sample ID  : MBLK1W                       Date Analyzed: 12/14/22 16:31
Lab Samp ID: DSL019WB                     Dilution Factor: 1
Lab File ID: LL14021A                     Matrix: WATER
Ext Btch ID: 22DSL019W                    % Moisture: NA
Calib. Ref.: LL14017A                     Instrument ID: D5
=====
    
```

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

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

Notes:

RL : Reporting Limit  
 Parameter H-C Range  
 JPB CB-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 : P0reto                        Analyzed by : SDeeso

EMAX QUALITY CONTROL DATA  
LAB CONTROL SAMPLE ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL  
PROJECT : 380-30468  
BATCH NO. : 22L136  
METHOD : 3520C/8015B

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

ACCESSION:

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

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

MB: Method Blank sample LCS: Lab Control Sample



EMAX QUALITY CONTROL DATA  
MS/MSD ANALYSIS

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

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR:	1	1	1
SAMPLE ID	: 380-30947-1	380-30947-1MS	380-30947-1MSD
LAB SAMPLE ID	: 22L101-01	22L101-01M	22L101-01S
LAB FILE ID	: LL14029A	LL14030A	LL14031A
DATE PREPARED	: 12/13/22 13:00	12/13/22 13:00	12/13/22 13:00
DATE ANALYZED	: 12/14/22 18:58	12/14/22 19:17	12/14/22 19:35
PREP BATCH	: 22DSL019W	22DSL019W	22DSL019W
CALIBRATION REF:	LL14015A	LL14015A	LL14015A

ACCESSION:

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

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

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

EMAX QUALITY CONTROL DATA  
MS/MSD ANALYSIS

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

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR:	1	1	1
SAMPLE ID	: 380-30947-1	380-30947-1MS	380-30947-1MSD
LAB SAMPLE ID	: 22L101-01	22L101-01M	22L101-01S
LAB FILE ID	: LL14029A	LL14032A	LL14033A
DATE PREPARED	: 12/13/22 13:00	12/13/22 13:00	12/13/22 13:00
DATE ANALYZED	: 12/14/22 18:58	12/14/22 19:53	12/14/22 20:12
PREP BATCH	: 22DSL019W	22DSL019W	22DSL019W
CALIBRATION REF:	LL14016A	LL14016A	LL14016A

ACCESSION:

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

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

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

EMAX QUALITY CONTROL DATA  
MS/MSD ANALYSIS

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

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

ACCESSION:

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

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

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

December 28, 2022

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

Project Name: RED-HILL Project # 38001111 Job # 380-30468-1  
Physis Project ID: 1407003-348

Dear Rosalynn,

Enclosed are the analytical results for the sample submitted to PHYSIS Environmental Laboratories, Inc. (PHYSIS) on 12/8/2022. A total of 1 sample was received for analysis in accordance with the attached chain of custody (COC). Per the COC, the sample was 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: 1407003-348

RED-HILL Project # 38001111 Job # 380-30468-1

Total Samples: 1

PHYSIS ID	Sample ID	Description	Date	Time	Matrix	Sample Type
102225	MOANALUA WELLS	331-223-TP202 (380-30468-1)	12/5/2022	9:37	Samplewater	Not Specified

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## ABBREVIATIONS and ACRONYMS

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

## QUALITY ASSURANCE SUMMARY

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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## PHYSIS QUALIFIER CODES

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

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## CASE NARRATIVE

### QUALIFIER NOTES

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

#### **ND**

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

# BIANALYTICALS

## REPORT

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## Base/Neutral Extractable Compounds

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
<b>Sample ID: 102225-R1    MOANALUA WELLS 331-223-TP202    Matrix: Samplewater    Sampled: 05-Dec-22 9:37    Received: 08-Dec-22</b>											
Disalicylidenepropanediamine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-40048	05-Dec-22	20-Dec-22



## Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
<b>Sample ID: 102225-R1 MOANALUA WELLS 331-223-TP202 Matrix: Samplewater</b>							<b>Sampled: 05-Dec-22 9:37</b>		<b>Received: 08-Dec-22</b>		
(d10-Acenaphthene)	EPA 625.1	% Recovery	67	1			Total		O-40048	05-Dec-22	20-Dec-22
(d10-Phenanthrene)	EPA 625.1	% Recovery	85	1			Total		O-40048	05-Dec-22	20-Dec-22
(d12-Chrysene)	EPA 625.1	% Recovery	86	1			Total		O-40048	05-Dec-22	20-Dec-22
(d12-Perylene)	EPA 625.1	% Recovery	82	1			Total		O-40048	05-Dec-22	20-Dec-22
(d8-Naphthalene)	EPA 625.1	% Recovery	36	1			Total		O-40048	05-Dec-22	20-Dec-22
1-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40048	05-Dec-22	20-Dec-22
1-Methylphenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40048	05-Dec-22	20-Dec-22
2,3,5-Trimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40048	05-Dec-22	20-Dec-22
2,6-Dimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40048	05-Dec-22	20-Dec-22
2-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40048	05-Dec-22	20-Dec-22
Acenaphthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40048	05-Dec-22	20-Dec-22
Acenaphthylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40048	05-Dec-22	20-Dec-22
Anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40048	05-Dec-22	20-Dec-22
Benz[a]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40048	05-Dec-22	20-Dec-22
Benzo[a]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40048	05-Dec-22	20-Dec-22
Benzo[b]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40048	05-Dec-22	20-Dec-22
Benzo[e]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40048	05-Dec-22	20-Dec-22
Benzo[g,h,i]perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40048	05-Dec-22	20-Dec-22
Benzo[k]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40048	05-Dec-22	20-Dec-22
Biphenyl	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40048	05-Dec-22	20-Dec-22
Chrysene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40048	05-Dec-22	20-Dec-22
D benz[a,h]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40048	05-Dec-22	20-Dec-22
D benzo[a,l]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40048	05-Dec-22	20-Dec-22
D benzothiophene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40048	05-Dec-22	20-Dec-22

## Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40048	05-Dec-22	20-Dec-22
Fluorene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40048	05-Dec-22	20-Dec-22
Indeno[1,2,3-cd]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40048	05-Dec-22	20-Dec-22
Naphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40048	05-Dec-22	20-Dec-22
Perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40048	05-Dec-22	20-Dec-22
Phenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40048	05-Dec-22	20-Dec-22
Pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40048	05-Dec-22	20-Dec-22

# QUALITY CONTROL REPORT

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## Base/Neutral Extractable Compounds

## QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE SOURCE		ACCURACY		PRECISION		QA CODEc
							LEVEL	RESULT	%	LIMITS	%	LIMITS	
<b>Sample ID: 102224-B1</b>		<b>QAQC Procedural Blank</b>			<b>Matrix: BlankMatrix</b>			<b>Sampled:</b>		<b>Received:</b>			
		Method: EPA 625.1			Batch ID: O-40048			Prepared: 05-Dec-22		Analyzed: 19-Dec-22			
Disalicylideneprapanediamin	Total	ND	1	0.05	0.1	µg/L							
<b>Sample ID: 102224-BS1</b>		<b>QAQC Procedural Blank</b>			<b>Matrix: BlankMatrix</b>			<b>Sampled:</b>		<b>Received:</b>			
		Method: EPA 625.1			Batch ID: O-40048			Prepared: 05-Dec-22		Analyzed: 19-Dec-22			
Disalicylideneprapanediamin	Total	48	1	0.05	0.1	µg/L	50	0	96	50 - 150%	PASS		
<b>Sample ID: 102224-BS2</b>		<b>QAQC Procedural Blank</b>			<b>Matrix: BlankMatrix</b>			<b>Sampled:</b>		<b>Received:</b>			
		Method: EPA 625.1			Batch ID: O-40048			Prepared: 05-Dec-22		Analyzed: 20-Dec-22			
Disalicylideneprapanediamin	Total	50.8	1	0.05	0.1	µg/L	50	0	102	50 - 150%	PASS	6	30 PASS



**Polynuclear Aromatic Hydrocarbons**

**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY	PRECISION	QA CODE	
							LEVEL	RESULT	% LIMITS	% LIMITS		
<b>Sample ID: 102224-B1</b>		<b>QAQC Procedural Blank</b>			<b>Matrix: BlankMatrix</b>			<b>Sampled:</b>		<b>Received:</b>		
		Method: EPA 625.1			Batch ID: O-40048			Prepared: 05-Dec-22		Analyzed: 19-Dec-22		
(d10-Acenaphthene)	Total	81	1				% Recovery	100	81	27 - 133%	PASS	
(d10-Phenanthrene)	Total	86	1				% Recovery	100	86	43 - 129%	PASS	
(d12-Chrysene)	Total	87	1				% Recovery	100	87	52 - 144%	PASS	
(d12-Perylene)	Total	77	1				% Recovery	100	77	36 - 161%	PASS	
(d8-Naphthalene)	Total	80	1				% Recovery	100	80	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 CODE
							LEVEL	RESULT	%	LIMITS	%	LIMITS
<b>Sample ID: 102224-BS1</b>		<b>QAQC Procedural Blank</b>			<b>Matrix: BlankMatrix</b>			<b>Sampled:</b>		<b>Received:</b>		
Method: EPA 625.1		Batch ID: O-40048			Prepared: 05-Dec-22		Analyzed: 19-Dec-22					
(d10-Acenaphthene)	Total	83	1			% Recovery	100	0	83	27 - 133%	PASS	
(d10-Phenanthrene)	Total	87	1			% Recovery	100	0	87	43 - 129%	PASS	
(d12-Chrysene)	Total	92	1			% Recovery	100	0	92	52 - 144%	PASS	
(d12-Perylene)	Total	87	1			% Recovery	100	0	87	36 - 161%	PASS	
(d8-Naphthalene)	Total	64	1			% Recovery	100	0	64	25 - 125%	PASS	
1-Methylnaphthalene	Total	0.35	1	0.001	0.005	µg/L	0.5	0	70	31 - 128%	PASS	
1-Methylphenanthrene	Total	0.425	1	0.001	0.005	µg/L	0.5	0	85	66 - 127%	PASS	
2,3,5-Trimethylnaphthalene	Total	0.408	1	0.001	0.005	µg/L	0.5	0	82	55 - 122%	PASS	
2,6-Dimethylnaphthalene	Total	0.365	1	0.001	0.005	µg/L	0.5	0	73	48 - 120%	PASS	
2-Methylnaphthalene	Total	0.354	1	0.001	0.005	µg/L	0.5	0	71	47 - 130%	PASS	
Acenaphthene	Total	0.388	1	0.001	0.005	µg/L	0.5	0	78	53 - 131%	PASS	
Acenaphthylene	Total	0.367	1	0.001	0.005	µg/L	0.5	0	73	43 - 140%	PASS	
Anthracene	Total	0.422	1	0.001	0.005	µg/L	0.5	0	84	58 - 135%	PASS	
Benz[a]anthracene	Total	0.421	1	0.001	0.005	µg/L	0.5	0	84	55 - 145%	PASS	
Benzo[a]pyrene	Total	0.386	1	0.001	0.005	µg/L	0.5	0	77	51 - 143%	PASS	
Benzo[b]fluoranthene	Total	0.388	1	0.001	0.005	µg/L	0.5	0	78	46 - 165%	PASS	
Benzo[e]pyrene	Total	0.4	1	0.001	0.005	µg/L	0.5	0	80	42 - 152%	PASS	
Benzo[g,h,i]perylene	Total	0.398	1	0.001	0.005	µg/L	0.5	0	80	63 - 133%	PASS	
Benzo[k]fluoranthene	Total	0.392	1	0.001	0.005	µg/L	0.5	0	78	56 - 145%	PASS	
Biphenyl	Total	0.379	1	0.001	0.005	µg/L	0.5	0	76	56 - 119%	PASS	
Chrysene	Total	0.426	1	0.001	0.005	µg/L	0.5	0	85	56 - 141%	PASS	
Dibenz[a,h]anthracene	Total	0.371	1	0.001	0.005	µg/L	0.5	0	74	55 - 150%	PASS	
Dibenzo[a,l]pyrene	Total	0.465	1	0.001	0.005	µg/L	0.5	0	93	50 - 150%	PASS	
Dibenzothiophene	Total	0.43	1	0.001	0.005	µg/L	0.5	0	86	46 - 126%	PASS	

## Polynuclear Aromatic Hydrocarbons

## QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY		PRECISION		QA CODEc
							LEVEL	RESULT	%	LIMITS	%	LIMITS	
Fluoranthene	Total	0.406	1	0.001	0.005	µg/L	0.5	0	81	60 - 146%	PASS		
Fluorene	Total	0.377	1	0.001	0.005	µg/L	0.5	0	75	58 - 131%	PASS		
Indeno[1,2,3-cd]pyrene	Total	0.359	1	0.001	0.005	µg/L	0.5	0	72	50 - 151%	PASS		
Naphthalene	Total	0.314	1	0.001	0.005	µg/L	0.5	0	63	41 - 126%	PASS		
Perylene	Total	0.392	1	0.001	0.005	µg/L	0.5	0	78	48 - 141%	PASS		
Phenanthrene	Total	0.422	1	0.001	0.005	µg/L	0.5	0	84	67 - 127%	PASS		
Pyrene	Total	0.425	1	0.001	0.005	µg/L	0.5	0	85	54 - 156%	PASS		

## Polynuclear Aromatic Hydrocarbons

## QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE		ACCURACY		PRECISION		QA CODEc		
							LEVEL	RESULT	%	LIMITS	%	LIMITS			
<b>Sample ID: 102224-BS2</b>		<b>QAQC Procedural Blank</b>			<b>Matrix: BlankMatrix</b>			<b>Sampled:</b>			<b>Received:</b>				
		Method: EPA 625.1			Batch ID: O-40048			Prepared: 05-Dec-22			Analyzed: 20-Dec-22				
(d10-Acenaphthene)	Total	86	1				% Recovery	100	0	86	27 - 133%	PASS	4	30	PASS
(d10-Phenanthrene)	Total	89	1				% Recovery	100	0	89	43 - 129%	PASS	2	30	PASS
(d12-Chrysene)	Total	89	1				% Recovery	100	0	89	52 - 144%	PASS	3	30	PASS
(d12-Perylene)	Total	85	1				% Recovery	100	0	85	36 - 161%	PASS	2	30	PASS
(d8-Naphthalene)	Total	79	1				% Recovery	100	0	79	25 - 125%	PASS	21	30	PASS
1-Methylnaphthalene	Total	0.396	1	0.001	0.005	µg/L		0.5	0	79	31 - 128%	PASS	12	30	PASS
1-Methylphenanthrene	Total	0.43	1	0.001	0.005	µg/L		0.5	0	86	66 - 127%	PASS	1	30	PASS
2,3,5-Trimethylnaphthalene	Total	0.441	1	0.001	0.005	µg/L		0.5	0	88	55 - 122%	PASS	7	30	PASS
2,6-Dimethylnaphthalene	Total	0.412	1	0.001	0.005	µg/L		0.5	0	82	48 - 120%	PASS	12	30	PASS
2-Methylnaphthalene	Total	0.4	1	0.001	0.005	µg/L		0.5	0	80	47 - 130%	PASS	12	30	PASS
Acenaphthene	Total	0.431	1	0.001	0.005	µg/L		0.5	0	86	53 - 131%	PASS	10	30	PASS
Acenaphthylene	Total	0.383	1	0.001	0.005	µg/L		0.5	0	77	43 - 140%	PASS	5	30	PASS
Anthracene	Total	0.425	1	0.001	0.005	µg/L		0.5	0	85	58 - 135%	PASS	1	30	PASS
Benz[a]anthracene	Total	0.415	1	0.001	0.005	µg/L		0.5	0	83	55 - 145%	PASS	1	30	PASS
Benzo[a]pyrene	Total	0.41	1	0.001	0.005	µg/L		0.5	0	82	51 - 143%	PASS	6	30	PASS
Benzo[b]fluoranthene	Total	0.397	1	0.001	0.005	µg/L		0.5	0	79	46 - 165%	PASS	1	30	PASS
Benzo[e]pyrene	Total	0.407	1	0.001	0.005	µg/L		0.5	0	81	42 - 152%	PASS	1	30	PASS
Benzo[g,h,i]perylene	Total	0.404	1	0.001	0.005	µg/L		0.5	0	81	63 - 133%	PASS	1	30	PASS
Benzo[k]fluoranthene	Total	0.414	1	0.001	0.005	µg/L		0.5	0	83	56 - 145%	PASS	6	30	PASS
Biphenyl	Total	0.408	1	0.001	0.005	µg/L		0.5	0	82	56 - 119%	PASS	8	30	PASS
Chrysene	Total	0.423	1	0.001	0.005	µg/L		0.5	0	85	56 - 141%	PASS	0	30	PASS
Dibenz[a,h]anthracene	Total	0.377	1	0.001	0.005	µg/L		0.5	0	75	55 - 150%	PASS	1	30	PASS
Dibenzo[a,l]pyrene	Total	0.422	1	0.001	0.005	µg/L		0.5	0	84	50 - 150%	PASS	10	30	PASS
Dibenzothiophene	Total	0.436	1	0.001	0.005	µg/L		0.5	0	87	46 - 126%	PASS	1	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	0.419	1	0.001	0.005	µg/L	0.5	0	84	60 - 146%	PASS	4	30	PASS
Fluorene	Total	0.446	1	0.001	0.005	µg/L	0.5	0	89	58 - 131%	PASS	17	30	PASS
Indeno[1,2,3-cd]pyrene	Total	0.356	1	0.001	0.005	µg/L	0.5	0	71	50 - 151%	PASS	1	30	PASS
Naphthalene	Total	0.394	1	0.001	0.005	µg/L	0.5	0	79	41 - 126%	PASS	23	30	PASS
Perylene	Total	0.396	1	0.001	0.005	µg/L	0.5	0	79	48 - 141%	PASS	1	30	PASS
Phenanthrene	Total	0.427	1	0.001	0.005	µg/L	0.5	0	85	67 - 127%	PASS	1	30	PASS
Pyrene	Total	0.435	1	0.001	0.005	µg/L	0.5	0	87	54 - 156%	PASS	2	30	PASS

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**PHYSIS**

**TENTATIVELY**

**IDENTIFIED COMPOUNDS**

ENVIRONMENTAL LABORATORIES, INC.

*Innovative Solutions for Nature*

Sample ID: 102225

RT	Area Pct	Concentration (ng/L)	Library/ID	Cas Number	Match Qual
36.3584	5.4652	1111	Anthracene-D10	1517-22-2	95
10.9561	0.9510	193	Cyclobutanecarboxylic acid, 2-propenyl ester	1000282-60-3	89

Concentration estimated using the response for Anthracene-d10

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Sample ID: Lab Blank B1\_40048

RT	Area Pct	Concentration (ng/L)	Library/ID	Cas Number	Match Qual
36.3600	3.4869	1111	Anthracene-D10-	1719-06-8	95
10.9629	1.6569	528	Cyclobutanecarboxylic acid, 2-propenyl ester	1000282-60-3	89
10.5849	0.7227	230	Hydroperoxide, 1-ethylbutyl	24254-56-6	83
10.7092	0.5577	178	Hydroperoxide, 1-methylpentyl	24254-55-5	86
33.0518	0.5200	166	Benzoic acid, 2-ethylhexyl ester	5444-75-7	98
11.3189	0.4741	151	Oxalic acid, cyclohexyl isobutyl ester	1000309-30-4	89

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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Project Iteration ID: 1407003-348  
 Client Name: Eurofins Eaton Analytical  
 Project Name: RED-HILL Project # 38001111 Job # 380-30468-1  
 COC Page Number: 2 of 2  
 Bottle Label Color: NA

**Sample Receipt Summary**

**Receiving Info**

1. Initials Received By: AG
2. Date Received: 12/8
3. Time Received: \_\_\_\_\_
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): 1.8 Used I/R Thermometer # 1-2

**Inspection Info**

1. Initials Inspected By: RGH

**Sample Integrity Upon Receipt:**

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

Notes:



# Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-30468-1

**Login Number: 30468**

**List Number: 1**

**Creator: Elyas, Matthew**

**List Source: Eurofins Eaton Monrovia**

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