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ANALYTICAL REPORT

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Tel: (626)386-1100

Laboratory Job ID: 380-12728-1
Client Project/Site: RED-HILL

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

Attn: Mr. Erwin Kawata

Authorized for release by:
10/17/2022 4:16:16 PM
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Designee for

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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
10/17/2022 4:16:16 PM

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Definitions/Glossary

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

Job ID: 380-12728-1

Qualifiers

GC/MS Semi VOA

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

GC/MS Semi VOA TICs

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

Subcontract

Qualifier	Qualifier Description
U	This analyte was not detected.

Glossary

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

Case Narrative

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

Job ID: 380-12728-1

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Laboratory: Eurofins Eaton Monrovia

Narrative

Job Narrative
380-12728-1

Comments
No additional comments.

Receipt
The samples were received on 7/28/2022 10:15 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 8 coolers at receipt time were 2.1º C, 3.3º C, 3.3º C, 3.8º C, 3.8º C, 3.9º C, 4.4º C and 4.9º 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: 380-12728-1

Client Sample ID: HALAWA SHAFT STATIC (VIEWING POOL) **Lab Sample ID: 380-12728-1**

No Detections.

This Detection Summary does not include radiochemical test results.

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

Job ID: 380-12728-1

Client Sample ID: HALAWA SHAFT STATIC (VIEWING POOL)
Date Collected: 07/26/22 09:30
Date Received: 07/28/22 10:15

Lab Sample ID: 380-12728-1
Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
2,4'-DDD	ND		0.097		ug/L		08/01/22 08:52	08/19/22 12:21	1
2,4'-DDE	ND		0.097		ug/L		08/01/22 08:52	08/19/22 12:21	1
2,4'-DDT	ND		0.097		ug/L		08/01/22 08:52	08/19/22 12:21	1
2,4-Dinitrotoluene	ND		0.097		ug/L		08/01/22 08:52	08/19/22 12:21	1
2,6-Dinitrotoluene	ND		0.097		ug/L		08/01/22 08:52	08/19/22 12:21	1
4,4'-DDD	ND		0.097		ug/L		08/01/22 08:52	08/19/22 12:21	1
4,4'-DDE	ND	^3+	0.097		ug/L		08/01/22 08:52	08/19/22 12:21	1
4,4'-DDT	ND		0.097		ug/L		08/01/22 08:52	08/19/22 12:21	1
Acenaphthene	ND		0.097		ug/L		08/01/22 08:52	08/19/22 12:21	1
Acenaphthylene	ND		0.097		ug/L		08/01/22 08:52	08/19/22 12:21	1
Acetochlor	ND		0.097		ug/L		08/01/22 08:52	08/19/22 12:21	1
Alachlor	ND		0.049		ug/L		08/01/22 08:52	08/19/22 12:21	1
alpha-BHC	ND		0.097		ug/L		08/01/22 08:52	08/19/22 12:21	1
alpha-Chlordane	ND		0.049		ug/L		08/01/22 08:52	08/19/22 12:21	1
Anthracene	ND		0.019		ug/L		08/01/22 08:52	08/19/22 12:21	1
Atrazine	ND		0.049		ug/L		08/01/22 08:52	08/19/22 12:21	1
Benz(a)anthracene	ND		0.049		ug/L		08/01/22 08:52	08/19/22 12:21	1
Benzo[a]pyrene	ND		0.019		ug/L		08/01/22 08:52	08/19/22 12:21	1
Benzo[b]fluoranthene	ND		0.019		ug/L		08/01/22 08:52	08/19/22 12:21	1
Benzo[g,h,i]perylene	ND		0.049		ug/L		08/01/22 08:52	08/19/22 12:21	1
Benzo[k]fluoranthene	ND		0.019		ug/L		08/01/22 08:52	08/19/22 12:21	1
beta-BHC	ND		0.097		ug/L		08/01/22 08:52	08/19/22 12:21	1
Bromacil	ND		0.097		ug/L		08/01/22 08:52	08/19/22 12:21	1
Butachlor	ND		0.049		ug/L		08/01/22 08:52	08/19/22 12:21	1
Butylbenzylphthalate	ND	^3+	0.49		ug/L		08/01/22 08:52	08/19/22 12:21	1
Caffeine	ND		0.049		ug/L		08/01/22 08:52	08/19/22 12:21	1
Chlorobenzilate	ND		0.097		ug/L		08/01/22 08:52	08/19/22 12:21	1
Chloroneb	ND		0.097		ug/L		08/01/22 08:52	08/19/22 12:21	1
Chlorothalonil (Draconil, Bravo)	ND		0.097		ug/L		08/01/22 08:52	08/19/22 12:21	1
Chlorpyrifos	ND		0.049		ug/L		08/01/22 08:52	08/19/22 12:21	1
Chrysene	ND		0.019		ug/L		08/01/22 08:52	08/19/22 12:21	1
delta-BHC	ND		0.097		ug/L		08/01/22 08:52	08/19/22 12:21	1
Di(2-ethylhexyl)adipate	ND	^3+ *+	0.58		ug/L		08/01/22 08:52	08/19/22 12:21	1
Bis(2-ethylhexyl) phthalate	ND		0.58		ug/L		08/01/22 08:52	08/19/22 12:21	1
Diazinon (Qualitative)	ND		0.097		ug/L		08/01/22 08:52	08/19/22 12:21	1
Dibenz(a,h)anthracene	ND		0.049		ug/L		08/01/22 08:52	08/19/22 12:21	1
Diclorvos (DDVP)	ND		0.049		ug/L		08/01/22 08:52	08/19/22 12:21	1
Dieldrin	ND		0.19		ug/L		08/01/22 08:52	08/19/22 12:21	1
Diethylphthalate	ND		0.49		ug/L		08/01/22 08:52	08/19/22 12:21	1
Dimethoate	ND		0.097		ug/L		08/01/22 08:52	08/19/22 12:21	1
Dimethylphthalate	ND		0.49		ug/L		08/01/22 08:52	08/19/22 12:21	1
Di-n-butyl phthalate	ND		0.97		ug/L		08/01/22 08:52	08/19/22 12:21	1
Di-n-octyl phthalate	ND		0.097		ug/L		08/01/22 08:52	08/19/22 12:21	1
Endosulfan I (Alpha)	ND		0.097		ug/L		08/01/22 08:52	08/19/22 12:21	1
Endosulfan II (Beta)	ND	^3+	0.097		ug/L		08/01/22 08:52	08/19/22 12:21	1
Endosulfan sulfate	ND		0.097		ug/L		08/01/22 08:52	08/19/22 12:21	1
Endrin	ND		0.097		ug/L		08/01/22 08:52	08/19/22 12:21	1
Endrin aldehyde	ND		0.097		ug/L		08/01/22 08:52	08/19/22 12:21	1
EPTC	ND		0.097		ug/L		08/01/22 08:52	08/19/22 12:21	1

Client Sample ID: HALAWA SHAFT STATIC (VIEWING POOL)

Lab Sample ID: 380-12728-1

Date Collected: 07/26/22 09:30

Matrix: Water

Date Received: 07/28/22 10:15

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Fluoranthene	ND		0.097		ug/L		08/01/22 08:52	08/19/22 12:21	1
Fluorene	ND		0.049		ug/L		08/01/22 08:52	08/19/22 12:21	1
gamma-Chlordane	ND		0.049		ug/L		08/01/22 08:52	08/19/22 12:21	1
Heptachlor	ND		0.039		ug/L		08/01/22 08:52	08/19/22 12:21	1
Heptachlor epoxide (isomer B)	ND		0.049		ug/L		08/01/22 08:52	08/19/22 12:21	1
Hexachlorobenzene	ND	^3+	0.049		ug/L		08/01/22 08:52	08/19/22 12:21	1
Hexachlorocyclopentadiene	ND		0.049		ug/L		08/01/22 08:52	08/19/22 12:21	1
Indeno[1,2,3-cd]pyrene	ND		0.049		ug/L		08/01/22 08:52	08/19/22 12:21	1
Isophorone	ND		0.49		ug/L		08/01/22 08:52	08/19/22 12:21	1
Lindane	ND		0.039		ug/L		08/01/22 08:52	08/19/22 12:21	1
Malathion	ND		0.097		ug/L		08/01/22 08:52	08/19/22 12:21	1
Methoxychlor	ND		0.097		ug/L		08/01/22 08:52	08/19/22 12:21	1
Metolachlor	ND		0.049		ug/L		08/01/22 08:52	08/19/22 12:21	1
Metribuzin	ND		0.049		ug/L		08/01/22 08:52	08/19/22 12:21	1
Molinate	ND		0.097		ug/L		08/01/22 08:52	08/19/22 12:21	1
Naphthalene	ND		0.29		ug/L		08/01/22 08:52	08/19/22 12:21	1
Parathion	ND		0.097		ug/L		08/01/22 08:52	08/19/22 12:21	1
Pendimethalin (Penoxaline)	ND		0.097		ug/L		08/01/22 08:52	08/19/22 12:21	1
Total Permethrin (mixed isomers)	ND		0.19		ug/L		08/01/22 08:52	08/19/22 12:21	1
Phenanthrene	ND		0.039		ug/L		08/01/22 08:52	08/19/22 12:21	1
Propachlor	ND		0.049		ug/L		08/01/22 08:52	08/19/22 12:21	1
Pyrene	ND		0.049		ug/L		08/01/22 08:52	08/19/22 12:21	1
Simazine	ND		0.049		ug/L		08/01/22 08:52	08/19/22 12:21	1
Terbacil	ND		0.097		ug/L		08/01/22 08:52	08/19/22 12:21	1
Terbuthylazine	ND		0.097		ug/L		08/01/22 08:52	08/19/22 12:21	1
Thiobencarb	ND		0.19		ug/L		08/01/22 08:52	08/19/22 12:21	1
trans-Nonachlor	ND		0.049		ug/L		08/01/22 08:52	08/19/22 12:21	1
Trifluralin	ND		0.097		ug/L		08/01/22 08:52	08/19/22 12:21	1
1-Methylnaphthalene	ND		0.097		ug/L		08/01/22 08:52	08/19/22 12:21	1
2-Methylnaphthalene	ND		0.097		ug/L		08/01/22 08:52	08/19/22 12:21	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
D-Limonene	*0.58*	*T J N*	*ug/L*		*2.57*	*5989-27-5*	*08/01/22 08:52*	*08/19/22 12:21*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Nitro-m-xylene	*96*		*70 - 130*	*08/01/22 08:52*	*08/19/22 12:21*	*1*
Triphenylphosphate	*101*		*70 - 130*	*08/01/22 08:52*	*08/19/22 12:21*	*1*
Perylene-d12	*100*		*70 - 130*	*08/01/22 08:52*	*08/19/22 12:21*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.005	0.001	µg/L		08/02/22 00:00	08/07/22 05:03	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		08/02/22 00:00	08/07/22 05:03	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		08/02/22 00:00	08/07/22 05:03	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		08/02/22 00:00	08/07/22 05:03	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		08/02/22 00:00	08/07/22 05:03	1
Acenaphthene	ND		0.005	0.001	µg/L		08/02/22 00:00	08/07/22 05:03	1
Acenaphthylene	ND		0.005	0.001	µg/L		08/02/22 00:00	08/07/22 05:03	1
Anthracene	ND		0.005	0.001	µg/L		08/02/22 00:00	08/07/22 05:03	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		08/02/22 00:00	08/07/22 05:03	1

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

Job ID: 380-12728-1

Client Sample ID: HALAWA SHAFT STATIC (VIEWING POOL)

Lab Sample ID: 380-12728-1

Date Collected: 07/26/22 09:30
Matrix: Water
Date Received: 07/28/22 10:15

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]pyrene	ND		0.005	0.001	µg/L		08/02/22 00:00	08/07/22 05:03	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		08/02/22 00:00	08/07/22 05:03	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		08/02/22 00:00	08/07/22 05:03	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		08/02/22 00:00	08/07/22 05:03	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		08/02/22 00:00	08/07/22 05:03	1
Biphenyl	ND		0.005	0.001	µg/L		08/02/22 00:00	08/07/22 05:03	1
Chrysene	ND		0.005	0.001	µg/L		08/02/22 00:00	08/07/22 05:03	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		08/02/22 00:00	08/07/22 05:03	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		08/02/22 00:00	08/07/22 05:03	1
Dibenzothiophene	ND		0.005	0.001	µg/L		08/02/22 00:00	08/07/22 05:03	1
Disalicylidenepropanediamine	ND		0.1	0.05	µg/L		08/02/22 00:00	08/07/22 05:03	1
Fluoranthene	ND		0.005	0.001	µg/L		08/02/22 00:00	08/07/22 05:03	1
Fluorene	ND		0.005	0.001	µg/L		08/02/22 00:00	08/07/22 05:03	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		08/02/22 00:00	08/07/22 05:03	1
Naphthalene	ND		0.005	0.001	µg/L		08/02/22 00:00	08/07/22 05:03	1
Perylene	ND		0.005	0.001	µg/L		08/02/22 00:00	08/07/22 05:03	1
Phenanthrene	ND		0.005	0.001	µg/L		08/02/22 00:00	08/07/22 05:03	1
Pyrene	ND		0.005	0.001	µg/L		08/02/22 00:00	08/07/22 05:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
(d10-Acenaphthene)	*82*		*45 - 118*	*08/02/22 00:00*	*08/07/22 05:03*	*1*
(d10-Phenanthrene)	*87*		*56 - 123*	*08/02/22 00:00*	*08/07/22 05:03*	*1*
(d12-Chrysene)	*85*		*36 - 142*	*08/02/22 00:00*	*08/07/22 05:03*	*1*
(d12-Perylene)	*80*		*36 - 161*	*08/02/22 00:00*	*08/07/22 05:03*	*1*
(d8-Naphthalene)	*76*		*20 - 112*	*08/02/22 00:00*	*08/07/22 05:03*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DIESEL	ND	U	0.026		mg/L			08/02/22 19:42	1
MOTOR OIL	ND	U	0.052		mg/L			08/02/22 19:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
BROMOBENZENE	*65*		*60 - 130*		*08/02/22 19:42*	*1*
HEXACOSANE	*93*		*60 - 130*		*08/02/22 19:42*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GASOLINE	ND	U	0.02		mg/L			07/29/22 19:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
BROMOFLUOROBENZENE	*89*		*60 - 140*		*07/29/22 19:25*	*1*

Action Limit Summary

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

Job ID: 380-12728-1

Client Sample ID: HALAWA SHAFT STATIC (VIEWING POOL) Lab Sample ID: 380-12728-1

Compliance Check

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

Analyte	Result	Qualifier	Unit	EPAMCL Limit	RL	Method	Prep Type
Alachlor	ND		ug/L	2	0.049	525.2	Total/NA
Atrazine	ND		ug/L	3	0.049	525.2	Total/NA
Benzo[a]pyrene	ND		ug/L	0.2	0.019	525.2	Total/NA
Di(2-ethylhexyl)adipate	ND	^3+ *+	ug/L	400	0.58	525.2	Total/NA
Bis(2-ethylhexyl) phthalate	ND		ug/L	6	0.58	525.2	Total/NA
Endrin	ND		ug/L	2	0.097	525.2	Total/NA
Heptachlor	ND		ug/L	0.4	0.039	525.2	Total/NA
Heptachlor epoxide (isomer B)	ND		ug/L	0.2	0.049	525.2	Total/NA
Hexachlorobenzene	ND	^3+	ug/L	1	0.049	525.2	Total/NA
Hexachlorocyclopentadiene	ND		ug/L	50	0.049	525.2	Total/NA
Lindane	ND		ug/L	0.2	0.039	525.2	Total/NA
Methoxychlor	ND		ug/L	40	0.097	525.2	Total/NA
Simazine	ND		ug/L	4	0.049	525.2	Total/NA

Surrogate Summary

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

Job ID: 380-12728-1

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

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		2NMX	TPP	PRY
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	(70-130)
380-12317-I-1-A DU	Duplicate	94	100	97
380-12602-S-6-A MS	Matrix Spike	96	103	102
380-12728-1	HALAWA SHAFT STATIC (VIEWING POOL)	96	101	100
LCS 380-10968/3-A	Lab Control Sample	96	100	100
LCSD 380-10968/4-A	Lab Control Sample Dup	94	100	101
MB 380-10968/1-A	Method Blank	93	106	94
MRL 380-10968/2-A	Lab Control Sample	96	101	93

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: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)				
		ANT	CRY	NPT	PHN	PRY
Lab Sample ID	Client Sample ID	(45-118)	(36-142)	(20-112)	(56-123)	(36-161)
380-12728-1	HALAWA SHAFT STATIC (VIEW	82	85	76	87	80

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**

		Percent Surrogate Recovery (Acceptance Limits)				
		ANT	CRY	NPT	PHN	PRY
Lab Sample ID	Client Sample ID	(65-113)	(60-139)	(44-119)	(80-111)	(36-161)
98859-B1	Method Blank	95	95	91	98	93
98859-BS1	Lab Control Sample	92	95	86	95	97
98859-BS2	Lab Control Sample Dup	93	98	87	96	99

Surrogate Legend

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

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

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
		BB	XACOSA
Lab Sample ID	Client Sample ID	(60-130)	(60-130)
380-12728-1	HALAWA SHAFT STATIC (VIEW	65	93

Surrogate Summary

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

Job ID: 380-12728-1

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)	
		BB	XACOSA
Lab Sample ID	**Client Sample ID**		
22DSH001WB	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)	
		BB	XACOSA
Lab Sample ID	**Client Sample ID**	**(60-130)**	**(60-130)**
22DSH001WC	LCD	85	94
22DSH001WL	Lab Control Sample	80	90

Surrogate Legend
BB = BROMOBENZENE
HEXACOSANE = HEXACOSANE

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

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
		BFB
Lab Sample ID	**Client Sample ID**	**(60-140)**
380-12728-1	HALAWA SHAFT STATIC (VIEW	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)
		BFB
Lab Sample ID	**Client Sample ID**	
22VG39G19B	Method Blank	

Surrogate Legend
BFB = BROMOFLUOROBENZENE

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

Matrix: WATER **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
		BFB
Lab Sample ID	**Client Sample ID**	**(70-130)**
22VG39G19C	LCD	114
22VG39G19L	Lab Control Sample	116

Surrogate Summary

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

Job ID: 380-12728-1

Surrogate Legend

BFB = BROMOFLUOROBENZENE

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

Lab Sample ID: MB 380-10968/1-A
Matrix: Water
Analysis Batch: 14003

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 10968

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
2,4'-DDD	ND		0.099		ug/L		08/01/22 08:52	08/19/22 10:40	1
2,4'-DDE	ND		0.099		ug/L		08/01/22 08:52	08/19/22 10:40	1
2,4'-DDT	ND		0.099		ug/L		08/01/22 08:52	08/19/22 10:40	1
2,4-Dinitrotoluene	ND		0.099		ug/L		08/01/22 08:52	08/19/22 10:40	1
2,6-Dinitrotoluene	ND		0.099		ug/L		08/01/22 08:52	08/19/22 10:40	1
4,4'-DDD	ND		0.099		ug/L		08/01/22 08:52	08/19/22 10:40	1
4,4'-DDE	ND		0.099		ug/L		08/01/22 08:52	08/19/22 10:40	1
4,4'-DDT	ND		0.099		ug/L		08/01/22 08:52	08/19/22 10:40	1
Acenaphthene	ND		0.099		ug/L		08/01/22 08:52	08/19/22 10:40	1
Acenaphthylene	ND		0.099		ug/L		08/01/22 08:52	08/19/22 10:40	1
Acetochlor	ND		0.099		ug/L		08/01/22 08:52	08/19/22 10:40	1
Alachlor	ND		0.049		ug/L		08/01/22 08:52	08/19/22 10:40	1
alpha-BHC	ND		0.099		ug/L		08/01/22 08:52	08/19/22 10:40	1
alpha-Chlordane	ND		0.049		ug/L		08/01/22 08:52	08/19/22 10:40	1
Anthracene	ND		0.020		ug/L		08/01/22 08:52	08/19/22 10:40	1
Atrazine	ND		0.049		ug/L		08/01/22 08:52	08/19/22 10:40	1
Benz(a)anthracene	ND		0.049		ug/L		08/01/22 08:52	08/19/22 10:40	1
Benzo[a]pyrene	ND		0.020		ug/L		08/01/22 08:52	08/19/22 10:40	1
Benzo[b]fluoranthene	ND		0.020		ug/L		08/01/22 08:52	08/19/22 10:40	1
Benzo[g,h,i]perylene	ND		0.049		ug/L		08/01/22 08:52	08/19/22 10:40	1
Benzo[k]fluoranthene	ND		0.020		ug/L		08/01/22 08:52	08/19/22 10:40	1
beta-BHC	ND		0.099		ug/L		08/01/22 08:52	08/19/22 10:40	1
Bromacil	ND		0.099		ug/L		08/01/22 08:52	08/19/22 10:40	1
Butachlor	ND		0.049		ug/L		08/01/22 08:52	08/19/22 10:40	1
Butylbenzylphthalate	ND		0.49		ug/L		08/01/22 08:52	08/19/22 10:40	1
Caffeine	ND		0.049		ug/L		08/01/22 08:52	08/19/22 10:40	1
Chlorobenzilate	ND		0.099		ug/L		08/01/22 08:52	08/19/22 10:40	1
Chloroneb	ND		0.099		ug/L		08/01/22 08:52	08/19/22 10:40	1
Chlorothalonil (Draconil, Bravo)	ND		0.099		ug/L		08/01/22 08:52	08/19/22 10:40	1
Chlorpyrifos	ND		0.049		ug/L		08/01/22 08:52	08/19/22 10:40	1
Chrysene	ND		0.020		ug/L		08/01/22 08:52	08/19/22 10:40	1
delta-BHC	ND		0.099		ug/L		08/01/22 08:52	08/19/22 10:40	1
Di(2-ethylhexyl)adipate	ND		0.59		ug/L		08/01/22 08:52	08/19/22 10:40	1
Bis(2-ethylhexyl) phthalate	ND		0.59		ug/L		08/01/22 08:52	08/19/22 10:40	1
Diazinon (Qualitative)	ND		0.099		ug/L		08/01/22 08:52	08/19/22 10:40	1
Dibenz(a,h)anthracene	ND		0.049		ug/L		08/01/22 08:52	08/19/22 10:40	1
Diclorvos (DDVP)	ND		0.049		ug/L		08/01/22 08:52	08/19/22 10:40	1
Dieldrin	ND		0.20		ug/L		08/01/22 08:52	08/19/22 10:40	1
Diethylphthalate	ND		0.49		ug/L		08/01/22 08:52	08/19/22 10:40	1
Dimethoate	ND		0.099		ug/L		08/01/22 08:52	08/19/22 10:40	1
Dimethylphthalate	ND		0.49		ug/L		08/01/22 08:52	08/19/22 10:40	1
Di-n-butyl phthalate	ND		0.99		ug/L		08/01/22 08:52	08/19/22 10:40	1
Di-n-octyl phthalate	ND		0.099		ug/L		08/01/22 08:52	08/19/22 10:40	1
Endosulfan I (Alpha)	ND		0.099		ug/L		08/01/22 08:52	08/19/22 10:40	1
Endosulfan II (Beta)	ND		0.099		ug/L		08/01/22 08:52	08/19/22 10:40	1
Endosulfan sulfate	ND		0.099		ug/L		08/01/22 08:52	08/19/22 10:40	1
Endrin	ND		0.099		ug/L		08/01/22 08:52	08/19/22 10:40	1
Endrin aldehyde	ND		0.099		ug/L		08/01/22 08:52	08/19/22 10:40	1

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

Lab Sample ID: MB 380-10968/1-A
Matrix: Water
Analysis Batch: 14003

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 10968

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
EPTC	ND		0.099		ug/L		08/01/22 08:52	08/19/22 10:40	1
Fluoranthene	ND		0.099		ug/L		08/01/22 08:52	08/19/22 10:40	1
Fluorene	ND		0.049		ug/L		08/01/22 08:52	08/19/22 10:40	1
gamma-Chlordane	ND		0.049		ug/L		08/01/22 08:52	08/19/22 10:40	1
Heptachlor	ND		0.039		ug/L		08/01/22 08:52	08/19/22 10:40	1
Heptachlor epoxide (isomer B)	ND		0.049		ug/L		08/01/22 08:52	08/19/22 10:40	1
Hexachlorobenzene	ND		0.049		ug/L		08/01/22 08:52	08/19/22 10:40	1
Hexachlorocyclopentadiene	ND		0.049		ug/L		08/01/22 08:52	08/19/22 10:40	1
Indeno[1,2,3-cd]pyrene	ND		0.049		ug/L		08/01/22 08:52	08/19/22 10:40	1
Isophorone	ND		0.49		ug/L		08/01/22 08:52	08/19/22 10:40	1
Lindane	ND		0.039		ug/L		08/01/22 08:52	08/19/22 10:40	1
Malathion	ND		0.099		ug/L		08/01/22 08:52	08/19/22 10:40	1
Methoxychlor	ND		0.099		ug/L		08/01/22 08:52	08/19/22 10:40	1
Metolachlor	ND		0.049		ug/L		08/01/22 08:52	08/19/22 10:40	1
Metribuzin	ND		0.049		ug/L		08/01/22 08:52	08/19/22 10:40	1
Molinate	ND		0.099		ug/L		08/01/22 08:52	08/19/22 10:40	1
Naphthalene	ND		0.30		ug/L		08/01/22 08:52	08/19/22 10:40	1
Parathion	ND		0.099		ug/L		08/01/22 08:52	08/19/22 10:40	1
Pendimethalin (Penoxaline)	ND		0.099		ug/L		08/01/22 08:52	08/19/22 10:40	1
Total Permethrin (mixed isomers)	ND		0.20		ug/L		08/01/22 08:52	08/19/22 10:40	1
Phenanthrene	ND		0.039		ug/L		08/01/22 08:52	08/19/22 10:40	1
Propachlor	ND		0.049		ug/L		08/01/22 08:52	08/19/22 10:40	1
Pyrene	ND		0.049		ug/L		08/01/22 08:52	08/19/22 10:40	1
Simazine	ND		0.049		ug/L		08/01/22 08:52	08/19/22 10:40	1
Terbacil	ND		0.099		ug/L		08/01/22 08:52	08/19/22 10:40	1
Terbuthylazine	ND		0.099		ug/L		08/01/22 08:52	08/19/22 10:40	1
Thiobencarb	ND		0.20		ug/L		08/01/22 08:52	08/19/22 10:40	1
trans-Nonachlor	ND		0.049		ug/L		08/01/22 08:52	08/19/22 10:40	1
Trifluralin	ND		0.099		ug/L		08/01/22 08:52	08/19/22 10:40	1
1-Methylnaphthalene	ND		0.099		ug/L		08/01/22 08:52	08/19/22 10:40	1
2-Methylnaphthalene	ND		0.099		ug/L		08/01/22 08:52	08/19/22 10:40	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Decane	*2.03*	*T J N*	*ug/L*		*2.41*	*124-18-5*	*08/01/22 08:52*	*08/19/22 10:40*	*1*
Tetradecanoic acid	*1.09*	*T J N*	*ug/L*		*5.83*	*544-63-8*	*08/01/22 08:52*	*08/19/22 10:40*	*1*
Octadecanoic acid	*0.684*	*T J N*	*ug/L*		*6.51*	*57-11-4*	*08/01/22 08:52*	*08/19/22 10:40*	*1*
Hexadecanamide	*1.55*	*T J N*	*ug/L*		*6.66*	*629-54-9*	*08/01/22 08:52*	*08/19/22 10:40*	*1*
Octadecanamide	*1.06*	*T J N*	*ug/L*		*7.60*	*124-26-5*	*08/01/22 08:52*	*08/19/22 10:40*	*1*
13-Docosenamide, (Z)-	*1.02*	*T J N*	*ug/L*		*10.10*	*112-84-5*	*08/01/22 08:52*	*08/19/22 10:40*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Nitro-m-xylene	*93*		*70 - 130*	*08/01/22 08:52*	*08/19/22 10:40*	*1*
Triphenylphosphate	*106*		*70 - 130*	*08/01/22 08:52*	*08/19/22 10:40*	*1*
Perylene-d12	*94*		*70 - 130*	*08/01/22 08:52*	*08/19/22 10:40*	*1*

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

Lab Sample ID: LCS 380-10968/3-A
Matrix: Water
Analysis Batch: 14003

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 10968

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2,4'-DDD	1.97	2.14		ug/L		109	70 - 130
2,4'-DDE	1.97	1.92		ug/L		98	70 - 130
2,4'-DDT	1.97	1.86		ug/L		94	70 - 130
2,4-Dinitrotoluene	1.97	2.05		ug/L		104	70 - 130
2,6-Dinitrotoluene	1.97	2.01		ug/L		102	70 - 130
4,4'-DDD	1.97	1.86		ug/L		94	70 - 130
4,4'-DDE	1.97	1.94		ug/L		99	70 - 130
4,4'-DDT	1.97	2.04		ug/L		103	70 - 130
Acenaphthene	1.97	1.85		ug/L		94	70 - 130
Acenaphthylene	1.97	1.91		ug/L		97	70 - 130
Acetochlor	1.97	2.01		ug/L		102	70 - 130
Alachlor	1.97	1.88		ug/L		96	70 - 130
alpha-BHC	1.97	1.83		ug/L		93	70 - 130
alpha-Chlordane	1.97	1.86		ug/L		94	70 - 130
Anthracene	1.97	1.90		ug/L		97	70 - 130
Atrazine	1.97	2.09		ug/L		106	70 - 130
Benz(a)anthracene	1.97	1.88		ug/L		96	70 - 130
Benzo[a]pyrene	1.97	1.69		ug/L		86	70 - 130
Benzo[b]fluoranthene	1.97	1.84		ug/L		93	70 - 130
Benzo[g,h,i]perylene	1.97	1.81		ug/L		92	70 - 130
Benzo[k]fluoranthene	1.97	1.84		ug/L		93	70 - 130
beta-BHC	1.97	1.79		ug/L		91	70 - 130
Bromacil	1.97	1.96		ug/L		99	70 - 130
Butachlor	1.97	2.06		ug/L		104	70 - 130
Butylbenzylphthalate	1.97	2.31		ug/L		118	70 - 130
Caffeine	1.97	1.62		ug/L		82	45 - 137
Chlorobenzilate	1.97	2.07		ug/L		105	70 - 130
Chloroneb	1.97	1.84		ug/L		93	70 - 130
Chlorothalonil (Draconil, Bravo)	1.97	2.26		ug/L		115	70 - 130
Chlorpyrifos	1.97	1.95		ug/L		99	70 - 130
Chrysene	1.97	1.65		ug/L		84	70 - 130
delta-BHC	1.97	1.75		ug/L		89	70 - 130
Di(2-ethylhexyl)adipate	1.97	2.68	*+	ug/L		136	70 - 130
Bis(2-ethylhexyl) phthalate	1.97	2.16		ug/L		110	70 - 130
Diazinon (Qualitative)	1.97	1.91		ug/L		97	15 - 132
Dibenz(a,h)anthracene	1.97	1.90		ug/L		97	70 - 130
Diclorvos (DDVP)	1.97	2.34		ug/L		119	70 - 130
Dieldrin	1.97	2.04		ug/L		104	70 - 130
Diethylphthalate	1.97	2.03		ug/L		103	70 - 130
Dimethoate	1.97	1.70		ug/L		87	35 - 100
Dimethylphthalate	1.97	2.09		ug/L		106	70 - 130
Di-n-butyl phthalate	3.94	4.06		ug/L		103	70 - 130
Di-n-octyl phthalate	1.97	1.83		ug/L		93	70 - 130
Endosulfan I (Alpha)	1.97	1.67		ug/L		85	70 - 130
Endosulfan II (Beta)	1.97	1.97		ug/L		100	70 - 130
Endosulfan sulfate	1.97	2.22		ug/L		113	70 - 130
Endrin	1.97	1.95		ug/L		99	70 - 130
Endrin aldehyde	1.97	1.77		ug/L		90	70 - 130

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

Lab Sample ID: LCS 380-10968/3-A
Matrix: Water
Analysis Batch: 14003

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 10968

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
EPTC	1.97	2.21		ug/L		112	70 - 130
Fluoranthene	1.97	1.86		ug/L		94	70 - 130
Fluorene	1.97	2.07		ug/L		105	70 - 130
gamma-Chlordane	1.97	1.92		ug/L		97	70 - 130
Heptachlor	1.97	1.97		ug/L		100	70 - 130
Heptachlor epoxide (isomer B)	1.97	2.02		ug/L		102	70 - 130
Hexachlorobenzene	1.97	1.91		ug/L		97	70 - 130
Hexachlorocyclopentadiene	1.97	1.86		ug/L		94	70 - 130
Indeno[1,2,3-cd]pyrene	1.97	1.84		ug/L		94	70 - 130
Isophorone	1.97	1.97		ug/L		100	70 - 130
Lindane	1.97	1.80		ug/L		91	70 - 130
Malathion	1.97	2.10		ug/L		107	70 - 130
Methoxychlor	1.97	2.07		ug/L		105	70 - 130
Metolachlor	1.97	1.93		ug/L		98	70 - 130
Metribuzin	1.97	1.97		ug/L		100	70 - 130
Molinate	1.97	2.24		ug/L		114	70 - 130
Naphthalene	1.97	2.05		ug/L		104	70 - 130
Parathion	1.97	2.25		ug/L		114	70 - 130
Pendimethalin (Penoxaline)	1.97	2.34		ug/L		119	70 - 130
Phenanthrene	1.97	1.93		ug/L		98	70 - 130
Propachlor	1.97	2.27		ug/L		115	70 - 130
Pyrene	1.97	1.96		ug/L		99	70 - 130
Simazine	1.97	2.13		ug/L		108	70 - 130
Terbacil	1.97	2.25		ug/L		114	70 - 130
Terbuthylazine	1.97	1.94		ug/L		98	70 - 130
Thiobencarb	1.97	2.06		ug/L		105	70 - 130
trans-Nonachlor	1.97	1.87		ug/L		95	70 - 130
Trifluralin	1.97	2.47		ug/L		125	70 - 130
1-Methylnaphthalene	1.97	2.00		ug/L		102	70 - 130
2-Methylnaphthalene	1.97	2.05		ug/L		104	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Nitro-m-xylene	*96*		*70 - 130*
Triphenylphosphate	*100*		*70 - 130*
Perylene-d12	*100*		*70 - 130*

Lab Sample ID: LCSD 380-10968/4-A
Matrix: Water
Analysis Batch: 14003

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 10968

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
2,4'-DDD	1.97	2.14		ug/L		108	70 - 130	0	20
2,4'-DDE	1.97	1.90		ug/L		97	70 - 130	1	20
2,4'-DDT	1.97	1.83		ug/L		93	70 - 130	1	20
2,4-Dinitrotoluene	1.97	1.97		ug/L		100	70 - 130	4	20
2,6-Dinitrotoluene	1.97	1.93		ug/L		98	70 - 130	4	20
4,4'-DDD	1.97	1.82		ug/L		93	70 - 130	2	20
4,4'-DDE	1.97	1.94		ug/L		99	70 - 130	0	20

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

Lab Sample ID: LCSD 380-10968/4-A
Matrix: Water
Analysis Batch: 14003

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 10968

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
4,4'-DDT	1.97	2.00		ug/L		101	70 - 130	2	20
Acenaphthene	1.97	1.82		ug/L		93	70 - 130	1	20
Acenaphthylene	1.97	1.91		ug/L		97	70 - 130	0	20
Acetochlor	1.97	2.03		ug/L		103	70 - 130	1	20
Alachlor	1.97	1.85		ug/L		94	70 - 130	2	20
alpha-BHC	1.97	1.81		ug/L		92	70 - 130	1	20
alpha-Chlordane	1.97	1.88		ug/L		95	70 - 130	1	20
Anthracene	1.97	1.88		ug/L		95	70 - 130	1	20
Atrazine	1.97	2.10		ug/L		107	70 - 130	1	20
Benz(a)anthracene	1.97	1.89		ug/L		96	70 - 130	0	20
Benzo[a]pyrene	1.97	1.65		ug/L		84	70 - 130	2	20
Benzo[b]fluoranthene	1.97	1.75		ug/L		89	70 - 130	5	20
Benzo[g,h,i]perylene	1.97	1.70		ug/L		86	70 - 130	6	20
Benzo[k]fluoranthene	1.97	1.79		ug/L		91	70 - 130	3	20
beta-BHC	1.97	1.73		ug/L		88	70 - 130	3	20
Bromacil	1.97	1.90		ug/L		96	70 - 130	3	20
Butachlor	1.97	2.06		ug/L		104	70 - 130	0	20
Butylbenzylphthalate	1.97	2.27		ug/L		115	70 - 130	2	20
Caffeine	1.97	1.60		ug/L		81	45 - 137	1	20
Chlorobenzilate	1.97	2.10		ug/L		106	70 - 130	1	20
Chloroneb	1.97	1.78		ug/L		90	70 - 130	3	20
Chlorothalonil (Draconil, Bravo)	1.97	2.27		ug/L		115	70 - 130	0	20
Chlorpyrifos	1.97	1.98		ug/L		100	70 - 130	2	20
Chrysene	1.97	1.65		ug/L		84	70 - 130	0	20
delta-BHC	1.97	1.74		ug/L		88	70 - 130	1	20
Di(2-ethylhexyl)adipate	1.97	2.67	*+	ug/L		135	70 - 130	0	20
Bis(2-ethylhexyl) phthalate	1.97	2.05		ug/L		104	70 - 130	6	20
Diazinon (Qualitative)	1.97	1.90		ug/L		96	15 - 132	1	20
Dibenz(a,h)anthracene	1.97	1.73		ug/L		88	70 - 130	9	20
Diclorvos (DDVP)	1.97	2.25		ug/L		114	70 - 130	4	20
Dieldrin	1.97	2.08		ug/L		105	70 - 130	2	20
Diethylphthalate	1.97	1.97		ug/L		100	70 - 130	3	20
Dimethoate	1.97	1.75		ug/L		89	35 - 100	3	20
Dimethylphthalate	1.97	1.99		ug/L		101	70 - 130	5	20
Di-n-butyl phthalate	3.94	3.95		ug/L		100	70 - 130	3	20
Di-n-octyl phthalate	1.97	1.69		ug/L		86	70 - 130	8	20
Endosulfan I (Alpha)	1.97	1.67		ug/L		84	70 - 130	0	20
Endosulfan II (Beta)	1.97	1.98		ug/L		101	70 - 130	1	20
Endosulfan sulfate	1.97	2.24		ug/L		114	70 - 130	1	20
Endrin	1.97	1.97		ug/L		100	70 - 130	1	20
Endrin aldehyde	1.97	1.86		ug/L		94	70 - 130	5	20
EPTC	1.97	2.21		ug/L		112	70 - 130	0	20
Fluoranthene	1.97	1.87		ug/L		95	70 - 130	1	20
Fluorene	1.97	2.01		ug/L		102	70 - 130	3	20
gamma-Chlordane	1.97	1.95		ug/L		99	70 - 130	2	20
Heptachlor	1.97	1.98		ug/L		100	70 - 130	1	20
Heptachlor epoxide (isomer B)	1.97	2.02		ug/L		102	70 - 130	0	20
Hexachlorobenzene	1.97	1.90		ug/L		96	70 - 130	1	20
Hexachlorocyclopentadiene	1.97	1.85		ug/L		94	70 - 130	0	20

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

Lab Sample ID: LCSD 380-10968/4-A
Matrix: Water
Analysis Batch: 14003

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 10968

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Indeno[1,2,3-cd]pyrene			1.97	1.76		ug/L		89	70 - 130	5	20
Isophorone			1.97	1.88		ug/L		96	70 - 130	4	20
Lindane			1.97	1.77		ug/L		90	70 - 130	1	20
Malathion			1.97	2.06		ug/L		105	70 - 130	2	20
Methoxychlor			1.97	2.01		ug/L		102	70 - 130	3	20
Metolachlor			1.97	1.90		ug/L		96	70 - 130	2	20
Metribuzin			1.97	1.97		ug/L		100	70 - 130	0	20
Molinate			1.97	2.15		ug/L		109	70 - 130	4	20
Naphthalene			1.97	1.99		ug/L		101	70 - 130	3	20
Parathion			1.97	2.20		ug/L		111	70 - 130	2	20
Pendimethalin (Penoxaline)			1.97	2.30		ug/L		117	70 - 130	2	20
Phenanthrene			1.97	1.84		ug/L		93	70 - 130	5	20
Propachlor			1.97	2.24		ug/L		113	70 - 130	1	20
Pyrene			1.97	1.92		ug/L		97	70 - 130	2	20
Simazine			1.97	2.13		ug/L		108	70 - 130	0	20
Terbacil			1.97	2.11		ug/L		107	70 - 130	6	20
Terbuthylazine			1.97	1.93		ug/L		98	70 - 130	0	20
Thiobencarb			1.97	2.09		ug/L		106	70 - 130	1	20
trans-Nonachlor			1.97	1.91		ug/L		97	70 - 130	2	20
Trifluralin			1.97	2.48		ug/L		126	70 - 130	1	20
1-Methylnaphthalene			1.97	1.96		ug/L		99	70 - 130	2	20
2-Methylnaphthalene			1.97	2.01		ug/L		102	70 - 130	2	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Nitro-m-xylene	*94*		*70 - 130*
Triphenylphosphate	*100*		*70 - 130*
Perylene-d12	*101*		*70 - 130*

Lab Sample ID: MRL 380-10968/2-A
Matrix: Water
Analysis Batch: 14003

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 10968

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits		
2,4'-DDD			0.0987	0.130		ug/L		132	50 - 150		
2,4'-DDE			0.0987	0.0869	J	ug/L		88	50 - 150		
2,4'-DDT			0.0987	0.0805	J	ug/L		82	50 - 150		
2,4-Dinitrotoluene			0.0987	0.123		ug/L		125	50 - 150		
2,6-Dinitrotoluene			0.0987	0.109		ug/L		110	50 - 150		
4,4'-DDD			0.0987	0.0833	J	ug/L		84	50 - 150		
4,4'-DDE			0.0987	0.151	^3+	ug/L		153	50 - 150		
4,4'-DDT			0.0987	0.0855	J	ug/L		87	50 - 150		
Acenaphthene			0.0987	0.0942	J	ug/L		95	50 - 150		
Acenaphthylene			0.0987	0.0762	J	ug/L		77	50 - 150		
Acetochlor			0.0494	0.0448	J	ug/L		91	50 - 150		
Alachlor			0.0494	0.0590		ug/L		120	50 - 150		
alpha-BHC			0.0987	0.101		ug/L		102	50 - 150		
alpha-Chlordane			0.0494	0.0453	J	ug/L		92	50 - 150		
Anthracene			0.0197	0.0201		ug/L		102	50 - 150		

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

Lab Sample ID: MRL 380-10968/2-A
Matrix: Water
Analysis Batch: 14003

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 10968

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Atrazine	0.0494	0.0489	J	ug/L		99	50 - 150
Benz(a)anthracene	0.0494	0.0398	J	ug/L		81	50 - 150
Benzo[a]pyrene	0.0197	0.0133	J	ug/L		67	50 - 150
Benzo[b]fluoranthene	0.0197	0.0166	J	ug/L		84	50 - 150
Benzo[g,h,i]perylene	0.0494	0.0320	J	ug/L		65	50 - 150
Benzo[k]fluoranthene	0.0197	ND		ug/L		75	50 - 150
beta-BHC	0.0987	0.102		ug/L		103	50 - 150
Bromacil	0.0987	0.109		ug/L		110	50 - 150
Butachlor	0.0494	0.0648		ug/L		131	50 - 150
Butylbenzylphthalate	0.148	0.577	^3+	ug/L		389	50 - 150
Caffeine	0.0494	0.0451	J	ug/L		91	50 - 150
Chlorobenzilate	0.0987	0.0831	J	ug/L		84	50 - 150
Chloroneb	0.0987	0.0917	J	ug/L		93	50 - 150
Chlorothalonil (Draconil, Bravo)	0.0987	0.0912	J	ug/L		92	50 - 150
Chlorpyrifos	0.0494	0.0486	J	ug/L		98	50 - 150
Chrysene	0.0197	0.0156	J	ug/L		79	50 - 150
delta-BHC	0.0987	0.113		ug/L		114	50 - 150
Di(2-ethylhexyl)adipate	0.296	0.646	^3+	ug/L		218	50 - 150
Bis(2-ethylhexyl) phthalate	0.592	0.725		ug/L		122	50 - 150
Diazinon (Qualitative)	0.0987	0.0997		ug/L		101	15 - 132
Dibenz(a,h)anthracene	0.0494	ND		ug/L		60	50 - 150
Diclorvos (DDVP)	0.0494	0.0570		ug/L		116	50 - 150
Dieldrin	0.0987	0.124	J	ug/L		126	50 - 150
Diethylphthalate	0.148	0.171	J	ug/L		116	50 - 150
Dimethoate	0.0987	0.0808	J	ug/L		82	35 - 100
Dimethylphthalate	0.296	0.299	J	ug/L		101	50 - 150
Di-n-butyl phthalate	0.296	0.361	J	ug/L		122	49 - 243
Di-n-octyl phthalate	0.0987	0.0986	J	ug/L		100	50 - 150
Endosulfan I (Alpha)	0.0987	0.0896	J	ug/L		91	50 - 150
Endosulfan II (Beta)	0.0987	0.445	^3+	ug/L		451	50 - 150
Endosulfan sulfate	0.0987	0.113		ug/L		114	50 - 150
Endrin	0.0987	0.138		ug/L		139	50 - 150
Endrin aldehyde	0.0987	ND		ug/L		81	50 - 150
EPTC	0.0987	0.0971	J	ug/L		98	50 - 150
Fluoranthene	0.0494	0.0481	J	ug/L		97	50 - 150
Fluorene	0.0494	0.0537		ug/L		109	50 - 150
gamma-Chlordane	0.0494	0.0492		ug/L		100	50 - 150
Heptachlor	0.0395	0.0418		ug/L		106	50 - 150
Heptachlor epoxide (isomer B)	0.0494	0.0554		ug/L		112	50 - 150
Hexachlorobenzene	0.0494	0.0846	^3+	ug/L		171	50 - 150
Hexachlorocyclopentadiene	0.0494	0.0393	J	ug/L		80	50 - 150
Indeno[1,2,3-cd]pyrene	0.0494	0.0344	J	ug/L		70	50 - 150
Isophorone	0.0987	0.0942	J	ug/L		95	50 - 150
Lindane	0.0494	0.0434		ug/L		88	50 - 150
Malathion	0.0987	0.104		ug/L		105	50 - 150
Methoxychlor	0.0987	0.0860	J	ug/L		87	50 - 150
Metolachlor	0.0494	0.0533		ug/L		108	50 - 150
Metribuzin	0.0494	0.0455	J	ug/L		92	50 - 150
Molinate	0.0987	0.104		ug/L		106	50 - 150

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

Lab Sample ID: MRL 380-10968/2-A
Matrix: Water
Analysis Batch: 14003

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 10968

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Naphthalene	0.0987	0.101	J	ug/L		102	50 - 150
Parathion	0.0987	0.143		ug/L		145	50 - 150
Pendimethalin (Penoxaline)	0.0987	0.0890	J	ug/L		90	50 - 150
Phenanthrene	0.0197	0.0246	J	ug/L		124	50 - 150
Propachlor	0.0494	0.0536		ug/L		109	50 - 150
Pyrene	0.0494	0.0502		ug/L		102	50 - 150
Simazine	0.0494	0.0567		ug/L		115	50 - 150
Terbacil	0.0987	0.111		ug/L		112	50 - 150
Terbuthylazine	0.0987	0.0883	J	ug/L		89	50 - 150
Thiobencarb	0.0987	0.108	J	ug/L		109	50 - 150
trans-Nonachlor	0.0494	0.0452	J	ug/L		92	50 - 150
Trifluralin	0.0987	0.0918	J	ug/L		93	50 - 150
1-Methylnaphthalene	0.0987	0.105		ug/L		107	50 - 150
2-Methylnaphthalene	0.0987	0.100		ug/L		101	50 - 150

Surrogate	*MRL %Recovery*	*MRL Qualifier*	*Limits*
2-Nitro-m-xylene	*96*		*70 - 130*
Triphenylphosphate	*101*		*70 - 130*
Perylene-d12	*93*		*70 - 130*

Lab Sample ID: 380-12602-S-6-A MS
Matrix: Water
Analysis Batch: 14003

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 10968

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
2,4'-DDD	ND		1.97	2.17		ug/L		110	70 - 130
2,4'-DDE	ND		1.97	1.88		ug/L		95	70 - 130
2,4'-DDT	ND		1.97	1.90		ug/L		96	70 - 130
2,4-Dinitrotoluene	ND		1.97	1.97		ug/L		100	70 - 130
2,6-Dinitrotoluene	ND		1.97	1.93		ug/L		98	70 - 130
4,4'-DDD	ND		1.97	1.94		ug/L		98	70 - 130
4,4'-DDE	ND	^3+	1.97	1.94		ug/L		99	70 - 130
4,4'-DDT	ND		1.97	2.01		ug/L		102	70 - 130
Acenaphthene	ND		1.97	1.86		ug/L		94	70 - 130
Acenaphthylene	ND		1.97	1.95		ug/L		99	70 - 130
Acetochlor	ND		1.97	2.05		ug/L		104	70 - 130
Alachlor	ND		1.97	1.90		ug/L		96	70 - 130
alpha-BHC	ND		1.97	1.83		ug/L		93	70 - 130
alpha-Chlordane	ND		1.97	1.90		ug/L		96	70 - 130
Anthracene	ND		1.97	1.45		ug/L		73	70 - 130
Atrazine	ND		1.97	2.16		ug/L		110	70 - 130
Benz(a)anthracene	ND		1.97	1.96		ug/L		99	70 - 130
Benzo[a]pyrene	ND		1.97	1.62		ug/L		82	70 - 130
Benzo[b]fluoranthene	ND		1.97	1.85		ug/L		93	70 - 130
Benzo[g,h,i]perylene	ND		1.97	1.72		ug/L		87	70 - 130
Benzo[k]fluoranthene	ND		1.97	1.94		ug/L		98	70 - 130
beta-BHC	ND		1.97	1.80		ug/L		91	70 - 130
Bromacil	ND		1.97	1.96		ug/L		99	70 - 130

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

Lab Sample ID: 380-12602-S-6-A MS
Matrix: Water
Analysis Batch: 14003

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 10968

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Butachlor	ND		1.97	2.07		ug/L		105	70 - 130
Butylbenzylphthalate	ND	^3+	1.97	2.10		ug/L		106	70 - 130
Caffeine	ND		1.97	1.66		ug/L		84	46 - 144
Chlorobenzilate	ND		1.97	2.11		ug/L		107	70 - 130
Chloroneb	ND		1.97	1.90		ug/L		96	70 - 130
Chlorothalonil (Draconil, Bravo)	ND		1.97	2.29		ug/L		116	70 - 130
Chlorpyrifos	ND		1.97	2.01		ug/L		102	70 - 130
Chrysene	ND		1.97	1.73		ug/L		88	70 - 130
delta-BHC	ND		1.97	1.77		ug/L		90	70 - 130
Di(2-ethylhexyl)adipate	ND	^3+ *+	1.97	2.18		ug/L		89	70 - 130
Bis(2-ethylhexyl) phthalate	ND		1.97	1.83		ug/L		93	70 - 130
Diazinon (Qualitative)	ND		1.97	1.97		ug/L		100	15 - 132
Dibenz(a,h)anthracene	ND		1.97	1.74		ug/L		88	70 - 130
Diclorvos (DDVP)	ND		1.97	2.38		ug/L		121	70 - 130
Dieldrin	ND		1.97	2.05		ug/L		104	70 - 130
Diethylphthalate	ND		1.97	2.02		ug/L		102	70 - 130
Dimethoate	ND		1.97	1.62		ug/L		82	34 - 111
Dimethylphthalate	ND		1.97	2.01		ug/L		102	70 - 130
Di-n-butyl phthalate	ND		3.95	4.02		ug/L		102	70 - 130
Di-n-octyl phthalate	ND		1.97	1.59		ug/L		81	70 - 130
Endosulfan I (Alpha)	ND		1.97	1.72		ug/L		87	70 - 130
Endosulfan II (Beta)	ND	^3+	1.97	2.22		ug/L		112	70 - 130
Endosulfan sulfate	ND		1.97	2.16		ug/L		110	70 - 130
Endrin	ND		1.97	1.97		ug/L		100	70 - 130
Endrin aldehyde	ND		1.97	1.50		ug/L		76	70 - 130
EPTC	ND		1.97	2.28		ug/L		116	70 - 130
Fluoranthene	ND		1.97	1.94		ug/L		98	70 - 130
Fluorene	ND		1.97	2.05		ug/L		104	70 - 130
gamma-Chlordane	ND		1.97	1.96		ug/L		99	70 - 130
Heptachlor	ND		1.97	1.96		ug/L		99	70 - 130
Heptachlor epoxide (isomer B)	ND		1.97	2.08		ug/L		105	70 - 130
Hexachlorobenzene	ND	^3+	1.97	1.95		ug/L		99	70 - 130
Hexachlorocyclopentadiene	ND		1.97	1.99		ug/L		101	70 - 130
Indeno[1,2,3-cd]pyrene	ND		1.97	1.80		ug/L		91	70 - 130
Isophorone	ND		1.97	1.97		ug/L		100	70 - 130
Lindane	ND		1.97	1.83		ug/L		93	70 - 130
Malathion	ND		1.97	2.15		ug/L		109	70 - 130
Methoxychlor	ND		1.97	2.17		ug/L		110	70 - 130
Metolachlor	ND		1.97	1.96		ug/L		99	70 - 130
Metribuzin	ND		1.97	2.03		ug/L		103	70 - 130
Molinate	ND		1.97	2.30		ug/L		116	70 - 130
Naphthalene	ND		1.97	2.03		ug/L		103	70 - 130
Parathion	ND		1.97	2.29		ug/L		116	70 - 130
Pendimethalin (Penoxaline)	ND		1.97	2.40		ug/L		122	70 - 130
Phenanthrene	ND		1.97	1.92		ug/L		97	70 - 130
Propachlor	ND		1.97	2.32		ug/L		117	70 - 130
Pyrene	ND		1.97	2.01		ug/L		102	70 - 130
Simazine	ND		1.97	2.25		ug/L		114	70 - 130
Terbacil	ND		1.97	2.16		ug/L		110	70 - 130

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

Lab Sample ID: 380-12602-S-6-A MS
Matrix: Water
Analysis Batch: 14003

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 10968

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Terbuthylazine	ND		1.97	2.09		ug/L		106	70 - 130
Thiobencarb	ND		1.97	2.04		ug/L		103	70 - 130
trans-Nonachlor	ND		1.97	1.88		ug/L		95	70 - 130
Trifluralin	ND		1.97	2.58		ug/L		130	70 - 130
1-Methylnaphthalene	ND		1.97	1.99		ug/L		101	70 - 130
2-Methylnaphthalene	ND		1.97	2.05		ug/L		104	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2-Nitro-m-xylene	*96*		*70 - 130*
Triphenylphosphate	*103*		*70 - 130*
Perylene-d12	*102*		*70 - 130*

Lab Sample ID: 380-12317-I-1-A DU
Matrix: Water
Analysis Batch: 14003

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 10968

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
2,4'-DDD	ND		ND		ug/L		NC	20
2,4'-DDE	ND		ND		ug/L		NC	20
2,4'-DDT	ND		ND		ug/L		NC	20
2,4-Dinitrotoluene	ND		ND		ug/L		NC	20
2,6-Dinitrotoluene	ND		ND		ug/L		NC	20
4,4'-DDD	ND		ND		ug/L		NC	20
4,4'-DDE	ND	^3+	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	^3+	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

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

Lab Sample ID: 380-12317-I-1-A DU
Matrix: Water
Analysis Batch: 14003

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 10968

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
delta-BHC	ND		ND		ug/L		NC	20
Di(2-ethylhexyl)adipate	ND	^3+ *+	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	^3+	ND		ug/L		NC	20
Endosulfan sulfate	ND		ND		ug/L		NC	20
Endrin	ND		ND		ug/L		NC	20
Endrin aldehyde	ND		ND		ug/L		NC	20
EPTC	ND		ND		ug/L		NC	20
Fluoranthene	ND		ND		ug/L		NC	20
Fluorene	ND		ND		ug/L		NC	20
gamma-Chlordane	ND		ND		ug/L		NC	20
Heptachlor	ND		ND		ug/L		NC	20
Heptachlor epoxide (isomer B)	ND		ND		ug/L		NC	20
Hexachlorobenzene	ND	^3+	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
Terbuthylazine	ND		ND		ug/L		NC	20
Thiobencarb	ND		ND		ug/L		NC	20
trans-Nonachlor	ND		ND		ug/L		NC	20
Trifluralin	ND		ND		ug/L		NC	20
1-Methylnaphthalene	ND		ND		ug/L		NC	20
2-Methylnaphthalene	ND		ND		ug/L		NC	20

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

Lab Sample ID: 380-12317-I-1-A DU
Matrix: Water
Analysis Batch: 14003

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 10968

Surrogate	*DU %Recovery*	*DU Qualifier*	*Limits*
2-Nitro-m-xylene	*94*		*70 - 130*
Triphenylphosphate	*100*		*70 - 130*
Perylene-d12	*97*		*70 - 130*

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

Lab Sample ID: 98859-B1
Matrix: water
Analysis Batch: O-38076

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: O-38076_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.005	0.001	µg/L		08/02/22 00:00	08/06/22 16:58	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		08/02/22 00:00	08/06/22 16:58	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		08/02/22 00:00	08/06/22 16:58	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		08/02/22 00:00	08/06/22 16:58	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		08/02/22 00:00	08/06/22 16:58	1
Acenaphthene	ND		0.005	0.001	µg/L		08/02/22 00:00	08/06/22 16:58	1
Acenaphthylene	ND		0.005	0.001	µg/L		08/02/22 00:00	08/06/22 16:58	1
Anthracene	ND		0.005	0.001	µg/L		08/02/22 00:00	08/06/22 16:58	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		08/02/22 00:00	08/06/22 16:58	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		08/02/22 00:00	08/06/22 16:58	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		08/02/22 00:00	08/06/22 16:58	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		08/02/22 00:00	08/06/22 16:58	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		08/02/22 00:00	08/06/22 16:58	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		08/02/22 00:00	08/06/22 16:58	1
Biphenyl	ND		0.005	0.001	µg/L		08/02/22 00:00	08/06/22 16:58	1
Chrysene	ND		0.005	0.001	µg/L		08/02/22 00:00	08/06/22 16:58	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		08/02/22 00:00	08/06/22 16:58	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		08/02/22 00:00	08/06/22 16:58	1
Dibenzothiophene	ND		0.005	0.001	µg/L		08/02/22 00:00	08/06/22 16:58	1
Disalicylidenepropanediamine	ND		0.1	0.05	µg/L		08/02/22 00:00	08/06/22 16:58	1
Fluoranthene	ND		0.005	0.001	µg/L		08/02/22 00:00	08/06/22 16:58	1
Fluorene	ND		0.005	0.001	µg/L		08/02/22 00:00	08/06/22 16:58	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		08/02/22 00:00	08/06/22 16:58	1
Naphthalene	ND		0.005	0.001	µg/L		08/02/22 00:00	08/06/22 16:58	1
Perylene	ND		0.005	0.001	µg/L		08/02/22 00:00	08/06/22 16:58	1
Phenanthrene	ND		0.005	0.001	µg/L		08/02/22 00:00	08/06/22 16:58	1
Pyrene	ND		0.005	0.001	µg/L		08/02/22 00:00	08/06/22 16:58	1

Surrogate	*Blank %Recovery*	*Blank Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
(d10-Acenaphthene)	*95*		*65 - 113*	*08/02/22 00:00*	*08/06/22 16:58*	*1*
(d10-Phenanthrene)	*98*		*80 - 111*	*08/02/22 00:00*	*08/06/22 16:58*	*1*
(d12-Chrysene)	*95*		*60 - 139*	*08/02/22 00:00*	*08/06/22 16:58*	*1*
(d12-Perylene)	*93*		*36 - 161*	*08/02/22 00:00*	*08/06/22 16:58*	*1*
(d8-Naphthalene)	*91*		*44 - 119*	*08/02/22 00:00*	*08/06/22 16:58*	*1*

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

Lab Sample ID: 98859-BS1
Matrix: water
Analysis Batch: O-38076

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: O-38076_P

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
1-Methylnaphthalene			0.5	0.438		µg/L		88	49 - 117		
1-Methylphenanthrene			0.5	0.437		µg/L		87	66 - 127		
2,3,5-Trimethylnaphthalene			0.5	0.426		µg/L		85	57 - 120		
2,6-Dimethylnaphthalene			0.5	0.44		µg/L		88	54 - 117		
2-Methylnaphthalene			0.5	0.452		µg/L		90	47 - 130		
Acenaphthene			0.5	0.433		µg/L		87	53 - 131		
Acenaphthylene			0.5	0.432		µg/L		86	43 - 140		
Anthracene			0.5	0.442		µg/L		88	58 - 135		
Benz[a]anthracene			0.5	0.491		µg/L		98	55 - 145		
Benzo[a]pyrene			0.5	0.397		µg/L		79	51 - 143		
Benzo[b]fluoranthene			0.5	0.579		µg/L		116	46 - 165		
Benzo[e]pyrene			0.5	0.516		µg/L		103	42 - 152		
Benzo[g,h,i]perylene			0.5	0.445		µg/L		89	63 - 133		
Benzo[k]fluoranthene			0.5	0.503		µg/L		101	56 - 145		
Biphenyl			0.5	0.438		µg/L		88	56 - 119		
Chrysene			0.5	0.418		µg/L		84	56 - 141		
Dibenz[a,h]anthracene			0.5	0.552		µg/L		110	55 - 150		
Dibenzo[a,l]pyrene			0.5	0.502		µg/L		100	50 - 150		
Dibenzothiophene			0.5	0.446		µg/L		89	75 - 113		
Disalicylidenepropanediamine			50	34.7		µg/L		69	50 - 150		
Fluoranthene			0.5	0.449		µg/L		90	60 - 146		
Fluorene			0.5	0.427		µg/L		85	58 - 131		
Indeno[1,2,3-cd]pyrene			0.5	0.581		µg/L		116	50 - 151		
Naphthalene			0.5	0.417		µg/L		83	41 - 126		
Perylene			0.5	0.476		µg/L		95	48 - 141		
Phenanthrene			0.5	0.446		µg/L		89	67 - 127		
Pyrene			0.5	0.451		µg/L		90	54 - 156		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
(d10-Acenaphthene)	*92*		*65 - 113*
(d10-Phenanthrene)	*95*		*80 - 111*
(d12-Chrysene)	*95*		*60 - 139*
(d12-Perylene)	*97*		*36 - 161*
(d8-Naphthalene)	*86*		*44 - 119*

Lab Sample ID: 98859-BS2
Matrix: water
Analysis Batch: O-38076

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: O-38076_P

Analyte			Spike Added	LCS DUP Result	LCS DUP Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1-Methylnaphthalene			0.5	0.437		µg/L		87	49 - 117	1	30
1-Methylphenanthrene			0.5	0.455		µg/L		91	66 - 127	4	30
2,3,5-Trimethylnaphthalene			0.5	0.435		µg/L		87	57 - 120	2	30
2,6-Dimethylnaphthalene			0.5	0.444		µg/L		89	54 - 117	1	30
2-Methylnaphthalene			0.5	0.45		µg/L		90	47 - 130	0	30
Acenaphthene			0.5	0.436		µg/L		87	53 - 131	0	30
Acenaphthylene			0.5	0.437		µg/L		87	43 - 140	1	30
Anthracene			0.5	0.45		µg/L		90	58 - 135	2	30

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

Lab Sample ID: 98859-BS2
Matrix: water
Analysis Batch: O-38076

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: O-38076_P

Analyte			Spike Added	LCS DUP Result	LCS DUP Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benz[a]anthracene			0.5	0.523		µg/L		105	55 - 145	7	30
Benzo[a]pyrene			0.5	0.405		µg/L		81	51 - 143	2	30
Benzo[b]fluoranthene			0.5	0.601		µg/L		120	46 - 165	3	30
Benzo[e]pyrene			0.5	0.525		µg/L		105	42 - 152	2	30
Benzo[g,h,i]perylene			0.5	0.452		µg/L		90	63 - 133	1	30
Benzo[k]fluoranthene			0.5	0.527		µg/L		105	56 - 145	4	30
Biphenyl			0.5	0.446		µg/L		89	56 - 119	1	30
Chrysene			0.5	0.434		µg/L		87	56 - 141	4	30
Dibenz[a,h]anthracene			0.5	0.57		µg/L		114	55 - 150	4	30
Dibenzo[a,l]pyrene			0.5	0.536		µg/L		107	50 - 150	7	30
Dibenzothiophene			0.5	0.446		µg/L		89	75 - 113	0	30
Disalicylidenepropanediamine			50	39.1		µg/L		78	50 - 150	12	30
Fluoranthene			0.5	0.472		µg/L		94	60 - 146	4	30
Fluorene			0.5	0.435		µg/L		87	58 - 131	2	30
Indeno[1,2,3-cd]pyrene			0.5	0.601		µg/L		120	50 - 151	3	30
Naphthalene			0.5	0.425		µg/L		85	41 - 126	2	30
Perylene			0.5	0.491		µg/L		98	48 - 141	3	30
Phenanthrene			0.5	0.456		µg/L		91	67 - 127	2	30
Pyrene			0.5	0.47		µg/L		94	54 - 156	4	30

Surrogate	*LCS DUP %Recovery*	*LCS DUP Qualifier*	*Limits*
(d10-Acenaphthene)	*93*		*65 - 113*
(d10-Phenanthrene)	*96*		*80 - 111*
(d12-Chrysene)	*98*		*60 - 139*
(d12-Perylene)	*99*		*36 - 161*
(d8-Naphthalene)	*87*		*44 - 119*

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

Lab Sample ID: 22DSH001WB
Matrix: WATER
Analysis Batch: 22DSH001W

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			08/02/22 14:45	1
MOTOR OIL	ND	U	0.05		mg/L			08/02/22 14:45	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
BROMOBENZENE					*08/02/22 14:45*	*1*
HEXACOSANE					*08/02/22 14:45*	*1*

Lab Sample ID: 22DSH001WL
Matrix: WATER
Analysis Batch: 22DSH001W

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	2.21		mg/L		88	50 - 130		

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

Lab Sample ID: 22DSH001WL
Matrix: WATER
Analysis Batch: 22DSH001W

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

Surrogate	LCS %Recovery	LCS Qualifier	Limits
BROMOBENZENE	80		60 - 130
HEXACOSANE	90		60 - 130

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

Lab Sample ID: 22VG39G19B
Matrix: WATER
Analysis Batch: 22VG39G19

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			07/29/22 13:58	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE					07/29/22 13:58	1

Lab Sample ID: 22VG39G19L
Matrix: WATER
Analysis Batch: 22VG39G19

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	0.524		mg/L		105	60 - 130		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
BROMOFLUOROBENZENE	116		70 - 130

QC Association Summary

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

Job ID: 380-12728-1

GC/MS Semi VOA

Prep Batch: 10968

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-12728-1	HALAWA SHAFT STATIC (VIEWING POOL)	Total/NA	Water	525.2	
MB 380-10968/1-A	Method Blank	Total/NA	Water	525.2	
LCS 380-10968/3-A	Lab Control Sample	Total/NA	Water	525.2	
LCSD 380-10968/4-A	Lab Control Sample Dup	Total/NA	Water	525.2	
MRL 380-10968/2-A	Lab Control Sample	Total/NA	Water	525.2	
380-12602-S-6-A MS	Matrix Spike	Total/NA	Water	525.2	
380-12317-I-1-A DU	Duplicate	Total/NA	Water	525.2	

Analysis Batch: 14003

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-12728-1	HALAWA SHAFT STATIC (VIEWING POOL)	Total/NA	Water	525.2	10968
MB 380-10968/1-A	Method Blank	Total/NA	Water	525.2	10968
LCS 380-10968/3-A	Lab Control Sample	Total/NA	Water	525.2	10968
LCSD 380-10968/4-A	Lab Control Sample Dup	Total/NA	Water	525.2	10968
MRL 380-10968/2-A	Lab Control Sample	Total/NA	Water	525.2	10968
380-12602-S-6-A MS	Matrix Spike	Total/NA	Water	525.2	10968
380-12317-I-1-A DU	Duplicate	Total/NA	Water	525.2	10968

Subcontract

Analysis Batch: O-38076

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-12728-1	HALAWA SHAFT STATIC (VIEWING POOL)	Total/NA	Water	625 PAH Physis LL (EAL) + TICs	O-38076_P
98859-B1	Method Blank	Total/NA	water	625 PAH Physis LL (EAL) + TICs	O-38076_P
98859-BS1	Lab Control Sample	Total/NA	water	625 PAH Physis LL (EAL) + TICs	O-38076_P
98859-BS2	Lab Control Sample Dup	Total/NA	water	625 PAH Physis LL (EAL) + TICs	O-38076_P

Analysis Batch: 22DSH001W

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-12728-1	HALAWA SHAFT STATIC (VIEWING POOL)	Total/NA	Water	8015 Diesel LL (EAL) and Motor Oil	
22DSH001WB	Method Blank	Total/NA	WATER	8015 Diesel LL (EAL) and Motor Oil	
22DSH001WL	Lab Control Sample	Total/NA	WATER	8015 Diesel LL (EAL) and Motor Oil	

Analysis Batch: 22VG39G19

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-12728-1	HALAWA SHAFT STATIC (VIEWING POOL)	Total/NA	Water	8015 Gas (Purgeable) LL (EAL)	
22VG39G19B	Method Blank	Total/NA	WATER	8015 Gas (Purgeable) LL (EAL)	
22VG39G19L	Lab Control Sample	Total/NA	WATER	8015 Gas (Purgeable) LL (EAL)	

Subcontract

Prep Batch: O-38076_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-12728-1	HALAWA SHAFT STATIC (VIEWING POOL)	Total/NA	Water	EPA_625	
98859-B1	Method Blank	Total/NA	water	EPA_625	
98859-BS1	Lab Control Sample	Total/NA	water	EPA_625	
98859-BS2	Lab Control Sample Dup	Total/NA	water	EPA_625	

Lab Chronicle

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

Job ID: 380-12728-1

Client Sample ID: HALAWA SHAFT STATIC (VIEWING POOL)

Lab Sample ID: 380-12728-1

Date Collected: 07/26/22 09:30

Matrix: Water

Date Received: 07/28/22 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	525.2			10968	G9MN	EA MON	08/01/22 08:52
Total/NA	Analysis	525.2		1	14003	UPAC	EA MON	08/19/22 12:21
Total/NA	Prep	EPA_625		1	O-38076_P			08/02/22 00:00
Total/NA	Analysis	625 PAH Physis LL (EAL) + TICs		1	O-38076	YC		08/07/22 05:03
Total/NA	Analysis	8015 Diesel LL (EAL) and Motor Oil		1	22DSH001W	SDees		08/02/22 19:42
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)		1	22VG39G19	SCerva		07/29/22 19:25

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: 380-12728-1

Laboratory: Eurofins Eaton Monrovia

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

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

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

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

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

Job ID: 380-12728-1

Laboratory: Eurofins Eaton Monrovia (Continued)

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

Authority	Program	Identification Number	Expiration Date

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

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

Method Summary

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

Job ID: 380-12728-1

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: 380-12728-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
380-12728-1	HALAWA SHAFT STATIC (VIEWING POOL)	Water	07/26/22 09:30	07/28/22 10:15

EMAX LABORATORIES, INC.
3051 Fujita Street
Torrance, CA 90505
Tel: (310)-618-8889

Date: 08-08-2022
EMAX Batch No.: 22G306

Attn: Jackie Contreras

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

Subject: Laboratory Report
Project: 380-12728

Enclosed is the Laboratory report for samples received on 07/29/22.
The data reported relate only to samples listed below :

Sample ID	Control #	Col Date	Matrix	Analysis
380-12728-1	G306-01	07/26/22	WATER	TPH GASOLINE TPH DIESEL & MOTOR OIL

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

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

Chain of Custody Record

22G306

eurofins | Environment Testing America

10/17/2022

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Frank, Debbie L	Carrier Tracking No(s):	COC No: 380-14849.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Debbie.Frank@et.eurofinsus.com	State of Origin: Hawaii	Page: Page 1 of 1
Company: EMAX Laboratories Inc		Accreditations Required (See note): State - Hawaii		Job #: 380-12728-1
Address: 3051 Fujita Street, ,	Due Date Requested: 8/4/2022			
City: Torrance	TAT Requested (days):			
State, Zip: CA, 90505				
Phone:	PO #:			
Email:	WO #:			
Project Name: RED-HILL	Project #: 38001111			
Site: Honolulu BWS Sites	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (8015 Gas (Purgeable) LL (EAL))/ 8015 Gas (Purgeable) LL (EAL)	SUB (8015 Diesel LL (EAL) and Motor Oil)/ 8015 Diesel LL (EAL) and Motor Oil	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
HALAWA SHAFTE STATIC (VIEWING POOL) (380-12728-1)	7/26/22	09:30 Hawaiian		Water			X	X	6	See Attached Instructions

Note: Since laboratory accreditations are subject to change, Eurofins Eaton Analytical, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/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 complicance to Eurofins Eaton Analytical, LLC.

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

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	7/29/22 1152	EEA		7/29/22 1152	Emax
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact:	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:
		TEMP 5.5

REFERENCE: EMAX-SM02 Rev. 12

SAMPLE RECEIPT FORM 1

Type of Delivery	Airbill / Tracking Number	ECN 22G306
☐ Fedex ☐ UPS ☐ GSO ☐ Others		Recipient Jhowin Zamora
☐ EMAX Courier ☑ Client Delivery		Date 7/29/22 Time 1152

COC INSPECTION

☑ Client Name	☑ Client PM/FC	☐ Sampler Name	☑ Sampling Date/Time	☑ Sample ID	☑ Matrix
☐ Address	☐ Tel # / Fax #	☑ Courier Signature	☑ Analysis Required	☐ Preservative (if any)	☑ TAT
Safety Issues (if any)	☐ High concentrations expected	☐ From Superfund Site	☐ Rad screening required		

Note:

PACKAGING INSPECTION

Container	☑ Cooler	☐ Box	☐ Other		
Condition	☐ Custody Seal	☐ Intact	☐ Damaged		
Packaging	☑ Bubble Pack	☐ Styrofoam	☐ Popcorn	☐ Sufficient	☑ ~~Bag~~ 7/29/22
Temperatures (Cool, ≤6 °C but not frozen)	☑ Cooler 1 5.5 °C	☐ Cooler 2 ____ °C	☐ Cooler 3 ____ °C	☐ Cooler 4 ____ °C	☐ Cooler 5 ____ °C
	☐ Cooler 6 ____ °C	☐ Cooler 7 ____ °C	☐ Cooler 8 ____ °C	☐ Cooler 9 ____ °C	☐ Cooler 10 ____ °C
Thermometer:	*A - S/N* ____	*B - S/N* 210760237	*C - S/N* ____	(D) *S/N* 210760272	

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

Note:

DISCREPANCIES

LabSampleID	LabSampleContainerID	Code	ClientSample Label ID / Information	Corrective Action

7/29/22

8/1/22

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

NOTES/OBSERVATIONS:

SAMPLE MATRIX IS DRINKING WATER? ☐ YES ☐ NO

LEGEND:

☐ **Continue to next page.**

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

REVIEWS:

Sample Labeling Jhowin Zamora Date 7/29/22 | SRF Date 7/29/22 | PM Date 8/1/22

REPORTING CONVENTIONS

DATA QUALIFIERS:

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

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

ACRONYMS AND ABBREVIATIONS:

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

DATES

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

LABORATORY REPORT FOR

EUROFINS EATON ANALYTICAL

380-12728

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

SDG#: 22G306

CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 380-12728

SDG : 22G306

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

One(1) water sample was received on 07/29/22 to be analyzed for Total Petroleum Hydrocarbons by Purge And Trap in accordance with Method 5030B/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. VG39G19B - 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. VG39G19L/VG39G19C 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 G304-01M/G304-01S. 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
The sample was analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

LAB CHRONICLE
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

Client : EUROFINS EATON ANALYTICAL
Project : 380-12728

SDG NO. : 22G306
Instrument ID : GCT039

WATER

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1W	VG39G19B	1	NA	07/29/2213:58	07/29/2213:58	EG29005A	EG29003A	22VG39G19	Method Blank
LCS1W	VG39G19L	1	NA	07/29/2214:35	07/29/2214:35	EG29006A	EG29003A	22VG39G19	Lab Control Sample (LCS)
LCD1W	VG39G19C	1	NA	07/29/2215:11	07/29/2215:11	EG29007A	EG29003A	22VG39G19	LCS Duplicate
380-12728-1	G306-01	1	NA	07/29/2219:25	07/29/2219:25	EG29014A	EG29003A	22VG39G19	Field Sample

FN - Filename
% Moist - Percent Moisture

SAMPLE RESULTS

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

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	07/26/22 09:30
Project	: 380-12728	Date Received:	07/29/22
Batch No.	: 22G306	Date Extracted:	07/29/22 19:25
Sample ID	: 380-12728-1	Date Analyzed:	07/29/22 19:25
Lab Samp ID:	G306-01	Dilution Factor:	1
Lab File ID:	EG29014A	Matrix:	WATER
Ext Btch ID:	22VG39G19	% Moisture:	NA
Calib. Ref.:	EG29003A	Instrument ID:	39

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

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromofluorobenzene	0.0356	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

QC SUMMARIES

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

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	07/29/22 13:58
Project	: 380-12728	Date Received:	07/29/22
Batch No.	: 22G306	Date Extracted:	07/29/22 13:58
Sample ID	: MBLK1W	Date Analyzed:	07/29/22 13:58
Lab Samp ID:	VG39G19B	Dilution Factor:	1
Lab File ID:	EG29005A	Matrix:	WATER
Ext Btch ID:	22VG39G19	% Moisture:	NA
Calib. Ref.:	EG29003A	Instrument ID:	39

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
GASOLINE	ND	0.020	0.010	
SURROGATE PARAMETERS	**RESULT**	**SPK_AMT**	**%RECOVERY**	**QC LIMIT**
Bromofluorobenzene	0.0355	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

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL
PROJECT : 380-12728
BATCH NO. : 22G306
METHOD : 5030B/8015B

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR	: 1	1	1
SAMPLE ID	: MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID	: VG39G19B	VG39G19L	VG39G19C
LAB FILE ID	: EG29005A	EG29006A	EG29007A
DATE PREPARED	: 07/29/22 13:58	07/29/22 14:35	07/29/22 15:11
DATE ANALYZED	: 07/29/22 13:58	07/29/22 14:35	07/29/22 15:11
PREP BATCH	: 22VG39G19	22VG39G19	22VG39G19
CALIBRATION REF	: EG29003A	EG29003A	EG29003A

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	0.524	105	0.500	0.494	99	6	60-130	30

SURROGATE PARAMETER	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	QCLimit (%)
Bromofluorobenzene	0.0400	0.0465	116	0.0400	0.0457	114	70-130

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

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL
PROJECT : 380-12725
BATCH NO. : 22G304
METHOD : 5030B/8015B

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR	: 1	1	1
SAMPLE ID	: 380-12725-1	380-12725-1MS	380-12725-1MSD
LAB SAMPLE ID	: G304-01	G304-01M	G304-01S
LAB FILE ID	: EG29008A	EG29009A	EG29010A
DATE PREPARED	: 07/29/22 15:47	07/29/22 16:24	07/29/22 17:01
DATE ANALYZED	: 07/29/22 15:47	07/29/22 16:24	07/29/22 17:01
PREP BATCH	: 22VG39G19	22VG39G19	22VG39G19
CALIBRATION REF	: EG29003A	EG29003A	EG29003A

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	0.474	95	0.500	0.452	90	5	50-130	30

SURROGATE PARAMETER	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	QCLimit (%)
Bromofluorobenzene	0.0400	0.0438	110	0.0400	0.0423	106	60-140

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

LABORATORY REPORT FOR

EUROFINS EATON ANALYTICAL

380-12728

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

SDG#: 22G306

CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 380-12728

SDG : 22G306

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

One(1) water sample was received on 07/29/22 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. DSH001WB - 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. DSH001WL/DSH001WC 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 22G287-01M/22G287-01S. Refer to Matrix QC summary form for details.

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

Sample Analysis
The sample was analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

LAB CHRONICLE
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client : EUROFINS EATON ANALYTICAL
Project : 380-12728

SDG NO. : 22G306
Instrument ID : D5

WATER

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1W	DSH001WB	1	NA	08/02/2214:45	08/01/2210:30	LH02010A	LH02004A	22DSH001W	Method Blank
LCS1W	DSH001WL	1	NA	08/02/2215:04	08/01/2210:30	LH02011A	LH02004A	22DSH001W	Lab Control Sample (LCS)
LCD1W	DSH001WC	1	NA	08/02/2215:22	08/01/2210:30	LH02012A	LH02004A	22DSH001W	LCS Duplicate
380-12728-1	G306-01	1	NA	08/02/2219:42	08/01/2210:30	LH02026A	LH02004A	22DSH001W	Field Sample

FN - Filename
% Moist - Percent Moisture

SAMPLE RESULTS

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	07/26/22 09:30
Project	: 380-12728	Date Received:	07/29/22
Batch No.	: 22G306	Date Extracted:	08/01/22 10:30
Sample ID	: 380-12728-1	Date Analyzed:	08/02/22 19:42
Lab Samp ID:	22G306-01	Dilution Factor:	1
Lab File ID:	LH02026A	Matrix:	WATER
Ext Btch ID:	22DSH001W	% Moisture:	NA
Calib. Ref.:	LH02004A	Instrument ID:	D5

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
Diesel	ND	0.026	0.013
Motor Oil	ND	0.052	0.026

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.342	0.525	65	60-130
Hexacosane	0.122	0.131	93	60-130

Notes:

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

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount	: 950ml	Final Volume	: 5ml
Prepared by	: POreto	Analyzed by	: SDeeso

QC SUMMARIES

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	08/01/22 10:30
Project	: 380-12728	Date Received:	08/01/22
Batch No.	: 22G306	Date Extracted:	08/01/22 10:30
Sample ID	: MBLK1W	Date Analyzed:	08/02/22 14:45
Lab Samp ID:	DSH001WB	Dilution Factor:	1
Lab File ID:	LH02010A	Matrix:	WATER
Ext Btch ID:	22DSH001W	% Moisture:	NA
Calib. Ref.:	LH02004A	Instrument ID:	D5

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
Diesel	ND	0.025	0.012
Motor Oil	ND	0.050	0.025

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.346	0.500	69	60-130
Hexacosane	0.104	0.125	83	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	: POreto	Analyzed by	: SDeeso

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL
PROJECT : 380-12728
BATCH NO. : 22G306
METHOD : 3520C/8015B

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR	: 1	1	1
SAMPLE ID	: MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID	: DSH001WB	DSH001WL	DSH001WC
LAB FILE ID	: LH02010A	LH02011A	LH02012A
DATE PREPARED	: 08/01/22 10:30	08/01/22 10:30	08/01/22 10:30
DATE ANALYZED	: 08/02/22 14:45	08/02/22 15:04	08/02/22 15:22
PREP BATCH	: 22DSH001W	22DSH001W	22DSH001W
CALIBRATION REF	: LH02004A	LH02004A	LH02004A

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	2.21	88	2.50	2.32	93	5	50-130	30

SURROGATE PARAMETERS	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	QCLimit (%)
Bromobenzene	0.500	0.398	80	0.500	0.426	85	60-130
Hexacosane	0.125	0.112	90	0.125	0.118	94	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 : 380-12377
BATCH NO. : 22G287
METHOD : 3520C/8015B

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR:	1	1	1
SAMPLE ID	: 380-12377-1	380-12377-1MS	380-12377-1MSD
LAB SAMPLE ID	: 22G287-01	22G287-01M	22G287-01S
LAB FILE ID	: LH02017A	LH02018A	LH02019A
DATE PREPARED	: 08/01/22 10:30	08/01/22 10:30	08/01/22 10:30
DATE ANALYZED	: 08/02/22 16:55	08/02/22 17:13	08/02/22 17:32
PREP BATCH	: 22DSH001W	22DSH001W	22DSH001W
CALIBRATION REF:	LH02004A	LH02004A	LH02004A

ACCESSION:

PARAMETERS	PSResult (mg/L)	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
Diesel	ND	2.55	2.18	85	2.65	2.26	85	4	50-130	30

SURROGATE PARAMETERS	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	QCLimit (%)
Bromobenzene	0.510	0.374	73	0.530	0.370	70	60-130
Hexacosane	0.127	0.120	94	0.132	0.126	95	60-130

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

August 09, 2022

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

Project Name: RED-HILL Project # 38001111 Job # 380-12728-1
Physis Project ID: 1407003-261

Dear Debbie,

Enclosed are the analytical results for the sample submitted to PHYSIS Environmental Laboratories, Inc. (PHYSIS) on 7/29/2022. 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: 1407003-261

RED-HILL Project # 38001111 Job # 380-12728-1

Total Samples: 1

PHYSIS ID	Sample ID	Description	Date	Time	Matrix	Sample Type
98860	HALAWA SHAFTE STATICVIEWING POOL (380-12728-1)		7/26/2022	9:30	Samplewater	Not Specified

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ABBREVIATIONS and ACRONYMS

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

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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

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

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

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

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

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PHYSIS QUALIFIER CODES

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

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CASE NARRATIVE

QUALIFIER NOTES

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

ND

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

ANALYTICAL REPORT

PHYSIS Project ID: 1407003-261
Client: Eurofins Eaton Analytical
Project: RED-HILL Project # 38001111 Job # 380-12728-1

Base/Neutral Extractable Compounds

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 98860-R1	**HALAWA SHAFTE STATIC VIEWIN**	**Matrix: Samplewater**					**Sampled:**	**26-Jul-22 9:30**		**Received:**	**29-Jul-22**
Disalicylidenepropanediamine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-38076	02-Aug-22	07-Aug-22

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 98860-R1	**HALAWA SHAFTE STATIC VIEWIN**	**Matrix: Samplewater**					**Sampled:**	**26-Jul-22**	**9:30**	**Received:**	**29-Jul-22**
(d10-Acenaphthene)	EPA 625.1	% Recovery	82	1			Total		O-38076	02-Aug-22	07-Aug-22
(d10-Phenanthrene)	EPA 625.1	% Recovery	87	1			Total		O-38076	02-Aug-22	07-Aug-22
(d12-Chrysene)	EPA 625.1	% Recovery	85	1			Total		O-38076	02-Aug-22	07-Aug-22
(d12-Perylene)	EPA 625.1	% Recovery	80	1			Total		O-38076	02-Aug-22	07-Aug-22
(d8-Naphthalene)	EPA 625.1	% Recovery	76	1			Total		O-38076	02-Aug-22	07-Aug-22
1-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38076	02-Aug-22	07-Aug-22
1-Methylphenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38076	02-Aug-22	07-Aug-22
2,3,5-Trimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38076	02-Aug-22	07-Aug-22
2,6-Dimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38076	02-Aug-22	07-Aug-22
2-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38076	02-Aug-22	07-Aug-22
Acenaphthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38076	02-Aug-22	07-Aug-22
Acenaphthylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38076	02-Aug-22	07-Aug-22
Anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38076	02-Aug-22	07-Aug-22
Benz[a]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38076	02-Aug-22	07-Aug-22
Benzo[a]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38076	02-Aug-22	07-Aug-22
Benzo[b]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38076	02-Aug-22	07-Aug-22
Benzo[e]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38076	02-Aug-22	07-Aug-22
Benzo[g,h,i]perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38076	02-Aug-22	07-Aug-22
Benzo[k]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38076	02-Aug-22	07-Aug-22
Biphenyl	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38076	02-Aug-22	07-Aug-22
Chrysene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38076	02-Aug-22	07-Aug-22
D benz[a,h]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38076	02-Aug-22	07-Aug-22
D benzo[a,l]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38076	02-Aug-22	07-Aug-22
D benzothiophene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38076	02-Aug-22	07-Aug-22

PHYSIS Project ID: 1407003-261
Client: Eurofins Eaton Analytical
Project: RED-HILL Project # 38001111 Job # 380-12728-1

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-38076	02-Aug-22	07-Aug-22
Fluorene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38076	02-Aug-22	07-Aug-22
Indeno[1,2,3-cd]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38076	02-Aug-22	07-Aug-22
Naphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38076	02-Aug-22	07-Aug-22
Perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38076	02-Aug-22	07-Aug-22
Phenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38076	02-Aug-22	07-Aug-22
Pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38076	02-Aug-22	07-Aug-22

QUALITY CONTROL REPORT

Base/Neutral Extractable Compounds QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODEc
Sample ID: 98859-B1	**QAQC Procedural Blank**					**Matrix: BlankMatrix**	**Sampled:**						**Received:**	
		Method: EPA 625.1				Batch ID: O-38076			Prepared: 02-Aug-22				Analyzed: 06-Aug-22	
Disalicylidenepropanediamin	Total	ND	1	0.05	0.1	µg/L								
Sample ID: 98859-BS1	**QAQC Procedural Blank**					**Matrix: BlankMatrix**	**Sampled:**						**Received:**	
		Method: EPA 625.1				Batch ID: O-38076			Prepared: 02-Aug-22				Analyzed: 06-Aug-22	
Disalicylidenepropanediamin	Total	34.7	1	0.05	0.1	µg/L	50	0	69	50 - 150%	PASS			
Sample ID: 98859-BS2	**QAQC Procedural Blank**					**Matrix: BlankMatrix**	**Sampled:**						**Received:**	
		Method: EPA 625.1				Batch ID: O-38076			Prepared: 02-Aug-22				Analyzed: 06-Aug-22	
Disalicylidenepropanediamin	Total	39.1	1	0.05	0.1	µg/L	50	0	78	50 - 150%	PASS	12	30 PASS	

Polynuclear Aromatic Hydrocarbons QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODEc
Sample ID: 98859-B1	**QAQC Procedural Blank**					**Matrix: BlankMatrix**	**Sampled:**			**Received:**			
		Method: EPA 625.1				Batch ID: O-38076		Prepared: 02-Aug-22		Analyzed: 06-Aug-22			
(d10-Acenaphthene)	Total	95	1			% Recovery	100	95	65 - 113%	PASS			
(d10-Phenanthrene)	Total	98	1			% Recovery	100	98	80 - 111%	PASS			
(d12-Chrysene)	Total	95	1			% Recovery	100	95	60 - 139%	PASS			
(d12-Perylene)	Total	93	1			% Recovery	100	93	36 - 161%	PASS			
(d8-Naphthalene)	Total	91	1			% Recovery	100	91	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							

PHYSIS Project ID: 1407003-261
Client: Eurofins Eaton Analytical
Project: RED-HILL Project # 38001111 Job # 380-12728-1

Polynuclear Aromatic Hydrocarbons QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODEc
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 LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODEc
Sample ID: 98859-BS1	**QAQC Procedural Blank**					**Matrix: BlankMatrix**		**Sampled:**				**Received:**	
		Method: EPA 625.1				Batch ID: O-38076		Prepared: 02-Aug-22				Analyzed: 06-Aug-22	
(d10-Acenaphthene)	Total	92	1			% Recovery	100	0	92	65 - 113%		PASS	
(d10-Phenanthrene)	Total	95	1			% Recovery	100	0	95	80 - 111%		PASS	
(d12-Chrysene)	Total	95	1			% Recovery	100	0	95	60 - 139%		PASS	
(d12-Perylene)	Total	97	1			% Recovery	100	0	97	36 - 161%		PASS	
(d8-Naphthalene)	Total	86	1			% Recovery	100	0	86	44 - 119%		PASS	
1-Methylnaphthalene	Total	0.438	1	0.001	0.005	µg/L	0.5	0	88	49 - 117%		PASS	
1-Methylphenanthrene	Total	0.437	1	0.001	0.005	µg/L	0.5	0	87	66 - 127%		PASS	
2,3,5-Trimethylnaphthalene	Total	0.426	1	0.001	0.005	µg/L	0.5	0	85	57 - 120%		PASS	
2,6-Dimethylnaphthalene	Total	0.44	1	0.001	0.005	µg/L	0.5	0	88	54 - 117%		PASS	
2-Methylnaphthalene	Total	0.452	1	0.001	0.005	µg/L	0.5	0	90	47 - 130%		PASS	
Acenaphthene	Total	0.433	1	0.001	0.005	µg/L	0.5	0	87	53 - 131%		PASS	
Acenaphthylene	Total	0.432	1	0.001	0.005	µg/L	0.5	0	86	43 - 140%		PASS	
Anthracene	Total	0.442	1	0.001	0.005	µg/L	0.5	0	88	58 - 135%		PASS	
Benz[a]anthracene	Total	0.491	1	0.001	0.005	µg/L	0.5	0	98	55 - 145%		PASS	
Benzo[a]pyrene	Total	0.397	1	0.001	0.005	µg/L	0.5	0	79	51 - 143%		PASS	
Benzo[b]fluoranthene	Total	0.579	1	0.001	0.005	µg/L	0.5	0	116	46 - 165%		PASS	
Benzo[e]pyrene	Total	0.516	1	0.001	0.005	µg/L	0.5	0	103	42 - 152%		PASS	
Benzo[g,h,i]perylene	Total	0.445	1	0.001	0.005	µg/L	0.5	0	89	63 - 133%		PASS	
Benzo[k]fluoranthene	Total	0.503	1	0.001	0.005	µg/L	0.5	0	101	56 - 145%		PASS	
Biphenyl	Total	0.438	1	0.001	0.005	µg/L	0.5	0	88	56 - 119%		PASS	
Chrysene	Total	0.418	1	0.001	0.005	µg/L	0.5	0	84	56 - 141%		PASS	
Dibenz[a,h]anthracene	Total	0.552	1	0.001	0.005	µg/L	0.5	0	110	55 - 150%		PASS	
Dibenzo[a,l]pyrene	Total	0.502	1	0.001	0.005	µg/L	0.5	0	100	50 - 150%		PASS	

Polynuclear Aromatic Hydrocarbons QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODEc
Dibenzothiophene	Total	0.446	1	0.001	0.005	µg/L	0.5	0	89	75 - 113%	PASS			
Fluoranthene	Total	0.449	1	0.001	0.005	µg/L	0.5	0	90	60 - 146%	PASS			
Fluorene	Total	0.427	1	0.001	0.005	µg/L	0.5	0	85	58 - 131%	PASS			
Indeno[1,2,3-cd]pyrene	Total	0.581	1	0.001	0.005	µg/L	0.5	0	116	50 - 151%	PASS			
Naphthalene	Total	0.417	1	0.001	0.005	µg/L	0.5	0	83	41 - 126%	PASS			
Perylene	Total	0.476	1	0.001	0.005	µg/L	0.5	0	95	48 - 141%	PASS			
Phenanthrene	Total	0.446	1	0.001	0.005	µg/L	0.5	0	89	67 - 127%	PASS			
Pyrene	Total	0.451	1	0.001	0.005	µg/L	0.5	0	90	54 - 156%	PASS			

Polynuclear Aromatic Hydrocarbons QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS		QA CODEc
Sample ID: 98859-BS2	**QAQC Procedural Blank**					**Matrix: BlankMatrix**		**Sampled:**					**Received:**		
		Method: EPA 625.1				Batch ID: O-38076		Prepared: 02-Aug-22					Analyzed: 06-Aug-22		
(d10-Acenaphthene)	Total	93	1			% Recovery	100	0	93	65 - 113%	PASS	1	30	PASS	
(d10-Phenanthrene)	Total	96	1			% Recovery	100	0	96	80 - 111%	PASS	1	30	PASS	
(d12-Chrysene)	Total	98	1			% Recovery	100	0	98	60 - 139%	PASS	3	30	PASS	
(d12-Perylene)	Total	99	1			% Recovery	100	0	99	36 - 161%	PASS	2	30	PASS	
(d8-Naphthalene)	Total	87	1			% Recovery	100	0	87	44 - 119%	PASS	1	30	PASS	
1-Methylnaphthalene	Total	0.437	1	0.001	0.005	µg/L	0.5	0	87	49 - 117%	PASS	1	30	PASS	
1-Methylphenanthrene	Total	0.455	1	0.001	0.005	µg/L	0.5	0	91	66 - 127%	PASS	4	30	PASS	
2,3,5-Trimethylnaphthalene	Total	0.435	1	0.001	0.005	µg/L	0.5	0	87	57 - 120%	PASS	2	30	PASS	
2,6-Dimethylnaphthalene	Total	0.444	1	0.001	0.005	µg/L	0.5	0	89	54 - 117%	PASS	1	30	PASS	
2-Methylnaphthalene	Total	0.45	1	0.001	0.005	µg/L	0.5	0	90	47 - 130%	PASS	0	30	PASS	
Acenaphthene	Total	0.436	1	0.001	0.005	µg/L	0.5	0	87	53 - 131%	PASS	0	30	PASS	
Acenaphthylene	Total	0.437	1	0.001	0.005	µg/L	0.5	0	87	43 - 140%	PASS	1	30	PASS	
Anthracene	Total	0.45	1	0.001	0.005	µg/L	0.5	0	90	58 - 135%	PASS	2	30	PASS	
Benz[a]anthracene	Total	0.523	1	0.001	0.005	µg/L	0.5	0	105	55 - 145%	PASS	7	30	PASS	
Benzo[a]pyrene	Total	0.405	1	0.001	0.005	µg/L	0.5	0	81	51 - 143%	PASS	2	30	PASS	
Benzo[b]fluoranthene	Total	0.601	1	0.001	0.005	µg/L	0.5	0	120	46 - 165%	PASS	3	30	PASS	
Benzo[e]pyrene	Total	0.525	1	0.001	0.005	µg/L	0.5	0	105	42 - 152%	PASS	2	30	PASS	
Benzo[g,h,i]perylene	Total	0.452	1	0.001	0.005	µg/L	0.5	0	90	63 - 133%	PASS	1	30	PASS	
Benzo[k]fluoranthene	Total	0.527	1	0.001	0.005	µg/L	0.5	0	105	56 - 145%	PASS	4	30	PASS	
Biphenyl	Total	0.446	1	0.001	0.005	µg/L	0.5	0	89	56 - 119%	PASS	1	30	PASS	
Chrysene	Total	0.434	1	0.001	0.005	µg/L	0.5	0	87	56 - 141%	PASS	4	30	PASS	
Dibenz[a,h]anthracene	Total	0.57	1	0.001	0.005	µg/L	0.5	0	114	55 - 150%	PASS	4	30	PASS	
Dibenzo[a,l]pyrene	Total	0.536	1	0.001	0.005	µg/L	0.5	0	107	50 - 150%	PASS	7	30	PASS	

Polynuclear Aromatic Hydrocarbons QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS		QA CODEc
Dibenzothiophene	Total	0.446	1	0.001	0.005	µg/L	0.5	0	89	75 - 113%	PASS	0	30	PASS	
Fluoranthene	Total	0.472	1	0.001	0.005	µg/L	0.5	0	94	60 - 146%	PASS	4	30	PASS	
Fluorene	Total	0.435	1	0.001	0.005	µg/L	0.5	0	87	58 - 131%	PASS	2	30	PASS	
Indeno[1,2,3-cd]pyrene	Total	0.601	1	0.001	0.005	µg/L	0.5	0	120	50 - 151%	PASS	3	30	PASS	
Naphthalene	Total	0.425	1	0.001	0.005	µg/L	0.5	0	85	41 - 126%	PASS	2	30	PASS	
Perylene	Total	0.491	1	0.001	0.005	µg/L	0.5	0	98	48 - 141%	PASS	3	30	PASS	
Phenanthrene	Total	0.456	1	0.001	0.005	µg/L	0.5	0	91	67 - 127%	PASS	2	30	PASS	
Pyrene	Total	0.47	1	0.001	0.005	µg/L	0.5	0	94	54 - 156%	PASS	4	30	PASS	

TENTATIVELY IDENTIFIED COMPOUNDS

Sample ID: 98860

RT	Area Pct	Concentration (ng/L)	Library/ID	Cas Number	Match Qual
32.6316	6.1574	1111	Anthracene-D10-	1719-06-8	97
43.1630	3.0210	545	Terephthalic acid, isobutyl butyl ester	1000323-56-2	95
64.5631	1.8694	337	1,4-Benzenedicarboxylic acid, bis(2-ethylhexyl) ester	6422-86-2	98
14.9653	1.3105	236	1,7-Dimethyl-4-(1-methylethyl)cyclodecane	645-10-3	84
14.8060	0.6932	125	Cyclohexane, 1,2,4,5-tetraethyl-, (1.alpha.,2.alpha.,4.alpha.,5.alpha.)-	61142-24-3	84

Concentration estimated using the response for Anthracene-d10

Sample ID: Lab Blank Batch O-38076

RT	Area Pct	Concentration (ng/L)	Library/ID	Cas Number	Match Qual
32.6362	6.4994	1111	Anthracene-D10-	1719-06-8	97
43.1684	2.4327	416	Terephthalic acid, isobutyl butyl ester	1000323-56-2	95
64.5707	1.3441	230	1,4-Benzenedicarboxylic acid, bis(2-ethylhexyl) ester	6422-86-2	97
14.9678	1.3108	224	3-Hexene, 3-ethyl-2,5-dimethyl-	62338-08-3	84
14.8062	0.6922	118	Cyclohexane, 1,2,4,5-tetraethyl-, (1.alpha.,2.alpha.,4.alpha.,5.alpha.)-	61142-24-3	85

Concentration estimated using the response for Anthracene-d10

CHAIN OF CUSTODY

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

Chain of Custody Record

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10/17/2022

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Frank, Debbie L	Carrier Tracking No(s):	COC No: 380-14850.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Debbie.Frank@et.eurofinsus.com	State of Origin: Hawaii	Page: Page 1 of 1
Company: Physis Environmental Laboratories		Accreditations Required (See note): State - Hawaii		Job #: 380-12728-1
Address: 1904 Wright Circle, ,	Due Date Requested: 8/4/2022			
City: Anaheim	TAT Requested (days):			
State, Zip: CA, 92806				
Phone:	PO #:			
Email:	WO #:			
Project Name: RED-HILL	Project #: 38001111			
Site: Honolulu BWS Sites	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (625 PAH Physis LL (EAL) + TICs)/ 625 PAH Physis LL (EAL) + TICs	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
HALAWA SHAFTE STATIC (VIEWING POOL) (380-12728-1)	7/26/22	09:30 Hawaiian		Water			X	4	See Attached Instructions

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

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	7/29/22 1348	[illegible]	[signature]	7/29/22 1348	Physis
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

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

PHYSIS
ENVIRONMENTAL LABORATORIES, INC.
Innovative Solutions for Nature

PHYSIS

Project Iteration ID: 1407003-261
Client Name: Eurofins Eaton Analytical
Project Name: RED-HILL Project # 38001111
Job # 380-12728-1
COC Page Number: 2 of 2
Bottle Label Color: NA

Sample Receipt Summary

Receiving Info

1. Initials Received By: [signature]
2. Date Received: 7/29/22
3. Time Received: _____
4. Client Name: Eurofins
5. Courier Information: (Please circle)
   - Client
   - FedEx
   - UPS
   - GSO/GLS
   - Area Fast
   - Ontrac
   - DRS
   - 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)
   - 2 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): -1.6 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:

CHAIN OF CUSTODY RECORD

eurofins | Eaton Analytical

750 Royal Oaks Drive, Suite 100
Monrovia, CA 91016-3629

Phone: 626 386 1100
Fax: 626 386 1101

800 566 LABS (800 566 5227)

EUROFINS EATON ANALYTICAL USE ONLY:

LOGIN COMMENTS: _____ **SAMPLES CHECKED AGAINST COC BY:** GR

_____ **SAMPLES LOGGED IN BY:** _____

SAMPLE TEMP RECEIVED AT: **SAMPLES REC'D DAY OF COLLECTION?** ☐ (check for yes)

☐ Colton / No. California / Arizona _____ °C (Compliance: 4 ± 2 °C)

☑ Monrovia 2.1 °C (Compliance: 4 ± 2 °C)

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

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

TO BE COMPLETED BY SAMPLER:

COMPANY/AGENCY NAME:	**PROJECT CODE:**	**COMPLIANCE SAMPLES** (check for yes) ☐	**NON-COMPLIANCE SAMPLES** (check for yes) ☒
BWS HONOLULU	**Red Hill Special**	- Requires state forms ☐	REGULATION INVOLVED: _____
EEA CLIENT CODE: / **COC ID:**	**SAMPLE GROUP:** Weekly_RED_HILL (2022)	Type of samples (circle one): **ROUTINE** **SPECIAL** **CONFIRMATION** (eg. SDWA, Phase V, NPDES, FDA,...)	
TAT requested: rush by adv notice only STD __ 1 wk _X_ 3 day ___ 2 day ___ 1 day ___		***SEE ATTACHED BOTTLE ORDER FOR ANALYSES*** ☐ (check for yes), ***OR***	
		list ANALYSES REQUIRED (enter number of bottles sent for each test for each sample)	

SAMPLE DATE	SAMPLE TIME	SAMPLE ID	CLIENT LAB ID	MATRIX *	FIELD DATA	FIELD DATA	No Analysis on Bottle; comment 625 PAH + MS/MSD Volume)	SUBCONTRACT: 8015 Diesel LL(EAL) and Moto (2x1L)	8015 Gas(Purge) LL (EAL)(4x40mL)	525.2PREC-(MOD) 525plus Plus_ TICs (2x1L)	SAMPLER COMMENTS
07/26/22	930	Halawa Shaft Static (Viewing Pool)		RGW			4	2	4	2	Halawa Shaft- Static Sample (Viewing Pool)
											Subcon: 8015 Diesel: 2x2mL HCl vials
											Temp Blank: 12 °C

380-12728 COC

*** MATRIX TYPES:** **RSW** = Raw Surface Water **RGW** = Raw Ground Water **CFW** = Chlor(am)inated Finished Water **FW** = Other Finished Water **SEAW** = Sea Water **WW** = Waste Water **BW** = Bottled Water **SW** = Storm Water **SO** = Soil **SL** = Sludge **O** = Other - Please Identify

	SIGNATURE	PRINT NAME	COMPANY/TITLE	DATE	TIME
SAMPLED BY:	[redacted]	Olaf Happe	Honolulu Board of Water Supply	7/26/2022	930
RELINQUISHED BY:		Olaf Happe	Honolulu Board of Water Supply	7/26/2022	1300
RECEIVED BY:		G. REITNER	EEA	7/28/22	10:15
RELINQUISHED BY:					
RECEIVED BY:					

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INTERNAL CHAIN OF CUSTODY RECORD

EEA Folder Number:

SAMPLE TEMP RECEIVED:

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

SAMPLES REC'D DAY OF COLLECTION? Yes / No

IR Gun ID = 649A (Observation= 3.6 °C) (Corr.Factor -0.3 °C) (Final = 3.3 °C)

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

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

Compliance Acceptance Criteria:

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, 558, 538, 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
RECEIVED BY:	[signature]	G. REITNER	Eurofins Eaton Analytical	07/28/2022	10:15
SAMPLES CHECKED AGAINST COC BY:			Eurofins Eaton Analytical		

QA FO-FRM5504 (9.28.21) Ver 9

Page 1 of 8

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INTERNAL CHAIN OF CUSTODY RECORD

EEA Folder Number:

SAMPLE TEMP RECEIVED:

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

SAMPLES REC'D DAY OF COLLECTION? Yes / No

IR Gun ID = 649A (Observation= 4.2 °C) (Corr.Factor -0.3 °C) (Final = 3.9 °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, 555, 538, 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
RECEIVED BY:	[signature]	G. REITNER	Eurofins Eaton Analytical	07/28/2022	10:15
SAMPLES CHECKED AGAINST COC BY:			Eurofins Eaton Analytical		

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INTERNAL CHAIN OF CUSTODY RECORD

EEA Folder Number:

SAMPLE TEMP RECEIVED:

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

SAMPLES REC'D DAY OF COLLECTION? Yes / No

IR Gun ID = 649A (Observation= 4.1 °C) (Corr.Factor -0.3 °C) (Final = 3.8 °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: Sensafe. 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, 558, 538, 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
RECEIVED BY:	[signature]	G. REITNER	Eurofins Eaton Analytical	07/28/2022	10:15
SAMPLES CHECKED AGAINST COC BY:			Eurofins Eaton Analytical		

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INTERNAL CHAIN OF CUSTODY RECORD

EEA Folder Number:

SAMPLE TEMP RECEIVED:

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

SAMPLES REC'D DAY OF COLLECTION? Yes / No

IR Gun ID = 649A (Observation= 2.4 °C) (Corr.Factor -0.3 °C) (Final = 2.1 °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, 555, 538, 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
RECEIVED BY:	[signature]	G. REITNER	Eurofins Eaton Analytical	07/28/2022	10:15
SAMPLES CHECKED AGAINST COC BY:			Eurofins Eaton Analytical		

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INTERNAL CHAIN OF CUSTODY RECORD

EEA Folder Number:

SAMPLE TEMP RECEIVED:

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

SAMPLES REC'D DAY OF COLLECTION? Yes / No

IR Gun ID = 649A (Observation= 4.1 °C) (Corr.Factor -0.3 °C) (Final = 3.8 °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, 555, 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
RECEIVED BY:	[signature]	G. REITNER	Eurofins Eaton Analytical	07/28/2022	10:15
SAMPLES CHECKED AGAINST COC BY:			Eurofins Eaton Analytical		

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INTERNAL CHAIN OF CUSTODY RECORD

EEA Folder Number:

SAMPLE TEMP RECEIVED:

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

SAMPLES REC'D DAY OF COLLECTION? Yes / No

IR Gun ID = 649A (Observation= 3.6 °C) (Corr.Factor -0.3 °C) (Final = 3.3 °C)

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

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

Compliance Acceptance Criteria:

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, 555, 538, 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
RECEIVED BY:	[signature]	G. REITNER	Eurofins Eaton Analytical	07/28/2022	10:15
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INTERNAL CHAIN OF CUSTODY RECORD

EEA Folder Number:

SAMPLE TEMP RECEIVED:

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

SAMPLES REC'D DAY OF COLLECTION? Yes / No

IR Gun ID = 649A (Observation= 4.7 °C) (Corr.Factor -0.3 °C) (Final = 4.4 °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: Sensafe. 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, 555, 535, 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
RECEIVED BY:	[signature]	G. REITNER	Eurofins Eaton Analytical	07/28/2022	10:15
SAMPLES CHECKED AGAINST COC BY:			Eurofins Eaton Analytical		

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INTERNAL CHAIN OF CUSTODY RECORD

EEA Folder Number:

SAMPLE TEMP RECEIVED:

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

SAMPLES REC'D DAY OF COLLECTION? Yes / No

IR Gun ID = 649A (Observation= 5.2 °C) (Corr.Factor -0.3 °C) (Final = 4.9 °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: Sensafe. 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
RECEIVED BY:	[signature]	G. REITNER	Eurofins Eaton Analytical	07/28/2022	10:15
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BWS CHEMLAB
HONOLULU BOARD OF WATER SUPPLY
630 S. BERETANIA ST.
CHEMICAL LABORATORY
HONOLULU, HI 96843
UNITED STATES US

SHIP DATE: 27JUL22
ACTWGT: 70.00 LB
CAD: 100205419/INET4490

BILL RECIPIENT

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

581J2/0A92/FE4A

FedEx Express

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MPS# 7775 0467 1833
0263
Mstr# 7775 0467 1042

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

SHIP DATE: 27JUL22
ACTWGT: 70.00 LB
CAD: 100205419/INET4490

BILL RECIPIENT

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

581J1/A4AE/FE4A

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MPS# 7775 0467 2233
0263
Mstr# 7775 0467 1042
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Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com.FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery,misdelivery,or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim.Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental,consequential, or special is limited to the greater of $100 or the authorized declared value. Recovery cannot exceed actual documented loss.Maximum for items of extraordinary value is $1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our ServiceGuide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

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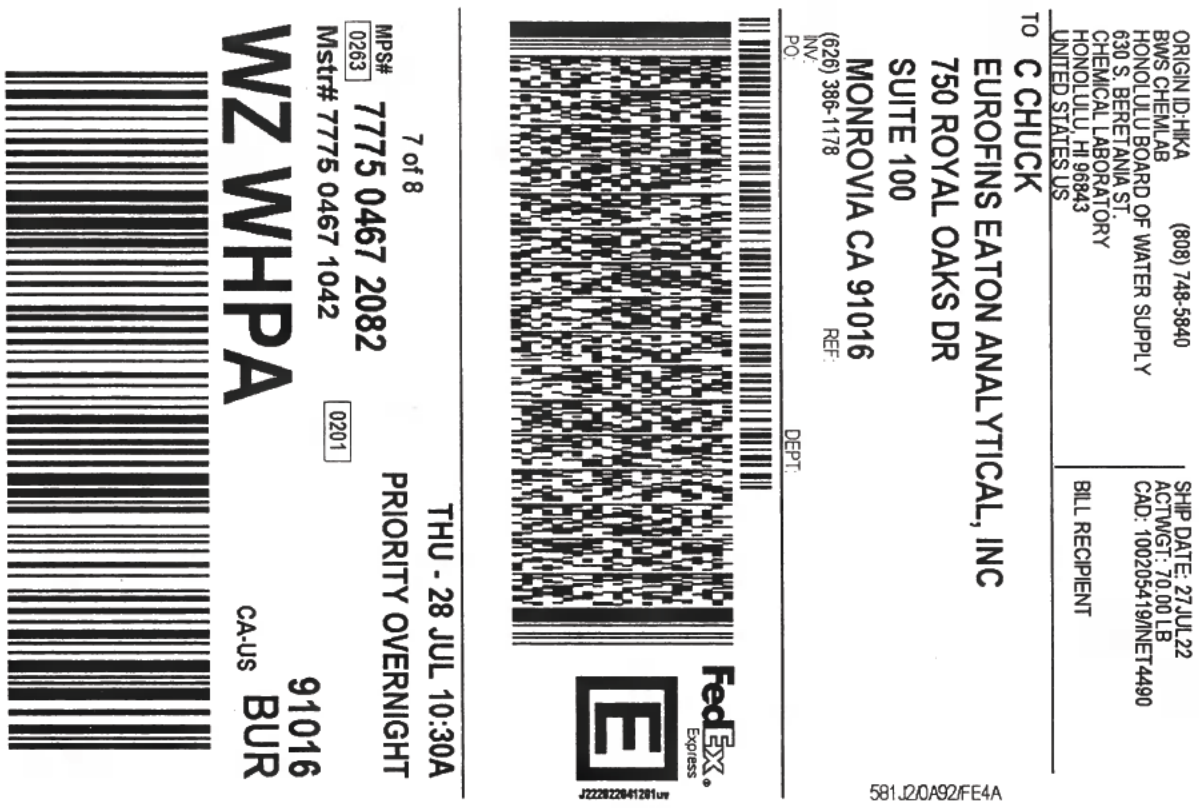
Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com.FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery,misdelivery,or misinformation, unless you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



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

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

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Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-12728-1

Login Number: 12728
List Number: 1
Creator: Ngo, Theodore

List Source: Eurofins Eaton Monrovia

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