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ANALYTICAL REPORT

PREPARED FOR

Attn: Mr. Erwin Kawata
City & County of Honolulu
630 South Beretania Street
Public Service Bldg. Room 310
Honolulu, Hawaii 96843

Generated 11/14/2024 9:33:26 AM

JOB DESCRIPTION

RED-HILL
Weekly

JOB NUMBER

380-120077-1

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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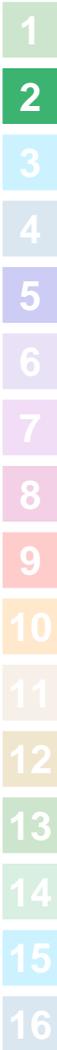


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Definitions/Glossary

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

Job ID: 380-120077-1
SDG: Weekly

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
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.
☼	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: 380-120077-1

Job ID: 380-120077-1

Eurofins Eaton Analytical Pomona

Job Narrative 380-120077-1

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 10/31/2024 10:11 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.0°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

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

Diesel Range Organics

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: 380-120077-1
SDG: Weekly

Client Sample ID: Halawa Shaft Viewing Pool

Lab Sample ID: 380-120077-1

No Detections.

Client Sample ID: TRIP BLANK

Lab Sample ID: 380-120077-2

No Detections.

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This Detection Summary does not include radiochemical test results.

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-120077-1
SDG: Weekly

Client Sample ID: Halawa Shaft Viewing Pool

Lab Sample ID: 380-120077-1

Date Collected: 10/29/24 10:30

Matrix: Water

Date Received: 10/31/24 10:11

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		11/11/24 08:34	11/13/24 15:14	1
2,4'-DDD	<0.096		0.096	ug/L		11/11/24 08:34	11/13/24 15:14	1
2,4'-DDE	<0.096		0.096	ug/L		11/11/24 08:34	11/13/24 15:14	1
2,4'-DDT	<0.096		0.096	ug/L		11/11/24 08:34	11/13/24 15:14	1
2,4-Dinitrotoluene	<0.096		0.096	ug/L		11/11/24 08:34	11/13/24 15:14	1
2,6-Dinitrotoluene	<0.096		0.096	ug/L		11/11/24 08:34	11/13/24 15:14	1
2-Methylnaphthalene	<0.096		0.096	ug/L		11/11/24 08:34	11/13/24 15:14	1
4,4'-DDD	<0.096		0.096	ug/L		11/11/24 08:34	11/13/24 15:14	1
4,4'-DDE	<0.096		0.096	ug/L		11/11/24 08:34	11/13/24 15:14	1
4,4'-DDT	<0.096		0.096	ug/L		11/11/24 08:34	11/13/24 15:14	1
Acenaphthene	<0.096		0.096	ug/L		11/11/24 08:34	11/13/24 15:14	1
Acenaphthylene	<0.096		0.096	ug/L		11/11/24 08:34	11/13/24 15:14	1
Acetochlor	<0.096		0.096	ug/L		11/11/24 08:34	11/13/24 15:14	1
Alachlor	<0.048		0.048	ug/L		11/11/24 08:34	11/13/24 15:14	1
alpha-BHC	<0.096		0.096	ug/L		11/11/24 08:34	11/13/24 15:14	1
alpha-Chlordane	<0.048		0.048	ug/L		11/11/24 08:34	11/13/24 15:14	1
Anthracene	<0.019		0.019	ug/L		11/11/24 08:34	11/13/24 15:14	1
Atrazine	<0.048		0.048	ug/L		11/11/24 08:34	11/13/24 15:14	1
Benz(a)anthracene	<0.048		0.048	ug/L		11/11/24 08:34	11/13/24 15:14	1
Benzo[a]pyrene	<0.019		0.019	ug/L		11/11/24 08:34	11/13/24 15:14	1
Benzo[b]fluoranthene	<0.019		0.019	ug/L		11/11/24 08:34	11/13/24 15:14	1
Benzo[g,h,i]perylene	<0.048		0.048	ug/L		11/11/24 08:34	11/13/24 15:14	1
Benzo[k]fluoranthene	<0.019		0.019	ug/L		11/11/24 08:34	11/13/24 15:14	1
beta-BHC	<0.096		0.096	ug/L		11/11/24 08:34	11/13/24 15:14	1
Bis(2-ethylhexyl) phthalate	<0.58		0.58	ug/L		11/11/24 08:34	11/13/24 15:14	1
Bromacil	<0.096		0.096	ug/L		11/11/24 08:34	11/13/24 15:14	1
Butachlor	<0.048		0.048	ug/L		11/11/24 08:34	11/13/24 15:14	1
Butylbenzylphthalate	<0.48		0.48	ug/L		11/11/24 08:34	11/13/24 15:14	1
Chlorobenzilate	<0.096		0.096	ug/L		11/11/24 08:34	11/13/24 15:14	1
Chloroneb	<0.096		0.096	ug/L		11/11/24 08:34	11/13/24 15:14	1
Chlorothalonil (Draconil, Bravo)	<0.096		0.096	ug/L		11/11/24 08:34	11/13/24 15:14	1
Chlorpyrifos	<0.048		0.048	ug/L		11/11/24 08:34	11/13/24 15:14	1
Chrysene	<0.019		0.019	ug/L		11/11/24 08:34	11/13/24 15:14	1
delta-BHC	<0.096		0.096	ug/L		11/11/24 08:34	11/13/24 15:14	1
Di(2-ethylhexyl)adipate	<0.58		0.58	ug/L		11/11/24 08:34	11/13/24 15:14	1
Dibenz(a,h)anthracene	<0.048		0.048	ug/L		11/11/24 08:34	11/13/24 15:14	1
Diclorvos (DDVP)	<0.048		0.048	ug/L		11/11/24 08:34	11/13/24 15:14	1
Dieldrin	<0.0096		0.0096	ug/L		11/11/24 08:34	11/13/24 15:14	1
Diethylphthalate	<0.48		0.48	ug/L		11/11/24 08:34	11/13/24 15:14	1
Dimethylphthalate	<0.48		0.48	ug/L		11/11/24 08:34	11/13/24 15:14	1
Di-n-butyl phthalate	<0.96		0.96	ug/L		11/11/24 08:34	11/13/24 15:14	1
Di-n-octyl phthalate	<0.096		0.096	ug/L		11/11/24 08:34	11/13/24 15:14	1
Endosulfan I (Alpha)	<0.096		0.096	ug/L		11/11/24 08:34	11/13/24 15:14	1
Endosulfan II (Beta)	<0.096		0.096	ug/L		11/11/24 08:34	11/13/24 15:14	1
Endosulfan sulfate	<0.096		0.096	ug/L		11/11/24 08:34	11/13/24 15:14	1
Endrin	<0.0096		0.0096	ug/L		11/11/24 08:34	11/13/24 15:14	1
Endrin aldehyde	<0.096		0.096	ug/L		11/11/24 08:34	11/13/24 15:14	1
EPTC	<0.096		0.096	ug/L		11/11/24 08:34	11/13/24 15:14	1
Fluoranthene	<0.096		0.096	ug/L		11/11/24 08:34	11/13/24 15:14	1

Client Sample Results

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

Job ID: 380-120077-1
SDG: Weekly

Client Sample ID: Halawa Shaft Viewing Pool

Lab Sample ID: 380-120077-1

Date Collected: 10/29/24 10:30

Matrix: Water

Date Received: 10/31/24 10:11

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		11/11/24 08:34	11/13/24 15:14	1
gamma-Chlordane	<0.048		0.048	ug/L		11/11/24 08:34	11/13/24 15:14	1
Heptachlor	<0.0096		0.0096	ug/L		11/11/24 08:34	11/13/24 15:14	1
Heptachlor epoxide (isomer B)	<0.0096		0.0096	ug/L		11/11/24 08:34	11/13/24 15:14	1
Hexachlorobenzene	<0.048		0.048	ug/L		11/11/24 08:34	11/13/24 15:14	1
Hexachlorocyclopentadiene	<0.048		0.048	ug/L		11/11/24 08:34	11/13/24 15:14	1
Indeno[1,2,3-cd]pyrene	<0.048		0.048	ug/L		11/11/24 08:34	11/13/24 15:14	1
Isophorone	<0.096		0.096	ug/L		11/11/24 08:34	11/13/24 15:14	1
Lindane	<0.0096		0.0096	ug/L		11/11/24 08:34	11/13/24 15:14	1
Malathion	<0.096		0.096	ug/L		11/11/24 08:34	11/13/24 15:14	1
Methoxychlor	<0.048		0.048	ug/L		11/11/24 08:34	11/13/24 15:14	1
Metolachlor	<0.048		0.048	ug/L		11/11/24 08:34	11/13/24 15:14	1
Molinate	<0.096		0.096	ug/L		11/11/24 08:34	11/13/24 15:14	1
Naphthalene	<0.096		0.096	ug/L		11/11/24 08:34	11/13/24 15:14	1
Parathion	<0.096		0.096	ug/L		11/11/24 08:34	11/13/24 15:14	1
Pendimethalin (Penoxaline)	<0.096		0.096	ug/L		11/11/24 08:34	11/13/24 15:14	1
Phenanthrene	<0.039		0.039	ug/L		11/11/24 08:34	11/13/24 15:14	1
Propachlor	<0.048		0.048	ug/L		11/11/24 08:34	11/13/24 15:14	1
Pyrene	<0.048		0.048	ug/L		11/11/24 08:34	11/13/24 15:14	1
Simazine	<0.048		0.048	ug/L		11/11/24 08:34	11/13/24 15:14	1
Terbacil	<0.096		0.096	ug/L		11/11/24 08:34	11/13/24 15:14	1
Terbutylazine	<0.096		0.096	ug/L		11/11/24 08:34	11/13/24 15:14	1
Thiobencarb	<0.096		0.096	ug/L		11/11/24 08:34	11/13/24 15:14	1
Total Permethrin (mixed isomers)	<0.19		0.19	ug/L		11/11/24 08:34	11/13/24 15:14	1
trans-Nonachlor	<0.048		0.048	ug/L		11/11/24 08:34	11/13/24 15:14	1
Trifluralin	<0.096		0.096	ug/L		11/11/24 08:34	11/13/24 15:14	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L			N/A	11/11/24 08:34	11/13/24 15:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Nitro-m-xylene	95		70 - 130	11/11/24 08:34	11/13/24 15:14	1
Perylene-d12	90		70 - 130	11/11/24 08:34	11/13/24 15:14	1
Triphenylphosphate	100		70 - 130	11/11/24 08:34	11/13/24 15:14	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		11/03/24 07:56	11/10/24 21:02	1
2-Methylnaphthalene	<0.19		0.19	ug/L		11/03/24 07:56	11/10/24 21:02	1
Acenaphthene	<0.19		0.19	ug/L		11/03/24 07:56	11/10/24 21:02	1
Acenaphthylene	<0.19		0.19	ug/L		11/03/24 07:56	11/10/24 21:02	1
Anthracene	<0.19		0.19	ug/L		11/03/24 07:56	11/10/24 21:02	1
Benzo[a]anthracene	<0.19		0.19	ug/L		11/03/24 07:56	11/10/24 21:02	1
Benzo[a]pyrene	<0.19		0.19	ug/L		11/03/24 07:56	11/10/24 21:02	1
Benzo[b]fluoranthene	<0.19		0.19	ug/L		11/03/24 07:56	11/10/24 21:02	1
Benzo[g,h,i]perylene	<0.19		0.19	ug/L		11/03/24 07:56	11/10/24 21:02	1
Benzo[k]fluoranthene	<0.19		0.19	ug/L		11/03/24 07:56	11/10/24 21:02	1
Chrysene	<0.19		0.19	ug/L		11/03/24 07:56	11/10/24 21:02	1
Dibenz(a,h)anthracene	<0.19		0.19	ug/L		11/03/24 07:56	11/10/24 21:02	1
Fluoranthene	<0.19		0.19	ug/L		11/03/24 07:56	11/10/24 21:02	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-120077-1
SDG: Weekly

Client Sample ID: Halawa Shaft Viewing Pool

Lab Sample ID: 380-120077-1

Date Collected: 10/29/24 10:30

Matrix: Water

Date Received: 10/31/24 10:11

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		11/03/24 07:56	11/10/24 21:02	1
Indeno[1,2,3-cd]pyrene	<0.19		0.19	ug/L		11/03/24 07:56	11/10/24 21:02	1
Naphthalene	<0.19		0.19	ug/L		11/03/24 07:56	11/10/24 21:02	1
Phenanthrene	<0.19		0.19	ug/L		11/03/24 07:56	11/10/24 21:02	1
Pyrene	<0.19		0.19	ug/L		11/03/24 07:56	11/10/24 21:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	78		28 - 127	11/03/24 07:56	11/10/24 21:02	1
2-Fluorobiphenyl (Surr)	67		31 - 120	11/03/24 07:56	11/10/24 21:02	1
2-Fluorophenol (Surr)	41		17 - 120	11/03/24 07:56	11/10/24 21:02	1
Nitrobenzene-d5 (Surr)	75		27 - 120	11/03/24 07:56	11/10/24 21:02	1
Phenol-d6 (Surr)	25		10 - 120	11/03/24 07:56	11/10/24 21:02	1
p-Terphenyl-d14 (Surr)	81		45 - 120	11/03/24 07:56	11/10/24 21:02	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
Tentatively Identified Compound	None		ug/L			N/A	11/03/24 07:56	11/12/24 13:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	76		33 - 139	11/03/24 07:56	11/12/24 13:59	1
2-Fluorobiphenyl (Surr)	78		33 - 126	11/03/24 07:56	11/12/24 13:59	1
2-Fluorophenol (Surr)	44		12 - 120	11/03/24 07:56	11/12/24 13:59	1
Nitrobenzene-d5 (Surr)	86		36 - 120	11/03/24 07:56	11/12/24 13:59	1
Phenol-d6 (Surr)	25		10 - 120	11/03/24 07:56	11/12/24 13:59	1
p-Terphenyl-d14 (Surr)	77		47 - 131	11/03/24 07:56	11/12/24 13:59	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			11/09/24 18:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	92		38 - 134		11/09/24 18:37	1

Method: SW846 8015B - Diesel Range Organics (DRO) (GC) Low Level

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (C10-C24)	<25		25	ug/L		11/01/24 11:05	11/12/24 04:48	1
Motor Oil Range Organics [C24-C36]	<25		25	ug/L		11/01/24 11:05	11/12/24 04:48	1
C8-C18	<25		25	ug/L		11/01/24 11:05	11/12/24 04:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Octacosane (Surr)	93		60 - 130	11/01/24 11:05	11/12/24 04:48	1

Client Sample ID: TRIP BLANK

Lab Sample ID: 380-120077-2

Date Collected: 10/29/24 10:30

Matrix: Water

Date Received: 10/31/24 10:11

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			11/09/24 21:14	1

Client Sample Results

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

Job ID: 380-120077-1
SDG: Weekly

Client Sample ID: TRIP BLANK

Lab Sample ID: 380-120077-2

Date Collected: 10/29/24 10:30

Matrix: Water

Date Received: 10/31/24 10:11

<u>Surrogate</u>	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Dil Fac</u>
4-Bromofluorobenzene (Surr)	85		38 - 134		11/09/24 21:14	1

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Action Limit Summary

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

Job ID: 380-120077-1
 SDG: Weekly

Client Sample ID: Halawa Shaft Viewing Pool

Lab Sample ID: 380-120077-1

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	<0.048		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: 380-120077-1
SDG: Weekly

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)
380-120077-1	Halawa Shaft Viewing Pool	95	90	100
380-120777-AN-1-A MS	Matrix Spike	96	98	105
380-121350-Q-1-A DU	Duplicate	97	85	103
LCS 380-118414/23-A	Lab Control Sample	96	90	104
LCSD 380-118414/24-A	Lab Control Sample Dup	97	91	104
MB 380-118414/21-A	Method Blank	96	87	103
MRL 380-118414/22-A	Lab Control Sample	96	84	102

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)
380-120077-1	Halawa Shaft Viewing Pool	76	78	44	86	25	77
MB 570-498744/1-A	Method Blank	104	95	64	111	40	98

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)
380-119975-A-3-A MS	Matrix Spike	93	82	58	69	38	91
380-119975-A-3-B MSD	Matrix Spike Duplicate	91	81	56	68	38	93
380-120077-1	Halawa Shaft Viewing Pool	78	67	41	75	25	81
LCS 570-498744/2-A	Lab Control Sample	87	78	64	71	43	81
LCSD 570-498744/3-A	Lab Control Sample Dup	83	76	60	66	39	82
MB 570-498744/1-A	Method Blank	88	80	55	83	35	83

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)

Surrogate Summary

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

Job ID: 380-120077-1
SDG: Weekly

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)
380-119975-B-3 MS	Matrix Spike	101
380-119975-B-3 MSD	Matrix Spike Duplicate	102
380-120077-1	Halawa Shaft Viewing Pool	92
380-120077-2	TRIP BLANK	85
LCS 570-501335/43	Lab Control Sample	99
LCSD 570-501335/44	Lab Control Sample Dup	96
MB 570-501335/45	Method Blank	88
MRL 570-501335/42	Lab Control Sample	91

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

Method: 8015B - Diesel Range Organics (DRO) (GC) Low Level

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	OTCSN1 (60-130)
380-119975-C-3-A MS	Matrix Spike	97
380-119975-C-3-B MSD	Matrix Spike Duplicate	97
380-120077-1	Halawa Shaft Viewing Pool	93
LCS 570-498284/2-A	Lab Control Sample	102
LCSD 570-498284/3-A	Lab Control Sample Dup	95
MB 570-498284/1-A	Method Blank	105
MRL 570-498284/4-A	Lab Control Sample	98

Surrogate Legend

OTCSN = n-Octacosane (Surr)

QC Sample Results

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

Job ID: 380-120077-1
SDG: Weekly

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

Lab Sample ID: MB 380-118414/21-A
Matrix: Water
Analysis Batch: 118712

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 118414

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	<0.097		0.097	ug/L		11/11/24 08:34	11/13/24 14:14	1
2,4'-DDD	<0.097		0.097	ug/L		11/11/24 08:34	11/13/24 14:14	1
2,4'-DDE	<0.097		0.097	ug/L		11/11/24 08:34	11/13/24 14:14	1
2,4'-DDT	<0.097		0.097	ug/L		11/11/24 08:34	11/13/24 14:14	1
2,4-Dinitrotoluene	<0.097		0.097	ug/L		11/11/24 08:34	11/13/24 14:14	1
2,6-Dinitrotoluene	<0.097		0.097	ug/L		11/11/24 08:34	11/13/24 14:14	1
2-Methylnaphthalene	<0.097		0.097	ug/L		11/11/24 08:34	11/13/24 14:14	1
4,4'-DDD	<0.097		0.097	ug/L		11/11/24 08:34	11/13/24 14:14	1
4,4'-DDE	<0.097		0.097	ug/L		11/11/24 08:34	11/13/24 14:14	1
4,4'-DDT	<0.097		0.097	ug/L		11/11/24 08:34	11/13/24 14:14	1
Acenaphthene	<0.097		0.097	ug/L		11/11/24 08:34	11/13/24 14:14	1
Acenaphthylene	<0.097		0.097	ug/L		11/11/24 08:34	11/13/24 14:14	1
Acetochlor	<0.097		0.097	ug/L		11/11/24 08:34	11/13/24 14:14	1
Alachlor	<0.049		0.049	ug/L		11/11/24 08:34	11/13/24 14:14	1
alpha-BHC	<0.097		0.097	ug/L		11/11/24 08:34	11/13/24 14:14	1
alpha-Chlordane	<0.049		0.049	ug/L		11/11/24 08:34	11/13/24 14:14	1
Anthracene	<0.019		0.019	ug/L		11/11/24 08:34	11/13/24 14:14	1
Atrazine	<0.049		0.049	ug/L		11/11/24 08:34	11/13/24 14:14	1
Benz(a)anthracene	<0.049		0.049	ug/L		11/11/24 08:34	11/13/24 14:14	1
Benzo[a]pyrene	<0.019		0.019	ug/L		11/11/24 08:34	11/13/24 14:14	1
Benzo[b]fluoranthene	<0.019		0.019	ug/L		11/11/24 08:34	11/13/24 14:14	1
Benzo[g,h,i]perylene	<0.049		0.049	ug/L		11/11/24 08:34	11/13/24 14:14	1
Benzo[k]fluoranthene	<0.019		0.019	ug/L		11/11/24 08:34	11/13/24 14:14	1
beta-BHC	<0.097		0.097	ug/L		11/11/24 08:34	11/13/24 14:14	1
Bis(2-ethylhexyl) phthalate	<0.58		0.58	ug/L		11/11/24 08:34	11/13/24 14:14	1
Bromacil	<0.097		0.097	ug/L		11/11/24 08:34	11/13/24 14:14	1
Butachlor	<0.049		0.049	ug/L		11/11/24 08:34	11/13/24 14:14	1
Butylbenzylphthalate	<0.49		0.49	ug/L		11/11/24 08:34	11/13/24 14:14	1
Chlorobenzilate	<0.097		0.097	ug/L		11/11/24 08:34	11/13/24 14:14	1
Chloroneb	<0.097		0.097	ug/L		11/11/24 08:34	11/13/24 14:14	1
Chlorothalonil (Draconil, Bravo)	<0.097		0.097	ug/L		11/11/24 08:34	11/13/24 14:14	1
Chlorpyrifos	<0.049		0.049	ug/L		11/11/24 08:34	11/13/24 14:14	1
Chrysene	<0.019		0.019	ug/L		11/11/24 08:34	11/13/24 14:14	1
delta-BHC	<0.097		0.097	ug/L		11/11/24 08:34	11/13/24 14:14	1
Di(2-ethylhexyl)adipate	<0.58		0.58	ug/L		11/11/24 08:34	11/13/24 14:14	1
Dibenz(a,h)anthracene	<0.049		0.049	ug/L		11/11/24 08:34	11/13/24 14:14	1
Diclorvos (DDVP)	<0.049		0.049	ug/L		11/11/24 08:34	11/13/24 14:14	1
Dieldrin	<0.0097		0.0097	ug/L		11/11/24 08:34	11/13/24 14:14	1
Diethylphthalate	<0.49		0.49	ug/L		11/11/24 08:34	11/13/24 14:14	1
Dimethylphthalate	<0.49		0.49	ug/L		11/11/24 08:34	11/13/24 14:14	1
Di-n-butyl phthalate	<0.97		0.97	ug/L		11/11/24 08:34	11/13/24 14:14	1
Di-n-octyl phthalate	<0.097		0.097	ug/L		11/11/24 08:34	11/13/24 14:14	1
Endosulfan I (Alpha)	<0.097		0.097	ug/L		11/11/24 08:34	11/13/24 14:14	1
Endosulfan II (Beta)	<0.097		0.097	ug/L		11/11/24 08:34	11/13/24 14:14	1
Endosulfan sulfate	<0.097		0.097	ug/L		11/11/24 08:34	11/13/24 14:14	1
Endrin	<0.0097		0.0097	ug/L		11/11/24 08:34	11/13/24 14:14	1
Endrin aldehyde	<0.097		0.097	ug/L		11/11/24 08:34	11/13/24 14:14	1
EPTC	<0.097		0.097	ug/L		11/11/24 08:34	11/13/24 14:14	1

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QC Sample Results

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

Job ID: 380-120077-1
SDG: Weekly

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

Lab Sample ID: MB 380-118414/21-A
Matrix: Water
Analysis Batch: 118712

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 118414

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoranthene	<0.097		0.097	ug/L		11/11/24 08:34	11/13/24 14:14	1
Fluorene	<0.049		0.049	ug/L		11/11/24 08:34	11/13/24 14:14	1
gamma-Chlordane	<0.049		0.049	ug/L		11/11/24 08:34	11/13/24 14:14	1
Heptachlor	<0.0097		0.0097	ug/L		11/11/24 08:34	11/13/24 14:14	1
Heptachlor epoxide (isomer B)	<0.0097		0.0097	ug/L		11/11/24 08:34	11/13/24 14:14	1
Hexachlorobenzene	<0.049		0.049	ug/L		11/11/24 08:34	11/13/24 14:14	1
Hexachlorocyclopentadiene	<0.049		0.049	ug/L		11/11/24 08:34	11/13/24 14:14	1
Indeno[1,2,3-cd]pyrene	<0.049		0.049	ug/L		11/11/24 08:34	11/13/24 14:14	1
Isophorone	<0.097		0.097	ug/L		11/11/24 08:34	11/13/24 14:14	1
Lindane	<0.0097		0.0097	ug/L		11/11/24 08:34	11/13/24 14:14	1
Malathion	<0.097		0.097	ug/L		11/11/24 08:34	11/13/24 14:14	1
Methoxychlor	<0.049		0.049	ug/L		11/11/24 08:34	11/13/24 14:14	1
Metolachlor	<0.049		0.049	ug/L		11/11/24 08:34	11/13/24 14:14	1
Molinate	<0.097		0.097	ug/L		11/11/24 08:34	11/13/24 14:14	1
Naphthalene	<0.097		0.097	ug/L		11/11/24 08:34	11/13/24 14:14	1
Parathion	<0.097		0.097	ug/L		11/11/24 08:34	11/13/24 14:14	1
Pendimethalin (Penoxaline)	<0.097		0.097	ug/L		11/11/24 08:34	11/13/24 14:14	1
Phenanthrene	<0.039		0.039	ug/L		11/11/24 08:34	11/13/24 14:14	1
Propachlor	<0.049		0.049	ug/L		11/11/24 08:34	11/13/24 14:14	1
Pyrene	<0.049		0.049	ug/L		11/11/24 08:34	11/13/24 14:14	1
Simazine	<0.049		0.049	ug/L		11/11/24 08:34	11/13/24 14:14	1
Terbacil	<0.097		0.097	ug/L		11/11/24 08:34	11/13/24 14:14	1
Terbutylazine	<0.097		0.097	ug/L		11/11/24 08:34	11/13/24 14:14	1
Thiobencarb	<0.097		0.097	ug/L		11/11/24 08:34	11/13/24 14:14	1
Total Permethrin (mixed isomers)	<0.19		0.19	ug/L		11/11/24 08:34	11/13/24 14:14	1
trans-Nonachlor	<0.049		0.049	ug/L		11/11/24 08:34	11/13/24 14:14	1
Trifluralin	<0.097		0.097	ug/L		11/11/24 08:34	11/13/24 14:14	1

<i>Tentatively Identified Compound</i>	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
<i>Ethyl 3-acetoxybutyrate</i>	0.559	T J N	ug/L		3.20	27846-49-7	11/11/24 08:34	11/13/24 14:14	1
<i>9-Octadecenamamide, (Z)-</i>	1.41	T J N	ug/L		7.98	301-02-0	11/11/24 08:34	11/13/24 14:14	1

<i>Surrogate</i>	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>2-Nitro-m-xylene</i>	96		70 - 130	11/11/24 08:34	11/13/24 14:14	1
<i>Perylene-d12</i>	87		70 - 130	11/11/24 08:34	11/13/24 14:14	1
<i>Triphenylphosphate</i>	103		70 - 130	11/11/24 08:34	11/13/24 14:14	1

Lab Sample ID: LCS 380-118414/23-A
Matrix: Water
Analysis Batch: 118712

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 118414

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
1-Methylnaphthalene	1.95	1.98		ug/L		102	70 - 130
2,4'-DDD	1.95	2.16		ug/L		111	70 - 130
2,4'-DDE	1.95	2.09		ug/L		107	70 - 130
2,4'-DDT	1.95	1.99		ug/L		102	70 - 130
2,4-Dinitrotoluene	1.95	2.15		ug/L		110	70 - 130
2,6-Dinitrotoluene	1.95	2.17		ug/L		111	70 - 130

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QC Sample Results

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

Job ID: 380-120077-1
SDG: Weekly

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

Lab Sample ID: LCS 380-118414/23-A
Matrix: Water
Analysis Batch: 118712

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 118414

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2-Methylnaphthalene	1.95	1.97		ug/L		101	70 - 130
4,4'-DDD	1.95	2.05		ug/L		105	70 - 130
4,4'-DDE	1.95	2.06		ug/L		106	70 - 130
4,4'-DDT	1.95	1.97		ug/L		101	70 - 130
Acenaphthene	1.95	2.03		ug/L		104	70 - 130
Acenaphthylene	1.95	2.03		ug/L		104	70 - 130
Acetochlor	1.95	2.27		ug/L		116	70 - 130
Alachlor	1.95	2.15		ug/L		110	70 - 130
alpha-BHC	1.95	2.12		ug/L		109	70 - 130
alpha-Chlordane	1.95	2.26		ug/L		116	70 - 130
Anthracene	1.95	1.80		ug/L		93	70 - 130
Atrazine	1.95	2.37		ug/L		122	70 - 130
Benz(a)anthracene	1.95	1.99		ug/L		102	70 - 130
Benzo[a]pyrene	1.95	2.12		ug/L		109	70 - 130
Benzo[b]fluoranthene	1.95	2.11		ug/L		108	70 - 130
Benzo[g,h,i]perylene	1.95	1.94		ug/L		99	70 - 130
Benzo[k]fluoranthene	1.95	2.07		ug/L		106	70 - 130
beta-BHC	1.95	2.14		ug/L		110	70 - 130
Bis(2-ethylhexyl) phthalate	1.95	1.93		ug/L		99	70 - 130
Bromacil	1.95	2.17		ug/L		111	70 - 130
Butachlor	1.95	2.09		ug/L		107	70 - 130
Butylbenzylphthalate	1.95	2.19		ug/L		112	70 - 130
Chlorobenzilate	1.95	1.83		ug/L		94	70 - 130
Chloroneb	1.95	2.24		ug/L		115	70 - 130
Chlorothalonil (Draconil, Bravo)	1.95	2.14		ug/L		110	70 - 130
Chlorpyrifos	1.95	2.35		ug/L		121	70 - 130
Chrysene	1.95	2.14		ug/L		110	70 - 130
delta-BHC	1.95	2.12		ug/L		109	70 - 130
Di(2-ethylhexyl)adipate	1.95	1.99		ug/L		102	70 - 130
Dibenz(a,h)anthracene	1.95	2.00		ug/L		103	70 - 130
Diclorvos (DDVP)	1.95	1.93		ug/L		99	70 - 130
Dieldrin	1.95	2.08		ug/L		107	70 - 130
Diethylphthalate	1.95	2.24		ug/L		115	70 - 130
Dimethylphthalate	1.95	2.16		ug/L		111	70 - 130
Di-n-butyl phthalate	3.90	4.33		ug/L		111	70 - 130
Di-n-octyl phthalate	1.95	1.89		ug/L		97	70 - 130
Endosulfan I (Alpha)	1.95	2.05		ug/L		105	70 - 130
Endosulfan II (Beta)	1.95	2.12		ug/L		109	70 - 130
Endosulfan sulfate	1.95	2.01		ug/L		103	70 - 130
Endrin	1.95	2.24		ug/L		115	70 - 130
Endrin aldehyde	1.95	1.93		ug/L		99	60 - 130
EPTC	1.95	2.11		ug/L		108	70 - 130
Fluoranthene	1.95	2.25		ug/L		115	70 - 130
Fluorene	1.95	2.14		ug/L		110	70 - 130
gamma-Chlordane	1.95	2.23		ug/L		114	70 - 130
Heptachlor	1.95	2.31		ug/L		119	70 - 130
Heptachlor epoxide (isomer B)	1.95	2.11		ug/L		108	70 - 130
Hexachlorobenzene	1.95	1.94		ug/L		99	70 - 130
Hexachlorocyclopentadiene	1.95	2.08		ug/L		107	70 - 130

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QC Sample Results

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

Job ID: 380-120077-1
SDG: Weekly

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

Lab Sample ID: LCS 380-118414/23-A
Matrix: Water
Analysis Batch: 118712

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 118414

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Indeno[1,2,3-cd]pyrene	1.95	2.03		ug/L		104	70 - 130
Isophorone	1.95	2.04		ug/L		105	70 - 130
Lindane	1.95	2.09		ug/L		107	70 - 130
Malathion	1.95	2.45		ug/L		126	70 - 130
Methoxychlor	1.95	2.21		ug/L		113	70 - 130
Metolachlor	1.95	2.33		ug/L		119	70 - 130
Molinate	1.95	2.13		ug/L		109	70 - 130
Naphthalene	1.95	1.92		ug/L		99	70 - 130
Parathion	1.95	2.32		ug/L		119	70 - 130
Pendimethalin (Penoxaline)	1.95	2.08		ug/L		107	70 - 130
Phenanthrene	1.95	2.03		ug/L		104	70 - 130
Propachlor	1.95	2.24		ug/L		115	70 - 130
Pyrene	1.95	2.28		ug/L		117	70 - 130
Simazine	1.95	2.29		ug/L		117	70 - 130
Terbacil	1.95	2.32		ug/L		119	70 - 130
Terbutylazine	1.95	2.36		ug/L		121	70 - 130
Thiobencarb	1.95	2.26		ug/L		116	70 - 130
trans-Nonachlor	1.95	2.30		ug/L		118	70 - 130
Trifluralin	1.95	2.03		ug/L		104	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Nitro-m-xylene	96		70 - 130
Perylene-d12	90		70 - 130
Triphenylphosphate	104		70 - 130

Lab Sample ID: LCSD 380-118414/24-A
Matrix: Water
Analysis Batch: 118712

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 118414

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1-Methylnaphthalene	1.95	2.02		ug/L		104	70 - 130	2	20
2,4'-DDD	1.95	2.18		ug/L		112	70 - 130	1	20
2,4'-DDE	1.95	2.14		ug/L		110	70 - 130	2	20
2,4'-DDT	1.95	2.03		ug/L		104	70 - 130	2	20
2,4-Dinitrotoluene	1.95	2.12		ug/L		109	70 - 130	1	20
2,6-Dinitrotoluene	1.95	2.17		ug/L		111	70 - 130	0	20
2-Methylnaphthalene	1.95	2.02		ug/L		104	70 - 130	2	20
4,4'-DDD	1.95	2.08		ug/L		107	70 - 130	1	20
4,4'-DDE	1.95	2.15		ug/L		110	70 - 130	4	20
4,4'-DDT	1.95	2.02		ug/L		104	70 - 130	2	20
Acenaphthene	1.95	2.06		ug/L		106	70 - 130	1	20
Acenaphthylene	1.95	2.01		ug/L		103	70 - 130	1	20
Acetochlor	1.95	2.25		ug/L		115	70 - 130	1	20
Alachlor	1.95	2.15		ug/L		110	70 - 130	0	20
alpha-BHC	1.95	2.10		ug/L		108	70 - 130	1	20
alpha-Chlordane	1.95	2.28		ug/L		117	70 - 130	1	20
Anthracene	1.95	1.83		ug/L		94	70 - 130	1	20
Atrazine	1.95	2.34		ug/L		120	70 - 130	1	20

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-120077-1
SDG: Weekly

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

Lab Sample ID: LCSD 380-118414/24-A
Matrix: Water
Analysis Batch: 118712

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 118414

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
							Limits	RPD		
Benz(a)anthracene	1.95	2.05		ug/L		105	70 - 130	3	20	
Benzo[a]pyrene	1.95	2.14		ug/L		110	70 - 130	1	20	
Benzo[b]fluoranthene	1.95	2.15		ug/L		110	70 - 130	2	20	
Benzo[g,h,i]perylene	1.95	1.94		ug/L		99	70 - 130	0	20	
Benzo[k]fluoranthene	1.95	2.12		ug/L		109	70 - 130	3	20	
beta-BHC	1.95	2.09		ug/L		107	70 - 130	2	20	
Bis(2-ethylhexyl) phthalate	1.95	2.04		ug/L		105	70 - 130	5	20	
Bromacil	1.95	2.17		ug/L		111	70 - 130	0	20	
Butachlor	1.95	2.11		ug/L		108	70 - 130	1	20	
Butylbenzylphthalate	1.95	2.19		ug/L		112	70 - 130	0	20	
Chlorobenzilate	1.95	1.78		ug/L		91	70 - 130	3	20	
Chloroneb	1.95	2.04		ug/L		105	70 - 130	10	20	
Chlorothalonil (Draconil, Bravo)	1.95	2.10		ug/L		108	70 - 130	2	20	
Chlorpyrifos	1.95	2.37		ug/L		122	70 - 130	1	20	
Chrysene	1.95	2.13		ug/L		109	70 - 130	0	20	
delta-BHC	1.95	2.10		ug/L		108	70 - 130	1	20	
Di(2-ethylhexyl)adipate	1.95	2.14		ug/L		110	70 - 130	7	20	
Dibenz(a,h)anthracene	1.95	2.03		ug/L		104	70 - 130	1	20	
Diclorvos (DDVP)	1.95	2.04		ug/L		105	70 - 130	5	20	
Dieldrin	1.95	2.08		ug/L		107	70 - 130	0	20	
Diethylphthalate	1.95	2.23		ug/L		115	70 - 130	0	20	
Dimethylphthalate	1.95	2.17		ug/L		112	70 - 130	1	20	
Di-n-butyl phthalate	3.90	4.28		ug/L		110	70 - 130	1	20	
Di-n-octyl phthalate	1.95	1.96		ug/L		101	70 - 130	4	20	
Endosulfan I (Alpha)	1.95	2.06		ug/L		106	70 - 130	1	20	
Endosulfan II (Beta)	1.95	2.14		ug/L		110	70 - 130	1	20	
Endosulfan sulfate	1.95	1.96		ug/L		101	70 - 130	3	20	
Endrin	1.95	2.34		ug/L		120	70 - 130	5	20	
Endrin aldehyde	1.95	1.86		ug/L		96	60 - 130	3	20	
EPTC	1.95	2.15		ug/L		111	70 - 130	2	20	
Fluoranthene	1.95	2.31		ug/L		118	70 - 130	2	20	
Fluorene	1.95	2.17		ug/L		112	70 - 130	1	20	
gamma-Chlordane	1.95	2.26		ug/L		116	70 - 130	1	20	
Heptachlor	1.95	2.33		ug/L		120	70 - 130	1	20	
Heptachlor epoxide (isomer B)	1.95	2.18		ug/L		112	70 - 130	3	20	
Hexachlorobenzene	1.95	1.98		ug/L		101	70 - 130	2	20	
Hexachlorocyclopentadiene	1.95	2.15		ug/L		110	70 - 130	3	20	
Indeno[1,2,3-cd]pyrene	1.95	2.09		ug/L		107	70 - 130	3	20	
Isophorone	1.95	2.05		ug/L		105	70 - 130	0	20	
Lindane	1.95	2.02		ug/L		104	70 - 130	3	20	
Malathion	1.95	2.46		ug/L		126	70 - 130	0	20	
Methoxychlor	1.95	2.17		ug/L		111	70 - 130	2	20	
Metolachlor	1.95	2.29		ug/L		117	70 - 130	2	20	
Molinate	1.95	2.15		ug/L		110	70 - 130	1	20	
Naphthalene	1.95	1.94		ug/L		99	70 - 130	1	20	
Parathion	1.95	2.24		ug/L		115	70 - 130	3	20	
Pendimethalin (Penoxaline)	1.95	2.08		ug/L		107	70 - 130	0	20	
Phenanthrene	1.95	2.07		ug/L		106	70 - 130	2	20	
Propachlor	1.95	2.22		ug/L		114	70 - 130	1	20	

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-120077-1
SDG: Weekly

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

Lab Sample ID: LCSD 380-118414/24-A
Matrix: Water
Analysis Batch: 118712

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 118414

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Pyrene	1.95	2.33		ug/L		120	70 - 130	2	20
Simazine	1.95	2.30		ug/L		118	70 - 130	0	20
Terbacil	1.95	2.45		ug/L		126	70 - 130	5	20
Terbutylazine	1.95	2.32		ug/L		119	70 - 130	2	20
Thiobencarb	1.95	2.27		ug/L		117	70 - 130	1	20
trans-Nonachlor	1.95	2.31		ug/L		119	70 - 130	1	20
Trifluralin	1.95	1.99		ug/L		102	70 - 130	2	20

Surrogate	LCSD %Recovery	LCSD Qualifier	LCSD Limits
2-Nitro-m-xylene	97		70 - 130
Perylene-d12	91		70 - 130
Triphenylphosphate	104		70 - 130

Lab Sample ID: MRL 380-118414/22-A
Matrix: Water
Analysis Batch: 118712

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 118414

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
1-Methylnaphthalene	0.0973	0.117		ug/L		120	50 - 150
2,4'-DDD	0.0973	0.101		ug/L		104	50 - 150
2,4'-DDE	0.0973	0.109		ug/L		112	50 - 150
2,4'-DDT	0.0973	0.115		ug/L		118	50 - 150
2,4-Dinitrotoluene	0.0973	0.112		ug/L		115	50 - 150
2,6-Dinitrotoluene	0.0973	0.115		ug/L		118	50 - 150
2-Methylnaphthalene	0.0973	0.106		ug/L		109	50 - 150
4,4'-DDD	0.0973	0.127		ug/L		130	50 - 150
4,4'-DDE	0.0973	0.106		ug/L		109	50 - 150
4,4'-DDT	0.0973	0.119		ug/L		123	50 - 150
Acenaphthene	0.0973	0.105		ug/L		108	50 - 150
Acenaphthylene	0.0973	0.0975		ug/L		100	50 - 150
Acetochlor	0.0973	0.121		ug/L		125	50 - 150
Alachlor	0.0487	0.0596		ug/L		122	50 - 150
alpha-BHC	0.0973	0.114		ug/L		117	50 - 150
alpha-Chlordane	0.0243	<0.028		ug/L		106	50 - 150
Anthracene	0.0195	0.0208		ug/L		107	50 - 150
Atrazine	0.0487	0.0553		ug/L		114	50 - 150
Benz(a)anthracene	0.0487	0.0579		ug/L		119	50 - 150
Benzo[a]pyrene	0.0195	0.0237		ug/L		122	50 - 150
Benzo[b]fluoranthene	0.0195	0.0263		ug/L		135	50 - 150
Benzo[g,h,i]perylene	0.0487	0.0569		ug/L		117	50 - 150
Benzo[k]fluoranthene	0.0195	0.0264		ug/L		135	50 - 150
beta-BHC	0.0973	0.123		ug/L		126	50 - 150
Bis(2-ethylhexyl) phthalate	0.584	0.586		ug/L		100	50 - 150
Bromacil	0.0973	0.113		ug/L		116	50 - 150
Butachlor	0.0487	0.0647		ug/L		133	50 - 150
Butylbenzylphthalate	0.487	0.587		ug/L		121	50 - 150
Chlorobenzilate	0.0973	0.103		ug/L		106	50 - 150
Chloroneb	0.0973	0.104		ug/L		107	50 - 150

QC Sample Results

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

Job ID: 380-120077-1
SDG: Weekly

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

Lab Sample ID: MRL 380-118414/22-A
Matrix: Water
Analysis Batch: 118712

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 118414

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Chlorothalonil (Draconil, Bravo)	0.0973	0.120		ug/L		123	50 - 150
Chlorpyrifos	0.0487	0.0609		ug/L		125	50 - 150
Chrysene	0.0195	0.0250		ug/L		129	50 - 150
delta-BHC	0.0973	0.111		ug/L		114	50 - 150
Di(2-ethylhexyl)adipate	0.584	0.663		ug/L		114	50 - 150
Dibenz(a,h)anthracene	0.0487	0.0525		ug/L		108	50 - 150
Diclorvos (DDVP)	0.0487	0.0547		ug/L		112	50 - 150
Dieldrin	0.00973	0.00976		ug/L		100	50 - 150
Diethylphthalate	0.487	0.554		ug/L		114	50 - 150
Dimethylphthalate	0.487	0.543		ug/L		112	50 - 150
Di-n-butyl phthalate	0.487	0.570	J	ug/L		117	49 - 243
Di-n-octyl phthalate	0.0973	0.114		ug/L		117	50 - 150
Endosulfan I (Alpha)	0.0973	0.113		ug/L		116	50 - 150
Endosulfan II (Beta)	0.0973	0.106		ug/L		108	50 - 150
Endosulfan sulfate	0.0973	0.123		ug/L		126	50 - 150
Endrin	0.00973	0.0110		ug/L		114	50 - 150
Endrin aldehyde	0.0973	0.133		ug/L		137	50 - 150
EPTC	0.0973	0.0951	J	ug/L		98	50 - 150
Fluoranthene	0.0973	0.110		ug/L		113	50 - 150
Fluorene	0.0487	0.0549		ug/L		113	50 - 150
gamma-Chlordane	0.0243	0.0260	J	ug/L		107	50 - 150
Heptachlor	0.00973	0.0113		ug/L		116	50 - 150
Heptachlor epoxide (isomer B)	0.00973	0.0121		ug/L		124	50 - 150
Hexachlorobenzene	0.0487	0.0508		ug/L		104	50 - 150
Hexachlorocyclopentadiene	0.0487	0.0472	J	ug/L		97	50 - 150
Indeno[1,2,3-cd]pyrene	0.0487	0.0565		ug/L		116	50 - 150
Isophorone	0.0973	0.122		ug/L		126	50 - 150
Lindane	0.00973	0.0135		ug/L		139	50 - 150
Malathion	0.0973	0.103		ug/L		106	50 - 150
Methoxychlor	0.0487	0.0619		ug/L		127	50 - 150
Metolachlor	0.0487	0.0597		ug/L		123	50 - 150
Molinate	0.0973	0.106		ug/L		109	50 - 150
Naphthalene	0.0973	0.115		ug/L		119	50 - 150
Parathion	0.0973	0.0896	J	ug/L		92	50 - 150
Pendimethalin (Penoxaline)	0.0973	0.0963	J	ug/L		99	50 - 150
Phenanthrene	0.0389	0.0482		ug/L		124	50 - 150
Propachlor	0.0487	0.0554		ug/L		114	50 - 150
Pyrene	0.0487	0.0569		ug/L		117	50 - 150
Simazine	0.0487	0.0482	J	ug/L		99	50 - 150
Terbacil	0.0973	0.104		ug/L		106	50 - 150
Terbutylazine	0.0973	0.120		ug/L		123	50 - 150
Thiobencarb	0.0973	0.107		ug/L		110	50 - 150
trans-Nonachlor	0.0243	0.0299	J	ug/L		123	50 - 150
Trifluralin	0.0973	0.102		ug/L		105	50 - 150

Surrogate	MRL %Recovery	MRL Qualifier	Limits
2-Nitro-m-xylene	96		70 - 130
Perylene-d12	84		70 - 130

QC Sample Results

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

Job ID: 380-120077-1
SDG: Weekly

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

Lab Sample ID: MRL 380-118414/22-A
Matrix: Water
Analysis Batch: 118712

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 118414

Surrogate	%Recovery	MRL MRL Qualifier	Limits
Triphenylphosphate	102		70 - 130

Lab Sample ID: 380-120777-AN-1-A MS
Matrix: Water
Analysis Batch: 118712

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 118414

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
1-Methylnaphthalene	<0.097		1.95	2.04		ug/L		104	70 - 130
2,4'-DDD	<0.097		1.95	2.18		ug/L		112	70 - 130
2,4'-DDE	<0.097		1.95	2.08		ug/L		107	70 - 130
2,4'-DDT	<0.097		1.95	2.05		ug/L		105	70 - 130
2,4-Dinitrotoluene	<0.097		1.95	2.44		ug/L		125	70 - 130
2,6-Dinitrotoluene	<0.097		1.95	2.34		ug/L		120	70 - 130
2-Methylnaphthalene	<0.097		1.95	2.03		ug/L		103	70 - 130
4,4'-DDD	<0.097		1.95	2.10		ug/L		108	70 - 130
4,4'-DDE	<0.097		1.95	2.11		ug/L		108	70 - 130
4,4'-DDT	<0.097		1.95	2.04		ug/L		105	70 - 130
Acenaphthene	<0.097		1.95	2.05		ug/L		105	70 - 130
Acenaphthylene	<0.097		1.95	2.11		ug/L		108	70 - 130
Acetochlor	<0.097		1.95	2.21		ug/L		113	70 - 130
Alachlor	<0.048		1.95	2.09		ug/L		108	70 - 130
alpha-BHC	<0.097		1.95	2.11		ug/L		108	70 - 130
alpha-Chlordane	<0.048		1.95	2.26		ug/L		116	70 - 130
Anthracene	<0.019		1.95	1.78		ug/L		91	70 - 130
Atrazine	<0.048		1.95	2.27		ug/L		116	70 - 130
Benz(a)anthracene	<0.048		1.95	2.05		ug/L		105	70 - 130
Benzo[a]pyrene	<0.019		1.95	2.22		ug/L		114	70 - 130
Benzo[b]fluoranthene	<0.019		1.95	2.20		ug/L		113	70 - 130
Benzo[g,h,i]perylene	<0.048		1.95	1.93		ug/L		99	70 - 130
Benzo[k]fluoranthene	<0.019		1.95	2.13		ug/L		109	70 - 130
beta-BHC	<0.097		1.95	2.12		ug/L		109	70 - 130
Bis(2-ethylhexyl) phthalate	<0.58		1.95	1.94		ug/L		99	70 - 130
Bromacil	<0.097	F1	1.95	2.96	F1	ug/L		152	70 - 130
Butachlor	<0.048		1.95	2.11		ug/L		108	70 - 130
Butylbenzylphthalate	<0.48		1.95	2.22		ug/L		114	70 - 130
Chlorobenzilate	<0.097		1.95	2.23		ug/L		115	70 - 130
Chloroneb	<0.097		1.95	2.04		ug/L		105	70 - 130
Chlorothalonil (Draconil, Bravo)	<0.097		1.95	2.29		ug/L		118	70 - 130
Chlorpyrifos	<0.048		1.95	2.33		ug/L		120	70 - 130
Chrysene	<0.019		1.95	2.12		ug/L		109	70 - 130
delta-BHC	<0.097		1.95	2.09		ug/L		107	70 - 130
Di(2-ethylhexyl)adipate	<0.58		1.95	2.03		ug/L		104	70 - 130
Dibenz(a,h)anthracene	<0.048		1.95	2.03		ug/L		104	70 - 130
Diclorvos (DDVP)	<0.048		1.95	2.04		ug/L		105	70 - 130
Dieldrin	<0.0097		1.95	2.01		ug/L		103	70 - 130
Diethylphthalate	<0.48		1.95	2.28		ug/L		117	70 - 130
Dimethylphthalate	<0.48		1.95	2.23		ug/L		114	70 - 130
Di-n-butyl phthalate	<0.97		3.90	4.57		ug/L		117	70 - 130

QC Sample Results

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

Job ID: 380-120077-1
SDG: Weekly

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

Lab Sample ID: 380-120777-AN-1-A MS
Matrix: Water
Analysis Batch: 118712

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 118414

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec Limits
	Result	Qualifier	Added	Result	Qualifier				
Di-n-octyl phthalate	<0.097		1.95	1.81		ug/L		93	70 - 130
Endosulfan I (Alpha)	<0.097		1.95	2.03		ug/L		104	70 - 130
Endosulfan II (Beta)	<0.097		1.95	2.09		ug/L		107	70 - 130
Endosulfan sulfate	<0.097		1.95	2.01		ug/L		103	70 - 130
Endrin	<0.0097		1.95	2.08		ug/L		107	70 - 130
Endrin aldehyde	<0.097		1.95	1.32		ug/L		68	60 - 130
EPTC	<0.097		1.95	2.14		ug/L		110	70 - 130
Fluoranthene	<0.097		1.95	2.30		ug/L		118	70 - 130
Fluorene	<0.048		1.95	2.16		ug/L		111	70 - 130
gamma-Chlordane	<0.048		1.95	2.20		ug/L		113	70 - 130
Heptachlor	<0.0097		1.95	2.29		ug/L		118	70 - 130
Heptachlor epoxide (isomer B)	<0.0097		1.95	2.12		ug/L		109	70 - 130
Hexachlorobenzene	<0.048		1.95	2.00		ug/L		103	70 - 130
Hexachlorocyclopentadiene	<0.048		1.95	2.19		ug/L		112	70 - 130
Indeno[1,2,3-cd]pyrene	<0.048		1.95	2.22		ug/L		114	70 - 130
Isophorone	<0.097		1.95	2.04		ug/L		105	70 - 130
Lindane	<0.0097		1.95	2.05		ug/L		105	70 - 130
Malathion	<0.097		1.95	2.45		ug/L		126	70 - 130
Methoxychlor	<0.048		1.95	2.39		ug/L		123	70 - 130
Metolachlor	<0.048		1.95	2.30		ug/L		118	70 - 130
Molinate	<0.097		1.95	2.16		ug/L		111	70 - 130
Naphthalene	<0.097		1.95	1.95		ug/L		100	70 - 130
Parathion	<0.097		1.95	2.39		ug/L		123	70 - 130
Pendimethalin (Penoxaline)	<0.097		1.95	2.26		ug/L		116	70 - 130
Phenanthrene	<0.039		1.95	2.06		ug/L		106	70 - 130
Propachlor	<0.048		1.95	2.28		ug/L		117	70 - 130
Pyrene	<0.048		1.95	2.31		ug/L		119	70 - 130
Simazine	<0.048		1.95	2.22		ug/L		114	70 - 130
Terbacil	<0.097		1.95	2.30		ug/L		118	70 - 130
Terbutylazine	<0.097		1.95	2.18		ug/L		112	70 - 130
Thiobencarb	<0.097		1.95	2.25		ug/L		115	70 - 130
trans-Nonachlor	<0.048		1.95	2.29		ug/L		117	70 - 130
Trifluralin	<0.097		1.95	2.15		ug/L		110	70 - 130

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
2-Nitro-m-xylene	96		70 - 130
Perylene-d12	98		70 - 130
Triphenylphosphate	105		70 - 130

Lab Sample ID: 380-121350-Q-1-A DU
Matrix: Water
Analysis Batch: 118712

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 118414

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

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-120077-1
SDG: Weekly

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

Lab Sample ID: 380-121350-Q-1-A DU
Matrix: Water
Analysis Batch: 118712

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 118414

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
2,4-Dinitrotoluene	<0.097		<0.097		ug/L		NC	20
2,6-Dinitrotoluene	<0.097		<0.097		ug/L		NC	20
2-Methylnaphthalene	<0.097		<0.097		ug/L		NC	20
4,4'-DDD	<0.097		<0.097		ug/L		NC	20
4,4'-DDE	<0.097		<0.097		ug/L		NC	20
4,4'-DDT	<0.097		<0.097		ug/L		NC	20
Acenaphthene	<0.097		<0.097		ug/L		NC	20
Acenaphthylene	<0.097		<0.097		ug/L		NC	20
Acetochlor	<0.097		<0.097		ug/L		NC	20
Alachlor	<0.049		<0.048		ug/L		NC	20
alpha-BHC	<0.097		<0.097		ug/L		NC	20
alpha-Chlordane	<0.049		<0.048		ug/L		NC	20
Anthracene	<0.019		<0.019		ug/L		NC	20
Atrazine	<0.049		<0.048		ug/L		NC	20
Benz(a)anthracene	<0.049		<0.048		ug/L		NC	20
Benzo[a]pyrene	<0.019		<0.019		ug/L		NC	20
Benzo[b]fluoranthene	<0.019		<0.019		ug/L		NC	20
Benzo[g,h,i]perylene	<0.049		<0.048		ug/L		NC	20
Benzo[k]fluoranthene	<0.019		<0.019		ug/L		NC	20
beta-BHC	<0.097		<0.097		ug/L		NC	20
Bis(2-ethylhexyl) phthalate	<0.58		<0.58		ug/L		NC	20
Bromacil	<0.097		<0.097		ug/L		NC	20
Butachlor	<0.049		<0.048		ug/L		NC	20
Butylbenzylphthalate	<0.49		<0.48		ug/L		NC	20
Chlorobenzilate	<0.097		<0.097		ug/L		NC	20
Chloroneb	<0.097		<0.097		ug/L		NC	20
Chlorothalonil (Draconil, Bravo)	<0.097		<0.097		ug/L		NC	20
Chlorpyrifos	<0.049		<0.048		ug/L		NC	20
Chrysene	<0.019		<0.019		ug/L		NC	20
delta-BHC	<0.097		<0.097		ug/L		NC	20
Di(2-ethylhexyl)adipate	<0.58		<0.58		ug/L		NC	20
Dibenz(a,h)anthracene	<0.049		<0.048		ug/L		NC	20
Diclorvos (DDVP)	<0.049		<0.048		ug/L		NC	20
Dieldrin	<0.0097		<0.0097		ug/L		NC	20
Diethylphthalate	<0.49		<0.48		ug/L		NC	20
Dimethylphthalate	<0.49		<0.48		ug/L		NC	20
Di-n-butyl phthalate	<0.97		<0.97		ug/L		NC	20
Di-n-octyl phthalate	<0.097		<0.097		ug/L		NC	20
Endosulfan I (Alpha)	<0.097		<0.097		ug/L		NC	20
Endosulfan II (Beta)	<0.097		<0.097		ug/L		NC	20
Endosulfan sulfate	<0.097		<0.097		ug/L		NC	20
Endrin	<0.0097		<0.0097		ug/L		NC	20
Endrin aldehyde	<0.097		<0.097		ug/L		NC	20
EPTC	<0.097		<0.097		ug/L		NC	20
Fluoranthene	<0.097		<0.097		ug/L		NC	20
Fluorene	<0.049		<0.048		ug/L		NC	20
gamma-Chlordane	<0.049		<0.048		ug/L		NC	20
Heptachlor	<0.0097		<0.0097		ug/L		NC	20
Heptachlor epoxide (isomer B)	<0.0097		<0.0097		ug/L		NC	20

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QC Sample Results

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

Job ID: 380-120077-1
SDG: Weekly

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

Lab Sample ID: 380-121350-Q-1-A DU
Matrix: Water
Analysis Batch: 118712

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 118414

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
Hexachlorobenzene	<0.049		<0.048		ug/L		NC	20
Hexachlorocyclopentadiene	<0.049		<0.048		ug/L		NC	20
Indeno[1,2,3-cd]pyrene	<0.049		<0.048		ug/L		NC	20
Isophorone	<0.097		<0.097		ug/L		NC	20
Lindane	<0.0097		<0.0097		ug/L		NC	20
Malathion	<0.097		<0.097		ug/L		NC	20
Methoxychlor	<0.049		<0.048		ug/L		NC	20
Metolachlor	<0.049		<0.048		ug/L		NC	20
Molinate	<0.097		<0.097		ug/L		NC	20
Naphthalene	<0.097		<0.097		ug/L		NC	20
Parathion	<0.097		<0.097		ug/L		NC	20
Pendimethalin (Penoxaline)	<0.097		<0.097		ug/L		NC	20
Phenanthrene	<0.039		<0.039		ug/L		NC	20
Propachlor	<0.049		<0.048		ug/L		NC	20
Pyrene	<0.049		<0.048		ug/L		NC	20
Simazine	<0.049		<0.048		ug/L		NC	20
Terbacil	<0.097		<0.097		ug/L		NC	20
Terbutylazine	<0.097		<0.097		ug/L		NC	20
Thiobencarb	<0.097		<0.097		ug/L		NC	20
Total Permethrin (mixed isomers)	<0.19		<0.19		ug/L		NC	20
trans-Nonachlor	<0.049		<0.048		ug/L		NC	20
Trifluralin	<0.097		<0.097		ug/L		NC	20

Surrogate	DU	DU	Limits
	%Recovery	Qualifier	
2-Nitro-m-xylene	97		70 - 130
Perylene-d12	85		70 - 130
Triphenylphosphate	103		70 - 130

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

Lab Sample ID: MB 570-498744/1-A
Matrix: Water
Analysis Batch: 502131

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 498744

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	11/03/24 05:14	11/12/24 11:58	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
2,4,6-Tribromophenol (Surr)	104		33 - 139	11/03/24 05:14	11/12/24 11:58	1
2-Fluorobiphenyl (Surr)	95		33 - 126	11/03/24 05:14	11/12/24 11:58	1
2-Fluorophenol (Surr)	64		12 - 120	11/03/24 05:14	11/12/24 11:58	1
Nitrobenzene-d5 (Surr)	111		36 - 120	11/03/24 05:14	11/12/24 11:58	1
Phenol-d6 (Surr)	40		10 - 120	11/03/24 05:14	11/12/24 11:58	1
p-Terphenyl-d14 (Surr)	98		47 - 131	11/03/24 05:14	11/12/24 11:58	1

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-120077-1
SDG: Weekly

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

Lab Sample ID: MB 570-498744/1-A
Matrix: Water
Analysis Batch: 501449

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 498744

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	<0.20		0.20	ug/L		11/03/24 05:14	11/10/24 21:52	1
2-Methylnaphthalene	<0.20		0.20	ug/L		11/03/24 05:14	11/10/24 21:52	1
Acenaphthene	<0.20		0.20	ug/L		11/03/24 05:14	11/10/24 21:52	1
Acenaphthylene	<0.20		0.20	ug/L		11/03/24 05:14	11/10/24 21:52	1
Anthracene	<0.20		0.20	ug/L		11/03/24 05:14	11/10/24 21:52	1
Benzo[a]anthracene	<0.20		0.20	ug/L		11/03/24 05:14	11/10/24 21:52	1
Benzo[a]pyrene	<0.20		0.20	ug/L		11/03/24 05:14	11/10/24 21:52	1
Benzo[b]fluoranthene	<0.20		0.20	ug/L		11/03/24 05:14	11/10/24 21:52	1
Benzo[g,h,i]perylene	<0.20		0.20	ug/L		11/03/24 05:14	11/10/24 21:52	1
Benzo[k]fluoranthene	<0.20		0.20	ug/L		11/03/24 05:14	11/10/24 21:52	1
Chrysene	<0.20		0.20	ug/L		11/03/24 05:14	11/10/24 21:52	1
Dibenz(a,h)anthracene	<0.20		0.20	ug/L		11/03/24 05:14	11/10/24 21:52	1
Fluoranthene	<0.20		0.20	ug/L		11/03/24 05:14	11/10/24 21:52	1
Fluorene	<0.20		0.20	ug/L		11/03/24 05:14	11/10/24 21:52	1
Indeno[1,2,3-cd]pyrene	<0.20		0.20	ug/L		11/03/24 05:14	11/10/24 21:52	1
Naphthalene	<0.20		0.20	ug/L		11/03/24 05:14	11/10/24 21:52	1
Phenanthrene	<0.20		0.20	ug/L		11/03/24 05:14	11/10/24 21:52	1
Pyrene	<0.20		0.20	ug/L		11/03/24 05:14	11/10/24 21:52	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	88		28 - 127	11/03/24 05:14	11/10/24 21:52	1
2-Fluorobiphenyl (Surr)	80		31 - 120	11/03/24 05:14	11/10/24 21:52	1
2-Fluorophenol (Surr)	55		17 - 120	11/03/24 05:14	11/10/24 21:52	1
Nitrobenzene-d5 (Surr)	83		27 - 120	11/03/24 05:14	11/10/24 21:52	1
Phenol-d6 (Surr)	35		10 - 120	11/03/24 05:14	11/10/24 21:52	1
p-Terphenyl-d14 (Surr)	83		45 - 120	11/03/24 05:14	11/10/24 21:52	1

Lab Sample ID: LCS 570-498744/2-A
Matrix: Water
Analysis Batch: 501449

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 498744

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1-Methylnaphthalene	20.0	14.5		ug/L		73	47 - 120
2-Methylnaphthalene	20.0	16.6		ug/L		83	43 - 120
Acenaphthene	20.0	16.7		ug/L		84	60 - 132
Acenaphthylene	20.0	16.6		ug/L		83	54 - 126
Anthracene	20.0	17.8		ug/L		89	43 - 120
Benzo[a]anthracene	20.0	17.5		ug/L		87	42 - 133
Benzo[a]pyrene	20.0	18.8		ug/L		94	32 - 148
Benzo[b]fluoranthene	20.0	18.7		ug/L		94	42 - 140
Benzo[g,h,i]perylene	20.0	16.1		ug/L		81	1 - 195
Benzo[k]fluoranthene	20.0	18.4		ug/L		92	25 - 146
Chrysene	20.0	16.4		ug/L		82	44 - 140
Dibenz(a,h)anthracene	20.0	17.3		ug/L		87	1 - 200
Fluoranthene	20.0	18.8		ug/L		94	43 - 121
Fluorene	20.0	17.3		ug/L		86	70 - 120
Indeno[1,2,3-cd]pyrene	20.0	17.3		ug/L		86	1 - 151
Naphthalene	20.0	13.9		ug/L		70	36 - 120

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QC Sample Results

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

Job ID: 380-120077-1
SDG: Weekly

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

Lab Sample ID: LCS 570-498744/2-A
Matrix: Water
Analysis Batch: 501449

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 498744

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Phenanthrene	20.0	17.1		ug/L		85	65 - 120
Pyrene	20.0	16.3		ug/L		82	70 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2,4,6-Tribromophenol (Surr)	87		28 - 127
2-Fluorobiphenyl (Surr)	78		31 - 120
2-Fluorophenol (Surr)	64		17 - 120
Nitrobenzene-d5 (Surr)	71		27 - 120
Phenol-d6 (Surr)	43		10 - 120
p-Terphenyl-d14 (Surr)	81		45 - 120

Lab Sample ID: LCSD 570-498744/3-A
Matrix: Water
Analysis Batch: 501449

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 498744

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1-Methylnaphthalene	20.0	13.3		ug/L		67	47 - 120	9	20
2-Methylnaphthalene	20.0	15.1		ug/L		75	43 - 120	10	20
Acenaphthene	20.0	15.7		ug/L		79	60 - 132	6	29
Acenaphthylene	20.0	15.5		ug/L		77	54 - 126	7	45
Anthracene	20.0	16.9		ug/L		84	43 - 120	5	40
Benzo[a]anthracene	20.0	17.1		ug/L		85	42 - 133	2	32
Benzo[a]pyrene	20.0	17.8		ug/L		89	32 - 148	6	43
Benzo[b]fluoranthene	20.0	18.0		ug/L		90	42 - 140	4	43
Benzo[g,h,i]perylene	20.0	15.8		ug/L		79	1 - 195	2	61
Benzo[k]fluoranthene	20.0	17.9		ug/L		90	25 - 146	3	38
Chrysene	20.0	16.1		ug/L		80	44 - 140	2	53
Dibenz(a,h)anthracene	20.0	17.1		ug/L		86	1 - 200	1	75
Fluoranthene	20.0	17.3		ug/L		87	43 - 121	8	40
Fluorene	20.0	16.3		ug/L		81	70 - 120	6	23
Indeno[1,2,3-cd]pyrene	20.0	17.0		ug/L		85	1 - 151	1	60
Naphthalene	20.0	13.2		ug/L		66	36 - 120	5	39
Phenanthrene	20.0	16.6		ug/L		83	65 - 120	3	24
Pyrene	20.0	16.6		ug/L		83	70 - 120	2	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2,4,6-Tribromophenol (Surr)	83		28 - 127
2-Fluorobiphenyl (Surr)	76		31 - 120
2-Fluorophenol (Surr)	60		17 - 120
Nitrobenzene-d5 (Surr)	66		27 - 120
Phenol-d6 (Surr)	39		10 - 120
p-Terphenyl-d14 (Surr)	82		45 - 120

QC Sample Results

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

Job ID: 380-120077-1
SDG: Weekly

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

Lab Sample ID: 380-119975-A-3-A MS
Matrix: Water
Analysis Batch: 501453

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 498744

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
1-Methylnaphthalene	<0.19		19.2	13.6		ug/L		71	36 - 120
2-Methylnaphthalene	<0.19		19.2	15.2		ug/L		79	32 - 124
Acenaphthene	<0.19		19.2	16.8		ug/L		87	47 - 145
Acenaphthylene	<0.19		19.2	16.2		ug/L		85	33 - 145
Anthracene	<0.19		19.2	17.4		ug/L		91	27 - 133
Benzo[a]anthracene	<0.19		19.2	17.4		ug/L		90	33 - 143
Benzo[a]pyrene	<0.19		19.2	17.5		ug/L		91	17 - 163
Benzo[b]fluoranthene	<0.19		19.2	17.1		ug/L		89	24 - 159
Benzo[g,h,i]perylene	<0.19		19.2	16.9		ug/L		88	1 - 219
Benzo[k]fluoranthene	<0.19		19.2	16.5		ug/L		86	11 - 162
Chrysene	<0.19		19.2	16.6		ug/L		86	17 - 168
Dibenz(a,h)anthracene	<0.19		19.2	18.0		ug/L		94	1 - 227
Fluoranthene	<0.19		19.2	17.2		ug/L		90	26 - 137
Fluorene	<0.19		19.2	17.2		ug/L		90	59 - 121
Indeno[1,2,3-cd]pyrene	<0.19		19.2	18.6		ug/L		97	1 - 171
Naphthalene	<0.19		19.2	13.9		ug/L		72	21 - 133
Phenanthrene	<0.19		19.2	17.1		ug/L		89	54 - 120
Pyrene	<0.19		19.2	18.8		ug/L		98	52 - 120

Surrogate	%Recovery	MS Qualifier	MS Limits
2,4,6-Tribromophenol (Surr)	93		28 - 127
2-Fluorobiphenyl (Surr)	82		31 - 120
2-Fluorophenol (Surr)	58		17 - 120
Nitrobenzene-d5 (Surr)	69		27 - 120
Phenol-d6 (Surr)	38		10 - 120
p-Terphenyl-d14 (Surr)	91		45 - 120

Lab Sample ID: 380-119975-A-3-B MSD
Matrix: Water
Analysis Batch: 501453

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 498744

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
1-Methylnaphthalene	<0.19		19.4	13.7		ug/L		71	36 - 120	1	30
2-Methylnaphthalene	<0.19		19.4	15.5		ug/L		80	32 - 124	2	30
Acenaphthene	<0.19		19.4	16.6		ug/L		85	47 - 145	1	48
Acenaphthylene	<0.19		19.4	16.2		ug/L		84	33 - 145	0	74
Anthracene	<0.19		19.4	17.1		ug/L		88	27 - 133	2	66
Benzo[a]anthracene	<0.19		19.4	17.6		ug/L		91	33 - 143	1	53
Benzo[a]pyrene	<0.19		19.4	17.1		ug/L		88	17 - 163	2	72
Benzo[b]fluoranthene	<0.19		19.4	16.6		ug/L		86	24 - 159	3	71
Benzo[g,h,i]perylene	<0.19		19.4	16.0		ug/L		83	1 - 219	5	97
Benzo[k]fluoranthene	<0.19		19.4	16.8		ug/L		86	11 - 162	2	63
Chrysene	<0.19		19.4	16.6		ug/L		85	17 - 168	0	87
Dibenz(a,h)anthracene	<0.19		19.4	17.1		ug/L		88	1 - 227	5	126
Fluoranthene	<0.19		19.4	17.2		ug/L		89	26 - 137	0	66
Fluorene	<0.19		19.4	17.7		ug/L		91	59 - 121	3	38
Indeno[1,2,3-cd]pyrene	<0.19		19.4	17.6		ug/L		91	1 - 171	5	99
Naphthalene	<0.19		19.4	13.6		ug/L		70	21 - 133	2	65

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-120077-1
SDG: Weekly

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

Lab Sample ID: 380-119975-A-3-B MSD
Matrix: Water
Analysis Batch: 501453

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 498744

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier						
Phenanthrene	<0.19		19.4	16.8		ug/L		87	54 - 120	2	39
Pyrene	<0.19		19.4	19.2		ug/L		99	52 - 120	2	49
MSD MSD											
Surrogate	%Recovery	Qualifier	Limits								
2,4,6-Tribromophenol (Surr)	91		28 - 127								
2-Fluorobiphenyl (Surr)	81		31 - 120								
2-Fluorophenol (Surr)	56		17 - 120								
Nitrobenzene-d5 (Surr)	68		27 - 120								
Phenol-d6 (Surr)	38		10 - 120								
p-Terphenyl-d14 (Surr)	93		45 - 120								

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

Lab Sample ID: MB 570-501335/45
Matrix: Water
Analysis Batch: 501335

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			11/09/24 16:02	1			
MB MB											
Surrogate	%Recovery	Qualifier	Limits						Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	88		38 - 134						11/09/24 16:02	1	

Lab Sample ID: LCS 570-501335/43
Matrix: Water
Analysis Batch: 501335

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

Analyte	Spike	LCS	LCS	Unit	D	%Rec	%Rec	Limit
Gasoline Range Organics (C4-C13)	400	342		ug/L		86	78 - 120	
LCS LCS								
Surrogate	%Recovery	Qualifier	Limits					
4-Bromofluorobenzene (Surr)	99		38 - 134					

Lab Sample ID: LCSD 570-501335/44
Matrix: Water
Analysis Batch: 501335

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

Analyte	Spike	LCSD	LCSD	Unit	D	%Rec	%Rec	Limit	RPD	Limit
Gasoline Range Organics (C4-C13)	400	354		ug/L		89	78 - 120	3	10	
LCSD LCSD										
Surrogate	%Recovery	Qualifier	Limits							
4-Bromofluorobenzene (Surr)	96		38 - 134							

QC Sample Results

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

Job ID: 380-120077-1
SDG: Weekly

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

Lab Sample ID: MRL 570-501335/42
Matrix: Water
Analysis Batch: 501335

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	11.7		ug/L		117	50 - 150
Surrogate		MRL %Recovery	MRL Qualifier				Limits
4-Bromofluorobenzene (Surr)		91					38 - 134

Lab Sample ID: 380-119975-B-3 MS
Matrix: Water
Analysis Batch: 501335

Client Sample ID: Matrix Spike
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	370		ug/L		93	68 - 122
Surrogate		MS %Recovery		MS Qualifier					Limits
4-Bromofluorobenzene (Surr)		101							38 - 134

Lab Sample ID: 380-119975-B-3 MSD
Matrix: Water
Analysis Batch: 501335

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (C4-C13)	<10		400	376		ug/L		94	68 - 122	1	18
Surrogate		MSD %Recovery		MSD Qualifier					Limits		
4-Bromofluorobenzene (Surr)		102							38 - 134		

Method: 8015B - Diesel Range Organics (DRO) (GC) Low Level

Lab Sample ID: MB 570-498284/1-A
Matrix: Water
Analysis Batch: 501964

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 498284

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (C10-C24)	<25		25	ug/L		11/01/24 11:05	11/12/24 01:35	1
Motor Oil Range Organics [C24-C36]	<25		25	ug/L		11/01/24 11:05	11/12/24 01:35	1
C8-C18	<25		25	ug/L		11/01/24 11:05	11/12/24 01:35	1
Surrogate		MB %Recovery	MB Qualifier			Prepared	Analyzed	Dil Fac
n-Octacosane (Surr)		105				11/01/24 11:05	11/12/24 01:35	1

Lab Sample ID: LCS 570-498284/2-A
Matrix: Water
Analysis Batch: 501964

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 498284

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
C10-C28	1600	1460		ug/L		91	56 - 127

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-120077-1
SDG: Weekly

Method: 8015B - Diesel Range Organics (DRO) (GC) Low Level (Continued)

Lab Sample ID: LCS 570-498284/2-A
Matrix: Water
Analysis Batch: 501964

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 498284

	LCS %Recovery	LCS Qualifier	Limits
<i>Surrogate</i> <i>n-Octacosane (Surr)</i>	102		60 - 130

Lab Sample ID: LCSD 570-498284/3-A
Matrix: Water
Analysis Batch: 501964

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 498284

	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Analyte C10-C28	1600	1320		ug/L		82	56 - 127	10	23
<i>Surrogate</i> <i>n-Octacosane (Surr)</i>									

Lab Sample ID: MRL 570-498284/4-A
Matrix: Water
Analysis Batch: 501964

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 498284

	MRL %Recovery	MRL Qualifier	Limits
<i>Surrogate</i> <i>n-Octacosane (Surr)</i>	98		60 - 130

	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Analyte C10-C28	0.0200	0.0253		mg/L		127	50 - 150		

Lab Sample ID: 380-119975-C-3-A MS
Matrix: Water
Analysis Batch: 501964

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 498284

	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Analyte C10-C28	<26		1660	1450		ug/L		87	70 - 130		
<i>Surrogate</i> <i>n-Octacosane (Surr)</i>											

Lab Sample ID: 380-119975-C-3-B MSD
Matrix: Water
Analysis Batch: 501964

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 498284

	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Analyte C10-C28	<26		1620	1300		ug/L		80	70 - 130	11	20
<i>Surrogate</i> <i>n-Octacosane (Surr)</i>											

QC Association Summary

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

Job ID: 380-120077-1
SDG: Weekly

GC/MS Semi VOA

Prep Batch: 118414

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-120077-1	Halawa Shaft Viewing Pool	Total/NA	Water	525.2	
MB 380-118414/21-A	Method Blank	Total/NA	Water	525.2	
LCS 380-118414/23-A	Lab Control Sample	Total/NA	Water	525.2	
LCSD 380-118414/24-A	Lab Control Sample Dup	Total/NA	Water	525.2	
MRL 380-118414/22-A	Lab Control Sample	Total/NA	Water	525.2	
380-120777-AN-1-A MS	Matrix Spike	Total/NA	Water	525.2	
380-121350-Q-1-A DU	Duplicate	Total/NA	Water	525.2	

Analysis Batch: 118712

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-120077-1	Halawa Shaft Viewing Pool	Total/NA	Water	525.2	118414
MB 380-118414/21-A	Method Blank	Total/NA	Water	525.2	118414
LCS 380-118414/23-A	Lab Control Sample	Total/NA	Water	525.2	118414
LCSD 380-118414/24-A	Lab Control Sample Dup	Total/NA	Water	525.2	118414
MRL 380-118414/22-A	Lab Control Sample	Total/NA	Water	525.2	118414
380-120777-AN-1-A MS	Matrix Spike	Total/NA	Water	525.2	118414
380-121350-Q-1-A DU	Duplicate	Total/NA	Water	525.2	118414

Prep Batch: 498744

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-120077-1	Halawa Shaft Viewing Pool	Total/NA	Water	625.1	
MB 570-498744/1-A	Method Blank	Total/NA	Water	625.1	
LCS 570-498744/2-A	Lab Control Sample	Total/NA	Water	625.1	
LCSD 570-498744/3-A	Lab Control Sample Dup	Total/NA	Water	625.1	
380-119975-A-3-A MS	Matrix Spike	Total/NA	Water	625.1	
380-119975-A-3-B MSD	Matrix Spike Duplicate	Total/NA	Water	625.1	

Analysis Batch: 501449

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 570-498744/1-A	Method Blank	Total/NA	Water	625.1 SIM	498744
LCS 570-498744/2-A	Lab Control Sample	Total/NA	Water	625.1 SIM	498744
LCSD 570-498744/3-A	Lab Control Sample Dup	Total/NA	Water	625.1 SIM	498744

Analysis Batch: 501453

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-120077-1	Halawa Shaft Viewing Pool	Total/NA	Water	625.1 SIM	498744
380-119975-A-3-A MS	Matrix Spike	Total/NA	Water	625.1 SIM	498744
380-119975-A-3-B MSD	Matrix Spike Duplicate	Total/NA	Water	625.1 SIM	498744

Analysis Batch: 502131

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-120077-1	Halawa Shaft Viewing Pool	Total/NA	Water	625.1	498744
MB 570-498744/1-A	Method Blank	Total/NA	Water	625.1	498744

GC VOA

Analysis Batch: 501335

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-120077-1	Halawa Shaft Viewing Pool	Total/NA	Water	8015B GRO LL	
380-120077-2	TRIP BLANK	Total/NA	Water	8015B GRO LL	
MB 570-501335/45	Method Blank	Total/NA	Water	8015B GRO LL	

QC Association Summary

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

Job ID: 380-120077-1
SDG: Weekly

GC VOA (Continued)

Analysis Batch: 501335 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 570-501335/43	Lab Control Sample	Total/NA	Water	8015B GRO LL	
LCSD 570-501335/44	Lab Control Sample Dup	Total/NA	Water	8015B GRO LL	
MRL 570-501335/42	Lab Control Sample	Total/NA	Water	8015B GRO LL	
380-119975-B-3 MS	Matrix Spike	Total/NA	Water	8015B GRO LL	
380-119975-B-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8015B GRO LL	

GC Semi VOA

Prep Batch: 498284

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-120077-1	Halawa Shaft Viewing Pool	Total/NA	Water	3510C	
MB 570-498284/1-A	Method Blank	Total/NA	Water	3510C	
LCS 570-498284/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 570-498284/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	
MRL 570-498284/4-A	Lab Control Sample	Total/NA	Water	3510C	
380-119975-C-3-A MS	Matrix Spike	Total/NA	Water	3510C	
380-119975-C-3-B MSD	Matrix Spike Duplicate	Total/NA	Water	3510C	

Analysis Batch: 501964

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-120077-1	Halawa Shaft Viewing Pool	Total/NA	Water	8015B	498284
MB 570-498284/1-A	Method Blank	Total/NA	Water	8015B	498284
LCS 570-498284/2-A	Lab Control Sample	Total/NA	Water	8015B	498284
LCSD 570-498284/3-A	Lab Control Sample Dup	Total/NA	Water	8015B	498284
MRL 570-498284/4-A	Lab Control Sample	Total/NA	Water	8015B	498284
380-119975-C-3-A MS	Matrix Spike	Total/NA	Water	8015B	498284
380-119975-C-3-B MSD	Matrix Spike Duplicate	Total/NA	Water	8015B	498284

Lab Chronicle

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

Job ID: 380-120077-1
 SDG: Weekly

Client Sample ID: Halawa Shaft Viewing Pool

Lab Sample ID: 380-120077-1

Date Collected: 10/29/24 10:30

Matrix: Water

Date Received: 10/31/24 10:11

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	525.2			118414	KRD3	EA POM	11/11/24 08:34
Total/NA	Analysis	525.2		1	118712	Q8LA	EA POM	11/13/24 15:14
Total/NA	Prep	625.1			498744	TR8L	EET CAL 4	11/03/24 07:56
Total/NA	Analysis	625.1		1	502131	J7WE	EET CAL 4	11/12/24 13:59
Total/NA	Prep	625.1			498744	TR8L	EET CAL 4	11/03/24 07:56
Total/NA	Analysis	625.1 SIM		1	501453	PQS1	EET CAL 4	11/10/24 21:02
Total/NA	Analysis	8015B GRO LL		1	501335	A9VE	EET CAL 4	11/09/24 18:37
Total/NA	Prep	3510C			498284	H6FE	EET CAL 4	11/01/24 11:05
Total/NA	Analysis	8015B		1	501964	NR	EET CAL 4	11/12/24 04:48

Client Sample ID: TRIP BLANK

Lab Sample ID: 380-120077-2

Date Collected: 10/29/24 10:30

Matrix: Water

Date Received: 10/31/24 10:11

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8015B GRO LL		1	501335	A9VE	EET CAL 4	11/09/24 21:14

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: 380-120077-1
SDG: Weekly

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	11-15-24
Arkansas DEQ	State	88-0161	07-02-25
California	Los Angeles County Sanitation Districts	9257304	07-31-26
California	SCAQMD LAP	17LA0919	11-30-24
California	State	3082	07-31-26
Kansas	NELAP	E-10420	07-31-25

Accreditation/Certification Summary

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

Job ID: 380-120077-1
SDG: Weekly

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
Nevada	State	CA00111	07-31-25
Oregon	NELAP	4175	02-02-25
USDA	US Federal Programs	P330-22-00059	06-08-26
Washington	State	C916-18	12-31-24

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Method Summary

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

Job ID: 380-120077-1
SDG: Weekly

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
8015B	Diesel Range Organics (DRO) (GC) Low Level	SW846	EET CAL 4
3510C	Liquid-Liquid Extraction (Separatory Funnel)	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: 380-120077-1
SDG: Weekly

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
380-120077-1	Halawa Shaft Viewing Pool	Water	10/29/24 10:30	10/31/24 10:11
380-120077-2	TRIP BLANK	Water	10/29/24 10:30	10/31/24 10:11

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Chain of Custody Record

Client Information Client Contact: Ryan Greer Dr. Ron Fenstermacher City & County of Honolulu		Sampler: Ryan Greer Phone: 808-748-5840		Lab PM: Arada, Rachelle E-Mail: Rachelle.Arada@et.eurofins.com		Camer Tracking No(s): State of Origin: HI		COC No: 380-28005-2757.1 Page: Page 1 of 1 Job #:	
Address: 630 South Beretania Street Chemistry Lab City: Honolulu State, Zip: HI, 96843 Phone: 808-748-5091(Tel) Email: RFENSTEMACHER@hbws.org		PWSID: Due Date Requested: TAT Requested (days): Compliance Project: <input type="checkbox"/> Yes <input type="checkbox"/> No PO #: C20525101 exp 05312023 WO #: Project #: 38001111 SSOW#:		Analysis Requested 625.1, 625.1, SIM 8015B_GRO_LL - (MOD) GRO 8015B_DRO_LL_CS - HNL Ranges: C10-C24/C24-C38/C8- C18 626.2_PREC - (MOD) 626plus Plus TICs 637.1_DW_PREC - 637.1 Full List 633 - All Analytes		Field Filtered Sample (Yes or No) Perform MS/MSD (Yes or No)		Preservation Codes: R - NaHSO4 RA - NaHSO4/HCl C - Na2SO3 CA - Na2SO3/HCl Y - Trizma I - NH4 Acetate	
Sample Identification Halawa Shatt Viewing Pool		Sample Date: 10/29/24	Sample Time: 1030	Sample Type (C=comp, G=grab): G	Matrix (Water, Solid, Sewage, Other): Water	Total Number of Containers:		Special Instructions/Note:	
TRIP BLANK		Sample Date: 10/29/24	Sample Time: 1030	Sample Type (C=comp, G=grab): G	Matrix (Water, Solid, Sewage, Other): Water	380-120077 COC		Other:	
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological									
Deliverable Requested: I, II, III, IV, Other (specify)									
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months									
Special Instructions/QC Requirements:									
Empty Kit Relinquished by:		Date:		Method of Shipment:		Received by:		Date/Time:	
Relinquished by:		Date/Time: 10/30/24 1300		Company: HBWS		Received by:		Date/Time: 10/31/24 10-11	
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:	
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:	
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:		380-13.2-02-3.0		Ver: 04/02/2024	



Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-120077-1

SDG Number: Weekly

Login Number: 120077

List Source: Eurofins Eaton Analytical Pomona

List Number: 1

Creator: Sanchez Velasquez, Gustavo

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.	True	
Sample collection date/times are provided.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
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: 380-120077-1

SDG Number: Weekly

Login Number: 120077

List Number: 2

Creator: Khana, Piyush

List Source: Eurofins Calscience

List Creation: 10/31/24 06:07 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	1.6
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.	False	

