

ANALYTICAL REPORT

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Tel: (626)386-1100

Laboratory Job ID: 380-11169-1
Client Project/Site: RED-HILL
Sampling Event: RUSH Weekly Red Hill

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

Attn: Mr. Erwin Kawata



Authorized for release by:
10/6/2022 4:11:40 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)



Kathleen Robb
Client Program Manager
10/6/2022 4:11:40 PM





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Definitions/Glossary

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

Job ID: 380-11169-1

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS Semi VOA TICs

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

Subcontract

Qualifier	Qualifier Description
U	This analyte was not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	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: 380-11169-1

Job ID: 380-11169-1

Laboratory: Eurofins Eaton Monrovia

Narrative

Job Narrative 380-11169-1

Comments

No additional comments.

Receipt

The samples were received on 7/20/2022 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 2 coolers at receipt time were 3.0° C and 5.8° C.

GC/MS Semi VOA

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

Subcontract non-Sister

See attached subcontract report.

Organic Prep

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

Subcontract Work

Methods 8015 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: 380-11169-1

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

Lab Sample ID: 380-11169-1

No Detections.

Client Sample ID: Trip Blank

Lab Sample ID: 380-11169-2

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: 380-11169-1

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

Lab Sample ID: 380-11169-1

Date Collected: 07/18/22 10:45

Matrix: Drinking Water

Date Received: 07/20/22 10:10

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
2,4'-DDD	ND		0.10	ug/L		07/22/22 11:00	08/15/22 21:38	1
2,4'-DDE	ND		0.10	ug/L		07/22/22 11:00	08/15/22 21:38	1
2,4'-DDT	ND		0.10	ug/L		07/22/22 11:00	08/15/22 21:38	1
2,4-Dinitrotoluene	ND		0.10	ug/L		07/22/22 11:00	08/15/22 21:38	1
2,6-Dinitrotoluene	ND		0.10	ug/L		07/22/22 11:00	08/15/22 21:38	1
4,4'-DDD	ND		0.10	ug/L		07/22/22 11:00	08/15/22 21:38	1
4,4'-DDE	ND		0.10	ug/L		07/22/22 11:00	08/15/22 21:38	1
4,4'-DDT	ND		0.10	ug/L		07/22/22 11:00	08/15/22 21:38	1
Acenaphthene	ND		0.10	ug/L		07/22/22 11:00	08/15/22 21:38	1
Acenaphthylene	ND		0.10	ug/L		07/22/22 11:00	08/15/22 21:38	1
Acetochlor	ND		0.10	ug/L		07/22/22 11:00	08/15/22 21:38	1
Alachlor	ND		0.050	ug/L		07/22/22 11:00	08/15/22 21:38	1
alpha-BHC	ND		0.10	ug/L		07/22/22 11:00	08/15/22 21:38	1
alpha-Chlordane	ND		0.050	ug/L		07/22/22 11:00	08/15/22 21:38	1
Anthracene	ND		0.020	ug/L		07/22/22 11:00	08/15/22 21:38	1
Atrazine	ND		0.050	ug/L		07/22/22 11:00	08/15/22 21:38	1
Benz(a)anthracene	ND		0.050	ug/L		07/22/22 11:00	08/15/22 21:38	1
Benzo[a]pyrene	ND		0.020	ug/L		07/22/22 11:00	08/15/22 21:38	1
Benzo[b]fluoranthene	ND		0.020	ug/L		07/22/22 11:00	08/15/22 21:38	1
Benzo[g,h,i]perylene	ND		0.050	ug/L		07/22/22 11:00	08/15/22 21:38	1
Benzo[k]fluoranthene	ND		0.020	ug/L		07/22/22 11:00	08/15/22 21:38	1
beta-BHC	ND		0.10	ug/L		07/22/22 11:00	08/15/22 21:38	1
Bromacil	ND		0.10	ug/L		07/22/22 11:00	08/15/22 21:38	1
Butachlor	ND		0.050	ug/L		07/22/22 11:00	08/15/22 21:38	1
Butylbenzylphthalate	ND		0.50	ug/L		07/22/22 11:00	08/15/22 21:38	1
Caffeine	ND		0.050	ug/L		07/22/22 11:00	08/15/22 21:38	1
Chlorobenzilate	ND		0.10	ug/L		07/22/22 11:00	08/15/22 21:38	1
Chloroneb	ND		0.10	ug/L		07/22/22 11:00	08/15/22 21:38	1
Chlorothalonil (Draconil, Bravo)	ND		0.10	ug/L		07/22/22 11:00	08/15/22 21:38	1
Chlorpyrifos	ND		0.050	ug/L		07/22/22 11:00	08/15/22 21:38	1
Chrysene	ND		0.020	ug/L		07/22/22 11:00	08/15/22 21:38	1
delta-BHC	ND		0.10	ug/L		07/22/22 11:00	08/15/22 21:38	1
Di(2-ethylhexyl)adipate	ND		0.60	ug/L		07/22/22 11:00	08/15/22 21:38	1
Bis(2-ethylhexyl) phthalate	ND		0.60	ug/L		07/22/22 11:00	08/15/22 21:38	1
Diazinon (Qualitative)	ND		0.10	ug/L		07/22/22 11:00	08/15/22 21:38	1
Dibenz(a,h)anthracene	ND		0.050	ug/L		07/22/22 11:00	08/15/22 21:38	1
Diclorvos (DDVP)	ND		0.050	ug/L		07/22/22 11:00	08/15/22 21:38	1
Dieldrin	ND		0.20	ug/L		07/22/22 11:00	08/15/22 21:38	1
Diethylphthalate	ND		0.50	ug/L		07/22/22 11:00	08/15/22 21:38	1
Dimethoate	ND		0.10	ug/L		07/22/22 11:00	08/15/22 21:38	1
Dimethylphthalate	ND		0.50	ug/L		07/22/22 11:00	08/15/22 21:38	1
Di-n-butyl phthalate	ND		1.0	ug/L		07/22/22 11:00	08/15/22 21:38	1
Di-n-octyl phthalate	ND		0.10	ug/L		07/22/22 11:00	08/15/22 21:38	1
Endosulfan I (Alpha)	ND		0.10	ug/L		07/22/22 11:00	08/15/22 21:38	1
Endosulfan II (Beta)	ND		0.10	ug/L		07/22/22 11:00	08/15/22 21:38	1
Endosulfan sulfate	ND		0.10	ug/L		07/22/22 11:00	08/15/22 21:38	1
Endrin	ND		0.10	ug/L		07/22/22 11:00	08/15/22 21:38	1
Endrin aldehyde	ND		0.10	ug/L		07/22/22 11:00	08/15/22 21:38	1
EPTC	ND		0.10	ug/L		07/22/22 11:00	08/15/22 21:38	1

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Client Sample Results

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

Job ID: 380-11169-1

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

Lab Sample ID: 380-11169-1

Date Collected: 07/18/22 10:45

Matrix: Drinking Water

Date Received: 07/20/22 10:10

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoranthene	ND		0.10	ug/L		07/22/22 11:00	08/15/22 21:38	1
Fluorene	ND		0.050	ug/L		07/22/22 11:00	08/15/22 21:38	1
gamma-Chlordane	ND		0.050	ug/L		07/22/22 11:00	08/15/22 21:38	1
Heptachlor	ND		0.040	ug/L		07/22/22 11:00	08/15/22 21:38	1
Heptachlor epoxide (isomer B)	ND		0.050	ug/L		07/22/22 11:00	08/15/22 21:38	1
Hexachlorobenzene	ND		0.050	ug/L		07/22/22 11:00	08/15/22 21:38	1
Hexachlorocyclopentadiene	ND		0.050	ug/L		07/22/22 11:00	08/15/22 21:38	1
Indeno[1,2,3-cd]pyrene	ND		0.050	ug/L		07/22/22 11:00	08/15/22 21:38	1
Isophorone	ND		0.50	ug/L		07/22/22 11:00	08/15/22 21:38	1
Lindane	ND		0.040	ug/L		07/22/22 11:00	08/15/22 21:38	1
Malathion	ND		0.10	ug/L		07/22/22 11:00	08/15/22 21:38	1
Methoxychlor	ND		0.10	ug/L		07/22/22 11:00	08/15/22 21:38	1
Metolachlor	ND		0.050	ug/L		07/22/22 11:00	08/15/22 21:38	1
Metribuzin	ND		0.050	ug/L		07/22/22 11:00	08/15/22 21:38	1
Molinate	ND		0.10	ug/L		07/22/22 11:00	08/15/22 21:38	1
Naphthalene	ND		0.30	ug/L		07/22/22 11:00	08/15/22 21:38	1
Parathion	ND		0.10	ug/L		07/22/22 11:00	08/15/22 21:38	1
Pendimethalin (Penoxaline)	ND		0.10	ug/L		07/22/22 11:00	08/15/22 21:38	1
Total Permethrin (mixed isomers)	ND		0.20	ug/L		07/22/22 11:00	08/15/22 21:38	1
Phenanthrene	ND		0.040	ug/L		07/22/22 11:00	08/15/22 21:38	1
Propachlor	ND		0.050	ug/L		07/22/22 11:00	08/15/22 21:38	1
Pyrene	ND		0.050	ug/L		07/22/22 11:00	08/15/22 21:38	1
Simazine	ND		0.050	ug/L		07/22/22 11:00	08/15/22 21:38	1
Terbacil	ND		0.10	ug/L		07/22/22 11:00	08/15/22 21:38	1
Terbutylazine	ND		0.10	ug/L		07/22/22 11:00	08/15/22 21:38	1
Thiobencarb	ND		0.20	ug/L		07/22/22 11:00	08/15/22 21:38	1
trans-Nonachlor	ND		0.050	ug/L		07/22/22 11:00	08/15/22 21:38	1
Trifluralin	ND		0.10	ug/L		07/22/22 11:00	08/15/22 21:38	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
<i>n</i> -Hexadecanoic acid	0.57	T J N	ug/L		5.93	57-10-3	07/22/22 11:00	08/15/22 21:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Nitro- <i>m</i> -xylene	101		70 - 130	07/22/22 11:00	08/15/22 21:38	1
Triphenylphosphate	74		70 - 130	07/22/22 11:00	08/15/22 21:38	1
Perylene- <i>d</i> 12	88		70 - 130	07/22/22 11:00	08/15/22 21:38	1

Method: None 625 PAH Physis LL (EAL) + TICs - EPA 625 Base/Neutral and Acid Organics i

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 15:33	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 15:33	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 15:33	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 15:33	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 15:33	1
Acenaphthene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 15:33	1
Acenaphthylene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 15:33	1
Anthracene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 15:33	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 15:33	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 15:33	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 15:33	1

Eurofins Eaton Monrovia

Client Sample Results

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

Job ID: 380-11169-1

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

Lab Sample ID: 380-11169-1

Date Collected: 07/18/22 10:45

Matrix: Drinking Water

Date Received: 07/20/22 10:10

PWSID Number: HI0000331

Method: None 625 PAH Physis LL (EAL) + TICs - EPA 625 Base/Neutral and Acid Organics i (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[e]pyrene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 15:33	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 15:33	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 15:33	1
Biphenyl	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 15:33	1
Chrysene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 15:33	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 15:33	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 15:33	1
Dibenzothiophene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 15:33	1
Disalicylidenepropanediamine	ND		0.1	0.05	µg/L		07/25/22 00:00	07/31/22 15:33	1
Fluoranthene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 15:33	1
Fluorene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 15:33	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 15:33	1
Naphthalene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 15:33	1
Perylene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 15:33	1
Phenanthrene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 15:33	1
Pyrene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 15:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
(d10-Acenaphthene)	86		45 - 118	07/25/22 00:00	07/31/22 15:33	1
(d10-Phenanthrene)	86		56 - 123	07/25/22 00:00	07/31/22 15:33	1
(d12-Chrysene)	92		36 - 142	07/25/22 00:00	07/31/22 15:33	1
(d12-Perylene)	64		36 - 161	07/25/22 00:00	07/31/22 15:33	1
(d8-Naphthalene)	88		20 - 112	07/25/22 00:00	07/31/22 15:33	1

Method: None 8015 Diesel LL (EAL) and Motor Oil - 8015 - TPH DRO/ORO

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DIESEL	ND	U	0.026		mg/L			07/26/22 18:44	1
MOTOR OIL	ND	U	0.052		mg/L			07/26/22 18:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOBENZENE	78		60 - 130		07/26/22 18:44	1
HEXACOSANE	95		60 - 130		07/26/22 18:44	1

Method: None 8015 Gas (Purgeable) LL (EAL) - SW846 8015B Gasoline Range Organics

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GASOLINE	ND	U	0.02		mg/L			07/22/22 19:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE	89		60 - 140		07/22/22 19:59	1

Client Sample ID: Trip Blank

Lab Sample ID: 380-11169-2

Date Collected: 07/18/22 10:45

Matrix: Water

Date Received: 07/20/22 10:10

Method: None 8015 Gas (Purgeable) LL (EAL) - SW846 8015B Gasoline Range Organics

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GASOLINE	ND	U	0.02		mg/L			07/22/22 20:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE	88		60 - 140		07/22/22 20:35	1

Eurofins Eaton Monrovia

Action Limit Summary

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

Job ID: 380-11169-1

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

Lab Sample ID: 380-11169-1

PWSID Number: HI0000331

Compliance Check

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

Analyte	Result	Qualifier	Unit	EPAMCL	RL	Method	Prep Type
				Limit			
Alachlor	ND		ug/L	2	0.050	525.2	Total/NA
Atrazine	ND		ug/L	3	0.050	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	0.60	525.2	Total/NA
Bis(2-ethylhexyl) phthalate	ND		ug/L	6	0.60	525.2	Total/NA
Endrin	ND		ug/L	2	0.10	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	0.050	525.2	Total/NA
Hexachlorobenzene	ND		ug/L	1	0.050	525.2	Total/NA
Hexachlorocyclopentadiene	ND		ug/L	50	0.050	525.2	Total/NA
Lindane	ND		ug/L	0.2	0.040	525.2	Total/NA
Methoxychlor	ND		ug/L	40	0.10	525.2	Total/NA
Simazine	ND		ug/L	4	0.050	525.2	Total/NA

Surrogate Summary

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

Job ID: 380-11169-1

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

Matrix: Drinking Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		2NMX (70-130)	TPP (70-130)	PRY (70-130)
380-11169-1	MOANALUA WELLS (331-223-T	101	74	88

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

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		2NMX (70-130)	TPP (70-130)	PRY (70-130)
380-11091-B-1-A DU	Duplicate	109	88	99
380-11100-M-1-A MS	Matrix Spike	106	84	95
LCS 380-9965/3-A	Lab Control Sample	104	88	92
LCS 380-9965/4-A	Lab Control Sample Dup	106	84	94
MB 380-9965/1-A	Method Blank	104	81	88
MRL 380-9965/2-A	Lab Control Sample	105	86	97

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

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

Matrix: Drinking Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)				
		ANT (45-118)	CRY (36-142)	NPT (20-112)	PHN (56-123)	PRY (36-161)
380-11169-1	MOANALUA WELLS (331-223-T	86	92	88	86	64

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

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

Matrix: water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)				
		ANT (65-113)	CRY (60-139)	NPT (44-119)	PHN (80-111)	PRY (36-161)
98654-B1	Method Blank	98	92	99	97	87
98654-BS1	Lab Control Sample	101	101	98	98	87
98654-BS2	Lab Control Sample Dup	100	107	98	99	85

Surrogate Legend
 ANT = (d10-Acenaphthene)
 CRY = (d12-Chrysene)

Surrogate Summary

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

Job ID: 380-11169-1

NPT = (d8-Naphthalene)
PHN = (d10-Phenanthrene)
PRY = (d12-Perylene)

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

Matrix: Drinking Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BB (60-130)	XACOSAI (60-130)
380-11169-1	MOANALUA WELLS (331-223-T	78	95

Surrogate Legend

BB = BROMOBENZENE
HEXACOSANE = HEXACOSANE

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

Matrix: WATER

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BB	XACOSAI
22DSG022WB	Method Blank		

Surrogate Legend

BB = BROMOBENZENE
HEXACOSANE = HEXACOSANE

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

Matrix: WATER

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BB (60-130)	XACOSAI (60-130)
22DSG022WC	LCD	62	90
22DSG022WL	Lab Control Sample	73	88

Surrogate Legend

BB = BROMOBENZENE
HEXACOSANE = HEXACOSANE

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

Matrix: Drinking Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB (60-140)
380-11169-1	MOANALUA WELLS (331-223-T	89

Surrogate Legend

BFB = BROMOFLUOROBENZENE

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

Matrix: WATER

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB
22VGH7G04B	Method Blank	

Surrogate Legend

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Surrogate Summary

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

Job ID: 380-11169-1

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

Matrix: WATER

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB (70-130)
22VGH7G04C	LCD	112
22VGH7G04L	Lab Control Sample	110

Surrogate Legend

BFB = BROMOFLUOROBENZENE

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

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB (60-140)
380-11169-2	Trip Blank	88

Surrogate Legend

BFB = BROMOFLUOROBENZENE

QC Sample Results

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

Job ID: 380-11169-1

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

Lab Sample ID: MB 380-9965/1-A
Matrix: Water
Analysis Batch: 13238

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 9965

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
2,4'-DDD	ND		0.10	ug/L		07/22/22 11:00	08/15/22 15:40	1
2,4'-DDE	ND		0.10	ug/L		07/22/22 11:00	08/15/22 15:40	1
2,4'-DDT	ND		0.10	ug/L		07/22/22 11:00	08/15/22 15:40	1
2,4-Dinitrotoluene	ND		0.10	ug/L		07/22/22 11:00	08/15/22 15:40	1
2,6-Dinitrotoluene	ND		0.10	ug/L		07/22/22 11:00	08/15/22 15:40	1
4,4'-DDD	ND		0.10	ug/L		07/22/22 11:00	08/15/22 15:40	1
4,4'-DDE	ND		0.10	ug/L		07/22/22 11:00	08/15/22 15:40	1
4,4'-DDT	ND		0.10	ug/L		07/22/22 11:00	08/15/22 15:40	1
Acenaphthene	ND		0.10	ug/L		07/22/22 11:00	08/15/22 15:40	1
Acenaphthylene	ND		0.10	ug/L		07/22/22 11:00	08/15/22 15:40	1
Acetochlor	ND		0.10	ug/L		07/22/22 11:00	08/15/22 15:40	1
Alachlor	ND		0.050	ug/L		07/22/22 11:00	08/15/22 15:40	1
alpha-BHC	ND		0.10	ug/L		07/22/22 11:00	08/15/22 15:40	1
alpha-Chlordane	ND		0.050	ug/L		07/22/22 11:00	08/15/22 15:40	1
Anthracene	ND		0.020	ug/L		07/22/22 11:00	08/15/22 15:40	1
Atrazine	ND		0.050	ug/L		07/22/22 11:00	08/15/22 15:40	1
Benz(a)anthracene	ND		0.050	ug/L		07/22/22 11:00	08/15/22 15:40	1
Benzo[a]pyrene	ND		0.020	ug/L		07/22/22 11:00	08/15/22 15:40	1
Benzo[b]fluoranthene	ND		0.020	ug/L		07/22/22 11:00	08/15/22 15:40	1
Benzo[g,h,i]perylene	ND		0.050	ug/L		07/22/22 11:00	08/15/22 15:40	1
Benzo[k]fluoranthene	ND		0.020	ug/L		07/22/22 11:00	08/15/22 15:40	1
beta-BHC	ND		0.10	ug/L		07/22/22 11:00	08/15/22 15:40	1
Bromacil	ND		0.10	ug/L		07/22/22 11:00	08/15/22 15:40	1
Butachlor	ND		0.050	ug/L		07/22/22 11:00	08/15/22 15:40	1
Butylbenzylphthalate	ND		0.50	ug/L		07/22/22 11:00	08/15/22 15:40	1
Caffeine	ND		0.050	ug/L		07/22/22 11:00	08/15/22 15:40	1
Chlorobenzilate	ND		0.10	ug/L		07/22/22 11:00	08/15/22 15:40	1
Chloroneb	ND		0.10	ug/L		07/22/22 11:00	08/15/22 15:40	1
Chlorothalonil (Draconil, Bravo)	ND		0.10	ug/L		07/22/22 11:00	08/15/22 15:40	1
Chlorpyrifos	ND		0.050	ug/L		07/22/22 11:00	08/15/22 15:40	1
Chrysene	ND		0.020	ug/L		07/22/22 11:00	08/15/22 15:40	1
delta-BHC	ND		0.10	ug/L		07/22/22 11:00	08/15/22 15:40	1
Di(2-ethylhexyl)adipate	ND		0.60	ug/L		07/22/22 11:00	08/15/22 15:40	1
Bis(2-ethylhexyl) phthalate	ND		0.60	ug/L		07/22/22 11:00	08/15/22 15:40	1
Diazinon (Qualitative)	ND		0.10	ug/L		07/22/22 11:00	08/15/22 15:40	1
Dibenz(a,h)anthracene	ND		0.050	ug/L		07/22/22 11:00	08/15/22 15:40	1
Diclorvos (DDVP)	ND		0.050	ug/L		07/22/22 11:00	08/15/22 15:40	1
Dieldrin	ND		0.20	ug/L		07/22/22 11:00	08/15/22 15:40	1
Diethylphthalate	ND		0.50	ug/L		07/22/22 11:00	08/15/22 15:40	1
Dimethoate	ND		0.10	ug/L		07/22/22 11:00	08/15/22 15:40	1
Dimethylphthalate	ND		0.50	ug/L		07/22/22 11:00	08/15/22 15:40	1
Di-n-butyl phthalate	ND		1.0	ug/L		07/22/22 11:00	08/15/22 15:40	1
Di-n-octyl phthalate	ND		0.10	ug/L		07/22/22 11:00	08/15/22 15:40	1
Endosulfan I (Alpha)	ND		0.10	ug/L		07/22/22 11:00	08/15/22 15:40	1
Endosulfan II (Beta)	ND		0.10	ug/L		07/22/22 11:00	08/15/22 15:40	1
Endosulfan sulfate	ND		0.10	ug/L		07/22/22 11:00	08/15/22 15:40	1
Endrin	ND		0.10	ug/L		07/22/22 11:00	08/15/22 15:40	1
Endrin aldehyde	ND		0.10	ug/L		07/22/22 11:00	08/15/22 15:40	1

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QC Sample Results

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

Job ID: 380-11169-1

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

Lab Sample ID: MB 380-9965/1-A
Matrix: Water
Analysis Batch: 13238

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 9965

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
EPTC	ND		0.10	ug/L		07/22/22 11:00	08/15/22 15:40	1
Fluoranthene	ND		0.10	ug/L		07/22/22 11:00	08/15/22 15:40	1
Fluorene	ND		0.050	ug/L		07/22/22 11:00	08/15/22 15:40	1
gamma-Chlordane	ND		0.050	ug/L		07/22/22 11:00	08/15/22 15:40	1
Heptachlor	ND		0.040	ug/L		07/22/22 11:00	08/15/22 15:40	1
Heptachlor epoxide (isomer B)	ND		0.050	ug/L		07/22/22 11:00	08/15/22 15:40	1
Hexachlorobenzene	ND		0.050	ug/L		07/22/22 11:00	08/15/22 15:40	1
Hexachlorocyclopentadiene	ND		0.050	ug/L		07/22/22 11:00	08/15/22 15:40	1
Indeno[1,2,3-cd]pyrene	ND		0.050	ug/L		07/22/22 11:00	08/15/22 15:40	1
Isophorone	ND		0.50	ug/L		07/22/22 11:00	08/15/22 15:40	1
Lindane	ND		0.040	ug/L		07/22/22 11:00	08/15/22 15:40	1
Malathion	ND		0.10	ug/L		07/22/22 11:00	08/15/22 15:40	1
Methoxychlor	ND		0.10	ug/L		07/22/22 11:00	08/15/22 15:40	1
Metolachlor	ND		0.050	ug/L		07/22/22 11:00	08/15/22 15:40	1
Metribuzin	ND		0.050	ug/L		07/22/22 11:00	08/15/22 15:40	1
Molinate	ND		0.10	ug/L		07/22/22 11:00	08/15/22 15:40	1
Naphthalene	ND		0.30	ug/L		07/22/22 11:00	08/15/22 15:40	1
Parathion	ND		0.10	ug/L		07/22/22 11:00	08/15/22 15:40	1
Pendimethalin (Penoxaline)	ND		0.10	ug/L		07/22/22 11:00	08/15/22 15:40	1
Total Permethrin (mixed isomers)	ND		0.20	ug/L		07/22/22 11:00	08/15/22 15:40	1
Phenanthrene	ND		0.040	ug/L		07/22/22 11:00	08/15/22 15:40	1
Propachlor	ND		0.050	ug/L		07/22/22 11:00	08/15/22 15:40	1
Pyrene	ND		0.050	ug/L		07/22/22 11:00	08/15/22 15:40	1
Simazine	ND		0.050	ug/L		07/22/22 11:00	08/15/22 15:40	1
Terbacil	ND		0.10	ug/L		07/22/22 11:00	08/15/22 15:40	1
Terbutylazine	ND		0.10	ug/L		07/22/22 11:00	08/15/22 15:40	1
Thiobencarb	ND		0.20	ug/L		07/22/22 11:00	08/15/22 15:40	1
trans-Nonachlor	ND		0.050	ug/L		07/22/22 11:00	08/15/22 15:40	1
Trifluralin	ND		0.10	ug/L		07/22/22 11:00	08/15/22 15:40	1

<i>Tentatively Identified Compound</i>	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
<i>Tentatively Identified Compound</i>	None		ug/L				07/22/22 11:00	08/15/22 15:40	1

<i>Surrogate</i>	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>2-Nitro-m-xylene</i>	104		70 - 130	07/22/22 11:00	08/15/22 15:40	1
<i>Triphenylphosphate</i>	81		70 - 130	07/22/22 11:00	08/15/22 15:40	1
<i>Perylene-d12</i>	88		70 - 130	07/22/22 11:00	08/15/22 15:40	1

Lab Sample ID: LCS 380-9965/3-A
Matrix: Water
Analysis Batch: 13238

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 9965

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	1.95		ug/L		98	70 - 130
2,4'-DDT	1.99	1.84		ug/L		93	70 - 130
2,4-Dinitrotoluene	1.99	1.99		ug/L		100	70 - 130
2,6-Dinitrotoluene	1.99	1.93		ug/L		97	70 - 130

Eurofins Eaton Monrovia

QC Sample Results

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

Job ID: 380-11169-1

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

Lab Sample ID: LCS 380-9965/3-A

Matrix: Water

Analysis Batch: 13238

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 9965

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
4,4'-DDD	1.99	1.80		ug/L		91	70 - 130
4,4'-DDE	1.99	1.85		ug/L		93	70 - 130
4,4'-DDT	1.99	1.61		ug/L		81	70 - 130
Acenaphthene	1.99	2.08		ug/L		105	70 - 130
Acenaphthylene	1.99	1.96		ug/L		98	70 - 130
Acetochlor	1.99	2.07		ug/L		104	70 - 130
Alachlor	1.99	2.07		ug/L		104	70 - 130
alpha-BHC	1.99	1.98		ug/L		100	70 - 130
alpha-Chlordane	1.99	1.87		ug/L		94	70 - 130
Anthracene	1.99	1.98		ug/L		99	70 - 130
Atrazine	1.99	2.18		ug/L		110	70 - 130
Benz(a)anthracene	1.99	1.64		ug/L		82	70 - 130
Benzo[a]pyrene	1.99	1.97		ug/L		99	70 - 130
Benzo[b]fluoranthene	1.99	2.13		ug/L		107	70 - 130
Benzo[g,h,i]perylene	1.99	2.15		ug/L		108	70 - 130
Benzo[k]fluoranthene	1.99	2.08		ug/L		105	70 - 130
beta-BHC	1.99	1.88		ug/L		95	70 - 130
Bromacil	1.99	1.96		ug/L		99	70 - 130
Butachlor	1.99	2.02		ug/L		102	70 - 130
Butylbenzylphthalate	1.99	1.86		ug/L		94	70 - 130
Caffeine	1.99	1.32		ug/L		66	45 - 137
Chlorobenzilate	1.99	1.97		ug/L		99	70 - 130
Chloroneb	1.99	2.06		ug/L		104	70 - 130
Chlorothalonil (Draconil, Bravo)	1.99	2.19		ug/L		110	70 - 130
Chlorpyrifos	1.99	1.80		ug/L		91	70 - 130
Chrysene	1.99	2.20		ug/L		110	70 - 130
delta-BHC	1.99	1.92		ug/L		97	70 - 130
Di(2-ethylhexyl)adipate	1.99	1.91		ug/L		96	70 - 130
Bis(2-ethylhexyl) phthalate	1.99	1.68		ug/L		84	70 - 130
Diazinon (Qualitative)	1.99	1.73		ug/L		87	15 - 132
Dibenz(a,h)anthracene	1.99	1.97		ug/L		99	70 - 130
Diclorvos (DDVP)	1.99	2.18		ug/L		110	70 - 130
Dieldrin	1.99	1.90		ug/L		96	70 - 130
Diethylphthalate	1.99	2.04		ug/L		103	70 - 130
Dimethoate	1.99	1.14		ug/L		57	35 - 100
Dimethylphthalate	1.99	2.11		ug/L		106	70 - 130
Di-n-butyl phthalate	3.97	4.17		ug/L		105	70 - 130
Di-n-octyl phthalate	1.99	1.78		ug/L		90	70 - 130
Endosulfan I (Alpha)	1.99	1.93		ug/L		97	70 - 130
Endosulfan II (Beta)	1.99	1.79		ug/L		90	70 - 130
Endosulfan sulfate	1.99	1.85		ug/L		93	70 - 130
Endrin	1.99	1.92		ug/L		97	70 - 130
Endrin aldehyde	1.99	1.61		ug/L		81	70 - 130
EPTC	1.99	2.14		ug/L		108	70 - 130
Fluoranthene	1.99	1.91		ug/L		96	70 - 130
Fluorene	1.99	2.06		ug/L		103	70 - 130
gamma-Chlordane	1.99	1.85		ug/L		93	70 - 130
Heptachlor	1.99	1.86		ug/L		93	70 - 130
Heptachlor epoxide (isomer B)	1.99	2.05		ug/L		103	70 - 130

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QC Sample Results

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

Job ID: 380-11169-1

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

Lab Sample ID: LCS 380-9965/3-A
Matrix: Water
Analysis Batch: 13238

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 9965

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Hexachlorobenzene	1.99	2.06		ug/L		103	70 - 130
Hexachlorocyclopentadiene	1.99	1.84		ug/L		93	70 - 130
Indeno[1,2,3-cd]pyrene	1.99	2.01		ug/L		101	70 - 130
Isophorone	1.99	2.16		ug/L		109	70 - 130
Lindane	1.99	1.91		ug/L		96	70 - 130
Malathion	1.99	2.03		ug/L		102	70 - 130
Methoxychlor	1.99	1.69		ug/L		85	70 - 130
Metolachlor	1.99	1.91		ug/L		96	70 - 130
Metribuzin	1.99	1.77		ug/L		89	70 - 130
Molinate	1.99	2.03		ug/L		102	70 - 130
Naphthalene	1.99	2.15		ug/L		108	70 - 130
Parathion	1.99	2.10		ug/L		106	70 - 130
Pendimethalin (Penoxaline)	1.99	2.15		ug/L		108	70 - 130
Phenanthrene	1.99	1.95		ug/L		98	70 - 130
Propachlor	1.99	2.01		ug/L		101	70 - 130
Pyrene	1.99	1.80		ug/L		91	70 - 130
Simazine	1.99	1.84		ug/L		92	70 - 130
Terbacil	1.99	2.15		ug/L		108	70 - 130
Terbutylazine	1.99	1.81		ug/L		91	70 - 130
Thiobencarb	1.99	1.96		ug/L		99	70 - 130
trans-Nonachlor	1.99	1.86		ug/L		94	70 - 130
Trifluralin	1.99	2.11		ug/L		106	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Nitro-m-xylene	104		70 - 130
Triphenylphosphate	88		70 - 130
Perylene-d12	92		70 - 130

Lab Sample ID: LCSD 380-9965/4-A
Matrix: Water
Analysis Batch: 13238

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 9965

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
2,4'-DDD	1.99	2.03		ug/L		102	70 - 130	1	20
2,4'-DDE	1.99	2.02		ug/L		102	70 - 130	3	20
2,4'-DDT	1.99	1.87		ug/L		94	70 - 130	1	20
2,4-Dinitrotoluene	1.99	2.00		ug/L		101	70 - 130	0	20
2,6-Dinitrotoluene	1.99	1.91		ug/L		96	70 - 130	1	20
4,4'-DDD	1.99	1.76		ug/L		88	70 - 130	2	20
4,4'-DDE	1.99	1.88		ug/L		94	70 - 130	1	20
4,4'-DDT	1.99	1.64		ug/L		82	70 - 130	2	20
Acenaphthene	1.99	2.09		ug/L		105	70 - 130	0	20
Acenaphthylene	1.99	1.97		ug/L		99	70 - 130	1	20
Acetochlor	1.99	2.07		ug/L		104	70 - 130	0	20
Alachlor	1.99	2.02		ug/L		102	70 - 130	2	20
alpha-BHC	1.99	2.00		ug/L		101	70 - 130	1	20
alpha-Chlordane	1.99	1.85		ug/L		93	70 - 130	1	20
Anthracene	1.99	2.00		ug/L		101	70 - 130	1	20

Eurofins Eaton Monrovia

QC Sample Results

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

Job ID: 380-11169-1

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

Lab Sample ID: LCSD 380-9965/4-A
Matrix: Water
Analysis Batch: 13238

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 9965

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	RPD Limit
							Limits	RPD		
Atrazine	1.99	1.89		ug/L		95	70 - 130	14	20	
Benz(a)anthracene	1.99	1.61		ug/L		81	70 - 130	2	20	
Benzo[a]pyrene	1.99	1.94		ug/L		98	70 - 130	1	20	
Benzo[b]fluoranthene	1.99	2.10		ug/L		105	70 - 130	2	20	
Benzo[g,h,i]perylene	1.99	2.17		ug/L		109	70 - 130	1	20	
Benzo[k]fluoranthene	1.99	2.13		ug/L		107	70 - 130	2	20	
beta-BHC	1.99	1.88		ug/L		95	70 - 130	0	20	
Bromacil	1.99	1.88		ug/L		94	70 - 130	4	20	
Butachlor	1.99	1.98		ug/L		100	70 - 130	2	20	
Butylbenzylphthalate	1.99	1.82		ug/L		91	70 - 130	2	20	
Caffeine	1.99	1.29		ug/L		65	45 - 137	2	20	
Chlorobenzilate	1.99	1.90		ug/L		95	70 - 130	4	20	
Chloroneb	1.99	2.09		ug/L		105	70 - 130	1	20	
Chlorothalonil (Draconil, Bravo)	1.99	2.21		ug/L		111	70 - 130	1	20	
Chlorpyrifos	1.99	1.82		ug/L		91	70 - 130	1	20	
Chrysene	1.99	2.10		ug/L		106	70 - 130	4	20	
delta-BHC	1.99	1.89		ug/L		95	70 - 130	2	20	
Di(2-ethylhexyl)adipate	1.99	1.87		ug/L		94	70 - 130	2	20	
Bis(2-ethylhexyl) phthalate	1.99	1.59		ug/L		80	70 - 130	5	20	
Diazinon (Qualitative)	1.99	1.73		ug/L		87	15 - 132	0	20	
Dibenz(a,h)anthracene	1.99	1.98		ug/L		100	70 - 130	1	20	
Diclorvos (DDVP)	1.99	2.21		ug/L		111	70 - 130	1	20	
Dieldrin	1.99	1.92		ug/L		97	70 - 130	1	20	
Diethylphthalate	1.99	2.04		ug/L		103	70 - 130	0	20	
Dimethoate	1.99	1.07		ug/L		54	35 - 100	6	20	
Dimethylphthalate	1.99	2.14		ug/L		108	70 - 130	2	20	
Di-n-butyl phthalate	3.98	4.06		ug/L		102	70 - 130	3	20	
Di-n-octyl phthalate	1.99	1.79		ug/L		90	70 - 130	0	20	
Endosulfan I (Alpha)	1.99	1.94		ug/L		97	70 - 130	1	20	
Endosulfan II (Beta)	1.99	1.80		ug/L		91	70 - 130	1	20	
Endosulfan sulfate	1.99	1.84		ug/L		92	70 - 130	1	20	
Endrin	1.99	1.93		ug/L		97	70 - 130	1	20	
Endrin aldehyde	1.99	1.72		ug/L		86	70 - 130	7	20	
EPTC	1.99	2.12		ug/L		107	70 - 130	1	20	
Fluoranthene	1.99	1.87		ug/L		94	70 - 130	2	20	
Fluorene	1.99	2.04		ug/L		103	70 - 130	1	20	
gamma-Chlordane	1.99	1.88		ug/L		94	70 - 130	2	20	
Heptachlor	1.99	1.89		ug/L		95	70 - 130	2	20	
Heptachlor epoxide (isomer B)	1.99	2.02		ug/L		102	70 - 130	1	20	
Hexachlorobenzene	1.99	2.07		ug/L		104	70 - 130	1	20	
Hexachlorocyclopentadiene	1.99	1.88		ug/L		95	70 - 130	2	20	
Indeno[1,2,3-cd]pyrene	1.99	2.00		ug/L		101	70 - 130	0	20	
Isophorone	1.99	2.21		ug/L		111	70 - 130	2	20	
Lindane	1.99	1.94		ug/L		98	70 - 130	1	20	
Malathion	1.99	1.99		ug/L		100	70 - 130	2	20	
Methoxychlor	1.99	1.66		ug/L		83	70 - 130	2	20	
Metolachlor	1.99	1.87		ug/L		94	70 - 130	2	20	
Metribuzin	1.99	1.81		ug/L		91	70 - 130	2	20	
Molinate	1.99	2.12		ug/L		107	70 - 130	4	20	

Eurofins Eaton Monrovia

QC Sample Results

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

Job ID: 380-11169-1

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

Lab Sample ID: LCSD 380-9965/4-A
Matrix: Water
Analysis Batch: 13238

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 9965

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Naphthalene	1.99	2.18		ug/L		110	70 - 130	1	20
Parathion	1.99	2.09		ug/L		105	70 - 130	1	20
Pendimethalin (Penoxaline)	1.99	2.18		ug/L		110	70 - 130	1	20
Phenanthrene	1.99	2.00		ug/L		101	70 - 130	2	20
Propachlor	1.99	1.98		ug/L		100	70 - 130	1	20
Pyrene	1.99	1.81		ug/L		91	70 - 130	1	20
Simazine	1.99	1.82		ug/L		91	70 - 130	1	20
Terbacil	1.99	2.12		ug/L		107	70 - 130	1	20
Terbutylazine	1.99	1.79		ug/L		90	70 - 130	1	20
Thiobencarb	1.99	1.95		ug/L		98	70 - 130	1	20
trans-Nonachlor	1.99	1.93		ug/L		97	70 - 130	4	20
Trifluralin	1.99	2.22		ug/L		112	70 - 130	5	20

Surrogate	LCSD %Recovery	LCSD Qualifier	LCSD Limits
2-Nitro-m-xylene	106		70 - 130
Triphenylphosphate	84		70 - 130
Perylene-d12	94		70 - 130

Lab Sample ID: MRL 380-9965/2-A
Matrix: Water
Analysis Batch: 13238

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 9965

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
2,4'-DDD	0.0992	0.0753	J	ug/L		76	50 - 150
2,4'-DDE	0.0992	0.0946	J	ug/L		95	50 - 150
2,4'-DDT	0.0992	0.0521	J	ug/L		52	50 - 150
2,4-Dinitrotoluene	0.0992	0.0756	J	ug/L		76	50 - 150
2,6-Dinitrotoluene	0.0992	0.0746	J	ug/L		75	50 - 150
4,4'-DDD	0.0992	0.0967	J	ug/L		97	50 - 150
4,4'-DDE	0.0992	0.0788	J	ug/L		79	50 - 150
4,4'-DDT	0.0992	0.0715	J	ug/L		72	50 - 150
Acenaphthene	0.0992	0.0960	J	ug/L		97	50 - 150
Acenaphthylene	0.0992	0.0735	J	ug/L		74	50 - 150
Acetochlor	0.0496	0.0454	J	ug/L		92	50 - 150
Alachlor	0.0496	0.0503		ug/L		101	50 - 150
alpha-BHC	0.0992	0.0990		ug/L		100	50 - 150
alpha-Chlordane	0.0496	0.0457	J	ug/L		92	50 - 150
Anthracene	0.0198	0.0200		ug/L		101	50 - 150
Atrazine	0.0496	ND		ug/L		94	50 - 150
Benz(a)anthracene	0.0496	0.0552		ug/L		111	50 - 150
Benzo[a]pyrene	0.0198	0.0232		ug/L		117	50 - 150
Benzo[b]fluoranthene	0.0198	0.0244		ug/L		123	50 - 150
Benzo[g,h,i]perylene	0.0496	0.0527		ug/L		106	50 - 150
Benzo[k]fluoranthene	0.0198	0.0254		ug/L		128	50 - 150
beta-BHC	0.0992	0.0852	J	ug/L		86	50 - 150
Bromacil	0.0992	0.0957	J	ug/L		97	50 - 150
Butachlor	0.0496	0.0517		ug/L		104	50 - 150
Butylbenzylphthalate	0.149	0.145	J	ug/L		97	50 - 150

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QC Sample Results

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

Job ID: 380-11169-1

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

Lab Sample ID: MRL 380-9965/2-A
Matrix: Water
Analysis Batch: 13238

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 9965

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Caffeine	0.0496	0.0312	J	ug/L		63	50 - 150
Chlorobenzilate	0.0992	0.0988	J	ug/L		100	50 - 150
Chloroneb	0.0992	0.0907	J	ug/L		91	50 - 150
Chlorothalonil (Draconil, Bravo)	0.0992	0.0751	J	ug/L		76	50 - 150
Chlorpyrifos	0.0496	0.0482	J	ug/L		97	50 - 150
Chrysene	0.0198	0.0259		ug/L		130	50 - 150
delta-BHC	0.0992	0.0918	J	ug/L		93	50 - 150
Di(2-ethylhexyl)adipate	0.298	0.375	J	ug/L		126	50 - 150
Bis(2-ethylhexyl) phthalate	0.595	0.562	J	ug/L		94	50 - 150
Diazinon (Qualitative)	0.0992	0.0805	J	ug/L		81	15 - 132
Dibenz(a,h)anthracene	0.0496	0.0504		ug/L		102	50 - 150
Diclorvos (DDVP)	0.0496	0.0445	J	ug/L		90	50 - 150
Dieldrin	0.0992	0.0915	J	ug/L		92	50 - 150
Diethylphthalate	0.149	0.169	J	ug/L		113	50 - 150
Dimethoate	0.0992	0.0459	J	ug/L		46	35 - 100
Dimethylphthalate	0.298	0.275	J	ug/L		93	50 - 150
Di-n-butyl phthalate	0.298	0.356	J	ug/L		119	49 - 243
Di-n-octyl phthalate	0.0992	0.0894	J	ug/L		90	50 - 150
Endosulfan I (Alpha)	0.0992	0.0962	J	ug/L		97	50 - 150
Endosulfan II (Beta)	0.0992	0.0993		ug/L		100	50 - 150
Endosulfan sulfate	0.0992	0.0645	J	ug/L		65	50 - 150
Endrin	0.0992	0.128		ug/L		129	50 - 150
Endrin aldehyde	0.0992	ND		ug/L		59	50 - 150
EPTC	0.0992	0.0986	J	ug/L		99	50 - 150
Fluoranthene	0.0496	0.0469	J	ug/L		95	50 - 150
Fluorene	0.0496	ND		ug/L		90	50 - 150
gamma-Chlordane	0.0496	0.0450	J	ug/L		91	50 - 150
Heptachlor	0.0397	0.0453		ug/L		114	50 - 150
Heptachlor epoxide (isomer B)	0.0496	0.0455	J	ug/L		92	50 - 150
Hexachlorobenzene	0.0496	0.0455	J	ug/L		92	50 - 150
Hexachlorocyclopentadiene	0.0496	0.0407	J	ug/L		82	50 - 150
Indeno[1,2,3-cd]pyrene	0.0496	0.0438	J	ug/L		88	50 - 150
Isophorone	0.0992	0.106	J	ug/L		107	50 - 150
Lindane	0.0496	0.0447		ug/L		90	50 - 150
Malathion	0.0992	0.0832	J	ug/L		84	50 - 150
Methoxychlor	0.0992	0.0724	J	ug/L		73	50 - 150
Metolachlor	0.0496	0.0483	J	ug/L		97	50 - 150
Metribuzin	0.0496	0.0437	J	ug/L		88	50 - 150
Molinate	0.0992	0.0962	J	ug/L		97	50 - 150
Naphthalene	0.0992	0.116	J	ug/L		117	50 - 150
Parathion	0.0992	0.0878	J	ug/L		88	50 - 150
Pendimethalin (Penoxaline)	0.0992	0.0714	J	ug/L		72	50 - 150
Phenanthrene	0.0198	0.0238	J	ug/L		120	50 - 150
Propachlor	0.0496	0.0459	J	ug/L		92	50 - 150
Pyrene	0.0496	0.0515		ug/L		104	50 - 150
Simazine	0.0496	0.0422	J	ug/L		85	50 - 150
Terbacil	0.0992	0.110		ug/L		111	50 - 150
Terbutylazine	0.0992	0.0845	J	ug/L		85	50 - 150
Thiobencarb	0.0992	0.110	J	ug/L		111	50 - 150

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QC Sample Results

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

Job ID: 380-11169-1

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

Lab Sample ID: MRL 380-9965/2-A
Matrix: Water
Analysis Batch: 13238

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 9965

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
trans-Nonachlor	0.0496	0.0529		ug/L		107	50 - 150
Trifluralin	0.0992	0.0678	J	ug/L		68	50 - 150

Surrogate	MRL %Recovery	MRL Qualifier	Limits
2-Nitro-m-xylene	105		70 - 130
Triphenylphosphate	86		70 - 130
Perylene-d12	97		70 - 130

Lab Sample ID: 380-11100-M-1-A MS
Matrix: Water
Analysis Batch: 13238

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 9965

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
2,4'-DDD	ND		1.98	2.02		ug/L		102	70 - 130
2,4'-DDE	ND		1.98	2.01		ug/L		101	70 - 130
2,4'-DDT	ND		1.98	1.85		ug/L		94	70 - 130
2,4-Dinitrotoluene	ND		1.98	1.99		ug/L		101	70 - 130
2,6-Dinitrotoluene	ND		1.98	1.93		ug/L		98	70 - 130
4,4'-DDD	ND		1.98	1.72		ug/L		87	70 - 130
4,4'-DDE	ND		1.98	1.89		ug/L		95	70 - 130
4,4'-DDT	ND		1.98	1.62		ug/L		82	70 - 130
Acenaphthene	ND		1.98	2.07		ug/L		104	70 - 130
Acenaphthylene	ND		1.98	2.05		ug/L		103	70 - 130
Acetochlor	ND		1.98	2.04		ug/L		103	70 - 130
Alachlor	ND		1.98	2.01		ug/L		102	70 - 130
alpha-BHC	ND		1.98	1.96		ug/L		99	70 - 130
alpha-Chlordane	ND		1.98	1.85		ug/L		94	70 - 130
Anthracene	ND		1.98	1.62		ug/L		82	70 - 130
Atrazine	ND		1.98	1.86		ug/L		94	70 - 130
Benz(a)anthracene	ND		1.98	1.53		ug/L		77	70 - 130
Benzo[a]pyrene	ND		1.98	1.82		ug/L		92	70 - 130
Benzo[b]fluoranthene	ND		1.98	2.13		ug/L		107	70 - 130
Benzo[g,h,i]perylene	ND		1.98	2.27		ug/L		115	70 - 130
Benzo[k]fluoranthene	ND		1.98	2.17		ug/L		109	70 - 130
beta-BHC	ND		1.98	1.85		ug/L		93	70 - 130
Bromacil	ND		1.98	1.86		ug/L		94	70 - 130
Butachlor	ND		1.98	1.97		ug/L		100	70 - 130
Butylbenzylphthalate	ND		1.98	1.78		ug/L		90	70 - 130
Caffeine	ND		1.98	1.33		ug/L		67	46 - 144
Chlorobenzilate	ND		1.98	1.87		ug/L		94	70 - 130
Chloroneb	ND		1.98	2.07		ug/L		104	70 - 130
Chlorothalonil (Draconil, Bravo)	ND		1.98	2.16		ug/L		109	70 - 130
Chlorpyrifos	ND		1.98	1.80		ug/L		91	70 - 130
Chrysene	ND		1.98	2.18		ug/L		110	70 - 130
delta-BHC	ND		1.98	1.86		ug/L		94	70 - 130
Di(2-ethylhexyl)adipate	ND		1.98	1.90		ug/L		89	70 - 130
Bis(2-ethylhexyl) phthalate	ND		1.98	1.63		ug/L		82	70 - 130
Diazinon (Qualitative)	ND		1.98	1.71		ug/L		86	15 - 132

Eurofins Eaton Monrovia

QC Sample Results

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

Job ID: 380-11169-1

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

Lab Sample ID: 380-11100-M-1-A MS
Matrix: Water
Analysis Batch: 13238

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 9965

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec Limits
	Result	Qualifier	Added	Result	Qualifier				
Dibenz(a,h)anthracene	ND		1.98	2.07		ug/L		105	70 - 130
Diclorvos (DDVP)	ND		1.98	2.21		ug/L		112	70 - 130
Dieldrin	ND		1.98	1.95		ug/L		98	70 - 130
Diethylphthalate	ND		1.98	2.05		ug/L		104	70 - 130
Dimethoate	ND		1.98	1.11		ug/L		56	34 - 111
Dimethylphthalate	ND		1.98	2.14		ug/L		108	70 - 130
Di-n-butyl phthalate	ND		3.96	4.03		ug/L		102	70 - 130
Di-n-octyl phthalate	ND		1.98	1.88		ug/L		95	70 - 130
Endosulfan I (Alpha)	ND		1.98	1.92		ug/L		97	70 - 130
Endosulfan II (Beta)	ND		1.98	1.75		ug/L		88	70 - 130
Endosulfan sulfate	ND		1.98	1.79		ug/L		90	70 - 130
Endrin	ND		1.98	2.09		ug/L		106	70 - 130
Endrin aldehyde	ND		1.98	1.62		ug/L		82	70 - 130
EPTC	ND		1.98	2.12		ug/L		107	70 - 130
Fluoranthene	ND		1.98	1.89		ug/L		95	70 - 130
Fluorene	ND		1.98	2.02		ug/L		102	70 - 130
gamma-Chlordane	ND		1.98	1.82		ug/L		92	70 - 130
Heptachlor	ND		1.98	1.93		ug/L		98	70 - 130
Heptachlor epoxide (isomer B)	ND		1.98	1.99		ug/L		100	70 - 130
Hexachlorobenzene	ND		1.98	2.06		ug/L		104	70 - 130
Hexachlorocyclopentadiene	ND		1.98	1.79		ug/L		90	70 - 130
Indeno[1,2,3-cd]pyrene	ND		1.98	2.11		ug/L		106	70 - 130
Isophorone	ND		1.98	2.20		ug/L		111	70 - 130
Lindane	ND		1.98	1.92		ug/L		97	70 - 130
Malathion	ND		1.98	1.99		ug/L		100	70 - 130
Methoxychlor	ND		1.98	1.64		ug/L		83	70 - 130
Metolachlor	ND		1.98	1.83		ug/L		92	70 - 130
Metribuzin	ND		1.98	1.73		ug/L		88	70 - 130
Molinate	ND		1.98	2.13		ug/L		108	70 - 130
Naphthalene	ND		1.98	2.18		ug/L		110	70 - 130
Parathion	ND		1.98	2.07		ug/L		105	70 - 130
Pendimethalin (Penoxaline)	ND		1.98	2.19		ug/L		111	70 - 130
Phenanthrene	ND		1.98	1.96		ug/L		99	70 - 130
Propachlor	ND		1.98	2.02		ug/L		102	70 - 130
Pyrene	ND		1.98	1.79		ug/L		91	70 - 130
Simazine	ND		1.98	1.81		ug/L		91	70 - 130
Terbacil	ND		1.98	2.06		ug/L		104	70 - 130
Terbutylazine	ND		1.98	1.73		ug/L		87	70 - 130
Thiobencarb	ND		1.98	1.92		ug/L		97	70 - 130
trans-Nonachlor	ND		1.98	1.88		ug/L		95	70 - 130
Trifluralin	ND		1.98	2.24		ug/L		113	70 - 130
		MS	MS						
Surrogate	%Recovery	Qualifier	Limits						
2-Nitro-m-xylene	106		70 - 130						
Triphenylphosphate	84		70 - 130						
Perylene-d12	95		70 - 130						

QC Sample Results

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

Job ID: 380-11169-1

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

Lab Sample ID: 380-11091-B-1-A DU
Matrix: Water
Analysis Batch: 13238

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 9965

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

Eurofins Eaton Monrovia

QC Sample Results

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

Job ID: 380-11169-1

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

Lab Sample ID: 380-11091-B-1-A DU
Matrix: Water
Analysis Batch: 13238

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 9965

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
EPTC	ND		ND		ug/L		NC	20
Fluoranthene	ND		ND		ug/L		NC	20
Fluorene	ND		ND		ug/L		NC	20
gamma-Chlordane	ND		ND		ug/L		NC	20
Heptachlor	ND		ND		ug/L		NC	20
Heptachlor epoxide (isomer B)	ND		ND		ug/L		NC	20
Hexachlorobenzene	ND		ND		ug/L		NC	20
Hexachlorocyclopentadiene	ND		ND		ug/L		NC	20
Indeno[1,2,3-cd]pyrene	ND		ND		ug/L		NC	20
Isophorone	ND		ND		ug/L		NC	20
Lindane	ND		ND		ug/L		NC	20
Malathion	ND		ND		ug/L		NC	20
Methoxychlor	ND		ND		ug/L		NC	20
Metolachlor	ND		ND		ug/L		NC	20
Metribuzin	ND		ND		ug/L		NC	20
Molinate	ND		ND		ug/L		NC	20
Naphthalene	ND		ND		ug/L		NC	20
Parathion	ND		ND		ug/L		NC	20
Pendimethalin (Penoxaline)	ND		ND		ug/L		NC	20
Total Permethrin (mixed isomers)	ND		ND		ug/L		NC	20
Phenanthrene	ND		ND		ug/L		NC	20
Propachlor	ND		ND		ug/L		NC	20
Pyrene	ND		ND		ug/L		NC	20
Simazine	ND		ND		ug/L		NC	20
Terbacil	ND		ND		ug/L		NC	20
Terbutylazine	ND		ND		ug/L		NC	20
Thiobencarb	ND		ND		ug/L		NC	20
trans-Nonachlor	ND		ND		ug/L		NC	20
Trifluralin	ND		ND		ug/L		NC	20

Surrogate	DU %Recovery	DU Qualifier	Limits
2-Nitro-m-xylene	109		70 - 130
Triphenylphosphate	88		70 - 130
Perylene-d12	99		70 - 130

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

Lab Sample ID: 98654-B1
Matrix: water
Analysis Batch: O-38064

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: O-38064_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 06:55	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 06:55	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 06:55	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 06:55	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 06:55	1
Acenaphthene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 06:55	1
Acenaphthylene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 06:55	1

Eurofins Eaton Monrovia

QC Sample Results

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

Job ID: 380-11169-1

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

Lab Sample ID: 98654-B1
Matrix: water
Analysis Batch: O-38064

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: O-38064_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Anthracene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 06:55	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 06:55	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 06:55	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 06:55	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 06:55	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 06:55	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 06:55	1
Biphenyl	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 06:55	1
Chrysene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 06:55	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 06:55	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 06:55	1
Dibenzothiophene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 06:55	1
Disalicylidenepropanediamine	ND		0.1	0.05	µg/L		07/25/22 00:00	07/31/22 06:55	1
Fluoranthene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 06:55	1
Fluorene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 06:55	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 06:55	1
Naphthalene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 06:55	1
Perylene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 06:55	1
Phenanthrene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 06:55	1
Pyrene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 06:55	1

Surrogate	Blank %Recovery	Blank Qualifier	Limits	Prepared	Analyzed	Dil Fac
(d10-Acenaphthene)	98		65 - 113	07/25/22 00:00	07/31/22 06:55	1
(d10-Phenanthrene)	97		80 - 111	07/25/22 00:00	07/31/22 06:55	1
(d12-Chrysene)	92		60 - 139	07/25/22 00:00	07/31/22 06:55	1
(d12-Perylene)	87		36 - 161	07/25/22 00:00	07/31/22 06:55	1
(d8-Naphthalene)	99		44 - 119	07/25/22 00:00	07/31/22 06:55	1

Lab Sample ID: 98654-BS1
Matrix: water
Analysis Batch: O-38064

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: O-38064_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
1-Methylnaphthalene	0.5	0.478		µg/L		96	49 - 117
1-Methylphenanthrene	0.5	0.414		µg/L		83	66 - 127
2,3,5-Trimethylnaphthalene	0.5	0.453		µg/L		91	57 - 120
2,6-Dimethylnaphthalene	0.5	0.463		µg/L		93	54 - 117
2-Methylnaphthalene	0.5	0.484		µg/L		97	47 - 130
Acenaphthene	0.5	0.471		µg/L		94	53 - 131
Acenaphthylene	0.5	0.475		µg/L		95	43 - 140
Anthracene	0.5	0.434		µg/L		87	58 - 135
Benz[a]anthracene	0.5	0.401		µg/L		80	55 - 145
Benzo[a]pyrene	0.5	0.415		µg/L		83	51 - 143
Benzo[b]fluoranthene	0.5	0.496		µg/L		99	46 - 165
Benzo[e]pyrene	0.5	0.454		µg/L		91	42 - 152
Benzo[g,h,i]perylene	0.5	0.438		µg/L		88	63 - 133
Benzo[k]fluoranthene	0.5	0.445		µg/L		89	56 - 145
Biphenyl	0.5	0.485		µg/L		97	56 - 119

Eurofins Eaton Monrovia

QC Sample Results

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

Job ID: 380-11169-1

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

Lab Sample ID: 98654-BS1
Matrix: water
Analysis Batch: O-38064

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: O-38064_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chrysene	0.5	0.432		µg/L		86	56 - 141
Dibenz[a,h]anthracene	0.5	0.437		µg/L		87	55 - 150
Dibenzo[a,l]pyrene	0.25	0.202		µg/L		81	50 - 150
Dibenzothiophene	0.5	0.449		µg/L		90	75 - 113
Disalicylidenepranediamine	10	9.48		µg/L		95	50 - 150
Fluoranthene	0.5	0.436		µg/L		87	60 - 146
Fluorene	0.5	0.469		µg/L		94	58 - 131
Indeno[1,2,3-cd]pyrene	0.5	0.435		µg/L		87	50 - 151
Naphthalene	0.5	0.479		µg/L		96	41 - 126
Perylene	0.5	0.397		µg/L		79	48 - 141
Phenanthrene	0.5	0.458		µg/L		92	67 - 127
Pyrene	0.5	0.411		µg/L		82	54 - 156

Surrogate	LCS %Recovery	LCS Qualifier	Limits
(d10-Acenaphthene)	101		65 - 113
(d10-Phenanthrene)	98		80 - 111
(d12-Chrysene)	101		60 - 139
(d12-Perylene)	87		36 - 161
(d8-Naphthalene)	98		44 - 119

Lab Sample ID: 98654-BS2
Matrix: water
Analysis Batch: O-38064

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: O-38064_P

Analyte	Spike Added	LCS DUP Result	LCS DUP Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1-Methylnaphthalene	0.5	0.48		µg/L		96	49 - 117	0	30
1-Methylphenanthrene	0.5	0.431		µg/L		86	66 - 127	4	30
2,3,5-Trimethylnaphthalene	0.5	0.466		µg/L		93	57 - 120	2	30
2,6-Dimethylnaphthalene	0.5	0.47		µg/L		94	54 - 117	1	30
2-Methylnaphthalene	0.5	0.489		µg/L		98	47 - 130	1	30
Acenaphthene	0.5	0.472		µg/L		94	53 - 131	0	30
Acenaphthylene	0.5	0.478		µg/L		96	43 - 140	1	30
Anthracene	0.5	0.447		µg/L		89	58 - 135	2	30
Benz[a]anthracene	0.5	0.43		µg/L		86	55 - 145	7	30
Benzo[a]pyrene	0.5	0.436		µg/L		87	51 - 143	5	30
Benzo[b]fluoranthene	0.5	0.531		µg/L		106	46 - 165	7	30
Benzo[e]pyrene	0.5	0.48		µg/L		96	42 - 152	5	30
Benzo[g,h,i]perylene	0.5	0.444		µg/L		89	63 - 133	1	30
Benzo[k]fluoranthene	0.5	0.473		µg/L		95	56 - 145	7	30
Biphenyl	0.5	0.489		µg/L		98	56 - 119	1	30
Chrysene	0.5	0.449		µg/L		90	56 - 141	5	30
Dibenz[a,h]anthracene	0.5	0.438		µg/L		88	55 - 150	1	30
Dibenzo[a,l]pyrene	0.25	0.213		µg/L		85	50 - 150	5	30
Dibenzothiophene	0.5	0.459		µg/L		92	75 - 113	2	30
Disalicylidenepranediamine	10	9.77		µg/L		98	50 - 150	3	30
Fluoranthene	0.5	0.441		µg/L		88	60 - 146	1	30
Fluorene	0.5	0.474		µg/L		95	58 - 131	1	30
Indeno[1,2,3-cd]pyrene	0.5	0.435		µg/L		87	50 - 151	0	30

Eurofins Eaton Monrovia

QC Sample Results

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

Job ID: 380-11169-1

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

Lab Sample ID: 98654-BS2
Matrix: water
Analysis Batch: O-38064

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: O-38064_P

Analyte	Spike Added	LCS DUP Result	LCS DUP Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Naphthalene	0.5	0.478		µg/L		96	41 - 126	0	30
Perylene	0.5	0.421		µg/L		84	48 - 141	6	30
Phenanthrene	0.5	0.468		µg/L		94	67 - 127	2	30
Pyrene	0.5	0.421		µg/L		84	54 - 156	2	30

Surrogate	LCS DUP %Recovery	LCS DUP Qualifier	Limits
(d10-Acenaphthene)	100		65 - 113
(d10-Phenanthrene)	99		80 - 111
(d12-Chrysene)	107		60 - 139
(d12-Perylene)	85		36 - 161
(d8-Naphthalene)	98		44 - 119

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

Lab Sample ID: 22DSG022WB
Matrix: WATER
Analysis Batch: 22DSG022W

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DIESEL	ND	U	0.025		mg/L			07/27/22 10:49	1
MOTOR OIL	ND	U	0.05		mg/L			07/27/22 10:49	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOBENZENE					07/27/22 10:49	1
HEXACOSANE					07/27/22 10:49	1

Lab Sample ID: 22DSG022WL
Matrix: WATER
Analysis Batch: 22DSG022W

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
DIESEL	2.5	2.06		mg/L		82	50 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
BROMOBENZENE	73		60 - 130
HEXACOSANE	88		60 - 130

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

Lab Sample ID: 22VGH7G04B
Matrix: WATER
Analysis Batch: 22VGH7G04

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GASOLINE	ND	U	0.02		mg/L			07/22/22 14:05	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE					07/22/22 14:05	1

Eurofins Eaton Monrovia

QC Sample Results

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

Job ID: 380-11169-1

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

Lab Sample ID: 22VGH7G04L
Matrix: WATER
Analysis Batch: 22VGH7G04

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
GASOLINE	0.5	0.455		mg/L		91	60 - 130
Surrogate							
	<i>LCS</i>	<i>LCS</i>					
	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				
BROMOFLUOROBENZENE	110						70 - 130

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QC Association Summary

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

Job ID: 380-11169-1

GC/MS Semi VOA

Prep Batch: 9965

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-11169-1	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	525.2	
MB 380-9965/1-A	Method Blank	Total/NA	Water	525.2	
LCS 380-9965/3-A	Lab Control Sample	Total/NA	Water	525.2	
LCSD 380-9965/4-A	Lab Control Sample Dup	Total/NA	Water	525.2	
MRL 380-9965/2-A	Lab Control Sample	Total/NA	Water	525.2	
380-11100-M-1-A MS	Matrix Spike	Total/NA	Water	525.2	
380-11091-B-1-A DU	Duplicate	Total/NA	Water	525.2	

Analysis Batch: 13238

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-11169-1	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	525.2	9965
MB 380-9965/1-A	Method Blank	Total/NA	Water	525.2	9965
LCS 380-9965/3-A	Lab Control Sample	Total/NA	Water	525.2	9965
LCSD 380-9965/4-A	Lab Control Sample Dup	Total/NA	Water	525.2	9965
MRL 380-9965/2-A	Lab Control Sample	Total/NA	Water	525.2	9965
380-11100-M-1-A MS	Matrix Spike	Total/NA	Water	525.2	9965
380-11091-B-1-A DU	Duplicate	Total/NA	Water	525.2	9965

Subcontract

Analysis Batch: O-38064

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-11169-1	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	625 PAH Physis LL (EAL) + TICs	O-38064_P
98654-B1	Method Blank	Total/NA	water	625 PAH Physis LL (EAL) + TICs	O-38064_P
98654-BS1	Lab Control Sample	Total/NA	water	625 PAH Physis LL (EAL) + TICs	O-38064_P
98654-BS2	Lab Control Sample Dup	Total/NA	water	625 PAH Physis LL (EAL) + TICs	O-38064_P

Analysis Batch: 22DSG022W

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-11169-1	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	8015 Diesel LL (EAL) and Motor Oil	
22DSG022WB	Method Blank	Total/NA	WATER	8015 Diesel LL (EAL) and Motor Oil	
22DSG022WL	Lab Control Sample	Total/NA	WATER	8015 Diesel LL (EAL) and Motor Oil	

Analysis Batch: 22VGH7G04

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-11169-1	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	8015 Gas (Purgeable) LL (EAL)	
380-11169-2	Trip Blank	Total/NA	Water	8015 Gas (Purgeable) LL (EAL)	
22VGH7G04B	Method Blank	Total/NA	WATER	8015 Gas (Purgeable) LL (EAL)	

Eurofins Eaton Monrovia

QC Association Summary

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

Job ID: 380-11169-1

Subcontract (Continued)

Analysis Batch: 22VGH7G04 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
22VGH7G04L	Lab Control Sample	Total/NA	WATER	8015 Gas (Purgeable) LL (EAL)	

Prep Batch: O-38064_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-11169-1	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	EPA_625	
98654-B1	Method Blank	Total/NA	water	EPA_625	
98654-BS1	Lab Control Sample	Total/NA	water	EPA_625	
98654-BS2	Lab Control Sample Dup	Total/NA	water	EPA_625	

Lab Chronicle

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

Job ID: 380-11169-1

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

Lab Sample ID: 380-11169-1

Date Collected: 07/18/22 10:45

Matrix: Drinking Water

Date Received: 07/20/22 10:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	525.2			9965	OTM3	EA MON	07/22/22 11:00
Total/NA	Analysis	525.2		1	13238	UJC9	EA MON	08/15/22 21:38
Total/NA	Prep	EPA_625		1	O-38064_P			07/25/22 00:00
Total/NA	Analysis	625 PAH Physis LL (EAL) + TICs		1	O-38064	YC		07/31/22 15:33
Total/NA	Analysis	8015 Diesel LL (EAL) and Motor Oil		1	22DSG022W	SDees		07/26/22 18:44
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)		1	22VGH7G04	SCerva		07/22/22 19:59

Client Sample ID: Trip Blank

Lab Sample ID: 380-11169-2

Date Collected: 07/18/22 10:45

Matrix: Water

Date Received: 07/20/22 10:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)		1	22VGH7G04	SCerva		07/22/22 20:35

Laboratory References:

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

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

Accreditation/Certification Summary

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

Job ID: 380-11169-1

Laboratory: Eurofins Eaton Monrovia

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

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

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

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

Accreditation/Certification Summary

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

Job ID: 380-11169-1

Laboratory: Eurofins Eaton Monrovia (Continued)

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

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

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

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

Method Summary

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

Job ID: 380-11169-1

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: 380-11169-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	PWSID Number
380-11169-1	MOANALUA WELLS (331-223-TP202)	Drinking Water	07/18/22 10:45	07/20/22 10:10	HI0000331
380-11169-2	Trip Blank	Water	07/18/22 10:45	07/20/22 10:10	

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LABORATORIES, INC.®

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

Date: 08-05-2022
EMAX Batch No.: 22G210

Attn: Jackie Contreras

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

Subject: Laboratory Report
Project: 380-11169

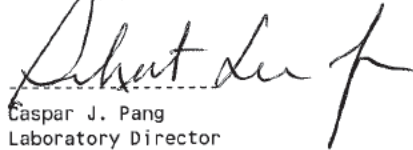
Enclosed is the Laboratory report for samples received on 07/22/22.
The data reported relate only to samples listed below :

Sample ID	Control #	Col Date	Matrix	Analysis
380-11169-1	G210-01	07/18/22	WATER	TPH GASOLINE TPH DIESEL & MOTOR OIL
380-11169-2	G210-02	07/18/22	WATER	TPH GASOLINE

The results are summarized on the following pages.

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

Sincerely yours,


Caspar J. Pang
Laboratory Director

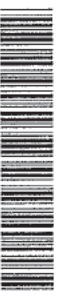
This report is confidential and intended solely for the use of the individual or entity to whom it is addressed. This report shall not be reproduced except in full or without the written approval of EMAX.

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

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

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

226210 Chain of Custody Record



Client Information (Sub Contract Lab)
 Client Contact: EMAX Laboratories Inc
 Shipping/Receiving: EMAX Laboratories Inc
 Address: 3051 Fujita Street, Torrance, CA, 90505
 City: Torrance
 State, Zip: CA, 90505
 Phone: [Blank]
 Email: [Blank]
 Project Name: RED-HILL
 Project #: 38001111
 Site: Honolulu BWS Sites

Sampler: Frank, Debbie L
 Lab PM: Frank, Debbie L
 E-Mail: Debbie.Frank@eurofins.com
 State of Origin: Hawaii
 Accreditation Required (See note): State - Hawaii
 COC No.: 380-13746-1
 Page: 1 of 1
 Job #: 380-1169-1

Due Date Requested: 8/3/2022
 TAT Requested (days): [Blank]
 Analysis Requested: [Blank]

Project #: 38001111
 SSO#: [Blank]
 Matrix: (W=water, S=solid, O=water/oil, BT=tissue, A=air)
 Field Filtered Sample (Yes or No): [Blank]
 Perform MS/MSD (Yes or No): [Blank]
 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 - Ancher
 H - Ascorbic Acid
 I - Ice
 J - DI Water
 K - EDTA
 L - EDA
 M - Hexane
 N - None
 O - AsNaC2
 P - Na2CO3
 Q - Na2SO3
 R - Na2S2O3
 S - H2SO4
 T - TSP Dodecalhydrate
 U - Acetone
 V - MCAA
 W - pH 4-5
 Y - Trizma
 Z - other (specify)

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	MATRIX	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Analysis Requested	Total Number of Containers	Special Instructions/Note
1 MOANALUA WELLS (331-223-T P202) (380-1169-1)	7/18/22	10:45	Water	Water	X	X		2	See Attached Instructions
2 Trip Blank (380-1169-2)	7/18/22	10:45	Water	Water	X	X		2	See Attached Instructions

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

Possible Hazard Identification
 Unconfirmed
 Deliverable Requested: I, II, III, IV, Other (specify)
 Primary Deliverable Rank: 2
 Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
 Return To Client Disposal By Lab Archive For _____ Months

Empty Kit Relinquished by: [Blank]
 Date: [Blank]
 Relinquished by: [Signature]
 Date/Time: 7/18/22
 Company: EMAX

Custody Seal Intact: [Blank]
 Custody Seal No.: [Blank]
 REPORT ID: 22G210
 Date/Time: 5/1/4.9
 Date/Time: 4.7/4.5
 Page 2 of 23



Type of Delivery <input type="checkbox"/> Fedex <input type="checkbox"/> UPS <input type="checkbox"/> GSO <input type="checkbox"/> Others	Airbill / Tracking Number	ECN <u>22G210</u>
<input type="checkbox"/> EMAX Courier <input checked="" type="checkbox"/> Client Delivery		Recipient <u>Aidan Ramos</u>
		Date <u>07/22/22</u> Time <u>10:15</u>

COC INSPECTION

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

Note: _____

PACKAGING INSPECTION

Container	<input checked="" type="checkbox"/> Cooler	<input type="checkbox"/> Box	<input type="checkbox"/> Other
Condition	<input type="checkbox"/> Custody Seal	<input type="checkbox"/> Intact	<input type="checkbox"/> Damaged
Packaging	<input checked="" type="checkbox"/> Bubble Pack	<input type="checkbox"/> Styrofoam	<input type="checkbox"/> Popcorn
Temperatures	<input checked="" type="checkbox"/> Cooler 1 <u>15.1/4.9</u> °C	<input checked="" type="checkbox"/> Cooler 2 <u>24.7/4.5</u> °C	<input type="checkbox"/> Cooler 3 _____ °C
(Cool, ≤6 °C but not frozen)	<input type="checkbox"/> Cooler 6 _____ °C	<input type="checkbox"/> Cooler 7 _____ °C	<input type="checkbox"/> Cooler 8 _____ °C
Thermometer:	A - S/N <u>210583479</u>	B - S/N <u>210760237</u>	C - S/N <u>210271399</u>
			D - S/N _____

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

Note: _____

DISCREPANCIES

LabSampleID	LabSampleContainerID	Code	ClientSample Label ID / Information	Corrective Action
1	5-7	D9	received 3 vials with thiocyanate for 505 PEG, 2nd date/time on label is incorrect, reads 7/19/22 10:50	pg. 2 ↓
<i>[Large handwritten scribble]</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: ⊕ Assumed for ethanol? MB 7/22/22

SAMPLE MATRIX IS DRINKING WATER? YES NO

LEGEND:

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

REVIEWS:

Sample Labeling <u>Maria Rivera</u>	SRF <u>Rivera</u>	PM <u>MB</u>
Date <u>07/22/22</u>	Date <u>7/22/22</u>	Date <u>7/22/22</u>

REPORTING CONVENTIONS

DATA QUALIFIERS:

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

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

ACRONYMS AND ABBREVIATIONS:

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

DATES

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

LABORATORY REPORT FOR

EUROFINS EATON ANALYTICAL

380-11169

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

SDG#: 22G210



CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 380-11169

SDG : 22G210

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

A total of two(2) water samples were received on 07/22/22 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. VGH7G04B - 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. VGH7G04L/VGH7G04C 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 G209-01M/G209-01S. 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 : 380-11169
 SDG NO. : 22G210
 Instrument ID : H7

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Prep. Data FN	Notes
								WATER
MBLK1W	VGH7G04B	1	NA	07/22/2214:05	07/22/2214:05	AG22005A	AG22004A	22VGH7G04 Method Blank
LCS1W	VGH7G04L	1	NA	07/22/2214:40	07/22/2214:40	AG22006A	AG22004A	22VGH7G04 Lab Control Sample (LCS)
LCD1W	VGH7G04C	1	NA	07/22/2215:16	07/22/2215:16	AG22007A	AG22004A	22VGH7G04 LCS Duplicate
380-11169-1	G210-01	1	NA	07/22/2219:59	07/22/2219:59	AG22015A	AG22014A	22VGH7G04 Field Sample
380-11169-2	G210-02	1	NA	07/22/2220:35	07/22/2220:35	AG22016A	AG22014A	22VGH7G04 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: 07/18/22 10:45
Project     : 380-11169                   Date Received: 07/22/22
Batch No.   : 22G210                       Date Extracted: 07/22/22 19:59
Sample ID   : 380-11169-1                 Date Analyzed: 07/22/22 19:59
Lab Samp ID : G210-01                     Dilution Factor: 1
Lab File ID : AG22015A                     Matrix: WATER
Ext Btch ID : 22VGH7G04                   % Moisture: NA
Calib. Ref.: AG22014A                     Instrument ID: H7
=====

```

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
GASOLINE	ND	0.020	0.010	
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromofluorobenzene	0.0356	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: 07/18/22 10:45
Project     : 380-11169                 Date Received: 07/22/22
Batch No.   : 22G210                   Date Extracted: 07/22/22 20:35
Sample ID   : 380-11169-2              Date Analyzed: 07/22/22 20:35
Lab Samp ID: G210-02                   Dilution Factor: 1
Lab File ID: AG22016A                 Matrix: WATER
Ext Btch ID: 22VGH7G04                % Moisture: NA
Calib. Ref.: AG22014A                 Instrument ID: H7
=====

```

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

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromofluorobenzene	0.0350	0.0400	88	60-140

Notes:

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

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

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QC SUMMARIES

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL
PROJECT : 380-11169
BATCH NO. : 22G210
METHOD : 5030B/8015B

```

=====
MATRIX      : WATER                               % MOISTURE:NA
DILUTION FACTOR: 1                               1
SAMPLE ID   : MBLK1W                             LCS1W
LAB SAMPLE ID : VGH7G04B                         VGH7G04L
LAB FILE ID  : AG22005A                         AG22006A
DATE PREPARED : 07/22/22 14:05                 07/22/22 14:40
DATE ANALYZED : 07/22/22 14:05                 07/22/22 15:16
PREP BATCH   : 22VGH7G04                       22VGH7G04
CALIBRATION REF: AG22004A                      AG22004A
    
```

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	0.455	91	0.500	0.440	88	3	60-130	30

SURROGATE PARAMETER	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	QCLimit (%)
Bromofluorobenzene	0.0400	0.0438	110	0.0400	0.0446	112	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 : 380-11135
BATCH NO. : 22G209
METHOD : 5030B/8015B

MATRIX : WATER		% MOISTURE:NA
DILUTION FACTOR: 1	1	1
SAMPLE ID : 380-11135-1	380-11135-1MS	380-11135-1MSD
LAB SAMPLE ID : G209-01	G209-01M	G209-01S
LAB FILE ID : AG22010A	AG22011A	AG22012A
DATE PREPARED : 07/22/22 17:02	07/22/22 17:38	07/22/22 18:13
DATE ANALYZED : 07/22/22 17:02	07/22/22 17:38	07/22/22 18:13
PREP BATCH : 22VGH7G04	22VGH7G04	22VGH7G04
CALIBRATION REF: AG22004A	AG22004A	AG22004A

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	0.443	89	0.500	0.430	86	3	50-130	30

SURROGATE PARAMETER	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	QCLimit (%)
Bromofluorobenzene	0.0400	0.0442	111	0.0400	0.0428	107	60-140

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

LABORATORY REPORT FOR

EUROFINS EATON ANALYTICAL

380-11169

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

SDG#: 22G210



CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 380-11169

SDG : 22G210

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

One(1) water sample was received on 07/22/22 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. DSG022WB - 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. DSG022WL/DSG022WC 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. Diesel was within MS QC limits in 22G209-01M/22G209-01S. 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.

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SAMPLE RESULTS

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QC SUMMARIES

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

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=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 07/25/22 16:15
Project     : 380-11169                   Date Received: 07/25/22
Batch No.   : 22G210                       Date Extracted: 07/25/22 16:15
Sample ID   : MBLK1W                       Date Analyzed: 07/27/22 10:49
Lab Samp ID: DSG022WB                      Dilution Factor: 1
Lab File ID: LG25120A                      Matrix: WATER
Ext Btch ID: 22DSG022W                     % Moisture: NA
Calib. Ref.: LG25116A                     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	0.306	0.500	61	60-130
Hexacosane	0.103	0.125	82	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 : P0reto Analyzed by : SDeeso

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL
PROJECT : 380-11169
BATCH NO. : 22G210
METHOD : 3520C/8015B

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR:	1		1
SAMPLE ID	: MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID	: DSG022WB	DSG022WL	DSG022WC
LAB FILE ID	: LG25120A	LG25092A	LG25093A
DATE PREPARED	: 07/25/22 16:15	07/25/22 16:15	07/25/22 16:15
DATE ANALYZED	: 07/27/22 10:49	07/26/22 15:57	07/26/22 16:15
PREP BATCH	: 22DSG022W	22DSG022W	22DSG022W
CALIBRATION REF:	LG25116A	LG25085A	LG25085A

ACCESSION:

PARAMETERS	MBResult (mg/L)	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
Diesel	ND	2.50	2.06	82	2.50	2.01	80	2	50-130	30

SURROGATE PARAMETERS	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	QCLimit (%)
Bromobenzene	0.500	0.365	73	0.500	0.311	62	60-130
Hexacosane	0.125	0.110	88	0.125	0.113	90	60-130

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 : 380-11135
BATCH NO. : 22G209
METHOD : 3520C/8015B

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=====
MATRIX      : WATER                                     % MOISTURE:NA
DILUTION FACTOR: 1                                     1
SAMPLE ID   : 380-11135-1                             380-11135-1MSD
LAB SAMPLE ID : 22G209-01                             22G209-01S
LAB FILE ID  : LG25098A                               LG25099A
DATE PREPARED : 07/25/22 16:15                       07/25/22 16:15
DATE ANALYZED : 07/26/22 17:48                       07/26/22 18:07
PREP BATCH   : 22DSG022W                             22DSG022W
CALIBRATION REF: LG25085A                             LG25085A
    
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ACCESSION:

PARAMETERS	PSResult (mg/L)	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
Diesel	ND	2.72	2.41	88	2.58	2.58	100	7	50-130	30

SURROGATE PARAMETERS	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	QCLimit (%)
Bromobenzene	0.545	0.424	78	0.515	0.447	87	60-130
Hexacosane	0.136	0.132	97	0.129	0.130	101	60-130

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

August 08, 2022

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

Project Name: RED-HILL Project # 38001111 Job # 380-11169-1
Physis Project ID: 1407003-253

Dear Debbie,


Enclosed are the analytical results for the sample submitted to PHYSIS Environmental Laboratories, Inc. (PHYSIS) on 7/22/2022. 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: 1407003-253

RED-HILL Project # 38001111 Job # 380-11169-1

Total Samples: 1

PHYSIS ID	Sample ID	Description	Date	Time	Matrix	Sample Type
98655	MOANALUA WELLS	331-223-T P202 (380-11169-1)	7/18/2022	10:45	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 MS₁/MS₂, BS₁/BS₂, LCS₁/LCS₂, LCM₁/LCM₂, CRM₁/CRM₂, surrogate spikes and/or replicate project sample analysis (R₁/R₂) on a minimum frequency of one per batch. Physis' QM requires that for 95% of the compounds greater than 10 times the MDL, the percent RPD should be within the specified acceptance range.

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

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

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

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

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

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

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

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

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

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

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PHYSIS QUALIFIER CODES

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

CASE NARRATIVE

QUALIFIER NOTES

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

ND

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

BIANALYTICALS

REPORT

TERRA AURA
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Base/Neutral Extractable Compounds

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 98655-R1 MOANALUA WELLS 331-223-T P202 Matrix: Samplewater Sampled: 18-Jul-22 10:45 Received: 22-Jul-22											
Disalicylidenepropanediamine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-38064	25-Jul-22	31-Jul-22



Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed	
Sample ID: 98655-R1	MOANALUA WELLS 331-223-T P202 Matrix: Samplewater						Sampled:	18-Jul-22 10:45	Received:	22-Jul-22		
(d10-Acenaphthene)	EPA 625.1	% Recovery	86	1			Total		O-38064	25-Jul-22	31-Jul-22	
(d10-Phenanthrene)	EPA 625.1	% Recovery	86	1			Total		O-38064	25-Jul-22	31-Jul-22	
(d12-Chrysene)	EPA 625.1	% Recovery	92	1			Total		O-38064	25-Jul-22	31-Jul-22	
(d12-Perylene)	EPA 625.1	% Recovery	64	1			Total		O-38064	25-Jul-22	31-Jul-22	
(d8-Naphthalene)	EPA 625.1	% Recovery	88	1			Total		O-38064	25-Jul-22	31-Jul-22	
1-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	25-Jul-22	31-Jul-22	
1-Methylphenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	25-Jul-22	31-Jul-22	
2,3,5-Trimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	25-Jul-22	31-Jul-22	
2,6-Dimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	25-Jul-22	31-Jul-22	
2-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	25-Jul-22	31-Jul-22	
Acenaphthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	25-Jul-22	31-Jul-22	
Acenaphthylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	25-Jul-22	31-Jul-22	
Anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	25-Jul-22	31-Jul-22	
Benz[a]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	25-Jul-22	31-Jul-22	
Benzo[a]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	25-Jul-22	31-Jul-22	
Benzo[b]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	25-Jul-22	31-Jul-22	
Benzo[e]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	25-Jul-22	31-Jul-22	
Benzo[g,h,i]perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	25-Jul-22	31-Jul-22	
Benzo[k]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	25-Jul-22	31-Jul-22	
Biphenyl	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	25-Jul-22	31-Jul-22	
Chrysene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	25-Jul-22	31-Jul-22	
D benz[a,h]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	25-Jul-22	31-Jul-22	
D benzo[a,l]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	25-Jul-22	31-Jul-22	
D benzothiophene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	25-Jul-22	31-Jul-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-38064	25-Jul-22	31-Jul-22
Fluorene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	25-Jul-22	31-Jul-22
Indeno[1,2,3-cd]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	25-Jul-22	31-Jul-22
Naphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	25-Jul-22	31-Jul-22
Perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	25-Jul-22	31-Jul-22
Phenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	25-Jul-22	31-Jul-22
Pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	25-Jul-22	31-Jul-22



QUALITY CONTROL REPORT

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Base/Neutral Extractable Compounds

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY		PRECISION		QA CODEc
							LEVEL	RESULT	%	LIMITS	%	LIMITS	
Sample ID: 98654-B1		QAQC Procedural Blank			Matrix: BlankMatrix			Sampled:		Received:			
		Method: EPA 625.1			Batch ID: O-38064			Prepared: 25-Jul-22		Analyzed: 31-Jul-22			
Disalicylideneprapanediamin	Total	ND	1	0.05	0.1	µg/L							
Sample ID: 98654-BS1		QAQC Procedural Blank			Matrix: BlankMatrix			Sampled:		Received:			
		Method: EPA 625.1			Batch ID: O-38064			Prepared: 25-Jul-22		Analyzed: 31-Jul-22			
Disalicylideneprapanediamin	Total	9.48	1	0.05	0.1	µg/L	10	0	95	50 - 150%	PASS		
Sample ID: 98654-BS2		QAQC Procedural Blank			Matrix: BlankMatrix			Sampled:		Received:			
		Method: EPA 625.1			Batch ID: O-38064			Prepared: 25-Jul-22		Analyzed: 31-Jul-22			
Disalicylideneprapanediamin	Total	9.77	1	0.05	0.1	µg/L	10	0	98	50 - 150%	PASS	3	30 PASS

Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY	PRECISION	QA CODEc
							LEVEL	RESULT	% LIMITS	% LIMITS	
Sample ID: 98654-B1		QAQC Procedural Blank			Matrix: BlankMatrix		Sampled:		Received:		
	Method: EPA 625.1					Batch ID: O-38064	Prepared: 25-Jul-22	Analyzed: 31-Jul-22			
(d10-Acenaphthene)	Total	98	1			% Recovery	100	98	65 - 113%	PASS	
(d10-Phenanthrene)	Total	97	1			% Recovery	100	97	80 - 111%	PASS	
(d12-Chrysene)	Total	92	1			% Recovery	100	92	60 - 139%	PASS	
(d12-Perylene)	Total	87	1			% Recovery	100	87	36 - 161%	PASS	
(d8-Naphthalene)	Total	99	1			% Recovery	100	99	44 - 119%	PASS	
1-Methylnaphthalene	Total	ND	1	0.001	0.005						µg/L
1-Methylphenanthrene	Total	ND	1	0.001	0.005						µg/L
2,3,5-Trimethylnaphthalene	Total	ND	1	0.001	0.005						µg/L
2,6-Dimethylnaphthalene	Total	ND	1	0.001	0.005						µg/L
2-Methylnaphthalene	Total	ND	1	0.001	0.005						µg/L
Acenaphthene	Total	ND	1	0.001	0.005						µg/L
Acenaphthylene	Total	ND	1	0.001	0.005						µg/L
Anthracene	Total	ND	1	0.001	0.005						µg/L
Benz[a]anthracene	Total	ND	1	0.001	0.005						µg/L
Benzo[a]pyrene	Total	ND	1	0.001	0.005						µg/L
Benzo[b]fluoranthene	Total	ND	1	0.001	0.005						µg/L
Benzo[e]pyrene	Total	ND	1	0.001	0.005						µg/L
Benzo[g,h,i]perylene	Total	ND	1	0.001	0.005						µg/L
Benzo[k]fluoranthene	Total	ND	1	0.001	0.005						µg/L
Biphenyl	Total	ND	1	0.001	0.005						µg/L
Chrysene	Total	ND	1	0.001	0.005						µg/L
Dibenz[a,h]anthracene	Total	ND	1	0.001	0.005						µg/L
Dibenzo[a,l]pyrene	Total	ND	1	0.001	0.005						µg/L

Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

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

Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY		PRECISION	QA CODE
							LEVEL	RESULT	%	LIMITS	%	LIMITS
Sample ID: 98654-BS1		QAQC Procedural Blank			Matrix: BlankMatrix			Sampled:		Received:		
Method: EPA 625.1		Batch ID: O-38064			Prepared: 25-Jul-22		Analyzed: 31-Jul-22					
(d10-Acenaphthene)	Total	101	1			% Recovery	100	0	101	65 - 113%	PASS	
(d10-Phenanthrene)	Total	98	1			% Recovery	100	0	98	80 - 111%	PASS	
(d12-Chrysene)	Total	101	1			% Recovery	100	0	101	60 - 139%	PASS	
(d12-Perylene)	Total	87	1			% Recovery	100	0	87	36 - 161%	PASS	
(d8-Naphthalene)	Total	98	1			% Recovery	100	0	98	44 - 119%	PASS	
1-Methylnaphthalene	Total	0.478	1	0.001	0.005	µg/L	0.5	0	96	49 - 117%	PASS	
1-Methylphenanthrene	Total	0.414	1	0.001	0.005	µg/L	0.5	0	83	66 - 127%	PASS	
2,3,5-Trimethylnaphthalene	Total	0.453	1	0.001	0.005	µg/L	0.5	0	91	57 - 120%	PASS	
2,6-Dimethylnaphthalene	Total	0.463	1	0.001	0.005	µg/L	0.5	0	93	54 - 117%	PASS	
2-Methylnaphthalene	Total	0.484	1	0.001	0.005	µg/L	0.5	0	97	47 - 130%	PASS	
Acenaphthene	Total	0.471	1	0.001	0.005	µg/L	0.5	0	94	53 - 131%	PASS	
Acenaphthylene	Total	0.475	1	0.001	0.005	µg/L	0.5	0	95	43 - 140%	PASS	
Anthracene	Total	0.434	1	0.001	0.005	µg/L	0.5	0	87	58 - 135%	PASS	
Benz[a]anthracene	Total	0.401	1	0.001	0.005	µg/L	0.5	0	80	55 - 145%	PASS	
Benzo[a]pyrene	Total	0.415	1	0.001	0.005	µg/L	0.5	0	83	51 - 143%	PASS	
Benzo[b]fluoranthene	Total	0.496	1	0.001	0.005	µg/L	0.5	0	99	46 - 165%	PASS	
Benzo[e]pyrene	Total	0.454	1	0.001	0.005	µg/L	0.5	0	91	42 - 152%	PASS	
Benzo[g,h,i]perylene	Total	0.438	1	0.001	0.005	µg/L	0.5	0	88	63 - 133%	PASS	
Benzo[k]fluoranthene	Total	0.445	1	0.001	0.005	µg/L	0.5	0	89	56 - 145%	PASS	
Biphenyl	Total	0.485	1	0.001	0.005	µg/L	0.5	0	97	56 - 119%	PASS	
Chrysene	Total	0.432	1	0.001	0.005	µg/L	0.5	0	86	56 - 141%	PASS	
Dibenz[a,h]anthracene	Total	0.437	1	0.001	0.005	µg/L	0.5	0	87	55 - 150%	PASS	
Dibenzo[a,l]pyrene	Total	0.202	1	0.001	0.005	µg/L	0.25	0	81	50 - 150%	PASS	

Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY		PRECISION		QA CODE _c
							LEVEL	RESULT	%	LIMITS	%	LIMITS	
Dibenzothiophene	Total	0.449	1	0.001	0.005	µg/L	0.5	0	90	75 - 113%	PASS		
Fluoranthene	Total	0.436	1	0.001	0.005	µg/L	0.5	0	87	60 - 146%	PASS		
Fluorene	Total	0.469	1	0.001	0.005	µg/L	0.5	0	94	58 - 131%	PASS		
Indeno[1,2,3-cd]pyrene	Total	0.435	1	0.001	0.005	µg/L	0.5	0	87	50 - 151%	PASS		
Naphthalene	Total	0.479	1	0.001	0.005	µg/L	0.5	0	96	41 - 126%	PASS		
Perylene	Total	0.397	1	0.001	0.005	µg/L	0.5	0	79	48 - 141%	PASS		
Phenanthrene	Total	0.458	1	0.001	0.005	µg/L	0.5	0	92	67 - 127%	PASS		
Pyrene	Total	0.411	1	0.001	0.005	µg/L	0.5	0	82	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			
Sample ID: 98654-BS2		QAQC Procedural Blank			Matrix: BlankMatrix			Sampled:			Received:				
		Method: EPA 625.1			Batch ID: O-38064			Prepared: 25-Jul-22			Analyzed: 31-Jul-22				
(d10-Acenaphthene)	Total	100	1				% Recovery	100	0	100	65 - 113%	PASS	1	30	PASS
(d10-Phenanthrene)	Total	99	1				% Recovery	100	0	99	80 - 111%	PASS	1	30	PASS
(d12-Chrysene)	Total	107	1				% Recovery	100	0	107	60 - 139%	PASS	6	30	PASS
(d12-Perylene)	Total	85	1				% Recovery	100	0	85	36 - 161%	PASS	2	30	PASS
(d8-Naphthalene)	Total	98	1				% Recovery	100	0	98	44 - 119%	PASS	0	30	PASS
1-Methylnaphthalene	Total	0.48	1	0.001	0.005	µg/L		0.5	0	96	49 - 117%	PASS	0	30	PASS
1-Methylphenanthrene	Total	0.431	1	0.001	0.005	µg/L		0.5	0	86	66 - 127%	PASS	4	30	PASS
2,3,5-Trimethylnaphthalene	Total	0.466	1	0.001	0.005	µg/L		0.5	0	93	57 - 120%	PASS	2	30	PASS
2,6-Dimethylnaphthalene	Total	0.47	1	0.001	0.005	µg/L		0.5	0	94	54 - 117%	PASS	1	30	PASS
2-Methylnaphthalene	Total	0.489	1	0.001	0.005	µg/L		0.5	0	98	47 - 130%	PASS	1	30	PASS
Acenaphthene	Total	0.472	1	0.001	0.005	µg/L		0.5	0	94	53 - 131%	PASS	0	30	PASS
Acenaphthylene	Total	0.478	1	0.001	0.005	µg/L		0.5	0	96	43 - 140%	PASS	1	30	PASS
Anthracene	Total	0.447	1	0.001	0.005	µg/L		0.5	0	89	58 - 135%	PASS	2	30	PASS
Benz[a]anthracene	Total	0.43	1	0.001	0.005	µg/L		0.5	0	86	55 - 145%	PASS	7	30	PASS
Benzo[a]pyrene	Total	0.436	1	0.001	0.005	µg/L		0.5	0	87	51 - 143%	PASS	5	30	PASS
Benzo[b]fluoranthene	Total	0.531	1	0.001	0.005	µg/L		0.5	0	106	46 - 165%	PASS	7	30	PASS
Benzo[e]pyrene	Total	0.48	1	0.001	0.005	µg/L		0.5	0	96	42 - 152%	PASS	5	30	PASS
Benzo[g,h,i]perylene	Total	0.444	1	0.001	0.005	µg/L		0.5	0	89	63 - 133%	PASS	1	30	PASS
Benzo[k]fluoranthene	Total	0.473	1	0.001	0.005	µg/L		0.5	0	95	56 - 145%	PASS	7	30	PASS
Biphenyl	Total	0.489	1	0.001	0.005	µg/L		0.5	0	98	56 - 119%	PASS	1	30	PASS
Chrysene	Total	0.449	1	0.001	0.005	µg/L		0.5	0	90	56 - 141%	PASS	5	30	PASS
Dibenz[a,h]anthracene	Total	0.438	1	0.001	0.005	µg/L		0.5	0	88	55 - 150%	PASS	1	30	PASS
Dibenzo[a,l]pyrene	Total	0.213	1	0.001	0.005	µg/L		0.25	0	85	50 - 150%	PASS	5	30	PASS

Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY		PRECISION		QA CODE _c	
							LEVEL	RESULT	%	LIMITS	%	LIMITS		
Dibenzothiophene	Total	0.459	1	0.001	0.005	µg/L	0.5	0	92	75 - 113%	PASS	2	30	PASS
Fluoranthene	Total	0.441	1	0.001	0.005	µg/L	0.5	0	88	60 - 146%	PASS	1	30	PASS
Fluorene	Total	0.474	1	0.001	0.005	µg/L	0.5	0	95	58 - 131%	PASS	1	30	PASS
Indeno[1,2,3-cd]pyrene	Total	0.435	1	0.001	0.005	µg/L	0.5	0	87	50 - 151%	PASS	0	30	PASS
Naphthalene	Total	0.478	1	0.001	0.005	µg/L	0.5	0	96	41 - 126%	PASS	0	30	PASS
Perylene	Total	0.421	1	0.001	0.005	µg/L	0.5	0	84	48 - 141%	PASS	6	30	PASS
Phenanthrene	Total	0.468	1	0.001	0.005	µg/L	0.5	0	94	67 - 127%	PASS	2	30	PASS
Pyrene	Total	0.421	1	0.001	0.005	µg/L	0.5	0	84	54 - 156%	PASS	2	30	PASS

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PHYSIS

TENTATIVELY

IDENTIFIED COMPOUNDS

ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

Sample ID: 98655

RT	Area Pct	Concentration (ng/L)	Library/ID	Cas Number	Match Qual
32.6451	6.5867	1111	Anthracene-D10-	1719-06-8	97
25.1143	2.7889	470	Diethyl Phthalate	84-66-2	99
14.9737	1.3792	233	Cyclohexane, 1,2,4,5-tetraethyl-, (1.alpha.,2.alpha.,4.alpha.,5.alpha.)-	61142-24-3	83
43.1778	1.3718	231	Terephthalic acid, isobutyl butyl ester	1000323-56-2	94

Concentration estimated using the response for Anthracene-d10

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Sample ID: Lab Blank Batch O-38064

RT	Area Pct	Concentration (ng/L)	Library/ID	Cas Number	Match Qual
32.6440	5.5511	1111	Anthracene-D10-	1719-06-8	96
14.9715	1.2315	246	Cyclohexane, 1,2,4,5-tetraethyl-, (1.alpha.,2.alpha.,4.alpha.,5.alpha.)-	61142-24-3	82
14.9715	1.2098	242	3-Hexene, 3-ethyl-2,5-dimethyl-	62338-08-3	82
43.1778	0.9236	185	Terephthalic acid, isobutyl butyl ester	1000323-56-2	95
60.3753	0.7547	151	Heneicosane	629-94-7	91
14.8120	0.6560	131	Cyclohexane, 1,2,4,5-tetraethyl-, (1.alpha.,2.alpha.,4.alpha.,5.alpha.)-	61142-24-3	83
25.1154	0.6335	127	Diethyl Phthalate	84-66-2	99
66.0814	0.5730	115	Heneicosane	629-94-7	94
15.6916	0.5092	102	3-Octene, 2,2-dimethyl-	86869-76-3	84

Concentration estimated using the response for Anthracene-d10

PERFORMANCE CHAIN OF CUSTODY

TERRA ENVIRONMENTAL LABORATORIES, INC. AURA

Innovative Solutions for Nature

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Project Iteration ID: 1407003-253
 Client Name: Eurofins Eaton Analytical
 Project Name: RED-HILL Project # 38001111
 Job # 380-11169-1
 COC Page Number: 2 of 2
 Bottle Label Color: NA

Sample Receipt Summary

Receiving Info

1. Initials Received By: [Signature]
2. Date Received: 7/22/20
3. Time Received: 1153
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)
 - 3 Cooler
 - Styrofoam Cooler
 - Boxes
 - None
 - Carboy(s)
 - Carboy Trash Can(s)
 - Carboy Cap(s)
 - Other _____
7. What type of ice was used: (Please circle any that apply)
 - Wet Ice
 - Blue Ice
 - Dry Ice
 - Water
 - None
8. Randomly Selected Samples Temperature (°C): 1.2
 Used I/R Thermometer # 1-2

Inspection Info

1. Initials Inspected By: [Signature]

Sample Integrity Upon Receipt:

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

Notes:

Shipping Order Form - Bottle Order



Environment Testing
America



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

Shipping Order ID: 7880

Ship Via: FedEx

Due On: 7/7/2022 11:59:00PM

Ship To Information

Project Manager: Debbie Frank
Em: Debbie.Frank@et.eurofinsus.com
Company Name: City & County of Honolulu
Attention: Ron Fenstermacher
Address 1: 630 South Beretania Street
Address 2: Chemistry Lab
Address 3:
City: Honolulu
State: HI
Zip: 96843
Phone #: +1-808-748-5841
Project Ref: RED-HILL

Notes to Bottle/Shipping Department

Shipping Method: Pack by sample set (affixed TALS labels)

- Ready to Fill
- Preprinted COC
- Number of COC Copies
- Seals on Bottle
- Seals on Coolers
- Priority
- Return Shipment Labels
- Prepaid Return
Monrovia, CA (Suite 100)
- Short Hold Times
- Temperature Control
- Rush

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



Bottle Order Information

Bottle Order: RED-HILL - Weekly Resample
 Bottle Order #: 2162
 Request From Client: 7/1/2022
 Date Order Posted: 7/1/2022 11:21:01AM
 Order Status: Ready To Process
 Prepared By: Davis Haley
 Deliver By Date: 7/7/2022 11:59:00PM
 Lab Project Number: 38001111
 PWSID:

Order Completion Information

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

Sets	Bottles/Set	Qty	Bottle Type Description	Preservative	Method	Matrix	Sample Type	Comments	Lot #
4	4	16	Voa Vial 40ml Amber - Sodium thiosulfate	Sodium Thiosulfate	SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL)	Water	Normal		
4	3	12	Amber Glass 1 liter - Sodium Thiosulfate	Sodium Thiosulfate	SUBCONTRACT - 8015 Diesel LL (EAL) and Motor Oil	Water	Normal		
4	2	8	Voa Vial 40ml - with Sodium Thiosulfate	Sodium Thiosulfate	SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL)	Water	Trip Blank		

Total Bottle Summary

Bottle Type Description

Preservative

Bottle Count

Amber Glass 1 liter - Sodium Thiosulfate	Sodium Thiosulfate	12
Voa Vial 40ml - with Sodium Thiosulfate	Sodium Thiosulfate	8
Voa Vial 40ml Amber - Sodium thiosulfate	Sodium Thiosulfate	16
Total Bottles:		36

Notes to Field Staff:



Scan QR code for field sampler instructions

Health and Safety Notes:

Preservative

Comment

Sodium Thiosulfate

CAUTION! CONTAINS 10% SODIUM THIOSULFATE. Harmful if inhaled. Use adequate ventilation. Avoid skin and eye contact. If contact is made, FLUSH IMMEDIATELY with water.

Relinquished By	Company	Date	Time	Received By	Company	Seal #:
						Seal #:
						Seal #:
Relinquished By	Company	Date	Time	Received By	Company	Seal #:
						Seal #:
						Seal #:

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

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



Eaton Analytical

INTERNAL CHAIN OF CUSTODY RECORD

EEA Folder Number: _____

SAMPLE TEMP RECEIVED:

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

SAMPLES REC'D DAY OF COLLECTION? Yes No

IR Gun ID = 030 (Observation = 3.2 °C) (Corr.Factor = 0.2 °C) (Final = 3.0 °C)

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

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

Compliance Acceptance Criteria:

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

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

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

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

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

6) **Chlorine check.** Manufacturer: Sansafe. Lot No.: _____ Expiration Date: _____ Results: _____

7) **VOA and Radon Headspace:**

No Samples with Headspace:

Samples with Headspace (see below):

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

Exempt from headspace concerns: Methods 515.4, HAA(6251,552), 505, SPME, @CH, 532LCMS, 556, 536, Anatoxin, LCMS methods using 40 ml vials, International clients:

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

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

SIGNATURE	PRINT NAME	COMPANY/TITLE	DATE	TIME
<i>[Signature]</i>	Vivian Pasceric	Eurofins Eaton Analytical	7-20-22	1010

SIGNATURE	PRINT NAME	COMPANY/TITLE	DATE	TIME
		Eurofins Eaton Analytical		

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

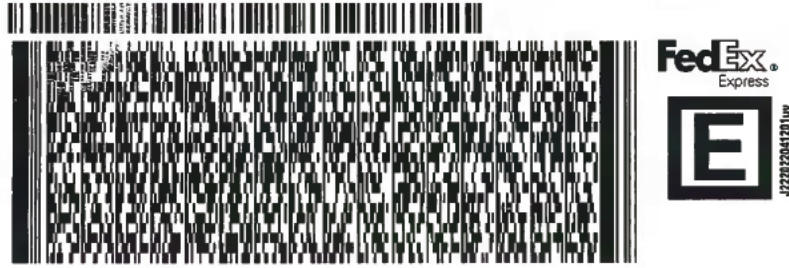
SHIP DATE: 19JUL22
ACTWGT: 75.00 LB
CAD: 100205419/NET4490

BILL RECIPIENT

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

581.L20A92FE4A

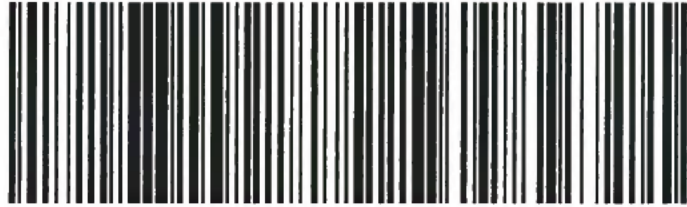
(626) 386-1179 REF:
INV. PO. DEPT:



WED - 20 JUL 10:30A
PRIORITY OVERNIGHT

9 of 12
MPS# 0263 7774 2766 5468
Mstr# 7774 2766 5413 0201

WZ WHPA 91016
CA-US BUR



After printing this label:

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

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.

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





Eaton Analytical

INTERNAL CHAIN OF CUSTODY RECORD

EEA Folder Number: _____

SAMPLE TEMP RECEIVED: NO TRACKING NUMBER OR COLLECT
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 = 430 (Observation = 4.7 °C) (Corr.Factor -0.2 °C) (Final = 4.5 °C)

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

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

Compliance Acceptance Criteria:

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

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

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

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

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

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

7) VOA and Radon Headspace:

No Samples with Headspace:

Samples with Headspace (see below):

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

Exempt from headspace concerns: Methods 515.4, HAA(8251,552), 505, SPME, @CH, 532LCMS, 556, 536, Anatoxin, LCMS methods using 40 ml vials, International clients:

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

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

SIGNATURE	PRINT NAME	COMPANY/TITLE	DATE	TIME
	<u>David Pasina</u>	Eurofins Eaton Analytical	<u>7.20.22</u>	<u>1010</u>

SIGNATURE	PRINT NAME	COMPANY/TITLE	DATE	TIME
		Eurofins Eaton Analytical		



Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-11169-1

Login Number: 11169

List Source: Eurofins Eaton Monrovia

List Number: 1

Creator: Sanchez Velasquez, Gustavo

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
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	

