

# ANALYTICAL REPORT

## PREPARED FOR

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

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## JOB DESCRIPTION

RED-HILL

## JOB NUMBER

380-90110-1

# 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  
Rachelle Arada, Project Manager  
[Rachelle.Arada@et.eurofinsus.com](mailto:Rachelle.Arada@et.eurofinsus.com)  
(626)386-1106



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# Definitions/Glossary

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

Job ID: 380-90110-1

## Qualifiers

### GC/MS VOA

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

### GC/MS VOA TICs

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

### GC/MS Semi VOA

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

### GC/MS Semi VOA TICs

Qualifier	Qualifier Description
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.

### HPLC/IC

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

### Metals

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.

### General Chemistry

Qualifier	Qualifier Description
HF	Parameter with a holding time of 15 minutes. Test performed by laboratory at client's request. Sample was analyzed outside of hold time.
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)

# Definitions/Glossary

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

Job ID: 380-90110-1

## Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
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: 380-90110-1

**Job ID: 380-90110-1**

**Eurofins Eaton Analytical Pomona**

## Job Narrative 380-90110-1

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 are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample 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 4/5/2024 9:21 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 1.0°C.

### GC/MS VOA

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

### GC/MS Semi VOA

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

### GC Semi VOA

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

### HPLC/IC

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

### Metals

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

### General Chemistry

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: 380-90110-1

## Client Sample ID: MOANALUA WELLS

## Lab Sample ID: 380-90110-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Trihalomethanes, Total	0.50		0.50	ug/L	1		524.2	Total/NA
Bromoform	0.50		0.50	ug/L	1		524.2	Total/NA
Dieldrin	0.018		0.010	ug/L	1		505	Total/NA
Chlordane (n.o.s.)	0.13		0.10	ug/L	1		505	Total/NA
Bromide	190		5.0	ug/L	1		300.0	Total/NA
Chloride	110		2.5	mg/L	5		300.0	Total/NA
Nitrate as N	0.56		0.25	mg/L	5		300.0	Total/NA
Sulfate	17		1.3	mg/L	5		300.0	Total/NA
Calcium	20		1.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	19		0.10	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	2.4		1.0	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	42		1.0	mg/L	1		200.7 Rev 4.4	Total/NA
Chromium	3.5		1.0	ug/L	1		200.8	Total/NA
Copper	4.8		2.0	ug/L	1		200.8	Total/NA
Alkalinity	60		2.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	60		2.0	mg/L	1		SM 2320B	Total/NA
Specific Conductance	510		2.0	umhos/cm	1		SM 2510B	Total/NA
Total Dissolved Solids	300		20	mg/L	1		SM 2540C	Total/NA
pH	8.1	HF		SU	1		SM 4500 H+ B	Total/NA

## Client Sample ID: TRAVEL BLANK

## Lab Sample ID: 380-90110-2

No Detections.

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: 380-90110-1

**Client Sample ID: MOANALUA WELLS**

**Lab Sample ID: 380-90110-1**

Date Collected: 04/04/24 09:53

Matrix: Water

Date Received: 04/05/24 09:21

**Method: EPA-DW 524.2 - Total Trihalomethanes**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Trihalomethanes, Total	0.50		0.50	ug/L			04/06/24 20:11	1

**Method: EPA-DW 524.2 - Volatile Organic Compounds (GC/MS SIM)**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Tertiary Butyl Alcohol (TBA)	<2.0		2.0	ug/L			04/08/24 23:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	99		70 - 130		04/08/24 23:39	1
4-Bromofluorobenzene (Surr)	101		70 - 130		04/08/24 23:39	1
1,2-Dichloroethane-d4 (Surr)	100		70 - 130		04/08/24 23:39	1

**Method: EPA-DW 524.2 - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.50		0.50	ug/L			04/06/24 20:11	1
1,1,1-Trichloroethane	<0.50		0.50	ug/L			04/06/24 20:11	1
1,1,1,2,2-Tetrachloroethane	<0.50		0.50	ug/L			04/06/24 20:11	1
1,1,2-Trichloroethane	<0.50		0.50	ug/L			04/06/24 20:11	1
1,1-Dichloroethylene	<0.50		0.50	ug/L			04/06/24 20:11	1
1,1-Dichloroethane	<0.50		0.50	ug/L			04/06/24 20:11	1
1,1-Dichloropropene	<0.50		0.50	ug/L			04/06/24 20:11	1
1,2,3-Trichlorobenzene	<0.50		0.50	ug/L			04/06/24 20:11	1
1,2,3-Trichloropropane	<0.50		0.50	ug/L			04/06/24 20:11	1
1,2,4-Trichlorobenzene	<0.50		0.50	ug/L			04/06/24 20:11	1
1,2,4-Trimethylbenzene	<0.50		0.50	ug/L			04/06/24 20:11	1
1,2-Dichloroethane	<0.50		0.50	ug/L			04/06/24 20:11	1
1,2-Dichloropropane	<0.50		0.50	ug/L			04/06/24 20:11	1
1,3,5-Trimethylbenzene	<0.50		0.50	ug/L			04/06/24 20:11	1
1,3-Dichloropropane	<0.50		0.50	ug/L			04/06/24 20:11	1
1,3-Dichloropropene, Total	<0.50		0.50	ug/L			04/06/24 20:11	1
2,2-Dichloropropane	<0.50		0.50	ug/L			04/06/24 20:11	1
2-Butanone (MEK)	<5.0		5.0	ug/L			04/06/24 20:11	1
4-Methyl-2-pentanone (MIBK)	<5.0		5.0	ug/L			04/06/24 20:11	1
Acetone	<500		500	ug/L			04/06/24 20:11	1
Benzene	<0.50		0.50	ug/L			04/06/24 20:11	1
Bromobenzene	<0.50		0.50	ug/L			04/06/24 20:11	1
Bromochloromethane	<0.50		0.50	ug/L			04/06/24 20:11	1
Bromodichloromethane	<0.50		0.50	ug/L			04/06/24 20:11	1
Bromoethane	<0.50		0.50	ug/L			04/06/24 20:11	1
<b>Bromoform</b>	<b>0.50</b>		0.50	ug/L			04/06/24 20:11	1
Bromomethane (Methyl Bromide)	<0.50		0.50	ug/L			04/06/24 20:11	1
Carbon disulfide	<0.50		0.50	ug/L			04/07/24 16:07	1
Carbon tetrachloride	<0.50		0.50	ug/L			04/06/24 20:11	1
Chlorobenzene	<0.50		0.50	ug/L			04/06/24 20:11	1
Chlorodibromomethane	<0.50		0.50	ug/L			04/06/24 20:11	1
Chloroethane	<0.50		0.50	ug/L			04/06/24 20:11	1
Chloroform (Trichloromethane)	<0.50		0.50	ug/L			04/06/24 20:11	1
Chloromethane (methyl chloride)	<0.50		0.50	ug/L			04/06/24 20:11	1
cis-1,2-Dichloroethylene	<0.50		0.50	ug/L			04/06/24 20:11	1
cis-1,3-Dichloropropene	<0.50		0.50	ug/L			04/06/24 20:11	1
Dibromomethane	<0.50		0.50	ug/L			04/06/24 20:11	1

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# Client Sample Results

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

Job ID: 380-90110-1

**Client Sample ID: MOANALUA WELLS**

**Lab Sample ID: 380-90110-1**

Date Collected: 04/04/24 09:53

Matrix: Water

Date Received: 04/05/24 09:21

**Method: EPA-DW 524.2 - Volatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	<0.50		0.50	ug/L			04/06/24 20:11	1
Dichloromethane	<0.50		0.50	ug/L			04/06/24 20:11	1
Diisopropyl ether	<3.0		3.0	ug/L			04/06/24 20:11	1
Ethylbenzene	<0.50		0.50	ug/L			04/06/24 20:11	1
Hexachlorobutadiene	<0.50		0.50	ug/L			04/06/24 20:11	1
Isopropylbenzene	<0.50		0.50	ug/L			04/06/24 20:11	1
m,p-Xylenes	<0.50	^3+	0.50	ug/L			04/06/24 20:11	1
m-Dichlorobenzene (1,3-DCB)	<0.50		0.50	ug/L			04/06/24 20:11	1
Methyl-tert-butyl Ether (MTBE)	<0.50		0.50	ug/L			04/06/24 20:11	1
Naphthalene	<0.50		0.50	ug/L			04/06/24 20:11	1
n-Butylbenzene	<0.50		0.50	ug/L			04/06/24 20:11	1
N-Propylbenzene	<0.50		0.50	ug/L			04/06/24 20:11	1
o-Chlorotoluene	<0.50		0.50	ug/L			04/06/24 20:11	1
o-Dichlorobenzene (1,2-DCB)	<0.50		0.50	ug/L			04/06/24 20:11	1
o-Xylene	<0.50		0.50	ug/L			04/06/24 20:11	1
p-Chlorotoluene	<0.50		0.50	ug/L			04/06/24 20:11	1
p-Dichlorobenzene (1,4-DCB)	<0.50		0.50	ug/L			04/06/24 20:11	1
p-Isopropyltoluene	<0.50		0.50	ug/L			04/06/24 20:11	1
sec-Butylbenzene	<0.50		0.50	ug/L			04/06/24 20:11	1
Styrene	<0.50		0.50	ug/L			04/06/24 20:11	1
Tert-amyl methyl ether	<3.0		3.0	ug/L			04/06/24 20:11	1
Tert-butyl ethyl ether	<3.0		3.0	ug/L			04/06/24 20:11	1
tert-Butylbenzene	<0.50		0.50	ug/L			04/06/24 20:11	1
Tetrachloroethene (PCE)	<0.50		0.50	ug/L			04/06/24 20:11	1
Toluene	<0.50		0.50	ug/L			04/06/24 20:11	1
trans-1,2-Dichloroethylene	<0.50		0.50	ug/L			04/06/24 20:11	1
trans-1,3-Dichloropropene	<0.50		0.50	ug/L			04/06/24 20:11	1
Trichloroethylene (TCE)	<0.50		0.50	ug/L			04/06/24 20:11	1
Trichlorofluoromethane (Freon 11)	<0.50		0.50	ug/L			04/06/24 20:11	1
Trichlorotrifluoroethane	<0.50		0.50	ug/L			04/06/24 20:11	1
Vinyl Chloride (VC)	<0.30	^3+	0.30	ug/L			04/06/24 20:11	1
Xylenes, Total	<0.50		0.50	ug/L			04/06/24 20:11	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Amphetamine-3-methyl acetate	0.58	T J N	ug/L		1.80	1000122-50-7		04/07/24 16:07	1
Unknown	5.3	T J	ug/L		11.34	N/A		04/06/24 20:11	1
Unknown	5.8	T J	ug/L		12.00	N/A		04/06/24 20:11	1
Unknown	0.60	T J	ug/L		12.68	N/A		04/06/24 20:11	1
Unknown	1.2	T J	ug/L		14.56	N/A		04/06/24 20:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	91		70 - 130		04/06/24 20:11	1
1,2-Dichloroethane-d4 (Surr)	102		70 - 130		04/07/24 16:07	1
4-Bromofluorobenzene (Surr)	99		70 - 130		04/06/24 20:11	1
4-Bromofluorobenzene (Surr)	102		70 - 130		04/07/24 16:07	1
Toluene-d8 (Surr)	93		70 - 130		04/06/24 20:11	1
Toluene-d8 (Surr)	100		70 - 130		04/07/24 16:07	1

# Client Sample Results

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

Job ID: 380-90110-1

**Client Sample ID: MOANALUA WELLS**

**Lab Sample ID: 380-90110-1**

Date Collected: 04/04/24 09:53

Matrix: Water

Date Received: 04/05/24 09:21

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
2,4'-DDD	<0.097		0.097	ug/L		04/11/24 07:02	04/11/24 17:00	1
2,4'-DDE	<0.097		0.097	ug/L		04/11/24 07:02	04/11/24 17:00	1
2,4'-DDT	<0.097		0.097	ug/L		04/11/24 07:02	04/11/24 17:00	1
2,4-Dinitrotoluene	<0.097		0.097	ug/L		04/11/24 07:02	04/11/24 17:00	1
2,6-Dinitrotoluene	<0.097		0.097	ug/L		04/11/24 07:02	04/11/24 17:00	1
4,4'-DDD	<0.097		0.097	ug/L		04/11/24 07:02	04/11/24 17:00	1
4,4'-DDE	<0.097		0.097	ug/L		04/11/24 07:02	04/11/24 17:00	1
4,4'-DDT	<0.097	^3+	0.097	ug/L		04/11/24 07:02	04/11/24 17:00	1
Acenaphthene	<0.097		0.097	ug/L		04/11/24 07:02	04/11/24 17:00	1
Acenaphthylene	<0.097		0.097	ug/L		04/11/24 07:02	04/11/24 17:00	1
Acetochlor	<0.097		0.097	ug/L		04/11/24 07:02	04/11/24 17:00	1
Alachlor	<0.048		0.048	ug/L		04/11/24 07:02	04/11/24 17:00	1
alpha-BHC	<0.097		0.097	ug/L		04/11/24 07:02	04/11/24 17:00	1
alpha-Chlordane	<0.048		0.048	ug/L		04/11/24 07:02	04/11/24 17:00	1
Anthracene	<0.019		0.019	ug/L		04/11/24 07:02	04/11/24 17:00	1
Atrazine	<0.048		0.048	ug/L		04/11/24 07:02	04/11/24 17:00	1
Benz(a)anthracene	<0.048		0.048	ug/L		04/11/24 07:02	04/11/24 17:00	1
Benzo[a]pyrene	<0.019		0.019	ug/L		04/11/24 07:02	04/11/24 17:00	1
Benzo[b]fluoranthene	<0.019		0.019	ug/L		04/11/24 07:02	04/11/24 17:00	1
Benzo[g,h,i]perylene	<0.048		0.048	ug/L		04/11/24 07:02	04/11/24 17:00	1
Benzo[k]fluoranthene	<0.019		0.019	ug/L		04/11/24 07:02	04/11/24 17:00	1
beta-BHC	<0.097		0.097	ug/L		04/11/24 07:02	04/11/24 17:00	1
Bis(2-ethylhexyl) phthalate	<0.58		0.58	ug/L		04/11/24 07:02	04/11/24 17:00	1
Bromacil	<0.097	*+ ^+	0.097	ug/L		04/11/24 07:02	04/11/24 17:00	1
Butachlor	<0.048		0.048	ug/L		04/11/24 07:02	04/11/24 17:00	1
Butylbenzylphthalate	<0.48		0.48	ug/L		04/11/24 07:02	04/11/24 17:00	1
Chlorobenzilate	<0.097		0.097	ug/L		04/11/24 07:02	04/11/24 17:00	1
Chloroneb	<0.097		0.097	ug/L		04/11/24 07:02	04/11/24 17:00	1
Chlorothalonil (Draconil, Bravo)	<0.097		0.097	ug/L		04/11/24 07:02	04/11/24 17:00	1
Chlorpyrifos	<0.048		0.048	ug/L		04/11/24 07:02	04/11/24 17:00	1
Chrysene	<0.019	^3+	0.019	ug/L		04/11/24 07:02	04/11/24 17:00	1
delta-BHC	<0.097		0.097	ug/L		04/11/24 07:02	04/11/24 17:00	1
Di(2-ethylhexyl)adipate	<0.58		0.58	ug/L		04/11/24 07:02	04/11/24 17:00	1
Dibenz(a,h)anthracene	<0.048		0.048	ug/L		04/11/24 07:02	04/11/24 17:00	1
Diclorvos (DDVP)	<0.048		0.048	ug/L		04/11/24 07:02	04/11/24 17:00	1
Dieldrin	<0.19		0.19	ug/L		04/11/24 07:02	04/11/24 17:00	1
Diethylphthalate	<0.48		0.48	ug/L		04/11/24 07:02	04/11/24 17:00	1
Dimethylphthalate	<0.48		0.48	ug/L		04/11/24 07:02	04/11/24 17:00	1
Di-n-butyl phthalate	<0.97		0.97	ug/L		04/11/24 07:02	04/11/24 17:00	1
Di-n-octyl phthalate	<0.097		0.097	ug/L		04/11/24 07:02	04/11/24 17:00	1
Endosulfan I (Alpha)	<0.097		0.097	ug/L		04/11/24 07:02	04/11/24 17:00	1
Endosulfan II (Beta)	<0.097		0.097	ug/L		04/11/24 07:02	04/11/24 17:00	1
Endosulfan sulfate	<0.097		0.097	ug/L		04/11/24 07:02	04/11/24 17:00	1
Endrin	<0.097		0.097	ug/L		04/11/24 07:02	04/11/24 17:00	1
Endrin aldehyde	<0.097		0.097	ug/L		04/11/24 07:02	04/11/24 17:00	1
EPTC	<0.097		0.097	ug/L		04/11/24 07:02	04/11/24 17:00	1
Fluoranthene	<0.097		0.097	ug/L		04/11/24 07:02	04/11/24 17:00	1
Fluorene	<0.048		0.048	ug/L		04/11/24 07:02	04/11/24 17:00	1
gamma-BHC (Lindane)	<0.039		0.039	ug/L		04/11/24 07:02	04/11/24 17:00	1

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# Client Sample Results

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

Job ID: 380-90110-1

**Client Sample ID: MOANALUA WELLS**

**Lab Sample ID: 380-90110-1**

Date Collected: 04/04/24 09:53

Matrix: Water

Date Received: 04/05/24 09:21

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
gamma-Chlordane	<0.048		0.048	ug/L		04/11/24 07:02	04/11/24 17:00	1
Heptachlor	<0.039		0.039	ug/L		04/11/24 07:02	04/11/24 17:00	1
Heptachlor epoxide (isomer B)	<0.048		0.048	ug/L		04/11/24 07:02	04/11/24 17:00	1
Hexachlorobenzene	<0.048		0.048	ug/L		04/11/24 07:02	04/11/24 17:00	1
Hexachlorocyclopentadiene	<0.048		0.048	ug/L		04/11/24 07:02	04/11/24 17:00	1
Indeno[1,2,3-cd]pyrene	<0.048		0.048	ug/L		04/11/24 07:02	04/11/24 17:00	1
Isophorone	<0.48		0.48	ug/L		04/11/24 07:02	04/11/24 17:00	1
Malathion	<0.097		0.097	ug/L		04/11/24 07:02	04/11/24 17:00	1
Methoxychlor	<0.097		0.097	ug/L		04/11/24 07:02	04/11/24 17:00	1
Metolachlor	<0.048		0.048	ug/L		04/11/24 07:02	04/11/24 17:00	1
Molinate	<0.097		0.097	ug/L		04/11/24 07:02	04/11/24 17:00	1
Naphthalene	<0.29		0.29	ug/L		04/11/24 07:02	04/11/24 17:00	1
Parathion	<0.097	+	0.097	ug/L		04/11/24 07:02	04/11/24 17:00	1
Pendimethalin (Penoxaline)	<0.097	+	0.097	ug/L		04/11/24 07:02	04/11/24 17:00	1
Phenanthrene	<0.039		0.039	ug/L		04/11/24 07:02	04/11/24 17:00	1
Propachlor	<0.048		0.048	ug/L		04/11/24 07:02	04/11/24 17:00	1
Pyrene	<0.048		0.048	ug/L		04/11/24 07:02	04/11/24 17:00	1
Simazine	<0.048		0.048	ug/L		04/11/24 07:02	04/11/24 17:00	1
Terbacil	<0.097		0.097	ug/L		04/11/24 07:02	04/11/24 17:00	1
Terbutylazine	<0.097		0.097	ug/L		04/11/24 07:02	04/11/24 17:00	1
Thiobencarb	<0.19		0.19	ug/L		04/11/24 07:02	04/11/24 17:00	1
Total Permethrin (mixed isomers)	<0.19		0.19	ug/L		04/11/24 07:02	04/11/24 17:00	1
trans-Nonachlor	<0.048		0.048	ug/L		04/11/24 07:02	04/11/24 17:00	1
Trifluralin	<0.097		0.097	ug/L		04/11/24 07:02	04/11/24 17:00	1
1-Methylnaphthalene	<0.097		0.097	ug/L		04/11/24 07:02	04/11/24 17:00	1
2-Methylnaphthalene	<0.097		0.097	ug/L		04/11/24 07:02	04/11/24 17:00	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L			N/A	04/11/24 07:02	04/11/24 17:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Nitro-m-xylene	100		70 - 130	04/11/24 07:02	04/11/24 17:00	1
Perylene-d12	97		70 - 130	04/11/24 07:02	04/11/24 17:00	1
Triphenylphosphate	112		70 - 130	04/11/24 07:02	04/11/24 17:00	1

**Method: EPA-DW2 504.1 - EDB, DBCP and 1,2,3-TCP (GC)**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	<0.020		0.020	ug/L		04/08/24 16:00	04/09/24 00:54	1
1,2-Dibromo-3-Chloropropane	<0.010		0.010	ug/L		04/08/24 16:00	04/09/24 00:54	1
1,2-Dibromoethane	<0.010		0.010	ug/L		04/08/24 16:00	04/09/24 00:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dibromopropane (Surr)	97		60 - 140	04/08/24 16:00	04/09/24 00:54	1

**Method: EPA 505 - Organochlorine Pesticides/PCBs (GC)**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	<0.010		0.010	ug/L		04/09/24 14:44	04/09/24 23:17	1
<b>Dieldrin</b>	<b>0.018</b>		0.010	ug/L		04/09/24 14:44	04/09/24 23:17	1
Toxaphene	<0.50		0.50	ug/L		04/09/24 14:44	04/09/24 23:17	1
Alachlor	<0.10		0.10	ug/L		04/09/24 14:44	04/09/24 23:17	1
<b>Chlordane (n.o.s.)</b>	<b>0.13</b>		0.10	ug/L		04/09/24 14:44	04/09/24 23:17	1

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# Client Sample Results

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

Job ID: 380-90110-1

**Client Sample ID: MOANALUA WELLS**

**Lab Sample ID: 380-90110-1**

Date Collected: 04/04/24 09:53

Matrix: Water

Date Received: 04/05/24 09:21

**Method: EPA 505 - Organochlorine Pesticides/PCBs (GC) (Continued)**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Endrin	<0.010		0.010	ug/L		04/09/24 14:44	04/09/24 23:17	1
Heptachlor	<0.010		0.010	ug/L		04/09/24 14:44	04/09/24 23:17	1
Heptachlor epoxide	<0.010		0.010	ug/L		04/09/24 14:44	04/09/24 23:17	1
gamma-BHC (Lindane)	<0.010		0.010	ug/L		04/09/24 14:44	04/09/24 23:17	1
Methoxychlor	<0.050		0.050	ug/L		04/09/24 14:44	04/09/24 23:17	1
PCB-1016	<0.070		0.070	ug/L		04/09/24 14:44	04/09/24 23:17	1
PCB-1221	<0.10		0.10	ug/L		04/09/24 14:44	04/09/24 23:17	1
PCB-1232	<0.10		0.10	ug/L		04/09/24 14:44	04/09/24 23:17	1
PCB-1242	<0.10		0.10	ug/L		04/09/24 14:44	04/09/24 23:17	1
PCB-1248	<0.10		0.10	ug/L		04/09/24 14:44	04/09/24 23:17	1
PCB-1254	<0.10		0.10	ug/L		04/09/24 14:44	04/09/24 23:17	1
PCB-1260	<0.070		0.070	ug/L		04/09/24 14:44	04/09/24 23:17	1
Polychlorinated biphenyls, Total	<0.10		0.10	ug/L		04/09/24 14:44	04/09/24 23:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	101		70 - 130	04/09/24 14:44	04/09/24 23:17	1

**Method: EPA 300.0 - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	190		5.0	ug/L			04/10/24 21:14	1
Chloride	110		2.5	mg/L			04/05/24 18:30	5
Nitrate as N	0.56		0.25	mg/L			04/05/24 18:30	5
Nitrite as N	<0.25		0.25	mg/L			04/05/24 18:30	5
Sulfate	17		1.3	mg/L			04/05/24 18:30	5

**Method: EPA 200.7 Rev 4.4 - Metals (ICP)**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	20		1.0	mg/L			04/10/24 18:47	1
Magnesium	19		0.10	mg/L			04/10/24 18:47	1
Potassium	2.4		1.0	mg/L			04/10/24 18:47	1
Sodium	42		1.0	mg/L			04/10/24 18:47	1

**Method: EPA 200.8 - Metals (ICP/MS)**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.0		1.0	ug/L			04/10/24 15:10	1
Arsenic	<1.0		1.0	ug/L			04/10/24 15:10	1
Beryllium	<1.0		1.0	ug/L			04/10/24 15:10	1
Cadmium	<0.50		0.50	ug/L			04/10/24 15:10	1
Chromium	3.5		1.0	ug/L			04/10/24 15:10	1
Copper	4.8		2.0	ug/L			04/10/24 15:10	1
Lead	<0.50		0.50	ug/L			04/10/24 15:10	1
Nickel	<5.0		5.0	ug/L			04/10/24 15:10	1
Selenium	<5.0		5.0	ug/L			04/10/24 15:10	1
Silver	<0.50		0.50	ug/L			04/10/24 15:10	1
Thallium	<1.0		1.0	ug/L			04/10/24 15:10	1
Zinc	<20		20	ug/L			04/10/24 15:10	1

**Method: EPA 245.1 - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.10		0.10	ug/L		04/10/24 13:50	04/10/24 23:16	1

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# Client Sample Results

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

Job ID: 380-90110-1

## Client Sample ID: MOANALUA WELLS

Lab Sample ID: 380-90110-1

Date Collected: 04/04/24 09:53

Matrix: Water

Date Received: 04/05/24 09:21

### General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity (SM 2320B)	60		2.0	mg/L			04/09/24 21:58	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	60		2.0	mg/L			04/09/24 21:58	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	<2.0		2.0	mg/L			04/09/24 21:58	1
Specific Conductance (SM 2510B)	510		2.0	umhos/cm			04/09/24 21:58	1
Total Dissolved Solids (SM 2540C)	300		20	mg/L			04/08/24 18:07	1
Fluoride (SM 4500 F C)	<0.050		0.050	mg/L			04/10/24 18:11	1
pH (SM 4500 H+ B)	8.1	HF		SU			04/09/24 21:58	1
Sulfide (SM 4500 S2 D)	<0.050		0.050	mg/L			04/11/24 09:33	1

## Client Sample ID: TRAVEL BLANK

Lab Sample ID: 380-90110-2

Date Collected: 04/04/24 09:53

Matrix: Water

Date Received: 04/05/24 09:21

### Method: EPA-DW 524.2 - Total Trihalomethanes

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Trihalomethanes, Total	<0.50		0.50	ug/L			04/08/24 14:08	1

### Method: EPA-DW 524.2 - Volatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Tertiary Butyl Alcohol (TBA)	<2.0		2.0	ug/L			04/09/24 00:01	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	98		70 - 130				04/09/24 00:01	1
4-Bromofluorobenzene (Surr)	99		70 - 130				04/09/24 00:01	1
1,2-Dichloroethane-d4 (Surr)	100		70 - 130				04/09/24 00:01	1

### Method: EPA-DW 524.2 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.50		0.50	ug/L			04/08/24 14:08	1
1,1,1-Trichloroethane	<0.50		0.50	ug/L			04/08/24 14:08	1
1,1,1,2,2-Tetrachloroethane	<0.50		0.50	ug/L			04/08/24 14:08	1
1,1,1,2-Trichloroethane	<0.50		0.50	ug/L			04/08/24 14:08	1
1,1-Dichloroethane	<0.50		0.50	ug/L			04/08/24 14:08	1
1,1-Dichloroethylene	<0.50		0.50	ug/L			04/08/24 14:08	1
1,1-Dichloropropene	<0.50		0.50	ug/L			04/08/24 14:08	1
1,2,3-Trichlorobenzene	<0.50		0.50	ug/L			04/08/24 14:08	1
1,2,3-Trichloropropane	<0.50		0.50	ug/L			04/08/24 14:08	1
1,2,4-Trichlorobenzene	<0.50		0.50	ug/L			04/08/24 14:08	1
1,2,4-Trimethylbenzene	<0.50		0.50	ug/L			04/08/24 14:08	1
1,2-Dichloroethane	<0.50		0.50	ug/L			04/08/24 14:08	1
1,2-Dichloropropane	<0.50		0.50	ug/L			04/08/24 14:08	1
1,3,5-Trimethylbenzene	<0.50		0.50	ug/L			04/08/24 14:08	1
1,3-Dichloropropane	<0.50		0.50	ug/L			04/08/24 14:08	1
2,2-Dichloropropane	<0.50		0.50	ug/L			04/08/24 14:08	1
2-Butanone (MEK)	<5.0		5.0	ug/L			04/08/24 14:08	1
4-Methyl-2-pentanone (MIBK)	<5.0		5.0	ug/L			04/08/24 14:08	1
Acetone	<500		500	ug/L			04/08/24 14:08	1
Benzene	<0.50		0.50	ug/L			04/08/24 14:08	1
Bromobenzene	<0.50		0.50	ug/L			04/08/24 14:08	1

Eurofins Eaton Analytical Pomona

# Client Sample Results

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

Job ID: 380-90110-1

**Client Sample ID: TRAVEL BLANK**

**Lab Sample ID: 380-90110-2**

Date Collected: 04/04/24 09:53

Matrix: Water

Date Received: 04/05/24 09:21

**Method: EPA-DW 524.2 - Volatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Bromochloromethane	<0.50		0.50	ug/L			04/08/24 14:08	1
Bromodichloromethane	<0.50		0.50	ug/L			04/08/24 14:08	1
Bromoform	<0.50		0.50	ug/L			04/08/24 14:08	1
Bromomethane (Methyl Bromide)	<0.50		0.50	ug/L			04/08/24 14:08	1
Carbon disulfide	<0.50		0.50	ug/L			04/08/24 14:08	1
Carbon tetrachloride	<0.50		0.50	ug/L			04/08/24 14:08	1
Chlorobenzene	<0.50		0.50	ug/L			04/08/24 14:08	1
Chlorodibromomethane	<0.50		0.50	ug/L			04/08/24 14:08	1
Chloroethane	<0.50		0.50	ug/L			04/08/24 14:08	1
Chloroform (Trichloromethane)	<0.50		0.50	ug/L			04/08/24 14:08	1
Dichloromethane	<0.50		0.50	ug/L			04/08/24 14:08	1
cis-1,2-Dichloroethylene	<0.50		0.50	ug/L			04/08/24 14:08	1
cis-1,3-Dichloropropene	<0.50		0.50	ug/L			04/08/24 14:08	1
Dibromomethane	<0.50		0.50	ug/L			04/08/24 14:08	1
Dichlorodifluoromethane	<0.50		0.50	ug/L			04/08/24 14:08	1
Ethylbenzene	<0.50		0.50	ug/L			04/08/24 14:08	1
Hexachlorobutadiene	<0.50		0.50	ug/L			04/08/24 14:08	1
Isopropylbenzene	<0.50		0.50	ug/L			04/08/24 14:08	1
m,p-Xylenes	<0.50	^3+	0.50	ug/L			04/08/24 14:08	1
m-Dichlorobenzene (1,3-DCB)	<0.50		0.50	ug/L			04/08/24 14:08	1
Methyl-tert-butyl Ether (MTBE)	<0.50		0.50	ug/L			04/08/24 14:08	1
Naphthalene	<0.50		0.50	ug/L			04/08/24 14:08	1
n-Butylbenzene	<0.50		0.50	ug/L			04/08/24 14:08	1
N-Propylbenzene	<0.50		0.50	ug/L			04/08/24 14:08	1
o-Dichlorobenzene (1,2-DCB)	<0.50		0.50	ug/L			04/08/24 14:08	1
o-Chlorotoluene	<0.50		0.50	ug/L			04/08/24 14:08	1
o-Xylene	<0.50		0.50	ug/L			04/08/24 14:08	1
p-Chlorotoluene	<0.50		0.50	ug/L			04/08/24 14:08	1
p-Dichlorobenzene (1,4-DCB)	<0.50		0.50	ug/L			04/08/24 14:08	1
p-Isopropyltoluene	<0.50		0.50	ug/L			04/08/24 14:08	1
sec-Butylbenzene	<0.50		0.50	ug/L			04/08/24 14:08	1
Styrene	<0.50		0.50	ug/L			04/08/24 14:08	1
Tert-amyl methyl ether	<3.0		3.0	ug/L			04/08/24 14:08	1
Tert-butyl ethyl ether	<3.0		3.0	ug/L			04/08/24 14:08	1
tert-Butylbenzene	<0.50		0.50	ug/L			04/08/24 14:08	1
Tetrachloroethene (PCE)	<0.50		0.50	ug/L			04/08/24 14:08	1
Toluene	<0.50		0.50	ug/L			04/08/24 14:08	1
1,3-Dichloropropene, Total	<0.50		0.50	ug/L			04/08/24 14:08	1
Xylenes, Total	<0.50		0.50	ug/L			04/08/24 14:08	1
trans-1,2-Dichloroethylene	<0.50		0.50	ug/L			04/08/24 14:08	1
trans-1,3-Dichloropropene	<0.50		0.50	ug/L			04/08/24 14:08	1
Trichloroethylene (TCE)	<0.50		0.50	ug/L			04/08/24 14:08	1
Trichlorofluoromethane (Freon 11)	<0.50		0.50	ug/L			04/08/24 14:08	1
Vinyl Chloride (VC)	<0.30		0.30	ug/L			04/08/24 14:08	1
Trichlorotrifluoroethane	<0.50		0.50	ug/L			04/08/24 14:08	1
Bromoethane	<0.50		0.50	ug/L			04/08/24 14:08	1
Chloromethane (methyl chloride)	<0.50	^3+	0.50	ug/L			04/08/24 14:08	1
Diisopropyl ether	<3.0		3.0	ug/L			04/08/24 14:08	1

# Client Sample Results

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

Job ID: 380-90110-1

**Client Sample ID: TRAVEL BLANK**

**Lab Sample ID: 380-90110-2**

**Date Collected: 04/04/24 09:53**

**Matrix: Water**

**Date Received: 04/05/24 09:21**

<u>Tentatively Identified Compound</u>	<u>Est. Result</u>	<u>Qualifier</u>	<u>Unit</u>	<u>D</u>	<u>RT</u>	<u>CAS No.</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Dil Fac</u>
Acetaldehyde	0.56	T J N	ug/L		1.65	75-07-0		04/08/24 14:08	1
Benzeneethanamine, 2-fluoro-.beta.,5-dihydroxy-N-methyl- Furfural	1.4	T J N	ug/L		1.79	103439-07-2		04/08/24 14:08	1
	1.9	T J N	ug/L		10.17	98-01-1		04/08/24 14:08	1

<u>Surrogate</u>	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Dil Fac</u>
1,2-Dichloroethane-d4 (Surr)	100		70 - 130		04/08/24 14:08	1
4-Bromofluorobenzene (Surr)	99		70 - 130		04/08/24 14:08	1
Toluene-d8 (Surr)	100		70 - 130		04/08/24 14:08	1

**Method: EPA-DW2 504.1 - EDB, DBCP and 1,2,3-TCP (GC)**

<u>Analyte</u>	<u>Result</u>	<u>Qualifier</u>	<u>RL</u>	<u>Unit</u>	<u>D</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Dil Fac</u>
1,2,3-Trichloropropane	<0.020		0.020	ug/L		04/09/24 17:00	04/10/24 00:36	1
1,2-Dibromo-3-Chloropropane	<0.010		0.010	ug/L		04/09/24 17:00	04/10/24 00:36	1
1,2-Dibromoethane	<0.010		0.010	ug/L		04/09/24 17:00	04/10/24 00:36	1

<u>Surrogate</u>	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Dil Fac</u>
1,2-Dibromopropane (Surr)	107		60 - 140	04/09/24 17:00	04/10/24 00:36	1

# Action Limit Summary

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

Job ID: 380-90110-1

Client Sample ID: MOANALUA WELLS

Lab Sample ID: 380-90110-1

## 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	HI Org Limit	EPAMCL Limit	EPAMCL S Limit	Method	Prep Type
Trihalomethanes, Total	0.50		ug/L		80		524.2	Total/NA
1,1,1-Trichloroethane	<0.50		ug/L	200.0	200		524.2	Total/NA
1,1,2-Trichloroethane	<0.50		ug/L	5.000	5		524.2	Total/NA
1,1-Dichloroethylene	<0.50		ug/L	7.000	7		524.2	Total/NA
1,2,3-Trichloropropane	<0.50		ug/L	0.6000			524.2	Total/NA
1,2,4-Trichlorobenzene	<0.50		ug/L	70.00	70		524.2	Total/NA
1,2-Dichloroethane	<0.50		ug/L	5.000	5		524.2	Total/NA
1,2-Dichloropropane	<0.50		ug/L	5.000	5		524.2	Total/NA
Benzene	<0.50		ug/L	5.000	5		524.2	Total/NA
Carbon tetrachloride	<0.50		ug/L	5.000	5		524.2	Total/NA
Chlorobenzene	<0.50		ug/L	100.0	100		524.2	Total/NA
cis-1,2-Dichloroethylene	<0.50		ug/L	70.00	70		524.2	Total/NA
Dichloromethane	<0.50		ug/L	5.000	5		524.2	Total/NA
Ethylbenzene	<0.50		ug/L	700.0	700		524.2	Total/NA
o-Dichlorobenzene (1,2-DCB)	<0.50		ug/L	600.0	600		524.2	Total/NA
p-Dichlorobenzene (1,4-DCB)	<0.50		ug/L	75.000	75		524.2	Total/NA
Styrene	<0.50		ug/L	100.0	100		524.2	Total/NA
Tetrachloroethene (PCE)	<0.50		ug/L	5.000	5		524.2	Total/NA
Toluene	<0.50		ug/L	1000	1000		524.2	Total/NA
trans-1,2-Dichloroethylene	<0.50		ug/L	100.0	100		524.2	Total/NA
Trichloroethylene (TCE)	<0.50		ug/L	5.000	5		524.2	Total/NA
Vinyl Chloride (VC)	<0.30	^3+	ug/L	2.000	2		524.2	Total/NA
Xylenes, Total	<0.50		ug/L	10000	10000		524.2	Total/NA
Alachlor	<0.048		ug/L		2		525.2	Total/NA
Atrazine	<0.048		ug/L		3		525.2	Total/NA
Benzo[a]pyrene	<0.019		ug/L		0.2		525.2	Total/NA
Bis(2-ethylhexyl) phthalate	<0.58		ug/L		6		525.2	Total/NA
Di(2-ethylhexyl)adipate	<0.58		ug/L		400		525.2	Total/NA
Endrin	<0.097		ug/L		2		525.2	Total/NA
gamma-BHC (Lindane)	<0.039		ug/L		0.2		525.2	Total/NA
Heptachlor	<0.039		ug/L		0.4		525.2	Total/NA
Heptachlor epoxide (isomer B)	<0.048		ug/L		0.2		525.2	Total/NA
Hexachlorobenzene	<0.048		ug/L		1		525.2	Total/NA
Hexachlorocyclopentadiene	<0.048		ug/L		50		525.2	Total/NA
Methoxychlor	<0.097		ug/L		40		525.2	Total/NA
Simazine	<0.048		ug/L		4		525.2	Total/NA
1,2,3-Trichloropropane	<0.020		ug/L	0.6000			504.1	Total/NA
1,2-Dibromo-3-Chloropropane	<0.010		ug/L		0.2		504.1	Total/NA
1,2-Dibromoethane	<0.010		ug/L		0.05		504.1	Total/NA
Toxaphene	<0.50		ug/L		3		505	Total/NA
Alachlor	<0.10		ug/L		2		505	Total/NA
Chlordane (n.o.s.)	0.13		ug/L		2		505	Total/NA
Endrin	<0.010		ug/L		2		505	Total/NA
Heptachlor	<0.010		ug/L		0.4		505	Total/NA
Heptachlor epoxide	<0.010		ug/L		0.2		505	Total/NA
gamma-BHC (Lindane)	<0.010		ug/L		0.2		505	Total/NA
Methoxychlor	<0.050		ug/L		40		505	Total/NA
Polychlorinated biphenyls, Total	<0.10		ug/L		0.5		505	Total/NA

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# Action Limit Summary

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

Job ID: 380-90110-1

**Client Sample ID: MOANALUA WELLS (Continued)**

**Lab Sample ID: 380-90110-1**

## 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	HI Org Limit	EPAMCL Limit	EPAMCL	Method	Prep Type
						S		
Chloride	110		mg/L			250	300.0	Total/NA
Nitrate as N	0.56		mg/L		10		300.0	Total/NA
Nitrite as N	<0.25		mg/L		1		300.0	Total/NA
Sulfate	17		mg/L			250	300.0	Total/NA
Antimony	<1.0		ug/L		6		200.8	Total/NA
Arsenic	<1.0		ug/L		10		200.8	Total/NA
Beryllium	<1.0		ug/L		4		200.8	Total/NA
Cadmium	<0.50		ug/L		5		200.8	Total/NA
Chromium	3.5		ug/L		100		200.8	Total/NA
Copper	4.8		ug/L			1300	200.8	Total/NA
Lead	<0.50		ug/L		15.000		200.8	Total/NA
Selenium	<5.0		ug/L		50		200.8	Total/NA
Silver	<0.50		ug/L			100	200.8	Total/NA
Thallium	<1.0		ug/L		2		200.8	Total/NA
Zinc	<20		ug/L			5000	200.8	Total/NA
Mercury	<0.10		ug/L		2		245.1	Total/NA
Total Dissolved Solids	300		mg/L			500	SM 2540C	Total/NA
Fluoride	<0.050		mg/L		4	2	SM 4500 F C	Total/NA

**Client Sample ID: TRAVEL BLANK**

**Lab Sample ID: 380-90110-2**

## Compliance Check

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

Analyte	Result	Qualifier	Unit	HI Org Limit	EPAMCL Limit	RL	Method	Prep Type
Trihalomethanes, Total	<0.50		ug/L		80	0.50	524.2	Total/NA
1,1,1-Trichloroethane	<0.50		ug/L	200.0	200	0.50	524.2	Total/NA
1,1,2-Trichloroethane	<0.50		ug/L	5.000	5	0.50	524.2	Total/NA
1,1-Dichloroethylene	<0.50		ug/L	7.000	7	0.50	524.2	Total/NA
1,2,3-Trichloropropane	<0.50		ug/L	0.6000		0.50	524.2	Total/NA
1,2,4-Trichlorobenzene	<0.50		ug/L	70.00	70	0.50	524.2	Total/NA
1,2-Dichloroethane	<0.50		ug/L	5.000	5	0.50	524.2	Total/NA
1,2-Dichloropropane	<0.50		ug/L	5.000	5	0.50	524.2	Total/NA
Benzene	<0.50		ug/L	5.000	5	0.50	524.2	Total/NA
Carbon tetrachloride	<0.50		ug/L	5.000	5	0.50	524.2	Total/NA
Chlorobenzene	<0.50		ug/L	100.0	100	0.50	524.2	Total/NA
Dichloromethane	<0.50		ug/L	5.000	5	0.50	524.2	Total/NA
cis-1,2-Dichloroethylene	<0.50		ug/L	70.00	70	0.50	524.2	Total/NA
Ethylbenzene	<0.50		ug/L	700.0	700	0.50	524.2	Total/NA
o-Dichlorobenzene (1,2-DCB)	<0.50		ug/L	600.0	600	0.50	524.2	Total/NA
p-Dichlorobenzene (1,4-DCB)	<0.50		ug/L	75.000	75	0.50	524.2	Total/NA
Styrene	<0.50		ug/L	100.0	100	0.50	524.2	Total/NA
Tetrachloroethene (PCE)	<0.50		ug/L	5.000	5	0.50	524.2	Total/NA
Toluene	<0.50		ug/L	1000	1000	0.50	524.2	Total/NA
Xylenes, Total	<0.50		ug/L	10000	10000	0.50	524.2	Total/NA
trans-1,2-Dichloroethylene	<0.50		ug/L	100.0	100	0.50	524.2	Total/NA

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# Action Limit Summary

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

Job ID: 380-90110-1

**Client Sample ID: TRAVEL BLANK (Continued)**

**Lab Sample ID: 380-90110-2**

## Compliance Check

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

Analyte	Result	Qualifier	Unit	HI Org Limit	EPAMCL Limit	RL	Method	Prep Type
Trichloroethylene (TCE)	<0.50		ug/L	5.000	5	0.50	524.2	Total/NA
Vinyl Chloride (VC)	<0.30		ug/L	2.000	2	0.30	524.2	Total/NA
1,2,3-Trichloropropane	<0.020		ug/L	0.6000		0.020	504.1	Total/NA
1,2-Dibromo-3-Chloropropane	<0.010		ug/L		0.2	0.010	504.1	Total/NA
1,2-Dibromoethane	<0.010		ug/L		0.05	0.010	504.1	Total/NA

# Surrogate Summary

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

Job ID: 380-90110-1

## Method: 524.2 - Volatile Organic Compounds (GC/MS SIM)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		TOL (70-130)	BFB (70-130)	DCA (70-130)
380-90110-1	MOANALUA WELLS	99	101	100
380-90110-2	TRAVEL BLANK	98	99	100
LCS 380-84729/8	Lab Control Sample	99	100	100
LCSD 380-84729/9	Lab Control Sample Dup	100	100	100
MB 380-84729/11	Method Blank	101	99	99

**Surrogate Legend**  
TOL = Toluene-d8 (Surr)  
BFB = 4-Bromofluorobenzene (Surr)  
DCA = 1,2-Dichloroethane-d4 (Surr)

## Method: 524.2 - Volatile Organic Compounds (GC/MS SIM)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		TOL (50-150)	BFB (50-150)	DCA (50-150)
MRL 380-84729/10	Lab Control Sample	101	99	101

**Surrogate Legend**  
TOL = Toluene-d8 (Surr)  
BFB = 4-Bromofluorobenzene (Surr)  
DCA = 1,2-Dichloroethane-d4 (Surr)

## Method: 524.2 - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		DCA (70-130)	BFB (70-130)	TOL (70-130)
380-90110-1	MOANALUA WELLS	91	99	93
380-90110-1	MOANALUA WELLS	102	102	100
380-90110-2	TRAVEL BLANK	100	99	100
LCS 380-84757/5	Lab Control Sample	105	100	93
LCS 380-84787/11	Lab Control Sample	98	100	100
LCS 380-84873/5	Lab Control Sample	99	98	100
LCSD 380-84757/6	Lab Control Sample Dup	94	101	96
LCSD 380-84787/12	Lab Control Sample Dup	98	100	100
LCSD 380-84873/6	Lab Control Sample Dup	100	100	100
MB 380-84757/8	Method Blank	92	95	92
MB 380-84787/15	Method Blank	100	99	98
MB 380-84873/8	Method Blank	100	97	100
MRL 380-84757/3	Lab Control Sample	102	99	95
MRL 380-84757/4	Lab Control Sample	95	101	92
MRL 380-84787/13	Lab Control Sample	100	97	98
MRL 380-84787/14	Lab Control Sample	102	98	102
MRL 380-84873/3	Lab Control Sample	100	99	99
MRL 380-84873/4	Lab Control Sample	99	98	99

**Surrogate Legend**  
DCA = 1,2-Dichloroethane-d4 (Surr)  
BFB = 4-Bromofluorobenzene (Surr)

# Surrogate Summary

Client: City & County of Honolulu

Job ID: 380-90110-1

Project/Site: RED-HILL

TOL = Toluene-d8 (Surr)

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

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		2NMX (70-130)	PRY (70-130)	TPP (70-130)
380-90110-1	MOANALUA WELLS	100	97	112
380-90531-Q-1-A MS	Matrix Spike	101	99	114
380-90531-R-1-A MSD	Matrix Spike Duplicate	101	96	111
LCS 380-85242/23-A	Lab Control Sample	100	99	113
LCSD 380-85242/24-A	Lab Control Sample Dup	99	99	115
MB 380-85242/21-A	Method Blank	103	99	111
MRL 380-85242/22-A	Lab Control Sample	101	98	106

#### Surrogate Legend

2NMX = 2-Nitro-m-xylene

PRY = Perylene-d12

TPP = Triphenylphosphate

## Method: 504.1 - EDB, DBCP and 1,2,3-TCP (GC)

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DBPP1
		(60-140)
380-89795-A-1-A MS	Matrix Spike	100
380-90013-A-1-A DU	Duplicate	105
380-90110-1	MOANALUA WELLS	97
380-90110-2	TRAVEL BLANK	107
380-89972-BV-1-B MS	Matrix Spike	106
380-89972-BV-1-C DU	Duplicate	107
LCS 380-84936/29-A	Lab Control Sample	99
LCS 380-85113/29-A	Lab Control Sample	100
MBL 380-84936/4-A	Method Blank	102
MBL 380-85113/4-A	Method Blank	104
MRL 380-84936/2-A	Lab Control Sample	101
MRL 380-84936/3-A	Lab Control Sample	107
MRL 380-85113/2-A	Lab Control Sample	97
MRL 380-85113/3-A	Lab Control Sample	103

#### Surrogate Legend

DBPP = 1,2-Dibromopropane (Surr)

## Method: 505 - Organochlorine Pesticides/PCBs (GC)

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TCX1
		(70-130)
380-90110-1	MOANALUA WELLS	101
380-89972-BS-1-A MS	Matrix Spike	106
380-89972-BT-1-A MS	Matrix Spike	107
380-90254-EA-1-A MS	Matrix Spike	111
380-90254-EB-1-A MS	Matrix Spike	101
MB 380-85012/4-A	Method Blank	101
MRL 380-85012/2-A	Lab Control Sample	103

# Surrogate Summary

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

Job ID: 380-90110-1

**Method: 505 - Organochlorine Pesticides/PCBs (GC) (Continued)**

**Matrix: Water**

**Prep Type: Total/NA**

## Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TCX1 (70-130)
MRL 380-85012/3-A	Lab Control Sample	112

### Surrogate Legend

TCX = Tetrachloro-m-xylene

- 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: 380-90110-1

## Method: 524.2 - Volatile Organic Compounds (GC/MS)

**Lab Sample ID: MB 380-84757/8**  
**Matrix: Water**  
**Analysis Batch: 84757**

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.50		0.50	ug/L			04/06/24 12:24	1
1,1,1-Trichloroethane	<0.50		0.50	ug/L			04/06/24 12:24	1
1,1,2,2-Tetrachloroethane	<0.50		0.50	ug/L			04/06/24 12:24	1
1,1,2-Trichloroethane	<0.50		0.50	ug/L			04/06/24 12:24	1
1,1-Dichloroethane	<0.50		0.50	ug/L			04/06/24 12:24	1
1,1-Dichlorethylene	<0.50		0.50	ug/L			04/06/24 12:24	1
1,1-Dichloropropene	<0.50		0.50	ug/L			04/06/24 12:24	1
1,2,3-Trichlorobenzene	<0.50		0.50	ug/L			04/06/24 12:24	1
1,2,3-Trichloropropane	<0.50		0.50	ug/L			04/06/24 12:24	1
1,2,4-Trichlorobenzene	<0.50		0.50	ug/L			04/06/24 12:24	1
1,2,4-Trimethylbenzene	<0.50		0.50	ug/L			04/06/24 12:24	1
1,2-Dichloroethane	<0.50		0.50	ug/L			04/06/24 12:24	1
1,2-Dichloropropane	<0.50		0.50	ug/L			04/06/24 12:24	1
1,3,5-Trimethylbenzene	<0.50		0.50	ug/L			04/06/24 12:24	1
1,3-Dichloropropane	<0.50		0.50	ug/L			04/06/24 12:24	1
2,2-Dichloropropane	<0.50		0.50	ug/L			04/06/24 12:24	1
2-Butanone (MEK)	<5.0		5.0	ug/L			04/06/24 12:24	1
4-Methyl-2-pentanone (MIBK)	<5.0		5.0	ug/L			04/06/24 12:24	1
Acetone	<500		500	ug/L			04/06/24 12:24	1
Benzene	<0.50		0.50	ug/L			04/06/24 12:24	1
Bromobenzene	<0.50		0.50	ug/L			04/06/24 12:24	1
Bromochloromethane	<0.50		0.50	ug/L			04/06/24 12:24	1
Bromodichloromethane	<0.50		0.50	ug/L			04/06/24 12:24	1
Bromoform	<0.50		0.50	ug/L			04/06/24 12:24	1
Bromomethane (Methyl Bromide)	<0.50		0.50	ug/L			04/06/24 12:24	1
Carbon disulfide	<0.50		0.50	ug/L			04/06/24 12:24	1
Carbon tetrachloride	<0.50		0.50	ug/L			04/06/24 12:24	1
Chlorobenzene	<0.50		0.50	ug/L			04/06/24 12:24	1
Chlorodibromomethane	<0.50		0.50	ug/L			04/06/24 12:24	1
Chloroethane	<0.50		0.50	ug/L			04/06/24 12:24	1
Chloroform (Trichloromethane)	<0.50		0.50	ug/L			04/06/24 12:24	1
cis-1,2-Dichloroethylene	<0.50		0.50	ug/L			04/06/24 12:24	1
cis-1,3-Dichloropropene	<0.50		0.50	ug/L			04/06/24 12:24	1
Dibromomethane	<0.50		0.50	ug/L			04/06/24 12:24	1
Dichlorodifluoromethane	<0.50		0.50	ug/L			04/06/24 12:24	1
Dichloromethane	<0.50		0.50	ug/L			04/06/24 12:24	1
Ethylbenzene	<0.50		0.50	ug/L			04/06/24 12:24	1
Hexachlorobutadiene	<0.50		0.50	ug/L			04/06/24 12:24	1
Isopropylbenzene	<0.50		0.50	ug/L			04/06/24 12:24	1
m,p-Xylenes	<0.50		0.50	ug/L			04/06/24 12:24	1
m-Dichlorobenzene (1,3-DCB)	<0.50		0.50	ug/L			04/06/24 12:24	1
Methyl-tert-butyl Ether (MTBE)	<0.50		0.50	ug/L			04/06/24 12:24	1
Naphthalene	<0.50		0.50	ug/L			04/06/24 12:24	1
n-Butylbenzene	<0.50		0.50	ug/L			04/06/24 12:24	1
N-Propylbenzene	<0.50		0.50	ug/L			04/06/24 12:24	1
o-Chlorotoluene	<0.50		0.50	ug/L			04/06/24 12:24	1
o-Dichlorobenzene (1,2-DCB)	<0.50		0.50	ug/L			04/06/24 12:24	1
o-Xylene	<0.50		0.50	ug/L			04/06/24 12:24	1

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# QC Sample Results

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

Job ID: 380-90110-1

## Method: 524.2 - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 380-84757/8**  
**Matrix: Water**  
**Analysis Batch: 84757**

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	<0.50		0.50	ug/L			04/06/24 12:24	1
p-Dichlorobenzene (1,4-DCB)	<0.50		0.50	ug/L			04/06/24 12:24	1
p-Isopropyltoluene	<0.50		0.50	ug/L			04/06/24 12:24	1
sec-Butylbenzene	<0.50		0.50	ug/L			04/06/24 12:24	1
Styrene	<0.50		0.50	ug/L			04/06/24 12:24	1
Tert-amyl methyl ether	<3.0		3.0	ug/L			04/06/24 12:24	1
1,3-Dichloropropene, Total	<0.50		0.50	ug/L			04/06/24 12:24	1
Tert-butyl ethyl ether	<3.0		3.0	ug/L			04/06/24 12:24	1
tert-Butylbenzene	<0.50		0.50	ug/L			04/06/24 12:24	1
Tetrachloroethene (PCE)	<0.50		0.50	ug/L			04/06/24 12:24	1
Toluene	<0.50		0.50	ug/L			04/06/24 12:24	1
trans-1,2-Dichloroethylene	<0.50		0.50	ug/L			04/06/24 12:24	1
trans-1,3-Dichloropropene	<0.50		0.50	ug/L			04/06/24 12:24	1
Trichloroethylene (TCE)	<0.50		0.50	ug/L			04/06/24 12:24	1
Bromoethane	<0.50		0.50	ug/L			04/06/24 12:24	1
Trichlorofluoromethane (Freon 11)	<0.50		0.50	ug/L			04/06/24 12:24	1
Chloromethane (methyl chloride)	<0.50		0.50	ug/L			04/06/24 12:24	1
Trichlorotrifluoroethane	<0.50		0.50	ug/L			04/06/24 12:24	1
Diisopropyl ether	<3.0		3.0	ug/L			04/06/24 12:24	1
Vinyl Chloride (VC)	<0.30		0.30	ug/L			04/06/24 12:24	1
Xylenes, Total	<0.50		0.50	ug/L			04/06/24 12:24	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		04/06/24 12:24	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	92		70 - 130		04/06/24 12:24	1
4-Bromofluorobenzene (Surr)	95		70 - 130		04/06/24 12:24	1
Toluene-d8 (Surr)	92		70 - 130		04/06/24 12:24	1

**Lab Sample ID: LCS 380-84757/5**  
**Matrix: Water**  
**Analysis Batch: 84757**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1,2-Tetrachloroethane	5.00	3.78		ug/L		76	70 - 130
1,1,1-Trichloroethane	5.00	4.34		ug/L		87	70 - 130
1,1,2,2-Tetrachloroethane	5.00	4.21		ug/L		84	70 - 130
1,1,2-Trichloroethane	5.00	4.24		ug/L		85	70 - 130
1,1-Dichloroethane	5.00	4.10		ug/L		82	70 - 130
1,1-Dichlorethylene	5.00	4.07		ug/L		81	70 - 130
1,1-Dichloropropene	5.00	4.25		ug/L		85	70 - 130
1,2,3-Trichlorobenzene	5.00	4.06		ug/L		81	70 - 130
1,2,3-Trichloropropane	5.00	4.51		ug/L		90	70 - 130
1,2,4-Trichlorobenzene	5.00	4.35		ug/L		87	70 - 130
1,2,4-Trimethylbenzene	5.00	4.54		ug/L		91	70 - 130
1,2-Dichloroethane	5.00	4.26		ug/L		85	70 - 130
1,2-Dichloropropane	5.00	4.28		ug/L		86	70 - 130

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# QC Sample Results

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

Job ID: 380-90110-1

## Method: 524.2 - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 380-84757/5**  
**Matrix: Water**  
**Analysis Batch: 84757**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,3,5-Trimethylbenzene	5.00	4.60		ug/L		92	70 - 130
1,3-Dichloropropane	5.00	4.23		ug/L		85	70 - 130
2,2-Dichloropropane	5.00	3.69		ug/L		74	70 - 130
2-Butanone (MEK)	50.0	45.8		ug/L		92	70 - 130
4-Methyl-2-pentanone (MIBK)	50.0	39.0		ug/L		78	70 - 130
Acetone	50.0	42.3	J	ug/L		85	70 - 130
Benzene	5.00	4.88		ug/L		98	70 - 130
Bromobenzene	5.00	4.48		ug/L		90	70 - 130
Bromochloromethane	5.00	4.41		ug/L		88	70 - 130
Bromodichloromethane	5.00	3.83		ug/L		77	70 - 130
Bromoform	5.00	3.97		ug/L		79	70 - 130
Bromomethane (Methyl Bromide)	5.00	4.47		ug/L		89	70 - 130
Carbon disulfide	5.00	4.39		ug/L		88	70 - 130
Carbon tetrachloride	5.00	4.56		ug/L		91	70 - 130
Chlorobenzene	5.00	4.14		ug/L		83	70 - 130
Chlorodibromomethane	5.00	3.85		ug/L		77	70 - 130
cis-1,3-Dichloropropene	5.00	3.99		ug/L		80	70 - 130
Dichloromethane	5.00	4.08		ug/L		82	70 - 130
Ethylbenzene	5.00	4.17		ug/L		83	70 - 130
Hexachlorobutadiene	5.00	3.65		ug/L		73	70 - 130
Isopropylbenzene	5.00	4.75		ug/L		95	70 - 130
m,p-Xylenes	10.0	8.66		ug/L		87	70 - 130
m-Dichlorobenzene (1,3-DCB)	5.00	4.59		ug/L		92	70 - 130
Methyl-tert-butyl Ether (MTBE)	5.00	4.17		ug/L		83	70 - 130
Naphthalene	5.00	4.27		ug/L		85	70 - 130
n-Butylbenzene	5.00	4.84		ug/L		97	70 - 130
N-Propylbenzene	5.00	4.30		ug/L		86	70 - 130
o-Chlorotoluene	5.00	4.66		ug/L		93	70 - 130
o-Dichlorobenzene (1,2-DCB)	5.00	4.46		ug/L		89	70 - 130
o-Xylene	5.00	4.19		ug/L		84	70 - 130
p-Chlorotoluene	5.00	4.20		ug/L		84	70 - 130
p-Dichlorobenzene (1,4-DCB)	5.00	4.20		ug/L		84	70 - 130
p-Isopropyltoluene	5.00	4.64		ug/L		93	70 - 130
sec-Butylbenzene	5.00	4.67		ug/L		93	70 - 130
Styrene	5.00	4.28		ug/L		86	70 - 130
Tert-amyl methyl ether	5.00	4.05		ug/L		81	70 - 130
1,3-Dichloropropene, Total	10.0	7.53		ug/L		75	70 - 130
Tert-butyl ethyl ether	5.00	4.14		ug/L		83	70 - 130
tert-Butylbenzene	5.00	4.63		ug/L		93	70 - 130
Tetrachloroethene (PCE)	5.00	4.18		ug/L		84	70 - 130
Toluene	5.00	4.14		ug/L		83	70 - 130
trans-1,2-Dichloroethylene	5.00	4.24		ug/L		85	70 - 130
trans-1,3-Dichloropropene	5.00	3.54		ug/L		71	70 - 130
Trichloroethylene (TCE)	5.00	4.24		ug/L		85	70 - 130
Bromoethane	5.00	4.64		ug/L		93	70 - 130
Trichlorofluoromethane (Freon 11)	5.00	4.73		ug/L		95	70 - 130
Trichlorotrifluoroethane	5.00	4.23		ug/L		85	70 - 130
Diisopropyl ether	5.00	4.20		ug/L		84	70 - 130

Eurofins Eaton Analytical Pomona



# QC Sample Results

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

Job ID: 380-90110-1

## Method: 524.2 - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 380-84757/5**  
**Matrix: Water**  
**Analysis Batch: 84757**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Vinyl Chloride (VC)	5.00	4.47		ug/L		89	70 - 130
Xylenes, Total	15.0	12.8		ug/L		86	70 - 130

  

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	105		70 - 130
4-Bromofluorobenzene (Surr)	100		70 - 130
Toluene-d8 (Surr)	93		70 - 130

**Lab Sample ID: LCSD 380-84757/6**  
**Matrix: Water**  
**Analysis Batch: 84757**

**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
1,1,1,2-Tetrachloroethane	5.00	4.25		ug/L		85	70 - 130	12	20
1,1,1-Trichloroethane	5.00	4.48		ug/L		90	70 - 130	3	20
1,1,2,2-Tetrachloroethane	5.00	4.51		ug/L		90	70 - 130	7	20
1,1,2-Trichloroethane	5.00	4.59		ug/L		92	70 - 130	8	20
1,1-Dichloroethane	5.00	4.57		ug/L		91	70 - 130	11	20
1,1-Dichlorethylene	5.00	4.52		ug/L		90	70 - 130	11	20
1,1-Dichloropropene	5.00	4.46		ug/L		89	70 - 130	5	20
1,2,3-Trichlorobenzene	5.00	4.83		ug/L		97	70 - 130	17	20
1,2,3-Trichloropropane	5.00	4.77		ug/L		95	70 - 130	6	20
1,2,4-Trichlorobenzene	5.00	4.45		ug/L		89	70 - 130	2	20
1,2,4-Trimethylbenzene	5.00	4.99		ug/L		100	70 - 130	9	20
1,2-Dichloroethane	5.00	4.49		ug/L		90	70 - 130	5	20
1,2-Dichloropropane	5.00	4.66		ug/L		93	70 - 130	8	20
1,3,5-Trimethylbenzene	5.00	4.91		ug/L		98	70 - 130	6	20
1,3-Dichloropropane	5.00	4.68		ug/L		94	70 - 130	10	20
2,2-Dichloropropane	5.00	3.92		ug/L		78	70 - 130	6	20
2-Butanone (MEK)	50.0	45.7		ug/L		91	70 - 130	0	20
4-Methyl-2-pentanone (MIBK)	50.0	40.7		ug/L		81	70 - 130	4	20
Acetone	50.0	45.4	J	ug/L		91	70 - 130	7	20
Benzene	5.00	5.18		ug/L		104	70 - 130	6	20
Bromobenzene	5.00	4.88		ug/L		98	70 - 130	9	20
Bromochloromethane	5.00	4.75		ug/L		95	70 - 130	7	20
Bromodichloromethane	5.00	4.26		ug/L		85	70 - 130	10	20
Bromoform	5.00	4.18		ug/L		84	70 - 130	5	20
Bromomethane (Methyl Bromide)	5.00	4.98		ug/L		100	70 - 130	11	20
Carbon disulfide	5.00	4.91		ug/L		98	70 - 130	11	20
Carbon tetrachloride	5.00	4.44		ug/L		89	70 - 130	3	20
Chlorobenzene	5.00	4.68		ug/L		94	70 - 130	12	20
Chlorodibromomethane	5.00	4.09		ug/L		82	70 - 130	6	20
cis-1,3-Dichloropropene	5.00	4.71		ug/L		94	70 - 130	17	20
Dichloromethane	5.00	4.49		ug/L		90	70 - 130	10	20
Ethylbenzene	5.00	4.65		ug/L		93	70 - 130	11	20
Hexachlorobutadiene	5.00	4.04		ug/L		81	70 - 130	10	20
Isopropylbenzene	5.00	5.12		ug/L		102	70 - 130	7	20
m,p-Xylenes	10.0	9.53		ug/L		95	70 - 130	10	20

# QC Sample Results

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

Job ID: 380-90110-1

## Method: 524.2 - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCSD 380-84757/6**  
**Matrix: Water**  
**Analysis Batch: 84757**

**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
m-Dichlorobenzene (1,3-DCB)	5.00	4.80		ug/L		96	70 - 130	4	20
Methyl-tert-butyl Ether (MTBE)	5.00	4.53		ug/L		91	70 - 130	8	20
Naphthalene	5.00	4.74		ug/L		95	70 - 130	10	20
n-Butylbenzene	5.00	5.42		ug/L		108	70 - 130	11	20
N-Propylbenzene	5.00	4.77		ug/L		95	70 - 130	10	20
o-Chlorotoluene	5.00	4.94		ug/L		99	70 - 130	6	20
o-Dichlorobenzene (1,2-DCB)	5.00	4.93		ug/L		99	70 - 130	10	20
o-Xylene	5.00	4.63		ug/L		93	70 - 130	10	20
p-Chlorotoluene	5.00	4.77		ug/L		95	70 - 130	13	20
p-Dichlorobenzene (1,4-DCB)	5.00	4.74		ug/L		95	70 - 130	12	20
p-Isopropyltoluene	5.00	5.08		ug/L		102	70 - 130	9	20
sec-Butylbenzene	5.00	5.17		ug/L		103	70 - 130	10	20
Styrene	5.00	4.70		ug/L		94	70 - 130	9	20
Tert-amyl methyl ether	5.00	4.36		ug/L		87	70 - 130	7	20
1,3-Dichloropropene, Total	10.0	8.33		ug/L		83	70 - 130	10	20
Tert-butyl ethyl ether	5.00	4.44		ug/L		89	70 - 130	7	20
tert-Butylbenzene	5.00	5.00		ug/L		100	70 - 130	8	20
Tetrachloroethene (PCE)	5.00	4.60		ug/L		92	70 - 130	10	20
Toluene	5.00	4.61		ug/L		92	70 - 130	11	20
trans-1,2-Dichloroethylene	5.00	4.66		ug/L		93	70 - 130	9	20
trans-1,3-Dichloropropene	5.00	3.62		ug/L		72	70 - 130	2	20
Trichloroethylene (TCE)	5.00	4.49		ug/L		90	70 - 130	6	20
Bromoethane	5.00	5.22		ug/L		104	70 - 130	12	20
Trichlorofluoromethane (Freon 11)	5.00	5.18		ug/L		104	70 - 130	9	20
Trichlorotrifluoroethane	5.00	4.59		ug/L		92	70 - 130	8	20
Diisopropyl ether	5.00	4.61		ug/L		92	70 - 130	9	20
Vinyl Chloride (VC)	5.00	4.67		ug/L		93	70 - 130	4	20
Xylenes, Total	15.0	14.2		ug/L		94	70 - 130	10	20

Surrogate	LCSD %Recovery	LCSD Qualifier	LCSD Limits
1,2-Dichloroethane-d4 (Surr)	94		70 - 130
4-Bromofluorobenzene (Surr)	101		70 - 130
Toluene-d8 (Surr)	96		70 - 130

**Lab Sample ID: MRL 380-84757/3**  
**Matrix: Water**  
**Analysis Batch: 84757**

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
m,p-Xylenes	0.500	0.836	^3+	ug/L		167	50 - 150
Vinyl Chloride (VC)	0.250	0.390	^3+	ug/L		156	50 - 150

Surrogate	MRL %Recovery	MRL Qualifier	MRL Limits
1,2-Dichloroethane-d4 (Surr)	102		70 - 130
4-Bromofluorobenzene (Surr)	99		70 - 130
Toluene-d8 (Surr)	95		70 - 130

# QC Sample Results

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

Job ID: 380-90110-1

## Method: 524.2 - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MRL 380-84757/4**  
**Matrix: Water**  
**Analysis Batch: 84757**

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1,2-Tetrachloroethane	0.500	0.551		ug/L		110	50 - 150
1,1,1-Trichloroethane	0.500	0.555		ug/L		111	50 - 150
1,1,2,2-Tetrachloroethane	0.500	0.726		ug/L		145	50 - 150
1,1,2-Trichloroethane	0.500	0.611		ug/L		122	50 - 150
1,1-Dichloroethane	0.500	0.554		ug/L		111	50 - 150
1,1-Dichlorethylene	0.500	0.599		ug/L		120	50 - 150
1,1-Dichloropropene	0.500	0.599		ug/L		120	50 - 150
1,2,3-Trichlorobenzene	0.500	0.652		ug/L		130	50 - 150
1,2,3-Trichloropropane	0.500	0.744		ug/L		149	50 - 150
1,2,4-Trichlorobenzene	0.500	0.677		ug/L		135	50 - 150
1,2,4-Trimethylbenzene	0.500	0.658		ug/L		132	50 - 150
1,2-Dichloroethane	0.500	0.532		ug/L		106	50 - 150
1,2-Dichloropropane	0.500	0.573		ug/L		115	50 - 150
1,3,5-Trimethylbenzene	0.500	0.661		ug/L		132	50 - 150
1,3-Dichloropropane	0.500	0.611		ug/L		122	50 - 150
2,2-Dichloropropane	0.500	0.548		ug/L		110	50 - 150
2-Butanone (MEK)	5.00	7.12		ug/L		142	50 - 150
4-Methyl-2-pentanone (MIBK)	5.00	6.32		ug/L		126	50 - 150
Acetone	5.00	6.54	J	ug/L		131	50 - 150
Benzene	0.500	0.603		ug/L		121	50 - 150
Bromobenzene	0.500	0.654		ug/L		131	50 - 150
Bromochloromethane	0.500	0.563		ug/L		113	50 - 150
Bromodichloromethane	0.500	0.542		ug/L		108	50 - 150
Bromoform	0.500	0.537		ug/L		107	50 - 150
Bromomethane (Methyl Bromide)	0.500	0.592		ug/L		118	50 - 150
Carbon disulfide	0.500	0.594		ug/L		119	50 - 150
Carbon tetrachloride	0.500	0.501		ug/L		100	50 - 150
Chlorobenzene	0.500	0.616		ug/L		123	50 - 150
Chlorodibromomethane	0.500	0.507		ug/L		101	50 - 150
cis-1,3-Dichloropropene	0.500	0.470	J	ug/L		94	50 - 150
Dichloromethane	0.500	0.534		ug/L		107	50 - 150
Ethylbenzene	0.500	0.590		ug/L		118	50 - 150
Hexachlorobutadiene	0.500	0.541		ug/L		108	50 - 150
Isopropylbenzene	0.500	0.607		ug/L		121	50 - 150
m,p-Xylenes	1.00	1.18		ug/L		118	50 - 150
m-Dichlorobenzene (1,3-DCB)	0.500	0.736		ug/L		147	50 - 150
Methyl-tert-butyl Ether (MTBE)	0.500	0.505		ug/L		101	50 - 150
Naphthalene	0.500	0.716		ug/L		143	50 - 150
n-Butylbenzene	0.500	0.661		ug/L		132	50 - 150
N-Propylbenzene	0.500	0.603		ug/L		121	50 - 150
o-Chlorotoluene	0.500	0.690		ug/L		138	50 - 150
o-Dichlorobenzene (1,2-DCB)	0.500	0.735		ug/L		147	50 - 150
o-Xylene	0.500	0.570		ug/L		114	50 - 150
p-Chlorotoluene	0.500	0.640		ug/L		128	50 - 150
p-Dichlorobenzene (1,4-DCB)	0.500	0.610		ug/L		122	50 - 150
p-Isopropyltoluene	0.500	0.630		ug/L		126	50 - 150
sec-Butylbenzene	0.500	0.636		ug/L		127	50 - 150
Styrene	0.500	0.561		ug/L		112	50 - 150

# QC Sample Results

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

Job ID: 380-90110-1

## Method: 524.2 - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MRL 380-84757/4**  
**Matrix: Water**  
**Analysis Batch: 84757**

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Tert-amyl methyl ether	0.500	0.542	J	ug/L		108	50 - 150
1,3-Dichloropropene, Total	1.00	0.855		ug/L		86	50 - 150
Tert-butyl ethyl ether	0.500	0.558	J	ug/L		112	50 - 150
tert-Butylbenzene	0.500	0.662		ug/L		132	50 - 150
Tetrachloroethene (PCE)	0.500	0.535		ug/L		107	50 - 150
Toluene	0.500	0.602		ug/L		120	50 - 150
trans-1,2-Dichloroethylene	0.500	0.639		ug/L		128	50 - 150
trans-1,3-Dichloropropene	0.500	0.385	J	ug/L		77	50 - 150
Trichloroethylene (TCE)	0.500	0.575		ug/L		115	50 - 150
Bromoethane	0.500	0.627		ug/L		125	50 - 150
Trichlorofluoromethane (Freon 11)	0.500	0.553		ug/L		111	50 - 150
Trichlorotrifluoroethane	0.500	0.529		ug/L		106	50 - 150
Diisopropyl ether	0.500	0.607	J	ug/L		121	50 - 150
Vinyl Chloride (VC)	0.500	0.567		ug/L		113	50 - 150
Xylenes, Total	1.50	1.75		ug/L		116	50 - 150

Surrogate	MRL %Recovery	MRL Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	95		70 - 130
4-Bromofluorobenzene (Surr)	101		70 - 130
Toluene-d8 (Surr)	92		70 - 130

**Lab Sample ID: MB 380-84787/15**  
**Matrix: Water**  
**Analysis Batch: 84787**

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.50		0.50	ug/L			04/07/24 13:53	1
1,1,1-Trichloroethane	<0.50		0.50	ug/L			04/07/24 13:53	1
1,1,2,2-Tetrachloroethane	<0.50		0.50	ug/L			04/07/24 13:53	1
1,1,2-Trichloroethane	<0.50		0.50	ug/L			04/07/24 13:53	1
1,1-Dichloroethane	<0.50		0.50	ug/L			04/07/24 13:53	1
1,1-Dichloroethylene	<0.50		0.50	ug/L			04/07/24 13:53	1
1,1-Dichloropropene	<0.50		0.50	ug/L			04/07/24 13:53	1
1,2,3-Trichlorobenzene	<0.50		0.50	ug/L			04/07/24 13:53	1
1,2,3-Trichloropropane	<0.50		0.50	ug/L			04/07/24 13:53	1
1,2,4-Trichlorobenzene	<0.50		0.50	ug/L			04/07/24 13:53	1
1,2,4-Trimethylbenzene	<0.50		0.50	ug/L			04/07/24 13:53	1
1,2-Dichloroethane	<0.50		0.50	ug/L			04/07/24 13:53	1
1,2-Dichloropropane	<0.50		0.50	ug/L			04/07/24 13:53	1
1,3,5-Trimethylbenzene	<0.50		0.50	ug/L			04/07/24 13:53	1
1,3-Dichloropropane	<0.50		0.50	ug/L			04/07/24 13:53	1
2,2-Dichloropropane	<0.50		0.50	ug/L			04/07/24 13:53	1
2-Butanone (MEK)	<5.0		5.0	ug/L			04/07/24 13:53	1
4-Methyl-2-pentanone (MIBK)	<5.0		5.0	ug/L			04/07/24 13:53	1
Acetone	<500		500	ug/L			04/07/24 13:53	1
Benzene	<0.50		0.50	ug/L			04/07/24 13:53	1
Bromobenzene	<0.50		0.50	ug/L			04/07/24 13:53	1
Bromochloromethane	<0.50		0.50	ug/L			04/07/24 13:53	1

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# QC Sample Results

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

Job ID: 380-90110-1

## Method: 524.2 - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 380-84787/15**  
**Matrix: Water**  
**Analysis Batch: 84787**

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

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Bromodichloromethane	<0.50		0.50	ug/L			04/07/24 13:53	1
Bromoform	<0.50		0.50	ug/L			04/07/24 13:53	1
Bromomethane (Methyl Bromide)	<0.50		0.50	ug/L			04/07/24 13:53	1
Carbon disulfide	<0.50		0.50	ug/L			04/07/24 13:53	1
Carbon tetrachloride	<0.50		0.50	ug/L			04/07/24 13:53	1
Chlorobenzene	<0.50		0.50	ug/L			04/07/24 13:53	1
Chlorodibromomethane	<0.50		0.50	ug/L			04/07/24 13:53	1
Chloroethane	<0.50		0.50	ug/L			04/07/24 13:53	1
Chloroform (Trichloromethane)	<0.50		0.50	ug/L			04/07/24 13:53	1
cis-1,2-Dichloroethylene	<0.50		0.50	ug/L			04/07/24 13:53	1
cis-1,3-Dichloropropene	<0.50		0.50	ug/L			04/07/24 13:53	1
Dibromomethane	<0.50		0.50	ug/L			04/07/24 13:53	1
Dichlorodifluoromethane	<0.50		0.50	ug/L			04/07/24 13:53	1
Dichloromethane	<0.50		0.50	ug/L			04/07/24 13:53	1
Ethylbenzene	<0.50		0.50	ug/L			04/07/24 13:53	1
Hexachlorobutadiene	<0.50		0.50	ug/L			04/07/24 13:53	1
Isopropylbenzene	<0.50		0.50	ug/L			04/07/24 13:53	1
m,p-Xylenes	<0.50		0.50	ug/L			04/07/24 13:53	1
m-Dichlorobenzene (1,3-DCB)	<0.50		0.50	ug/L			04/07/24 13:53	1
Methyl-tert-butyl Ether (MTBE)	<0.50		0.50	ug/L			04/07/24 13:53	1
Naphthalene	<0.50		0.50	ug/L			04/07/24 13:53	1
n-Butylbenzene	<0.50		0.50	ug/L			04/07/24 13:53	1
N-Propylbenzene	<0.50		0.50	ug/L			04/07/24 13:53	1
o-Chlorotoluene	<0.50		0.50	ug/L			04/07/24 13:53	1
o-Dichlorobenzene (1,2-DCB)	<0.50		0.50	ug/L			04/07/24 13:53	1
o-Xylene	<0.50		0.50	ug/L			04/07/24 13:53	1
p-Chlorotoluene	<0.50		0.50	ug/L			04/07/24 13:53	1
p-Dichlorobenzene (1,4-DCB)	<0.50		0.50	ug/L			04/07/24 13:53	1
p-Isopropyltoluene	<0.50		0.50	ug/L			04/07/24 13:53	1
sec-Butylbenzene	<0.50		0.50	ug/L			04/07/24 13:53	1
Styrene	<0.50		0.50	ug/L			04/07/24 13:53	1
Tert-amyl methyl ether	<3.0		3.0	ug/L			04/07/24 13:53	1
1,3-Dichloropropene, Total	<0.50		0.50	ug/L			04/07/24 13:53	1
Tert-butyl ethyl ether	<3.0		3.0	ug/L			04/07/24 13:53	1
tert-Butylbenzene	<0.50		0.50	ug/L			04/07/24 13:53	1
Tetrachloroethene (PCE)	<0.50		0.50	ug/L			04/07/24 13:53	1
Toluene	<0.50		0.50	ug/L			04/07/24 13:53	1
trans-1,2-Dichloroethylene	<0.50		0.50	ug/L			04/07/24 13:53	1
trans-1,3-Dichloropropene	<0.50		0.50	ug/L			04/07/24 13:53	1
Trichloroethylene (TCE)	<0.50		0.50	ug/L			04/07/24 13:53	1
Bromoethane	<0.50		0.50	ug/L			04/07/24 13:53	1
Trichlorofluoromethane (Freon 11)	<0.50		0.50	ug/L			04/07/24 13:53	1
Chloromethane (methyl chloride)	<0.50		0.50	ug/L			04/07/24 13:53	1
Trichlorotrifluoroethane	<0.50		0.50	ug/L			04/07/24 13:53	1
Diisopropyl ether	<3.0		3.0	ug/L			04/07/24 13:53	1
Vinyl Chloride (VC)	<0.30		0.30	ug/L			04/07/24 13:53	1
Xylenes, Total	<0.50		0.50	ug/L			04/07/24 13:53	1

# QC Sample Results

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

Job ID: 380-90110-1

## Method: 524.2 - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 380-84787/15**  
**Matrix: Water**  
**Analysis Batch: 84787**

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

<i>Tentatively Identified Compound</i>	<i>Est. Result</i>	<i>Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>RT</i>	<i>CAS No.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
2,4-Dimethylamphetamine	0.756	T J N	ug/L		1.81	75659-61-9		04/07/24 13:53	1

<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
1,2-Dichloroethane-d4 (Surr)	100		70 - 130		04/07/24 13:53	1
4-Bromofluorobenzene (Surr)	99		70 - 130		04/07/24 13:53	1
Toluene-d8 (Surr)	98		70 - 130		04/07/24 13:53	1

**Lab Sample ID: LCS 380-84787/11**  
**Matrix: Water**  
**Analysis Batch: 84787**

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

<i>Analyte</i>	<i>Spike Added</i>	<i>LCS Result</i>	<i>LCS Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec Limits</i>
1,1,1,2-Tetrachloroethane	5.00	5.08		ug/L		102	70 - 130
1,1,1-Trichloroethane	5.00	4.96		ug/L		99	70 - 130
1,1,2,2-Tetrachloroethane	5.00	4.89		ug/L		98	70 - 130
1,1,2-Trichloroethane	5.00	4.76		ug/L		95	70 - 130
1,1-Dichloroethane	5.00	5.03		ug/L		101	70 - 130
1,1-Dichlorethylene	5.00	4.18		ug/L		84	70 - 130
1,1-Dichloropropene	5.00	4.64		ug/L		93	70 - 130
1,2,3-Trichlorobenzene	5.00	4.85		ug/L		97	70 - 130
1,2,3-Trichloropropane	5.00	4.97		ug/L		99	70 - 130
1,2,4-Trichlorobenzene	5.00	4.82		ug/L		96	70 - 130
1,2,4-Trimethylbenzene	5.00	4.81		ug/L		96	70 - 130
1,2-Dichloroethane	5.00	4.73		ug/L		95	70 - 130
1,2-Dichloropropane	5.00	4.85		ug/L		97	70 - 130
1,3,5-Trimethylbenzene	5.00	4.88		ug/L		98	70 - 130
1,3-Dichloropropane	5.00	4.79		ug/L		96	70 - 130
2,2-Dichloropropane	5.00	5.52		ug/L		110	70 - 130
2-Butanone (MEK)	50.0	50.7		ug/L		101	70 - 130
4-Methyl-2-pentanone (MIBK)	50.0	45.9		ug/L		92	70 - 130
Acetone	50.0	49.4	J	ug/L		99	70 - 130
Benzene	5.00	4.85		ug/L		97	70 - 130
Bromobenzene	5.00	4.95		ug/L		99	70 - 130
Bromochloromethane	5.00	4.78		ug/L		96	70 - 130
Bromodichloromethane	5.00	5.05		ug/L		101	70 - 130
Bromoform	5.00	4.93		ug/L		99	70 - 130
Bromomethane (Methyl Bromide)	5.00	4.97		ug/L		99	70 - 130
Carbon disulfide	5.00	5.63		ug/L		113	70 - 130
Carbon tetrachloride	5.00	5.12		ug/L		102	70 - 130
Chlorobenzene	5.00	4.99		ug/L		100	70 - 130
Chlorodibromomethane	5.00	5.18		ug/L		104	70 - 130
cis-1,3-Dichloropropene	5.00	4.98		ug/L		100	70 - 130
Dichloromethane	5.00	4.56		ug/L		91	70 - 130
Ethylbenzene	5.00	4.91		ug/L		98	70 - 130
Hexachlorobutadiene	5.00	4.88		ug/L		98	70 - 130
Isopropylbenzene	5.00	4.84		ug/L		97	70 - 130
m,p-Xylenes	10.0	9.94		ug/L		99	70 - 130
m-Dichlorobenzene (1,3-DCB)	5.00	5.06		ug/L		101	70 - 130

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# QC Sample Results

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

Job ID: 380-90110-1

## Method: 524.2 - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 380-84787/11**  
**Matrix: Water**  
**Analysis Batch: 84787**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Methyl-tert-butyl Ether (MTBE)	5.00	5.54		ug/L		111	70 - 130
Naphthalene	5.00	4.81		ug/L		96	70 - 130
n-Butylbenzene	5.00	4.97		ug/L		99	70 - 130
N-Propylbenzene	5.00	5.02		ug/L		100	70 - 130
o-Chlorotoluene	5.00	4.97		ug/L		99	70 - 130
o-Dichlorobenzene (1,2-DCB)	5.00	4.89		ug/L		98	70 - 130
o-Xylene	5.00	4.87		ug/L		97	70 - 130
p-Chlorotoluene	5.00	5.03		ug/L		101	70 - 130
p-Dichlorobenzene (1,4-DCB)	5.00	4.94		ug/L		99	70 - 130
p-Isopropyltoluene	5.00	4.85		ug/L		97	70 - 130
sec-Butylbenzene	5.00	4.93		ug/L		99	70 - 130
Styrene	5.00	5.13		ug/L		103	70 - 130
Tert-amyl methyl ether	5.00	4.89		ug/L		98	70 - 130
1,3-Dichloropropene, Total	10.0	9.95		ug/L		100	70 - 130
Tert-butyl ethyl ether	5.00	5.41		ug/L		108	70 - 130
tert-Butylbenzene	5.00	5.03		ug/L		101	70 - 130
Tetrachloroethene (PCE)	5.00	4.99		ug/L		100	70 - 130
Toluene	5.00	4.81		ug/L		96	70 - 130
trans-1,2-Dichloroethylene	5.00	5.21		ug/L		104	70 - 130
trans-1,3-Dichloropropene	5.00	4.97		ug/L		99	70 - 130
Trichloroethylene (TCE)	5.00	4.83		ug/L		97	70 - 130
Bromoethane	5.00	5.51		ug/L		110	70 - 130
Trichlorofluoromethane (Freon 11)	5.00	5.07		ug/L		101	70 - 130
Trichlorotrifluoroethane	5.00	4.41		ug/L		88	70 - 130
Diisopropyl ether	5.00	4.71		ug/L		94	70 - 130
Vinyl Chloride (VC)	5.00	4.52		ug/L		90	70 - 130
Xylenes, Total	15.0	14.8		ug/L		99	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	98		70 - 130
4-Bromofluorobenzene (Surr)	100		70 - 130
Toluene-d8 (Surr)	100		70 - 130

**Lab Sample ID: LCSD 380-84787/12**  
**Matrix: Water**  
**Analysis Batch: 84787**

**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
1,1,1,2-Tetrachloroethane	5.00	4.79		ug/L		96	70 - 130	6	20
1,1,1-Trichloroethane	5.00	4.71		ug/L		94	70 - 130	5	20
1,1,1,2-Tetrachloroethane	5.00	4.79		ug/L		96	70 - 130	2	20
1,1,2-Trichloroethane	5.00	4.64		ug/L		93	70 - 130	2	20
1,1-Dichloroethane	5.00	4.83		ug/L		97	70 - 130	4	20
1,1-Dichloroethylene	5.00	4.33		ug/L		87	70 - 130	4	20
1,1-Dichloropropene	5.00	4.42		ug/L		88	70 - 130	5	20
1,2,3-Trichlorobenzene	5.00	4.63		ug/L		93	70 - 130	5	20
1,2,3-Trichloropropane	5.00	4.64		ug/L		93	70 - 130	7	20
1,2,4-Trichlorobenzene	5.00	4.71		ug/L		94	70 - 130	2	20

Eurofins Eaton Analytical Pomona

# QC Sample Results

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

Job ID: 380-90110-1

## Method: 524.2 - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCSD 380-84787/12**  
**Matrix: Water**  
**Analysis Batch: 84787**

**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
1,2,4-Trimethylbenzene	5.00	4.66		ug/L		93	70 - 130	3	20
1,2-Dichloroethane	5.00	4.59		ug/L		92	70 - 130	3	20
1,2-Dichloropropane	5.00	4.58		ug/L		92	70 - 130	6	20
1,3,5-Trimethylbenzene	5.00	4.65		ug/L		93	70 - 130	5	20
1,3-Dichloropropane	5.00	4.68		ug/L		94	70 - 130	2	20
2,2-Dichloropropane	5.00	4.74		ug/L		95	70 - 130	15	20
2-Butanone (MEK)	50.0	41.1	*1	ug/L		82	70 - 130	21	20
4-Methyl-2-pentanone (MIBK)	50.0	45.7		ug/L		91	70 - 130	0	20
Acetone	50.0	44.4	J	ug/L		89	70 - 130	10	20
Benzene	5.00	4.61		ug/L		92	70 - 130	5	20
Bromobenzene	5.00	4.85		ug/L		97	70 - 130	2	20
Bromochloromethane	5.00	4.45		ug/L		89	70 - 130	7	20
Bromodichloromethane	5.00	4.75		ug/L		95	70 - 130	6	20
Bromoform	5.00	4.83		ug/L		97	70 - 130	2	20
Bromomethane (Methyl Bromide)	5.00	4.84		ug/L		97	70 - 130	3	20
Carbon disulfide	5.00	5.03		ug/L		101	70 - 130	11	20
Carbon tetrachloride	5.00	4.79		ug/L		96	70 - 130	7	20
Chlorobenzene	5.00	4.69		ug/L		94	70 - 130	6	20
Chlorodibromomethane	5.00	4.81		ug/L		96	70 - 130	7	20
cis-1,3-Dichloropropene	5.00	4.83		ug/L		97	70 - 130	3	20
Dichloromethane	5.00	4.50		ug/L		90	70 - 130	1	20
Ethylbenzene	5.00	4.68		ug/L		94	70 - 130	5	20
Hexachlorobutadiene	5.00	4.71		ug/L		94	70 - 130	4	20
Isopropylbenzene	5.00	4.64		ug/L		93	70 - 130	4	20
m,p-Xylenes	10.0	9.40		ug/L		94	70 - 130	6	20
m-Dichlorobenzene (1,3-DCB)	5.00	4.71		ug/L		94	70 - 130	7	20
Methyl-tert-butyl Ether (MTBE)	5.00	5.17		ug/L		103	70 - 130	7	20
Naphthalene	5.00	4.61		ug/L		92	70 - 130	4	20
n-Butylbenzene	5.00	4.85		ug/L		97	70 - 130	2	20
N-Propylbenzene	5.00	4.83		ug/L		97	70 - 130	4	20
o-Chlorotoluene	5.00	4.81		ug/L		96	70 - 130	3	20
o-Dichlorobenzene (1,2-DCB)	5.00	4.74		ug/L		95	70 - 130	3	20
o-Xylene	5.00	4.64		ug/L		93	70 - 130	5	20
p-Chlorotoluene	5.00	4.88		ug/L		98	70 - 130	3	20
p-Dichlorobenzene (1,4-DCB)	5.00	4.83		ug/L		97	70 - 130	2	20
p-Isopropyltoluene	5.00	4.52		ug/L		90	70 - 130	7	20
sec-Butylbenzene	5.00	4.69		ug/L		94	70 - 130	5	20
Styrene	5.00	4.88		ug/L		98	70 - 130	5	20
Tert-amyl methyl ether	5.00	4.73		ug/L		95	70 - 130	3	20
1,3-Dichloropropene, Total	10.0	9.58		ug/L		96	70 - 130	4	20
Tert-butyl ethyl ether	5.00	5.02		ug/L		100	70 - 130	8	20
tert-Butylbenzene	5.00	5.01		ug/L		100	70 - 130	0	20
Tetrachloroethene (PCE)	5.00	4.73		ug/L		95	70 - 130	5	20
Toluene	5.00	4.63		ug/L		93	70 - 130	4	20
trans-1,2-Dichloroethylene	5.00	4.85		ug/L		97	70 - 130	7	20
trans-1,3-Dichloropropene	5.00	4.75		ug/L		95	70 - 130	5	20
Trichloroethylene (TCE)	5.00	4.65		ug/L		93	70 - 130	4	20
Bromoethane	5.00	4.47	*1	ug/L		89	70 - 130	21	20



# QC Sample Results

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

Job ID: 380-90110-1

## Method: 524.2 - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCSD 380-84787/12**  
**Matrix: Water**  
**Analysis Batch: 84787**

**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
Trichlorofluoromethane (Freon 11)	5.00	4.75		ug/L		95	70 - 130	6	20
Trichlorotrifluoroethane	5.00	4.47		ug/L		89	70 - 130	1	20
Diisopropyl ether	5.00	3.70	*1	ug/L		74	70 - 130	24	20
Vinyl Chloride (VC)	5.00	4.58		ug/L		92	70 - 130	1	20
Xylenes, Total	15.0	14.0		ug/L		94	70 - 130	5	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	98		70 - 130
4-Bromofluorobenzene (Surr)	100		70 - 130
Toluene-d8 (Surr)	100		70 - 130

**Lab Sample ID: MRL 380-84787/13**  
**Matrix: Water**  
**Analysis Batch: 84787**

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
m,p-Xylenes	0.500	0.614		ug/L		123	50 - 150
Vinyl Chloride (VC)	0.250	0.326		ug/L		130	50 - 150

Surrogate	MRL %Recovery	MRL Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	100		70 - 130
4-Bromofluorobenzene (Surr)	97		70 - 130
Toluene-d8 (Surr)	98		70 - 130

**Lab Sample ID: MRL 380-84787/14**  
**Matrix: Water**  
**Analysis Batch: 84787**

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1,2-Tetrachloroethane	0.500	0.509		ug/L		102	50 - 150
1,1,1-Trichloroethane	0.500	0.545		ug/L		109	50 - 150
1,1,2,2-Tetrachloroethane	0.500	0.550		ug/L		110	50 - 150
1,1,2-Trichloroethane	0.500	0.528		ug/L		106	50 - 150
1,1-Dichloroethane	0.500	0.525		ug/L		105	50 - 150
1,1-Dichlorethylene	0.500	0.495	J	ug/L		99	50 - 150
1,1-Dichloropropene	0.500	0.535		ug/L		107	50 - 150
1,2,3-Trichlorobenzene	0.500	0.507		ug/L		101	50 - 150
1,2,3-Trichloropropane	0.500	0.559		ug/L		112	50 - 150
1,2,4-Trichlorobenzene	0.500	0.480	J	ug/L		96	50 - 150
1,2,4-Trimethylbenzene	0.500	0.523		ug/L		105	50 - 150
1,2-Dichloroethane	0.500	0.523		ug/L		105	50 - 150
1,2-Dichloropropane	0.500	0.547		ug/L		109	50 - 150
1,3,5-Trimethylbenzene	0.500	0.506		ug/L		101	50 - 150
1,3-Dichloropropane	0.500	0.516		ug/L		103	50 - 150
2,2-Dichloropropane	0.500	0.664		ug/L		133	50 - 150
2-Butanone (MEK)	5.00	5.54		ug/L		111	50 - 150
4-Methyl-2-pentanone (MIBK)	5.00	5.21		ug/L		104	50 - 150

# QC Sample Results

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

Job ID: 380-90110-1

## Method: 524.2 - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MRL 380-84787/14**  
**Matrix: Water**  
**Analysis Batch: 84787**

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Acetone	5.00	4.01	J	ug/L		80	50 - 150
Benzene	0.500	0.542		ug/L		108	50 - 150
Bromobenzene	0.500	0.507		ug/L		101	50 - 150
Bromochloromethane	0.500	0.501		ug/L		100	50 - 150
Bromodichloromethane	0.500	0.556		ug/L		111	50 - 150
Bromoform	0.500	0.577		ug/L		115	50 - 150
Bromomethane (Methyl Bromide)	0.500	0.543		ug/L		109	50 - 150
Carbon disulfide	0.500	0.680		ug/L		136	50 - 150
Carbon tetrachloride	0.500	0.555		ug/L		111	50 - 150
Chlorobenzene	0.500	0.551		ug/L		110	50 - 150
Chlorodibromomethane	0.500	0.564		ug/L		113	50 - 150
cis-1,3-Dichloropropene	0.500	0.509		ug/L		102	50 - 150
Dichloromethane	0.500	0.563		ug/L		113	50 - 150
Ethylbenzene	0.500	0.506		ug/L		101	50 - 150
Hexachlorobutadiene	0.500	0.515		ug/L		103	50 - 150
Isopropylbenzene	0.500	0.495	J	ug/L		99	50 - 150
m,p-Xylenes	1.00	1.02		ug/L		102	50 - 150
m-Dichlorobenzene (1,3-DCB)	0.500	0.535		ug/L		107	50 - 150
Methyl-tert-butyl Ether (MTBE)	0.500	0.562		ug/L		112	50 - 150
Naphthalene	0.500	0.476	J	ug/L		95	50 - 150
n-Butylbenzene	0.500	0.506		ug/L		101	50 - 150
N-Propylbenzene	0.500	0.524		ug/L		105	50 - 150
o-Chlorotoluene	0.500	0.510		ug/L		102	50 - 150
o-Dichlorobenzene (1,2-DCB)	0.500	0.542		ug/L		108	50 - 150
o-Xylene	0.500	0.508		ug/L		102	50 - 150
p-Chlorotoluene	0.500	0.537		ug/L		107	50 - 150
p-Dichlorobenzene (1,4-DCB)	0.500	0.531		ug/L		106	50 - 150
p-Isopropyltoluene	0.500	0.502		ug/L		100	50 - 150
sec-Butylbenzene	0.500	0.520		ug/L		104	50 - 150
Styrene	0.500	0.497	J	ug/L		99	50 - 150
Tert-amyl methyl ether	0.500	0.527	J	ug/L		105	50 - 150
1,3-Dichloropropene, Total	1.00	1.04		ug/L		104	50 - 150
Tert-butyl ethyl ether	0.500	0.566	J	ug/L		113	50 - 150
tert-Butylbenzene	0.500	0.543		ug/L		109	50 - 150
Tetrachloroethene (PCE)	0.500	0.526		ug/L		105	50 - 150
Toluene	0.500	0.539		ug/L		108	50 - 150
trans-1,2-Dichloroethylene	0.500	0.537		ug/L		107	50 - 150
trans-1,3-Dichloropropene	0.500	0.526		ug/L		105	50 - 150
Trichloroethylene (TCE)	0.500	0.534		ug/L		107	50 - 150
Bromoethane	0.500	0.563		ug/L		113	50 - 150
Trichlorofluoromethane (Freon 11)	0.500	0.489	J	ug/L		98	50 - 150
Trichlorotrifluoroethane	0.500	0.526		ug/L		105	50 - 150
Diisopropyl ether	0.500	0.576	J	ug/L		115	50 - 150
Vinyl Chloride (VC)	0.500	0.514		ug/L		103	50 - 150
Xylenes, Total	1.50	1.53		ug/L		102	50 - 150

# QC Sample Results

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

Job ID: 380-90110-1

## Method: 524.2 - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MRL 380-84787/14**  
**Matrix: Water**  
**Analysis Batch: 84787**

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

<i>Surrogate</i>	<i>%Recovery</i>	<i>MRL MRL Qualifier</i>	<i>Limits</i>
1,2-Dichloroethane-d4 (Surr)	102		70 - 130
4-Bromofluorobenzene (Surr)	98		70 - 130
Toluene-d8 (Surr)	102		70 - 130

**Lab Sample ID: MB 380-84873/8**  
**Matrix: Water**  
**Analysis Batch: 84873**

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

<i>Analyte</i>	<i>MB Result</i>	<i>MB Qualifier</i>	<i>RL</i>	<i>Unit</i>	<i>D</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
1,1,1,2-Tetrachloroethane	<0.50		0.50	ug/L			04/08/24 12:39	1
1,1,1-Trichloroethane	<0.50		0.50	ug/L			04/08/24 12:39	1
1,1,2,2-Tetrachloroethane	<0.50		0.50	ug/L			04/08/24 12:39	1
1,1,2-Trichloroethane	<0.50		0.50	ug/L			04/08/24 12:39	1
1,1-Dichloroethane	<0.50		0.50	ug/L			04/08/24 12:39	1
1,1-Dichloroethylene	<0.50		0.50	ug/L			04/08/24 12:39	1
1,1-Dichloropropene	<0.50		0.50	ug/L			04/08/24 12:39	1
1,2,3-Trichlorobenzene	<0.50		0.50	ug/L			04/08/24 12:39	1
1,2,3-Trichloropropane	<0.50		0.50	ug/L			04/08/24 12:39	1
1,2,4-Trichlorobenzene	<0.50		0.50	ug/L			04/08/24 12:39	1
1,2,4-Trimethylbenzene	<0.50		0.50	ug/L			04/08/24 12:39	1
1,2-Dichloroethane	<0.50		0.50	ug/L			04/08/24 12:39	1
1,2-Dichloropropane	<0.50		0.50	ug/L			04/08/24 12:39	1
1,3,5-Trimethylbenzene	<0.50		0.50	ug/L			04/08/24 12:39	1
1,3-Dichloropropane	<0.50		0.50	ug/L			04/08/24 12:39	1
2,2-Dichloropropane	<0.50		0.50	ug/L			04/08/24 12:39	1
2-Butanone (MEK)	<5.0		5.0	ug/L			04/08/24 12:39	1
4-Methyl-2-pentanone (MIBK)	<5.0		5.0	ug/L			04/08/24 12:39	1
Acetone	<500		500	ug/L			04/08/24 12:39	1
Benzene	<0.50		0.50	ug/L			04/08/24 12:39	1
Bromobenzene	<0.50		0.50	ug/L			04/08/24 12:39	1
Bromochloromethane	<0.50		0.50	ug/L			04/08/24 12:39	1
Bromodichloromethane	<0.50		0.50	ug/L			04/08/24 12:39	1
Bromoform	<0.50		0.50	ug/L			04/08/24 12:39	1
Bromomethane (Methyl Bromide)	<0.50		0.50	ug/L			04/08/24 12:39	1
Carbon disulfide	<0.50		0.50	ug/L			04/08/24 12:39	1
Carbon tetrachloride	<0.50		0.50	ug/L			04/08/24 12:39	1
Chlorobenzene	<0.50		0.50	ug/L			04/08/24 12:39	1
Chlorodibromomethane	<0.50		0.50	ug/L			04/08/24 12:39	1
Chloroethane	<0.50		0.50	ug/L			04/08/24 12:39	1
Chloroform (Trichloromethane)	<0.50		0.50	ug/L			04/08/24 12:39	1
cis-1,2-Dichloroethylene	<0.50		0.50	ug/L			04/08/24 12:39	1
cis-1,3-Dichloropropene	<0.50		0.50	ug/L			04/08/24 12:39	1
Dibromomethane	<0.50		0.50	ug/L			04/08/24 12:39	1
Dichlorodifluoromethane	<0.50		0.50	ug/L			04/08/24 12:39	1
Dichloromethane	<0.50		0.50	ug/L			04/08/24 12:39	1
Ethylbenzene	<0.50		0.50	ug/L			04/08/24 12:39	1
Hexachlorobutadiene	<0.50		0.50	ug/L			04/08/24 12:39	1
Isopropylbenzene	<0.50		0.50	ug/L			04/08/24 12:39	1

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# QC Sample Results

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

Job ID: 380-90110-1

## Method: 524.2 - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 380-84873/8**

**Matrix: Water**

**Analysis Batch: 84873**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
m,p-Xylenes	<0.50		0.50	ug/L			04/08/24 12:39	1
m-Dichlorobenzene (1,3-DCB)	<0.50		0.50	ug/L			04/08/24 12:39	1
Methyl-tert-butyl Ether (MTBE)	<0.50		0.50	ug/L			04/08/24 12:39	1
Naphthalene	<0.50		0.50	ug/L			04/08/24 12:39	1
n-Butylbenzene	<0.50		0.50	ug/L			04/08/24 12:39	1
N-Propylbenzene	<0.50		0.50	ug/L			04/08/24 12:39	1
o-Chlorotoluene	<0.50		0.50	ug/L			04/08/24 12:39	1
o-Dichlorobenzene (1,2-DCB)	<0.50		0.50	ug/L			04/08/24 12:39	1
o-Xylene	<0.50		0.50	ug/L			04/08/24 12:39	1
p-Chlorotoluene	<0.50		0.50	ug/L			04/08/24 12:39	1
p-Dichlorobenzene (1,4-DCB)	<0.50		0.50	ug/L			04/08/24 12:39	1
p-Isopropyltoluene	<0.50		0.50	ug/L			04/08/24 12:39	1
sec-Butylbenzene	<0.50		0.50	ug/L			04/08/24 12:39	1
Styrene	<0.50		0.50	ug/L			04/08/24 12:39	1
Tert-amyl methyl ether	<3.0		3.0	ug/L			04/08/24 12:39	1
1,3-Dichloropropene, Total	<0.50		0.50	ug/L			04/08/24 12:39	1
Tert-butyl ethyl ether	<3.0		3.0	ug/L			04/08/24 12:39	1
tert-Butylbenzene	<0.50		0.50	ug/L			04/08/24 12:39	1
Tetrachloroethene (PCE)	<0.50		0.50	ug/L			04/08/24 12:39	1
Toluene	<0.50		0.50	ug/L			04/08/24 12:39	1
trans-1,2-Dichloroethylene	<0.50		0.50	ug/L			04/08/24 12:39	1
trans-1,3-Dichloropropene	<0.50		0.50	ug/L			04/08/24 12:39	1
Trichloroethylene (TCE)	<0.50		0.50	ug/L			04/08/24 12:39	1
Bromoethane	<0.50		0.50	ug/L			04/08/24 12:39	1
Trichlorofluoromethane (Freon 11)	<0.50		0.50	ug/L			04/08/24 12:39	1
Chloromethane (methyl chloride)	<0.50		0.50	ug/L			04/08/24 12:39	1
Trichlorotrifluoroethane	<0.50		0.50	ug/L			04/08/24 12:39	1
Diisopropyl ether	<3.0		3.0	ug/L			04/08/24 12:39	1
Vinyl Chloride (VC)	<0.30		0.30	ug/L			04/08/24 12:39	1
Xylenes, Total	<0.50		0.50	ug/L			04/08/24 12:39	1

<i>Tentatively Identified Compound</i>	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
<i>Tentatively Identified Compound</i>	None		ug/L			N/A		04/08/24 12:39	1

<i>Surrogate</i>	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>1,2-Dichloroethane-d4 (Surr)</i>	100		70 - 130		04/08/24 12:39	1
<i>4-Bromofluorobenzene (Surr)</i>	97		70 - 130		04/08/24 12:39	1
<i>Toluene-d8 (Surr)</i>	100		70 - 130		04/08/24 12:39	1

**Lab Sample ID: LCS 380-84873/5**

**Matrix: Water**

**Analysis Batch: 84873**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1,2-Tetrachloroethane	5.00	4.65		ug/L		93	70 - 130
1,1,1-Trichloroethane	5.00	4.73		ug/L		95	70 - 130
1,1,2,2-Tetrachloroethane	5.00	4.65		ug/L		93	70 - 130
1,1,2-Trichloroethane	5.00	4.78		ug/L		96	70 - 130

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# QC Sample Results

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

Job ID: 380-90110-1

## Method: 524.2 - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 380-84873/5**  
**Matrix: Water**  
**Analysis Batch: 84873**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1-Dichloroethane	5.00	4.93		ug/L		99	70 - 130
1,1-Dichlorethylene	5.00	4.41		ug/L		88	70 - 130
1,1-Dichloropropene	5.00	4.54		ug/L		91	70 - 130
1,2,3-Trichlorobenzene	5.00	4.77		ug/L		95	70 - 130
1,2,3-Trichloropropane	5.00	4.93		ug/L		99	70 - 130
1,2,4-Trichlorobenzene	5.00	4.84		ug/L		97	70 - 130
1,2,4-Trimethylbenzene	5.00	4.78		ug/L		96	70 - 130
1,2-Dichloroethane	5.00	4.68		ug/L		94	70 - 130
1,2-Dichloropropane	5.00	4.66		ug/L		93	70 - 130
1,3,5-Trimethylbenzene	5.00	4.75		ug/L		95	70 - 130
1,3-Dichloropropane	5.00	4.77		ug/L		95	70 - 130
2,2-Dichloropropane	5.00	4.62		ug/L		92	70 - 130
2-Butanone (MEK)	50.0	42.4		ug/L		85	70 - 130
4-Methyl-2-pentanone (MIBK)	50.0	46.0		ug/L		92	70 - 130
Acetone	50.0	47.5	J	ug/L		95	70 - 130
Benzene	5.00	4.77		ug/L		95	70 - 130
Bromobenzene	5.00	4.97		ug/L		99	70 - 130
Bromochloromethane	5.00	4.68		ug/L		94	70 - 130
Bromodichloromethane	5.00	4.51		ug/L		90	70 - 130
Bromoform	5.00	4.52		ug/L		90	70 - 130
Bromomethane (Methyl Bromide)	5.00	5.01		ug/L		100	70 - 130
Carbon disulfide	5.00	4.92		ug/L		98	70 - 130
Carbon tetrachloride	5.00	4.56		ug/L		91	70 - 130
Chlorobenzene	5.00	4.81		ug/L		96	70 - 130
Chlorodibromomethane	5.00	4.33		ug/L		87	70 - 130
cis-1,3-Dichloropropene	5.00	4.76		ug/L		95	70 - 130
Dichloromethane	5.00	4.56		ug/L		91	70 - 130
Ethylbenzene	5.00	4.78		ug/L		96	70 - 130
Hexachlorobutadiene	5.00	4.74		ug/L		95	70 - 130
Isopropylbenzene	5.00	4.75		ug/L		95	70 - 130
m,p-Xylenes	10.0	9.68		ug/L		97	70 - 130
m-Dichlorobenzene (1,3-DCB)	5.00	4.94		ug/L		99	70 - 130
Methyl-tert-butyl Ether (MTBE)	5.00	4.50		ug/L		90	70 - 130
Naphthalene	5.00	4.69		ug/L		94	70 - 130
n-Butylbenzene	5.00	5.06		ug/L		101	70 - 130
N-Propylbenzene	5.00	5.01		ug/L		100	70 - 130
o-Chlorotoluene	5.00	4.91		ug/L		98	70 - 130
o-Dichlorobenzene (1,2-DCB)	5.00	4.91		ug/L		98	70 - 130
o-Xylene	5.00	4.74		ug/L		95	70 - 130
p-Chlorotoluene	5.00	5.03		ug/L		101	70 - 130
p-Dichlorobenzene (1,4-DCB)	5.00	4.95		ug/L		99	70 - 130
p-Isopropyltoluene	5.00	4.73		ug/L		95	70 - 130
sec-Butylbenzene	5.00	4.88		ug/L		98	70 - 130
Styrene	5.00	5.01		ug/L		100	70 - 130
Tert-amyl methyl ether	5.00	4.87		ug/L		97	70 - 130
1,3-Dichloropropene, Total	10.0	9.51		ug/L		95	70 - 130
Tert-butyl ethyl ether	5.00	5.01		ug/L		100	70 - 130
tert-Butylbenzene	5.00	4.91		ug/L		98	70 - 130
Tetrachloroethene (PCE)	5.00	4.83		ug/L		97	70 - 130

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# QC Sample Results

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

Job ID: 380-90110-1

## Method: 524.2 - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 380-84873/5**  
**Matrix: Water**  
**Analysis Batch: 84873**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Toluene	5.00	4.72		ug/L		94	70 - 130
trans-1,2-Dichloroethylene	5.00	4.71		ug/L		94	70 - 130
trans-1,3-Dichloropropene	5.00	4.75		ug/L		95	70 - 130
Trichloroethylene (TCE)	5.00	4.84		ug/L		97	70 - 130
Bromoethane	5.00	5.05		ug/L		101	70 - 130
Trichlorofluoromethane (Freon 11)	5.00	5.02		ug/L		100	70 - 130
Trichlorotrifluoroethane	5.00	4.53		ug/L		91	70 - 130
Diisopropyl ether	5.00	5.14		ug/L		103	70 - 130
Vinyl Chloride (VC)	5.00	4.63		ug/L		93	70 - 130
Xylenes, Total	15.0	14.4		ug/L		96	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	99		70 - 130
4-Bromofluorobenzene (Surr)	98		70 - 130
Toluene-d8 (Surr)	100		70 - 130

**Lab Sample ID: LCSD 380-84873/6**  
**Matrix: Water**  
**Analysis Batch: 84873**

**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
1,1,1,2-Tetrachloroethane	5.00	4.81		ug/L		96	70 - 130	3	20
1,1,1-Trichloroethane	5.00	4.92		ug/L		98	70 - 130	4	20
1,1,1,2,2-Tetrachloroethane	5.00	4.61		ug/L		92	70 - 130	1	20
1,1,2-Trichloroethane	5.00	4.93		ug/L		99	70 - 130	3	20
1,1-Dichloroethane	5.00	4.98		ug/L		100	70 - 130	1	20
1,1-Dichloroethylene	5.00	4.57		ug/L		91	70 - 130	4	20
1,1-Dichloropropene	5.00	4.80		ug/L		96	70 - 130	6	20
1,2,3-Trichlorobenzene	5.00	4.76		ug/L		95	70 - 130	0	20
1,2,3-Trichloropropane	5.00	4.62		ug/L		92	70 - 130	7	20
1,2,4-Trichlorobenzene	5.00	4.79		ug/L		96	70 - 130	1	20
1,2,4-Trimethylbenzene	5.00	4.90		ug/L		98	70 - 130	3	20
1,2-Dichloroethane	5.00	4.77		ug/L		95	70 - 130	2	20
1,2-Dichloropropane	5.00	4.81		ug/L		96	70 - 130	3	20
1,3,5-Trimethylbenzene	5.00	4.88		ug/L		98	70 - 130	3	20
1,3-Dichloropropane	5.00	4.91		ug/L		98	70 - 130	3	20
2,2-Dichloropropane	5.00	5.44		ug/L		109	70 - 130	16	20
2-Butanone (MEK)	50.0	49.6		ug/L		99	70 - 130	16	20
4-Methyl-2-pentanone (MIBK)	50.0	47.3		ug/L		95	70 - 130	3	20
Acetone	50.0	47.7	J	ug/L		95	70 - 130	1	20
Benzene	5.00	4.91		ug/L		98	70 - 130	3	20
Bromobenzene	5.00	4.92		ug/L		98	70 - 130	1	20
Bromochloromethane	5.00	4.80		ug/L		96	70 - 130	3	20
Bromodichloromethane	5.00	4.65		ug/L		93	70 - 130	3	20
Bromoform	5.00	4.45		ug/L		89	70 - 130	1	20
Bromomethane (Methyl Bromide)	5.00	5.17		ug/L		103	70 - 130	3	20
Carbon disulfide	5.00	5.33		ug/L		107	70 - 130	8	20
Carbon tetrachloride	5.00	4.80		ug/L		96	70 - 130	5	20

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# QC Sample Results

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

Job ID: 380-90110-1

## Method: 524.2 - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCSD 380-84873/6**  
**Matrix: Water**  
**Analysis Batch: 84873**

**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
Chlorobenzene	5.00	5.00		ug/L		100	70 - 130	4	20
Chlorodibromomethane	5.00	4.49		ug/L		90	70 - 130	4	20
cis-1,3-Dichloropropene	5.00	4.93		ug/L		99	70 - 130	4	20
Dichloromethane	5.00	4.73		ug/L		95	70 - 130	4	20
Ethylbenzene	5.00	4.94		ug/L		99	70 - 130	3	20
Hexachlorobutadiene	5.00	4.78		ug/L		96	70 - 130	1	20
Isopropylbenzene	5.00	4.88		ug/L		98	70 - 130	3	20
m,p-Xylenes	10.0	9.86		ug/L		99	70 - 130	2	20
m-Dichlorobenzene (1,3-DCB)	5.00	4.99		ug/L		100	70 - 130	1	20
Methyl-tert-butyl Ether (MTBE)	5.00	5.48		ug/L		110	70 - 130	20	20
Naphthalene	5.00	4.67		ug/L		93	70 - 130	1	20
n-Butylbenzene	5.00	5.20		ug/L		104	70 - 130	3	20
N-Propylbenzene	5.00	5.10		ug/L		102	70 - 130	2	20
o-Chlorotoluene	5.00	4.92		ug/L		98	70 - 130	0	20
o-Dichlorobenzene (1,2-DCB)	5.00	4.95		ug/L		99	70 - 130	1	20
o-Xylene	5.00	4.97		ug/L		99	70 - 130	5	20
p-Chlorotoluene	5.00	5.06		ug/L		101	70 - 130	1	20
p-Dichlorobenzene (1,4-DCB)	5.00	4.88		ug/L		98	70 - 130	1	20
p-Isopropyltoluene	5.00	4.80		ug/L		96	70 - 130	1	20
sec-Butylbenzene	5.00	4.96		ug/L		99	70 - 130	2	20
Styrene	5.00	5.17		ug/L		103	70 - 130	3	20
Tert-amyl methyl ether	5.00	4.92		ug/L		98	70 - 130	1	20
1,3-Dichloropropene, Total	10.0	9.75		ug/L		98	70 - 130	2	20
Tert-butyl ethyl ether	5.00	5.39		ug/L		108	70 - 130	7	20
tert-Butylbenzene	5.00	4.96		ug/L		99	70 - 130	1	20
Tetrachloroethene (PCE)	5.00	5.03		ug/L		101	70 - 130	4	20
Toluene	5.00	4.86		ug/L		97	70 - 130	3	20
trans-1,2-Dichloroethylene	5.00	5.20		ug/L		104	70 - 130	10	20
trans-1,3-Dichloropropene	5.00	4.82		ug/L		96	70 - 130	1	20
Trichloroethylene (TCE)	5.00	4.92		ug/L		98	70 - 130	2	20
Bromoethane	5.00	5.34		ug/L		107	70 - 130	6	20
Trichlorofluoromethane (Freon 11)	5.00	5.50		ug/L		110	70 - 130	9	20
Trichlorotrifluoroethane	5.00	4.81		ug/L		96	70 - 130	6	20
Diisopropyl ether	5.00	4.59		ug/L		92	70 - 130	11	20
Vinyl Chloride (VC)	5.00	4.95		ug/L		99	70 - 130	7	20
Xylenes, Total	15.0	14.8		ug/L		99	70 - 130	3	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	100		70 - 130
4-Bromofluorobenzene (Surr)	100		70 - 130
Toluene-d8 (Surr)	100		70 - 130

**Lab Sample ID: MRL 380-84873/3**  
**Matrix: Water**  
**Analysis Batch: 84873**

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
m,p-Xylenes	0.500	0.765	^3+	ug/L		153	50 - 150

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# QC Sample Results

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

Job ID: 380-90110-1

## Method: 524.2 - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MRL 380-84873/3**  
**Matrix: Water**  
**Analysis Batch: 84873**

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Vinyl Chloride (VC)	0.250	0.365		ug/L		146	50 - 150

Surrogate	MRL %Recovery	MRL Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	100		70 - 130
4-Bromofluorobenzene (Surr)	99		70 - 130
Toluene-d8 (Surr)	99		70 - 130

**Lab Sample ID: MRL 380-84873/4**  
**Matrix: Water**  
**Analysis Batch: 84873**

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1,2-Tetrachloroethane	0.500	0.605		ug/L		121	50 - 150
1,1,1-Trichloroethane	0.500	0.606		ug/L		121	50 - 150
1,1,2,2-Tetrachloroethane	0.500	0.581		ug/L		116	50 - 150
1,1,2-Trichloroethane	0.500	0.620		ug/L		124	50 - 150
1,1-Dichloroethane	0.500	0.624		ug/L		125	50 - 150
1,1-Dichlorethylene	0.500	0.681		ug/L		136	50 - 150
1,1-Dichloropropene	0.500	0.626		ug/L		125	50 - 150
1,2,3-Trichlorobenzene	0.500	0.534		ug/L		107	50 - 150
1,2,3-Trichloropropane	0.500	0.637		ug/L		127	50 - 150
1,2,4-Trichlorobenzene	0.500	0.543		ug/L		109	50 - 150
1,2,4-Trimethylbenzene	0.500	0.609		ug/L		122	50 - 150
1,2-Dichloroethane	0.500	0.636		ug/L		127	50 - 150
1,2-Dichloropropane	0.500	0.651		ug/L		130	50 - 150
1,3,5-Trimethylbenzene	0.500	0.600		ug/L		120	50 - 150
1,3-Dichloropropane	0.500	0.636		ug/L		127	50 - 150
2,2-Dichloropropane	0.500	0.670		ug/L		134	50 - 150
2-Butanone (MEK)	5.00	7.29		ug/L		146	50 - 150
4-Methyl-2-pentanone (MIBK)	5.00	6.09		ug/L		122	50 - 150
Acetone	5.00	6.23	J	ug/L		125	50 - 150
Benzene	0.500	0.630		ug/L		126	50 - 150
Bromobenzene	0.500	0.620		ug/L		124	50 - 150
Bromochloromethane	0.500	0.625		ug/L		125	50 - 150
Bromodichloromethane	0.500	0.587		ug/L		117	50 - 150
Bromoform	0.500	0.509		ug/L		102	50 - 150
Bromomethane (Methyl Bromide)	0.500	0.686		ug/L		137	50 - 150
Carbon disulfide	0.500	0.752		ug/L		150	50 - 150
Carbon tetrachloride	0.500	0.624		ug/L		125	50 - 150
Chlorobenzene	0.500	0.628		ug/L		126	50 - 150
Chlorodibromomethane	0.500	0.579		ug/L		116	50 - 150
cis-1,3-Dichloropropene	0.500	0.611		ug/L		122	50 - 150
Dichloromethane	0.500	0.592		ug/L		118	50 - 150
Ethylbenzene	0.500	0.613		ug/L		123	50 - 150
Hexachlorobutadiene	0.500	0.642		ug/L		128	50 - 150
Isopropylbenzene	0.500	0.615		ug/L		123	50 - 150
m,p-Xylenes	1.00	1.23		ug/L		123	50 - 150
m-Dichlorobenzene (1,3-DCB)	0.500	0.622		ug/L		124	50 - 150



# QC Sample Results

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

Job ID: 380-90110-1

## Method: 524.2 - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MRL 380-84873/4**  
**Matrix: Water**  
**Analysis Batch: 84873**

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Methyl-tert-butyl Ether (MTBE)	0.500	0.691		ug/L		138	50 - 150
Naphthalene	0.500	0.537		ug/L		107	50 - 150
n-Butylbenzene	0.500	0.608		ug/L		122	50 - 150
N-Propylbenzene	0.500	0.637		ug/L		127	50 - 150
o-Chlorotoluene	0.500	0.604		ug/L		121	50 - 150
o-Dichlorobenzene (1,2-DCB)	0.500	0.653		ug/L		131	50 - 150
o-Xylene	0.500	0.608		ug/L		122	50 - 150
p-Chlorotoluene	0.500	0.618		ug/L		124	50 - 150
p-Dichlorobenzene (1,4-DCB)	0.500	0.605		ug/L		121	50 - 150
p-Isopropyltoluene	0.500	0.590		ug/L		118	50 - 150
sec-Butylbenzene	0.500	0.620		ug/L		124	50 - 150
Styrene	0.500	0.576		ug/L		115	50 - 150
Tert-amyl methyl ether	0.500	0.643	J	ug/L		129	50 - 150
1,3-Dichloropropene, Total	1.00	1.23		ug/L		123	50 - 150
Tert-butyl ethyl ether	0.500	0.621	J	ug/L		124	50 - 150
tert-Butylbenzene	0.500	0.660		ug/L		132	50 - 150
Tetrachloroethene (PCE)	0.500	0.656		ug/L		131	50 - 150
Toluene	0.500	0.619		ug/L		124	50 - 150
trans-1,2-Dichloroethylene	0.500	0.730		ug/L		146	50 - 150
trans-1,3-Dichloropropene	0.500	0.622		ug/L		124	50 - 150
Trichloroethylene (TCE)	0.500	0.641		ug/L		128	50 - 150
Bromoethane	0.500	0.649		ug/L		130	50 - 150
Trichlorofluoromethane (Freon 11)	0.500	0.568		ug/L		114	50 - 150
Trichlorotrifluoroethane	0.500	0.651		ug/L		130	50 - 150
Diisopropyl ether	0.500	0.638	J	ug/L		128	50 - 150
Vinyl Chloride (VC)	0.500	0.619		ug/L		124	50 - 150
Xylenes, Total	1.50	1.84		ug/L		123	50 - 150

Surrogate	MRL %Recovery	MRL Qualifier	MRL Limits
1,2-Dichloroethane-d4 (Surr)	99		70 - 130
4-Bromofluorobenzene (Surr)	98		70 - 130
Toluene-d8 (Surr)	99		70 - 130

## Method: 524.2 - Volatile Organic Compounds (GC/MS SIM)

**Lab Sample ID: MB 380-84729/11**  
**Matrix: Water**  
**Analysis Batch: 84729**

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Tertiary Butyl Alcohol (TBA)	<2.0		2.0	ug/L			04/08/24 22:32	1

  

Surrogate	MB %Recovery	MB Qualifier	MB Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	101		70 - 130		04/08/24 22:32	1
4-Bromofluorobenzene (Surr)	99		70 - 130		04/08/24 22:32	1
1,2-Dichloroethane-d4 (Surr)	99		70 - 130		04/08/24 22:32	1

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# QC Sample Results

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

Job ID: 380-90110-1

## Method: 524.2 - Volatile Organic Compounds (GC/MS SIM) (Continued)

**Lab Sample ID: LCS 380-84729/8**  
**Matrix: Water**  
**Analysis Batch: 84729**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Tertiary Butyl Alcohol (TBA)	5.00	4.93		ug/L		99	70 - 130
<b>LCS LCS</b>							
Surrogate	%Recovery	Qualifier	Limits				
Toluene-d8 (Surr)	99		70 - 130				
4-Bromofluorobenzene (Surr)	100		70 - 130				
1,2-Dichloroethane-d4 (Surr)	100		70 - 130				

**Lab Sample ID: LCSD 380-84729/9**  
**Matrix: Water**  
**Analysis Batch: 84729**

**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
Tertiary Butyl Alcohol (TBA)	5.00	4.83		ug/L		97	70 - 130	2	20
<b>LCSD LCSD</b>									
Surrogate	%Recovery	Qualifier	Limits						
Toluene-d8 (Surr)	100		70 - 130						
4-Bromofluorobenzene (Surr)	100		70 - 130						
1,2-Dichloroethane-d4 (Surr)	100		70 - 130						

**Lab Sample ID: MRL 380-84729/10**  
**Matrix: Water**  
**Analysis Batch: 84729**

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Tertiary Butyl Alcohol (TBA)	2.00	1.87	J	ug/L		94	50 - 150
<b>MRL MRL</b>							
Surrogate	%Recovery	Qualifier	Limits				
Toluene-d8 (Surr)	101		50 - 150				
4-Bromofluorobenzene (Surr)	99		50 - 150				
1,2-Dichloroethane-d4 (Surr)	101		50 - 150				

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

**Lab Sample ID: MB 380-85242/21-A**  
**Matrix: Water**  
**Analysis Batch: 85490**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 85242**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
2,4'-DDD	<0.098		0.098	ug/L		04/11/24 07:02	04/11/24 16:20	1
2,4'-DDE	<0.098		0.098	ug/L		04/11/24 07:02	04/11/24 16:20	1
2,4'-DDT	<0.098		0.098	ug/L		04/11/24 07:02	04/11/24 16:20	1
2,4-Dinitrotoluene	<0.098		0.098	ug/L		04/11/24 07:02	04/11/24 16:20	1
2,6-Dinitrotoluene	<0.098		0.098	ug/L		04/11/24 07:02	04/11/24 16:20	1
4,4'-DDD	<0.098		0.098	ug/L		04/11/24 07:02	04/11/24 16:20	1
4,4'-DDE	<0.098		0.098	ug/L		04/11/24 07:02	04/11/24 16:20	1
4,4'-DDT	<0.098		0.098	ug/L		04/11/24 07:02	04/11/24 16:20	1
Acenaphthene	<0.098		0.098	ug/L		04/11/24 07:02	04/11/24 16:20	1
Acenaphthylene	<0.098		0.098	ug/L		04/11/24 07:02	04/11/24 16:20	1

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# QC Sample Results

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

Job ID: 380-90110-1

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

**Lab Sample ID: MB 380-85242/21-A**  
**Matrix: Water**  
**Analysis Batch: 85490**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 85242**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Acetochlor	<0.098		0.098	ug/L		04/11/24 07:02	04/11/24 16:20	1
Alachlor	<0.049		0.049	ug/L		04/11/24 07:02	04/11/24 16:20	1
alpha-BHC	<0.098		0.098	ug/L		04/11/24 07:02	04/11/24 16:20	1
alpha-Chlordane	<0.049		0.049	ug/L		04/11/24 07:02	04/11/24 16:20	1
Anthracene	<0.020		0.020	ug/L		04/11/24 07:02	04/11/24 16:20	1
Atrazine	<0.049		0.049	ug/L		04/11/24 07:02	04/11/24 16:20	1
Benz(a)anthracene	<0.049		0.049	ug/L		04/11/24 07:02	04/11/24 16:20	1
Benzo[a]pyrene	<0.020		0.020	ug/L		04/11/24 07:02	04/11/24 16:20	1
Benzo[b]fluoranthene	<0.020		0.020	ug/L		04/11/24 07:02	04/11/24 16:20	1
Benzo[g,h,i]perylene	<0.049		0.049	ug/L		04/11/24 07:02	04/11/24 16:20	1
Benzo[k]fluoranthene	<0.020		0.020	ug/L		04/11/24 07:02	04/11/24 16:20	1
beta-BHC	<0.098		0.098	ug/L		04/11/24 07:02	04/11/24 16:20	1
Bis(2-ethylhexyl) phthalate	<0.59		0.59	ug/L		04/11/24 07:02	04/11/24 16:20	1
Bromacil	<0.098	^+	0.098	ug/L		04/11/24 07:02	04/11/24 16:20	1
Butachlor	<0.049		0.049	ug/L		04/11/24 07:02	04/11/24 16:20	1
Butylbenzylphthalate	<0.49		0.49	ug/L		04/11/24 07:02	04/11/24 16:20	1
Chlorobenzilate	<0.098		0.098	ug/L		04/11/24 07:02	04/11/24 16:20	1
Chloroneb	<0.098		0.098	ug/L		04/11/24 07:02	04/11/24 16:20	1
Chlorothalonil (Draconil, Bravo)	<0.098		0.098	ug/L		04/11/24 07:02	04/11/24 16:20	1
Chlorpyrifos	<0.049		0.049	ug/L		04/11/24 07:02	04/11/24 16:20	1
Chrysene	<0.020		0.020	ug/L		04/11/24 07:02	04/11/24 16:20	1
delta-BHC	<0.098		0.098	ug/L		04/11/24 07:02	04/11/24 16:20	1
Di(2-ethylhexyl)adipate	<0.59		0.59	ug/L		04/11/24 07:02	04/11/24 16:20	1
Dibenz(a,h)anthracene	<0.049		0.049	ug/L		04/11/24 07:02	04/11/24 16:20	1
Diclorvos (DDVP)	<0.049		0.049	ug/L		04/11/24 07:02	04/11/24 16:20	1
Dieldrin	<0.20		0.20	ug/L		04/11/24 07:02	04/11/24 16:20	1
Diethylphthalate	<0.49		0.49	ug/L		04/11/24 07:02	04/11/24 16:20	1
Dimethylphthalate	<0.49		0.49	ug/L		04/11/24 07:02	04/11/24 16:20	1
Di-n-butyl phthalate	<0.98		0.98	ug/L		04/11/24 07:02	04/11/24 16:20	1
Di-n-octyl phthalate	<0.098		0.098	ug/L		04/11/24 07:02	04/11/24 16:20	1
Endosulfan I (Alpha)	<0.098		0.098	ug/L		04/11/24 07:02	04/11/24 16:20	1
Endosulfan II (Beta)	<0.098		0.098	ug/L		04/11/24 07:02	04/11/24 16:20	1
Endosulfan sulfate	<0.098		0.098	ug/L		04/11/24 07:02	04/11/24 16:20	1
Endrin	<0.098		0.098	ug/L		04/11/24 07:02	04/11/24 16:20	1
Endrin aldehyde	<0.098		0.098	ug/L		04/11/24 07:02	04/11/24 16:20	1
EPTC	<0.098		0.098	ug/L		04/11/24 07:02	04/11/24 16:20	1
Fluoranthene	<0.098		0.098	ug/L		04/11/24 07:02	04/11/24 16:20	1
Fluorene	<0.049		0.049	ug/L		04/11/24 07:02	04/11/24 16:20	1
gamma-BHC (Lindane)	<0.039		0.039	ug/L		04/11/24 07:02	04/11/24 16:20	1
gamma-Chlordane	<0.049		0.049	ug/L		04/11/24 07:02	04/11/24 16:20	1
Heptachlor	<0.039		0.039	ug/L		04/11/24 07:02	04/11/24 16:20	1
Heptachlor epoxide (isomer B)	<0.049		0.049	ug/L		04/11/24 07:02	04/11/24 16:20	1
Hexachlorobenzene	<0.049		0.049	ug/L		04/11/24 07:02	04/11/24 16:20	1
Hexachlorocyclopentadiene	<0.049		0.049	ug/L		04/11/24 07:02	04/11/24 16:20	1
Indeno[1,2,3-cd]pyrene	<0.049		0.049	ug/L		04/11/24 07:02	04/11/24 16:20	1
Isophorone	<0.49		0.49	ug/L		04/11/24 07:02	04/11/24 16:20	1
Malathion	<0.098		0.098	ug/L		04/11/24 07:02	04/11/24 16:20	1
Methoxychlor	<0.098		0.098	ug/L		04/11/24 07:02	04/11/24 16:20	1
Metolachlor	<0.049		0.049	ug/L		04/11/24 07:02	04/11/24 16:20	1

Eurofins Eaton Analytical Pomona

# QC Sample Results

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

Job ID: 380-90110-1

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

**Lab Sample ID: MB 380-85242/21-A**  
**Matrix: Water**  
**Analysis Batch: 85490**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 85242**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Molinate	<0.098		0.098	ug/L		04/11/24 07:02	04/11/24 16:20	1
Naphthalene	<0.29		0.29	ug/L		04/11/24 07:02	04/11/24 16:20	1
Parathion	<0.098		0.098	ug/L		04/11/24 07:02	04/11/24 16:20	1
Pendimethalin (Penoxaline)	<0.098		0.098	ug/L		04/11/24 07:02	04/11/24 16:20	1
Phenanthrene	<0.039		0.039	ug/L		04/11/24 07:02	04/11/24 16:20	1
Propachlor	<0.049		0.049	ug/L		04/11/24 07:02	04/11/24 16:20	1
Pyrene	<0.049		0.049	ug/L		04/11/24 07:02	04/11/24 16:20	1
Simazine	<0.049		0.049	ug/L		04/11/24 07:02	04/11/24 16:20	1
Terbacil	<0.098		0.098	ug/L		04/11/24 07:02	04/11/24 16:20	1
Terbuthylazine	<0.098		0.098	ug/L		04/11/24 07:02	04/11/24 16:20	1
Thiobencarb	<0.20		0.20	ug/L		04/11/24 07:02	04/11/24 16:20	1
Total Permethrin (mixed isomers)	<0.20		0.20	ug/L		04/11/24 07:02	04/11/24 16:20	1
trans-Nonachlor	<0.049		0.049	ug/L		04/11/24 07:02	04/11/24 16:20	1
Trifluralin	<0.098		0.098	ug/L		04/11/24 07:02	04/11/24 16:20	1
1-Methylnaphthalene	<0.098		0.098	ug/L		04/11/24 07:02	04/11/24 16:20	1
2-Methylnaphthalene	<0.098		0.098	ug/L		04/11/24 07:02	04/11/24 16:20	1

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
9-Octadecenamamide, (Z)-	1.97	T J N	ug/L		7.65	301-02-0	04/11/24 07:02	04/11/24 16:20	1
Unknown	1.05	T J	ug/L		10.96	N/A	04/11/24 07:02	04/11/24 16:20	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Nitro-m-xylene	103		70 - 130	04/11/24 07:02	04/11/24 16:20	1
Perylene-d12	99		70 - 130	04/11/24 07:02	04/11/24 16:20	1
Triphenylphosphate	111		70 - 130	04/11/24 07:02	04/11/24 16:20	1

**Lab Sample ID: LCS 380-85242/23-A**  
**Matrix: Water**  
**Analysis Batch: 85490**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 85242**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2,4'-DDD	1.95	2.05		ug/L		105	70 - 130
2,4'-DDE	1.95	2.23		ug/L		114	70 - 130
2,4'-DDT	1.95	2.34		ug/L		120	70 - 130
2,4-Dinitrotoluene	1.95	2.44		ug/L		125	70 - 130
2,6-Dinitrotoluene	1.95	2.33		ug/L		120	70 - 130
4,4'-DDD	1.95	2.08		ug/L		106	70 - 130
4,4'-DDE	1.95	2.01		ug/L		103	70 - 130
4,4'-DDT	1.95	2.41		ug/L		123	70 - 130
Acenaphthene	1.95	1.78		ug/L		91	70 - 130
Acenaphthylene	1.95	1.89		ug/L		97	70 - 130
Acetochlor	1.95	1.92		ug/L		98	70 - 130
Alachlor	1.95	2.12		ug/L		109	70 - 130
alpha-BHC	1.95	2.03		ug/L		104	70 - 130
alpha-Chlordane	1.95	1.78		ug/L		91	70 - 130
Anthracene	1.95	1.56		ug/L		80	70 - 130
Atrazine	1.95	2.13		ug/L		109	70 - 130
Benz(a)anthracene	1.95	2.03		ug/L		104	70 - 130

Eurofins Eaton Analytical Pomona

# QC Sample Results

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

Job ID: 380-90110-1

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

**Lab Sample ID: LCS 380-85242/23-A**  
**Matrix: Water**  
**Analysis Batch: 85490**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 85242**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzo[a]pyrene	1.95	1.89		ug/L		97	70 - 130
Benzo[b]fluoranthene	1.95	2.08		ug/L		107	70 - 130
Benzo[g,h,i]perylene	1.95	2.13		ug/L		109	70 - 130
Benzo[k]fluoranthene	1.95	2.21		ug/L		113	70 - 130
beta-BHC	1.95	2.12		ug/L		109	70 - 130
Bis(2-ethylhexyl) phthalate	1.95	1.72		ug/L		88	70 - 130
Bromacil	1.95	3.01	*+ ^+	ug/L		154	70 - 130
Butachlor	1.95	2.08		ug/L		107	70 - 130
Butylbenzylphthalate	1.95	2.20		ug/L		113	70 - 130
Chlorobenzilate	1.95	2.24		ug/L		115	70 - 130
Chloroneb	1.95	2.07		ug/L		106	70 - 130
Chlorothalonil (Draconil, Bravo)	1.95	2.05		ug/L		105	70 - 130
Chlorpyrifos	1.95	2.34		ug/L		120	70 - 130
Chrysene	1.95	2.11		ug/L		108	70 - 130
delta-BHC	1.95	2.04		ug/L		105	70 - 130
Di(2-ethylhexyl)adipate	1.95	2.14		ug/L		110	70 - 130
Dibenz(a,h)anthracene	1.95	2.11		ug/L		108	70 - 130
Diclorvos (DDVP)	1.95	2.21		ug/L		113	70 - 130
Dieldrin	1.95	2.13		ug/L		109	70 - 130
Diethylphthalate	1.95	1.92		ug/L		98	70 - 130
Dimethylphthalate	1.95	1.95		ug/L		100	70 - 130
Di-n-butyl phthalate	3.91	4.53		ug/L		116	70 - 130
Di-n-octyl phthalate	1.95	1.82		ug/L		93	70 - 130
Endosulfan I (Alpha)	1.95	2.12		ug/L		108	70 - 130
Endosulfan II (Beta)	1.95	2.18		ug/L		112	70 - 130
Endosulfan sulfate	1.95	2.27		ug/L		116	70 - 130
Endrin	1.95	2.36		ug/L		121	70 - 130
Endrin aldehyde	1.95	1.86		ug/L		95	60 - 130
EPTC	1.95	2.22		ug/L		113	70 - 130
Fluoranthene	1.95	2.26		ug/L		116	70 - 130
Fluorene	1.95	1.96		ug/L		100	70 - 130
gamma-BHC (Lindane)	1.95	2.09		ug/L		107	70 - 130
gamma-Chlordane	1.95	1.85		ug/L		95	70 - 130
Heptachlor	1.95	2.20		ug/L		113	70 - 130
Heptachlor epoxide (isomer B)	1.95	1.91		ug/L		98	70 - 130
Hexachlorobenzene	1.95	2.01		ug/L		103	70 - 130
Hexachlorocyclopentadiene	1.95	2.07		ug/L		106	70 - 130
Indeno[1,2,3-cd]pyrene	1.95	2.10		ug/L		108	70 - 130
Isophorone	1.95	1.82		ug/L		93	70 - 130
Malathion	1.95	2.10		ug/L		108	70 - 130
Methoxychlor	1.95	2.35		ug/L		120	70 - 130
Metolachlor	1.95	2.16		ug/L		110	70 - 130
Molinate	1.95	2.18		ug/L		112	70 - 130
Naphthalene	1.95	1.98		ug/L		101	70 - 130
Parathion	1.95	2.58	*+	ug/L		132	70 - 130
Pendimethalin (Penoxaline)	1.95	2.47		ug/L		127	70 - 130
Phenanthrene	1.95	1.88		ug/L		96	70 - 130
Propachlor	1.95	2.11		ug/L		108	70 - 130
Pyrene	1.95	2.27		ug/L		116	70 - 130

Eurofins Eaton Analytical Pomona

# QC Sample Results

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

Job ID: 380-90110-1

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

**Lab Sample ID: LCS 380-85242/23-A**  
**Matrix: Water**  
**Analysis Batch: 85490**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 85242**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Simazine	1.95	2.18		ug/L		112	70 - 130
Terbacil	1.95	2.20		ug/L		113	70 - 130
Terbutylazine	1.95	2.08		ug/L		107	70 - 130
Thiobencarb	1.95	1.99		ug/L		102	70 - 130
trans-Nonachlor	1.95	2.05		ug/L		105	70 - 130
Trifluralin	1.95	2.13		ug/L		109	70 - 130
1-Methylnaphthalene	1.95	2.03		ug/L		104	70 - 130
2-Methylnaphthalene	1.95	2.08		ug/L		106	70 - 130

  

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Nitro-m-xylene	100		70 - 130
Perylene-d12	99		70 - 130
Triphenylphosphate	113		70 - 130

**Lab Sample ID: LCSD 380-85242/24-A**  
**Matrix: Water**  
**Analysis Batch: 85490**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 85242**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
2,4'-DDD	1.96	2.12		ug/L		108	70 - 130	3	20
2,4'-DDE	1.96	2.23		ug/L		114	70 - 130	0	20
2,4'-DDT	1.96	2.28		ug/L		117	70 - 130	3	20
2,4-Dinitrotoluene	1.96	2.47		ug/L		126	70 - 130	1	20
2,6-Dinitrotoluene	1.96	2.40		ug/L		123	70 - 130	3	20
4,4'-DDD	1.96	2.11		ug/L		108	70 - 130	2	20
4,4'-DDE	1.96	1.94		ug/L		99	70 - 130	3	20
4,4'-DDT	1.96	2.34		ug/L		120	70 - 130	3	20
Acenaphthene	1.96	1.81		ug/L		93	70 - 130	2	20
Acenaphthylene	1.96	1.90		ug/L		97	70 - 130	1	20
Acetochlor	1.96	2.01		ug/L		103	70 - 130	5	20
Alachlor	1.96	2.16		ug/L		110	70 - 130	2	20
alpha-BHC	1.96	2.16		ug/L		111	70 - 130	7	20
alpha-Chlordane	1.96	1.88		ug/L		96	70 - 130	6	20
Anthracene	1.96	1.55		ug/L		80	70 - 130	0	20
Atrazine	1.96	2.15		ug/L		110	70 - 130	1	20
Benz(a)anthracene	1.96	2.03		ug/L		104	70 - 130	0	20
Benzo[a]pyrene	1.96	1.85		ug/L		95	70 - 130	2	20
Benzo[b]fluoranthene	1.96	2.05		ug/L		105	70 - 130	2	20
Benzo[g,h,i]perylene	1.96	2.10		ug/L		107	70 - 130	1	20
Benzo[k]fluoranthene	1.96	2.18		ug/L		111	70 - 130	1	20
beta-BHC	1.96	2.19		ug/L		112	70 - 130	3	20
Bis(2-ethylhexyl) phthalate	1.96	1.65		ug/L		84	70 - 130	4	20
Bromacil	1.96	3.17	*+ ^+	ug/L		162	70 - 130	5	20
Butachlor	1.96	2.20		ug/L		113	70 - 130	6	20
Butylbenzylphthalate	1.96	2.31		ug/L		118	70 - 130	5	20
Chlorobenzilate	1.96	2.31		ug/L		118	70 - 130	3	20
Chloroneb	1.96	2.12		ug/L		108	70 - 130	3	20
Chlorothalonil (Draconil, Bravo)	1.96	2.16		ug/L		111	70 - 130	5	20

# QC Sample Results

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

Job ID: 380-90110-1

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

**Lab Sample ID: LCSD 380-85242/24-A**  
**Matrix: Water**  
**Analysis Batch: 85490**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 85242**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	RPD Limit
							Limits	RPD		
Chlorpyrifos	1.96	2.45		ug/L		125	70 - 130	5	20	
Chrysene	1.96	2.13		ug/L		109	70 - 130	1	20	
delta-BHC	1.96	2.13		ug/L		109	70 - 130	4	20	
Di(2-ethylhexyl)adipate	1.96	2.03		ug/L		104	70 - 130	5	20	
Dibenz(a,h)anthracene	1.96	2.03		ug/L		104	70 - 130	4	20	
Diclorvos (DDVP)	1.96	2.28		ug/L		117	70 - 130	3	20	
Dieldrin	1.96	2.24		ug/L		115	70 - 130	5	20	
Diethylphthalate	1.96	1.98		ug/L		101	70 - 130	3	20	
Dimethylphthalate	1.96	2.02		ug/L		103	70 - 130	4	20	
Di-n-butyl phthalate	3.91	4.78		ug/L		122	70 - 130	5	20	
Di-n-octyl phthalate	1.96	1.73		ug/L		88	70 - 130	5	20	
Endosulfan I (Alpha)	1.96	2.13		ug/L		109	70 - 130	1	20	
Endosulfan II (Beta)	1.96	2.35		ug/L		120	70 - 130	7	20	
Endosulfan sulfate	1.96	2.42		ug/L		124	70 - 130	7	20	
Endrin	1.96	2.48		ug/L		127	70 - 130	5	20	
Endrin aldehyde	1.96	1.82		ug/L		93	60 - 130	2	20	
EPTC	1.96	2.25		ug/L		115	70 - 130	2	20	
Fluoranthene	1.96	2.32		ug/L		119	70 - 130	3	20	
Fluorene	1.96	2.01		ug/L		103	70 - 130	3	20	
gamma-BHC (Lindane)	1.96	2.18		ug/L		111	70 - 130	4	20	
gamma-Chlordane	1.96	1.93		ug/L		99	70 - 130	4	20	
Heptachlor	1.96	2.32		ug/L		119	70 - 130	5	20	
Heptachlor epoxide (isomer B)	1.96	1.96		ug/L		100	70 - 130	3	20	
Hexachlorobenzene	1.96	2.03		ug/L		104	70 - 130	1	20	
Hexachlorocyclopentadiene	1.96	2.12		ug/L		108	70 - 130	2	20	
Indeno[1,2,3-cd]pyrene	1.96	2.04		ug/L		105	70 - 130	3	20	
Isophorone	1.96	1.86		ug/L		95	70 - 130	3	20	
Malathion	1.96	2.24		ug/L		115	70 - 130	6	20	
Methoxychlor	1.96	2.51		ug/L		128	70 - 130	7	20	
Metolachlor	1.96	2.27		ug/L		116	70 - 130	5	20	
Molinate	1.96	2.24		ug/L		115	70 - 130	3	20	
Naphthalene	1.96	2.01		ug/L		103	70 - 130	1	20	
Parathion	1.96	2.71	*+	ug/L		139	70 - 130	5	20	
Pendimethalin (Penoxaline)	1.96	2.57	*+	ug/L		131	70 - 130	4	20	
Phenanthrene	1.96	1.92		ug/L		98	70 - 130	2	20	
Propachlor	1.96	2.17		ug/L		111	70 - 130	3	20	
Pyrene	1.96	2.33		ug/L		119	70 - 130	2	20	
Simazine	1.96	2.22		ug/L		113	70 - 130	2	20	
Terbacil	1.96	2.23		ug/L		114	70 - 130	1	20	
Terbutylazine	1.96	2.21		ug/L		113	70 - 130	6	20	
Thiobencarb	1.96	2.02		ug/L		104	70 - 130	2	20	
trans-Nonachlor	1.96	2.14		ug/L		110	70 - 130	4	20	
Trifluralin	1.96	2.23		ug/L		114	70 - 130	5	20	
1-Methylnaphthalene	1.96	2.08		ug/L		106	70 - 130	2	20	
2-Methylnaphthalene	1.96	2.15		ug/L		110	70 - 130	3	20	

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
2-Nitro-m-xylene	99		70 - 130

# QC Sample Results

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

Job ID: 380-90110-1

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

**Lab Sample ID: LCSD 380-85242/24-A**  
**Matrix: Water**  
**Analysis Batch: 85490**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 85242**

Surrogate	LCSD LCSD		Limits
	%Recovery	Qualifier	
Perylene-d12	99		70 - 130
Triphenylphosphate	115		70 - 130

**Lab Sample ID: MRL 380-85242/22-A**  
**Matrix: Water**  
**Analysis Batch: 85490**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 85242**

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
2,4'-DDD	0.0974	0.118		ug/L		121	50 - 150
2,4'-DDE	0.0974	0.110		ug/L		113	50 - 150
2,4'-DDT	0.0974	0.130		ug/L		133	50 - 150
2,4-Dinitrotoluene	0.0974	0.112		ug/L		115	50 - 150
2,6-Dinitrotoluene	0.0974	0.115		ug/L		118	50 - 150
4,4'-DDD	0.0974	0.112		ug/L		115	50 - 150
4,4'-DDE	0.0974	0.0854	J	ug/L		88	50 - 150
4,4'-DDT	0.0974	0.156	^3+	ug/L		160	50 - 150
Acenaphthene	0.0974	0.0965	J	ug/L		99	50 - 150
Acenaphthylene	0.0974	0.100		ug/L		103	50 - 150
Acetochlor	0.0487	0.0505	J	ug/L		104	50 - 150
Alachlor	0.0487	0.0414	J	ug/L		85	50 - 150
alpha-BHC	0.0974	0.106		ug/L		109	50 - 150
alpha-Chlordane	0.0243	<0.028		ug/L		96	50 - 150
Anthracene	0.0195	<0.019		ug/L		97	50 - 150
Atrazine	0.0487	0.0502		ug/L		103	50 - 150
Benz(a)anthracene	0.0487	0.0617		ug/L		127	50 - 150
Benzo[a]pyrene	0.0195	0.0181	J	ug/L		93	50 - 150
Benzo[b]fluoranthene	0.0195	0.0206		ug/L		106	50 - 150
Benzo[g,h,i]perylene	0.0487	0.0458	J	ug/L		94	50 - 150
Benzo[k]fluoranthene	0.0195	0.0204		ug/L		105	50 - 150
beta-BHC	0.0974	0.108		ug/L		111	50 - 150
Bis(2-ethylhexyl) phthalate	0.584	0.638		ug/L		109	50 - 150
Bromacil	0.0974	0.114	^+	ug/L		117	50 - 150
Butachlor	0.0487	0.0541		ug/L		111	50 - 150
Butylbenzylphthalate	0.146	0.175	J	ug/L		120	50 - 150
Chlorobenzilate	0.0974	0.119		ug/L		122	50 - 150
Chloroneb	0.0974	0.101		ug/L		104	50 - 150
Chlorothalonil (Draconil, Bravo)	0.0974	0.112		ug/L		115	50 - 150
Chlorpyrifos	0.0487	0.0465	J	ug/L		96	50 - 150
Chrysene	0.0195	0.0294	^3+	ug/L		151	50 - 150
delta-BHC	0.0974	0.113		ug/L		116	50 - 150
Di(2-ethylhexyl)adipate	0.292	0.372	J	ug/L		127	50 - 150
Dibenz(a,h)anthracene	0.0487	0.0442	J	ug/L		91	50 - 150
Diclorvos (DDVP)	0.0487	0.0726		ug/L		149	50 - 150
Dieldrin	0.0974	0.0980	J	ug/L		101	50 - 150
Diethylphthalate	0.146	0.169	J	ug/L		116	50 - 150
Dimethylphthalate	0.292	0.303	J	ug/L		104	50 - 150
Di-n-butyl phthalate	0.292	0.364	J	ug/L		125	49 - 243
Di-n-octyl phthalate	0.0974	0.0826	J	ug/L		85	50 - 150



# QC Sample Results

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

Job ID: 380-90110-1

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

**Lab Sample ID: MRL 380-85242/22-A**  
**Matrix: Water**  
**Analysis Batch: 85490**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 85242**

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Endosulfan I (Alpha)	0.0974	0.0907	J	ug/L		93	50 - 150
Endosulfan II (Beta)	0.0974	0.121		ug/L		125	50 - 150
Endosulfan sulfate	0.0974	0.106		ug/L		109	50 - 150
Endrin	0.0974	0.120		ug/L		123	50 - 150
Endrin aldehyde	0.0974	0.119		ug/L		122	50 - 150
EPTC	0.0974	0.106		ug/L		109	50 - 150
Fluoranthene	0.0487	0.0453	J	ug/L		93	50 - 150
Fluorene	0.0487	0.0497		ug/L		102	50 - 150
gamma-BHC (Lindane)	0.0389	0.0444		ug/L		114	50 - 150
gamma-Chlordane	0.0243	0.0224	J	ug/L		92	50 - 150
Heptachlor	0.0389	0.0504		ug/L		129	50 - 150
Heptachlor epoxide (isomer B)	0.0487	0.0617		ug/L		127	50 - 150
Hexachlorobenzene	0.0487	0.0468	J	ug/L		96	50 - 150
Hexachlorocyclopentadiene	0.0487	0.0649		ug/L		133	50 - 150
Indeno[1,2,3-cd]pyrene	0.0487	0.0448	J	ug/L		92	50 - 150
Isophorone	0.0974	0.110	J	ug/L		113	50 - 150
Malathion	0.0974	0.110		ug/L		113	50 - 150
Methoxychlor	0.0974	0.140		ug/L		143	50 - 150
Metolachlor	0.0487	0.0603		ug/L		124	50 - 150
Molinate	0.0974	0.108		ug/L		111	50 - 150
Naphthalene	0.0974	0.118	J	ug/L		121	50 - 150
Parathion	0.0974	0.120		ug/L		123	50 - 150
Pendimethalin (Penoxaline)	0.0974	0.138		ug/L		141	50 - 150
Phenanthrene	0.0195	0.0200	J	ug/L		103	50 - 150
Propachlor	0.0487	0.0515		ug/L		106	50 - 150
Pyrene	0.0487	0.0431	J	ug/L		89	50 - 150
Simazine	0.0487	0.0554		ug/L		114	50 - 150
Terbacil	0.0974	0.144		ug/L		148	50 - 150
Terbutylazine	0.0974	0.103		ug/L		105	50 - 150
Thiobencarb	0.0974	0.121	J	ug/L		125	50 - 150
trans-Nonachlor	0.0243	<0.025		ug/L		92	50 - 150
Trifluralin	0.0974	0.113		ug/L		116	50 - 150
1-Methylnaphthalene	0.0974	0.122		ug/L		125	50 - 150
2-Methylnaphthalene	0.0974	0.120		ug/L		123	50 - 150

Surrogate	MRL %Recovery	MRL Qualifier	Limits
2-Nitro-m-xylene	101		70 - 130
Perylene-d12	98		70 - 130
Triphenylphosphate	106		70 - 130

**Lab Sample ID: 380-90531-Q-1-A MS**  
**Matrix: Water**  
**Analysis Batch: 85490**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 85242**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
2,4'-DDD	<0.098		1.94	2.22		ug/L		114	70 - 130
2,4'-DDE	<0.098		1.94	2.32		ug/L		120	70 - 130
2,4'-DDT	<0.098		1.94	2.40		ug/L		123	70 - 130

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# QC Sample Results

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

Job ID: 380-90110-1

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

**Lab Sample ID: 380-90531-Q-1-A MS**  
**Matrix: Water**  
**Analysis Batch: 85490**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 85242**

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec Limits
	Result	Qualifier	Added	Result	Qualifier				
2,4-Dinitrotoluene	<0.098		1.94	2.44		ug/L		126	70 - 130
2,6-Dinitrotoluene	<0.098		1.94	2.42		ug/L		125	70 - 130
4,4'-DDD	<0.098		1.94	2.15		ug/L		111	70 - 130
4,4'-DDE	<0.098		1.94	2.04		ug/L		105	70 - 130
4,4'-DDT	<0.098	^3+	1.94	2.45		ug/L		126	70 - 130
Acenaphthene	<0.098		1.94	1.83		ug/L		94	70 - 130
Acenaphthylene	<0.098		1.94	1.89		ug/L		97	70 - 130
Acetochlor	<0.098		1.94	2.03		ug/L		104	70 - 130
Alachlor	<0.049		1.94	2.18		ug/L		112	70 - 130
alpha-BHC	<0.098		1.94	2.13		ug/L		110	70 - 130
alpha-Chlordane	<0.049		1.94	1.89		ug/L		97	70 - 130
Anthracene	<0.020	F1	1.94	0.963	F1	ug/L		50	70 - 130
Atrazine	<0.049		1.94	2.15		ug/L		110	70 - 130
Benz(a)anthracene	<0.049		1.94	1.92		ug/L		99	70 - 130
Benzo[a]pyrene	<0.020		1.94	1.63		ug/L		84	70 - 130
Benzo[b]fluoranthene	<0.020		1.94	2.14		ug/L		110	70 - 130
Benzo[g,h,i]perylene	<0.049		1.94	2.23		ug/L		115	70 - 130
Benzo[k]fluoranthene	<0.020		1.94	2.24		ug/L		115	70 - 130
beta-BHC	<0.098		1.94	2.16		ug/L		111	70 - 130
Bis(2-ethylhexyl) phthalate	<0.59		1.94	1.69		ug/L		87	70 - 130
Bromacil	<0.098	*+ F1 ^+	1.94	3.14	F1 ^+	ug/L		162	70 - 130
Butachlor	<0.049		1.94	2.17		ug/L		111	70 - 130
Butylbenzylphthalate	<0.49		1.94	2.28		ug/L		117	70 - 130
Chlorobenzilate	<0.098		1.94	2.30		ug/L		118	70 - 130
Chloroneb	<0.098		1.94	2.11		ug/L		108	70 - 130
Chlorothalonil (Draconil, Bravo)	<0.098		1.94	2.12		ug/L		109	70 - 130
Chlorpyrifos	<0.049		1.94	2.42		ug/L		125	70 - 130
Chrysene	<0.020	^3+	1.94	2.19		ug/L		112	70 - 130
delta-BHC	<0.098		1.94	2.12		ug/L		109	70 - 130
Di(2-ethylhexyl)adipate	<0.59		1.94	2.18		ug/L		112	70 - 130
Dibenz(a,h)anthracene	<0.049		1.94	2.18		ug/L		112	70 - 130
Diclorvos (DDVP)	<0.049		1.94	2.27		ug/L		117	70 - 130
Dieldrin	<0.20		1.94	2.24		ug/L		115	70 - 130
Diethylphthalate	<0.49		1.94	1.99		ug/L		102	70 - 130
Dimethylphthalate	<0.49		1.94	2.03		ug/L		104	70 - 130
Di-n-butyl phthalate	<0.98		3.89	4.77		ug/L		123	70 - 130
Di-n-octyl phthalate	<0.098		1.94	1.65		ug/L		85	70 - 130
Endosulfan I (Alpha)	<0.098		1.94	2.17		ug/L		112	70 - 130
Endosulfan II (Beta)	<0.098		1.94	2.34		ug/L		120	70 - 130
Endosulfan sulfate	<0.098		1.94	2.37		ug/L		122	70 - 130
Endrin	<0.098		1.94	2.45		ug/L		126	70 - 130
Endrin aldehyde	<0.098		1.94	1.88		ug/L		97	60 - 130
EPTC	<0.098		1.94	2.30		ug/L		118	70 - 130
Fluoranthene	<0.098		1.94	2.30		ug/L		119	70 - 130
Fluorene	<0.049		1.94	1.99		ug/L		102	70 - 130
gamma-BHC (Lindane)	<0.039		1.94	2.19		ug/L		113	70 - 130
gamma-Chlordane	<0.049		1.94	1.98		ug/L		102	70 - 130
Heptachlor	<0.039		1.94	2.32		ug/L		119	70 - 130
Heptachlor epoxide (isomer B)	<0.049		1.94	2.01		ug/L		104	70 - 130

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# QC Sample Results

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

Job ID: 380-90110-1

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

**Lab Sample ID: 380-90531-Q-1-A MS**  
**Matrix: Water**  
**Analysis Batch: 85490**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 85242**

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec	Limits
	Result	Qualifier	Added	Result	Qualifier					
Hexachlorobenzene	<0.049		1.94	2.10		ug/L		108	70 - 130	
Hexachlorocyclopentadiene	<0.049		1.94	2.15		ug/L		111	70 - 130	
Indeno[1,2,3-cd]pyrene	<0.049		1.94	2.20		ug/L		113	70 - 130	
Isophorone	<0.49		1.94	1.88		ug/L		97	70 - 130	
Malathion	<0.098		1.94	2.21		ug/L		114	70 - 130	
Methoxychlor	<0.098		1.94	2.43		ug/L		125	70 - 130	
Metolachlor	<0.049		1.94	2.27		ug/L		117	70 - 130	
Molinate	<0.098		1.94	2.27		ug/L		117	70 - 130	
Naphthalene	<0.29		1.94	2.01		ug/L		103	70 - 130	
Parathion	<0.098	*+ F1	1.94	2.63	F1	ug/L		135	70 - 130	
Pendimethalin (Penoxaline)	<0.098	*+ F1	1.94	2.58	F1	ug/L		133	70 - 130	
Phenanthrene	<0.039		1.94	1.95		ug/L		100	70 - 130	
Propachlor	<0.049		1.94	2.20		ug/L		113	70 - 130	
Pyrene	<0.049		1.94	2.28		ug/L		117	70 - 130	
Simazine	<0.049		1.94	2.20		ug/L		113	70 - 130	
Terbacil	<0.098		1.94	2.18		ug/L		112	70 - 130	
Terbutylazine	<0.098		1.94	2.18		ug/L		112	70 - 130	
Thiobencarb	<0.20		1.94	2.03		ug/L		104	70 - 130	
trans-Nonachlor	<0.049		1.94	2.18		ug/L		112	70 - 130	
Trifluralin	<0.098		1.94	2.24		ug/L		115	70 - 130	
1-Methylnaphthalene	<0.098		1.94	2.08		ug/L		107	70 - 130	
2-Methylnaphthalene	<0.098		1.94	2.15		ug/L		111	70 - 130	

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
2-Nitro-m-xylene	101		70 - 130
Perylene-d12	99		70 - 130
Triphenylphosphate	114		70 - 130

**Lab Sample ID: 380-90531-R-1-A MSD**  
**Matrix: Water**  
**Analysis Batch: 85490**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**  
**Prep Batch: 85242**

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	Limits	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier							
2,4'-DDD	<0.098		1.96	2.09		ug/L		107	70 - 130	6	20	
2,4'-DDE	<0.098		1.96	2.27		ug/L		116	70 - 130	2	20	
2,4'-DDT	<0.098		1.96	2.33		ug/L		119	70 - 130	3	20	
2,4-Dinitrotoluene	<0.098		1.96	2.47		ug/L		127	70 - 130	1	20	
2,6-Dinitrotoluene	<0.098		1.96	2.41		ug/L		124	70 - 130	0	20	
4,4'-DDD	<0.098		1.96	2.08		ug/L		106	70 - 130	4	20	
4,4'-DDE	<0.098		1.96	2.03		ug/L		104	70 - 130	0	20	
4,4'-DDT	<0.098	^3+	1.96	2.40		ug/L		123	70 - 130	2	20	
Acenaphthene	<0.098		1.96	1.85		ug/L		94	70 - 130	1	20	
Acenaphthylene	<0.098		1.96	1.90		ug/L		97	70 - 130	0	20	
Acetochlor	<0.098		1.96	1.98		ug/L		101	70 - 130	2	20	
Alachlor	<0.049		1.96	2.12		ug/L		108	70 - 130	3	20	
alpha-BHC	<0.098		1.96	2.13		ug/L		109	70 - 130	0	20	
alpha-Chlordane	<0.049		1.96	1.86		ug/L		95	70 - 130	2	20	
Anthracene	<0.020	F1	1.96	0.948	F1	ug/L		49	70 - 130	2	20	

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# QC Sample Results

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

Job ID: 380-90110-1

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

**Lab Sample ID: 380-90531-R-1-A MSD**

**Client Sample ID: Matrix Spike Duplicate**

**Matrix: Water**

**Prep Type: Total/NA**

**Analysis Batch: 85490**

**Prep Batch: 85242**

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier				Limits		Limit
Atrazine	<0.049		1.96	2.13		ug/L		109	70 - 130	1	20
Benz(a)anthracene	<0.049		1.96	1.85		ug/L		94	70 - 130	4	20
Benzo[a]pyrene	<0.020		1.96	1.57		ug/L		80	70 - 130	4	20
Benzo[b]fluoranthene	<0.020		1.96	2.05		ug/L		105	70 - 130	4	20
Benzo[g,h,i]perylene	<0.049		1.96	2.08		ug/L		106	70 - 130	7	20
Benzo[k]fluoranthene	<0.020		1.96	2.24		ug/L		115	70 - 130	0	20
beta-BHC	<0.098		1.96	2.18		ug/L		111	70 - 130	1	20
Bis(2-ethylhexyl) phthalate	<0.59		1.96	1.68		ug/L		86	70 - 130	1	20
Bromacil	<0.098	*+ F1 ^+	1.96	3.07	F1 ^+	ug/L		157	70 - 130	2	20
Butachlor	<0.049		1.96	2.13		ug/L		109	70 - 130	2	20
Butylbenzylphthalate	<0.49		1.96	2.20		ug/L		113	70 - 130	4	20
Chlorobenzilate	<0.098		1.96	2.25		ug/L		115	70 - 130	2	20
Chloroneb	<0.098		1.96	2.11		ug/L		108	70 - 130	0	20
Chlorothalonil (Draconil, Bravo)	<0.098		1.96	2.07		ug/L		106	70 - 130	2	20
Chlorpyrifos	<0.049		1.96	2.40		ug/L		123	70 - 130	1	20
Chrysene	<0.020	^3+	1.96	2.17		ug/L		111	70 - 130	1	20
delta-BHC	<0.098		1.96	2.07		ug/L		106	70 - 130	2	20
Di(2-ethylhexyl)adipate	<0.59		1.96	2.06		ug/L		105	70 - 130	6	20
Dibenz(a,h)anthracene	<0.049		1.96	2.08		ug/L		106	70 - 130	4	20
Diclorvos (DDVP)	<0.049		1.96	2.20		ug/L		113	70 - 130	3	20
Dieldrin	<0.20		1.96	2.22		ug/L		113	70 - 130	1	20
Diethylphthalate	<0.49		1.96	1.97		ug/L		101	70 - 130	1	20
Dimethylphthalate	<0.49		1.96	1.99		ug/L		102	70 - 130	2	20
Di-n-butyl phthalate	<0.98		3.91	4.65		ug/L		119	70 - 130	3	20
Di-n-octyl phthalate	<0.098		1.96	1.67		ug/L		85	70 - 130	1	20
Endosulfan I (Alpha)	<0.098		1.96	2.14		ug/L		110	70 - 130	1	20
Endosulfan II (Beta)	<0.098		1.96	2.30		ug/L		118	70 - 130	2	20
Endosulfan sulfate	<0.098		1.96	2.33		ug/L		119	70 - 130	2	20
Endrin	<0.098		1.96	2.44		ug/L		125	70 - 130	1	20
Endrin aldehyde	<0.098		1.96	1.84		ug/L		94	60 - 130	2	20
EPTC	<0.098		1.96	2.23		ug/L		114	70 - 130	3	20
Fluoranthene	<0.098		1.96	2.27		ug/L		116	70 - 130	1	20
Fluorene	<0.049		1.96	2.02		ug/L		103	70 - 130	1	20
gamma-BHC (Lindane)	<0.039		1.96	2.15		ug/L		110	70 - 130	2	20
gamma-Chlordane	<0.049		1.96	1.91		ug/L		98	70 - 130	4	20
Heptachlor	<0.039		1.96	2.25		ug/L		115	70 - 130	3	20
Heptachlor epoxide (isomer B)	<0.049		1.96	1.96		ug/L		100	70 - 130	3	20
Hexachlorobenzene	<0.049		1.96	2.08		ug/L		106	70 - 130	1	20
Hexachlorocyclopentadiene	<0.049		1.96	2.15		ug/L		110	70 - 130	0	20
Indeno[1,2,3-cd]pyrene	<0.049		1.96	2.09		ug/L		107	70 - 130	5	20
Isophorone	<0.49		1.96	1.85		ug/L		94	70 - 130	2	20
Malathion	<0.098		1.96	2.16		ug/L		110	70 - 130	3	20
Methoxychlor	<0.098		1.96	2.46		ug/L		126	70 - 130	1	20
Metolachlor	<0.049		1.96	2.23		ug/L		114	70 - 130	2	20
Molinate	<0.098		1.96	2.27		ug/L		116	70 - 130	0	20
Naphthalene	<0.29		1.96	2.01		ug/L		103	70 - 130	0	20
Parathion	<0.098	*+ F1	1.96	2.58	F1	ug/L		132	70 - 130	2	20
Pendimethalin (Penoxaline)	<0.098	*+ F1	1.96	2.54		ug/L		130	70 - 130	1	20
Phenanthrene	<0.039		1.96	1.94		ug/L		99	70 - 130	1	20

Eurofins Eaton Analytical Pomona

# QC Sample Results

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

Job ID: 380-90110-1

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

**Lab Sample ID: 380-90531-R-1-A MSD**  
**Matrix: Water**  
**Analysis Batch: 85490**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**  
**Prep Batch: 85242**

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits		
Propachlor	<0.049		1.96	2.17		ug/L		111	70 - 130	1	20
Pyrene	<0.049		1.96	2.24		ug/L		115	70 - 130	2	20
Simazine	<0.049		1.96	2.23		ug/L		114	70 - 130	1	20
Terbacil	<0.098		1.96	2.21		ug/L		113	70 - 130	1	20
Terbutylazine	<0.098		1.96	2.15		ug/L		110	70 - 130	2	20
Thiobencarb	<0.20		1.96	2.00		ug/L		103	70 - 130	1	20
trans-Nonachlor	<0.049		1.96	2.13		ug/L		109	70 - 130	2	20
Trifluralin	<0.098		1.96	2.24		ug/L		114	70 - 130	0	20
1-Methylnaphthalene	<0.098		1.96	2.08		ug/L		106	70 - 130	0	20
2-Methylnaphthalene	<0.098		1.96	2.15		ug/L		110	70 - 130	0	20
Surrogate	MSD	MSD									
	%Recovery	Qualifier	Limits								
2-Nitro-m-xylene	101		70 - 130								
Perylene-d12	96		70 - 130								
Triphenylphosphate	111		70 - 130								

## Method: 504.1 - EDB, DBCP and 1,2,3-TCP (GC)

**Lab Sample ID: MBL 380-84936/4-A**  
**Matrix: Water**  
**Analysis Batch: 85099**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 84936**

Analyte	MBL	MBL	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
1,2,3-Trichloropropane	<0.0040		0.020	ug/L		04/08/24 16:00	04/08/24 19:31	1
1,2-Dibromo-3-Chloropropane	<0.0020		0.010	ug/L		04/08/24 16:00	04/08/24 19:31	1
1,2-Dibromoethane	<0.0040		0.010	ug/L		04/08/24 16:00	04/08/24 19:31	1
Surrogate	MBL	MBL	Limits			Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier						
1,2-Dibromopropane (Surr)	102		60 - 140			04/08/24 16:00	04/08/24 19:31	1

**Lab Sample ID: LCS 380-84936/29-A**  
**Matrix: Water**  
**Analysis Batch: 85099**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 84936**

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec
		Result	Qualifier				Limits
1,2,3-Trichloropropane	0.200	0.215		ug/L		107	70 - 130
1,2-Dibromo-3-Chloropropane	0.200	0.197		ug/L		98	70 - 130
1,2-Dibromoethane	0.200	0.210		ug/L		105	70 - 130
Surrogate	LCS	LCS	Limits				
	%Recovery	Qualifier					
1,2-Dibromopropane (Surr)	99		60 - 140				

**Lab Sample ID: MRL 380-84936/2-A**  
**Matrix: Water**  
**Analysis Batch: 85099**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 84936**

Analyte	Spike Added	MRL	MRL	Unit	D	%Rec	%Rec
		Result	Qualifier				Limits
1,2,3-Trichloropropane	0.0200	0.0187	J	ug/L		94	60 - 140

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# QC Sample Results

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

Job ID: 380-90110-1

## Method: 504.1 - EDB, DBCP and 1,2,3-TCP (GC) (Continued)

**Lab Sample ID: MRL 380-84936/2-A**  
**Matrix: Water**  
**Analysis Batch: 85099**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 84936**

<i>Surrogate</i>	<i>%Recovery</i>	<i>MRL MRL Qualifier</i>	<i>Limits</i>
1,2-Dibromopropane (Surr)	101		60 - 140

**Lab Sample ID: MRL 380-84936/3-A**  
**Matrix: Water**  
**Analysis Batch: 85099**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 84936**

<i>Analyte</i>	<i>Spike Added</i>	<i>MRL MRL Result Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec Limits</i>
1,2,3-Trichloropropane	0.0500	0.0516	ug/L		103	60 - 140
1,2-Dibromo-3-Chloropropane	0.0100	0.00986 J	ug/L		99	60 - 140
1,2-Dibromoethane	0.0100	0.00866 J	ug/L		87	60 - 140

  

<i>Surrogate</i>	<i>%Recovery</i>	<i>MRL MRL Qualifier</i>	<i>Limits</i>
1,2-Dibromopropane (Surr)	107		60 - 140

**Lab Sample ID: 380-89795-A-1-A MS**  
**Matrix: Water**  
**Analysis Batch: 85099**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 84936**

<i>Analyte</i>	<i>Sample Result</i>	<i>Sample Qualifier</i>	<i>Spike Added</i>	<i>MS MS Result Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec Limits</i>
1,2,3-Trichloropropane	<0.020		1.26	1.27	ug/L		101	65 - 135
1,2-Dibromo-3-Chloropropane	<0.010		0.251	0.248	ug/L		99	65 - 135
1,2-Dibromoethane	<0.010		0.251	0.253	ug/L		101	65 - 135

  

<i>Surrogate</i>	<i>%Recovery</i>	<i>MS MS Qualifier</i>	<i>Limits</i>
1,2-Dibromopropane (Surr)	100		60 - 140

**Lab Sample ID: 380-90013-A-1-A DU**  
**Matrix: Water**  
**Analysis Batch: 85099**

**Client Sample ID: Duplicate**  
**Prep Type: Total/NA**  
**Prep Batch: 84936**

<i>Analyte</i>	<i>Sample Result</i>	<i>Sample Qualifier</i>	<i>DU DU Result Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>RPD RPD Limit</i>
1,2,3-Trichloropropane	<0.020		<0.020	ug/L		NC 20
1,2-Dibromo-3-Chloropropane	<0.010		<0.010	ug/L		NC 20
1,2-Dibromoethane	<0.010		<0.010	ug/L		NC 20

  

<i>Surrogate</i>	<i>%Recovery</i>	<i>DU DU Qualifier</i>	<i>Limits</i>
1,2-Dibromopropane (Surr)	105		60 - 140

**Lab Sample ID: MBL 380-85113/4-A**  
**Matrix: Water**  
**Analysis Batch: 85213**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 85113**

<i>Analyte</i>	<i>MBL MBL Result Qualifier</i>	<i>RL</i>	<i>Unit</i>	<i>D</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
1,2,3-Trichloropropane	<0.0040	0.020	ug/L		04/09/24 17:00	04/09/24 20:51	1
1,2-Dibromo-3-Chloropropane	<0.0020	0.010	ug/L		04/09/24 17:00	04/09/24 20:51	1
1,2-Dibromoethane	<0.0040	0.010	ug/L		04/09/24 17:00	04/09/24 20:51	1

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# QC Sample Results

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

Job ID: 380-90110-1

## Method: 504.1 - EDB, DBCP and 1,2,3-TCP (GC) (Continued)

**Lab Sample ID: MBL 380-85113/4-A**  
**Matrix: Water**  
**Analysis Batch: 85213**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 85113**

<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
1,2-Dibromopropane (Surr)	104		60 - 140	04/09/24 17:00	04/09/24 20:51	1

**Lab Sample ID: LCS 380-85113/29-A**  
**Matrix: Water**  
**Analysis Batch: 85213**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 85113**

<i>Analyte</i>	<i>Spike Added</i>	<i>LCS Result</i>	<i>LCS Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec Limits</i>
1,2,3-Trichloropropane	0.200	0.222		ug/L		111	70 - 130
1,2-Dibromo-3-Chloropropane	0.200	0.199		ug/L		100	70 - 130
1,2-Dibromoethane	0.200	0.204		ug/L		102	70 - 130

  

<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
1,2-Dibromopropane (Surr)	100		60 - 140

**Lab Sample ID: MRL 380-85113/2-A**  
**Matrix: Water**  
**Analysis Batch: 85213**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 85113**

<i>Analyte</i>	<i>Spike Added</i>	<i>MRL Result</i>	<i>MRL Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec Limits</i>
1,2,3-Trichloropropane	0.0200	0.0206		ug/L		103	60 - 140

  

<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
1,2-Dibromopropane (Surr)	97		60 - 140

**Lab Sample ID: MRL 380-85113/3-A**  
**Matrix: Water**  
**Analysis Batch: 85213**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 85113**

<i>Analyte</i>	<i>Spike Added</i>	<i>MRL Result</i>	<i>MRL Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec Limits</i>
1,2,3-Trichloropropane	0.0500	0.0508		ug/L		102	60 - 140
1,2-Dibromo-3-Chloropropane	0.0100	0.00912	J	ug/L		91	60 - 140
1,2-Dibromoethane	0.0100	0.00853	J	ug/L		85	60 - 140

  

<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
1,2-Dibromopropane (Surr)	103		60 - 140

**Lab Sample ID: 380-89972-BV-1-B MS**  
**Matrix: Water**  
**Analysis Batch: 85213**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 85113**

<i>Analyte</i>	<i>Sample Result</i>	<i>Sample Qualifier</i>	<i>Spike Added</i>	<i>MS Result</i>	<i>MS Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec Limits</i>
1,2,3-Trichloropropane	<0.020		1.27	1.30		ug/L		103	65 - 135
1,2-Dibromo-3-Chloropropane	<0.010		0.254	0.261		ug/L		103	65 - 135
1,2-Dibromoethane	<0.010		0.254	0.261		ug/L		103	65 - 135

  

<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
1,2-Dibromopropane (Surr)	106		60 - 140

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# QC Sample Results

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

Job ID: 380-90110-1

## Method: 504.1 - EDB, DBCP and 1,2,3-TCP (GC) (Continued)

**Lab Sample ID: 380-89972-BV-1-C DU**  
**Matrix: Water**  
**Analysis Batch: 85213**

**Client Sample ID: Duplicate**  
**Prep Type: Total/NA**  
**Prep Batch: 85113**

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
1,2,3-Trichloropropane	<0.020		<0.020		ug/L		NC	20
1,2-Dibromo-3-Chloropropane	<0.010		<0.010		ug/L		NC	20
1,2-Dibromoethane	<0.010		<0.010		ug/L		NC	20
<b>DU DU</b>								
Surrogate	%Recovery	Qualifier	Limits					
1,2-Dibromopropane (Surr)	107		60 - 140					

## Method: 505 - Organochlorine Pesticides/PCBs (GC)

**Lab Sample ID: MB 380-85012/4-A**  
**Matrix: Water**  
**Analysis Batch: 85567**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 85012**

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Aldrin	<0.010		0.010	ug/L		04/09/24 14:44	04/09/24 17:17	1
Dieldrin	<0.010		0.010	ug/L		04/09/24 14:44	04/09/24 17:17	1
Toxaphene	<0.50		0.50	ug/L		04/09/24 14:44	04/09/24 17:17	1
Alachlor	<0.10		0.10	ug/L		04/09/24 14:44	04/09/24 17:17	1
Chlordane (n.o.s.)	<0.10		0.10	ug/L		04/09/24 14:44	04/09/24 17:17	1
Endrin	<0.010		0.010	ug/L		04/09/24 14:44	04/09/24 17:17	1
Heptachlor	<0.010		0.010	ug/L		04/09/24 14:44	04/09/24 17:17	1
Heptachlor epoxide	<0.010		0.010	ug/L		04/09/24 14:44	04/09/24 17:17	1
gamma-BHC (Lindane)	<0.010		0.010	ug/L		04/09/24 14:44	04/09/24 17:17	1
Methoxychlor	<0.050		0.050	ug/L		04/09/24 14:44	04/09/24 17:17	1
PCB-1016	<0.070		0.070	ug/L		04/09/24 14:44	04/09/24 17:17	1
PCB-1221	<0.10		0.10	ug/L		04/09/24 14:44	04/09/24 17:17	1
PCB-1232	<0.10		0.10	ug/L		04/09/24 14:44	04/09/24 17:17	1
PCB-1242	<0.10		0.10	ug/L		04/09/24 14:44	04/09/24 17:17	1
PCB-1248	<0.10		0.10	ug/L		04/09/24 14:44	04/09/24 17:17	1
PCB-1254	<0.10		0.10	ug/L		04/09/24 14:44	04/09/24 17:17	1
PCB-1260	<0.070		0.070	ug/L		04/09/24 14:44	04/09/24 17:17	1
Polychlorinated biphenyls, Total	<0.10		0.10	ug/L		04/09/24 14:44	04/09/24 17:17	1
<b>MB MB</b>								
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	101		70 - 130			04/09/24 14:44	04/09/24 17:17	1

**Lab Sample ID: MRL 380-85012/2-A**  
**Matrix: Water**  
**Analysis Batch: 85567**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 85012**

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Dieldrin	0.0100	0.0112		ug/L		112	50 - 150
Alachlor	0.100	0.0960	J	ug/L		96	50 - 150
Endrin	0.0100	0.00936	J	ug/L		94	50 - 150
Heptachlor	0.0100	0.0112		ug/L		112	50 - 150
Heptachlor epoxide	0.0100	0.00992	J	ug/L		99	50 - 150
gamma-BHC (Lindane)	0.0100	0.0102		ug/L		102	50 - 150

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# QC Sample Results

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

Job ID: 380-90110-1

## Method: 505 - Organochlorine Pesticides/PCBs (GC) (Continued)

**Lab Sample ID: MRL 380-85012/2-A**  
**Matrix: Water**  
**Analysis Batch: 85567**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 85012**

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Methoxychlor	0.0500	0.0553		ug/L		111	50 - 150
<b>Surrogate</b>	<b>%Recovery</b>	<b>MRL Qualifier</b>	<b>Limit</b>				
Tetrachloro-m-xylene	103		70 - 130				

**Lab Sample ID: MRL 380-85012/3-A**  
**Matrix: Water**  
**Analysis Batch: 85567**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 85012**

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Chlordane (n.o.s.)	0.100	0.111		ug/L		111	50 - 150
<b>Surrogate</b>	<b>%Recovery</b>	<b>MRL Qualifier</b>	<b>Limit</b>				
Tetrachloro-m-xylene	112		70 - 130				

**Lab Sample ID: 380-89972-BS-1-A MS**  
**Matrix: Water**  
**Analysis Batch: 85567**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 85012**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Aldrin	<0.0099		0.0197	0.0218		ug/L		110	65 - 135
Dieldrin	<0.0099		0.0197	0.0206		ug/L		105	65 - 135
Alachlor	<0.099		0.197	0.188		ug/L		95	65 - 135
Endrin	<0.0099		0.0197	0.0221		ug/L		112	65 - 135
Heptachlor	<0.0099		0.0197	0.0181		ug/L		92	65 - 135
Heptachlor epoxide	<0.0099		0.0197	0.0177		ug/L		90	65 - 135
gamma-BHC (Lindane)	<0.0099		0.0197	0.0214		ug/L		108	65 - 135
Methoxychlor	<0.050		0.0986	0.0870		ug/L		88	65 - 135
<b>Surrogate</b>	<b>%Recovery</b>	<b>MS Qualifier</b>	<b>Limit</b>						
Tetrachloro-m-xylene	106		70 - 130						

**Lab Sample ID: 380-89972-BT-1-A MS**  
**Matrix: Water**  
**Analysis Batch: 85567**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 85012**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chlordane (n.o.s.)	<0.099		0.493	0.420		ug/L		85	65 - 135
<b>Surrogate</b>	<b>%Recovery</b>	<b>MS Qualifier</b>	<b>Limit</b>						
Tetrachloro-m-xylene	107		70 - 130						

**Lab Sample ID: 380-90254-EA-1-A MS**  
**Matrix: Water**  
**Analysis Batch: 85567**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 85012**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Aldrin	<0.010		0.101	0.108		ug/L		107	65 - 135

Eurofins Eaton Analytical Pomona

# QC Sample Results

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

Job ID: 380-90110-1

## Method: 505 - Organochlorine Pesticides/PCBs (GC) (Continued)

**Lab Sample ID: 380-90254-EA-1-A MS**  
**Matrix: Water**  
**Analysis Batch: 85567**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 85012**

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec
	Result	Qualifier		Result	Qualifier				
Dieldrin	<0.010		0.101	0.0990		ug/L		98	65 - 135
Alachlor	<0.10		1.01	0.977		ug/L		97	65 - 135
Endrin	<0.010		0.101	0.0923		ug/L		92	65 - 135
Heptachlor	<0.010		0.101	0.0984		ug/L		98	65 - 135
Heptachlor epoxide	<0.010		0.101	0.100		ug/L		99	65 - 135
gamma-BHC (Lindane)	<0.010		0.101	0.0948		ug/L		94	65 - 135
Methoxychlor	<0.051		0.504	0.479		ug/L		95	65 - 135
		<b>MS</b>	<b>MS</b>						
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>						
Tetrachloro-m-xylene	111		70 - 130						

**Lab Sample ID: 380-90254-EB-1-A MS**  
**Matrix: Water**  
**Analysis Batch: 85567**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 85012**

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec
	Result	Qualifier		Result	Qualifier				
Chlordane (n.o.s.)	<0.10		0.522	0.539		ug/L		103	65 - 135
		<b>MS</b>	<b>MS</b>						
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>						
Tetrachloro-m-xylene	101		70 - 130						

## Method: 300.0 - Anions, Ion Chromatography

**Lab Sample ID: MB 380-84692/4**  
**Matrix: Water**  
**Analysis Batch: 84692**

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

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Nitrate as N	<0.050		0.050	mg/L			04/05/24 11:44	1
Nitrite as N	<0.050		0.050	mg/L			04/05/24 11:44	1

**Lab Sample ID: LCS 380-84692/7**  
**Matrix: Water**  
**Analysis Batch: 84692**

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

Analyte	Spike	LCS	LCS	Unit	D	%Rec	%Rec
Nitrate as N	2.50	2.43		mg/L		97	90 - 110
Nitrite as N	1.00	0.978		mg/L		98	90 - 110

**Lab Sample ID: LCSD 380-84692/8**  
**Matrix: Water**  
**Analysis Batch: 84692**

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

Analyte	Spike	LCSD	LCSD	Unit	D	%Rec	%Rec	RPD	RPD
Nitrate as N	2.50	2.43		mg/L		97	90 - 110	0	20
Nitrite as N	1.00	0.981		mg/L		98	90 - 110	0	20

# QC Sample Results

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

Job ID: 380-90110-1

## Method: 300.0 - Anions, Ion Chromatography (Continued)

**Lab Sample ID: MRL 380-84692/5**  
**Matrix: Water**  
**Analysis Batch: 84692**

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate as N	0.0125	0.0130	J	mg/L		104	50 - 150
Nitrite as N	0.0125	0.0118	J	mg/L		95	50 - 150

**Lab Sample ID: MRL 380-84692/6**  
**Matrix: Water**  
**Analysis Batch: 84692**

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate as N	0.0500	0.0459	J	mg/L		92	50 - 150
Nitrite as N	0.0500	0.0485	J	mg/L		97	50 - 150

**Lab Sample ID: 380-90032-A-1 MS**  
**Matrix: Water**  
**Analysis Batch: 84692**

**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
Nitrate as N	2.5		1.25	3.73		mg/L		101	80 - 120
Nitrite as N	<0.050		0.500	0.425		mg/L		85	80 - 120

**Lab Sample ID: 380-90032-A-1 MSD**  
**Matrix: Water**  
**Analysis Batch: 84692**

**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
Nitrate as N	2.5		1.25	3.75		mg/L		103	80 - 120	1	20
Nitrite as N	<0.050		0.500	0.423		mg/L		85	80 - 120	1	20

**Lab Sample ID: MB 380-84693/4**  
**Matrix: Water**  
**Analysis Batch: 84693**

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.50		0.50	mg/L			04/05/24 11:44	1
Sulfate	<0.25		0.25	mg/L			04/05/24 11:44	1

**Lab Sample ID: LCS 380-84693/7**  
**Matrix: Water**  
**Analysis Batch: 84693**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	25.0	25.4		mg/L		101	90 - 110
Sulfate	50.0	50.2		mg/L		100	90 - 110

**Lab Sample ID: LCSD 380-84693/8**  
**Matrix: Water**  
**Analysis Batch: 84693**

**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
Chloride	25.0	25.4		mg/L		102	90 - 110	0	20
Sulfate	50.0	50.4		mg/L		101	90 - 110	0	20

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# QC Sample Results

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

Job ID: 380-90110-1

## Method: 300.0 - Anions, Ion Chromatography

**Lab Sample ID: MRL 380-84693/5**  
**Matrix: Water**  
**Analysis Batch: 84693**

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	0.125	0.123	J	mg/L		98	50 - 150
Sulfate	0.250	0.251		mg/L		101	50 - 150

**Lab Sample ID: MRL 380-84693/6**  
**Matrix: Water**  
**Analysis Batch: 84693**

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	0.500	0.444	J	mg/L		89	50 - 150
Sulfate	0.999	0.954		mg/L		96	50 - 150

**Lab Sample ID: 380-90032-A-1 MS**  
**Matrix: Water**  
**Analysis Batch: 84693**

**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
Chloride	39		12.5	50.2	E	mg/L		89	80 - 120
Sulfate	28		25.0	53.9		mg/L		104	80 - 120

**Lab Sample ID: 380-90032-A-1 MSD**  
**Matrix: Water**  
**Analysis Batch: 84693**

**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	Limit
Chloride	39		12.5	50.3	E	mg/L		89	80 - 120	0	20
Sulfate	28		25.0	54.5		mg/L		106	80 - 120	1	20

**Lab Sample ID: MB 380-85393/5**  
**Matrix: Water**  
**Analysis Batch: 85393**

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	<5.0		5.0	ug/L			04/10/24 18:09	1

**Lab Sample ID: LCS 380-85393/6**  
**Matrix: Water**  
**Analysis Batch: 85393**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Bromide	100	99.0		ug/L		99	90 - 110

**Lab Sample ID: LCSD 380-85393/7**  
**Matrix: Water**  
**Analysis Batch: 85393**

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Bromide	100	98.3		ug/L		98	90 - 110	1	10

# QC Sample Results

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

Job ID: 380-90110-1

## Method: 300.0 - Anions, Ion Chromatography (Continued)

**Lab Sample ID: MRL 380-85393/4**  
**Matrix: Water**  
**Analysis Batch: 85393**

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Bromide	5.00	4.87	J	ug/L		97	75 - 125

**Lab Sample ID: 380-90044-B-1 MS**  
**Matrix: Water**  
**Analysis Batch: 85393**

**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
Bromide	<5.0		50.0	51.4		ug/L		98	80 - 120

**Lab Sample ID: 380-90044-B-1 MSD**  
**Matrix: Water**  
**Analysis Batch: 85393**

**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
Bromide	<5.0		50.0	52.0		ug/L		99	80 - 120	1	20

## Method: 200.7 Rev 4.4 - Metals (ICP)

**Lab Sample ID: MBL 380-85382/154**  
**Matrix: Water**  
**Analysis Batch: 85382**

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

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	<0.070		1.0	mg/L			04/10/24 18:17	1
Magnesium	<0.0099		0.10	mg/L			04/10/24 18:17	1
Potassium	<0.12		1.0	mg/L			04/10/24 18:17	1
Sodium	<0.41		1.0	mg/L			04/10/24 18:17	1

**Lab Sample ID: LCS 380-85382/158**  
**Matrix: Water**  
**Analysis Batch: 85382**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Calcium	50.0	52.5		mg/L		105	85 - 115
Magnesium	20.0	20.5		mg/L		103	85 - 115
Potassium	20.0	21.0		mg/L		105	85 - 115
Sodium	50.0	50.9		mg/L		102	85 - 115

**Lab Sample ID: LCSD 380-85382/159**  
**Matrix: Water**  
**Analysis Batch: 85382**

**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
Calcium	50.0	51.4		mg/L		103	85 - 115	2	20
Magnesium	20.0	20.0		mg/L		100	85 - 115	3	20
Potassium	20.0	20.4		mg/L		102	85 - 115	3	20
Sodium	50.0	49.9		mg/L		100	85 - 115	2	20

# QC Sample Results

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

Job ID: 380-90110-1

## Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

**Lab Sample ID: LLCS 380-85382/155**  
**Matrix: Water**  
**Analysis Batch: 85382**

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

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Calcium	1.00	0.982	J	mg/L		98	50 - 150
Magnesium	0.100	0.0897	J	mg/L		90	50 - 150
Potassium	1.00	0.692	J	mg/L		69	50 - 150
Sodium	1.00	0.904	J	mg/L		90	50 - 150

**Lab Sample ID: 380-90068-C-11 MS**  
**Matrix: Water**  
**Analysis Batch: 85382**

**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
Calcium	48		50.0	94.5		mg/L		92	70 - 130
Magnesium	13		20.0	31.5		mg/L		95	70 - 130
Potassium	2.0		20.0	22.6		mg/L		103	70 - 130
Sodium	18		50.0	63.8		mg/L		92	70 - 130

**Lab Sample ID: 380-90068-C-11 MSD**  
**Matrix: Water**  
**Analysis Batch: 85382**

**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
Calcium	48		50.0	94.2		mg/L		92	70 - 130	0	20
Magnesium	13		20.0	31.3		mg/L		94	70 - 130	0	20
Potassium	2.0		20.0	22.4		mg/L		102	70 - 130	1	20
Sodium	18		50.0	63.7		mg/L		91	70 - 130	0	20

## Method: 200.8 - Metals (ICP/MS)

**Lab Sample ID: MBL 380-85348/21**  
**Matrix: Water**  
**Analysis Batch: 85348**

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

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.48		1.0	ug/L			04/10/24 13:04	1
Arsenic	<0.49		1.0	ug/L			04/10/24 13:04	1
Beryllium	<0.18		1.0	ug/L			04/10/24 13:04	1
Cadmium	<0.081		0.50	ug/L			04/10/24 13:04	1
Chromium	<0.80		1.0	ug/L			04/10/24 13:04	1
Copper	<0.27		2.0	ug/L			04/10/24 13:04	1
Lead	<0.29		0.50	ug/L			04/10/24 13:04	1
Nickel	<0.38		5.0	ug/L			04/10/24 13:04	1
Selenium	<1.0		5.0	ug/L			04/10/24 13:04	1
Silver	<0.40		0.50	ug/L			04/10/24 13:04	1
Thallium	<0.32		1.0	ug/L			04/10/24 13:04	1
Zinc	<4.3		20	ug/L			04/10/24 13:04	1

# QC Sample Results

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

Job ID: 380-90110-1

## Method: 200.8 - Metals (ICP/MS) (Continued)

**Lab Sample ID: LCS 380-85348/23**  
**Matrix: Water**  
**Analysis Batch: 85348**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	50.0	47.7		ug/L		95	85 - 115
Arsenic	50.0	47.8		ug/L		96	85 - 115
Beryllium	25.0	23.4		ug/L		94	85 - 115
Cadmium	25.0	23.8		ug/L		95	85 - 115
Chromium	50.0	47.8		ug/L		96	85 - 115
Copper	50.0	47.7		ug/L		95	85 - 115
Lead	50.0	44.9		ug/L		90	85 - 115
Nickel	50.0	48.1		ug/L		96	85 - 115
Selenium	50.0	46.6		ug/L		93	85 - 115
Silver	25.0	21.7		ug/L		87	85 - 115
Thallium	50.0	43.8		ug/L		88	85 - 115
Zinc	50.0	47.3		ug/L		95	85 - 115

**Lab Sample ID: LCSD 380-85348/24**  
**Matrix: Water**  
**Analysis Batch: 85348**

**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
Antimony	50.0	52.4		ug/L		105	85 - 115	9	20
Arsenic	50.0	51.4		ug/L		103	85 - 115	7	20
Beryllium	25.0	25.6		ug/L		102	85 - 115	9	20
Cadmium	25.0	25.8		ug/L		103	85 - 115	8	20
Chromium	50.0	51.8		ug/L		104	85 - 115	8	20
Copper	50.0	51.5		ug/L		103	85 - 115	8	20
Lead	50.0	49.7		ug/L		99	85 - 115	10	20
Nickel	50.0	51.9		ug/L		104	85 - 115	8	20
Selenium	50.0	51.1		ug/L		102	85 - 115	9	20
Silver	25.0	23.5		ug/L		94	85 - 115	8	20
Thallium	50.0	48.2		ug/L		96	85 - 115	9	20
Zinc	50.0	51.1		ug/L		102	85 - 115	8	20

**Lab Sample ID: LLCS 380-85348/22**  
**Matrix: Water**  
**Analysis Batch: 85348**

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

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	1.00	1.03		ug/L		103	50 - 150
Arsenic	1.00	1.35		ug/L		135	50 - 150
Beryllium	1.00	1.02		ug/L		102	50 - 150
Cadmium	0.500	0.540		ug/L		108	50 - 150
Chromium	1.00	0.850	J	ug/L		85	50 - 150
Copper	2.00	2.03		ug/L		101	50 - 150
Lead	0.500	0.478	J	ug/L		96	50 - 150
Nickel	5.00	5.04		ug/L		101	50 - 150
Selenium	5.00	4.69	J	ug/L		94	50 - 150
Silver	0.500	<0.40		ug/L		68	50 - 150
Thallium	1.00	0.859	J	ug/L		86	50 - 150
Zinc	20.0	20.3		ug/L		101	50 - 150

# QC Sample Results

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

Job ID: 380-90110-1

## Method: 200.8 - Metals (ICP/MS) (Continued)

**Lab Sample ID: 380-90042-H-1 MS**  
**Matrix: Water**  
**Analysis Batch: 85348**

**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
Antimony	<1.0		50.0	55.1		ug/L		110	70 - 130
Arsenic	7.0		50.0	60.0		ug/L		106	70 - 130
Beryllium	<1.0		25.0	26.4		ug/L		105	70 - 130
Cadmium	<0.50		25.0	26.9		ug/L		108	70 - 130
Chromium	27		50.0	76.5		ug/L		98	70 - 130
Copper	<2.0		50.0	48.8		ug/L		97	70 - 130
Lead	<0.50		50.0	48.3		ug/L		97	70 - 130
Nickel	<5.0		50.0	49.1		ug/L		98	70 - 130
Selenium	<5.0		50.0	54.9		ug/L		110	70 - 130
Silver	<0.50		25.0	24.4		ug/L		97	70 - 130
Thallium	<1.0		50.0	46.6		ug/L		93	70 - 130
Zinc	<20		50.0	52.6		ug/L		105	70 - 130

**Lab Sample ID: 380-90042-H-1 MSD**  
**Matrix: Water**  
**Analysis Batch: 85348**

**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
Antimony	<1.0		50.0	58.2		ug/L		116	70 - 130	6	20
Arsenic	7.0		50.0	65.8		ug/L		118	70 - 130	9	20
Beryllium	<1.0		25.0	28.0		ug/L		112	70 - 130	6	20
Cadmium	<0.50		25.0	29.0		ug/L		116	70 - 130	7	20
Chromium	27		50.0	82.1		ug/L		110	70 - 130	7	20
Copper	<2.0		50.0	53.2		ug/L		106	70 - 130	9	20
Lead	<0.50		50.0	52.8		ug/L		106	70 - 130	9	20
Nickel	<5.0		50.0	53.6		ug/L		107	70 - 130	9	20
Selenium	<5.0		50.0	59.3		ug/L		119	70 - 130	8	20
Silver	<0.50		25.0	25.7		ug/L		103	70 - 130	5	20
Thallium	<1.0		50.0	50.6		ug/L		101	70 - 130	8	20
Zinc	<20		50.0	57.2		ug/L		114	70 - 130	8	20

## Method: 245.1 - Mercury (CVAA)

**Lab Sample ID: MB 810-95072/1-A**  
**Matrix: Water**  
**Analysis Batch: 95132**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 95072**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.10		0.10	ug/L		04/10/24 13:50	04/10/24 22:56	1

**Lab Sample ID: LCS 810-95072/3-A**  
**Matrix: Water**  
**Analysis Batch: 95132**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 95072**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	1.00	1.00		ug/L		100	85 - 115



# QC Sample Results

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

Job ID: 380-90110-1

## Method: 245.1 - Mercury (CVAA) (Continued)

**Lab Sample ID: 590-24125-D-1-B MS**  
**Matrix: Water**  
**Analysis Batch: 95132**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 95072**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	<0.10		1.00	1.07		ug/L		107	70 - 130

**Lab Sample ID: 590-24125-D-1-C MSD**  
**Matrix: Water**  
**Analysis Batch: 95132**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**  
**Prep Batch: 95072**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Mercury	<0.10		1.00	0.998		ug/L		100	70 - 130	7	20

## Method: SM 2320B - Alkalinity

**Lab Sample ID: MB 380-85198/1**  
**Matrix: Water**  
**Analysis Batch: 85198**

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	<2.0		2.0	mg/L			04/09/24 19:41	1
Bicarbonate Alkalinity as CaCO3	<2.0		2.0	mg/L			04/09/24 19:41	1
Carbonate Alkalinity as CaCO3	<2.0		2.0	mg/L			04/09/24 19:41	1

**Lab Sample ID: LCS 380-85198/3**  
**Matrix: Water**  
**Analysis Batch: 85198**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Alkalinity	100	97.6		mg/L		98	90 - 110

**Lab Sample ID: LCSD 380-85198/18**  
**Matrix: Water**  
**Analysis Batch: 85198**

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Alkalinity	100	98.1		mg/L		98	90 - 110	1	20

**Lab Sample ID: LLCS 380-85198/4**  
**Matrix: Water**  
**Analysis Batch: 85198**

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

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Alkalinity	20.0	18.7		mg/L		93	90 - 110

**Lab Sample ID: MRL 380-85198/2**  
**Matrix: Water**  
**Analysis Batch: 85198**

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Alkalinity	2.00	2.13		mg/L		107	50 - 150

# QC Sample Results

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

Job ID: 380-90110-1

## Method: SM 2320B - Alkalinity (Continued)

**Lab Sample ID: 380-89926-U-1 MS**  
**Matrix: Water**  
**Analysis Batch: 85198**

**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
Alkalinity	56		100	149		mg/L		93	80 - 120

**Lab Sample ID: 380-89926-U-1 MSD**  
**Matrix: Water**  
**Analysis Batch: 85198**

**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
Alkalinity	56		100	145		mg/L		89	80 - 120	3	20

**Lab Sample ID: 380-89926-U-1 DU**  
**Matrix: Water**  
**Analysis Batch: 85198**

**Client Sample ID: Duplicate**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity	56		56.6		mg/L		0.5	20
Bicarbonate Alkalinity as CaCO3	56		56.6		mg/L		0.5	20
Carbonate Alkalinity as CaCO3	<2.0		<2.0		mg/L		NC	20

## Method: SM 2510B - Conductivity, Specific Conductance

**Lab Sample ID: MB 380-85201/2**  
**Matrix: Water**  
**Analysis Batch: 85201**

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	<2.0		2.0	umhos/cm			04/09/24 19:41	1

**Lab Sample ID: LCS 380-85201/4**  
**Matrix: Water**  
**Analysis Batch: 85201**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Specific Conductance	1000	995		umhos/cm		99	90 - 110

**Lab Sample ID: LCSD 380-85201/16**  
**Matrix: Water**  
**Analysis Batch: 85201**

**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
Specific Conductance	1000	994		umhos/cm		99	90 - 110	0	10

**Lab Sample ID: MRL 380-85201/3**  
**Matrix: Water**  
**Analysis Batch: 85201**

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Specific Conductance	2.00	1.90	J	umhos/cm		95	50 - 150

Eurofins Eaton Analytical Pomona

# QC Sample Results

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

Job ID: 380-90110-1

## Method: SM 2510B - Conductivity, Specific Conductance (Continued)

Lab Sample ID: 380-89926-U-1 DU  
Matrix: Water  
Analysis Batch: 85201

Client Sample ID: Duplicate  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Specific Conductance	180		184		umhos/cm		0.2	20

## Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 380-84960/1  
Matrix: Water  
Analysis Batch: 84960

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10	mg/L			04/08/24 18:07	1

Lab Sample ID: HLCS 380-84960/5  
Matrix: Water  
Analysis Batch: 84960

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

Analyte	Spike Added	HLCS Result	HLCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	700	688		mg/L		98	80 - 114

Lab Sample ID: LCS 380-84960/4  
Matrix: Water  
Analysis Batch: 84960

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	175	170		mg/L		97	80 - 114

Lab Sample ID: MRL 380-84960/2  
Matrix: Water  
Analysis Batch: 84960

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	10.0	9.00	J	mg/L		90	50 - 150

Lab Sample ID: MRL 380-84960/3  
Matrix: Water  
Analysis Batch: 84960

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	10.0	9.00	J	mg/L		90	50 - 150

Lab Sample ID: 380-90110-1 DU  
Matrix: Water  
Analysis Batch: 84960

Client Sample ID: MOANALUA WELLS  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	300		298		mg/L		0	10

# QC Sample Results

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

Job ID: 380-90110-1

## Method: SM 4500 F C - Fluoride

**Lab Sample ID: MB 380-85419/40**  
**Matrix: Water**  
**Analysis Batch: 85419**

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.050		0.050	mg/L			04/10/24 15:07	1

**Lab Sample ID: MB 380-85419/74**  
**Matrix: Water**  
**Analysis Batch: 85419**

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.050		0.050	mg/L			04/10/24 17:18	1

**Lab Sample ID: LCS 380-85419/76**  
**Matrix: Water**  
**Analysis Batch: 85419**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Fluoride	1.00	1.02		mg/L		102	90 - 110

**Lab Sample ID: LCSD 380-85419/77**  
**Matrix: Water**  
**Analysis Batch: 85419**

**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
Fluoride	1.00	1.04		mg/L		104	90 - 110	2	10

**Lab Sample ID: MRL 380-85419/41**  
**Matrix: Water**  
**Analysis Batch: 85419**

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Fluoride	0.0500	0.0493	J	mg/L		99	50 - 150

**Lab Sample ID: MRL 380-85419/7**  
**Matrix: Water**  
**Analysis Batch: 85419**

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Fluoride	0.0500	0.0499	J	mg/L		100	50 - 150

**Lab Sample ID: MRL 380-85419/75**  
**Matrix: Water**  
**Analysis Batch: 85419**

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Fluoride	0.0500	0.0460	J	mg/L		92	50 - 150

**Lab Sample ID: 380-89895-AE-1 MS**  
**Matrix: Water**  
**Analysis Batch: 85419**

**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
Fluoride	<0.050		1.00	1.10		mg/L		110	80 - 120

Eurofins Eaton Analytical Pomona

# QC Sample Results

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

Job ID: 380-90110-1

## Method: SM 4500 F C - Fluoride

Lab Sample ID: 380-89895-AE-1 MSD  
Matrix: Water  
Analysis Batch: 85419

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
Fluoride	<0.050		1.00	1.02		mg/L		102	80 - 120	7	20

## Method: SM 4500 H+ B - pH

Lab Sample ID: MB 380-85203/4  
Matrix: Water  
Analysis Batch: 85203

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	5.7			SU			04/09/24 19:41	1

Lab Sample ID: LCS 380-85203/5  
Matrix: Water  
Analysis Batch: 85203

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
pH	6.00	6.1		SU		101	98 - 102

Lab Sample ID: LCSD 380-85203/17  
Matrix: Water  
Analysis Batch: 85203

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
pH	6.00	6.1		SU		101	98 - 102	0	2

Lab Sample ID: 380-89926-U-1 DU  
Matrix: Water  
Analysis Batch: 85203

Client Sample ID: Duplicate  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	8.0		8.2		SU		2	2

## Method: SM 4500 S2 D - Sulfide, Total

Lab Sample ID: MBL 380-85430/1  
Matrix: Water  
Analysis Batch: 85430

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

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	<0.0099		0.050	mg/L			04/11/24 09:33	1

Lab Sample ID: LCS 380-85430/4  
Matrix: Water  
Analysis Batch: 85430

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Sulfide	0.250	0.244		mg/L		98	90 - 110

# QC Sample Results

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

Job ID: 380-90110-1

## Method: SM 4500 S2 D - Sulfide, Total (Continued)

**Lab Sample ID: LCSD 380-85430/25**  
**Matrix: Water**  
**Analysis Batch: 85430**

**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
Sulfide	0.250	0.263		mg/L		105	90 - 110	8	20

**Lab Sample ID: MRL 380-85430/17**  
**Matrix: Water**  
**Analysis Batch: 85430**

**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
Sulfide	0.0500	0.0335	J	mg/L		67	50 - 150		

**Lab Sample ID: MRL 380-85430/2**  
**Matrix: Water**  
**Analysis Batch: 85430**

**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
Sulfide	0.0500	0.0355	J	mg/L		71	50 - 150		

**Lab Sample ID: 380-89869-G-1 MS**  
**Matrix: Water**  
**Analysis Batch: 85430**

**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
Sulfide	<0.050		0.250	0.233		mg/L		93	80 - 120		

**Lab Sample ID: 380-89869-G-1 MSD**  
**Matrix: Water**  
**Analysis Batch: 85430**

**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
Sulfide	<0.050		0.250	0.253		mg/L		101	80 - 120	8	20

# QC Association Summary

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

Job ID: 380-90110-1

## GC/MS VOA

### Analysis Batch: 84729

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-90110-1	MOANALUA WELLS	Total/NA	Water	524.2	
380-90110-2	TRAVEL BLANK	Total/NA	Water	524.2	
MB 380-84729/11	Method Blank	Total/NA	Water	524.2	
LCS 380-84729/8	Lab Control Sample	Total/NA	Water	524.2	
LCSD 380-84729/9	Lab Control Sample Dup	Total/NA	Water	524.2	
MRL 380-84729/10	Lab Control Sample	Total/NA	Water	524.2	

### Analysis Batch: 84757

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-90110-1	MOANALUA WELLS	Total/NA	Water	524.2	
MB 380-84757/8	Method Blank	Total/NA	Water	524.2	
LCS 380-84757/5	Lab Control Sample	Total/NA	Water	524.2	
LCSD 380-84757/6	Lab Control Sample Dup	Total/NA	Water	524.2	
MRL 380-84757/3	Lab Control Sample	Total/NA	Water	524.2	
MRL 380-84757/4	Lab Control Sample	Total/NA	Water	524.2	

### Analysis Batch: 84787

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-90110-1	MOANALUA WELLS	Total/NA	Water	524.2	
MB 380-84787/15	Method Blank	Total/NA	Water	524.2	
LCS 380-84787/11	Lab Control Sample	Total/NA	Water	524.2	
LCSD 380-84787/12	Lab Control Sample Dup	Total/NA	Water	524.2	
MRL 380-84787/13	Lab Control Sample	Total/NA	Water	524.2	
MRL 380-84787/14	Lab Control Sample	Total/NA	Water	524.2	

### Analysis Batch: 84873

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-90110-2	TRAVEL BLANK	Total/NA	Water	524.2	
MB 380-84873/8	Method Blank	Total/NA	Water	524.2	
LCS 380-84873/5	Lab Control Sample	Total/NA	Water	524.2	
LCSD 380-84873/6	Lab Control Sample Dup	Total/NA	Water	524.2	
MRL 380-84873/3	Lab Control Sample	Total/NA	Water	524.2	
MRL 380-84873/4	Lab Control Sample	Total/NA	Water	524.2	

### Analysis Batch: 85119

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-90110-1	MOANALUA WELLS	Total/NA	Water	524.2	
380-90110-2	TRAVEL BLANK	Total/NA	Water	524.2	

## GC/MS Semi VOA

### Prep Batch: 85242

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-90110-1	MOANALUA WELLS	Total/NA	Water	525.2	
MB 380-85242/21-A	Method Blank	Total/NA	Water	525.2	
LCS 380-85242/23-A	Lab Control Sample	Total/NA	Water	525.2	
LCSD 380-85242/24-A	Lab Control Sample Dup	Total/NA	Water	525.2	
MRL 380-85242/22-A	Lab Control Sample	Total/NA	Water	525.2	
380-90531-Q-1-A MS	Matrix Spike	Total/NA	Water	525.2	
380-90531-R-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	525.2	

# QC Association Summary

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

Job ID: 380-90110-1

## GC/MS Semi VOA

### Analysis Batch: 85490

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-90110-1	MOANALUA WELLS	Total/NA	Water	525.2	85242
MB 380-85242/21-A	Method Blank	Total/NA	Water	525.2	85242
LCS 380-85242/23-A	Lab Control Sample	Total/NA	Water	525.2	85242
LCSD 380-85242/24-A	Lab Control Sample Dup	Total/NA	Water	525.2	85242
MRL 380-85242/22-A	Lab Control Sample	Total/NA	Water	525.2	85242
380-90531-Q-1-A MS	Matrix Spike	Total/NA	Water	525.2	85242
380-90531-R-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	525.2	85242

## GC Semi VOA

### Prep Batch: 84936

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-90110-1	MOANALUA WELLS	Total/NA	Water	504.1	
MBL 380-84936/4-A	Method Blank	Total/NA	Water	504.1	
LCS 380-84936/29-A	Lab Control Sample	Total/NA	Water	504.1	
MRL 380-84936/2-A	Lab Control Sample	Total/NA	Water	504.1	
MRL 380-84936/3-A	Lab Control Sample	Total/NA	Water	504.1	
380-89795-A-1-A MS	Matrix Spike	Total/NA	Water	504.1	
380-90013-A-1-A DU	Duplicate	Total/NA	Water	504.1	

### Prep Batch: 85012

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-90110-1	MOANALUA WELLS	Total/NA	Water	505	
MB 380-85012/4-A	Method Blank	Total/NA	Water	505	
MRL 380-85012/2-A	Lab Control Sample	Total/NA	Water	505	
MRL 380-85012/3-A	Lab Control Sample	Total/NA	Water	505	
380-89972-BS-1-A MS	Matrix Spike	Total/NA	Water	505	
380-89972-BT-1-A MS	Matrix Spike	Total/NA	Water	505	
380-90254-EA-1-A MS	Matrix Spike	Total/NA	Water	505	
380-90254-EB-1-A MS	Matrix Spike	Total/NA	Water	505	

### Analysis Batch: 85099

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-90110-1	MOANALUA WELLS	Total/NA	Water	504.1	84936
MBL 380-84936/4-A	Method Blank	Total/NA	Water	504.1	84936
LCS 380-84936/29-A	Lab Control Sample	Total/NA	Water	504.1	84936
MRL 380-84936/2-A	Lab Control Sample	Total/NA	Water	504.1	84936
MRL 380-84936/3-A	Lab Control Sample	Total/NA	Water	504.1	84936
380-89795-A-1-A MS	Matrix Spike	Total/NA	Water	504.1	84936
380-90013-A-1-A DU	Duplicate	Total/NA	Water	504.1	84936

### Prep Batch: 85113

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-90110-2	TRAVEL BLANK	Total/NA	Water	504.1	
MBL 380-85113/4-A	Method Blank	Total/NA	Water	504.1	
LCS 380-85113/29-A	Lab Control Sample	Total/NA	Water	504.1	
MRL 380-85113/2-A	Lab Control Sample	Total/NA	Water	504.1	
MRL 380-85113/3-A	Lab Control Sample	Total/NA	Water	504.1	
380-89972-BV-1-B MS	Matrix Spike	Total/NA	Water	504.1	
380-89972-BV-1-C DU	Duplicate	Total/NA	Water	504.1	



# QC Association Summary

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

Job ID: 380-90110-1

## GC Semi VOA

### Analysis Batch: 85213

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-90110-2	TRAVEL BLANK	Total/NA	Water	504.1	85113
MBL 380-85113/4-A	Method Blank	Total/NA	Water	504.1	85113
LCS 380-85113/29-A	Lab Control Sample	Total/NA	Water	504.1	85113
MRL 380-85113/2-A	Lab Control Sample	Total/NA	Water	504.1	85113
MRL 380-85113/3-A	Lab Control Sample	Total/NA	Water	504.1	85113
380-89972-BV-1-B MS	Matrix Spike	Total/NA	Water	504.1	85113
380-89972-BV-1-C DU	Duplicate	Total/NA	Water	504.1	85113

### Analysis Batch: 85567

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-90110-1	MOANALUA WELLS	Total/NA	Water	505	85012
MB 380-85012/4-A	Method Blank	Total/NA	Water	505	85012
MRL 380-85012/2-A	Lab Control Sample	Total/NA	Water	505	85012
MRL 380-85012/3-A	Lab Control Sample	Total/NA	Water	505	85012
380-89972-BS-1-A MS	Matrix Spike	Total/NA	Water	505	85012
380-89972-BT-1-A MS	Matrix Spike	Total/NA	Water	505	85012
380-90254-EA-1-A MS	Matrix Spike	Total/NA	Water	505	85012
380-90254-EB-1-A MS	Matrix Spike	Total/NA	Water	505	85012

## HPLC/IC

### Analysis Batch: 84692

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-90110-1	MOANALUA WELLS	Total/NA	Water	300.0	
MB 380-84692/4	Method Blank	Total/NA	Water	300.0	
LCS 380-84692/7	Lab Control Sample	Total/NA	Water	300.0	
LCSD 380-84692/8	Lab Control Sample Dup	Total/NA	Water	300.0	
MRL 380-84692/5	Lab Control Sample	Total/NA	Water	300.0	
MRL 380-84692/6	Lab Control Sample	Total/NA	Water	300.0	
380-90032-A-1 MS	Matrix Spike	Total/NA	Water	300.0	
380-90032-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

### Analysis Batch: 84693

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-90110-1	MOANALUA WELLS	Total/NA	Water	300.0	
MB 380-84693/4	Method Blank	Total/NA	Water	300.0	
LCS 380-84693/7	Lab Control Sample	Total/NA	Water	300.0	
LCSD 380-84693/8	Lab Control Sample Dup	Total/NA	Water	300.0	
MRL 380-84693/5	Lab Control Sample	Total/NA	Water	300.0	
MRL 380-84693/6	Lab Control Sample	Total/NA	Water	300.0	
380-90032-A-1 MS	Matrix Spike	Total/NA	Water	300.0	
380-90032-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

### Analysis Batch: 85393

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-90110-1	MOANALUA WELLS	Total/NA	Water	300.0	
MB 380-85393/5	Method Blank	Total/NA	Water	300.0	
LCS 380-85393/6	Lab Control Sample	Total/NA	Water	300.0	
LCSD 380-85393/7	Lab Control Sample Dup	Total/NA	Water	300.0	
MRL 380-85393/4	Lab Control Sample	Total/NA	Water	300.0	
380-90044-B-1 MS	Matrix Spike	Total/NA	Water	300.0	

# QC Association Summary

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

Job ID: 380-90110-1

## HPLC/IC (Continued)

### Analysis Batch: 85393 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-90044-B-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

## Metals

### Analysis Batch: 85348

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-90110-1	MOANALUA WELLS	Total/NA	Water	200.8	
MBL 380-85348/21	Method Blank	Total/NA	Water	200.8	
LCS 380-85348/23	Lab Control Sample	Total/NA	Water	200.8	
LCSD 380-85348/24	Lab Control Sample Dup	Total/NA	Water	200.8	
LLCS 380-85348/22	Lab Control Sample	Total/NA	Water	200.8	
380-90042-H-1 MS	Matrix Spike	Total/NA	Water	200.8	
380-90042-H-1 MSD	Matrix Spike Duplicate	Total/NA	Water	200.8	

### Analysis Batch: 85382

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-90110-1	MOANALUA WELLS	Total/NA	Water	200.7 Rev 4.4	
MBL 380-85382/154	Method Blank	Total/NA	Water	200.7 Rev 4.4	
LCS 380-85382/158	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	
LCSD 380-85382/159	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	
LLCS 380-85382/155	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	
380-90068-C-11 MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	
380-90068-C-11 MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	

### Prep Batch: 95072

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-90110-1	MOANALUA WELLS	Total/NA	Water	245.1	
MB 810-95072/1-A	Method Blank	Total/NA	Water	245.1	
LCS 810-95072/3-A	Lab Control Sample	Total/NA	Water	245.1	
590-24125-D-1-B MS	Matrix Spike	Total/NA	Water	245.1	
590-24125-D-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	

### Analysis Batch: 95132

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-90110-1	MOANALUA WELLS	Total/NA	Water	245.1	95072
MB 810-95072/1-A	Method Blank	Total/NA	Water	245.1	95072
LCS 810-95072/3-A	Lab Control Sample	Total/NA	Water	245.1	95072
590-24125-D-1-B MS	Matrix Spike	Total/NA	Water	245.1	95072
590-24125-D-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	95072

## General Chemistry

### Analysis Batch: 84960

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-90110-1	MOANALUA WELLS	Total/NA	Water	SM 2540C	
MB 380-84960/1	Method Blank	Total/NA	Water	SM 2540C	
HLCS 380-84960/5	Lab Control Sample	Total/NA	Water	SM 2540C	
LCS 380-84960/4	Lab Control Sample	Total/NA	Water	SM 2540C	
MRL 380-84960/2	Lab Control Sample	Total/NA	Water	SM 2540C	
MRL 380-84960/3	Lab Control Sample	Total/NA	Water	SM 2540C	
380-90110-1 DU	MOANALUA WELLS	Total/NA	Water	SM 2540C	

Eurofins Eaton Analytical Pomona

# QC Association Summary

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

Job ID: 380-90110-1

## General Chemistry

### Analysis Batch: 85198

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-90110-1	MOANALUA WELLS	Total/NA	Water	SM 2320B	
MB 380-85198/1	Method Blank	Total/NA	Water	SM 2320B	
LCS 380-85198/3	Lab Control Sample	Total/NA	Water	SM 2320B	
LCSD 380-85198/18	Lab Control Sample Dup	Total/NA	Water	SM 2320B	
LLCS 380-85198/4	Lab Control Sample	Total/NA	Water	SM 2320B	
MRL 380-85198/2	Lab Control Sample	Total/NA	Water	SM 2320B	
380-89926-U-1 MS	Matrix Spike	Total/NA	Water	SM 2320B	
380-89926-U-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 2320B	
380-89926-U-1 DU	Duplicate	Total/NA	Water	SM 2320B	

### Analysis Batch: 85201

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-90110-1	MOANALUA WELLS	Total/NA	Water	SM 2510B	
MB 380-85201/2	Method Blank	Total/NA	Water	SM 2510B	
LCS 380-85201/4	Lab Control Sample	Total/NA	Water	SM 2510B	
LCSD 380-85201/16	Lab Control Sample Dup	Total/NA	Water	SM 2510B	
MRL 380-85201/3	Lab Control Sample	Total/NA	Water	SM 2510B	
380-89926-U-1 DU	Duplicate	Total/NA	Water	SM 2510B	

### Analysis Batch: 85203

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-90110-1	MOANALUA WELLS	Total/NA	Water	SM 4500 H+ B	
MB 380-85203/4	Method Blank	Total/NA	Water	SM 4500 H+ B	
LCS 380-85203/5	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSD 380-85203/17	Lab Control Sample Dup	Total/NA	Water	SM 4500 H+ B	
380-89926-U-1 DU	Duplicate	Total/NA	Water	SM 4500 H+ B	

### Analysis Batch: 85419

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-90110-1	MOANALUA WELLS	Total/NA	Water	SM 4500 F C	
MB 380-85419/40	Method Blank	Total/NA	Water	SM 4500 F C	
MB 380-85419/74	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 380-85419/76	Lab Control Sample	Total/NA	Water	SM 4500 F C	
LCSD 380-85419/77	Lab Control Sample Dup	Total/NA	Water	SM 4500 F C	
MRL 380-85419/41	Lab Control Sample	Total/NA	Water	SM 4500 F C	
MRL 380-85419/7	Lab Control Sample	Total/NA	Water	SM 4500 F C	
MRL 380-85419/75	Lab Control Sample	Total/NA	Water	SM 4500 F C	
380-89895-AE-1 MS	Matrix Spike	Total/NA	Water	SM 4500 F C	
380-89895-AE-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 F C	

### Analysis Batch: 85430

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-90110-1	MOANALUA WELLS	Total/NA	Water	SM 4500 S2 D	
MBL 380-85430/1	Method Blank	Total/NA	Water	SM 4500 S2 D	
LCS 380-85430/4	Lab Control Sample	Total/NA	Water	SM 4500 S2 D	
LCSD 380-85430/25	Lab Control Sample Dup	Total/NA	Water	SM 4500 S2 D	
MRL 380-85430/17	Lab Control Sample	Total/NA	Water	SM 4500 S2 D	
MRL 380-85430/2	Lab Control Sample	Total/NA	Water	SM 4500 S2 D	
380-89869-G-1 MS	Matrix Spike	Total/NA	Water	SM 4500 S2 D	
380-89869-G-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 S2 D	

# Lab Chronicle

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

Job ID: 380-90110-1

## Client Sample ID: MOANALUA WELLS

## Lab Sample ID: 380-90110-1

Date Collected: 04/04/24 09:53

Matrix: Water

Date Received: 04/05/24 09:21

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	524.2		1	84787	N4CJ	EA POM	04/07/24 16:07
Total/NA	Analysis	524.2		1	84729	P3EE	EA POM	04/08/24 23:39
Total/NA	Analysis	524.2		1	84757	N4CJ	EA POM	04/06/24 20:11
Total/NA	Analysis	524.2		1	85119	D5TU	EA POM	04/06/24 20:11
Total/NA	Prep	525.2			85242	OTM3	EA POM	04/11/24 07:02
Total/NA	Analysis	525.2		1	85490	UPAC	EA POM	04/11/24 17:00
Total/NA	Prep	504.1			84936	LZ8Q	EA POM	04/08/24 16:00 - 04/08/24 17:00 <sup>1</sup>
Total/NA	Analysis	504.1		1	85099	LZ8Q	EA POM	04/09/24 00:54
Total/NA	Prep	505			85012	DR5R	EA POM	04/09/24 14:44 - 04/09/24 15:23 <sup>1</sup>
Total/NA	Analysis	505		1	85567	ULRL	EA POM	04/09/24 23:17
Total/NA	Analysis	300.0		1	85393	UNJR	EA POM	04/10/24 21:14
Total/NA	Analysis	300.0		5	84692	XLG4	EA POM	04/05/24 18:30
Total/NA	Analysis	300.0		5	84693	XLG4	EA POM	04/05/24 18:30
Total/NA	Analysis	200.7 Rev 4.4		1	85382	YHP7	EA POM	04/10/24 18:47
Total/NA	Analysis	200.8		1	85348	AAE8	EA POM	04/10/24 15:10
Total/NA	Prep	245.1			95072	AC	EA SB	04/10/24 13:50
Total/NA	Analysis	245.1		1	95132	AC	EA SB	04/10/24 23:16
Total/NA	Analysis	SM 2320B		1	85198	GP4S	EA POM	04/09/24 21:58
Total/NA	Analysis	SM 2510B		1	85201	GP4S	EA POM	04/09/24 21:58
Total/NA	Analysis	SM 2540C		1	84960	UJRF	EA POM	04/08/24 18:07
Total/NA	Analysis	SM 4500 F C		1	85419	GP4S	EA POM	04/10/24 18:11
Total/NA	Analysis	SM 4500 H+ B		1	85203	GP4S	EA POM	04/09/24 21:58
Total/NA	Analysis	SM 4500 S2 D		1	85430	MQP5	EA POM	04/11/24 09:33

## Client Sample ID: TRAVEL BLANK

## Lab Sample ID: 380-90110-2

Date Collected: 04/04/24 09:53

Matrix: Water

Date Received: 04/05/24 09:21

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	524.2		1	84873	Q6AD	EA POM	04/08/24 14:08
Total/NA	Analysis	524.2		1	84729	P3EE	EA POM	04/09/24 00:01
Total/NA	Analysis	524.2		1	85119	D5TU	EA POM	04/08/24 14:08
Total/NA	Prep	504.1			85113	LZ8Q	EA POM	04/09/24 17:00 - 04/09/24 18:00 <sup>1</sup>
Total/NA	Analysis	504.1		1	85213	LZ8Q	EA POM	04/10/24 00:36

<sup>1</sup> This procedure uses a method stipulated length of time for the process. Both start and end times are displayed.

### Laboratory References:

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

EA SB = Eurofins Eaton Analytical South Bend, 110 S Hill Street, South Bend, IN 46617, TEL (574)233-4777

# Accreditation/Certification Summary

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

Job ID: 380-90110-1

## Laboratory: Eurofins Eaton Analytical Pomona

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

Authority	Program	Identification Number	Expiration Date
Hawaii	State	CA00006	02-12-24 *

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
505	505	Water	Polychlorinated biphenyls, Total
524.2		Water	1,1,1,2-Tetrachloroethane
524.2		Water	1,1,2,2-Tetrachloroethane
524.2		Water	1,1-Dichloroethane
524.2		Water	1,1-Dichloropropene
524.2		Water	1,2,3-Trichlorobenzene
524.2		Water	1,2,3-Trichloropropane
524.2		Water	1,2,4-Trimethylbenzene
524.2		Water	1,3,5-Trimethylbenzene
524.2		Water	1,3 Dichloropropane
524.2		Water	1,3-Dichloropropene, Total
524.2		Water	2,2-Dichloropropane
524.2		Water	2-Butanone (MEK)
524.2		Water	4-Methyl-2-pentanone (MIBK)
524.2		Water	Acetone
524.2		Water	Bromobenzene
524.2		Water	Bromochloromethane
524.2		Water	Bromodichloromethane
524.2		Water	Bromoethane
524.2		Water	Bromoform
524.2		Water	Bromomethane (Methyl Bromide)
524.2		Water	Carbon disulfide
524.2		Water	Chlorodibromomethane
524.2		Water	Chloroethane
524.2		Water	Chloroform (Trichloromethane)
524.2		Water	Chloromethane (methyl chloride)
524.2		Water	cis-1,3-Dichloropropene
524.2		Water	Dibromomethane
524.2		Water	Dichlorodifluoromethane
524.2		Water	Diisopropyl ether
524.2		Water	Hexachlorobutadiene
524.2		Water	Isopropylbenzene
524.2		Water	m,p-Xylenes
524.2		Water	m-Dichlorobenzene (1,3-DCB)
524.2		Water	Naphthalene
524.2		Water	n-Butylbenzene
524.2		Water	N-Propylbenzene
524.2		Water	o-Chlorotoluene
524.2		Water	o-Xylene
524.2		Water	p-Chlorotoluene
524.2		Water	p-Isopropyltoluene
524.2		Water	sec-Butylbenzene
524.2		Water	tert-Butylbenzene
524.2		Water	Tertiary Butyl Alcohol (TBA)
524.2		Water	trans-1,3-Dichloropropene

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

# Accreditation/Certification Summary

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

Job ID: 380-90110-1

## Laboratory: Eurofins Eaton Analytical Pomona (Continued)

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

Authority	Program	Identification Number	Expiration Date
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	Acenaphthene
525.2	525.2	Water	Acenaphthylene
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	Anthracene
525.2	525.2	Water	Benz(a)anthracene
525.2	525.2	Water	Benzo[b]fluoranthene
525.2	525.2	Water	Benzo[g,h,i]perylene
525.2	525.2	Water	Benzo[k]fluoranthene
525.2	525.2	Water	beta-BHC
525.2	525.2	Water	Bromacil
525.2	525.2	Water	Butylbenzylphthalate
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	Chrysene
525.2	525.2	Water	delta-BHC
525.2	525.2	Water	Dibenz(a,h)anthracene
525.2	525.2	Water	Diclorvos (DDVP)
525.2	525.2	Water	Diethylphthalate
525.2	525.2	Water	Dimethylphthalate
525.2	525.2	Water	Di-n-butyl phthalate
525.2	525.2	Water	Di-n-octyl phthalate
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	Fluoranthene
525.2	525.2	Water	Fluorene
525.2	525.2	Water	gamma-Chlordane
525.2	525.2	Water	Indeno[1,2,3-cd]pyrene
525.2	525.2	Water	Isophorone
525.2	525.2	Water	Malathion
525.2	525.2	Water	Molinate

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

# Accreditation/Certification Summary

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

Job ID: 380-90110-1

## Laboratory: Eurofins Eaton Analytical Pomona (Continued)

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

Authority	Program	Identification Number	Expiration Date
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	Naphthalene
525.2	525.2	Water	Parathion
525.2	525.2	Water	Pendimethalin (Penoxaline)
525.2	525.2	Water	Phenanthrene
525.2	525.2	Water	Pyrene
525.2	525.2	Water	Terbacil
525.2	525.2	Water	Terbutylazine
525.2	525.2	Water	Thiobencarb
525.2	525.2	Water	Total Permethrin (mixed isomers)
525.2	525.2	Water	trans-Nonachlor
525.2	525.2	Water	Trifluralin
SM 2320B		Water	Bicarbonate Alkalinity as CaCO <sub>3</sub>
SM 2320B		Water	Carbonate Alkalinity as CaCO <sub>3</sub>
SM 4500 S2 D		Water	Sulfide

## Laboratory: Eurofins Eaton Analytical South Bend

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

Authority	Program	Identification Number	Expiration Date
A2LA	ISO/IEC 17025	5794.01	07-31-24
Alabama	State	40700	06-30-24
Alaska	State	IN00035	06-30-24
Arizona	State	AZ0432	07-26-24
Arkansas (DW)	State	EPA IN00035	06-30-24
California	State	2920	06-30-24
Colorado	State	IN00035	02-28-25
Connecticut	State	PH-0132	03-31-26
Delaware (DW)	State	IN00035	06-30-24
Florida	NELAP	E87775	06-30-24
Georgia (DW)	State	929	06-30-24
Guam	State	23-011R	07-15-24
Hawaii	State	IN035	06-30-24
Idaho (DW)	State	IN00035	12-31-24
IL Dept. of Public Health (Micro)	State	17767	07-01-24
Illinois	NELAP	200001	09-19-24
Indiana	State	C-71-01	12-31-25
Indiana (Micro)	State	M-76-07	12-31-25
Iowa	State	IA Lab #098	11-01-25
Kansas	NELAP	E-10233	10-31-24
Kentucky (DW)	State	KY90056	12-31-24
Louisiana (DW)	State	LA014	12-31-24
Maine	State	IN00035	05-01-25
Maryland	State	209	06-30-24
Massachusetts	State	M-IN035	06-30-24
MI - RadChem Recognition	State	9926	06-30-24
Michigan	State	9926	06-30-24
Minnesota	NELAP	1989807	12-31-24

# Accreditation/Certification Summary

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

Job ID: 380-90110-1

## Laboratory: Eurofins Eaton Analytical South Bend (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
Mississippi	State	IN00035	06-30-24
Missouri	State	880	09-30-24
Montana (DW)	State	CERT0026	01-01-25
Nebraska	State	NE-OS-05-04	06-30-24
Nevada	State	IN000352024-01	07-31-24
New Hampshire	NELAP	2124	11-05-24
New Jersey	NELAP	IN598	06-30-24
New Mexico	State	IN00035	06-30-24
New York	NELAP	11398	04-01-25
North Carolina (DW)	State	18700	07-31-24
North Dakota	State	R-035	06-30-24
Northern Mariana Islands (DW)	State	IN00035	06-30-24
Ohio	State	87775	06-30-24
Oklahoma	NELAP	D9508	08-31-24
Oregon	NELAP	4156	09-16-24
Pennsylvania	NELAP	68-00466	04-30-25
Puerto Rico	State	IN00035	04-01-25
Rhode Island	State	LAO00343	12-30-24
South Carolina	State	95005001	07-01-25
South Dakota (DW)	State	IN00035	06-30-24
Tennessee	State	TN02973	06-30-24
Texas	NELAP	T104704187-22-16	12-31-24
Texas	TCEQ Water Supply	TX207	06-30-24
USEPA Reg X SDWA	US Federal Programs	IN00035	08-24-24
USEPA UCMR 5	US Federal Programs	IN00035	12-31-25
Utah	NELAP	IN00035	07-31-24
Vermont	State	VT-8775	11-15-24
Virginia	NELAP	460275	03-14-25
Washington	State	C837	01-01-25
West Virginia (DW)	State	9927 C	01-31-25
Wisconsin	State	999766900	08-31-24
Wisconsin (Micro)	State	10121	12-31-24
Wyoming	State	8TMS-L	06-30-24





# Method Summary

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

Job ID: 380-90110-1

Method	Method Description	Protocol	Laboratory
524.2	Total Trihalomethanes	EPA-DW	EA POM
524.2	Volatile Organic Compounds (GC/MS SIM)	EPA-DW	EA POM
524.2	Volatile Organic Compounds (GC/MS)	EPA-DW	EA POM
525.2	Semivolatile Organic Compounds (GC/MS)	EPA	EA POM
504.1	EDB, DBCP and 1,2,3-TCP (GC)	EPA-DW2	EA POM
505	Organochlorine Pesticides/PCBs (GC)	EPA	EA POM
300.0	Anions, Ion Chromatography	EPA	EA POM
200.7 Rev 4.4	Metals (ICP)	EPA	EA POM
200.8	Metals (ICP/MS)	EPA	EA POM
245.1	Mercury (CVAA)	EPA	EA SB
SM 2320B	Alkalinity	SM	EA POM
SM 2510B	Conductivity, Specific Conductance	SM	EA POM
SM 2540C	Solids, Total Dissolved (TDS)	SM	EA POM
SM 4500 F C	Fluoride	SM	EA POM
SM 4500 H+ B	pH	SM	EA POM
SM 4500 S2 D	Sulfide, Total	SM	EA POM
245.1	Preparation, Mercury	EPA	EA SB
504.1	Microextraction	EPA-DW	EA POM
505	Extraction, Organochlorine Pesticides/PCBs	EPA	EA POM
525.2	Extraction of Semivolatile Compounds	EPA	EA POM
None	Autocomplete Prep - Metals - No Digestion required	None	EA POM

#### Protocol References:

EPA = US Environmental Protection Agency

EPA-DW = "Methods For The Determination Of Organic Compounds In Drinking Water", EPA/600/4-88/039, December 1988 And Its Supplements.

EPA-DW2 = "Methods For The Determination of Organic Compounds in Drinking Water - Supplement III ", EPA/600/R-95-131, August 1995

None = None

SM = "Standard Methods For The Examination Of Water And Wastewater"

#### Laboratory References:

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

EA SB = Eurofins Eaton Analytical South Bend, 110 S Hill Street, South Bend, IN 46617, TEL (574)233-4777

# Sample Summary

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

Job ID: 380-90110-1

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Lab Sample ID	Client Sample ID	Matrix	Collected	Received
380-90110-1	MOANALUA WELLS	Water	04/04/24 09:53	04/05/24 09:21
380-90110-2	TRAVEL BLANK	Water	04/04/24 09:53	04/05/24 09:21

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



Monrovia, CA (Suite 100)  
 750 Royal Oaks Drive Suite 100  
 Monrovia CA 91016  
 Phone (626) 386-1100

# Chain of Custody Record



EUROFINS  
 LABORATORY SERVICES

<b>Client Information</b> Client Contact: Dr Ron Fenstermacher Company: City & County of Honolulu Address: 630 South Beretania Street, Chemistry Lab City: Honolulu State/Zip: HI, 96843 Phone: 808-748-5091 (tel) Email: rfenstermacher@hbws.org Project Name: RED-HILL Site:		Lab PM: Arrada, Rachelle E-Mail: Rachelle.Arrada@eurofins.com Carrier Tracking No(s): State of Origin:		COC No: Page: Page 2 of 2 Job #:	
Due Date Requested: TAT Requested (days): Compliance Project: <input type="checkbox"/> Yes <input type="checkbox"/> No PO #: C20525101 exp 05312023 WO #: Project #: 38001111 SSOW#:		<b>Analysis Requested</b> Perform MS/MSD (Yes or No): Field Filled Sample (Yes or No): 80158_DRO_LL_CS - HNL Ranges C10-C24/C24 C38/C8-C18: <input checked="" type="checkbox"/> Yes 80158_DAI - Ethanol: <input checked="" type="checkbox"/> Yes 5041_PREC - Local Method: <input checked="" type="checkbox"/> Yes			
<b>Sample Identification</b> Sample Date: 4-Apr-2024 Sample Time: 0800 Sample Type (C=Comp, G=grab): G Preservation Code: Water Matrix (W=Water, O=Organic, P=Other):		Total Number of Containers: <input checked="" type="checkbox"/>			
Moanalua Wells Travel Blank		Special Instructions/Note: Total Number of Containers: <input checked="" type="checkbox"/>			
<b>Possible Hazard Identification</b> <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological Deliverable Requested I, II, III, IV, Other (specify):					
<b>Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)</b> <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months					
<b>Special Instructions/QC Requirements</b>					
Date/Time: 04/17/2024 Date/Time: 1400 Date/Time:		Date/Time: 04/17/2024 Date/Time: 09:21 Date/Time:		Method of Shipment: FED EX 7758 2718 3792 Date/Time: 04/17/2024 Date/Time:	
Relinquished by: Bailey Relinquished by:		Relinquished by: G. RETNER Relinquished by:		Company: HBWS Company: Company Company: Company	
Relinquished by:		Relinquished by:		Relinquished by:	
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No:		Cooler Temperature(s) °C and Other Remarks: (757N) 1.1°-0.1°=1.0° GEL FROZEN	



**Bottle Order Information**

Bottle Order: RED-HILL - Quarterly  
 Bottle Order #: 1845  
 Request From Client: 12/14/2022  
 Date Order Posted: 6/23/2022 7:29:27AM  
 Order Status: Ready To Process  
 Prepared By: Davis Haley  
**Deliver By Date: 3/1/2024 11:59:00PM**  
 Lab Project Number: 38001111  
 PWSID: HI00000331

**Order Completion Information**

Creator: Michelle Do  
 Filled by:  
 Sent Date:  
 Sent Via:  
 Tracking #:

Sets	Bottles/Set	Qty	Bottle Type Description	Preservative	Method	Matrix	Sample Type	Comments	Lot #
5	6	30	Voa Vial 40ml Amber - Sodium thiosulfate	Sodium Thiosulfate	504.1_PREC - Local Method	Water	Normal		
5	1	5	Plastic 250ml - unpreserved	None	505_LL_PREC - (MOD) ML505 +505-EAL Aldrin Dieldrin Tox	Water	Normal		
5	1	5	Plastic 500ml - with Nitric Acid	Nitric Acid	2320B - (MOD) Total Alkalinity SM4500_H+ - Local Method 2510B - Conductivity	Water	Normal		
5	1	5	Plastic 500ml - unpreserved	None	200.8 - Metals, Priority Pollutant by 200.8 200.7 - (MOD) Custom	Water	Normal		
5	1	5	Plastic 250ml - with Zinc Acetate & NaOH	Zinc Acetate and Sodium Hydroxide	2540C_Calcd - Total Dissolved Solids (TDS)	Water	Normal		
5	6	30	Voa Vial 40ml Amber - Ascor. Acid & HCL	Ascorbic Acid and Hydrochloric Acid	SM4500_S2_D - Sulfide, Total	Water	Normal		
5	3	15	Amber Glass 1 Liter- Sodium Sulfite/HCl	Sodium Sulfite w/HCl	524.2_Pres_PREC - VOASDWA plus TICs + Acetone	Water	Normal		
5	2	10	Plastic 125mL - unpreserved	None	524.2_SIM_PREC - TBA by 524.2 SIM	Water	Normal		
5	1	5	Plastic 250ml - with Nitric Acid	Nitric Acid	525.2_PREC - 525plus Plus TICs	Water	Normal		
5	2	10	Amber Glass 1 liter - Sodium Thiosulfate	Sodium Thiosulfate	300_OF_28D_B - Bromide 4500_F_C - Fluoride 300_OF_28D_PREC - Chloride and Sulfate 300_OF_48H_PREC - Nitrite, Nitrate, and Nitrite+Nitrate	Water	Normal		
5	1	5	Plastic 250ml - with Nitric Acid	Nitric Acid	245.1 - Local Method	Water	Normal		
5	2	10	Amber Glass 1 liter - Sodium Thiosulfate	Sodium Thiosulfate	SUBCONTRACT - 625 PAH Physis LL (EAL) + TICs	Water	Normal		

Please notify your PM immediately if an error is found in shipment. When returning samples, please return all provided QC samples.



Q	2	10	Amber Glass 1 liter - Sodium Thiosulfate	Sodium Thiosulfate	SUBTRACT - 625 Base Neutral LL (EAL) Physis	Water	Normal
5	2	10	Amber Glass 1 liter - Sodium Thiosulfate	Sodium Thiosulfate	SUBCONTRACT - 625 Acid LL (EAL) Physis	Water	Normal
5	4	20	Voa Vial 40ml - Hydrochloric Acid	Hydrochloric Acid	8015B_GRO_LL - (MOD) GRO	Water	Normal
5	2	10	Amber Glass 500mL - Na2SO3	Sodium Sulfite	8015B_DRO_LL_CS - HNL Ranges: C10-C24/C24-C36/C8-C18	Water	Normal
5	2	10	Voa Vial 40ml - unpreserved	None	8015B_DAI - Ethanol	Water	Normal
5	6	30	Voa Vial 40ml Amber - Ascor. Acid & HCL	Ascorbic Acid and Hydrochloric Acid	524.2_Pres_PREC - VOASDWA plus TICs + Acetone	Water	Trip Blank
5	3	15	Voa Vial 40ml Amber - Sodium thiosulfate	Sodium Thiosulfate	524.2_SIM_PREC - TBA by 524.2 SIM	Water	Trip Blank
5	2	10	Voa Vial 40ml - Hydrochloric Acid	Hydrochloric Acid	504.1_PREC - Local Method	Water	Trip Blank
					8015B_GRO_LL - (MOD) GRO	Water	Trip Blank

**Total Bottle Summary**

**Bottle Type Description**

Normal	Preservative	Bottle Count
10		180
10	Sodium Thiosulfate	30
10	Sodium Sulfite w/HCl	15
10	Sodium Sulfite	10
10	None	10
5	None	5
5	Nitric Acid	5
5	Zinc Acetate and Sodium Hydroxide	5
5	None	5
5	Nitric Acid	5
20	Hydrochloric Acid	20
10	None	10
30	Ascorbic Acid and Hydrochloric Acid	30
30	Sodium Thiosulfate	30
		<b>55</b>
	Hydrochloric Acid	10
	Ascorbic Acid and Hydrochloric Acid	30
	Sodium Thiosulfate	15
		<b>235</b>

Total Bottles: 235

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<b>Client Information (Sub Contract Lab)</b>		Sampler:	Lab Pk:	Carrier Tracking No(s):	COC No:		
Client Contact:		Phone:	Arada, Rachelle	State of Origin:	380-117650.1		
Shipping/Receiving:		E-Mail:	Rachelle.Arada@et.eurofins.com	Hawaii	Page: 1 of 1		
Company:		Accreditations Required (See note):	State - Hawaii	Job #:	380-90110-1		
Eurofins Eaton Analytical		Due Date Requested:	4/25/2024	Preservation Codes:	A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Ammonia H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA M - Hexane N - None O - AsNaO2 P - Na2CO3 Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Y - Trizma Z - other (specify)		
Address:		TAT Requested (days):	110 S Hill Street,	<b>Analysis Requested</b>			
City:			South Bend	Perform MS/MSD (Yes or No)			
State, Zip:			IN, 46617	245.1/245.1 Prep Mercury by 245.1			
Phone:		PO #:	574-233-4777(Tel) 574-233-8207(Fax)	Total Number of containers			
Email:		WOC #:		1			
Project Name:		Project #:	RED-HILL	Special Instructions/Note:			
Site:		SSOW#:	Honolulu BWS Sites	Initial Temp: 0.8/1.0 Corrected Temp: 28/1.0 IR Cam # WCF			
Sample Identification - Client ID (Lab ID)		Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (Water, Seawater, Urine, Soil, ST-Tissue, Ash)	Field Filtered Sample (Yes or No)	Preservation Code:
MOANALUA WELLS (380-90110-1)	4/4/24	09:53	Hawaiian	Water		X	

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

**Possible Hazard Identification**

Unconfirmed

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

Special Instructions/QC Requirements:

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

Return To Client  Disposal By Lab  Archive For \_\_\_\_\_ Months

Empty Kit Relinquished by: \_\_\_\_\_ Date: \_\_\_\_\_

Relinquished by: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Company: \_\_\_\_\_

Relinquished by: *Raul Ariza* Date/Time: *4.8.24 8:35* Company: \_\_\_\_\_

Relinquished by: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Company: \_\_\_\_\_

Custody Seals Intact:  Yes  No Custody Seal No.: \_\_\_\_\_

Received by: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Received by: *Mary Belinglight* Date/Time: *04/09/24 0900* Company: *EEA*

Cooler Temperature(s) °C and Other Remarks: **Client Provided Sample Container**



# Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-90110-1

**Login Number: 90110**  
**List Number: 1**  
**Creator: Elyas, Matthew**

**List Source: Eurofins Eaton Analytical Pomona**

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Samples do not require splitting or compositing.	True	
Container provided by EEA	True	



# Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-90110-1

**Login Number: 90110**  
**List Number: 3**  
**Creator: Pehling-Wright, Penny**

**List Source: Eurofins Eaton Analytical South Bend**  
**List Creation: 04/09/24 01:56 PM**

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Samples do not require splitting or compositing.	True	
Container provided by EEA	False	Client provided containers

