

# ANALYTICAL REPORT

## PREPARED FOR

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

## JOB DESCRIPTION

RED-HILL  
RUSH Weekly Red Hill

## JOB NUMBER

380-23773-1



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# Definitions/Glossary

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

Job ID: 380-23773-1

## Qualifiers

### GC/MS Semi VOA

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

### GC/MS Semi VOA TICs

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

### Subcontract

Qualifier	Qualifier Description
U	This analyte was not detected.

## Glossary

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

# Case Narrative

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

Job ID: 380-23773-1

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## Job ID: 380-23773-1

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### Laboratory: Eurofins Eaton Monrovia

#### Narrative

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#### Job Narrative 380-23773-1

#### Comment

The detection summary report only applies to EEA data. See the attached sublab's data report for sample results. The sub's Data is Non Detect.

#### Receipt

The samples were received on 10/11/2022 9:45 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.3°C

#### SUBCONTRACTING

The following analyses were subcontracted to EMAX Laboratories Inc:

8015 Diesel LL (EAL) and Motor Oil

8015 Gas (Purgeable) LL (EAL)

The following analysis was subcontracted to Physis Environmental Laboratories:

625 PAH Physis LL (EAL) + TICs

#### GC/MS Semi VOA

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

#### Subcontract Lab non-Sister Lab

See attached subcontract report.

#### 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: 380-23773-1

**Client Sample ID: HALAWA SHAFT VIEWING POOL**  
**PWSID Number: HI0000331**

**Lab Sample ID: 380-23773-1**

No Detections.

**Client Sample ID: TB HALAWA SHAFT VIEWING POOL**

**Lab Sample ID: 380-23773-2**

No Detections.

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16
- 17
- 18

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: 380-23773-1

**Client Sample ID: HALAWA SHAFT VIEWING POOL**

**Lab Sample ID: 380-23773-1**

Date Collected: 10/10/22 09:40

Matrix: Drinking Water

Date Received: 10/11/22 09:45

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
2,4'-DDD	ND		0.098	ug/L		10/13/22 06:14	10/14/22 18:49	1
2,4'-DDE	ND		0.098	ug/L		10/13/22 06:14	10/14/22 18:49	1
2,4'-DDT	ND		0.098	ug/L		10/13/22 06:14	10/14/22 18:49	1
2,4-Dinitrotoluene	ND		0.098	ug/L		10/13/22 06:14	10/14/22 18:49	1
2,6-Dinitrotoluene	ND		0.098	ug/L		10/13/22 06:14	10/14/22 18:49	1
4,4'-DDD	ND		0.098	ug/L		10/13/22 06:14	10/14/22 18:49	1
4,4'-DDE	ND		0.098	ug/L		10/13/22 06:14	10/14/22 18:49	1
4,4'-DDT	ND		0.098	ug/L		10/13/22 06:14	10/14/22 18:49	1
Acenaphthene	ND		0.098	ug/L		10/13/22 06:14	10/14/22 18:49	1
Acenaphthylene	ND		0.098	ug/L		10/13/22 06:14	10/14/22 18:49	1
Acetochlor	ND		0.098	ug/L		10/13/22 06:14	10/14/22 18:49	1
Alachlor	ND		0.049	ug/L		10/13/22 06:14	10/14/22 18:49	1
alpha-BHC	ND		0.098	ug/L		10/13/22 06:14	10/14/22 18:49	1
alpha-Chlordane	ND		0.049	ug/L		10/13/22 06:14	10/14/22 18:49	1
Anthracene	ND		0.020	ug/L		10/13/22 06:14	10/14/22 18:49	1
Atrazine	ND		0.049	ug/L		10/13/22 06:14	10/14/22 18:49	1
Benz(a)anthracene	ND		0.049	ug/L		10/13/22 06:14	10/14/22 18:49	1
Benzo[a]pyrene	ND		0.020	ug/L		10/13/22 06:14	10/14/22 18:49	1
Benzo[b]fluoranthene	ND		0.020	ug/L		10/13/22 06:14	10/14/22 18:49	1
Benzo[g,h,i]perylene	ND		0.049	ug/L		10/13/22 06:14	10/14/22 18:49	1
Benzo[k]fluoranthene	ND		0.020	ug/L		10/13/22 06:14	10/14/22 18:49	1
beta-BHC	ND		0.098	ug/L		10/13/22 06:14	10/14/22 18:49	1
Bromacil	ND		0.098	ug/L		10/13/22 06:14	10/14/22 18:49	1
Butachlor	ND		0.049	ug/L		10/13/22 06:14	10/14/22 18:49	1
Butylbenzylphthalate	ND		0.49	ug/L		10/13/22 06:14	10/14/22 18:49	1
Caffeine	ND		0.049	ug/L		10/13/22 06:14	10/14/22 18:49	1
Chlorobenzilate	ND	^3+	0.098	ug/L		10/13/22 06:14	10/14/22 18:49	1
Chloroneb	ND		0.098	ug/L		10/13/22 06:14	10/14/22 18:49	1
Chlorothalonil (Draconil, Bravo)	ND		0.098	ug/L		10/13/22 06:14	10/14/22 18:49	1
Chlorpyrifos	ND		0.049	ug/L		10/13/22 06:14	10/14/22 18:49	1
Chrysene	ND		0.020	ug/L		10/13/22 06:14	10/14/22 18:49	1
delta-BHC	ND		0.098	ug/L		10/13/22 06:14	10/14/22 18:49	1
Di(2-ethylhexyl)adipate	ND		0.59	ug/L		10/13/22 06:14	10/14/22 18:49	1
Bis(2-ethylhexyl) phthalate	ND		0.59	ug/L		10/13/22 06:14	10/14/22 18:49	1
Diazinon (Qualitative)	ND		0.098	ug/L		10/13/22 06:14	10/14/22 18:49	1
Dibenz(a,h)anthracene	ND		0.049	ug/L		10/13/22 06:14	10/14/22 18:49	1
Diclorvos (DDVP)	ND		0.049	ug/L		10/13/22 06:14	10/14/22 18:49	1
Dieldrin	ND		0.20	ug/L		10/13/22 06:14	10/14/22 18:49	1
Diethylphthalate	ND		0.49	ug/L		10/13/22 06:14	10/14/22 18:49	1
Dimethoate	ND		0.098	ug/L		10/13/22 06:14	10/14/22 18:49	1
Dimethylphthalate	ND		0.49	ug/L		10/13/22 06:14	10/14/22 18:49	1
Di-n-butyl phthalate	ND		0.98	ug/L		10/13/22 06:14	10/14/22 18:49	1
Di-n-octyl phthalate	ND		0.098	ug/L		10/13/22 06:14	10/14/22 18:49	1
Endosulfan I (Alpha)	ND		0.098	ug/L		10/13/22 06:14	10/14/22 18:49	1
Endosulfan II (Beta)	ND		0.098	ug/L		10/13/22 06:14	10/14/22 18:49	1
Endosulfan sulfate	ND		0.098	ug/L		10/13/22 06:14	10/14/22 18:49	1
Endrin	ND		0.098	ug/L		10/13/22 06:14	10/14/22 18:49	1
Endrin aldehyde	ND		0.098	ug/L		10/13/22 06:14	10/14/22 18:49	1
EPTC	ND		0.098	ug/L		10/13/22 06:14	10/14/22 18:49	1

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# Client Sample Results

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

Job ID: 380-23773-1

**Client Sample ID: HALAWA SHAFT VIEWING POOL**

**Lab Sample ID: 380-23773-1**

Date Collected: 10/10/22 09:40

Matrix: Drinking Water

Date Received: 10/11/22 09:45

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoranthene	ND		0.098	ug/L		10/13/22 06:14	10/14/22 18:49	1
Fluorene	ND		0.049	ug/L		10/13/22 06:14	10/14/22 18:49	1
gamma-Chlordane	ND		0.049	ug/L		10/13/22 06:14	10/14/22 18:49	1
Heptachlor	ND		0.039	ug/L		10/13/22 06:14	10/14/22 18:49	1
Heptachlor epoxide (isomer B)	ND		0.049	ug/L		10/13/22 06:14	10/14/22 18:49	1
Hexachlorobenzene	ND		0.049	ug/L		10/13/22 06:14	10/14/22 18:49	1
Hexachlorocyclopentadiene	ND		0.049	ug/L		10/13/22 06:14	10/14/22 18:49	1
Indeno[1,2,3-cd]pyrene	ND		0.049	ug/L		10/13/22 06:14	10/14/22 18:49	1
Isophorone	ND		0.49	ug/L		10/13/22 06:14	10/14/22 18:49	1
Lindane	ND		0.039	ug/L		10/13/22 06:14	10/14/22 18:49	1
Malathion	ND		0.098	ug/L		10/13/22 06:14	10/14/22 18:49	1
Methoxychlor	ND		0.098	ug/L		10/13/22 06:14	10/14/22 18:49	1
Metolachlor	ND		0.049	ug/L		10/13/22 06:14	10/14/22 18:49	1
Metribuzin	ND		0.049	ug/L		10/13/22 06:14	10/14/22 18:49	1
Molinate	ND		0.098	ug/L		10/13/22 06:14	10/14/22 18:49	1
Naphthalene	ND		0.29	ug/L		10/13/22 06:14	10/14/22 18:49	1
Parathion	ND		0.098	ug/L		10/13/22 06:14	10/14/22 18:49	1
Pendimethalin (Penoxaline)	ND		0.098	ug/L		10/13/22 06:14	10/14/22 18:49	1
Total Permethrin (mixed isomers)	ND		0.20	ug/L		10/13/22 06:14	10/14/22 18:49	1
Phenanthrene	ND		0.039	ug/L		10/13/22 06:14	10/14/22 18:49	1
Propachlor	ND		0.049	ug/L		10/13/22 06:14	10/14/22 18:49	1
Pyrene	ND		0.049	ug/L		10/13/22 06:14	10/14/22 18:49	1
Simazine	ND		0.049	ug/L		10/13/22 06:14	10/14/22 18:49	1
Terbacil	ND		0.098	ug/L		10/13/22 06:14	10/14/22 18:49	1
Terbutylazine	ND		0.098	ug/L		10/13/22 06:14	10/14/22 18:49	1
Thiobencarb	ND		0.20	ug/L		10/13/22 06:14	10/14/22 18:49	1
trans-Nonachlor	ND		0.049	ug/L		10/13/22 06:14	10/14/22 18:49	1
Trifluralin	ND		0.098	ug/L		10/13/22 06:14	10/14/22 18:49	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L				10/13/22 06:14	10/14/22 18:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Nitro-m-xylene	103		70 - 130	10/13/22 06:14	10/14/22 18:49	1
Triphenylphosphate	101		70 - 130	10/13/22 06:14	10/14/22 18:49	1
Perylene-d12	94		70 - 130	10/13/22 06:14	10/14/22 18:49	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DIESEL	ND	U	0.025		mg/L			10/24/22 23:00	1
MOTOR OIL	ND	U	0.050		mg/L			10/24/22 23:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOBENZENE	86		60 - 130		10/24/22 23:00	1
HEXACOSANE	98		60 - 130		10/24/22 23:00	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GASOLINE	ND	U	0.020		mg/L			10/18/22 05:35	1

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# Client Sample Results

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

Job ID: 380-23773-1

**Client Sample ID: HALAWA SHAFT VIEWING POOL**

Date Collected: 10/10/22 09:40

Date Received: 10/11/22 09:45

**Lab Sample ID: 380-23773-1**

Matrix: Drinking Water

PWSID Number: HI0000331

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE	91		60 - 140		10/18/22 05:35	1

**Client Sample ID: TB HALAWA SHAFT VIEWING POOL**

Date Collected: 10/10/22 09:40

Date Received: 10/11/22 09:45

**Lab Sample ID: 380-23773-2**

Matrix: Drinking Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GASOLINE	ND	U	0.020		mg/L			10/18/22 06:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE	95		60 - 140		10/18/22 06:10	1

# Action Limit Summary

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

Job ID: 380-23773-1

**Client Sample ID: HALAWA SHAFT VIEWING POOL**

**Lab Sample ID: 380-23773-1**

**PWSID Number: HI0000331**

## Compliance Check

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

Analyte	Result	Qualifier	Unit	Limit	RL	Method	Prep Type
Alachlor	ND		ug/L	2	0.049	525.2	Total/NA
Atrazine	ND		ug/L	3	0.049	525.2	Total/NA
Benzo[a]pyrene	ND		ug/L	0.2	0.020	525.2	Total/NA
Di(2-ethylhexyl)adipate	ND		ug/L	400	0.59	525.2	Total/NA
Bis(2-ethylhexyl) phthalate	ND		ug/L	6	0.59	525.2	Total/NA
Endrin	ND		ug/L	2	0.098	525.2	Total/NA
Heptachlor	ND		ug/L	0.4	0.039	525.2	Total/NA
Heptachlor epoxide (isomer B)	ND		ug/L	0.2	0.049	525.2	Total/NA
Hexachlorobenzene	ND		ug/L	1	0.049	525.2	Total/NA
Hexachlorocyclopentadiene	ND		ug/L	50	0.049	525.2	Total/NA
Lindane	ND		ug/L	0.2	0.039	525.2	Total/NA
Methoxychlor	ND		ug/L	40	0.098	525.2	Total/NA
Simazine	ND		ug/L	4	0.049	525.2	Total/NA

# Surrogate Summary

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

Job ID: 380-23773-1

## 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)
380-23773-1	HALAWA SHAFT VIEWING POC	103	101	94

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

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		2NMX (70-130)	TPP (70-130)	PRY (70-130)
380-23209-AV-1-A DU	Duplicate	105	111	99
380-23677-AZ-1-A MS	Matrix Spike	109	100	100
LCS 380-20548/3-A	Lab Control Sample	103	108	101
LCS 380-20548/4-A	Lab Control Sample Dup	107	109	100
MB 380-20548/1-A	Method Blank	106	111	99
MRL 380-20548/2-A	Lab Control Sample	104	106	99

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

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

Matrix: Drinking Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		BB (60-130)	XACOSAI (60-130)
380-23773-1	HALAWA SHAFT VIEWING POC	86	98

**Surrogate Legend**  
 BB = BROMOBENZENE  
 HEXACOSANE = HEXACOSANE

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

Matrix: WATER

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		BB	XACOSAI
22DSJ049WB	Method Blank		

**Surrogate Legend**  
 BB = BROMOBENZENE  
 HEXACOSANE = HEXACOSANE

# Surrogate Summary

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

Job ID: 380-23773-1

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

Matrix: WATER

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		BB (60-130)	XACOSAI (60-130)
22DSJ049WL	Lab Control Sample	103	99

**Surrogate Legend**

BB = BROMOBENZENE  
 HEXACOSANE = HEXACOSANE

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

Matrix: Drinking Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		BFB (60-140)	
380-23773-1	HALAWA SHAFT VIEWING POOL	91	
380-23773-2	TB HALAWA SHAFT VIEWING POOL	95	

**Surrogate Legend**

BFB = BROMOFLUOROBENZENE

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

Matrix: WATER

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		BFB	
22VGH7J09B	Method Blank		

**Surrogate Legend**

BFB = BROMOFLUOROBENZENE

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

Matrix: WATER

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		BFB (70-130)	
22VGH7J09C	LCD	105	
22VGH7J09L	Lab Control Sample	103	

**Surrogate Legend**

BFB = BROMOFLUOROBENZENE

## Method: EPA\_625.1 - EPA\_625.1

Matrix: BlankMatrix

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)				
		Acenaphthi (27-133)	Phenanth (43-129)	CRY (52-144)	NPT (25-125)	PRY (36-161)
100788-B1	Method Blank	111	111	95	118	99
100788-BS1	Lab Control Sample	110	110	97	115	107
100788-BS2	Lab Control Sample Dup	111	109	82	89	105

**Surrogate Legend**

(d10-Acenaphthene) = (d10-Acenaphthene)  
 (d10-Phenanthrene) = (d10-Phenanthrene)

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# Surrogate Summary

Client: City & County of Honolulu

Project/Site: RED-HILL

CRY = (d12-Chrysene)

NPT = (d8-Naphthalene)

PRY = (d12-Perylene)

Job ID: 380-23773-1

1

2

3

4

5

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13

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16

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18



# QC Sample Results

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

Job ID: 380-23773-1

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

**Lab Sample ID: MB 380-20548/1-A**  
**Matrix: Water**  
**Analysis Batch: 20743**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 20548**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
2,4'-DDD	ND		0.099	ug/L		10/13/22 06:14	10/14/22 15:28	1
2,4'-DDE	ND		0.099	ug/L		10/13/22 06:14	10/14/22 15:28	1
2,4'-DDT	ND		0.099	ug/L		10/13/22 06:14	10/14/22 15:28	1
2,4-Dinitrotoluene	ND		0.099	ug/L		10/13/22 06:14	10/14/22 15:28	1
2,6-Dinitrotoluene	ND		0.099	ug/L		10/13/22 06:14	10/14/22 15:28	1
4,4'-DDD	ND		0.099	ug/L		10/13/22 06:14	10/14/22 15:28	1
4,4'-DDE	ND		0.099	ug/L		10/13/22 06:14	10/14/22 15:28	1
4,4'-DDT	ND		0.099	ug/L		10/13/22 06:14	10/14/22 15:28	1
Acenaphthene	ND		0.099	ug/L		10/13/22 06:14	10/14/22 15:28	1
Acenaphthylene	ND		0.099	ug/L		10/13/22 06:14	10/14/22 15:28	1
Acetochlor	ND		0.099	ug/L		10/13/22 06:14	10/14/22 15:28	1
Alachlor	ND		0.050	ug/L		10/13/22 06:14	10/14/22 15:28	1
alpha-BHC	ND		0.099	ug/L		10/13/22 06:14	10/14/22 15:28	1
alpha-Chlordane	ND		0.050	ug/L		10/13/22 06:14	10/14/22 15:28	1
Anthracene	ND		0.020	ug/L		10/13/22 06:14	10/14/22 15:28	1
Atrazine	ND		0.050	ug/L		10/13/22 06:14	10/14/22 15:28	1
Benz(a)anthracene	ND		0.050	ug/L		10/13/22 06:14	10/14/22 15:28	1
Benzo[a]pyrene	ND		0.020	ug/L		10/13/22 06:14	10/14/22 15:28	1
Benzo[b]fluoranthene	ND		0.020	ug/L		10/13/22 06:14	10/14/22 15:28	1
Benzo[g,h,i]perylene	ND		0.050	ug/L		10/13/22 06:14	10/14/22 15:28	1
Benzo[k]fluoranthene	ND		0.020	ug/L		10/13/22 06:14	10/14/22 15:28	1
beta-BHC	ND		0.099	ug/L		10/13/22 06:14	10/14/22 15:28	1
Bromacil	ND		0.099	ug/L		10/13/22 06:14	10/14/22 15:28	1
Butachlor	ND		0.050	ug/L		10/13/22 06:14	10/14/22 15:28	1
Butylbenzylphthalate	ND		0.50	ug/L		10/13/22 06:14	10/14/22 15:28	1
Caffeine	ND		0.050	ug/L		10/13/22 06:14	10/14/22 15:28	1
Chlorobenzilate	ND		0.099	ug/L		10/13/22 06:14	10/14/22 15:28	1
Chloroneb	ND		0.099	ug/L		10/13/22 06:14	10/14/22 15:28	1
Chlorothalonil (Draconil, Bravo)	ND		0.099	ug/L		10/13/22 06:14	10/14/22 15:28	1
Chlorpyrifos	ND		0.050	ug/L		10/13/22 06:14	10/14/22 15:28	1
Chrysene	ND		0.020	ug/L		10/13/22 06:14	10/14/22 15:28	1
delta-BHC	ND		0.099	ug/L		10/13/22 06:14	10/14/22 15:28	1
Di(2-ethylhexyl)adipate	ND		0.60	ug/L		10/13/22 06:14	10/14/22 15:28	1
Bis(2-ethylhexyl) phthalate	ND		0.60	ug/L		10/13/22 06:14	10/14/22 15:28	1
Diazinon (Qualitative)	ND		0.099	ug/L		10/13/22 06:14	10/14/22 15:28	1
Dibenz(a,h)anthracene	ND		0.050	ug/L		10/13/22 06:14	10/14/22 15:28	1
Diclorvos (DDVP)	ND		0.050	ug/L		10/13/22 06:14	10/14/22 15:28	1
Dieldrin	ND		0.20	ug/L		10/13/22 06:14	10/14/22 15:28	1
Diethylphthalate	ND		0.50	ug/L		10/13/22 06:14	10/14/22 15:28	1
Dimethoate	ND		0.099	ug/L		10/13/22 06:14	10/14/22 15:28	1
Dimethylphthalate	ND		0.50	ug/L		10/13/22 06:14	10/14/22 15:28	1
Di-n-butyl phthalate	ND		0.99	ug/L		10/13/22 06:14	10/14/22 15:28	1
Di-n-octyl phthalate	ND		0.099	ug/L		10/13/22 06:14	10/14/22 15:28	1
Endosulfan I (Alpha)	ND		0.099	ug/L		10/13/22 06:14	10/14/22 15:28	1
Endosulfan II (Beta)	ND		0.099	ug/L		10/13/22 06:14	10/14/22 15:28	1
Endosulfan sulfate	ND		0.099	ug/L		10/13/22 06:14	10/14/22 15:28	1
Endrin	ND		0.099	ug/L		10/13/22 06:14	10/14/22 15:28	1
Endrin aldehyde	ND		0.099	ug/L		10/13/22 06:14	10/14/22 15:28	1

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# QC Sample Results

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

Job ID: 380-23773-1

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

**Lab Sample ID: MB 380-20548/1-A**  
**Matrix: Water**  
**Analysis Batch: 20743**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 20548**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
EPTC	ND		0.099	ug/L		10/13/22 06:14	10/14/22 15:28	1
Fluoranthene	ND		0.099	ug/L		10/13/22 06:14	10/14/22 15:28	1
Fluorene	ND		0.050	ug/L		10/13/22 06:14	10/14/22 15:28	1
gamma-Chlordane	ND		0.050	ug/L		10/13/22 06:14	10/14/22 15:28	1
Heptachlor	ND		0.040	ug/L		10/13/22 06:14	10/14/22 15:28	1
Heptachlor epoxide (isomer B)	ND		0.050	ug/L		10/13/22 06:14	10/14/22 15:28	1
Hexachlorobenzene	ND		0.050	ug/L		10/13/22 06:14	10/14/22 15:28	1
Hexachlorocyclopentadiene	ND		0.050	ug/L		10/13/22 06:14	10/14/22 15:28	1
Indeno[1,2,3-cd]pyrene	ND		0.050	ug/L		10/13/22 06:14	10/14/22 15:28	1
Isophorone	ND		0.50	ug/L		10/13/22 06:14	10/14/22 15:28	1
Lindane	ND		0.040	ug/L		10/13/22 06:14	10/14/22 15:28	1
Malathion	ND		0.099	ug/L		10/13/22 06:14	10/14/22 15:28	1
Methoxychlor	ND		0.099	ug/L		10/13/22 06:14	10/14/22 15:28	1
Metolachlor	ND		0.050	ug/L		10/13/22 06:14	10/14/22 15:28	1
Metribuzin	ND		0.050	ug/L		10/13/22 06:14	10/14/22 15:28	1
Molinate	ND		0.099	ug/L		10/13/22 06:14	10/14/22 15:28	1
Naphthalene	ND		0.30	ug/L		10/13/22 06:14	10/14/22 15:28	1
Parathion	ND		0.099	ug/L		10/13/22 06:14	10/14/22 15:28	1
Pendimethalin (Penoxaline)	ND		0.099	ug/L		10/13/22 06:14	10/14/22 15:28	1
Total Permethrin (mixed isomers)	ND		0.20	ug/L		10/13/22 06:14	10/14/22 15:28	1
Phenanthrene	ND		0.040	ug/L		10/13/22 06:14	10/14/22 15:28	1
Propachlor	ND		0.050	ug/L		10/13/22 06:14	10/14/22 15:28	1
Pyrene	ND		0.050	ug/L		10/13/22 06:14	10/14/22 15:28	1
Simazine	ND		0.050	ug/L		10/13/22 06:14	10/14/22 15:28	1
Terbacil	ND		0.099	ug/L		10/13/22 06:14	10/14/22 15:28	1
Terbutylazine	ND		0.099	ug/L		10/13/22 06:14	10/14/22 15:28	1
Thiobencarb	ND		0.20	ug/L		10/13/22 06:14	10/14/22 15:28	1
trans-Nonachlor	ND		0.050	ug/L		10/13/22 06:14	10/14/22 15:28	1
Trifluralin	ND		0.099	ug/L		10/13/22 06:14	10/14/22 15:28	1

<i>Tentatively Identified Compound</i>	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
<i>Decane</i>	1.50	T J N	ug/L		2.44	124-18-5	10/13/22 06:14	10/14/22 15:28	1
<i>Dodecane</i>	0.591	T J N	ug/L		2.60	112-40-3	10/13/22 06:14	10/14/22 15:28	1
<i>Decane, 3,6-dimethyl-</i>	0.631	T J N	ug/L		2.74	17312-53-7	10/13/22 06:14	10/14/22 15:28	1
<i>Heptacosane</i>	0.505	T J N	ug/L		5.80	593-49-7	10/13/22 06:14	10/14/22 15:28	1
<i>n-Hexadecanoic acid</i>	1.35	T J N	ug/L		5.90	57-10-3	10/13/22 06:14	10/14/22 15:28	1
<i>Oxirane, heptadecyl-</i>	0.673	T J N	ug/L		6.13	67860-04-2	10/13/22 06:14	10/14/22 15:28	1
<i>Octadecanoic acid</i>	0.708	T J N	ug/L		6.59	57-11-4	10/13/22 06:14	10/14/22 15:28	1
<i>9-Octadecenamamide, (Z)-</i>	1.48	T J N	ug/L		7.62	301-02-0	10/13/22 06:14	10/14/22 15:28	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Nitro-m-xylene	106		70 - 130	10/13/22 06:14	10/14/22 15:28	1
Triphenylphosphate	111		70 - 130	10/13/22 06:14	10/14/22 15:28	1
Perylene-d12	99		70 - 130	10/13/22 06:14	10/14/22 15:28	1

Eurofins Eaton Monrovia

# QC Sample Results

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

Job ID: 380-23773-1

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

**Lab Sample ID: LCS 380-20548/3-A**  
**Matrix: Water**  
**Analysis Batch: 20743**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 20548**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2,4'-DDD	1.99	1.97		ug/L		99	70 - 130
2,4'-DDE	1.99	2.00		ug/L		101	70 - 130
2,4'-DDT	1.99	2.01		ug/L		101	70 - 130
2,4-Dinitrotoluene	1.99	1.70		ug/L		85	70 - 130
2,6-Dinitrotoluene	1.99	1.94		ug/L		98	70 - 130
4,4'-DDD	1.99	2.10		ug/L		106	70 - 130
4,4'-DDE	1.99	2.17		ug/L		109	70 - 130
4,4'-DDT	1.99	2.01		ug/L		101	70 - 130
Acenaphthene	1.99	1.95		ug/L		98	70 - 130
Acenaphthylene	1.99	1.94		ug/L		98	70 - 130
Acetochlor	1.99	2.26		ug/L		114	70 - 130
Alachlor	1.99	2.11		ug/L		106	70 - 130
alpha-BHC	1.99	2.25		ug/L		113	70 - 130
alpha-Chlordane	1.99	1.99		ug/L		100	70 - 130
Anthracene	1.99	1.85		ug/L		93	70 - 130
Atrazine	1.99	2.46		ug/L		124	70 - 130
Benz(a)anthracene	1.99	2.16		ug/L		109	70 - 130
Benzo[a]pyrene	1.99	2.33		ug/L		117	70 - 130
Benzo[b]fluoranthene	1.99	2.32		ug/L		117	70 - 130
Benzo[g,h,i]perylene	1.99	2.40		ug/L		121	70 - 130
Benzo[k]fluoranthene	1.99	2.20		ug/L		111	70 - 130
beta-BHC	1.99	2.26		ug/L		114	70 - 130
Bromacil	1.99	2.15		ug/L		108	70 - 130
Butachlor	1.99	2.11		ug/L		106	70 - 130
Butylbenzylphthalate	1.99	2.01		ug/L		101	70 - 130
Caffeine	1.99	1.70		ug/L		86	45 - 137
Chlorobenzilate	1.99	2.08		ug/L		104	70 - 130
Chloroneb	1.99	2.09		ug/L		105	70 - 130
Chlorothalonil (Draconil, Bravo)	1.99	2.16		ug/L		109	70 - 130
Chlorpyrifos	1.99	2.19		ug/L		110	70 - 130
Chrysene	1.99	2.03		ug/L		102	70 - 130
delta-BHC	1.99	2.10		ug/L		106	70 - 130
Di(2-ethylhexyl)adipate	1.99	2.42		ug/L		122	70 - 130
Bis(2-ethylhexyl) phthalate	1.99	2.31		ug/L		116	70 - 130
Diazinon (Qualitative)	1.99	2.44		ug/L		123	15 - 132
Dibenz(a,h)anthracene	1.99	2.15		ug/L		108	70 - 130
Diclorvos (DDVP)	1.99	2.59		ug/L		130	70 - 130
Dieldrin	1.99	2.06		ug/L		104	70 - 130
Diethylphthalate	1.99	2.22		ug/L		111	70 - 130
Dimethoate	1.99	1.24		ug/L		62	35 - 100
Dimethylphthalate	1.99	2.19		ug/L		110	70 - 130
Di-n-butyl phthalate	3.97	4.59		ug/L		116	70 - 130
Di-n-octyl phthalate	1.99	2.15		ug/L		108	70 - 130
Endosulfan I (Alpha)	1.99	1.85		ug/L		93	70 - 130
Endosulfan II (Beta)	1.99	1.99		ug/L		100	70 - 130
Endosulfan sulfate	1.99	2.26		ug/L		114	70 - 130
Endrin	1.99	2.40		ug/L		121	70 - 130
Endrin aldehyde	1.99	2.03		ug/L		102	70 - 130

Eurofins Eaton Monrovia

# QC Sample Results

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

Job ID: 380-23773-1

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

**Lab Sample ID: LCS 380-20548/3-A**  
**Matrix: Water**  
**Analysis Batch: 20743**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 20548**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
EPTC	1.99	2.08		ug/L		105	70 - 130
Fluoranthene	1.99	2.03		ug/L		102	70 - 130
Fluorene	1.99	2.09		ug/L		105	70 - 130
gamma-Chlordane	1.99	2.10		ug/L		106	70 - 130
Heptachlor	1.99	2.13		ug/L		107	70 - 130
Heptachlor epoxide (isomer B)	1.99	2.23		ug/L		112	70 - 130
Hexachlorobenzene	1.99	1.91		ug/L		96	70 - 130
Hexachlorocyclopentadiene	1.99	2.15		ug/L		108	70 - 130
Indeno[1,2,3-cd]pyrene	1.99	2.35		ug/L		118	70 - 130
Isophorone	1.99	2.38		ug/L		120	70 - 130
Lindane	1.99	2.21		ug/L		111	70 - 130
Malathion	1.99	2.07		ug/L		104	70 - 130
Methoxychlor	1.99	2.34		ug/L		118	70 - 130
Metolachlor	1.99	2.24		ug/L		113	70 - 130
Metribuzin	1.99	1.93		ug/L		97	70 - 130
Molinate	1.99	2.19		ug/L		110	70 - 130
Naphthalene	1.99	2.02		ug/L		102	70 - 130
Parathion	1.99	2.36		ug/L		119	70 - 130
Pendimethalin (Penoxaline)	1.99	1.99		ug/L		100	70 - 130
Phenanthrene	1.99	1.85		ug/L		93	70 - 130
Propachlor	1.99	2.31		ug/L		116	70 - 130
Pyrene	1.99	2.06		ug/L		104	70 - 130
Simazine	1.99	2.53		ug/L		127	70 - 130
Terbacil	1.99	2.24		ug/L		113	70 - 130
Terbutylazine	1.99	2.43		ug/L		123	70 - 130
Thiobencarb	1.99	2.21		ug/L		111	70 - 130
trans-Nonachlor	1.99	2.08		ug/L		105	70 - 130
Trifluralin	1.99	2.06		ug/L		104	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Nitro-m-xylene	103		70 - 130
Triphenylphosphate	108		70 - 130
Perylene-d12	101		70 - 130

**Lab Sample ID: LCSD 380-20548/4-A**  
**Matrix: Water**  
**Analysis Batch: 20743**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 20548**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
2,4'-DDD	1.98	2.00		ug/L		101	70 - 130	2	20
2,4'-DDE	1.98	2.08		ug/L		105	70 - 130	4	20
2,4'-DDT	1.98	2.05		ug/L		103	70 - 130	2	20
2,4-Dinitrotoluene	1.98	1.66		ug/L		84	70 - 130	2	20
2,6-Dinitrotoluene	1.98	1.94		ug/L		98	70 - 130	0	20
4,4'-DDD	1.98	2.16		ug/L		109	70 - 130	3	20
4,4'-DDE	1.98	2.23		ug/L		112	70 - 130	3	20
4,4'-DDT	1.98	2.02		ug/L		102	70 - 130	0	20
Acenaphthene	1.98	1.95		ug/L		98	70 - 130	0	20

Eurofins Eaton Monrovia

# QC Sample Results

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

Job ID: 380-23773-1

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

**Lab Sample ID: LCSD 380-20548/4-A**  
**Matrix: Water**  
**Analysis Batch: 20743**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 20548**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	RPD Limit
							Limits	RPD		
Acenaphthylene	1.98	2.05		ug/L		103	70 - 130	5	20	
Acetochlor	1.98	2.20		ug/L		111	70 - 130	3	20	
Alachlor	1.98	2.14		ug/L		108	70 - 130	1	20	
alpha-BHC	1.98	2.17		ug/L		109	70 - 130	4	20	
alpha-Chlordane	1.98	2.05		ug/L		103	70 - 130	3	20	
Anthracene	1.98	1.96		ug/L		99	70 - 130	6	20	
Atrazine	1.98	2.28		ug/L		115	70 - 130	8	20	
Benz(a)anthracene	1.98	2.27		ug/L		114	70 - 130	5	20	
Benzo[a]pyrene	1.98	2.36		ug/L		119	70 - 130	1	20	
Benzo[b]fluoranthene	1.98	2.37		ug/L		119	70 - 130	2	20	
Benzo[g,h,i]perylene	1.98	2.28		ug/L		115	70 - 130	5	20	
Benzo[k]fluoranthene	1.98	2.36		ug/L		119	70 - 130	7	20	
beta-BHC	1.98	2.18		ug/L		110	70 - 130	4	20	
Bromacil	1.98	2.23		ug/L		112	70 - 130	4	20	
Butachlor	1.98	2.21		ug/L		111	70 - 130	4	20	
Butylbenzylphthalate	1.98	2.04		ug/L		103	70 - 130	2	20	
Caffeine	1.98	1.67		ug/L		84	45 - 137	2	20	
Chlorobenzilate	1.98	1.91		ug/L		96	70 - 130	8	20	
Chloroneb	1.98	2.10		ug/L		106	70 - 130	1	20	
Chlorothalonil (Draconil, Bravo)	1.98	2.06		ug/L		104	70 - 130	5	20	
Chlorpyrifos	1.98	2.13		ug/L		108	70 - 130	3	20	
Chrysene	1.98	2.05		ug/L		103	70 - 130	1	20	
delta-BHC	1.98	2.11		ug/L		106	70 - 130	1	20	
Di(2-ethylhexyl)adipate	1.98	2.47		ug/L		124	70 - 130	2	20	
Bis(2-ethylhexyl) phthalate	1.98	2.31		ug/L		116	70 - 130	0	20	
Diazinon (Qualitative)	1.98	2.07		ug/L		104	15 - 132	17	20	
Dibenz(a,h)anthracene	1.98	2.05		ug/L		103	70 - 130	5	20	
Diclorvos (DDVP)	1.98	2.52		ug/L		127	70 - 130	3	20	
Dieldrin	1.98	2.12		ug/L		107	70 - 130	3	20	
Diethylphthalate	1.98	2.22		ug/L		112	70 - 130	0	20	
Dimethoate	1.98	1.09		ug/L		55	35 - 100	13	20	
Dimethylphthalate	1.98	2.25		ug/L		114	70 - 130	3	20	
Di-n-butyl phthalate	3.97	4.49		ug/L		113	70 - 130	2	20	
Di-n-octyl phthalate	1.98	2.28		ug/L		115	70 - 130	6	20	
Endosulfan I (Alpha)	1.98	1.92		ug/L		97	70 - 130	4	20	
Endosulfan II (Beta)	1.98	2.05		ug/L		103	70 - 130	3	20	
Endosulfan sulfate	1.98	2.35		ug/L		119	70 - 130	4	20	
Endrin	1.98	2.40		ug/L		121	70 - 130	0	20	
Endrin aldehyde	1.98	2.07		ug/L		105	70 - 130	2	20	
EPTC	1.98	2.36		ug/L		119	70 - 130	13	20	
Fluoranthene	1.98	2.07		ug/L		104	70 - 130	2	20	
Fluorene	1.98	2.08		ug/L		105	70 - 130	1	20	
gamma-Chlordane	1.98	2.16		ug/L		109	70 - 130	3	20	
Heptachlor	1.98	2.12		ug/L		107	70 - 130	0	20	
Heptachlor epoxide (isomer B)	1.98	2.34		ug/L		118	70 - 130	4	20	
Hexachlorobenzene	1.98	1.96		ug/L		99	70 - 130	3	20	
Hexachlorocyclopentadiene	1.98	2.38		ug/L		120	70 - 130	10	20	
Indeno[1,2,3-cd]pyrene	1.98	2.26		ug/L		114	70 - 130	4	20	
Isophorone	1.98	2.33		ug/L		117	70 - 130	2	20	

Eurofins Eaton Monrovia

# QC Sample Results

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

Job ID: 380-23773-1

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

**Lab Sample ID: LCSD 380-20548/4-A**  
**Matrix: Water**  
**Analysis Batch: 20743**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 20548**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Lindane	1.98	2.10		ug/L		106	70 - 130	5	20
Malathion	1.98	2.11		ug/L		106	70 - 130	2	20
Methoxychlor	1.98	2.32		ug/L		117	70 - 130	1	20
Metolachlor	1.98	2.20		ug/L		111	70 - 130	2	20
Metribuzin	1.98	1.92		ug/L		97	70 - 130	1	20
Molinate	1.98	2.19		ug/L		110	70 - 130	0	20
Naphthalene	1.98	2.06		ug/L		104	70 - 130	2	20
Parathion	1.98	2.19		ug/L		110	70 - 130	8	20
Pendimethalin (Penoxaline)	1.98	2.06		ug/L		104	70 - 130	3	20
Phenanthrene	1.98	1.93		ug/L		97	70 - 130	5	20
Propachlor	1.98	2.27		ug/L		114	70 - 130	2	20
Pyrene	1.98	2.07		ug/L		104	70 - 130	0	20
Simazine	1.98	2.31		ug/L		117	70 - 130	9	20
Terbacil	1.98	2.27		ug/L		114	70 - 130	1	20
Terbutylazine	1.98	2.22		ug/L		112	70 - 130	9	20
Thiobencarb	1.98	2.14		ug/L		108	70 - 130	3	20
trans-Nonachlor	1.98	2.09		ug/L		105	70 - 130	0	20
Trifluralin	1.98	2.03		ug/L		102	70 - 130	1	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2-Nitro-m-xylene	107		70 - 130
Triphenylphosphate	109		70 - 130
Perylene-d12	100		70 - 130

**Lab Sample ID: MRL 380-20548/2-A**  
**Matrix: Water**  
**Analysis Batch: 20743**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 20548**

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
2,4'-DDD	0.0995	0.132		ug/L		132	50 - 150
2,4'-DDE	0.0995	0.103		ug/L		103	50 - 150
2,4'-DDT	0.0995	0.125		ug/L		126	50 - 150
2,4-Dinitrotoluene	0.0995	0.128		ug/L		129	50 - 150
2,6-Dinitrotoluene	0.0995	0.0761	J	ug/L		77	50 - 150
4,4'-DDD	0.0995	0.104		ug/L		104	50 - 150
4,4'-DDE	0.0995	0.104		ug/L		105	50 - 150
4,4'-DDT	0.0995	0.123		ug/L		123	50 - 150
Acenaphthene	0.0995	0.0958	J	ug/L		96	50 - 150
Acenaphthylene	0.0995	0.0782	J	ug/L		79	50 - 150
Acetochlor	0.0497	0.0498	J	ug/L		100	50 - 150
Alachlor	0.0497	0.0561		ug/L		113	50 - 150
alpha-BHC	0.0995	0.115		ug/L		116	50 - 150
alpha-Chlordane	0.0497	0.0523		ug/L		105	50 - 150
Anthracene	0.0199	0.0197	J	ug/L		99	50 - 150
Atrazine	0.0497	0.0531		ug/L		107	50 - 150
Benz(a)anthracene	0.0497	0.0506		ug/L		102	50 - 150
Benzo[a]pyrene	0.0199	0.0223		ug/L		112	50 - 150
Benzo[b]fluoranthene	0.0199	0.0211		ug/L		106	50 - 150

Eurofins Eaton Monrovia

# QC Sample Results

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

Job ID: 380-23773-1

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

**Lab Sample ID: MRL 380-20548/2-A**  
**Matrix: Water**  
**Analysis Batch: 20743**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 20548**

Analyte	Spike Added	MRL	MRL	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
Benzo[g,h,i]perylene	0.0497	0.0479	J	ug/L		96	50 - 150
Benzo[k]fluoranthene	0.0199	0.0182	J	ug/L		91	50 - 150
beta-BHC	0.0995	0.115		ug/L		115	50 - 150
Bromacil	0.0995	0.148		ug/L		149	50 - 150
Butachlor	0.0497	0.0740		ug/L		149	50 - 150
Butylbenzylphthalate	0.149	0.180	J	ug/L		121	50 - 150
Caffeine	0.0497	0.0357	J	ug/L		72	50 - 150
Chlorobenzilate	0.0995	0.152	^3+	ug/L		153	50 - 150
Chloroneb	0.0995	0.128		ug/L		129	50 - 150
Chlorothalonil (Draconil, Bravo)	0.0995	0.120		ug/L		121	50 - 150
Chlorpyrifos	0.0497	0.0626		ug/L		126	50 - 150
Chrysene	0.0199	0.0218		ug/L		109	50 - 150
delta-BHC	0.0995	0.135		ug/L		136	50 - 150
Di(2-ethylhexyl)adipate	0.298	0.347	J	ug/L		116	50 - 150
Bis(2-ethylhexyl) phthalate	0.597	0.748		ug/L		125	50 - 150
Diazinon (Qualitative)	0.0995	0.104		ug/L		104	15 - 132
Dibenz(a,h)anthracene	0.0497	0.0656		ug/L		132	50 - 150
Diclorvos (DDVP)	0.0497	0.0607		ug/L		122	50 - 150
Dieldrin	0.0995	0.106	J	ug/L		107	50 - 150
Diethylphthalate	0.149	0.163	J	ug/L		109	50 - 150
Dimethoate	0.0995	0.0570	J	ug/L		57	35 - 100
Dimethylphthalate	0.298	0.308	J	ug/L		103	50 - 150
Di-n-butyl phthalate	0.298	0.382	J	ug/L		128	49 - 243
Di-n-octyl phthalate	0.0995	0.138		ug/L		139	50 - 150
Endosulfan I (Alpha)	0.0995	0.0911	J	ug/L		92	50 - 150
Endosulfan II (Beta)	0.0995	0.114		ug/L		115	50 - 150
Endosulfan sulfate	0.0995	0.107		ug/L		108	50 - 150
Endrin	0.0995	0.114		ug/L		115	50 - 150
Endrin aldehyde	0.0995	0.141		ug/L		141	50 - 150
EPTC	0.0995	0.102		ug/L		103	50 - 150
Fluoranthene	0.0497	0.0503	J	ug/L		101	50 - 150
Fluorene	0.0497	ND		ug/L		100	50 - 150
gamma-Chlordane	0.0497	0.0524		ug/L		105	50 - 150
Heptachlor	0.0398	0.0527		ug/L		132	50 - 150
Heptachlor epoxide (isomer B)	0.0497	0.0560		ug/L		113	50 - 150
Hexachlorobenzene	0.0497	0.0652		ug/L		131	50 - 150
Hexachlorocyclopentadiene	0.0497	0.0484	J	ug/L		97	50 - 150
Indeno[1,2,3-cd]pyrene	0.0497	0.0483	J	ug/L		97	50 - 150
Isophorone	0.0995	0.116	J	ug/L		116	50 - 150
Lindane	0.0497	0.0508		ug/L		102	50 - 150
Malathion	0.0995	0.107		ug/L		108	50 - 150
Methoxychlor	0.0995	0.101		ug/L		101	50 - 150
Metolachlor	0.0497	0.0550		ug/L		111	50 - 150
Metribuzin	0.0497	0.0649		ug/L		131	50 - 150
Molinate	0.0995	0.105		ug/L		106	50 - 150
Naphthalene	0.0995	0.0997	J	ug/L		100	50 - 150
Parathion	0.0995	0.100		ug/L		101	50 - 150
Pendimethalin (Penoxaline)	0.0995	0.119		ug/L		120	50 - 150
Phenanthrene	0.0199	0.0213	J	ug/L		107	50 - 150

Eurofins Eaton Monrovia



# QC Sample Results

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

Job ID: 380-23773-1

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

**Lab Sample ID: MRL 380-20548/2-A**  
**Matrix: Water**  
**Analysis Batch: 20743**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 20548**

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Propachlor	0.0497	0.0535		ug/L		108	50 - 150
Pyrene	0.0497	0.0524		ug/L		105	50 - 150
Simazine	0.0497	0.0534		ug/L		107	50 - 150
Terbacil	0.0995	0.113		ug/L		113	50 - 150
Terbutylazine	0.0995	0.106		ug/L		107	50 - 150
Thiobencarb	0.0995	0.121	J	ug/L		121	50 - 150
trans-Nonachlor	0.0497	0.0496	J	ug/L		100	50 - 150
Trifluralin	0.0995	0.115		ug/L		116	50 - 150

Surrogate	MRL %Recovery	MRL Qualifier	Limits
2-Nitro-m-xylene	104		70 - 130
Triphenylphosphate	106		70 - 130
Perylene-d12	99		70 - 130

**Lab Sample ID: 380-23677-AZ-1-A MS**  
**Matrix: Water**  
**Analysis Batch: 20743**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 20548**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
2,4'-DDD	ND		1.98	2.07		ug/L		105	70 - 130
2,4'-DDE	ND		1.98	2.19		ug/L		111	70 - 130
2,4'-DDT	ND		1.98	2.19		ug/L		111	70 - 130
2,4-Dinitrotoluene	ND		1.98	1.88		ug/L		95	70 - 130
2,6-Dinitrotoluene	ND		1.98	2.15		ug/L		108	70 - 130
4,4'-DDD	ND		1.98	2.29		ug/L		115	70 - 130
4,4'-DDE	ND		1.98	2.13		ug/L		108	70 - 130
4,4'-DDT	ND		1.98	2.18		ug/L		110	70 - 130
Acenaphthene	ND		1.98	1.97		ug/L		99	70 - 130
Acenaphthylene	ND		1.98	1.98		ug/L		100	70 - 130
Acetochlor	ND		1.98	2.29		ug/L		116	70 - 130
Alachlor	ND		1.98	2.15		ug/L		108	70 - 130
alpha-BHC	ND		1.98	2.22		ug/L		112	70 - 130
alpha-Chlordane	ND		1.98	1.78		ug/L		90	70 - 130
Anthracene	ND		1.98	1.68		ug/L		85	70 - 130
Atrazine	ND		1.98	2.31		ug/L		116	70 - 130
Benz(a)anthracene	ND		1.98	2.13		ug/L		107	70 - 130
Benzo[a]pyrene	ND		1.98	2.21		ug/L		112	70 - 130
Benzo[b]fluoranthene	ND		1.98	2.38		ug/L		120	70 - 130
Benzo[g,h,i]perylene	ND		1.98	2.37		ug/L		120	70 - 130
Benzo[k]fluoranthene	ND		1.98	2.27		ug/L		115	70 - 130
beta-BHC	ND		1.98	2.31		ug/L		117	70 - 130
Bromacil	ND		1.98	2.14		ug/L		108	70 - 130
Butachlor	ND		1.98	2.19		ug/L		111	70 - 130
Butylbenzylphthalate	ND		1.98	2.11		ug/L		107	70 - 130
Caffeine	ND		1.98	2.14		ug/L		108	46 - 144
Chlorobenzilate	ND	^3+	1.98	2.09		ug/L		106	70 - 130
Chloroneb	ND		1.98	2.13		ug/L		107	70 - 130
Chlorothalonil (Draconil, Bravo)	ND		1.98	2.12		ug/L		107	70 - 130



# QC Sample Results

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

Job ID: 380-23773-1

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

**Lab Sample ID: 380-23677-AZ-1-A MS**  
**Matrix: Water**  
**Analysis Batch: 20743**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 20548**

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec
	Result	Qualifier	Added	Result	Qualifier				Limits
Chlorpyrifos	ND		1.98	2.21		ug/L		111	70 - 130
Chrysene	ND		1.98	2.06		ug/L		104	70 - 130
delta-BHC	ND		1.98	2.11		ug/L		106	70 - 130
Di(2-ethylhexyl)adipate	ND		1.98	2.52		ug/L		127	70 - 130
Bis(2-ethylhexyl) phthalate	ND		1.98	2.33		ug/L		118	70 - 130
Diazinon (Qualitative)	ND		1.98	2.23		ug/L		112	15 - 132
Dibenz(a,h)anthracene	ND		1.98	2.17		ug/L		110	70 - 130
Diclorvos (DDVP)	ND		1.98	2.58		ug/L		130	70 - 130
Dieldrin	ND		1.98	2.23		ug/L		113	70 - 130
Diethylphthalate	ND		1.98	2.23		ug/L		113	70 - 130
Dimethoate	ND		1.98	1.45		ug/L		73	34 - 111
Dimethylphthalate	ND		1.98	2.20		ug/L		111	70 - 130
Di-n-butyl phthalate	ND		3.96	4.78		ug/L		121	70 - 130
Di-n-octyl phthalate	ND		1.98	2.22		ug/L		112	70 - 130
Endosulfan I (Alpha)	ND		1.98	1.95		ug/L		98	70 - 130
Endosulfan II (Beta)	ND		1.98	2.30		ug/L		116	70 - 130
Endosulfan sulfate	ND		1.98	2.42		ug/L		122	70 - 130
Endrin	ND		1.98	2.52		ug/L		127	70 - 130
Endrin aldehyde	ND		1.98	1.71		ug/L		86	70 - 130
EPTC	ND		1.98	2.12		ug/L		107	70 - 130
Fluoranthene	ND		1.98	2.09		ug/L		106	70 - 130
Fluorene	ND		1.98	2.10		ug/L		106	70 - 130
gamma-Chlordane	ND		1.98	1.91		ug/L		96	70 - 130
Heptachlor	ND		1.98	2.19		ug/L		110	70 - 130
Heptachlor epoxide (isomer B)	ND		1.98	1.99		ug/L		100	70 - 130
Hexachlorobenzene	ND		1.98	2.02		ug/L		102	70 - 130
Hexachlorocyclopentadiene	ND		1.98	2.22		ug/L		112	70 - 130
Indeno[1,2,3-cd]pyrene	ND		1.98	2.31		ug/L		116	70 - 130
Isophorone	ND		1.98	2.33		ug/L		118	70 - 130
Lindane	ND		1.98	2.17		ug/L		110	70 - 130
Malathion	ND		1.98	2.07		ug/L		104	70 - 130
Methoxychlor	ND		1.98	2.36		ug/L		119	70 - 130
Metolachlor	ND		1.98	2.22		ug/L		112	70 - 130
Metribuzin	ND		1.98	1.90		ug/L		96	70 - 130
Molinate	ND		1.98	2.22		ug/L		112	70 - 130
Naphthalene	ND		1.98	2.06		ug/L		104	70 - 130
Parathion	ND		1.98	2.34		ug/L		118	70 - 130
Pendimethalin (Penoxaline)	ND		1.98	2.12		ug/L		107	70 - 130
Phenanthrene	ND		1.98	1.89		ug/L		95	70 - 130
Propachlor	ND		1.98	2.31		ug/L		116	70 - 130
Pyrene	ND		1.98	2.14		ug/L		108	70 - 130
Simazine	ND		1.98	2.37		ug/L		119	70 - 130
Terbacil	ND		1.98	2.25		ug/L		114	70 - 130
Terbutylazine	ND		1.98	2.26		ug/L		114	70 - 130
Thiobencarb	ND		1.98	2.25		ug/L		113	70 - 130
trans-Nonachlor	ND		1.98	2.06		ug/L		104	70 - 130
Trifluralin	ND		1.98	2.06		ug/L		104	70 - 130

# QC Sample Results

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

Job ID: 380-23773-1

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

**Lab Sample ID: 380-23677-AZ-1-A MS**  
**Matrix: Water**  
**Analysis Batch: 20743**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 20548**

Surrogate	%Recovery	MS MS Qualifier	Limits
2-Nitro-m-xylene	109		70 - 130
Triphenylphosphate	100		70 - 130
Perylene-d12	100		70 - 130

**Lab Sample ID: 380-23209-AV-1-A DU**  
**Matrix: Water**  
**Analysis Batch: 20743**

**Client Sample ID: Duplicate**  
**Prep Type: Total/NA**  
**Prep Batch: 20548**

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

# QC Sample Results

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

Job ID: 380-23773-1

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

**Lab Sample ID: 380-23209-AV-1-A DU**  
**Matrix: Water**  
**Analysis Batch: 20743**

**Client Sample ID: Duplicate**  
**Prep Type: Total/NA**  
**Prep Batch: 20548**

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
Dimethoate	ND		ND		ug/L		NC	20
Dimethylphthalate	ND		ND		ug/L		NC	20
Di-n-butyl phthalate	ND		ND		ug/L		NC	20
Di-n-octyl phthalate	ND		ND		ug/L		NC	20
Endosulfan I (Alpha)	ND		ND		ug/L		NC	20
Endosulfan II (Beta)	ND		ND		ug/L		NC	20
Endosulfan sulfate	ND		ND		ug/L		NC	20
Endrin	ND		ND		ug/L		NC	20
Endrin aldehyde	ND		ND		ug/L		NC	20
EPTC	ND		ND		ug/L		NC	20
Fluoranthene	ND		ND		ug/L		NC	20
Fluorene	ND		ND		ug/L		NC	20
gamma-Chlordane	ND		ND		ug/L		NC	20
Heptachlor	ND		ND		ug/L		NC	20
Heptachlor epoxide (isomer B)	ND		ND		ug/L		NC	20
Hexachlorobenzene	ND		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	105		70 - 130
Triphenylphosphate	111		70 - 130
Perylene-d12	99		70 - 130

# QC Sample Results

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

Job ID: 380-23773-1

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

**Lab Sample ID: 22DSJ049WB**  
**Matrix: WATER**  
**Analysis Batch: 22DSJ049W**

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DIESEL	ND	U	0.025		mg/L			10/24/22 19:18	1
MOTOR OIL	ND	U	0.050		mg/L			10/24/22 19:18	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
BROMOBENZENE								10/24/22 19:18	1
HEXACOSANE								10/24/22 19:18	1

**Lab Sample ID: 22DSJ049WL**  
**Matrix: WATER**  
**Analysis Batch: 22DSJ049W**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
DIESEL	2.50	2.70		mg/L		108	50 - 130
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
BROMOBENZENE	103		60 - 130				
HEXACOSANE	99		60 - 130				

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

**Lab Sample ID: 22VGH7J09B**  
**Matrix: WATER**  
**Analysis Batch: 22VGH7J09**

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GASOLINE	ND	U	0.020		mg/L			10/17/22 21:22	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE								10/17/22 21:22	1

**Lab Sample ID: 22VGH7J09L**  
**Matrix: WATER**  
**Analysis Batch: 22VGH7J09**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
GASOLINE	0.500	0.426		mg/L		85	60 - 130
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
BROMOFLUOROBENZENE	103		70 - 130				

## Method: EPA\_625.1 - EPA\_625.1

**Lab Sample ID: 100788-B1**  
**Matrix: BlankMatrix**  
**Analysis Batch: O-38150**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: O-38150\_P**

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.005	0.001	µg/L		10/10/22 00:00	10/16/22 05:44	1

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# QC Sample Results

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

Job ID: 380-23773-1

## Method: EPA\_625.1 - EPA\_625.1 (Continued)

**Lab Sample ID: 100788-B1**  
**Matrix: BlankMatrix**  
**Analysis Batch: O-38150**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: O-38150\_P**

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylphenanthrene	ND		0.005	0.001	µg/L		10/10/22 00:00	10/16/22 05:44	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		10/10/22 00:00	10/16/22 05:44	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		10/10/22 00:00	10/16/22 05:44	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		10/10/22 00:00	10/16/22 05:44	1
Acenaphthene	ND		0.005	0.001	µg/L		10/10/22 00:00	10/16/22 05:44	1
Acenaphthylene	ND		0.005	0.001	µg/L		10/10/22 00:00	10/16/22 05:44	1
Anthracene	ND		0.005	0.001	µg/L		10/10/22 00:00	10/16/22 05:44	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		10/10/22 00:00	10/16/22 05:44	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		10/10/22 00:00	10/16/22 05:44	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		10/10/22 00:00	10/16/22 05:44	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		10/10/22 00:00	10/16/22 05:44	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		10/10/22 00:00	10/16/22 05:44	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		10/10/22 00:00	10/16/22 05:44	1
Biphenyl	ND		0.005	0.001	µg/L		10/10/22 00:00	10/16/22 05:44	1
Chrysene	ND		0.005	0.001	µg/L		10/10/22 00:00	10/16/22 05:44	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		10/10/22 00:00	10/16/22 05:44	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		10/10/22 00:00	10/16/22 05:44	1
Dibenzothiophene	ND		0.005	0.001	µg/L		10/10/22 00:00	10/16/22 05:44	1
Disalicylidenepropanediamine	ND		0.1	0.05	µg/L		10/10/22 00:00	10/16/22 05:44	1
Fluoranthene	ND		0.005	0.001	µg/L		10/10/22 00:00	10/16/22 05:44	1
Fluorene	ND		0.005	0.001	µg/L		10/10/22 00:00	10/16/22 05:44	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		10/10/22 00:00	10/16/22 05:44	1
Naphthalene	ND		0.005	0.001	µg/L		10/10/22 00:00	10/16/22 05:44	1
Perylene	ND		0.005	0.001	µg/L		10/10/22 00:00	10/16/22 05:44	1
Phenanthrene	ND		0.005	0.001	µg/L		10/10/22 00:00	10/16/22 05:44	1
Pyrene	ND		0.005	0.001	µg/L		10/10/22 00:00	10/16/22 05:44	1

Surrogate	Blank %Recovery	Blank Qualifier	Limits	Prepared	Analyzed	Dil Fac
(d10-Acenaphthene)	111		27 - 133	10/10/22 00:00	10/16/22 05:44	1
(d10-Phenanthrene)	111		43 - 129	10/10/22 00:00	10/16/22 05:44	1
(d12-Chrysene)	95		52 - 144	10/10/22 00:00	10/16/22 05:44	1
(d12-Perylene)	99		36 - 161	10/10/22 00:00	10/16/22 05:44	1
(d8-Naphthalene)	118		25 - 125	10/10/22 00:00	10/16/22 05:44	1

**Lab Sample ID: 100788-BS1**  
**Matrix: BlankMatrix**  
**Analysis Batch: O-38150**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: O-38150\_P**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1-Methylnaphthalene	0.5	0.574		µg/L		115	31 - 128
1-Methylphenanthrene	0.5	0.583		µg/L		117	66 - 127
2,3,5-Trimethylnaphthalene	0.5	0.541		µg/L		108	55 - 122
2,6-Dimethylnaphthalene	0.5	0.513		µg/L		103	48 - 120
2-Methylnaphthalene	0.5	0.616		µg/L		123	47 - 130
Acenaphthene	0.5	0.595		µg/L		119	53 - 131
Acenaphthylene	0.5	0.518		µg/L		104	43 - 140
Anthracene	0.5	0.503		µg/L		101	58 - 135
Benz[a]anthracene	0.5	0.419		µg/L		84	55 - 145

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# QC Sample Results

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

Job ID: 380-23773-1

## Method: EPA\_625.1 - EPA\_625.1 (Continued)

**Lab Sample ID: 100788-BS1**  
**Matrix: BlankMatrix**  
**Analysis Batch: O-38150**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: O-38150\_P**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzo[a]pyrene	0.5	0.483		µg/L		97	51 - 143
Benzo[b]fluoranthene	0.5	0.489		µg/L		98	46 - 165
Benzo[e]pyrene	0.5	0.482		µg/L		96	42 - 152
Benzo[g,h,i]perylene	0.5	0.506		µg/L		101	63 - 133
Benzo[k]fluoranthene	0.5	0.455		µg/L		91	56 - 145
Biphenyl	0.5	0.472		µg/L		94	56 - 119
Chrysene	0.5	0.445		µg/L		89	56 - 141
Dibenz[a,h]anthracene	0.5	0.499		µg/L		100	55 - 150
Dibenzo[a,l]pyrene	0.5	0.275		µg/L		55	50 - 150
Dibenzothiophene	0.5	0.497		µg/L		99	75 - 113
Disalicylidenepropanediamine	50	30.1		µg/L		60	50 - 150
Fluoranthene	0.5	0.587		µg/L		117	60 - 146
Fluorene	0.5	0.654		µg/L		131	58 - 131
Indeno[1,2,3-cd]pyrene	0.5	0.539		µg/L		108	50 - 151
Naphthalene	0.5	0.475		µg/L		95	41 - 126
Perylene	0.5	0.476		µg/L		95	48 - 141
Phenanthrene	0.5	0.489		µg/L		98	67 - 127
Pyrene	0.5	0.564		µg/L		113	54 - 156

Surrogate	LCS %Recovery	LCS Qualifier	Limits
(d10-Acenaphthene)	110		27 - 133
(d10-Phenanthrene)	110		43 - 129
(d12-Chrysene)	97		52 - 144
(d12-Perylene)	107		36 - 161
(d8-Naphthalene)	115		25 - 125

**Lab Sample ID: 100788-BS2**  
**Matrix: BlankMatrix**  
**Analysis Batch: O-38150**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: O-38150\_P**

Analyte	Spike Added	LCS DUP Result	LCS DUP Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1-Methylnaphthalene	0.5	0.584		µg/L		117	31 - 128	2	30
1-Methylphenanthrene	0.5	0.498		µg/L		100	66 - 127	16	30
2,3,5-Trimethylnaphthalene	0.5	0.578		µg/L		116	55 - 122	7	30
2,6-Dimethylnaphthalene	0.5	0.493		µg/L		99	48 - 120	4	30
2-Methylnaphthalene	0.5	0.543		µg/L		109	47 - 130	12	30
Acenaphthene	0.5	0.539		µg/L		108	53 - 131	10	30
Acenaphthylene	0.5	0.496		µg/L		99	43 - 140	5	30
Anthracene	0.5	0.52		µg/L		104	58 - 135	3	30
Benz[a]anthracene	0.5	0.391		µg/L		78	55 - 145	7	30
Benzo[a]pyrene	0.5	0.506		µg/L		101	51 - 143	4	30
Benzo[b]fluoranthene	0.5	0.52		µg/L		104	46 - 165	6	30
Benzo[e]pyrene	0.5	0.519		µg/L		104	42 - 152	8	30
Benzo[g,h,i]perylene	0.5	0.533		µg/L		107	63 - 133	6	30
Benzo[k]fluoranthene	0.5	0.486		µg/L		97	56 - 145	6	30
Biphenyl	0.5	0.514		µg/L		103	56 - 119	9	30
Chrysene	0.5	0.399		µg/L		80	56 - 141	11	30
Dibenz[a,h]anthracene	0.5	0.527		µg/L		105	55 - 150	5	30

Eurofins Eaton Monrovia

# QC Sample Results

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

Job ID: 380-23773-1

## Method: EPA\_625.1 - EPA\_625.1 (Continued)

**Lab Sample ID: 100788-BS2**  
**Matrix: BlankMatrix**  
**Analysis Batch: O-38150**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: O-38150\_P**

Analyte	Spike Added	LCS DUP Result	LCS DUP Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
							Limits	RPD		
Dibenzo[a,h]pyrene	0.5	0.269		µg/L		54	50 - 150	2	30	
Dibenzothiophene	0.5	0.522		µg/L		104	75 - 113	5	30	
Disalicylidenepropanediamine	50	31		µg/L		62	50 - 150	3	30	
Fluoranthene	0.5	0.501		µg/L		100	60 - 146	16	30	
Fluorene	0.5	0.615		µg/L		123	58 - 131	6	30	
Indeno[1,2,3-cd]pyrene	0.5	0.567		µg/L		113	50 - 151	5	30	
Naphthalene	0.5	0.394		µg/L		79	41 - 126	18	30	
Perylene	0.5	0.508		µg/L		102	48 - 141	7	30	
Phenanthrene	0.5	0.517		µg/L		103	67 - 127	5	30	
Pyrene	0.5	0.499		µg/L		100	54 - 156	12	30	

Surrogate	LCS DUP		Limits
	%Recovery	Qualifier	
(d10-Acenaphthene)	111		27 - 133
(d10-Phenanthrene)	109		43 - 129
(d12-Chrysene)	82		52 - 144
(d12-Perylene)	105		36 - 161
(d8-Naphthalene)	89		25 - 125

# QC Association Summary

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

Job ID: 380-23773-1

## GC/MS Semi VOA

### Prep Batch: 20548

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-23773-1	HALAWA SHAFT VIEWING POOL	Total/NA	Drinking Water	525.2	
MB 380-20548/1-A	Method Blank	Total/NA	Water	525.2	
LCS 380-20548/3-A	Lab Control Sample	Total/NA	Water	525.2	
LCSD 380-20548/4-A	Lab Control Sample Dup	Total/NA	Water	525.2	
MRL 380-20548/2-A	Lab Control Sample	Total/NA	Water	525.2	
380-23677-AZ-1-A MS	Matrix Spike	Total/NA	Water	525.2	
380-23209-AV-1-A DU	Duplicate	Total/NA	Water	525.2	

### Analysis Batch: 20743

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-23773-1	HALAWA SHAFT VIEWING POOL	Total/NA	Drinking Water	525.2	20548
MB 380-20548/1-A	Method Blank	Total/NA	Water	525.2	20548
LCS 380-20548/3-A	Lab Control Sample	Total/NA	Water	525.2	20548
LCSD 380-20548/4-A	Lab Control Sample Dup	Total/NA	Water	525.2	20548
MRL 380-20548/2-A	Lab Control Sample	Total/NA	Water	525.2	20548
380-23677-AZ-1-A MS	Matrix Spike	Total/NA	Water	525.2	20548
380-23209-AV-1-A DU	Duplicate	Total/NA	Water	525.2	20548

## Subcontract

### Analysis Batch: O-38150

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
100788-B1	Method Blank	Total/NA	BlankMatrix	EPA_625.1	O-38150_P
100788-BS1	Lab Control Sample	Total/NA	BlankMatrix	EPA_625.1	O-38150_P
100788-BS2	Lab Control Sample Dup	Total/NA	BlankMatrix	EPA_625.1	O-38150_P

### Analysis Batch: 22DSJ049W

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-23773-1	HALAWA SHAFT VIEWING POOL	Total/NA	Drinking Water	8015 Diesel LL (EAL) and Motor Oil	
22DSJ049WB	Method Blank	Total/NA	WATER	8015 Diesel LL (EAL) and Motor Oil	
22DSJ049WL	Lab Control Sample	Total/NA	WATER	8015 Diesel LL (EAL) and Motor Oil	

### Analysis Batch: 22VGH7J09

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-23773-1	HALAWA SHAFT VIEWING POOL	Total/NA	Drinking Water	8015 Gas (Purgeable) LL (EAL)	
380-23773-2	TB HALAWA SHAFT VIEWING POOL	Total/NA	Drinking Water	8015 Gas (Purgeable) LL (EAL)	
22VGH7J09B	Method Blank	Total/NA	WATER	8015 Gas (Purgeable) LL (EAL)	
22VGH7J09L	Lab Control Sample	Total/NA	WATER	8015 Gas (Purgeable) LL (EAL)	

Eurofins Eaton Monrovia



# QC Association Summary

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

Job ID: 380-23773-1

## Subcontract

### Prep Batch: O-38150\_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
100788-B1	Method Blank	Total/NA	BlankMatrix	EPA_625	
100788-BS1	Lab Control Sample	Total/NA	BlankMatrix	EPA_625	
100788-BS2	Lab Control Sample Dup	Total/NA	BlankMatrix	EPA_625	

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16
- 17
- 18

# Lab Chronicle

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

Job ID: 380-23773-1

## Client Sample ID: HALAWA SHAFT VIEWING POOL

Lab Sample ID: 380-23773-1

Date Collected: 10/10/22 09:40

Matrix: Drinking Water

Date Received: 10/11/22 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	525.2			20548	OTM3	EA MON	10/13/22 06:14
Total/NA	Analysis	525.2		1	20743	Q8LA	EA MON	10/14/22 18:49
Total/NA	Analysis	8015 Diesel LL (EAL) and Motor Oil		1	22DSJ049W	SDees		10/24/22 23:00
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)		1	22VGH7J09	SCerva		10/18/22 05:35

## Client Sample ID: TB HALAWA SHAFT VIEWING POOL

Lab Sample ID: 380-23773-2

Date Collected: 10/10/22 09:40

Matrix: Drinking Water

Date Received: 10/11/22 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)		1	22VGH7J09	SCerva		10/18/22 06:10

**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: 380-23773-1

## 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: 380-23773-1

## 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: 380-23773-1

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: 380-23773-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	PWSID Number
380-23773-1	HALAWA SHAFT VIEWING POOL	Drinking Water	10/10/22 09:40	10/11/22 09:45	HI0000331
380-23773-2	TB HALAWA SHAFT VIEWING POOL	Drinking Water	10/10/22 09:40	10/11/22 09:45	

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Date: 11-09-2022  
EMAX Batch No.: 22J164

Attn: Jackie Contreras

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

Subject: Laboratory Report  
Project: 380-23773

Enclosed is the Laboratory report for samples received on 10/12/22.  
The data reported relate only to samples listed below :

Sample ID	Control #	Col Date	Matrix	Analysis
380-23773-1	J164-01	10/10/22	WATER	TPH GASOLINE TPH DIESEL & MOTOR OIL
380-23773-2	J164-02	10/10/22	WATER	TPH GASOLINE

The results are summarized on the following pages.

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

Sincerely yours,

*Caspar J. Pang*  
.....  
Caspar J. Pang  
Laboratory Director

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

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

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



# Chain of Custody Record



**Monrovia, CA (Suite 100)**  
 750 Royal Oaks Drive Suite 100  
 Monrovia, CA 91016  
 Phone: 626-396-1100

225 164

**Client Information (Sub Contract Lab)**  
 Client Contact: **Arada, Rachelle** Lab P/N:  
 Shipping/Receiving: **Rachelle Arada@eurofins.com** State of Origin: **Hawaii**  
 Company: **EMAX Laboratories Inc** Accreditation Required (See note): **State - Hawaii**  
 Address: **3051 Fujita Street, Torrance, CA 90505** Due Date Requested: **10/25/2022** Carrier Tracking No(s): **380-2373-1**  
 City: **Torrance** TAT Requested (days): **7** Page: **Page 1 of 1**  
 State, zip: **CA 90505** PO #: **38001111** Job #: **380-2373-1**

**Analysis Requested**  
 Project Name: **RED-HILL** Project #: **38001111**  
 Site: **Honolulu BWS Sites** SSONW#: **SSONW**  
 Email: **WO #:**  
 Matrix (Water, Seawater, Overstain, GFT, Tissue, A+Al):  
 Matrix: **Water**

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Total Number of containers	Special Instructions/Note:
1 HALAWA SHAFT VIEWING POOL (380-2373-1)	10/10/22	09:40	Water	Water	X	X	6	See Attached Instructions
2 TB HALAWA SHAFT VIEWING POOL (380-2373-2)	10/10/22	09:40	Water	Water	X	X	2	See Attached Instructions

Note: Since laboratory accreditations are subject to change, Eurofins Eaton Analytical, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/matrix being analyzed, the samples must be shipped back to the Eurofins Eaton Analytical, LLC laboratory or other instructions will be 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:  **Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)**  
 Deliverable Requested: I, II, III, IV, Other (specify) **Primary Deliverable Rank: 2** Special Instructions/QC Requirements:  Return To Client  Disposed By Lab  Archive For **Months**

**Empty Kit Relinquished by:** Date: **10-12-22** Time: **17:35** Method of Shipment: **EMAX**  
 Relinquished by: **Company: EATON** Received by: **Company: EATON**  
 Relinquished by: **Company:** Received by: **Company:**  
 Relinquished by: **Company:** Received by: **Company:**

Custody Seals Intact:  Yes  No **Custody Seal No.:** **009 012** Cooler Temperature(s) °C and Other Remarks:





ECN 22J164	Recipient Cecilia Chavez	Date 10/12/22	Time 1735
Type of Delivery <input type="checkbox"/> Fedex <input type="checkbox"/> UPS <input type="checkbox"/> GSO <input type="checkbox"/> Others		Airbill / Tracking Number	
<input type="checkbox"/> EMAX Courier <input checked="" type="checkbox"/> Client Delivery			

**COC INSPECTION**

Note: Safety Issues (if any)

Client Name  
 Address  
 Tel # / Fax #  
 High concentrations expected  
 From Superfund Site

Sampler Name  
 Counter Signature  
 Analysis Required  
 Rad screening required

Sample ID  
 Preservative (if any)  
 Matrix  
 TAT

**PACKAGING INSPECTION**

Container  
 Cooler  
 Box

Condition  
 Custody Seal  
 Intact

Packaging  
 Bubble Pack  
 Styrofoam

Temperatures  
 Cooler 10.9 °C  
 Cooler 21.2 °C

Thermometer:  
 A - S/N \_\_\_\_\_ °C  
 B - S/N 210760237 °C  
 C - S/N \_\_\_\_\_ °C

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

**DISCREPANCIES**

LabSampleID	2
LabSample ContainerID	48
Client Sample Label ID / Information	D22 9/23/22 + 10/10/22
Corrective Action	NA

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

NOTES/OBSERVATIONS:

SAMPLE MATRIX IS DRINKING WATER?  YES  NO

**LEGEND:**

Code Description-Sample Management

D1 Analysis is not indicated in \_\_\_\_\_

D2 Sample ID mismatch COC vs label

D3 Sample ID mismatch COC vs label

D4 Sample ID is not indicated in \_\_\_\_\_

D5 Container -[improper] [leaking] [broken]

D6 Date/Time is not indicated in \_\_\_\_\_

D7 Date/Time mismatch COC vs label

D8 Sample listed in COC is not received

D9 Sample received is not listed in COC

D10 No initial/date on corrections in COC/label

D11 Container count mismatch COC vs received

D12 Container size mismatch COC vs received

REVIEWERS: JHOWIN ZHANG

Sample Labeling

Date 10/12/22

REPORT ID: 22J164

EMAX Laboratories, Inc. 3051 Fujita St., Torrance, CA 90505

Page 3 of 23

## REPORTING CONVENTIONS

### DATA QUALIFIERS:

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

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

### ACRONYMS AND ABBREVIATIONS:

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

### DATES

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

LABORATORY REPORT FOR

EUROFINS EATON ANALYTICAL

380-23773

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

SDG#: 22J164

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CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 380-23773

SDG : 22J164

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

A total of two(2) water samples were received on 10/12/22 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. VGH7J09B - 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. VGH7J09L/VGH7J09C 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 J162-01M/J162-01S. 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 : 380-23773
=====
SDG NO. : 22J164
Instrument ID : H7
=====

```

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
									WATER
MBLK1W	VG7J09B	1	NA	10/17/2221:22	10/17/2221:22	AJ16059A	AJ16058A	22VGH7J09	Method Blank
LCS1W	VG7J09L	1	NA	10/17/2221:57	10/17/2221:57	AJ16060A	AJ16058A	22VGH7J09	Lab Control Sample (LCS)
LCD1W	VG7J09C	1	NA	10/17/2222:32	10/17/2222:32	AJ16061A	AJ16058A	22VGH7J09	LCS Duplicate
380-23773-1	J164-01	1	NA	10/18/2205:35	10/18/2205:35	AJ16073A	AJ16070A	22VGH7J09	Field Sample
380-23773-2	J164-02	1	NA	10/18/2206:10	10/18/2206:10	AJ16074A	AJ16070A	22VGH7J09	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: 10/10/22 09:40
Project     : 380-23773                 Date Received: 10/12/22
Batch No.   : 22J164                   Date Extracted: 10/18/22 05:35
Sample ID   : 380-23773-1              Date Analyzed: 10/18/22 05:35
Lab Samp ID: J164-01                   Dilution Factor: 1
Lab File ID: AJ16073A                  Matrix: WATER
Ext Btch ID: 22VGH7J09                 % Moisture: NA
Calib. Ref.: AJ16070A                   Instrument ID: H7
=====

```

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

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromofluorobenzene	0.0363	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: 10/10/22 09:40
Project     : 380-23773                 Date Received: 10/12/22
Batch No.   : 22J164                    Date Extracted: 10/18/22 06:10
Sample ID   : 380-23773-2              Date Analyzed: 10/18/22 06:10
Lab Samp ID: J164-02                   Dilution Factor: 1
Lab File ID: AJ16074A                  Matrix: WATER
Ext Btch ID: 22VGH7J09                 % Moisture: NA
Calib. Ref.: AJ16070A                  Instrument ID: H7
=====

```

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

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromofluorobenzene	0.0378	0.0400	95	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: 10/17/22 21:22
Project     : 380-23773                   Date Received: 10/17/22
Batch No.   : 22J164                       Date Extracted: 10/17/22 21:22
Sample ID   : MBLK1W                       Date Analyzed: 10/17/22 21:22
Lab Samp ID: VGH7J09B                     Dilution Factor: 1
Lab File ID: AJ16059A                     Matrix: WATER
Ext Btch ID: 22VGH7J09                    % Moisture: NA
Calib. Ref.: AJ16058A                    Instrument ID: H7
=====

```

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
GASOLINE	ND	0.020	0.010	
SURROGATE PARAMETERS				
	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromofluorobenzene	0.0346	0.0400	87	60-140

Notes:

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

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

EMAX QUALITY CONTROL DATA  
LAB CONTROL SAMPLE ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL  
PROJECT : 380-23773  
BATCH NO. : 22J164  
METHOD : 5030B/8015B

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR:	1	1	
SAMPLE ID	: MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID	: VGH7J09B	VGH7J09L	VGH7J09C
LAB FILE ID	: AJ16059A	AJ16060A	AJ16061A
DATE PREPARED	: 10/17/22 21:22	10/17/22 21:57	10/17/22 22:32
DATE ANALYZED	: 10/17/22 21:22	10/17/22 21:57	10/17/22 22:32
PREP BATCH	: 22VGH7J09	22VGH7J09	22VGH7J09
CALIBRATION REF:	AJ16058A	AJ16058A	AJ16058A

ACCESSION:

PARAMETERS	MBResult (mg/L)	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
Gasoline	ND	0.500	0.426	85	0.500	0.453	91	6	60-130	30

SURROGATE PARAMETER	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	QCLimit (%)
Bromofluorobenzene	0.0400	0.0410	103	0.0400	0.0419	105	70-130

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

EMAX QUALITY CONTROL DATA  
MS/MSD ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL  
PROJECT : 380-23784  
BATCH NO. : 22J162  
METHOD : 5030B/8015B

```

=====
MATRIX      : WATER                               % MOISTURE:NA
DILUTION FACTOR: 1                               1
SAMPLE ID   : 380-23784-1                       380-23784-1MS  380-23784-1MSD
LAB SAMPLE ID : J162-01                         J162-01M      J162-01S
LAB FILE ID  : AJ16062A                         AJ16063A      AJ16064A
DATE PREPARED : 10/17/22 23:07                 10/17/22 23:43 10/18/22 00:18
DATE ANALYZED : 10/17/22 23:07                 10/17/22 23:43 10/18/22 00:18
PREP BATCH   : 22VGH7J09                       22VGH7J09     22VGH7J09
CALIBRATION REF: AJ16058A                       AJ16058A      AJ16058A
  
```

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	0.464	93	0.500	0.486	97	5	50-130	30

SURROGATE PARAMETER	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	QCLimit (%)
Bromofluorobenzene	0.0400	0.0457	114	0.0400	0.0477	119	60-140

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

LABORATORY REPORT FOR

EUROFINS EATON ANALYTICAL

380-23773

METHOD 3520C/8015B  
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

SDG#: 22J164



CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 380-23773

SDG : 22J164

METHOD 3520C/8015B  
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

One(1) water sample was received on 10/12/22 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. DSJ049WB - 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 DSJ049WL. 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 22J162-01M/22J162-01S. 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 : 380-23773

SDG NO. : 22J164  
Instrument ID : D5

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Prep. Data FN	Batch	Notes
	WATER								
MBLK1W	DSJ049WB	1	NA	10/24/2219:18	10/22/2213:30	LJ24029A	LJ24023A	22DSJ049W	Method Blank
LCS1W	DSJ049WL	1	NA	10/24/2219:36	10/22/2213:30	LJ24030A	LJ24023A	22DSJ049W	Lab Control Sample (LCS)
380-23773-1	J164-01	1	NA	10/24/2223:00	10/22/2213:30	LJ24041A	LJ24023A	22DSJ049W	Field Sample

FN - Filename  
% Moist - Percent Moisture

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# SAMPLE RESULTS



METHOD 3520C/8015B  
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

```

=====
Client      : EUROFINS EATON ANALYTICAL    Date Collected: 10/10/22 09:40
Project     : 380-23773                    Date Received: 10/12/22
Batch No.   : 22J164                       Date Extracted: 10/22/22 13:30
Sample ID   : 380-23773-1                 Date Analyzed: 10/24/22 23:00
Lab Samp ID : 22J164-01                   Dilution Factor: 1
Lab File ID : LJ24041A                    Matrix: WATER
Ext Btch ID : 22DSJ049W                   % Moisture: NA
Calib. Ref.: LJ24023A                     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	0.432	0.500	86	60-130
Hexacosane	0.122	0.125	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 : 1000ml                      Final Volume : 5ml  
Prepared by    : DLi                              Analyzed by : SDeeso

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# QC SUMMARIES

METHOD 3520C/8015B  
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

=====  
Client : EUROFINS EATON ANALYTICAL Date Collected: 10/22/22 13:30  
Project : 380-23773 Date Received: 10/22/22  
Batch No. : 22J164 Date Extracted: 10/22/22 13:30  
Sample ID : MBLK1W Date Analyzed: 10/24/22 19:18  
Lab Samp ID: DSJ049WB Dilution Factor: 1  
Lab File ID: LJ24029A Matrix: WATER  
Ext Btch ID: 22DSJ049W % Moisture: NA  
Calib. Ref.: LJ24023A 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	0.493	0.500	99	60-130
Hexacosane	0.132	0.125	106	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 : DLi Analyzed by : SDeeso

EMAX QUALITY CONTROL DATA  
LAB CONTROL SAMPLE ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL  
PROJECT : 380-23773  
BATCH NO. : 22J164  
METHOD : 3520C/8015B

=====

MATRIX : WATER % MOISTURE:NA  
DILUTION FACTOR: 1 1  
SAMPLE ID : MBLK1W LCS1W  
LAB SAMPLE ID : DSJ049WB DSJ049WL  
LAB FILE ID : LJ24029A LJ24030A  
DATE PREPARED : 10/22/22 13:30 10/22/22 13:30  
DATE ANALYZED : 10/24/22 19:18 10/24/22 19:36  
PREP BATCH : 22DSJ049W 22DSJ049W  
CALIBRATION REF: LJ24023A LJ24023A

ACCESSION:

PARAMETERS	MBResult (mg/L)	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	QCLimit (%)
Diesel	ND	2.50	2.70	108	50-130

SURROGATE PARAMETERS	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	QCLimit (%)
Bromobenzene	0.500	0.517	103	60-130
Hexacosane	0.125	0.124	99	60-130

=====

MB: Method Blank sample LCS: Lab Control Sample

EMAX QUALITY CONTROL DATA  
MS/MSD ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL  
PROJECT : 380-23784  
BATCH NO. : 22J162  
METHOD : 3520C/8015B

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR:	1	1	1
SAMPLE ID	: 380-23784-1	380-23784-1MS	380-23784-1MSD
LAB SAMPLE ID	: 22J162-01	22J162-01M	22J162-01S
LAB FILE ID	: LJ24033A	LJ24034A	LJ24035A
DATE PREPARED	: 10/22/22 13:30	10/22/22 13:30	10/22/22 13:30
DATE ANALYZED	: 10/24/22 20:32	10/24/22 20:50	10/24/22 21:09
PREP BATCH	: 22DSJ049W	22DSJ049W	22DSJ049W
CALIBRATION REF:	LJ24023A	LJ24023A	LJ24023A

ACCESSION:

PARAMETERS	PSResult (mg/L)	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
Diesel	ND	2.38	2.64	111	2.40	2.69	112	2	50-130	30

SURROGATE PARAMETERS	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	QCLimit (%)
Bromobenzene	0.475	0.435	92	0.480	0.513	107	60-130
Hexacosane	0.119	0.122	103	0.120	0.129	108	60-130

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

October 20, 2022

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

Project Name: RED-HILL Project # 38001111 Job # 380-23773-1  
Physis Project ID: 1407003-313

Dear Debbie,


Enclosed are the analytical results for the sample submitted to PHYSIS Environmental Laboratories, Inc. (PHYSIS) on 10/12/2022. 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: 1407003-313

RED-HILL Project # 38001111 Job # 380-23773-1

Total Samples: 1

PHYSIS ID	Sample ID	Description	Date	Time	Matrix	Sample Type
100789	HALAWA SHAFT VIEWING POOL	380-23773-1	10/10/202	9:40	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.

## PHYSIS QUALIFIER CODES

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

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## CASE NARRATIVE

### QUALIFIER NOTES

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

#### **ND**

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

# BIANALYTICALS

## REPORT

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## Base/Neutral Extractable Compounds

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
<b>Sample ID: 100789-R1</b>	<b>HALAWA SHAFT VIEWING POOL 3</b>	<b>Matrix: Samplewater</b>					<b>Sampled:</b>	<b>10-Oct-22 9:40</b>		<b>Received:</b>	<b>12-Oct-22</b>
Disalicylidenepropanediamine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-38150	13-Oct-22	16-Oct-22



## Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
<b>Sample ID: 100789-R1</b>	<b>HALAWA SHAFT VIEWING POOL 3</b>	<b>Matrix: Samplewater</b>					<b>Sampled:</b>	<b>10-Oct-22 9:40</b>		<b>Received:</b>	<b>12-Oct-22</b>
(d10-Acenaphthene)	EPA 625.1	% Recovery	92	1			Total		0-38150	13-Oct-22	16-Oct-22
(d10-Phenanthrene)	EPA 625.1	% Recovery	111	1			Total		0-38150	13-Oct-22	16-Oct-22
(d12-Chrysene)	EPA 625.1	% Recovery	83	1			Total		0-38150	13-Oct-22	16-Oct-22
(d12-Perylene)	EPA 625.1	% Recovery	105	1			Total		0-38150	13-Oct-22	16-Oct-22
(d8-Naphthalene)	EPA 625.1	% Recovery	85	1			Total		0-38150	13-Oct-22	16-Oct-22
1-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		0-38150	13-Oct-22	16-Oct-22
1-Methylphenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		0-38150	13-Oct-22	16-Oct-22
2,3,5-Trimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		0-38150	13-Oct-22	16-Oct-22
2,6-Dimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		0-38150	13-Oct-22	16-Oct-22
2-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		0-38150	13-Oct-22	16-Oct-22
Acenaphthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		0-38150	13-Oct-22	16-Oct-22
Acenaphthylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		0-38150	13-Oct-22	16-Oct-22
Anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		0-38150	13-Oct-22	16-Oct-22
Benz[a]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		0-38150	13-Oct-22	16-Oct-22
Benzo[a]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		0-38150	13-Oct-22	16-Oct-22
Benzo[b]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		0-38150	13-Oct-22	16-Oct-22
Benzo[e]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		0-38150	13-Oct-22	16-Oct-22
Benzo[g,h,i]perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		0-38150	13-Oct-22	16-Oct-22
Benzo[k]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		0-38150	13-Oct-22	16-Oct-22
Biphenyl	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		0-38150	13-Oct-22	16-Oct-22
Chrysene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		0-38150	13-Oct-22	16-Oct-22
D benz[a,h]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		0-38150	13-Oct-22	16-Oct-22
D benzo[a,l]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		0-38150	13-Oct-22	16-Oct-22
D benzothiophene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		0-38150	13-Oct-22	16-Oct-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-38150	13-Oct-22	16-Oct-22
Fluorene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38150	13-Oct-22	16-Oct-22
Indeno[1,2,3-cd]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38150	13-Oct-22	16-Oct-22
Naphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38150	13-Oct-22	16-Oct-22
Perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38150	13-Oct-22	16-Oct-22
Phenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38150	13-Oct-22	16-Oct-22
Pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38150	13-Oct-22	16-Oct-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: 100788-B1</b>		<b>QAQC Procedural Blank</b>			<b>Matrix: BlankMatrix</b>			<b>Sampled:</b>		<b>Received:</b>			
		Method: EPA 625.1			Batch ID: O-38150			Prepared: 10-Oct-22		Analyzed: 16-Oct-22			
Disalicylideneprapanediamin	Total	ND	1	0.05	0.1	µg/L							
<b>Sample ID: 100788-BS1</b>		<b>QAQC Procedural Blank</b>			<b>Matrix: BlankMatrix</b>			<b>Sampled:</b>		<b>Received:</b>			
		Method: EPA 625.1			Batch ID: O-38150			Prepared: 10-Oct-22		Analyzed: 16-Oct-22			
Disalicylideneprapanediamin	Total	30.1	1	0.05	0.1	µg/L	50	0	60	50 - 150%	PASS		
<b>Sample ID: 100788-BS2</b>		<b>QAQC Procedural Blank</b>			<b>Matrix: BlankMatrix</b>			<b>Sampled:</b>		<b>Received:</b>			
		Method: EPA 625.1			Batch ID: O-38150			Prepared: 10-Oct-22		Analyzed: 16-Oct-22			
Disalicylideneprapanediamin	Total	31	1	0.05	0.1	µg/L	50	0	62	50 - 150%	PASS	3	30 PASS

## Polynuclear Aromatic Hydrocarbons

## QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY	PRECISION	QA CODEc	
							LEVEL	RESULT	% LIMITS	% LIMITS		
<b>Sample ID: 100788-B1</b>		<b>QAQC Procedural Blank</b>			<b>Matrix: BlankMatrix</b>			<b>Sampled:</b>		<b>Received:</b>		
		Method: EPA 625.1			Batch ID: O-38150			Prepared: 10-Oct-22		Analyzed: 16-Oct-22		
(d10-Acenaphthene)	Total	111	1				% Recovery	100	111	27 - 133%	PASS	
(d10-Phenanthrene)	Total	111	1				% Recovery	100	111	43 - 129%	PASS	
(d12-Chrysene)	Total	95	1				% Recovery	100	95	52 - 144%	PASS	
(d12-Perylene)	Total	99	1				% Recovery	100	99	36 - 161%	PASS	
(d8-Naphthalene)	Total	118	1				% Recovery	100	118	25 - 125%	PASS	
1-Methylnaphthalene	Total	ND	1	0.001	0.005	µg/L						
1-Methylphenanthrene	Total	ND	1	0.001	0.005	µg/L						
2,3,5-Trimethylnaphthalene	Total	ND	1	0.001	0.005	µg/L						
2,6-Dimethylnaphthalene	Total	ND	1	0.001	0.005	µg/L						
2-Methylnaphthalene	Total	ND	1	0.001	0.005	µg/L						
Acenaphthene	Total	ND	1	0.001	0.005	µg/L						
Acenaphthylene	Total	ND	1	0.001	0.005	µg/L						
Anthracene	Total	ND	1	0.001	0.005	µg/L						
Benz[a]anthracene	Total	ND	1	0.001	0.005	µg/L						
Benzo[a]pyrene	Total	ND	1	0.001	0.005	µg/L						
Benzo[b]fluoranthene	Total	ND	1	0.001	0.005	µg/L						
Benzo[e]pyrene	Total	ND	1	0.001	0.005	µg/L						
Benzo[g,h,i]perylene	Total	ND	1	0.001	0.005	µg/L						
Benzo[k]fluoranthene	Total	ND	1	0.001	0.005	µg/L						
Biphenyl	Total	ND	1	0.001	0.005	µg/L						
Chrysene	Total	ND	1	0.001	0.005	µg/L						
Dibenz[a,h]anthracene	Total	ND	1	0.001	0.005	µg/L						
Dibenzo[a,l]pyrene	Total	ND	1	0.001	0.005	µg/L						
Dibenzothiophene	Total	ND	1	0.001	0.005	µg/L						

## Polynuclear Aromatic Hydrocarbons

## QUALITY CONTROL REPORT

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



## Polynuclear Aromatic Hydrocarbons

## QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY	PRECISION	QA CODE	
							LEVEL	RESULT	%	LIMITS	%	LIMITS
<b>Sample ID: 100788-BS1</b>		<b>QAQC Procedural Blank</b>			<b>Matrix: BlankMatrix</b>			<b>Sampled:</b>		<b>Received:</b>		
Method: EPA 625.1		Batch ID: O-38150			Prepared: 10-Oct-22		Analyzed: 16-Oct-22					
(d10-Acenaphthene)	Total	110	1			% Recovery	100	0	110	27 - 133%	PASS	
(d10-Phenanthrene)	Total	110	1			% Recovery	100	0	110	43 - 129%	PASS	
(d12-Chrysene)	Total	97	1			% Recovery	100	0	97	52 - 144%	PASS	
(d12-Perylene)	Total	107	1			% Recovery	100	0	107	36 - 161%	PASS	
(d8-Naphthalene)	Total	115	1			% Recovery	100	0	115	25 - 125%	PASS	
1-Methylnaphthalene	Total	0.574	1	0.001	0.005	µg/L	0.5	0	115	31 - 128%	PASS	
1-Methylphenanthrene	Total	0.583	1	0.001	0.005	µg/L	0.5	0	117	66 - 127%	PASS	
2,3,5-Trimethylnaphthalene	Total	0.541	1	0.001	0.005	µg/L	0.5	0	108	55 - 122%	PASS	
2,6-Dimethylnaphthalene	Total	0.513	1	0.001	0.005	µg/L	0.5	0	103	48 - 120%	PASS	
2-Methylnaphthalene	Total	0.616	1	0.001	0.005	µg/L	0.5	0	123	47 - 130%	PASS	
Acenaphthene	Total	0.595	1	0.001	0.005	µg/L	0.5	0	119	53 - 131%	PASS	
Acenaphthylene	Total	0.518	1	0.001	0.005	µg/L	0.5	0	104	43 - 140%	PASS	
Anthracene	Total	0.503	1	0.001	0.005	µg/L	0.5	0	101	58 - 135%	PASS	
Benz[a]anthracene	Total	0.419	1	0.001	0.005	µg/L	0.5	0	84	55 - 145%	PASS	
Benzo[a]pyrene	Total	0.483	1	0.001	0.005	µg/L	0.5	0	97	51 - 143%	PASS	
Benzo[b]fluoranthene	Total	0.489	1	0.001	0.005	µg/L	0.5	0	98	46 - 165%	PASS	
Benzo[e]pyrene	Total	0.482	1	0.001	0.005	µg/L	0.5	0	96	42 - 152%	PASS	
Benzo[g,h,i]perylene	Total	0.506	1	0.001	0.005	µg/L	0.5	0	101	63 - 133%	PASS	
Benzo[k]fluoranthene	Total	0.455	1	0.001	0.005	µg/L	0.5	0	91	56 - 145%	PASS	
Biphenyl	Total	0.472	1	0.001	0.005	µg/L	0.5	0	94	56 - 119%	PASS	
Chrysene	Total	0.445	1	0.001	0.005	µg/L	0.5	0	89	56 - 141%	PASS	
Dibenz[a,h]anthracene	Total	0.499	1	0.001	0.005	µg/L	0.5	0	100	55 - 150%	PASS	
Dibenzo[a,l]pyrene	Total	0.275	1	0.001	0.005	µg/L	0.5	0	55	50 - 150%	PASS	
Dibenzothiophene	Total	0.497	1	0.001	0.005	µg/L	0.5	0	99	75 - 113%	PASS	

## Polynuclear Aromatic Hydrocarbons

## QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY		PRECISION		QA CODE <sub>c</sub>
							LEVEL	RESULT	%	LIMITS	%	LIMITS	
Fluoranthene	Total	0.587	1	0.001	0.005	µg/L	0.5	0	117	60 - 146%	PASS		
Fluorene	Total	0.654	1	0.001	0.005	µg/L	0.5	0	131	58 - 131%	PASS		
Indeno[1,2,3-cd]pyrene	Total	0.539	1	0.001	0.005	µg/L	0.5	0	108	50 - 151%	PASS		
Naphthalene	Total	0.475	1	0.001	0.005	µg/L	0.5	0	95	41 - 126%	PASS		
Perylene	Total	0.476	1	0.001	0.005	µg/L	0.5	0	95	48 - 141%	PASS		
Phenanthrene	Total	0.489	1	0.001	0.005	µg/L	0.5	0	98	67 - 127%	PASS		
Pyrene	Total	0.564	1	0.001	0.005	µg/L	0.5	0	113	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: 100788-BS2</b>		<b>QAQC Procedural Blank</b>			<b>Matrix: BlankMatrix</b>			<b>Sampled:</b>			<b>Received:</b>				
		Method: EPA 625.1			Batch ID: O-38150			Prepared: 10-Oct-22			Analyzed: 16-Oct-22				
(d10-Acenaphthene)	Total	111	1				% Recovery	100	0	111	27 - 133%	PASS	1	30	PASS
(d10-Phenanthrene)	Total	109	1				% Recovery	100	0	109	43 - 129%	PASS	1	30	PASS
(d12-Chrysene)	Total	82	1				% Recovery	100	0	82	52 - 144%	PASS	17	30	PASS
(d12-Perylene)	Total	105	1				% Recovery	100	0	105	36 - 161%	PASS	2	30	PASS
(d8-Naphthalene)	Total	89	1				% Recovery	100	0	89	25 - 125%	PASS	25	30	PASS
1-Methylnaphthalene	Total	0.584	1	0.001	0.005	µg/L		0.5	0	117	31 - 128%	PASS	2	30	PASS
1-Methylphenanthrene	Total	0.498	1	0.001	0.005	µg/L		0.5	0	100	66 - 127%	PASS	16	30	PASS
2,3,5-Trimethylnaphthalene	Total	0.578	1	0.001	0.005	µg/L		0.5	0	116	55 - 122%	PASS	7	30	PASS
2,6-Dimethylnaphthalene	Total	0.493	1	0.001	0.005	µg/L		0.5	0	99	48 - 120%	PASS	4	30	PASS
2-Methylnaphthalene	Total	0.543	1	0.001	0.005	µg/L		0.5	0	109	47 - 130%	PASS	12	30	PASS
Acenaphthene	Total	0.539	1	0.001	0.005	µg/L		0.5	0	108	53 - 131%	PASS	10	30	PASS
Acenaphthylene	Total	0.496	1	0.001	0.005	µg/L		0.5	0	99	43 - 140%	PASS	5	30	PASS
Anthracene	Total	0.52	1	0.001	0.005	µg/L		0.5	0	104	58 - 135%	PASS	3	30	PASS
Benz[a]anthracene	Total	0.391	1	0.001	0.005	µg/L		0.5	0	78	55 - 145%	PASS	7	30	PASS
Benzo[a]pyrene	Total	0.506	1	0.001	0.005	µg/L		0.5	0	101	51 - 143%	PASS	4	30	PASS
Benzo[b]fluoranthene	Total	0.52	1	0.001	0.005	µg/L		0.5	0	104	46 - 165%	PASS	6	30	PASS
Benzo[e]pyrene	Total	0.519	1	0.001	0.005	µg/L		0.5	0	104	42 - 152%	PASS	8	30	PASS
Benzo[g,h,i]perylene	Total	0.533	1	0.001	0.005	µg/L		0.5	0	107	63 - 133%	PASS	6	30	PASS
Benzo[k]fluoranthene	Total	0.486	1	0.001	0.005	µg/L		0.5	0	97	56 - 145%	PASS	6	30	PASS
Biphenyl	Total	0.514	1	0.001	0.005	µg/L		0.5	0	103	56 - 119%	PASS	9	30	PASS
Chrysene	Total	0.399	1	0.001	0.005	µg/L		0.5	0	80	56 - 141%	PASS	11	30	PASS
Dibenz[a,h]anthracene	Total	0.527	1	0.001	0.005	µg/L		0.5	0	105	55 - 150%	PASS	5	30	PASS
Dibenzo[a,l]pyrene	Total	0.269	1	0.001	0.005	µg/L		0.5	0	54	50 - 150%	PASS	2	30	PASS
Dibenzothiophene	Total	0.522	1	0.001	0.005	µg/L		0.5	0	104	75 - 113%	PASS	5	30	PASS

## Polynuclear Aromatic Hydrocarbons

## QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY		PRECISION		QA CODE <sub>c</sub>	
							LEVEL	RESULT	%	LIMITS	%	LIMITS		
Fluoranthene	Total	0.501	1	0.001	0.005	µg/L	0.5	0	100	60 - 146%	PASS	16	30	PASS
Fluorene	Total	0.615	1	0.001	0.005	µg/L	0.5	0	123	58 - 131%	PASS	6	30	PASS
Indeno[1,2,3-cd]pyrene	Total	0.567	1	0.001	0.005	µg/L	0.5	0	113	50 - 151%	PASS	5	30	PASS
Naphthalene	Total	0.394	1	0.001	0.005	µg/L	0.5	0	79	41 - 126%	PASS	18	30	PASS
Perylene	Total	0.508	1	0.001	0.005	µg/L	0.5	0	102	48 - 141%	PASS	7	30	PASS
Phenanthrene	Total	0.517	1	0.001	0.005	µg/L	0.5	0	103	67 - 127%	PASS	5	30	PASS
Pyrene	Total	0.499	1	0.001	0.005	µg/L	0.5	0	100	54 - 156%	PASS	12	30	PASS



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**PHYSICS**  
**TENTATIVELY**  
**IDENTIFIED COMPOUNDS**

ENVIRONMENTAL LABORATORIES, INC.

*Innovative Solutions for Nature*

Sample ID: 100789

RT	Area Pct	Concentration (ng/L)	Library/ID	Cas Number	Match Qual
32.3479	4.8125	1111	Anthracene-D10-	1517-22-2	95
29.3452	1.3357	308	Benzoic acid, 2-ethylhexyl ester	5444-75-7	98
17.5021	0.6038	139	Propanoic acid, 2-methyl-, 3-hydroxy-2,2,4-trimethylpentyl ester	77-68-9	98
16.9580	0.4832	112	2,2,4-Trimethyl-1,3-pentanediol diisobutyrate	6846-50-0	90

Concentration estimated using the response for Anthracene-d10

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Sample ID: Lab Blank Batch O-38150

RT	Area Pct	Concentration (ng/L)	Library/ID	Cas Number	Match Qual
67.1325	7.9371	1111	Anthracene-D10-	1520-96-3	93
29.3482	0.9057	127	Benzoic acid, 2-ethylhexyl ester	5444-75-7	98

Concentration estimated using the response for Anthracene-d10

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# PERFORMANCE CHAIN OF CUSTODY

TERRA ENVIRONMENTAL LABORATORIES, INC. AURA

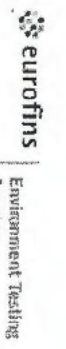
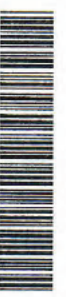
*Innovative Solutions for Nature*

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**Monrovia, CA (Suite 100)**

750 Royal Oaks Drive Suite 100  
Monrovia, CA 91016  
Phone: 626-396-1100

**Chain of Custody Record**



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

Sampler: **Arada, Rachelle**  
 Phone: **Rachelle Arada@eurofins.com**  
 E-Mail: **Rachelle Arada@eurofins.com**  
 State of Origin: **Hawaii**  
 Carrier Tracking No(s): **380-23865-1**  
 COC No: **380-23865-1**  
 Page: **Page 1 of 1**  
 Job #: **380-23773-1**

Due Date Requested: **10/25/2022**  
 TAT Requested (days): **7**  
 Analysis Requested

Field Filtered Sample (Yes or No)   
 Perform MS/MSB (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 - Ascorbic Acid  
 H - Ascorbic Acid  
 I - Ice  
 J - DI Water  
 K - EDTA  
 L - EDA  
 M - Hexane  
 N - None  
 O - AsH2O2  
 P - NaClO3  
 Q - Na2SO3  
 R - Na2S2O3  
 S - H2SO4  
 T - TSP Dodecahydrate  
 U - Acetone  
 V - MCAA  
 W - DH-4-5  
 Y - Tizma  
 Z - other (specify)

Sample ID (Lab ID)	Sample Date	Sample Time	Sample Type (G-comp, G-grab)	MATRIX (W-water, Small, Dewatered, BT-tissue, Ash)	Field Filtered Sample (Yes or No)	Perform MS/MSB (Yes or No)	Analysis Requested	Total Number of containers	Special Instructions/Note:
HALAWA SHAFT VIEWING POOL (380-23773-1)	10/10/22	09:40	Water	Water	X	X	SUB (625 PAH Physis LL (EAL) + TICs)/ 625 PAH Physis LL (EAL) + TICs	2	See Attached Instructions

**Possible Hazard Identification**  
 Unconfirmed  
 Deliverable Requested: I, II, III, IV, Other (specify) **Primary Deliverable Rank: 2**  
 Empty Kit Relinquished by: **Date:** **Time:** **Method of Shipment:**  
 Relinquished by: **Date/Time:** **Company:** **Received by:** **Date/Time:** **Company:**  
 Relinquished by: **Date/Time:** **Company:** **Received by:** **Date/Time:** **Company:**  
 Relinquished by: **Date/Time:** **Company:** **Received by:** **Date/Time:** **Company:**  
 Custody Seals Intact: **Custody Seal No.:** **Cooler Temperature(s) °C and Other Remarks:**



Project Iteration ID: 1407003-313  
 Client Name: Eurofins Eaton Analytical  
 Project Name: RED-HILL Project # 38001111 Job # 380-23773-1  
 COC Page Number: 2 of 2  
 Bottle Label Color: NA

**Sample Receipt Summary**

Receiving Info

1. Initials Received By: AD
2. Date Received: 10/12/22
3. Time Received: 1456
4. Client Name: Eurofins
5. Courier Information: (Please circle)
  - Client
  - UPS
  - Area Fast
  - DRS
  - FedEx
  - GSO/GLS
  - Ontrac
  - PAMS
  - PHYSIS Driver:
  - i. Start Time: \_\_\_\_\_
  - ii. End Time: \_\_\_\_\_
  - iii. Total Mileage: \_\_\_\_\_
  - iv. Number of Pickups: \_\_\_\_\_
6. Container Information: (Please put the # of containers or circle none)
  - Cooler
  - Styrofoam Cooler
  - Boxes
  - None
  - Carboy(s)
  - Carboy Trash Can(s)
  - Carboy Cap(s)
  - Other \_\_\_\_\_
7. What type of ice was used: (Please circle any that apply)
  - Wet Ice
  - Blue Ice
  - Dry Ice
  - Water
  - None
8. Randomly Selected Samples Temperature (°C): 3.4 Used I/R Thermometer # 1-2

Inspection Info

1. Initials Inspected By: AD

Sample Integrity Upon Receipt:

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

Notes:

**Monrovia, CA (Suite 100)**

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

**Chain of Custody Record**



Environment Testing  
 America

<b>Client Information</b>		Sampler: <i>Dr. Ron Fenstemacher</i>		Lab PM: Frank, Debbie L		Carrier Tracking No(s):		COC No: 380-9755-2757.2									
Client Contact: Dr. Ron Fenstemacher		Phone: <i>808-748-5840</i>		E-Mail: Debbie.Frank@et.eurofinsus.com		State of Origin:		Page: Page 2 of 3									
Company: City & County of Honolulu		PWSID:		<b>Analysis Requested</b>						Job #:							
Address: 630 South Beretania Street Chemistry Lab		Due Date Requested:		Field Filtered Sample (Yes or No) <input type="checkbox"/> Perform MS/MSD (Yes or No) <input type="checkbox"/> SUBCONTRACT - 625 PAH Physis LL (EAL) + TICs <input type="checkbox"/> SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL) <input type="checkbox"/> SUBCONTRACT - 8015 Diesel LL (EAL) and Motor Oil <input type="checkbox"/> 525.2_PEC - (MOD) 525plus Plus TICs <input type="checkbox"/> SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL) <input type="checkbox"/>						TAT Requested (days):		Preservation Codes: A - HCL M - Hexane B - NaOH N - None C - Zn Acetate O - AsNaO2 D - Nitric Acid P - Na2O4S E - NaHSO4 Q - Na2SO3 F - MeOH R - Na2S2O3 G - Amchlor S - H2SO4 H - Ascorbic Acid T - TSP Dodecahydrate I - Ice U - Acetone J - DI Water V - MCAA K - EDTA W - pH 4-5 L - EDA Y - Trizma Z - other (specify)		Compliance Project: <input type="checkbox"/> Yes <input type="checkbox"/> No		Other:	
City: Honolulu		PO #:								Project #:				SSOW#:			
State, Zip: HI, 96843		WO #:								Project #: 38001111				SSOW#:			
Phone: 808-748-5091(Tel)		Project Name: RED-HILL/HBWS Sites Event Desc: RUSH Weekly Red Hill								Sample Identification				Special Instructions/Note:			
Email: RFENSTEMACHER@hbws.org		Site: Hawaii								Sample Date				Sample Time			
Project Name: RED-HILL/HBWS Sites Event Desc: RUSH Weekly Red Hill		Site: Hawaii								Sample Type (C=comp, G=grab)				Matrix (W=water, S=solid, O=waste/Oil, BT=Tissue, A=Air)			
Sample Identification		Sample Date		Sample Time		Sample Type (C=comp, G=grab)		Matrix (W=water, S=solid, O=waste/Oil, BT=Tissue, A=Air)									
						Preservation Code:											
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 PUMPS1&2(260)331-203-TP400						Water											
HALAWA SHAFT (331-241-TP401) <i>Vid. Pad</i>		<i>10-10-22</i>		<i>940</i>		<i>G</i>		<i>XXXXXX</i>									
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 PUMPS1&2(260)331-203-TP400						Water											
HALAWA SHAFT (331-241-TP401)						Water											
<b>Possible Hazard Identification</b>					<b>Sample Disposal ( A fee may be assessed if samples are retained longer than 1 month)</b>												
<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological					<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months												
Deliverable Requested: I, II, III, IV, Other (specify)					Special Instructions/QC Requirements:												
Empty Kit Relinquished by:		Date:		Time:		Method of Shipment:											
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:									
		<i>10-10-22 11:00</i>				<i>GREYNER</i>		<i>10/11/2022 09:45</i>									
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:									
Relinquished by:		Date/Time:		Company:		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:													



380-23773 COC



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

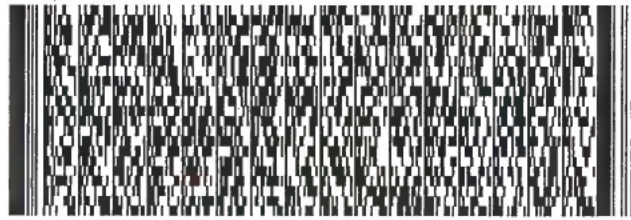
SHIP DATE: 10OCT22  
ACTWGT: 25.00 LB  
CAD: 100205419/INET4530

BILL RECIPIENT

TO **C CHUCK**  
**EUROFINS EATON ANALYTICAL, INC**  
**750 ROYAL OAKS DR**  
**SUITE 100**  
**MONROVIA CA 91016**

581.J1JAC5FFE2D

(626) 386-1178 REF:  
INV: DEPT:  
PO:

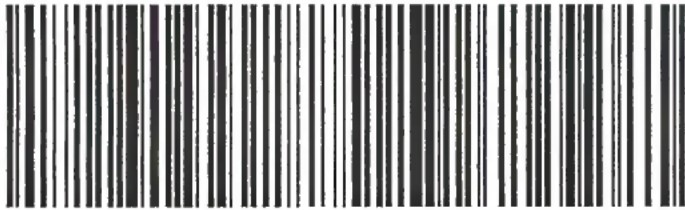


TUE - 11 OCT 10:30A  
PRIORITY OVERNIGHT

TRK# 7701 6432 5045  
0201

**WZ WHPA**

91016  
CA-US BUR



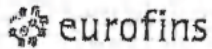
**After printing this label:**

1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

**Warning:** Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number. Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com. FedEx will not be responsible for any claim in excess of \$100 per package, whether the result of loss, damage, delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is limited to the greater of \$100 or the authorized declared value. Recovery cannot exceed actual documented loss. Maximum for items of extraordinary value is \$1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our ServiceGuide. Written claims must be filed within strict time limits, see current FedEx Service Guide.







Eaton Analytical

# INTERNAL CHAIN OF CUSTODY RECORD

EEA Folder Number: \_\_\_\_\_

### SAMPLE TEMP RECEIVED:

Note: If samples are out of temperature range, let the ASMs know. ASMs will determine whether to proceed with analysis or not.

SAMPLES REC'D DAY OF COLLECTION? Yes / No

IR Gun ID = 649A (Observation = 2.6 °C) (Corr. Factor 0.3 °C) (Final = 2.3 °C)

TYPE OF ICE: Real \_\_\_\_\_ Synthetic  No Ice \_\_\_\_\_ CONDITION OF ICE: Frozen \_\_\_\_\_ Partially Frozen  Thawed \_\_\_\_\_ N/A \_\_\_\_\_

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

### Compliance Acceptance Criteria:

7701 6432 5045

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

If out of temperature range for both Chemistry and Microbiology samples and temperature does not confirm, then measure the temperature of each quadrant and record each temperature of the quadrants

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

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

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

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

7) VOA and Radon Headspace:

No Samples with Headspace:

Samples with Headspace (see below):

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

Exempt from headspace concerns: Methods 515.4, HAA(8251,852), 505, SPME, @CH, 532LCMS, 556, 538, Anatoxin, LCMS methods using 40 ml vials, International clients:

Samp ID	Bottle #	Nons/<6 mm	>6mm	Test	Samp ID	Bottle #	Nons/<6 mm	>6mm	Test	Samp ID	Bottle #	Nons/<6 mm	>6mm	Test	Samp ID	Bottle #	Nons/<6 mm	>6mm	Test	

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

RECEIVED BY:	SIGNATURE	PRINT NAME	COMPANY/TITLE	DATE	TIME
		G. PEITNER	Eurofins Eaton Analytical	10/11/2022	09:45
SAMPLES CHECKED AGAINST COC BY:	SIGNATURE	PRINT NAME	COMPANY/TITLE	DATE	TIME
			Eurofins Eaton Analytical		

# Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-23773-1

**Login Number: 23773**

**List Source: Eurofins Eaton Monrovia**

**List Number: 1**

**Creator: Elyas, Matthew**

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	

# Eurofins Eaton Monrovia

## Job Notes

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

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

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

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

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

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

## Authorization



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## Compliance Statement

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



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