

## ANALYTICAL REPORT

Eurofins Eaton Monrovia  
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Suite 100  
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Tel: (626)386-1100

Laboratory Job ID: 380-18328-1  
Client Project/Site: RED-HILL

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

Attn: Mr. Erwin Kawata



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Authorized for release by:  
10/9/2022 5:50:08 PM

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Results relate only to the items tested and the sample(s) as received by the laboratory.

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



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Rachelle Arada  
Manager of Project Management  
10/9/2022 5:50:08 PM





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# Definitions/Glossary

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

Job ID: 380-18328-1

## Qualifiers

### GC/MS Semi VOA

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

### GC/MS Semi VOA TICs

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

## Glossary

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

# Case Narrative

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

Job ID: 380-18328-1

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## Job ID: 380-18328-1

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### Laboratory: Eurofins Eaton Monrovia

#### Narrative

#### Job Narrative 380-18328-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 8/24/2022 10:10 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 6 coolers at receipt time were 2.3° C, 2.6° C, 2.6° C, 2.6° C, 3.4° C and 5.0° C.

#### GC/MS Semi VOA

Method 525.2: Metribuzin recovery failed below method acceptance limits. HALAWA SHAFT VIEWING POOL (380-18328-1) and (LCS 380-15265/3-A). This compound is not regulated.

Method 525.2: Caffeine recovery failed below acceptance limits. HALAWA SHAFT VIEWING POOL (380-18328-1) and (MRL 380-15265/2-A). This compound is not regulated.

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

#### Subcontract non-Sister

See attached subcontract report.

#### Organic Prep

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

#### Subcontract Work

Methods 8015 Diesel LL (EAL) and Motor Oil, 8015 Gas (Purgeable) LL (EAL): These methods were subcontracted to EMAX Laboratories Inc. The subcontract laboratory certifications are different from that of the facility issuing the final report.

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

# Detection Summary

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

Job ID: 380-18328-1

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

**Lab Sample ID: 380-18328-1**

No Detections.

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

**Lab Sample ID: 380-18328-2**

No Detections.

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

This Detection Summary does not include radiochemical test results.

Eurofins Eaton Monrovia

# Client Sample Results

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

Job ID: 380-18328-1

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

**Lab Sample ID: 380-18328-1**

Date Collected: 08/22/22 09:30

Matrix: Water

Date Received: 08/24/22 10:10

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
2,4'-DDD	ND		0.099	ug/L		08/29/22 08:10	08/30/22 22:11	1
2,4'-DDE	ND		0.099	ug/L		08/29/22 08:10	08/30/22 22:11	1
2,4'-DDT	ND		0.099	ug/L		08/29/22 08:10	08/30/22 22:11	1
2,4-Dinitrotoluene	ND		0.099	ug/L		08/29/22 08:10	08/30/22 22:11	1
2,6-Dinitrotoluene	ND		0.099	ug/L		08/29/22 08:10	08/30/22 22:11	1
4,4'-DDD	ND		0.099	ug/L		08/29/22 08:10	08/30/22 22:11	1
4,4'-DDE	ND		0.099	ug/L		08/29/22 08:10	08/30/22 22:11	1
4,4'-DDT	ND		0.099	ug/L		08/29/22 08:10	08/30/22 22:11	1
Acenaphthene	ND		0.099	ug/L		08/29/22 08:10	08/30/22 22:11	1
Acenaphthylene	ND		0.099	ug/L		08/29/22 08:10	08/30/22 22:11	1
Acetochlor	ND		0.099	ug/L		08/29/22 08:10	08/30/22 22:11	1
Alachlor	ND		0.049	ug/L		08/29/22 08:10	08/30/22 22:11	1
alpha-BHC	ND		0.099	ug/L		08/29/22 08:10	08/30/22 22:11	1
alpha-Chlordane	ND		0.049	ug/L		08/29/22 08:10	08/30/22 22:11	1
Anthracene	ND		0.020	ug/L		08/29/22 08:10	08/30/22 22:11	1
Atrazine	ND		0.049	ug/L		08/29/22 08:10	08/30/22 22:11	1
Benz(a)anthracene	ND		0.049	ug/L		08/29/22 08:10	08/30/22 22:11	1
Benzo[a]pyrene	ND		0.020	ug/L		08/29/22 08:10	08/30/22 22:11	1
Benzo[b]fluoranthene	ND		0.020	ug/L		08/29/22 08:10	08/30/22 22:11	1
Benzo[g,h,i]perylene	ND		0.049	ug/L		08/29/22 08:10	08/30/22 22:11	1
Benzo[k]fluoranthene	ND		0.020	ug/L		08/29/22 08:10	08/30/22 22:11	1
beta-BHC	ND		0.099	ug/L		08/29/22 08:10	08/30/22 22:11	1
Bromacil	ND		0.099	ug/L		08/29/22 08:10	08/30/22 22:11	1
Butachlor	ND	^3+	0.049	ug/L		08/29/22 08:10	08/30/22 22:11	1
Butylbenzylphthalate	ND		0.49	ug/L		08/29/22 08:10	08/30/22 22:11	1
Caffeine	ND	^3-	0.049	ug/L		08/29/22 08:10	08/30/22 22:11	1
Chlorobenzilate	ND		0.099	ug/L		08/29/22 08:10	08/30/22 22:11	1
Chloroneb	ND		0.099	ug/L		08/29/22 08:10	08/30/22 22:11	1
Chlorothalonil (Draconil, Bravo)	ND		0.099	ug/L		08/29/22 08:10	08/30/22 22:11	1
Chlorpyrifos	ND		0.049	ug/L		08/29/22 08:10	08/30/22 22:11	1
Chrysene	ND		0.020	ug/L		08/29/22 08:10	08/30/22 22:11	1
delta-BHC	ND		0.099	ug/L		08/29/22 08:10	08/30/22 22:11	1
Di(2-ethylhexyl)adipate	ND		0.59	ug/L		08/29/22 08:10	08/30/22 22:11	1
Bis(2-ethylhexyl) phthalate	ND		0.59	ug/L		08/29/22 08:10	08/30/22 22:11	1
Diazinon (Qualitative)	ND		0.099	ug/L		08/29/22 08:10	08/30/22 22:11	1
Dibenz(a,h)an hracene	ND		0.049	ug/L		08/29/22 08:10	08/30/22 22:11	1
Diclorvos (DDVP)	ND		0.049	ug/L		08/29/22 08:10	08/30/22 22:11	1
Dieldrin	ND		0.20	ug/L		08/29/22 08:10	08/30/22 22:11	1
Diethylphthalate	ND		0.49	ug/L		08/29/22 08:10	08/30/22 22:11	1
Dimethoate	ND		0.099	ug/L		08/29/22 08:10	08/30/22 22:11	1
Dimethylphalate	ND		0.49	ug/L		08/29/22 08:10	08/30/22 22:11	1
Di-n-butyl phthalate	ND		0.99	ug/L		08/29/22 08:10	08/30/22 22:11	1
Di-n-octyl phthalate	ND		0.099	ug/L		08/29/22 08:10	08/30/22 22:11	1
Endosulfan I (Alpha)	ND		0.099	ug/L		08/29/22 08:10	08/30/22 22:11	1
Endosulfan II (Beta)	ND		0.099	ug/L		08/29/22 08:10	08/30/22 22:11	1
Endosulfan sulfate	ND		0.099	ug/L		08/29/22 08:10	08/30/22 22:11	1
Endrin	ND		0.099	ug/L		08/29/22 08:10	08/30/22 22:11	1
Endrin aldehyde	ND		0.099	ug/L		08/29/22 08:10	08/30/22 22:11	1
EPTC	ND		0.099	ug/L		08/29/22 08:10	08/30/22 22:11	1

# Client Sample Results

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

Job ID: 380-18328-1

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

**Lab Sample ID: 380-18328-1**

Date Collected: 08/22/22 09:30

Matrix: Water

Date Received: 08/24/22 10:10

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoranthene	ND		0.099	ug/L		08/29/22 08:10	08/30/22 22:11	1
Fluorene	ND		0.049	ug/L		08/29/22 08:10	08/30/22 22:11	1
gamma-Chlordane	ND		0.049	ug/L		08/29/22 08:10	08/30/22 22:11	1
Heptachlor	ND		0.040	ug/L		08/29/22 08:10	08/30/22 22:11	1
Heptachlor epoxide (isomer B)	ND		0.049	ug/L		08/29/22 08:10	08/30/22 22:11	1
Hexachlorobenzene	ND		0.049	ug/L		08/29/22 08:10	08/30/22 22:11	1
Hexachlorocyclopentadiene	ND		0.049	ug/L		08/29/22 08:10	08/30/22 22:11	1
Indeno[1,2,3-cd]pyrene	ND		0.049	ug/L		08/29/22 08:10	08/30/22 22:11	1
Isophorone	ND		0.49	ug/L		08/29/22 08:10	08/30/22 22:11	1
Lindane	ND		0.040	ug/L		08/29/22 08:10	08/30/22 22:11	1
Malathion	ND		0.099	ug/L		08/29/22 08:10	08/30/22 22:11	1
Methoxychlor	ND	F1	0.099	ug/L		08/29/22 08:10	08/30/22 22:11	1
Metolachlor	ND		0.049	ug/L		08/29/22 08:10	08/30/22 22:11	1
Metribuzin	ND	*- *1	0.049	ug/L		08/29/22 08:10	08/30/22 22:11	1
Molinate	ND		0.099	ug/L		08/29/22 08:10	08/30/22 22:11	1
Naphthalene	ND		0.30	ug/L		08/29/22 08:10	08/30/22 22:11	1
Parathion	ND		0.099	ug/L		08/29/22 08:10	08/30/22 22:11	1
Pendimethalin (Penoxaline)	ND		0.099	ug/L		08/29/22 08:10	08/30/22 22:11	1
Total Permethrin (mixed isomers)	ND		0.20	ug/L		08/29/22 08:10	08/30/22 22:11	1
Phenanthrene	ND		0.040	ug/L		08/29/22 08:10	08/30/22 22:11	1
Propachlor	ND		0.049	ug/L		08/29/22 08:10	08/30/22 22:11	1
Pyrene	ND		0.049	ug/L		08/29/22 08:10	08/30/22 22:11	1
Simazine	ND		0.049	ug/L		08/29/22 08:10	08/30/22 22:11	1
Terbacil	ND		0.099	ug/L		08/29/22 08:10	08/30/22 22:11	1
Terbutylazine	ND		0.099	ug/L		08/29/22 08:10	08/30/22 22:11	1
Thiobencarb	ND		0.20	ug/L		08/29/22 08:10	08/30/22 22:11	1
trans-Nonachlor	ND		0.049	ug/L		08/29/22 08:10	08/30/22 22:11	1
Trifluralin	ND		0.099	ug/L		08/29/22 08:10	08/30/22 22:11	1
1-Methylnaphthalene	ND		0.099	ug/L		08/29/22 08:10	08/30/22 22:11	1
2-Methylnaphthalene	ND		0.099	ug/L		08/29/22 08:10	08/30/22 22:11	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L				08/29/22 08:10	08/30/22 22:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Nitro-m-xylene	77		70 - 130	08/29/22 08:10	08/30/22 22:11	1
Triphenylphosphate	87		70 - 130	08/29/22 08:10	08/30/22 22:11	1
Perylene-d12	92		70 - 130	08/29/22 08:10	08/30/22 22:11	1



# Action Limit Summary

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

Job ID: 380-18328-1

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

**Lab Sample ID: 380-18328-1**

## Compliance Check

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

Analyte	Result	Qualifier	Unit	EPAMCL	RL	Method	Prep Type
				Limit			
Alachlor	ND		ug/L	2	0.049	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	0.099	525.2	Total/NA
Heptachlor	ND		ug/L	0.4	0.040	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	0.040	525.2	Total/NA
Methoxychlor	ND	F1	ug/L	40	0.099	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: 380-18328-1

## 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)
380-17982-E-1-A DU	Duplicate	94	96	86
380-18328-1	HALAWA SHAFT VIEWING POOL	77	87	92
380-18328-1 MS	HALAWA SHAFT VIEWING POOL	95	103	94
LCS 380-15265/3-A	Lab Control Sample	92	100	94
LCSD 380-15265/4-A	Lab Control Sample Dup	92	102	94
MB 380-15265/1-A	Method Blank	93	96	92
MRL 380-15265/2-A	Lab Control Sample	92	99	91

### Surrogate Legend

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

# QC Sample Results

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

Job ID: 380-18328-1

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

Lab Sample ID: MB 380-15265/1-A  
Matrix: Water  
Analysis Batch: 15516

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 15265

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
2,4'-DDD	ND		0.099	ug/L		08/29/22 08:10	08/30/22 17:05	1
2,4'-DDE	ND		0.099	ug/L		08/29/22 08:10	08/30/22 17:05	1
2,4'-DDT	ND		0.099	ug/L		08/29/22 08:10	08/30/22 17:05	1
2,4-Dinitrotoluene	ND		0.099	ug/L		08/29/22 08:10	08/30/22 17:05	1
2,6-Dinitrotoluene	ND		0.099	ug/L		08/29/22 08:10	08/30/22 17:05	1
4,4'-DDD	ND		0.099	ug/L		08/29/22 08:10	08/30/22 17:05	1
4,4'-DDE	ND		0.099	ug/L		08/29/22 08:10	08/30/22 17:05	1
4,4'-DDT	ND		0.099	ug/L		08/29/22 08:10	08/30/22 17:05	1
Acenaphthene	ND		0.099	ug/L		08/29/22 08:10	08/30/22 17:05	1
Acenaphthylene	ND		0.099	ug/L		08/29/22 08:10	08/30/22 17:05	1
Acetochlor	ND		0.099	ug/L		08/29/22 08:10	08/30/22 17:05	1
Alachlor	ND		0.050	ug/L		08/29/22 08:10	08/30/22 17:05	1
alpha-BHC	ND		0.099	ug/L		08/29/22 08:10	08/30/22 17:05	1
alpha-Chlordane	ND		0.050	ug/L		08/29/22 08:10	08/30/22 17:05	1
Anthracene	ND		0.020	ug/L		08/29/22 08:10	08/30/22 17:05	1
Atrazine	ND		0.050	ug/L		08/29/22 08:10	08/30/22 17:05	1
Benz(a)anthracene	ND		0.050	ug/L		08/29/22 08:10	08/30/22 17:05	1
Benzo[a]pyrene	ND		0.020	ug/L		08/29/22 08:10	08/30/22 17:05	1
Benzo[b]fluoranthene	ND		0.020	ug/L		08/29/22 08:10	08/30/22 17:05	1
Benzo[g,h,i]perylene	ND		0.050	ug/L		08/29/22 08:10	08/30/22 17:05	1
Benzo[k]fluoranthene	ND		0.020	ug/L		08/29/22 08:10	08/30/22 17:05	1
beta-BHC	ND		0.099	ug/L		08/29/22 08:10	08/30/22 17:05	1
Bromacil	ND		0.099	ug/L		08/29/22 08:10	08/30/22 17:05	1
Butachlor	ND		0.050	ug/L		08/29/22 08:10	08/30/22 17:05	1
Butylbenzylphthalate	ND		0.50	ug/L		08/29/22 08:10	08/30/22 17:05	1
Caffeine	ND		0.050	ug/L		08/29/22 08:10	08/30/22 17:05	1
Chlorobenzilate	ND		0.099	ug/L		08/29/22 08:10	08/30/22 17:05	1
Chloroneb	ND		0.099	ug/L		08/29/22 08:10	08/30/22 17:05	1
Chlorothalonil (Draconil, Bravo)	ND		0.099	ug/L		08/29/22 08:10	08/30/22 17:05	1
Chlorpyrifos	ND		0.050	ug/L		08/29/22 08:10	08/30/22 17:05	1
Chrysene	ND		0.020	ug/L		08/29/22 08:10	08/30/22 17:05	1
delta-BHC	ND		0.099	ug/L		08/29/22 08:10	08/30/22 17:05	1
Di(2-ethylhexyl)adipate	ND		0.60	ug/L		08/29/22 08:10	08/30/22 17:05	1
Bis(2-ethylhexyl) phthalate	ND		0.60	ug/L		08/29/22 08:10	08/30/22 17:05	1
Diazinon (Qualitative)	ND		0.099	ug/L		08/29/22 08:10	08/30/22 17:05	1
Dibenz(a,h)an hracene	ND		0.050	ug/L		08/29/22 08:10	08/30/22 17:05	1
Diclorvos (DDVP)	ND		0.050	ug/L		08/29/22 08:10	08/30/22 17:05	1
Dieldrin	ND		0.20	ug/L		08/29/22 08:10	08/30/22 17:05	1
Diethylphthalate	ND		0.50	ug/L		08/29/22 08:10	08/30/22 17:05	1
Dimethoate	ND		0.099	ug/L		08/29/22 08:10	08/30/22 17:05	1
Dimethylphalate	ND		0.50	ug/L		08/29/22 08:10	08/30/22 17:05	1
Di-n-butyl phthalate	ND		0.99	ug/L		08/29/22 08:10	08/30/22 17:05	1
Di-n-octyl phthalate	ND		0.099	ug/L		08/29/22 08:10	08/30/22 17:05	1
Endosulfan I (Alpha)	ND		0.099	ug/L		08/29/22 08:10	08/30/22 17:05	1
Endosulfan II (Beta)	ND		0.099	ug/L		08/29/22 08:10	08/30/22 17:05	1
Endosulfan sulfate	ND		0.099	ug/L		08/29/22 08:10	08/30/22 17:05	1
Endrin	ND		0.099	ug/L		08/29/22 08:10	08/30/22 17:05	1
Endrin aldehyde	ND		0.099	ug/L		08/29/22 08:10	08/30/22 17:05	1

Euofins Eaton Monrovia

# QC Sample Results

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

Job ID: 380-18328-1

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

Lab Sample ID: MB 380-15265/1-A

Matrix: Water

Analysis Batch: 15516

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 15265

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
EPTC	ND		0.099	ug/L		08/29/22 08:10	08/30/22 17:05	1
Fluoranthene	ND		0.099	ug/L		08/29/22 08:10	08/30/22 17:05	1
Fluorene	ND		0.050	ug/L		08/29/22 08:10	08/30/22 17:05	1
gamma-Chlordane	ND		0.050	ug/L		08/29/22 08:10	08/30/22 17:05	1
Heptachlor	ND		0.040	ug/L		08/29/22 08:10	08/30/22 17:05	1
Heptachlor epoxide (isomer B)	ND		0.050	ug/L		08/29/22 08:10	08/30/22 17:05	1
Hexachlorobenzene	ND		0.050	ug/L		08/29/22 08:10	08/30/22 17:05	1
Hexachlorocyclopentadiene	ND		0.050	ug/L		08/29/22 08:10	08/30/22 17:05	1
Indeno[1,2,3-cd]pyrene	ND		0.050	ug/L		08/29/22 08:10	08/30/22 17:05	1
Isophorone	ND		0.50	ug/L		08/29/22 08:10	08/30/22 17:05	1
Lindane	ND		0.040	ug/L		08/29/22 08:10	08/30/22 17:05	1
Malathion	ND		0.099	ug/L		08/29/22 08:10	08/30/22 17:05	1
Methoxychlor	ND		0.099	ug/L		08/29/22 08:10	08/30/22 17:05	1
Metolachlor	ND		0.050	ug/L		08/29/22 08:10	08/30/22 17:05	1
Metribuzin	ND		0.050	ug/L		08/29/22 08:10	08/30/22 17:05	1
Molinate	ND		0.099	ug/L		08/29/22 08:10	08/30/22 17:05	1
Naphthalene	ND		0.30	ug/L		08/29/22 08:10	08/30/22 17:05	1
Parathion	ND		0.099	ug/L		08/29/22 08:10	08/30/22 17:05	1
Pendimethalin (Penoxaline)	ND		0.099	ug/L		08/29/22 08:10	08/30/22 17:05	1
Total Permethrin (mixed isomers)	ND		0.20	ug/L		08/29/22 08:10	08/30/22 17:05	1
Phenanthrene	ND		0.040	ug/L		08/29/22 08:10	08/30/22 17:05	1
Propachlor	ND		0.050	ug/L		08/29/22 08:10	08/30/22 17:05	1
Pyrene	ND		0.050	ug/L		08/29/22 08:10	08/30/22 17:05	1
Simazine	ND		0.050	ug/L		08/29/22 08:10	08/30/22 17:05	1
Terbacil	ND		0.099	ug/L		08/29/22 08:10	08/30/22 17:05	1
Terbutylazine	ND		0.099	ug/L		08/29/22 08:10	08/30/22 17:05	1
Thiobencarb	ND		0.20	ug/L		08/29/22 08:10	08/30/22 17:05	1
trans-Nonachlor	ND		0.050	ug/L		08/29/22 08:10	08/30/22 17:05	1
Trifluralin	ND		0.099	ug/L		08/29/22 08:10	08/30/22 17:05	1
1-Methylnaphthalene	ND		0.099	ug/L		08/29/22 08:10	08/30/22 17:05	1
2-Methylnaphthalene	ND		0.099	ug/L		08/29/22 08:10	08/30/22 17:05	1

<i>Tentatively Identified Compound</i>	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Cyclotetrasiloxane, octamethyl-	0.541	T J N	ug/L		2.34	556-67-2	08/29/22 08:10	08/30/22 17:05	1
Decane	1.30	T J N	ug/L		2.48	124-18-5	08/29/22 08:10	08/30/22 17:05	1
Cyclopentasiloxane, decamethyl-	0.601	T J N	ug/L		2.77	541-02-6	08/29/22 08:10	08/30/22 17:05	1
n-Hexadecanoic acid	0.563	T J N	ug/L		5.93	57-10-3	08/29/22 08:10	08/30/22 17:05	1
9-Octadecenamide, (Z)-	0.534	T J N	ug/L		7.67	301-02-0	08/29/22 08:10	08/30/22 17:05	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Nitro-m-xylene	93		70 - 130	08/29/22 08:10	08/30/22 17:05	1
Triphenylphosphate	96		70 - 130	08/29/22 08:10	08/30/22 17:05	1
Perylene-d12	92		70 - 130	08/29/22 08:10	08/30/22 17:05	1

# QC Sample Results

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

Job ID: 380-18328-1

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

Lab Sample ID: LCS 380-15265/3-A

Matrix: Water

Analysis Batch: 15516

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 15265

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2,4'-DDD	1.99	2.05		ug/L		103	70 - 130
2,4'-DDE	1.99	2.12		ug/L		107	70 - 130
2,4'-DDT	1.99	2.22		ug/L		112	70 - 130
2,4-Dinitrotoluene	1.99	2.02		ug/L		102	70 - 130
2,6-Dinitrotoluene	1.99	1.95		ug/L		98	70 - 130
4,4'-DDD	1.99	2.19		ug/L		111	70 - 130
4,4'-DDE	1.99	1.97		ug/L		99	70 - 130
4,4'-DDT	1.99	2.26		ug/L		114	70 - 130
Acenaphthene	1.99	1.91		ug/L		96	70 - 130
Acenaphthylene	1.99	1.92		ug/L		97	70 - 130
Acetochlor	1.99	2.15		ug/L		109	70 - 130
Alachlor	1.99	2.09		ug/L		105	70 - 130
alpha-BHC	1.99	2.08		ug/L		105	70 - 130
alpha-Chlordane	1.99	1.83		ug/L		92	70 - 130
Anthracene	1.99	1.99		ug/L		100	70 - 130
Atrazine	1.99	2.31		ug/L		116	70 - 130
Benz(a)anthracene	1.99	2.21		ug/L		111	70 - 130
Benzo[a]pyrene	1.99	2.29		ug/L		115	70 - 130
Benzo[b]fluoranthene	1.99	2.30		ug/L		116	70 - 130
Benzo[g,h,i]perylene	1.99	2.06		ug/L		104	70 - 130
Benzo[k]fluoranthene	1.99	2.34		ug/L		118	70 - 130
beta-BHC	1.99	2.14		ug/L		108	70 - 130
Bromacil	1.99	1.99		ug/L		100	70 - 130
Butachlor	1.99	2.09		ug/L		105	70 - 130
Butylbenzylphthalate	1.99	2.17		ug/L		109	70 - 130
Caffeine	1.99	0.947		ug/L		48	45 - 137
Chlorobenzilate	1.99	1.86		ug/L		94	70 - 130
Chloroneb	1.99	2.05		ug/L		103	70 - 130
Chlorothalonil (Draconil, Bravo)	1.99	2.06		ug/L		104	70 - 130
Chlorpyrifos	1.99	2.18		ug/L		110	70 - 130
Chrysene	1.99	2.21		ug/L		111	70 - 130
delta-BHC	1.99	2.14		ug/L		108	70 - 130
Di(2-ethylhexyl)adipate	1.99	2.07		ug/L		104	70 - 130
Bis(2-ethylhexyl) phthalate	1.99	2.00		ug/L		101	70 - 130
Diazinon (Qualitative)	1.99	1.77		ug/L		89	15 - 132
Dibenz(a,h)anthracene	1.99	2.23		ug/L		112	70 - 130
Diclorvos (DDVP)	1.99	1.95		ug/L		98	70 - 130
Dieldrin	1.99	2.07		ug/L		104	70 - 130
Diethylphthalate	1.99	2.03		ug/L		102	70 - 130
Dimethoate	1.99	0.955		ug/L		48	35 - 100
Dimethylphthalate	1.99	2.05		ug/L		103	70 - 130
Di-n-butyl phthalate	3.97	4.10		ug/L		103	70 - 130
Di-n-octyl phthalate	1.99	1.82		ug/L		92	70 - 130
Endosulfan I (Alpha)	1.99	1.85		ug/L		93	70 - 130
Endosulfan II (Beta)	1.99	2.14		ug/L		108	70 - 130
Endosulfan sulfate	1.99	2.28		ug/L		115	70 - 130
Endrin	1.99	2.19		ug/L		110	70 - 130
Endrin aldehyde	1.99	1.44		ug/L		72	70 - 130

Euofins Eaton Monrovia

# QC Sample Results

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

Job ID: 380-18328-1

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

Lab Sample ID: LCS 380-15265/3-A

Matrix: Water

Analysis Batch: 15516

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 15265

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec	
							Limits	
EPTC	1.99	1.98		ug/L		100	70 - 130	
Fluoranthene	1.99	2.16		ug/L		109	70 - 130	
Fluorene	1.99	2.08		ug/L		105	70 - 130	
gamma-Chlordane	1.99	1.88		ug/L		95	70 - 130	
Heptachlor	1.99	1.95		ug/L		98	70 - 130	
Heptachlor epoxide (isomer B)	1.99	1.85		ug/L		93	70 - 130	
Hexachlorobenzene	1.99	1.94		ug/L		98	70 - 130	
Hexachlorocyclopentadiene	1.99	2.34		ug/L		118	70 - 130	
Indeno[1,2,3-cd]pyrene	1.99	2.21		ug/L		111	70 - 130	
Isophorone	1.99	1.87		ug/L		94	70 - 130	
Lindane	1.99	2.07		ug/L		104	70 - 130	
Malathion	1.99	2.27		ug/L		114	70 - 130	
Methoxychlor	1.99	2.53		ug/L		127	70 - 130	
Metolachlor	1.99	2.19		ug/L		111	70 - 130	
Metribuzin	1.99	1.23	*	ug/L		62	70 - 130	
Molinate	1.99	2.02		ug/L		102	70 - 130	
Naphthalene	1.99	1.84		ug/L		93	70 - 130	
Parathion	1.99	2.22		ug/L		112	70 - 130	
Pendimethalin (Penoxaline)	1.99	2.18		ug/L		110	70 - 130	
Phenanthrene	1.99	1.87		ug/L		94	70 - 130	
Propachlor	1.99	2.19		ug/L		110	70 - 130	
Pyrene	1.99	2.18		ug/L		110	70 - 130	
Simazine	1.99	2.13		ug/L		107	70 - 130	
Terbacil	1.99	1.92		ug/L		96	70 - 130	
Terbutylazine	1.99	2.24		ug/L		113	70 - 130	
Thiobencarb	1.99	2.02		ug/L		102	70 - 130	
trans-Nonachlor	1.99	2.03		ug/L		102	70 - 130	
Trifluralin	1.99	1.98		ug/L		100	70 - 130	
1-Methylnaphthalene	1.99	1.93		ug/L		97	70 - 130	
2-Methylnaphthalene	1.99	1.97		ug/L		99	70 - 130	

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
2-Nitro-m-xylene	92		70 - 130
Triphenylphosphate	100		70 - 130
Perylene-d12	94		70 - 130

Lab Sample ID: LCSD 380-15265/4-A

Matrix: Water

Analysis Batch: 15516

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 15265

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	
							Limits		RPD	Limit
2,4'-DDD	1.99	2.13		ug/L		107	70 - 130	4	20	
2,4'-DDE	1.99	2.19		ug/L		110	70 - 130	3	20	
2,4'-DDT	1.99	2.29		ug/L		115	70 - 130	3	20	
2,4-Dinitrotoluene	1.99	2.11		ug/L		106	70 - 130	5	20	
2,6-Dinitrotoluene	1.99	2.04		ug/L		103	70 - 130	5	20	
4,4'-DDD	1.99	2.26		ug/L		114	70 - 130	3	20	
4,4'-DDE	1.99	2.00		ug/L		101	70 - 130	1	20	

Euofins Eaton Monrovia

# QC Sample Results

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

Job ID: 380-18328-1

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

Lab Sample ID: LCSD 380-15265/4-A

Matrix: Water

Analysis Batch: 15516

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 15265

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	
							Limits	RPD	RPD	Limit
4,4'-DDT	1.99	2.33		ug/L		117	70 - 130	3	20	
Acenaphthene	1.99	1.94		ug/L		98	70 - 130	2	20	
Acenaphthylene	1.99	1.96		ug/L		99	70 - 130	2	20	
Acetochlor	1.99	2.20		ug/L		111	70 - 130	2	20	
Alachlor	1.99	2.12		ug/L		107	70 - 130	2	20	
alpha-BHC	1.99	2.09		ug/L		105	70 - 130	0	20	
alpha-Chlordane	1.99	1.91		ug/L		96	70 - 130	4	20	
Anthracene	1.99	2.05		ug/L		103	70 - 130	3	20	
Atrazine	1.99	2.34		ug/L		118	70 - 130	2	20	
Benz(a)anthracene	1.99	2.27		ug/L		114	70 - 130	3	20	
Benzo[a]pyrene	1.99	2.31		ug/L		117	70 - 130	1	20	
Benzo[b]fluoranthene	1.99	2.37		ug/L		120	70 - 130	3	20	
Benzo[g,h,i]perylene	1.99	2.19		ug/L		110	70 - 130	6	20	
Benzo[k]fluoranthene	1.99	2.40		ug/L		121	70 - 130	3	20	
beta-BHC	1.99	2.14		ug/L		108	70 - 130	0	20	
Bromacil	1.99	2.06		ug/L		104	70 - 130	3	20	
Butachlor	1.99	2.13		ug/L		107	70 - 130	2	20	
Butylbenzylphthalate	1.99	2.23		ug/L		113	70 - 130	3	20	
Caffeine	1.99	0.992		ug/L		50	45 - 137	5	20	
Chlorobenzilate	1.99	2.10		ug/L		106	70 - 130	12	20	
Chloroneb	1.99	2.07		ug/L		104	70 - 130	1	20	
Chlorothalonil (Draconil, Bravo)	1.99	2.04		ug/L		103	70 - 130	1	20	
Chlorpyrifos	1.99	2.22		ug/L		112	70 - 130	2	20	
Chrysene	1.99	2.24		ug/L		113	70 - 130	2	20	
delta-BHC	1.99	2.12		ug/L		107	70 - 130	1	20	
Di(2-ethylhexyl)adipate	1.99	2.13		ug/L		107	70 - 130	3	20	
Bis(2-ethylhexyl) phthalate	1.99	2.05		ug/L		103	70 - 130	2	20	
Diazinon (Qualitative)	1.99	1.80		ug/L		90	15 - 132	2	20	
Dibenz(a,h)anthracene	1.99	2.32		ug/L		117	70 - 130	4	20	
Diclorvos (DDVP)	1.99	2.04		ug/L		103	70 - 130	4	20	
Dieldrin	1.99	2.13		ug/L		107	70 - 130	3	20	
Diethylphthalate	1.99	2.05		ug/L		103	70 - 130	1	20	
Dimethoate	1.99	1.07		ug/L		54	35 - 100	12	20	
Dimethylphthalate	1.99	2.07		ug/L		104	70 - 130	1	20	
Di-n-butyl phthalate	3.97	4.13		ug/L		104	70 - 130	1	20	
Di-n-octyl phthalate	1.99	1.87		ug/L		94	70 - 130	3	20	
Endosulfan I (Alpha)	1.99	1.90		ug/L		96	70 - 130	3	20	
Endosulfan II (Beta)	1.99	2.24		ug/L		113	70 - 130	4	20	
Endosulfan sulfate	1.99	2.30		ug/L		116	70 - 130	1	20	
Endrin	1.99	2.42		ug/L		122	70 - 130	10	20	
Endrin aldehyde	1.99	1.70		ug/L		85	70 - 130	17	20	
EPTC	1.99	2.02		ug/L		102	70 - 130	2	20	
Fluoranthene	1.99	2.20		ug/L		111	70 - 130	2	20	
Fluorene	1.99	2.07		ug/L		104	70 - 130	0	20	
gamma-Chlordane	1.99	1.96		ug/L		99	70 - 130	4	20	
Heptachlor	1.99	1.97		ug/L		99	70 - 130	1	20	
Heptachlor epoxide (isomer B)	1.99	1.94		ug/L		98	70 - 130	5	20	
Hexachlorobenzene	1.99	2.00		ug/L		100	70 - 130	3	20	
Hexachlorocyclopentadiene	1.99	2.37		ug/L		119	70 - 130	1	20	

Eurofins Eaton Monrovia

# QC Sample Results

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

Job ID: 380-18328-1

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

Lab Sample ID: LCSD 380-15265/4-A

Matrix: Water

Analysis Batch: 15516

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 15265

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
							Limits	RPD		
Indeno[1,2,3-cd]pyrene	1.99	2.28		ug/L		115	70 - 130	3	20	
Isophorone	1.99	1.93		ug/L		97	70 - 130	3	20	
Lindane	1.99	2.12		ug/L		107	70 - 130	2	20	
Malathion	1.99	2.35		ug/L		118	70 - 130	3	20	
Methoxychlor	1.99	2.58		ug/L		130	70 - 130	2	20	
Metolachlor	1.99	2.24		ug/L		113	70 - 130	2	20	
Metribuzin	1.99	1.79	*1	ug/L		90	70 - 130	37	20	
Molinate	1.99	2.07		ug/L		104	70 - 130	2	20	
Naphthalene	1.99	1.85		ug/L		93	70 - 130	1	20	
Parathion	1.99	2.27		ug/L		114	70 - 130	2	20	
Pendimethalin (Penoxaline)	1.99	2.22		ug/L		112	70 - 130	2	20	
Phenanthrene	1.99	1.91		ug/L		96	70 - 130	2	20	
Propachlor	1.99	2.21		ug/L		111	70 - 130	1	20	
Pyrene	1.99	2.23		ug/L		112	70 - 130	2	20	
Simazine	1.99	2.25		ug/L		113	70 - 130	5	20	
Terbacil	1.99	2.00		ug/L		101	70 - 130	4	20	
Terbutylazine	1.99	2.30		ug/L		116	70 - 130	2	20	
Thiobencarb	1.99	2.09		ug/L		105	70 - 130	3	20	
trans-Nonachlor	1.99	2.09		ug/L		105	70 - 130	3	20	
Trifluralin	1.99	2.04		ug/L		103	70 - 130	3	20	
1-Methylnaphthalene	1.99	1.96		ug/L		99	70 - 130	1	20	
2-Methylnaphthalene	1.99	1.98		ug/L		100	70 - 130	1	20	

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
2-Nitro-m-xylene	92		70 - 130
Triphenylphosphate	102		70 - 130
Perylene-d12	94		70 - 130

Lab Sample ID: MRL 380-15265/2-A

Matrix: Water

Analysis Batch: 15516

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 15265

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec	
							Limits	RPD
2,4'-DDD	0.0992	0.137		ug/L		138	50 - 150	
2,4'-DDE	0.0992	0.116		ug/L		117	50 - 150	
2,4'-DDT	0.0992	0.138		ug/L		140	50 - 150	
2,4-Dinitrotoluene	0.0992	0.116		ug/L		117	50 - 150	
2,6-Dinitrotoluene	0.0992	0.0934	J	ug/L		94	50 - 150	
4,4'-DDD	0.0992	0.110		ug/L		110	50 - 150	
4,4'-DDE	0.0992	0.102		ug/L		103	50 - 150	
4,4'-DDT	0.0992	0.139		ug/L		140	50 - 150	
Acenaphthene	0.0992	0.0979	J	ug/L		99	50 - 150	
Acenaphthylene	0.0992	0.0914	J	ug/L		92	50 - 150	
Acetochlor	0.0496	0.0448	J	ug/L		90	50 - 150	
Alachlor	0.0496	0.0560		ug/L		113	50 - 150	
alpha-BHC	0.0992	0.117		ug/L		117	50 - 150	
alpha-Chlordane	0.0496	0.0478	J	ug/L		96	50 - 150	
Anthracene	0.0198	0.0212		ug/L		107	50 - 150	

Eurofins Eaton Monrovia



# QC Sample Results

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

Job ID: 380-18328-1

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

Lab Sample ID: MRL 380-15265/2-A

Matrix: Water

Analysis Batch: 15516

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 15265

Analyte	Spike	MRL	MRL	Unit	D	%Rec	%Rec Limits
	Added	Result	Qualifier				
Atrazine	0.0496	0.0534		ug/L		108	50 - 150
Benz(a)anthracene	0.0496	0.0427	J	ug/L		86	50 - 150
Benzo[a]pyrene	0.0198	0.0228		ug/L		115	50 - 150
Benzo[b]fluoranthene	0.0198	0.0248		ug/L		125	50 - 150
Benzo[g,h,i]perylene	0.0496	0.0444	J	ug/L		89	50 - 150
Benzo[k]fluoranthene	0.0198	0.0226		ug/L		114	50 - 150
beta-BHC	0.0992	0.114		ug/L		115	50 - 150
Bromacil	0.0992	0.130		ug/L		131	50 - 150
Butachlor	0.0496	0.0815	^3+	ug/L		164	50 - 150
Butylbenzylphthalate	0.149	0.190	J	ug/L		128	50 - 150
Caffeine	0.0496	0.0229	J ^3-	ug/L		46	50 - 150
Chlorobenzilate	0.0992	0.127		ug/L		128	50 - 150
Chloroneb	0.0992	0.110		ug/L		111	50 - 150
Chlorothalonil (Draconil, Bravo)	0.0992	0.134		ug/L		135	50 - 150
Chlorpyrifos	0.0496	0.0533		ug/L		107	50 - 150
Chrysene	0.0198	0.0248		ug/L		125	50 - 150
delta-BHC	0.0992	0.145		ug/L		146	50 - 150
Di(2-ethylhexyl)adipate	0.298	0.348	J	ug/L		117	50 - 150
Bis(2-ethylhexyl) phthalate	0.595	0.641		ug/L		108	50 - 150
Diazinon (Qualitative)	0.0992	0.0808	J	ug/L		81	15 - 132
Dibenz(a,h)anthracene	0.0496	0.0484	J	ug/L		98	50 - 150
Diclorvos (DDVP)	0.0496	0.0505		ug/L		102	50 - 150
Dieldrin	0.0992	0.114	J	ug/L		115	50 - 150
Diethylphthalate	0.149	0.170	J	ug/L		114	50 - 150
Dimethoate	0.0992	0.0403	J	ug/L		41	35 - 100
Dimethylphthalate	0.298	0.309	J	ug/L		104	50 - 150
Di-n-butyl phthalate	0.298	0.320	J	ug/L		107	49 - 243
Di-n-octyl phthalate	0.0992	0.111		ug/L		112	50 - 150
Endosulfan I (Alpha)	0.0992	0.101		ug/L		102	50 - 150
Endosulfan II (Beta)	0.0992	0.117		ug/L		118	50 - 150
Endosulfan sulfate	0.0992	0.108		ug/L		109	50 - 150
Endrin	0.0992	0.126		ug/L		127	50 - 150
Endrin aldehyde	0.0992	ND		ug/L		60	50 - 150
EPTC	0.0992	0.101		ug/L		102	50 - 150
Fluoranthene	0.0496	0.0541	J	ug/L		109	50 - 150
Fluorene	0.0496	0.0541		ug/L		109	50 - 150
gamma-Chlordane	0.0496	0.0488	J	ug/L		98	50 - 150
Heptachlor	0.0397	0.0577		ug/L		145	50 - 150
Heptachlor epoxide (isomer B)	0.0496	0.0492	J	ug/L		99	50 - 150
Hexachlorobenzene	0.0496	0.0643		ug/L		130	50 - 150
Hexachlorocyclopentadiene	0.0496	0.0541		ug/L		109	50 - 150
Indeno[1,2,3-cd]pyrene	0.0496	0.0453	J	ug/L		91	50 - 150
Isophorone	0.0992	0.0962	J	ug/L		97	50 - 150
Lindane	0.0496	0.0489		ug/L		98	50 - 150
Malathion	0.0992	0.107		ug/L		108	50 - 150
Methoxychlor	0.0992	0.109		ug/L		110	50 - 150
Metolachlor	0.0496	0.0592		ug/L		119	50 - 150
Metribuzin	0.0496	0.0316	J	ug/L		64	50 - 150
Molinate	0.0992	0.0983	J	ug/L		99	50 - 150

Eurofins Eaton Monrovia

# QC Sample Results

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

Job ID: 380-18328-1

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

Lab Sample ID: MRL 380-15265/2-A

Matrix: Water

Analysis Batch: 15516

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 15265

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Naphthalene	0.0992	0.104	J	ug/L		105	50 - 150
Parathion	0.0992	0.143		ug/L		144	50 - 150
Pendimethalin (Penoxaline)	0.0992	0.134		ug/L		135	50 - 150
Phenanthrene	0.0198	0.0233	J	ug/L		118	50 - 150
Propachlor	0.0496	0.0525		ug/L		106	50 - 150
Pyrene	0.0496	0.0553		ug/L		112	50 - 150
Simazine	0.0496	0.0503		ug/L		101	50 - 150
Terbacil	0.0992	0.132		ug/L		133	50 - 150
Terbutylazine	0.0992	0.104		ug/L		105	50 - 150
Thiobencarb	0.0992	0.116	J	ug/L		117	50 - 150
trans-Nonachlor	0.0496	0.0526		ug/L		106	50 - 150
Trifluralin	0.0992	0.125		ug/L		126	50 - 150
1-Methylnaphthalene	0.0992	0.113		ug/L		114	50 - 150
2-Methylnaphthalene	0.0992	0.108		ug/L		108	50 - 150

Surrogate	MRL		Limits
	%Recovery	Qualifier	
2-Nitro-m-xylene	92		70 - 130
Triphenylphosphate	99		70 - 130
Perylene-d12	91		70 - 130

Lab Sample ID: 380-18328-1 MS

Matrix: Water

Analysis Batch: 15516

Client Sample ID: HALAWA SHAFT VIEWING POOL

Prep Type: Total/NA

Prep Batch: 15265

Analyte	Sample Result	Sample Qualifier	Spike Added	MS		Unit	D	%Rec	%Rec Limits
				Result	Qualifier				
2,4'-DDD	ND		1.97	2.16		ug/L		109	70 - 130
2,4'-DDE	ND		1.97	2.22		ug/L		113	70 - 130
2,4'-DDT	ND		1.97	2.33		ug/L		118	70 - 130
2,4-Dinitrotoluene	ND		1.97	2.27		ug/L		115	70 - 130
2,6-Dinitrotoluene	ND		1.97	2.19		ug/L		111	70 - 130
4,4'-DDD	ND		1.97	2.30		ug/L		117	70 - 130
4,4'-DDE	ND		1.97	2.05		ug/L		104	70 - 130
4,4'-DDT	ND		1.97	2.38		ug/L		121	70 - 130
Acenaphthene	ND		1.97	1.95		ug/L		99	70 - 130
Acenaphthylene	ND		1.97	1.98		ug/L		101	70 - 130
Acetochlor	ND		1.97	2.22		ug/L		113	70 - 130
Alachlor	ND		1.97	2.13		ug/L		108	70 - 130
alpha-BHC	ND		1.97	2.09		ug/L		106	70 - 130
alpha-Chlordane	ND		1.97	1.95		ug/L		99	70 - 130
Anthracene	ND		1.97	1.50		ug/L		76	70 - 130
Atrazine	ND		1.97	2.32		ug/L		118	70 - 130
Benz(a)anthracene	ND		1.97	2.19		ug/L		111	70 - 130
Benzo[a]pyrene	ND		1.97	2.09		ug/L		106	70 - 130
Benzo[b]fluoranthene	ND		1.97	2.33		ug/L		118	70 - 130
Benzo[g,h,i]perylene	ND		1.97	2.22		ug/L		113	70 - 130
Benzo[k]fluoranthene	ND		1.97	2.38		ug/L		121	70 - 130
beta-BHC	ND		1.97	2.11		ug/L		107	70 - 130
Bromacil	ND		1.97	2.28		ug/L		116	70 - 130

Eurofins Eaton Monrovia

# QC Sample Results

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

Job ID: 380-18328-1

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

Lab Sample ID: 380-18328-1 MS

Client Sample ID: HALAWA SHAFT VIEWING POOL

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 15516

Prep Batch: 15265

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec Limits
	Result	Qualifier	Added	Result	Qualifier				
Butachlor	ND	^3+	1.97	2.15		ug/L		109	70 - 130
Butylbenzylphthalate	ND		1.97	2.28		ug/L		116	70 - 130
Caffeine	ND	^3-	1.97	1.47		ug/L		75	46 - 144
Chlorobenzilate	ND		1.97	2.16		ug/L		110	70 - 130
Chloroneb	ND		1.97	2.08		ug/L		105	70 - 130
Chlorothalonil (Draconil, Bravo)	ND		1.97	2.05		ug/L		104	70 - 130
Chlorpyrifos	ND		1.97	2.23		ug/L		113	70 - 130
Chrysene	ND		1.97	2.20		ug/L		112	70 - 130
delta-BHC	ND		1.97	2.11		ug/L		107	70 - 130
Di(2-ethylhexyl)adipate	ND		1.97	2.20		ug/L		112	70 - 130
Bis(2-ethylhexyl) phthalate	ND		1.97	2.11		ug/L		107	70 - 130
Diazinon (Qualitative)	ND		1.97	1.94		ug/L		99	15 - 132
Dibenz(a,h)an hracene	ND		1.97	2.37		ug/L		120	70 - 130
Diclorvos (DDVP)	ND		1.97	2.09		ug/L		106	70 - 130
Dieldrin	ND		1.97	2.14		ug/L		109	70 - 130
Diethylphthalate	ND		1.97	2.06		ug/L		105	70 - 130
Dimethoate	ND		1.97	1.35		ug/L		69	34 - 111
Dimethylphalate	ND		1.97	2.08		ug/L		105	70 - 130
Di-n-butyl phthalate	ND		3.94	4.29		ug/L		109	70 - 130
Di-n-octyl phthalate	ND		1.97	1.85		ug/L		94	70 - 130
Endosulfan I (Alpha)	ND		1.97	1.89		ug/L		96	70 - 130
Endosulfan II (Beta)	ND		1.97	2.21		ug/L		112	70 - 130
Endosulfan sulfate	ND		1.97	2.33		ug/L		118	70 - 130
Endrin	ND		1.97	2.25		ug/L		114	70 - 130
Endrin aldehyde	ND		1.97	1.64		ug/L		83	70 - 130
EPTC	ND		1.97	2.06		ug/L		105	70 - 130
Fluoranthene	ND		1.97	2.21		ug/L		112	70 - 130
Fluorene	ND		1.97	2.12		ug/L		108	70 - 130
gamma-Chlordane	ND		1.97	2.00		ug/L		102	70 - 130
Heptachlor	ND		1.97	2.02		ug/L		103	70 - 130
Heptachlor epoxide (isomer B)	ND		1.97	1.96		ug/L		100	70 - 130
Hexachlorobenzene	ND		1.97	2.02		ug/L		103	70 - 130
Hexachlorocyclopentadiene	ND		1.97	2.50		ug/L		127	70 - 130
Indeno[1,2,3-cd]pyrene	ND		1.97	2.32		ug/L		118	70 - 130
Isophorone	ND		1.97	2.00		ug/L		101	70 - 130
Lindane	ND		1.97	2.07		ug/L		105	70 - 130
Malathion	ND		1.97	2.38		ug/L		121	70 - 130
Methoxychlor	ND	F1	1.97	2.64	F1	ug/L		134	70 - 130
Metolachlor	ND		1.97	2.25		ug/L		114	70 - 130
Metribuzin	ND	*- *1	1.97	2.01		ug/L		102	70 - 130
Molinate	ND		1.97	2.11		ug/L		107	70 - 130
Naphthalene	ND		1.97	1.88		ug/L		95	70 - 130
Parathion	ND		1.97	2.32		ug/L		118	70 - 130
Pendimethalin (Penoxaline)	ND		1.97	2.29		ug/L		116	70 - 130
Phenanthrene	ND		1.97	1.92		ug/L		97	70 - 130
Propachlor	ND		1.97	2.22		ug/L		113	70 - 130
Pyrene	ND		1.97	2.21		ug/L		112	70 - 130
Simazine	ND		1.97	2.29		ug/L		116	70 - 130
Terbacil	ND		1.97	2.08		ug/L		106	70 - 130

Eurofins Eaton Monrovia

# QC Sample Results

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

Job ID: 380-18328-1

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

Lab Sample ID: 380-18328-1 MS

Client Sample ID: HALAWA SHAFT VIEWING POOL

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 15516

Prep Batch: 15265

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec
	Result	Qualifier	Added	Result	Qualifier				
Terbutylazine	ND		1.97	2.30		ug/L		117	70 - 130
Thiobencarb	ND		1.97	2.06		ug/L		104	70 - 130
trans-Nonachlor	ND		1.97	2.16		ug/L		110	70 - 130
Trifluralin	ND		1.97	2.06		ug/L		105	70 - 130
1-Methylnaphthalene	ND		1.97	1.98		ug/L		100	70 - 130
2-Methylnaphthalene	ND		1.97	2.04		ug/L		104	70 - 130

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
2-Nitro-m-xylene	95		70 - 130
Triphenylphosphate	103		70 - 130
Perylene-d12	94		70 - 130

Lab Sample ID: 380-17982-E-1-A DU

Client Sample ID: Duplicate

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 15516

Prep Batch: 15265

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

Eurofins Eaton Monrovia

# QC Sample Results

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

Job ID: 380-18328-1

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

Lab Sample ID: 380-17982-E-1-A DU

Matrix: Water

Analysis Batch: 15516

Client Sample ID: Duplicate

Prep Type: Total/NA

Prep Batch: 15265

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
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)an hracene	ND		ND		ug/L		NC	20
Diclorvos (DDVP)	ND		ND		ug/L		NC	20
Dieldrin	ND		ND		ug/L		NC	20
Diethylphthalate	ND		ND		ug/L		NC	20
Dimethoate	ND		ND		ug/L		NC	20
Dimethylph halate	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	*- *1	ND	*- *1	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
1-Methylnaphthalene	ND		ND		ug/L		NC	20
2-Methylnaphthalene	ND		ND		ug/L		NC	20

Eurofins Eaton Monrovia

# QC Sample Results

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

Job ID: 380-18328-1

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

Lab Sample ID: 380-17982-E-1-A DU

Matrix: Water

Analysis Batch: 15516

Client Sample ID: Duplicate

Prep Type: Total/NA

Prep Batch: 15265

<u>Surrogate</u>	<i>DU DU</i>		<u>Limits</u>
	<u>%Recovery</u>	<u>Qualifier</u>	
2-Nitro- <i>m</i> -xylene	94		70 - 130
Triphenylphosphate	96		70 - 130
Perylene-d12	86		70 - 130

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# QC Association Summary

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

Job ID: 380-18328-1

## GC/MS Semi VOA

### Prep Batch: 15265

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-18328-1	HALAWA SHAFT VIEWING POOL	Total/NA	Water	525.2	
MB 380-15265/1-A	Method Blank	Total/NA	Water	525.2	
LCS 380-15265/3-A	Lab Control Sample	Total/NA	Water	525.2	
LCSD 380-15265/4-A	Lab Control Sample Dup	Total/NA	Water	525.2	
MRL 380-15265/2-A	Lab Control Sample	Total/NA	Water	525.2	
380-18328-1 MS	HALAWA SHAFT VIEWING POOL	Total/NA	Water	525.2	
380-17982-E-1-A DU	Duplicate	Total/NA	Water	525.2	

### Analysis Batch: 15516

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-18328-1	HALAWA SHAFT VIEWING POOL	Total/NA	Water	525.2	15265
MB 380-15265/1-A	Method Blank	Total/NA	Water	525.2	15265
LCS 380-15265/3-A	Lab Control Sample	Total/NA	Water	525.2	15265
LCSD 380-15265/4-A	Lab Control Sample Dup	Total/NA	Water	525.2	15265
MRL 380-15265/2-A	Lab Control Sample	Total/NA	Water	525.2	15265
380-18328-1 MS	HALAWA SHAFT VIEWING POOL	Total/NA	Water	525.2	15265
380-17982-E-1-A DU	Duplicate	Total/NA	Water	525.2	15265



# Lab Chronicle

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

Job ID: 380-18328-1

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

**Lab Sample ID: 380-18328-1**

**Date Collected: 08/22/22 09:30**

**Matrix: Water**

**Date Received: 08/24/22 10:10**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	525.2			15265	OTM3	EA MON	08/29/22 08:10
Total/NA	Analysis	525.2		1	15516	Q8LA	EA MON	08/30/22 22:11

**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

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# Accreditation/Certification Summary

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

Job ID: 380-18328-1

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

# Accreditation/Certification Summary

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

Job ID: 380-18328-1

## 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	Water	gamma-Chlordane
525.2	525.2	Water	Indeno[1,2,3-cd]pyrene
525.2	525.2	Water	Isophorone
525.2	525.2	Water	Malathion
525.2	525.2	Water	Molinate
525.2	525.2	Water	Naphthalene
525.2	525.2	Water	Parathion
525.2	525.2	Water	Pendimethalin (Penoxaline)
525.2	525.2	Water	Phenanthrene
525.2	525.2	Water	Pyrene
525.2	525.2	Water	Terbacil
525.2	525.2	Water	Terbutylazine
525.2	525.2	Water	Thiobencarb
525.2	525.2	Water	Total Permethrin (mixed isomers)
525.2	525.2	Water	trans-Nonachlor
525.2	525.2	Water	Trifluralin



# Method Summary

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

Job ID: 380-18328-1

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: 380-18328-1

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Lab Sample ID	Client Sample ID	Matrix	Collected	Received
380-18328-1	HALAWA SHAFT VIEWING POOL	Water	08/22/22 09:30	08/24/22 10:10
380-18328-2	TB:HALAWA SHAFT VIEWING POOL	Water	08/22/22 09:30	08/24/22 10:10

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

Date: 09-12-2022  
EMAX Batch No.: 22H309

Attn: Jackie Contreras

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

Subject: Laboratory Report  
Project: 380-18328

Enclosed is the Laboratory report for samples received on 08/25/22.  
The data reported relate only to samples listed below :

Sample ID	Control #	Col Date	Matrix	Analysis
380-18328-1	H309-01	08/22/22	WATER	TPH GASOLINE TPH DIESEL & MOTOR OIL
380-18328-2	H309-02	08/22/22	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,

*Casper J. Pang*  
Casper J. Pang  
Laboratory Director

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

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

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

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

**Chain of Custody Record**



Environment Testing  
 America

**Client Information (Sub Contract Lab)**

Client Contact: \_\_\_\_\_  
 Shipping/Receiving \_\_\_\_\_  
 Company: EMAX Laboratories Inc

Address: 3051 Fujita Street,  
 City: Torrance  
 State, Zip: CA, 90505  
 Phone: \_\_\_\_\_

Project Name: RED-HILL  
 Site: Honolulu BWS Sites

Due Date Requested: 9/8/2022  
 TAT Requested (days): \_\_\_\_\_

Project #: 38001111  
 SSSDW#: \_\_\_\_\_

Lab PM: Frank, Debbie L  
 E-Mail: Debbie.Frank@eurofins.com  
 State: Hawaii

Carrier Tracking No(s): 380-19251.1  
 State of Origin: Hawaii

COC No: 380-19251.1  
 Page: Page 1 of 1  
 Job #: 380-19328-1

Analysis Requested  
 SUB (8015 Gas (Purgeable) LL (EAL)/ 8015 Gas (Purgeable) LL (EAL)  
 SUB (8015 Diesel LL (EAL) and Motor Oil)/ 8015 Diesel LL (EAL) and Motor Oil

Preservation Codes:  
 A - HCL  
 B - NaOH  
 C - Zn Acetate  
 D - Nitric Acid  
 E - NaHSO4  
 F - MeOH  
 G - Amorphous  
 H - Ascorbic Acid  
 I - Ice  
 J - DI Water  
 K - EDTA  
 L - EDA  
 Other: \_\_\_\_\_

Field Filtered Sample (Yes or No)  
 Perform MS/MSD (Yes or No)

Sample Identification - Client ID (Lab ID)  
 HALAWA SHAFT VIEWING POOL (380-18328-1)  
 TB:HALAWA SHAFT VIEWING POOL (380-18328-2)

Sample Date: 8/22/22  
 Sample Time: 09:30  
 Sample Type (G=Comp, G=grab): Water  
 Matrix (W=Water, S=Soil, O=Water, BT=Tissue, A=Air)

Sample Date: 8/22/22  
 Sample Time: 09:30  
 Sample Type (G=Comp, G=grab): Water  
 Matrix (W=Water, S=Soil, O=Water, BT=Tissue, A=Air)

Sample Date: \_\_\_\_\_  
 Sample Time: \_\_\_\_\_  
 Sample Type (G=Comp, G=grab): \_\_\_\_\_  
 Matrix (W=Water, S=Soil, O=Water, BT=Tissue, A=Air)

Sample Date: \_\_\_\_\_  
 Sample Time: \_\_\_\_\_  
 Sample Type (G=Comp, G=grab): \_\_\_\_\_  
 Matrix (W=Water, S=Soil, O=Water, BT=Tissue, A=Air)

Sample Date: \_\_\_\_\_  
 Sample Time: \_\_\_\_\_  
 Sample Type (G=Comp, G=grab): \_\_\_\_\_  
 Matrix (W=Water, S=Soil, O=Water, BT=Tissue, A=Air)

Sample Date: \_\_\_\_\_  
 Sample Time: \_\_\_\_\_  
 Sample Type (G=Comp, G=grab): \_\_\_\_\_  
 Matrix (W=Water, S=Soil, O=Water, BT=Tissue, A=Air)

Sample Date: \_\_\_\_\_  
 Sample Time: \_\_\_\_\_  
 Sample Type (G=Comp, G=grab): \_\_\_\_\_  
 Matrix (W=Water, S=Soil, O=Water, BT=Tissue, A=Air)

Sample Date: \_\_\_\_\_  
 Sample Time: \_\_\_\_\_  
 Sample Type (G=Comp, G=grab): \_\_\_\_\_  
 Matrix (W=Water, S=Soil, O=Water, BT=Tissue, A=Air)

Sample Date: \_\_\_\_\_  
 Sample Time: \_\_\_\_\_  
 Sample Type (G=Comp, G=grab): \_\_\_\_\_  
 Matrix (W=Water, S=Soil, O=Water, BT=Tissue, A=Air)

Custody Seals Intact: \_\_\_\_\_  
 Custody Seal No.: \_\_\_\_\_  
**REPORT# D: 22H309**



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

Type of Delivery <input type="checkbox"/> Fedex <input type="checkbox"/> UPS <input type="checkbox"/> GSO <input type="checkbox"/> Others <input type="checkbox"/> EMAX Courier <input checked="" type="checkbox"/> Client Delivery	Airbill / Tracking Number	ECN <u>22H309</u> Recipient <u>JHOWIN ZAMORA</u> Date <u>8/25/22</u> Time <u>11:58</u>
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**COC INSPECTION**

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

**PACKAGING INSPECTION**

Container	<input checked="" type="checkbox"/> Cooler	<input type="checkbox"/> Box	<input type="checkbox"/> Other
Condition	<input type="checkbox"/> Custody Seal	<input type="checkbox"/> Intact	<input type="checkbox"/> Damaged
Packaging	<input checked="" type="checkbox"/> Bubble Pack	<input type="checkbox"/> Styrofoam	<input type="checkbox"/> Popcorn
Temperatures (Cool, ≤6 °C but not frozen)	<input checked="" type="checkbox"/> Cooler 1 <u>3.6</u> °C	<input checked="" type="checkbox"/> Cooler 2 <u>2.9</u> °C	<input type="checkbox"/> Cooler 3 _____ °C
Thermometer:	<input type="checkbox"/> Cooler 6 _____ °C	<input type="checkbox"/> Cooler 7 _____ °C	<input type="checkbox"/> Cooler 8 _____ °C
	A - S/N _____	B - S/N <u>210760237</u>	C - S/N _____
			D - S/N <u>210760272</u>

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

**DISCREPANCIES**

LabSampleID	LabSampleContainerID	.Code	ClientSample Label ID / Information	Corrective Action
<u>2</u>	<u>8</u>	<u>014</u>		<u>R4</u>
<i>EA 8/29/22</i>				

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

**NOTES/OBSERVATIONS:**

SAMPLE MATRIX IS DRINKING WATER?  YES  NO Small label only mentions sodium thiosulfate but not HCl. Only big label mentions both preservatives. (sample 1,2 containers 1-4, 7, 8)

**LEGEND:**

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

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

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

REVIEWS:

Sample Labeling JHOWIN ZAMORA *[Signature]*  
Date 8/25/22 *[Signature]*

SRF [Signature]  
Date 8/25/22

PM EA for RS  
Date 8/29/22

REPORT ID: 22H309

## 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

380-18328

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

SDG#: 22H309



CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 380-18328

SDG : 22H309

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

A total of two(2) water samples were received on 08/25/22 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. VG39H10B - 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. VG39H10L/VG39H10C 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 H294-01M/H294-01S. 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 : 380-18328

SDG NO. : 22H309  
Instrument ID : GCT039

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
									WATER
MBLK1W	VG39H10B	1	NA	08/25/2212:17	08/25/2212:17	EH25005A	EH25003A	22VG39H10	Method Blank
LCS1W	VG39H10L	1	NA	08/25/2212:54	08/25/2212:54	EH25006A	EH25003A	22VG39H10	Lab Control Sample (LCS)
LCD1W	VG39H10C	1	NA	08/25/2213:31	08/25/2213:31	EH25007A	EH25003A	22VG39H10	LCS Duplicate
380-18328-1	H309-01	1	NA	08/25/2219:53	08/25/2219:53	EH25017A	EH25014A	22VG39H10	Field Sample
380-18328-2	H309-02	1	NA	08/25/2220:30	08/25/2220:30	EH25018A	EH25014A	22VG39H10	Field Sample

FN - Filename  
% Moist - Percent Moisture



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# SAMPLE RESULTS

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

=====  
Client : EUROFINS EATON ANALYTICAL      Date Collected: 08/22/22 09:30  
Project : 380-18328                      Date Received: 08/25/22  
Batch No. : 22H309                      Date Extracted: 08/25/22 19:53  
Sample ID : 380-18328-1                Date Analyzed: 08/25/22 19:53  
Lab Samp ID: H309-01                    Dilution Factor: 1  
Lab File ID: EH25017A                    Matrix: WATER  
Ext Btch ID: 22VG39H10                % Moisture: NA  
Calib. Ref.: EH25014A                  Instrument ID: 39  
=====

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
GASOLINE	ND	0.020	0.010	
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromofluorobenzene	0.0357	0.0400	89	60-140

Notes:

Parameter      H-C Range  
Gasoline        C6-C10

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

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

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

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 08/22/22 09:30
Project     : 380-18328                 Date Received: 08/25/22
Batch No.   : 22H309                    Date Extracted: 08/25/22 20:30
Sample ID   : 380-18328-2               Date Analyzed: 08/25/22 20:30
Lab Samp ID: H309-02                    Dilution Factor: 1
Lab File ID: EH25018A                   Matrix: WATER
Ext Btch ID: 22VG39H10                  % Moisture: NA
Calib. Ref.: EH25014A                   Instrument ID: 39
=====

```

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

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromofluorobenzene	0.0341	0.0400	85	60-140

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

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

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# QC SUMMARIES

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

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=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 08/25/22 12:17
Project     : 380-18328                   Date Received: 08/25/22
Batch No.   : 22H309                       Date Extracted: 08/25/22 12:17
Sample ID   : MBLK1W                       Date Analyzed: 08/25/22 12:17
Lab Samp ID: VG39H10B                     Dilution Factor: 1
Lab File ID: EH25005A                     Matrix: WATER
Ext Btch ID: 22VG39H10                   % Moisture: NA
Calib. Ref.: EH25003A                     Instrument ID: 39
=====

```

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

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromofluorobenzene	0.0321	0.0400	80	60-140

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

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



EMAX QUALITY CONTROL DATA  
LAB CONTROL SAMPLE ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL  
PROJECT : 380-18328  
BATCH NO. : 22H309  
METHOD : 50308/8015B

MATRIX : WATER		% MOISTURE:NA
DILUTION FACTOR: 1	1	1
SAMPLE ID : MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID : VG39H10B	VG39H10L	VG39H10C
LAB FILE ID : EH25005A	EH25006A	EH25007A
DATE PREPARED : 08/25/22 12:17	08/25/22 12:54	08/25/22 13:31
DATE ANALYZED : 08/25/22 12:17	08/25/22 12:54	08/25/22 13:31
PREP BATCH : 22VG39H10	22VG39H10	22VG39H10
CALIBRATION REF: EH25003A	EH25003A	EH25003A

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	0.454	91	0.500	0.450	90	1	60-130	30

SURROGATE PARAMETER	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	QCLimit (%)
Bromofluorobenzene	0.0400	0.0431	108	0.0400	0.0417	104	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 : 380-18000  
BATCH NO. : 22H294  
METHOD : 5030B/8015B

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MATRIX      : WATER                               % MOISTURE:NA
DILUTION FACTOR: 1                               1
SAMPLE ID   : 380-18000-1                       380-18000-1MS
LAB SAMPLE ID : H294-01                         H294-01S
LAB FILE ID  : EH25011A                         EH25013A
DATE PREPARED : 08/25/22 16:11                 08/25/22 17:25
DATE ANALYZED : 08/25/22 16:11                 08/25/22 17:25
PREP BATCH   : 22VG39H10                       22VG39H10
CALIBRATION REF: EH25003A                       EH25003A
    
```

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	0.461	92	0.500	0.453	91	2	50-130	30

SURROGATE PARAMETER	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	QCLimit (%)
Bromofluorobenzene	0.0400	0.0441	110	0.0400	0.0436	109	60-140

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

LABORATORY REPORT FOR

EUROFINS EATON ANALYTICAL

380-18328

METHOD 3520C/8015B  
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

SDG#: 22H309



CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 380-18328

SDG : 22H309

METHOD 3520C/8015B  
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

One(1) water sample was received on 08/25/22 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. DSH045WB - 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 DSH045WL. 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 22H268-01M/22H268-01S. 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 : 380-18328

SDG NO. : 22H309  
Instrument ID : D5

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
380-18328-1	DSH045WB	1	NA	08/31/2214:16	08/29/2211:30	LH31009A	LH31003A	22DSH045W	Method Blank
	DSH045WL	1	NA	08/31/2214:35	08/29/2211:30	LH31010A	LH31003A	22DSH045W	Lab Control Sample (LCS)
	H309-01	1	NA	08/31/2219:17	08/29/2211:30	LH31024A	LH31003A	22DSH045W	Field Sample

FN - Filename  
% Moist - Percent Moisture



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# SAMPLE RESULTS

METHOD 3520C/8015B  
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

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Client      : EUROFINS EATON ANALYTICAL   Date Collected: 08/22/22 09:30
Project     : 380-18328                   Date Received: 08/25/22
Batch No.   : 22H309                       Date Extracted: 08/29/22 11:30
Sample ID   : 380-18328-1                 Date Analyzed: 08/31/22 19:17
Lab Samp ID: 22H309-01                   Dilution Factor: 1
Lab File ID: LH31024A                     Matrix: WATER
Ext Btch ID: 22DSH045W                     % Moisture: NA
Calib. Ref.: LH31003A                     Instrument ID: D5
=====

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PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
Diesel	ND	0.027	0.013	
Motor Oil	ND	0.053	0.027	
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.381	0.530	72	60-130
Hexacosane	0.120	0.132	90	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 : 940ml                      Final Volume : 5ml  
Prepared by    : P0reto                            Analyzed by : SDeeso

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# QC SUMMARIES



METHOD 3520C/8015B  
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

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=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 08/29/22 11:30
Project     : 380-18328                   Date Received: 08/29/22
Batch No.   : 22H309                       Date Extracted: 08/29/22 11:30
Sample ID   : MBLK1W                       Date Analyzed: 08/31/22 14:16
Lab Samp ID: DSH045WB                      Dilution Factor: 1
Lab File ID: LH31009A                      Matrix: WATER
Ext Btch ID: 22DSH045W                    % Moisture: NA
Calib. Ref.: LH31003A                     Instrument ID: D5
=====

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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	0.408	0.500	82	60-130
Hexacosane	0.116	0.125	93	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 : POrto Analyzed by : SDeeso

EMAX QUALITY CONTROL DATA  
LAB CONTROL SAMPLE ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL  
PROJECT : 380-18328  
BATCH NO. : 22H309  
METHOD : 3520C/8015B

MATRIX : WATER % MOISTURE:NA  
DILUTION FACTOR: 1 1  
SAMPLE ID : MBLK1W LCS1W  
LAB SAMPLE ID : DSH045WB DSH045WL  
LAB FILE ID : LH31009A LH31010A  
DATE PREPARED : 08/29/22 11:30 08/29/22 11:30  
DATE ANALYZED : 08/31/22 14:16 08/31/22 14:35  
PREP BATCH : 22DSH045W 22DSH045W  
CALIBRATION REF: LH31003A LH31003A

ACCESSION:

PARAMETERS	MBResult (mg/L)	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	QCLimit (%)
Diesel	ND	2.50	2.03	81	50-130

SURROGATE PARAMETERS	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	QCLimit (%)
Bromobenzene	0.500	0.313	63	60-130
Hexacosane	0.125	0.129	103	60-130

MB: Method Blank sample LCS: Lab Control Sample

EMAX QUALITY CONTROL DATA  
MS/MSD ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL  
PROJECT : 380-17545  
BATCH NO. : 22H268  
METHOD : 3520C/8015B

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR:	1	1	1
SAMPLE ID	: 380-17545-1	380-17545-1MS	380-17545-1MSD
LAB SAMPLE ID	: 22H268-01	22H268-01M	22H268-01S
LAB FILE ID	: LH31013A	LH31014A	LH31015A
DATE PREPARED	: 08/29/22 11:30	08/29/22 11:30	08/29/22 11:30
DATE ANALYZED	: 08/31/22 15:31	08/31/22 15:49	08/31/22 16:08
PREP BATCH	: 22DSH045W	22DSH045W	22DSH045W
CALIBRATION REF:	LH31003A	LH31003A	LH31003A

ACCESSION:

PARAMETERS	PSResult (mg/L)	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
Diesel	ND	2.58	2.23	87	2.60	2.45	94	9	50-130	30

SURROGATE PARAMETERS	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	QCLimit (%)
Bromobenzene	0.515	0.357	69	0.520	0.408	78	60-130
Hexacosane	0.129	0.135	105	0.130	0.140	108	60-130

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

September 06, 2022

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

Project Name: RED-HILL Project # 38001111 Job # 380-18328-1  
 Physis Project ID: 1407003-280

Dear Debbie,


Enclosed are the analytical results for the sample submitted to PHYSIS Environmental Laboratories, Inc. (PHYSIS) on 8/25/2022. 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: 1407003-280

RED-HILL Project # 38001111 Job # 380-18328-1

Total Samples: 1

PHYSIS ID	Sample ID	Description	Date	Time	Matrix	Sample Type
99724	HALAWA SHAFT VIEWING POOL	(380-18328-1)	8/22/2022	9:30	Samplewater	Not Specified

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## ABBREVIATIONS and ACRONYMS

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

## QUALITY ASSURANCE SUMMARY

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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## PHYSIS QUALIFIER CODES

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

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## CASE NARRATIVE

### QUALIFIER NOTES

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

#### **ND**

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

# ANALYTICAL REPORT

TERRA AURA  
ENVIRONMENTAL LABORATORIES, INC.

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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: 99724-R1</b>	<b>HALAWA SHAFT VIEWING POOL (3 Matrix: Samplewater)</b>						<b>Sampled:</b>	<b>22-Aug-22</b>	<b>9:30</b>	<b>Received:</b>	<b>25-Aug-22</b>	
Disalicylidenepropanediamine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-38104	29-Aug-22	04-Sep-22	



## Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
<b>Sample ID: 99724-R1</b>	<b>HALAWA SHAFT VIEWING POOL (3 Matrix: Samplewater)</b>						<b>Sampled: 22-Aug-22 9:30</b>		<b>Received: 25-Aug-22</b>		
(d10-Acenaphthene)	EPA 625.1	% Recovery	78	1			Total		O-38104	29-Aug-22	04-Sep-22
(d10-Phenanthrene)	EPA 625.1	% Recovery	84	1			Total		O-38104	29-Aug-22	04-Sep-22
(d12-Chrysene)	EPA 625.1	% Recovery	83	1			Total		O-38104	29-Aug-22	04-Sep-22
(d12-Perylene)	EPA 625.1	% Recovery	80	1			Total		O-38104	29-Aug-22	04-Sep-22
(d8-Naphthalene)	EPA 625.1	% Recovery	67	1			Total		O-38104	29-Aug-22	04-Sep-22
1-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38104	29-Aug-22	04-Sep-22
1-Methylphenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38104	29-Aug-22	04-Sep-22
2,3,5-Trimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38104	29-Aug-22	04-Sep-22
2,6-Dimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38104	29-Aug-22	04-Sep-22
2-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38104	29-Aug-22	04-Sep-22
Acenaphthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38104	29-Aug-22	04-Sep-22
Acenaphthylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38104	29-Aug-22	04-Sep-22
Anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38104	29-Aug-22	04-Sep-22
Benz[a]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38104	29-Aug-22	04-Sep-22
Benzo[a]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38104	29-Aug-22	04-Sep-22
Benzo[b]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38104	29-Aug-22	04-Sep-22
Benzo[e]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38104	29-Aug-22	04-Sep-22
Benzo[g,h,i]perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38104	29-Aug-22	04-Sep-22
Benzo[k]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38104	29-Aug-22	04-Sep-22
Biphenyl	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38104	29-Aug-22	04-Sep-22
Chrysene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38104	29-Aug-22	04-Sep-22
D benz[a,h]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38104	29-Aug-22	04-Sep-22
D benzo[a,l]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38104	29-Aug-22	04-Sep-22
D benzothiophene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38104	29-Aug-22	04-Sep-22

### Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38104	29-Aug-22	04-Sep-22
Fluorene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38104	29-Aug-22	04-Sep-22
Indeno[1,2,3-cd]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38104	29-Aug-22	04-Sep-22
Naphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38104	29-Aug-22	04-Sep-22
Perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38104	29-Aug-22	04-Sep-22
Phenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38104	29-Aug-22	04-Sep-22
Pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38104	29-Aug-22	04-Sep-22



# QUALITY CONTROL REPORT

TERRA ENVIRONMENTAL LABORATORIES, INC. AURA

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## Base/Neutral Extractable Compounds

## QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODEc
									LIMITS	LIMITS	
<b>Sample ID: 99723-B1</b>		<b>QAQC Procedural Blank</b>			<b>Matrix: BlankMatrix</b>		<b>Sampled:</b>		<b>Received:</b>		
		Method: EPA 625.1			Batch ID: O-38104		Prepared: 29-Aug-22		Analyzed: 03-Sep-22		
Disalicylideneprapanediamin	Total	ND	1	0.05	0.1	µg/L					
<b>Sample ID: 99723-BS1</b>		<b>QAQC Procedural Blank</b>			<b>Matrix: BlankMatrix</b>		<b>Sampled:</b>		<b>Received:</b>		
		Method: EPA 625.1			Batch ID: O-38104		Prepared: 29-Aug-22		Analyzed: 03-Sep-22		
Disalicylideneprapanediamin	Total	30.5	1	0.05	0.1	µg/L	50	0	61	50 - 150% PASS	
<b>Sample ID: 99723-BS2</b>		<b>QAQC Procedural Blank</b>			<b>Matrix: BlankMatrix</b>		<b>Sampled:</b>		<b>Received:</b>		
		Method: EPA 625.1			Batch ID: O-38104		Prepared: 29-Aug-22		Analyzed: 03-Sep-22		
Disalicylideneprapanediamin	Total	31.9	1	0.05	0.1	µg/L	50	0	64	50 - 150% PASS	5 30 PASS



## Polynuclear Aromatic Hydrocarbons

## QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY	PRECISION	QA CODEc
							LEVEL	RESULT	% LIMITS	% LIMITS	
<b>Sample ID: 99723-B1</b>		<b>QAQC Procedural Blank</b>			<b>Matrix: BlankMatrix</b>		<b>Sampled:</b>		<b>Received:</b>		
	Method: EPA 625.1					Batch ID: O-38104	Prepared: 29-Aug-22	Analyzed: 03-Sep-22			
(d10-Acenaphthene)	Total	84	1			% Recovery	100	84	65 - 113%	PASS	
(d10-Phenanthrene)	Total	87	1			% Recovery	100	87	80 - 111%	PASS	
(d12-Chrysene)	Total	84	1			% Recovery	100	84	60 - 139%	PASS	
(d12-Perylene)	Total	83	1			% Recovery	100	83	36 - 161%	PASS	
(d8-Naphthalene)	Total	78	1			% Recovery	100	78	44 - 119%	PASS	
1-Methylnaphthalene	Total	ND	1	0.001	0.005	µg/L					
1-Methylphenanthrene	Total	ND	1	0.001	0.005	µg/L					
2,3,5-Trimethylnaphthalene	Total	ND	1	0.001	0.005	µg/L					
2,6-Dimethylnaphthalene	Total	ND	1	0.001	0.005	µg/L					
2-Methylnaphthalene	Total	ND	1	0.001	0.005	µg/L					
Acenaphthene	Total	ND	1	0.001	0.005	µg/L					
Acenaphthylene	Total	ND	1	0.001	0.005	µg/L					
Anthracene	Total	ND	1	0.001	0.005	µg/L					
Benz[a]anthracene	Total	ND	1	0.001	0.005	µg/L					
Benzo[a]pyrene	Total	ND	1	0.001	0.005	µg/L					
Benzo[b]fluoranthene	Total	ND	1	0.001	0.005	µg/L					
Benzo[e]pyrene	Total	ND	1	0.001	0.005	µg/L					
Benzo[g,h,i]perylene	Total	ND	1	0.001	0.005	µg/L					
Benzo[k]fluoranthene	Total	ND	1	0.001	0.005	µg/L					
Biphenyl	Total	ND	1	0.001	0.005	µg/L					
Chrysene	Total	ND	1	0.001	0.005	µg/L					
Dibenz[a,h]anthracene	Total	ND	1	0.001	0.005	µg/L					
Dibenzo[a,l]pyrene	Total	ND	1	0.001	0.005	µg/L					

## Polynuclear Aromatic Hydrocarbons

## QUALITY CONTROL REPORT

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

## Polynuclear Aromatic Hydrocarbons

## QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY		PRECISION	QA CODEc
							LEVEL	RESULT	%	LIMITS	%	LIMITS
<b>Sample ID: 99723-BS1</b>		<b>QAQC Procedural Blank</b>			<b>Matrix: BlankMatrix</b>			<b>Sampled:</b>		<b>Received:</b>		
Method: EPA 625.1		Batch ID: O-38104			Prepared: 29-Aug-22		Analyzed: 03-Sep-22					
(d10-Acenaphthene)	Total	83	1			% Recovery	100	0	83	65 - 113%	PASS	
(d10-Phenanthrene)	Total	86	1			% Recovery	100	0	86	80 - 111%	PASS	
(d12-Chrysene)	Total	84	1			% Recovery	100	0	84	60 - 139%	PASS	
(d12-Perylene)	Total	83	1			% Recovery	100	0	83	36 - 161%	PASS	
(d8-Naphthalene)	Total	74	1			% Recovery	100	0	74	44 - 119%	PASS	
1-Methylnaphthalene	Total	0.397	1	0.001	0.005	µg/L	0.5	0	79	49 - 117%	PASS	
1-Methylphenanthrene	Total	0.492	1	0.001	0.005	µg/L	0.5	0	98	66 - 127%	PASS	
2,3,5-Trimethylnaphthalene	Total	0.405	1	0.001	0.005	µg/L	0.5	0	81	57 - 120%	PASS	
2,6-Dimethylnaphthalene	Total	0.389	1	0.001	0.005	µg/L	0.5	0	78	54 - 117%	PASS	
2-Methylnaphthalene	Total	0.402	1	0.001	0.005	µg/L	0.5	0	80	47 - 130%	PASS	
Acenaphthene	Total	0.403	1	0.001	0.005	µg/L	0.5	0	81	53 - 131%	PASS	
Acenaphthylene	Total	0.389	1	0.001	0.005	µg/L	0.5	0	78	43 - 140%	PASS	
Anthracene	Total	0.412	1	0.001	0.005	µg/L	0.5	0	82	58 - 135%	PASS	
Benz[a]anthracene	Total	0.436	1	0.001	0.005	µg/L	0.5	0	87	55 - 145%	PASS	
Benzo[a]pyrene	Total	0.402	1	0.001	0.005	µg/L	0.5	0	80	51 - 143%	PASS	
Benzo[b]fluoranthene	Total	0.515	1	0.001	0.005	µg/L	0.5	0	103	46 - 165%	PASS	
Benzo[e]pyrene	Total	0.462	1	0.001	0.005	µg/L	0.5	0	92	42 - 152%	PASS	
Benzo[g,h,i]perylene	Total	0.424	1	0.001	0.005	µg/L	0.5	0	85	63 - 133%	PASS	
Benzo[k]fluoranthene	Total	0.462	1	0.001	0.005	µg/L	0.5	0	92	56 - 145%	PASS	
Biphenyl	Total	0.392	1	0.001	0.005	µg/L	0.5	0	78	56 - 119%	PASS	
Chrysene	Total	0.402	1	0.001	0.005	µg/L	0.5	0	80	56 - 141%	PASS	
Dibenz[a,h]anthracene	Total	0.522	1	0.001	0.005	µg/L	0.5	0	104	55 - 150%	PASS	
Dibenzo[a,l]pyrene	Total	0.285	1	0.001	0.005	µg/L	0.5	0	57	50 - 150%	PASS	

## Polynuclear Aromatic Hydrocarbons

## QUALITY CONTROL REPORT

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

## Polynuclear Aromatic Hydrocarbons

## QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY		PRECISION		QA CODEc		
							LEVEL	RESULT	%	LIMITS	%	LIMITS			
<b>Sample ID: 99723-BS2</b>		<b>QAQC Procedural Blank</b>			<b>Matrix: BlankMatrix</b>			<b>Sampled:</b>			<b>Received:</b>				
		Method: EPA 625.1			Batch ID: O-38104			Prepared: 29-Aug-22			Analyzed: 03-Sep-22				
(d10-Acenaphthene)	Total	86	1				% Recovery	100	0	86	65 - 113%	PASS	4	30	PASS
(d10-Phenanthrene)	Total	88	1				% Recovery	100	0	88	80 - 111%	PASS	2	30	PASS
(d12-Chrysene)	Total	82	1				% Recovery	100	0	82	60 - 139%	PASS	2	30	PASS
(d12-Perylene)	Total	89	1				% Recovery	100	0	89	36 - 161%	PASS	7	30	PASS
(d8-Naphthalene)	Total	81	1				% Recovery	100	0	81	44 - 119%	PASS	9	30	PASS
1-Methylnaphthalene	Total	0.408	1	0.001	0.005	µg/L		0.5	0	82	49 - 117%	PASS	4	30	PASS
1-Methylphenanthrene	Total	0.463	1	0.001	0.005	µg/L		0.5	0	93	66 - 127%	PASS	5	30	PASS
2,3,5-Trimethylnaphthalene	Total	0.436	1	0.001	0.005	µg/L		0.5	0	87	57 - 120%	PASS	7	30	PASS
2,6-Dimethylnaphthalene	Total	0.413	1	0.001	0.005	µg/L		0.5	0	83	54 - 117%	PASS	6	30	PASS
2-Methylnaphthalene	Total	0.417	1	0.001	0.005	µg/L		0.5	0	83	47 - 130%	PASS	4	30	PASS
Acenaphthene	Total	0.418	1	0.001	0.005	µg/L		0.5	0	84	53 - 131%	PASS	4	30	PASS
Acenaphthylene	Total	0.421	1	0.001	0.005	µg/L		0.5	0	84	43 - 140%	PASS	7	30	PASS
Anthracene	Total	0.426	1	0.001	0.005	µg/L		0.5	0	85	58 - 135%	PASS	4	30	PASS
Benz[a]anthracene	Total	0.42	1	0.001	0.005	µg/L		0.5	0	84	55 - 145%	PASS	4	30	PASS
Benzo[a]pyrene	Total	0.465	1	0.001	0.005	µg/L		0.5	0	93	51 - 143%	PASS	15	30	PASS
Benzo[b]fluoranthene	Total	0.517	1	0.001	0.005	µg/L		0.5	0	103	46 - 165%	PASS	0	30	PASS
Benzo[e]pyrene	Total	0.481	1	0.001	0.005	µg/L		0.5	0	96	42 - 152%	PASS	4	30	PASS
Benzo[g,h,i]perylene	Total	0.431	1	0.001	0.005	µg/L		0.5	0	86	63 - 133%	PASS	1	30	PASS
Benzo[k]fluoranthene	Total	0.465	1	0.001	0.005	µg/L		0.5	0	93	56 - 145%	PASS	1	30	PASS
Biphenyl	Total	0.413	1	0.001	0.005	µg/L		0.5	0	83	56 - 119%	PASS	6	30	PASS
Chrysene	Total	0.398	1	0.001	0.005	µg/L		0.5	0	80	56 - 141%	PASS	0	30	PASS
Dibenz[a,h]anthracene	Total	0.525	1	0.001	0.005	µg/L		0.5	0	105	55 - 150%	PASS	1	30	PASS
Dibenzo[a,l]pyrene	Total	0.335	1	0.001	0.005	µg/L		0.5	0	67	50 - 150%	PASS	16	30	PASS

## Polynuclear Aromatic Hydrocarbons

## QUALITY CONTROL REPORT

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

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**PHYSIS**

**TENTATIVELY**

**IDENTIFIED COMPOUNDS**

ENVIRONMENTAL LABORATORIES, INC.

*Innovative Solutions for Nature*

Sample ID: 99724

RT	Area Pct	Concentration (ng/L)	Library/ID	Cas Number	Match Qual
32.5276	10.8687	1111	Anthracene-D10-	1517-22-2	97
No Compounds Met The Search Criteria					

Concentration estimated using the response for Anthracene-d10

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Sample ID: B1\_38104

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

Concentration estimated using the response for Anthracene-d10

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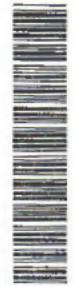
# PERFORMANCE CHAIN OF CUSTODY

TERRA ENVIRONMENTAL LABORATORIES, INC. AURA

*Innovative Solutions for Nature*

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**Chain of Custody Record**



<b>Client Information (Sub Contract Lab)</b>		Sampler:	Lab P#: Frank, Debbie L	Carrier Tracking No(s):	COC No: 380-18253-1				
Shipping/Receiving		Phone:	E-Mail: Debbie.Frank@el.eurofins.us.com	State of Origin: Hawaii	Page: Page 1 of 1				
Company: Physics Environmental Laboratories		Address: 1904 Wright Circle		Job #: 380-18253-1					
City: Anaheim		Due Date Requested: 9/8/2022		Preservation Codes:					
State, Zip: CA, 92806		TAT Requested (days):		A - HCl B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - NaOH G - Amoxicillin H - Acetic Acid I - Ice J - DI Water K - EDTA L - EDA M - Hexane N - None O - AsHClO2 P - Na2C4S Q - Na2SO3 R - Na2SO3 S - H2SO4 T - TSP Dodecylhydrate U - Acetone V - MCAA W - pH 4-5 Y - Trizma Z - other (specify)					
Project Name: RED-HILL		Project #: 38001111		Other:					
Site: Honolulu EWS Sites		SSCOM#: _____		Special Instructions/Note:					
<b>Sample Identification - Client ID (Lab ID)</b>		<b>Sample Date</b>	<b>Sample Time</b>	<b>Sample Type (Comp, G-grab)</b>	<b>Preservation Code</b>	<b>Field Filled Sample (Yes or No)</b>	<b>Perform MS/MSD (Yes or No)</b>	<b>Total Number of Containers</b>	<b>Special Instructions/Note</b>
HALAWA SHAFT VIEWING POOL (380-18328-1)		8/22/22	09:30 Hawaiian	Water	Water	X	X	2	See Attached Instructions

**Analysis Requested**  
SUB (625 PAH Physis LL (EAL) + TICs)/ 625 PAH Physis LL (EAL) + TICs

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

**Unconfirmed**  
Deliverable Requested: I, II, III, IV, Other (specify) \_\_\_\_\_ Primary Deliverable Rank: 2

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

**Relinquished by:** *[Signature]* Date/Time: *8/25/22* 1405 Company: *Physis*

**Relinquished by:** *[Signature]* Date/Time: \_\_\_\_\_ Company: \_\_\_\_\_

**Relinquished by:** \_\_\_\_\_ Date/Time: \_\_\_\_\_ Company: \_\_\_\_\_

**Custody Seals Intact:**  Yes  No    **Custody Seal No.:** \_\_\_\_\_

**Code: Temperature(s) °C and Other Remarks:** \_\_\_\_\_

Project Iteration ID: 1407003-280  
 Client Name: Eurofins Eaton Analytical  
 Project Name: RED-HILL Project # 38001111  
 Job # 380-18328-1  
 COC Page Number: 2 of 2  
 Bottle Label Color: NA

**Sample Receipt Summary**

Receiving Info

1. Initials Received By: BA
2. Date Received: 8/25/22
3. Time Received: 1410
4. Client Name: Eurofins
5. Courier Information: (Please circle)
  - Client
  - UPS
  - Area Fast
  - DRS
  - FedEx
  - GSO/GLS
  - Ontrac
  - PAMS
  - PHYSIS Driver:
    - i. Start Time: \_\_\_\_\_
    - ii. End Time: \_\_\_\_\_
    - iii. Total Mileage: \_\_\_\_\_
    - iv. Number of Pickups: \_\_\_\_\_
6. Container Information: (Please put the # of containers or circle none)
  - 1 Cooler
  - Styrofoam Cooler
  - Boxes
  - None
  - Carboy(s)
  - Carboy Trash Can(s)
  - Carboy Cap(s)
  - Other \_\_\_\_\_
7. What type of ice was used: (Please circle any that apply)
  - Wet Ice
  - Blue Ice
  - Dry Ice
  - Water
  - None
8. Randomly Selected Samples Temperature (°C): 3.8  
 Used I/R Thermometer # 1-2

Inspection Info

1. Initials Inspected By: BA

Sample Integrity Upon Receipt:

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

Notes:



Eaton Analytical

750 Royal Oaks Drive, Suite 100  
Monrovia, CA 91016-3629  
Phone: 626 386 1100  
Fax: 626 386 1101  
800 566 LABS (800 566 5227)

# CHAIN OF CUSTODY RECORD

EUROFINS EATON ANALYTICAL USE ONLY:

LOGIN COMMENTS:

SAMPLES CHECKED AGAINST COC BY: CR

SAMPLE TEMP RECEIVED AT:  
 Colton / No. California / Arizona  
 Monrovia

SAMPLES REC'D DAY OF COLLECTION?  (check for yes)

°C ( Compliance: 4 ± 2 °C )  
2.6 °C ( Compliance: 4 ± 2 °C )

CONDITION OF BLUE ICE: Frozen  Partially Frozen  Thawed  Wet Ice  No Ice

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

TO BE COMPLETED BY SAMPLER:

COMPANY/AGENCY NAME: BWS HONOLULU		PROJECT CODE: Red Hill Special		COMPLIANCE SAMPLES - Requires state forms <input type="checkbox"/>		NON-COMPLIANCE SAMPLES <input checked="" type="checkbox"/> X			
EEA CLIENT CODE: COC ID:		SAMPLE GROUP: Weekly_RED_HILL (2022)		Type of samples (circle one): ROUTINE <input checked="" type="checkbox"/> SPECIAL <input type="checkbox"/>		REGULATION INVOLVED: (eg SDWA, Phase V, NPDES, FDA,...)			
TAT requested: rush by adv notice only		STD ___ 1 wk ___ X_ 3 day ___ 2 day ___ 1 day ___		<b>SEE ATTACHED BOTTLE ORDER FOR ANALYSES</b> (check for yes) <input type="checkbox"/> OR list ANALYSES REQUIRED (enter number of bottles sent for each test for each sample)					
SAMPLE ID	SAMPLE DATE	SAMPLE TIME	SAMPLE ID	CLIENT LAB ID	MATRIX	FIELD DATA	FIELD DATA	SAMPLER COMMENTS	
	08/22/22	930	Halawa Shaft Static (Viewing Pool)	RGW				Halawa Shaft- Static Sample (Viewing Pool)	
SUBCONTRACT: 8015 Diesel LL(EAL) and Moto (2x11) Subcontract 8015 Gas(Purge) 8015 PREC (MOD) 525 Plus Plus_Tics (2x11) TB Subcontract 8015 Gas(Purge) (2x40mL)				380-18328 COC				Temp Blank: <u>1</u> °C	

\* MATRIX TYPES: RSW = Raw Surface Water  
RGW = Raw Ground Water

CFW = Chlor(am)inated Finished Water  
FW = Other Finished Water

SEAW = Sea Water  
WW = Waste Water

BW = Bottled Water  
SW = Storm Water

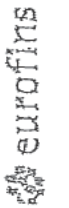
SO = Soil  
SL = Sludge

O = Other - Please Identify

SAMPLED BY:	SIGNATURE	COMPANY/TITLE	DATE	TIME
RELINQUISHED BY:		Honolulu Board of Water Supply	8/22/2022	930
RECEIVED BY:		Honolulu Board of Water Supply	8/22/2022	1130
RELINQUISHED BY:		BEA	08/24/22	10:10
RECEIVED BY:				



# INTERNAL CHAIN OF CUSTODY RECORD



EEA Folder Number: Radon Analytical

SAMPLE TEMP RECEIVED:  
 Notes: 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)  Frozen  Partially Frozen  Thawed N/A

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: FedEX

7777 4119 4598

Compliance Acceptance Criteria:

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

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 = (Observations) _____ °C (Final) _____ °C	2 = (Observations) _____ °C (Corr.Factor) _____ °C (Final) _____ °C
3 = (Observations) _____ °C (Final) _____ °C	4 = (Observations) _____ °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) Results: \_\_\_\_\_  
 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 (see below);  Samples with Headspace (see below)

Headspace Documentation (use additional VOC and Radon Internal COFC for additional bottles):  
 Exempt from headspace concerns: Methods 815.4, HAA(8251,822), 806, 8PMEF, @CH, 822LCMS, 886, 838, Anastroin, LOMS methods using 40 ml vials, International criteria:

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

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

RECEIVED BY: <u>[Signature]</u>	COMPANY/TITLE: Eurofins Eilon Analytical	DATE: 08/24/2022	TIME: 10:10
SIGNATURE: <u>[Signature]</u>	COMPANY/TITLE: Eurofins Eilon Analytical	DATE: 08/24/2022	TIME: 14:57



# INTERNAL CHAIN OF CUSTODY RECORD

**eurolina** | **Eurolina Analytical**

IR Gun ID = 649A (Observation = 5.3 °C) (Corr. Factor = 0.3 °C) (Final = 5.0 °C) Thawed N/A

SAMPLE TEMP RECEIVED: \_\_\_\_\_  
 Notes: 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

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

METHOD OF SHIPMENT: Pick-Up / Walk-In FedEX UPS / DHL / Area Fast / Top Line / Other: \_\_\_\_\_  
 Compliance Acceptance Criteria: 7777 419 4771

- 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 - Observations	(C) (Corr. Factor)	(C) (Final)	2 - Observations	(C) (Corr. Factor)	(C) (Final)
3 - Observations	(C) (Corr. Factor)	(C) (Final)	4 - Observations	(C) (Corr. Factor)	(C) (Final)

- 4) Dioxin (1813 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: \_\_\_\_\_

VOA and Radon

7) Headspace: \_\_\_\_\_  
 No Samples with Headspace (see below): \_\_\_\_\_  
 Headspace Documentation (use additional VOC and Radon Internal COFC for additional bottles)  
 Examples from headspace concerns: Methods 815-4, HAA(825,852), 806, SPME, @CH, 852LOMS, 856, 830, Anatoxin, LOMA methods using 40 ml vials, international orientals

Samp ID	Bottle #	None/<6	>6mm	Test	Samp ID	Bottle #	None/<6	>6mm	Test

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

RECEIVED BY: <u>[Signature]</u>	SIGNATURE: <u>G. REITNER</u>	COMPANY/TITLE: <u>Eurolina Eurolin Analytical</u>	DATE: <u>08/24/2022</u>	TIME: <u>10:10</u>
SAMPLES CHECKED AGAINST COG BY: <u>[Signature]</u>	SIGNATURE: <u>G. REITNER</u>	COMPANY/TITLE: <u>Eurolina Eurolin Analytical</u>	DATE: <u>08/24/2022</u>	TIME: <u>14:57</u>



# INTERNAL CHAIN OF CUSTODY RECORD

EEA Folder Number:

SAMPLE TEMP RECEIVED:  
 Note if samples are out of temperature ranges, 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 = 2.9 °C) (Corr. Factor = -0.3 °C) (Final = 2.6 °C) Thawed N/A

TYPE OF ICE: Real  Synthetic  No Ice  CONDITION OF ICE: Frozen  Partially Frozen  Thawed

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

Compliance Acceptance Criteria: 7777 4119 4896

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

If out of temperature ranges 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 (1813 or 2,3,7,8 TCDD): must be between 0-4 °C, not frozen (if received after 24 hrs of sample collection) Results: \_\_\_\_\_

5) pH Check, Manufacturer: \_\_\_\_\_ Lot No.: \_\_\_\_\_ 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 (see below): \_\_\_\_\_  
 Headspace Documentation (use additional VOC and Radon Internal COFC for additional bottles): \_\_\_\_\_  
 Example from headspace concerns: Method 815-4, HAA(825,862), SO<sub>2</sub>, SPME, OCH, 822LCMS, 826, 836, Anatoxin, LONS methods using 40 ml vials, International dilution: \_\_\_\_\_

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

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

RECEIVED BY:	SIGNATURE	PRINT NAME	COMPANY/TITLE	DATE	TIME
		G. RETNER	Eurolina Eurolin Analytical	08/24/2022	10:10
		G. RETNER	Eurolina Eurolin Analytical	08/24/2022	14:57





# INTERNAL CHAIN OF CUSTODY RECORD

**EUROFINS** | Eurofins Analytical

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

SAMPLE TEMP RECEIVED:  
 Note: If samples are out of temperature ranges, 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 = 3.7 °C) (Corr. Factor = -0.3 °C) (Final = 3.4 °C)

CONDITION OF ICE: Frozen  Partially Frozen  Thawed  N/A

TYPE OF ICE: Real  Synthetic  No Ice

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

Compliance Acceptance Criteria:  
7777 4119 5057

- 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 - Observations	(C)	(F)	(C)	(F)	(C)	(F)	(C)	(F)
2 - Observations	(C)	(F)	(C)	(F)	(C)	(F)	(C)	(F)
3 - Observations	(C)	(F)	(C)	(F)	(C)	(F)	(C)	(F)
4 - Observations	(C)	(F)	(C)	(F)	(C)	(F)	(C)	(F)

4 Dioxin (1813 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 No.: \_\_\_\_\_ Expiration Date: \_\_\_\_\_ Results: \_\_\_\_\_

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

7) Headspace:  
 VOA and Radon: No Samples with Headspace (see below): \_\_\_\_\_  
 Headspace: Headspace Documentation (use additional VOC and Radon Internal COFC for additional bottles) \_\_\_\_\_  
Exampl. from headspace concerns: Methods 8154, HAA(257,562), 206, SPME, @CH, 852LCMS, 226, 228, Arochlor, LCMS methods using 40 ml vials, International clients

Sample ID	Bottle #	Nonal/≤8	>8mm	Test	Sample ID	Bottle #	Nonal/≤8	>8mm	Test

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

RECEIVED BY: [Signature] PRINT NAME: G. RETNER DATE: 08/24/22 TIME: 10:10

SAMPLES CHECKED AGAINST COC BY: [Signature] PRINT NAME: G. RETNER DATE: 08/24/2022 TIME: 14:57





Eaton Analytical

# INTERNAL CHAIN OF CUSTODY RECORD

IR Gun ID = 40 (Observation = 2.7 °C) (Corr. Factor = 0.1 °C) (Final = 2.6 °C)

TYPE OF ICE: Real  Synthetic  No ice  Partially Frozen  Thawed  N/A

METHOD OF SHIPMENT: Pk-Up / Walk-In / FedEx / UPS / DHL / Area Fast / Top Line / Other: 7777 419 5550

Compliance Acceptance Criteria:

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

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 (1813 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)  
Exampl from headspace concerns: Methods 816.4, HAA(8257,862), 806, SPME, @CH, 832LCMS, 886, 839, Anastroxin, LCMS methods using 40 ml vials, International clients: None/<8

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

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

RECEIVED BY: Am Beer SIGNATURE: Am Beer PRINT NAME: Am Beer DATE: 8.24.22 TIME: 1010

SAMPLES CHECKED AGAINST COG BY: G. Reiner SIGNATURE: G. Reiner PRINT NAME: G. Reiner DATE: 08/24/2022 TIME: 1457





Eaton Analytical

# INTERNAL CHAIN OF CUSTODY RECORD

IEA 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 = 401 (Observation = 2.7 °C) (Corr.Factor = -0.1 °C) (Final = 2.6 °C)

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

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

7777 4119 5826

Compliance Acceptance Criteria:

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

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) 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 816.4, HAA(6251,662), 806, 8PMIE, @CH, 532LCMS, 566, 538, Anestoxin, LCMS methods using 40 ml vials, International clients:

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

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

SIGNATURE	PRINT NAME	DATE	TIME
	Am. Breen	8-24-22	10:10
SIGNATURE	PRINT NAME	DATE	TIME
	G. REITER	08/24/2022	14:57



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

SHIP DATE: 23AUG22  
ACTWGT: 50.00 LB  
CAD: 100205419/INET4530

BILL RECIPIENT

TO C CHUCK

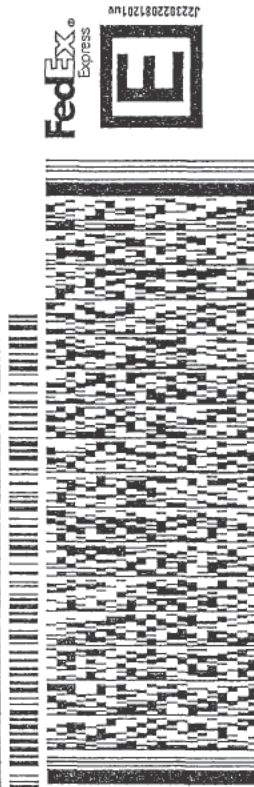
EUROFINS EATON ANALYTICAL, INC  
750 ROYAL OAKS DR  
SUITE 100  
MONROVIA CA 91016

(626) 386-1178 REF

INV

PO

DEPT



WED - 24 AUG 10:30A  
PRIORITY OVERNIGHT

1 of 6

TRK# 7777 4119 4598

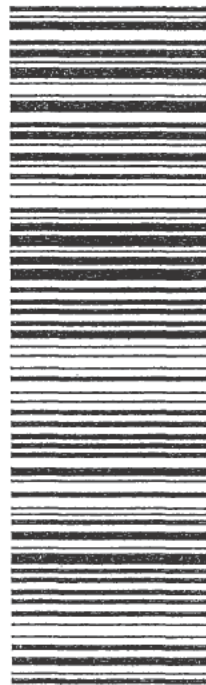
0201

## MASTER ##

WZ WHPA

91016  
BUR

CA-US



581J2F39D/F2D

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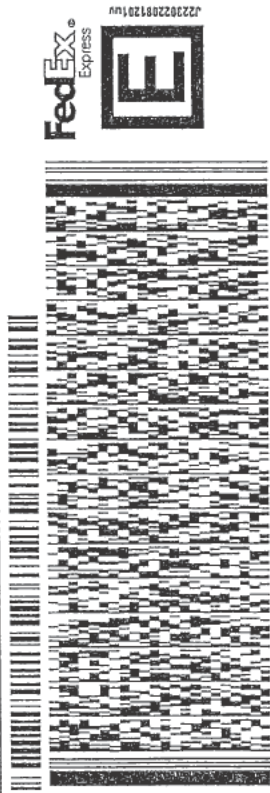
ORIGIN ID HIKA (808) 748-5640  
 BWS CHEMLAB  
 HONOLULU BOARD OF WATER SUPPLY  
 630 S. BERETANIA ST.  
 CHEMICAL LABORATORY  
 HONOLULU, HI 96843  
 UNITED STATES US

SHIP DATE: 23AUG22  
 ACTWGT: 50.00 LB  
 CAD: 100205419/INET4530

TO **C CHUCK**

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

581JZF39D/FE2D



2 of 6  
 WED - 24 AUG 10:30A  
 PRIORITY OVERNIGHT  
 MPS# 7777 4119 4771  
 Mstr# 7777 4119 4598  
**WZ WHPA**  
 91016  
 CA-US BUR



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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: 23AUG22  
ACTWGT 50.00 LB  
CAD 100205419/INET4530

BILL RECIPIENT

TO C CHUCK

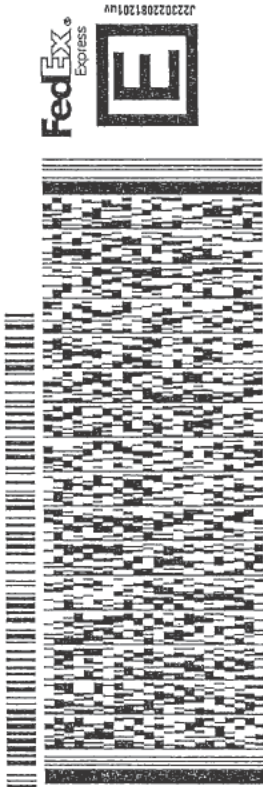
EUROFINS EATON ANALYTICAL, INC  
750 ROYAL OAKS DR  
SUITE 100

MONROVIA CA 91016 REF

(626) 386-1178

PO INV DEPT

581J2/F39D/FE2D



WED - 24 AUG 10:30A  
PRIORITY OVERNIGHT

3 of 6

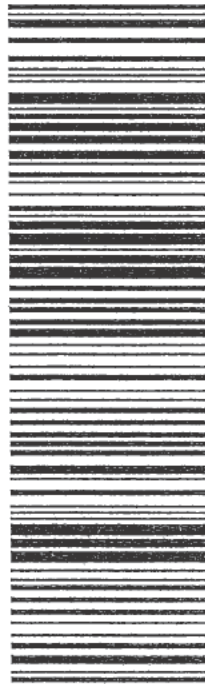
MPS# 7777 4119 4896

0263

Mstr# 7777 4119 4598

91016  
CA-US BUR

WZ WHPA



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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: 23AUG22  
ACTWGT: 50.00 LB  
CAD: 100205419/INET4530

BILL RECIPIENT

TO C CHUCK

EUROFINS EATON ANALYTICAL, INC  
750 ROYAL OAKS DR  
SUITE 100  
MONROVIA CA 91016

(626) 386-1178 REF

INV PO

DEPT

581J2F39D/E2D



WED - 24 AUG 10:30A  
PRIORITY OVERNIGHT

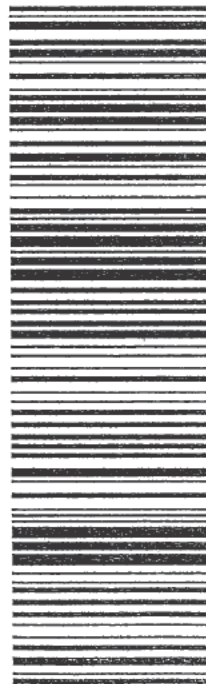
4 of 6

MPS# 7777 4119 5057

0201

Mstr# 7777 4119 4598

WZ WHPA 91016  
CA-US BUR



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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.



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

(808) 748-5840  
SHIP DATE: 23AUG22  
ACTWGT 50.00 LB  
CAD: 100205419/INET4530

BILL RECEIPT

TO C CHUCK

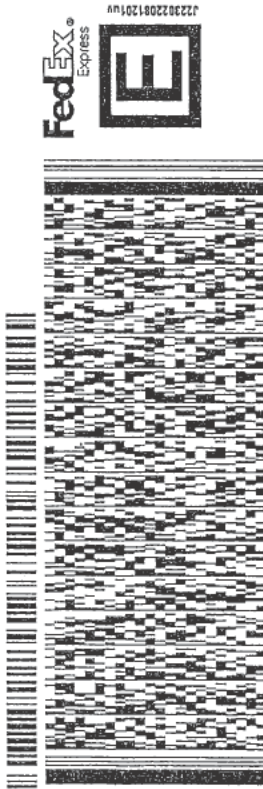
EUROFINS EATON ANALYTICAL, INC  
750 ROYAL OAKS DR  
SUITE 100

MONROVIA CA 91016 REF

(626) 386-1178

PO INV DEPT

5812/F39D/FE2D



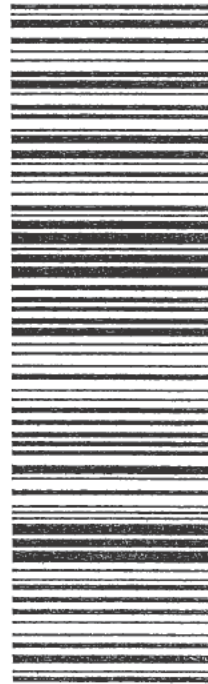
WED - 24 AUG 10:30A  
PRIORITY OVERNIGHT

5 of 6  
MPS# 7777 4119 5550  
Mstr# 7777 4119 4598

0201

91016  
CA-US BUR

WZ WHPA



After printing this label:  
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SHIP DATE: 23AUG22  
ACTWGT: 50.00 LB  
CAD: 100205419/NET4530

BILL RECIPIENT

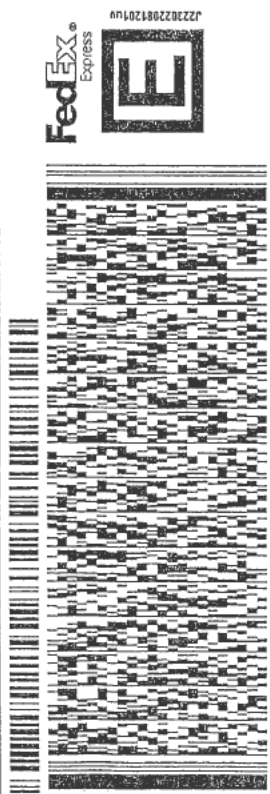
TO C CHUCK

EUROFINS EATON ANALYTICAL, INC  
750 ROYAL OAKS DR  
SUITE 100  
MONROVIA CA 91016

(626) 386-1178 REF

INV PO DEPT

581 J2/F39D/FE20

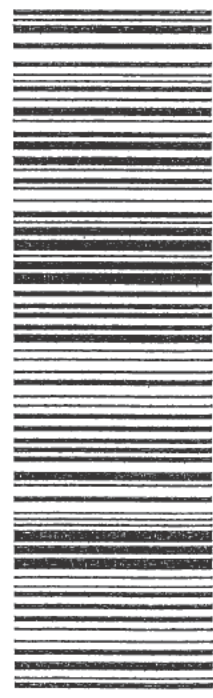


WED - 24 AUG 10:30A  
PRIORITY OVERNIGHT

6 of 6  
MPS# 7777 4119 5826  
Mstr# 7777 4119 4598

0201

WZ WHPA 91016  
CA-US BUR



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## Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-18328-1

**Login Number: 18328**

**List Source: Eurofins Eaton Monrovia**

**List Number: 1**

**Creator: Ngo, Theodore**

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

