

ANALYTICAL REPORT

PREPARED FOR

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JOB DESCRIPTION

RED-HILL

JOB NUMBER

380-104648-1

Eurofins Eaton Analytical Pomona

Job Notes

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The test results in this report relate only to the samples as received by the laboratory and meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Eaton Analytical, LLC Project Manager.

Compliance Statement

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

Authorization



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Definitions/Glossary

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

Job ID: 380-104648-1

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
*1	LCS/LCSD RPD exceeds control limits.
F1	MS and/or MSD recovery exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS Semi VOA TICs

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

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
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: RED-HILL

Job ID: 380-104648-1

Job ID: 380-104648-1

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Job Narrative 380-104648-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

- Matrix QC may not be reported if insufficient sample is provided or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt

The samples were received on 7/17/2024 10:06 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 4 coolers at receipt time were 1.1°C, 1.2°C, 1.3°C and 2.9°C.

GC/MS Semi VOA

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

Gasoline Range Organics

Method 8015B_GRO_LL: One or more containers for the following sample was received broken or leaking: AIEA GULCH WELLS PUMP 2 (380-104648-1).

1 of 4 vials arrived broken for method 8015B

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

Diesel Range Organics

Method 8015B: The following samples contained C8-C18 above the reporting limit. Laboratory solvent contamination is suspected. Sample holding time has already expired, therefore the data has been reported with narration, AIEA GULCH WELLS PUMP 2 (380-104648-1) and AIEA WELLS PUMPS 1&2 (260) P2 (380-104648-3). Data excluded due to this issue.

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

Detection Summary

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

Job ID: 380-104648-1

Client Sample ID: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-104648-1

No Detections.

Client Sample ID: TB: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-104648-2

No Detections.

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) P2

Lab Sample ID: 380-104648-3

No Detections.

Client Sample ID: TB: AIEA WELLS PUMPS 1&2 (260)

Lab Sample ID: 380-104648-4

No Detections.

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

This Detection Summary does not include radiochemical test results.

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Client Sample Results

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

Job ID: 380-104648-1

Client Sample ID: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-104648-1

Date Collected: 07/15/24 10:52

Matrix: Water

Date Received: 07/17/24 10:06

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	<0.097		0.097	ug/L		07/21/24 11:17	07/22/24 12:17	1
2,4'-DDD	<0.097		0.097	ug/L		07/21/24 11:17	07/22/24 12:17	1
2,4'-DDE	<0.097		0.097	ug/L		07/21/24 11:17	07/22/24 12:17	1
2,4'-DDT	<0.097		0.097	ug/L		07/21/24 11:17	07/22/24 12:17	1
2,4-Dinitrotoluene	<0.097		0.097	ug/L		07/21/24 11:17	07/22/24 12:17	1
2,6-Dinitrotoluene	<0.097		0.097	ug/L		07/21/24 11:17	07/22/24 12:17	1
2-Methylnaphthalene	<0.097		0.097	ug/L		07/21/24 11:17	07/22/24 12:17	1
4,4'-DDD	<0.097		0.097	ug/L		07/21/24 11:17	07/22/24 12:17	1
4,4'-DDE	<0.097		0.097	ug/L		07/21/24 11:17	07/22/24 12:17	1
4,4'-DDT	<0.097		0.097	ug/L		07/21/24 11:17	07/22/24 12:17	1
Acenaphthene	<0.097		0.097	ug/L		07/21/24 11:17	07/22/24 12:17	1
Acenaphthylene	<0.097	*1	0.097	ug/L		07/21/24 11:17	07/22/24 12:17	1
Acetochlor	<0.097		0.097	ug/L		07/21/24 11:17	07/22/24 12:17	1
Alachlor	<0.049		0.049	ug/L		07/21/24 11:17	07/22/24 12:17	1
alpha-BHC	<0.097		0.097	ug/L		07/21/24 11:17	07/22/24 12:17	1
alpha-Chlordane	<0.049		0.049	ug/L		07/21/24 11:17	07/22/24 12:17	1
Anthracene	<0.019	*1	0.019	ug/L		07/21/24 11:17	07/22/24 12:17	1
Atrazine	<0.049		0.049	ug/L		07/21/24 11:17	07/22/24 12:17	1
Benz(a)anthracene	<0.049		0.049	ug/L		07/21/24 11:17	07/22/24 12:17	1
Benzo[a]pyrene	<0.019		0.019	ug/L		07/21/24 11:17	07/22/24 12:17	1
Benzo[b]fluoranthene	<0.019		0.019	ug/L		07/21/24 11:17	07/22/24 12:17	1
Benzo[g,h,i]perylene	<0.049		0.049	ug/L		07/21/24 11:17	07/22/24 12:17	1
Benzo[k]fluoranthene	<0.019		0.019	ug/L		07/21/24 11:17	07/22/24 12:17	1
beta-BHC	<0.097		0.097	ug/L		07/21/24 11:17	07/22/24 12:17	1
Bis(2-ethylhexyl) phthalate	<0.58		0.58	ug/L		07/21/24 11:17	07/22/24 12:17	1
Bromacil	<0.097	*1	0.097	ug/L		07/21/24 11:17	07/22/24 12:17	1
Butachlor	<0.049		0.049	ug/L		07/21/24 11:17	07/22/24 12:17	1
Butylbenzylphthalate	<0.49		0.49	ug/L		07/21/24 11:17	07/22/24 12:17	1
Chlorobenzilate	<0.097	*1	0.097	ug/L		07/21/24 11:17	07/22/24 12:17	1
Chloroneb	<0.097		0.097	ug/L		07/21/24 11:17	07/22/24 12:17	1
Chlorothalonil (Draconil, Bravo)	<0.097		0.097	ug/L		07/21/24 11:17	07/22/24 12:17	1
Chlorpyrifos	<0.049		0.049	ug/L		07/21/24 11:17	07/22/24 12:17	1
Chrysene	<0.019		0.019	ug/L		07/21/24 11:17	07/22/24 12:17	1
delta-BHC	<0.097		0.097	ug/L		07/21/24 11:17	07/22/24 12:17	1
Di(2-ethylhexyl)adipate	<0.58		0.58	ug/L		07/21/24 11:17	07/22/24 12:17	1
Dibenz(a,h)anthracene	<0.049		0.049	ug/L		07/21/24 11:17	07/22/24 12:17	1
Diclorvos (DDVP)	<0.049		0.049	ug/L		07/21/24 11:17	07/22/24 12:17	1
Dieldrin	<0.0097		0.0097	ug/L		07/21/24 11:17	07/22/24 12:17	1
Diethylphthalate	<0.49		0.49	ug/L		07/21/24 11:17	07/22/24 12:17	1
Dimethylphthalate	<0.49		0.49	ug/L		07/21/24 11:17	07/22/24 12:17	1
Di-n-butyl phthalate	<0.97		0.97	ug/L		07/21/24 11:17	07/22/24 12:17	1
Di-n-octyl phthalate	<0.097		0.097	ug/L		07/21/24 11:17	07/22/24 12:17	1
Endosulfan I (Alpha)	<0.097		0.097	ug/L		07/21/24 11:17	07/22/24 12:17	1
Endosulfan II (Beta)	<0.097		0.097	ug/L		07/21/24 11:17	07/22/24 12:17	1
Endosulfan sulfate	<0.097		0.097	ug/L		07/21/24 11:17	07/22/24 12:17	1
Endrin	<0.0097		0.0097	ug/L		07/21/24 11:17	07/22/24 12:17	1
Endrin aldehyde	<0.097		0.097	ug/L		07/21/24 11:17	07/22/24 12:17	1
EPTC	<0.097		0.097	ug/L		07/21/24 11:17	07/22/24 12:17	1
Fluoranthene	<0.097		0.097	ug/L		07/21/24 11:17	07/22/24 12:17	1

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Client Sample Results

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

Job ID: 380-104648-1

Client Sample ID: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-104648-1

Date Collected: 07/15/24 10:52

Matrix: Water

Date Received: 07/17/24 10:06

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	<0.049		0.049	ug/L		07/21/24 11:17	07/22/24 12:17	1
gamma-Chlordane	<0.049		0.049	ug/L		07/21/24 11:17	07/22/24 12:17	1
Heptachlor	<0.0097		0.0097	ug/L		07/21/24 11:17	07/22/24 12:17	1
Heptachlor epoxide (isomer B)	<0.0097		0.0097	ug/L		07/21/24 11:17	07/22/24 12:17	1
Hexachlorobenzene	<0.049		0.049	ug/L		07/21/24 11:17	07/22/24 12:17	1
Hexachlorocyclopentadiene	<0.049		0.049	ug/L		07/21/24 11:17	07/22/24 12:17	1
Indeno[1,2,3-cd]pyrene	<0.049		0.049	ug/L		07/21/24 11:17	07/22/24 12:17	1
Isophorone	<0.097		0.097	ug/L		07/21/24 11:17	07/22/24 12:17	1
Lindane	<0.0097		0.0097	ug/L		07/21/24 11:17	07/22/24 12:17	1
Malathion	<0.097		0.097	ug/L		07/21/24 11:17	07/22/24 12:17	1
Methoxychlor	<0.049		0.049	ug/L		07/21/24 11:17	07/22/24 12:17	1
Metolachlor	<0.049		0.049	ug/L		07/21/24 11:17	07/22/24 12:17	1
Molinate	<0.097		0.097	ug/L		07/21/24 11:17	07/22/24 12:17	1
Naphthalene	<0.097		0.097	ug/L		07/21/24 11:17	07/22/24 12:17	1
Parathion	<0.097		0.097	ug/L		07/21/24 11:17	07/22/24 12:17	1
Pendimethalin (Penoxaline)	<0.097		0.097	ug/L		07/21/24 11:17	07/22/24 12:17	1
Phenanthrene	<0.039		0.039	ug/L		07/21/24 11:17	07/22/24 12:17	1
Propachlor	<0.049		0.049	ug/L		07/21/24 11:17	07/22/24 12:17	1
Pyrene	<0.049		0.049	ug/L		07/21/24 11:17	07/22/24 12:17	1
Simazine	<0.049		0.049	ug/L		07/21/24 11:17	07/22/24 12:17	1
Terbacil	<0.097		0.097	ug/L		07/21/24 11:17	07/22/24 12:17	1
Terbutylazine	<0.097		0.097	ug/L		07/21/24 11:17	07/22/24 12:17	1
Thiobencarb	<0.097		0.097	ug/L		07/21/24 11:17	07/22/24 12:17	1
Total Permethrin (mixed isomers)	<0.19		0.19	ug/L		07/21/24 11:17	07/22/24 12:17	1
trans-Nonachlor	<0.049		0.049	ug/L		07/21/24 11:17	07/22/24 12:17	1
Trifluralin	<0.097		0.097	ug/L		07/21/24 11:17	07/22/24 12:17	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L			N/A	07/21/24 11:17	07/22/24 12:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Nitro-m-xylene	90		70 - 130	07/21/24 11:17	07/22/24 12:17	1
Perylene-d12	91		70 - 130	07/21/24 11:17	07/22/24 12:17	1
Triphenylphosphate	95		70 - 130	07/21/24 11:17	07/22/24 12:17	1

Method: EPA 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	<0.19		0.19	ug/L		07/22/24 05:34	07/24/24 16:34	1
2-Methylnaphthalene	<0.19		0.19	ug/L		07/22/24 05:34	07/24/24 16:34	1
Acenaphthene	<0.19		0.19	ug/L		07/22/24 05:34	07/24/24 16:34	1
Acenaphthylene	<0.19		0.19	ug/L		07/22/24 05:34	07/24/24 16:34	1
Anthracene	<0.19		0.19	ug/L		07/22/24 05:34	07/24/24 16:34	1
Benzo[a]anthracene	<0.19		0.19	ug/L		07/22/24 05:34	07/24/24 16:34	1
Benzo[a]pyrene	<0.19		0.19	ug/L		07/22/24 05:34	07/24/24 16:34	1
Benzo[b]fluoranthene	<0.19		0.19	ug/L		07/22/24 05:34	07/24/24 16:34	1
Benzo[g,h,i]perylene	<0.19		0.19	ug/L		07/22/24 05:34	07/24/24 16:34	1
Benzo[k]fluoranthene	<0.19		0.19	ug/L		07/22/24 05:34	07/24/24 16:34	1
Chrysene	<0.19		0.19	ug/L		07/22/24 05:34	07/24/24 16:34	1
Dibenz(a,h)anthracene	<0.19		0.19	ug/L		07/22/24 05:34	07/24/24 16:34	1
Fluoranthene	<0.19		0.19	ug/L		07/22/24 05:34	07/24/24 16:34	1

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Client Sample Results

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

Job ID: 380-104648-1

Client Sample ID: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-104648-1

Date Collected: 07/15/24 10:52

Matrix: Water

Date Received: 07/17/24 10:06

Method: EPA 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	<0.19		0.19	ug/L		07/22/24 05:34	07/24/24 16:34	1
Indeno[1,2,3-cd]pyrene	<0.19		0.19	ug/L		07/22/24 05:34	07/24/24 16:34	1
Naphthalene	<0.19		0.19	ug/L		07/22/24 05:34	07/24/24 16:34	1
Phenanthrene	<0.19		0.19	ug/L		07/22/24 05:34	07/24/24 16:34	1
Pyrene	<0.19		0.19	ug/L		07/22/24 05:34	07/24/24 16:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	76		28 - 127	07/22/24 05:34	07/24/24 16:34	1
2-Fluorobiphenyl (Surr)	66		31 - 120	07/22/24 05:34	07/24/24 16:34	1
2-Fluorophenol (Surr)	43		17 - 120	07/22/24 05:34	07/24/24 16:34	1
Nitrobenzene-d5 (Surr)	67		27 - 120	07/22/24 05:34	07/24/24 16:34	1
Phenol-d6 (Surr)	28		10 - 120	07/22/24 05:34	07/24/24 16:34	1
p-Terphenyl-d14 (Surr)	68		45 - 120	07/22/24 05:34	07/24/24 16:34	1

Method: EPA 625.1 - Semivolatile Organic Compounds (GC/MS)

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Cyclopentane, 1,2,3,4,5-pentamethyl-	45	T J N	ug/L		2.83	1000152-79-7	07/22/24 05:34	08/07/24 15:28	1
4-Octen-3-one	27	T J N	ug/L		3.03	14129-48-7	07/22/24 05:34	08/07/24 15:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	55		33 - 139	07/22/24 05:34	08/07/24 15:28	1
2-Fluorobiphenyl (Surr)	79		33 - 126	07/22/24 05:34	08/07/24 15:28	1
2-Fluorophenol (Surr)	41		12 - 120	07/22/24 05:34	08/07/24 15:28	1
Nitrobenzene-d5 (Surr)	68		36 - 120	07/22/24 05:34	08/07/24 15:28	1
Phenol-d6 (Surr)	23		10 - 120	07/22/24 05:34	08/07/24 15:28	1
p-Terphenyl-d14 (Surr)	72		47 - 131	07/22/24 05:34	08/07/24 15:28	1

Method: SW846 8015B GRO LL - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C6-C10)	<10		10	ug/L			07/24/24 16:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	77		38 - 134		07/24/24 16:31	1

Client Sample ID: TB: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-104648-2

Date Collected: 07/15/24 10:52

Matrix: Water

Date Received: 07/17/24 10:06

Method: SW846 8015B GRO LL - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C6-C10)	<10		10	ug/L			07/24/24 20:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	82		38 - 134		07/24/24 20:26	1

Client Sample Results

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

Job ID: 380-104648-1

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) P2

Lab Sample ID: 380-104648-3

Date Collected: 07/15/24 11:18

Matrix: Water

Date Received: 07/17/24 10:06

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	<0.096		0.096	ug/L		07/21/24 11:17	07/22/24 14:37	1
2,4'-DDD	<0.096		0.096	ug/L		07/21/24 11:17	07/22/24 14:37	1
2,4'-DDE	<0.096		0.096	ug/L		07/21/24 11:17	07/22/24 14:37	1
2,4'-DDT	<0.096		0.096	ug/L		07/21/24 11:17	07/22/24 14:37	1
2,4-Dinitrotoluene	<0.096		0.096	ug/L		07/21/24 11:17	07/22/24 14:37	1
2,6-Dinitrotoluene	<0.096		0.096	ug/L		07/21/24 11:17	07/22/24 14:37	1
2-Methylnaphthalene	<0.096		0.096	ug/L		07/21/24 11:17	07/22/24 14:37	1
4,4'-DDD	<0.096		0.096	ug/L		07/21/24 11:17	07/22/24 14:37	1
4,4'-DDE	<0.096		0.096	ug/L		07/21/24 11:17	07/22/24 14:37	1
4,4'-DDT	<0.096		0.096	ug/L		07/21/24 11:17	07/22/24 14:37	1
Acenaphthene	<0.096		0.096	ug/L		07/21/24 11:17	07/22/24 14:37	1
Acenaphthylene	<0.096	*1	0.096	ug/L		07/21/24 11:17	07/22/24 14:37	1
Acetochlor	<0.096		0.096	ug/L		07/21/24 11:17	07/22/24 14:37	1
Alachlor	<0.048		0.048	ug/L		07/21/24 11:17	07/22/24 14:37	1
alpha-BHC	<0.096		0.096	ug/L		07/21/24 11:17	07/22/24 14:37	1
alpha-Chlordane	<0.048		0.048	ug/L		07/21/24 11:17	07/22/24 14:37	1
Anthracene	<0.019	*1	0.019	ug/L		07/21/24 11:17	07/22/24 14:37	1
Atrazine	<0.048		0.048	ug/L		07/21/24 11:17	07/22/24 14:37	1
Benz(a)anthracene	<0.048		0.048	ug/L		07/21/24 11:17	07/22/24 14:37	1
Benzo[a]pyrene	<0.019		0.019	ug/L		07/21/24 11:17	07/22/24 14:37	1
Benzo[b]fluoranthene	<0.019		0.019	ug/L		07/21/24 11:17	07/22/24 14:37	1
Benzo[g,h,i]perylene	<0.048		0.048	ug/L		07/21/24 11:17	07/22/24 14:37	1
Benzo[k]fluoranthene	<0.019		0.019	ug/L		07/21/24 11:17	07/22/24 14:37	1
beta-BHC	<0.096		0.096	ug/L		07/21/24 11:17	07/22/24 14:37	1
Bis(2-ethylhexyl) phthalate	<0.58		0.58	ug/L		07/21/24 11:17	07/22/24 14:37	1
Bromacil	<0.096	*1	0.096	ug/L		07/21/24 11:17	07/22/24 14:37	1
Butachlor	<0.048		0.048	ug/L		07/21/24 11:17	07/22/24 14:37	1
Butylbenzylphthalate	<0.48		0.48	ug/L		07/21/24 11:17	07/22/24 14:37	1
Chlorobenzilate	<0.096	*1	0.096	ug/L		07/21/24 11:17	07/22/24 14:37	1
Chloroneb	<0.096		0.096	ug/L		07/21/24 11:17	07/22/24 14:37	1
Chlorothalonil (Draconil, Bravo)	<0.096		0.096	ug/L		07/21/24 11:17	07/22/24 14:37	1
Chlorpyrifos	<0.048		0.048	ug/L		07/21/24 11:17	07/22/24 14:37	1
Chrysene	<0.019		0.019	ug/L		07/21/24 11:17	07/22/24 14:37	1
delta-BHC	<0.096		0.096	ug/L		07/21/24 11:17	07/22/24 14:37	1
Di(2-ethylhexyl)adipate	<0.58		0.58	ug/L		07/21/24 11:17	07/22/24 14:37	1
Dibenz(a,h)anthracene	<0.048		0.048	ug/L		07/21/24 11:17	07/22/24 14:37	1
Diclorvos (DDVP)	<0.048		0.048	ug/L		07/21/24 11:17	07/22/24 14:37	1
Dieldrin	<0.0096		0.0096	ug/L		07/21/24 11:17	07/22/24 14:37	1
Diethylphthalate	<0.48		0.48	ug/L		07/21/24 11:17	07/22/24 14:37	1
Dimethylphthalate	<0.48		0.48	ug/L		07/21/24 11:17	07/22/24 14:37	1
Di-n-butyl phthalate	<0.96		0.96	ug/L		07/21/24 11:17	07/22/24 14:37	1
Di-n-octyl phthalate	<0.096		0.096	ug/L		07/21/24 11:17	07/22/24 14:37	1
Endosulfan I (Alpha)	<0.096		0.096	ug/L		07/21/24 11:17	07/22/24 14:37	1
Endosulfan II (Beta)	<0.096		0.096	ug/L		07/21/24 11:17	07/22/24 14:37	1
Endosulfan sulfate	<0.096		0.096	ug/L		07/21/24 11:17	07/22/24 14:37	1
Endrin	<0.0096		0.0096	ug/L		07/21/24 11:17	07/22/24 14:37	1
Endrin aldehyde	<0.096		0.096	ug/L		07/21/24 11:17	07/22/24 14:37	1
EPTC	<0.096		0.096	ug/L		07/21/24 11:17	07/22/24 14:37	1
Fluoranthene	<0.096		0.096	ug/L		07/21/24 11:17	07/22/24 14:37	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-104648-1

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) P2

Lab Sample ID: 380-104648-3

Date Collected: 07/15/24 11:18

Matrix: Water

Date Received: 07/17/24 10:06

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	<0.048		0.048	ug/L		07/21/24 11:17	07/22/24 14:37	1
gamma-Chlordane	<0.048		0.048	ug/L		07/21/24 11:17	07/22/24 14:37	1
Heptachlor	<0.0096		0.0096	ug/L		07/21/24 11:17	07/22/24 14:37	1
Heptachlor epoxide (isomer B)	<0.0096		0.0096	ug/L		07/21/24 11:17	07/22/24 14:37	1
Hexachlorobenzene	<0.048		0.048	ug/L		07/21/24 11:17	07/22/24 14:37	1
Hexachlorocyclopentadiene	<0.048		0.048	ug/L		07/21/24 11:17	07/22/24 14:37	1
Indeno[1,2,3-cd]pyrene	<0.048		0.048	ug/L		07/21/24 11:17	07/22/24 14:37	1
Isophorone	<0.096		0.096	ug/L		07/21/24 11:17	07/22/24 14:37	1
Lindane	<0.0096		0.0096	ug/L		07/21/24 11:17	07/22/24 14:37	1
Malathion	<0.096		0.096	ug/L		07/21/24 11:17	07/22/24 14:37	1
Methoxychlor	<0.048		0.048	ug/L		07/21/24 11:17	07/22/24 14:37	1
Metolachlor	<0.048		0.048	ug/L		07/21/24 11:17	07/22/24 14:37	1
Molinate	<0.096		0.096	ug/L		07/21/24 11:17	07/22/24 14:37	1
Naphthalene	<0.096		0.096	ug/L		07/21/24 11:17	07/22/24 14:37	1
Parathion	<0.096		0.096	ug/L		07/21/24 11:17	07/22/24 14:37	1
Pendimethalin (Penoxaline)	<0.096		0.096	ug/L		07/21/24 11:17	07/22/24 14:37	1
Phenanthrene	<0.039		0.039	ug/L		07/21/24 11:17	07/22/24 14:37	1
Propachlor	<0.048		0.048	ug/L		07/21/24 11:17	07/22/24 14:37	1
Pyrene	<0.048		0.048	ug/L		07/21/24 11:17	07/22/24 14:37	1
Simazine	<0.048		0.048	ug/L		07/21/24 11:17	07/22/24 14:37	1
Terbacil	<0.096		0.096	ug/L		07/21/24 11:17	07/22/24 14:37	1
Terbutylazine	<0.096		0.096	ug/L		07/21/24 11:17	07/22/24 14:37	1
Thiobencarb	<0.096		0.096	ug/L		07/21/24 11:17	07/22/24 14:37	1
Total Permethrin (mixed isomers)	<0.19		0.19	ug/L		07/21/24 11:17	07/22/24 14:37	1
trans-Nonachlor	<0.048		0.048	ug/L		07/21/24 11:17	07/22/24 14:37	1
Trifluralin	<0.096		0.096	ug/L		07/21/24 11:17	07/22/24 14:37	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L			N/A	07/21/24 11:17	07/22/24 14:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Nitro-m-xylene	92		70 - 130	07/21/24 11:17	07/22/24 14:37	1
Perylene-d12	92		70 - 130	07/21/24 11:17	07/22/24 14:37	1
Triphenylphosphate	101		70 - 130	07/21/24 11:17	07/22/24 14:37	1

Method: EPA 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	<0.19		0.19	ug/L		07/22/24 05:34	07/24/24 17:39	1
2-Methylnaphthalene	<0.19		0.19	ug/L		07/22/24 05:34	07/24/24 17:39	1
Acenaphthene	<0.19		0.19	ug/L		07/22/24 05:34	07/24/24 17:39	1
Acenaphthylene	<0.19		0.19	ug/L		07/22/24 05:34	07/24/24 17:39	1
Anthracene	<0.19		0.19	ug/L		07/22/24 05:34	07/24/24 17:39	1
Benzo[a]anthracene	<0.19		0.19	ug/L		07/22/24 05:34	07/24/24 17:39	1
Benzo[a]pyrene	<0.19		0.19	ug/L		07/22/24 05:34	07/24/24 17:39	1
Benzo[b]fluoranthene	<0.19		0.19	ug/L		07/22/24 05:34	07/24/24 17:39	1
Benzo[g,h,i]perylene	<0.19		0.19	ug/L		07/22/24 05:34	07/24/24 17:39	1
Benzo[k]fluoranthene	<0.19		0.19	ug/L		07/22/24 05:34	07/24/24 17:39	1
Chrysene	<0.19		0.19	ug/L		07/22/24 05:34	07/24/24 17:39	1
Dibenz(a,h)anthracene	<0.19		0.19	ug/L		07/22/24 05:34	07/24/24 17:39	1
Fluoranthene	<0.19		0.19	ug/L		07/22/24 05:34	07/24/24 17:39	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-104648-1

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) P2

Lab Sample ID: 380-104648-3

Date Collected: 07/15/24 11:18

Matrix: Water

Date Received: 07/17/24 10:06

Method: EPA 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	<0.19		0.19	ug/L		07/22/24 05:34	07/24/24 17:39	1
Indeno[1,2,3-cd]pyrene	<0.19		0.19	ug/L		07/22/24 05:34	07/24/24 17:39	1
Naphthalene	<0.19		0.19	ug/L		07/22/24 05:34	07/24/24 17:39	1
Phenanthrene	<0.19		0.19	ug/L		07/22/24 05:34	07/24/24 17:39	1
Pyrene	<0.19		0.19	ug/L		07/22/24 05:34	07/24/24 17:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	72		28 - 127	07/22/24 05:34	07/24/24 17:39	1
2-Fluorobiphenyl (Surr)	60		31 - 120	07/22/24 05:34	07/24/24 17:39	1
2-Fluorophenol (Surr)	39		17 - 120	07/22/24 05:34	07/24/24 17:39	1
Nitrobenzene-d5 (Surr)	62		27 - 120	07/22/24 05:34	07/24/24 17:39	1
Phenol-d6 (Surr)	26		10 - 120	07/22/24 05:34	07/24/24 17:39	1
p-Terphenyl-d14 (Surr)	65		45 - 120	07/22/24 05:34	07/24/24 17:39	1

Method: EPA 625.1 - Semivolatile Organic Compounds (GC/MS)

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
2-Pentenal, (E)-	42	T J N	ug/L		2.83	1576-87-0	07/22/24 05:34	08/07/24 15:52	1
2-Hexene, 3,4,4-trimethyl-	27	T J N	ug/L		3.03	53941-19-8	07/22/24 05:34	08/07/24 15:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	49		33 - 139	07/22/24 05:34	08/07/24 15:52	1
2-Fluorobiphenyl (Surr)	69		33 - 126	07/22/24 05:34	08/07/24 15:52	1
2-Fluorophenol (Surr)	37		12 - 120	07/22/24 05:34	08/07/24 15:52	1
Nitrobenzene-d5 (Surr)	62		36 - 120	07/22/24 05:34	08/07/24 15:52	1
Phenol-d6 (Surr)	21		10 - 120	07/22/24 05:34	08/07/24 15:52	1
p-Terphenyl-d14 (Surr)	66		47 - 131	07/22/24 05:34	08/07/24 15:52	1

Method: SW846 8015B GRO LL - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C6-C10)	<10		10	ug/L			07/24/24 17:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	79		38 - 134		07/24/24 17:49	1

Client Sample ID: TB: AIEA WELLS PUMPS 1&2 (260)

Lab Sample ID: 380-104648-4

Date Collected: 07/15/24 11:18

Matrix: Water

Date Received: 07/17/24 10:06

Method: SW846 8015B GRO LL - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C6-C10)	<10		10	ug/L			07/24/24 20:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	85		38 - 134		07/24/24 20:52	1

Action Limit Summary

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

Job ID: 380-104648-1

Client Sample ID: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-104648-1

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	<0.049		ug/L	2	0.049	525.2	Total/NA
Atrazine	<0.049		ug/L	3	0.049	525.2	Total/NA
Benzo[a]pyrene	<0.019		ug/L	0.2	0.019	525.2	Total/NA
Bis(2-ethylhexyl) phthalate	<0.58		ug/L	6	0.58	525.2	Total/NA
Di(2-ethylhexyl)adipate	<0.58		ug/L	400	0.58	525.2	Total/NA
Endrin	<0.0097		ug/L	2	0.0097	525.2	Total/NA
Heptachlor	<0.0097		ug/L	0.4	0.0097	525.2	Total/NA
Heptachlor epoxide (isomer B)	<0.0097		ug/L	0.2	0.0097	525.2	Total/NA
Hexachlorobenzene	<0.049		ug/L	1	0.049	525.2	Total/NA
Hexachlorocyclopentadiene	<0.049		ug/L	50	0.049	525.2	Total/NA
Lindane	<0.0097		ug/L	0.2	0.0097	525.2	Total/NA
Methoxychlor	<0.049		ug/L	40	0.049	525.2	Total/NA
Simazine	<0.049		ug/L	4	0.049	525.2	Total/NA
Benzo[a]pyrene	<0.19		ug/L	0.2	0.19	625.1 SIM	Total/NA

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) P2

Lab Sample ID: 380-104648-3

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	<0.048		ug/L	2	0.048	525.2	Total/NA
Atrazine	<0.048		ug/L	3	0.048	525.2	Total/NA
Benzo[a]pyrene	<0.019		ug/L	0.2	0.019	525.2	Total/NA
Bis(2-ethylhexyl) phthalate	<0.58		ug/L	6	0.58	525.2	Total/NA
Di(2-ethylhexyl)adipate	<0.58		ug/L	400	0.58	525.2	Total/NA
Endrin	<0.0096		ug/L	2	0.0096	525.2	Total/NA
Heptachlor	<0.0096		ug/L	0.4	0.0096	525.2	Total/NA
Heptachlor epoxide (isomer B)	<0.0096		ug/L	0.2	0.0096	525.2	Total/NA
Hexachlorobenzene	<0.048		ug/L	1	0.048	525.2	Total/NA
Hexachlorocyclopentadiene	<0.048		ug/L	50	0.048	525.2	Total/NA
Lindane	<0.0096		ug/L	0.2	0.0096	525.2	Total/NA
Methoxychlor	<0.048		ug/L	40	0.048	525.2	Total/NA
Simazine	<0.048		ug/L	4	0.048	525.2	Total/NA
Benzo[a]pyrene	<0.19		ug/L	0.2	0.19	625.1 SIM	Total/NA

Surrogate Summary

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

Job ID: 380-104648-1

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		2NMX (70-130)	PRY (70-130)	TPP (70-130)
380-104482-F-1-A MS	Matrix Spike	91	95	106
380-104648-1	AIEA GULCH WELLS PUMP 2	90	91	95
380-104648-1 DU	AIEA GULCH WELLS PUMP 2	92	93	103
380-104648-3	AIEA WELLS PUMPS 1&2 (260) P2	92	92	101
LCS 380-99826/23-A	Lab Control Sample	99	97	98
LCSD 380-99826/24-A	Lab Control Sample Dup	99	96	101
MB 380-99826/21-A	Method Blank	89	87	98
MRL 380-99826/22-A	Lab Control Sample	100	93	92

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

Method: 625.1 - Semivolatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)					
		TBP (33-139)	FBP (33-126)	2FP (12-120)	NBZ (36-120)	PHL6 (10-120)	TPHd14 (47-131)
380-104648-1	AIEA GULCH WELLS PUMP 2	55	79	41	68	23	72
380-104648-3	AIEA WELLS PUMPS 1&2 (260) P2	49	69	37	62	21	66
MB 570-462447/1-A	Method Blank	64	85	43	74	26	90

Surrogate Legend
 TBP = 2,4,6-Tribromophenol (Surr)
 FBP = 2-Fluorobiphenyl (Surr)
 2FP = 2-Fluorophenol (Surr)
 NBZ = Nitrobenzene-d5 (Surr)
 PHL6 = Phenol-d6 (Surr)
 TPHd14 = p-Terphenyl-d14 (Surr)

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)					
		TBP (28-127)	FBP (31-120)	2FP (17-120)	NBZ (27-120)	PHL6 (10-120)	TPHd14 (45-120)
380-104648-1	AIEA GULCH WELLS PUMP 2	76	66	43	67	28	68
380-104648-1 MS	AIEA GULCH WELLS PUMP 2	76	66	43	55	30	76
380-104648-1 MSD	AIEA GULCH WELLS PUMP 2	76	66	45	56	31	75
380-104648-3	AIEA WELLS PUMPS 1&2 (260) P2	72	60	39	62	26	65
380-104648-3 MS	AIEA WELLS PUMPS 1&2 (260) P2	71	64	45	54	31	69
380-104648-3 MSD	AIEA WELLS PUMPS 1&2 (260) P2	71	65	46	56	31	70
LCS 570-462447/2-A	Lab Control Sample	81	73	51	61	35	83
LCSD 570-462447/3-A	Lab Control Sample Dup	82	73	52	62	36	83
MB 570-462447/1-A	Method Blank	93	73	48	74	32	87

Surrogate Summary

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

Job ID: 380-104648-1

Surrogate Legend

TBP = 2,4,6-Tribromophenol (Surr)
 FBP = 2-Fluorobiphenyl (Surr)
 2FP = 2-Fluorophenol (Surr)
 NBZ = Nitrobenzene-d5 (Surr)
 PHL6 = Phenol-d6 (Surr)
 TPHd14 = p-Terphenyl-d14 (Surr)

Method: 8015B GRO LL - Gasoline Range Organics - (GC)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB1 (38-134)
380-104648-1	AIEA GULCH WELLS PUMP 2	77
380-104648-1 MS	AIEA GULCH WELLS PUMP 2	94
380-104648-1 MSD	AIEA GULCH WELLS PUMP 2	95
380-104648-2	TB: AIEA GULCH WELLS PUMF 2	82
380-104648-3	AIEA WELLS PUMPS 1&2 (260) P2	79
380-104648-3 MS	AIEA WELLS PUMPS 1&2 (260) P2	100
380-104648-3 MSD	AIEA WELLS PUMPS 1&2 (260) P2	95
380-104648-4	TB: AIEA WELLS PUMPS 1&2 (260)	85
LCS 570-463483/4	Lab Control Sample	101
LCSD 570-463483/5	Lab Control Sample Dup	97
MB 570-463483/6	Method Blank	92
MRL 570-463483/3	Lab Control Sample	90

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

QC Sample Results

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

Job ID: 380-104648-1

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

Lab Sample ID: MB 380-99826/21-A
Matrix: Water
Analysis Batch: 100060

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 99826

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	<0.099		0.099	ug/L		07/21/24 11:17	07/22/24 11:37	1
2,4'-DDD	<0.099		0.099	ug/L		07/21/24 11:17	07/22/24 11:37	1
2,4'-DDE	<0.099		0.099	ug/L		07/21/24 11:17	07/22/24 11:37	1
2,4'-DDT	<0.099		0.099	ug/L		07/21/24 11:17	07/22/24 11:37	1
2,4-Dinitrotoluene	<0.099		0.099	ug/L		07/21/24 11:17	07/22/24 11:37	1
2,6-Dinitrotoluene	<0.099		0.099	ug/L		07/21/24 11:17	07/22/24 11:37	1
2-Methylnaphthalene	<0.099		0.099	ug/L		07/21/24 11:17	07/22/24 11:37	1
4,4'-DDD	<0.099		0.099	ug/L		07/21/24 11:17	07/22/24 11:37	1
4,4'-DDE	<0.099		0.099	ug/L		07/21/24 11:17	07/22/24 11:37	1
4,4'-DDT	<0.099		0.099	ug/L		07/21/24 11:17	07/22/24 11:37	1
Acenaphthene	<0.099		0.099	ug/L		07/21/24 11:17	07/22/24 11:37	1
Acenaphthylene	<0.099		0.099	ug/L		07/21/24 11:17	07/22/24 11:37	1
Acetochlor	<0.099		0.099	ug/L		07/21/24 11:17	07/22/24 11:37	1
Alachlor	<0.050		0.050	ug/L		07/21/24 11:17	07/22/24 11:37	1
alpha-BHC	<0.099		0.099	ug/L		07/21/24 11:17	07/22/24 11:37	1
alpha-Chlordane	<0.050		0.050	ug/L		07/21/24 11:17	07/22/24 11:37	1
Anthracene	<0.020		0.020	ug/L		07/21/24 11:17	07/22/24 11:37	1
Atrazine	<0.050		0.050	ug/L		07/21/24 11:17	07/22/24 11:37	1
Benz(a)anthracene	<0.050		0.050	ug/L		07/21/24 11:17	07/22/24 11:37	1
Benzo[a]pyrene	<0.020		0.020	ug/L		07/21/24 11:17	07/22/24 11:37	1
Benzo[b]fluoranthene	<0.020		0.020	ug/L		07/21/24 11:17	07/22/24 11:37	1
Benzo[g,h,i]perylene	<0.050		0.050	ug/L		07/21/24 11:17	07/22/24 11:37	1
Benzo[k]fluoranthene	<0.020		0.020	ug/L		07/21/24 11:17	07/22/24 11:37	1
beta-BHC	<0.099		0.099	ug/L		07/21/24 11:17	07/22/24 11:37	1
Bis(2-ethylhexyl) phthalate	<0.60		0.60	ug/L		07/21/24 11:17	07/22/24 11:37	1
Bromacil	<0.099		0.099	ug/L		07/21/24 11:17	07/22/24 11:37	1
Butachlor	<0.050		0.050	ug/L		07/21/24 11:17	07/22/24 11:37	1
Butylbenzylphthalate	<0.50		0.50	ug/L		07/21/24 11:17	07/22/24 11:37	1
Chlorobenzilate	<0.099		0.099	ug/L		07/21/24 11:17	07/22/24 11:37	1
Chloroneb	<0.099		0.099	ug/L		07/21/24 11:17	07/22/24 11:37	1
Chlorothalonil (Draconil, Bravo)	<0.099		0.099	ug/L		07/21/24 11:17	07/22/24 11:37	1
Chlorpyrifos	<0.050		0.050	ug/L		07/21/24 11:17	07/22/24 11:37	1
Chrysene	<0.020		0.020	ug/L		07/21/24 11:17	07/22/24 11:37	1
delta-BHC	<0.099		0.099	ug/L		07/21/24 11:17	07/22/24 11:37	1
Di(2-ethylhexyl)adipate	<0.60		0.60	ug/L		07/21/24 11:17	07/22/24 11:37	1
Dibenz(a,h)anthracene	<0.050		0.050	ug/L		07/21/24 11:17	07/22/24 11:37	1
Diclorvos (DDVP)	<0.050		0.050	ug/L		07/21/24 11:17	07/22/24 11:37	1
Dieldrin	<0.0099		0.0099	ug/L		07/21/24 11:17	07/22/24 11:37	1
Diethylphthalate	<0.50		0.50	ug/L		07/21/24 11:17	07/22/24 11:37	1
Dimethylphthalate	<0.50		0.50	ug/L		07/21/24 11:17	07/22/24 11:37	1
Di-n-butyl phthalate	<0.99		0.99	ug/L		07/21/24 11:17	07/22/24 11:37	1
Di-n-octyl phthalate	<0.099		0.099	ug/L		07/21/24 11:17	07/22/24 11:37	1
Endosulfan I (Alpha)	<0.099		0.099	ug/L		07/21/24 11:17	07/22/24 11:37	1
Endosulfan II (Beta)	<0.099		0.099	ug/L		07/21/24 11:17	07/22/24 11:37	1
Endosulfan sulfate	<0.099		0.099	ug/L		07/21/24 11:17	07/22/24 11:37	1
Endrin	<0.0099		0.0099	ug/L		07/21/24 11:17	07/22/24 11:37	1
Endrin aldehyde	<0.099		0.099	ug/L		07/21/24 11:17	07/22/24 11:37	1
EPTC	<0.099		0.099	ug/L		07/21/24 11:17	07/22/24 11:37	1

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QC Sample Results

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

Job ID: 380-104648-1

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

Lab Sample ID: MB 380-99826/21-A
Matrix: Water
Analysis Batch: 100060

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 99826

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoranthene	<0.099		0.099	ug/L		07/21/24 11:17	07/22/24 11:37	1
Fluorene	<0.050		0.050	ug/L		07/21/24 11:17	07/22/24 11:37	1
gamma-Chlordane	<0.050		0.050	ug/L		07/21/24 11:17	07/22/24 11:37	1
Heptachlor	<0.0099		0.0099	ug/L		07/21/24 11:17	07/22/24 11:37	1
Heptachlor epoxide (isomer B)	<0.0099		0.0099	ug/L		07/21/24 11:17	07/22/24 11:37	1
Hexachlorobenzene	<0.050		0.050	ug/L		07/21/24 11:17	07/22/24 11:37	1
Hexachlorocyclopentadiene	<0.050		0.050	ug/L		07/21/24 11:17	07/22/24 11:37	1
Indeno[1,2,3-cd]pyrene	<0.050		0.050	ug/L		07/21/24 11:17	07/22/24 11:37	1
Isophorone	<0.099		0.099	ug/L		07/21/24 11:17	07/22/24 11:37	1
Lindane	<0.0099		0.0099	ug/L		07/21/24 11:17	07/22/24 11:37	1
Malathion	<0.099		0.099	ug/L		07/21/24 11:17	07/22/24 11:37	1
Methoxychlor	<0.050		0.050	ug/L		07/21/24 11:17	07/22/24 11:37	1
Metolachlor	<0.050		0.050	ug/L		07/21/24 11:17	07/22/24 11:37	1
Molinate	<0.099		0.099	ug/L		07/21/24 11:17	07/22/24 11:37	1
Naphthalene	<0.099		0.099	ug/L		07/21/24 11:17	07/22/24 11:37	1
Parathion	<0.099		0.099	ug/L		07/21/24 11:17	07/22/24 11:37	1
Pendimethalin (Penoxaline)	<0.099		0.099	ug/L		07/21/24 11:17	07/22/24 11:37	1
Phenanthrene	<0.040		0.040	ug/L		07/21/24 11:17	07/22/24 11:37	1
Propachlor	<0.050		0.050	ug/L		07/21/24 11:17	07/22/24 11:37	1
Pyrene	<0.050		0.050	ug/L		07/21/24 11:17	07/22/24 11:37	1
Simazine	<0.050		0.050	ug/L		07/21/24 11:17	07/22/24 11:37	1
Terbacil	<0.099		0.099	ug/L		07/21/24 11:17	07/22/24 11:37	1
Terbutylazine	<0.099		0.099	ug/L		07/21/24 11:17	07/22/24 11:37	1
Thiobencarb	<0.099		0.099	ug/L		07/21/24 11:17	07/22/24 11:37	1
Total Permethrin (mixed isomers)	<0.20		0.20	ug/L		07/21/24 11:17	07/22/24 11:37	1
trans-Nonachlor	<0.050		0.050	ug/L		07/21/24 11:17	07/22/24 11:37	1
Trifluralin	<0.099		0.099	ug/L		07/21/24 11:17	07/22/24 11:37	1

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	0.611	T J	ug/L		2.31	N/A	07/21/24 11:17	07/22/24 11:37	1
Unknown	0.579	T J	ug/L		2.40	N/A	07/21/24 11:17	07/22/24 11:37	1
Decane	1.89	T J N	ug/L		2.51	124-18-5	07/21/24 11:17	07/22/24 11:37	1
Unknown	1.33	T J	ug/L		11.45	N/A	07/21/24 11:17	07/22/24 11:37	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Nitro-m-xylene	89		70 - 130	07/21/24 11:17	07/22/24 11:37	1
Perylene-d12	87		70 - 130	07/21/24 11:17	07/22/24 11:37	1
Triphenylphosphate	98		70 - 130	07/21/24 11:17	07/22/24 11:37	1

Lab Sample ID: LCS 380-99826/23-A
Matrix: Water
Analysis Batch: 100076

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 99826

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1-Methylnaphthalene	1.98	1.65		ug/L		83	70 - 130
2,4'-DDD	1.98	1.64		ug/L		83	70 - 130
2,4'-DDE	1.98	1.60		ug/L		81	70 - 130
2,4'-DDT	1.98	1.78		ug/L		90	70 - 130

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QC Sample Results

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

Job ID: 380-104648-1

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

Lab Sample ID: LCS 380-99826/23-A
Matrix: Water
Analysis Batch: 100076

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 99826

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2,4-Dinitrotoluene	1.98	1.45		ug/L		73	70 - 130
2,6-Dinitrotoluene	1.98	1.48		ug/L		74	70 - 130
2-Methylnaphthalene	1.98	1.73		ug/L		87	70 - 130
4,4'-DDD	1.98	1.70		ug/L		86	70 - 130
4,4'-DDE	1.98	1.59		ug/L		80	70 - 130
4,4'-DDT	1.98	1.62		ug/L		82	70 - 130
Acenaphthene	1.98	1.60		ug/L		81	70 - 130
Acenaphthylene	1.98	1.58		ug/L		80	70 - 130
Acetochlor	1.98	1.91		ug/L		96	70 - 130
Alachlor	1.98	1.82		ug/L		92	70 - 130
alpha-BHC	1.98	1.70		ug/L		86	70 - 130
alpha-Chlordane	1.98	1.83		ug/L		92	70 - 130
Anthracene	1.98	1.67		ug/L		84	70 - 130
Atrazine	1.98	1.66		ug/L		84	70 - 130
Benz(a)anthracene	1.98	1.62		ug/L		82	70 - 130
Benzo[a]pyrene	1.98	1.83		ug/L		92	70 - 130
Benzo[b]fluoranthene	1.98	1.79		ug/L		90	70 - 130
Benzo[g,h,i]perylene	1.98	1.93		ug/L		97	70 - 130
Benzo[k]fluoranthene	1.98	1.86		ug/L		94	70 - 130
beta-BHC	1.98	1.68		ug/L		85	70 - 130
Bis(2-ethylhexyl) phthalate	1.98	2.15		ug/L		109	70 - 130
Bromacil	1.98	1.51		ug/L		76	70 - 130
Butachlor	1.98	1.78		ug/L		90	70 - 130
Butylbenzylphthalate	1.98	1.75		ug/L		88	70 - 130
Chlorobenzilate	1.98	1.63		ug/L		82	70 - 130
Chloroneb	1.98	1.61		ug/L		81	70 - 130
Chlorothalonil (Draconil, Bravo)	1.98	1.52		ug/L		77	70 - 130
Chlorpyrifos	1.98	1.76		ug/L		89	70 - 130
Chrysene	1.98	1.71		ug/L		86	70 - 130
delta-BHC	1.98	1.75		ug/L		88	70 - 130
Di(2-ethylhexyl)adipate	1.98	1.90		ug/L		96	70 - 130
Dibenz(a,h)anthracene	1.98	1.97		ug/L		99	70 - 130
Diclorvos (DDVP)	1.98	1.75		ug/L		88	70 - 130
Dieldrin	1.98	1.60		ug/L		81	70 - 130
Diethylphthalate	1.98	1.76		ug/L		89	70 - 130
Dimethylphthalate	1.98	1.82		ug/L		92	70 - 130
Di-n-butyl phthalate	3.96	3.48		ug/L		88	70 - 130
Di-n-octyl phthalate	1.98	1.91		ug/L		97	70 - 130
Endosulfan I (Alpha)	1.98	1.74		ug/L		88	70 - 130
Endosulfan II (Beta)	1.98	1.82		ug/L		92	70 - 130
Endosulfan sulfate	1.98	1.66		ug/L		84	70 - 130
Endrin	1.98	1.56		ug/L		79	70 - 130
Endrin aldehyde	1.98	1.19		ug/L		60	60 - 130
EPTC	1.98	1.82		ug/L		92	70 - 130
Fluoranthene	1.98	1.72		ug/L		87	70 - 130
Fluorene	1.98	1.69		ug/L		85	70 - 130
gamma-Chlordane	1.98	1.86		ug/L		94	70 - 130
Heptachlor	1.98	1.74		ug/L		88	70 - 130
Heptachlor epoxide (isomer B)	1.98	1.83		ug/L		92	70 - 130

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QC Sample Results

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

Job ID: 380-104648-1

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

Lab Sample ID: LCS 380-99826/23-A
Matrix: Water
Analysis Batch: 100076

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 99826

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Hexachlorobenzene	1.98	1.43		ug/L		72	70 - 130
Hexachlorocyclopentadiene	1.98	1.52		ug/L		77	70 - 130
Indeno[1,2,3-cd]pyrene	1.98	2.01		ug/L		101	70 - 130
Isophorone	1.98	1.80		ug/L		91	70 - 130
Lindane	1.98	1.67		ug/L		84	70 - 130
Malathion	1.98	1.76		ug/L		89	70 - 130
Methoxychlor	1.98	1.73		ug/L		87	70 - 130
Metolachlor	1.98	1.90		ug/L		96	70 - 130
Molinate	1.98	1.85		ug/L		93	70 - 130
Naphthalene	1.98	1.70		ug/L		86	70 - 130
Parathion	1.98	1.84		ug/L		93	70 - 130
Pendimethalin (Penoxaline)	1.98	1.53		ug/L		77	70 - 130
Phenanthrene	1.98	1.60		ug/L		81	70 - 130
Propachlor	1.98	1.68		ug/L		85	70 - 130
Pyrene	1.98	1.68		ug/L		85	70 - 130
Simazine	1.98	1.80		ug/L		91	70 - 130
Terbacil	1.98	1.82		ug/L		92	70 - 130
Terbutylazine	1.98	1.83		ug/L		92	70 - 130
Thiobencarb	1.98	1.83		ug/L		92	70 - 130
trans-Nonachlor	1.98	1.82		ug/L		92	70 - 130
Trifluralin	1.98	1.45		ug/L		73	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Nitro-m-xylene	99		70 - 130
Perylene-d12	97		70 - 130
Triphenylphosphate	98		70 - 130

Lab Sample ID: LCSD 380-99826/24-A
Matrix: Water
Analysis Batch: 100076

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 99826

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1-Methylnaphthalene	1.98	1.92		ug/L		97	70 - 130	15	20
2,4'-DDD	1.98	1.90		ug/L		96	70 - 130	15	20
2,4'-DDE	1.98	1.81		ug/L		91	70 - 130	12	20
2,4'-DDT	1.98	1.98		ug/L		100	70 - 130	11	20
2,4-Dinitrotoluene	1.98	1.72		ug/L		87	70 - 130	17	20
2,6-Dinitrotoluene	1.98	1.76		ug/L		89	70 - 130	18	20
2-Methylnaphthalene	1.98	2.02		ug/L		102	70 - 130	15	20
4,4'-DDD	1.98	1.99		ug/L		101	70 - 130	16	20
4,4'-DDE	1.98	1.81		ug/L		92	70 - 130	13	20
4,4'-DDT	1.98	1.82		ug/L		92	70 - 130	12	20
Acenaphthene	1.98	1.80		ug/L		91	70 - 130	12	20
Acenaphthylene	1.98	1.97	*1	ug/L		99	70 - 130	22	20
Acetochlor	1.98	2.19		ug/L		110	70 - 130	14	20
Alachlor	1.98	2.06		ug/L		104	70 - 130	13	20
alpha-BHC	1.98	1.94		ug/L		98	70 - 130	13	20
alpha-Chlordane	1.98	2.10		ug/L		106	70 - 130	14	20

QC Sample Results

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

Job ID: 380-104648-1

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

Lab Sample ID: LCSD 380-99826/24-A

Matrix: Water

Analysis Batch: 100076

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 99826

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	RPD Limit
							Limits	RPD		
Anthracene	1.98	2.06	*1	ug/L		104	70 - 130	21	20	
Atrazine	1.98	1.92		ug/L		97	70 - 130	15	20	
Benz(a)anthracene	1.98	1.91		ug/L		96	70 - 130	16	20	
Benzo[a]pyrene	1.98	2.13		ug/L		108	70 - 130	15	20	
Benzo[b]fluoranthene	1.98	2.03		ug/L		103	70 - 130	13	20	
Benzo[g,h,i]perylene	1.98	2.03		ug/L		103	70 - 130	5	20	
Benzo[k]fluoranthene	1.98	2.14		ug/L		108	70 - 130	14	20	
beta-BHC	1.98	1.95		ug/L		99	70 - 130	15	20	
Bis(2-ethylhexyl) phthalate	1.98	2.17		ug/L		109	70 - 130	1	20	
Bromacil	1.98	1.86	*1	ug/L		94	70 - 130	21	20	
Butachlor	1.98	2.09		ug/L		105	70 - 130	16	20	
Butylbenzylphthalate	1.98	2.07		ug/L		105	70 - 130	17	20	
Chlorobenzilate	1.98	2.02	*1	ug/L		102	70 - 130	22	20	
Chloroneb	1.98	1.89		ug/L		95	70 - 130	16	20	
Chlorothalonil (Draconil, Bravo)	1.98	1.86		ug/L		94	70 - 130	20	20	
Chlorpyrifos	1.98	1.98		ug/L		100	70 - 130	12	20	
Chrysene	1.98	1.98		ug/L		100	70 - 130	15	20	
delta-BHC	1.98	2.04		ug/L		103	70 - 130	15	20	
Di(2-ethylhexyl)adipate	1.98	1.99		ug/L		101	70 - 130	5	20	
Dibenz(a,h)anthracene	1.98	1.95		ug/L		98	70 - 130	1	20	
Diclorvos (DDVP)	1.98	2.02		ug/L		102	70 - 130	14	20	
Dieldrin	1.98	1.85		ug/L		93	70 - 130	15	20	
Diethylphthalate	1.98	1.99		ug/L		101	70 - 130	13	20	
Dimethylphthalate	1.98	2.09		ug/L		106	70 - 130	14	20	
Di-n-butyl phthalate	3.96	3.96		ug/L		100	70 - 130	13	20	
Di-n-octyl phthalate	1.98	1.91		ug/L		97	70 - 130	0	20	
Endosulfan I (Alpha)	1.98	2.04		ug/L		103	70 - 130	15	20	
Endosulfan II (Beta)	1.98	2.08		ug/L		105	70 - 130	13	20	
Endosulfan sulfate	1.98	1.91		ug/L		97	70 - 130	14	20	
Endrin	1.98	1.72		ug/L		87	70 - 130	10	20	
Endrin aldehyde	1.98	1.23		ug/L		62	60 - 130	3	20	
EPTC	1.98	2.08		ug/L		105	70 - 130	13	20	
Fluoranthene	1.98	2.06		ug/L		104	70 - 130	18	20	
Fluorene	1.98	1.95		ug/L		99	70 - 130	15	20	
gamma-Chlordane	1.98	2.16		ug/L		109	70 - 130	15	20	
Heptachlor	1.98	1.94		ug/L		98	70 - 130	11	20	
Heptachlor epoxide (isomer B)	1.98	2.13		ug/L		107	70 - 130	15	20	
Hexachlorobenzene	1.98	1.73		ug/L		87	70 - 130	19	20	
Hexachlorocyclopentadiene	1.98	1.80		ug/L		91	70 - 130	17	20	
Indeno[1,2,3-cd]pyrene	1.98	2.08		ug/L		105	70 - 130	4	20	
Isophorone	1.98	2.04		ug/L		103	70 - 130	13	20	
Lindane	1.98	1.92		ug/L		97	70 - 130	14	20	
Malathion	1.98	2.03		ug/L		103	70 - 130	14	20	
Methoxychlor	1.98	1.99		ug/L		101	70 - 130	14	20	
Metolachlor	1.98	2.26		ug/L		114	70 - 130	17	20	
Molinate	1.98	2.11		ug/L		107	70 - 130	13	20	
Naphthalene	1.98	1.88		ug/L		95	70 - 130	10	20	
Parathion	1.98	2.18		ug/L		110	70 - 130	17	20	
Pendimethalin (Penoxaline)	1.98	1.80		ug/L		91	70 - 130	16	20	

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-104648-1

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

Lab Sample ID: LCSD 380-99826/24-A
Matrix: Water
Analysis Batch: 100076

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 99826

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
							Limits	RPD		
Phenanthrene	1.98	1.86		ug/L		94	70 - 130	15	20	
Propachlor	1.98	1.95		ug/L		98	70 - 130	14	20	
Pyrene	1.98	2.01		ug/L		102	70 - 130	18	20	
Simazine	1.98	2.07		ug/L		105	70 - 130	14	20	
Terbacil	1.98	2.20		ug/L		111	70 - 130	19	20	
Terbutylazine	1.98	2.09		ug/L		106	70 - 130	14	20	
Thiobencarb	1.98	2.11		ug/L		107	70 - 130	14	20	
trans-Nonachlor	1.98	1.95		ug/L		98	70 - 130	7	20	
Trifluralin	1.98	1.70		ug/L		86	70 - 130	16	20	

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
2-Nitro-m-xylene	99		70 - 130
Perylene-d12	96		70 - 130
Triphenylphosphate	101		70 - 130

Lab Sample ID: MRL 380-99826/22-A
Matrix: Water
Analysis Batch: 100076

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 99826

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec	
							Limits	RPD
1-Methylnaphthalene	0.0992	0.110		ug/L		111	50 - 150	
2,4'-DDD	0.0992	0.103		ug/L		104	50 - 150	
2,4'-DDE	0.0992	0.103		ug/L		104	50 - 150	
2,4'-DDT	0.0992	0.101		ug/L		102	50 - 150	
2,4-Dinitrotoluene	0.0992	0.102		ug/L		103	50 - 150	
2,6-Dinitrotoluene	0.0992	0.102		ug/L		103	50 - 150	
2-Methylnaphthalene	0.0992	0.104		ug/L		105	50 - 150	
4,4'-DDD	0.0992	0.102		ug/L		103	50 - 150	
4,4'-DDE	0.0992	0.0909	J	ug/L		92	50 - 150	
4,4'-DDT	0.0992	0.0956	J	ug/L		96	50 - 150	
Acenaphthene	0.0992	0.0929	J	ug/L		94	50 - 150	
Acenaphthylene	0.0992	0.0794	J	ug/L		80	50 - 150	
Acetochlor	0.0992	0.117		ug/L		118	50 - 150	
Alachlor	0.0496	0.0620		ug/L		125	50 - 150	
alpha-BHC	0.0992	0.104		ug/L		105	50 - 150	
alpha-Chlordane	0.0248	<0.029		ug/L		83	50 - 150	
Anthracene	0.0198	0.0198	J	ug/L		100	50 - 150	
Atrazine	0.0496	<0.048		ug/L		96	50 - 150	
Benz(a)anthracene	0.0496	0.0534		ug/L		108	50 - 150	
Benzo[a]pyrene	0.0198	0.0188	J	ug/L		95	50 - 150	
Benzo[b]fluoranthene	0.0198	0.0195	J	ug/L		98	50 - 150	
Benzo[g,h,i]perylene	0.0496	0.0469	J	ug/L		95	50 - 150	
Benzo[k]fluoranthene	0.0198	0.0207		ug/L		105	50 - 150	
beta-BHC	0.0992	0.112		ug/L		112	50 - 150	
Bis(2-ethylhexyl) phthalate	0.595	0.618		ug/L		104	50 - 150	
Bromacil	0.0992	0.100		ug/L		101	50 - 150	
Butachlor	0.0496	0.0534		ug/L		108	50 - 150	
Butylbenzylphthalate	0.496	0.483	J	ug/L		97	50 - 150	

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-104648-1

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

Lab Sample ID: MRL 380-99826/22-A
Matrix: Water
Analysis Batch: 100076

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 99826

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Chlorobenzilate	0.0992	0.0922	J	ug/L		93	50 - 150
Chloroneb	0.0992	0.117		ug/L		118	50 - 150
Chlorothalonil (Draconil, Bravo)	0.0992	0.106		ug/L		107	50 - 150
Chlorpyrifos	0.0496	0.0526		ug/L		106	50 - 150
Chrysene	0.0198	0.0215		ug/L		108	50 - 150
delta-BHC	0.0992	0.0970	J	ug/L		98	50 - 150
Di(2-ethylhexyl)adipate	0.595	0.608		ug/L		102	50 - 150
Dibenz(a,h)anthracene	0.0496	0.0561		ug/L		113	50 - 150
Diclorvos (DDVP)	0.0496	0.0524		ug/L		106	50 - 150
Dieldrin	0.00992	0.0137		ug/L		138	50 - 150
Diethylphthalate	0.496	0.522		ug/L		105	50 - 150
Dimethylphthalate	0.496	0.532		ug/L		107	50 - 150
Di-n-butyl phthalate	0.496	0.473	J	ug/L		95	49 - 243
Di-n-octyl phthalate	0.0992	0.104		ug/L		105	50 - 150
Endosulfan I (Alpha)	0.0992	0.0880	J	ug/L		89	50 - 150
Endosulfan II (Beta)	0.0992	0.144		ug/L		145	50 - 150
Endosulfan sulfate	0.0992	0.0986	J	ug/L		99	50 - 150
Endrin	0.00992	0.0107		ug/L		108	50 - 150
Endrin aldehyde	0.0992	0.0930	J	ug/L		94	50 - 150
EPTC	0.0992	0.0968	J	ug/L		98	50 - 150
Fluoranthene	0.0992	0.0945	J	ug/L		95	50 - 150
Fluorene	0.0496	<0.050		ug/L		98	50 - 150
gamma-Chlordane	0.0248	0.0211	J	ug/L		85	50 - 150
Heptachlor	0.00992	0.0110		ug/L		111	50 - 150
Heptachlor epoxide (isomer B)	0.00992	0.0127		ug/L		128	50 - 150
Hexachlorobenzene	0.0496	0.0467	J	ug/L		94	50 - 150
Hexachlorocyclopentadiene	0.0496	0.0470	J	ug/L		95	50 - 150
Indeno[1,2,3-cd]pyrene	0.0496	0.0562		ug/L		113	50 - 150
Isophorone	0.0992	0.121		ug/L		122	50 - 150
Lindane	0.00992	0.0119		ug/L		120	50 - 150
Malathion	0.0992	0.104		ug/L		105	50 - 150
Methoxychlor	0.0496	0.0600		ug/L		121	50 - 150
Metolachlor	0.0496	0.0580		ug/L		117	50 - 150
Molinate	0.0992	0.106		ug/L		107	50 - 150
Naphthalene	0.0992	0.105		ug/L		105	50 - 150
Parathion	0.0992	0.109		ug/L		110	50 - 150
Pendimethalin (Penoxaline)	0.0992	0.106		ug/L		107	50 - 150
Phenanthrene	0.0397	0.0387	J	ug/L		98	50 - 150
Propachlor	0.0496	0.0572		ug/L		115	50 - 150
Pyrene	0.0496	0.0477	J	ug/L		96	50 - 150
Simazine	0.0496	0.0469	J	ug/L		95	50 - 150
Terbacil	0.0992	0.106		ug/L		107	50 - 150
Terbutylazine	0.0992	0.105		ug/L		105	50 - 150
Thiobencarb	0.0992	0.105		ug/L		106	50 - 150
trans-Nonachlor	0.0248	<0.026		ug/L		90	50 - 150
Trifluralin	0.0992	0.106		ug/L		107	50 - 150

QC Sample Results

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

Job ID: 380-104648-1

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

Lab Sample ID: MRL 380-99826/22-A
Matrix: Water
Analysis Batch: 100076

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 99826

Surrogate	MRL %Recovery	MRL Qualifier	Limits
2-Nitro-m-xylene	100		70 - 130
Perylene-d12	93		70 - 130
Triphenylphosphate	92		70 - 130

Lab Sample ID: 380-104482-F-1-A MS
Matrix: Water
Analysis Batch: 100060

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 99826

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1-Methylnaphthalene	<0.097		1.94	1.86		ug/L		96	70 - 130
2,4'-DDD	<0.097		1.94	1.98		ug/L		102	70 - 130
2,4'-DDE	<0.097		1.94	1.72		ug/L		89	70 - 130
2,4'-DDT	<0.097		1.94	2.05		ug/L		106	70 - 130
2,4-Dinitrotoluene	<0.097		1.94	1.77		ug/L		91	70 - 130
2,6-Dinitrotoluene	<0.097		1.94	1.87		ug/L		96	70 - 130
2-Methylnaphthalene	<0.097		1.94	1.86		ug/L		96	70 - 130
4,4'-DDD	<0.097		1.94	2.08		ug/L		107	70 - 130
4,4'-DDE	<0.097		1.94	2.03		ug/L		105	70 - 130
4,4'-DDT	<0.097		1.94	1.89		ug/L		98	70 - 130
Acenaphthene	<0.097		1.94	2.05		ug/L		106	70 - 130
Acenaphthylene	<0.097	*1	1.94	1.91		ug/L		99	70 - 130
Acetochlor	<0.097		1.94	2.15		ug/L		111	70 - 130
Alachlor	<0.049		1.94	2.20		ug/L		114	70 - 130
alpha-BHC	<0.097		1.94	1.82		ug/L		94	70 - 130
alpha-Chlordane	<0.049		1.94	2.15		ug/L		110	70 - 130
Anthracene	<0.019	*1 F1	1.94	1.18	F1	ug/L		61	70 - 130
Atrazine	<0.049		1.94	1.83		ug/L		95	70 - 130
Benz(a)anthracene	<0.049		1.94	1.80		ug/L		93	70 - 130
Benzo[a]pyrene	<0.019		1.94	1.72		ug/L		89	70 - 130
Benzo[b]fluoranthene	<0.019		1.94	1.96		ug/L		101	70 - 130
Benzo[g,h,i]perylene	<0.049		1.94	1.99		ug/L		102	70 - 130
Benzo[k]fluoranthene	<0.019		1.94	2.02		ug/L		104	70 - 130
beta-BHC	<0.097		1.94	1.70		ug/L		88	70 - 130
Bis(2-ethylhexyl) phthalate	<0.58		1.94	1.92		ug/L		99	70 - 130
Bromacil	<0.097	*1	1.94	2.10		ug/L		108	70 - 130
Butachlor	<0.049		1.94	2.10		ug/L		108	70 - 130
Butylbenzylphthalate	<0.49		1.94	2.09		ug/L		108	70 - 130
Chlorobenzilate	<0.097	*1	1.94	1.61		ug/L		83	70 - 130
Chloroneb	<0.097		1.94	1.83		ug/L		95	70 - 130
Chlorothalonil (Draconil, Bravo)	<0.097		1.94	1.75		ug/L		90	70 - 130
Chlorpyrifos	<0.049		1.94	1.96		ug/L		101	70 - 130
Chrysene	<0.019		1.94	2.08		ug/L		107	70 - 130
delta-BHC	<0.097		1.94	1.92		ug/L		99	70 - 130
Di(2-ethylhexyl)adipate	<0.58		1.94	2.16		ug/L		111	70 - 130
Dibenz(a,h)anthracene	<0.049		1.94	1.89		ug/L		98	70 - 130
Diclorvos (DDVP)	<0.049		1.94	2.04		ug/L		105	70 - 130
Dieldrin	0.024		1.94	1.69		ug/L		86	70 - 130
Diethylphthalate	<0.49		1.94	2.01		ug/L		103	70 - 130

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QC Sample Results

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

Job ID: 380-104648-1

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

Lab Sample ID: 380-104482-F-1-A MS
Matrix: Water
Analysis Batch: 100060

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 99826

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec
	Result	Qualifier	Added	Result	Qualifier				
Dimethylphthalate	<0.49		1.94	2.07		ug/L		107	70 - 130
Di-n-butyl phthalate	<0.97		3.88	4.03		ug/L		104	70 - 130
Di-n-octyl phthalate	<0.097		1.94	1.76		ug/L		91	70 - 130
Endosulfan I (Alpha)	<0.097		1.94	1.85		ug/L		95	70 - 130
Endosulfan II (Beta)	<0.097		1.94	2.08		ug/L		107	70 - 130
Endosulfan sulfate	<0.097		1.94	1.82		ug/L		94	70 - 130
Endrin	<0.0097		1.94	1.90		ug/L		98	70 - 130
Endrin aldehyde	<0.097		1.94	1.62		ug/L		84	60 - 130
EPTC	<0.097		1.94	2.00		ug/L		103	70 - 130
Fluoranthene	<0.097		1.94	1.92		ug/L		99	70 - 130
Fluorene	<0.049		1.94	1.94		ug/L		100	70 - 130
gamma-Chlordane	<0.049		1.94	2.16		ug/L		110	70 - 130
Heptachlor	<0.0097		1.94	1.89		ug/L		98	70 - 130
Heptachlor epoxide (isomer B)	<0.0097		1.94	2.30		ug/L		118	70 - 130
Hexachlorobenzene	<0.049		1.94	1.77		ug/L		91	70 - 130
Hexachlorocyclopentadiene	<0.049		1.94	1.51		ug/L		78	70 - 130
Indeno[1,2,3-cd]pyrene	<0.049		1.94	1.95		ug/L		100	70 - 130
Isophorone	<0.097		1.94	1.80		ug/L		93	70 - 130
Lindane	<0.0097		1.94	1.71		ug/L		88	70 - 130
Malathion	<0.097		1.94	2.05		ug/L		106	70 - 130
Methoxychlor	<0.049		1.94	2.12		ug/L		109	70 - 130
Metolachlor	<0.049		1.94	2.36		ug/L		122	70 - 130
Molinate	<0.097		1.94	1.98		ug/L		102	70 - 130
Naphthalene	<0.097		1.94	1.52		ug/L		79	70 - 130
Parathion	<0.097		1.94	2.32		ug/L		119	70 - 130
Pendimethalin (Penoxaline)	<0.097		1.94	1.80		ug/L		93	70 - 130
Phenanthrene	<0.039		1.94	1.76		ug/L		91	70 - 130
Propachlor	<0.049		1.94	1.84		ug/L		95	70 - 130
Pyrene	<0.049		1.94	1.83		ug/L		94	70 - 130
Simazine	<0.049		1.94	1.72		ug/L		89	70 - 130
Terbacil	<0.097		1.94	2.10		ug/L		108	70 - 130
Terbutylazine	<0.097		1.94	1.78		ug/L		92	70 - 130
Thiobencarb	<0.097		1.94	1.93		ug/L		100	70 - 130
trans-Nonachlor	<0.049		1.94	1.90		ug/L		97	70 - 130
Trifluralin	<0.097		1.94	1.60		ug/L		83	70 - 130

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
2-Nitro-m-xylene	91		70 - 130
Perylene-d12	95		70 - 130
Triphenylphosphate	106		70 - 130

Lab Sample ID: 380-104648-1 DU
Matrix: Water
Analysis Batch: 100060

Client Sample ID: AIEA GULCH WELLS PUMP 2
Prep Type: Total/NA
Prep Batch: 99826

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	RPD	Limit
	Result	Qualifier	Result	Qualifier					
1-Methylnaphthalene	<0.097		<0.098		ug/L		NC	20	
2,4'-DDD	<0.097		<0.098		ug/L		NC	20	

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QC Sample Results

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

Job ID: 380-104648-1

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

Lab Sample ID: 380-104648-1 DU

Client Sample ID: AIEA GULCH WELLS PUMP 2

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 100060

Prep Batch: 99826

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
2,4'-DDE	<0.097		<0.098		ug/L		NC	20
2,4'-DDT	<0.097		<0.098		ug/L		NC	20
2,4-Dinitrotoluene	<0.097		<0.098		ug/L		NC	20
2,6-Dinitrotoluene	<0.097		<0.098		ug/L		NC	20
2-Methylnaphthalene	<0.097		<0.098		ug/L		NC	20
4,4'-DDD	<0.097		<0.098		ug/L		NC	20
4,4'-DDE	<0.097		<0.098		ug/L		NC	20
4,4'-DDT	<0.097		<0.098		ug/L		NC	20
Acenaphthene	<0.097		<0.098		ug/L		NC	20
Acenaphthylene	<0.097	*1	<0.098	*1	ug/L		NC	20
Acetochlor	<0.097		<0.098		ug/L		NC	20
Alachlor	<0.049		<0.049		ug/L		NC	20
alpha-BHC	<0.097		<0.098		ug/L		NC	20
alpha-Chlordane	<0.049		<0.049		ug/L		NC	20
Anthracene	<0.019	*1	<0.020	*1	ug/L		NC	20
Atrazine	<0.049		<0.049		ug/L		NC	20
Benz(a)anthracene	<0.049		<0.049		ug/L		NC	20
Benzo[a]pyrene	<0.019		<0.020		ug/L		NC	20
Benzo[b]fluoranthene	<0.019		<0.020		ug/L		NC	20
Benzo[g,h,i]perylene	<0.049		<0.049		ug/L		NC	20
Benzo[k]fluoranthene	<0.019		<0.020		ug/L		NC	20
beta-BHC	<0.097		<0.098		ug/L		NC	20
Bis(2-ethylhexyl) phthalate	<0.58		<0.59		ug/L		NC	20
Bromacil	<0.097	*1	<0.098	*1	ug/L		NC	20
Butachlor	<0.049		<0.049		ug/L		NC	20
Butylbenzylphthalate	<0.49		<0.49		ug/L		NC	20
Chlorobenzilate	<0.097	*1	<0.098	*1	ug/L		NC	20
Chloroneb	<0.097		<0.098		ug/L		NC	20
Chlorothalonil (Draconil, Bravo)	<0.097		<0.098		ug/L		NC	20
Chlorpyrifos	<0.049		<0.049		ug/L		NC	20
Chrysene	<0.019		<0.020		ug/L		NC	20
delta-BHC	<0.097		<0.098		ug/L		NC	20
Di(2-ethylhexyl)adipate	<0.58		<0.59		ug/L		NC	20
Dibenz(a,h)anthracene	<0.049		<0.049		ug/L		NC	20
Diclorvos (DDVP)	<0.049		<0.049		ug/L		NC	20
Dieldrin	<0.0097		<0.0098		ug/L		NC	20
Diethylphthalate	<0.49		<0.49		ug/L		NC	20
Dimethylphthalate	<0.49		<0.49		ug/L		NC	20
Di-n-butyl phthalate	<0.97		<0.98		ug/L		NC	20
Di-n-octyl phthalate	<0.097		<0.098		ug/L		NC	20
Endosulfan I (Alpha)	<0.097		<0.098		ug/L		NC	20
Endosulfan II (Beta)	<0.097		<0.098		ug/L		NC	20
Endosulfan sulfate	<0.097		<0.098		ug/L		NC	20
Endrin	<0.0097		<0.0098		ug/L		NC	20
Endrin aldehyde	<0.097		<0.098		ug/L		NC	20
EPTC	<0.097		<0.098		ug/L		NC	20
Fluoranthene	<0.097		<0.098		ug/L		NC	20
Fluorene	<0.049		<0.049		ug/L		NC	20
gamma-Chlordane	<0.049		<0.049		ug/L		NC	20

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-104648-1

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

Lab Sample ID: 380-104648-1 DU
Matrix: Water
Analysis Batch: 100060

Client Sample ID: AIEA GULCH WELLS PUMP 2
Prep Type: Total/NA
Prep Batch: 99826

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
Heptachlor	<0.0097		<0.0098		ug/L		NC	20
Heptachlor epoxide (isomer B)	<0.0097		<0.0098		ug/L		NC	20
Hexachlorobenzene	<0.049		<0.049		ug/L		NC	20
Hexachlorocyclopentadiene	<0.049		<0.049		ug/L		NC	20
Indeno[1,2,3-cd]pyrene	<0.049		<0.049		ug/L		NC	20
Isophorone	<0.097		<0.098		ug/L		NC	20
Lindane	<0.0097		<0.0098		ug/L		NC	20
Malathion	<0.097		<0.098		ug/L		NC	20
Methoxychlor	<0.049		<0.049		ug/L		NC	20
Metolachlor	<0.049		<0.049		ug/L		NC	20
Molinate	<0.097		<0.098		ug/L		NC	20
Naphthalene	<0.097		<0.098		ug/L		NC	20
Parathion	<0.097		<0.098		ug/L		NC	20
Pendimethalin (Penoxaline)	<0.097		<0.098		ug/L		NC	20
Phenanthrene	<0.039		<0.039		ug/L		NC	20
Propachlor	<0.049		<0.049		ug/L		NC	20
Pyrene	<0.049		<0.049		ug/L		NC	20
Simazine	<0.049		<0.049		ug/L		NC	20
Terbacil	<0.097		<0.098		ug/L		NC	20
Terbutylazine	<0.097		<0.098		ug/L		NC	20
Thiobencarb	<0.097		<0.098		ug/L		NC	20
Total Permethrin (mixed isomers)	<0.19		<0.20		ug/L		NC	20
trans-Nonachlor	<0.049		<0.049		ug/L		NC	20
Trifluralin	<0.097		<0.098		ug/L		NC	20

Surrogate	DU	DU	Limits
	%Recovery	Qualifier	
2-Nitro-m-xylene	92		70 - 130
Perylene-d12	93		70 - 130
Triphenylphosphate	103		70 - 130

Method: 625.1 - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 570-462447/1-A
Matrix: Water
Analysis Batch: 468361

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 462447

Tentatively Identified Compound	MB	MB	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
	Est. Result	Qualifier							
Tentatively Identified Compound	None		ug/L			N/A	07/22/24 05:34	08/07/24 15:04	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
2,4,6-Tribromophenol (Surr)	64		33 - 139	07/22/24 05:34	08/07/24 15:04	1
2-Fluorobiphenyl (Surr)	85		33 - 126	07/22/24 05:34	08/07/24 15:04	1
2-Fluorophenol (Surr)	43		12 - 120	07/22/24 05:34	08/07/24 15:04	1
Nitrobenzene-d5 (Surr)	74		36 - 120	07/22/24 05:34	08/07/24 15:04	1
Phenol-d6 (Surr)	26		10 - 120	07/22/24 05:34	08/07/24 15:04	1
p-Terphenyl-d14 (Surr)	90		47 - 131	07/22/24 05:34	08/07/24 15:04	1

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-104648-1

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

Lab Sample ID: MB 570-462447/1-A
Matrix: Water
Analysis Batch: 463551

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 462447

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
1-Methylnaphthalene	<0.20		0.20	ug/L		07/22/24 05:34	07/24/24 12:34	1
2-Methylnaphthalene	<0.20		0.20	ug/L		07/22/24 05:34	07/24/24 12:34	1
Acenaphthene	<0.20		0.20	ug/L		07/22/24 05:34	07/24/24 12:34	1
Acenaphthylene	<0.20		0.20	ug/L		07/22/24 05:34	07/24/24 12:34	1
Anthracene	<0.20		0.20	ug/L		07/22/24 05:34	07/24/24 12:34	1
Benzo[a]anthracene	<0.20		0.20	ug/L		07/22/24 05:34	07/24/24 12:34	1
Benzo[a]pyrene	<0.20		0.20	ug/L		07/22/24 05:34	07/24/24 12:34	1
Benzo[b]fluoranthene	<0.20		0.20	ug/L		07/22/24 05:34	07/24/24 12:34	1
Benzo[g,h,i]perylene	<0.20		0.20	ug/L		07/22/24 05:34	07/24/24 12:34	1
Benzo[k]fluoranthene	<0.20		0.20	ug/L		07/22/24 05:34	07/24/24 12:34	1
Chrysene	<0.20		0.20	ug/L		07/22/24 05:34	07/24/24 12:34	1
Dibenz(a,h)anthracene	<0.20		0.20	ug/L		07/22/24 05:34	07/24/24 12:34	1
Fluoranthene	<0.20		0.20	ug/L		07/22/24 05:34	07/24/24 12:34	1
Fluorene	<0.20		0.20	ug/L		07/22/24 05:34	07/24/24 12:34	1
Indeno[1,2,3-cd]pyrene	<0.20		0.20	ug/L		07/22/24 05:34	07/24/24 12:34	1
Naphthalene	<0.20		0.20	ug/L		07/22/24 05:34	07/24/24 12:34	1
Phenanthrene	<0.20		0.20	ug/L		07/22/24 05:34	07/24/24 12:34	1
Pyrene	<0.20		0.20	ug/L		07/22/24 05:34	07/24/24 12:34	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
2,4,6-Tribromophenol (Surr)	93		28 - 127	07/22/24 05:34	07/24/24 12:34	1
2-Fluorobiphenyl (Surr)	73		31 - 120	07/22/24 05:34	07/24/24 12:34	1
2-Fluorophenol (Surr)	48		17 - 120	07/22/24 05:34	07/24/24 12:34	1
Nitrobenzene-d5 (Surr)	74		27 - 120	07/22/24 05:34	07/24/24 12:34	1
Phenol-d6 (Surr)	32		10 - 120	07/22/24 05:34	07/24/24 12:34	1
p-Terphenyl-d14 (Surr)	87		45 - 120	07/22/24 05:34	07/24/24 12:34	1

Lab Sample ID: LCS 570-462447/2-A
Matrix: Water
Analysis Batch: 463551

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 462447

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
1-Methylnaphthalene	20.0	12.7		ug/L		63	47 - 120
2-Methylnaphthalene	20.0	12.7		ug/L		64	43 - 120
Acenaphthene	20.0	15.2		ug/L		76	60 - 132
Acenaphthylene	20.0	16.1		ug/L		81	54 - 126
Anthracene	20.0	16.2		ug/L		81	43 - 120
Benzo[a]anthracene	20.0	17.1		ug/L		85	42 - 133
Benzo[a]pyrene	20.0	17.6		ug/L		88	32 - 148
Benzo[b]fluoranthene	20.0	17.1		ug/L		85	42 - 140
Benzo[g,h,i]perylene	20.0	17.0		ug/L		85	1 - 195
Benzo[k]fluoranthene	20.0	17.3		ug/L		86	25 - 146
Chrysene	20.0	16.6		ug/L		83	44 - 140
Dibenz(a,h)anthracene	20.0	17.4		ug/L		87	1 - 200
Fluoranthene	20.0	16.7		ug/L		83	43 - 121
Fluorene	20.0	16.1		ug/L		81	70 - 120
Indeno[1,2,3-cd]pyrene	20.0	17.2		ug/L		86	1 - 151
Naphthalene	20.0	12.1		ug/L		60	36 - 120

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-104648-1

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM) (Continued)

Lab Sample ID: LCS 570-462447/2-A
Matrix: Water
Analysis Batch: 463551

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 462447

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Phenanthrene	20.0	15.9		ug/L		80	65 - 120
Pyrene	20.0	17.3		ug/L		86	70 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2,4,6-Tribromophenol (Surr)	81		28 - 127
2-Fluorobiphenyl (Surr)	73		31 - 120
2-Fluorophenol (Surr)	51		17 - 120
Nitrobenzene-d5 (Surr)	61		27 - 120
Phenol-d6 (Surr)	35		10 - 120
p-Terphenyl-d14 (Surr)	83		45 - 120

Lab Sample ID: LCSD 570-462447/3-A
Matrix: Water
Analysis Batch: 463551

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 462447

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
1-Methylnaphthalene	20.0	13.1		ug/L		66	47 - 120	3	20
2-Methylnaphthalene	20.0	13.1		ug/L		66	43 - 120	3	20
Acenaphthene	20.0	15.5		ug/L		78	60 - 132	2	29
Acenaphthylene	20.0	16.6		ug/L		83	54 - 126	3	45
Anthracene	20.0	16.3		ug/L		81	43 - 120	1	40
Benzo[a]anthracene	20.0	17.1		ug/L		85	42 - 133	0	32
Benzo[a]pyrene	20.0	17.6		ug/L		88	32 - 148	0	43
Benzo[b]fluoranthene	20.0	17.4		ug/L		87	42 - 140	2	43
Benzo[g,h,i]perylene	20.0	17.2		ug/L		86	1 - 195	1	61
Benzo[k]fluoranthene	20.0	17.0		ug/L		85	25 - 146	2	38
Chrysene	20.0	16.6		ug/L		83	44 - 140	0	53
Dibenz(a,h)anthracene	20.0	17.7		ug/L		89	1 - 200	2	75
Fluoranthene	20.0	16.6		ug/L		83	43 - 121	0	40
Fluorene	20.0	16.2		ug/L		81	70 - 120	0	23
Indeno[1,2,3-cd]pyrene	20.0	17.4		ug/L		87	1 - 151	1	60
Naphthalene	20.0	12.3		ug/L		62	36 - 120	2	39
Phenanthrene	20.0	16.3		ug/L		81	65 - 120	2	24
Pyrene	20.0	17.1		ug/L		86	70 - 120	1	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2,4,6-Tribromophenol (Surr)	82		28 - 127
2-Fluorobiphenyl (Surr)	73		31 - 120
2-Fluorophenol (Surr)	52		17 - 120
Nitrobenzene-d5 (Surr)	62		27 - 120
Phenol-d6 (Surr)	36		10 - 120
p-Terphenyl-d14 (Surr)	83		45 - 120

QC Sample Results

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

Job ID: 380-104648-1

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM) (Continued)

Lab Sample ID: 380-104648-1 MS

Matrix: Water

Analysis Batch: 463551

Client Sample ID: AIEA GULCH WELLS PUMP 2

Prep Type: Total/NA

Prep Batch: 462447

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec	Limits
	Result	Qualifier	Added	Result	Qualifier					
1-Methylnaphthalene	<0.19		19.4	11.5		ug/L		59		36 - 120
2-Methylnaphthalene	<0.19		19.4	11.4		ug/L		59		32 - 124
Acenaphthene	<0.19		19.4	13.5		ug/L		70		47 - 145
Acenaphthylene	<0.19		19.4	14.4		ug/L		74		33 - 145
Anthracene	<0.19		19.4	14.8		ug/L		76		27 - 133
Benzo[a]anthracene	<0.19		19.4	15.4		ug/L		79		33 - 143
Benzo[a]pyrene	<0.19		19.4	15.8		ug/L		81		17 - 163
Benzo[b]fluoranthene	<0.19		19.4	15.4		ug/L		79		24 - 159
Benzo[g,h,i]perylene	<0.19		19.4	15.2		ug/L		78		1 - 219
Benzo[k]fluoranthene	<0.19		19.4	15.6		ug/L		80		11 - 162
Chrysene	<0.19		19.4	15.1		ug/L		77		17 - 168
Dibenz(a,h)anthracene	<0.19		19.4	15.6		ug/L		80		1 - 227
Fluoranthene	<0.19		19.4	15.3		ug/L		79		26 - 137
Fluorene	<0.19		19.4	14.2		ug/L		73		59 - 121
Indeno[1,2,3-cd]pyrene	<0.19		19.4	15.2		ug/L		78		1 - 171
Naphthalene	<0.19		19.4	10.7		ug/L		55		21 - 133
Phenanthrene	<0.19		19.4	14.6		ug/L		75		54 - 120
Pyrene	<0.19		19.4	15.4		ug/L		79		52 - 120

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
2,4,6-Tribromophenol (Surr)	76		28 - 127
2-Fluorobiphenyl (Surr)	66		31 - 120
2-Fluorophenol (Surr)	43		17 - 120
Nitrobenzene-d5 (Surr)	55		27 - 120
Phenol-d6 (Surr)	30		10 - 120
p-Terphenyl-d14 (Surr)	76		45 - 120

Lab Sample ID: 380-104648-1 MSD

Matrix: Water

Analysis Batch: 463551

Client Sample ID: AIEA GULCH WELLS PUMP 2

Prep Type: Total/NA

Prep Batch: 462447

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	Limits	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier							
1-Methylnaphthalene	<0.19		19.5	12.0		ug/L		61		36 - 120	3	30
2-Methylnaphthalene	<0.19		19.5	11.9		ug/L		61		32 - 124	4	30
Acenaphthene	<0.19		19.5	14.0		ug/L		72		47 - 145	3	48
Acenaphthylene	<0.19		19.5	14.9		ug/L		76		33 - 145	3	74
Anthracene	<0.19		19.5	14.9		ug/L		76		27 - 133	1	66
Benzo[a]anthracene	<0.19		19.5	15.5		ug/L		79		33 - 143	0	53
Benzo[a]pyrene	<0.19		19.5	15.7		ug/L		80		17 - 163	1	72
Benzo[b]fluoranthene	<0.19		19.5	15.4		ug/L		79		24 - 159	0	71
Benzo[g,h,i]perylene	<0.19		19.5	15.0		ug/L		77		1 - 219	1	97
Benzo[k]fluoranthene	<0.19		19.5	15.4		ug/L		79		11 - 162	2	63
Chrysene	<0.19		19.5	15.1		ug/L		77		17 - 168	0	87
Dibenz(a,h)anthracene	<0.19		19.5	15.4		ug/L		79		1 - 227	2	126
Fluoranthene	<0.19		19.5	15.5		ug/L		79		26 - 137	1	66
Fluorene	<0.19		19.5	14.6		ug/L		75		59 - 121	3	38
Indeno[1,2,3-cd]pyrene	<0.19		19.5	15.2		ug/L		78		1 - 171	0	99
Naphthalene	<0.19		19.5	11.2		ug/L		57		21 - 133	4	65

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-104648-1

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM) (Continued)

Lab Sample ID: 380-104648-1 MSD

Client Sample ID: AIEA GULCH WELLS PUMP 2

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 463551

Prep Batch: 462447

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits		
Phenanthrene	<0.19		19.5	14.8		ug/L		76	54 - 120	2	39
Pyrene	<0.19		19.5	15.4		ug/L		79	52 - 120	0	49

Surrogate	MSD	MSD	Limits
	%Recovery	Qualifier	
2,4,6-Tribromophenol (Surr)	76		28 - 127
2-Fluorobiphenyl (Surr)	66		31 - 120
2-Fluorophenol (Surr)	45		17 - 120
Nitrobenzene-d5 (Surr)	56		27 - 120
Phenol-d6 (Surr)	31		10 - 120
p-Terphenyl-d14 (Surr)	75		45 - 120

Lab Sample ID: 380-104648-3 MS

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) P2

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 463551

Prep Batch: 462447

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits	
1-Methylnaphthalene	<0.19		19.5	11.1		ug/L		57	36 - 120	
2-Methylnaphthalene	<0.19		19.5	11.2		ug/L		58	32 - 124	
Acenaphthene	<0.19		19.5	13.0		ug/L		67	47 - 145	
Acenaphthylene	<0.19		19.5	13.9		ug/L		71	33 - 145	
Anthracene	<0.19		19.5	13.9		ug/L		71	27 - 133	
Benzo[a]anthracene	<0.19		19.5	14.5		ug/L		74	33 - 143	
Benzo[a]pyrene	<0.19		19.5	14.6		ug/L		75	17 - 163	
Benzo[b]fluoranthene	<0.19		19.5	14.3		ug/L		73	24 - 159	
Benzo[g,h,i]perylene	<0.19		19.5	14.0		ug/L		72	1 - 219	
Benzo[k]fluoranthene	<0.19		19.5	14.4		ug/L		74	11 - 162	
Chrysene	<0.19		19.5	14.3		ug/L		74	17 - 168	
Dibenz(a,h)anthracene	<0.19		19.5	14.4		ug/L		74	1 - 227	
Fluoranthene	<0.19		19.5	14.3		ug/L		74	26 - 137	
Fluorene	<0.19		19.5	13.8		ug/L		71	59 - 121	
Indeno[1,2,3-cd]pyrene	<0.19		19.5	14.0		ug/L		72	1 - 171	
Naphthalene	<0.19		19.5	10.7		ug/L		55	21 - 133	
Phenanthrene	<0.19		19.5	13.6		ug/L		70	54 - 120	
Pyrene	<0.19		19.5	14.6		ug/L		75	52 - 120	

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
2,4,6-Tribromophenol (Surr)	71		28 - 127
2-Fluorobiphenyl (Surr)	64		31 - 120
2-Fluorophenol (Surr)	45		17 - 120
Nitrobenzene-d5 (Surr)	54		27 - 120
Phenol-d6 (Surr)	31		10 - 120
p-Terphenyl-d14 (Surr)	69		45 - 120

QC Sample Results

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

Job ID: 380-104648-1

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM) (Continued)

Lab Sample ID: 380-104648-3 MSD

Matrix: Water

Analysis Batch: 463551

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) P2

Prep Type: Total/NA

Prep Batch: 462447

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits		
1-Methylnaphthalene	<0.19		19.3	11.5		ug/L		60	36 - 120	4	30
2-Methylnaphthalene	<0.19		19.3	11.6		ug/L		60	32 - 124	3	30
Acenaphthene	<0.19		19.3	13.3		ug/L		69	47 - 145	2	48
Acenaphthylene	<0.19		19.3	14.2		ug/L		73	33 - 145	2	74
Anthracene	<0.19		19.3	13.8		ug/L		71	27 - 133	1	66
Benzo[a]anthracene	<0.19		19.3	14.8		ug/L		76	33 - 143	2	53
Benzo[a]pyrene	<0.19		19.3	14.8		ug/L		77	17 - 163	2	72
Benzo[b]fluoranthene	<0.19		19.3	14.6		ug/L		76	24 - 159	3	71
Benzo[g,h,i]perylene	<0.19		19.3	14.3		ug/L		74	1 - 219	2	97
Benzo[k]fluoranthene	<0.19		19.3	14.7		ug/L		76	11 - 162	2	63
Chrysene	<0.19		19.3	14.6		ug/L		75	17 - 168	2	87
Dibenz(a,h)anthracene	<0.19		19.3	14.5		ug/L		75	1 - 227	1	126
Fluoranthene	<0.19		19.3	14.4		ug/L		75	26 - 137	1	66
Fluorene	<0.19		19.3	14.0		ug/L		72	59 - 121	1	38
Indeno[1,2,3-cd]pyrene	<0.19		19.3	14.4		ug/L		74	1 - 171	3	99
Naphthalene	<0.19		19.3	11.2		ug/L		58	21 - 133	4	65
Phenanthrene	<0.19		19.3	13.8		ug/L		72	54 - 120	2	39
Pyrene	<0.19		19.3	14.7		ug/L		76	52 - 120	0	49

Surrogate	MSD %Recovery	MSD Qualifier	MSD Limits
2,4,6-Tribromophenol (Surr)	71		28 - 127
2-Fluorobiphenyl (Surr)	65		31 - 120
2-Fluorophenol (Surr)	46		17 - 120
Nitrobenzene-d5 (Surr)	56		27 - 120
Phenol-d6 (Surr)	31		10 - 120
p-Terphenyl-d14 (Surr)	70		45 - 120

Method: 8015B GRO LL - Gasoline Range Organics - (GC)

Lab Sample ID: MB 570-463483/6

Matrix: Water

Analysis Batch: 463483

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
GRO (C6-C10)	<10		10	ug/L			07/24/24 12:51	1

Surrogate	MB %Recovery	MB Qualifier	MB Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	92		38 - 134		07/24/24 12:51	1

Lab Sample ID: LCS 570-463483/4

Matrix: Water

Analysis Batch: 463483

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec
		Result	Qualifier				Limits
Gasoline Range Organics (C4-C13)	400	317		ug/L		79	78 - 120

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-104648-1

Method: 8015B GRO LL - Gasoline Range Organics - (GC) (Continued)

Lab Sample ID: LCS 570-463483/4
Matrix: Water
Analysis Batch: 463483

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

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	101		38 - 134

Lab Sample ID: LCSD 570-463483/5
Matrix: Water
Analysis Batch: 463483

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (C4-C13)	400	315		ug/L		79	78 - 120	1	10

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	97		38 - 134

Lab Sample ID: MRL 570-463483/3
Matrix: Water
Analysis Batch: 463483

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (C4-C13)	10.0	11.8		ug/L		118	50 - 150

	MRL	MRL	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	90		38 - 134

Lab Sample ID: 380-104648-1 MS
Matrix: Water
Analysis Batch: 463483

Client Sample ID: AIEA GULCH WELLS PUMP 2
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (C4-C13)	<10		400	383		ug/L		96	68 - 122

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	94		38 - 134

Lab Sample ID: 380-104648-1 MSD
Matrix: Water
Analysis Batch: 463483

Client Sample ID: AIEA GULCH WELLS PUMP 2
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (C4-C13)	<10		400	405		ug/L		101	68 - 122	5	18

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	95		38 - 134

QC Sample Results

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

Job ID: 380-104648-1

Method: 8015B GRO LL - Gasoline Range Organics - (GC) (Continued)

Lab Sample ID: 380-104648-3 MS

Matrix: Water

Analysis Batch: 463483

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) P2

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (C4-C13)	<10		400	407		ug/L		102	68 - 122
		<i>MS</i>			<i>MS</i>				
Surrogate	%Recovery	Qualifier	Limits						
4-Bromofluorobenzene (Surr)	100		38 - 134						

Lab Sample ID: 380-104648-3 MSD

Matrix: Water

Analysis Batch: 463483

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) P2

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (C4-C13)	<10		400	399		ug/L		100	68 - 122	2	18
		<i>MSD</i>			<i>MSD</i>						
Surrogate	%Recovery	Qualifier	Limits								
4-Bromofluorobenzene (Surr)	95		38 - 134								



QC Association Summary

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

Job ID: 380-104648-1

GC/MS Semi VOA

Prep Batch: 99826

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-104648-1	AIEA GULCH WELLS PUMP 2	Total/NA	Water	525.2	
380-104648-3	AIEA WELLS PUMPS 1&2 (260) P2	Total/NA	Water	525.2	
MB 380-99826/21-A	Method Blank	Total/NA	Water	525.2	
LCS 380-99826/23-A	Lab Control Sample	Total/NA	Water	525.2	
LCSD 380-99826/24-A	Lab Control Sample Dup	Total/NA	Water	525.2	
MRL 380-99826/22-A	Lab Control Sample	Total/NA	Water	525.2	
380-104482-F-1-A MS	Matrix Spike	Total/NA	Water	525.2	
380-104648-1 DU	AIEA GULCH WELLS PUMP 2	Total/NA	Water	525.2	

Analysis Batch: 100060

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-104648-1	AIEA GULCH WELLS PUMP 2	Total/NA	Water	525.2	99826
380-104648-3	AIEA WELLS PUMPS 1&2 (260) P2	Total/NA	Water	525.2	99826
MB 380-99826/21-A	Method Blank	Total/NA	Water	525.2	99826
380-104482-F-1-A MS	Matrix Spike	Total/NA	Water	525.2	99826
380-104648-1 DU	AIEA GULCH WELLS PUMP 2	Total/NA	Water	525.2	99826

Analysis Batch: 100076

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 380-99826/23-A	Lab Control Sample	Total/NA	Water	525.2	99826
LCSD 380-99826/24-A	Lab Control Sample Dup	Total/NA	Water	525.2	99826
MRL 380-99826/22-A	Lab Control Sample	Total/NA	Water	525.2	99826

Prep Batch: 462447

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-104648-1	AIEA GULCH WELLS PUMP 2	Total/NA	Water	625.1	
380-104648-3	AIEA WELLS PUMPS 1&2 (260) P2	Total/NA	Water	625.1	
MB 570-462447/1-A	Method Blank	Total/NA	Water	625.1	
LCS 570-462447/2-A	Lab Control Sample	Total/NA	Water	625.1	
LCSD 570-462447/3-A	Lab Control Sample Dup	Total/NA	Water	625.1	
380-104648-1 MS	AIEA GULCH WELLS PUMP 2	Total/NA	Water	625.1	
380-104648-1 MSD	AIEA GULCH WELLS PUMP 2	Total/NA	Water	625.1	
380-104648-3 MS	AIEA WELLS PUMPS 1&2 (260) P2	Total/NA	Water	625.1	
380-104648-3 MSD	AIEA WELLS PUMPS 1&2 (260) P2	Total/NA	Water	625.1	

Analysis Batch: 463551

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-104648-1	AIEA GULCH WELLS PUMP 2	Total/NA	Water	625.1 SIM	462447
380-104648-3	AIEA WELLS PUMPS 1&2 (260) P2	Total/NA	Water	625.1 SIM	462447
MB 570-462447/1-A	Method Blank	Total/NA	Water	625.1 SIM	462447
LCS 570-462447/2-A	Lab Control Sample	Total/NA	Water	625.1 SIM	462447
LCSD 570-462447/3-A	Lab Control Sample Dup	Total/NA	Water	625.1 SIM	462447
380-104648-1 MS	AIEA GULCH WELLS PUMP 2	Total/NA	Water	625.1 SIM	462447
380-104648-1 MSD	AIEA GULCH WELLS PUMP 2	Total/NA	Water	625.1 SIM	462447
380-104648-3 MS	AIEA WELLS PUMPS 1&2 (260) P2	Total/NA	Water	625.1 SIM	462447
380-104648-3 MSD	AIEA WELLS PUMPS 1&2 (260) P2	Total/NA	Water	625.1 SIM	462447

Analysis Batch: 468361

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-104648-1	AIEA GULCH WELLS PUMP 2	Total/NA	Water	625.1	462447
380-104648-3	AIEA WELLS PUMPS 1&2 (260) P2	Total/NA	Water	625.1	462447

Eurofins Eaton Analytical Pomona

QC Association Summary

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

Job ID: 380-104648-1

GC/MS Semi VOA (Continued)

Analysis Batch: 468361 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 570-462447/1-A	Method Blank	Total/NA	Water	625.1	462447

GC VOA

Analysis Batch: 463483

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-104648-1	AIEA GULCH WELLS PUMP 2	Total/NA	Water	8015B GRO LL	
380-104648-2	TB: AIEA GULCH WELLS PUMP 2	Total/NA	Water	8015B GRO LL	
380-104648-3	AIEA WELLS PUMPS 1&2 (260) P2	Total/NA	Water	8015B GRO LL	
380-104648-4	TB: AIEA WELLS PUMPS 1&2 (260)	Total/NA	Water	8015B GRO LL	
MB 570-463483/6	Method Blank	Total/NA	Water	8015B GRO LL	
LCS 570-463483/4	Lab Control Sample	Total/NA	Water	8015B GRO LL	
LCSD 570-463483/5	Lab Control Sample Dup	Total/NA	Water	8015B GRO LL	
MRL 570-463483/3	Lab Control Sample	Total/NA	Water	8015B GRO LL	
380-104648-1 MS	AIEA GULCH WELLS PUMP 2	Total/NA	Water	8015B GRO LL	
380-104648-1 MSD	AIEA GULCH WELLS PUMP 2	Total/NA	Water	8015B GRO LL	
380-104648-3 MS	AIEA WELLS PUMPS 1&2 (260) P2	Total/NA	Water	8015B GRO LL	
380-104648-3 MSD	AIEA WELLS PUMPS 1&2 (260) P2	Total/NA	Water	8015B GRO LL	

Lab Chronicle

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

Job ID: 380-104648-1

Client Sample ID: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-104648-1

Date Collected: 07/15/24 10:52

Matrix: Water

Date Received: 07/17/24 10:06

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	525.2			99826	KRD3	EA POM	07/21/24 11:17
Total/NA	Analysis	525.2		1	100060	Q8LA	EA POM	07/22/24 12:17
Total/NA	Prep	625.1			462447	H1SH	EET CAL 4	07/22/24 05:34
Total/NA	Analysis	625.1		1	468361	CG	EET CAL 4	08/07/24 15:28
Total/NA	Prep	625.1			462447	H1SH	EET CAL 4	07/22/24 05:34
Total/NA	Analysis	625.1 SIM		1	463551	PQS1	EET CAL 4	07/24/24 16:34
Total/NA	Analysis	8015B GRO LL		1	463483	A9VE	EET CAL 4	07/24/24 16:31

Client Sample ID: TB: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-104648-2

Date Collected: 07/15/24 10:52

Matrix: Water

Date Received: 07/17/24 10:06

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8015B GRO LL		1	463483	A9VE	EET CAL 4	07/24/24 20:26

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) P2

Lab Sample ID: 380-104648-3

Date Collected: 07/15/24 11:18

Matrix: Water

Date Received: 07/17/24 10:06

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	525.2			99826	KRD3	EA POM	07/21/24 11:17
Total/NA	Analysis	525.2		1	100060	Q8LA	EA POM	07/22/24 14:37
Total/NA	Prep	625.1			462447	H1SH	EET CAL 4	07/22/24 05:34
Total/NA	Analysis	625.1		1	468361	CG	EET CAL 4	08/07/24 15:52
Total/NA	Prep	625.1			462447	H1SH	EET CAL 4	07/22/24 05:34
Total/NA	Analysis	625.1 SIM		1	463551	PQS1	EET CAL 4	07/24/24 17:39
Total/NA	Analysis	8015B GRO LL		1	463483	A9VE	EET CAL 4	07/24/24 17:49

Client Sample ID: TB: AIEA WELLS PUMPS 1&2 (260)

Lab Sample ID: 380-104648-4

Date Collected: 07/15/24 11:18

Matrix: Water

Date Received: 07/17/24 10:06

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8015B GRO LL		1	463483	A9VE	EET CAL 4	07/24/24 20:52

Laboratory References:

EA POM = Eurofins Eaton Analytical Pomona, 941 Corporate Center Drive, Pomona, CA 91768-2642, TEL (626)386-1100

EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

Accreditation/Certification Summary

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

Job ID: 380-104648-1

Laboratory: Eurofins Eaton Analytical Pomona

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

Authority	Program	Identification Number	Expiration Date
Hawaii	State	CA00006	01-31-25

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

Analysis Method	Prep Method	Matrix	Analyte
525.2	525.2	Water	1-Methylnaphthalene
525.2	525.2	Water	2,4'-DDD
525.2	525.2	Water	2,4'-DDE
525.2	525.2	Water	2,4'-DDT
525.2	525.2	Water	2,4-Dinitrotoluene
525.2	525.2	Water	2,6-Dinitrotoluene
525.2	525.2	Water	2-Methylnaphthalene
525.2	525.2	Water	4,4'-DDD
525.2	525.2	Water	4,4'-DDE
525.2	525.2	Water	4,4' DDT
525.2	525.2	Water	Acetochlor
525.2	525.2	Water	alpha-BHC
525.2	525.2	Water	alpha-Chlordane
525.2	525.2	Water	beta-BHC
525.2	525.2	Water	Chlorobenzilate
525.2	525.2	Water	Chloroneb
525.2	525.2	Water	Chlorothalonil (Draconil, Bravo)
525.2	525.2	Water	Chlorpyrifos
525.2	525.2	Water	delta-BHC
525.2	525.2	Water	Diclorvos (DDVP)
525.2	525.2	Water	Endosulfan I (Alpha)
525.2	525.2	Water	Endosulfan II (Beta)
525.2	525.2	Water	Endosulfan sulfate
525.2	525.2	Water	Endrin aldehyde
525.2	525.2	Water	EPTC
525.2	525.2	Water	gamma-Chlordane
525.2	525.2	Water	Isophorone
525.2	525.2	Water	Malathion
525.2	525.2	Water	Parathion
525.2	525.2	Water	Pendimethalin (Penoxaline)
525.2	525.2	Water	Terbacil
525.2	525.2	Water	Terbutylazine
525.2	525.2	Water	Total Permethrin (mixed isomers)
525.2	525.2	Water	trans-Nonachlor

Laboratory: Eurofins Calscience

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0830	11-16-24
Arkansas DEQ	State	88-0161	07-02-25
California	State	3082	07-31-26
Kansas	NELAP	E-10420	07-31-25
Nevada	State	CA00111	10-31-24
Oregon	NELAP	4175	02-02-25
USDA	US Federal Programs	P330-22-00059	06-08-26

Eurofins Eaton Analytical Pomona

Accreditation/Certification Summary

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

Job ID: 380-104648-1

Laboratory: Eurofins Calscience (Continued)

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Washington	State	C916-18	10-11-24

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Method Summary

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

Job ID: 380-104648-1

Method	Method Description	Protocol	Laboratory
525.2	Semivolatile Organic Compounds (GC/MS)	EPA	EA POM
625.1	Semivolatile Organic Compounds (GC/MS)	EPA	EET CAL 4
625.1 SIM	Semivolatile Organic Compounds GC/MS (SIM)	EPA	EET CAL 4
8015B GRO LL	Gasoline Range Organics - (GC)	SW846	EET CAL 4
5030C	Purge and Trap	SW846	EET CAL 4
525.2	Extraction of Semivolatile Compounds	EPA	EA POM
625.1	Liquid-Liquid Extraction	40CFR136A	EET CAL 4

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EA POM = Eurofins Eaton Analytical Pomona, 941 Corporate Center Drive, Pomona, CA 91768-2642, TEL (626)386-1100

EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

Sample Summary

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

Job ID: 380-104648-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
380-104648-1	AIEA GULCH WELLS PUMP 2	Water	07/15/24 10:52	07/17/24 10:06
380-104648-2	TB: AIEA GULCH WELLS PUMP 2	Water	07/15/24 10:52	07/17/24 10:06
380-104648-3	AIEA WELLS PUMPS 1&2 (260) P2	Water	07/15/24 11:18	07/17/24 10:06
380-104648-4	TB: AIEA WELLS PUMPS 1&2 (260)	Water	07/15/24 11:18	07/17/24 10:06

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Eurofins Eaton Analytical Pomona

941 Corporate Center Drive
 Pomona, CA 91768-2642
 Phone: 626-386-1100

Chain of Custody Record



eurofins En

Loc: 380
104648

Client Information (Sub Contract Lab)		Sampler:		Lab PM: Arada, Rachele		Carrier Tracking No(s):		COC No: 380-138865.1	
Client Contact: Shipping/Receiving		Phone:		E-Mail: Rachele.Arada@et.eurofinsus.com		State of Origin: Hawaii		Page: Page 1 of 1	
Company: Eurofins Environment Testing Southwest,				Accreditations Required (See note): State - Hawaii				Job #: 380-104648-1	
Address: 2841 Dow Avenue, Suite 100,		Due Date Requested: 8/6/2024		Analysis Requested				Preservation Codes:	
City: Tustin		TAT Requested (days):							
State, Zip: CA, 92780		PO #:		Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		Total Number of Containers	
Phone: 714-895-5494(Tel)		WO #:							
Email:		Project #: 38001111		8015B_DRO_LL_CS3510C_LL_HNL_Ranges: C10- C24/C24-C.36/C9-C18		8015B_GRO_LLJ5030C (MOD) GRO		625-1_SIM625_Prep (MOD) Extended PAH List	
Project Name: RED-HILL		SSOW#:		380-104648 Chain of Custody		Barcode		Other:	
Site: Honolulu BWS Sites		Preservation Code:						Special Instructions/Note:	
Sample Identification - Client ID (Lab ID)		Sample Date		Sample Time		Sample Type (C=Comp, G=grab)		Matrix (W=water, S=solid, O=wastewater, BT=Tissue, A=Air)	
AIEA GULCH WELLS PUMP 2 (380-104648-1)		7/15/24		10:52 Hawaiian		Water		3 initial volume (500ml) and final volume (2ml). MRLs are needed.	
AIEA GULCH WELLS PUMP 2 (380-104648-1MS)		7/15/24		10:52 Hawaiian		MS		3 initial volume (500ml) and final volume (2ml). MRLs are needed.	
AIEA GULCH WELLS PUMP 2 (380-104648-1MSD)		7/15/24		10:52 Hawaiian		MSD		3 initial volume (500ml) and final volume (2ml). MRLs are needed.	
TB: AIEA GULCH WELLS PUMP 2 (380-104648-2)		7/15/24		10:52 Hawaiian		Water		2 MRLs are needed.	
AIEA WELLS PUMPS 1&2 (260) (380-104648-3)		7/15/24		11:18 Hawaiian		Water		4 initial volume (500ml) and final volume (2ml). MRLs are needed.	
AIEA WELLS PUMPS 1&2 (260) (380-104648-3MS)		7/15/24		11:18 Hawaiian		MS		3 initial volume (500ml) and final volume (2ml). MRLs are needed.	
AIEA WELLS PUMPS 1&2 (260) (380-104648-3MSD)		7/15/24		11:18 Hawaiian		MSD		3 initial volume (500ml) and final volume (2ml). MRLs are needed.	
TB: AIEA WELLS PUMPS 1&2 (260) (380-104648-4)		7/15/24		11:18 Hawaiian		Water		2 MRLs are needed.	
<p>Note: Since laboratory accreditations are subject to change, Eurofins Eaton Analytical, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Eaton Analytical, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Eaton Analytical, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Eaton Analytical, LLC.</p>									
Possible Hazard Identification					Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)				
Unconfirmed					<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)			Primary Deliverable Rank: 2		Special Instructions/QC Requirements:				
Empty Kit Relinquished by:			Date:		Time:		Method of Shipment:		
Relinquished by: <i>[Signature]</i>			Date/Time: 7/18/24 15:30		Company: <i>[Signature]</i>		Received by: <i>[Signature]</i>		Date/Time: 7/18 15:30
Relinquished by: <i>[Signature]</i>			Date/Time: 7/18 16:35		Company: <i>[Signature]</i>		Received by: <i>[Signature]</i>		Date/Time: 7-18-24 16:35
Relinquished by:			Date/Time:		Company:		Received by:		Date/Time:
Custody Seals Intact: Δ Yes Δ No		Custody Seal No.:			Cooler Temperature(s) °C and Other Remarks: 1.8/1.8 seal				



Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-104648-1

Login Number: 104648

List Number: 1

Creator: Do, Michelle

List Source: Eurofins Eaton Analytical Pomona

Question	Answer	Comment
The coolers custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
Samples were received on ice.	True	
Cooler(s) Temperature is acceptable.	True	
Cooler(s) Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and is 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.	False	Sample-1: 1 of 4 vials for 8015B rec'd broken
Sample collection date/times are provided.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	False	Insufficient volume received for 525 MS/MSD.
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
CIO4 headspace requirement met (>50% for CA, >30% for other states).	True	
Samples do not require splitting or compositing.	True	
Container provided by EEA	True	



Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-104648-1

Login Number: 104648

List Number: 2

Creator: Khana, Piyush

List Source: Eurofins Calscience

List Creation: 07/18/24 05:54 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.8
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
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	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	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	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

