

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 10/8/2024 7:33:12 PM

JOB DESCRIPTION

RED-HILL
Weekly

JOB NUMBER

380-113883-1

Eurofins Eaton Analytical Pomona

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

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



Generated
10/8/2024 7:33:12 PM

Authorized for release by
Rachelle Arada, Project Manager
Rachelle.Arada@et.eurofinsus.com
(626)386-1106



Table of Contents

Cover Page	1
Table of Contents	3
Definitions/Glossary	4
Case Narrative	5
Detection Summary	6
Client Sample Results	7
Action Limit Summary	10
Surrogate Summary	11
QC Sample Results	13
QC Association Summary	30
Lab Chronicle	32
Certification Summary	33
Method Summary	35
Sample Summary	36
Chain of Custody	37
Receipt Checklists	39

Definitions/Glossary

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

Job ID: 380-113883-1
SDG: Weekly

Qualifiers

GC/MS Semi VOA

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

GC/MS Semi VOA TICs

Qualifier	Qualifier Description
J	Indicates an Estimated Value for TICs
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: 380-113883-1

Job ID: 380-113883-1

Eurofins Eaton Analytical Pomona

Job Narrative 380-113883-1

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 9/19/2024 9:59 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 3.1°C.

GC/MS Semi VOA

Method 625.1_SIM: The matrix spike / matrix spike duplicate / sample duplicate (MS/MSD/DUP) precision for preparation batch 570-483623 and analytical batch 570-485893 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) precision was within acceptance limits.

Method 625.1_SIM: Due to the high concentration of Benzidine, the matrix spike / matrix spike duplicate (MS/MSD) for preparation batch 570-483623 and analytical batch 570-485893 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria.

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

Method 8015B_DRO_LL_CS: The following sample(s) was re-prepared outside of preparation holding time due to confirming result, data excluded due to this.

Detection Summary

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

Job ID: 380-113883-1
SDG: Weekly

Client Sample ID: Halawa Shaft Viewing Pool

Lab Sample ID: 380-113883-1

No Detections.

Client Sample ID: TRIP BLANK

Lab Sample ID: 380-113883-2

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.

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-113883-1
SDG: Weekly

Client Sample ID: Halawa Shaft Viewing Pool

Lab Sample ID: 380-113883-1

Date Collected: 09/17/24 10:00

Matrix: Water

Date Received: 09/19/24 09:59

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
2,4'-DDD	<0.096		0.096	ug/L		09/22/24 13:00	09/23/24 18:04	1
2,4'-DDE	<0.096		0.096	ug/L		09/22/24 13:00	09/23/24 18:04	1
2,4'-DDT	<0.096		0.096	ug/L		09/22/24 13:00	09/23/24 18:04	1
2,4-Dinitrotoluene	<0.096		0.096	ug/L		09/22/24 13:00	09/23/24 18:04	1
2,6-Dinitrotoluene	<0.096		0.096	ug/L		09/22/24 13:00	09/23/24 18:04	1
4,4'-DDD	<0.096		0.096	ug/L		09/22/24 13:00	09/23/24 18:04	1
4,4'-DDE	<0.096		0.096	ug/L		09/22/24 13:00	09/23/24 18:04	1
4,4'-DDT	<0.096		0.096	ug/L		09/22/24 13:00	09/23/24 18:04	1
Acenaphthene	<0.096		0.096	ug/L		09/22/24 13:00	09/23/24 18:04	1
Acenaphthylene	<0.096		0.096	ug/L		09/22/24 13:00	09/23/24 18:04	1
Acetochlor	<0.096		0.096	ug/L		09/22/24 13:00	09/23/24 18:04	1
Alachlor	<0.048		0.048	ug/L		09/22/24 13:00	09/23/24 18:04	1
alpha-BHC	<0.096		0.096	ug/L		09/22/24 13:00	09/23/24 18:04	1
alpha-Chlordane	<0.048		0.048	ug/L		09/22/24 13:00	09/23/24 18:04	1
Anthracene	<0.019		0.019	ug/L		09/22/24 13:00	09/23/24 18:04	1
Atrazine	<0.048		0.048	ug/L		09/22/24 13:00	09/23/24 18:04	1
Benz(a)anthracene	<0.048		0.048	ug/L		09/22/24 13:00	09/23/24 18:04	1
Benzo[a]pyrene	<0.019		0.019	ug/L		09/22/24 13:00	09/23/24 18:04	1
Benzo[b]fluoranthene	<0.019		0.019	ug/L		09/22/24 13:00	09/23/24 18:04	1
Benzo[g,h,i]perylene	<0.048		0.048	ug/L		09/22/24 13:00	09/23/24 18:04	1
Benzo[k]fluoranthene	<0.019		0.019	ug/L		09/22/24 13:00	09/23/24 18:04	1
beta-BHC	<0.096		0.096	ug/L		09/22/24 13:00	09/23/24 18:04	1
Bis(2-ethylhexyl) phthalate	<0.57		0.57	ug/L		09/22/24 13:00	09/23/24 18:04	1
Aldrin	<0.0096		0.0096	ug/L		09/22/24 13:00	09/23/24 18:04	1
Bromacil	<0.096		0.096	ug/L		09/22/24 13:00	09/23/24 18:04	1
Butachlor	<0.048		0.048	ug/L		09/22/24 13:00	09/23/24 18:04	1
Butylbenzylphthalate	<0.48		0.48	ug/L		09/22/24 13:00	09/23/24 18:04	1
Chlorobenzilate	<0.096		0.096	ug/L		09/22/24 13:00	09/23/24 18:04	1
Chloroneb	<0.096		0.096	ug/L		09/22/24 13:00	09/23/24 18:04	1
Chlorothalonil (Draconil, Bravo)	<0.096		0.096	ug/L		09/22/24 13:00	09/23/24 18:04	1
Chlorpyrifos	<0.048		0.048	ug/L		09/22/24 13:00	09/23/24 18:04	1
Chrysene	<0.019		0.019	ug/L		09/22/24 13:00	09/23/24 18:04	1
delta-BHC	<0.096		0.096	ug/L		09/22/24 13:00	09/23/24 18:04	1
Di(2-ethylhexyl)adipate	<0.57		0.57	ug/L		09/22/24 13:00	09/23/24 18:04	1
Dibenz(a,h)anthracene	<0.048		0.048	ug/L		09/22/24 13:00	09/23/24 18:04	1
Diclorvos (DDVP)	<0.048		0.048	ug/L		09/22/24 13:00	09/23/24 18:04	1
Dieldrin	<0.0096		0.0096	ug/L		09/22/24 13:00	09/23/24 18:04	1
Diethylphthalate	<0.48		0.48	ug/L		09/22/24 13:00	09/23/24 18:04	1
Dimethylphthalate	<0.48		0.48	ug/L		09/22/24 13:00	09/23/24 18:04	1
Di-n-butyl phthalate	<0.96		0.96	ug/L		09/22/24 13:00	09/23/24 18:04	1
Di-n-octyl phthalate	<0.096		0.096	ug/L		09/22/24 13:00	09/23/24 18:04	1
Endosulfan I (Alpha)	<0.096		0.096	ug/L		09/22/24 13:00	09/23/24 18:04	1
Endosulfan II (Beta)	<0.096		0.096	ug/L		09/22/24 13:00	09/23/24 18:04	1
Endosulfan sulfate	<0.096		0.096	ug/L		09/22/24 13:00	09/23/24 18:04	1
Endrin	<0.0096		0.0096	ug/L		09/22/24 13:00	09/23/24 18:04	1
Endrin aldehyde	<0.096		0.096	ug/L		09/22/24 13:00	09/23/24 18:04	1
EPTC	<0.096		0.096	ug/L		09/22/24 13:00	09/23/24 18:04	1
Fluoranthene	<0.096		0.096	ug/L		09/22/24 13:00	09/23/24 18:04	1
Fluorene	<0.048		0.048	ug/L		09/22/24 13:00	09/23/24 18:04	1

Client Sample Results

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

Job ID: 380-113883-1
SDG: Weekly

Client Sample ID: Halawa Shaft Viewing Pool

Lab Sample ID: 380-113883-1

Date Collected: 09/17/24 10:00

Matrix: Water

Date Received: 09/19/24 09:59

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
gamma-BHC (Lindane)	<0.0096	^3+	0.0096	ug/L		09/22/24 13:00	09/23/24 18:04	1
gamma-Chlordane	<0.048		0.048	ug/L		09/22/24 13:00	09/23/24 18:04	1
Heptachlor	<0.0096	^3+	0.0096	ug/L		09/22/24 13:00	09/23/24 18:04	1
Heptachlor epoxide (isomer B)	<0.0096		0.0096	ug/L		09/22/24 13:00	09/23/24 18:04	1
Hexachlorobenzene	<0.048		0.048	ug/L		09/22/24 13:00	09/23/24 18:04	1
Hexachlorocyclopentadiene	<0.048		0.048	ug/L		09/22/24 13:00	09/23/24 18:04	1
Indeno[1,2,3-cd]pyrene	<0.048		0.048	ug/L		09/22/24 13:00	09/23/24 18:04	1
Isophorone	<0.096		0.096	ug/L		09/22/24 13:00	09/23/24 18:04	1
Malathion	<0.096		0.096	ug/L		09/22/24 13:00	09/23/24 18:04	1
Methoxychlor	<0.048		0.048	ug/L		09/22/24 13:00	09/23/24 18:04	1
Metolachlor	<0.048		0.048	ug/L		09/22/24 13:00	09/23/24 18:04	1
Molinate	<0.096		0.096	ug/L		09/22/24 13:00	09/23/24 18:04	1
Naphthalene	<0.096		0.096	ug/L		09/22/24 13:00	09/23/24 18:04	1
Parathion	<0.096		0.096	ug/L		09/22/24 13:00	09/23/24 18:04	1
Pendimethalin (Penoxaline)	<0.096		0.096	ug/L		09/22/24 13:00	09/23/24 18:04	1
Phenanthrene	<0.038		0.038	ug/L		09/22/24 13:00	09/23/24 18:04	1
Propachlor	<0.048		0.048	ug/L		09/22/24 13:00	09/23/24 18:04	1
Pyrene	<0.048		0.048	ug/L		09/22/24 13:00	09/23/24 18:04	1
Simazine	<0.048		0.048	ug/L		09/22/24 13:00	09/23/24 18:04	1
Terbacil	<0.096		0.096	ug/L		09/22/24 13:00	09/23/24 18:04	1
Terbutylazine	<0.096		0.096	ug/L		09/22/24 13:00	09/23/24 18:04	1
Thiobencarb	<0.096		0.096	ug/L		09/22/24 13:00	09/23/24 18:04	1
Total Permethrin (mixed isomers)	<0.19		0.19	ug/L		09/22/24 13:00	09/23/24 18:04	1
trans-Nonachlor	<0.048		0.048	ug/L		09/22/24 13:00	09/23/24 18:04	1
Trifluralin	<0.096		0.096	ug/L		09/22/24 13:00	09/23/24 18:04	1
1-Methylnaphthalene	<0.096		0.096	ug/L		09/22/24 13:00	09/23/24 18:04	1
2-Methylnaphthalene	<0.096		0.096	ug/L		09/22/24 13:00	09/23/24 18:04	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L			N/A	09/22/24 13:00	09/23/24 18:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Nitro-m-xylene	97		70 - 130	09/22/24 13:00	09/23/24 18:04	1
Perylene-d12	92		70 - 130	09/22/24 13:00	09/23/24 18:04	1
Triphenylphosphate	107		70 - 130	09/22/24 13:00	09/23/24 18:04	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		09/23/24 05:22	09/29/24 12:59	1
2-Methylnaphthalene	<0.19		0.19	ug/L		09/23/24 05:22	09/29/24 12:59	1
Acenaphthene	<0.19		0.19	ug/L		09/23/24 05:22	09/29/24 12:59	1
Acenaphthylene	<0.19		0.19	ug/L		09/23/24 05:22	09/29/24 12:59	1
Anthracene	<0.19		0.19	ug/L		09/23/24 05:22	09/29/24 12:59	1
Benzo[a]anthracene	<0.19		0.19	ug/L		09/23/24 05:22	09/29/24 12:59	1
Benzo[a]pyrene	<0.19		0.19	ug/L		09/23/24 05:22	09/29/24 12:59	1
Benzo[b]fluoranthene	<0.19		0.19	ug/L		09/23/24 05:22	09/29/24 12:59	1
Benzo[g,h,i]perylene	<0.19		0.19	ug/L		09/23/24 05:22	09/29/24 12:59	1
Benzo[k]fluoranthene	<0.19		0.19	ug/L		09/23/24 05:22	09/29/24 12:59	1
Chrysene	<0.19		0.19	ug/L		09/23/24 05:22	09/29/24 12:59	1
Dibenz(a,h)anthracene	<0.19		0.19	ug/L		09/23/24 05:22	09/29/24 12:59	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-113883-1
SDG: Weekly

Client Sample ID: Halawa Shaft Viewing Pool

Lab Sample ID: 380-113883-1

Date Collected: 09/17/24 10:00

Matrix: Water

Date Received: 09/19/24 09:59

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoranthene	<0.19		0.19	ug/L		09/23/24 05:22	09/29/24 12:59	1
Fluorene	<0.19		0.19	ug/L		09/23/24 05:22	09/29/24 12:59	1
Indeno[1,2,3-cd]pyrene	<0.19		0.19	ug/L		09/23/24 05:22	09/29/24 12:59	1
Naphthalene	<0.19		0.19	ug/L		09/23/24 05:22	09/29/24 12:59	1
Phenanthrene	<0.19		0.19	ug/L		09/23/24 05:22	09/29/24 12:59	1
Pyrene	<0.19		0.19	ug/L		09/23/24 05:22	09/29/24 12:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	68		28 - 127	09/23/24 05:22	09/29/24 12:59	1
2-Fluorobiphenyl (Surr)	41		31 - 120	09/23/24 05:22	09/29/24 12:59	1
2-Fluorophenol (Surr)	30		17 - 120	09/23/24 05:22	09/29/24 12:59	1
Nitrobenzene-d5 (Surr)	40		27 - 120	09/23/24 05:22	09/29/24 12:59	1
Phenol-d6 (Surr)	20		10 - 120	09/23/24 05:22	09/29/24 12:59	1
p-Terphenyl-d14 (Surr)	46		45 - 120	09/23/24 05:22	09/29/24 12:59	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
Unknown	1500	T J	ug/L		1.89	N/A	09/23/24 05:22	10/04/24 20:14	1
Unknown	8700	T J	ug/L		2.00	N/A	09/23/24 05:22	10/04/24 20:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	84		33 - 139	09/23/24 05:22	10/04/24 20:14	1
2-Fluorobiphenyl (Surr)	86		33 - 126	09/23/24 05:22	10/04/24 20:14	1
2-Fluorophenol (Surr)	52		12 - 120	09/23/24 05:22	10/04/24 20:14	1
Nitrobenzene-d5 (Surr)	94		36 - 120	09/23/24 05:22	10/04/24 20:14	1
Phenol-d6 (Surr)	34		10 - 120	09/23/24 05:22	10/04/24 20:14	1
p-Terphenyl-d14 (Surr)	84		47 - 131	09/23/24 05:22	10/04/24 20:14	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			10/01/24 12:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	78		38 - 134		10/01/24 12:28	1

Client Sample ID: TRIP BLANK

Lab Sample ID: 380-113883-2

Date Collected: 09/17/24 10:00

Matrix: Water

Date Received: 09/19/24 09:59

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			09/20/24 22:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	90		38 - 134		09/20/24 22:05	1

Action Limit Summary

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

Job ID: 380-113883-1
SDG: Weekly

Client Sample ID: Halawa Shaft Viewing Pool

Lab Sample ID: 380-113883-1

Compliance Check

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

Analyte	Result	Qualifier	Unit	EPAMCL Limit	RL	Method	Prep Type
Alachlor	<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	<0.57		ug/L	6	0.57	525.2	Total/NA
Di(2-ethylhexyl)adipate	<0.57		ug/L	400	0.57	525.2	Total/NA
Endrin	<0.0096		ug/L	2	0.0096	525.2	Total/NA
gamma-BHC (Lindane)	<0.0096	^3+	ug/L	0.2	0.0096	525.2	Total/NA
Heptachlor	<0.0096	^3+	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
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: 380-113883-1
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)
380-113315-M-1-A MS	Matrix Spike	96	92	108
380-113534-AM-1-A DU	Duplicate	96	93	108
380-113883-1	Halawa Shaft Viewing Pool	97	92	107
LCS 380-109611/23-A	Lab Control Sample	96	89	114
LCSD 380-109611/24-A	Lab Control Sample Dup	96	89	110
MB 380-109611/21-A	Method Blank	96	83	107
MRL 380-109611/22-A	Lab Control Sample	97	83	107

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)
380-113883-1	Halawa Shaft Viewing Pool	84	86	52	94	34	84
MB 570-483623/1-A	Method Blank	61	66	39	68	25	86

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)
380-113707-A-3-A MS	Matrix Spike	87	51	51	38	34	56
380-113707-A-3-B MSD	Matrix Spike Duplicate	90	52	53	39	34	58
380-113883-1	Halawa Shaft Viewing Pool	68	41	30	40	20	46
LCS 570-483623/2-A	Lab Control Sample	86	52	58	39	39	60
LCSD 570-483623/3-A	Lab Control Sample Dup	89	52	58	39	39	62
MB 570-483623/1-A	Method Blank	77	41	39	43	25	55

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: 380-113883-1
 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)
380-113707-C-3 MS	Matrix Spike	91
380-113707-C-3 MSD	Matrix Spike Duplicate	91
380-113883-1	Halawa Shaft Viewing Pool	78
380-113883-2	TRIP BLANK	90
380-114394-C-1 MS	Matrix Spike	85
380-114394-C-1 MSD	Matrix Spike Duplicate	84
LCS 570-483045/4	Lab Control Sample	89
LCS 570-486453/5	Lab Control Sample	87
LCSD 570-483045/5	Lab Control Sample Dup	92
LCSD 570-486453/6	Lab Control Sample Dup	86
MB 570-483045/6	Method Blank	85
MB 570-486453/4	Method Blank	85
MRL 570-483045/3	Lab Control Sample	86
MRL 570-486453/3	Lab Control Sample	78

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

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

QC Sample Results

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

Job ID: 380-113883-1
 SDG: Weekly

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

Lab Sample ID: MB 380-109611/21-A
Matrix: Water
Analysis Batch: 109777

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 109611

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
2,4'-DDD	<0.097		0.097	ug/L		09/22/24 13:00	09/23/24 17:01	1
2,4'-DDE	<0.097		0.097	ug/L		09/22/24 13:00	09/23/24 17:01	1
2,4'-DDT	<0.097		0.097	ug/L		09/22/24 13:00	09/23/24 17:01	1
2,4-Dinitrotoluene	<0.097		0.097	ug/L		09/22/24 13:00	09/23/24 17:01	1
2,6-Dinitrotoluene	<0.097		0.097	ug/L		09/22/24 13:00	09/23/24 17:01	1
4,4'-DDD	<0.097		0.097	ug/L		09/22/24 13:00	09/23/24 17:01	1
4,4'-DDE	<0.097		0.097	ug/L		09/22/24 13:00	09/23/24 17:01	1
4,4'-DDT	<0.097		0.097	ug/L		09/22/24 13:00	09/23/24 17:01	1
Acenaphthene	<0.097		0.097	ug/L		09/22/24 13:00	09/23/24 17:01	1
Acenaphthylene	<0.097		0.097	ug/L		09/22/24 13:00	09/23/24 17:01	1
Acetochlor	<0.097		0.097	ug/L		09/22/24 13:00	09/23/24 17:01	1
Alachlor	<0.049		0.049	ug/L		09/22/24 13:00	09/23/24 17:01	1
alpha-BHC	<0.097		0.097	ug/L		09/22/24 13:00	09/23/24 17:01	1
alpha-Chlordane	<0.049		0.049	ug/L		09/22/24 13:00	09/23/24 17:01	1
Anthracene	<0.019		0.019	ug/L		09/22/24 13:00	09/23/24 17:01	1
Atrazine	<0.049		0.049	ug/L		09/22/24 13:00	09/23/24 17:01	1
Benz(a)anthracene	<0.049		0.049	ug/L		09/22/24 13:00	09/23/24 17:01	1
Benzo[a]pyrene	<0.019		0.019	ug/L		09/22/24 13:00	09/23/24 17:01	1
Benzo[b]fluoranthene	<0.019		0.019	ug/L		09/22/24 13:00	09/23/24 17:01	1
Benzo[g,h,i]perylene	<0.049		0.049	ug/L		09/22/24 13:00	09/23/24 17:01	1
Benzo[k]fluoranthene	<0.019		0.019	ug/L		09/22/24 13:00	09/23/24 17:01	1
beta-BHC	<0.097		0.097	ug/L		09/22/24 13:00	09/23/24 17:01	1
Bis(2-ethylhexyl) phthalate	<0.58		0.58	ug/L		09/22/24 13:00	09/23/24 17:01	1
Aldrin	<0.0097		0.0097	ug/L		09/22/24 13:00	09/23/24 17:01	1
Bromacil	<0.097		0.097	ug/L		09/22/24 13:00	09/23/24 17:01	1
Butachlor	<0.049		0.049	ug/L		09/22/24 13:00	09/23/24 17:01	1
Butylbenzylphthalate	<0.49		0.49	ug/L		09/22/24 13:00	09/23/24 17:01	1
Chlorobenzilate	<0.097		0.097	ug/L		09/22/24 13:00	09/23/24 17:01	1
Chloroneb	<0.097		0.097	ug/L		09/22/24 13:00	09/23/24 17:01	1
Chlorothalonil (Draconil, Bravo)	<0.097		0.097	ug/L		09/22/24 13:00	09/23/24 17:01	1
Chlorpyrifos	<0.049		0.049	ug/L		09/22/24 13:00	09/23/24 17:01	1
Chrysene	<0.019		0.019	ug/L		09/22/24 13:00	09/23/24 17:01	1
delta-BHC	<0.097		0.097	ug/L		09/22/24 13:00	09/23/24 17:01	1
Di(2-ethylhexyl)adipate	<0.58		0.58	ug/L		09/22/24 13:00	09/23/24 17:01	1
Dibenz(a,h)anthracene	<0.049		0.049	ug/L		09/22/24 13:00	09/23/24 17:01	1
Diclorvos (DDVP)	<0.049		0.049	ug/L		09/22/24 13:00	09/23/24 17:01	1
Dieldrin	<0.0097		0.0097	ug/L		09/22/24 13:00	09/23/24 17:01	1
Diethylphthalate	<0.49		0.49	ug/L		09/22/24 13:00	09/23/24 17:01	1
Dimethylphthalate	<0.49		0.49	ug/L		09/22/24 13:00	09/23/24 17:01	1
Di-n-butyl phthalate	<0.97		0.97	ug/L		09/22/24 13:00	09/23/24 17:01	1
Di-n-octyl phthalate	<0.097		0.097	ug/L		09/22/24 13:00	09/23/24 17:01	1
Endosulfan I (Alpha)	<0.097		0.097	ug/L		09/22/24 13:00	09/23/24 17:01	1
Endosulfan II (Beta)	<0.097		0.097	ug/L		09/22/24 13:00	09/23/24 17:01	1
Endosulfan sulfate	<0.097		0.097	ug/L		09/22/24 13:00	09/23/24 17:01	1
Endrin	<0.0097		0.0097	ug/L		09/22/24 13:00	09/23/24 17:01	1
Endrin aldehyde	<0.097		0.097	ug/L		09/22/24 13:00	09/23/24 17:01	1
EPTC	<0.097		0.097	ug/L		09/22/24 13:00	09/23/24 17:01	1
Fluoranthene	<0.097		0.097	ug/L		09/22/24 13:00	09/23/24 17:01	1

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-113883-1
SDG: Weekly

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

Lab Sample ID: MB 380-109611/21-A
Matrix: Water
Analysis Batch: 109777

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 109611

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	<0.049		0.049	ug/L		09/22/24 13:00	09/23/24 17:01	1
gamma-BHC (Lindane)	<0.0097		0.0097	ug/L		09/22/24 13:00	09/23/24 17:01	1
gamma-Chlordane	<0.049		0.049	ug/L		09/22/24 13:00	09/23/24 17:01	1
Heptachlor	<0.0097		0.0097	ug/L		09/22/24 13:00	09/23/24 17:01	1
Heptachlor epoxide (isomer B)	<0.0097		0.0097	ug/L		09/22/24 13:00	09/23/24 17:01	1
Hexachlorobenzene	<0.049		0.049	ug/L		09/22/24 13:00	09/23/24 17:01	1
Hexachlorocyclopentadiene	<0.049		0.049	ug/L		09/22/24 13:00	09/23/24 17:01	1
Indeno[1,2,3-cd]pyrene	<0.049		0.049	ug/L		09/22/24 13:00	09/23/24 17:01	1
Isophorone	<0.097		0.097	ug/L		09/22/24 13:00	09/23/24 17:01	1
Malathion	<0.097		0.097	ug/L		09/22/24 13:00	09/23/24 17:01	1
Methoxychlor	<0.049		0.049	ug/L		09/22/24 13:00	09/23/24 17:01	1
Metolachlor	<0.049		0.049	ug/L		09/22/24 13:00	09/23/24 17:01	1
Molinate	<0.097		0.097	ug/L		09/22/24 13:00	09/23/24 17:01	1
Naphthalene	<0.097		0.097	ug/L		09/22/24 13:00	09/23/24 17:01	1
Parathion	<0.097		0.097	ug/L		09/22/24 13:00	09/23/24 17:01	1
Pendimethalin (Penoxaline)	<0.097		0.097	ug/L		09/22/24 13:00	09/23/24 17:01	1
Phenanthrene	<0.039		0.039	ug/L		09/22/24 13:00	09/23/24 17:01	1
Propachlor	<0.049		0.049	ug/L		09/22/24 13:00	09/23/24 17:01	1
Pyrene	<0.049		0.049	ug/L		09/22/24 13:00	09/23/24 17:01	1
Simazine	<0.049		0.049	ug/L		09/22/24 13:00	09/23/24 17:01	1
Terbacil	<0.097		0.097	ug/L		09/22/24 13:00	09/23/24 17:01	1
Terbutylazine	<0.097		0.097	ug/L		09/22/24 13:00	09/23/24 17:01	1
Thiobencarb	<0.097		0.097	ug/L		09/22/24 13:00	09/23/24 17:01	1
Total Permethrin (mixed isomers)	<0.19		0.19	ug/L		09/22/24 13:00	09/23/24 17:01	1
trans-Nonachlor	<0.049		0.049	ug/L		09/22/24 13:00	09/23/24 17:01	1
Trifluralin	<0.097		0.097	ug/L		09/22/24 13:00	09/23/24 17:01	1
1-Methylnaphthalene	<0.097		0.097	ug/L		09/22/24 13:00	09/23/24 17:01	1
2-Methylnaphthalene	<0.097		0.097	ug/L		09/22/24 13:00	09/23/24 17:01	1

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L			N/A	09/22/24 13:00	09/23/24 17:01	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Nitro-m-xylene	96		70 - 130	09/22/24 13:00	09/23/24 17:01	1
Perylene-d12	83		70 - 130	09/22/24 13:00	09/23/24 17:01	1
Triphenylphosphate	107		70 - 130	09/22/24 13:00	09/23/24 17:01	1

Lab Sample ID: LCS 380-109611/23-A
Matrix: Water
Analysis Batch: 109777

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 109611

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
2,4'-DDD	1.95	2.19		ug/L		112	70 - 130
2,4'-DDE	1.95	2.17		ug/L		111	70 - 130
2,4'-DDT	1.95	2.06		ug/L		106	70 - 130
2,4-Dinitrotoluene	1.95	1.83		ug/L		94	70 - 130
2,6-Dinitrotoluene	1.95	1.83		ug/L		94	70 - 130
4,4'-DDD	1.95	2.19		ug/L		112	70 - 130

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-113883-1
SDG: Weekly

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

Lab Sample ID: LCS 380-109611/23-A
Matrix: Water
Analysis Batch: 109777

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 109611

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
4,4'-DDE	1.95	2.15		ug/L		110	70 - 130
4,4'-DDT	1.95	2.11		ug/L		108	70 - 130
Acenaphthene	1.95	1.93		ug/L		99	70 - 130
Acenaphthylene	1.95	1.77		ug/L		91	70 - 130
Acetochlor	1.95	2.19		ug/L		112	70 - 130
Alachlor	1.95	2.21		ug/L		113	70 - 130
alpha-BHC	1.95	2.08		ug/L		106	70 - 130
alpha-Chlordane	1.95	2.27		ug/L		117	70 - 130
Anthracene	1.95	1.66		ug/L		85	70 - 130
Atrazine	1.95	2.08		ug/L		106	70 - 130
Benz(a)anthracene	1.95	1.95		ug/L		100	70 - 130
Benzo[a]pyrene	1.95	1.71		ug/L		87	70 - 130
Benzo[b]fluoranthene	1.95	1.94		ug/L		99	70 - 130
Benzo[g,h,i]perylene	1.95	1.96		ug/L		101	70 - 130
Benzo[k]fluoranthene	1.95	1.98		ug/L		102	70 - 130
beta-BHC	1.95	2.13		ug/L		109	70 - 130
Bis(2-ethylhexyl) phthalate	1.95	1.83		ug/L		94	70 - 130
Aldrin	1.95	1.41		ug/L		72	70 - 130
Bromacil	1.95	2.20		ug/L		112	70 - 130
Butachlor	1.95	2.07		ug/L		106	70 - 130
Butylbenzylphthalate	1.95	2.07		ug/L		106	70 - 130
Chlorobenzilate	1.95	2.02		ug/L		103	70 - 130
Chloroneb	1.95	1.91		ug/L		98	70 - 130
Chlorothalonil (Draconil, Bravo)	1.95	2.16		ug/L		111	70 - 130
Chlorpyrifos	1.95	2.24		ug/L		115	70 - 130
Chrysene	1.95	1.99		ug/L		102	70 - 130
delta-BHC	1.95	2.12		ug/L		109	70 - 130
Di(2-ethylhexyl)adipate	1.95	1.87		ug/L		96	70 - 130
Dibenz(a,h)anthracene	1.95	1.92		ug/L		99	70 - 130
Diclorvos (DDVP)	1.95	1.86		ug/L		95	70 - 130
Dieldrin	1.95	2.08		ug/L		106	70 - 130
Diethylphthalate	1.95	2.07		ug/L		106	70 - 130
Dimethylphthalate	1.95	2.00		ug/L		102	70 - 130
Di-n-butyl phthalate	3.90	4.26		ug/L		109	70 - 130
Di-n-octyl phthalate	1.95	1.87		ug/L		96	70 - 130
Endosulfan I (Alpha)	1.95	2.07		ug/L		106	70 - 130
Endosulfan II (Beta)	1.95	2.07		ug/L		106	70 - 130
Endosulfan sulfate	1.95	2.13		ug/L		109	70 - 130
Endrin	1.95	2.36		ug/L		121	70 - 130
Endrin aldehyde	1.95	2.05		ug/L		105	60 - 130
EPTC	1.95	1.92		ug/L		98	70 - 130
Fluoranthene	1.95	2.10		ug/L		107	70 - 130
Fluorene	1.95	1.97		ug/L		101	70 - 130
gamma-BHC (Lindane)	1.95	2.04		ug/L		105	70 - 130
gamma-Chlordane	1.95	2.24		ug/L		115	70 - 130
Heptachlor	1.95	1.95		ug/L		100	70 - 130
Heptachlor epoxide (isomer B)	1.95	2.15		ug/L		110	70 - 130
Hexachlorobenzene	1.95	1.94		ug/L		99	70 - 130
Hexachlorocyclopentadiene	1.95	1.92		ug/L		98	70 - 130

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-113883-1
SDG: Weekly

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

Lab Sample ID: LCS 380-109611/23-A
Matrix: Water
Analysis Batch: 109777

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 109611

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Indeno[1,2,3-cd]pyrene	1.95	1.77		ug/L		91	70 - 130
Isophorone	1.95	1.84		ug/L		94	70 - 130
Malathion	1.95	2.20		ug/L		113	70 - 130
Methoxychlor	1.95	1.92		ug/L		98	70 - 130
Metolachlor	1.95	2.30		ug/L		118	70 - 130
Molinate	1.95	1.91		ug/L		98	70 - 130
Naphthalene	1.95	1.76		ug/L		90	70 - 130
Parathion	1.95	2.29		ug/L		117	70 - 130
Pendimethalin (Penoxaline)	1.95	2.04		ug/L		104	70 - 130
Phenanthrene	1.95	1.83		ug/L		94	70 - 130
Propachlor	1.95	2.04		ug/L		104	70 - 130
Pyrene	1.95	2.05		ug/L		105	70 - 130
Simazine	1.95	2.18		ug/L		112	70 - 130
Terbacil	1.95	2.25		ug/L		115	70 - 130
Terbutylazine	1.95	2.27		ug/L		116	70 - 130
Thiobencarb	1.95	2.02		ug/L		104	70 - 130
trans-Nonachlor	1.95	2.25		ug/L		115	70 - 130
Trifluralin	1.95	1.81		ug/L		93	70 - 130
1-Methylnaphthalene	1.95	1.84		ug/L		94	70 - 130
2-Methylnaphthalene	1.95	1.79		ug/L		92	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Nitro-m-xylene	96		70 - 130
Perylene-d12	89		70 - 130
Triphenylphosphate	114		70 - 130

Lab Sample ID: LCSD 380-109611/24-A
Matrix: Water
Analysis Batch: 109777

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 109611

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
2,4'-DDD	1.95	2.21		ug/L		113	70 - 130	1	20
2,4'-DDE	1.95	2.18		ug/L		112	70 - 130	0	20
2,4'-DDT	1.95	2.07		ug/L		106	70 - 130	1	20
2,4-Dinitrotoluene	1.95	1.97		ug/L		101	70 - 130	7	20
2,6-Dinitrotoluene	1.95	1.96		ug/L		101	70 - 130	7	20
4,4'-DDD	1.95	2.22		ug/L		114	70 - 130	1	20
4,4'-DDE	1.95	2.16		ug/L		111	70 - 130	1	20
4,4'-DDT	1.95	2.13		ug/L		109	70 - 130	1	20
Acenaphthene	1.95	1.98		ug/L		102	70 - 130	3	20
Acenaphthylene	1.95	1.80		ug/L		92	70 - 130	2	20
Acetochlor	1.95	2.21		ug/L		113	70 - 130	1	20
Alachlor	1.95	2.17		ug/L		111	70 - 130	2	20
alpha-BHC	1.95	2.09		ug/L		107	70 - 130	1	20
alpha-Chlordane	1.95	2.27		ug/L		117	70 - 130	0	20
Anthracene	1.95	1.68		ug/L		86	70 - 130	1	20
Atrazine	1.95	2.12		ug/L		109	70 - 130	2	20
Benz(a)anthracene	1.95	1.98		ug/L		101	70 - 130	1	20

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-113883-1
SDG: Weekly

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

Lab Sample ID: LCSD 380-109611/24-A
Matrix: Water
Analysis Batch: 109777

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 109611

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
							Limits	RPD		
Benzo[a]pyrene	1.95	1.72		ug/L		88	70 - 130	1	20	
Benzo[b]fluoranthene	1.95	2.01		ug/L		103	70 - 130	4	20	
Benzo[g,h,i]perylene	1.95	2.00		ug/L		103	70 - 130	2	20	
Benzo[k]fluoranthene	1.95	1.98		ug/L		102	70 - 130	0	20	
beta-BHC	1.95	2.18		ug/L		112	70 - 130	3	20	
Bis(2-ethylhexyl) phthalate	1.95	1.85		ug/L		95	70 - 130	1	20	
Aldrin	1.95	1.37		ug/L		70	70 - 130	3	20	
Bromacil	1.95	2.19		ug/L		112	70 - 130	0	20	
Butachlor	1.95	2.05		ug/L		105	70 - 130	1	20	
Butylbenzylphthalate	1.95	2.07		ug/L		106	70 - 130	0	20	
Chlorobenzilate	1.95	2.04		ug/L		105	70 - 130	1	20	
Chloroneb	1.95	1.94		ug/L		99	70 - 130	1	20	
Chlorothalonil (Draconil, Bravo)	1.95	2.15		ug/L		110	70 - 130	1	20	
Chlorpyrifos	1.95	2.19		ug/L		113	70 - 130	2	20	
Chrysene	1.95	2.03		ug/L		104	70 - 130	2	20	
delta-BHC	1.95	2.09		ug/L		107	70 - 130	1	20	
Di(2-ethylhexyl)adipate	1.95	1.86		ug/L		95	70 - 130	1	20	
Dibenz(a,h)anthracene	1.95	1.99		ug/L		102	70 - 130	3	20	
Diclorvos (DDVP)	1.95	1.90		ug/L		97	70 - 130	2	20	
Dieldrin	1.95	2.11		ug/L		108	70 - 130	2	20	
Diethylphthalate	1.95	2.11		ug/L		108	70 - 130	2	20	
Dimethylphthalate	1.95	2.03		ug/L		104	70 - 130	2	20	
Di-n-butyl phthalate	3.90	4.18		ug/L		107	70 - 130	2	20	
Di-n-octyl phthalate	1.95	1.88		ug/L		97	70 - 130	1	20	
Endosulfan I (Alpha)	1.95	2.03		ug/L		104	70 - 130	2	20	
Endosulfan II (Beta)	1.95	2.03		ug/L		104	70 - 130	2	20	
Endosulfan sulfate	1.95	2.13		ug/L		109	70 - 130	0	20	
Endrin	1.95	2.34		ug/L		120	70 - 130	1	20	
Endrin aldehyde	1.95	2.05		ug/L		105	60 - 130	0	20	
EPTC	1.95	1.97		ug/L		101	70 - 130	3	20	
Fluoranthene	1.95	2.12		ug/L		109	70 - 130	1	20	
Fluorene	1.95	2.04		ug/L		105	70 - 130	3	20	
gamma-BHC (Lindane)	1.95	2.05		ug/L		105	70 - 130	0	20	
gamma-Chlordane	1.95	2.24		ug/L		115	70 - 130	0	20	
Heptachlor	1.95	1.95		ug/L		100	70 - 130	0	20	
Heptachlor epoxide (isomer B)	1.95	2.14		ug/L		110	70 - 130	1	20	
Hexachlorobenzene	1.95	2.05		ug/L		105	70 - 130	6	20	
Hexachlorocyclopentadiene	1.95	1.99		ug/L		102	70 - 130	3	20	
Indeno[1,2,3-cd]pyrene	1.95	1.83		ug/L		94	70 - 130	3	20	
Isophorone	1.95	1.86		ug/L		95	70 - 130	1	20	
Malathion	1.95	2.19		ug/L		112	70 - 130	1	20	
Methoxychlor	1.95	1.95		ug/L		100	70 - 130	2	20	
Metolachlor	1.95	2.28		ug/L		117	70 - 130	1	20	
Molinate	1.95	1.95		ug/L		100	70 - 130	2	20	
Naphthalene	1.95	1.81		ug/L		93	70 - 130	3	20	
Parathion	1.95	2.29		ug/L		118	70 - 130	0	20	
Pendimethalin (Penoxaline)	1.95	2.07		ug/L		106	70 - 130	2	20	
Phenanthrene	1.95	1.86		ug/L		95	70 - 130	1	20	
Propachlor	1.95	2.07		ug/L		106	70 - 130	2	20	

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-113883-1
SDG: Weekly

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

Lab Sample ID: LCSD 380-109611/24-A
Matrix: Water
Analysis Batch: 109777

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 109611

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Pyrene	1.95	2.07		ug/L		106	70 - 130	1	20
Simazine	1.95	2.20		ug/L		113	70 - 130	1	20
Terbacil	1.95	2.24		ug/L		115	70 - 130	1	20
Terbutylazine	1.95	2.29		ug/L		117	70 - 130	1	20
Thiobencarb	1.95	2.00		ug/L		103	70 - 130	1	20
trans-Nonachlor	1.95	2.27		ug/L		117	70 - 130	1	20
Trifluralin	1.95	1.89		ug/L		97	70 - 130	5	20
1-Methylnaphthalene	1.95	1.91		ug/L		98	70 - 130	4	20
2-Methylnaphthalene	1.95	1.87		ug/L		96	70 - 130	4	20

Surrogate	LCSD %Recovery	LCSD Qualifier	LCSD Limits
2-Nitro-m-xylene	96		70 - 130
Perylene-d12	89		70 - 130
Triphenylphosphate	110		70 - 130

Lab Sample ID: MRL 380-109611/22-A
Matrix: Water
Analysis Batch: 109777

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 109611

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
2,4'-DDD	0.0978	0.0945	J	ug/L		97	50 - 150
2,4'-DDE	0.0978	0.105		ug/L		107	50 - 150
2,4'-DDT	0.0978	0.116		ug/L		118	50 - 150
2,4-Dinitrotoluene	0.0978	0.104		ug/L		107	50 - 150
2,6-Dinitrotoluene	0.0978	0.0979	J	ug/L		100	50 - 150
4,4'-DDD	0.0978	0.110		ug/L		112	50 - 150
4,4'-DDE	0.0978	0.103		ug/L		106	50 - 150
4,4'-DDT	0.0978	0.116		ug/L		118	50 - 150
Acenaphthene	0.0978	0.0923	J	ug/L		94	50 - 150
Acenaphthylene	0.0978	0.0843	J	ug/L		86	50 - 150
Acetochlor	0.0978	0.111		ug/L		113	50 - 150
Alachlor	0.0489	0.0550		ug/L		113	50 - 150
alpha-BHC	0.0978	0.106		ug/L		108	50 - 150
alpha-Chlordane	0.0244	<0.028		ug/L		97	50 - 150
Anthracene	0.0196	<0.019		ug/L		97	50 - 150
Atrazine	0.0489	0.0481	J	ug/L		98	50 - 150
Benz(a)anthracene	0.0489	0.0517		ug/L		106	50 - 150
Benzo[a]pyrene	0.0196	0.0163	J	ug/L		83	50 - 150
Benzo[b]fluoranthene	0.0196	0.0179	J	ug/L		92	50 - 150
Benzo[g,h,i]perylene	0.0489	0.0404	J	ug/L		83	50 - 150
Benzo[k]fluoranthene	0.0196	0.0186	J	ug/L		95	50 - 150
beta-BHC	0.0978	0.116		ug/L		118	50 - 150
Bis(2-ethylhexyl) phthalate	0.587	0.583	J	ug/L		99	50 - 150
Aldrin	0.00978	<0.0098		ug/L		56	50 - 150
Bromacil	0.0978	0.122		ug/L		125	50 - 150
Butachlor	0.0489	0.0666		ug/L		136	50 - 150
Butylbenzylphthalate	0.489	0.497		ug/L		102	50 - 150
Chlorobenzilate	0.0978	0.0505	J	ug/L		52	50 - 150

QC Sample Results

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

Job ID: 380-113883-1
SDG: Weekly

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

Lab Sample ID: MRL 380-109611/22-A
Matrix: Water
Analysis Batch: 109777

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 109611

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Chloroneb	0.0978	0.100		ug/L		103	50 - 150
Chlorothalonil (Draconil, Bravo)	0.0978	0.120		ug/L		123	50 - 150
Chlorpyrifos	0.0489	0.0524		ug/L		107	50 - 150
Chrysene	0.0196	0.0200		ug/L		102	50 - 150
delta-BHC	0.0978	0.116		ug/L		119	50 - 150
Di(2-ethylhexyl)adipate	0.587	0.528	J	ug/L		90	50 - 150
Dibenz(a,h)anthracene	0.0489	0.0380	J	ug/L		78	50 - 150
Diclorvos (DDVP)	0.0489	0.0490		ug/L		100	50 - 150
Dieldrin	0.00978	0.0141		ug/L		145	50 - 150
Diethylphthalate	0.489	0.504		ug/L		103	50 - 150
Dimethylphthalate	0.489	0.494		ug/L		101	50 - 150
Di-n-butyl phthalate	0.489	0.548	J	ug/L		112	49 - 243
Di-n-octyl phthalate	0.0978	0.0767	J	ug/L		78	50 - 150
Endosulfan I (Alpha)	0.0978	0.103		ug/L		105	50 - 150
Endosulfan II (Beta)	0.0978	0.0943	J	ug/L		97	50 - 150
Endosulfan sulfate	0.0978	0.117		ug/L		120	50 - 150
Endrin	0.00978	0.0106		ug/L		109	50 - 150
Endrin aldehyde	0.0978	0.106		ug/L		109	50 - 150
EPTC	0.0978	0.0893	J	ug/L		91	50 - 150
Fluoranthene	0.0978	0.0999		ug/L		102	50 - 150
Fluorene	0.0489	<0.049		ug/L		95	50 - 150
gamma-BHC (Lindane)	0.00978	0.0163	^3+	ug/L		167	50 - 150
gamma-Chlordane	0.0244	0.0239	J	ug/L		98	50 - 150
Heptachlor	0.00978	0.0181	^3+	ug/L		185	50 - 150
Heptachlor epoxide (isomer B)	0.00978	0.0140		ug/L		144	50 - 150
Hexachlorobenzene	0.0489	0.0470	J	ug/L		96	50 - 150
Hexachlorocyclopentadiene	0.0489	0.0428	J	ug/L		88	50 - 150
Indeno[1,2,3-cd]pyrene	0.0489	0.0346	J	ug/L		71	50 - 150
Isophorone	0.0978	0.107		ug/L		109	50 - 150
Malathion	0.0978	0.112		ug/L		114	50 - 150
Methoxychlor	0.0489	0.0696		ug/L		142	50 - 150
Metolachlor	0.0489	0.0570		ug/L		117	50 - 150
Molinate	0.0978	0.0989		ug/L		101	50 - 150
Naphthalene	0.0978	0.0949	J	ug/L		97	50 - 150
Parathion	0.0978	0.104		ug/L		106	50 - 150
Pendimethalin (Penoxaline)	0.0978	0.106		ug/L		108	50 - 150
Phenanthrene	0.0391	0.0411		ug/L		105	50 - 150
Propachlor	0.0489	0.0486	J	ug/L		99	50 - 150
Pyrene	0.0489	0.0488	J	ug/L		100	50 - 150
Simazine	0.0489	0.0529		ug/L		108	50 - 150
Terbacil	0.0978	0.116		ug/L		119	50 - 150
Terbutylazine	0.0978	0.105		ug/L		107	50 - 150
Thiobencarb	0.0978	0.100		ug/L		103	50 - 150
trans-Nonachlor	0.0244	0.0254	J	ug/L		104	50 - 150
Trifluralin	0.0978	0.0967	J	ug/L		99	50 - 150
1-Methylnaphthalene	0.0978	0.0974	J	ug/L		100	50 - 150
2-Methylnaphthalene	0.0978	0.0914	J	ug/L		93	50 - 150

QC Sample Results

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

Job ID: 380-113883-1
SDG: Weekly

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

Lab Sample ID: MRL 380-109611/22-A
Matrix: Water
Analysis Batch: 109777

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 109611

Surrogate	MRL %Recovery	MRL Qualifier	Limits
2-Nitro-m-xylene	97		70 - 130
Perylene-d12	83		70 - 130
Triphenylphosphate	107		70 - 130

Lab Sample ID: 380-113315-M-1-A MS
Matrix: Water
Analysis Batch: 109777

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 109611

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
2,4'-DDD	<0.095		1.91	2.14		ug/L		112	70 - 130
2,4'-DDE	<0.095		1.91	2.12		ug/L		111	70 - 130
2,4'-DDT	<0.095		1.91	2.07		ug/L		109	70 - 130
2,4-Dinitrotoluene	<0.095		1.91	2.17		ug/L		114	70 - 130
2,6-Dinitrotoluene	<0.095		1.91	2.08		ug/L		109	70 - 130
4,4'-DDD	<0.095		1.91	2.15		ug/L		113	70 - 130
4,4'-DDE	<0.095		1.91	2.11		ug/L		110	70 - 130
4,4'-DDT	<0.095		1.91	2.14		ug/L		112	70 - 130
Acenaphthene	<0.095		1.91	1.94		ug/L		101	70 - 130
Acenaphthylene	<0.095		1.91	1.78		ug/L		93	70 - 130
Acetochlor	<0.095		1.91	2.11		ug/L		110	70 - 130
Alachlor	<0.048		1.91	2.12		ug/L		111	70 - 130
alpha-BHC	<0.095		1.91	2.02		ug/L		106	70 - 130
alpha-Chlordane	<0.048		1.91	2.25		ug/L		118	70 - 130
Anthracene	<0.019	F1	1.91	0.816	F1	ug/L		43	70 - 130
Atrazine	<0.048		1.91	2.02		ug/L		106	70 - 130
Benz(a)anthracene	<0.048		1.91	1.77		ug/L		93	70 - 130
Benzo[a]pyrene	<0.019		1.91	1.40		ug/L		74	70 - 130
Benzo[b]fluoranthene	<0.019		1.91	2.00		ug/L		105	70 - 130
Benzo[g,h,i]perylene	<0.048		1.91	2.00		ug/L		105	70 - 130
Benzo[k]fluoranthene	<0.019		1.91	2.02		ug/L		106	70 - 130
beta-BHC	<0.095		1.91	2.11		ug/L		110	70 - 130
Bis(2-ethylhexyl) phthalate	<0.57		1.91	1.78		ug/L		93	70 - 130
Aldrin	<0.0095		1.91	1.36		ug/L		71	70 - 130
Bromacil	<0.095		1.91	2.18		ug/L		114	70 - 130
Butachlor	<0.048		1.91	1.98		ug/L		104	70 - 130
Butylbenzylphthalate	<0.48		1.91	1.99		ug/L		104	70 - 130
Chlorobenzilate	<0.095		1.91	2.09		ug/L		110	70 - 130
Chloroneb	<0.095		1.91	1.90		ug/L		99	70 - 130
Chlorothalonil (Draconil, Bravo)	<0.095		1.91	2.11		ug/L		110	70 - 130
Chlorpyrifos	<0.048		1.91	2.18		ug/L		114	70 - 130
Chrysene	<0.019		1.91	2.00		ug/L		105	70 - 130
delta-BHC	<0.095		1.91	2.06		ug/L		108	70 - 130
Di(2-ethylhexyl)adipate	<0.57		1.91	1.78		ug/L		93	70 - 130
Dibenz(a,h)anthracene	<0.048		1.91	1.99		ug/L		104	70 - 130
Diclorvos (DDVP)	<0.048		1.91	1.84		ug/L		96	70 - 130
Dieldrin	<0.0095		1.91	2.06		ug/L		108	70 - 130
Diethylphthalate	<0.48		1.91	2.03		ug/L		106	70 - 130
Dimethylphthalate	<0.48		1.91	1.97		ug/L		103	70 - 130

QC Sample Results

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

Job ID: 380-113883-1
SDG: Weekly

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

Lab Sample ID: 380-113315-M-1-A MS
Matrix: Water
Analysis Batch: 109777

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 109611

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec Limits
	Result	Qualifier	Added	Result	Qualifier				
Di-n-butyl phthalate	<0.95		3.82	4.04		ug/L		106	70 - 130
Di-n-octyl phthalate	<0.095		1.91	1.79		ug/L		94	70 - 130
Endosulfan I (Alpha)	<0.095		1.91	2.00		ug/L		104	70 - 130
Endosulfan II (Beta)	<0.095		1.91	2.02		ug/L		106	70 - 130
Endosulfan sulfate	<0.095		1.91	2.09		ug/L		110	70 - 130
Endrin	<0.0095		1.91	2.28		ug/L		119	70 - 130
Endrin aldehyde	<0.095		1.91	1.96		ug/L		102	60 - 130
EPTC	<0.095		1.91	1.94		ug/L		102	70 - 130
Fluoranthene	<0.095		1.91	2.08		ug/L		109	70 - 130
Fluorene	<0.048		1.91	1.99		ug/L		104	70 - 130
gamma-BHC (Lindane)	<0.0095	^3+	1.91	2.00		ug/L		105	70 - 130
gamma-Chlordane	<0.048		1.91	2.20		ug/L		115	70 - 130
Heptachlor	<0.0095	^3+	1.91	1.94		ug/L		102	70 - 130
Heptachlor epoxide (isomer B)	<0.0095		1.91	2.10		ug/L		110	70 - 130
Hexachlorobenzene	<0.048		1.91	2.02		ug/L		106	70 - 130
Hexachlorocyclopentadiene	<0.048		1.91	2.05		ug/L		108	70 - 130
Indeno[1,2,3-cd]pyrene	<0.048		1.91	1.93		ug/L		101	70 - 130
Isophorone	<0.095		1.91	1.79		ug/L		94	70 - 130
Malathion	<0.095		1.91	2.12		ug/L		111	70 - 130
Methoxychlor	<0.048		1.91	2.05		ug/L		107	70 - 130
Metolachlor	<0.048		1.91	2.21		ug/L		116	70 - 130
Molinate	<0.095		1.91	1.93		ug/L		101	70 - 130
Naphthalene	<0.095		1.91	1.79		ug/L		94	70 - 130
Parathion	<0.095		1.91	2.34		ug/L		123	70 - 130
Pendimethalin (Penoxaline)	<0.095		1.91	2.22		ug/L		116	70 - 130
Phenanthrene	<0.038		1.91	1.84		ug/L		96	70 - 130
Propachlor	<0.048		1.91	2.00		ug/L		105	70 - 130
Pyrene	<0.048		1.91	2.01		ug/L		105	70 - 130
Simazine	<0.048		1.91	2.09		ug/L		110	70 - 130
Terbacil	<0.095		1.91	2.21		ug/L		116	70 - 130
Terbutylazine	<0.095		1.91	2.20		ug/L		115	70 - 130
Thiobencarb	<0.095		1.91	1.94		ug/L		101	70 - 130
trans-Nonachlor	<0.048		1.91	2.21		ug/L		116	70 - 130
Trifluralin	<0.095		1.91	1.97		ug/L		103	70 - 130
1-Methylnaphthalene	<0.095		1.91	1.88		ug/L		99	70 - 130
2-Methylnaphthalene	<0.095		1.91	1.85		ug/L		97	70 - 130

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
2-Nitro-m-xylene	96		70 - 130
Perylene-d12	92		70 - 130
Triphenylphosphate	108		70 - 130

Lab Sample ID: 380-113534-AM-1-A DU
Matrix: Water
Analysis Batch: 109777

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 109611

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

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-113883-1
SDG: Weekly

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

Lab Sample ID: 380-113534-AM-1-A DU
Matrix: Water
Analysis Batch: 109777

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 109611

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
2,4'-DDE	<0.098		<0.097		ug/L		NC	20
2,4'-DDT	<0.098		<0.097		ug/L		NC	20
2,4-Dinitrotoluene	<0.098		<0.097		ug/L		NC	20
2,6-Dinitrotoluene	<0.098		<0.097		ug/L		NC	20
4,4'-DDD	<0.098		<0.097		ug/L		NC	20
4,4'-DDE	<0.098		<0.097		ug/L		NC	20
4,4'-DDT	<0.098		<0.097		ug/L		NC	20
Acenaphthene	<0.098		<0.097		ug/L		NC	20
Acenaphthylene	<0.098		<0.097		ug/L		NC	20
Acetochlor	<0.098		<0.097		ug/L		NC	20
Alachlor	<0.049		<0.048		ug/L		NC	20
alpha-BHC	<0.098		<0.097		ug/L		NC	20
alpha-Chlordane	<0.049		<0.048		ug/L		NC	20
Anthracene	<0.020		<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	<0.020		<0.019		ug/L		NC	20
Benzo[b]fluoranthene	<0.020		<0.019		ug/L		NC	20
Benzo[g,h,i]perylene	<0.049		<0.048		ug/L		NC	20
Benzo[k]fluoranthene	<0.020		<0.019		ug/L		NC	20
beta-BHC	<0.098		<0.097		ug/L		NC	20
Bis(2-ethylhexyl) phthalate	<0.59		<0.58		ug/L		NC	20
Aldrin	<0.0098		<0.0097		ug/L		NC	20
Bromacil	<0.098		<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	<0.098		<0.097		ug/L		NC	20
Chloroneb	<0.098		<0.097		ug/L		NC	20
Chlorothalonil (Draconil, Bravo)	<0.098		<0.097		ug/L		NC	20
Chlorpyrifos	<0.049		<0.048		ug/L		NC	20
Chrysene	<0.020		<0.019		ug/L		NC	20
delta-BHC	<0.098		<0.097		ug/L		NC	20
Di(2-ethylhexyl)adipate	<0.59		<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	<0.0098		<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	<0.98		<0.97		ug/L		NC	20
Di-n-octyl phthalate	<0.098		<0.097		ug/L		NC	20
Endosulfan I (Alpha)	<0.098		<0.097		ug/L		NC	20
Endosulfan II (Beta)	<0.098		<0.097		ug/L		NC	20
Endosulfan sulfate	<0.098		<0.097		ug/L		NC	20
Endrin	<0.0098		<0.0097		ug/L		NC	20
Endrin aldehyde	<0.098		<0.097		ug/L		NC	20
EPTC	<0.098		<0.097		ug/L		NC	20
Fluoranthene	<0.098		<0.097		ug/L		NC	20
Fluorene	<0.049		<0.048		ug/L		NC	20
gamma-BHC (Lindane)	<0.0098	^3+	<0.0097		ug/L		NC	20

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-113883-1
SDG: Weekly

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

Lab Sample ID: 380-113534-AM-1-A DU
Matrix: Water
Analysis Batch: 109777

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 109611

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
gamma-Chlordane	<0.049		<0.048		ug/L		NC	20
Heptachlor	<0.0098	^3+	<0.0097		ug/L		NC	20
Heptachlor epoxide (isomer B)	<0.0098		<0.0097		ug/L		NC	20
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	<0.098		<0.097		ug/L		NC	20
Malathion	<0.098		<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	<0.098		<0.097		ug/L		NC	20
Naphthalene	<0.098		<0.097		ug/L		NC	20
Parathion	<0.098		<0.097		ug/L		NC	20
Pendimethalin (Penoxaline)	<0.098		<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	<0.098		<0.097		ug/L		NC	20
Terbutylazine	<0.098		<0.097		ug/L		NC	20
Thiobencarb	<0.098		<0.097		ug/L		NC	20
Total Permethrin (mixed isomers)	<0.20		<0.19		ug/L		NC	20
trans-Nonachlor	<0.049		<0.048		ug/L		NC	20
Trifluralin	<0.098		<0.097		ug/L		NC	20
1-Methylnaphthalene			<0.097		ug/L			20
2-Methylnaphthalene			<0.097		ug/L			20

Surrogate	%Recovery	DU Qualifier	DU Limits
2-Nitro-m-xylene	96		70 - 130
Perylene-d12	93		70 - 130
Triphenylphosphate	108		70 - 130

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

Lab Sample ID: MB 570-483623/1-A
Matrix: Water
Analysis Batch: 487834

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 483623

Tentatively Identified Compound	Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L			N/A	09/23/24 05:22	10/04/24 19:04	1

Surrogate	%Recovery	MB Qualifier	MB Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	61		33 - 139	09/23/24 05:22	10/04/24 19:04	1
2-Fluorobiphenyl (Surr)	66		33 - 126	09/23/24 05:22	10/04/24 19:04	1
2-Fluorophenol (Surr)	39		12 - 120	09/23/24 05:22	10/04/24 19:04	1
Nitrobenzene-d5 (Surr)	68		36 - 120	09/23/24 05:22	10/04/24 19:04	1
Phenol-d6 (Surr)	25		10 - 120	09/23/24 05:22	10/04/24 19:04	1
p-Terphenyl-d14 (Surr)	86		47 - 131	09/23/24 05:22	10/04/24 19:04	1

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-113883-1
SDG: Weekly

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

Lab Sample ID: MB 570-483623/1-A
Matrix: Water
Analysis Batch: 485893

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 483623

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	<0.20		0.20	ug/L		09/23/24 05:22	09/29/24 08:58	1
2-Methylnaphthalene	<0.20		0.20	ug/L		09/23/24 05:22	09/29/24 08:58	1
Acenaphthene	<0.20		0.20	ug/L		09/23/24 05:22	09/29/24 08:58	1
Acenaphthylene	<0.20		0.20	ug/L		09/23/24 05:22	09/29/24 08:58	1
Anthracene	<0.20		0.20	ug/L		09/23/24 05:22	09/29/24 08:58	1
Benzo[a]anthracene	<0.20		0.20	ug/L		09/23/24 05:22	09/29/24 08:58	1
Benzo[a]pyrene	<0.20		0.20	ug/L		09/23/24 05:22	09/29/24 08:58	1
Benzo[b]fluoranthene	<0.20		0.20	ug/L		09/23/24 05:22	09/29/24 08:58	1
Benzo[g,h,i]perylene	<0.20		0.20	ug/L		09/23/24 05:22	09/29/24 08:58	1
Benzo[k]fluoranthene	<0.20		0.20	ug/L		09/23/24 05:22	09/29/24 08:58	1
Chrysene	<0.20		0.20	ug/L		09/23/24 05:22	09/29/24 08:58	1
Dibenz(a,h)anthracene	<0.20		0.20	ug/L		09/23/24 05:22	09/29/24 08:58	1
Fluoranthene	<0.20		0.20	ug/L		09/23/24 05:22	09/29/24 08:58	1
Fluorene	<0.20		0.20	ug/L		09/23/24 05:22	09/29/24 08:58	1
Indeno[1,2,3-cd]pyrene	<0.20		0.20	ug/L		09/23/24 05:22	09/29/24 08:58	1
Naphthalene	<0.20		0.20	ug/L		09/23/24 05:22	09/29/24 08:58	1
Phenanthrene	<0.20		0.20	ug/L		09/23/24 05:22	09/29/24 08:58	1
Pyrene	<0.20		0.20	ug/L		09/23/24 05:22	09/29/24 08:58	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	77		28 - 127	09/23/24 05:22	09/29/24 08:58	1
2-Fluorobiphenyl (Surr)	41		31 - 120	09/23/24 05:22	09/29/24 08:58	1
2-Fluorophenol (Surr)	39		17 - 120	09/23/24 05:22	09/29/24 08:58	1
Nitrobenzene-d5 (Surr)	43		27 - 120	09/23/24 05:22	09/29/24 08:58	1
Phenol-d6 (Surr)	25		10 - 120	09/23/24 05:22	09/29/24 08:58	1
p-Terphenyl-d14 (Surr)	55		45 - 120	09/23/24 05:22	09/29/24 08:58	1

Lab Sample ID: LCS 570-483623/2-A
Matrix: Water
Analysis Batch: 485893

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 483623

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1-Methylnaphthalene	40.0	27.6		ug/L		69	47 - 120
2-Methylnaphthalene	40.0	27.4		ug/L		68	43 - 120
Acenaphthene	40.0	38.3		ug/L		96	60 - 132
Acenaphthylene	40.0	39.5		ug/L		99	54 - 126
Anthracene	40.0	41.3		ug/L		103	43 - 120
Benzo[a]anthracene	40.0	42.9		ug/L		107	42 - 133
Benzo[a]pyrene	40.0	43.7		ug/L		109	32 - 148
Benzo[b]fluoranthene	40.0	42.4		ug/L		106	42 - 140
Benzo[g,h,i]perylene	40.0	42.9		ug/L		107	1 - 195
Benzo[k]fluoranthene	40.0	42.7		ug/L		107	25 - 146
Chrysene	40.0	41.1		ug/L		103	44 - 140
Dibenz(a,h)anthracene	40.0	43.6		ug/L		109	1 - 200
Fluoranthene	40.0	42.6		ug/L		106	43 - 121
Fluorene	40.0	40.1		ug/L		100	70 - 120
Indeno[1,2,3-cd]pyrene	40.0	43.5		ug/L		109	1 - 151
Naphthalene	40.0	25.7		ug/L		64	36 - 120

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-113883-1
SDG: Weekly

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

Lab Sample ID: LCS 570-483623/2-A
Matrix: Water
Analysis Batch: 485893

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 483623

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Phenanthrene	40.0	41.4		ug/L		104	65 - 120
Pyrene	40.0	41.7		ug/L		104	70 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2,4,6-Tribromophenol (Surr)	86		28 - 127
2-Fluorobiphenyl (Surr)	52		31 - 120
2-Fluorophenol (Surr)	58		17 - 120
Nitrobenzene-d5 (Surr)	39		27 - 120
Phenol-d6 (Surr)	39		10 - 120
p-Terphenyl-d14 (Surr)	60		45 - 120

Lab Sample ID: LCSD 570-483623/3-A
Matrix: Water
Analysis Batch: 485893

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 483623

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1-Methylnaphthalene	40.0	28.1		ug/L		70	47 - 120	2	20
2-Methylnaphthalene	40.0	27.2		ug/L		68	43 - 120	1	20
Acenaphthene	40.0	39.7		ug/L		99	60 - 132	3	29
Acenaphthylene	40.0	40.9		ug/L		102	54 - 126	3	45
Anthracene	40.0	42.7		ug/L		107	43 - 120	3	40
Benzo[a]anthracene	40.0	44.5		ug/L		111	42 - 133	4	32
Benzo[a]pyrene	40.0	45.1		ug/L		113	32 - 148	3	43
Benzo[b]fluoranthene	40.0	44.2		ug/L		110	42 - 140	4	43
Benzo[g,h,i]perylene	40.0	44.4		ug/L		111	1 - 195	3	61
Benzo[k]fluoranthene	40.0	44.5		ug/L		111	25 - 146	4	38
Chrysene	40.0	42.5		ug/L		106	44 - 140	3	53
Dibenz(a,h)anthracene	40.0	45.3		ug/L		113	1 - 200	4	75
Fluoranthene	40.0	44.0		ug/L		110	43 - 121	3	40
Fluorene	40.0	41.2		ug/L		103	70 - 120	3	23
Indeno[1,2,3-cd]pyrene	40.0	44.6		ug/L		111	1 - 151	2	60
Naphthalene	40.0	26.1		ug/L		65	36 - 120	2	39
Phenanthrene	40.0	42.4		ug/L		106	65 - 120	2	24
Pyrene	40.0	43.6		ug/L		109	70 - 120	4	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2,4,6-Tribromophenol (Surr)	89		28 - 127
2-Fluorobiphenyl (Surr)	52		31 - 120
2-Fluorophenol (Surr)	58		17 - 120
Nitrobenzene-d5 (Surr)	39		27 - 120
Phenol-d6 (Surr)	39		10 - 120
p-Terphenyl-d14 (Surr)	62		45 - 120

QC Sample Results

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

Job ID: 380-113883-1
SDG: Weekly

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

Lab Sample ID: 380-113707-A-3-A MS
Matrix: Water
Analysis Batch: 485893

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 483623

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
1-Methylnaphthalene	<0.19		38.5	27.5		ug/L		71	36 - 120
2-Methylnaphthalene	<0.19		38.5	26.2		ug/L		68	32 - 124
Acenaphthene	<0.19		38.5	38.0		ug/L		99	47 - 145
Acenaphthylene	<0.19		38.5	38.6		ug/L		100	33 - 145
Anthracene	<0.19		38.5	39.5		ug/L		102	27 - 133
Benzo[a]anthracene	<0.19		38.5	41.8		ug/L		108	33 - 143
Benzo[a]pyrene	<0.19		38.5	42.3		ug/L		110	17 - 163
Benzo[b]fluoranthene	<0.19		38.5	41.3		ug/L		107	24 - 159
Benzo[g,h,i]perylene	<0.19		38.5	41.2		ug/L		107	1 - 219
Benzo[k]fluoranthene	<0.19		38.5	40.9		ug/L		106	11 - 162
Chrysene	<0.19		38.5	39.5		ug/L		103	17 - 168
Dibenz(a,h)anthracene	<0.19		38.5	41.7		ug/L		108	1 - 227
Fluoranthene	<0.19		38.5	41.1		ug/L		107	26 - 137
Fluorene	<0.19		38.5	38.8		ug/L		101	59 - 121
Indeno[1,2,3-cd]pyrene	<0.19		38.5	41.2		ug/L		107	1 - 171
Naphthalene	<0.19		38.5	25.4		ug/L		66	21 - 133
Phenanthrene	<0.19		38.5	39.5		ug/L		103	54 - 120
Pyrene	<0.19		38.5	40.7		ug/L		106	52 - 120

Surrogate	%Recovery	MS Qualifier	MS Limits
2,4,6-Tribromophenol (Surr)	87		28 - 127
2-Fluorobiphenyl (Surr)	51		31 - 120
2-Fluorophenol (Surr)	51		17 - 120
Nitrobenzene-d5 (Surr)	38		27 - 120
Phenol-d6 (Surr)	34		10 - 120
p-Terphenyl-d14 (Surr)	56		45 - 120

Lab Sample ID: 380-113707-A-3-B MSD
Matrix: Water
Analysis Batch: 485893

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 483623

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
1-Methylnaphthalene	<0.19		38.3	27.2		ug/L		71	36 - 120	1	30
2-Methylnaphthalene	<0.19		38.3	26.7		ug/L		70	32 - 124	2	30
Acenaphthene	<0.19		38.3	38.4		ug/L		100	47 - 145	1	48
Acenaphthylene	<0.19		38.3	39.2		ug/L		102	33 - 145	1	74
Anthracene	<0.19		38.3	40.6		ug/L		106	27 - 133	3	66
Benzo[a]anthracene	<0.19		38.3	42.3		ug/L		110	33 - 143	1	53
Benzo[a]pyrene	<0.19		38.3	43.0		ug/L		112	17 - 163	2	72
Benzo[b]fluoranthene	<0.19		38.3	41.4		ug/L		108	24 - 159	0	71
Benzo[g,h,i]perylene	<0.19		38.3	42.4		ug/L		111	1 - 219	3	97
Benzo[k]fluoranthene	<0.19		38.3	42.0		ug/L		110	11 - 162	2	63
Chrysene	<0.19		38.3	40.3		ug/L		105	17 - 168	2	87
Dibenz(a,h)anthracene	<0.19		38.3	42.5		ug/L		111	1 - 227	2	126
Fluoranthene	<0.19		38.3	41.8		ug/L		109	26 - 137	2	66
Fluorene	<0.19		38.3	39.6		ug/L		103	59 - 121	2	38
Indeno[1,2,3-cd]pyrene	<0.19		38.3	42.3		ug/L		110	1 - 171	3	99
Naphthalene	<0.19		38.3	24.9		ug/L		65	21 - 133	2	65

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-113883-1
SDG: Weekly

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

Lab Sample ID: 380-113707-A-3-B MSD
Matrix: Water
Analysis Batch: 485893

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 483623

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Phenanthrene	<0.19		38.3	40.1		ug/L		105	54 - 120	1	39
Pyrene	<0.19		38.3	41.9		ug/L		109	52 - 120	3	49
MSD MSD											
Surrogate	%Recovery	Qualifier	Limits								
2,4,6-Tribromophenol (Surr)	90		28 - 127								
2-Fluorobiphenyl (Surr)	52		31 - 120								
2-Fluorophenol (Surr)	53		17 - 120								
Nitrobenzene-d5 (Surr)	39		27 - 120								
Phenol-d6 (Surr)	34		10 - 120								
p-Terphenyl-d14 (Surr)	58		45 - 120								

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

Lab Sample ID: MB 570-483045/6
Matrix: Water
Analysis Batch: 483045

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C6-C10)	<10		10	ug/L			09/20/24 12:55	1
MB MB								
Surrogate	%Recovery	Qualifier	Limits		Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	85		38 - 134			09/20/24 12:55	1	

Lab Sample ID: LCS 570-483045/4
Matrix: Water
Analysis Batch: 483045

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (C4-C13)	400	362		ug/L		91	78 - 120
LCS LCS							
Surrogate	%Recovery	Qualifier	Limits				
4-Bromofluorobenzene (Surr)	89		38 - 134				

Lab Sample ID: LCSD 570-483045/5
Matrix: Water
Analysis Batch: 483045

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	360		ug/L		90	78 - 120	1	10
LCSD LCSD									
Surrogate	%Recovery	Qualifier	Limits						
4-Bromofluorobenzene (Surr)	92		38 - 134						

QC Sample Results

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

Job ID: 380-113883-1
SDG: Weekly

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

Lab Sample ID: MRL 570-483045/3
Matrix: Water
Analysis Batch: 483045

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	11.1		ug/L		111	50 - 150
Surrogate		MRL %Recovery	MRL Qualifier				Limits
4-Bromofluorobenzene (Surr)		86					38 - 134

Lab Sample ID: 380-113707-C-3 MS
Matrix: Water
Analysis Batch: 483045

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	354		ug/L		88	68 - 122
Surrogate		MS %Recovery		MS Qualifier					Limits
4-Bromofluorobenzene (Surr)		91							38 - 134

Lab Sample ID: 380-113707-C-3 MSD
Matrix: Water
Analysis Batch: 483045

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	351		ug/L		88	68 - 122	1	18
Surrogate		MSD %Recovery		MSD Qualifier					Limits		
4-Bromofluorobenzene (Surr)		91							38 - 134		

Lab Sample ID: MB 570-486453/4
Matrix: Water
Analysis Batch: 486453

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C6-C10)	<10		10	ug/L			10/01/24 10:52	1
Surrogate		MB %Recovery				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)		85					10/01/24 10:52	1

Lab Sample ID: LCS 570-486453/5
Matrix: Water
Analysis Batch: 486453

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (C4-C13)	400	332		ug/L		83	78 - 120
Surrogate		LCS %Recovery	LCS Qualifier				Limits
4-Bromofluorobenzene (Surr)		87					38 - 134

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-113883-1
SDG: Weekly

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

Lab Sample ID: LCSD 570-486453/6
Matrix: Water
Analysis Batch: 486453

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	326		ug/L		82	78 - 120	2	10
Surrogate		%Recovery	Qualifier				Limits		
4-Bromofluorobenzene (Surr)		86					38 - 134		

Lab Sample ID: MRL 570-486453/3
Matrix: Water
Analysis Batch: 486453

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (C4-C13)	10.0	10.2		ug/L		102	50 - 150		
Surrogate		%Recovery	Qualifier				Limits		
4-Bromofluorobenzene (Surr)		78					38 - 134		

Lab Sample ID: 380-114394-C-1 MS
Matrix: Water
Analysis Batch: 486453

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	RPD	RPD Limit
Gasoline Range Organics (C4-C13)	<10		400	337		ug/L		84	68 - 122		
Surrogate		%Recovery		Qualifier					Limits		
4-Bromofluorobenzene (Surr)		85							38 - 134		

Lab Sample ID: 380-114394-C-1 MSD
Matrix: Water
Analysis Batch: 486453

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	323		ug/L		81	68 - 122	4	18
Surrogate		%Recovery		Qualifier					Limits		
4-Bromofluorobenzene (Surr)		84							38 - 134		

QC Association Summary

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

Job ID: 380-113883-1
SDG: Weekly

GC/MS Semi VOA

Prep Batch: 109611

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-113883-1	Halawa Shaft Viewing Pool	Total/NA	Water	525.2	
MB 380-109611/21-A	Method Blank	Total/NA	Water	525.2	
LCS 380-109611/23-A	Lab Control Sample	Total/NA	Water	525.2	
LCSD 380-109611/24-A	Lab Control Sample Dup	Total/NA	Water	525.2	
MRL 380-109611/22-A	Lab Control Sample	Total/NA	Water	525.2	
380-113315-M-1-A MS	Matrix Spike	Total/NA	Water	525.2	
380-113534-AM-1-A DU	Duplicate	Total/NA	Water	525.2	

Analysis Batch: 109777

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-113883-1	Halawa Shaft Viewing Pool	Total/NA	Water	525.2	109611
MB 380-109611/21-A	Method Blank	Total/NA	Water	525.2	109611
LCS 380-109611/23-A	Lab Control Sample	Total/NA	Water	525.2	109611
LCSD 380-109611/24-A	Lab Control Sample Dup	Total/NA	Water	525.2	109611
MRL 380-109611/22-A	Lab Control Sample	Total/NA	Water	525.2	109611
380-113315-M-1-A MS	Matrix Spike	Total/NA	Water	525.2	109611
380-113534-AM-1-A DU	Duplicate	Total/NA	Water	525.2	109611

Prep Batch: 483623

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-113883-1	Halawa Shaft Viewing Pool	Total/NA	Water	625.1	
MB 570-483623/1-A	Method Blank	Total/NA	Water	625.1	
LCS 570-483623/2-A	Lab Control Sample	Total/NA	Water	625.1	
LCSD 570-483623/3-A	Lab Control Sample Dup	Total/NA	Water	625.1	
380-113707-A-3-A MS	Matrix Spike	Total/NA	Water	625.1	
380-113707-A-3-B MSD	Matrix Spike Duplicate	Total/NA	Water	625.1	

Analysis Batch: 485893

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-113883-1	Halawa Shaft Viewing Pool	Total/NA	Water	625.1 SIM	483623
MB 570-483623/1-A	Method Blank	Total/NA	Water	625.1 SIM	483623
LCS 570-483623/2-A	Lab Control Sample	Total/NA	Water	625.1 SIM	483623
LCSD 570-483623/3-A	Lab Control Sample Dup	Total/NA	Water	625.1 SIM	483623
380-113707-A-3-A MS	Matrix Spike	Total/NA	Water	625.1 SIM	483623
380-113707-A-3-B MSD	Matrix Spike Duplicate	Total/NA	Water	625.1 SIM	483623

Analysis Batch: 487834

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-113883-1	Halawa Shaft Viewing Pool	Total/NA	Water	625.1	483623
MB 570-483623/1-A	Method Blank	Total/NA	Water	625.1	483623

GC VOA

Analysis Batch: 483045

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-113883-2	TRIP BLANK	Total/NA	Water	8015B GRO LL	
MB 570-483045/6	Method Blank	Total/NA	Water	8015B GRO LL	
LCS 570-483045/4	Lab Control Sample	Total/NA	Water	8015B GRO LL	
LCSD 570-483045/5	Lab Control Sample Dup	Total/NA	Water	8015B GRO LL	
MRL 570-483045/3	Lab Control Sample	Total/NA	Water	8015B GRO LL	
380-113707-C-3 MS	Matrix Spike	Total/NA	Water	8015B GRO LL	

QC Association Summary

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

Job ID: 380-113883-1
SDG: Weekly

GC VOA (Continued)

Analysis Batch: 483045 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-113707-C-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8015B GRO LL	

Analysis Batch: 486453

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-113883-1	Halawa Shaft Viewing Pool	Total/NA	Water	8015B GRO LL	
MB 570-486453/4	Method Blank	Total/NA	Water	8015B GRO LL	
LCS 570-486453/5	Lab Control Sample	Total/NA	Water	8015B GRO LL	
LCSD 570-486453/6	Lab Control Sample Dup	Total/NA	Water	8015B GRO LL	
MRL 570-486453/3	Lab Control Sample	Total/NA	Water	8015B GRO LL	
380-114394-C-1 MS	Matrix Spike	Total/NA	Water	8015B GRO LL	
380-114394-C-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8015B GRO LL	

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

Lab Chronicle

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

Job ID: 380-113883-1
SDG: Weekly

Client Sample ID: Halawa Shaft Viewing Pool

Lab Sample ID: 380-113883-1

Date Collected: 09/17/24 10:00

Matrix: Water

Date Received: 09/19/24 09:59

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	525.2			109611	KRD3	EA POM	09/22/24 13:00
Total/NA	Analysis	525.2		1	109777	UPAC	EA POM	09/23/24 18:04
Total/NA	Prep	625.1			483623	H1SH	EET CAL 4	09/23/24 05:22
Total/NA	Analysis	625.1		1	487834	J7WE	EET CAL 4	10/04/24 20:14
Total/NA	Prep	625.1			483623	H1SH	EET CAL 4	09/23/24 05:22
Total/NA	Analysis	625.1 SIM		1	485893	PQS1	EET CAL 4	09/29/24 12:59
Total/NA	Analysis	8015B GRO LL		1	486453	A9VE	EET CAL 4	10/01/24 12:28

Client Sample ID: TRIP BLANK

Lab Sample ID: 380-113883-2

Date Collected: 09/17/24 10:00

Matrix: Water

Date Received: 09/19/24 09:59

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8015B GRO LL		1	483045	A9VE	EET CAL 4	09/20/24 22:05

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: 380-113883-1
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	08-01-24 *
California	SCAQMD LAP	17LA0919	11-30-24
California	State	3082	10-06-24
Kansas	NELAP	E-10420	07-31-25

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Accreditation/Certification Summary

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

Job ID: 380-113883-1
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	10-07-24
Oregon	NELAP	4175	02-02-25
USDA	US Federal Programs	P330-22-00059	06-08-26
Washington	State	C916-18	10-11-24

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

Method Summary

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

Job ID: 380-113883-1
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
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: 380-113883-1
SDG: Weekly

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
380-113883-1	Halawa Shaft Viewing Pool	Water	09/17/24 10:00	09/19/24 09:59
380-113883-2	TRIP BLANK	Water	09/17/24 10:00	09/19/24 09:59

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

Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-113883-1

SDG Number: Weekly

Login Number: 113883

List Source: Eurofins Eaton Analytical Pomona

List Number: 1

Creator: Sanchez Velasquez, Gustavo

Question	Answer	Comment
The coolers custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
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: 380-113883-1

SDG Number: Weekly

Login Number: 113883

List Number: 2

Creator: Khana, Piyush

List Source: Eurofins Calscience

List Creation: 09/19/24 06:01 PM

Question	Answer	Comment
Radioactivity wasn't checked or is \leq 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	1.7
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 <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

