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ANALYTICAL REPORT

PREPARED FOR

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City & County of Honolulu
630 South Beretania Street
Public Service Bldg. Room 310
Honolulu, Hawaii 96843

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JOB DESCRIPTION

RED-HILL
Weekly
RUSH Weekly Red Hill

JOB NUMBER

380-110902-1

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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Authorized for release by
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Definitions/Glossary

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

Job ID: 380-110902-1
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
*.	LCS and/or LCSD is outside acceptance limits, low biased.
J	Indicates an Estimated Value for TICs
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

GC Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

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

Case Narrative

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

Job ID: 380-110902-1

Job ID: 380-110902-1

Eurofins Eaton Analytical Pomona

Job Narrative 380-110902-1

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 8/29/2024 10:23 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 2.1°C.

GC/MS Semi VOA

Method 625.1_SIM: The laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 570-476640 and analytical batch 570-481645 recovered outside control limits for the following analytes: Fluorene and Pyrene. The LCS and LCSD was re-prep/re-ran on different instruments with new ICAL. The LCS and LCSD still failed low for a few compounds on new ICAL. The HT has expired therefore, no re-extraction. Data excluded due to this QC failure.

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: 380-110902-1
SDG: Weekly

Client Sample ID: Halawa Shaft Viewing Pool

Lab Sample ID: 380-110902-1

No Detections.

Client Sample ID: Trip Blank

Lab Sample ID: 380-110902-2

No Detections.

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This Detection Summary does not include radiochemical test results.

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Client Sample Results

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

Job ID: 380-110902-1
SDG: Weekly

Client Sample ID: Halawa Shaft Viewing Pool

Lab Sample ID: 380-110902-1

Date Collected: 08/27/24 11:00

Matrix: Water

Date Received: 08/29/24 10:23

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		09/01/24 14:45	09/02/24 19:48	1
2,4'-DDD	<0.096		0.096	ug/L		09/01/24 14:45	09/02/24 19:48	1
2,4'-DDE	<0.096		0.096	ug/L		09/01/24 14:45	09/02/24 19:48	1
2,4'-DDT	<0.096		0.096	ug/L		09/01/24 14:45	09/02/24 19:48	1
2,4-Dinitrotoluene	<0.096		0.096	ug/L		09/01/24 14:45	09/02/24 19:48	1
2,6-Dinitrotoluene	<0.096		0.096	ug/L		09/01/24 14:45	09/02/24 19:48	1
2-Methylnaphthalene	<0.096		0.096	ug/L		09/01/24 14:45	09/02/24 19:48	1
4,4'-DDD	<0.096		0.096	ug/L		09/01/24 14:45	09/02/24 19:48	1
4,4'-DDE	<0.096		0.096	ug/L		09/01/24 14:45	09/02/24 19:48	1
4,4'-DDT	<0.096		0.096	ug/L		09/01/24 14:45	09/02/24 19:48	1
Acenaphthene	<0.096		0.096	ug/L		09/01/24 14:45	09/02/24 19:48	1
Acenaphthylene	<0.096		0.096	ug/L		09/01/24 14:45	09/02/24 19:48	1
Acetochlor	<0.096		0.096	ug/L		09/01/24 14:45	09/02/24 19:48	1
Alachlor	<0.048		0.048	ug/L		09/01/24 14:45	09/02/24 19:48	1
alpha-BHC	<0.096		0.096	ug/L		09/01/24 14:45	09/02/24 19:48	1
alpha-Chlordane	<0.048		0.048	ug/L		09/01/24 14:45	09/02/24 19:48	1
Anthracene	<0.019		0.019	ug/L		09/01/24 14:45	09/02/24 19:48	1
Atrazine	<0.048		0.048	ug/L		09/01/24 14:45	09/02/24 19:48	1
Benz(a)anthracene	<0.048		0.048	ug/L		09/01/24 14:45	09/02/24 19:48	1
Benzo[a]pyrene	<0.019		0.019	ug/L		09/01/24 14:45	09/02/24 19:48	1
Benzo[b]fluoranthene	<0.019		0.019	ug/L		09/01/24 14:45	09/02/24 19:48	1
Benzo[g,h,i]perylene	<0.048		0.048	ug/L		09/01/24 14:45	09/02/24 19:48	1
Benzo[k]fluoranthene	<0.019		0.019	ug/L		09/01/24 14:45	09/02/24 19:48	1
beta-BHC	<0.096		0.096	ug/L		09/01/24 14:45	09/02/24 19:48	1
Bis(2-ethylhexyl) phthalate	<0.58		0.58	ug/L		09/01/24 14:45	09/02/24 19:48	1
Bromacil	<0.096		0.096	ug/L		09/01/24 14:45	09/02/24 19:48	1
Butachlor	<0.048		0.048	ug/L		09/01/24 14:45	09/02/24 19:48	1
Butylbenzylphthalate	<0.48		0.48	ug/L		09/01/24 14:45	09/02/24 19:48	1
Chlorobenzilate	<0.096		0.096	ug/L		09/01/24 14:45	09/02/24 19:48	1
Chloroneb	<0.096		0.096	ug/L		09/01/24 14:45	09/02/24 19:48	1
Chlorothalonil (Draconil, Bravo)	<0.096		0.096	ug/L		09/01/24 14:45	09/02/24 19:48	1
Chlorpyrifos	<0.048		0.048	ug/L		09/01/24 14:45	09/02/24 19:48	1
Chrysene	<0.019		0.019	ug/L		09/01/24 14:45	09/02/24 19:48	1
delta-BHC	<0.096		0.096	ug/L		09/01/24 14:45	09/02/24 19:48	1
Di(2-ethylhexyl)adipate	<0.58		0.58	ug/L		09/01/24 14:45	09/02/24 19:48	1
Dibenz(a,h)anthracene	<0.048		0.048	ug/L		09/01/24 14:45	09/02/24 19:48	1
Diclorvos (DDVP)	<0.048		0.048	ug/L		09/01/24 14:45	09/02/24 19:48	1
Dieldrin	<0.0096		0.0096	ug/L		09/01/24 14:45	09/02/24 19:48	1
Diethylphthalate	<0.48		0.48	ug/L		09/01/24 14:45	09/02/24 19:48	1
Dimethylphthalate	<0.48		0.48	ug/L		09/01/24 14:45	09/02/24 19:48	1
Di-n-butyl phthalate	<0.96		0.96	ug/L		09/01/24 14:45	09/02/24 19:48	1
Di-n-octyl phthalate	<0.096		0.096	ug/L		09/01/24 14:45	09/02/24 19:48	1
Endosulfan I (Alpha)	<0.096		0.096	ug/L		09/01/24 14:45	09/02/24 19:48	1
Endosulfan II (Beta)	<0.096		0.096	ug/L		09/01/24 14:45	09/02/24 19:48	1
Endosulfan sulfate	<0.096		0.096	ug/L		09/01/24 14:45	09/02/24 19:48	1
Endrin	<0.0096		0.0096	ug/L		09/01/24 14:45	09/02/24 19:48	1
Endrin aldehyde	<0.096		0.096	ug/L		09/01/24 14:45	09/02/24 19:48	1
EPTC	<0.096		0.096	ug/L		09/01/24 14:45	09/02/24 19:48	1
Fluoranthene	<0.096		0.096	ug/L		09/01/24 14:45	09/02/24 19:48	1

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Client Sample Results

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

Job ID: 380-110902-1
SDG: Weekly

Client Sample ID: Halawa Shaft Viewing Pool

Lab Sample ID: 380-110902-1

Date Collected: 08/27/24 11:00

Matrix: Water

Date Received: 08/29/24 10:23

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		09/01/24 14:45	09/02/24 19:48	1
gamma-Chlordane	<0.048		0.048	ug/L		09/01/24 14:45	09/02/24 19:48	1
Heptachlor	<0.0096	^3+	0.0096	ug/L		09/01/24 14:45	09/02/24 19:48	1
Heptachlor epoxide (isomer B)	<0.0096		0.0096	ug/L		09/01/24 14:45	09/02/24 19:48	1
Hexachlorobenzene	<0.048		0.048	ug/L		09/01/24 14:45	09/02/24 19:48	1
Hexachlorocyclopentadiene	<0.048		0.048	ug/L		09/01/24 14:45	09/02/24 19:48	1
Indeno[1,2,3-cd]pyrene	<0.048		0.048	ug/L		09/01/24 14:45	09/02/24 19:48	1
Isophorone	<0.096		0.096	ug/L		09/01/24 14:45	09/02/24 19:48	1
Lindane	<0.0096		0.0096	ug/L		09/01/24 14:45	09/02/24 19:48	1
Malathion	<0.096		0.096	ug/L		09/01/24 14:45	09/02/24 19:48	1
Methoxychlor	<0.048		0.048	ug/L		09/01/24 14:45	09/02/24 19:48	1
Metolachlor	<0.048		0.048	ug/L		09/01/24 14:45	09/02/24 19:48	1
Molinate	<0.096		0.096	ug/L		09/01/24 14:45	09/02/24 19:48	1
Naphthalene	<0.096		0.096	ug/L		09/01/24 14:45	09/02/24 19:48	1
Parathion	<0.096		0.096	ug/L		09/01/24 14:45	09/02/24 19:48	1
Pendimethalin (Penoxaline)	<0.096		0.096	ug/L		09/01/24 14:45	09/02/24 19:48	1
Phenanthrene	<0.038		0.038	ug/L		09/01/24 14:45	09/02/24 19:48	1
Propachlor	<0.048		0.048	ug/L		09/01/24 14:45	09/02/24 19:48	1
Pyrene	<0.048		0.048	ug/L		09/01/24 14:45	09/02/24 19:48	1
Simazine	<0.048		0.048	ug/L		09/01/24 14:45	09/02/24 19:48	1
Terbacil	<0.096		0.096	ug/L		09/01/24 14:45	09/02/24 19:48	1
Terbutylazine	<0.096		0.096	ug/L		09/01/24 14:45	09/02/24 19:48	1
Thiobencarb	<0.096		0.096	ug/L		09/01/24 14:45	09/02/24 19:48	1
Total Permethrin (mixed isomers)	<0.19		0.19	ug/L		09/01/24 14:45	09/02/24 19:48	1
trans-Nonachlor	<0.048		0.048	ug/L		09/01/24 14:45	09/02/24 19:48	1
Trifluralin	<0.096		0.096	ug/L		09/01/24 14:45	09/02/24 19:48	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Caffeine	0.054	*-	ug/L		6.09	58-08-2	09/01/24 14:45	09/02/24 19:48	1
Tentatively Identified Compound	None		ug/L			N/A	09/01/24 14:45	09/02/24 19:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Nitro-m-xylene	95		70 - 130	09/01/24 14:45	09/02/24 19:48	1
Perylene-d12	92		70 - 130	09/01/24 14:45	09/02/24 19:48	1
Triphenylphosphate	95		70 - 130	09/01/24 14:45	09/02/24 19:48	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			09/06/24 23:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	79		38 - 134		09/06/24 23:29	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		08/30/24 16:57	09/12/24 17:58	1
Motor Oil Range Organics [C24-C36]	<25		25	ug/L		08/30/24 16:57	09/12/24 17:58	1
C8-C18	<25		25	ug/L		08/30/24 16:57	09/12/24 17:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Octacosane (Surr)	90		60 - 130	08/30/24 16:57	09/12/24 17:58	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-110902-1
SDG: Weekly

Client Sample ID: Trip Blank

Lab Sample ID: 380-110902-2

Date Collected: 08/27/24 11:00

Matrix: Water

Date Received: 08/29/24 10:23

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			09/06/24 21:33	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	85		38 - 134				09/06/24 21:33	1

Action Limit Summary

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

Job ID: 380-110902-1
SDG: Weekly

Client Sample ID: Halawa Shaft Viewing Pool

Lab Sample ID: 380-110902-1

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	<0.58		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	^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
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

Surrogate Summary

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

Job ID: 380-110902-1
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)
380-110765-AI-1-A MS	Matrix Spike	97	96	103
380-110833-D-1-A DU	Duplicate	98	96	103
380-110902-1	Halawa Shaft Viewing Pool	95	92	95
LCS 380-106181/23-A	Lab Control Sample	97	96	102
LCSD 380-106181/24-A	Lab Control Sample Dup	95	94	102
MB 380-106181/21-A	Method Blank	97	94	100
MRL 380-106181/22-A	Lab Control Sample	96	93	95

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

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)
		BFB1 (38-134)
380-110669-C-1 MS	Matrix Spike	95
380-110669-C-1 MSD	Matrix Spike Duplicate	94
380-110902-1	Halawa Shaft Viewing Pool	79
380-110902-2	Trip Blank	85
LCS 570-478203/10	Lab Control Sample	88
LCSD 570-478203/12	Lab Control Sample Dup	83
MB 570-478203/11	Method Blank	76
MRL 570-478203/1003	Lab Control Sample	80

Surrogate Legend
 BFB = 4-Bromofluorobenzene (Surr)

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)
		OTCSN1 (60-130)
380-110669-B-1-A MS	Matrix Spike	93
380-110669-B-1-B MSD	Matrix Spike Duplicate	89
380-110902-1	Halawa Shaft Viewing Pool	90
LCS 570-476313/2-A	Lab Control Sample	89
LCSD 570-476313/3-A	Lab Control Sample Dup	91
MB 570-476313/1-A	Method Blank	86
MRL 570-476313/4-A	Lab Control Sample	91

Surrogate Legend
 OTCSN = n-Octacosane (Surr)

QC Sample Results

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

Job ID: 380-110902-1
 SDG: Weekly

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

Lab Sample ID: MB 380-106181/21-A
Matrix: Water
Analysis Batch: 106482

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 106181

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	<0.099		0.099	ug/L		09/01/24 13:30	09/02/24 12:56	1
2,4'-DDD	<0.099		0.099	ug/L		09/01/24 13:30	09/02/24 12:56	1
2,4'-DDE	<0.099		0.099	ug/L		09/01/24 13:30	09/02/24 12:56	1
2,4'-DDT	<0.099		0.099	ug/L		09/01/24 13:30	09/02/24 12:56	1
2,4-Dinitrotoluene	<0.099		0.099	ug/L		09/01/24 13:30	09/02/24 12:56	1
2,6-Dinitrotoluene	<0.099		0.099	ug/L		09/01/24 13:30	09/02/24 12:56	1
2-Methylnaphthalene	<0.099		0.099	ug/L		09/01/24 13:30	09/02/24 12:56	1
4,4'-DDD	<0.099		0.099	ug/L		09/01/24 13:30	09/02/24 12:56	1
4,4'-DDE	<0.099		0.099	ug/L		09/01/24 13:30	09/02/24 12:56	1
4,4'-DDT	<0.099		0.099	ug/L		09/01/24 13:30	09/02/24 12:56	1
Acenaphthene	<0.099		0.099	ug/L		09/01/24 13:30	09/02/24 12:56	1
Acenaphthylene	<0.099		0.099	ug/L		09/01/24 13:30	09/02/24 12:56	1
Acetochlor	<0.099		0.099	ug/L		09/01/24 13:30	09/02/24 12:56	1
Alachlor	<0.050		0.050	ug/L		09/01/24 13:30	09/02/24 12:56	1
alpha-BHC	<0.099		0.099	ug/L		09/01/24 13:30	09/02/24 12:56	1
alpha-Chlordane	<0.050		0.050	ug/L		09/01/24 13:30	09/02/24 12:56	1
Anthracene	<0.020		0.020	ug/L		09/01/24 13:30	09/02/24 12:56	1
Atrazine	<0.050		0.050	ug/L		09/01/24 13:30	09/02/24 12:56	1
Benz(a)anthracene	<0.050		0.050	ug/L		09/01/24 13:30	09/02/24 12:56	1
Benzo[a]pyrene	<0.020		0.020	ug/L		09/01/24 13:30	09/02/24 12:56	1
Benzo[b]fluoranthene	<0.020		0.020	ug/L		09/01/24 13:30	09/02/24 12:56	1
Benzo[g,h,i]perylene	<0.050		0.050	ug/L		09/01/24 13:30	09/02/24 12:56	1
Benzo[k]fluoranthene	<0.020		0.020	ug/L		09/01/24 13:30	09/02/24 12:56	1
beta-BHC	<0.099		0.099	ug/L		09/01/24 13:30	09/02/24 12:56	1
Bis(2-ethylhexyl) phthalate	<0.60		0.60	ug/L		09/01/24 13:30	09/02/24 12:56	1
Bromacil	<0.099		0.099	ug/L		09/01/24 13:30	09/02/24 12:56	1
Butachlor	<0.050		0.050	ug/L		09/01/24 13:30	09/02/24 12:56	1
Butylbenzylphthalate	<0.50		0.50	ug/L		09/01/24 13:30	09/02/24 12:56	1
Chlorobenzilate	<0.099		0.099	ug/L		09/01/24 13:30	09/02/24 12:56	1
Chloroneb	<0.099		0.099	ug/L		09/01/24 13:30	09/02/24 12:56	1
Chlorothalonil (Draconil, Bravo)	<0.099		0.099	ug/L		09/01/24 13:30	09/02/24 12:56	1
Chlorpyrifos	<0.050		0.050	ug/L		09/01/24 13:30	09/02/24 12:56	1
Chrysene	<0.020		0.020	ug/L		09/01/24 13:30	09/02/24 12:56	1
delta-BHC	<0.099		0.099	ug/L		09/01/24 13:30	09/02/24 12:56	1
Di(2-ethylhexyl)adipate	<0.60		0.60	ug/L		09/01/24 13:30	09/02/24 12:56	1
Dibenz(a,h)anthracene	<0.050		0.050	ug/L		09/01/24 13:30	09/02/24 12:56	1
Diclorvos (DDVP)	<0.050		0.050	ug/L		09/01/24 13:30	09/02/24 12:56	1
Dieldrin	<0.0099		0.0099	ug/L		09/01/24 13:30	09/02/24 12:56	1
Diethylphthalate	<0.50		0.50	ug/L		09/01/24 13:30	09/02/24 12:56	1
Dimethylphthalate	<0.50		0.50	ug/L		09/01/24 13:30	09/02/24 12:56	1
Di-n-butyl phthalate	<0.99		0.99	ug/L		09/01/24 13:30	09/02/24 12:56	1
Di-n-octyl phthalate	<0.099		0.099	ug/L		09/01/24 13:30	09/02/24 12:56	1
Endosulfan I (Alpha)	<0.099		0.099	ug/L		09/01/24 13:30	09/02/24 12:56	1
Endosulfan II (Beta)	<0.099		0.099	ug/L		09/01/24 13:30	09/02/24 12:56	1
Endosulfan sulfate	<0.099		0.099	ug/L		09/01/24 13:30	09/02/24 12:56	1
Endrin	<0.0099		0.0099	ug/L		09/01/24 13:30	09/02/24 12:56	1
Endrin aldehyde	<0.099		0.099	ug/L		09/01/24 13:30	09/02/24 12:56	1
EPTC	<0.099		0.099	ug/L		09/01/24 13:30	09/02/24 12:56	1

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QC Sample Results

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

Job ID: 380-110902-1
SDG: Weekly

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

Lab Sample ID: MB 380-106181/21-A
Matrix: Water
Analysis Batch: 106482

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 106181

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoranthene	<0.099		0.099	ug/L		09/01/24 13:30	09/02/24 12:56	1
Fluorene	<0.050		0.050	ug/L		09/01/24 13:30	09/02/24 12:56	1
gamma-Chlordane	<0.050		0.050	ug/L		09/01/24 13:30	09/02/24 12:56	1
Heptachlor	<0.0099		0.0099	ug/L		09/01/24 13:30	09/02/24 12:56	1
Heptachlor epoxide (isomer B)	<0.0099		0.0099	ug/L		09/01/24 13:30	09/02/24 12:56	1
Hexachlorobenzene	<0.050		0.050	ug/L		09/01/24 13:30	09/02/24 12:56	1
Hexachlorocyclopentadiene	<0.050		0.050	ug/L		09/01/24 13:30	09/02/24 12:56	1
Indeno[1,2,3-cd]pyrene	<0.050		0.050	ug/L		09/01/24 13:30	09/02/24 12:56	1
Isophorone	<0.099		0.099	ug/L		09/01/24 13:30	09/02/24 12:56	1
Lindane	<0.0099		0.0099	ug/L		09/01/24 13:30	09/02/24 12:56	1
Malathion	<0.099		0.099	ug/L		09/01/24 13:30	09/02/24 12:56	1
Methoxychlor	<0.050		0.050	ug/L		09/01/24 13:30	09/02/24 12:56	1
Metolachlor	<0.050		0.050	ug/L		09/01/24 13:30	09/02/24 12:56	1
Molinate	<0.099		0.099	ug/L		09/01/24 13:30	09/02/24 12:56	1
Naphthalene	<0.099		0.099	ug/L		09/01/24 13:30	09/02/24 12:56	1
Parathion	<0.099		0.099	ug/L		09/01/24 13:30	09/02/24 12:56	1
Pendimethalin (Penoxaline)	<0.099		0.099	ug/L		09/01/24 13:30	09/02/24 12:56	1
Phenanthrene	<0.040		0.040	ug/L		09/01/24 13:30	09/02/24 12:56	1
Propachlor	<0.050		0.050	ug/L		09/01/24 13:30	09/02/24 12:56	1
Pyrene	<0.050		0.050	ug/L		09/01/24 13:30	09/02/24 12:56	1
Simazine	<0.050		0.050	ug/L		09/01/24 13:30	09/02/24 12:56	1
Terbacil	<0.099		0.099	ug/L		09/01/24 13:30	09/02/24 12:56	1
Terbutylazine	<0.099		0.099	ug/L		09/01/24 13:30	09/02/24 12:56	1
Thiobencarb	<0.099		0.099	ug/L		09/01/24 13:30	09/02/24 12:56	1
Total Permethrin (mixed isomers)	<0.20		0.20	ug/L		09/01/24 13:30	09/02/24 12:56	1
trans-Nonachlor	<0.050		0.050	ug/L		09/01/24 13:30	09/02/24 12:56	1
Trifluralin	<0.099		0.099	ug/L		09/01/24 13:30	09/02/24 12:56	1

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Decane	1.18	T J N	ug/L		2.88	124-18-5	09/01/24 13:30	09/02/24 12:56	1
Unknown	0.548	T J	ug/L		3.35	N/A	09/01/24 13:30	09/02/24 12:56	1
Unknown	0.999	T J	ug/L		3.98	N/A	09/01/24 13:30	09/02/24 12:56	1
Unknown	0.536	T J	ug/L		4.62	N/A	09/01/24 13:30	09/02/24 12:56	1
Unknown	0.753	T J	ug/L		6.33	N/A	09/01/24 13:30	09/02/24 12:56	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Nitro-m-xylene	97		70 - 130	09/01/24 13:30	09/02/24 12:56	1
Perylene-d12	94		70 - 130	09/01/24 13:30	09/02/24 12:56	1
Triphenylphosphate	100		70 - 130	09/01/24 13:30	09/02/24 12:56	1

Lab Sample ID: LCS 380-106181/23-A
Matrix: Water
Analysis Batch: 106482

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 106181

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1-Methylnaphthalene	1.98	1.95		ug/L		98	70 - 130
2,4'-DDD	1.98	2.21		ug/L		112	70 - 130
2,4'-DDE	1.98	2.16		ug/L		109	70 - 130

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-110902-1
SDG: Weekly

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

Lab Sample ID: LCS 380-106181/23-A
Matrix: Water
Analysis Batch: 106482

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 106181

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2,4'-DDT	1.98	2.38		ug/L		120	70 - 130
2,4-Dinitrotoluene	1.98	2.04		ug/L		103	70 - 130
2,6-Dinitrotoluene	1.98	1.90		ug/L		96	70 - 130
2-Methylnaphthalene	1.98	1.94		ug/L		98	70 - 130
4,4'-DDD	1.98	2.24		ug/L		113	70 - 130
4,4'-DDE	1.98	2.08		ug/L		105	70 - 130
4,4'-DDT	1.98	2.47		ug/L		125	70 - 130
Acenaphthene	1.98	1.96		ug/L		99	70 - 130
Acenaphthylene	1.98	1.87		ug/L		94	70 - 130
Acetochlor	1.98	2.08		ug/L		105	70 - 130
Alachlor	1.98	2.07		ug/L		104	70 - 130
alpha-BHC	1.98	2.12		ug/L		107	70 - 130
alpha-Chlordane	1.98	2.25		ug/L		114	70 - 130
Anthracene	1.98	1.64		ug/L		83	70 - 130
Atrazine	1.98	2.12		ug/L		107	70 - 130
Benz(a)anthracene	1.98	1.94		ug/L		98	70 - 130
Benzo[a]pyrene	1.98	1.87		ug/L		95	70 - 130
Benzo[b]fluoranthene	1.98	1.99		ug/L		100	70 - 130
Benzo[g,h,i]perylene	1.98	2.07		ug/L		104	70 - 130
Benzo[k]fluoranthene	1.98	2.22		ug/L		112	70 - 130
beta-BHC	1.98	2.23		ug/L		113	70 - 130
Bis(2-ethylhexyl) phthalate	1.98	1.73		ug/L		87	70 - 130
Bromacil	1.98	1.53		ug/L		77	70 - 130
Butachlor	1.98	2.21		ug/L		111	70 - 130
Butylbenzylphthalate	1.98	2.21		ug/L		111	70 - 130
Chlorobenzilate	1.98	1.72		ug/L		87	70 - 130
Chloroneb	1.98	2.12		ug/L		107	70 - 130
Chlorothalonil (Draconil, Bravo)	1.98	2.12		ug/L		107	70 - 130
Chlorpyrifos	1.98	2.32		ug/L		117	70 - 130
Chrysene	1.98	2.19		ug/L		111	70 - 130
delta-BHC	1.98	2.10		ug/L		106	70 - 130
Di(2-ethylhexyl)adipate	1.98	1.94		ug/L		98	70 - 130
Dibenz(a,h)anthracene	1.98	1.93		ug/L		97	70 - 130
Diclorvos (DDVP)	1.98	1.76		ug/L		89	70 - 130
Dieldrin	1.98	2.17		ug/L		110	70 - 130
Diethylphthalate	1.98	2.04		ug/L		103	70 - 130
Dimethylphthalate	1.98	2.00		ug/L		101	70 - 130
Di-n-butyl phthalate	3.96	4.34		ug/L		109	70 - 130
Di-n-octyl phthalate	1.98	1.61		ug/L		81	70 - 130
Endosulfan I (Alpha)	1.98	2.04		ug/L		103	70 - 130
Endosulfan II (Beta)	1.98	2.08		ug/L		105	70 - 130
Endosulfan sulfate	1.98	2.25		ug/L		114	70 - 130
Endrin	1.98	1.89		ug/L		95	70 - 130
Endrin aldehyde	1.98	1.71		ug/L		86	60 - 130
EPTC	1.98	2.01		ug/L		101	70 - 130
Fluoranthene	1.98	2.15		ug/L		108	70 - 130
Fluorene	1.98	2.00		ug/L		101	70 - 130
gamma-Chlordane	1.98	2.25		ug/L		114	70 - 130
Heptachlor	1.98	2.32		ug/L		117	70 - 130

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-110902-1
SDG: Weekly

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

Lab Sample ID: LCS 380-106181/23-A
Matrix: Water
Analysis Batch: 106482

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 106181

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Heptachlor epoxide (isomer B)	1.98	2.08		ug/L		105	70 - 130
Hexachlorobenzene	1.98	2.01		ug/L		102	70 - 130
Hexachlorocyclopentadiene	1.98	2.09		ug/L		105	70 - 130
Indeno[1,2,3-cd]pyrene	1.98	1.90		ug/L		96	70 - 130
Isophorone	1.98	1.85		ug/L		93	70 - 130
Lindane	1.98	2.06		ug/L		104	70 - 130
Malathion	1.98	2.26		ug/L		114	70 - 130
Methoxychlor	1.98	2.39		ug/L		121	70 - 130
Metolachlor	1.98	2.09		ug/L		106	70 - 130
Molinate	1.98	2.05		ug/L		104	70 - 130
Naphthalene	1.98	1.97		ug/L		99	70 - 130
Parathion	1.98	2.46		ug/L		124	70 - 130
Pendimethalin (Penoxaline)	1.98	2.08		ug/L		105	70 - 130
Phenanthrene	1.98	1.98		ug/L		100	70 - 130
Propachlor	1.98	2.02		ug/L		102	70 - 130
Pyrene	1.98	2.13		ug/L		107	70 - 130
Simazine	1.98	1.81		ug/L		91	70 - 130
Terbacil	1.98	1.54		ug/L		78	70 - 130
Terbutylazine	1.98	2.13		ug/L		107	70 - 130
Thiobencarb	1.98	2.10		ug/L		106	70 - 130
trans-Nonachlor	1.98	2.16		ug/L		109	70 - 130
Trifluralin	1.98	2.10		ug/L		106	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Nitro-m-xylene	97		70 - 130
Perylene-d12	96		70 - 130
Triphenylphosphate	102		70 - 130

Lab Sample ID: LCSD 380-106181/24-A
Matrix: Water
Analysis Batch: 106482

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 106181

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1-Methylnaphthalene	1.98	1.96		ug/L		99	70 - 130	0	20
2,4'-DDD	1.98	2.27		ug/L		114	70 - 130	3	20
2,4'-DDE	1.98	2.17		ug/L		109	70 - 130	0	20
2,4'-DDT	1.98	2.42		ug/L		122	70 - 130	2	20
2,4-Dinitrotoluene	1.98	1.98		ug/L		100	70 - 130	3	20
2,6-Dinitrotoluene	1.98	1.83		ug/L		92	70 - 130	4	20
2-Methylnaphthalene	1.98	1.94		ug/L		98	70 - 130	0	20
4,4'-DDD	1.98	2.27		ug/L		114	70 - 130	1	20
4,4'-DDE	1.98	2.05		ug/L		103	70 - 130	1	20
4,4'-DDT	1.98	2.49		ug/L		125	70 - 130	1	20
Acenaphthene	1.98	1.97		ug/L		99	70 - 130	0	20
Acenaphthylene	1.98	1.88		ug/L		95	70 - 130	1	20
Acetochlor	1.98	2.11		ug/L		106	70 - 130	1	20
Alachlor	1.98	2.10		ug/L		106	70 - 130	2	20
alpha-BHC	1.98	2.11		ug/L		106	70 - 130	0	20

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-110902-1
SDG: Weekly

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

Lab Sample ID: LCSD 380-106181/24-A
Matrix: Water
Analysis Batch: 106482

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 106181

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
							Limits	RPD		
alpha-Chlordane	1.98	2.25		ug/L		114	70 - 130	0	20	
Anthracene	1.98	1.63		ug/L		82	70 - 130	0	20	
Atrazine	1.98	2.20		ug/L		111	70 - 130	4	20	
Benz(a)anthracene	1.98	1.99		ug/L		100	70 - 130	3	20	
Benzo[a]pyrene	1.98	1.82		ug/L		92	70 - 130	3	20	
Benzo[b]fluoranthene	1.98	1.96		ug/L		99	70 - 130	1	20	
Benzo[g,h,i]perylene	1.98	2.06		ug/L		104	70 - 130	0	20	
Benzo[k]fluoranthene	1.98	2.25		ug/L		113	70 - 130	2	20	
beta-BHC	1.98	2.25		ug/L		113	70 - 130	1	20	
Bis(2-ethylhexyl) phthalate	1.98	1.74		ug/L		88	70 - 130	0	20	
Bromacil	1.98	1.41		ug/L		71	70 - 130	9	20	
Butachlor	1.98	2.29		ug/L		116	70 - 130	4	20	
Butylbenzylphthalate	1.98	2.25		ug/L		114	70 - 130	2	20	
Chlorobenzilate	1.98	1.68		ug/L		85	70 - 130	2	20	
Chloroneb	1.98	2.16		ug/L		109	70 - 130	2	20	
Chlorothalonil (Draconil, Bravo)	1.98	2.15		ug/L		108	70 - 130	1	20	
Chlorpyrifos	1.98	2.32		ug/L		117	70 - 130	0	20	
Chrysene	1.98	2.18		ug/L		110	70 - 130	0	20	
delta-BHC	1.98	2.10		ug/L		106	70 - 130	0	20	
Di(2-ethylhexyl)adipate	1.98	1.97		ug/L		99	70 - 130	2	20	
Dibenz(a,h)anthracene	1.98	1.90		ug/L		96	70 - 130	1	20	
Diclorvos (DDVP)	1.98	1.71		ug/L		86	70 - 130	3	20	
Dieldrin	1.98	2.19		ug/L		110	70 - 130	1	20	
Diethylphthalate	1.98	2.08		ug/L		105	70 - 130	2	20	
Dimethylphthalate	1.98	1.99		ug/L		100	70 - 130	0	20	
Di-n-butyl phthalate	3.97	4.43		ug/L		112	70 - 130	2	20	
Di-n-octyl phthalate	1.98	1.60		ug/L		80	70 - 130	1	20	
Endosulfan I (Alpha)	1.98	2.08		ug/L		105	70 - 130	2	20	
Endosulfan II (Beta)	1.98	2.10		ug/L		106	70 - 130	1	20	
Endosulfan sulfate	1.98	2.29		ug/L		116	70 - 130	2	20	
Endrin	1.98	1.96		ug/L		99	70 - 130	4	20	
Endrin aldehyde	1.98	1.61		ug/L		81	60 - 130	6	20	
EPTC	1.98	2.01		ug/L		101	70 - 130	0	20	
Fluoranthene	1.98	2.21		ug/L		112	70 - 130	3	20	
Fluorene	1.98	2.05		ug/L		103	70 - 130	2	20	
gamma-Chlordane	1.98	2.26		ug/L		114	70 - 130	0	20	
Heptachlor	1.98	2.32		ug/L		117	70 - 130	0	20	
Heptachlor epoxide (isomer B)	1.98	2.12		ug/L		107	70 - 130	2	20	
Hexachlorobenzene	1.98	2.04		ug/L		103	70 - 130	2	20	
Hexachlorocyclopentadiene	1.98	2.09		ug/L		106	70 - 130	0	20	
Indeno[1,2,3-cd]pyrene	1.98	1.93		ug/L		97	70 - 130	1	20	
Isophorone	1.98	1.83		ug/L		92	70 - 130	1	20	
Lindane	1.98	2.09		ug/L		106	70 - 130	2	20	
Malathion	1.98	2.28		ug/L		115	70 - 130	1	20	
Methoxychlor	1.98	2.38		ug/L		120	70 - 130	1	20	
Metolachlor	1.98	2.12		ug/L		107	70 - 130	1	20	
Molinate	1.98	2.08		ug/L		105	70 - 130	1	20	
Naphthalene	1.98	1.99		ug/L		100	70 - 130	1	20	
Parathion	1.98	2.46		ug/L		124	70 - 130	0	20	

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-110902-1
SDG: Weekly

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

Lab Sample ID: LCSD 380-106181/24-A
Matrix: Water
Analysis Batch: 106482

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 106181

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Pendimethalin (Penoxaline)	1.98	2.12		ug/L		107	70 - 130	2	20
Phenanthrene	1.98	1.99		ug/L		100	70 - 130	1	20
Propachlor	1.98	2.08		ug/L		105	70 - 130	3	20
Pyrene	1.98	2.18		ug/L		110	70 - 130	2	20
Simazine	1.98	1.77		ug/L		89	70 - 130	2	20
Terbacil	1.98	1.42		ug/L		71	70 - 130	8	20
Terbutylazine	1.98	2.20		ug/L		111	70 - 130	3	20
Thiobencarb	1.98	2.12		ug/L		107	70 - 130	1	20
trans-Nonachlor	1.98	2.16		ug/L		109	70 - 130	0	20
Trifluralin	1.98	2.17		ug/L		109	70 - 130	3	20

Surrogate	LCSD %Recovery	LCSD Qualifier	LCSD Limits
2-Nitro-m-xylene	95		70 - 130
Perylene-d12	94		70 - 130
Triphenylphosphate	102		70 - 130

Lab Sample ID: MRL 380-106181/22-A
Matrix: Water
Analysis Batch: 106482

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 106181

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
1-Methylnaphthalene	0.0992	0.108		ug/L		109	50 - 150
2,4'-DDD	0.0992	0.0908	J	ug/L		92	50 - 150
2,4'-DDE	0.0992	0.106		ug/L		107	50 - 150
2,4'-DDT	0.0992	0.109		ug/L		110	50 - 150
2,4-Dinitrotoluene	0.0992	0.0825	J	ug/L		83	50 - 150
2,6-Dinitrotoluene	0.0992	0.0869	J	ug/L		88	50 - 150
2-Methylnaphthalene	0.0992	0.103		ug/L		104	50 - 150
4,4'-DDD	0.0992	0.104		ug/L		105	50 - 150
4,4'-DDE	0.0992	0.104		ug/L		105	50 - 150
4,4'-DDT	0.0992	0.0992		ug/L		100	50 - 150
Acenaphthene	0.0992	0.0994		ug/L		100	50 - 150
Acenaphthylene	0.0992	0.0904	J	ug/L		91	50 - 150
Acetochlor	0.0992	0.114		ug/L		115	50 - 150
Alachlor	0.0496	0.0520		ug/L		105	50 - 150
alpha-BHC	0.0992	0.112		ug/L		113	50 - 150
alpha-Chlordane	0.0248	<0.029		ug/L		104	50 - 150
Anthracene	0.0198	0.0282		ug/L		142	50 - 150
Atrazine	0.0496	<0.048		ug/L		91	50 - 150
Benz(a)anthracene	0.0496	0.0502		ug/L		101	50 - 150
Benzo[a]pyrene	0.0198	0.0209		ug/L		105	50 - 150
Benzo[b]fluoranthene	0.0198	0.0175	J	ug/L		88	50 - 150
Benzo[g,h,i]perylene	0.0496	0.0359	J	ug/L		72	50 - 150
Benzo[k]fluoranthene	0.0198	0.0200		ug/L		101	50 - 150
beta-BHC	0.0992	0.120		ug/L		121	50 - 150
Bis(2-ethylhexyl) phthalate	0.595	0.483	J	ug/L		81	50 - 150
Bromacil	0.0992	0.0752	J	ug/L		76	50 - 150
Butachlor	0.0496	0.0598		ug/L		121	50 - 150

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QC Sample Results

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

Job ID: 380-110902-1
SDG: Weekly

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

Lab Sample ID: MRL 380-106181/22-A
Matrix: Water
Analysis Batch: 106482

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 106181

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Butylbenzylphthalate	0.496	0.511		ug/L		103	50 - 150
Chlorobenzilate	0.0992	0.0529	J	ug/L		53	50 - 150
Chloroneb	0.0992	0.107		ug/L		108	50 - 150
Chlorothalonil (Draconil, Bravo)	0.0992	0.123		ug/L		125	50 - 150
Chlorpyrifos	0.0496	0.0465	J	ug/L		94	50 - 150
Chrysene	0.0198	0.0223		ug/L		112	50 - 150
delta-BHC	0.0992	0.123		ug/L		124	50 - 150
Di(2-ethylhexyl)adipate	0.595	0.552	J	ug/L		93	50 - 150
Dibenz(a,h)anthracene	0.0496	0.0359	J	ug/L		72	50 - 150
Diclorvos (DDVP)	0.0496	0.0473	J	ug/L		95	50 - 150
Dieldrin	0.00992	0.0122		ug/L		123	50 - 150
Diethylphthalate	0.496	0.514		ug/L		104	50 - 150
Dimethylphthalate	0.496	0.495	J	ug/L		100	50 - 150
Di-n-butyl phthalate	0.496	0.501	J	ug/L		101	49 - 243
Di-n-octyl phthalate	0.0992	0.0639	J	ug/L		64	50 - 150
Endosulfan I (Alpha)	0.0992	0.104		ug/L		104	50 - 150
Endosulfan II (Beta)	0.0992	0.107		ug/L		108	50 - 150
Endosulfan sulfate	0.0992	0.107		ug/L		108	50 - 150
Endrin	0.00992	0.0114		ug/L		115	50 - 150
Endrin aldehyde	0.0992	0.0975	J	ug/L		98	50 - 150
EPTC	0.0992	0.0938	J	ug/L		95	50 - 150
Fluoranthene	0.0992	0.101		ug/L		102	50 - 150
Fluorene	0.0496	<0.050		ug/L		101	50 - 150
gamma-Chlordane	0.0248	0.0251	J	ug/L		101	50 - 150
Heptachlor	0.00992	0.0199	^3+	ug/L		201	50 - 150
Heptachlor epoxide (isomer B)	0.00992	0.0112		ug/L		113	50 - 150
Hexachlorobenzene	0.0496	0.0491	J	ug/L		99	50 - 150
Hexachlorocyclopentadiene	0.0496	0.0487	J	ug/L		98	50 - 150
Indeno[1,2,3-cd]pyrene	0.0496	0.0355	J	ug/L		72	50 - 150
Isophorone	0.0992	0.109		ug/L		110	50 - 150
Lindane	0.00992	0.0136		ug/L		137	50 - 150
Malathion	0.0992	0.0982	J	ug/L		99	50 - 150
Methoxychlor	0.0496	0.0472	J	ug/L		95	50 - 150
Metolachlor	0.0496	0.0553		ug/L		112	50 - 150
Molinate	0.0992	0.103		ug/L		104	50 - 150
Naphthalene	0.0992	0.111		ug/L		112	50 - 150
Parathion	0.0992	0.0848	J	ug/L		86	50 - 150
Pendimethalin (Penoxaline)	0.0992	0.100		ug/L		101	50 - 150
Phenanthrene	0.0397	0.0453		ug/L		114	50 - 150
Propachlor	0.0496	0.0499	J	ug/L		101	50 - 150
Pyrene	0.0496	0.0502		ug/L		101	50 - 150
Simazine	0.0496	0.0392	J	ug/L		79	50 - 150
Terbacil	0.0992	0.0680	J	ug/L		69	50 - 150
Terbutylazine	0.0992	0.0920	J	ug/L		93	50 - 150
Thiobencarb	0.0992	0.106		ug/L		107	50 - 150
trans-Nonachlor	0.0248	<0.026		ug/L		94	50 - 150
Trifluralin	0.0992	0.0809	J	ug/L		82	50 - 150

QC Sample Results

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

Job ID: 380-110902-1
SDG: Weekly

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

Lab Sample ID: MRL 380-106181/22-A
Matrix: Water
Analysis Batch: 106482

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 106181

<i>Surrogate</i>	<i>MRL %Recovery</i>	<i>MRL Qualifier</i>	<i>Limits</i>
2-Nitro-m-xylene	96		70 - 130
Perylene-d12	93		70 - 130
Triphenylphosphate	95		70 - 130

Lab Sample ID: 380-110765-AI-1-A MS
Matrix: Water
Analysis Batch: 106482

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 106181

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1-Methylnaphthalene	<0.097		1.94	1.92		ug/L		99	70 - 130
2,4'-DDD	<0.097		1.94	2.22		ug/L		114	70 - 130
2,4'-DDE	<0.097		1.94	2.13		ug/L		110	70 - 130
2,4'-DDT	<0.097		1.94	2.42		ug/L		124	70 - 130
2,4-Dinitrotoluene	<0.097		1.94	2.05		ug/L		105	70 - 130
2,6-Dinitrotoluene	<0.097		1.94	1.91		ug/L		98	70 - 130
2-Methylnaphthalene	<0.097		1.94	1.91		ug/L		98	70 - 130
4,4'-DDD	<0.097		1.94	2.25		ug/L		116	70 - 130
4,4'-DDE	<0.097		1.94	2.06		ug/L		106	70 - 130
4,4'-DDT	<0.097		1.94	2.53		ug/L		130	70 - 130
Acenaphthene	<0.097		1.94	1.92		ug/L		99	70 - 130
Acenaphthylene	<0.097		1.94	1.82		ug/L		94	70 - 130
Acetochlor	<0.097		1.94	2.14		ug/L		110	70 - 130
Alachlor	<0.048		1.94	2.08		ug/L		107	70 - 130
alpha-BHC	<0.097		1.94	2.05		ug/L		105	70 - 130
alpha-Chlordane	<0.048		1.94	2.24		ug/L		115	70 - 130
Anthracene	<0.019		1.94	1.53		ug/L		78	70 - 130
Atrazine	<0.048		1.94	2.14		ug/L		110	70 - 130
Benz(a)anthracene	<0.048		1.94	1.91		ug/L		98	70 - 130
Benzo[a]pyrene	<0.019		1.94	1.83		ug/L		94	70 - 130
Benzo[b]fluoranthene	<0.019		1.94	2.02		ug/L		104	70 - 130
Benzo[g,h,i]perylene	<0.048		1.94	2.14		ug/L		110	70 - 130
Benzo[k]fluoranthene	<0.019		1.94	2.26		ug/L		116	70 - 130
beta-BHC	<0.097		1.94	2.11		ug/L		108	70 - 130
Bis(2-ethylhexyl) phthalate	2.0	F1	1.94	3.27	F1	ug/L		63	70 - 130
Bromacil	<0.097		1.94	1.56		ug/L		80	70 - 130
Butachlor	<0.048		1.94	2.23		ug/L		115	70 - 130
Butylbenzylphthalate	<0.48		1.94	2.23		ug/L		115	70 - 130
Chlorobenzilate	<0.097		1.94	2.47		ug/L		127	70 - 130
Chloroneb	<0.097		1.94	2.10		ug/L		108	70 - 130
Chlorothalonil (Draconil, Bravo)	<0.097	F1	1.94	2.54	F1	ug/L		131	70 - 130
Chlorpyrifos	<0.048		1.94	2.27		ug/L		117	70 - 130
Chrysene	<0.019		1.94	2.17		ug/L		111	70 - 130
delta-BHC	<0.097		1.94	2.04		ug/L		105	70 - 130
Di(2-ethylhexyl)adipate	<0.58		1.94	2.10		ug/L		108	70 - 130
Dibenz(a,h)anthracene	<0.048		1.94	2.10		ug/L		108	70 - 130
Diclorvos (DDVP)	<0.048		1.94	1.76		ug/L		90	70 - 130
Dieldrin	<0.0097		1.94	2.14		ug/L		110	70 - 130
Diethylphthalate	<0.48		1.94	2.00		ug/L		103	70 - 130

QC Sample Results

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

Job ID: 380-110902-1
SDG: Weekly

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

Lab Sample ID: 380-110765-AI-1-A MS
Matrix: Water
Analysis Batch: 106482

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 106181

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec
	Result	Qualifier	Added	Result	Qualifier				
Dimethylphthalate	<0.48		1.94	1.97		ug/L		101	70 - 130
Di-n-butyl phthalate	<0.97		3.89	4.32		ug/L		111	70 - 130
Di-n-octyl phthalate	<0.097		1.94	1.92		ug/L		98	70 - 130
Endosulfan I (Alpha)	<0.097		1.94	2.01		ug/L		104	70 - 130
Endosulfan II (Beta)	<0.097		1.94	2.09		ug/L		107	70 - 130
Endosulfan sulfate	<0.097		1.94	2.23		ug/L		115	70 - 130
Endrin	<0.0097		1.94	1.98		ug/L		102	70 - 130
Endrin aldehyde	<0.097		1.94	1.65		ug/L		85	60 - 130
EPTC	<0.097		1.94	2.01		ug/L		103	70 - 130
Fluoranthene	<0.097		1.94	2.14		ug/L		110	70 - 130
Fluorene	<0.048		1.94	1.99		ug/L		102	70 - 130
gamma-Chlordane	<0.048		1.94	2.26		ug/L		116	70 - 130
Heptachlor	<0.0097	^3+	1.94	2.33		ug/L		120	70 - 130
Heptachlor epoxide (isomer B)	<0.0097		1.94	2.10		ug/L		108	70 - 130
Hexachlorobenzene	<0.048		1.94	1.97		ug/L		101	70 - 130
Hexachlorocyclopentadiene	<0.048		1.94	2.13		ug/L		110	70 - 130
Indeno[1,2,3-cd]pyrene	<0.048		1.94	2.05		ug/L		105	70 - 130
Isophorone	<0.097		1.94	1.83		ug/L		94	70 - 130
Lindane	<0.0097		1.94	2.00		ug/L		103	70 - 130
Malathion	<0.097		1.94	2.29		ug/L		118	70 - 130
Methoxychlor	<0.048		1.94	2.49		ug/L		128	70 - 130
Metolachlor	<0.048		1.94	2.07		ug/L		107	70 - 130
Molinate	<0.097		1.94	2.03		ug/L		104	70 - 130
Naphthalene	<0.097		1.94	1.95		ug/L		100	70 - 130
Parathion	<0.097		1.94	2.51		ug/L		129	70 - 130
Pendimethalin (Penoxaline)	<0.097		1.94	2.15		ug/L		111	70 - 130
Phenanthrene	<0.039		1.94	1.95		ug/L		100	70 - 130
Propachlor	<0.048		1.94	2.03		ug/L		104	70 - 130
Pyrene	<0.048		1.94	2.12		ug/L		109	70 - 130
Simazine	<0.048		1.94	1.79		ug/L		92	70 - 130
Terbacil	<0.097		1.94	1.57		ug/L		81	70 - 130
Terbutylazine	<0.097		1.94	2.12		ug/L		109	70 - 130
Thiobencarb	<0.097		1.94	2.08		ug/L		107	70 - 130
trans-Nonachlor	<0.048		1.94	2.14		ug/L		110	70 - 130
Trifluralin	<0.097		1.94	2.13		ug/L		109	70 - 130

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
2-Nitro-m-xylene	97		70 - 130
Perylene-d12	96		70 - 130
Triphenylphosphate	103		70 - 130

Lab Sample ID: 380-110833-D-1-A DU
Matrix: Water
Analysis Batch: 106482

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 106181

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	

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QC Sample Results

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

Job ID: 380-110902-1
SDG: Weekly

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

Lab Sample ID: 380-110833-D-1-A DU
Matrix: Water
Analysis Batch: 106482

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 106181

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

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-110902-1
SDG: Weekly

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

Lab Sample ID: 380-110833-D-1-A DU
Matrix: Water
Analysis Batch: 106482

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 106181

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Heptachlor	<0.0097	^3+	<0.0097		ug/L		NC	20
Heptachlor epoxide (isomer B)	<0.0097		<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	<0.097		<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	%Recovery	DU Qualifier	Limits
2-Nitro-m-xylene	98		70 - 130
Perylene-d12	96		70 - 130
Triphenylphosphate	103		70 - 130

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

Lab Sample ID: MB 570-478203/11
Matrix: Water
Analysis Batch: 478203

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			09/06/24 17:06	1

Surrogate	%Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	76		38 - 134		09/06/24 17:06	1

Lab Sample ID: LCS 570-478203/10
Matrix: Water
Analysis Batch: 478203

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	354		ug/L		89	78 - 120

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-110902-1
SDG: Weekly

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

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	88		38 - 134

Lab Sample ID: LCSD 570-478203/12
Matrix: Water
Analysis Batch: 478203

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	362		ug/L		90	78 - 120	2	10

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	83		38 - 134

Lab Sample ID: MRL 570-478203/1003
Matrix: Water
Analysis Batch: 478203

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	10.6		ug/L		106	50 - 150

Surrogate	MRL %Recovery	MRL Qualifier	Limits
4-Bromofluorobenzene (Surr)	80		38 - 134

Lab Sample ID: 380-110669-C-1 MS
Matrix: Water
Analysis Batch: 478203

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	391		ug/L		98	68 - 122

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

Lab Sample ID: 380-110669-C-1 MSD
Matrix: Water
Analysis Batch: 478203

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	393		ug/L		98	68 - 122	1	18

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

QC Sample Results

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

Job ID: 380-110902-1
SDG: Weekly

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

Lab Sample ID: MB 570-476313/1-A
Matrix: Water
Analysis Batch: 480149

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 476313

Analyte	MB MB		RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Diesel Range Organics (C10-C24)	<25		25	ug/L		08/30/24 16:54	09/12/24 15:00	1
Motor Oil Range Organics [C24-C36]	<25		25	ug/L		08/30/24 16:54	09/12/24 15:00	1
C8-C18	<25		25	ug/L		08/30/24 16:54	09/12/24 15:00	1
Surrogate	MB MB		Limits			Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier						
n-Octacosane (Surr)	86		60 - 130			08/30/24 16:54	09/12/24 15:00	1

Lab Sample ID: LCS 570-476313/2-A
Matrix: Water
Analysis Batch: 480149

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 476313

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	%Rec Limits	RPD	Limit
		Result	Qualifier						
C10-C28	1600	1280		ug/L		80	56 - 127		
Surrogate	LCS LCS		Limits			%Rec	Limits	RPD	Limit
	%Recovery	Qualifier							
n-Octacosane (Surr)	89		60 - 130						

Lab Sample ID: LCSD 570-476313/3-A
Matrix: Water
Analysis Batch: 480149

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 476313

Analyte	Spike Added	LCSD LCSD		Unit	D	%Rec	%Rec Limits	RPD	Limit
		Result	Qualifier						
C10-C28	1600	1370		ug/L		86	56 - 127	7	23
Surrogate	LCSD LCSD		Limits			%Rec	Limits	RPD	Limit
	%Recovery	Qualifier							
n-Octacosane (Surr)	91		60 - 130						

Lab Sample ID: MRL 570-476313/4-A
Matrix: Water
Analysis Batch: 480149

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 476313

Analyte	Spike Added	MRL MRL		Unit	D	%Rec	%Rec Limits	RPD	Limit
		Result	Qualifier						
C10-C28	0.0200	0.0246	J	mg/L		123	50 - 150		
Surrogate	MRL MRL		Limits			%Rec	Limits	RPD	Limit
	%Recovery	Qualifier							
n-Octacosane (Surr)	91		60 - 130						

Lab Sample ID: 380-110669-B-1-A MS
Matrix: Water
Analysis Batch: 480149

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 476313

Analyte	Sample Result	Sample Qualifier	Spike Added	MS MS		Unit	D	%Rec	%Rec Limits	RPD	Limit
				Result	Qualifier						
C10-C28	<26		1660	1450		ug/L		87	70 - 130		
Surrogate	MS MS		Limits					%Rec	Limits	RPD	Limit
	%Recovery	Qualifier									
n-Octacosane (Surr)	93		60 - 130								

QC Sample Results

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

Job ID: 380-110902-1
 SDG: Weekly

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

Lab Sample ID: 380-110669-B-1-B MSD
Matrix: Water
Analysis Batch: 480149

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 476313

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
C10-C28	<26		1670	1370		ug/L		82	70 - 130	6	20
Surrogate		MSD			MSD						
<i>n-Octacosane (Surr)</i>		%Recovery			Qualifier						Limits
		89									60 - 130

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QC Association Summary

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

Job ID: 380-110902-1
SDG: Weekly

GC/MS Semi VOA

Prep Batch: 106181

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-110902-1	Halawa Shaft Viewing Pool	Total/NA	Water	525.2	
MB 380-106181/21-A	Method Blank	Total/NA	Water	525.2	
LCS 380-106181/23-A	Lab Control Sample	Total/NA	Water	525.2	
LCSD 380-106181/24-A	Lab Control Sample Dup	Total/NA	Water	525.2	
MRL 380-106181/22-A	Lab Control Sample	Total/NA	Water	525.2	
380-110765-AI-1-A MS	Matrix Spike	Total/NA	Water	525.2	
380-110833-D-1-A DU	Duplicate	Total/NA	Water	525.2	

Analysis Batch: 106482

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-110902-1	Halawa Shaft Viewing Pool	Total/NA	Water	525.2	106181
MB 380-106181/21-A	Method Blank	Total/NA	Water	525.2	106181
LCS 380-106181/23-A	Lab Control Sample	Total/NA	Water	525.2	106181
LCSD 380-106181/24-A	Lab Control Sample Dup	Total/NA	Water	525.2	106181
MRL 380-106181/22-A	Lab Control Sample	Total/NA	Water	525.2	106181
380-110765-AI-1-A MS	Matrix Spike	Total/NA	Water	525.2	106181
380-110833-D-1-A DU	Duplicate	Total/NA	Water	525.2	106181

GC VOA

Analysis Batch: 478203

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-110902-1	Halawa Shaft Viewing Pool	Total/NA	Water	8015B GRO LL	
380-110902-2	Trip Blank	Total/NA	Water	8015B GRO LL	
MB 570-478203/11	Method Blank	Total/NA	Water	8015B GRO LL	
LCS 570-478203/10	Lab Control Sample	Total/NA	Water	8015B GRO LL	
LCSD 570-478203/12	Lab Control Sample Dup	Total/NA	Water	8015B GRO LL	
MRL 570-478203/1003	Lab Control Sample	Total/NA	Water	8015B GRO LL	
380-110669-C-1 MS	Matrix Spike	Total/NA	Water	8015B GRO LL	
380-110669-C-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8015B GRO LL	

GC Semi VOA

Prep Batch: 476313

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-110902-1	Halawa Shaft Viewing Pool	Total/NA	Water	3510C	
MB 570-476313/1-A	Method Blank	Total/NA	Water	3510C	
LCS 570-476313/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 570-476313/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	
MRL 570-476313/4-A	Lab Control Sample	Total/NA	Water	3510C	
380-110669-B-1-A MS	Matrix Spike	Total/NA	Water	3510C	
380-110669-B-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	3510C	

Analysis Batch: 480149

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-110902-1	Halawa Shaft Viewing Pool	Total/NA	Water	8015B	476313
MB 570-476313/1-A	Method Blank	Total/NA	Water	8015B	476313
LCS 570-476313/2-A	Lab Control Sample	Total/NA	Water	8015B	476313
LCSD 570-476313/3-A	Lab Control Sample Dup	Total/NA	Water	8015B	476313
MRL 570-476313/4-A	Lab Control Sample	Total/NA	Water	8015B	476313
380-110669-B-1-A MS	Matrix Spike	Total/NA	Water	8015B	476313
380-110669-B-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	8015B	476313

Eurofins Eaton Analytical Pomona

Lab Chronicle

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

Job ID: 380-110902-1
 SDG: Weekly

Client Sample ID: Halawa Shaft Viewing Pool

Lab Sample ID: 380-110902-1

Date Collected: 08/27/24 11:00

Matrix: Water

Date Received: 08/29/24 10:23

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	525.2			106181	IQ42	EA POM	09/01/24 14:45
Total/NA	Analysis	525.2		1	106482	Q8LA	EA POM	09/02/24 19:48
Total/NA	Analysis	8015B GRO LL		1	478203	A9VE	EET CAL 4	09/06/24 23:29
Total/NA	Prep	3510C			476313	U8EU	EET CAL 4	08/30/24 16:57
Total/NA	Analysis	8015B		1	480149	SP9M	EET CAL 4	09/12/24 17:58

Client Sample ID: Trip Blank

Lab Sample ID: 380-110902-2

Date Collected: 08/27/24 11:00

Matrix: Water

Date Received: 08/29/24 10:23

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8015B GRO LL		1	478203	A9VE	EET CAL 4	09/06/24 21:33

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: 380-110902-1
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
<p>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.</p>			
Analysis Method	Prep Method	Matrix	Analyte
525.2	525.2	Water	1-Methylnaphthalene
525.2	525.2	Water	2,4'-DDD
525.2	525.2	Water	2,4'-DDE
525.2	525.2	Water	2,4'-DDT
525.2	525.2	Water	2,4-Dinitrotoluene
525.2	525.2	Water	2,6-Dinitrotoluene
525.2	525.2	Water	2-Methylnaphthalene
525.2	525.2	Water	4,4'-DDD
525.2	525.2	Water	4,4'-DDE
525.2	525.2	Water	4,4' DDT
525.2	525.2	Water	Acetochlor
525.2	525.2	Water	alpha-BHC
525.2	525.2	Water	alpha-Chlordane
525.2	525.2	Water	beta-BHC
525.2	525.2	Water	Chlorobenzilate
525.2	525.2	Water	Chloroneb
525.2	525.2	Water	Chlorothalonil (Draconil, Bravo)
525.2	525.2	Water	Chlorpyrifos
525.2	525.2	Water	delta-BHC
525.2	525.2	Water	Diclorvos (DDVP)
525.2	525.2	Water	Endosulfan I (Alpha)
525.2	525.2	Water	Endosulfan II (Beta)
525.2	525.2	Water	Endosulfan sulfate
525.2	525.2	Water	Endrin aldehyde
525.2	525.2	Water	EPTC
525.2	525.2	Water	gamma-Chlordane
525.2	525.2	Water	Isophorone
525.2	525.2	Water	Malathion
525.2	525.2	Water	Parathion
525.2	525.2	Water	Pendimethalin (Penoxaline)
525.2	525.2	Water	Terbacil
525.2	525.2	Water	Terbutylazine
525.2	525.2	Water	Total Permethrin (mixed isomers)
525.2	525.2	Water	trans-Nonachlor

Laboratory: Eurofins Calscience

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

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0830	11-16-24
Arkansas DEQ	State	88-0161	07-02-25
California	Los Angeles County Sanitation Districts	9257304	08-01-24 *
California	State	3082	07-31-26
Kansas	NELAP	E-10420	07-31-25
Nevada	State	CA00111	09-12-24

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

Eurofins Eaton Analytical Pomona

Accreditation/Certification Summary

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

Job ID: 380-110902-1
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
Oregon	NELAP	4175	02-02-25
USDA	US Federal Programs	P330-22-00059	06-08-26
Washington	State	C916-18	10-11-24

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Method Summary

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

Job ID: 380-110902-1
SDG: Weekly

Method	Method Description	Protocol	Laboratory
525.2	Semivolatile Organic Compounds (GC/MS)	EPA	EA POM
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

Protocol References:

EPA = US Environmental Protection Agency

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

Laboratory References:

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: 380-110902-1
SDG: Weekly

<u>Lab Sample ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Collected</u>	<u>Received</u>
380-110902-1	Halawa Shaft Viewing Pool	Water	08/27/24 11:00	08/29/24 10:23
380-110902-2	Trip Blank	Water	08/27/24 11:00	08/29/24 10:23

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Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-110902-1

SDG Number: Weekly

Login Number: 110902

List Number: 1

Creator: Gerfen, Chris

List Source: Eurofins Eaton Analytical Pomona

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").	N/A	
CIO4 headspace requirement met (>50% for CA, >30% for other states).	N/A	
Samples do not require splitting or compositing.	True	
Container provided by EEA	True	



Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-110902-1

SDG Number: Weekly

Login Number: 110902

List Number: 2

Creator: Arellano, Cyndy

List Source: Eurofins Calscience

List Creation: 08/30/24 04:24 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.	True	
Sample custody seals, if present, are intact.	True	
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	2.3
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

