

ANALYTICAL REPORT

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Laboratory Job ID: 380-21464-1
Client Project/Site: RED-HILL
Sampling Event: RUSH Weekly Red Hill

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

Attn: Mr. Erwin Kawata



Authorized for release by:
10/18/2022 7:58:59 PM

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

1. Laboratory is accredited in accordance with TNI 2016 Standards and ISO/IEC 17025:2017.
2. Laboratory certifies that the test results meet all TNI 2016 and ISO/IEC 17025:2017 requirements unless noted under the individual analysis
3. Test results relate only to the sample(s) tested.
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5. Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below. (DW,Water matrices)



Rachelle Arada
Manager of Project Management
10/18/2022 7:58:59 PM

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Definitions/Glossary

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

Job ID: 380-21464-1

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
^3+	Reporting Limit Check Standard is outside acceptance limits, high biased
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
*+	LCS and/or LCSD is outside acceptance limits, high biased.
B	Analyte was found in the associated method blank.
J	Indicates an Estimated Value for TICs
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

Subcontract

Qualifier	Qualifier Description
U	This analyte was not detected.

Glossary

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

Case Narrative

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

Job ID: 380-21464-1

Job ID: 380-21464-1

Laboratory: Eurofins Eaton Monrovia

Narrative

Job Narrative 380-21464-1

Comments

No additional comments.

Receipt

The samples were received on 9/20/2022 10:00 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 4.5° C and 5.9° C.

GC/MS Semi VOA

Method 525.2: The continuing calibration verification (CCV) associated with batch 380-18233 recovered above the upper control limit for Methoxychlor and Total Permethrin (mixed isomers). The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated samples are impacted: AIEA GULCH WELLS PUMP 1 (331-201-TP071) (380-21464-1), AIEA GULCH WELLS PUMP 2 (331-202-TP072) (380-21464-2) and AIEA WELLS PUMPS 1&2 (260) (331-203-TP400) (380-21464-3).

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

Subcontract non-Sister

See attached subcontract report.

Organic Prep

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

Subcontract Work

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

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

Detection Summary

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

Job ID: 380-21464-1

Client Sample ID: AIEA GULCH WELLS PUMP 1
(331-201-TP071)
PWSID Number: HI0000331

Lab Sample ID: 380-21464-1

No Detections.

Client Sample ID: AIEA GULCH WELLS PUMP 2
(331-202-TP072)
PWSID Number: HI0000331

Lab Sample ID: 380-21464-2

No Detections.

Client Sample ID: AIEA WELLS PUMPS 1&2 (260)
(331-203-TP400)
PWSID Number: HI0000331

Lab Sample ID: 380-21464-3

No Detections.

Client Sample ID: TB AIEA GULCH WELLS PUMP 1

Lab Sample ID: 380-21464-4

No Detections.

Client Sample ID: TB AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-21464-5

No Detections.

Client Sample ID: TB AIEA GULCH WELLS PUMP 1&2

Lab Sample ID: 380-21464-6

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Eaton Monrovia



Client Sample Results

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

Job ID: 380-21464-1

**Client Sample ID: AIEA GULCH WELLS PUMP 1
(331-201-TP071)**

Lab Sample ID: 380-21464-1

Date Collected: 09/19/22 10:32

Matrix: Drinking Water

Date Received: 09/20/22 10:00

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	^3+	0.098	ug/L		09/21/22 06:31	09/22/22 17:39	1
2,4'-DDE	ND		0.098	ug/L		09/21/22 06:31	09/22/22 17:39	1
2,4'-DDT	ND	*+	0.098	ug/L		09/21/22 06:31	09/22/22 17:39	1
2,4-Dinitrotoluene	ND		0.098	ug/L		09/21/22 06:31	09/22/22 17:39	1
2,6-Dinitrotoluene	ND		0.098	ug/L		09/21/22 06:31	09/22/22 17:39	1
4,4'-DDD	ND	*+	0.098	ug/L		09/21/22 06:31	09/22/22 17:39	1
4,4'-DDE	ND		0.098	ug/L		09/21/22 06:31	09/22/22 17:39	1
4,4'-DDT	ND	*+	0.098	ug/L		09/21/22 06:31	09/22/22 17:39	1
Acenaphthene	ND		0.098	ug/L		09/21/22 06:31	09/22/22 17:39	1
Acenaphthylene	ND		0.098	ug/L		09/21/22 06:31	09/22/22 17:39	1
Acetochlor	ND		0.098	ug/L		09/21/22 06:31	09/22/22 17:39	1
Alachlor	ND		0.049	ug/L		09/21/22 06:31	09/22/22 17:39	1
alpha-BHC	ND		0.098	ug/L		09/21/22 06:31	09/22/22 17:39	1
alpha-Chlordane	ND		0.049	ug/L		09/21/22 06:31	09/22/22 17:39	1
Anthracene	ND		0.020	ug/L		09/21/22 06:31	09/22/22 17:39	1
Atrazine	ND		0.049	ug/L		09/21/22 06:31	09/22/22 17:39	1
Benz(a)anthracene	ND		0.049	ug/L		09/21/22 06:31	09/22/22 17:39	1
Benzo[a]pyrene	ND		0.020	ug/L		09/21/22 06:31	09/22/22 17:39	1
Benzo[b]fluoranthene	ND		0.020	ug/L		09/21/22 06:31	09/22/22 17:39	1
Benzo[g,h,i]perylene	ND		0.049	ug/L		09/21/22 06:31	09/22/22 17:39	1
Benzo[k]fluoranthene	ND		0.020	ug/L		09/21/22 06:31	09/22/22 17:39	1
beta-BHC	ND		0.098	ug/L		09/21/22 06:31	09/22/22 17:39	1
Bromacil	ND	*+	0.098	ug/L		09/21/22 06:31	09/22/22 17:39	1
Butachlor	ND		0.049	ug/L		09/21/22 06:31	09/22/22 17:39	1
Butylbenzylphthalate	ND		0.49	ug/L		09/21/22 06:31	09/22/22 17:39	1
Caffeine	ND		0.049	ug/L		09/21/22 06:31	09/22/22 17:39	1
Chlorobenzilate	ND		0.098	ug/L		09/21/22 06:31	09/22/22 17:39	1
Chloroneb	ND		0.098	ug/L		09/21/22 06:31	09/22/22 17:39	1
Chlorothalonil (Draconil, Bravo)	ND		0.098	ug/L		09/21/22 06:31	09/22/22 17:39	1
Chlorpyrifos	ND		0.049	ug/L		09/21/22 06:31	09/22/22 17:39	1
Chrysene	ND		0.020	ug/L		09/21/22 06:31	09/22/22 17:39	1
delta-BHC	ND		0.098	ug/L		09/21/22 06:31	09/22/22 17:39	1
Di(2-ethylhexyl)adipate	ND	*+	0.59	ug/L		09/21/22 06:31	09/22/22 17:39	1
Bis(2-ethylhexyl) phthalate	ND		0.59	ug/L		09/21/22 06:31	09/22/22 17:39	1
Diazinon (Qualitative)	ND		0.098	ug/L		09/21/22 06:31	09/22/22 17:39	1
Dibenz(a,h)anthracene	ND		0.049	ug/L		09/21/22 06:31	09/22/22 17:39	1
Diclorvos (DDVP)	ND	^3+	0.049	ug/L		09/21/22 06:31	09/22/22 17:39	1
Dieldrin	ND		0.20	ug/L		09/21/22 06:31	09/22/22 17:39	1
Diethylphthalate	ND		0.49	ug/L		09/21/22 06:31	09/22/22 17:39	1
Dimethoate	ND	*+	0.098	ug/L		09/21/22 06:31	09/22/22 17:39	1
Dimethylphthalate	ND		0.49	ug/L		09/21/22 06:31	09/22/22 17:39	1
Di-n-butyl phthalate	ND		0.98	ug/L		09/21/22 06:31	09/22/22 17:39	1
Di-n-octyl phthalate	ND		0.098	ug/L		09/21/22 06:31	09/22/22 17:39	1
Endosulfan I (Alpha)	ND		0.098	ug/L		09/21/22 06:31	09/22/22 17:39	1
Endosulfan II (Beta)	ND		0.098	ug/L		09/21/22 06:31	09/22/22 17:39	1
Endosulfan sulfate	ND		0.098	ug/L		09/21/22 06:31	09/22/22 17:39	1
Endrin	ND	*+ ^3+	0.098	ug/L		09/21/22 06:31	09/22/22 17:39	1
Endrin aldehyde	ND		0.098	ug/L		09/21/22 06:31	09/22/22 17:39	1

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Client Sample Results

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

Job ID: 380-21464-1

**Client Sample ID: AIEA GULCH WELLS PUMP 1
(331-201-TP071)**

Lab Sample ID: 380-21464-1

Date Collected: 09/19/22 10:32

Matrix: Drinking Water

Date Received: 09/20/22 10:00

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
EPTC	ND		0.098	ug/L		09/21/22 06:31	09/22/22 17:39	1
Fluoranthene	ND		0.098	ug/L		09/21/22 06:31	09/22/22 17:39	1
Fluorene	ND		0.049	ug/L		09/21/22 06:31	09/22/22 17:39	1
gamma-Chlordane	ND		0.049	ug/L		09/21/22 06:31	09/22/22 17:39	1
Heptachlor	ND		0.039	ug/L		09/21/22 06:31	09/22/22 17:39	1
Heptachlor epoxide (isomer B)	ND		0.049	ug/L		09/21/22 06:31	09/22/22 17:39	1
Hexachlorobenzene	ND		0.049	ug/L		09/21/22 06:31	09/22/22 17:39	1
Hexachlorocyclopentadiene	ND		0.049	ug/L		09/21/22 06:31	09/22/22 17:39	1
Indeno[1,2,3-cd]pyrene	ND		0.049	ug/L		09/21/22 06:31	09/22/22 17:39	1
Isophorone	ND		0.49	ug/L		09/21/22 06:31	09/22/22 17:39	1
Lindane	ND		0.039	ug/L		09/21/22 06:31	09/22/22 17:39	1
Malathion	ND		0.098	ug/L		09/21/22 06:31	09/22/22 17:39	1
Methoxychlor	ND	+	0.098	ug/L		09/21/22 06:31	09/22/22 17:39	1
Metolachlor	ND		0.049	ug/L		09/21/22 06:31	09/22/22 17:39	1
Metribuzin	ND		0.049	ug/L		09/21/22 06:31	09/22/22 17:39	1
Molinate	ND		0.098	ug/L		09/21/22 06:31	09/22/22 17:39	1
Naphthalene	ND		0.29	ug/L		09/21/22 06:31	09/22/22 17:39	1
Parathion	ND		0.098	ug/L		09/21/22 06:31	09/22/22 17:39	1
Pendimethalin (Penoxaline)	ND		0.098	ug/L		09/21/22 06:31	09/22/22 17:39	1
Total Permethrin (mixed isomers)	ND	+	0.20	ug/L		09/21/22 06:31	09/22/22 17:39	1
Phenanthrene	ND		0.039	ug/L		09/21/22 06:31	09/22/22 17:39	1
Propachlor	ND		0.049	ug/L		09/21/22 06:31	09/22/22 17:39	1
Pyrene	ND		0.049	ug/L		09/21/22 06:31	09/22/22 17:39	1
Simazine	ND		0.049	ug/L		09/21/22 06:31	09/22/22 17:39	1
Terbacil	ND		0.098	ug/L		09/21/22 06:31	09/22/22 17:39	1
Terbutylazine	ND		0.098	ug/L		09/21/22 06:31	09/22/22 17:39	1
Thiobencarb	ND		0.20	ug/L		09/21/22 06:31	09/22/22 17:39	1
trans-Nonachlor	ND		0.049	ug/L		09/21/22 06:31	09/22/22 17:39	1
Trifluralin	ND		0.098	ug/L		09/21/22 06:31	09/22/22 17:39	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	0.58	T J	ug/L		2.25		09/21/22 06:31	09/22/22 17:39	1
4-Hepten-3-one, 2,6-dimethyl-	0.88	T J N	ug/L		2.34	56259-14-4	09/21/22 06:31	09/22/22 17:39	1
Undecane	0.68	T J N	ug/L		2.74	1120-21-4	09/21/22 06:31	09/22/22 17:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Nitro-m-xylene	103		70 - 130	09/21/22 06:31	09/22/22 17:39	1
Triphenylphosphate	106		70 - 130	09/21/22 06:31	09/22/22 17:39	1
Perylene-d12	96		70 - 130	09/21/22 06:31	09/22/22 17:39	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		09/22/22 00:00	09/27/22 20:52	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		09/22/22 00:00	09/27/22 20:52	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		09/22/22 00:00	09/27/22 20:52	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		09/22/22 00:00	09/27/22 20:52	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		09/22/22 00:00	09/27/22 20:52	1
Acenaphthene	ND		0.005	0.001	µg/L		09/22/22 00:00	09/27/22 20:52	1
Acenaphthylene	ND		0.005	0.001	µg/L		09/22/22 00:00	09/27/22 20:52	1

Eurofins Eaton Monrovia

Client Sample Results

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

Job ID: 380-21464-1

**Client Sample ID: AIEA GULCH WELLS PUMP 1
(331-201-TP071)**

Lab Sample ID: 380-21464-1

Date Collected: 09/19/22 10:32

Matrix: Drinking Water

Date Received: 09/20/22 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
Anthracene	ND		0.005	0.001	µg/L		09/22/22 00:00	09/27/22 20:52	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		09/22/22 00:00	09/27/22 20:52	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		09/22/22 00:00	09/27/22 20:52	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		09/22/22 00:00	09/27/22 20:52	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		09/22/22 00:00	09/27/22 20:52	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		09/22/22 00:00	09/27/22 20:52	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		09/22/22 00:00	09/27/22 20:52	1
Biphenyl	ND		0.005	0.001	µg/L		09/22/22 00:00	09/27/22 20:52	1
Chrysene	ND		0.005	0.001	µg/L		09/22/22 00:00	09/27/22 20:52	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		09/22/22 00:00	09/27/22 20:52	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		09/22/22 00:00	09/27/22 20:52	1
Dibenzothiophene	ND		0.005	0.001	µg/L		09/22/22 00:00	09/27/22 20:52	1
Disalicylidenepropanediamine	ND		0.1	0.05	µg/L		09/22/22 00:00	09/27/22 20:52	1
Fluoranthene	ND		0.005	0.001	µg/L		09/22/22 00:00	09/27/22 20:52	1
Fluorene	ND		0.005	0.001	µg/L		09/22/22 00:00	09/27/22 20:52	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		09/22/22 00:00	09/27/22 20:52	1
Naphthalene	ND		0.005	0.001	µg/L		09/22/22 00:00	09/27/22 20:52	1
Perylene	ND		0.005	0.001	µg/L		09/22/22 00:00	09/27/22 20:52	1
Phenanthrene	ND		0.005	0.001	µg/L		09/22/22 00:00	09/27/22 20:52	1
Pyrene	ND		0.005	0.001	µg/L		09/22/22 00:00	09/27/22 20:52	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
(d10-Acenaphthene)	90		45 - 118				09/22/22 00:00	09/27/22 20:52	1
(d10-Phenanthrene)	97		56 - 123				09/22/22 00:00	09/27/22 20:52	1
(d12-Chrysene)	105		36 - 142				09/22/22 00:00	09/27/22 20:52	1
(d12-Perylene)	90		36 - 161				09/22/22 00:00	09/27/22 20:52	1
(d8-Naphthalene)	71		20 - 112				09/22/22 00:00	09/27/22 20:52	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GASOLINE	ND	U	0.02		mg/L			09/22/22 19:43	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE	82		60 - 140					09/22/22 19:43	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DIESEL	ND	U	0.028		mg/L			10/03/22 13:26	1
MOTOR OIL	ND	U	0.055		mg/L			10/03/22 13:26	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
BROMOBENZENE	60		60 - 130					10/03/22 13:26	1
HEXACOSANE	77		60 - 130					10/03/22 13:26	1

Client Sample Results

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

Job ID: 380-21464-1

**Client Sample ID: AIEA GULCH WELLS PUMP 2
 (331-202-TP072)**

Lab Sample ID: 380-21464-2

Date Collected: 09/19/22 10:59

Matrix: Drinking Water

Date Received: 09/20/22 10:00

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	^3+	0.098	ug/L		09/21/22 06:31	09/22/22 18:00	1
2,4'-DDE	ND		0.098	ug/L		09/21/22 06:31	09/22/22 18:00	1
2,4'-DDT	ND	*+	0.098	ug/L		09/21/22 06:31	09/22/22 18:00	1
2,4-Dinitrotoluene	ND		0.098	ug/L		09/21/22 06:31	09/22/22 18:00	1
2,6-Dinitrotoluene	ND		0.098	ug/L		09/21/22 06:31	09/22/22 18:00	1
4,4'-DDD	ND	*+	0.098	ug/L		09/21/22 06:31	09/22/22 18:00	1
4,4'-DDE	ND		0.098	ug/L		09/21/22 06:31	09/22/22 18:00	1
4,4'-DDT	ND	*+	0.098	ug/L		09/21/22 06:31	09/22/22 18:00	1
Acenaphthene	ND		0.098	ug/L		09/21/22 06:31	09/22/22 18:00	1
Acenaphthylene	ND		0.098	ug/L		09/21/22 06:31	09/22/22 18:00	1
Acetochlor	ND		0.098	ug/L		09/21/22 06:31	09/22/22 18:00	1
Alachlor	ND		0.049	ug/L		09/21/22 06:31	09/22/22 18:00	1
alpha-BHC	ND		0.098	ug/L		09/21/22 06:31	09/22/22 18:00	1
alpha-Chlordane	ND		0.049	ug/L		09/21/22 06:31	09/22/22 18:00	1
Anthracene	ND		0.020	ug/L		09/21/22 06:31	09/22/22 18:00	1
Atrazine	ND		0.049	ug/L		09/21/22 06:31	09/22/22 18:00	1
Benz(a)anthracene	ND		0.049	ug/L		09/21/22 06:31	09/22/22 18:00	1
Benzo[a]pyrene	ND		0.020	ug/L		09/21/22 06:31	09/22/22 18:00	1
Benzo[b]fluoranthene	ND		0.020	ug/L		09/21/22 06:31	09/22/22 18:00	1
Benzo[g,h,i]perylene	ND		0.049	ug/L		09/21/22 06:31	09/22/22 18:00	1
Benzo[k]fluoranthene	ND		0.020	ug/L		09/21/22 06:31	09/22/22 18:00	1
beta-BHC	ND		0.098	ug/L		09/21/22 06:31	09/22/22 18:00	1
Bromacil	ND	*+	0.098	ug/L		09/21/22 06:31	09/22/22 18:00	1
Butachlor	ND		0.049	ug/L		09/21/22 06:31	09/22/22 18:00	1
Butylbenzylphthalate	ND		0.49	ug/L		09/21/22 06:31	09/22/22 18:00	1
Caffeine	ND		0.049	ug/L		09/21/22 06:31	09/22/22 18:00	1
Chlorobenzilate	ND		0.098	ug/L		09/21/22 06:31	09/22/22 18:00	1
Chloroneb	ND		0.098	ug/L		09/21/22 06:31	09/22/22 18:00	1
Chlorothalonil (Draconil, Bravo)	ND		0.098	ug/L		09/21/22 06:31	09/22/22 18:00	1
Chlorpyrifos	ND		0.049	ug/L		09/21/22 06:31	09/22/22 18:00	1
Chrysene	ND		0.020	ug/L		09/21/22 06:31	09/22/22 18:00	1
delta-BHC	ND		0.098	ug/L		09/21/22 06:31	09/22/22 18:00	1
Di(2-ethylhexyl)adipate	ND	*+	0.59	ug/L		09/21/22 06:31	09/22/22 18:00	1
Bis(2-ethylhexyl) phthalate	ND		0.59	ug/L		09/21/22 06:31	09/22/22 18:00	1
Diazinon (Qualitative)	ND		0.098	ug/L		09/21/22 06:31	09/22/22 18:00	1
Dibenz(a,h)anthracene	ND		0.049	ug/L		09/21/22 06:31	09/22/22 18:00	1
Diclorvos (DDVP)	ND	^3+	0.049	ug/L		09/21/22 06:31	09/22/22 18:00	1
Dieldrin	ND		0.20	ug/L		09/21/22 06:31	09/22/22 18:00	1
Diethylphthalate	ND		0.49	ug/L		09/21/22 06:31	09/22/22 18:00	1
Dimethoate	ND	*+	0.098	ug/L		09/21/22 06:31	09/22/22 18:00	1
Dimethylphthalate	ND		0.49	ug/L		09/21/22 06:31	09/22/22 18:00	1
Di-n-butyl phthalate	ND		0.98	ug/L		09/21/22 06:31	09/22/22 18:00	1
Di-n-octyl phthalate	ND		0.098	ug/L		09/21/22 06:31	09/22/22 18:00	1
Endosulfan I (Alpha)	ND		0.098	ug/L		09/21/22 06:31	09/22/22 18:00	1
Endosulfan II (Beta)	ND		0.098	ug/L		09/21/22 06:31	09/22/22 18:00	1
Endosulfan sulfate	ND		0.098	ug/L		09/21/22 06:31	09/22/22 18:00	1
Endrin	ND	*+ ^3+	0.098	ug/L		09/21/22 06:31	09/22/22 18:00	1
Endrin aldehyde	ND		0.098	ug/L		09/21/22 06:31	09/22/22 18:00	1

Eurofins Eaton Monrovia

Client Sample Results

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

Job ID: 380-21464-1

**Client Sample ID: AIEA GULCH WELLS PUMP 2
(331-202-TP072)**

Lab Sample ID: 380-21464-2

Date Collected: 09/19/22 10:59

Matrix: Drinking Water

Date Received: 09/20/22 10:00

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
EPTC	ND		0.098	ug/L		09/21/22 06:31	09/22/22 18:00	1
Fluoranthene	ND		0.098	ug/L		09/21/22 06:31	09/22/22 18:00	1
Fluorene	ND		0.049	ug/L		09/21/22 06:31	09/22/22 18:00	1
gamma-Chlordane	ND		0.049	ug/L		09/21/22 06:31	09/22/22 18:00	1
Heptachlor	ND		0.039	ug/L		09/21/22 06:31	09/22/22 18:00	1
Heptachlor epoxide (isomer B)	ND		0.049	ug/L		09/21/22 06:31	09/22/22 18:00	1
Hexachlorobenzene	ND		0.049	ug/L		09/21/22 06:31	09/22/22 18:00	1
Hexachlorocyclopentadiene	ND		0.049	ug/L		09/21/22 06:31	09/22/22 18:00	1
Indeno[1,2,3-cd]pyrene	ND		0.049	ug/L		09/21/22 06:31	09/22/22 18:00	1
Isophorone	ND		0.49	ug/L		09/21/22 06:31	09/22/22 18:00	1
Lindane	ND		0.039	ug/L		09/21/22 06:31	09/22/22 18:00	1
Malathion	ND		0.098	ug/L		09/21/22 06:31	09/22/22 18:00	1
Methoxychlor	ND	+	0.098	ug/L		09/21/22 06:31	09/22/22 18:00	1
Metolachlor	ND		0.049	ug/L		09/21/22 06:31	09/22/22 18:00	1
Metribuzin	ND		0.049	ug/L		09/21/22 06:31	09/22/22 18:00	1
Molinate	ND		0.098	ug/L		09/21/22 06:31	09/22/22 18:00	1
Naphthalene	ND		0.29	ug/L		09/21/22 06:31	09/22/22 18:00	1
Parathion	ND		0.098	ug/L		09/21/22 06:31	09/22/22 18:00	1
Pendimethalin (Penoxaline)	ND		0.098	ug/L		09/21/22 06:31	09/22/22 18:00	1
Total Permethrin (mixed isomers)	ND	+	0.20	ug/L		09/21/22 06:31	09/22/22 18:00	1
Phenanthrene	ND		0.039	ug/L		09/21/22 06:31	09/22/22 18:00	1
Propachlor	ND		0.049	ug/L		09/21/22 06:31	09/22/22 18:00	1
Pyrene	ND		0.049	ug/L		09/21/22 06:31	09/22/22 18:00	1
Simazine	ND		0.049	ug/L		09/21/22 06:31	09/22/22 18:00	1
Terbacil	ND		0.098	ug/L		09/21/22 06:31	09/22/22 18:00	1
Terbutylazine	ND		0.098	ug/L		09/21/22 06:31	09/22/22 18:00	1
Thiobencarb	ND		0.20	ug/L		09/21/22 06:31	09/22/22 18:00	1
trans-Nonachlor	ND		0.049	ug/L		09/21/22 06:31	09/22/22 18:00	1
Trifluralin	ND		0.098	ug/L		09/21/22 06:31	09/22/22 18:00	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	0.58	T J	ug/L		2.26		09/21/22 06:31	09/22/22 18:00	1
Cyclohexane, 1,1-dimethyl-	0.80	T J N	ug/L		2.34	590-66-9	09/21/22 06:31	09/22/22 18:00	1
Undecane	0.68	T J N	ug/L		2.74	1120-21-4	09/21/22 06:31	09/22/22 18:00	1
Hexazinone	0.12	+	ug/L		7.94	51235-04-2	09/21/22 06:31	09/22/22 18:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Nitro-m-xylene	102		70 - 130	09/21/22 06:31	09/22/22 18:00	1
Triphenylphosphate	106		70 - 130	09/21/22 06:31	09/22/22 18:00	1
Perylene-d12	101		70 - 130	09/21/22 06:31	09/22/22 18:00	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		09/22/22 00:00	09/27/22 22:35	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		09/22/22 00:00	09/27/22 22:35	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		09/22/22 00:00	09/27/22 22:35	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		09/22/22 00:00	09/27/22 22:35	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		09/22/22 00:00	09/27/22 22:35	1
Acenaphthene	ND		0.005	0.001	µg/L		09/22/22 00:00	09/27/22 22:35	1

Eurofins Eaton Monrovia

Client Sample Results

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

Job ID: 380-21464-1

**Client Sample ID: AIEA GULCH WELLS PUMP 2
(331-202-TP072)**

Lab Sample ID: 380-21464-2

Date Collected: 09/19/22 10:59

Matrix: Drinking Water

Date Received: 09/20/22 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
Acenaphthylene	ND		0.005	0.001	µg/L		09/22/22 00:00	09/27/22 22:35	1
Anthracene	ND		0.005	0.001	µg/L		09/22/22 00:00	09/27/22 22:35	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		09/22/22 00:00	09/27/22 22:35	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		09/22/22 00:00	09/27/22 22:35	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		09/22/22 00:00	09/27/22 22:35	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		09/22/22 00:00	09/27/22 22:35	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		09/22/22 00:00	09/27/22 22:35	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		09/22/22 00:00	09/27/22 22:35	1
Biphenyl	ND		0.005	0.001	µg/L		09/22/22 00:00	09/27/22 22:35	1
Chrysene	ND		0.005	0.001	µg/L		09/22/22 00:00	09/27/22 22:35	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		09/22/22 00:00	09/27/22 22:35	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		09/22/22 00:00	09/27/22 22:35	1
Dibenzothiophene	ND		0.005	0.001	µg/L		09/22/22 00:00	09/27/22 22:35	1
Disalicylidenepropanediamine	ND		0.1	0.05	µg/L		09/22/22 00:00	09/27/22 22:35	1
Fluoranthene	ND		0.005	0.001	µg/L		09/22/22 00:00	09/27/22 22:35	1
Fluorene	ND		0.005	0.001	µg/L		09/22/22 00:00	09/27/22 22:35	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		09/22/22 00:00	09/27/22 22:35	1
Naphthalene	ND		0.005	0.001	µg/L		09/22/22 00:00	09/27/22 22:35	1
Perylene	ND		0.005	0.001	µg/L		09/22/22 00:00	09/27/22 22:35	1
Phenanthrene	ND		0.005	0.001	µg/L		09/22/22 00:00	09/27/22 22:35	1
Pyrene	ND		0.005	0.001	µg/L		09/22/22 00:00	09/27/22 22:35	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
(d10-Acenaphthene)	89		45 - 118				09/22/22 00:00	09/27/22 22:35	1
(d10-Phenanthrene)	99		56 - 123				09/22/22 00:00	09/27/22 22:35	1
(d12-Chrysene)	87		36 - 142				09/22/22 00:00	09/27/22 22:35	1
(d12-Perylene)	86		36 - 161				09/22/22 00:00	09/27/22 22:35	1
(d8-Naphthalene)	83		20 - 112				09/22/22 00:00	09/27/22 22:35	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GASOLINE	ND	U	0.02		mg/L			09/22/22 21:37	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE	83		60 - 140					09/22/22 21:37	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DIESEL	ND	U	0.024		mg/L			10/03/22 13:44	1
MOTOR OIL	ND	U	0.048		mg/L			10/03/22 13:44	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
BROMOBENZENE	67		60 - 130					10/03/22 13:44	1
HEXACOSANE	88		60 - 130					10/03/22 13:44	1

Client Sample Results

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

Job ID: 380-21464-1

**Client Sample ID: AIEA WELLS PUMPS 1&2 (260)
(331-203-TP400)**

Lab Sample ID: 380-21464-3

Date Collected: 09/19/22 09:44

Matrix: Drinking Water

Date Received: 09/20/22 10:00

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	^3+	0.098	ug/L		09/21/22 06:31	09/22/22 18:20	1
2,4'-DDE	ND		0.098	ug/L		09/21/22 06:31	09/22/22 18:20	1
2,4'-DDT	ND	*+	0.098	ug/L		09/21/22 06:31	09/22/22 18:20	1
2,4-Dinitrotoluene	ND		0.098	ug/L		09/21/22 06:31	09/22/22 18:20	1
2,6-Dinitrotoluene	ND		0.098	ug/L		09/21/22 06:31	09/22/22 18:20	1
4,4'-DDD	ND	*+	0.098	ug/L		09/21/22 06:31	09/22/22 18:20	1
4,4'-DDE	ND		0.098	ug/L		09/21/22 06:31	09/22/22 18:20	1
4,4'-DDT	ND	*+	0.098	ug/L		09/21/22 06:31	09/22/22 18:20	1
Acenaphthene	ND		0.098	ug/L		09/21/22 06:31	09/22/22 18:20	1
Acenaphthylene	ND		0.098	ug/L		09/21/22 06:31	09/22/22 18:20	1
Acetochlor	ND		0.098	ug/L		09/21/22 06:31	09/22/22 18:20	1
Alachlor	ND		0.049	ug/L		09/21/22 06:31	09/22/22 18:20	1
alpha-BHC	ND		0.098	ug/L		09/21/22 06:31	09/22/22 18:20	1
alpha-Chlordane	ND		0.049	ug/L		09/21/22 06:31	09/22/22 18:20	1
Anthracene	ND		0.020	ug/L		09/21/22 06:31	09/22/22 18:20	1
Atrazine	ND		0.049	ug/L		09/21/22 06:31	09/22/22 18:20	1
Benz(a)anthracene	ND		0.049	ug/L		09/21/22 06:31	09/22/22 18:20	1
Benzo[a]pyrene	ND		0.020	ug/L		09/21/22 06:31	09/22/22 18:20	1
Benzo[b]fluoranthene	ND		0.020	ug/L		09/21/22 06:31	09/22/22 18:20	1
Benzo[g,h,i]perylene	ND		0.049	ug/L		09/21/22 06:31	09/22/22 18:20	1
Benzo[k]fluoranthene	ND		0.020	ug/L		09/21/22 06:31	09/22/22 18:20	1
beta-BHC	ND		0.098	ug/L		09/21/22 06:31	09/22/22 18:20	1
Bromacil	ND	*+	0.098	ug/L		09/21/22 06:31	09/22/22 18:20	1
Butachlor	ND		0.049	ug/L		09/21/22 06:31	09/22/22 18:20	1
Butylbenzylphthalate	ND		0.49	ug/L		09/21/22 06:31	09/22/22 18:20	1
Caffeine	ND		0.049	ug/L		09/21/22 06:31	09/22/22 18:20	1
Chlorobenzilate	ND		0.098	ug/L		09/21/22 06:31	09/22/22 18:20	1
Chloroneb	ND		0.098	ug/L		09/21/22 06:31	09/22/22 18:20	1
Chlorothalonil (Draconil, Bravo)	ND		0.098	ug/L		09/21/22 06:31	09/22/22 18:20	1
Chlorpyrifos	ND		0.049	ug/L		09/21/22 06:31	09/22/22 18:20	1
Chrysene	ND		0.020	ug/L		09/21/22 06:31	09/22/22 18:20	1
delta-BHC	ND		0.098	ug/L		09/21/22 06:31	09/22/22 18:20	1
Di(2-ethylhexyl)adipate	ND	*+	0.59	ug/L		09/21/22 06:31	09/22/22 18:20	1
Bis(2-ethylhexyl) phthalate	ND		0.59	ug/L		09/21/22 06:31	09/22/22 18:20	1
Diazinon (Qualitative)	ND		0.098	ug/L		09/21/22 06:31	09/22/22 18:20	1
Dibenz(a,h)anthracene	ND		0.049	ug/L		09/21/22 06:31	09/22/22 18:20	1
Diclorvos (DDVP)	ND	^3+	0.049	ug/L		09/21/22 06:31	09/22/22 18:20	1
Dieldrin	ND		0.20	ug/L		09/21/22 06:31	09/22/22 18:20	1
Diethylphthalate	ND		0.49	ug/L		09/21/22 06:31	09/22/22 18:20	1
Dimethoate	ND	*+	0.098	ug/L		09/21/22 06:31	09/22/22 18:20	1
Dimethylphthalate	ND		0.49	ug/L		09/21/22 06:31	09/22/22 18:20	1
Di-n-butyl phthalate	ND		0.98	ug/L		09/21/22 06:31	09/22/22 18:20	1
Di-n-octyl phthalate	ND		0.098	ug/L		09/21/22 06:31	09/22/22 18:20	1
Endosulfan I (Alpha)	ND		0.098	ug/L		09/21/22 06:31	09/22/22 18:20	1
Endosulfan II (Beta)	ND		0.098	ug/L		09/21/22 06:31	09/22/22 18:20	1
Endosulfan sulfate	ND		0.098	ug/L		09/21/22 06:31	09/22/22 18:20	1
Endrin	ND	*+ ^3+	0.098	ug/L		09/21/22 06:31	09/22/22 18:20	1
Endrin aldehyde	ND		0.098	ug/L		09/21/22 06:31	09/22/22 18:20	1

Eurofins Eaton Monrovia

Client Sample Results

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

Job ID: 380-21464-1

**Client Sample ID: AIEA WELLS PUMPS 1&2 (260)
(331-203-TP400)**

Lab Sample ID: 380-21464-3

Date Collected: 09/19/22 09:44

Matrix: Drinking Water

Date Received: 09/20/22 10:00

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
EPTC	ND		0.098	ug/L		09/21/22 06:31	09/22/22 18:20	1
Fluoranthene	ND		0.098	ug/L		09/21/22 06:31	09/22/22 18:20	1
Fluorene	ND		0.049	ug/L		09/21/22 06:31	09/22/22 18:20	1
gamma-Chlordane	ND		0.049	ug/L		09/21/22 06:31	09/22/22 18:20	1
Heptachlor	ND		0.039	ug/L		09/21/22 06:31	09/22/22 18:20	1
Heptachlor epoxide (isomer B)	ND		0.049	ug/L		09/21/22 06:31	09/22/22 18:20	1
Hexachlorobenzene	ND		0.049	ug/L		09/21/22 06:31	09/22/22 18:20	1
Hexachlorocyclopentadiene	ND		0.049	ug/L		09/21/22 06:31	09/22/22 18:20	1
Indeno[1,2,3-cd]pyrene	ND		0.049	ug/L		09/21/22 06:31	09/22/22 18:20	1
Isophorone	ND		0.49	ug/L		09/21/22 06:31	09/22/22 18:20	1
Lindane	ND		0.039	ug/L		09/21/22 06:31	09/22/22 18:20	1
Malathion	ND		0.098	ug/L		09/21/22 06:31	09/22/22 18:20	1
Methoxychlor	ND	+	0.098	ug/L		09/21/22 06:31	09/22/22 18:20	1
Metolachlor	ND		0.049	ug/L		09/21/22 06:31	09/22/22 18:20	1
Metribuzin	ND		0.049	ug/L		09/21/22 06:31	09/22/22 18:20	1
Molinate	ND		0.098	ug/L		09/21/22 06:31	09/22/22 18:20	1
Naphthalene	ND		0.29	ug/L		09/21/22 06:31	09/22/22 18:20	1
Parathion	ND		0.098	ug/L		09/21/22 06:31	09/22/22 18:20	1
Pendimethalin (Penoxaline)	ND		0.098	ug/L		09/21/22 06:31	09/22/22 18:20	1
Total Permethrin (mixed isomers)	ND	+	0.20	ug/L		09/21/22 06:31	09/22/22 18:20	1
Phenanthrene	ND		0.039	ug/L		09/21/22 06:31	09/22/22 18:20	1
Propachlor	ND		0.049	ug/L		09/21/22 06:31	09/22/22 18:20	1
Pyrene	ND		0.049	ug/L		09/21/22 06:31	09/22/22 18:20	1
Simazine	ND		0.049	ug/L		09/21/22 06:31	09/22/22 18:20	1
Terbacil	ND		0.098	ug/L		09/21/22 06:31	09/22/22 18:20	1
Terbutylazine	ND		0.098	ug/L		09/21/22 06:31	09/22/22 18:20	1
Thiobencarb	ND		0.20	ug/L		09/21/22 06:31	09/22/22 18:20	1
trans-Nonachlor	ND		0.049	ug/L		09/21/22 06:31	09/22/22 18:20	1
Trifluralin	ND		0.098	ug/L		09/21/22 06:31	09/22/22 18:20	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Cyclohexane, 1,1-dimethyl-	0.75	T J N	ug/L		2.33	590-66-9	09/21/22 06:31	09/22/22 18:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Nitro-m-xylene	103		70 - 130	09/21/22 06:31	09/22/22 18:20	1
Triphenylphosphate	104		70 - 130	09/21/22 06:31	09/22/22 18:20	1
Perylene-d12	98		70 - 130	09/21/22 06:31	09/22/22 18:20	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		09/22/22 00:00	09/28/22 00:19	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		09/22/22 00:00	09/28/22 00:19	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		09/22/22 00:00	09/28/22 00:19	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		09/22/22 00:00	09/28/22 00:19	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		09/22/22 00:00	09/28/22 00:19	1
Acenaphthene	ND		0.005	0.001	µg/L		09/22/22 00:00	09/28/22 00:19	1
Acenaphthylene	ND		0.005	0.001	µg/L		09/22/22 00:00	09/28/22 00:19	1
Anthracene	ND		0.005	0.001	µg/L		09/22/22 00:00	09/28/22 00:19	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		09/22/22 00:00	09/28/22 00:19	1

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Client Sample Results

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

Job ID: 380-21464-1

**Client Sample ID: AIEA WELLS PUMPS 1&2 (260)
(331-203-TP400)**

Lab Sample ID: 380-21464-3

Date Collected: 09/19/22 09:44

Matrix: Drinking Water

Date Received: 09/20/22 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
Benzo[a]pyrene	ND		0.005	0.001	µg/L		09/22/22 00:00	09/28/22 00:19	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		09/22/22 00:00	09/28/22 00:19	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		09/22/22 00:00	09/28/22 00:19	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		09/22/22 00:00	09/28/22 00:19	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		09/22/22 00:00	09/28/22 00:19	1
Biphenyl	ND		0.005	0.001	µg/L		09/22/22 00:00	09/28/22 00:19	1
Chrysene	ND		0.005	0.001	µg/L		09/22/22 00:00	09/28/22 00:19	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		09/22/22 00:00	09/28/22 00:19	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		09/22/22 00:00	09/28/22 00:19	1
Dibenzothiophene	ND		0.005	0.001	µg/L		09/22/22 00:00	09/28/22 00:19	1
Disalicylidenepropanediamine	ND		0.1	0.05	µg/L		09/22/22 00:00	09/28/22 00:19	1
Fluoranthene	ND		0.005	0.001	µg/L		09/22/22 00:00	09/28/22 00:19	1
Fluorene	ND		0.005	0.001	µg/L		09/22/22 00:00	09/28/22 00:19	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		09/22/22 00:00	09/28/22 00:19	1
Naphthalene	ND		0.005	0.001	µg/L		09/22/22 00:00	09/28/22 00:19	1
Perylene	ND		0.005	0.001	µg/L		09/22/22 00:00	09/28/22 00:19	1
Phenanthrene	ND		0.005	0.001	µg/L		09/22/22 00:00	09/28/22 00:19	1
Pyrene	ND		0.005	0.001	µg/L		09/22/22 00:00	09/28/22 00:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
(d10-Acenaphthene)	77		45 - 118	09/22/22 00:00	09/28/22 00:19	1
(d10-Phenanthrene)	87		56 - 123	09/22/22 00:00	09/28/22 00:19	1
(d12-Chrysene)	93		36 - 142	09/22/22 00:00	09/28/22 00:19	1
(d12-Perylene)	76		36 - 161	09/22/22 00:00	09/28/22 00:19	1
(d8-Naphthalene)	71		20 - 112	09/22/22 00:00	09/28/22 00:19	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DIESEL	ND	U	0.027		mg/L			10/03/22 14:03	1
GASOLINE	ND	U	0.02		mg/L			09/22/22 22:15	1
MOTOR OIL	ND	U	0.053		mg/L			10/03/22 14:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOBENZENE	48		60 - 130		10/03/22 14:03	1
BROMOFLUOROBENZENE	87		60 - 140		09/22/22 22:15	1
HEXACOSANE	85		60 - 130		10/03/22 14:03	1

Client Sample ID: TB AIEA GULCH WELLS PUMP 1

Lab Sample ID: 380-21464-4

Date Collected: 09/19/22 10:32

Matrix: Water

Date Received: 09/20/22 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	0.02		mg/L			09/22/22 22:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE	86		60 - 140		09/22/22 22:53	1

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Client Sample Results

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

Job ID: 380-21464-1

Client Sample ID: TB AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-21464-5

Date Collected: 09/19/22 10:59

Matrix: Water

Date Received: 09/20/22 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	0.02		mg/L			09/23/22 00:09	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE	88		60 - 140					09/23/22 00:09	1

Client Sample ID: TB AIEA GULCH WELLS PUMP 1&2

Lab Sample ID: 380-21464-6

Date Collected: 09/19/22 09:44

Matrix: Water

Date Received: 09/20/22 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	0.02		mg/L			09/23/22 00:47	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE	86		60 - 140					09/23/22 00:47	1

Action Limit Summary

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

Job ID: 380-21464-1

Client Sample ID: AIEA GULCH WELLS PUMP 1
(331-201-TP071)
PWSID Number: HI0000331

Lab Sample ID: 380-21464-1

Compliance Check

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

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

Client Sample ID: AIEA GULCH WELLS PUMP 2
(331-202-TP072)
PWSID Number: HI0000331

Lab Sample ID: 380-21464-2

Compliance Check

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

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

Client Sample ID: AIEA WELLS PUMPS 1&2 (260)
(331-203-TP400)
PWSID Number: HI0000331

Lab Sample ID: 380-21464-3

Compliance Check

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

Analyte	Result	Qualifier	Unit	EPAMCL	RL	Method	Prep Type
				Limit			
Alachlor	ND		ug/L	2	0.049	525.2	Total/NA

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Action Limit Summary

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

Job ID: 380-21464-1

Client Sample ID: AIEA WELLS PUMPS 1&2 (260)
(331-203-TP400) (Continued)
PWSID Number: HI0000331

Lab Sample ID: 380-21464-3

Compliance Check

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

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

Surrogate Summary

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

Job ID: 380-21464-1

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

Matrix: Drinking Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		2NMX (70-130)	TPP (70-130)	PRY (70-130)
380-21464-1	AIEA GULCH WELLS PUMP 1 (	103	106	96
380-21464-1 DU	AIEA GULCH WELLS PUMP 1 (331-201-TP071)	104	113	98
380-21464-2	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	102	106	101
380-21464-3	AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	103	104	98

Surrogate Legend

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

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		2NMX (70-130)	TPP (70-130)	PRY (70-130)
380-21450-C-1-A MS	Matrix Spike	101	109	95
LCS 380-18009/3-A	Lab Control Sample	102	109	96
LCSD 380-18009/4-A	Lab Control Sample Dup	100	113	100
MB 380-18009/1-A	Method Blank	104	110	96
MRL 380-18009/2-A	Lab Control Sample	101	112	96

Surrogate Legend

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

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

Matrix: Drinking Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)				
		ANT (45-118)	CRY (36-142)	NPT (20-112)	PHN (56-123)	PRY (36-161)
380-21464-1	AIEA GULCH WELLS PUMP 1 (	90	105	71	97	90
380-21464-2	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	89	87	83	99	86
380-21464-3	AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	77	93	71	87	76

Surrogate Legend

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

Surrogate Summary

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

Job ID: 380-21464-1

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

Matrix: water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	ANT (65-113)	CRY (60-139)	NPT (44-119)	PHN (80-111)	PRY (36-161)
100207-B1	Method Blank	87	102	75	97	88
100207-BS1	Lab Control Sample	71	103	87	101	101
100207-BS2	Lab Control Sample Dup	89	104	80	101	103

Surrogate Legend

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

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

Matrix: Drinking Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB (60-140)
380-21464-1	AIEA GULCH WELLS PUMP 1 (	82
380-21464-2	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	83

Surrogate Legend

BFB = BROMOFLUOROBENZENE

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

Matrix: WATER

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB (60-140)
221268-01M	Matrix Spike	116
221268-01S	Matrix Spike Duplicate	115

Surrogate Legend

BFB = BROMOFLUOROBENZENE

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

Matrix: WATER

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB
22VG39116B	Method Blank	

Surrogate Legend

BFB = BROMOFLUOROBENZENE

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

Matrix: WATER

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB (70-130)
22VG39116C	LCD	105

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Surrogate Summary

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

Job ID: 380-21464-1

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

Matrix: WATER

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB (70-130)
22VG39116L	Lab Control Sample	107

Surrogate Legend

BFB = BROMOFLUOROBENZENE

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

Matrix: Drinking Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BB (60-130)	XACOSAI (60-130)
380-21464-1	AIEA GULCH WELLS PUMP 1 (	60	77
380-21464-2	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	67	88
380-21464-3	AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	48	85

Surrogate Legend

BB = BROMOBENZENE

HEXACOSANE = HEXACOSANE

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

Matrix: Drinking Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB (60-140)
380-21464-3	AIEA WELLS PUMPS 1&2 (260)	87

Surrogate Legend

BFB = BROMOFLUOROBENZENE

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

Matrix: WATER

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BB (60-130)	XACOSAI (60-130)
22DSJ003WC	LCD	79	75
22DSJ003WL	Lab Control Sample	86	86

Surrogate Legend

BB = BROMOBENZENE

HEXACOSANE = HEXACOSANE

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

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB (60-140)
380-21464-4	TB AIEA GULCH WELLS PUMP	86
380-21464-5	TB AIEA GULCH WELLS PUMP 2	88

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Surrogate Summary

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

Job ID: 380-21464-1

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

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB (60-140)
380-21464-6	TB AIEA GULCH WELLS PUMP	86

Surrogate Legend

BFB = BROMOFLUOROBENZENE

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

Matrix: WATER

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BB	XACOSAI
22DSJ003WB	Method Blank		

Surrogate Legend

BB = BROMOBENZENE

HEXACOSANE = HEXACOSANE

QC Sample Results

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

Job ID: 380-21464-1

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

Lab Sample ID: MB 380-18009/1-A
Matrix: Water
Analysis Batch: 18233

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 18009

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
2,4'-DDD	ND		0.10	ug/L		09/21/22 06:31	09/22/22 16:38	1
2,4'-DDE	ND		0.10	ug/L		09/21/22 06:31	09/22/22 16:38	1
2,4'-DDT	ND		0.10	ug/L		09/21/22 06:31	09/22/22 16:38	1
2,4-Dinitrotoluene	ND		0.10	ug/L		09/21/22 06:31	09/22/22 16:38	1
2,6-Dinitrotoluene	ND		0.10	ug/L		09/21/22 06:31	09/22/22 16:38	1
4,4'-DDD	ND		0.10	ug/L		09/21/22 06:31	09/22/22 16:38	1
4,4'-DDE	ND		0.10	ug/L		09/21/22 06:31	09/22/22 16:38	1
4,4'-DDT	ND		0.10	ug/L		09/21/22 06:31	09/22/22 16:38	1
Acenaphthene	ND		0.10	ug/L		09/21/22 06:31	09/22/22 16:38	1
Acenaphthylene	ND		0.10	ug/L		09/21/22 06:31	09/22/22 16:38	1
Acetochlor	ND		0.10	ug/L		09/21/22 06:31	09/22/22 16:38	1
Alachlor	ND		0.050	ug/L		09/21/22 06:31	09/22/22 16:38	1
alpha-BHC	ND		0.10	ug/L		09/21/22 06:31	09/22/22 16:38	1
alpha-Chlordane	ND		0.050	ug/L		09/21/22 06:31	09/22/22 16:38	1
Anthracene	ND		0.020	ug/L		09/21/22 06:31	09/22/22 16:38	1
Atrazine	ND		0.050	ug/L		09/21/22 06:31	09/22/22 16:38	1
Benz(a)anthracene	ND		0.050	ug/L		09/21/22 06:31	09/22/22 16:38	1
Benzo[a]pyrene	ND		0.020	ug/L		09/21/22 06:31	09/22/22 16:38	1
Benzo[b]fluoranthene	ND		0.020	ug/L		09/21/22 06:31	09/22/22 16:38	1
Benzo[g,h,i]perylene	ND		0.050	ug/L		09/21/22 06:31	09/22/22 16:38	1
Benzo[k]fluoranthene	ND		0.020	ug/L		09/21/22 06:31	09/22/22 16:38	1
beta-BHC	ND		0.10	ug/L		09/21/22 06:31	09/22/22 16:38	1
Bromacil	ND		0.10	ug/L		09/21/22 06:31	09/22/22 16:38	1
Butachlor	ND		0.050	ug/L		09/21/22 06:31	09/22/22 16:38	1
Butylbenzylphthalate	ND		0.50	ug/L		09/21/22 06:31	09/22/22 16:38	1
Caffeine	ND		0.050	ug/L		09/21/22 06:31	09/22/22 16:38	1
Chlorobenzilate	ND		0.10	ug/L		09/21/22 06:31	09/22/22 16:38	1
Chloroneb	ND		0.10	ug/L		09/21/22 06:31	09/22/22 16:38	1
Chlorothalonil (Draconil, Bravo)	ND		0.10	ug/L		09/21/22 06:31	09/22/22 16:38	1
Chlorpyrifos	ND		0.050	ug/L		09/21/22 06:31	09/22/22 16:38	1
Chrysene	ND		0.020	ug/L		09/21/22 06:31	09/22/22 16:38	1
delta-BHC	ND		0.10	ug/L		09/21/22 06:31	09/22/22 16:38	1
Di(2-ethylhexyl)adipate	ND		0.60	ug/L		09/21/22 06:31	09/22/22 16:38	1
Bis(2-ethylhexyl) phthalate	ND		0.60	ug/L		09/21/22 06:31	09/22/22 16:38	1
Diazinon (Qualitative)	ND		0.10	ug/L		09/21/22 06:31	09/22/22 16:38	1
Dibenz(a,h)anthracene	ND		0.050	ug/L		09/21/22 06:31	09/22/22 16:38	1
Diclorvos (DDVP)	ND		0.050	ug/L		09/21/22 06:31	09/22/22 16:38	1
Dieldrin	ND		0.20	ug/L		09/21/22 06:31	09/22/22 16:38	1
Diethylphthalate	ND		0.50	ug/L		09/21/22 06:31	09/22/22 16:38	1
Dimethoate	ND		0.10	ug/L		09/21/22 06:31	09/22/22 16:38	1
Dimethylphthalate	ND		0.50	ug/L		09/21/22 06:31	09/22/22 16:38	1
Di-n-butyl phthalate	ND		1.0	ug/L		09/21/22 06:31	09/22/22 16:38	1
Di-n-octyl phthalate	ND		0.10	ug/L		09/21/22 06:31	09/22/22 16:38	1
Endosulfan I (Alpha)	ND		0.10	ug/L		09/21/22 06:31	09/22/22 16:38	1
Endosulfan II (Beta)	ND		0.10	ug/L		09/21/22 06:31	09/22/22 16:38	1
Endosulfan sulfate	ND		0.10	ug/L		09/21/22 06:31	09/22/22 16:38	1
Endrin	ND		0.10	ug/L		09/21/22 06:31	09/22/22 16:38	1
Endrin aldehyde	ND		0.10	ug/L		09/21/22 06:31	09/22/22 16:38	1

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QC Sample Results

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

Job ID: 380-21464-1

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

Lab Sample ID: MB 380-18009/1-A
Matrix: Water
Analysis Batch: 18233

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 18009

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
EPTC	ND		0.10	ug/L		09/21/22 06:31	09/22/22 16:38	1
Fluoranthene	ND		0.10	ug/L		09/21/22 06:31	09/22/22 16:38	1
Fluorene	ND		0.050	ug/L		09/21/22 06:31	09/22/22 16:38	1
gamma-Chlordane	ND		0.050	ug/L		09/21/22 06:31	09/22/22 16:38	1
Heptachlor	ND		0.040	ug/L		09/21/22 06:31	09/22/22 16:38	1
Heptachlor epoxide (isomer B)	ND		0.050	ug/L		09/21/22 06:31	09/22/22 16:38	1
Hexachlorobenzene	ND		0.050	ug/L		09/21/22 06:31	09/22/22 16:38	1
Hexachlorocyclopentadiene	ND		0.050	ug/L		09/21/22 06:31	09/22/22 16:38	1
Indeno[1,2,3-cd]pyrene	ND		0.050	ug/L		09/21/22 06:31	09/22/22 16:38	1
Isophorone	ND		0.50	ug/L		09/21/22 06:31	09/22/22 16:38	1
Lindane	ND		0.040	ug/L		09/21/22 06:31	09/22/22 16:38	1
Malathion	ND		0.10	ug/L		09/21/22 06:31	09/22/22 16:38	1
Methoxychlor	ND		0.10	ug/L		09/21/22 06:31	09/22/22 16:38	1
Metolachlor	ND		0.050	ug/L		09/21/22 06:31	09/22/22 16:38	1
Metribuzin	ND		0.050	ug/L		09/21/22 06:31	09/22/22 16:38	1
Molinate	ND		0.10	ug/L		09/21/22 06:31	09/22/22 16:38	1
Naphthalene	ND		0.30	ug/L		09/21/22 06:31	09/22/22 16:38	1
Parathion	ND		0.10	ug/L		09/21/22 06:31	09/22/22 16:38	1
Pendimethalin (Penoxaline)	ND		0.10	ug/L		09/21/22 06:31	09/22/22 16:38	1
Total Permethrin (mixed isomers)	ND		0.20	ug/L		09/21/22 06:31	09/22/22 16:38	1
Phenanthrene	ND		0.040	ug/L		09/21/22 06:31	09/22/22 16:38	1
Propachlor	ND		0.050	ug/L		09/21/22 06:31	09/22/22 16:38	1
Pyrene	ND		0.050	ug/L		09/21/22 06:31	09/22/22 16:38	1
Simazine	ND		0.050	ug/L		09/21/22 06:31	09/22/22 16:38	1
Terbacil	ND		0.10	ug/L		09/21/22 06:31	09/22/22 16:38	1
Terbutylazine	ND		0.10	ug/L		09/21/22 06:31	09/22/22 16:38	1
Thiobencarb	ND		0.20	ug/L		09/21/22 06:31	09/22/22 16:38	1
trans-Nonachlor	ND		0.050	ug/L		09/21/22 06:31	09/22/22 16:38	1
Trifluralin	ND		0.10	ug/L		09/21/22 06:31	09/22/22 16:38	1

<i>Tentatively Identified Compound</i>	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Hexazinone	0.119	B	ug/L		7.94	51235-04-2	09/21/22 06:31	09/22/22 16:38	1
<i>Tentatively Identified Compound</i>	None		ug/L				09/21/22 06:31	09/22/22 16:38	1

<i>Surrogate</i>	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Nitro-m-xylene	104		70 - 130	09/21/22 06:31	09/22/22 16:38	1
Triphenylphosphate	110		70 - 130	09/21/22 06:31	09/22/22 16:38	1
Perylene-d12	96		70 - 130	09/21/22 06:31	09/22/22 16:38	1

Lab Sample ID: LCS 380-18009/3-A
Matrix: Water
Analysis Batch: 18233

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 18009

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2,4'-DDD	1.99	2.01		ug/L		101	70 - 130
2,4'-DDE	1.99	2.10		ug/L		106	70 - 130
2,4'-DDT	1.99	2.43		ug/L		122	70 - 130
2,4-Dinitrotoluene	1.99	2.21		ug/L		111	70 - 130

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QC Sample Results

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

Job ID: 380-21464-1

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

Lab Sample ID: LCS 380-18009/3-A
Matrix: Water
Analysis Batch: 18233

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 18009

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2,6-Dinitrotoluene	1.99	2.37		ug/L		119	70 - 130
4,4'-DDD	1.99	2.46		ug/L		124	70 - 130
4,4'-DDE	1.99	2.16		ug/L		108	70 - 130
4,4'-DDT	1.99	2.40		ug/L		120	70 - 130
Acenaphthene	1.99	1.96		ug/L		99	70 - 130
Acenaphthylene	1.99	1.96		ug/L		98	70 - 130
Acetochlor	1.99	2.18		ug/L		110	70 - 130
Alachlor	1.99	2.17		ug/L		109	70 - 130
alpha-BHC	1.99	2.19		ug/L		110	70 - 130
alpha-Chlordane	1.99	2.13		ug/L		107	70 - 130
Anthracene	1.99	2.04		ug/L		103	70 - 130
Atrazine	1.99	2.21		ug/L		111	70 - 130
Benz(a)anthracene	1.99	2.32		ug/L		117	70 - 130
Benzo[a]pyrene	1.99	2.20		ug/L		110	70 - 130
Benzo[b]fluoranthene	1.99	2.25		ug/L		113	70 - 130
Benzo[g,h,i]perylene	1.99	2.35		ug/L		118	70 - 130
Benzo[k]fluoranthene	1.99	2.33		ug/L		117	70 - 130
beta-BHC	1.99	2.22		ug/L		112	70 - 130
Bromacil	1.99	2.65	*+	ug/L		133	70 - 130
Butachlor	1.99	2.34		ug/L		118	70 - 130
Butylbenzylphthalate	1.99	2.38		ug/L		119	70 - 130
Caffeine	1.99	1.95		ug/L		98	45 - 137
Chlorobenzilate	1.99	2.41		ug/L		121	70 - 130
Chloroneb	1.99	2.15		ug/L		108	70 - 130
Chlorothalonil (Draconil, Bravo)	1.99	2.38		ug/L		119	70 - 130
Chlorpyrifos	1.99	2.27		ug/L		114	70 - 130
Chrysene	1.99	2.21		ug/L		111	70 - 130
delta-BHC	1.99	2.22		ug/L		111	70 - 130
Di(2-ethylhexyl)adipate	1.99	2.39		ug/L		120	70 - 130
Bis(2-ethylhexyl) phthalate	1.99	2.11		ug/L		106	70 - 130
Diazinon (Qualitative)	1.99	2.03		ug/L		102	15 - 132
Dibenz(a,h)anthracene	1.99	2.30		ug/L		116	70 - 130
Diclorvos (DDVP)	1.99	2.23		ug/L		112	70 - 130
Dieldrin	1.99	2.14		ug/L		108	70 - 130
Diethylphthalate	1.99	2.05		ug/L		103	70 - 130
Dimethoate	1.99	2.04	*+	ug/L		103	35 - 100
Dimethylphthalate	1.99	2.20		ug/L		110	70 - 130
Di-n-butyl phthalate	1.99	4.17		ug/L		105	70 - 130
Di-n-octyl phthalate	1.99	1.97		ug/L		99	70 - 130
Endosulfan I (Alpha)	1.99	2.12		ug/L		107	70 - 130
Endosulfan II (Beta)	1.99	2.29		ug/L		115	70 - 130
Endosulfan sulfate	1.99	2.41		ug/L		121	70 - 130
Endrin	1.99	2.60	*+	ug/L		131	70 - 130
Endrin aldehyde	1.99	2.09		ug/L		105	70 - 130
EPTC	1.99	2.07		ug/L		104	70 - 130
Fluoranthene	1.99	2.28		ug/L		115	70 - 130
Fluorene	1.99	2.10		ug/L		106	70 - 130
gamma-Chlordane	1.99	2.13		ug/L		107	70 - 130
Heptachlor	1.99	2.05		ug/L		103	70 - 130

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QC Sample Results

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

Job ID: 380-21464-1

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

Lab Sample ID: LCS 380-18009/3-A
Matrix: Water
Analysis Batch: 18233

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 18009

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Heptachlor epoxide (isomer B)	1.99	2.18		ug/L		110	70 - 130
Hexachlorobenzene	1.99	1.93		ug/L		97	70 - 130
Hexachlorocyclopentadiene	1.99	2.21		ug/L		111	70 - 130
Indeno[1,2,3-cd]pyrene	1.99	2.35		ug/L		118	70 - 130
Isophorone	1.99	2.22		ug/L		112	70 - 130
Lindane	1.99	2.27		ug/L		114	70 - 130
Malathion	1.99	2.49		ug/L		125	70 - 130
Methoxychlor	1.99	2.71	*+	ug/L		136	70 - 130
Metolachlor	1.99	2.30		ug/L		116	70 - 130
Metribuzin	1.99	2.29		ug/L		115	70 - 130
Molinate	1.99	2.12		ug/L		107	70 - 130
Naphthalene	1.99	1.97		ug/L		99	70 - 130
Parathion	1.99	2.38		ug/L		120	70 - 130
Pendimethalin (Penoxaline)	1.99	2.28		ug/L		115	70 - 130
Phenanthrene	1.99	2.00		ug/L		101	70 - 130
Propachlor	1.99	2.30		ug/L		115	70 - 130
Pyrene	1.99	2.32		ug/L		117	70 - 130
Simazine	1.99	2.41		ug/L		121	70 - 130
Terbacil	1.99	2.37		ug/L		119	70 - 130
Terbutylazine	1.99	2.37		ug/L		119	70 - 130
Thiobencarb	1.99	2.06		ug/L		103	70 - 130
trans-Nonachlor	1.99	2.13		ug/L		107	70 - 130
Trifluralin	1.99	2.19		ug/L		110	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Nitro-m-xylene	102		70 - 130
Triphenylphosphate	109		70 - 130
Perylene-d12	96		70 - 130

Lab Sample ID: LCSD 380-18009/4-A
Matrix: Water
Analysis Batch: 18233

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 18009

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
2,4'-DDD	1.99	2.23		ug/L		112	70 - 130	10	20
2,4'-DDE	1.99	2.33		ug/L		117	70 - 130	10	20
2,4'-DDT	1.99	2.68	*+	ug/L		135	70 - 130	10	20
2,4-Dinitrotoluene	1.99	2.05		ug/L		103	70 - 130	7	20
2,6-Dinitrotoluene	1.99	2.29		ug/L		115	70 - 130	3	20
4,4'-DDD	1.99	2.62	*+	ug/L		132	70 - 130	6	20
4,4'-DDE	1.99	2.37		ug/L		119	70 - 130	9	20
4,4'-DDT	1.99	2.64	*+	ug/L		133	70 - 130	10	20
Acenaphthene	1.99	1.99		ug/L		100	70 - 130	1	20
Acenaphthylene	1.99	2.01		ug/L		101	70 - 130	2	20
Acetochlor	1.99	2.29		ug/L		115	70 - 130	5	20
Alachlor	1.99	2.23		ug/L		112	70 - 130	3	20
alpha-BHC	1.99	2.22		ug/L		112	70 - 130	1	20
alpha-Chlordane	1.99	2.26		ug/L		114	70 - 130	6	20

Eurofins Eaton Monrovia

QC Sample Results

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

Job ID: 380-21464-1

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

Lab Sample ID: LCSD 380-18009/4-A
Matrix: Water
Analysis Batch: 18233

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 18009

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	RPD Limit
							Limits	RPD		
Anthracene	1.99	2.11		ug/L		106	70 - 130	3	20	
Atrazine	1.99	2.28		ug/L		115	70 - 130	3	20	
Benz(a)anthracene	1.99	2.59		ug/L		130	70 - 130	11	20	
Benzo[a]pyrene	1.99	2.26		ug/L		114	70 - 130	3	20	
Benzo[b]fluoranthene	1.99	2.32		ug/L		117	70 - 130	3	20	
Benzo[g,h,i]perylene	1.99	2.43		ug/L		122	70 - 130	4	20	
Benzo[k]fluoranthene	1.99	2.29		ug/L		115	70 - 130	2	20	
beta-BHC	1.99	2.25		ug/L		113	70 - 130	1	20	
Bromacil	1.99	2.67	*+	ug/L		134	70 - 130	1	20	
Butachlor	1.99	2.43		ug/L		122	70 - 130	4	20	
Butylbenzylphthalate	1.99	2.53		ug/L		127	70 - 130	6	20	
Caffeine	1.99	1.89		ug/L		95	45 - 137	3	20	
Chlorobenzilate	1.99	2.56		ug/L		129	70 - 130	6	20	
Chloroneb	1.99	2.16		ug/L		109	70 - 130	1	20	
Chlorothalonil (Draconil, Bravo)	1.99	2.45		ug/L		123	70 - 130	3	20	
Chlorpyrifos	1.99	2.42		ug/L		122	70 - 130	6	20	
Chrysene	1.99	2.19		ug/L		110	70 - 130	1	20	
delta-BHC	1.99	2.29		ug/L		115	70 - 130	3	20	
Di(2-ethylhexyl)adipate	1.99	2.71	*+	ug/L		136	70 - 130	12	20	
Bis(2-ethylhexyl) phthalate	1.99	2.44		ug/L		123	70 - 130	15	20	
Diazinon (Qualitative)	1.99	2.11		ug/L		106	15 - 132	4	20	
Dibenz(a,h)anthracene	1.99	2.43		ug/L		122	70 - 130	5	20	
Diclorvos (DDVP)	1.99	2.13		ug/L		107	70 - 130	5	20	
Dieldrin	1.99	2.30		ug/L		116	70 - 130	7	20	
Diethylphthalate	1.99	2.03		ug/L		102	70 - 130	1	20	
Dimethoate	1.99	1.88		ug/L		95	35 - 100	8	20	
Dimethylphthalate	1.99	2.20		ug/L		111	70 - 130	0	20	
Di-n-butyl phthalate	3.98	4.39		ug/L		110	70 - 130	5	20	
Di-n-octyl phthalate	1.99	2.08		ug/L		105	70 - 130	5	20	
Endosulfan I (Alpha)	1.99	2.20		ug/L		110	70 - 130	3	20	
Endosulfan II (Beta)	1.99	2.43		ug/L		122	70 - 130	6	20	
Endosulfan sulfate	1.99	2.55		ug/L		128	70 - 130	6	20	
Endrin	1.99	2.66	*+	ug/L		134	70 - 130	2	20	
Endrin aldehyde	1.99	2.35		ug/L		118	70 - 130	12	20	
EPTC	1.99	2.14		ug/L		107	70 - 130	3	20	
Fluoranthene	1.99	2.43		ug/L		122	70 - 130	6	20	
Fluorene	1.99	2.12		ug/L		106	70 - 130	1	20	
gamma-Chlordane	1.99	2.26		ug/L		114	70 - 130	6	20	
Heptachlor	1.99	2.18		ug/L		110	70 - 130	6	20	
Heptachlor epoxide (isomer B)	1.99	2.30		ug/L		116	70 - 130	5	20	
Hexachlorobenzene	1.99	2.01		ug/L		101	70 - 130	4	20	
Hexachlorocyclopentadiene	1.99	2.33		ug/L		117	70 - 130	5	20	
Indeno[1,2,3-cd]pyrene	1.99	2.44		ug/L		123	70 - 130	4	20	
Isophorone	1.99	2.25		ug/L		113	70 - 130	1	20	
Lindane	1.99	2.34		ug/L		118	70 - 130	3	20	
Malathion	1.99	2.56		ug/L		129	70 - 130	3	20	
Methoxychlor	1.99	2.98	*+	ug/L		150	70 - 130	9	20	
Metolachlor	1.99	2.33		ug/L		117	70 - 130	1	20	
Metribuzin	1.99	2.34		ug/L		118	70 - 130	2	20	

Eurofins Eaton Monrovia

QC Sample Results

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

Job ID: 380-21464-1

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

Lab Sample ID: LCSD 380-18009/4-A
Matrix: Water
Analysis Batch: 18233

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 18009

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
							Limits	RPD		
Molinate	1.99	2.15		ug/L		108	70 - 130	1	20	
Naphthalene	1.99	1.99		ug/L		100	70 - 130	1	20	
Parathion	1.99	2.49		ug/L		125	70 - 130	4	20	
Pendimethalin (Penoxaline)	1.99	2.38		ug/L		120	70 - 130	4	20	
Phenanthrene	1.99	2.06		ug/L		103	70 - 130	3	20	
Propachlor	1.99	2.31		ug/L		116	70 - 130	1	20	
Pyrene	1.99	2.50		ug/L		125	70 - 130	7	20	
Simazine	1.99	2.44		ug/L		123	70 - 130	1	20	
Terbacil	1.99	2.41		ug/L		121	70 - 130	1	20	
Terbutylazine	1.99	2.48		ug/L		125	70 - 130	5	20	
Thiobencarb	1.99	2.17		ug/L		109	70 - 130	5	20	
trans-Nonachlor	1.99	2.34		ug/L		118	70 - 130	9	20	
Trifluralin	1.99	2.24		ug/L		112	70 - 130	2	20	

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
2-Nitro-m-xylene	100		70 - 130
Triphenylphosphate	113		70 - 130
Perylene-d12	100		70 - 130

Lab Sample ID: MRL 380-18009/2-A
Matrix: Water
Analysis Batch: 18233

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 18009

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec	
							Limits	RPD
2,4'-DDD	0.0989	0.160	^3+	ug/L		161	50 - 150	
2,4'-DDE	0.0989	0.111		ug/L		113	50 - 150	
2,4'-DDT	0.0989	0.113		ug/L		115	50 - 150	
2,4-Dinitrotoluene	0.0989	0.111		ug/L		112	50 - 150	
2,6-Dinitrotoluene	0.0989	0.103		ug/L		104	50 - 150	
4,4'-DDD	0.0989	0.119		ug/L		120	50 - 150	
4,4'-DDE	0.0989	0.107		ug/L		108	50 - 150	
4,4'-DDT	0.0989	0.119		ug/L		120	50 - 150	
Acenaphthene	0.0989	0.0964	J	ug/L		97	50 - 150	
Acenaphthylene	0.0989	0.0893	J	ug/L		90	50 - 150	
Acetochlor	0.0495	0.0479	J	ug/L		97	50 - 150	
Alachlor	0.0495	0.0607		ug/L		123	50 - 150	
alpha-BHC	0.0989	0.115		ug/L		116	50 - 150	
alpha-Chlordane	0.0495	0.0548		ug/L		111	50 - 150	
Anthracene	0.0198	0.0203		ug/L		103	50 - 150	
Atrazine	0.0495	0.0533		ug/L		108	50 - 150	
Benz(a)anthracene	0.0495	0.0616		ug/L		125	50 - 150	
Benzo[a]pyrene	0.0198	0.0230		ug/L		116	50 - 150	
Benzo[b]fluoranthene	0.0198	0.0237		ug/L		120	50 - 150	
Benzo[g,h,i]perylene	0.0495	0.0576		ug/L		117	50 - 150	
Benzo[k]fluoranthene	0.0198	0.0216		ug/L		109	50 - 150	
beta-BHC	0.0989	0.121		ug/L		123	50 - 150	
Bromacil	0.0989	0.122		ug/L		123	50 - 150	
Butachlor	0.0495	0.0617		ug/L		125	50 - 150	

Eurofins Eaton Monrovia

QC Sample Results

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

Job ID: 380-21464-1

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

Lab Sample ID: MRL 380-18009/2-A
Matrix: Water
Analysis Batch: 18233

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 18009

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Butylbenzylphthalate	0.148	0.212	J	ug/L		143	50 - 150
Caffeine	0.0495	0.0458	J	ug/L		93	50 - 150
Chlorobenzilate	0.0989	0.124		ug/L		126	50 - 150
Chloroneb	0.0989	0.112		ug/L		113	50 - 150
Chlorothalonil (Draconil, Bravo)	0.0989	0.112		ug/L		113	50 - 150
Chlorpyrifos	0.0495	0.0537		ug/L		109	50 - 150
Chrysene	0.0198	0.0240		ug/L		121	50 - 150
delta-BHC	0.0989	0.123		ug/L		124	50 - 150
Di(2-ethylhexyl)adipate	0.297	0.444	J	ug/L		150	50 - 150
Bis(2-ethylhexyl) phthalate	0.593	0.745		ug/L		126	50 - 150
Diazinon (Qualitative)	0.0989	0.104		ug/L		105	15 - 132
Dibenz(a,h)anthracene	0.0495	0.0555		ug/L		112	50 - 150
Diclorvos (DDVP)	0.0495	0.0972	^3+	ug/L		196	50 - 150
Dieldrin	0.0989	0.118	J	ug/L		119	50 - 150
Diethylphthalate	0.148	0.187	J	ug/L		126	50 - 150
Dimethoate	0.0989	0.0772	J	ug/L		78	35 - 100
Dimethylphthalate	0.297	0.314	J	ug/L		106	50 - 150
Di-n-butyl phthalate	0.297	0.358	J	ug/L		121	49 - 243
Di-n-octyl phthalate	0.0989	0.110		ug/L		111	50 - 150
Endosulfan I (Alpha)	0.0989	0.115		ug/L		116	50 - 150
Endosulfan II (Beta)	0.0989	0.137		ug/L		139	50 - 150
Endosulfan sulfate	0.0989	0.111		ug/L		112	50 - 150
Endrin	0.0989	0.152	^3+	ug/L		153	50 - 150
Endrin aldehyde	0.0989	0.0937	J	ug/L		95	50 - 150
EPTC	0.0989	0.102		ug/L		103	50 - 150
Fluoranthene	0.0495	0.0578	J	ug/L		117	50 - 150
Fluorene	0.0495	0.0503		ug/L		102	50 - 150
gamma-Chlordane	0.0495	0.0553		ug/L		112	50 - 150
Heptachlor	0.0396	0.0468		ug/L		118	50 - 150
Heptachlor epoxide (isomer B)	0.0495	0.0543		ug/L		110	50 - 150
Hexachlorobenzene	0.0495	0.0594		ug/L		120	50 - 150
Hexachlorocyclopentadiene	0.0495	0.0541		ug/L		109	50 - 150
Indeno[1,2,3-cd]pyrene	0.0495	0.0524		ug/L		106	50 - 150
Isophorone	0.0989	0.109	J	ug/L		111	50 - 150
Lindane	0.0495	0.0458		ug/L		93	50 - 150
Malathion	0.0989	0.116		ug/L		117	50 - 150
Methoxychlor	0.0989	0.124		ug/L		126	50 - 150
Metolachlor	0.0495	0.0626		ug/L		127	50 - 150
Metribuzin	0.0495	0.0464	J	ug/L		94	50 - 150
Molinate	0.0989	0.107		ug/L		108	50 - 150
Naphthalene	0.0989	0.103	J	ug/L		104	50 - 150
Parathion	0.0989	0.133		ug/L		134	50 - 150
Pendimethalin (Penoxaline)	0.0989	0.124		ug/L		125	50 - 150
Phenanthrene	0.0198	0.0242	J	ug/L		122	50 - 150
Propachlor	0.0495	0.0614		ug/L		124	50 - 150
Pyrene	0.0495	0.0624		ug/L		126	50 - 150
Simazine	0.0495	0.0617		ug/L		125	50 - 150
Terbacil	0.0989	0.127		ug/L		128	50 - 150
Terbutylazine	0.0989	0.118		ug/L		120	50 - 150

Eurofins Eaton Monrovia

QC Sample Results

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

Job ID: 380-21464-1

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

Lab Sample ID: MRL 380-18009/2-A
Matrix: Water
Analysis Batch: 18233

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 18009

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Thiobencarb	0.0989	0.122	J	ug/L		124	50 - 150
trans-Nonachlor	0.0495	0.0531		ug/L		107	50 - 150
Trifluralin	0.0989	0.0853	J	ug/L		86	50 - 150

Surrogate	MRL %Recovery	MRL Qualifier	Limits
2-Nitro-m-xylene	101		70 - 130
Triphenylphosphate	112		70 - 130
Perylene-d12	96		70 - 130

Lab Sample ID: 380-21450-C-1-A MS
Matrix: Water
Analysis Batch: 18233

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 18009

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
2,4'-DDD	ND	^3+	1.98	2.04		ug/L		103	70 - 130
2,4'-DDE	ND		1.98	2.16		ug/L		109	70 - 130
2,4'-DDT	ND	*+	1.98	2.41		ug/L		122	70 - 130
2,4-Dinitrotoluene	ND		1.98	2.15		ug/L		108	70 - 130
2,6-Dinitrotoluene	ND		1.98	2.27		ug/L		115	70 - 130
4,4'-DDD	ND	*+	1.98	2.47		ug/L		125	70 - 130
4,4'-DDE	ND		1.98	2.14		ug/L		108	70 - 130
4,4'-DDT	ND	*+	1.98	2.38		ug/L		120	70 - 130
Acenaphthene	ND		1.98	1.99		ug/L		101	70 - 130
Acenaphthylene	ND		1.98	2.04		ug/L		103	70 - 130
Acetochlor	ND		1.98	2.28		ug/L		115	70 - 130
Alachlor	ND		1.98	2.19		ug/L		111	70 - 130
alpha-BHC	ND		1.98	2.21		ug/L		112	70 - 130
alpha-Chlordane	ND		1.98	2.13		ug/L		108	70 - 130
Anthracene	ND		1.98	1.81		ug/L		92	70 - 130
Atrazine	ND		1.98	2.21		ug/L		112	70 - 130
Benz(a)anthracene	ND		1.98	2.27		ug/L		115	70 - 130
Benzo[a]pyrene	ND		1.98	2.02		ug/L		102	70 - 130
Benzo[b]fluoranthene	ND		1.98	2.22		ug/L		112	70 - 130
Benzo[g,h,i]perylene	ND		1.98	2.31		ug/L		117	70 - 130
Benzo[k]fluoranthene	ND		1.98	2.31		ug/L		117	70 - 130
beta-BHC	ND		1.98	2.24		ug/L		113	70 - 130
Bromacil	ND	*+ F1	1.98	2.66	F1	ug/L		134	70 - 130
Butachlor	ND		1.98	2.33		ug/L		118	70 - 130
Butylbenzylphthalate	ND		1.98	2.40		ug/L		121	70 - 130
Caffeine	ND		1.98	1.85		ug/L		94	46 - 144
Chlorobenzilate	ND		1.98	2.43		ug/L		123	70 - 130
Chloroneb	ND		1.98	2.16		ug/L		109	70 - 130
Chlorothalonil (Draconil, Bravo)	ND		1.98	2.42		ug/L		122	70 - 130
Chlorpyrifos	ND		1.98	2.37		ug/L		120	70 - 130
Chrysene	ND		1.98	2.25		ug/L		113	70 - 130
delta-BHC	ND		1.98	2.23		ug/L		113	70 - 130
Di(2-ethylhexyl)adipate	ND	*+	1.98	2.31		ug/L		113	70 - 130
Bis(2-ethylhexyl) phthalate	ND		1.98	2.07		ug/L		105	70 - 130

QC Sample Results

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

Job ID: 380-21464-1

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

Lab Sample ID: 380-21450-C-1-A MS
Matrix: Water
Analysis Batch: 18233

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 18009

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec Limits
	Result	Qualifier	Added	Result	Qualifier				
Diazinon (Qualitative)	ND		1.98	2.13		ug/L		108	15 - 132
Dibenz(a,h)anthracene	ND		1.98	2.24		ug/L		113	70 - 130
Diclorvos (DDVP)	ND	^3+	1.98	2.19		ug/L		111	70 - 130
Dieldrin	ND		1.98	2.18		ug/L		110	70 - 130
Diethylphthalate	ND		1.98	2.07		ug/L		105	70 - 130
Dimethoate	ND	*+	1.98	1.78		ug/L		90	34 - 111
Dimethylphthalate	ND		1.98	2.18		ug/L		110	70 - 130
Di-n-butyl phthalate	ND		3.96	4.20		ug/L		106	70 - 130
Di-n-octyl phthalate	ND		1.98	1.94		ug/L		98	70 - 130
Endosulfan I (Alpha)	ND		1.98	2.14		ug/L		108	70 - 130
Endosulfan II (Beta)	ND		1.98	2.30		ug/L		116	70 - 130
Endosulfan sulfate	ND		1.98	2.44		ug/L		124	70 - 130
Endrin	ND	*+ ^3+	1.98	2.40		ug/L		122	70 - 130
Endrin aldehyde	ND		1.98	2.00		ug/L		101	70 - 130
EPTC	ND		1.98	2.10		ug/L		106	70 - 130
Fluoranthene	ND		1.98	2.33		ug/L		118	70 - 130
Fluorene	ND		1.98	2.14		ug/L		108	70 - 130
gamma-Chlordane	ND		1.98	2.13		ug/L		108	70 - 130
Heptachlor	ND		1.98	2.11		ug/L		107	70 - 130
Heptachlor epoxide (isomer B)	ND		1.98	2.24		ug/L		113	70 - 130
Hexachlorobenzene	ND		1.98	1.99		ug/L		100	70 - 130
Hexachlorocyclopentadiene	ND		1.98	2.21		ug/L		112	70 - 130
Indeno[1,2,3-cd]pyrene	ND		1.98	2.28		ug/L		115	70 - 130
Isophorone	ND		1.98	2.22		ug/L		112	70 - 130
Lindane	ND		1.98	2.33		ug/L		118	70 - 130
Malathion	ND	F1	1.98	2.59	F1	ug/L		131	70 - 130
Methoxychlor	ND	*+ F1	1.98	2.75	F1	ug/L		139	70 - 130
Metolachlor	ND		1.98	2.33		ug/L		118	70 - 130
Metribuzin	ND		1.98	2.37		ug/L		120	70 - 130
Molinate	ND		1.98	2.19		ug/L		111	70 - 130
Naphthalene	ND		1.98	1.99		ug/L		101	70 - 130
Parathion	ND		1.98	2.43		ug/L		123	70 - 130
Pendimethalin (Penoxaline)	ND		1.98	2.37		ug/L		120	70 - 130
Phenanthrene	ND		1.98	2.05		ug/L		103	70 - 130
Propachlor	ND		1.98	2.29		ug/L		116	70 - 130
Pyrene	ND		1.98	2.37		ug/L		120	70 - 130
Simazine	ND		1.98	2.45		ug/L		124	70 - 130
Terbacil	ND		1.98	2.35		ug/L		119	70 - 130
Terbutylazine	ND		1.98	2.41		ug/L		122	70 - 130
Thiobencarb	ND		1.98	2.11		ug/L		107	70 - 130
trans-Nonachlor	ND		1.98	2.21		ug/L		112	70 - 130
Trifluralin	ND		1.98	2.29		ug/L		116	70 - 130

Surrogate	MS MS		Limits
	%Recovery	Qualifier	
2-Nitro-m-xylene	101		70 - 130
Triphenylphosphate	109		70 - 130
Perylene-d12	95		70 - 130

QC Sample Results

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

Job ID: 380-21464-1

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

Lab Sample ID: 380-21464-1 DU
Matrix: Drinking Water
Analysis Batch: 18233

Client Sample ID: AIEA GULCH WELLS PUMP 1 (331-201-TP071)
Prep Type: Total/NA
Prep Batch: 18009

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
2,4'-DDD	ND	^3+	ND		ug/L		NC	20
2,4'-DDE	ND		ND		ug/L		NC	20
2,4'-DDT	ND	*+	ND	*+	ug/L		NC	20
2,4-Dinitrotoluene	ND		ND		ug/L		NC	20
2,6-Dinitrotoluene	ND		ND		ug/L		NC	20
4,4'-DDD	ND	*+	ND	*+	ug/L		NC	20
4,4'-DDE	ND		ND		ug/L		NC	20
4,4'-DDT	ND	*+	ND	*+	ug/L		NC	20
Acenaphthene	ND		ND		ug/L		NC	20
Acenaphthylene	ND		ND		ug/L		NC	20
Acetochlor	ND		ND		ug/L		NC	20
Alachlor	ND		ND		ug/L		NC	20
alpha-BHC	ND		ND		ug/L		NC	20
alpha-Chlordane	ND		ND		ug/L		NC	20
Anthracene	ND		ND		ug/L		NC	20
Atrazine	ND		ND		ug/L		NC	20
Benz(a)anthracene	ND		ND		ug/L		NC	20
Benzo[a]pyrene	ND		ND		ug/L		NC	20
Benzo[b]fluoranthene	ND		ND		ug/L		NC	20
Benzo[g,h,i]perylene	ND		ND		ug/L		NC	20
Benzo[k]fluoranthene	ND		ND		ug/L		NC	20
beta-BHC	ND		ND		ug/L		NC	20
Bromacil	ND	*+	ND	*+	ug/L		NC	20
Butachlor	ND		ND		ug/L		NC	20
Butylbenzylphthalate	ND		ND		ug/L		NC	20
Caffeine	ND		ND		ug/L		NC	20
Chlorobenzilate	ND		ND		ug/L		NC	20
Chloroneb	ND		ND		ug/L		NC	20
Chlorothalonil (Draconil, Bravo)	ND		ND		ug/L		NC	20
Chlorpyrifos	ND		ND		ug/L		NC	20
Chrysene	ND		ND		ug/L		NC	20
delta-BHC	ND		ND		ug/L		NC	20
Di(2-ethylhexyl)adipate	ND	*+	ND	*+	ug/L		NC	20
Bis(2-ethylhexyl) phthalate	ND		ND		ug/L		NC	20
Diazinon (Qualitative)	ND		ND		ug/L		NC	20
Dibenz(a,h)anthracene	ND		ND		ug/L		NC	20
Diclorvos (DDVP)	ND	^3+	ND		ug/L		NC	20
Dieldrin	ND		ND		ug/L		NC	20
Diethylphthalate	ND		ND		ug/L		NC	20
Dimethoate	ND	*+	ND	*+	ug/L		NC	20
Dimethylphthalate	ND		ND		ug/L		NC	20
Di-n-butyl phthalate	ND		ND		ug/L		NC	20
Di-n-octyl phthalate	ND		ND		ug/L		NC	20
Endosulfan I (Alpha)	ND		ND		ug/L		NC	20
Endosulfan II (Beta)	ND		ND		ug/L		NC	20
Endosulfan sulfate	ND		ND		ug/L		NC	20
Endrin	ND	*+ ^3+	ND	*+	ug/L		NC	20
Endrin aldehyde	ND		ND		ug/L		NC	20

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QC Sample Results

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

Job ID: 380-21464-1

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

Lab Sample ID: 380-21464-1 DU
Matrix: Drinking Water
Analysis Batch: 18233

Client Sample ID: AIEA GULCH WELLS PUMP 1 (331-201-TP071)
Prep Type: Total/NA
Prep Batch: 18009

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

Surrogate	DU %Recovery	DU Qualifier	Limits
2-Nitro-m-xylene	104		70 - 130
Triphenylphosphate	113		70 - 130
Perylene-d12	98		70 - 130

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

Lab Sample ID: 100207-B1
Matrix: water
Analysis Batch: O-38124

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: O-38124_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.005	0.001	µg/L		09/20/22 00:00	09/27/22 00:03	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		09/20/22 00:00	09/27/22 00:03	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		09/20/22 00:00	09/27/22 00:03	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		09/20/22 00:00	09/27/22 00:03	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		09/20/22 00:00	09/27/22 00:03	1
Acenaphthene	ND		0.005	0.001	µg/L		09/20/22 00:00	09/27/22 00:03	1
Acenaphthylene	ND		0.005	0.001	µg/L		09/20/22 00:00	09/27/22 00:03	1

Eurofins Eaton Monrovia

QC Sample Results

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

Job ID: 380-21464-1

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

Lab Sample ID: 100207-B1
Matrix: water
Analysis Batch: O-38124

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: O-38124_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Anthracene	ND		0.005	0.001	µg/L		09/20/22 00:00	09/27/22 00:03	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		09/20/22 00:00	09/27/22 00:03	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		09/20/22 00:00	09/27/22 00:03	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		09/20/22 00:00	09/27/22 00:03	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		09/20/22 00:00	09/27/22 00:03	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		09/20/22 00:00	09/27/22 00:03	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		09/20/22 00:00	09/27/22 00:03	1
Biphenyl	ND		0.005	0.001	µg/L		09/20/22 00:00	09/27/22 00:03	1
Chrysene	ND		0.005	0.001	µg/L		09/20/22 00:00	09/27/22 00:03	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		09/20/22 00:00	09/27/22 00:03	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		09/20/22 00:00	09/27/22 00:03	1
Dibenzothiophene	ND		0.005	0.001	µg/L		09/20/22 00:00	09/27/22 00:03	1
Disalicylidenepropanediamine	ND		0.1	0.05	µg/L		09/20/22 00:00	09/27/22 00:03	1
Fluoranthene	ND		0.005	0.001	µg/L		09/20/22 00:00	09/27/22 00:03	1
Fluorene	ND		0.005	0.001	µg/L		09/20/22 00:00	09/27/22 00:03	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		09/20/22 00:00	09/27/22 00:03	1
Naphthalene	ND		0.005	0.001	µg/L		09/20/22 00:00	09/27/22 00:03	1
Perylene	ND		0.005	0.001	µg/L		09/20/22 00:00	09/27/22 00:03	1
Phenanthrene	ND		0.005	0.001	µg/L		09/20/22 00:00	09/27/22 00:03	1
Pyrene	ND		0.005	0.001	µg/L		09/20/22 00:00	09/27/22 00:03	1

Surrogate	Blank %Recovery	Blank Qualifier	Limits	Prepared	Analyzed	Dil Fac
(d10-Acenaphthene)	87		65 - 113	09/20/22 00:00	09/27/22 00:03	1
(d10-Phenanthrene)	97		80 - 111	09/20/22 00:00	09/27/22 00:03	1
(d12-Chrysene)	102		60 - 139	09/20/22 00:00	09/27/22 00:03	1
(d12-Perylene)	88		36 - 161	09/20/22 00:00	09/27/22 00:03	1
(d8-Naphthalene)	75		44 - 119	09/20/22 00:00	09/27/22 00:03	1

Lab Sample ID: 100207-BS1
Matrix: water
Analysis Batch: O-38124

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: O-38124_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
1-Methylnaphthalene	0.5	0.449		µg/L		90	49 - 117
1-Methylphenanthrene	0.5	0.522		µg/L		104	66 - 127
2,3,5-Trimethylnaphthalene	0.5	0.351		µg/L		70	57 - 120
2,6-Dimethylnaphthalene	0.5	0.39		µg/L		78	54 - 117
2-Methylnaphthalene	0.5	0.447		µg/L		89	47 - 130
Acenaphthene	0.5	0.332		µg/L		66	53 - 131
Acenaphthylene	0.5	0.33		µg/L		66	43 - 140
Anthracene	0.5	0.462		µg/L		92	58 - 135
Benz[a]anthracene	0.5	0.438		µg/L		88	55 - 145
Benzo[a]pyrene	0.5	0.431		µg/L		86	51 - 143
Benzo[b]fluoranthene	0.5	0.539		µg/L		108	46 - 165
Benzo[e]pyrene	0.5	0.487		µg/L		97	42 - 152
Benzo[g,h,i]perylene	0.5	0.481		µg/L		96	63 - 133
Benzo[k]fluoranthene	0.5	0.483		µg/L		97	56 - 145
Biphenyl	0.5	0.46		µg/L		92	56 - 119

Eurofins Eaton Monrovia

QC Sample Results

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

Job ID: 380-21464-1

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

Lab Sample ID: 100207-BS1
Matrix: water
Analysis Batch: O-38124

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: O-38124_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits	
Chrysene	0.5	0.45		µg/L		90	56 - 141	
Dibenz[a,h]anthracene	0.5	0.486		µg/L		97	55 - 150	
Dibenzo[a,l]pyrene	0.5	0.399		µg/L		80	50 - 150	
Dibenzothiophene	0.5	0.47		µg/L		94	75 - 113	
Disalicylidenepranediamine	50	36		µg/L		72	50 - 150	
Fluoranthene	0.5	0.473		µg/L		95	60 - 146	
Fluorene	0.5	0.371		µg/L		74	58 - 131	
Indeno[1,2,3-cd]pyrene	0.5	0.508		µg/L		102	50 - 151	
Naphthalene	0.5	0.395		µg/L		79	41 - 126	
Perylene	0.5	0.463		µg/L		93	48 - 141	
Phenanthrene	0.5	0.468		µg/L		94	67 - 127	
Pyrene	0.5	0.479		µg/L		96	54 - 156	

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
(d10-Acenaphthene)	71		65 - 113
(d10-Phenanthrene)	101		80 - 111
(d12-Chrysene)	103		60 - 139
(d12-Perylene)	101		36 - 161
(d8-Naphthalene)	87		44 - 119

Lab Sample ID: 100207-BS2
Matrix: water
Analysis Batch: O-38124

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: O-38124_P

Analyte	Spike Added	LCS DUP Result	LCS DUP Qualifier	Unit	D	%Rec	%Rec Limits		RPD	
									RPD	Limit
1-Methylnaphthalene	0.5	0.397		µg/L		79	49 - 117	13	30	
1-Methylphenanthrene	0.5	0.619		µg/L		124	66 - 127	18	30	
2,3,5-Trimethylnaphthalene	0.5	0.444		µg/L		89	57 - 120	24	30	
2,6-Dimethylnaphthalene	0.5	0.431		µg/L		86	54 - 117	10	30	
2-Methylnaphthalene	0.5	0.399		µg/L		80	47 - 130	11	30	
Acenaphthene	0.5	0.425		µg/L		85	53 - 131	25	30	
Acenaphthylene	0.5	0.427		µg/L		85	43 - 140	25	30	
Anthracene	0.5	0.458		µg/L		92	58 - 135	0	30	
Benz[a]anthracene	0.5	0.462		µg/L		92	55 - 145	4	30	
Benzo[a]pyrene	0.5	0.479		µg/L		96	51 - 143	11	30	
Benzo[b]fluoranthene	0.5	0.561		µg/L		112	46 - 165	4	30	
Benzo[e]pyrene	0.5	0.523		µg/L		105	42 - 152	8	30	
Benzo[g,h,i]perylene	0.5	0.485		µg/L		97	63 - 133	1	30	
Benzo[k]fluoranthene	0.5	0.403		µg/L		81	56 - 145	18	30	
Biphenyl	0.5	0.417		µg/L		83	56 - 119	10	30	
Chrysene	0.5	0.452		µg/L		90	56 - 141	0	30	
Dibenz[a,h]anthracene	0.5	0.527		µg/L		105	55 - 150	8	30	
Dibenzo[a,l]pyrene	0.5	0.423		µg/L		85	50 - 150	6	30	
Dibenzothiophene	0.5	0.472		µg/L		94	75 - 113	0	30	
Disalicylidenepranediamine	50	45.5		µg/L		91	50 - 150	23	30	
Fluoranthene	0.5	0.585		µg/L		117	60 - 146	21	30	
Fluorene	0.5	0.441		µg/L		88	58 - 131	17	30	
Indeno[1,2,3-cd]pyrene	0.5	0.564		µg/L		113	50 - 151	10	30	

Eurofins Eaton Monrovia

QC Sample Results

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

Job ID: 380-21464-1

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

Lab Sample ID: 100207-BS2
Matrix: water
Analysis Batch: O-38124

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: O-38124_P

Analyte	Spike Added	LCS DUP Result	LCS DUP Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
							Limits	RPD		
Naphthalene	0.5	0.38		µg/L		76	41 - 126	4	30	
Perylene	0.5	0.495		µg/L		99	48 - 141	6	30	
Phenanthrene	0.5	0.46		µg/L		92	67 - 127	2	30	
Pyrene	0.5	0.591		µg/L		118	54 - 156	21	30	
Surrogate										
		LCS DUP %Recovery	LCS DUP Qualifier	Limits						
(d10-Acenaphthene)		89		65 - 113						
(d10-Phenanthrene)		101		80 - 111						
(d12-Chrysene)		104		60 - 139						
(d12-Perylene)		103		36 - 161						
(d8-Naphthalene)		80		44 - 119						

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

Lab Sample ID: 22VG39I16B
Matrix: WATER
Analysis Batch: 22VG39I16

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
										GASOLINE	ND	U	0.02		mg/L		09/22/22 17:49	1
Surrogate										
	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac		
BROMOFLUOROBENZENE							09/22/22 17:49	1		

Lab Sample ID: 22VG39I16L
Matrix: WATER
Analysis Batch: 22VG39I16

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec		Limit	
							Limits	RPD		
GASOLINE	0.5	0.42		mg/L		84	60 - 130			
Surrogate										
		LCS %Recovery	LCS Qualifier	Limits						
BROMOFLUOROBENZENE		107		70 - 130						

Lab Sample ID: 22I268-01M
Matrix: WATER
Analysis Batch: 22VG39I16

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec		Limit
									Limits	RPD	
GASOLINE	ND		0.5	0.48		mg/L		96	50 - 130		
Surrogate											
		MS %Recovery	MS Qualifier	Limits							
BROMOFLUOROBENZENE		116		60 - 140							

QC Sample Results

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

Job ID: 380-21464-1

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

Lab Sample ID: 22I268-01S
Matrix: WATER
Analysis Batch: 22VG39116

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
GASOLINE	ND		0.5	0.46		mg/L		92	50 - 130	4	30
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
BROMOFLUOROBENZENE	115		60 - 140								

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

Lab Sample ID: 22DSJ003WB
Matrix: WATER
Analysis Batch: 22DSJ003W

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			10/03/22 12:30	1
MOTOR OIL	ND	U	0.05		mg/L			10/03/22 12:30	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
BROMOBENZENE								10/03/22 12:30	1
HEXACOSANE								10/03/22 12:30	1

Lab Sample ID: 22DSJ003WL
Matrix: WATER
Analysis Batch: 22DSJ003W

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
DIESEL	2.5	2.47		mg/L		99	50 - 130
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
BROMOBENZENE	86		60 - 130				
HEXACOSANE	86		60 - 130				

QC Association Summary

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

Job ID: 380-21464-1

GC/MS Semi VOA

Prep Batch: 18009

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-21464-1	AIEA GULCH WELLS PUMP 1 (331-201-TP071)	Total/NA	Drinking Water	525.2	
380-21464-2	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	525.2	
380-21464-3	AIEA WELLS PUMPS 1&2 (260) (331-203-TP40C	Total/NA	Drinking Water	525.2	
MB 380-18009/1-A	Method Blank	Total/NA	Water	525.2	
LCS 380-18009/3-A	Lab Control Sample	Total/NA	Water	525.2	
LCSD 380-18009/4-A	Lab Control Sample Dup	Total/NA	Water	525.2	
MRL 380-18009/2-A	Lab Control Sample	Total/NA	Water	525.2	
380-21450-C-1-A MS	Matrix Spike	Total/NA	Water	525.2	
380-21464-1 DU	AIEA GULCH WELLS PUMP 1 (331-201-TP071)	Total/NA	Drinking Water	525.2	

Analysis Batch: 18233

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-21464-1	AIEA GULCH WELLS PUMP 1 (331-201-TP071)	Total/NA	Drinking Water	525.2	18009
380-21464-2	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	525.2	18009
380-21464-3	AIEA WELLS PUMPS 1&2 (260) (331-203-TP40C	Total/NA	Drinking Water	525.2	18009
MB 380-18009/1-A	Method Blank	Total/NA	Water	525.2	18009
LCS 380-18009/3-A	Lab Control Sample	Total/NA	Water	525.2	18009
LCSD 380-18009/4-A	Lab Control Sample Dup	Total/NA	Water	525.2	18009
MRL 380-18009/2-A	Lab Control Sample	Total/NA	Water	525.2	18009
380-21450-C-1-A MS	Matrix Spike	Total/NA	Water	525.2	18009
380-21464-1 DU	AIEA GULCH WELLS PUMP 1 (331-201-TP071)	Total/NA	Drinking Water	525.2	18009

Subcontract

Analysis Batch: O-38124

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-21464-1	AIEA GULCH WELLS PUMP 1 (331-201-TP071)	Total/NA	Drinking Water	625 PAH Physis LL (EAL) + TICs	O-38124_P
380-21464-2	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	625 PAH Physis LL (EAL) + TICs	O-38124_P
380-21464-3	AIEA WELLS PUMPS 1&2 (260) (331-203-TP40C	Total/NA	Drinking Water	625 PAH Physis LL (EAL) + TICs	O-38124_P
100207-B1	Method Blank	Total/NA	water	625 PAH Physis LL (EAL) + TICs	O-38124_P
100207-BS1	Lab Control Sample	Total/NA	water	625 PAH Physis LL (EAL) + TICs	O-38124_P
100207-BS2	Lab Control Sample Dup	Total/NA	water	625 PAH Physis LL (EAL) + TICs	O-38124_P

Analysis Batch: 22DSJ003W

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-21464-1	AIEA GULCH WELLS PUMP 1 (331-201-TP071)	Total/NA	Drinking Water	8015 Gas (Purgeable) LL (EAL)	
380-21464-2	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	8015 Gas (Purgeable) LL (EAL)	
380-21464-3	AIEA WELLS PUMPS 1&2 (260) (331-203-TP40C	Total/NA	Drinking Water	8015 Gas (Purgeable) LL (EAL)	
22DSJ003WB	Method Blank	Total/NA	WATER	8015 Gas (Purgeable) LL (EAL)	

Eurofins Eaton Monrovia

QC Association Summary

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

Job ID: 380-21464-1

Subcontract (Continued)

Analysis Batch: 22DSJ003W (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
22DSJ003WL	Lab Control Sample	Total/NA	WATER	8015 Gas (Purgeable) LL (EAL)	

Analysis Batch: 22VG39116

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-21464-1	AIEA GULCH WELLS PUMP 1 (331-201-TP071)	Total/NA	Drinking Water	8015 Diesel LL (EAL) and Motor Oil	
380-21464-2	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	8015 Diesel LL (EAL) and Motor Oil	
380-21464-3	AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	Total/NA	Drinking Water	8015 Gas (Purgeable) LL (EAL)	
380-21464-4	TB AIEA GULCH WELLS PUMP 1	Total/NA	Water	8015 Gas (Purgeable) LL (EAL)	
380-21464-5	TB AIEA GULCH WELLS PUMP 2	Total/NA	Water	8015 Gas (Purgeable) LL (EAL)	
380-21464-6	TB AIEA GULCH WELLS PUMP 1&2	Total/NA	Water	8015 Gas (Purgeable) LL (EAL)	
22VG39116B	Method Blank	Total/NA	WATER	8015 Diesel LL (EAL) and Motor Oil	
22VG39116L	Lab Control Sample	Total/NA	WATER	8015 Diesel LL (EAL) and Motor Oil	
22I268-01M	Matrix Spike	Total/NA	WATER	8015 Diesel LL (EAL) and Motor Oil	
22I268-01S	Matrix Spike Duplicate	Total/NA	WATER	8015 Diesel LL (EAL) and Motor Oil	

Prep Batch: O-38124_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-21464-1	AIEA GULCH WELLS PUMP 1 (331-201-TP071)	Total/NA	Drinking Water	EPA_625	
380-21464-2	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	EPA_625	
380-21464-3	AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	Total/NA	Drinking Water	EPA_625	
100207-B1	Method Blank	Total/NA	water	EPA_625	
100207-BS1	Lab Control Sample	Total/NA	water	EPA_625	
100207-BS2	Lab Control Sample Dup	Total/NA	water	EPA_625	

Lab Chronicle

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

Job ID: 380-21464-1

Client Sample ID: AIEA GULCH WELLS PUMP 1 (331-201-TP071)

Lab Sample ID: 380-21464-1

Date Collected: 09/19/22 10:32

Matrix: Drinking Water

Date Received: 09/20/22 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	525.2			18009	OTM3	EA MON	09/21/22 06:31
Total/NA	Analysis	525.2		1	18233	UJC9	EA MON	09/22/22 17:39
Total/NA	Prep	EPA_625		1	O-38124_P			09/22/22 00:00
Total/NA	Analysis	625 PAH Physis LL (EAL) + TICs		1	O-38124	YC		09/27/22 20:52
Total/NA	Analysis	8015 Diesel LL (EAL) and Motor Oil		1	22VG39I16	SCerva		09/22/22 19:43
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)		1	22DSJ003W			10/03/22 13:26

Client Sample ID: AIEA GULCH WELLS PUMP 2 (331-202-TP072)

Lab Sample ID: 380-21464-2

Date Collected: 09/19/22 10:59

Matrix: Drinking Water

Date Received: 09/20/22 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	525.2			18009	OTM3	EA MON	09/21/22 06:31
Total/NA	Analysis	525.2		1	18233	UJC9	EA MON	09/22/22 18:00
Total/NA	Prep	EPA_625		1	O-38124_P			09/22/22 00:00
Total/NA	Analysis	625 PAH Physis LL (EAL) + TICs		1	O-38124	YC		09/27/22 22:35
Total/NA	Analysis	8015 Diesel LL (EAL) and Motor Oil		1	22VG39I16	SCerva		09/22/22 21:37
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)		1	22DSJ003W			10/03/22 13:44

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)

Lab Sample ID: 380-21464-3

Date Collected: 09/19/22 09:44

Matrix: Drinking Water

Date Received: 09/20/22 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	525.2			18009	OTM3	EA MON	09/21/22 06:31
Total/NA	Analysis	525.2		1	18233	UJC9	EA MON	09/22/22 18:20
Total/NA	Prep	EPA_625		1	O-38124_P			09/22/22 00:00
Total/NA	Analysis	625 PAH Physis LL (EAL) + TICs		1	O-38124	YC		09/28/22 00:19
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)		1	22VG39I16	SCerva		09/22/22 22:15
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)		1	22DSJ003W			10/03/22 14:03

Lab Chronicle

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

Job ID: 380-21464-1

Client Sample ID: TB AIEA GULCH WELLS PUMP 1

Lab Sample ID: 380-21464-4

Date Collected: 09/19/22 10:32

Matrix: Water

Date Received: 09/20/22 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	22VG39I16	SCerva		09/22/22 22:53

Client Sample ID: TB AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-21464-5

Date Collected: 09/19/22 10:59

Matrix: Water

Date Received: 09/20/22 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	22VG39I16	SCerva		09/23/22 00:09

Client Sample ID: TB AIEA GULCH WELLS PUMP 1&2

Lab Sample ID: 380-21464-6

Date Collected: 09/19/22 09:44

Matrix: Water

Date Received: 09/20/22 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	22VG39I16	SCerva		09/23/22 00:47

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: 380-21464-1

Laboratory: Eurofins Eaton Monrovia

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

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

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

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

Accreditation/Certification Summary

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

Job ID: 380-21464-1

Laboratory: Eurofins Eaton Monrovia (Continued)

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

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

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



Method Summary

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

Job ID: 380-21464-1

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: 380-21464-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	PWSID Number
380-21464-1	AIEA GULCH WELLS PUMP 1 (331-201-TP071)	Drinking Water	09/19/22 10:32	09/20/22 10:00	HI0000331
380-21464-2	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Drinking Water	09/19/22 10:59	09/20/22 10:00	HI0000331
380-21464-3	AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	Drinking Water	09/19/22 09:44	09/20/22 10:00	HI0000331
380-21464-4	TB AIEA GULCH WELLS PUMP 1	Water	09/19/22 10:32	09/20/22 10:00	
380-21464-5	TB AIEA GULCH WELLS PUMP 2	Water	09/19/22 10:59	09/20/22 10:00	
380-21464-6	TB AIEA GULCH WELLS PUMP 1&2	Water	09/19/22 09:44	09/20/22 10:00	

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LABORATORIES, INC.®

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

Date: 10-07-2022
EMAX Batch No.: 221268

Attn: Jackie Contreras

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

Subject: Laboratory Report
Project: 380-21464

Enclosed is the Laboratory report for samples received on 09/22/22.
The data reported relate only to samples listed below :

Sample ID	Control #	Col Date	Matrix	Analysis
380-21464-1	I268-01	09/19/22	WATER	TPH DIESEL & MOTOR OIL TPH GASOLINE
380-21464-2	I268-02	09/19/22	WATER	TPH DIESEL & MOTOR OIL TPH GASOLINE
380-21464-3	I268-03	09/19/22	WATER	TPH DIESEL & MOTOR OIL TPH GASOLINE
380-21464-4	I268-04	09/19/22	WATER	TPH GASOLINE
380-21464-5	I268-05	09/19/22	WATER	TPH GASOLINE
380-21464-6	I268-06	09/19/22	WATER	TPH GASOLINE
380-21464-1MS	I268-01M	09/19/22	WATER	TPH GASOLINE
380-21464-1MSD	I268-01S	09/19/22	WATER	TPH GASOLINE

The results are summarized on the following pages.

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

Sincerely yours,

Caspar J. Pang
Laboratory Director

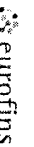
This report is confidential and intended solely for the use of the individual or entity to whom it is addressed. This report shall not be reproduced except in full or without the written approval of EMAX.

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

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

Chain of Custody Record

221268



Client Information (Sub Contract Lab)

Client Contact: Shipping/Receiving
 Company: EMAX Laboratories Inc
 Address: 3051 Fujita Street,
 City: Torrance
 State Zip: CA, 90505
 Phone:

Sampler: Arada, Rachelle
 E-Mail: Rachelle.Arada@et.eurofins.com
 State - Hawaii

Carrier Tracking No(s):
 State of Origin: Hawaii

COG No: 380-22023-1
 Page: Page 1 of 1
 Job #: 380-21464-1

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 - Aetone
 V - MCAA
 W - pH 4.5
 Y - Trizma
 Z - other (specify)

Due Date Requested: 10/4/2022
 TAT Requested (days):

PO #:

WO #:

Analysis Requested

Project Name: RED-HILL
 Project #: 38001111
 SOW#: SSOW#
 Site: Honolulu BWS Sites

Sample Identification - Client ID (Lab ID)

Sample ID	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	MATRIX (W=water, S=solid, O=water/oil, BT=Tissue, AA=)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Total Number of Containers	Special Instructions/Note:
1 AIEA GULCH WELLS PUMP 1 (331-201-T-P071) (380-21464-1)	9/19/22	10:32		Water	X	X	6	See Attached Instructions
2 AIEA GULCH WELLS PUMP 2 (331-202-T-P072) (380-21464-2)	9/19/22	10:59		Water	X	X	6	See Attached Instructions
3 AIEA WELLS PUMPS 1&2 (260) (331-203-T-P400) (380-21464-3)	9/19/22	09:44		Water	X	X	6	See Attached Instructions
4 TB AIEA GULCH WELLS PUMP 1 (380-21464-4)	9/19/22	10:32		Water	X	X	2	See Attached Instructions
5 TB AIEA GULCH WELLS PUMP 2 (380-21464-5)	9/19/22	10:59		Water	X	X	2	See Attached Instructions
6 TB AIEA GULCH WELLS PUMP 1&2 (380-21464-6)	9/19/22	09:44		Water	X	X	2	See Attached Instructions

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

Possible Hazard Identification

Unconfirmed

Deliverable Requested: I, II, III, IV, Other (specify)
 Primary Deliverable Rank: 2

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

Empty Kit Relinquished by:

Date: _____ Time: _____ Method of Shipment: _____

Relinquished by: *GR* Date/Time: 9/19/22 13:40 Company: ECA

Received by: _____ Date/Time: 9-22-22 1340 Company: EMAX

Relinquished by: *GR* Date/Time: 9-22-22 1340 Company: ECA

Received by: _____ Date/Time: 9-22-22 1340 Company: EMAX

Relinquished by: _____ Date/Time: _____ Company: _____

Received by: _____ Date/Time: _____ Company: _____

Custody Seals Intact: _____ Custody Seal No.: _____

Cooler Temperature(s) °C and Other Remarks: Temp 2.0

REPORT ID: 221268



Type of Delivery	Airbill / Tracking Number	ECN <u>221268</u>
<input type="checkbox"/> Fedex <input type="checkbox"/> UPS <input type="checkbox"/> GSO <input type="checkbox"/> Others		Recipient <u>JHOWIN Zamora</u>
<input type="checkbox"/> EMAX Courier <input checked="" type="checkbox"/> Client Delivery		Date <u>9/22/22</u> Time <u>1340</u>

COC INSPECTION

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

Note: _____

PACKAGING INSPECTION

Container	<input checked="" type="checkbox"/> Cooler	<input type="checkbox"/> Box	<input type="checkbox"/> Other
Condition	<input type="checkbox"/> Custody Seal	<input type="checkbox"/> Intact	<input type="checkbox"/> Damaged
Packaging	<input checked="" type="checkbox"/> Bubble Pack	<input type="checkbox"/> Styrofoam	<input type="checkbox"/> Popcorn
Temperatures (Cool, ≤6 °C but not frozen)	<input type="checkbox"/> Cooler 1 _____ °C	<input checked="" type="checkbox"/> Cooler 2 <u>2.0</u> °C	<input type="checkbox"/> Cooler 3 _____ °C
	<input type="checkbox"/> Cooler 6 _____ °C	<input type="checkbox"/> Cooler 7 _____ °C	<input type="checkbox"/> Cooler 8 _____ °C
Thermometer:	A - S/N _____	B - S/N <u>210760237</u>	C - S/N _____
			D - S/N <u>210740272</u>

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

Note: _____

DISCREPANCIES

LabSampleID	LabSampleContainerID	Code	ClientSample Label ID / Information	Corrective Action
<u>u-6</u>	<u>19-24</u>	<u>D22</u>	<u>2 dates 1st 9/14/22</u> <u>2nd date 9/19/22</u>	<u>R1</u>
<i>(Large diagonal scribble across the table)</i>				

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

NOTES/OBSERVATIONS:

SAMPLE MATRIX IS DRINKING WATER? YES NO

LEGEND:

- | | | |
|--|---|---|
| <p>Code Description-Sample Management</p> <ul style="list-style-type: none"> 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 | <p>Code Description-Sample Management</p> <ul style="list-style-type: none"> 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 <u>D22 2 dates</u> D23 _____ D24 _____ | <p><input type="checkbox"/> Continue to next page.</p> <p>Code Description-Sample Management</p> <ul style="list-style-type: none"> R1 Proceed as indicated in <u>A</u> COC <input type="checkbox"/> 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	<u>JHOWIN Zamora</u>	SRF	<u>Alpina</u>	PM	<u>AB</u>
Date	<u>9/22/22</u>	Date	<u>9/22/22</u>	Date	<u>9/26/22</u>

REPORT ID: 221268

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

380-21464

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

SDG#: 22I268



CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 380-21464

SDG : 22I268

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

A total of six(6) water samples were received on 09/22/22 to be analyzed for Total Petroleum Hydrocarbons by Purge and Trap in accordance with Method 5030B/8015B and project specific requirements.

Holding Time

Samples were analyzed within the prescribed holding time.

Calibration

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

Method Blank

Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. VG39I16B - 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. VG39I16L/VG39I16C 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 I268-01M/I268-01S. 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 : 380-21464
 SDG NO. : 221268
 Instrument ID : GCT039

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis Date/Time	Extraction Date/Time	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
									WATER
MBLK1W	VG39116B	1	NA	09/22/2217:49	09/22/2217:49	E122005A	E122003A	22VG39116	Method Blank
LCS1W	VG39116L	1	NA	09/22/2218:27	09/22/2218:27	E122006A	E122003A	22VG39116	Lab Control Sample (LCS)
LCD1W	VG39116C	1	NA	09/22/2219:05	09/22/2219:05	E122007A	E122003A	22VG39116	LCS Duplicate
380-21464-1	1268-01	1	NA	09/22/2219:43	09/22/2219:43	E122008A	E122003A	22VG39116	Field Sample
380-21464-1MS	1268-01M	1	NA	09/22/2220:21	09/22/2220:21	E122009A	E122003A	22VG39116	Matrix Spike Sample (MS)
380-21464-1MSD	1268-01S	1	NA	09/22/2220:59	09/22/2220:59	E122010A	E122003A	22VG39116	MS Duplicate (MSD)
380-21464-2	1268-02	1	NA	09/22/2221:37	09/22/2221:37	E122011A	E122003A	22VG39116	Field Sample
380-21464-3	1268-03	1	NA	09/22/2222:15	09/22/2222:15	E122012A	E122003A	22VG39116	Field Sample
380-21464-4	1268-04	1	NA	09/22/2222:53	09/22/2222:53	E122013A	E122003A	22VG39116	Field Sample
380-21464-5	1268-05	1	NA	09/23/2200:09	09/23/2200:09	E122015A	E122014A	22VG39116	Field Sample
380-21464-6	1268-06	1	NA	09/23/2200:47	09/23/2200:47	E122016A	E122014A	22VG39116	Field Sample

FN - Filename
 % Moist - Percent Moisture



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SAMPLE RESULTS

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

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 09/19/22 10:32
Project     : 380-21464                 Date Received: 09/22/22
Batch No.   : 221268                   Date Extracted: 09/22/22 19:43
Sample ID   : 380-21464-1              Date Analyzed: 09/22/22 19:43
Lab Samp ID: I268-01                   Dilution Factor: 1
Lab File ID: EI22008A                  Matrix: WATER
Ext Btch ID: 22VG39116                 % Moisture: NA
Calib. Ref.: EI22003A                  Instrument ID: 39
=====

```

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

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromofluorobenzene	0.0329	0.0400	82	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: 09/19/22 10:59
Project     : 380-21464                   Date Received: 09/22/22
Batch No.   : 221268                       Date Extracted: 09/22/22 21:37
Sample ID   : 380-21464-2                 Date Analyzed: 09/22/22 21:37
Lab Samp ID: I268-02                       Dilution Factor: 1
Lab File ID: EI22011A                       Matrix: WATER
Ext Btch ID: 22VG39116                     % Moisture: NA
Calib. Ref.: EI22003A                       Instrument ID: 39
=====

```

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

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromofluorobenzene	0.0331	0.0400	83	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: 09/19/22 09:44
Project     : 380-21464                   Date Received: 09/22/22
Batch No.   : 221268                       Date Extracted: 09/22/22 22:15
Sample ID   : 380-21464-3                 Date Analyzed: 09/22/22 22:15
Lab Samp ID: 1268-03                       Dilution Factor: 1
Lab File ID: E122012A                       Matrix: WATER
Ext Btch ID: 22VG39116                     % Moisture: NA
Calib. Ref.: E122003A                       Instrument ID: 39
=====

```

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

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromofluorobenzene	0.0350	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

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

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 09/19/22 10:32
Project     : 380-21464                   Date Received: 09/22/22
Batch No.   : 221268                       Date Extracted: 09/22/22 22:53
Sample ID   : 380-21464-4                 Date Analyzed: 09/22/22 22:53
Lab Samp ID: I268-04                       Dilution Factor: 1
Lab File ID: EI22013A                       Matrix: WATER
Ext Btch ID: 22VG39116                     % Moisture: NA
Calib. Ref.: EI22003A                       Instrument ID: 39
=====

```

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
GASOLINE	ND	0.020	0.010	
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromofluorobenzene	0.0344	0.0400	86	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: 09/19/22 10:59
Project     : 380-21464                   Date Received: 09/22/22
Batch No.   : 221268                       Date Extracted: 09/23/22 00:09
Sample ID   : 380-21464-5                 Date Analyzed: 09/23/22 00:09
Lab Samp ID: I268-05                       Dilution Factor: 1
Lab File ID: EI22015A                       Matrix: WATER
Ext Btch ID: 22VG39116                     % Moisture: NA
Calib. Ref.: EI22014A                       Instrument ID: 39
=====

```

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

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromofluorobenzene	0.0353	0.0400	88	60-140

Notes:

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

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

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

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 09/19/22 09:44
Project     : 380-21464                   Date Received: 09/22/22
Batch No.   : 221268                       Date Extracted: 09/23/22 00:47
Sample ID   : 380-21464-6                 Date Analyzed: 09/23/22 00:47
Lab Samp ID : I268-06                     Dilution Factor: 1
Lab File ID : E122016A                    Matrix: WATER
Ext Btch ID: 22VG39116                   % Moisture: NA
Calib. Ref.: E122014A                    Instrument ID: 39
=====

```

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

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromofluorobenzene	0.0343	0.0400	86	60-140

Notes:

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

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

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QC SUMMARIES

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

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 09/22/22 17:49
Project     : 380-21464                   Date Received: 09/22/22
Batch No.   : 221268                       Date Extracted: 09/22/22 17:49
Sample ID   : MBLK1W                       Date Analyzed: 09/22/22 17:49
Lab Samp ID: VG39116B                     Dilution Factor: 1
Lab File ID: EI22005A                      Matrix: WATER
Ext Btch ID: 22VG39116                     % Moisture: NA
Calib. Ref.: EI22003A                      Instrument ID: 39
=====

```

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

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromofluorobenzene	0.0336	0.0400	84	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 : 380-21464
BATCH NO. : 221268
METHOD : 5030B/8015B

MATRIX : WATER		% MOISTURE:NA
DILUTION FACTOR: 1	1	1
SAMPLE ID : MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID : VG39116B	VG39116L	VG39116C
LAB FILE ID : EI22005A	EI22006A	EI22007A
DATE PREPARED : 09/22/22 17:49	09/22/22 18:27	09/22/22 19:05
DATE ANALYZED : 09/22/22 17:49	09/22/22 18:27	09/22/22 19:05
PREP BATCH : 22VG39116	22VG39116	22VG39116
CALIBRATION REF: EI22003A	EI22003A	EI22003A

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	0.420	84	0.500	0.424	85	1	60-130	30

SURROGATE PARAMETER	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	QCLimit (%)
Bromofluorobenzene	0.0400	0.0429	107	0.0400	0.0418	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 : 380-21464
BATCH NO. : 221268
METHOD : 5030B/8015B

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR:	1	1	
SAMPLE ID	: 380-21464-1	380-21464-1MS	380-21464-1MSD
LAB SAMPLE ID	: I268-01	I268-01M	I268-01S
LAB FILE ID	: EI22008A	EI22009A	EI22010A
DATE PREPARED	: 09/22/22 19:43	09/22/22 20:21	09/22/22 20:59
DATE ANALYZED	: 09/22/22 19:43	09/22/22 20:21	09/22/22 20:59
PREP BATCH	: 22VG39I16	22VG39I16	22VG39I16
CALIBRATION REF:	EI22003A	EI22003A	EI22003A

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	0.480	96	0.500	0.460	92	4	50-130	30

SURROGATE PARAMETER	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	QCLimit (%)
Bromofluorobenzene	0.0400	0.0464	116	0.0400	0.0460	115	60-140

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

LABORATORY REPORT FOR

EUROFINS EATON ANALYTICAL

380-21464

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

SDG#: 22I268



CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 380-21464

SDG : 22I268

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

A total of three(3) water samples were received on 09/22/22 to be analyzed for Total Petroleum Hydrocarbons by Extraction in accordance with Method 3520C/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. DSJ003WB - 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. DSJ003WL/DSJ003WC were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample

Matrix spike sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of MS/MSD was analyzed. Diesel was within MS QC limits in 22I333-01M/22I333-01S. Refer to Matrix QC summary form for details.

Surrogate

Surrogates were added on QC and field samples. For this SDG, all surrogate recoveries were within QC limits except for Bromobenzene in I268-03; most likely due to matrix interference. Refer to sample result summary forms for details. However, an alternate surrogate, Hexacosane, was within QC limits. Samples was re-analyzed to confirm results.

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 with the exception of those that were discussed within the associated QC parameter.

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SAMPLE RESULTS

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 09/19/22 10:32
Project     : 380-21464                   Date Received: 09/22/22
Batch No.   : 221268                       Date Extracted: 10/01/22 15:45
Sample ID   : 380-21464-1                 Date Analyzed: 10/03/22 13:26
Lab Samp ID: 221268-01                    Dilution Factor: 1
Lab File ID: LJ03010A                      Matrix: WATER
Ext Btch ID: 22DSJ003W                     % Moisture: NA
Calib. Ref.: LJ03003A                      Instrument ID: D5
=====

```

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
Diesel	ND	0.028	0.014	
Motor Oil	ND	0.055	0.028	
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.331	0.550	60	60-130
Hexacosane	0.105	0.138	77	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 : 910ml Final Volume : 5ml
Prepared by : JMuert Analyzed by : SDeeso

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 09/19/22 10:59
Project     : 380-21464                   Date Received: 09/22/22
Batch No.   : 221268                       Date Extracted: 10/01/22 15:45
Sample ID   : 380-21464-2                 Date Analyzed: 10/03/22 13:44
Lab Samp ID: 221268-02                     Dilution Factor: 1
Lab File ID: LJ03011A                       Matrix: WATER
Ext Btch ID: 22DSJ003W                       % Moisture: NA
Calib. Ref.: LJ03003A                       Instrument ID: D5
=====

```

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
Diesel	ND	0.024	0.012	
Motor Oil	ND	0.048	0.024	
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.317	0.475	67	60-130
Hexacosane	0.104	0.119	88	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 : 1050ml Final Volume : 5ml
Prepared by : JMuert Analyzed by : SDeeso

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 09/19/22 09:44
Project     : 380-21464                   Date Received: 09/22/22
Batch No.   : 221268                       Date Extracted: 10/01/22 15:45
Sample ID   : 380-21464-3                 Date Analyzed: 10/03/22 14:03
Lab Samp ID : 221268-03                   Dilution Factor: 1
Lab File ID : LJO3012A                     Matrix: WATER
Ext Btch ID : 22DSJ003W                    % Moisture: NA
Calib. Ref.: LJO3003A                      Instrument ID: D5
=====

```

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)		
Diesel	ND	0.027	0.013		
Motor Oil	ND	0.053	0.027		
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT	
Bromobenzene	0.257	0.530	48*	60-130	
Hexacosane	0.113	0.132	85	60-130	

Notes:

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

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 940ml Final Volume : 5ml
Prepared by : JMuert Analyzed by : SDeeso

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QC SUMMARIES

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 10/01/22 15:45
Project     : 380-21464                   Date Received: 10/01/22
Batch No.   : 221268                      Date Extracted: 10/01/22 15:45
Sample ID   : MBLK1W                      Date Analyzed: 10/03/22 12:30
Lab Samp ID: DSJ003WB                    Dilution Factor: 1
Lab File ID: LJO3007A                    Matrix: WATER
Ext Btch ID: 22DSJ003W                   % Moisture: NA
Calib. Ref.: LJO3003A                   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	0.362	0.500	72	60-130	
Hexacosane	0.101	0.125	80	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 : JMuert Analyzed by : SDeeso

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL
PROJECT : 380-21464
BATCH NO. : 221268
METHOD : 3520C/8015B

```

=====
MATRIX      : WATER                               % MOISTURE:NA
DILUTION FACTOR: 1                               1
SAMPLE ID   : MBLK1W                             LCS1W
LAB SAMPLE ID : DSJ003WB                         DSJ003WL
LAB FILE ID  : LJ03007A                         LJ03008A
DATE PREPARED : 10/01/22 15:45                 10/01/22 15:45
DATE ANALYZED : 10/03/22 12:30                 10/03/22 12:49
PREP BATCH   : 22DSJ003W                       22DSJ003W
CALIBRATION REF: LJ03003A                      LJ03003A
  
```

ACCESSION:

PARAMETERS	MBResult (mg/L)	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
Diesel	ND	2.50	2.47	99	2.50	2.10	84	16	50-130	30

SURROGATE PARAMETERS	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	QCLimit (%)
Bromobenzene	0.500	0.428	86	0.500	0.397	79	60-130
Hexacosane	0.125	0.108	86	0.125	0.0941	75	60-130

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

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL
PROJECT : 380-22076
BATCH NO. : 221333
METHOD : 3520C/8015B

```

=====
MATRIX      : WATER                                     % MOISTURE:NA
DILUTION FACTOR: 1                                   1
SAMPLE ID   : 380-22076-1                             380-22076-1MSD
LAB SAMPLE ID : 221333-01                             221333-01S
LAB FILE ID  : LJ03097A                               LJ03021A
DATE PREPARED : 10/01/22 15:45                       10/01/22 15:45
DATE ANALYZED : 10/04/22 16:12                       10/03/22 16:49
PREP BATCH   : 22DSJ003W                             22DSJ003W
CALIBRATION REF: LJ03089A                             LJ03003A
  
```

ACCESSION:

PARAMETERS	PSResult (mg/L)	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
Diesel	ND	2.60	2.47	95	2.78	2.37	85	4	50-130	30

SURROGATE PARAMETERS	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	QCLimit (%)
Bromobenzene	0.520	0.383	74	0.555	0.449	81	60-130
Hexacosane	0.130	0.110	85	0.139	0.109	79	60-130

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

September 30, 2022

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

Project Name: RED-HILL Project # 38001111 Job # 380-21464-1
 Physis Project ID: 1407003-300

Dear Debbie,

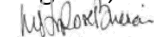
Enclosed are the analytical results for samples submitted to PHYSIS Environmental Laboratories, Inc. (PHYSIS) on 9/21/2022. A total of 3 samples were received for analysis in accordance with the attached chain of custody (COC). Per the COC, the samples were analyzed for:

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: 1407003-300

RED-HILL Project # 38001111 Job # 380-21464-1

Total Samples: 3

PHYSIS ID	Sample ID	Description	Date	Time	Matrix	Sample Type
100208	AIEA GULCH WELLS PUMP 331-201-TP071	(380-21464-1)	9/19/2022	10:32	Samplewater	Not Specified
100209	AIEA GULCH WELLS PUMP 331-202-TP072	(380-21464-2)	9/19/2022	10:59	Samplewater	Not Specified
100210	AIEA WELLS PUMPS 1&2 (268) 31-203-TP400	(380-21464-3)	9/19/2022	9:44	Samplewater	Not Specified



ABBREVIATIONS and ACRONYMS

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

QUALITY ASSURANCE SUMMARY

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

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

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

PRECISION: Precision is the agreement among a set of replicate measurements without assumption of knowledge of the true value and is based on RPD calculations between repeated values. Precision of the project data was determined by analysis of replicate MS₁/MS₂, BS₁/BS₂, LCS₁/LCS₂, LCM₁/LCM₂, CRM₁/CRM₂, surrogate spikes and/or replicate project sample analysis (R₁/R₂) on a minimum frequency of one per batch. Physis' QM requires that for 95% of the compounds greater than 10 times the MDL, the percent RPD should be within the specified acceptance range.

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

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

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

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

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

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

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

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

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

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

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PHYSIS QUALIFIER CODES

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

CASE NARRATIVE

QUALIFIER NOTES

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

ND

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

ANALYTICAL REPORT

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Base/Neutral Extractable Compounds

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 100208-R1 AIEA GULCH WELLS PUMP 1 331-20 Matrix: Samplewater											
Disalicylideneopropanediamine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-38124	22-Sep-22	27-Sep-22
Sample ID: 100209-R1 AIEA GULCH WELLS PUMP 2 331-20 Matrix: Samplewater											
Disalicylideneopropanediamine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-38124	22-Sep-22	27-Sep-22
Sample ID: 100210-R1 AIEA WELLS PUMPS 1&2 (260) 331- Matrix: Samplewater											
Disalicylideneopropanediamine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-38124	22-Sep-22	28-Sep-22



Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 100208-R1	AIEA GULCH WELLS PUMP 1331-20 Matrix: Samplewater						Sampled:	19-Sep-22 10:32	Received:	21-Sep-22	
(d10-Acenaphthene)	EPA 625.1	% Recovery	90	1			Total		O-38124	22-Sep-22	27-Sep-22
(d10-Phenanthrene)	EPA 625.1	% Recovery	97	1			Total		O-38124	22-Sep-22	27-Sep-22
(d12-Chrysene)	EPA 625.1	% Recovery	105	1			Total		O-38124	22-Sep-22	27-Sep-22
(d12-Perylene)	EPA 625.1	% Recovery	90	1			Total		O-38124	22-Sep-22	27-Sep-22
(d8-Naphthalene)	EPA 625.1	% Recovery	71	1			Total		O-38124	22-Sep-22	27-Sep-22
1-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38124	22-Sep-22	27-Sep-22
1-Methylphenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38124	22-Sep-22	27-Sep-22
2,3,5-Trimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38124	22-Sep-22	27-Sep-22
2,6-Dimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38124	22-Sep-22	27-Sep-22
2-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38124	22-Sep-22	27-Sep-22
Acenaphthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38124	22-Sep-22	27-Sep-22
Acenaphthylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38124	22-Sep-22	27-Sep-22
Anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38124	22-Sep-22	27-Sep-22
Benz[a]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38124	22-Sep-22	27-Sep-22
Benzo[a]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38124	22-Sep-22	27-Sep-22
Benzo[b]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38124	22-Sep-22	27-Sep-22
Benzo[e]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38124	22-Sep-22	27-Sep-22
Benzo[g,h,i]perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38124	22-Sep-22	27-Sep-22
Benzo[k]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38124	22-Sep-22	27-Sep-22
Biphenyl	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38124	22-Sep-22	27-Sep-22
Chrysene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38124	22-Sep-22	27-Sep-22
Dibenz[a,h]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38124	22-Sep-22	27-Sep-22
Dibenzo[a,l]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38124	22-Sep-22	27-Sep-22
Dibenzothiophene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38124	22-Sep-22	27-Sep-22

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38124	22-Sep-22	27-Sep-22
Fluorene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38124	22-Sep-22	27-Sep-22
Indeno[1,2,3-cd]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38124	22-Sep-22	27-Sep-22
Naphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38124	22-Sep-22	27-Sep-22
Perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38124	22-Sep-22	27-Sep-22
Phenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38124	22-Sep-22	27-Sep-22
Pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38124	22-Sep-22	27-Sep-22

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 100209-R1	AIEA GULCH WELLS PUMP 2 331-20 Matrix: Samplewater						Sampled:	19-Sep-22 10:59	Received:	21-Sep-22	
(d10-Acenaphthene)	EPA 625.1	% Recovery	89	1			Total		O-38124	22-Sep-22	27-Sep-22
(d10-Phenanthrene)	EPA 625.1	% Recovery	99	1			Total		O-38124	22-Sep-22	27-Sep-22
(d12-Chrysene)	EPA 625.1	% Recovery	87	1			Total		O-38124	22-Sep-22	27-Sep-22
(d12-Perylene)	EPA 625.1	% Recovery	86	1			Total		O-38124	22-Sep-22	27-Sep-22
(d8-Naphthalene)	EPA 625.1	% Recovery	83	1			Total		O-38124	22-Sep-22	27-Sep-22
1-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38124	22-Sep-22	27-Sep-22
1-Methylphenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38124	22-Sep-22	27-Sep-22
2,3,5-Trimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38124	22-Sep-22	27-Sep-22
2,6-Dimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38124	22-Sep-22	27-Sep-22
2-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38124	22-Sep-22	27-Sep-22
Acenaphthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38124	22-Sep-22	27-Sep-22
Acenaphthylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38124	22-Sep-22	27-Sep-22
Anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38124	22-Sep-22	27-Sep-22
Benz[a]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38124	22-Sep-22	27-Sep-22
Benzo[a]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38124	22-Sep-22	27-Sep-22
Benzo[b]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38124	22-Sep-22	27-Sep-22
Benzo[e]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38124	22-Sep-22	27-Sep-22
Benzo[g,h,i]perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38124	22-Sep-22	27-Sep-22
Benzo[k]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38124	22-Sep-22	27-Sep-22
Biphenyl	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38124	22-Sep-22	27-Sep-22
Chrysene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38124	22-Sep-22	27-Sep-22
Dibenz[a,h]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38124	22-Sep-22	27-Sep-22
Dibenzo[a,l]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38124	22-Sep-22	27-Sep-22
Dibenzothiophene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38124	22-Sep-22	27-Sep-22

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38124	22-Sep-22	27-Sep-22
Fluorene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38124	22-Sep-22	27-Sep-22
Indeno[1,2,3-cd]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38124	22-Sep-22	27-Sep-22
Naphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38124	22-Sep-22	27-Sep-22
Perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38124	22-Sep-22	27-Sep-22
Phenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38124	22-Sep-22	27-Sep-22
Pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38124	22-Sep-22	27-Sep-22



Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed	
Sample ID: 100210-R1	AIEA WELLS PUMPS 1&2 (260) 331- Matrix: Samplewater						Sampled:	19-Sep-22 9:44		Received:	21-Sep-22	
(d10-Acenaphthene)	EPA 625.1	% Recovery	77	1			Total		O-38124	22-Sep-22	28-Sep-22	
(d10-Phenanthrene)	EPA 625.1	% Recovery	87	1			Total		O-38124	22-Sep-22	28-Sep-22	
(d12-Chrysene)	EPA 625.1	% Recovery	93	1			Total		O-38124	22-Sep-22	28-Sep-22	
(d12-Perylene)	EPA 625.1	% Recovery	76	1			Total		O-38124	22-Sep-22	28-Sep-22	
(d8-Naphthalene)	EPA 625.1	% Recovery	71	1			Total		O-38124	22-Sep-22	28-Sep-22	
1-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38124	22-Sep-22	28-Sep-22	
1-Methylphenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38124	22-Sep-22	28-Sep-22	
2,3,5-Trimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38124	22-Sep-22	28-Sep-22	
2,6-Dimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38124	22-Sep-22	28-Sep-22	
2-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38124	22-Sep-22	28-Sep-22	
Acenaphthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38124	22-Sep-22	28-Sep-22	
Acenaphthylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38124	22-Sep-22	28-Sep-22	
Anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38124	22-Sep-22	28-Sep-22	
Benz[a]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38124	22-Sep-22	28-Sep-22	
Benzo[a]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38124	22-Sep-22	28-Sep-22	
Benzo[b]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38124	22-Sep-22	28-Sep-22	
Benzo[e]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38124	22-Sep-22	28-Sep-22	
Benzo[g,h,i]perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38124	22-Sep-22	28-Sep-22	
Benzo[k]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38124	22-Sep-22	28-Sep-22	
Biphenyl	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38124	22-Sep-22	28-Sep-22	
Chrysene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38124	22-Sep-22	28-Sep-22	
Dibenz[a,h]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38124	22-Sep-22	28-Sep-22	
Dibenzo[a,l]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38124	22-Sep-22	28-Sep-22	
Dibenzothiophene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38124	22-Sep-22	28-Sep-22	

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38124	22-Sep-22	28-Sep-22
Fluorene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38124	22-Sep-22	28-Sep-22
Indeno[1,2,3-cd]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38124	22-Sep-22	28-Sep-22
Naphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38124	22-Sep-22	28-Sep-22
Perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38124	22-Sep-22	28-Sep-22
Phenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38124	22-Sep-22	28-Sep-22
Pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38124	22-Sep-22	28-Sep-22



QUALITY CONTROL REPORT

TERRA ENVIRONMENTAL LABORATORIES, INC. AURA

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Base/Neutral Extractable Compounds

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE		SOURCE		ACCURACY		PRECISION		QA CODEc
							LEVEL	RESULT	%	LIMITS	%	LIMITS			
Sample ID: 100207-B1		QAQC Procedural Blank				Matrix: BlankMatrix		Sampled:				Received:			
		Method: EPA 625.1				Batch ID: O-38124		Prepared: 20-Sep-22				Analyzed: 27-Sep-22			
Disalicylidenepropanediamin	Total	ND	1	0.05	0.1	µg/L									
Sample ID: 100207-BS1		QAQC Procedural Blank				Matrix: BlankMatrix		Sampled:				Received:			
		Method: EPA 625.1				Batch ID: O-38124		Prepared: 20-Sep-22				Analyzed: 27-Sep-22			
Disalicylidenepropanediamin	Total	36	1	0.05	0.1	µg/L	50	0	72	50 - 150%	PASS				
Sample ID: 100207-BS2		QAQC Procedural Blank				Matrix: BlankMatrix		Sampled:				Received:			
		Method: EPA 625.1				Batch ID: O-38124		Prepared: 20-Sep-22				Analyzed: 27-Sep-22			
Disalicylidenepropanediamin	Total	45.5	1	0.05	0.1	µg/L	50	0	91	50 - 150%	PASS	23	30	PASS	

Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY	PRECISION	QA CODEc
							LEVEL	RESULT	% LIMITS	% LIMITS	
Sample ID: 100207-B1		QAQC Procedural Blank			Matrix: BlankMatrix		Sampled:		Received:		
	Method: EPA 625.1					Batch ID: O-38124	Prepared: 20-Sep-22	Analyzed: 27-Sep-22			
(d10-Acenaphthene)	Total	87	1			% Recovery	100	87	65 - 113%	PASS	
(d10-Phenanthrene)	Total	97	1			% Recovery	100	97	80 - 111%	PASS	
(d12-Chrysene)	Total	102	1			% Recovery	100	102	60 - 139%	PASS	
(d12-Perylene)	Total	88	1			% Recovery	100	88	36 - 161%	PASS	
(d8-Naphthalene)	Total	75	1			% Recovery	100	75	44 - 119%	PASS	
1-Methylnaphthalene	Total	ND	1	0.001	0.005	µg/L					
1-Methylphenanthrene	Total	ND	1	0.001	0.005	µg/L					
2,3,5-Trimethylnaphthalene	Total	ND	1	0.001	0.005	µg/L					
2,6-Dimethylnaphthalene	Total	ND	1	0.001	0.005	µg/L					
2-Methylnaphthalene	Total	ND	1	0.001	0.005	µg/L					
Acenaphthene	Total	ND	1	0.001	0.005	µg/L					
Acenaphthylene	Total	ND	1	0.001	0.005	µg/L					
Anthracene	Total	ND	1	0.001	0.005	µg/L					
Benz[a]anthracene	Total	ND	1	0.001	0.005	µg/L					
Benzo[a]pyrene	Total	ND	1	0.001	0.005	µg/L					
Benzo[b]fluoranthene	Total	ND	1	0.001	0.005	µg/L					
Benzo[e]pyrene	Total	ND	1	0.001	0.005	µg/L					
Benzo[g,h,i]perylene	Total	ND	1	0.001	0.005	µg/L					
Benzo[k]fluoranthene	Total	ND	1	0.001	0.005	µg/L					
Biphenyl	Total	ND	1	0.001	0.005	µg/L					
Chrysene	Total	ND	1	0.001	0.005	µg/L					
Dibenz[a,h]anthracene	Total	ND	1	0.001	0.005	µg/L					
Dibenzo[a,l]pyrene	Total	ND	1	0.001	0.005	µg/L					
Dibenzothiophene	Total	ND	1	0.001	0.005	µg/L					



Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

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



Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY	PRECISION	QA CODEc	
							LEVEL	RESULT	%	LIMITS	%	LIMITS
Sample ID: 100207-BS1		QAQC Procedural Blank			Matrix: BlankMatrix			Sampled:		Received:		
Method: EPA 625.1		Batch ID: O-38124			Prepared: 20-Sep-22		Analyzed: 27-Sep-22					
(d10-Acenaphthene)	Total	71	1			% Recovery	100	0	71	65 - 113%	PASS	
(d10-Phenanthrene)	Total	101	1			% Recovery	100	0	101	80 - 111%	PASS	
(d12-Chrysene)	Total	103	1			% Recovery	100	0	103	60 - 139%	PASS	
(d12-Perylene)	Total	101	1			% Recovery	100	0	101	36 - 161%	PASS	
(d8-Naphthalene)	Total	87	1			% Recovery	100	0	87	44 - 119%	PASS	
1-Methylnaphthalene	Total	0.449	1	0.001	0.005	µg/L	0.5	0	90	49 - 117%	PASS	
1-Methylphenanthrene	Total	0.522	1	0.001	0.005	µg/L	0.5	0	104	66 - 127%	PASS	
2,3,5-Trimethylnaphthalene	Total	0.351	1	0.001	0.005	µg/L	0.5	0	70	57 - 120%	PASS	
2,6-Dimethylnaphthalene	Total	0.39	1	0.001	0.005	µg/L	0.5	0	78	54 - 117%	PASS	
2-Methylnaphthalene	Total	0.447	1	0.001	0.005	µg/L	0.5	0	89	47 - 130%	PASS	
Acenaphthene	Total	0.332	1	0.001	0.005	µg/L	0.5	0	66	53 - 131%	PASS	
Acenaphthylene	Total	0.33	1	0.001	0.005	µg/L	0.5	0	66	43 - 140%	PASS	
Anthracene	Total	0.462	1	0.001	0.005	µg/L	0.5	0	92	58 - 135%	PASS	
Benz[a]anthracene	Total	0.438	1	0.001	0.005	µg/L	0.5	0	88	55 - 145%	PASS	
Benzo[a]pyrene	Total	0.431	1	0.001	0.005	µg/L	0.5	0	86	51 - 143%	PASS	
Benzo[b]fluoranthene	Total	0.539	1	0.001	0.005	µg/L	0.5	0	108	46 - 165%	PASS	
Benzo[e]pyrene	Total	0.487	1	0.001	0.005	µg/L	0.5	0	97	42 - 152%	PASS	
Benzo[g,h,i]perylene	Total	0.481	1	0.001	0.005	µg/L	0.5	0	96	63 - 133%	PASS	
Benzo[k]fluoranthene	Total	0.483	1	0.001	0.005	µg/L	0.5	0	97	56 - 145%	PASS	
Biphenyl	Total	0.46	1	0.001	0.005	µg/L	0.5	0	92	56 - 119%	PASS	
Chrysene	Total	0.45	1	0.001	0.005	µg/L	0.5	0	90	56 - 141%	PASS	
Dibenz[a,h]anthracene	Total	0.486	1	0.001	0.005	µg/L	0.5	0	97	55 - 150%	PASS	
Dibenzo[a,l]pyrene	Total	0.399	1	0.001	0.005	µg/L	0.5	0	80	50 - 150%	PASS	
Dibenzothiophene	Total	0.47	1	0.001	0.005	µg/L	0.5	0	94	75 - 113%	PASS	

Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY		PRECISION		QA CODE _c
							LEVEL	RESULT	%	LIMITS	%	LIMITS	
Fluoranthene	Total	0.473	1	0.001	0.005	µg/L	0.5	0	95	60 - 146%	PASS		
Fluorene	Total	0.371	1	0.001	0.005	µg/L	0.5	0	74	58 - 131%	PASS		
Indeno[1,2,3-cd]pyrene	Total	0.508	1	0.001	0.005	µg/L	0.5	0	102	50 - 151%	PASS		
Naphthalene	Total	0.395	1	0.001	0.005	µg/L	0.5	0	79	41 - 126%	PASS		
Perylene	Total	0.463	1	0.001	0.005	µg/L	0.5	0	93	48 - 141%	PASS		
Phenanthrene	Total	0.468	1	0.001	0.005	µg/L	0.5	0	94	67 - 127%	PASS		
Pyrene	Total	0.479	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	SOURCE	ACCURACY		PRECISION		QA CODE	
							LEVEL	RESULT	%	LIMITS	%	LIMITS		
Sample ID: 100207-BS2		QAQC Procedural Blank			Matrix: BlankMatrix			Sampled:			Received:			
		Method: EPA 625.1			Batch ID: O-38124			Prepared: 20-Sep-22			Analyzed: 27-Sep-22			
(d10-Acenaphthene)	Total	89	1			% Recovery	100	0	89	65 - 113%	PASS	22	30	PASS
(d10-Phenanthrene)	Total	101	1			% Recovery	100	0	101	80 - 111%	PASS	0	30	PASS
(d12-Chrysene)	Total	104	1			% Recovery	100	0	104	60 - 139%	PASS	1	30	PASS
(d12-Perylene)	Total	103	1			% Recovery	100	0	103	36 - 161%	PASS	2	30	PASS
(d8-Naphthalene)	Total	80	1			% Recovery	100	0	80	44 - 119%	PASS	8	30	PASS
1-Methylnaphthalene	Total	0.397	1	0.001	0.005	µg/L	0.5	0	79	49 - 117%	PASS	13	30	PASS
1-Methylphenanthrene	Total	0.619	1	0.001	0.005	µg/L	0.5	0	124	66 - 127%	PASS	18	30	PASS
2,3,5-Trimethylnaphthalene	Total	0.444	1	0.001	0.005	µg/L	0.5	0	89	57 - 120%	PASS	24	30	PASS
2,6-Dimethylnaphthalene	Total	0.431	1	0.001	0.005	µg/L	0.5	0	86	54 - 117%	PASS	10	30	PASS
2-Methylnaphthalene	Total	0.399	1	0.001	0.005	µg/L	0.5	0	80	47 - 130%	PASS	11	30	PASS
Acenaphthene	Total	0.425	1	0.001	0.005	µg/L	0.5	0	85	53 - 131%	PASS	25	30	PASS
Acenaphthylene	Total	0.427	1	0.001	0.005	µg/L	0.5	0	85	43 - 140%	PASS	25	30	PASS
Anthracene	Total	0.458	1	0.001	0.005	µg/L	0.5	0	92	58 - 135%	PASS	0	30	PASS
Benz[a]anthracene	Total	0.462	1	0.001	0.005	µg/L	0.5	0	92	55 - 145%	PASS	4	30	PASS
Benzo[a]pyrene	Total	0.479	1	0.001	0.005	µg/L	0.5	0	96	51 - 143%	PASS	11	30	PASS
Benzo[b]fluoranthene	Total	0.561	1	0.001	0.005	µg/L	0.5	0	112	46 - 165%	PASS	4	30	PASS
Benzo[e]pyrene	Total	0.523	1	0.001	0.005	µg/L	0.5	0	105	42 - 152%	PASS	8	30	PASS
Benzo[g,h,i]perylene	Total	0.485	1	0.001	0.005	µg/L	0.5	0	97	63 - 133%	PASS	1	30	PASS
Benzo[k]fluoranthene	Total	0.403	1	0.001	0.005	µg/L	0.5	0	81	56 - 145%	PASS	18	30	PASS
Biphenyl	Total	0.417	1	0.001	0.005	µg/L	0.5	0	83	56 - 119%	PASS	10	30	PASS
Chrysene	Total	0.452	1	0.001	0.005	µg/L	0.5	0	90	56 - 141%	PASS	0	30	PASS
Dibenz[a,h]anthracene	Total	0.527	1	0.001	0.005	µg/L	0.5	0	105	55 - 150%	PASS	8	30	PASS
Dibenzo[a,l]pyrene	Total	0.423	1	0.001	0.005	µg/L	0.5	0	85	50 - 150%	PASS	6	30	PASS
Dibenzothiophene	Total	0.472	1	0.001	0.005	µg/L	0.5	0	94	75 - 113%	PASS	0	30	PASS

Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY		PRECISION		QA CODE _c	
							LEVEL	RESULT	%	LIMITS	%	LIMITS		
Fluoranthene	Total	0.585	1	0.001	0.005	µg/L	0.5	0	117	60 - 146%	PASS	21	30	PASS
Fluorene	Total	0.441	1	0.001	0.005	µg/L	0.5	0	88	58 - 131%	PASS	17	30	PASS
Indeno[1,2,3-cd]pyrene	Total	0.564	1	0.001	0.005	µg/L	0.5	0	113	50 - 151%	PASS	10	30	PASS
Naphthalene	Total	0.38	1	0.001	0.005	µg/L	0.5	0	76	41 - 126%	PASS	4	30	PASS
Perylene	Total	0.495	1	0.001	0.005	µg/L	0.5	0	99	48 - 141%	PASS	6	30	PASS
Phenanthrene	Total	0.46	1	0.001	0.005	µg/L	0.5	0	92	67 - 127%	PASS	2	30	PASS
Pyrene	Total	0.591	1	0.001	0.005	µg/L	0.5	0	118	54 - 156%	PASS	21	30	PASS

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PHYSIS
TENTATIVELY
IDENTIFIED COMPOUNDS
ENVIRONMENTAL LABORATORIES, INC.
Innovative Solutions for Nature

Sample ID: 100208

RT	Area Pct	Concentration (ng/L)	Library/ID	Cas Number	Match Qual
32.4422	6.1649	1111	Anthracene-D10-	1719-06-8	97
24.9386	3.5497	640	Diethyl Phthalate	84-66-2	99
54.0123	0.9066	163	Hexanedioic acid, bis(2-ethylhexyl) ester	103-23-1	97
17.5638	0.7234	130	Propanoic acid, 2-methyl-, 3-hydroxy-2,2,4-trimethylpentyl ester	77-68-9	97

Concentration estimated using the response for Anthracene-d10

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Sample ID: 100209

RT	Area Pct	Concentration (ng/L)	Library/ID	Cas Number	Match Qual
32.4424	5.3121	1111	Anthracene-D10-	1719-06-8	97
77.0114	8.2261	1721	[1,2,4]-Triazolo[4,3-a]quinoline, 1-(3,4-methylenedioxyphenyl)-	312525-94-3	59
77.0117	8.0293	1679	1,4-benzenediamine, N1,N1-bis(4-methylphenyl)-	1000402-01-0	61
24.9375	2.9546	618	Diethyl Phthalate	84-66-2	99
17.5633	1.5455	323	Propanoic acid, 2-methyl-, 3-hydroxy-2,2,4-trimethylpentyl ester	77-68-9	98
77.0081	1.3173	276	Glycine, N-ethyl-n-propoxycarbonyl-, undecyl ester	1000323-44-4	56
26.7584	1.2836	268	Diphenyl ether	101-84-8	42
26.7584	1.2760	267	3-((2,5-Dichlorophenyl)carbonyl)naphthalen-2-yl acetate	1000497-80-0	43
67.2297	1.2073	253	4-(1,3-Dihydro-isoindol-2-yl)-butyric acid	1000318-47-2	48
67.2416	1.0921	228	Acetamide, N-[3-(2-fluorophenoxy)-4-methyl-6-nitrophenyl]-	347344-25-6	60
32.4536	0.9116	191	2,3-Dihydro-8-hydroxyfuro(2,3-b)quinoline	95172-49-9	61
17.0199	0.8888	186	2,2,4-Trimethyl-1,3-pentanediol diisobutyrate	6846-50-0	91
77.0255	0.6685	140	Pyrazine, 2,5-diethyl-3,6-diphenyl-	21798-29-8	42
26.7537	0.5914	124	Propanoyl chloride, 2-methyl-	79-30-1	48
32.4558	0.5233	109	Imidazo[4,5-c]pyridine, 2-trifluoromethyl-	19918-36-6	50

Concentration estimated using the response for Anthracene-d10

Sample ID: 100210

RT	Area Pct	Concentration (ng/L)	Library/ID	Cas Number	Match Qual
32.4401	6.3730	1111	Anthracene-D10-	1719-06-8	97
			No TICs were detected in this sample.		

Concentration estimated using the response for Anthracene-d10

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Sample ID: Lab Blank Batch O-38124

RT	Area Pct	Concentration (ng/L)	Library/ID	Cas Number	Match Qual
33.4477	0.2438	1111	Anthracene-D10	1517-22-2	89
			No TICs were detected in this sample.		

Concentration estimated using the response for Anthracene-d10

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PERFORMANCE CHAIN OF CUSTODY

TERRA ENVIRONMENTAL LABORATORIES, INC. AURA

Innovative Solutions for Nature

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Project Iteration ID: 1407003-300
 Client Name: Eurofins Eaton Analytical
 Project Name: RED-HILL Project # 38001111 Job # 380-21464-1
 COC Page Number: 2 of 2
 Bottle Label Color: NA

Sample Receipt Summary

Receiving Info

1. Initials Received By: yc
2. Date Received: 9/21/22
3. Time Received: 1500
4. Client Name: EUROFINS
5. Courier Information: (Please circle)
 - Client
 - UPS
 - Area Fast
 - DRS
 - FedEx
 - GSO/GLS
 - Ontrac
 - PAMS
 - PHYSIS Driver:
 - i. Start Time: _____
 - ii. End Time: _____
 - iii. Total Mileage: _____
 - iv. Number of Pickups: _____
6. Container Information: (Please put the # of containers or circle none)
 - Cooler
 - Styrofoam Cooler
 - Boxes
 - None
 - Carboy(s)
 - Carboy Trash Can(s)
 - Carboy Cap(s)
 - Other _____
7. What type of ice was used: (Please circle any that apply)
 - Wet Ice
 - Blue Ice
 - Dry Ice
 - Water
 - None
8. Randomly Selected Samples Temperature (°C): 5.0
 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



Environment Testing
 America

Client Information		Sampler: BAILEY		Lab PM: Frank, Debbie L		Carrier Tracking No(s):		COC No: 380-9754-2757.1				
Client Contact: Dr. Ron Fenstermacher		Phone: 1-808-748-5840		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:		 380-21464 COC						Preservation Codes: A - HCL M - Hexane B - NaOH N - None C - Zn Acetate O - AsNaO2 D - Nitric Acid P - Na2O4S E - NaHSO4 Q - Na2SO3 F - MeOH R - Na2S2O3 G - Amchlor S - H2SO4 H - Ascorbic Acid T - TSP Dodecahydrate I - Ice U - Acetone J - DI Water V - MCAA K - EDTA W - pH 4-5 L - EDA Y - Trizma Z - other (specify)		
City: Honolulu		TAT Requested (days):										
State, Zip: HI, 96843		Compliance Project: <input type="checkbox"/> Yes <input type="checkbox"/> 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		Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes, Or No)		Total Number of containers				
Site: Hawaii		SSOW#:										
Sample Identification		Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	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)	Special Instructions/Note:	
				Preservation Code:		R	R	RA	RA			
AIEA GULCH WELLS PUMP 1 (331-201-TP071)		09/19/2022	1032	G	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							
HALAWA WELLS UNITS1&2(331-206-TP065)					Water							
Possible Hazard Identification						Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)						
<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological						<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months						
Deliverable Requested: I, II, III, IV, Other (specify)						Special Instructions/QC Requirements:						
Empty Kit Relinquished by:		Date:		Time:		Method of Shipment:						
Relinquished by: BAILEY		Date/Time: 09/19/2022 1400		Company: HBWS		Received by: Chun Breehn		Date/Time: 9.20.22 1000		Company: ETA		
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:		Company:		
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:		Company:		
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:				Cooler Temperature(s) °C and Other Remarks:						

Monrovia, CA (Suite 100)

750 Royal Oaks Drive Suite 100

Monrovia, CA 91016

Phone: 626-386-1100

Chain of Custody Record



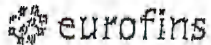
Environment Testing
America

Client Information		Sampler: BAILEY		Lab PM: Frank, Debbie L		Carrier Tracking No(s):		COC No: 380-9754-2757.2									
Client Contact: Dr. Ron Fenstemacher		Phone: 1-808-748-5840		E-Mail: Debbie.Frank@et.eurofinsus.com		State of Origin:		Page: Page 2 of 3									
Company: City & County of Honolulu				PWSID:		Analysis Requested											
Address: 630 South Beretania Street Chemistry Lab		Due Date Requested:		TAT Requested (days):						Compliance Project: <input type="checkbox"/> Yes <input type="checkbox"/> No		Job #:					
City: Honolulu		PO #: C20525101 exp 05312023		WO #:		Field Filtered Sample (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)		Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlora 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)									
State, Zip: HI, 96843		Project #: 38001111		SSOW#:						Total Number of Containers		Special Instructions/Note:					
Phone: 808-748-5091(Tel)		Site: Hawaii		Project Name: RED-HILL/HBWS Sites Event Desc: RUSH Weekly Red Hill													
Email: RFENSTEMACHER@hbws.org		Sample Date		Sample Time										Sample Type (C=Comp, G=grab)		Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	
Project Name: RED-HILL/HBWS Sites Event Desc: RUSH Weekly Red Hill		Sample Date		Sample Time										Sample Type (C=Comp, G=grab)		Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	
Site: Hawaii		Sample Date		Sample Time		Sample Type (C=Comp, G=grab)		Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)									
Sample Identification		Sample Date		Sample Time		Sample Type (C=Comp, G=grab)		Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)									
MOANALUA WELLS (331-223-TP202)								Water									
AIEA GULCH WELLS PUMP 1 (331-201-TP071)								Water									
AIEA GULCH WELLS PUMP 2 (331-202-TP072)		9/19/2022		1059		G		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					Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)												
<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological					<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months												
Deliverable Requested: I, II, III, IV, Other (specify)					Special Instructions/QC Requirements:												
Empty Kit Relinquished by:		Date:		Time:		Method of Shipment:											
Relinquished by: BAILEY		Date/Time: 9/19/2022 1400		Company: HBWS		Received by: [Signature]		Date/Time: 9/20/22 1000		Company: [Signature]							
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:		Company:							
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:		Company:							
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:													

Chain of Custody Record



Client Information		Sampler: BAILEY		Lab PM: Frank, Debbie L		Carrier Tracking No(s):		COC No: 380-9754-2757.2									
Client Contact: Dr. Ron Fenstermacher		Phone: 1-808-748-5840		E-Mail: Debbie.Frank@et.eurofinsus.com		State of Origin:		Page: Page 2 of 3									
Company: City & County of Honolulu		PWSID:		Analysis Requested						Job #:							
Address: 630 South Beretania Street Chemistry Lab		Due Date Requested:		Field Filtered Sample (Yes or No)	Performs (MS/MSD) (Yes or No)	SUBCONTRACT - 625 PAH Physals LL (EAL) + TICs	SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL)	SUBCONTRACT - 8016 Diesel LL (EAL) and Motor Oil	525.2_PREC - (MOD) 525plus Plus TICs	SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL)	Total Number of Containers		Preservation Codes:				
City: Honolulu		TAT Requested (days):											A - HCL	M - Hexane			
State, Zip: HI, 96843		Compliance Project: <input type="checkbox"/> Yes <input type="checkbox"/> No											B - NaOH	N - None			
Phone: 808-748-5091 (Tel)		PO #: C20525101 exp 05312023											C - Zn Acetate	O - AsNaO2			
Email: RFENSTEMACHER@hbws.org		WO #:		D - Nitric Acid	P - Na2O4S	E - NaHSO4	Q - Na2SO3	F - MeOH	R - Na2S2O3	S - H2SO4	T - TSP Dodecahydrate	Other:					
Project Name: RED-HILL/HBWS Sites Event Desc: RUSH Weekly Red Hill		Project #: 38001111		Special Instructions/Note:		Total Number of Containers		Total Number of Containers		Total Number of Containers		A - Ice		V - MCAA			
Site: Hawaii		SSOW#:										J - DI Water		W - pH 4-5	Y - Trizma	Z - other (specify)	
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)		Performs (MS/MSD) (Yes or No)		Subcontract		Special Instructions/Note:	
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		SEPT 19, 2022		0944		G		Water		XXXXXX							
HALAWA SHAFT (331-241-TP401)								Water									
Possible Hazard Identification						Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)											
<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological						<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months											
Deliverable Requested: I, II, III, IV, Other (specify)						Special Instructions/QC Requirements:											
Empty Kit Relinquished by:				Date:		Time:		Method of Shipment:									
Relinquished by: BAILEY				Date/Time: SEPT 19, 2022 1400		Company: HBWS		Received by: Chim Kroehn		Date/Time: 9-20-22 1000		Company: EPA					
Relinquished by:				Date/Time:		Company:		Received by:		Date/Time:		Company:					
Relinquished by:				Date/Time:		Company:		Received by:		Date/Time:		Company:					
Custody Seals Intact:		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:													
<input type="checkbox"/> Yes <input type="checkbox"/> No																	



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 = 4.6 °C) (Corr. Factor 0.1 °C) (Final = 4.5 °C)

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

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

Compliance Acceptance Criteria:

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

777975632737

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

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

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

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

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

7) VOA and Radon Headspace:

No Samples with Headspace:

Samples with Headspace (see below):

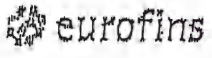
Headspace Documentation (use additional VOC and Radon Internal COFC for additional bottles)

Example from headspace concerns: Methods 815.4, HAA(8281,852), 805, 8PME, @CH, 832LCMS, 858, 838, Anatoxin, LCMS methods using 40 ml vials, International diluents;

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

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

SIGNATURE	PRINT NAME	COMPANY/TITLE	DATE	TIME
RECEIVED BY: <u>Chris Boeh</u>	<u>Chris Boeh</u>	Eurofins Eaton Analytical	<u>9-20-22</u>	<u>1000</u>
SIGNATURE	PRINT NAME	COMPANY/TITLE	DATE	TIME
SAMPLES CHECKED AGAINST COC BY: _____	_____	Eurofins Eaton Analytical	_____	_____



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 = 630A (Observation = 6.0 °C) (Corr. Factor 0.1 °C) (Final = 5.9 °C)

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

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

Compliance Acceptance Criteria:

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

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

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

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

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

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

7) VOA and Radon Headspace:

No Samples with Headspace:

Samples with Headspace (see below):

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

Exempt from headspace concerns: Methods 816.4, HAA(8251, 852), 808, 8PME, @CH, 832LCMS, 858, 838, Anatoxin, LOMA methods using 40 ml vials, International clients

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

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

RECEIVED BY: <u>[Signature]</u>	PRINT NAME: <u>Mark Uccatella</u>	COMPANY/TITLE: <u>Eurofins Eaton Analytical</u>	DATE: <u>9/20/22</u>	TIME: <u>1000</u>
SAMPLES CHECKED AGAINST DOG BY: _____	PRINT NAME: _____	COMPANY/TITLE: <u>Eurofins Eaton Analytical</u>	DATE: _____	TIME: _____

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.

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

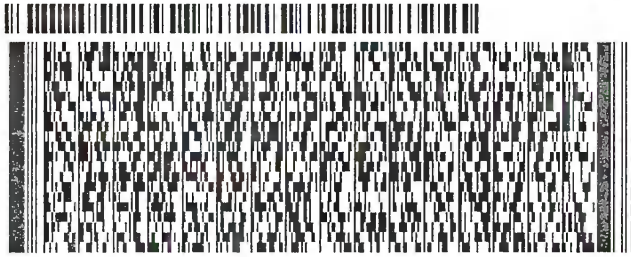
SHIP DATE: 19SEP22
ACTWGT: 58.00 LB
CAD: 100205419/INET4530

BILL RECIPIENT

581J11EC08CFE2D

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

(626) 386-1178 REF:
INV. DEPT.
PC

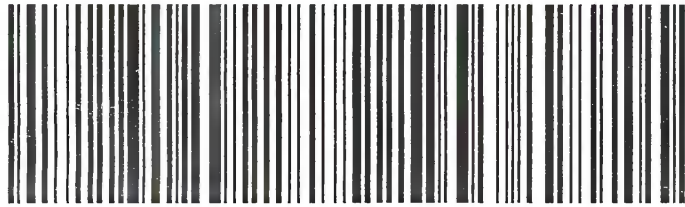


TUE - 20 SEP 10:30A
PRIORITY OVERNIGHT

1 of 2
TRK# 7779 7563 2737
0201
MASTER

WZ WHPA

91016
CA-US BUR



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

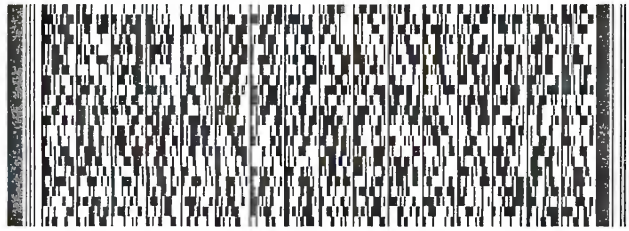
SHIP DATE: 19SEP22
ACTWGT: 58.00 LB
CAD: 100205419/INET4530

BILL RECIPIENT

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

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

581J1EC8GFEZD

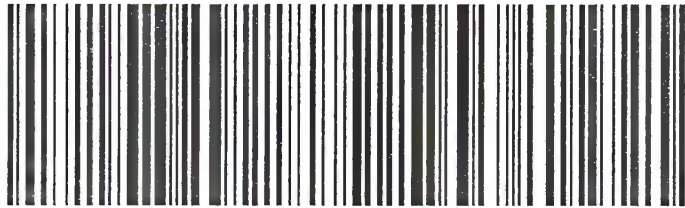


TUE - 20 SEP 10:30A
PRIORITY OVERNIGHT

MPS# 7779 7563 2851
0263
Mstr# 7779 7563 2737 0201

WZ WHPA

91016
CA-US BUR



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Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-21464-1

Login Number: 21464
List Number: 1
Creator: Segura, Ryan

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	

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