

## ANALYTICAL REPORT

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Suite 100  
Monrovia, CA 91016  
Tel: (626)386-1100

Laboratory Job ID: 380-18997-1  
Client Project/Site: RED-HILL  
Sampling Event: RUSH Weekly Red Hill

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

Attn: Mr. Erwin Kawata



Authorized for release by:  
10/9/2022 4:52:10 PM

Rachelle Arada, Manager of Project Management  
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Results relate only to the items tested and the sample(s) as received by the laboratory.

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



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Rachelle Arada  
Manager of Project Management  
10/9/2022 4:52:10 PM





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# Definitions/Glossary

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

Job ID: 380-18997-1

## Qualifiers

### GC/MS Semi VOA

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

### GC/MS Semi VOA TICs

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

## 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: 380-18997-1

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## Job ID: 380-18997-1

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### Laboratory: Eurofins Eaton Monrovia

#### Narrative

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#### Job Narrative 380-18997-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 8/30/2022 10:00 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 3.4° C and 5.5° C.

#### GC/MS Semi VOA

Method 525.2: MRL for preparation batch 380-16038 and analytical batch 380-16407 recovery is below acceptance limits for Caffeine. MOANALUA WELLS (380-18997-1) and (MRL 380-16038/2-A)

No additional analytical or quality issues were noted, other than those described above or 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 Diesel LL (EAL) and Motor Oil, 8015 Gas (Purgeable) LL (EAL): These methods were subcontracted to EMAX Laboratories Inc. The subcontract laboratory certifications are different from that of the facility issuing the final report.

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

# Detection Summary

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

Job ID: 380-18997-1

**Client Sample ID: MOANALUA WELLS**

**Lab Sample ID: 380-18997-1**

No Detections.

**Client Sample ID: TB:MOANALUA WELLS**

**Lab Sample ID: 380-18997-2**

No Detections.

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

This Detection Summary does not include radiochemical test results.

Eurofins Eaton Monrovia

# Client Sample Results

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

Job ID: 380-18997-1

**Client Sample ID: MOANALUA WELLS**

**Lab Sample ID: 380-18997-1**

Date Collected: 08/29/22 10:00

Matrix: Drinking Water

Date Received: 08/30/22 10:00

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
2,4'-DDD	ND		0.10	ug/L		09/02/22 09:06	09/07/22 13:30	1
2,4'-DDE	ND		0.10	ug/L		09/02/22 09:06	09/07/22 13:30	1
2,4'-DDT	ND		0.10	ug/L		09/02/22 09:06	09/07/22 13:30	1
2,4-Dinitrotoluene	ND		0.10	ug/L		09/02/22 09:06	09/07/22 13:30	1
2,6-Dinitrotoluene	ND		0.10	ug/L		09/02/22 09:06	09/07/22 13:30	1
4,4'-DDD	ND		0.10	ug/L		09/02/22 09:06	09/07/22 13:30	1
4,4'-DDE	ND		0.10	ug/L		09/02/22 09:06	09/07/22 13:30	1
4,4'-DDT	ND		0.10	ug/L		09/02/22 09:06	09/07/22 13:30	1
Acenaphthene	ND		0.10	ug/L		09/02/22 09:06	09/07/22 13:30	1
Acenaphthylene	ND		0.10	ug/L		09/02/22 09:06	09/07/22 13:30	1
Acetochlor	ND		0.10	ug/L		09/02/22 09:06	09/07/22 13:30	1
Alachlor	ND		0.052	ug/L		09/02/22 09:06	09/07/22 13:30	1
alpha-BHC	ND		0.10	ug/L		09/02/22 09:06	09/07/22 13:30	1
alpha-Chlordane	ND		0.052	ug/L		09/02/22 09:06	09/07/22 13:30	1
Anthracene	ND		0.021	ug/L		09/02/22 09:06	09/07/22 13:30	1
Atrazine	ND		0.052	ug/L		09/02/22 09:06	09/07/22 13:30	1
Benz(a)anthracene	ND		0.052	ug/L		09/02/22 09:06	09/07/22 13:30	1
Benzo[a]pyrene	ND		0.021	ug/L		09/02/22 09:06	09/07/22 13:30	1
Benzo[b]fluoranthene	ND		0.021	ug/L		09/02/22 09:06	09/07/22 13:30	1
Benzo[g,h,i]perylene	ND		0.052	ug/L		09/02/22 09:06	09/07/22 13:30	1
Benzo[k]fluoranthene	ND		0.021	ug/L		09/02/22 09:06	09/07/22 13:30	1
beta-BHC	ND		0.10	ug/L		09/02/22 09:06	09/07/22 13:30	1
Bromacil	ND		0.10	ug/L		09/02/22 09:06	09/07/22 13:30	1
Butachlor	ND		0.052	ug/L		09/02/22 09:06	09/07/22 13:30	1
Butylbenzylphthalate	ND		0.52	ug/L		09/02/22 09:06	09/07/22 13:30	1
Caffeine	ND	^3-	0.052	ug/L		09/02/22 09:06	09/07/22 13:30	1
Chlorobenzilate	ND		0.10	ug/L		09/02/22 09:06	09/07/22 13:30	1
Chloroneb	ND		0.10	ug/L		09/02/22 09:06	09/07/22 13:30	1
Chlorothalonil (Draconil, Bravo)	ND		0.10	ug/L		09/02/22 09:06	09/07/22 13:30	1
Chlorpyrifos	ND		0.052	ug/L		09/02/22 09:06	09/07/22 13:30	1
Chrysene	ND		0.021	ug/L		09/02/22 09:06	09/07/22 13:30	1
delta-BHC	ND		0.10	ug/L		09/02/22 09:06	09/07/22 13:30	1
Di(2-ethylhexyl)adipate	ND		0.62	ug/L		09/02/22 09:06	09/07/22 13:30	1
Bis(2-ethylhexyl) phthalate	ND		0.62	ug/L		09/02/22 09:06	09/07/22 13:30	1
Diazinon (Qualitative)	ND		0.10	ug/L		09/02/22 09:06	09/07/22 13:30	1
Dibenz(a,h)an hracene	ND		0.052	ug/L		09/02/22 09:06	09/07/22 13:30	1
Diclorvos (DDVP)	ND		0.052	ug/L		09/02/22 09:06	09/07/22 13:30	1
Dieldrin	ND		0.21	ug/L		09/02/22 09:06	09/07/22 13:30	1
Diethylphthalate	ND		0.52	ug/L		09/02/22 09:06	09/07/22 13:30	1
Dimethoate	ND		0.10	ug/L		09/02/22 09:06	09/07/22 13:30	1
Dimethylphalate	ND		0.52	ug/L		09/02/22 09:06	09/07/22 13:30	1
Di-n-butyl phthalate	ND		1.0	ug/L		09/02/22 09:06	09/07/22 13:30	1
Di-n-octyl phthalate	ND		0.10	ug/L		09/02/22 09:06	09/07/22 13:30	1
Endosulfan I (Alpha)	ND		0.10	ug/L		09/02/22 09:06	09/07/22 13:30	1
Endosulfan II (Beta)	ND		0.10	ug/L		09/02/22 09:06	09/07/22 13:30	1
Endosulfan sulfate	ND		0.10	ug/L		09/02/22 09:06	09/07/22 13:30	1
Endrin	ND		0.10	ug/L		09/02/22 09:06	09/07/22 13:30	1
Endrin aldehyde	ND		0.10	ug/L		09/02/22 09:06	09/07/22 13:30	1
EPTC	ND		0.10	ug/L		09/02/22 09:06	09/07/22 13:30	1

Euofins Eaton Monrovia

# Client Sample Results

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

Job ID: 380-18997-1

**Client Sample ID: MOANALUA WELLS**

**Lab Sample ID: 380-18997-1**

Date Collected: 08/29/22 10:00

Matrix: Drinking Water

Date Received: 08/30/22 10:00

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Fluoranthene	ND		0.10	ug/L		09/02/22 09:06	09/07/22 13:30	1	
Fluorene	ND		0.052	ug/L		09/02/22 09:06	09/07/22 13:30	1	
gamma-Chlordane	ND		0.052	ug/L		09/02/22 09:06	09/07/22 13:30	1	
Heptachlor	ND	^3+	0.042	ug/L		09/02/22 09:06	09/07/22 13:30	1	
Heptachlor epoxide (isomer B)	ND		0.052	ug/L		09/02/22 09:06	09/07/22 13:30	1	
Hexachlorobenzene	ND		0.052	ug/L		09/02/22 09:06	09/07/22 13:30	1	
Hexachlorocyclopentadiene	ND		0.052	ug/L		09/02/22 09:06	09/07/22 13:30	1	
Indeno[1,2,3-cd]pyrene	ND		0.052	ug/L		09/02/22 09:06	09/07/22 13:30	1	
Isophorone	ND		0.52	ug/L		09/02/22 09:06	09/07/22 13:30	1	
Lindane	ND		0.042	ug/L		09/02/22 09:06	09/07/22 13:30	1	
Malathion	ND		0.10	ug/L		09/02/22 09:06	09/07/22 13:30	1	
Methoxychlor	ND		0.10	ug/L		09/02/22 09:06	09/07/22 13:30	1	
Metolachlor	ND		0.052	ug/L		09/02/22 09:06	09/07/22 13:30	1	
Metribuzin	ND		0.052	ug/L		09/02/22 09:06	09/07/22 13:30	1	
Molinate	ND		0.10	ug/L		09/02/22 09:06	09/07/22 13:30	1	
Naphthalene	ND		0.31	ug/L		09/02/22 09:06	09/07/22 13:30	1	
Parathion	ND		0.10	ug/L		09/02/22 09:06	09/07/22 13:30	1	
Pendimethalin (Penoxaline)	ND		0.10	ug/L		09/02/22 09:06	09/07/22 13:30	1	
Total Permethrin (mixed isomers)	ND		0.21	ug/L		09/02/22 09:06	09/07/22 13:30	1	
Phenanthrene	ND		0.042	ug/L		09/02/22 09:06	09/07/22 13:30	1	
Propachlor	ND		0.052	ug/L		09/02/22 09:06	09/07/22 13:30	1	
Pyrene	ND		0.052	ug/L		09/02/22 09:06	09/07/22 13:30	1	
Simazine	ND		0.052	ug/L		09/02/22 09:06	09/07/22 13:30	1	
Terbacil	ND		0.10	ug/L		09/02/22 09:06	09/07/22 13:30	1	
Terbutylazine	ND		0.10	ug/L		09/02/22 09:06	09/07/22 13:30	1	
Thiobencarb	ND		0.21	ug/L		09/02/22 09:06	09/07/22 13:30	1	
trans-Nonachlor	ND		0.052	ug/L		09/02/22 09:06	09/07/22 13:30	1	
Trifluralin	ND		0.10	ug/L		09/02/22 09:06	09/07/22 13:30	1	
<b>Tentatively Identified Compound</b>	<b>Est. Result</b>	<b>Qualifier</b>	<b>Unit</b>	<b>D</b>	<b>RT</b>	<b>CAS No.</b>	<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Tentatively Identified Compound	None		ug/L				09/02/22 09:06	09/07/22 13:30	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
2-Nitro-m-xylene	99		70 - 130				09/02/22 09:06	09/07/22 13:30	1
Triphenylphosphate	105		70 - 130				09/02/22 09:06	09/07/22 13:30	1
Perylene-d12	97		70 - 130				09/02/22 09:06	09/07/22 13:30	1



# Action Limit Summary

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

Job ID: 380-18997-1

**Client Sample ID: MOANALUA WELLS**

**Lab Sample ID: 380-18997-1**

## Compliance Check

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

Analyte	Result	Qualifier	Unit	EPAMCL	RL	Method	Prep Type
				Limit			
Alachlor	ND		ug/L	2	0.052	525.2	Total/NA
Atrazine	ND		ug/L	3	0.052	525.2	Total/NA
Benzo[a]pyrene	ND		ug/L	0.2	0.021	525.2	Total/NA
Di(2-ethylhexyl)adipate	ND		ug/L	400	0.62	525.2	Total/NA
Bis(2-ethylhexyl) phthalate	ND		ug/L	6	0.62	525.2	Total/NA
Endrin	ND		ug/L	2	0.10	525.2	Total/NA
Heptachlor	ND	^3+	ug/L	0.4	0.042	525.2	Total/NA
Heptachlor epoxide (isomer B)	ND		ug/L	0.2	0.052	525.2	Total/NA
Hexachlorobenzene	ND		ug/L	1	0.052	525.2	Total/NA
Hexachlorocyclopentadiene	ND		ug/L	50	0.052	525.2	Total/NA
Lindane	ND		ug/L	0.2	0.042	525.2	Total/NA
Methoxychlor	ND		ug/L	40	0.10	525.2	Total/NA
Simazine	ND		ug/L	4	0.052	525.2	Total/NA

# Surrogate Summary

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

Job ID: 380-18997-1

## 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)
380-18997-1	MOANALUA WELLS	99	105	97
380-18997-1 DU	MOANALUA WELLS	98	102	85

**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)
380-18995-J-2-A MS	Matrix Spike	98	107	93
LCS 380-16038/4-A	Lab Control Sample	97	108	99
LCSD 380-16038/5-A	Lab Control Sample Dup	98	107	99
MB 380-16038/1-A	Method Blank	101	108	97
MRL 380-16038/2-A	Lab Control Sample	100	110	95

**Surrogate Legend**

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

# QC Sample Results

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

Job ID: 380-18997-1

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

Lab Sample ID: MB 380-16038/1-A  
Matrix: Water  
Analysis Batch: 16407

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 16038

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
2,4'-DDD	ND		0.099	ug/L		09/02/22 09:06	09/07/22 12:06	1
2,4'-DDE	ND		0.099	ug/L		09/02/22 09:06	09/07/22 12:06	1
2,4'-DDT	ND		0.099	ug/L		09/02/22 09:06	09/07/22 12:06	1
2,4-Dinitrotoluene	ND		0.099	ug/L		09/02/22 09:06	09/07/22 12:06	1
2,6-Dinitrotoluene	ND		0.099	ug/L		09/02/22 09:06	09/07/22 12:06	1
4,4'-DDD	ND		0.099	ug/L		09/02/22 09:06	09/07/22 12:06	1
4,4'-DDE	ND		0.099	ug/L		09/02/22 09:06	09/07/22 12:06	1
4,4'-DDT	ND		0.099	ug/L		09/02/22 09:06	09/07/22 12:06	1
Acenaphthene	ND		0.099	ug/L		09/02/22 09:06	09/07/22 12:06	1
Acenaphthylene	ND		0.099	ug/L		09/02/22 09:06	09/07/22 12:06	1
Acetochlor	ND		0.099	ug/L		09/02/22 09:06	09/07/22 12:06	1
Alachlor	ND		0.050	ug/L		09/02/22 09:06	09/07/22 12:06	1
alpha-BHC	ND		0.099	ug/L		09/02/22 09:06	09/07/22 12:06	1
alpha-Chlordane	ND		0.050	ug/L		09/02/22 09:06	09/07/22 12:06	1
Anthracene	ND		0.020	ug/L		09/02/22 09:06	09/07/22 12:06	1
Atrazine	ND		0.050	ug/L		09/02/22 09:06	09/07/22 12:06	1
Benz(a)anthracene	ND		0.050	ug/L		09/02/22 09:06	09/07/22 12:06	1
Benzo[a]pyrene	ND		0.020	ug/L		09/02/22 09:06	09/07/22 12:06	1
Benzo[b]fluoranthene	ND		0.020	ug/L		09/02/22 09:06	09/07/22 12:06	1
Benzo[g,h,i]perylene	ND		0.050	ug/L		09/02/22 09:06	09/07/22 12:06	1
Benzo[k]fluoranthene	ND		0.020	ug/L		09/02/22 09:06	09/07/22 12:06	1
beta-BHC	ND		0.099	ug/L		09/02/22 09:06	09/07/22 12:06	1
Bromacil	ND		0.099	ug/L		09/02/22 09:06	09/07/22 12:06	1
Butachlor	ND		0.050	ug/L		09/02/22 09:06	09/07/22 12:06	1
Butylbenzylphthalate	ND		0.50	ug/L		09/02/22 09:06	09/07/22 12:06	1
Caffeine	ND		0.050	ug/L		09/02/22 09:06	09/07/22 12:06	1
Chlorobenzilate	ND		0.099	ug/L		09/02/22 09:06	09/07/22 12:06	1
Chloroneb	ND		0.099	ug/L		09/02/22 09:06	09/07/22 12:06	1
Chlorothalonil (Draconil, Bravo)	ND		0.099	ug/L		09/02/22 09:06	09/07/22 12:06	1
Chlorpyrifos	ND		0.050	ug/L		09/02/22 09:06	09/07/22 12:06	1
Chrysene	ND		0.020	ug/L		09/02/22 09:06	09/07/22 12:06	1
delta-BHC	ND		0.099	ug/L		09/02/22 09:06	09/07/22 12:06	1
Di(2-ethylhexyl)adipate	ND		0.60	ug/L		09/02/22 09:06	09/07/22 12:06	1
Bis(2-ethylhexyl) phthalate	ND		0.60	ug/L		09/02/22 09:06	09/07/22 12:06	1
Diazinon (Qualitative)	ND		0.099	ug/L		09/02/22 09:06	09/07/22 12:06	1
Dibenz(a,h)an hracene	ND		0.050	ug/L		09/02/22 09:06	09/07/22 12:06	1
Diclorvos (DDVP)	ND		0.050	ug/L		09/02/22 09:06	09/07/22 12:06	1
Dieldrin	ND		0.20	ug/L		09/02/22 09:06	09/07/22 12:06	1
Diethylphthalate	ND		0.50	ug/L		09/02/22 09:06	09/07/22 12:06	1
Dimethoate	ND		0.099	ug/L		09/02/22 09:06	09/07/22 12:06	1
Dimethylphalate	ND		0.50	ug/L		09/02/22 09:06	09/07/22 12:06	1
Di-n-butyl phthalate	ND		0.99	ug/L		09/02/22 09:06	09/07/22 12:06	1
Di-n-octyl phthalate	ND		0.099	ug/L		09/02/22 09:06	09/07/22 12:06	1
Endosulfan I (Alpha)	ND		0.099	ug/L		09/02/22 09:06	09/07/22 12:06	1
Endosulfan II (Beta)	ND		0.099	ug/L		09/02/22 09:06	09/07/22 12:06	1
Endosulfan sulfate	ND		0.099	ug/L		09/02/22 09:06	09/07/22 12:06	1
Endrin	ND		0.099	ug/L		09/02/22 09:06	09/07/22 12:06	1
Endrin aldehyde	ND		0.099	ug/L		09/02/22 09:06	09/07/22 12:06	1

# QC Sample Results

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

Job ID: 380-18997-1

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

Lab Sample ID: MB 380-16038/1-A

Matrix: Water

Analysis Batch: 16407

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 16038

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
EPTC	ND		0.099	ug/L		09/02/22 09:06	09/07/22 12:06	1
Fluoranthene	ND		0.099	ug/L		09/02/22 09:06	09/07/22 12:06	1
Fluorene	ND		0.050	ug/L		09/02/22 09:06	09/07/22 12:06	1
gamma-Chlordane	ND		0.050	ug/L		09/02/22 09:06	09/07/22 12:06	1
Heptachlor	ND		0.040	ug/L		09/02/22 09:06	09/07/22 12:06	1
Heptachlor epoxide (isomer B)	ND		0.050	ug/L		09/02/22 09:06	09/07/22 12:06	1
Hexachlorobenzene	ND		0.050	ug/L		09/02/22 09:06	09/07/22 12:06	1
Hexachlorocyclopentadiene	ND		0.050	ug/L		09/02/22 09:06	09/07/22 12:06	1
Indeno[1,2,3-cd]pyrene	ND		0.050	ug/L		09/02/22 09:06	09/07/22 12:06	1
Isophorone	ND		0.50	ug/L		09/02/22 09:06	09/07/22 12:06	1
Lindane	ND		0.040	ug/L		09/02/22 09:06	09/07/22 12:06	1
Malathion	ND		0.099	ug/L		09/02/22 09:06	09/07/22 12:06	1
Methoxychlor	ND		0.099	ug/L		09/02/22 09:06	09/07/22 12:06	1
Metolachlor	ND		0.050	ug/L		09/02/22 09:06	09/07/22 12:06	1
Metribuzin	ND		0.050	ug/L		09/02/22 09:06	09/07/22 12:06	1
Molinate	ND		0.099	ug/L		09/02/22 09:06	09/07/22 12:06	1
Naphthalene	ND		0.30	ug/L		09/02/22 09:06	09/07/22 12:06	1
Parathion	ND		0.099	ug/L		09/02/22 09:06	09/07/22 12:06	1
Pendimethalin (Penoxaline)	ND		0.099	ug/L		09/02/22 09:06	09/07/22 12:06	1
Total Permethrin (mixed isomers)	ND		0.20	ug/L		09/02/22 09:06	09/07/22 12:06	1
Phenanthrene	ND		0.040	ug/L		09/02/22 09:06	09/07/22 12:06	1
Propachlor	ND		0.050	ug/L		09/02/22 09:06	09/07/22 12:06	1
Pyrene	ND		0.050	ug/L		09/02/22 09:06	09/07/22 12:06	1
Simazine	ND		0.050	ug/L		09/02/22 09:06	09/07/22 12:06	1
Terbacil	ND		0.099	ug/L		09/02/22 09:06	09/07/22 12:06	1
Terbutylazine	ND		0.099	ug/L		09/02/22 09:06	09/07/22 12:06	1
Thiobencarb	ND		0.20	ug/L		09/02/22 09:06	09/07/22 12:06	1
trans-Nonachlor	ND		0.050	ug/L		09/02/22 09:06	09/07/22 12:06	1
Trifluralin	ND		0.099	ug/L		09/02/22 09:06	09/07/22 12:06	1

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	1.55	T J	ug/L		2.38		09/02/22 09:06	09/07/22 12:06	1
n-Hexadecanoic acid	1.75	T J N	ug/L		5.92	57-10-3	09/02/22 09:06	09/07/22 12:06	1
Octadecanoic acid	3.21	T J N	ug/L		6.63	57-11-4	09/02/22 09:06	09/07/22 12:06	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Nitro-m-xylene	101		70 - 130	09/02/22 09:06	09/07/22 12:06	1
Triphenylphosphate	108		70 - 130	09/02/22 09:06	09/07/22 12:06	1
Perylene-d12	97		70 - 130	09/02/22 09:06	09/07/22 12:06	1

Lab Sample ID: LCS 380-16038/4-A

Matrix: Water

Analysis Batch: 16407

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 16038

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2,4'-DDD	1.99	2.20		ug/L		110	70 - 130
2,4'-DDE	1.99	2.08		ug/L		104	70 - 130
2,4'-DDT	1.99	2.22		ug/L		112	70 - 130

Euofins Eaton Monrovia

# QC Sample Results

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

Job ID: 380-18997-1

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

Lab Sample ID: LCS 380-16038/4-A

Matrix: Water

Analysis Batch: 16407

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 16038

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2,4-Dinitrotoluene	1.99	1.99		ug/L		100	70 - 130
2,6-Dinitrotoluene	1.99	1.95		ug/L		98	70 - 130
4,4'-DDD	1.99	2.30		ug/L		115	70 - 130
4,4'-DDE	1.99	2.30		ug/L		116	70 - 130
4,4'-DDT	1.99	2.04		ug/L		102	70 - 130
Acenaphthene	1.99	1.96		ug/L		98	70 - 130
Acenaphthylene	1.99	1.96		ug/L		99	70 - 130
Acetochlor	1.99	2.17		ug/L		109	70 - 130
Alachlor	1.99	2.16		ug/L		108	70 - 130
alpha-BHC	1.99	2.15		ug/L		108	70 - 130
alpha-Chlordane	1.99	2.24		ug/L		112	70 - 130
Anthracene	1.99	2.17		ug/L		109	70 - 130
Atrazine	1.99	2.29		ug/L		115	70 - 130
Benz(a)anthracene	1.99	2.07		ug/L		104	70 - 130
Benzo[a]pyrene	1.99	2.13		ug/L		107	70 - 130
Benzo[b]fluoranthene	1.99	2.16		ug/L		108	70 - 130
Benzo[g,h,i]perylene	1.99	2.47		ug/L		124	70 - 130
Benzo[k]fluoranthene	1.99	2.13		ug/L		107	70 - 130
beta-BHC	1.99	2.10		ug/L		105	70 - 130
Bromacil	1.99	2.14		ug/L		107	70 - 130
Butachlor	1.99	2.26		ug/L		113	70 - 130
Butylbenzylphthalate	1.99	2.29		ug/L		115	70 - 130
Caffeine	1.99	0.964		ug/L		48	45 - 137
Chlorobenzilate	1.99	2.37		ug/L		119	70 - 130
Chloroneb	1.99	2.05		ug/L		103	70 - 130
Chlorothalonil (Draconil, Bravo)	1.99	2.32		ug/L		117	70 - 130
Chlorpyrifos	1.99	2.23		ug/L		112	70 - 130
Chrysene	1.99	2.14		ug/L		107	70 - 130
delta-BHC	1.99	2.00		ug/L		100	70 - 130
Di(2-ethylhexyl)adipate	1.99	2.42		ug/L		122	70 - 130
Bis(2-ethylhexyl) phthalate	1.99	2.25		ug/L		113	70 - 130
Diazinon (Qualitative)	1.99	1.75		ug/L		88	15 - 132
Dibenz(a,h)anthracene	1.99	2.39		ug/L		120	70 - 130
Diclorvos (DDVP)	1.99	2.28		ug/L		114	70 - 130
Dieldrin	1.99	2.08		ug/L		104	70 - 130
Diethylphthalate	1.99	2.08		ug/L		104	70 - 130
Dimethoate	1.99	0.899		ug/L		45	35 - 100
Dimethylphthalate	1.99	2.18		ug/L		109	70 - 130
Di-n-butyl phthalate	3.98	4.28		ug/L		107	70 - 130
Di-n-octyl phthalate	1.99	1.97		ug/L		99	70 - 130
Endosulfan I (Alpha)	1.99	2.15		ug/L		108	70 - 130
Endosulfan II (Beta)	1.99	2.31		ug/L		116	70 - 130
Endosulfan sulfate	1.99	2.12		ug/L		107	70 - 130
Endrin	1.99	2.23		ug/L		112	70 - 130
Endrin aldehyde	1.99	2.06		ug/L		103	70 - 130
EPTC	1.99	2.06		ug/L		104	70 - 130
Fluoranthene	1.99	2.26		ug/L		113	70 - 130
Fluorene	1.99	2.13		ug/L		107	70 - 130
gamma-Chlordane	1.99	2.28		ug/L		115	70 - 130

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# QC Sample Results

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

Job ID: 380-18997-1

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

Lab Sample ID: LCS 380-16038/4-A

Matrix: Water

Analysis Batch: 16407

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 16038

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec	
							Limits	
Heptachlor	1.99	2.09		ug/L		105	70 - 130	
Heptachlor epoxide (isomer B)	1.99	2.18		ug/L		109	70 - 130	
Hexachlorobenzene	1.99	2.04		ug/L		102	70 - 130	
Hexachlorocyclopentadiene	1.99	1.97		ug/L		99	70 - 130	
Indeno[1,2,3-cd]pyrene	1.99	2.42		ug/L		121	70 - 130	
Isophorone	1.99	2.11		ug/L		106	70 - 130	
Lindane	1.99	2.14		ug/L		108	70 - 130	
Malathion	1.99	2.41		ug/L		121	70 - 130	
Methoxychlor	1.99	2.22		ug/L		111	70 - 130	
Metolachlor	1.99	2.23		ug/L		112	70 - 130	
Metribuzin	1.99	2.09		ug/L		105	70 - 130	
Molinate	1.99	2.14		ug/L		108	70 - 130	
Naphthalene	1.99	1.99		ug/L		100	70 - 130	
Parathion	1.99	2.27		ug/L		114	70 - 130	
Pendimethalin (Penoxaline)	1.99	2.05		ug/L		103	70 - 130	
Phenanthrene	1.99	2.06		ug/L		104	70 - 130	
Propachlor	1.99	2.21		ug/L		111	70 - 130	
Pyrene	1.99	2.27		ug/L		114	70 - 130	
Simazine	1.99	2.29		ug/L		115	70 - 130	
Terbacil	1.99	2.14		ug/L		108	70 - 130	
Terbuthylazine	1.99	2.36		ug/L		119	70 - 130	
Thiobencarb	1.99	2.19		ug/L		110	70 - 130	
trans-Nonachlor	1.99	2.28		ug/L		114	70 - 130	
Trifluralin	1.99	2.21		ug/L		111	70 - 130	

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
2-Nitro-m-xylene	97		70 - 130
Triphenylphosphate	108		70 - 130
Perylene-d12	99		70 - 130

Lab Sample ID: LCSD 380-16038/5-A

Matrix: Water

Analysis Batch: 16407

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 16038

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	
							Limits		RPD	Limit
2,4'-DDD	1.99	2.19		ug/L		110	70 - 130	1	20	
2,4'-DDE	1.99	2.06		ug/L		103	70 - 130	1	20	
2,4'-DDT	1.99	2.23		ug/L		112	70 - 130	1	20	
2,4-Dinitrotoluene	1.99	1.95		ug/L		98	70 - 130	2	20	
2,6-Dinitrotoluene	1.99	1.90		ug/L		95	70 - 130	2	20	
4,4'-DDD	1.99	2.28		ug/L		115	70 - 130	1	20	
4,4'-DDE	1.99	2.28		ug/L		114	70 - 130	1	20	
4,4'-DDT	1.99	2.03		ug/L		102	70 - 130	1	20	
Acenaphthene	1.99	1.96		ug/L		99	70 - 130	0	20	
Acenaphthylene	1.99	1.99		ug/L		100	70 - 130	1	20	
Acetochlor	1.99	2.17		ug/L		109	70 - 130	0	20	
Alachlor	1.99	2.17		ug/L		109	70 - 130	0	20	
alpha-BHC	1.99	2.08		ug/L		104	70 - 130	3	20	

Eurofins Eaton Monrovia

# QC Sample Results

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

Job ID: 380-18997-1

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

Lab Sample ID: LCSD 380-16038/5-A

Matrix: Water

Analysis Batch: 16407

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 16038

Analyte	Spike	LCSD	LCSD	Unit	D	%Rec	%Rec	RPD	RPD
	Added	Result	Qualifier				Limits		Limit
alpha-Chlordane	1.99	2.25		ug/L		113	70 - 130	0	20
Anthracene	1.99	2.19		ug/L		110	70 - 130	1	20
Atrazine	1.99	2.32		ug/L		116	70 - 130	1	20
Benz(a)anthracene	1.99	2.10		ug/L		106	70 - 130	2	20
Benzo[a]pyrene	1.99	2.14		ug/L		108	70 - 130	1	20
Benzo[b]fluoranthene	1.99	2.17		ug/L		109	70 - 130	1	20
Benzo[g,h,i]perylene	1.99	2.51		ug/L		126	70 - 130	2	20
Benzo[k]fluoranthene	1.99	2.23		ug/L		112	70 - 130	5	20
beta-BHC	1.99	2.13		ug/L		107	70 - 130	1	20
Bromacil	1.99	2.06		ug/L		103	70 - 130	4	20
Butachlor	1.99	2.32		ug/L		116	70 - 130	3	20
Butylbenzylphthalate	1.99	2.30		ug/L		116	70 - 130	0	20
Caffeine	1.99	0.926		ug/L		46	45 - 137	4	20
Chlorobenzilate	1.99	2.21		ug/L		111	70 - 130	7	20
Chloroneb	1.99	2.08		ug/L		105	70 - 130	2	20
Chlorothalonil (Draconil, Bravo)	1.99	2.25		ug/L		113	70 - 130	3	20
Chlorpyrifos	1.99	2.24		ug/L		113	70 - 130	1	20
Chrysene	1.99	2.15		ug/L		108	70 - 130	0	20
delta-BHC	1.99	2.02		ug/L		102	70 - 130	1	20
Di(2-ethylhexyl)adipate	1.99	2.40		ug/L		120	70 - 130	1	20
Bis(2-ethylhexyl) phthalate	1.99	2.16		ug/L		108	70 - 130	4	20
Diazinon (Qualitative)	1.99	1.76		ug/L		88	15 - 132	0	20
Dibenz(a,h)an hracene	1.99	2.45		ug/L		123	70 - 130	3	20
Diclorvos (DDVP)	1.99	2.32		ug/L		116	70 - 130	2	20
Dieldrin	1.99	2.07		ug/L		104	70 - 130	0	20
Diethylphthalate	1.99	2.12		ug/L		107	70 - 130	2	20
Dimethoate	1.99	0.869		ug/L		44	35 - 100	3	20
Dimethylphalate	1.99	2.10		ug/L		106	70 - 130	3	20
Di-n-butyl phthalate	3.98	4.28		ug/L		108	70 - 130	0	20
Di-n-octyl phthalate	1.99	1.94		ug/L		98	70 - 130	2	20
Endosulfan I (Alpha)	1.99	2.20		ug/L		110	70 - 130	2	20
Endosulfan II (Beta)	1.99	2.27		ug/L		114	70 - 130	2	20
Endosulfan sulfate	1.99	2.17		ug/L		109	70 - 130	2	20
Endrin	1.99	2.19		ug/L		110	70 - 130	2	20
Endrin aldehyde	1.99	2.00		ug/L		101	70 - 130	3	20
EPTC	1.99	2.14		ug/L		108	70 - 130	4	20
Fluoranthene	1.99	2.29		ug/L		115	70 - 130	1	20
Fluorene	1.99	2.15		ug/L		108	70 - 130	1	20
gamma-Chlordane	1.99	2.28		ug/L		115	70 - 130	0	20
Heptachlor	1.99	2.07		ug/L		104	70 - 130	1	20
Heptachlor epoxide (isomer B)	1.99	2.20		ug/L		110	70 - 130	1	20
Hexachlorobenzene	1.99	2.07		ug/L		104	70 - 130	1	20
Hexachlorocyclopentadiene	1.99	1.98		ug/L		100	70 - 130	1	20
Indeno[1,2,3-cd]pyrene	1.99	2.43		ug/L		122	70 - 130	1	20
Isophorone	1.99	2.19		ug/L		110	70 - 130	4	20
Lindane	1.99	2.18		ug/L		109	70 - 130	2	20
Malathion	1.99	2.41		ug/L		121	70 - 130	0	20
Methoxychlor	1.99	2.21		ug/L		111	70 - 130	0	20
Metolachlor	1.99	2.24		ug/L		112	70 - 130	0	20

Eurofins Eaton Monrovia

# QC Sample Results

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

Job ID: 380-18997-1

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

Lab Sample ID: LCSD 380-16038/5-A

Matrix: Water

Analysis Batch: 16407

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 16038

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
							Limits	RPD		
Metribuzin	1.99	1.91		ug/L		96	70 - 130	9	20	
Molinate	1.99	2.12		ug/L		107	70 - 130	1	20	
Naphthalene	1.99	2.04		ug/L		102	70 - 130	2	20	
Parathion	1.99	2.34		ug/L		118	70 - 130	3	20	
Pendimethalin (Penoxaline)	1.99	2.09		ug/L		105	70 - 130	2	20	
Phenanthrene	1.99	2.06		ug/L		104	70 - 130	0	20	
Propachlor	1.99	2.19		ug/L		110	70 - 130	1	20	
Pyrene	1.99	2.30		ug/L		115	70 - 130	1	20	
Simazine	1.99	2.30		ug/L		116	70 - 130	1	20	
Terbacil	1.99	2.22		ug/L		111	70 - 130	3	20	
Terbutylazine	1.99	2.34		ug/L		118	70 - 130	1	20	
Thiobencarb	1.99	2.18		ug/L		110	70 - 130	0	20	
trans-Nonachlor	1.99	2.30		ug/L		115	70 - 130	1	20	
Trifluralin	1.99	2.26		ug/L		113	70 - 130	2	20	

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
2-Nitro-m-xylene	98		70 - 130
Triphenylphosphate	107		70 - 130
Perylene-d12	99		70 - 130

Lab Sample ID: MRL 380-16038/2-A

Matrix: Water

Analysis Batch: 16407

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 16038

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec	
							Limits	RPD
2,4'-DDD	0.0993	0.132		ug/L		133	50 - 150	
2,4'-DDE	0.0993	0.105		ug/L		106	50 - 150	
2,4'-DDT	0.0993	0.107		ug/L		107	50 - 150	
2,4-Dinitrotoluene	0.0993	0.0781	J	ug/L		79	50 - 150	
2,6-Dinitrotoluene	0.0993	0.0829	J	ug/L		83	50 - 150	
4,4'-DDD	0.0993	0.121		ug/L		122	50 - 150	
4,4'-DDE	0.0993	0.107		ug/L		107	50 - 150	
4,4'-DDT	0.0993	0.129		ug/L		130	50 - 150	
Acenaphthene	0.0993	0.101		ug/L		101	50 - 150	
Acenaphthylene	0.0993	0.0858	J	ug/L		86	50 - 150	
Acetochlor	0.0497	0.0481	J	ug/L		97	50 - 150	
Alachlor	0.0497	0.0581		ug/L		117	50 - 150	
alpha-BHC	0.0993	0.109		ug/L		110	50 - 150	
alpha-Chlordane	0.0497	0.0580		ug/L		117	50 - 150	
Anthracene	0.0199	0.0195	J	ug/L		98	50 - 150	
Atrazine	0.0497	0.0521		ug/L		105	50 - 150	
Benz(a)anthracene	0.0497	0.0716		ug/L		144	50 - 150	
Benzo[a]pyrene	0.0199	0.0201		ug/L		101	50 - 150	
Benzo[b]fluoranthene	0.0199	0.0234		ug/L		118	50 - 150	
Benzo[g,h,i]perylene	0.0497	0.0492	J	ug/L		99	50 - 150	
Benzo[k]fluoranthene	0.0199	0.0201		ug/L		101	50 - 150	
beta-BHC	0.0993	0.108		ug/L		109	50 - 150	
Bromacil	0.0993	0.137		ug/L		138	50 - 150	

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# QC Sample Results

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

Job ID: 380-18997-1

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

Lab Sample ID: MRL 380-16038/2-A

Matrix: Water

Analysis Batch: 16407

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 16038

Analyte	Spike	MRL	MRL	Unit	D	%Rec	%Rec Limits
	Added	Result	Qualifier				
Butachlor	0.0497	0.0607		ug/L		122	50 - 150
Butylbenzylphthalate	0.149	0.184	J	ug/L		124	50 - 150
Caffeine	0.0497	0.0222	J ^3-	ug/L		45	50 - 150
Chlorobenzilate	0.0993	0.141		ug/L		142	50 - 150
Chloroneb	0.0993	0.125		ug/L		126	50 - 150
Chlorothalonil (Draconil, Bravo)	0.0993	0.101		ug/L		102	50 - 150
Chlorpyrifos	0.0497	0.0544		ug/L		110	50 - 150
Chrysene	0.0199	0.0233		ug/L		117	50 - 150
delta-BHC	0.0993	0.129		ug/L		130	50 - 150
Di(2-ethylhexyl)adipate	0.298	0.380	J	ug/L		128	50 - 150
Bis(2-ethylhexyl) phthalate	0.596	0.704		ug/L		118	50 - 150
Diazinon (Qualitative)	0.0993	0.0878	J	ug/L		88	15 - 132
Dibenz(a,h)an hracene	0.0497	0.0488	J	ug/L		98	50 - 150
Diclorvos (DDVP)	0.0497	0.0645		ug/L		130	50 - 150
Dieldrin	0.0993	0.118	J	ug/L		119	50 - 150
Diethylphthalate	0.149	0.187	J	ug/L		125	50 - 150
Dimethoate	0.0993	0.0478	J	ug/L		48	35 - 100
Dimethylphalate	0.298	0.313	J	ug/L		105	50 - 150
Di-n-butyl phthalate	0.298	0.376	J	ug/L		126	49 - 243
Di-n-octyl phthalate	0.0993	0.114		ug/L		115	50 - 150
Endosulfan I (Alpha)	0.0993	0.105		ug/L		106	50 - 150
Endosulfan II (Beta)	0.0993	0.108		ug/L		109	50 - 150
Endosulfan sulfate	0.0993	0.101		ug/L		102	50 - 150
Endrin	0.0993	0.142		ug/L		143	50 - 150
Endrin aldehyde	0.0993	0.136		ug/L		137	50 - 150
EPTC	0.0993	0.109		ug/L		110	50 - 150
Fluoranthene	0.0497	0.0565	J	ug/L		114	50 - 150
Fluorene	0.0497	0.0523		ug/L		105	50 - 150
gamma-Chlordane	0.0497	0.0584		ug/L		118	50 - 150
Heptachlor	0.0397	0.0639	^3+	ug/L		161	50 - 150
Heptachlor epoxide (isomer B)	0.0497	0.0521		ug/L		105	50 - 150
Hexachlorobenzene	0.0497	0.0614		ug/L		124	50 - 150
Hexachlorocyclopentadiene	0.0497	0.0487	J	ug/L		98	50 - 150
Indeno[1,2,3-cd]pyrene	0.0497	0.0505		ug/L		102	50 - 150
Isophorone	0.0993	0.112	J	ug/L		113	50 - 150
Lindane	0.0497	0.0423		ug/L		85	50 - 150
Malathion	0.0993	0.112		ug/L		113	50 - 150
Methoxychlor	0.0993	0.127		ug/L		128	50 - 150
Metolachlor	0.0497	0.0573		ug/L		115	50 - 150
Metribuzin	0.0497	0.0450	J	ug/L		91	50 - 150
Molinate	0.0993	0.110		ug/L		111	50 - 150
Naphthalene	0.0993	0.123	J	ug/L		124	50 - 150
Parathion	0.0993	0.120		ug/L		121	50 - 150
Pendimethalin (Penoxaline)	0.0993	0.121		ug/L		122	50 - 150
Phenanthrene	0.0199	0.0236	J	ug/L		119	50 - 150
Propachlor	0.0497	0.0572		ug/L		115	50 - 150
Pyrene	0.0497	0.0611		ug/L		123	50 - 150
Simazine	0.0497	0.0541		ug/L		109	50 - 150
Terbacil	0.0993	0.119		ug/L		120	50 - 150

Eurofins Eaton Monrovia

# QC Sample Results

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

Job ID: 380-18997-1

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

Lab Sample ID: MRL 380-16038/2-A

Matrix: Water

Analysis Batch: 16407

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 16038

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Terbutylazine	0.0993	0.117		ug/L		117	50 - 150
Thiobencarb	0.0993	0.119	J	ug/L		120	50 - 150
trans-Nonachlor	0.0497	0.0576		ug/L		116	50 - 150
Trifluralin	0.0993	0.0915	J	ug/L		92	50 - 150

Surrogate	MRL %Recovery	MRL Qualifier	Limits
2-Nitro-m-xylene	100		70 - 130
Triphenylphosphate	110		70 - 130
Perylene-d12	95		70 - 130

Lab Sample ID: 380-18995-J-2-A MS

Matrix: Water

Analysis Batch: 16407

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 16038

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
2,4'-DDD	ND		1.97	2.07		ug/L		105	70 - 130
2,4'-DDE	ND		1.97	1.98		ug/L		100	70 - 130
2,4'-DDT	ND		1.97	2.07		ug/L		105	70 - 130
2,4-Dinitrotoluene	ND		1.97	1.84		ug/L		94	70 - 130
2,6-Dinitrotoluene	ND		1.97	1.87		ug/L		95	70 - 130
4,4'-DDD	ND		1.97	2.24		ug/L		114	70 - 130
4,4'-DDE	ND		1.97	2.16		ug/L		109	70 - 130
4,4'-DDT	ND		1.97	1.89		ug/L		96	70 - 130
Acenaphthene	ND		1.97	1.92		ug/L		97	70 - 130
Acenaphthylene	ND		1.97	1.93		ug/L		98	70 - 130
Acetochlor	ND		1.97	2.02		ug/L		102	70 - 130
Alachlor	ND		1.97	2.11		ug/L		107	70 - 130
alpha-BHC	ND		1.97	2.06		ug/L		105	70 - 130
alpha-Chlordane	ND		1.97	2.15		ug/L		109	70 - 130
Anthracene	ND		1.97	1.64		ug/L		83	70 - 130
Atrazine	ND		1.97	2.20		ug/L		112	70 - 130
Benz(a)anthracene	ND		1.97	1.93		ug/L		98	70 - 130
Benzo[a]pyrene	ND		1.97	1.90		ug/L		96	70 - 130
Benzo[b]fluoranthene	ND		1.97	2.16		ug/L		110	70 - 130
Benzo[g,h,i]perylene	ND		1.97	2.42		ug/L		123	70 - 130
Benzo[k]fluoranthene	ND		1.97	2.15		ug/L		109	70 - 130
beta-BHC	ND		1.97	1.99		ug/L		101	70 - 130
Bromacil	ND		1.97	2.04		ug/L		104	70 - 130
Butachlor	ND		1.97	2.25		ug/L		114	70 - 130
Butylbenzylphthalate	ND		1.97	2.23		ug/L		113	70 - 130
Caffeine	ND	^3-	1.97	1.01		ug/L		51	46 - 144
Chlorobenzilate	ND		1.97	2.23		ug/L		113	70 - 130
Chloroneb	ND		1.97	2.05		ug/L		104	70 - 130
Chlorothalonil (Draconil, Bravo)	ND		1.97	2.15		ug/L		109	70 - 130
Chlorpyrifos	ND		1.97	2.11		ug/L		107	70 - 130
Chrysene	ND		1.97	2.14		ug/L		108	70 - 130
delta-BHC	ND		1.97	1.91		ug/L		97	70 - 130
Di(2-ethylhexyl)adipate	ND		1.97	2.25		ug/L		114	70 - 130

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# QC Sample Results

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

Job ID: 380-18997-1

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

Lab Sample ID: 380-18995-J-2-A MS

Client Sample ID: Matrix Spike

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 16407

Prep Batch: 16038

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec Limits
	Result	Qualifier	Added	Result	Qualifier				
Bis(2-ethylhexyl) phthalate	ND		1.97	2.11		ug/L		107	70 - 130
Diazinon (Qualitative)	ND		1.97	1.75		ug/L		89	15 - 132
Dibenz(a,h)an hracene	ND		1.97	2.30		ug/L		116	70 - 130
Diclorvos (DDVP)	ND		1.97	2.10		ug/L		107	70 - 130
Dieldrin	ND		1.97	2.01		ug/L		102	70 - 130
Diethylphthalate	ND		1.97	1.96		ug/L		99	70 - 130
Dimethoate	ND		1.97	0.886		ug/L		45	34 - 111
Dimethylphalate	ND		1.97	2.01		ug/L		102	70 - 130
Di-n-butyl phthalate	ND		3.94	4.04		ug/L		102	70 - 130
Di-n-octyl phthalate	ND		1.97	1.84		ug/L		93	70 - 130
Endosulfan I (Alpha)	ND		1.97	2.13		ug/L		108	70 - 130
Endosulfan II (Beta)	ND		1.97	2.17		ug/L		110	70 - 130
Endosulfan sulfate	ND		1.97	2.12		ug/L		107	70 - 130
Endrin	ND		1.97	2.07		ug/L		105	70 - 130
Endrin aldehyde	ND		1.97	1.74		ug/L		88	70 - 130
EPTC	ND		1.97	2.06		ug/L		105	70 - 130
Fluoranthene	ND		1.97	2.19		ug/L		111	70 - 130
Fluorene	ND		1.97	2.12		ug/L		108	70 - 130
gamma-Chlordane	ND		1.97	2.18		ug/L		110	70 - 130
Heptachlor	ND	^3+	1.97	1.99		ug/L		101	70 - 130
Heptachlor epoxide (isomer B)	ND		1.97	2.00		ug/L		102	70 - 130
Hexachlorobenzene	ND		1.97	2.02		ug/L		103	70 - 130
Hexachlorocyclopentadiene	ND		1.97	1.91		ug/L		97	70 - 130
Indeno[1,2,3-cd]pyrene	ND		1.97	2.35		ug/L		119	70 - 130
Isophorone	ND		1.97	2.10		ug/L		106	70 - 130
Lindane	ND		1.97	2.06		ug/L		104	70 - 130
Malathion	ND		1.97	2.38		ug/L		121	70 - 130
Methoxychlor	ND		1.97	2.21		ug/L		112	70 - 130
Metolachlor	ND		1.97	2.15		ug/L		109	70 - 130
Metribuzin	ND		1.97	1.96		ug/L		99	70 - 130
Molinate	ND		1.97	2.11		ug/L		107	70 - 130
Naphthalene	ND		1.97	1.97		ug/L		100	70 - 130
Parathion	ND		1.97	2.21		ug/L		112	70 - 130
Pendimethalin (Penoxaline)	ND		1.97	1.97		ug/L		100	70 - 130
Phenanthrene	ND		1.97	2.00		ug/L		102	70 - 130
Propachlor	ND		1.97	2.02		ug/L		102	70 - 130
Pyrene	ND		1.97	2.20		ug/L		112	70 - 130
Simazine	ND		1.97	2.20		ug/L		111	70 - 130
Terbacil	ND		1.97	2.01		ug/L		102	70 - 130
Terbutylazine	ND		1.97	2.23		ug/L		113	70 - 130
Thiobencarb	ND		1.97	2.11		ug/L		107	70 - 130
trans-Nonachlor	ND		1.97	2.15		ug/L		109	70 - 130
Trifluralin	ND		1.97	2.14		ug/L		109	70 - 130

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
2-Nitro-m-xylene	98		70 - 130
Triphenylphosphate	107		70 - 130
Perylene-d12	93		70 - 130

Eurofins Eaton Monrovia

# QC Sample Results

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

Job ID: 380-18997-1

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

**Lab Sample ID: 380-18997-1 DU**  
**Matrix: Drinking Water**  
**Analysis Batch: 16407**

**Client Sample ID: MOANALUA WELLS**  
**Prep Type: Total/NA**  
**Prep Batch: 16038**

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	^3-	ND		ug/L		NC	20
Chlorobenzilate	ND		ND		ug/L		NC	20
Chloroneb	ND		ND		ug/L		NC	20
Chlorothalonil (Draconil, Bravo)	ND		ND		ug/L		NC	20
Chlorpyrifos	ND		ND		ug/L		NC	20
Chrysene	ND		ND		ug/L		NC	20
delta-BHC	ND		ND		ug/L		NC	20
Di(2-ethylhexyl)adipate	ND		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

# QC Sample Results

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

Job ID: 380-18997-1

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

Lab Sample ID: 380-18997-1 DU

Matrix: Drinking Water

Analysis Batch: 16407

Client Sample ID: MOANALUA WELLS

Prep Type: Total/NA

Prep Batch: 16038

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
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	^3+	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

Surrogate	DU	DU	Limits
	%Recovery	Qualifier	
2-Nitro-m-xylene	98		70 - 130
Triphenylphosphate	102		70 - 130
Perylene-d12	85		70 - 130

# QC Association Summary

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

Job ID: 380-18997-1

## GC/MS Semi VOA

### Prep Batch: 16038

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-18997-1	MOANALUA WELLS	Total/NA	Drinking Water	525.2	
MB 380-16038/1-A	Method Blank	Total/NA	Water	525.2	
LCS 380-16038/4-A	Lab Control Sample	Total/NA	Water	525.2	
LCSD 380-16038/5-A	Lab Control Sample Dup	Total/NA	Water	525.2	
MRL 380-16038/2-A	Lab Control Sample	Total/NA	Water	525.2	
380-18995-J-2-A MS	Matrix Spike	Total/NA	Water	525.2	
380-18997-1 DU	MOANALUA WELLS	Total/NA	Drinking Water	525.2	

### Analysis Batch: 16407

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-18997-1	MOANALUA WELLS	Total/NA	Drinking Water	525.2	16038
MB 380-16038/1-A	Method Blank	Total/NA	Water	525.2	16038
LCS 380-16038/4-A	Lab Control Sample	Total/NA	Water	525.2	16038
LCSD 380-16038/5-A	Lab Control Sample Dup	Total/NA	Water	525.2	16038
MRL 380-16038/2-A	Lab Control Sample	Total/NA	Water	525.2	16038
380-18995-J-2-A MS	Matrix Spike	Total/NA	Water	525.2	16038
380-18997-1 DU	MOANALUA WELLS	Total/NA	Drinking Water	525.2	16038



# Lab Chronicle

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

Job ID: 380-18997-1

**Client Sample ID: MOANALUA WELLS**

**Lab Sample ID: 380-18997-1**

**Date Collected: 08/29/22 10:00**

**Matrix: Drinking Water**

**Date Received: 08/30/22 10:00**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	525.2			16038	OTM3	EA MON	09/02/22 09:06
Total/NA	Analysis	525.2		1	16407	Q8LA	EA MON	09/07/22 13:30

**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: 380-18997-1

## 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: 380-18997-1

## Laboratory: Eurofins Eaton Monrovia (Continued)

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

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

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

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

# Method Summary

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

Job ID: 380-18997-1

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: 380-18997-1

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Lab Sample ID	Client Sample ID	Matrix	Collected	Received
380-18997-1	MOANALUA WELLS	Drinking Water	08/29/22 10:00	08/30/22 10:00
380-18997-2	TB:MOANALUA WELLS	Water	08/29/22 10:00	08/30/22 10:00

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Date: 09-20-2022  
EMAX Batch No.: 22H375

Attn: Jackie Contreras

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

Subject: Laboratory Report  
Project: 380-18997

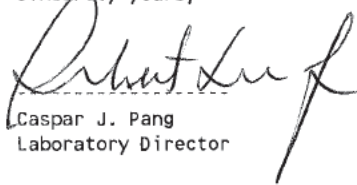
-----  
Enclosed is the Laboratory report for samples received on 08/31/22.  
The data reported relate only to samples listed below :

Sample ID	Control #	Col Date	Matrix	Analysis
380-18997-1	H375-01	08/29/22	WATER	TPH GASOLINE
380-18997-2	H375-02	08/29/22	WATER	TPH DIESEL & MOTOR OIL TPH GASOLINE

The results are summarized on the following pages.

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

Sincerely yours,

  
Caspar J. Pang  
Laboratory Director

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

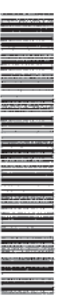
EMAX certifies that results included in this report meets all TNI & DOD requirements unless noted in the Case Narrative.

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

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

22H375

**Chain of Custody Record**



**Client Information (Sub Contract Lab)**

Client Contact: \_\_\_\_\_ Phone: \_\_\_\_\_ Lab PM: Frank, Debbie L  
 Shipping/Receiving: \_\_\_\_\_ E-Mail: Debbie.Frank@eurofins.com  
 Company: EMAX Laboratories Inc State: Hawaii  
 Address: 3051 Fujita Street, Due Date Requested: 9/7/2022  
 City: Torrance TAT Requested (days):  
 State, Zip: CA, 90505  
 Phone: \_\_\_\_\_ PO #: \_\_\_\_\_  
 Email: \_\_\_\_\_ WO #: \_\_\_\_\_  
 Project Name: RED-HILL Project #: 38001111  
 Site: Honolulu BWS Sites SSOV#: \_\_\_\_\_

Carrier Tracking No(s): \_\_\_\_\_ COC No: 380-20108.1  
 State of Origin: Hawaii Page: 1 of 1  
 Accreditations Required (See note): State - Hawaii Job #: 380-18997.1

**Analysis Requested**

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

**Preservation Codes:**

A - HCL  
 B - NaOH  
 C - Zn Acetate  
 D - Nitric Acid  
 E - NaHSO4  
 F - MeOH  
 G - Amchlor  
 H - Ascorbic Acid  
 I - Ice  
 J - DI Water  
 K - EDTA  
 L - EDA  
 M - Hexane  
 N - None  
 O - AsNaO2  
 P - Na2O4S  
 Q - Na2SO3  
 R - Na2S2O3  
 S - H2SO4  
 T - TSP Dodecalhydrate  
 U - Acetone  
 V - MCAA  
 W - pH 4.5  
 Y - Trizma  
 Z - other (specify)

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C-comp, G-grab)	MATRIX (W-water, S-soil, O-oil, BT-Toluene, AA-Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Analysis Requested	Total Number of containers	Special Instructions/Note:
MOANALLUA WELLS (331-223-T-P202) (380-18997-1)	8/29/22	10:00	Hawaiian	Water	X	X		6	See Attached Instructions
TB:MOANALLUA WELLS (331-223-T-P202) (380-18997-2)	8/29/22	10:00	Hawaiian	Water	X			2	See Attached Instructions

**Possible Hazard Identification**  
 Unclassified  
 Deliverable Requested: I, II, III, IV, Other (specify) \_\_\_\_\_ Primary Deliverable Rank: 2

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

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

**Relinquished by:** \_\_\_\_\_ Date/Time: 8/31/22 11:21 Company: EAAX

**Relinquished by:** \_\_\_\_\_ Date/Time: 8/31/22 10:35 Company: EAAX

**Relinquished by:** \_\_\_\_\_ Date/Time: 8/31/22 16:35 Company: EAAX

Cooler Temperature(s) °C and Other Remarks: 1.5

Custody Seal Intact: \_\_\_\_\_ Custody Seal No.: \_\_\_\_\_  
 REPORT ID: 22H375



Type of Delivery <input type="checkbox"/> Fedex <input type="checkbox"/> UPS <input type="checkbox"/> GSO <input type="checkbox"/> Others <input type="checkbox"/> EMAX Courier <input checked="" type="checkbox"/> Client Delivery	Airbill / Tracking Number	ECN <u>22H375</u> Recipient <u>Alan Ramos</u> Date <u>8/31/22</u> Time <u>1635</u>
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**COC INSPECTION**

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

**PACKAGING INSPECTION**

Container	<input checked="" type="checkbox"/> Cooler	<input type="checkbox"/> Box	<input type="checkbox"/> Other
Condition	<input type="checkbox"/> Custody Seal	<input type="checkbox"/> Intact	<input type="checkbox"/> Damaged
Packaging	<input checked="" type="checkbox"/> Bubble Pack	<input type="checkbox"/> Styrofoam	<input type="checkbox"/> Popcorn
Temperatures (Cool, ≤6 °C but not frozen)	<input checked="" type="checkbox"/> Cooler 1 <u>1.8</u> °C	<input type="checkbox"/> Cooler 2 _____ °C	<input type="checkbox"/> Cooler 3 _____ °C
Thermometer:	<input type="checkbox"/> Cooler 6 _____ °C	<input type="checkbox"/> Cooler 7 _____ °C	<input type="checkbox"/> Cooler 8 _____ °C
	<input type="checkbox"/> Cooler 9 _____ °C	<input type="checkbox"/> Cooler 10 _____ °C	
	A - S/N _____	B - S/N <u>210760237</u>	C - S/N _____
			<input checked="" type="checkbox"/> S/N <u>210760272</u>

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

**DISCREPANCIES**

LabSampleID	LabSampleContainerID	Code	ClientSample Label ID / Information	Corrective Action
<u>2</u>	<u>7</u>	<u>D14</u>		<u>R4</u>
<u>2</u>	<u>8</u>	<u>D22</u>	<u>2nd Date reads: 8/16/22</u>	<u>PH</u>
<u>EA 9/1/22</u>				

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

**NOTES/OBSERVATIONS:**  
 SAMPLE MATRIX IS DRINKING WATER?  YES  NO

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

REVIEWS:

Sample Labeling <u>JAM/CA</u>	SRF <u>Alvin</u>	PM <u>EA for RB</u>
Date <u>8/31/22</u>	Date <u>8/31/22</u>	Date <u>9/1/22</u>

## REPORTING CONVENTIONS

### DATA QUALIFIERS:

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

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

### ACRONYMS AND ABBREVIATIONS:

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

### DATES

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

LABORATORY REPORT FOR

EUROFINS EATON ANALYTICAL

380-18997

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

SDG#: 22H375





CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 380-18997

SDG : 22H375

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

A total of two(2) water samples were received on 08/31/22 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. VG39I01B - 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. VG39I01L/VG39I01C 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 H372-01M/H372-01S. Refer to Matrix QC summary form for details.

Surrogate

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

Sample Analysis

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

LAB CHRONICLE  
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

Client : EUROFINS EATON ANALYTICAL  
Project : 380-18997

SDG NO. : 22H375  
Instrument ID : GCT039

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Prep. Data FN	Notes	
				WATER					
MBLK1W	VG39I01B	1	NA	09/01/2213:19	09/01/2213:19	EI01005A	EI01003A	22VG39I01 Method Blank	
LCS1W	VG39I01L	1	NA	09/01/2213:57	09/01/2213:57	EI01006A	EI01003A	22VG39I01 Lab Control Sample (LCS)	
LCD1W	VG39I01C	1	NA	09/01/2214:34	09/01/2214:34	EI01007A	EI01003A	22VG39I01 LCS Duplicate	
380-18997-1	H375-01	1	NA	09/01/2217:48	09/01/2217:48	EI01012A	EI01003A	22VG39I01 Field Sample	
380-18997-2	H375-02	1	NA	09/01/2218:26	09/01/2218:26	EI01013A	EI01003A	22VG39I01 Field Sample	

FN - Filename  
% Moist - Percent Moisture



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# SAMPLE RESULTS

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

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 08/29/22 10:00
Project     : 380-18997                   Date Received: 08/31/22
Batch No.   : 22H375                       Date Extracted: 09/01/22 17:48
Sample ID   : 380-18997-1                 Date Analyzed: 09/01/22 17:48
Lab Samp ID : H375-01                     Dilution Factor: 1
Lab File ID : E101012A                     Matrix: WATER
Ext Btch ID : 22VG39I01                    % Moisture: NA
Calib. Ref.: E101003A                     Instrument ID: 39
=====

```

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

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromofluorobenzene	0.0366	0.0400	91	60-140

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

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



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

=====  
Client : EUROFINS EATON ANALYTICAL Date Collected: 08/29/22 10:00  
Project : 380-18997 Date Received: 08/31/22  
Batch No. : 22H375 Date Extracted: 09/01/22 18:26  
Sample ID : 380-18997-2 Date Analyzed: 09/01/22 18:26  
Lab Samp ID: H375-02 Dilution Factor: 1  
Lab File ID: EI01013A Matrix: WATER  
Ext Btch ID: 22VG39101 % Moisture: NA  
Calib. Ref.: EI01003A Instrument ID: 39  
=====

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
-----	-----	-----	-----	
GASOLINE	ND	0.020	0.010	
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
-----	-----	-----	-----	-----
Bromofluorobenzene	0.0351	0.0400	88	60-140
=====	=====	=====	=====	=====

Notes:

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

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

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# QC SUMMARIES

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

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 09/01/22 13:19
Project    : 380-18997                   Date Received: 09/01/22
Batch No.  : 22H375                       Date Extracted: 09/01/22 13:19
Sample ID  : MBLK1W                       Date Analyzed: 09/01/22 13:19
Lab Samp ID: VG39101B                    Dilution Factor: 1
Lab File ID: EI01005A                    Matrix: WATER
Ext Btch ID: 22VG39101                   % Moisture: NA
Calib. Ref.: EI01003A                   Instrument ID: 39
=====

```

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

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromofluorobenzene	0.0342	0.0400	85	60-140

Notes:

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

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

EMAX QUALITY CONTROL DATA  
LAB CONTROL SAMPLE ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL  
PROJECT : 380-18997  
BATCH NO. : 22H375  
METHOD : 5030B/8015B

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR:	1	1	1
SAMPLE ID	: MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID	: VG39101B	VG39101L	VG39101C
LAB FILE ID	: EI01005A	EI01006A	EI01007A
DATE PREPARED	: 09/01/22 13:19	09/01/22 13:57	09/01/22 14:34
DATE ANALYZED	: 09/01/22 13:19	09/01/22 13:57	09/01/22 14:34
PREP BATCH	: 22VG39101	22VG39101	22VG39101
CALIBRATION REF:	EI01003A	EI01003A	EI01003A

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	0.498	100	0.500	0.509	102	2	60-130	30

SURROGATE PARAMETER	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	QCLimit (%)
Bromofluorobenzene	0.0400	0.0446	112	0.0400	0.0456	114	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 : 380-18990  
BATCH NO. : 22H372  
METHOD : 5030B/8015B

```

=====
MATRIX      : WATER                                % MOISTURE:NA
DILUTION FACTOR: 1                                1
SAMPLE ID   : 380-18990-1                        380-18990-1MS  380-18990-1MSD
LAB SAMPLE ID : H372-01                          H372-01M      H372-01S
LAB FILE ID  : E101008A                          E101009A      E101010A
DATE PREPARED : 09/01/22 15:18                   09/01/22 15:55 09/01/22 16:32
DATE ANALYZED : 09/01/22 15:18                   09/01/22 15:55 09/01/22 16:32
PREP BATCH   : 22VG39101                          22VG39101     22VG39101
CALIBRATION REF: E101003A                          E101003A      E101003A
  
```

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	0.514	103	0.500	0.501	100	3	50-130	30

SURROGATE PARAMETER	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	QCLimit (%)
Bromofluorobenzene	0.0400	0.0478	120	0.0400	0.0473	118	60-140

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

LABORATORY REPORT FOR

EUROFINS EATON ANALYTICAL

380-18997

METHOD 3520C/8015B  
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

SDG#: 22H375



CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 380-18997

SDG : 22H375

METHOD 3520C/8015B  
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

One(1) water sample was received on 08/31/22 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. DSI004WB - 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 DSI004WL. 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 22H331-01M/22H331-01S. 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 : 380-18997  
 SDG NO. : 22H375  
 Instrument ID : D5

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Prep.		Notes
							Data FN	Batch	
380-18997-1	MBLK1W	1	NA	09/02/2217:20	09/01/2217:30	LI02010A	LI02003A	22DS1004W	Method Blank
	LCS1W	1	NA	09/02/2217:39	09/01/2217:30	LI02011A	LI02003A	22DS1004W	Lab Control Sample (LCS)
		H375-01	1	NA	09/03/2201:25	09/01/2217:30	LI02036A	LI02024A	22DS1004W

FN - Filename  
 % Moist - Percent Moisture



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# SAMPLE RESULTS

METHOD 3520C/8015B  
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 08/29/22 10:00
Project    : 380-18997                   Date Received: 08/31/22
Batch No.  : 22H375                       Date Extracted: 09/01/22 17:30
Sample ID  : 380-18997-1                 Date Analyzed: 09/03/22 01:25
Lab Samp ID: 22H375-01                   Dilution Factor: 1
Lab File ID: LI02036A                     Matrix: WATER
Ext Btch ID: 22DSI004W                    % Moisture: NA
Calib. Ref.: LI02024A                     Instrument ID: D5
=====

```

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
Diesel	ND	0.027	0.014	
Motor Oil	ND	0.055	0.027	
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.430	0.545	79	60-130
Hexacosane	0.133	0.136	98	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 : 920ml                      Final Volume : 5ml  
Prepared by : JMuert                        Analyzed by : SDeeso

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# QC SUMMARIES

METHOD 3520C/8015B  
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 09/01/22 17:30
Project     : 380-18997                   Date Received: 09/01/22
Batch No.   : 22H375                       Date Extracted: 09/01/22 17:30
Sample ID   : MBLK1W                       Date Analyzed: 09/02/22 17:20
Lab Samp ID: DS1004WB                      Dilution Factor: 1
Lab File ID: LI02010A                      Matrix: WATER
Ext Btch ID: 22DS1004W                    % Moisture: NA
Calib. Ref.: LI02003A                     Instrument ID: D5
=====

```

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
Diesel	ND	0.025	0.012	
Motor Oil	ND	0.050	0.025	
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.490	0.500	98	60-130
Hexacosane	0.126	0.125	101	60-130

Notes:

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

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

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



EMAX QUALITY CONTROL DATA  
LAB CONTROL SAMPLE ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL  
PROJECT : 380-18997  
BATCH NO. : 22H375  
METHOD : 3520C/8015B

=====

MATRIX	: WATER	% MOISTURE:NA
DILUTION FACTOR:	1	1
SAMPLE ID	: MBLK1W	LCS1W
LAB SAMPLE ID	: DSI004WB	DSI004WL
LAB FILE ID	: LI02010A	LI02011A
DATE PREPARED	: 09/01/22 17:30	09/01/22 17:30
DATE ANALYZED	: 09/02/22 17:20	09/02/22 17:39
PREP BATCH	: 22DSI004W	22DSI004W
CALIBRATION REF:	LI02003A	LI02003A

ACCESSION:

PARAMETERS	MBResult (mg/L)	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	QCLimit (%)
Diesel	ND	2.50	2.46	98	50-130

SURROGATE PARAMETERS	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	QCLimit (%)
Bromobenzene	0.500	0.538	108	60-130
Hexacosane	0.125	0.131	105	60-130

MB: Method Blank sample    LCS: Lab Control Sample

EMAX QUALITY CONTROL DATA  
MS/MSD ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL  
PROJECT : 380-18576  
BATCH NO. : 22H331  
METHOD : 3520C/8015B

```

=====
MATRIX      : WATER                                     % MOISTURE:NA
DILUTION FACTOR: 1                                     1
SAMPLE ID   : 380-18576-1                             380-18576-1MS
LAB SAMPLE ID : 22H331-01                             22H331-01M
LAB FILE ID  : LI02016A                               LI02017A
DATE PREPARED : 09/01/22 17:30                       09/01/22 17:30
DATE ANALYZED : 09/02/22 19:13                       09/02/22 19:50
PREP BATCH   : 22DSI004W                             22DSI004W
CALIBRATION REF: LI02003A                             LI02003A
    
```

ACCESSION:

PARAMETERS	PSResult (mg/L)	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
Diesel	ND	2.78	3.23	116	2.80	2.97	106	8	50-130	30

SURROGATE PARAMETERS	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	QCLimit (%)
Bromobenzene	0.555	0.497	90	0.560	0.485	87	60-130
Hexacosane	0.139	0.147	106	0.140	0.141	101	60-130

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

September 09, 2022

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

Project Name: RED-HILL Project # 38001111 Job # 380-18997-1  
 Physis Project ID: 1407003-286

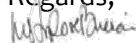
Dear Debbie,

Enclosed are the analytical results for the sample submitted to PHYSIS Environmental Laboratories, Inc. (PHYSIS) on 8/31/2022. 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: 1407003-286

RED-HILL Project # 38001111 Job # 380-18997-1

Total Samples: 1

PHYSIS ID	Sample ID	Description	Date	Time	Matrix	Sample Type
99781	MOANALUA WELLS	331-223-TP202 (380-18997-1)	8/29/2022	10:00	Samplewater	Not Specified

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## ABBREVIATIONS and ACRONYMS

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

## QUALITY ASSURANCE SUMMARY

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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## PHYSIS QUALIFIER CODES

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



---

## 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: 99781-R1    MOANALUA WELLS 331-223-TP202    Matrix: Samplewater    Sampled: 29-Aug-22 10:00    Received: 31-Aug-22</b>											
Disalicylidenepranediamine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-38104	01-Sep-22	06-Sep-22



## Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed				
<b>Sample ID: 99781-R1</b>							<b>MOANALUA WELLS 331-223-TP202</b>		<b>Matrix: Samplewater</b>			<b>Sampled: 29-Aug-22 10:00</b>		<b>Received: 31-Aug-22</b>	
(d10-Acenaphthene)	EPA 625.1	% Recovery	76	1			Total		O-38104	01-Sep-22	06-Sep-22				
(d10-Phenanthrene)	EPA 625.1	% Recovery	78	1			Total		O-38104	01-Sep-22	06-Sep-22				
(d12-Chrysene)	EPA 625.1	% Recovery	73	1			Total		O-38104	01-Sep-22	06-Sep-22				
(d12-Perylene)	EPA 625.1	% Recovery	49	1			Total		O-38104	01-Sep-22	06-Sep-22				
(d8-Naphthalene)	EPA 625.1	% Recovery	75	1			Total		O-38104	01-Sep-22	06-Sep-22				
1-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38104	01-Sep-22	06-Sep-22				
1-Methylphenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38104	01-Sep-22	06-Sep-22				
2,3,5-Trimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38104	01-Sep-22	06-Sep-22				
2,6-Dimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38104	01-Sep-22	06-Sep-22				
2-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38104	01-Sep-22	06-Sep-22				
Acenaphthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38104	01-Sep-22	06-Sep-22				
Acenaphthylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38104	01-Sep-22	06-Sep-22				
Anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38104	01-Sep-22	06-Sep-22				
Benz[a]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38104	01-Sep-22	06-Sep-22				
Benzo[a]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38104	01-Sep-22	06-Sep-22				
Benzo[b]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38104	01-Sep-22	06-Sep-22				
Benzo[e]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38104	01-Sep-22	06-Sep-22				
Benzo[g,h,i]perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38104	01-Sep-22	06-Sep-22				
Benzo[k]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38104	01-Sep-22	06-Sep-22				
Biphenyl	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38104	01-Sep-22	06-Sep-22				
Chrysene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38104	01-Sep-22	06-Sep-22				
D benz[a,h]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38104	01-Sep-22	06-Sep-22				
D benzo[a,l]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38104	01-Sep-22	06-Sep-22				
D benzothiophene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38104	01-Sep-22	06-Sep-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-38104	01-Sep-22	06-Sep-22
Fluorene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38104	01-Sep-22	06-Sep-22
Indeno[1,2,3-cd]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38104	01-Sep-22	06-Sep-22
Naphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38104	01-Sep-22	06-Sep-22
Perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38104	01-Sep-22	06-Sep-22
Phenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38104	01-Sep-22	06-Sep-22
Pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38104	01-Sep-22	06-Sep-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: 99780-B1</b>		<b>QAQC Procedural Blank</b>			<b>Matrix: BlankMatrix</b>		<b>Sampled:</b>		<b>Received:</b>				
		Method: EPA 625.1			Batch ID: O-38104		Prepared: 29-Aug-22		Analyzed: 03-Sep-22				
Disalicylideneprapanediamin	Total	ND	1	0.05	0.1	µg/L							
<b>Sample ID: 99780-BS1</b>		<b>QAQC Procedural Blank</b>			<b>Matrix: BlankMatrix</b>		<b>Sampled:</b>		<b>Received:</b>				
		Method: EPA 625.1			Batch ID: O-38104		Prepared: 29-Aug-22		Analyzed: 03-Sep-22				
Disalicylideneprapanediamin	Total	30.5	1	0.05	0.1	µg/L	50	0	61	50 - 150%	PASS		
<b>Sample ID: 99780-BS2</b>		<b>QAQC Procedural Blank</b>			<b>Matrix: BlankMatrix</b>		<b>Sampled:</b>		<b>Received:</b>				
		Method: EPA 625.1			Batch ID: O-38104		Prepared: 29-Aug-22		Analyzed: 03-Sep-22				
Disalicylideneprapanediamin	Total	31.9	1	0.05	0.1	µg/L	50	0	64	50 - 150%	PASS	5	30 PASS

**Polynuclear Aromatic Hydrocarbons**

**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY	PRECISION	QA CODEc
							LEVEL	RESULT	% LIMITS	% LIMITS	
<b>Sample ID: 99780-B1</b>		<b>QAQC Procedural Blank</b>			<b>Matrix: BlankMatrix</b>		<b>Sampled:</b>		<b>Received:</b>		
	Method: EPA 625.1					Batch ID: O-38104	Prepared: 29-Aug-22	Analyzed: 03-Sep-22			
(d10-Acenaphthene)	Total	84	1			% Recovery	100	84	65 - 113%	PASS	
(d10-Phenanthrene)	Total	87	1			% Recovery	100	87	80 - 111%	PASS	
(d12-Chrysene)	Total	84	1			% Recovery	100	84	60 - 139%	PASS	
(d12-Perylene)	Total	83	1			% Recovery	100	83	36 - 161%	PASS	
(d8-Naphthalene)	Total	78	1			% Recovery	100	78	44 - 119%	PASS	
1-Methylnaphthalene	Total	ND	1	0.001	0.005	µg/L					
1-Methylphenanthrene	Total	ND	1	0.001	0.005	µg/L					
2,3,5-Trimethylnaphthalene	Total	ND	1	0.001	0.005	µg/L					
2,6-Dimethylnaphthalene	Total	ND	1	0.001	0.005	µg/L					
2-Methylnaphthalene	Total	ND	1	0.001	0.005	µg/L					
Acenaphthene	Total	ND	1	0.001	0.005	µg/L					
Acenaphthylene	Total	ND	1	0.001	0.005	µg/L					
Anthracene	Total	ND	1	0.001	0.005	µg/L					
Benz[a]anthracene	Total	ND	1	0.001	0.005	µg/L					
Benzo[a]pyrene	Total	ND	1	0.001	0.005	µg/L					
Benzo[b]fluoranthene	Total	ND	1	0.001	0.005	µg/L					
Benzo[e]pyrene	Total	ND	1	0.001	0.005	µg/L					
Benzo[g,h,i]perylene	Total	ND	1	0.001	0.005	µg/L					
Benzo[k]fluoranthene	Total	ND	1	0.001	0.005	µg/L					
Biphenyl	Total	ND	1	0.001	0.005	µg/L					
Chrysene	Total	ND	1	0.001	0.005	µg/L					
Dibenz[a,h]anthracene	Total	ND	1	0.001	0.005	µg/L					
Dibenzo[a,l]pyrene	Total	ND	1	0.001	0.005	µg/L					



## Polynuclear Aromatic Hydrocarbons

## QUALITY CONTROL REPORT

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



## Polynuclear Aromatic Hydrocarbons

## QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY		PRECISION	QA CODE
							LEVEL	RESULT	%	LIMITS	%	LIMITS
<b>Sample ID: 99780-BS1</b>		<b>QAQC Procedural Blank</b>			<b>Matrix: BlankMatrix</b>			<b>Sampled:</b>		<b>Received:</b>		
Method: EPA 625.1		Batch ID: O-38104			Prepared: 29-Aug-22		Analyzed: 03-Sep-22					
(d10-Acenaphthene)	Total	83	1			% Recovery	100	0	83	65 - 113%	PASS	
(d10-Phenanthrene)	Total	86	1			% Recovery	100	0	86	80 - 111%	PASS	
(d12-Chrysene)	Total	84	1			% Recovery	100	0	84	60 - 139%	PASS	
(d12-Perylene)	Total	83	1			% Recovery	100	0	83	36 - 161%	PASS	
(d8-Naphthalene)	Total	74	1			% Recovery	100	0	74	44 - 119%	PASS	
1-Methylnaphthalene	Total	0.397	1	0.001	0.005	µg/L	0.5	0	79	49 - 117%	PASS	
1-Methylphenanthrene	Total	0.492	1	0.001	0.005	µg/L	0.5	0	98	66 - 127%	PASS	
2,3,5-Trimethylnaphthalene	Total	0.405	1	0.001	0.005	µg/L	0.5	0	81	57 - 120%	PASS	
2,6-Dimethylnaphthalene	Total	0.389	1	0.001	0.005	µg/L	0.5	0	78	54 - 117%	PASS	
2-Methylnaphthalene	Total	0.402	1	0.001	0.005	µg/L	0.5	0	80	47 - 130%	PASS	
Acenaphthene	Total	0.403	1	0.001	0.005	µg/L	0.5	0	81	53 - 131%	PASS	
Acenaphthylene	Total	0.389	1	0.001	0.005	µg/L	0.5	0	78	43 - 140%	PASS	
Anthracene	Total	0.412	1	0.001	0.005	µg/L	0.5	0	82	58 - 135%	PASS	
Benz[a]anthracene	Total	0.436	1	0.001	0.005	µg/L	0.5	0	87	55 - 145%	PASS	
Benzo[a]pyrene	Total	0.402	1	0.001	0.005	µg/L	0.5	0	80	51 - 143%	PASS	
Benzo[b]fluoranthene	Total	0.515	1	0.001	0.005	µg/L	0.5	0	103	46 - 165%	PASS	
Benzo[e]pyrene	Total	0.462	1	0.001	0.005	µg/L	0.5	0	92	42 - 152%	PASS	
Benzo[g,h,i]perylene	Total	0.424	1	0.001	0.005	µg/L	0.5	0	85	63 - 133%	PASS	
Benzo[k]fluoranthene	Total	0.462	1	0.001	0.005	µg/L	0.5	0	92	56 - 145%	PASS	
Biphenyl	Total	0.392	1	0.001	0.005	µg/L	0.5	0	78	56 - 119%	PASS	
Chrysene	Total	0.402	1	0.001	0.005	µg/L	0.5	0	80	56 - 141%	PASS	
Dibenz[a,h]anthracene	Total	0.522	1	0.001	0.005	µg/L	0.5	0	104	55 - 150%	PASS	
Dibenzo[a,l]pyrene	Total	0.285	1	0.001	0.005	µg/L	0.5	0	57	50 - 150%	PASS	

## Polynuclear Aromatic Hydrocarbons

## QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY		PRECISION		QA CODE <sub>c</sub>
							LEVEL	RESULT	%	LIMITS	%	LIMITS	
Dibenzothiophene	Total	0.412	1	0.001	0.005	µg/L	0.5	0	82	75 - 113%	PASS		
Fluoranthene	Total	0.501	1	0.001	0.005	µg/L	0.5	0	100	60 - 146%	PASS		
Fluorene	Total	0.433	1	0.001	0.005	µg/L	0.5	0	87	58 - 131%	PASS		
Indeno[1,2,3-cd]pyrene	Total	0.546	1	0.001	0.005	µg/L	0.5	0	109	50 - 151%	PASS		
Naphthalene	Total	0.364	1	0.001	0.005	µg/L	0.5	0	73	41 - 126%	PASS		
Perylene	Total	0.444	1	0.001	0.005	µg/L	0.5	0	89	48 - 141%	PASS		
Phenanthrene	Total	0.408	1	0.001	0.005	µg/L	0.5	0	82	67 - 127%	PASS		
Pyrene	Total	0.506	1	0.001	0.005	µg/L	0.5	0	101	54 - 156%	PASS		

## Polynuclear Aromatic Hydrocarbons

## QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY		PRECISION		QA CODEc		
							LEVEL	RESULT	%	LIMITS	%	LIMITS			
<b>Sample ID: 99780-BS2</b>		<b>QAQC Procedural Blank</b>			<b>Matrix: BlankMatrix</b>			<b>Sampled:</b>			<b>Received:</b>				
		Method: EPA 625.1			Batch ID: O-38104			Prepared: 29-Aug-22			Analyzed: 03-Sep-22				
(d10-Acenaphthene)	Total	86	1				% Recovery	100	0	86	65 - 113%	PASS	4	30	PASS
(d10-Phenanthrene)	Total	88	1				% Recovery	100	0	88	80 - 111%	PASS	2	30	PASS
(d12-Chrysene)	Total	82	1				% Recovery	100	0	82	60 - 139%	PASS	2	30	PASS
(d12-Perylene)	Total	89	1				% Recovery	100	0	89	36 - 161%	PASS	7	30	PASS
(d8-Naphthalene)	Total	81	1				% Recovery	100	0	81	44 - 119%	PASS	9	30	PASS
1-Methylnaphthalene	Total	0.408	1	0.001	0.005	µg/L		0.5	0	82	49 - 117%	PASS	4	30	PASS
1-Methylphenanthrene	Total	0.463	1	0.001	0.005	µg/L		0.5	0	93	66 - 127%	PASS	5	30	PASS
2,3,5-Trimethylnaphthalene	Total	0.436	1	0.001	0.005	µg/L		0.5	0	87	57 - 120%	PASS	7	30	PASS
2,6-Dimethylnaphthalene	Total	0.413	1	0.001	0.005	µg/L		0.5	0	83	54 - 117%	PASS	6	30	PASS
2-Methylnaphthalene	Total	0.417	1	0.001	0.005	µg/L		0.5	0	83	47 - 130%	PASS	4	30	PASS
Acenaphthene	Total	0.418	1	0.001	0.005	µg/L		0.5	0	84	53 - 131%	PASS	4	30	PASS
Acenaphthylene	Total	0.421	1	0.001	0.005	µg/L		0.5	0	84	43 - 140%	PASS	7	30	PASS
Anthracene	Total	0.426	1	0.001	0.005	µg/L		0.5	0	85	58 - 135%	PASS	4	30	PASS
Benz[a]anthracene	Total	0.42	1	0.001	0.005	µg/L		0.5	0	84	55 - 145%	PASS	4	30	PASS
Benzo[a]pyrene	Total	0.465	1	0.001	0.005	µg/L		0.5	0	93	51 - 143%	PASS	15	30	PASS
Benzo[b]fluoranthene	Total	0.517	1	0.001	0.005	µg/L		0.5	0	103	46 - 165%	PASS	0	30	PASS
Benzo[e]pyrene	Total	0.481	1	0.001	0.005	µg/L		0.5	0	96	42 - 152%	PASS	4	30	PASS
Benzo[g,h,i]perylene	Total	0.431	1	0.001	0.005	µg/L		0.5	0	86	63 - 133%	PASS	1	30	PASS
Benzo[k]fluoranthene	Total	0.465	1	0.001	0.005	µg/L		0.5	0	93	56 - 145%	PASS	1	30	PASS
Biphenyl	Total	0.413	1	0.001	0.005	µg/L		0.5	0	83	56 - 119%	PASS	6	30	PASS
Chrysene	Total	0.398	1	0.001	0.005	µg/L		0.5	0	80	56 - 141%	PASS	0	30	PASS
Dibenz[a,h]anthracene	Total	0.525	1	0.001	0.005	µg/L		0.5	0	105	55 - 150%	PASS	1	30	PASS
Dibenzo[a,l]pyrene	Total	0.335	1	0.001	0.005	µg/L		0.5	0	67	50 - 150%	PASS	16	30	PASS

## Polynuclear Aromatic Hydrocarbons

## QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY		PRECISION		QA CODE <sub>c</sub>	
							LEVEL	RESULT	%	LIMITS	%	LIMITS		
Dibenzothiophene	Total	0.429	1	0.001	0.005	µg/L	0.5	0	86	75 - 113%	PASS	5	30	PASS
Fluoranthene	Total	0.475	1	0.001	0.005	µg/L	0.5	0	95	60 - 146%	PASS	5	30	PASS
Fluorene	Total	0.468	1	0.001	0.005	µg/L	0.5	0	94	58 - 131%	PASS	8	30	PASS
Indeno[1,2,3-cd]pyrene	Total	0.551	1	0.001	0.005	µg/L	0.5	0	110	50 - 151%	PASS	1	30	PASS
Naphthalene	Total	0.393	1	0.001	0.005	µg/L	0.5	0	79	41 - 126%	PASS	8	30	PASS
Perylene	Total	0.453	1	0.001	0.005	µg/L	0.5	0	91	48 - 141%	PASS	2	30	PASS
Phenanthrene	Total	0.423	1	0.001	0.005	µg/L	0.5	0	85	67 - 127%	PASS	4	30	PASS
Pyrene	Total	0.473	1	0.001	0.005	µg/L	0.5	0	95	54 - 156%	PASS	6	30	PASS

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**PHYSIS**

**TENTATIVELY**

**IDENTIFIED COMPOUNDS**

ENVIRONMENTAL LABORATORIES, INC.

*Innovative Solutions for Nature*

Sample ID: 99781

RT	Area Pct	Concentration (ng/L)	Library/ID	Cas Number	Match Qual
32.5252	9.0820	1111	Anthracene-D10-	1517-22-2	96
No Compounds Met The Search Criteria					

Concentration estimated using the response for Anthracene-d10

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Sample ID: B1\_38104

RT	Area Pct	Concentration (ng/L)	Library/ID	Cas Number	Match Qual
32.5320	8.1329	1111	Anthracene-D10-	1517-22-2	97
17.6300	0.9559	131	Propanoic acid, 2-methyl-, 3-hydroxy-2,2,4-trimethylpentyl ester	77-68-9	97

Concentration estimated using the response for Anthracene-d10

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# PERFORMANCE CHAIN OF CUSTODY

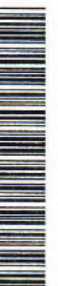
TERRA ENVIRONMENTAL LABORATORIES, INC. AURA

*Innovative Solutions for Nature*

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

# Chain of Custody Record



**Client Information (Sub Contract Lab)**  
 Client Contact: Frank, Debbie L  
 Shipping/Receiving: Debbie.Frank@eurofins.com  
 Company: Physics Environmental Laboratories  
 Address: 1904 Wright Circle,  
 City: Anaheim  
 State, Zip: CA, 92806  
 Phone: PO #:  
 Email: W/O #:  
 Project Name: RED-HILL  
 Project #: 38001111  
 SSSOW#: Honolulu BWS Sites

Sampler: Frank, Debbie L  
 Lab Pkt: Debbie L  
 E-Mail: Debbie.Frank@eurofins.com  
 State of Origin: Hawaii  
 Carrier Tracking No(s):  
 COC No: 380-20109-1  
 Page: 380-20109-1  
 Page 1 of 1  
 Job #: 380-18997-1

Due Date Requested: 9/7/2022  
 TAT Requested (days):  
 Analysis Requested

Field Filtered Sample (Yes or No)  
 Perform MS/MSD (Yes or No)  
 SUB (625 PAH Physis LL (EAL) + TICs) / 625 PAH Physis LL (EAL) + TICs

Preservation Codes:  
 A - HCL  
 B - NaOH  
 C - Zn Acetate  
 D - Nitric Acid  
 E - NaHSO4  
 F - MeOH  
 G - Anchoir  
 H - Ascorbic Acid  
 I - Ice  
 J - DI Water  
 K - EDTA  
 L - EDA  
 M - Hexane  
 N - None  
 O - AsnO2  
 P - Na2CO3  
 Q - Na2SO3  
 R - Na2S2O3  
 S - H2SO4  
 T - TSP Dodecahydrate  
 U - Acetone  
 V - MCAA  
 W - pH 4.5  
 Y - Trizma  
 Z - other (specify)  
 Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Preservation Code	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Analysis Requested	Total Number of containers	Special Instructions/Note:
MOANALLA WELLS (331-223-TP202) (380-18997-1)	8/29/22	10:00	Water			X	SUB (625 PAH Physis LL (EAL) + TICs) / 625 PAH Physis LL (EAL) + TICs	2	See Attached Instructions

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

**Possible Hazard Identification**  
 Unconfirmed  
 Deliverable Requested: I, II, III, IV, Other (specify)  
 Primary Deliverable Rank: 2  
 Empty Kit Relinquished by: Date:  
 Relinquished by: Date/Time: Company:  
 Relinquished by: Date/Time: Company:  
 Relinquished by: Date/Time: Company:

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

Special Instructions/QC Requirements:

Relinquished by: Date/Time: Company:  
 Relinquished by: Date/Time: Company:  
 Relinquished by: Date/Time: Company:  
 Custody Seals Intact: Custody Seal No.:  
 Cooler Temperature(s) °C and Other Remarks:



Project Iteration ID: 1407003-286  
 Client Name: Eurofins Eaton Analytical  
 Project Name: RED-HILL Project # 38001111  
 Job # 380-18997-1  
 COC Page Number: 2 of 2  
 Bottle Label Color: NA

### Sample Receipt Summary

#### Receiving Info

1. Initials Received By: [Signature]
2. Date Received: 8/31/22
3. Time Received: 1340
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)
  - 1 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): 5.0  
 Used I/R Thermometer # 1-2


#### Inspection Info

1. Initials Inspected By: [Signature]

#### Sample Integrity Upon Receipt:

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

Notes:

<b>Client Information</b> Client Contact: Dr. Ron Fenstermacher City & County of Honolulu Address: 630 South Beretania Street Chemistry Lab City: Honolulu State, Zip: HI, 96843 Phone: 808-748-5091(Tel) Email: RFENSTERMACHER@hbws.org Project Name: RED-HILL/HBWS Sites Event Desc. RUSH Weekly Red Hill Site: Hawaii		Lab PM: Frank, Debbie L E-Mail: Debbie.Frank@et.eurofins.com Camer Tracking No(s): 380-9752-2757.1 State of Origin: Page 1 of 3 Job #:	
Due Date Requested: TAT Requested (days): Compliance Project: <input type="checkbox"/> Yes <input type="checkbox"/> No PO #: C20525101 exp 05312023 WO #: Project #: 38001111 SSOW#:		Analysis Requested: SUBCONTRACT - 625 PAH Phys LL (EAL) + TICs SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL) SUBCONTRACT - 8015 Diesel LL (EAL) and Motor Oil 525.2 PREC - (MOD) 525plus Plus TICs SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL)	
Field Filtered Sample (Yes or No)		Total Number of Containers	
<b>Sample Identification</b> AIEA GULCH WELLS PUMP 1 (331-201-TP071) AIEA GULCH WELLS PUMP 2 (331-202-TP072) AIEA WELLS PUMPS1&2(260)331-203-TP400 HALAWA SHAFT (331-241-TP401) HALAWA WELLS UNITS1&2(331-206-TP065) MOANALUA WELLS (331-223-TP202) AIEA GULCH WELLS PUMP 1 (331-201-TP071) AIEA GULCH WELLS PUMP 2 (331-202-TP072) AIEA WELLS PUMPS1&2(260)331-203-TP400 HALAWA SHAFT (331-241-TP401) HALAWA WELLS UNITS1&2(331-206-TP065)		Special Instructions/Note: 380-18997 COC 	
Sample Date: 08/29/22 Sample Time: 1000 Sample Type (C=comp, G=grab): G Matrix (W=water, S=solid, O=soil, D=dust, BT=Tissue, A=air): Water		Preservation Codes: M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Y - Trizma Z - other (specify) Other:	
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological			
Deliverable Requested: I, II, III, IV, Other (specify)			
Empty Kit Relinquished by:			
Date/Time: 08/30/22 1200 Company: HBWS Received by:		Date/Time: 08/30/22 1000 Company:	
Date/Time:		Date/Time:	
Date/Time:		Date/Time:	
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:	



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

# Chain of Custody Record



Environment Testing  
 America

<b>Client Information</b>		Lab PM Frank, Debbie L	Carrier Tracking No(s) 380-9752-2757.2
Client Contact: Dr. Ron Fenstermacher		E-Mail Debbie.Frank@et.eurofins.com	Page Page 2 of 3
Company City & County of Honolulu		FWSID	Job #
Address: 630 South Beretania Street Chemistry Lab		State of Origin	
City Honolulu		Analysis Requested	
State, Zip HI, 96843		SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL)	
Phone 808-748-5091(Tel)		SUBCONTRACT - (MOD) 525plus Plus TICs	
Email RFENSTERMACHER@hbws.org		SUBCONTRACT - 8015 Diesel LL (EAL) and Motor Oil	
Project Name RED-HILL/HBWS Sites Event Desc: RUSH Weekly Red Hill		SUBCONTRACT - 825 PAH Physis LL (EAL) + TICs	
Site Hawaii		Perform MS/MSB (Yes or No)	
Due Date Requested:		Field Filtered Sample (Yes or No)	
TAT Requested (days):		SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL)	
Compliance Project: <input type="checkbox"/> Yes <input type="checkbox"/> No		SUBCONTRACT - 8015 Diesel LL (EAL) and Motor Oil	
PO # C20525101 exp 05312023		SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL)	
WO #		525.2_PRC - (MOD) 525plus Plus TICs	
Project # 38001111		SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL)	
SSOW#		SUBCONTRACT - 8015 Diesel LL (EAL) and Motor Oil	
Sample Identification		SUBCONTRACT - 825 PAH Physis LL (EAL) + TICs	
Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=water/oil, BT=Tissue, A=Air)
MOANALUA WELLS (331-223-TP202)		Water	
AIEA GULCH WELLS PUMP 1 (331-201-TP071)		Water	
AIEA GULCH WELLS PUMP 2 (331-202-TP072)		Water	
AIEA WELLS PUMPS 1&2(260)331-203-TP400		Water	
HALAWA SHAFT (331-241-TP401)		Water	
HALAWA WELLS UNITS1&2(331-206-TP065)		Water	
MOANALUA WELLS (331-223-TP202)		Water	
AIEA GULCH WELLS PUMP 1 (331-201-TP071)		Water	
AIEA GULCH WELLS PUMP 2 (331-202-TP072)		Water	
AIEA WELLS PUMPS 1&2(260)331-203-TP400		Water	
HALAWA SHAFT (331-241-TP401)		Water	
<b>Possible Hazard Identification</b> <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological Deliverable Requested: I, II, III, IV, Other (specify)			
<b>Sample Disposal ( A fee may be assessed if samples are retained longer than 1 month)</b> <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months			
Special Instructions/QC Requirements:			
Empty Kit Relinquished by:		Method of Shipment:	
Date/Time		Date/Time	
Relinquished by		Received by	
Date/Time		Date/Time	
Relinquished by		Received by	
Date/Time		Date/Time	
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Cooler Temperature(s) °C and Other Remarks:	



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

# Chain of Custody Record



Environment Testing  
 America

<b>Client Information</b> Client Contact: Dr. Ron Fenstermacher Company: City & County of Honolulu Address: 630 South Beretania Street Chemistry Lab City: Honolulu State, Zip: HI, 96843 Phone: 808-748-5091 (Tel) Email: RFENSTERMACHER@hbwts.org Project Name: RED-HILL/HBWS Sites Event Desc: RUSH Weekly Red Hill Site: Hawaii		Lab PM: Frank, Debbie L. E-Mail: Debbie.Frank@et.eurofins.com Carrier Tracking No(s): 380-9752-2757.3 State of Origin: Page 3 of 3 Job #	
<b>Due Date Requested:</b> TAT Requested (days): Compliance Project: <input type="checkbox"/> Yes <input type="checkbox"/> No PO #: C20525101 exp 05312023 WO #: Project #: 38001111 SSOV#		<b>Analysis Requested</b> SUBCONTRACT - 625 PAH Physis LL (EAL) + TICs SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL) SUBCONTRACT - 8015 Diesel LL (EAL) and Motor Oil 525.2_PREC - (MOD) 525plus Plus TICs SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL)	
<b>Sample Identification</b> Matrix (Water, Solid, Onwastobal) Sample Type (C=Comp, G=grab) Sample Time Sample Date Preservation Code:		Field Filtered Sample (Yes or No) Pattern MS/MSD (Yes or No) Total Number of Containers Special Instructions/Note:	
HALAWA WELLS UNITS1&2(331-206-TP065) MOANALUA WELLS (331-223-TP202) TB AIEA GULCH WELLS PUMP1 331-201-TP071 TB AIEA GULCH WELLS PUMP2 331-202-TP07 TB AIEA WELLS PUMPS1&2(260)331-203-TP400 TB HALAWA SHAFT (331-241-TP401) TB HALAWA WELLS UNITS1&2(331-206-TP065) TB MOANALUA WELLS (331-223-TP202)		Preservation Codes: A - HCl B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other: M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Y - Trizma Z - other (specify)	
<b>Possible Hazard Identification</b> <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological Deliverable Requested: I, II, III, IV, Other (specify)			
<b>Sample Disposal ( A fee may be assessed if samples are retained longer than 1 month)</b> <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months Special Instructions/QC Requirements			
<b>Empty Kit Relinquished by:</b> Relinquished by: _____ Date: _____ Relinquished by: _____ Date: _____ Relinquished by: _____ Date: _____		<b>Method of Shipment</b> Received by: <i>Chuan Poober</i> Date/Time: 8-30-22 1000 Received by: _____ Date/Time: _____ Received by: _____ Date/Time: _____	
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:	



**Bottle Order Information**

Bottle Order: RUSH RED-HILL WEEKLY  
 Bottle Order #: 2757  
 Request From Client: 7/20/2022  
 Date Order Posted: 7/20/2022 11:12:54AM  
 Order Status: Ready To Process  
 Prepared By: Davis Haley  
**Deliver By Date: 8/29/2022 11:59:00PM**  
 Lab Project Number: 38001111  
 PWSID: HI0000331

**Order Completion Information**

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

Sets	Bottles/Set	Qty	Bottle Type Description	Preservative	Method	Matrix	Sample Type	Comments	Lot #
6	2	16	Amber Glass 1 liter - Sodium Thiosulfate	Sodium Thiosulfate	SUBCONTRACT - 625 PAH Physis LL (EAL) + TICs	Water	Normal	625 PAH + MS/MSD Volume	
6	4	24	Voa Vial 40ml - SodiumThio w/HCl-dropper	Sodium Thiosulfate	SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL)	Water	Normal		
6	2	16	Amber Glass 1 L - NaThiosulfate 8mL HCL	Sodium Thiosulfate/Hydrochloric Acid	SUBCONTRACT - 8015 Diesel LL (EAL) and Motor Oil	Water	Normal		
6	2	12	Amber Glass 1 Liter- Sodium Sulfite/HCl	Sodium Sulfite w/HCl	525.2_PREC - (MOD) 525plus Plus TICs	Water	Normal		
6	2	12	VOA Vial 40mL - NaThiosulfate/HCL	Sodium Thiosulfate/Hydrochloric Acid	SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL)	Water	Trip Blank		

Total Bottle Summary	
Bottle Type Description	Bottle Count
Amber Glass 1 L - NaThiosulfate 8mL HCL	16
Amber Glass 1 liter - Sodium Thiosulfate	16
Amber Glass 1 Liter- Sodium Sulfite/HCl	12
VOA Vial 40mL - NaThiosulfate/HCL	12
Voa Vial 40ml - SodiumThio w/HCl-dropper	24
<b>Total Bottles:</b>	<b>80</b>

Preservative	
Preservative	Bottle Count
Sodium Thiosulfate/Hydrochloric Acid	16
Sodium Thiosulfate	16
Sodium Sulfite w/HCl	12
Sodium Thiosulfate/Hydrochloric Acid	12
Sodium Thiosulfate	24

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





Eurofins Analytical

# INTERNAL CHAIN OF CUSTODY RECORD

SAMPLE TEMP RECEIVED:  
Note: If samples are out of temperature range, let the ASMs know. ASMs will determine whether to proceed with analysis or not.  
SAMPLES REC'D DAY OF COLLECTION? Yes / No

IR Gun ID = 40 (Observation = 5.6 °C) (Corr.Factor 0.1 °C) (Final = 5.5 °C)  
TYPE OF ICE: Real  Synthetic  No ice  Partially Frozen  Thawed  N/A

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

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

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

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

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

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

7) Headspace:  No Samples with Headspace:  Samples with Headspace (see below):

Headspace Documentation (use additional VOG and Radon Internal COFC for additional bottles)  
Exempt from headspace concerns: Methods 816-4, HAA(8281,852), 806, SPXIE, @CH, 852LOMS, 866, 838, Anatoxin, LCMS methods using 40 ml vials, International clients:

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

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

SIGNATURE	PRINT NAME	DATE	TIME
	Chris Brook	8-30-22	1:00
SIGNATURE	PRINT NAME	DATE	TIME
	G. REIMER	08/30/2022	12:41

SAMPLES CHECKED AGAINST DOORB...  
DA-FO-FRM5504-07(2.24) Ver 9





# INTERNAL CHAIN OF CUSTODY RECORD

euorofins | Eaton Analytical

SAMPLE TEMP RECEIVED:  
 Note: If samples are out of temperature range, let the ASMC know. ASMCs will determine whether to proceed with analysis or not.  
 SAMPLES REC'D DAY OF COLLECTION? Yes / No

IR Gun ID = 401A (Observation = 3.5 °C) (Corr. Factor: -0.1 °C) (Final = 3.4 °C)  
 TYPE OF ICE: Real  Synthetic  No Ice  Partially Frozen  Thawed  N/A

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

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

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

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

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

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

7) VOA and Radon Headspace: \_\_\_\_\_ No Samples with Headspace: \_\_\_\_\_ Samples with Headspace (see below): \_\_\_\_\_  
 Headspace Documentation (use additional VOC and Radon Internal COFC for additional bottles)

Sample ID	Bottle #	None/≤8	>8mm	Test	Sample ID	Bottle #	None/≤8	>8mm	Test

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

Signature: Shaunte Jordan (PRINT NAME) Eurofins Eaton Analytical (COMPANY TITLE) DATE: 08/30/22 TIME: 12:41  
 Signature: G. RETNER (PRINT NAME) Eurofins Eaton Analytical (COMPANY TITLE) DATE: 08/30/2022 TIME: 12:41

IS SAMPLES CHECKED AGAINST COG BY: \_\_\_\_\_



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

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

SHIP DATE 29AUG22  
 ACTWGT 56.00 LB  
 CAD 100205419MINET4530

BILL RECIPIENT

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

581J1NEC8C/FE2D

PO INV DEPT



TUE - 30 AUG 10:30A  
 PRIORITY OVERNIGHT

1 of 2  
 TRK# 7777 9336 4359  
 ## MASTER ##

91016  
 BUR  
 CA-US

**WZ WHPA**



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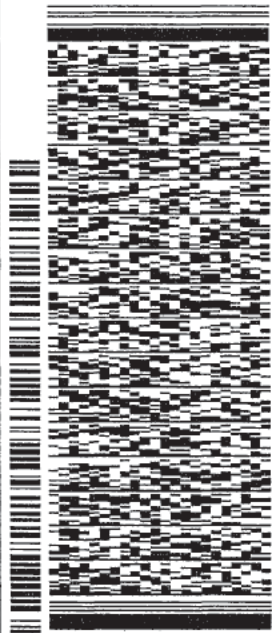
ORIGIN ID HIK  
BWS CHEMLAB  
HONOLULU BOARD OF WATER SUPPLY  
630 S. BERETANIA ST.  
CHEMICAL LABORATORY  
HONOLULU, HI 96843  
UNITED STATES US

SHIP DATE: 29AUG22  
ACTWGT: 56.00 LB  
CAD: 100205419/MINET4530  
BILL RECIPIENT

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

581J1E08C/FE2D

PO INV DEPT



J1223022081201

TUE - 30 AUG 10:30A  
PRIORITY OVERNIGHT

2 of 2

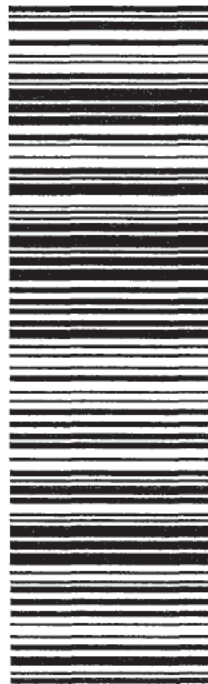
MPS# 7777 9336 4360

0263

Mstr# 7777 9336 4359

91016  
BUR  
CA-US

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After printing this label:



# Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-18997-1

Login Number: 18997

List Source: Eurofins Eaton Monrovia

List Number: 1

Creator: Ngo, Theodore

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	