eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

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

Generated 11/29/2022 1:37:30 PM Revision 1

JOB DESCRIPTION

RED-HILL
RUSH Weekly Red Hill

JOB NUMBER

380-24077-1

Eurofins Eaton Monrovia
750 Royal Oaks Drive
Suite 100
Monrovia CA 91016

See page two for job notes and contact information.

Job Notes

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

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

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

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

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

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

Authorization

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Revision 1

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Eurofins Eaton Monrovia

Compliance Statement

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

Table of Contents

Definitions/Glossary

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

Job ID: 380-24077-1

Qualifiers

GC/MS Semi VOA

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

GC/MS Semi VOA TICs

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

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

Job ID: 380-24077-1

Laboratory: Eurofins Eaton Monrovia

Narrative

Job Narrative
380-24077-1

Comment
Revised report to include merged data from subcontract labs. Data not impacted.

Receipt
The samples were received on 10/12/2022 10:00 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 0.4°C

Receipt Exceptions
Only received 3 of 4 of the Voa Vials 40ml - SodiumThio w/HCL-dropper [from MOANALUA WELLS (331-223-TP202)].

GC/MS Semi VOA
Method 525.2_PREC: The continuing calibration verification (CCV) associated with batch 380-20905 recovered above the upper control limit for Dibenz(a,h)anthracene and Indeno[1,2,3-cd]pyrene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated sample is impacted: MOANALUA WELLS (331-223-TP202) (380-24077-1).

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

Subcontract Lab non-Sister Lab
See attached subcontract report.

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

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

Detection Summary

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

Job ID: 380-24077-1

Client Sample ID: MOANALUA WELLS (331-223-TP202) — Lab Sample ID: 380-24077-1

PWSID Number: HI0000331

No Detections.

Client Sample ID: TB: MOANALUA WELLS (331-223-TP202) — Lab Sample ID: 380-24077-2

No Detections.

This Detection Summary does not include radiochemical test results.

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

Job ID: 380-24077-1

Client Sample ID: MOANALUA WELLS (331-223-TP202)
Date Collected: 10/10/22 10:15
Date Received: 10/12/22 10:00

Lab Sample ID: 380-24077-1
Matrix: Drinking Water
PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
2,4'-DDD	ND		0.10		ug/L		10/15/22 15:26	10/17/22 15:09	1
2,4'-DDE	ND		0.10		ug/L		10/15/22 15:26	10/17/22 15:09	1
2,4'-DDT	ND		0.10		ug/L		10/15/22 15:26	10/17/22 15:09	1
2,4-Dinitrotoluene	ND		0.10		ug/L		10/15/22 15:26	10/17/22 15:09	1
2,6-Dinitrotoluene	ND		0.10		ug/L		10/15/22 15:26	10/17/22 15:09	1
4,4'-DDD	ND		0.10		ug/L		10/15/22 15:26	10/17/22 15:09	1
4,4'-DDE	ND		0.10		ug/L		10/15/22 15:26	10/17/22 15:09	1
4,4'-DDT	ND		0.10		ug/L		10/15/22 15:26	10/17/22 15:09	1
Acenaphthene	ND		0.10		ug/L		10/15/22 15:26	10/17/22 15:09	1
Acenaphthylene	ND		0.10		ug/L		10/15/22 15:26	10/17/22 15:09	1
Acetochlor	ND		0.10		ug/L		10/15/22 15:26	10/17/22 15:09	1
Alachlor	ND		0.051		ug/L		10/15/22 15:26	10/17/22 15:09	1
alpha-BHC	ND		0.10		ug/L		10/15/22 15:26	10/17/22 15:09	1
alpha-Chlordane	ND		0.051		ug/L		10/15/22 15:26	10/17/22 15:09	1
Anthracene	ND		0.020		ug/L		10/15/22 15:26	10/17/22 15:09	1
Atrazine	ND		0.051		ug/L		10/15/22 15:26	10/17/22 15:09	1
Benz(a)anthracene	ND		0.051		ug/L		10/15/22 15:26	10/17/22 15:09	1
Benzo[a]pyrene	ND		0.020		ug/L		10/15/22 15:26	10/17/22 15:09	1
Benzo[b]fluoranthene	ND		0.020		ug/L		10/15/22 15:26	10/17/22 15:09	1
Benzo[g,h,i]perylene	ND		0.051		ug/L		10/15/22 15:26	10/17/22 15:09	1
Benzo[k]fluoranthene	ND		0.020		ug/L		10/15/22 15:26	10/17/22 15:09	1
beta-BHC	ND		0.10		ug/L		10/15/22 15:26	10/17/22 15:09	1
Bromacil	ND	^3+	0.10		ug/L		10/15/22 15:26	10/17/22 15:09	1
Butachlor	ND		0.051		ug/L		10/15/22 15:26	10/17/22 15:09	1
Butylbenzylphthalate	ND		0.51		ug/L		10/15/22 15:26	10/17/22 15:09	1
Chlorobenzilate	ND		0.10		ug/L		10/15/22 15:26	10/17/22 15:09	1
Chloroneb	ND		0.10		ug/L		10/15/22 15:26	10/17/22 15:09	1
Chlorothalonil (Draconil, Bravo)	ND		0.10		ug/L		10/15/22 15:26	10/17/22 15:09	1
Chlorpyrifos	ND		0.051		ug/L		10/15/22 15:26	10/17/22 15:09	1
Chrysene	ND		0.020		ug/L		10/15/22 15:26	10/17/22 15:09	1
delta-BHC	ND		0.10		ug/L		10/15/22 15:26	10/17/22 15:09	1
Di(2-ethylhexyl)adipate	ND		0.61		ug/L		10/15/22 15:26	10/17/22 15:09	1
Bis(2-ethylhexyl) phthalate	ND		0.61		ug/L		10/15/22 15:26	10/17/22 15:09	1
Dibenz(a,h)anthracene	ND		0.051		ug/L		10/15/22 15:26	10/17/22 15:09	1
Diclorvos (DDVP)	ND		0.051		ug/L		10/15/22 15:26	10/17/22 15:09	1
Dieldrin	ND		0.20		ug/L		10/15/22 15:26	10/17/22 15:09	1
Diethylphthalate	ND		0.51		ug/L		10/15/22 15:26	10/17/22 15:09	1
Dimethylphthalate	ND		0.51		ug/L		10/15/22 15:26	10/17/22 15:09	1
Di-n-butyl phthalate	ND		1.0		ug/L		10/15/22 15:26	10/17/22 15:09	1
Di-n-octyl phthalate	ND		0.10		ug/L		10/15/22 15:26	10/17/22 15:09	1
Endosulfan I (Alpha)	ND		0.10		ug/L		10/15/22 15:26	10/17/22 15:09	1
Endosulfan II (Beta)	ND		0.10		ug/L		10/15/22 15:26	10/17/22 15:09	1
Endosulfan sulfate	ND		0.10		ug/L		10/15/22 15:26	10/17/22 15:09	1
Endrin	ND	^3+	0.10		ug/L		10/15/22 15:26	10/17/22 15:09	1
Endrin aldehyde	ND		0.10		ug/L		10/15/22 15:26	10/17/22 15:09	1
EPTC	ND		0.10		ug/L		10/15/22 15:26	10/17/22 15:09	1
Fluoranthene	ND		0.10		ug/L		10/15/22 15:26	10/17/22 15:09	1
Fluorene	ND		0.051		ug/L		10/15/22 15:26	10/17/22 15:09	1
gamma-Chlordane	ND		0.051		ug/L		10/15/22 15:26	10/17/22 15:09	1

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

Date Collected: 10/10/22 10:15
Date Received: 10/12/22 10:00

Lab Sample ID: 380-24077-1

Matrix: Drinking Water
PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Heptachlor	ND		0.041		ug/L		10/15/22 15:26	10/17/22 15:09	1
Heptachlor epoxide (isomer B)	ND		0.051		ug/L		10/15/22 15:26	10/17/22 15:09	1
Hexachlorobenzene	ND	^3+	0.051		ug/L		10/15/22 15:26	10/17/22 15:09	1
Hexachlorocyclopentadiene	ND		0.051		ug/L		10/15/22 15:26	10/17/22 15:09	1
Indeno[1,2,3-cd]pyrene	ND		0.051		ug/L		10/15/22 15:26	10/17/22 15:09	1
Isophorone	ND		0.51		ug/L		10/15/22 15:26	10/17/22 15:09	1
Lindane	ND		0.041		ug/L		10/15/22 15:26	10/17/22 15:09	1
Malathion	ND		0.10		ug/L		10/15/22 15:26	10/17/22 15:09	1
Methoxychlor	ND		0.10		ug/L		10/15/22 15:26	10/17/22 15:09	1
Metolachlor	ND		0.051		ug/L		10/15/22 15:26	10/17/22 15:09	1
Metribuzin	ND		0.051		ug/L		10/15/22 15:26	10/17/22 15:09	1
Molinate	ND		0.10		ug/L		10/15/22 15:26	10/17/22 15:09	1
Naphthalene	ND		0.30		ug/L		10/15/22 15:26	10/17/22 15:09	1
Parathion	ND		0.10		ug/L		10/15/22 15:26	10/17/22 15:09	1
Pendimethalin (Penoxaline)	ND		0.10		ug/L		10/15/22 15:26	10/17/22 15:09	1
Total Permethrin (mixed isomers)	ND		0.20		ug/L		10/15/22 15:26	10/17/22 15:09	1
Phenanthrene	ND		0.041		ug/L		10/15/22 15:26	10/17/22 15:09	1
Propachlor	ND		0.051		ug/L		10/15/22 15:26	10/17/22 15:09	1
Pyrene	ND		0.051		ug/L		10/15/22 15:26	10/17/22 15:09	1
Simazine	ND		0.051		ug/L		10/15/22 15:26	10/17/22 15:09	1
Terbacil	ND		0.10		ug/L		10/15/22 15:26	10/17/22 15:09	1
Terbuthylazine	ND	^3+	0.10		ug/L		10/15/22 15:26	10/17/22 15:09	1
Thiobencarb	ND		0.20		ug/L		10/15/22 15:26	10/17/22 15:09	1
trans-Nonachlor	ND		0.051		ug/L		10/15/22 15:26	10/17/22 15:09	1
Trifluralin	ND		0.10		ug/L		10/15/22 15:26	10/17/22 15:09	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*				*10/15/22 15:26*	*10/17/22 15:09*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Nitro-m-xylene	*96*		*70 - 130*	*10/15/22 15:26*	*10/17/22 15:09*	*1*
Triphenylphosphate	*104*		*70 - 130*	*10/15/22 15:26*	*10/17/22 15:09*	*1*
Perylene-d12	*95*		*70 - 130*	*10/15/22 15:26*	*10/17/22 15:09*	*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		10/17/22 00:00	10/24/22 18:41	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		10/17/22 00:00	10/24/22 18:41	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		10/17/22 00:00	10/24/22 18:41	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		10/17/22 00:00	10/24/22 18:41	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		10/17/22 00:00	10/24/22 18:41	1
Acenaphthene	ND		0.005	0.001	µg/L		10/17/22 00:00	10/24/22 18:41	1
Acenaphthylene	ND		0.005	0.001	µg/L		10/17/22 00:00	10/24/22 18:41	1
Anthracene	ND		0.005	0.001	µg/L		10/17/22 00:00	10/24/22 18:41	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		10/17/22 00:00	10/24/22 18:41	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		10/17/22 00:00	10/24/22 18:41	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		10/17/22 00:00	10/24/22 18:41	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		10/17/22 00:00	10/24/22 18:41	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		10/17/22 00:00	10/24/22 18:41	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		10/17/22 00:00	10/24/22 18:41	1

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

Lab Sample ID: 380-24077-1
Date Collected: 10/10/22 10:15
Matrix: Drinking Water
Date Received: 10/12/22 10:00
PWSID Number: HI0000331

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
Biphenyl	ND		0.005	0.001	µg/L		10/17/22 00:00	10/24/22 18:41	1
Chrysene	ND		0.005	0.001	µg/L		10/17/22 00:00	10/24/22 18:41	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		10/17/22 00:00	10/24/22 18:41	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		10/17/22 00:00	10/24/22 18:41	1
Dibenzothiophene	ND		0.005	0.001	µg/L		10/17/22 00:00	10/24/22 18:41	1
Disalicylidenepropanediamine	ND		0.1	0.05	µg/L		10/17/22 00:00	10/24/22 18:41	1
Fluoranthene	ND		0.005	0.001	µg/L		10/17/22 00:00	10/24/22 18:41	1
Fluorene	ND		0.005	0.001	µg/L		10/17/22 00:00	10/24/22 18:41	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		10/17/22 00:00	10/24/22 18:41	1
Naphthalene	ND		0.005	0.001	µg/L		10/17/22 00:00	10/24/22 18:41	1
Perylene	ND		0.005	0.001	µg/L		10/17/22 00:00	10/24/22 18:41	1
Phenanthrene	ND		0.005	0.001	µg/L		10/17/22 00:00	10/24/22 18:41	1
Pyrene	ND		0.005	0.001	µg/L		10/17/22 00:00	10/24/22 18:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
(d10-Acenaphthene)	*110*		*45 - 118*	*10/17/22 00:00*	*10/24/22 18:41*	*1*
(d10-Phenanthrene)	*104*		*56 - 123*	*10/17/22 00:00*	*10/24/22 18:41*	*1*
(d12-Chrysene)	*105*		*36 - 142*	*10/17/22 00:00*	*10/24/22 18:41*	*1*
(d12-Perylene)	*87*		*36 - 161*	*10/17/22 00:00*	*10/24/22 18:41*	*1*
(d8-Naphthalene)	*105*		*20 - 112*	*10/17/22 00:00*	*10/24/22 18:41*	*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			10/24/22 23:18	1
MOTOR OIL	ND	U	0.052		mg/L			10/24/22 23:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
BROMOBENZENE	*93*		*60 - 130*		*10/24/22 23:18*	*1*
HEXACOSANE	*100*		*60 - 130*		*10/24/22 23:18*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GASOLINE	ND	U	0.020		mg/L			10/18/22 06:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
BROMOFLUOROBENZENE	*90*		*60 - 140*		*10/18/22 06:45*	*1*

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

Lab Sample ID: 380-24077-2
Date Collected: 10/10/22 10:15
Matrix: Drinking Water
Date Received: 10/12/22 10:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GASOLINE	ND	U	0.020		mg/L			10/18/22 07:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
BROMOFLUOROBENZENE	*90*		*60 - 140*		*10/18/22 07:20*	*1*

Action Limit Summary

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

Job ID: 380-24077-1

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

Lab Sample ID: 380-24077-1

PWSID Number: HI0000331

Compliance Check

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

Analyte	Result	Qualifier	Unit	Limit	RL	Method	Prep Type
Alachlor	ND		ug/L	2	0.051	525.2	Total/NA
Atrazine	ND		ug/L	3	0.051	525.2	Total/NA
Benzo[a]pyrene	ND		ug/L	0.2	0.020	525.2	Total/NA
Di(2-ethylhexyl)adipate	ND		ug/L	400	0.61	525.2	Total/NA
Bis(2-ethylhexyl) phthalate	ND		ug/L	6	0.61	525.2	Total/NA
Endrin	ND	^3+	ug/L	2	0.10	525.2	Total/NA
Heptachlor	ND		ug/L	0.4	0.041	525.2	Total/NA
Heptachlor epoxide (isomer B)	ND		ug/L	0.2	0.051	525.2	Total/NA
Hexachlorobenzene	ND	^3+	ug/L	1	0.051	525.2	Total/NA
Hexachlorocyclopentadiene	ND		ug/L	50	0.051	525.2	Total/NA
Lindane	ND		ug/L	0.2	0.041	525.2	Total/NA
Methoxychlor	ND		ug/L	40	0.10	525.2	Total/NA
Simazine	ND		ug/L	4	0.051	525.2	Total/NA

Surrogate Summary

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

Job ID: 380-24077-1

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

Matrix: Drinking 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)
380-24077-1	MOANALUA WELLS (331-223-T	96	104	95

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)		
		2NMX	TPP	PRY
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	(70-130)
380-24398-B-1-A MS	Matrix Spike	99	101	87
380-24401-B-1-A DU	Duplicate	98	106	91
LCS 380-20849/3-A	Lab Control Sample	98	107	96
LCSD 380-20849/4-A	Lab Control Sample Dup	97	108	95
MB 380-20849/1-A	Method Blank	98	106	93
MRL 380-20849/2-A	Lab Control Sample	88	121	90

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: BlankMatrix — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)				
		Acenapht	Phenanth	CRY	NPT	PRY
Lab Sample ID	Client Sample ID	(27-133)	(43-129)	(52-144)	(25-125)	(36-161)
100806-B1	Method Blank	108	99	78	82	84
100806-BS1	Lab Control Sample	120	107	77	115	95
100806-BS2	Lab Control Sample Dup	119	107	102	121	96

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)				
		Acenapht	Phenanth	CRY	NPT	PRY
Lab Sample ID	Client Sample ID	(45-118)	(56-123)	(36-142)	(20-112)	(36-161)
380-24077-1	MOANALUA WELLS (331-223-T	110	104	105	105	87

Surrogate Legend

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

Surrogate Summary

Client: City & County of Honolulu
Job ID: 380-24077-1
Project/Site: RED-HILL

CRY = (d12-Chrysene)
NPT = (d8-Naphthalene)
PRY = (d12-Perylene)

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
		BB	XACOSA
Lab Sample ID	Client Sample ID	(60-130)	(60-130)
380-24077-1	MOANALUA WELLS (331-223-T	93	100

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		
22DSJ049WB	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)
22DSJ049WL	Lab Control Sample	103	99

Surrogate Legend
BB = BROMOBENZENE
HEXACOSANE = HEXACOSANE

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

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

		Percent Surrogate Recovery (Acceptance Limits)
		BFB
Lab Sample ID	Client Sample ID	(60-140)
380-24077-1	MOANALUA WELLS (331-223-T	90
380-24077-2	TB: MOANALUA WELLS (331-223-TP202)	90

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)
22VGH7J09C	LCD	105
22VGH7J09L	Lab Control Sample	103

Surrogate Summary

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

Job ID: 380-24077-1

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**	
22VGH7J09B	Method Blank	

Surrogate Legend
BFB = BROMOFLUOROBENZENE

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

Lab Sample ID: MB 380-20849/1-A
Matrix: Water
Analysis Batch: 20905

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 20849

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
2,4'-DDD	ND		0.099		ug/L		10/15/22 15:26	10/17/22 13:28	1
2,4'-DDE	ND		0.099		ug/L		10/15/22 15:26	10/17/22 13:28	1
2,4'-DDT	ND		0.099		ug/L		10/15/22 15:26	10/17/22 13:28	1
2,4-Dinitrotoluene	ND		0.099		ug/L		10/15/22 15:26	10/17/22 13:28	1
2,6-Dinitrotoluene	ND		0.099		ug/L		10/15/22 15:26	10/17/22 13:28	1
4,4'-DDD	ND		0.099		ug/L		10/15/22 15:26	10/17/22 13:28	1
4,4'-DDE	ND		0.099		ug/L		10/15/22 15:26	10/17/22 13:28	1
4,4'-DDT	ND		0.099		ug/L		10/15/22 15:26	10/17/22 13:28	1
Acenaphthene	ND		0.099		ug/L		10/15/22 15:26	10/17/22 13:28	1
Acenaphthylene	ND		0.099		ug/L		10/15/22 15:26	10/17/22 13:28	1
Acetochlor	ND		0.099		ug/L		10/15/22 15:26	10/17/22 13:28	1
Alachlor	ND		0.049		ug/L		10/15/22 15:26	10/17/22 13:28	1
alpha-BHC	ND		0.099		ug/L		10/15/22 15:26	10/17/22 13:28	1
alpha-Chlordane	ND		0.049		ug/L		10/15/22 15:26	10/17/22 13:28	1
Anthracene	ND		0.020		ug/L		10/15/22 15:26	10/17/22 13:28	1
Atrazine	ND		0.049		ug/L		10/15/22 15:26	10/17/22 13:28	1
Benz(a)anthracene	ND		0.049		ug/L		10/15/22 15:26	10/17/22 13:28	1
Benzo[a]pyrene	ND		0.020		ug/L		10/15/22 15:26	10/17/22 13:28	1
Benzo[b]fluoranthene	ND		0.020		ug/L		10/15/22 15:26	10/17/22 13:28	1
Benzo[g,h,i]perylene	ND		0.049		ug/L		10/15/22 15:26	10/17/22 13:28	1
Benzo[k]fluoranthene	ND		0.020		ug/L		10/15/22 15:26	10/17/22 13:28	1
beta-BHC	ND		0.099		ug/L		10/15/22 15:26	10/17/22 13:28	1
Bromacil	ND		0.099		ug/L		10/15/22 15:26	10/17/22 13:28	1
Butachlor	ND		0.049		ug/L		10/15/22 15:26	10/17/22 13:28	1
Butylbenzylphthalate	ND		0.49		ug/L		10/15/22 15:26	10/17/22 13:28	1
Chlorobenzilate	ND		0.099		ug/L		10/15/22 15:26	10/17/22 13:28	1
Chloroneb	ND		0.099		ug/L		10/15/22 15:26	10/17/22 13:28	1
Chlorothalonil (Draconil, Bravo)	ND		0.099		ug/L		10/15/22 15:26	10/17/22 13:28	1
Chlorpyrifos	ND		0.049		ug/L		10/15/22 15:26	10/17/22 13:28	1
Chrysene	ND		0.020		ug/L		10/15/22 15:26	10/17/22 13:28	1
delta-BHC	ND		0.099		ug/L		10/15/22 15:26	10/17/22 13:28	1
Di(2-ethylhexyl)adipate	ND		0.59		ug/L		10/15/22 15:26	10/17/22 13:28	1
Bis(2-ethylhexyl) phthalate	ND		0.59		ug/L		10/15/22 15:26	10/17/22 13:28	1
Dibenz(a,h)anthracene	ND		0.049		ug/L		10/15/22 15:26	10/17/22 13:28	1
Diclorvos (DDVP)	ND		0.049		ug/L		10/15/22 15:26	10/17/22 13:28	1
Dieldrin	ND		0.20		ug/L		10/15/22 15:26	10/17/22 13:28	1
Diethylphthalate	ND		0.49		ug/L		10/15/22 15:26	10/17/22 13:28	1
Dimethylphthalate	ND		0.49		ug/L		10/15/22 15:26	10/17/22 13:28	1
Di-n-butyl phthalate	ND		0.99		ug/L		10/15/22 15:26	10/17/22 13:28	1
Di-n-octyl phthalate	ND		0.099		ug/L		10/15/22 15:26	10/17/22 13:28	1
Endosulfan I (Alpha)	ND		0.099		ug/L		10/15/22 15:26	10/17/22 13:28	1
Endosulfan II (Beta)	ND		0.099		ug/L		10/15/22 15:26	10/17/22 13:28	1
Endosulfan sulfate	ND		0.099		ug/L		10/15/22 15:26	10/17/22 13:28	1
Endrin	ND		0.099		ug/L		10/15/22 15:26	10/17/22 13:28	1
Endrin aldehyde	ND		0.099		ug/L		10/15/22 15:26	10/17/22 13:28	1
EPTC	ND		0.099		ug/L		10/15/22 15:26	10/17/22 13:28	1
Fluoranthene	ND		0.099		ug/L		10/15/22 15:26	10/17/22 13:28	1
Fluorene	ND		0.049		ug/L		10/15/22 15:26	10/17/22 13:28	1

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

Lab Sample ID: MB 380-20849/1-A
Matrix: Water
Analysis Batch: 20905

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 20849

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
gamma-Chlordane	ND		0.049		ug/L		10/15/22 15:26	10/17/22 13:28	1
Heptachlor	ND		0.040		ug/L		10/15/22 15:26	10/17/22 13:28	1
Heptachlor epoxide (isomer B)	ND		0.049		ug/L		10/15/22 15:26	10/17/22 13:28	1
Hexachlorobenzene	ND		0.049		ug/L		10/15/22 15:26	10/17/22 13:28	1
Hexachlorocyclopentadiene	ND		0.049		ug/L		10/15/22 15:26	10/17/22 13:28	1
Indeno[1,2,3-cd]pyrene	ND		0.049		ug/L		10/15/22 15:26	10/17/22 13:28	1
Isophorone	ND		0.49		ug/L		10/15/22 15:26	10/17/22 13:28	1
Lindane	ND		0.040		ug/L		10/15/22 15:26	10/17/22 13:28	1
Malathion	ND		0.099		ug/L		10/15/22 15:26	10/17/22 13:28	1
Methoxychlor	ND		0.099		ug/L		10/15/22 15:26	10/17/22 13:28	1
Metolachlor	ND		0.049		ug/L		10/15/22 15:26	10/17/22 13:28	1
Metribuzin	ND		0.049		ug/L		10/15/22 15:26	10/17/22 13:28	1
Molinate	ND		0.099		ug/L		10/15/22 15:26	10/17/22 13:28	1
Naphthalene	ND		0.30		ug/L		10/15/22 15:26	10/17/22 13:28	1
Parathion	ND		0.099		ug/L		10/15/22 15:26	10/17/22 13:28	1
Pendimethalin (Penoxaline)	ND		0.099		ug/L		10/15/22 15:26	10/17/22 13:28	1
Total Permethrin (mixed isomers)	ND		0.20		ug/L		10/15/22 15:26	10/17/22 13:28	1
Phenanthrene	ND		0.040		ug/L		10/15/22 15:26	10/17/22 13:28	1
Propachlor	ND		0.049		ug/L		10/15/22 15:26	10/17/22 13:28	1
Pyrene	ND		0.049		ug/L		10/15/22 15:26	10/17/22 13:28	1
Simazine	ND		0.049		ug/L		10/15/22 15:26	10/17/22 13:28	1
Terbacil	ND		0.099		ug/L		10/15/22 15:26	10/17/22 13:28	1
Terbuthylazine	ND		0.099		ug/L		10/15/22 15:26	10/17/22 13:28	1
Thiobencarb	ND		0.20		ug/L		10/15/22 15:26	10/17/22 13:28	1
trans-Nonachlor	ND		0.049		ug/L		10/15/22 15:26	10/17/22 13:28	1
Trifluralin	ND		0.099		ug/L		10/15/22 15:26	10/17/22 13:28	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Decane	*1.31*	*T J N*	*ug/L*		*2.45*	*124-18-5*	*10/15/22 15:26*	*10/17/22 13:28*	*1*
n-Hexadecanoic acid	*0.547*	*T J N*	*ug/L*		*5.85*	*57-10-3*	*10/15/22 15:26*	*10/17/22 13:28*	*1*
9-Octadecenamide, (Z)-	*0.541*	*T J N*	*ug/L*		*7.52*	*301-02-0*	*10/15/22 15:26*	*10/17/22 13:28*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Nitro-m-xylene	*98*		*70 - 130*	*10/15/22 15:26*	*10/17/22 13:28*	*1*
Triphenylphosphate	*106*		*70 - 130*	*10/15/22 15:26*	*10/17/22 13:28*	*1*
Perylene-d12	*93*		*70 - 130*	*10/15/22 15:26*	*10/17/22 13:28*	*1*

Lab Sample ID: LCS 380-20849/3-A
Matrix: Water
Analysis Batch: 20905

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 20849

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2,4'-DDD	1.97	2.04		ug/L		104	70 - 130
2,4'-DDE	1.97	1.97		ug/L		100	70 - 130
2,4'-DDT	1.97	2.18		ug/L		111	70 - 130
2,4-Dinitrotoluene	1.97	1.79		ug/L		91	70 - 130
2,6-Dinitrotoluene	1.97	1.79		ug/L		91	70 - 130
4,4'-DDD	1.97	2.20		ug/L		112	70 - 130

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

Lab Sample ID: LCS 380-20849/3-A
Matrix: Water
Analysis Batch: 20905

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 20849

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
4,4'-DDE	1.97	2.00		ug/L		102	70 - 130
4,4'-DDT	1.97	2.04		ug/L		104	70 - 130
Acenaphthene	1.97	1.80		ug/L		92	70 - 130
Acenaphthylene	1.97	1.77		ug/L		90	70 - 130
Acetochlor	1.97	1.86		ug/L		94	70 - 130
Alachlor	1.97	2.04		ug/L		104	70 - 130
alpha-BHC	1.97	2.13		ug/L		108	70 - 130
alpha-Chlordane	1.97	1.72		ug/L		87	70 - 130
Anthracene	1.97	1.94		ug/L		99	70 - 130
Atrazine	1.97	2.02		ug/L		103	70 - 130
Benz(a)anthracene	1.97	2.15		ug/L		109	70 - 130
Benzo[a]pyrene	1.97	2.16		ug/L		110	70 - 130
Benzo[b]fluoranthene	1.97	2.23		ug/L		113	70 - 130
Benzo[g,h,i]perylene	1.97	2.23		ug/L		113	70 - 130
Benzo[k]fluoranthene	1.97	2.27		ug/L		116	70 - 130
beta-BHC	1.97	2.04		ug/L		104	70 - 130
Bromacil	1.97	1.89		ug/L		96	70 - 130
Butachlor	1.97	2.16		ug/L		110	70 - 130
Butylbenzylphthalate	1.97	2.10		ug/L		107	70 - 130
Chlorobenzilate	1.97	2.02		ug/L		103	70 - 130
Chloroneb	1.97	2.11		ug/L		107	70 - 130
Chlorothalonil (Draconil, Bravo)	1.97	2.14		ug/L		109	70 - 130
Chlorpyrifos	1.97	2.17		ug/L		110	70 - 130
Chrysene	1.97	2.12		ug/L		108	70 - 130
delta-BHC	1.97	1.95		ug/L		99	70 - 130
Di(2-ethylhexyl)adipate	1.97	2.06		ug/L		105	70 - 130
Bis(2-ethylhexyl) phthalate	1.97	1.97		ug/L		100	70 - 130
Dibenz(a,h)anthracene	1.97	2.35		ug/L		120	70 - 130
Diclorvos (DDVP)	1.97	2.08		ug/L		106	70 - 130
Dieldrin	1.97	2.18		ug/L		111	70 - 130
Diethylphthalate	1.97	1.91		ug/L		97	70 - 130
Dimethylphthalate	1.97	1.94		ug/L		99	70 - 130
Di-n-butyl phthalate	3.93	4.40		ug/L		112	70 - 130
Di-n-octyl phthalate	1.97	1.80		ug/L		92	70 - 130
Endosulfan I (Alpha)	1.97	2.15		ug/L		109	70 - 130
Endosulfan II (Beta)	1.97	2.33		ug/L		119	70 - 130
Endosulfan sulfate	1.97	2.39		ug/L		122	70 - 130
Endrin	1.97	2.13		ug/L		108	70 - 130
Endrin aldehyde	1.97	1.47		ug/L		75	70 - 130
EPTC	1.97	1.84		ug/L		93	70 - 130
Fluoranthene	1.97	2.14		ug/L		109	70 - 130
Fluorene	1.97	1.93		ug/L		98	70 - 130
gamma-Chlordane	1.97	1.77		ug/L		90	70 - 130
Heptachlor	1.97	2.03		ug/L		103	70 - 130
Heptachlor epoxide (isomer B)	1.97	1.85		ug/L		94	70 - 130
Hexachlorobenzene	1.97	1.75		ug/L		89	70 - 130
Hexachlorocyclopentadiene	1.97	2.17		ug/L		111	70 - 130
Indeno[1,2,3-cd]pyrene	1.97	2.32		ug/L		118	70 - 130
Isophorone	1.97	1.98		ug/L		101	70 - 130

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

Lab Sample ID: LCS 380-20849/3-A
Matrix: Water
Analysis Batch: 20905

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 20849

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Lindane			1.97	2.14		ug/L		109	70 - 130		
Malathion			1.97	2.12		ug/L		108	70 - 130		
Methoxychlor			1.97	2.17		ug/L		110	70 - 130		
Metolachlor			1.97	2.11		ug/L		107	70 - 130		
Metribuzin			1.97	1.76		ug/L		89	70 - 130		
Molinate			1.97	1.97		ug/L		100	70 - 130		
Naphthalene			1.97	1.79		ug/L		91	70 - 130		
Parathion			1.97	2.03		ug/L		103	70 - 130		
Pendimethalin (Penoxaline)			1.97	2.01		ug/L		102	70 - 130		
Phenanthrene			1.97	1.95		ug/L		99	70 - 130		
Propachlor			1.97	2.08		ug/L		106	70 - 130		
Pyrene			1.97	2.17		ug/L		110	70 - 130		
Simazine			1.97	2.10		ug/L		107	70 - 130		
Terbacil			1.97	1.90		ug/L		97	70 - 130		
Terbuthylazine			1.97	2.09		ug/L		106	70 - 130		
Thiobencarb			1.97	1.92		ug/L		98	70 - 130		
trans-Nonachlor			1.97	2.30		ug/L		117	70 - 130		
Trifluralin			1.97	2.04		ug/L		104	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Nitro-m-xylene	*98*		*70 - 130*
Triphenylphosphate	*107*		*70 - 130*
Perylene-d12	*96*		*70 - 130*

Lab Sample ID: LCSD 380-20849/4-A
Matrix: Water
Analysis Batch: 20905

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 20849

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
2,4'-DDD			1.97	1.97		ug/L		100	70 - 130	3	20
2,4'-DDE			1.97	1.96		ug/L		100	70 - 130	0	20
2,4'-DDT			1.97	2.16		ug/L		110	70 - 130	1	20
2,4-Dinitrotoluene			1.97	1.79		ug/L		91	70 - 130	0	20
2,6-Dinitrotoluene			1.97	1.74		ug/L		89	70 - 130	2	20
4,4'-DDD			1.97	2.23		ug/L		113	70 - 130	1	20
4,4'-DDE			1.97	2.08		ug/L		105	70 - 130	4	20
4,4'-DDT			1.97	2.02		ug/L		103	70 - 130	1	20
Acenaphthene			1.97	1.78		ug/L		90	70 - 130	1	20
Acenaphthylene			1.97	1.76		ug/L		89	70 - 130	1	20
Acetochlor			1.97	1.87		ug/L		95	70 - 130	1	20
Alachlor			1.97	2.03		ug/L		103	70 - 130	0	20
alpha-BHC			1.97	2.09		ug/L		106	70 - 130	2	20
alpha-Chlordane			1.97	1.71		ug/L		87	70 - 130	0	20
Anthracene			1.97	1.90		ug/L		96	70 - 130	2	20
Atrazine			1.97	2.00		ug/L		102	70 - 130	1	20
Benz(a)anthracene			1.97	2.16		ug/L		110	70 - 130	0	20
Benzo[a]pyrene			1.97	2.14		ug/L		108	70 - 130	1	20
Benzo[b]fluoranthene			1.97	2.24		ug/L		114	70 - 130	1	20

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

Lab Sample ID: LCSD 380-20849/4-A
Matrix: Water
Analysis Batch: 20905

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 20849

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzo[g,h,i]perylene			1.97	2.16		ug/L		110	70 - 130	3	20
Benzo[k]fluoranthene			1.97	2.21		ug/L		112	70 - 130	3	20
beta-BHC			1.97	2.03		ug/L		103	70 - 130	1	20
Bromacil			1.97	1.86		ug/L		94	70 - 130	2	20
Butachlor			1.97	2.13		ug/L		108	70 - 130	1	20
Butylbenzylphthalate			1.97	2.09		ug/L		106	70 - 130	1	20
Chlorobenzilate			1.97	2.10		ug/L		106	70 - 130	4	20
Chloroneb			1.97	2.09		ug/L		106	70 - 130	1	20
Chlorothalonil (Draconil, Bravo)			1.97	2.14		ug/L		109	70 - 130	0	20
Chlorpyrifos			1.97	2.17		ug/L		110	70 - 130	0	20
Chrysene			1.97	2.17		ug/L		110	70 - 130	2	20
delta-BHC			1.97	1.95		ug/L		99	70 - 130	0	20
Di(2-ethylhexyl)adipate			1.97	2.03		ug/L		103	70 - 130	2	20
Bis(2-ethylhexyl) phthalate			1.97	1.97		ug/L		100	70 - 130	0	20
Dibenz(a,h)anthracene			1.97	2.23		ug/L		113	70 - 130	5	20
Diclorvos (DDVP)			1.97	2.08		ug/L		106	70 - 130	0	20
Dieldrin			1.97	2.19		ug/L		111	70 - 130	1	20
Diethylphthalate			1.97	1.91		ug/L		97	70 - 130	0	20
Dimethylphthalate			1.97	1.97		ug/L		100	70 - 130	1	20
Di-n-butyl phthalate			3.94	4.12		ug/L		105	70 - 130	7	20
Di-n-octyl phthalate			1.97	1.77		ug/L		90	70 - 130	2	20
Endosulfan I (Alpha)			1.97	2.06		ug/L		105	70 - 130	4	20
Endosulfan II (Beta)			1.97	2.32		ug/L		118	70 - 130	0	20
Endosulfan sulfate			1.97	2.32		ug/L		118	70 - 130	3	20
Endrin			1.97	2.19		ug/L		111	70 - 130	3	20
Endrin aldehyde			1.97	1.46		ug/L		74	70 - 130	1	20
EPTC			1.97	1.85		ug/L		94	70 - 130	1	20
Fluoranthene			1.97	2.15		ug/L		109	70 - 130	1	20
Fluorene			1.97	1.87		ug/L		95	70 - 130	3	20
gamma-Chlordane			1.97	1.73		ug/L		88	70 - 130	2	20
Heptachlor			1.97	1.96		ug/L		99	70 - 130	3	20
Heptachlor epoxide (isomer B)			1.97	1.73		ug/L		88	70 - 130	7	20
Hexachlorobenzene			1.97	1.75		ug/L		89	70 - 130	0	20
Hexachlorocyclopentadiene			1.97	2.12		ug/L		107	70 - 130	3	20
Indeno[1,2,3-cd]pyrene			1.97	2.20		ug/L		112	70 - 130	5	20
Isophorone			1.97	1.94		ug/L		98	70 - 130	2	20
Lindane			1.97	2.09		ug/L		106	70 - 130	3	20
Malathion			1.97	2.11		ug/L		107	70 - 130	0	20
Methoxychlor			1.97	2.22		ug/L		113	70 - 130	2	20
Metolachlor			1.97	2.17		ug/L		110	70 - 130	3	20
Metribuzin			1.97	1.70		ug/L		86	70 - 130	3	20
Molinate			1.97	1.92		ug/L		98	70 - 130	2	20
Naphthalene			1.97	1.77		ug/L		90	70 - 130	1	20
Parathion			1.97	2.01		ug/L		102	70 - 130	1	20
Pendimethalin (Penoxaline)			1.97	1.98		ug/L		101	70 - 130	1	20
Phenanthrene			1.97	1.92		ug/L		98	70 - 130	1	20
Propachlor			1.97	2.07		ug/L		105	70 - 130	1	20
Pyrene			1.97	2.18		ug/L		111	70 - 130	1	20
Simazine			1.97	2.08		ug/L		106	70 - 130	1	20

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

Lab Sample ID: LCSD 380-20849/4-A
Matrix: Water
Analysis Batch: 20905

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 20849

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Terbacil			1.97	1.84		ug/L		93	70 - 130	3	20
Terbuthylazine			1.97	2.07		ug/L		105	70 - 130	1	20
Thiobencarb			1.97	1.94		ug/L		99	70 - 130	1	20
trans-Nonachlor			1.97	2.25		ug/L		114	70 - 130	2	20
Trifluralin			1.97	1.96		ug/L		99	70 - 130	4	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Nitro-m-xylene	*97*		*70 - 130*
Triphenylphosphate	*108*		*70 - 130*
Perylene-d12	*95*		*70 - 130*

Lab Sample ID: MRL 380-20849/2-A
Matrix: Water
Analysis Batch: 20905

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 20849

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits		
2,4'-DDD			0.0989	0.123		ug/L		124	50 - 150		
2,4'-DDE			0.0989	0.102		ug/L		103	50 - 150		
2,4'-DDT			0.0989	0.104		ug/L		105	50 - 150		
2,4-Dinitrotoluene			0.0989	0.0829	J	ug/L		84	50 - 150		
2,6-Dinitrotoluene			0.0989	0.0840	J	ug/L		85	50 - 150		
4,4'-DDD			0.0989	0.114		ug/L		115	50 - 150		
4,4'-DDE			0.0989	0.127		ug/L		128	50 - 150		
4,4'-DDT			0.0989	0.124		ug/L		126	50 - 150		
Acenaphthene			0.0989	0.0953	J	ug/L		96	50 - 150		
Acenaphthylene			0.0989	0.0839	J	ug/L		85	50 - 150		
Acetochlor			0.0495	0.0483	J	ug/L		98	50 - 150		
Alachlor			0.0495	0.0647		ug/L		131	50 - 150		
alpha-BHC			0.0989	0.115		ug/L		116	50 - 150		
alpha-Chlordane			0.0495	0.0563		ug/L		114	50 - 150		
Anthracene			0.0198	ND		ug/L		83	50 - 150		
Atrazine			0.0495	0.0646		ug/L		131	50 - 150		
Benz(a)anthracene			0.0495	0.0566		ug/L		114	50 - 150		
Benzo[a]pyrene			0.0198	0.0175	J	ug/L		89	50 - 150		
Benzo[b]fluoranthene			0.0198	0.0195	J	ug/L		98	50 - 150		
Benzo[g,h,i]perylene			0.0495	0.0359	J	ug/L		73	50 - 150		
Benzo[k]fluoranthene			0.0198	ND		ug/L		84	50 - 150		
beta-BHC			0.0989	0.122		ug/L		124	50 - 150		
Bromacil			0.0989	0.157	^3+	ug/L		159	50 - 150		
Butachlor			0.0495	0.0640		ug/L		129	50 - 150		
Butylbenzylphthalate			0.148	0.208	J	ug/L		140	50 - 150		
Chlorobenzilate			0.0989	0.127		ug/L		129	50 - 150		
Chloroneb			0.0989	0.100		ug/L		101	50 - 150		
Chlorothalonil (Draconil, Bravo)			0.0989	0.0945	J	ug/L		96	50 - 150		
Chlorpyrifos			0.0495	0.0532		ug/L		108	50 - 150		
Chrysene			0.0198	0.0232		ug/L		117	50 - 150		
delta-BHC			0.0989	0.117		ug/L		119	50 - 150		
Di(2-ethylhexyl)adipate			0.297	0.410	J	ug/L		138	50 - 150		

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

Lab Sample ID: MRL 380-20849/2-A
Matrix: Water
Analysis Batch: 20905

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 20849

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Bis(2-ethylhexyl) phthalate	0.593	0.807		ug/L		136	50 - 150
Dibenz(a,h)anthracene	0.0495	0.0356	J	ug/L		72	50 - 150
Diclorvos (DDVP)	0.0495	0.0577		ug/L		117	50 - 150
Dieldrin	0.0989	0.116	J	ug/L		117	50 - 150
Diethylphthalate	0.148	0.205	J	ug/L		138	50 - 150
Dimethylphthalate	0.297	0.291	J	ug/L		98	50 - 150
Di-n-butyl phthalate	0.297	0.424	J	ug/L		143	49 - 243
Di-n-octyl phthalate	0.0989	0.0936	J	ug/L		95	50 - 150
Endosulfan I (Alpha)	0.0989	0.114		ug/L		115	50 - 150
Endosulfan II (Beta)	0.0989	0.142		ug/L		144	50 - 150
Endosulfan sulfate	0.0989	0.0986	J	ug/L		100	50 - 150
Endrin	0.0989	0.158	^3+	ug/L		160	50 - 150
Endrin aldehyde	0.0989	0.115		ug/L		116	50 - 150
EPTC	0.0989	0.0933	J	ug/L		94	50 - 150
Fluoranthene	0.0495	0.0546	J	ug/L		110	50 - 150
Fluorene	0.0495	0.0504		ug/L		102	50 - 150
gamma-Chlordane	0.0495	0.0513		ug/L		104	50 - 150
Heptachlor	0.0396	0.0512		ug/L		130	50 - 150
Heptachlor epoxide (isomer B)	0.0495	0.0542		ug/L		110	50 - 150
Hexachlorobenzene	0.0495	0.0851	^3+	ug/L		172	50 - 150
Hexachlorocyclopentadiene	0.0495	0.0393	J	ug/L		79	50 - 150
Indeno[1,2,3-cd]pyrene	0.0495	0.0359	J	ug/L		73	50 - 150
Isophorone	0.0989	0.101	J	ug/L		102	50 - 150
Lindane	0.0495	0.0501		ug/L		101	50 - 150
Malathion	0.0989	0.0928	J	ug/L		94	50 - 150
Methoxychlor	0.0989	0.130		ug/L		132	50 - 150
Metolachlor	0.0495	0.0592		ug/L		120	50 - 150
Metribuzin	0.0495	0.0689		ug/L		139	50 - 150
Molinate	0.0989	0.101		ug/L		102	50 - 150
Naphthalene	0.0989	0.0944	J	ug/L		95	50 - 150
Parathion	0.0989	0.116		ug/L		118	50 - 150
Pendimethalin (Penoxaline)	0.0989	0.129		ug/L		130	50 - 150
Phenanthrene	0.0198	0.0199	J	ug/L		101	50 - 150
Propachlor	0.0495	0.0656		ug/L		133	50 - 150
Pyrene	0.0495	0.0582		ug/L		118	50 - 150
Simazine	0.0495	0.0740		ug/L		150	50 - 150
Terbacil	0.0989	0.115		ug/L		117	50 - 150
Terbuthylazine	0.0989	0.160	^3+	ug/L		162	50 - 150
Thiobencarb	0.0989	0.129	J	ug/L		130	50 - 150
trans-Nonachlor	0.0495	0.0454	J	ug/L		92	50 - 150
Trifluralin	0.0989	0.107		ug/L		108	50 - 150

Surrogate	*MRL %Recovery*	*MRL Qualifier*	*Limits*
2-Nitro-m-xylene	*88*		*70 - 130*
Triphenylphosphate	*121*		*70 - 130*
Perylene-d12	*90*		*70 - 130*

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

Lab Sample ID: 380-24398-B-1-A MS
Matrix: Water
Analysis Batch: 20905

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 20849

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
2,4'-DDD	ND		1.95	2.04		ug/L		104	70 - 130
2,4'-DDE	ND		1.95	1.94		ug/L		100	70 - 130
2,4'-DDT	ND		1.95	2.19		ug/L		112	70 - 130
2,4-Dinitrotoluene	ND		1.95	1.85		ug/L		95	70 - 130
2,6-Dinitrotoluene	ND		1.95	1.86		ug/L		95	70 - 130
4,4'-DDD	ND		1.95	2.19		ug/L		112	70 - 130
4,4'-DDE	ND		1.95	2.04		ug/L		105	70 - 130
4,4'-DDT	ND		1.95	1.99		ug/L		102	70 - 130
Acenaphthene	ND		1.95	1.76		ug/L		90	70 - 130
Acenaphthylene	ND		1.95	1.71		ug/L		88	70 - 130
Acetochlor	ND		1.95	1.77		ug/L		91	70 - 130
Alachlor	ND		1.95	1.96		ug/L		100	70 - 130
alpha-BHC	ND		1.95	2.12		ug/L		109	70 - 130
alpha-Chlordane	ND		1.95	1.66		ug/L		85	70 - 130
Anthracene	ND	F1	1.95	1.16	F1	ug/L		60	70 - 130
Atrazine	ND		1.95	1.94		ug/L		99	70 - 130
Benz(a)anthracene	ND		1.95	1.85		ug/L		95	70 - 130
Benzo[a]pyrene	ND		1.95	1.58		ug/L		81	70 - 130
Benzo[b]fluoranthene	ND		1.95	2.20		ug/L		113	70 - 130
Benzo[g,h,i]perylene	ND		1.95	2.19		ug/L		112	70 - 130
Benzo[k]fluoranthene	ND		1.95	2.19		ug/L		112	70 - 130
beta-BHC	ND		1.95	2.01		ug/L		103	70 - 130
Bromacil	ND	^3+	1.95	1.87		ug/L		96	70 - 130
Butachlor	ND		1.95	2.11		ug/L		108	70 - 130
Butylbenzylphthalate	ND		1.95	2.28		ug/L		106	70 - 130
Chlorobenzilate	ND		1.95	2.13		ug/L		109	70 - 130
Chloroneb	ND		1.95	2.10		ug/L		108	70 - 130
Chlorothalonil (Draconil, Bravo)	ND		1.95	2.08		ug/L		107	70 - 130
Chlorpyrifos	ND		1.95	2.07		ug/L		106	70 - 130
Chrysene	ND		1.95	2.17		ug/L		111	70 - 130
delta-BHC	ND		1.95	1.91		ug/L		98	70 - 130
Di(2-ethylhexyl)adipate	ND		1.95	2.02		ug/L		104	70 - 130
Bis(2-ethylhexyl) phthalate	ND		1.95	2.19		ug/L		112	70 - 130
Dibenz(a,h)anthracene	ND		1.95	2.32		ug/L		119	70 - 130
Diclorvos (DDVP)	ND		1.95	1.94		ug/L		99	70 - 130
Dieldrin	ND		1.95	2.14		ug/L		110	70 - 130
Diethylphthalate	ND		1.95	1.92		ug/L		98	70 - 130
Dimethylphthalate	ND		1.95	1.86		ug/L		96	70 - 130
Di-n-butyl phthalate	ND		3.90	4.20		ug/L		108	70 - 130
Di-n-octyl phthalate	ND		1.95	1.96		ug/L		101	70 - 130
Endosulfan I (Alpha)	ND		1.95	2.11		ug/L		108	70 - 130
Endosulfan II (Beta)	ND		1.95	2.31		ug/L		118	70 - 130
Endosulfan sulfate	ND		1.95	2.32		ug/L		119	70 - 130
Endrin	ND	^3+	1.95	1.92		ug/L		98	70 - 130
Endrin aldehyde	ND		1.95	1.38		ug/L		71	70 - 130
EPTC	ND		1.95	1.86		ug/L		95	70 - 130
Fluoranthene	ND		1.95	2.10		ug/L		107	70 - 130
Fluorene	ND		1.95	1.90		ug/L		97	70 - 130

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

Lab Sample ID: 380-24398-B-1-A MS
Matrix: Water
Analysis Batch: 20905

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 20849

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
gamma-Chlordane	ND		1.95	1.74		ug/L		89	70 - 130
Heptachlor	ND		1.95	2.01		ug/L		103	70 - 130
Heptachlor epoxide (isomer B)	ND		1.95	1.64		ug/L		84	70 - 130
Hexachlorobenzene	ND	^3+	1.95	1.78		ug/L		91	70 - 130
Hexachlorocyclopentadiene	ND		1.95	2.22		ug/L		114	70 - 130
Indeno[1,2,3-cd]pyrene	ND		1.95	2.30		ug/L		118	70 - 130
Isophorone	ND		1.95	1.84		ug/L		94	70 - 130
Lindane	ND		1.95	2.10		ug/L		108	70 - 130
Malathion	ND		1.95	2.15		ug/L		110	70 - 130
Methoxychlor	ND		1.95	2.30		ug/L		118	70 - 130
Metolachlor	ND		1.95	2.06		ug/L		106	70 - 130
Metribuzin	ND		1.95	1.64		ug/L		84	70 - 130
Molinate	ND		1.95	1.93		ug/L		99	70 - 130
Naphthalene	ND		1.95	1.76		ug/L		90	70 - 130
Parathion	ND		1.95	2.06		ug/L		106	70 - 130
Pendimethalin (Penoxaline)	ND		1.95	2.02		ug/L		103	70 - 130
Phenanthrene	ND		1.95	1.91		ug/L		98	70 - 130
Propachlor	ND		1.95	2.04		ug/L		105	70 - 130
Pyrene	ND		1.95	2.11		ug/L		108	70 - 130
Simazine	ND		1.95	2.01		ug/L		103	70 - 130
Terbacil	ND		1.95	1.76		ug/L		90	70 - 130
Terbuthylazine	ND	^3+	1.95	2.03		ug/L		104	70 - 130
Thiobencarb	ND		1.95	1.92		ug/L		98	70 - 130
trans-Nonachlor	ND		1.95	2.23		ug/L		114	70 - 130
Trifluralin	ND		1.95	2.01		ug/L		103	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2-Nitro-m-xylene	*99*		*70 - 130*
Triphenylphosphate	*101*		*70 - 130*
Perylene-d12	*87*		*70 - 130*

Lab Sample ID: 380-24401-B-1-A DU
Matrix: Water
Analysis Batch: 20905

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 20849

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		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

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

Lab Sample ID: 380-24401-B-1-A DU
Matrix: Water
Analysis Batch: 20905

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 20849

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
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	^3+		ND		ug/L				NC	20
Butachlor	ND			ND		ug/L				NC	20
Butylbenzylphthalate	ND			ND		ug/L				NC	20
Chlorobenzilate	ND			ND		ug/L				NC	20
Chloroneb	ND			ND		ug/L				NC	20
Chlorothalonil (Draconil, Bravo)	ND			ND		ug/L				NC	20
Chlorpyrifos	ND			ND		ug/L				NC	20
Chrysene	ND			ND		ug/L				NC	20
delta-BHC	ND			ND		ug/L				NC	20
Di(2-ethylhexyl)adipate	ND			ND		ug/L				NC	20
Bis(2-ethylhexyl) phthalate	ND			ND		ug/L				NC	20
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
Dimethylphthalate	ND			ND		ug/L				NC	20
Di-n-butyl phthalate	ND			ND		ug/L				NC	20
Di-n-octyl phthalate	ND			ND		ug/L				NC	20
Endosulfan I (Alpha)	ND			ND		ug/L				NC	20
Endosulfan II (Beta)	ND			ND		ug/L				NC	20
Endosulfan sulfate	ND			ND		ug/L				NC	20
Endrin	ND	^3+		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

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

Lab Sample ID: 380-24401-B-1-A DU
Matrix: Water
Analysis Batch: 20905

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 20849

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
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	^3+		ND		ug/L				NC	20
Thiobencarb	ND			ND		ug/L				NC	20
trans-Nonachlor	ND			ND		ug/L				NC	20
Trifluralin	ND			ND		ug/L				NC	20

Surrogate	*DU %Recovery*	*DU Qualifier*	*Limits*
2-Nitro-m-xylene	*98*		*70 - 130*
Triphenylphosphate	*106*		*70 - 130*
Perylene-d12	*91*		*70 - 130*

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

Lab Sample ID: 100806-B1
Matrix: BlankMatrix
Analysis Batch: O-40002

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: O-40002_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.005	0.001	µg/L		10/17/22 00:00	10/24/22 11:46	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		10/17/22 00:00	10/24/22 11:46	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		10/17/22 00:00	10/24/22 11:46	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		10/17/22 00:00	10/24/22 11:46	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		10/17/22 00:00	10/24/22 11:46	1
Acenaphthene	ND		0.005	0.001	µg/L		10/17/22 00:00	10/24/22 11:46	1
Acenaphthylene	ND		0.005	0.001	µg/L		10/17/22 00:00	10/24/22 11:46	1
Anthracene	ND		0.005	0.001	µg/L		10/17/22 00:00	10/24/22 11:46	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		10/17/22 00:00	10/24/22 11:46	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		10/17/22 00:00	10/24/22 11:46	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		10/17/22 00:00	10/24/22 11:46	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		10/17/22 00:00	10/24/22 11:46	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		10/17/22 00:00	10/24/22 11:46	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		10/17/22 00:00	10/24/22 11:46	1
Biphenyl	ND		0.005	0.001	µg/L		10/17/22 00:00	10/24/22 11:46	1
Chrysene	ND		0.005	0.001	µg/L		10/17/22 00:00	10/24/22 11:46	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		10/17/22 00:00	10/24/22 11:46	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		10/17/22 00:00	10/24/22 11:46	1
Dibenzothiophene	ND		0.005	0.001	µg/L		10/17/22 00:00	10/24/22 11:46	1
Disalicylidenepropanediamine	ND		0.1	0.05	µg/L		10/17/22 00:00	10/24/22 11:46	1
Fluoranthene	ND		0.005	0.001	µg/L		10/17/22 00:00	10/24/22 11:46	1
Fluorene	ND		0.005	0.001	µg/L		10/17/22 00:00	10/24/22 11:46	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		10/17/22 00:00	10/24/22 11:46	1

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

Lab Sample ID: 100806-B1
Matrix: BlankMatrix
Analysis Batch: O-40002

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: O-40002_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.005	0.001	µg/L		10/17/22 00:00	10/24/22 11:46	1
Perylene	ND		0.005	0.001	µg/L		10/17/22 00:00	10/24/22 11:46	1
Phenanthrene	ND		0.005	0.001	µg/L		10/17/22 00:00	10/24/22 11:46	1
Pyrene	ND		0.005	0.001	µg/L		10/17/22 00:00	10/24/22 11:46	1

Surrogate	*Blank %Recovery*	*Blank Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
(d10-Acenaphthene)	*108*		*27 - 133*	*10/17/22 00:00*	*10/24/22 11:46*	*1*
(d10-Phenanthrene)	*99*		*43 - 129*	*10/17/22 00:00*	*10/24/22 11:46*	*1*
(d12-Chrysene)	*78*		*52 - 144*	*10/17/22 00:00*	*10/24/22 11:46*	*1*
(d12-Perylene)	*84*		*36 - 161*	*10/17/22 00:00*	*10/24/22 11:46*	*1*
(d8-Naphthalene)	*82*		*25 - 125*	*10/17/22 00:00*	*10/24/22 11:46*	*1*

Lab Sample ID: 100806-BS1
Matrix: BlankMatrix
Analysis Batch: O-40002

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: O-40002_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1-Methylnaphthalene	0.5	0.519		µg/L		104	31 - 128
1-Methylphenanthrene	0.5	0.482		µg/L		96	66 - 127
2,3,5-Trimethylnaphthalene	0.5	0.51		µg/L		102	55 - 122
2,6-Dimethylnaphthalene	0.5	0.508		µg/L		102	48 - 120
2-Methylnaphthalene	0.5	0.526		µg/L		105	47 - 130
Acenaphthene	0.5	0.523		µg/L		105	53 - 131
Acenaphthylene	0.5	0.499		µg/L		100	43 - 140
Anthracene	0.5	0.503		µg/L		101	58 - 135
Benz[a]anthracene	0.5	0.632		µg/L		126	55 - 145
Benzo[a]pyrene	0.5	0.478		µg/L		96	51 - 143
Benzo[b]fluoranthene	0.5	0.386		µg/L		77	46 - 165
Benzo[e]pyrene	0.5	0.465		µg/L		93	42 - 152
Benzo[g,h,i]perylene	0.5	0.486		µg/L		97	63 - 133
Benzo[k]fluoranthene	0.5	0.425		µg/L		85	56 - 145
Biphenyl	0.5	0.525		µg/L		105	56 - 119
Chrysene	0.5	0.486		µg/L		97	56 - 141
Dibenz[a,h]anthracene	0.5	0.451		µg/L		90	55 - 150
Dibenzo[a,l]pyrene	0.5	0.369		µg/L		74	50 - 150
Dibenzothiophene	0.5	0.515		µg/L		103	75 - 113
Disalicylidenepropanediamine	50	39.4		µg/L		79	50 - 150
Fluoranthene	0.5	0.488		µg/L		98	60 - 146
Fluorene	0.5	0.51		µg/L		102	58 - 131
Indeno[1,2,3-cd]pyrene	0.5	0.498		µg/L		100	50 - 151
Naphthalene	0.5	0.534		µg/L		107	41 - 126
Perylene	0.5	0.471		µg/L		94	48 - 141
Phenanthrene	0.5	0.527		µg/L		105	67 - 127
Pyrene	0.5	0.48		µg/L		96	54 - 156

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
(d10-Acenaphthene)	*120*		*27 - 133*
(d10-Phenanthrene)	*107*		*43 - 129*

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

Lab Sample ID: 100806-BS1
Matrix: BlankMatrix
Analysis Batch: O-40002

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: O-40002_P

Surrogate	LCS %Recovery	LCS Qualifier	Limits
(d12-Chrysene)	77		52 - 144
(d12-Perylene)	95		36 - 161
(d8-Naphthalene)	115		25 - 125

Lab Sample ID: 100806-BS2
Matrix: BlankMatrix
Analysis Batch: O-40002

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: O-40002_P

Analyte			Spike Added	LCS DUP Result	LCS DUP Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1-Methylnaphthalene			0.5	0.492		µg/L		98	31 - 128	6	30
1-Methylphenanthrene			0.5	0.621		µg/L		124	66 - 127	25	30
2,3,5-Trimethylnaphthalene			0.5	0.507		µg/L		101	55 - 122	1	30
2,6-Dimethylnaphthalene			0.5	0.491		µg/L		98	48 - 120	4	30
2-Methylnaphthalene			0.5	0.502		µg/L		100	47 - 130	5	30
Acenaphthene			0.5	0.534		µg/L		107	53 - 131	2	30
Acenaphthylene			0.5	0.491		µg/L		98	43 - 140	2	30
Anthracene			0.5	0.518		µg/L		104	58 - 135	3	30
Benz[a]anthracene			0.5	0.658		µg/L		132	55 - 145	5	30
Benzo[a]pyrene			0.5	0.479		µg/L		96	51 - 143	0	30
Benzo[b]fluoranthene			0.5	0.461		µg/L		92	46 - 165	18	30
Benzo[e]pyrene			0.5	0.472		µg/L		94	42 - 152	1	30
Benzo[g,h,i]perylene			0.5	0.491		µg/L		98	63 - 133	1	30
Benzo[k]fluoranthene			0.5	0.536		µg/L		107	56 - 145	23	30
Biphenyl			0.5	0.514		µg/L		103	56 - 119	2	30
Chrysene			0.5	0.493		µg/L		99	56 - 141	2	30
Dibenz[a,h]anthracene			0.5	0.454		µg/L		91	55 - 150	1	30
Dibenzo[a,l]pyrene			0.5	0.491		µg/L		98	50 - 150	28	30
Dibenzothiophene			0.5	0.521		µg/L		104	75 - 113	1	30
Disalicylidenepropanediamine			50	34.7		µg/L		69	50 - 150	14	30
Fluoranthene			0.5	0.638		µg/L		128	60 - 146	27	30
Fluorene			0.5	0.525		µg/L		105	58 - 131	3	30
Indeno[1,2,3-cd]pyrene			0.5	0.499		µg/L		100	50 - 151	0	30
Naphthalene			0.5	0.509		µg/L		102	41 - 126	5	30
Perylene			0.5	0.475		µg/L		95	48 - 141	1	30
Phenanthrene			0.5	0.539		µg/L		108	67 - 127	3	30
Pyrene			0.5	0.65		µg/L		130	54 - 156	30	30

Surrogate	LCS DUP %Recovery	LCS DUP Qualifier	Limits
(d10-Acenaphthene)	119		27 - 133
(d10-Phenanthrene)	107		43 - 129
(d12-Chrysene)	102		52 - 144
(d12-Perylene)	96		36 - 161
(d8-Naphthalene)	121		25 - 125

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

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

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

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

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
BROMOBENZENE					*10/24/22 19:18*	*1*
HEXACOSANE					*10/24/22 19:18*	*1*

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

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
DIESEL			2.50	2.70		mg/L		108	50 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
BROMOBENZENE	*103*		*60 - 130*
HEXACOSANE	*99*		*60 - 130*

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

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

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

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

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
BROMOFLUOROBENZENE					*10/17/22 21:22*	*1*

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

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

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

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
BROMOFLUOROBENZENE	*103*		*70 - 130*

GC/MS Semi VOA

Prep Batch: 20849

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-24077-1	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	525.2	
MB 380-20849/1-A	Method Blank	Total/NA	Water	525.2	
LCS 380-20849/3-A	Lab Control Sample	Total/NA	Water	525.2	
LCSD 380-20849/4-A	Lab Control Sample Dup	Total/NA	Water	525.2	
MRL 380-20849/2-A	Lab Control Sample	Total/NA	Water	525.2	
380-24398-B-1-A MS	Matrix Spike	Total/NA	Water	525.2	
380-24401-B-1-A DU	Duplicate	Total/NA	Water	525.2	

Analysis Batch: 20905

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-24077-1	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	525.2	20849
MB 380-20849/1-A	Method Blank	Total/NA	Water	525.2	20849
LCS 380-20849/3-A	Lab Control Sample	Total/NA	Water	525.2	20849
LCSD 380-20849/4-A	Lab Control Sample Dup	Total/NA	Water	525.2	20849
MRL 380-20849/2-A	Lab Control Sample	Total/NA	Water	525.2	20849
380-24398-B-1-A MS	Matrix Spike	Total/NA	Water	525.2	20849
380-24401-B-1-A DU	Duplicate	Total/NA	Water	525.2	20849

Subcontract

Analysis Batch: O-40002

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-24077-1	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	625 PAH Physis LL (EAL) + TICs	O-40002_P
100806-B1	Method Blank	Total/NA	BlankMatrix	625 PAH Physis LL (EAL) + TICs	O-40002_P
100806-BS1	Lab Control Sample	Total/NA	BlankMatrix	625 PAH Physis LL (EAL) + TICs	O-40002_P
100806-BS2	Lab Control Sample Dup	Total/NA	BlankMatrix	625 PAH Physis LL (EAL) + TICs	O-40002_P

Analysis Batch: 22DSJ049W

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-24077-1	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	8015 Diesel LL (EAL) and Motor Oil	
22DSJ049WB	Method Blank	Total/NA	WATER	8015 Diesel LL (EAL) and Motor Oil	
22DSJ049WL	Lab Control Sample	Total/NA	WATER	8015 Diesel LL (EAL) and Motor Oil	

Analysis Batch: 22VGH7J09

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-24077-1	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	8015 Gas (Purgeable) LL (EAL)	
380-24077-2	TB: MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	8015 Gas (Purgeable) LL (EAL)	
22VGH7J09B	Method Blank	Total/NA	WATER	8015 Gas (Purgeable) LL (EAL)	

Subcontract (Continued)

Analysis Batch: 22VGH7J09 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
22VGH7J09L	Lab Control Sample	Total/NA	WATER	8015 Gas (Purgeable) LL (EAL)	

Prep Batch: O-40002_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-24077-1	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	EPA_625	
100806-B1	Method Blank	Total/NA	BlankMatrix	EPA_625	
100806-BS1	Lab Control Sample	Total/NA	BlankMatrix	EPA_625	
100806-BS2	Lab Control Sample Dup	Total/NA	BlankMatrix	EPA_625	

Lab Chronicle

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

Job ID: 380-24077-1

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

Lab Sample ID: 380-24077-1

Date Collected: 10/10/22 10:15

Matrix: Drinking Water

Date Received: 10/12/22 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	525.2			20849	N8NE	EA MON	10/15/22 15:26
Total/NA	Analysis	525.2		1	20905	UPAC	EA MON	10/17/22 15:09
Total/NA	Prep	EPA_625		1	O-40002_P			10/17/22 00:00
Total/NA	Analysis	625 PAH Physis LL (EAL) + TICs		1	O-40002	YC		10/24/22 18:41
Total/NA	Analysis	8015 Diesel LL (EAL) and Motor Oil		1	22DSJ049W	SDees		10/24/22 23:18
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)		1	22VGH7J09	SCerva		10/18/22 06:45

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

Lab Sample ID: 380-24077-2

Date Collected: 10/10/22 10:15

Matrix: Drinking Water

Date Received: 10/12/22 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)		1	22VGH7J09	SCerva		10/18/22 07:20

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: 380-24077-1

Laboratory: Eurofins Eaton Monrovia

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

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

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

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

Laboratory: Eurofins Eaton Monrovia (Continued)

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

Authority	Program	Identification Number	Expiration Date

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

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

Method Summary

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

Job ID: 380-24077-1

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: 380-24077-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	PWSID Number
380-24077-1	MOANALUA WELLS (331-223-TP202)	Drinking Water	10/10/22 10:15	10/12/22 10:00	HI0000331
380-24077-2	TB: MOANALUA WELLS (331-223-TP202)	Drinking Water	10/10/22 10:15	10/12/22 10:00	

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

Date: 11-08-2022
EMAX Batch No.: 22J195

Attn: Jackie Contreras

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

Subject: Laboratory Report
Project: 380-24077

Enclosed is the Laboratory report for samples received on 10/13/22.
The data reported relate only to samples listed below :

Sample ID	Control #	Col Date	Matrix	Analysis
380-24077-1	J195-01	10/10/22	WATER	TPH GASOLINE
				TPH DIESEL & MOTOR OIL
380-24077-2	J195-02	10/10/22	WATER	TPH GASOLINE

The results are summarized on the following pages.

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

Sincerely yours,

Caspar J. Pang
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

22J195

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Arada, Rachelle	Carrier Tracking No(s):	COC No: 380-24115.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Rachelle.Arada@et.eurofinsus.com	State of Origin: Hawaii	Page: Page 1 of 1
Company: EMAX Laboratories Inc		Accreditations Required (See note): State - Hawaii		Job #: 380-24077-1
Address: 3051 Fujita Street, ,	Due Date Requested: 10/26/2022			
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:							
1	MOANALUA WELLS (331-223-TP202) (380-24077-1)	10/10/22	10:15 Hawaiian		Water			X	X	5	See Attached Instructions
2	TB: MOANALUA WELLS (331-223-TP202) (380-24077-2)	10/10/22	10:15 Hawaiian		Water			X		2	See Attached Instructions

Note: Since laboratory accreditations are subject to change, Eurofins Eaton Analytical, LLC places the ownership of method, analyte & accreditation compliance upon 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 *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *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
	10/13/22 1353			10/13/22 13:53	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: ① 2.2 ② 4.1

EMAX LABORATORIES, INC.

REFERENCE: EMAX-SM02 Rev. 12

SAMPLE RECEIPT FORM 1

Type of Delivery	Airbill / Tracking Number	ECN 22J195
☐ Fedex ☐ UPS ☐ GSO ☐ Others		Recipient Alan Ramos
☐ EMAX Courier ☑ Client Delivery		Date 10/12/22 Time 13:53

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	☐ _____
Temperatures (Cool, ≤6 °C but not frozen)	☑ Cooler 1 2.2 °C	☑ Cooler 2 4.1 °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
2		D22		R1

10/13/22 NB 10/17/22

☐ 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

☐ Continue to next page.

LEGEND:

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

Code	Description-Sample Management
D13	Out of Holding Time
D14	Bubble is >6mm
D15	No trip blank in cooler
D16	Preservation not indicated in _____
D17	Preservation mismatch COC vs label
D18	Insufficient chemical preservative
D19	Insufficient Sample
D20	No filtration info for dissolved analysis
D21	No sample for moisture determination
(D22)	Two dates 10/6 & 10/10
D23	_____
D24	_____

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

REVIEWS:

Sample Labeling Jocelyne Colmenares Date 10/13/22 10/13/22

SRF Date 10/13/22

PM Date 10/17/22

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

380-24077

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

SDG#: 22J195

CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 380-24077

SDG : 22J195

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

A total of two(2) water samples were received on 10/13/22 to be analyzed for Total Petroleum Hydrocarbons by Purge and Trap in accordance with Method 5030B/8015B and project specific requirements.

Holding Time
Samples were analyzed within the prescribed holding time.

Calibration
Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using a secondary source (ICV). Continuing calibration (CCV) verifications were carried out on a frequency specified by the project. All calibration requirements were within acceptance criteria. Refer to calibration summary forms of ICAL, ICV and CCV for details. MRL was analyzed as required by the project. Refer to MRL summary form for details.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. VGH7J09B - result was compliant to project requirement. Refer to sample result summary form for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of LCS/LCD was analyzed. VGH7J09L/VGH7J09C were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample
Matrix spike sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of MS/MSD was analyzed. Gasoline was within MS QC limits in J162-01M/J162-01S. Refer to Matrix QC summary form for details.

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

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

LAB CHRONICLE
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

Client : EUROFINS EATON ANALYTICAL
Project : 380-24077

SDG NO. : 22J195
Instrument ID : H7

WATER

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1W	VGH7J09B	1	NA	10/17/2221:22	10/17/2221:22	AJ16059A	AJ16058A	22VGH7J09	Method Blank
LCS1W	VGH7J09L	1	NA	10/17/2221:57	10/17/2221:57	AJ16060A	AJ16058A	22VGH7J09	Lab Control Sample (LCS)
LCD1W	VGH7J09C	1	NA	10/17/2222:32	10/17/2222:32	AJ16061A	AJ16058A	22VGH7J09	LCS Duplicate
380-24077-1	J195-01	1	NA	10/18/2206:45	10/18/2206:45	AJ16075A	AJ16070A	22VGH7J09	Field Sample
380-24077-2	J195-02	1	NA	10/18/2207:20	10/18/2207:20	AJ16076A	AJ16070A	22VGH7J09	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:	10/10/22 10:15
Project	: 380-24077	Date Received:	10/13/22
Batch No.	: 22J195	Date Extracted:	10/18/22 06:45
Sample ID	: 380-24077-1	Date Analyzed:	10/18/22 06:45
Lab Samp ID:	J195-01	Dilution Factor:	1
Lab File ID:	AJ16075A	Matrix:	WATER
Ext Btch ID:	22VGH7J09	% Moisture:	NA
Calib. Ref.:	AJ16070A	Instrument ID:	H7

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

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromofluorobenzene	0.0361	0.0400	90	60-140

Notes:

Parameter	H-C Range
Gasoline	C6-C10

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

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

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

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	10/10/22 10:15
Project	: 380-24077	Date Received:	10/13/22
Batch No.	: 22J195	Date Extracted:	10/18/22 07:20
Sample ID	: 380-24077-2	Date Analyzed:	10/18/22 07:20
Lab Samp ID:	J195-02	Dilution Factor:	1
Lab File ID:	AJ16076A	Matrix:	WATER
Ext Btch ID:	22VGH7J09	% Moisture:	NA
Calib. Ref.:	AJ16070A	Instrument ID:	H7

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

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromofluorobenzene	0.0359	0.0400	90	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:	10/17/22 21:22
Project	: 380-24077	Date Received:	10/17/22
Batch No.	: 22J195	Date Extracted:	10/17/22 21:22
Sample ID	: MBLK1W	Date Analyzed:	10/17/22 21:22
Lab Samp ID:	VGH7J09B	Dilution Factor:	1
Lab File ID:	AJ16059A	Matrix:	WATER
Ext Btch ID:	22VGH7J09	% Moisture:	NA
Calib. Ref.:	AJ16058A	Instrument ID:	H7

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

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromofluorobenzene	0.0346	0.0400	87	60-140

Notes:

Parameter	H-C Range
Gasoline	C6-C10

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

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

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL
PROJECT : 380-24077
BATCH NO. : 22J195
METHOD : 5030B/8015B

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

ACCESSION:

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

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

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

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

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

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

ACCESSION:

PARAMETERS	PSResult (mg/L)	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
Gasoline	ND	0.500	0.464	93	0.500	0.486	97	5	50-130	30

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

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

LABORATORY REPORT FOR

EUROFINS EATON ANALYTICAL

380-24077

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

SDG#: 22J195

CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 380-24077

SDG : 22J195

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

One(1) water sample was received on 10/13/22 to be analyzed for Total Petroleum Hydrocarbons by Extraction in accordance with Method 3520C/8015B and project specific requirements.

Holding Time
The sample was analyzed within the prescribed holding time.

Calibration
Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using a secondary source (ICV). Continuing calibration (CCV) verifications were carried out on a frequency specified by the project. All calibration requirements were within acceptance criteria. Refer to calibration summary forms of ICAL, ICV and CCV for details. MRL was analyzed as required by the project. Refer to MRL summary form for details.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. DSJ049WB - result was compliant to project requirement. Refer to sample result summary form for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) LCS was analyzed. Percent recovery for Diesel was within LCS QC limits in DSJ049WL. Refer to LCS summary form for details.

Matrix QC Sample
Matrix spike sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of MS/MSD was analyzed. Diesel was within MS QC limits in 22J162-01M/22J162-01S. Refer to Matrix QC summary form for details.

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

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

LAB CHRONICLE
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client : EUROFINS EATON ANALYTICAL
Project : 380-24077

SDG NO. : 22J195
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	DSJ049WB	1	NA	10/24/2219:18	10/22/2213:30	LJ24029A	LJ24023A	22DSJ049W	Method Blank
LCS1W	DSJ049WL	1	NA	10/24/2219:36	10/22/2213:30	LJ24030A	LJ24023A	22DSJ049W	Lab Control Sample (LCS)
380-24077-1	J195-01	1	NA	10/24/2223:18	10/22/2213:30	LJ24042A	LJ24023A	22DSJ049W	Field Sample

FN - Filename
% Moist - Percent Moisture

SAMPLE RESULTS

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	10/10/22 10:15
Project	: 380-24077	Date Received:	10/13/22
Batch No.	: 22J195	Date Extracted:	10/22/22 13:30
Sample ID	: 380-24077-1	Date Analyzed:	10/24/22 23:18
Lab Samp ID:	22J195-01	Dilution Factor:	1
Lab File ID:	LJ24042A	Matrix:	WATER
Ext Btch ID:	22DSJ049W	% Moisture:	NA
Calib. Ref.:	LJ24023A	Instrument ID:	D5

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

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.482	0.520	93	60-130
Hexacosane	0.130	0.130	100	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	: 960ml	Final Volume :	5ml
Prepared by	: DLi	Analyzed by :	SDeeso

QC SUMMARIES

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	10/22/22 13:30
Project	: 380-24077	Date Received:	10/22/22
Batch No.	: 22J195	Date Extracted:	10/22/22 13:30
Sample ID	: MBLK1W	Date Analyzed:	10/24/22 19:18
Lab Samp ID:	DSJ049WB	Dilution Factor:	1
Lab File ID:	LJ24029A	Matrix:	WATER
Ext Btch ID:	22DSJ049W	% Moisture:	NA
Calib. Ref.:	LJ24023A	Instrument ID:	D5

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

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.493	0.500	99	60-130
Hexacosane	0.132	0.125	106	60-130

Notes:

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

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

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

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL
PROJECT : 380-24077
BATCH NO. : 22J195
METHOD : 3520C/8015B

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

ACCESSION:

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

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

MB: Method Blank sample LCS: Lab Control Sample

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

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

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

ACCESSION:

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

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

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

October 27, 2022

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

Project Name: RED-HILL Project # 38001111 Job # 380-24077-1
Physis Project ID: 1407003-321

Dear Debbie,

Enclosed are the analytical results for the sample submitted to PHYSIS Environmental Laboratories, Inc. (PHYSIS) on 10/13/2022. 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: 1407003-321

RED-HILL Project # 38001111 Job # 380-24077-1

Total Samples: 1

PHYSIS ID	Sample ID	Description	Date	Time	Matrix	Sample Type
100807	MOANALUA WELLS	331-223-TP202 (380-24077-1)	10/10/2022	10:15	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: 1407003-321
Client: Eurofins Eaton Analytical
Project: RED-HILL Project # 38001111 Job # 380-24077-1

Base/Neutral Extractable Compounds

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 100807-R1	**MOANALUA WELLS 331-223-TP202**	**Matrix: Samplewater**					**Sampled:**	**10-Oct-22**	**10:15**	**Received:**	**13-Oct-22**
Disalicylidenepropanediamine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-40002	17-Oct-22	24-Oct-22

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 100807-R1	**MOANALUA WELLS 331-223-TP202**	**Matrix: Samplewater**					**Sampled:**	**10-Oct-22 10:15**		**Received:**	**13-Oct-22**
(d10-Acenaphthene)	EPA 625.1	% Recovery	110	1			Total		O-40002	17-Oct-22	24-Oct-22
(d10-Phenanthrene)	EPA 625.1	% Recovery	104	1			Total		O-40002	17-Oct-22	24-Oct-22
(d12-Chrysene)	EPA 625.1	% Recovery	105	1			Total		O-40002	17-Oct-22	24-Oct-22
(d12-Perylene)	EPA 625.1	% Recovery	87	1			Total		O-40002	17-Oct-22	24-Oct-22
(d8-Naphthalene)	EPA 625.1	% Recovery	105	1			Total		O-40002	17-Oct-22	24-Oct-22
1-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40002	17-Oct-22	24-Oct-22
1-Methylphenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40002	17-Oct-22	24-Oct-22
2,3,5-Trimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40002	17-Oct-22	24-Oct-22
2,6-Dimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40002	17-Oct-22	24-Oct-22
2-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40002	17-Oct-22	24-Oct-22
Acenaphthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40002	17-Oct-22	24-Oct-22
Acenaphthylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40002	17-Oct-22	24-Oct-22
Anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40002	17-Oct-22	24-Oct-22
Benz[a]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40002	17-Oct-22	24-Oct-22
Benzo[a]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40002	17-Oct-22	24-Oct-22
Benzo[b]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40002	17-Oct-22	24-Oct-22
Benzo[e]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40002	17-Oct-22	24-Oct-22
Benzo[g,h,i]perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40002	17-Oct-22	24-Oct-22
Benzo[k]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40002	17-Oct-22	24-Oct-22
Biphenyl	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40002	17-Oct-22	24-Oct-22
Chrysene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40002	17-Oct-22	24-Oct-22
D benz[a,h]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40002	17-Oct-22	24-Oct-22
D benzo[a,l]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40002	17-Oct-22	24-Oct-22
D benzothiophene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40002	17-Oct-22	24-Oct-22

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40002	17-Oct-22	24-Oct-22
Fluorene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40002	17-Oct-22	24-Oct-22
Indeno[1,2,3-cd]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40002	17-Oct-22	24-Oct-22
Naphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40002	17-Oct-22	24-Oct-22
Perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40002	17-Oct-22	24-Oct-22
Phenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40002	17-Oct-22	24-Oct-22
Pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40002	17-Oct-22	24-Oct-22

QUALITY CONTROL REPORT

PHYSIS Project ID: 1407003-321
Client: Eurofins Eaton Analytical
Project: RED-HILL Project # 38001111 Job # 380-24077-1

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: 100806-B1	**QAQC Procedural Blank**					**Matrix: BlankMatrix**		**Sampled:**					**Received:**		
		Method: EPA 625.1				Batch ID: O-40002		Prepared: 17-Oct-22					Analyzed: 24-Oct-22		
Disalicylidenepropanediamin	Total	ND	1	0.05	0.1	µg/L									
Sample ID: 100806-BS1	**QAQC Procedural Blank**					**Matrix: BlankMatrix**		**Sampled:**					**Received:**		
		Method: EPA 625.1				Batch ID: O-40002		Prepared: 17-Oct-22					Analyzed: 24-Oct-22		
Disalicylidenepropanediamin	Total	39.4	1	0.05	0.1	µg/L	50	0	79	50 - 150%	PASS				
Sample ID: 100806-BS2	**QAQC Procedural Blank**					**Matrix: BlankMatrix**		**Sampled:**					**Received:**		
		Method: EPA 625.1				Batch ID: O-40002		Prepared: 17-Oct-22					Analyzed: 24-Oct-22		
Disalicylidenepropanediamin	Total	34.7	1	0.05	0.1	µg/L	50	0	69	50 - 150%	PASS	14	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: 100806-B1	**QAQC Procedural Blank**					**Matrix: BlankMatrix**		**Sampled:**				**Received:**	
	Method: EPA 625.1					Batch ID: O-40002		Prepared: 17-Oct-22				Analyzed: 24-Oct-22	
(d10-Acenaphthene)	Total	108	1			% Recovery	100	108		27 - 133%		PASS	
(d10-Phenanthrene)	Total	99	1			% Recovery	100	99		43 - 129%		PASS	
(d12-Chrysene)	Total	78	1			% Recovery	100	78		52 - 144%		PASS	
(d12-Perylene)	Total	84	1			% Recovery	100	84		36 - 161%		PASS	
(d8-Naphthalene)	Total	82	1			% Recovery	100	82		25 - 125%		PASS	
1-Methylnaphthalene	Total	ND	1	0.001	0.005	µg/L							
1-Methylphenanthrene	Total	ND	1	0.001	0.005	µg/L							
2,3,5-Trimethylnaphthalene	Total	ND	1	0.001	0.005	µg/L							
2,6-Dimethylnaphthalene	Total	ND	1	0.001	0.005	µg/L							
2-Methylnaphthalene	Total	ND	1	0.001	0.005	µg/L							
Acenaphthene	Total	ND	1	0.001	0.005	µg/L							
Acenaphthylene	Total	ND	1	0.001	0.005	µg/L							
Anthracene	Total	ND	1	0.001	0.005	µg/L							
Benz[a]anthracene	Total	ND	1	0.001	0.005	µg/L							
Benzo[a]pyrene	Total	ND	1	0.001	0.005	µg/L							
Benzo[b]fluoranthene	Total	ND	1	0.001	0.005	µg/L							
Benzo[e]pyrene	Total	ND	1	0.001	0.005	µg/L							
Benzo[g,h,i]perylene	Total	ND	1	0.001	0.005	µg/L							
Benzo[k]fluoranthene	Total	ND	1	0.001	0.005	µg/L							
Biphenyl	Total	ND	1	0.001	0.005	µg/L							
Chrysene	Total	ND	1	0.001	0.005	µg/L							
Dibenz[a,h]anthracene	Total	ND	1	0.001	0.005	µg/L							
Dibenzo[a,l]pyrene	Total	ND	1	0.001	0.005	µg/L							
Dibenzothiophene	Total	ND	1	0.001	0.005	µg/L							

PHYSIS Project ID: 1407003-321
Client: Eurofins Eaton Analytical
Project: RED-HILL Project # 38001111 Job # 380-24077-1

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
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: 100806-BS1	**QAQC Procedural Blank**					**Matrix: BlankMatrix**		**Sampled:**				**Received:**	
		Method: EPA 625.1				Batch ID: O-40002		Prepared: 17-Oct-22				Analyzed: 24-Oct-22	
(d10-Acenaphthene)	Total	120	1			% Recovery	100	0	120	27 - 133%	PASS		
(d10-Phenanthrene)	Total	107	1			% Recovery	100	0	107	43 - 129%	PASS		
(d12-Chrysene)	Total	77	1			% Recovery	100	0	77	52 - 144%	PASS		
(d12-Perylene)	Total	95	1			% Recovery	100	0	95	36 - 161%	PASS		
(d8-Naphthalene)	Total	115	1			% Recovery	100	0	115	25 - 125%	PASS		
1-Methylnaphthalene	Total	0.519	1	0.001	0.005	µg/L	0.5	0	104	31 - 128%	PASS		
1-Methylphenanthrene	Total	0.482	1	0.001	0.005	µg/L	0.5	0	96	66 - 127%	PASS		
2,3,5-Trimethylnaphthalene	Total	0.51	1	0.001	0.005	µg/L	0.5	0	102	55 - 122%	PASS		
2,6-Dimethylnaphthalene	Total	0.508	1	0.001	0.005	µg/L	0.5	0	102	48 - 120%	PASS		
2-Methylnaphthalene	Total	0.526	1	0.001	0.005	µg/L	0.5	0	105	47 - 130%	PASS		
Acenaphthene	Total	0.523	1	0.001	0.005	µg/L	0.5	0	105	53 - 131%	PASS		
Acenaphthylene	Total	0.499	1	0.001	0.005	µg/L	0.5	0	100	43 - 140%	PASS		
Anthracene	Total	0.503	1	0.001	0.005	µg/L	0.5	0	101	58 - 135%	PASS		
Benz[a]anthracene	Total	0.632	1	0.001	0.005	µg/L	0.5	0	126	55 - 145%	PASS		
Benzo[a]pyrene	Total	0.478	1	0.001	0.005	µg/L	0.5	0	96	51 - 143%	PASS		
Benzo[b]fluoranthene	Total	0.386	1	0.001	0.005	µg/L	0.5	0	77	46 - 165%	PASS		
Benzo[e]pyrene	Total	0.465	1	0.001	0.005	µg/L	0.5	0	93	42 - 152%	PASS		
Benzo[g,h,i]perylene	Total	0.486	1	0.001	0.005	µg/L	0.5	0	97	63 - 133%	PASS		
Benzo[k]fluoranthene	Total	0.425	1	0.001	0.005	µg/L	0.5	0	85	56 - 145%	PASS		
Biphenyl	Total	0.525	1	0.001	0.005	µg/L	0.5	0	105	56 - 119%	PASS		
Chrysene	Total	0.486	1	0.001	0.005	µg/L	0.5	0	97	56 - 141%	PASS		
Dibenz[a,h]anthracene	Total	0.451	1	0.001	0.005	µg/L	0.5	0	90	55 - 150%	PASS		
Dibenzo[a,l]pyrene	Total	0.369	1	0.001	0.005	µg/L	0.5	0	74	50 - 150%	PASS		
Dibenzothiophene	Total	0.515	1	0.001	0.005	µg/L	0.5	0	103	75 - 113%	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
Fluoranthene	Total	0.488	1	0.001	0.005	µg/L	0.5	0	98	60 - 146%	PASS			
Fluorene	Total	0.51	1	0.001	0.005	µg/L	0.5	0	102	58 - 131%	PASS			
Indeno[1,2,3-cd]pyrene	Total	0.498	1	0.001	0.005	µg/L	0.5	0	100	50 - 151%	PASS			
Naphthalene	Total	0.534	1	0.001	0.005	µg/L	0.5	0	107	41 - 126%	PASS			
Perylene	Total	0.471	1	0.001	0.005	µg/L	0.5	0	94	48 - 141%	PASS			
Phenanthrene	Total	0.527	1	0.001	0.005	µg/L	0.5	0	105	67 - 127%	PASS			
Pyrene	Total	0.48	1	0.001	0.005	µg/L	0.5	0	96	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: 100806-BS2	**QAQC Procedural Blank**					**Matrix: BlankMatrix**		**Sampled:**				**Received:**			
		Method: EPA 625.1				Batch ID: O-40002		Prepared: 17-Oct-22				Analyzed: 24-Oct-22			
(d10-Acenaphthene)	Total	119	1			% Recovery	100	0	119	27 - 133%	PASS	1	30	PASS	
(d10-Phenanthrene)	Total	107	1			% Recovery	100	0	107	43 - 129%	PASS	0	30	PASS	
(d12-Chrysene)	Total	102	1			% Recovery	100	0	102	52 - 144%	PASS	28	30	PASS	
(d12-Perylene)	Total	96	1			% Recovery	100	0	96	36 - 161%	PASS	1	30	PASS	
(d8-Naphthalene)	Total	121	1			% Recovery	100	0	121	25 - 125%	PASS	5	30	PASS	
1-Methylnaphthalene	Total	0.492	1	0.001	0.005	µg/L	0.5	0	98	31 - 128%	PASS	6	30	PASS	
1-Methylphenanthrene	Total	0.621	1	0.001	0.005	µg/L	0.5	0	124	66 - 127%	PASS	25	30	PASS	
2,3,5-Trimethylnaphthalene	Total	0.507	1	0.001	0.005	µg/L	0.5	0	101	55 - 122%	PASS	1	30	PASS	
2,6-Dimethylnaphthalene	Total	0.491	1	0.001	0.005	µg/L	0.5	0	98	48 - 120%	PASS	4	30	PASS	
2-Methylnaphthalene	Total	0.502	1	0.001	0.005	µg/L	0.5	0	100	47 - 130%	PASS	5	30	PASS	
Acenaphthene	Total	0.534	1	0.001	0.005	µg/L	0.5	0	107	53 - 131%	PASS	2	30	PASS	
Acenaphthylene	Total	0.491	1	0.001	0.005	µg/L	0.5	0	98	43 - 140%	PASS	2	30	PASS	
Anthracene	Total	0.518	1	0.001	0.005	µg/L	0.5	0	104	58 - 135%	PASS	3	30	PASS	
Benz[a]anthracene	Total	0.658	1	0.001	0.005	µg/L	0.5	0	132	55 - 145%	PASS	5	30	PASS	
Benzo[a]pyrene	Total	0.479	1	0.001	0.005	µg/L	0.5	0	96	51 - 143%	PASS	0	30	PASS	
Benzo[b]fluoranthene	Total	0.461	1	0.001	0.005	µg/L	0.5	0	92	46 - 165%	PASS	18	30	PASS	
Benzo[e]pyrene	Total	0.472	1	0.001	0.005	µg/L	0.5	0	94	42 - 152%	PASS	1	30	PASS	
Benzo[g,h,i]perylene	Total	0.491	1	0.001	0.005	µg/L	0.5	0	98	63 - 133%	PASS	1	30	PASS	
Benzo[k]fluoranthene	Total	0.536	1	0.001	0.005	µg/L	0.5	0	107	56 - 145%	PASS	23	30	PASS	
Biphenyl	Total	0.514	1	0.001	0.005	µg/L	0.5	0	103	56 - 119%	PASS	2	30	PASS	
Chrysene	Total	0.493	1	0.001	0.005	µg/L	0.5	0	99	56 - 141%	PASS	2	30	PASS	
Dibenz[a,h]anthracene	Total	0.454	1	0.001	0.005	µg/L	0.5	0	91	55 - 150%	PASS	1	30	PASS	
Dibenzo[a,l]pyrene	Total	0.491	1	0.001	0.005	µg/L	0.5	0	98	50 - 150%	PASS	28	30	PASS	
Dibenzothiophene	Total	0.521	1	0.001	0.005	µg/L	0.5	0	104	75 - 113%	PASS	1	30	PASS	

PHYSIS Project ID: 1407003-321
Client: Eurofins Eaton Analytical
Project: RED-HILL Project # 38001111 Job # 380-24077-1

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
Fluoranthene	Total	0.638	1	0.001	0.005	µg/L	0.5	0	128	60 - 146%	PASS	27	30	PASS	
Fluorene	Total	0.525	1	0.001	0.005	µg/L	0.5	0	105	58 - 131%	PASS	3	30	PASS	
Indeno[1,2,3-cd]pyrene	Total	0.499	1	0.001	0.005	µg/L	0.5	0	100	50 - 151%	PASS	0	30	PASS	
Naphthalene	Total	0.509	1	0.001	0.005	µg/L	0.5	0	102	41 - 126%	PASS	5	30	PASS	
Perylene	Total	0.475	1	0.001	0.005	µg/L	0.5	0	95	48 - 141%	PASS	1	30	PASS	
Phenanthrene	Total	0.539	1	0.001	0.005	µg/L	0.5	0	108	67 - 127%	PASS	3	30	PASS	
Pyrene	Total	0.65	1	0.001	0.005	µg/L	0.5	0	130	54 - 156%	PASS	30	30	PASS	

TENTATIVELY IDENTIFIED COMPOUNDS

Sample ID: 100807

RT	Area Pct	Concentration (ng/L)	Library/ID	Cas Number	Match Qual
32.3464	5.3606	1111	Anthracene-D10	1517-22-2	96
29.3404	4.2274	876	Benzoic acid, 2-ethylhexyl ester	5444-75-7	99

Concentration estimated using the response for Anthracene-d10

Sample ID: Lab Blank Batch O-40002

RT	Area Pct	Concentration (ng/L)	Library/ID	Cas Number	Match Qual
32.3456	6.8762	1111	Anthracene-D10	1517-22-2	96
29.3426	4.0589	656	Benzoic acid, 2-ethylhexyl ester	5444-75-7	99

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

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Arada, Rachelle	Carrier Tracking No(s):	COC No: 380-24160.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Rachelle.Arada@et.eurofinsus.com	State of Origin: Hawaii	Page: Page 1 of 1
Company: Physis Environmental Laboratories		Accreditations Required (See note): State - Hawaii		Job #: 380-24077-1
Address: 1904 Wright Circle,	Due Date Requested: 10/26/2022			
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=wasteoil, 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:						
MOANALUA WELLS (331-223-TP202) (380-24077-1)	10/10/22	10:15 Hawaiian		Water			X	2	See Attached Instructions

Note: Since laboratory accreditations are subject to change, Eurofins Eaton Analytical, LLC places the ownership of method, analyte & accreditation compliance upon 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 are 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]	10/13/22 1310	GEL	[signature]	10/13/22 1310	Physis
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

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

Ver: 06/08/2021

11/29/2022 (Rev. 1)

PHYSIS
ENVIRONMENTAL LABORATORIES, INC.
Innovative Solutions for Nature

PHYSIS

Project Iteration ID: 1407003-321
Client Name: Eurofins Eaton Analytical
Project Name: RED-HILL Project # 38001111 Job # 380-24077-1
COC Page Number: 2 of 2
Bottle Label Color: NA

Sample Receipt Summary

Receiving Info

1. Initials Received By: RGH
2. Date Received: 10/13/22
3. Time Received: 1310
4. Client Name: Eurofins
5. Courier Information: (Please circle)
   - (Client) • UPS • Area Fast • DRS
   - FedEx • GSO/GLS • Ontrac • PAMS
   - PHYSIS Driver:
     - i. Start Time:_____ iii. Total Mileage: _____
     - ii. End Time:_____ 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): 5.3 Used I/R Thermometer # 1-2

Inspection Info

1. Initials Inspected By: RGH

Sample Integrity Upon Receipt:

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

Notes:

Monrovia, CA (Suite 100)

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

Chain of Custody Record

eurofins | Environment Testing America

Client Information	Sampler: NISHIKAWA	Lab PM: Frank, Debbie L	Carrier Tracking No(s):	COC No: 380-9754-2757.1
Client Contact: Dr. Ron Fenstemacher	Phone:	E-Mail: Debbie.Frank@et.eurofinsus.com	State of Origin:	Page: Page 1 of 3
Company: City & County of Honolulu	PWSID:	Analysis Requested		Job #:
Address: 630 South Beretania Street Chemistry Lab	Due Date Requested:			
City: Honolulu	TAT Requested (days):			
State, Zip: HI, 96843	Compliance Project: Δ Yes Δ No			
Phone: 808-748-5091(Tel)	PO #: C20525101 exp 05312023			
Email: RFENSTEMACHER@hbws.org	WO #:			
Project Name: RED-HILL/HBWS Sites Event Desc: RUSH Weekly Red Hill	Project #: 38001111			
Site: Hawaii	SSOW#:			

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	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)	SUBCONTRACT - 625 PAH Physis LL (EAL) + TICs	SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL)	SUBCONTRACT - 8015 Diesel LL (EAL) and Motor Oil	525.2_PREC - (MOD) 525plus Plus TICs	SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL)	Total Number of containers	Special Instructions/Note:
			Preservation Code:				R	R	RA		RA		
AIEA GULCH WELLS PUMP 1 (331-201-TP071)				Water									
AIEA GULCH WELLS PUMP 2 (331-202-TP072)				Water									
AIEA WELLS PUMPS1&2(260)331-203-TP400				Water									
HALAWA SHAFT (331-241-TP401)				Water									
HALAWA WELLS UNITS1&2(331-206-TP065)				Water									
MOANALUA WELLS (331-223-TP202)	10/10/22	1615	g	Water		✓	✓	✓	✓	✓	✓ (circled)		→ ONLY RECEIVED 3
AIEA GULCH WELLS PUMP 1 (331-201-TP071)				Water									
AIEA GULCH WELLS PUMP 2 (331-202-TP072)				Water									
AIEA WELLS PUMPS1&2(260)331-203-TP400				Water									
HALAWA SHAFT (331-241-TP401)				Water									
HALAWA WELLS UNITS1&2(331-206-TP065)				Water									

380-24077 COC

Possible Hazard Identification
☐ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* ☐ *Poison B* ☐ *Unknown* ☐ *Radiological*

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

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by: [redacted]	Date/Time: 10/10/22 1200	Company: BWS	Received by: Ohm Reed	Date/Time: 10-12-22 1000	Company: EEO
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

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

Ver: 06/08/2021

ME

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

Chain of Custody Record

eurofins | Environment Testing America

Client Information	Sampler:	Lab PM: Frank, Debbie L	Carrier Tracking No(s):	COC No: 380-9754-2757.2
Client Contact: Dr. Ron Fenstemacher	Phone:	E-Mail: Debbie.Frank@et.eurofinsus.com	State of Origin:	Page: Page 2 of 3
Company: City & County of Honolulu	PWSID:			Job #:
Address: 630 South Beretania Street Chemistry Lab	Due Date Requested:			
City: Honolulu	TAT Requested (days):			
State, Zip: HI, 96843	Compliance Project: Δ Yes Δ No			
Phone: 808-748-5091(Tel)	PO #: C20525101 exp 05312023			
Email: RFENSTEMACHER@hbws.org	WO #:			
Project Name: RED-HILL/HBWS Sites Event Desc: RUSH Weekly Red Hill	Project #: 38001111			
Site: Hawaii	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	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)	SUBCONTRACT - 625 PAH Physis LL (EAL) + TICs	SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL)	SUBCONTRACT - 8015 Diesel LL (EAL) and Motor Oil	525.2_PREC - (MOD) 525plus Plus TICs	SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL)	Total Number of containers	Special Instructions/Note:
			Preservation Code:		X	X	R	R	RA		RA	X	
MOANALUA WELLS (331-223-TP202)				Water									
AIEA GULCH WELLS PUMP 1 (331-201-TP071)				Water									
AIEA GULCH WELLS PUMP 2 (331-202-TP072)				Water									
AIEA WELLS PUMPS1&2(260)331-203-TP400				Water									
HALAWA SHAFT (331-241-TP401)				Water									
HALAWA WELLS UNITS1&2(331-206-TP065)				Water									
MOANALUA WELLS (331-223-TP202)				Water									
AIEA GULCH WELLS PUMP 1 (331-201-TP071)				Water									
AIEA GULCH WELLS PUMP 2 (331-202-TP072)				Water									
AIEA WELLS PUMPS1&2(260)331-203-TP400				Water									
HALAWA SHAFT (331-241-TP401)				Water									

Possible Hazard Identification
☐ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* ☐ *Poison B* ☐ *Unknown* ☐ *Radiological*

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

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

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

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
			Alan Roach	10-12-22 1000	EDD
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

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

Ver: 06/08/2021

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

Chain of Custody Record

eurofins | Environment Testing America

Client Information	Sampler:	Lab PM: Frank, Debbie L	Carrier Tracking No(s):	COC No: 380-9754-2757.3
Client Contact: Dr. Ron Fenstemacher	Phone:	E-Mail: Debbie.Frank@et.eurofinsus.com	State of Origin:	Page: Page 3 of 3
Company: City & County of Honolulu	PWSID:	**Analysis Requested**		Job #:
Address: 630 South Beretania Street Chemistry Lab	Due Date Requested:			
City: Honolulu	TAT Requested (days):			
State, Zip: HI, 96843	Compliance Project: Δ Yes Δ No			
Phone: 808-748-5091(Tel)	PO #: C20525101 exp 05312023			
Email: RFENSTEMACHER@hbws.org	WO #:			
Project Name: RED-HILL/HBWS Sites Event Desc: RUSH Weekly Red Hill	Project #: 38001111			
Site: Hawaii	SSOW#:			

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	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)	SUBCONTRACT - 625 PAH Physis LL (EAL) + TICs	SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL)	SUBCONTRACT - 8015 Diesel LL (EAL) and Motor Oil	525.2_PREC - (MOD) 525plus Plus TICs	SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL)	Total Number of containers	Special Instructions/Note:
				Preservation Code:			R	R	RA		RA		
HALAWA WELLS UNITS1&2(331-206-TP065)				Water									
MOANALUA WELLS (331-223-TP202)				Water									
TB AIEA GULCH WELLS PUMP1 331-201-TP071				Water									
TB AIEA GULCH WELLS PUMP2 331-202-TP07				Water									
TB AIEA WELLS PUMPS1&2(260)331-203-TP400				Water									
TB HALAWA SHAFT (331-241-TP401)				Water									
TB HALAWA WELLS UNITS1&2(331-206-TP065)				Water									
TB MOANALUA WELLS (331-223-TP202)	10/10/22	1015	g	Water				✓					

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

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

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

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

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
RW	10/10/22 1200	BWS	[signature]	10-12-22 1000	EEA

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

11/29/2022 (Rev. 1)

Bottle Order Information

Bottle Order: RUSH RED-HILL WEEKLY
Bottle Order #: 2757
Request From Client: 7/20/2022
Date Order Posted: 7/20/2022 11:12:54AM
Order Status: Ready To Process
Prepared By: Davis Haley
Deliver By Date: ***9/12/2022 11:59:00PM***
Lab Project Number: 38001111
PWSID: HI0000331

Order Completion Information

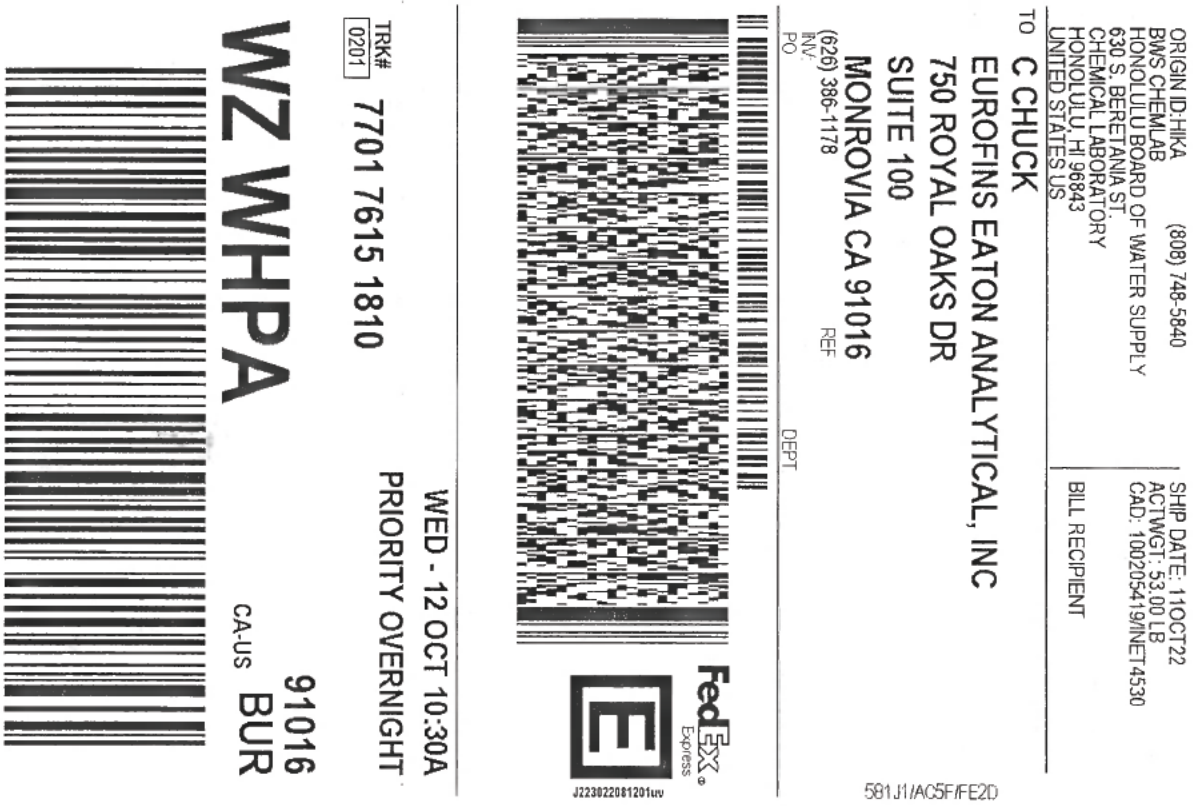
Creator: Davis Haley
Filled by:
Sent Date:
Sent Via:
Tracking #:

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

Total Bottle Summary

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

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



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

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

eurofins | Eaton Analytical

INTERNAL CHAIN OF CUSTODY RECORD

EEA Folder Number:

SAMPLE TEMP RECEIVED:

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

SAMPLES REC'D DAY OF COLLECTION? Yes / No

IR Gun ID = 401 (Observation= 0.5 °C) (Corr.Factor -0.1 °C) (Final = 0.4 °C)

TYPE OF ICE: Real ____ Synthetic X 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 6 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, 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]	C. Brock	Eurofins Eaton Analytical	10-12-22	1000
SAMPLES CHECKED AGAINST COC BY	[signature]	G. REITNER	Eurofins Eaton Analytical	10/12/2022	15:16

QA FO-FRM5504 (9.28.21) Ver 9

Page ___ of ___

Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-24077-1

Login Number: 24077
List Number: 1
Creator: Elyas, Matthew

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	